

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2019

Or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

(Commission File Number) 000-30419

ON SEMICONDUCTOR CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

36-3840979
(I.R.S. Employer
Identification No.)

**5005 E. McDowell Road
Phoenix, AZ 85008
(602) 244-6600**

(Address, zip code and telephone number, including area code, of principal executive offices)

Securities Registered Pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	ON	The Nasdaq Stock Market LLC

**Securities Registered Pursuant to Section 12(g) of the Act:
None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was \$8,172,927,739 as of June 28, 2019, based on the closing sales price of such stock on the Nasdaq Global Select Market. Shares held by executive officers, directors and persons owning directly or indirectly more than 10% of the outstanding common stock (as applicable) have been excluded from the preceding number because such persons may be deemed to be affiliates of the registrant.

The number of shares of the registrant's common stock outstanding at February 13, 2020 was 411,065,636.

Documents Incorporated by Reference

Portions of the registrant's Definitive Proxy Statement relating to its 2020 Annual Meeting of Stockholders, which is expected to be filed pursuant to Regulation 14A within 120 days after the registrant's fiscal year ended December 31, 2019, are incorporated by reference into Part III of this Form 10-K.

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(See the glossary immediately following this table of contents for definitions of certain abbreviated terms)

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GLOSSARY OF SELECTED ABBREVIATED TERMS*

Abbreviated Term	Defined Term
1.00% Notes	1.00% Convertible Senior Notes due 2020
1.625% Notes	1.625% Convertible Senior Notes due 2023
2.625% Notes, Series B	2.625% Convertible Senior Subordinated Notes due 2026, Series B
AP/Gateway	Access Point/Gateway
ADAS	Advanced driver assistance systems
AEC	Automotive Electronics Council
Aptina	Aptina, Inc.
Amended and Restated SIP	ON Semiconductor Corporation Amended and Restated Stock Incentive Plan, as amended
AMIS	AMIS Holdings, Inc.
AR/VR	Augmented Reality/Virtual Reality
ASC	Accounting Standards Codification
ASIC	Application specific integrated circuits
ASSP	Application specific standard product
ASU	Accounting Standards Update
AXSEM	AXSEM A.G.
CCD	Charge-coupled device
CMOS	Complementary metal oxide semiconductor
CSP	Chip scale package
DFN	Dual-flat no-leads
DSP	Digital signal processing
ECL	Emitter coupled logic
EDI	Electronic data interface
EEPROM	Electrically erasable programmable read-only memory
EPA	Environmental Protection Agency
ESD	Electrostatic discharge
ESPP	ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended
EV/HEV	Electric Vehicles/Hybrid Electric Vehicles
Exchange Act	Securities Exchange Act of 1934, as amended
Fairchild	Fairchild Semiconductor International Inc.
FASB	Financial Accounting Standards Board
FDA	U.S. Food and Drug Administration
Freescale	Freescale Semiconductor, Inc.
GaN	Gallium nitride
GFCI	Ground Fault Circuit Interrupter
HD	Hyper Device
IC	Integrated circuit
IGBT	Insulated-gate bipolar transistor
IoT	Internet-of-Things
IP	Intellectual property
IPD	Integrated passive devices

IPRD	In-process research and development
IPM	Intelligent power module
LDOs	Low drop out regulator controllers
LED	Light-emitting diode
LIBO Rate	A base rate per annum equal to the London Interbank Offered Rate as administered by the Intercontinental Exchange Benchmark Administration
LiDAR	Light detection and ranging
LSI	Large scale integration
MCU	Microcontroller Unit
MOS	Metal oxide semiconductor
MOSFET	Metal oxide semiconductor field effect transistor
Motorola	Motorola Inc.
ODM	Original device manufacturers
OEM	Original equipment manufacturers
PC	Personal computer
PIM	Power integrated module
PRP	Potentially Responsible Party
RF	Radio frequency
RSU	Restricted Stock Unit
SCI LLC	Semiconductor Components Industries, LLC, a wholly-owned subsidiary of ON Semiconductor Corporation
SEC	Securities and Exchange Commission
Securities Act	Securities Act of 1933, as amended
SensL	SensL Technologies Ltd.
SiC	Silicon carbide
SiPM	Silicon photomultipliers
SMBC	Sumitomo Mitsui Banking Corporation
SoC	System on chip
SPAD	Single photon avalanche diode arrays
UPS	Uninterruptible power supplies
VCORE	Voltage core
WBG	Wide band gap
Wi-Fi	Wireless radio technologies compliant with Institute of Electrical and Electronics Engineers Standard 802.11b and commonly used in wireless local area networking devices
WSTS	World Semiconductor Trade Statistics
X4DFN 01005	Dual-flat no-leads 0.445 x 0.24 x 0.18 mm package

* Terms used, but not defined, within the body of the Form 10-K are defined in this Glossary.

PART I

Item 1. Business

Business Overview

ON Semiconductor Corporation, together with its wholly and majority-owned subsidiaries ("ON Semiconductor," "we," "us," "our," or the "Company"), was incorporated under the laws of the state of Delaware in 1992 under the name Motorola Energy Systems, Inc. Immediately prior to our August 4, 1999 recapitalization, we were a wholly-owned subsidiary of Motorola.

ON Semiconductor is driving innovation in energy-efficient electronics. Our extensive portfolio of sensors, power management, connectivity, custom and SoC, analog, logic, timing and discrete devices helps customers efficiently solve their design challenges in advanced electronic systems and products. Our power management and motor driver semiconductor components control, convert, protect and monitor the supply of power to the different elements within a wide variety of electronic devices. Our custom ASICs and SoC devices use analog, MCU, DSP, mixed-signal and advanced logic capabilities to enable the application and uses of many of our automotive, medical, aerospace/defense, consumer and industrial customers' products. Our signal management semiconductor components provide high-performance clock management and data flow management for precision computing, communications and industrial systems. Our growing portfolio of sensors, including image sensors, radar and LiDAR, provide advanced solutions for automotive, industrial and IoT applications. Our high performance Wi-Fi solution creates a strong platform for addressing connectivity solutions for industrial IoT. Our standard semiconductor components serve as "building blocks" within virtually all types of electronic devices. These various products fall into the logic, analog, discrete, image sensors, IoT and memory categories used by the WSTS group.

We serve a broad base of end-user markets, including automotive, communications, computing, consumer, medical, industrial, networking, telecom and aerospace/defense. Our devices are found in a wide variety of end products, including automobiles, smartphones, data center and enterprise servers, wearable medical devices, PCs, industrial building and home automation systems, factory automation, consumer white goods, security and surveillance systems, machine vision and robotics, LED lighting, power supplies, networking and telecom equipment, medical diagnostics, imaging, wireless routers and hearing health.

Our portfolio of devices enables us to offer advanced ICs and the "building block" components that deliver system level functionality and design solutions. We shipped approximately 66.2 billion units in 2019, and approximately 75.7 billion units in 2018. We offer micro packages, which provide increased performance characteristics while reducing the critical board space inside today's ever shrinking electronic devices and power modules, delivering improved energy efficiency and reliability for a wide variety of medium and high power applications. We believe that our ability to offer a broad range of products, combined with our applications and global manufacturing and logistics network, provides our customers with single source purchasing on a cost-effective and timely basis.

From time to time, we reassess the alignment of our product families and devices to our operating segments and may move product families or individual devices from one operating segment to another. As of December 31, 2019, we were organized into the following three operating and reportable segments: the Power Solutions Group ("PSG"), the Advanced Solutions Group ("ASG") and the Intelligent Sensing Group ("ISG"). We changed the name of our Analog Solutions Group to the Advanced Solutions Group and the name of our Image Sensor Group to the Intelligent Sensing Group in December 2019 and December 2018, respectively. The following table illustrates the product technologies under each of our segments based on our operating strategy:

PSG	ASG	ISG
Analog products	Analog products	LSI products
Discrete products	ASIC products	Sensors
HD products	Connectivity products	
IPM products	ECL products	
Isolation products	Foundry products / services	
MOSFET products	Gate Driver products	
Memory products	LSI products	
PIM products	Standard logic products	
Sensors		
Standard logic products		
WBG products		

We currently have domestic design operations in Arizona, California, Idaho, New York, Oregon, Pennsylvania, Rhode Island, Texas and Utah. We also have foreign design operations in Australia, Belgium, Canada, China, the Czech Republic, France, Germany, India, Ireland, Israel, Italy, Japan, South Korea, the Philippines, Romania, Russia, Singapore, Slovak Republic, Slovenia, Switzerland, Taiwan and the United Kingdom. Additionally, we currently operate domestic manufacturing facilities in Idaho, Maine, Pennsylvania, New York and Oregon and have foreign manufacturing facilities in Belgium, Canada, China, the Czech Republic, Japan, South Korea, Malaysia, the Philippines and Vietnam. We also have global distribution centers in China, the Philippines and Singapore.

Company Highlights for the year ended December 31, 2019

- Total revenue of \$5,517.9 million
- Gross margin of 35.8%
- Acquired Quantenna Communications, Inc. ("Quantenna") for \$1,039.3 million
- Settled litigation with Power Integrations, Inc. ("PI")
- Net income of \$0.51 per diluted share
- Cash and cash equivalents of \$894.2 million

Completed Acquisitions

On June 19, 2019, we completed our acquisition of Quantenna pursuant to the definitive Agreement and Plan of Merger with each of Quantenna and Raptor Operations Sub, Inc., our wholly-owned subsidiary ("Raptor"), which provided for the merger of Quantenna with Raptor, whereby Quantenna continued as the surviving corporation and our wholly-owned subsidiary. Following the acquisition, Quantenna changed its name to ON Semiconductor Connectivity Solutions, Inc. The purchase price totaled \$1,039.3 million, of which \$1,026.6 million was paid in cash during the year ended December 31, 2019, with the proceeds from a \$900.0 million draw against our Revolving Credit Facility and cash on hand. We believe the acquisition of Quantenna creates a strong platform for addressing connectivity solutions for industrial IoT by combining our expertise in power management and bluetooth technologies with Quantenna's Wi-Fi technologies and software capabilities.

On May 8, 2018, we acquired 100% of the outstanding shares of SensL, a company specializing in SiPM, SPAD and LiDAR sensing products for the automotive, medical, industrial and consumer markets, for \$71.6 million, funded with cash on hand. This acquisition positions us to extend our products in automotive sensing applications for ADAS and autonomous driving by adding LiDAR capabilities to our existing capabilities in imaging and radar.

See Note 5: "Acquisitions, Divestitures and Licensing Transactions" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for additional information.

Products and Technology

The following provides certain information regarding the products and technologies by each of our operating segments. See "Business Overview" above and Note 3: "Revenue and Segment Information" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for other information regarding our segments and their revenue and property, plant and equipment and the income derived from each segment.

PSG

PSG offers a wide array of analog, discrete, module and integrated semiconductor products that perform multiple application functions, including power switching, power conversion, signal conditioning, circuit protection, signal amplification and voltage regulation functions. The trends driving growth within our end-user markets are primarily higher power efficiency and power density in power applications, the demand for greater functionality in small handheld devices, and faster data transmission rates in all communications. The advancement of existing volt electrical infrastructure, electrification of power train in the form of EV/HEV, higher trench density enabling lower losses in power efficient packages and lower capacitance and integrated signal conditioning products to support faster data transmission rates significantly increase the use of high power semiconductor solutions. The recent increase in the use of WBG MOSFETs and diodes, including SiC and GaN, is further expanding the use of semiconductor products. Certain of PSG's broad portfolio of products and solutions are summarized below:

- Automotive Electronics
AEC qualified products, covering the spectrum from discrete to integrated, as well as automotive modules and known good die to support automotive modules. New semiconductor products based upon WBG technologies, including SiC, are rapidly being adopted for EV/HEV traction and charging applications due to the higher efficiencies, they provide.
- Industrial Electronics
Advanced power technologies to support high performance power conversion for high-end power supply/UPS, alternative energy and industrial motors.
- Computing
MOSFETs and protection devices supporting the latest chipsets. Multichip power solutions and advanced LDOs to support power efficiency requirements in new computing platforms. SiC and GaN technology enables drastic reduction in power adaptor size.
- Communications
Our smallest packages: DFN MOSFETs, CSP (MOSFET/EEPROMs), EEPROMs and LDOs, and X4DFN 01005 for small signal devices and protection. Low capacitance ESD and common mode filters for high-speed serial interface protection.

ASG

ASG designs and develops analog, mixed-signal, advanced logic, ASSPs and ASICs, WiFi and power solutions for a broad base of end-users in the automotive, consumer, computing, industrial, communications, medical and aerospace/defense markets. Our product solutions enable industry leading active mode and standby mode efficiency now being demanded by regulatory agencies around the world. Additionally, ASG offers trusted foundry and design services for our government customers as well as manufacturing services, which leverage the Company's broad range of manufacturing, IC design, packaging, and silicon technology offerings to provide turn-key solutions for our customers. Certain of ASG's broad portfolio of products and solutions are summarized below:

- Automotive Electronics
Energy efficient solutions that reduce emissions, improve fuel economy and safety, enhance lighting and make possible an improved driving experience. Multi-phase DC-DC power conversion for compute-intensive solutions for assisted and autonomous driving is also a focus area.
- Industrial Electronics
Efficient power conversion products, sensor interface products and motor control products. Wired and low power RF wireless connectivity for IoT applications. Residential, commercial and industrial-grade circuit breaking products for GFCI and AFCI applications. FDA-compliant assembly and packaging manufacturing services.
- Computing
Solutions for a wide range of voltage and current options ranging from multi-phase power conversion for VCORE processors, power stage and point of load. Thermal and battery charging solutions as well as high density AC to DC power conversion solutions are also supported.
- Communications
High efficiency mixed-signal, power management, WiFi and RF connectivity products that enable our customers to

maximize the performance of their products while preserving critical battery life. RF tuning solutions to enhance radio performance. Fast charging, multi-media and ambient awareness system solutions to address increasing customer desire for innovation.

ISG

ISG designs and develops CMOS and CCD image sensors, proximity sensors, image signal processors, single photon detectors, including SiPM and SPAD arrays, radar, as well as actuator drivers for autofocus and image stabilization for a broad base of end-users in the automotive, industrial, consumer, wireless, medical and aerospace/defense markets. Our broad range of product offerings delivers excellent pixel performance, sensor functionality and camera systems capabilities in which high quality visual imagery is becoming increasingly important to our customers and their end-users, particularly in applications powered by AI. Certain of ISG's broad portfolio of products and solutions are summarized below:

- *Automotive Imaging*
A broad portfolio of automotive sensing technologies spanning ultrasonic, imaging, radar and LiDAR paving the way to high levels of driver assistance (ADAS) and automated driving with built in functional safety and cybersecurity processing.
- *Industrial Imaging*
A broad range of CMOS, CCD and SiPM sensors with an emphasis on machine vision for factory automation, robotics and logistics, intelligent transportation systems, agriculture, medical, cinematography, scientific and aerospace/defense applications.
- *Wireless and Consumer Electronics*
A broad range of CMOS sensors and driver actuators for high performance AR/VR, drones, mobile phones, PCs, tablets, high-speed video cameras, and various unique consumer applications. Our solutions offer superior image quality, fast frame rates, high definition and low light sensitivity to provide customers with a compelling visual experience, especially in emerging applications in IoT markets for security, surveillance and internet protocol cameras.

Customers

In general, we have maintained long-term relationships with our key customers. Sales agreements with customers are renewable periodically and contain certain terms and conditions with respect to payment, delivery, warranty and supply, but generally do not require minimum purchase commitments. Most of our OEM customers negotiate pricing terms with us on an annual basis near the end of the calendar year, our distributors generally negotiate pricing terms on a quarterly basis, and electronic manufacturing service providers negotiate prices periodically during the year. Although payment terms may vary, most distributor agreements require payment within 30 days. Pricing terms on product development agreements are negotiated at the beginning of a project. Our products are ultimately purchased for use in a variety of end-markets, including computing, automotive, consumer, industrial, communications, networking, aerospace/defense and medical. With respect to public sector clients, the government's remedies may include suspension or debarment from future government business. In addition, almost all of our contracts have default provisions, and certain of our contracts in the public sector are terminable at any time for convenience of the contracting agency.

For the year ended December 31, 2019, aggregate revenue from our five largest customers for PSG, ASG and ISG, comprised approximately 41%, 35% and 48%, respectively, of the respective segment revenue. The loss of certain of these customers may have a material adverse effect on the operations of the respective segment and our consolidated results of operations.

We generally warrant that products sold to our customers will, at the time of shipment, be free from defects in workmanship and materials and conform to our approved specifications. Our standard warranty extends for a period of two years from the date of delivery, except in the case of image sensor products, which are warranted for one year from the date of delivery. Our customers may cancel orders 30 days prior to shipment for standard products and, generally prior to start of production for custom products without incurring a penalty. For additional information regarding agreements with our customers, see "End-Markets for Our Products," "Manufacturing and Operations," and "Backlog and Inventory," below, "Risk Factors - Trends, Risks and Uncertainties Related to Our Business" included elsewhere in this Form 10-K and Note 2: "Significant Accounting Policies - Revenue Recognition" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K.

End-Markets for Our Products

The following table sets forth our principal end-markets, the estimated percentage (based in part on information provided by our distributors and electronic manufacturing service providers) of our revenue generated from each end-market during 2019, and sample applications for our products. Our Industrial end-market includes the data relating to the Medical, Aerospace and Defense and our Communications end-market includes the data relating to the Networking and Wireless.

	Automotive	Industrial	Communications	Consumer	Computing
Approximate percentage of 2019 Revenue	33%	26%	19%	11%	11%
<i>Sample applications</i>	EV/HEV	Hearing Health	Tablets	Gaming, Home Entertainment Systems, & Set Top Boxes	Notebooks, Ultrabooks, & 2-in-1s
	Power Management	Smart Cities & Buildings	Smart phones	White Goods	Desktop PCs & All-in-Ones
	Powertrain	Security & Surveillance	RF Tuning	USB Type C	USB Type C
	In-Vehicle Networking	Machine Vision	Switches	Power Supplies	Graphics
	Body & Interior	Motor Control	Routers	Drones	Power Supplies
	Lighting	Robotics	Base Stations	AR/VR	Cloud Computing
	Automated Driving	Power Solutions	Power Supplies	Wearable Devices	
	Sensors	Industrial Automation	AP/Gateway	Robotics	
		AR/VR		Routers/Modems	
		Diagnostic, Therapy, & Monitoring			

Distributors Sales to distributors accounted for approximately 57% of our revenue in 2019 and 60% of our revenue in each of 2018 and 2017. Our distributors resell to mid-sized and smaller OEMs and to electronic manufacturing service providers and other companies. Sales to distributors are typically made pursuant to agreements that provide return rights and stock rotation provisions permitting limited levels of product returns.

OEMs Sales to OEMs accounted for approximately 36% of our revenue in 2019 and 34% of our revenue in each of 2018 and 2017. OEM customers include a variety of companies in the electronics industry. We focus on three types of OEMs: multi-nationals; selected regional accounts; and target market customers. Large multi-nationals and selected regional accounts, which are significant in specific markets, are our core OEM customers. The target market customers for our end-markets are OEMs that are on the leading edge of specific technologies and provide direction for technology and new product development. Generally, our OEM customers do not have the right to return our products following a sale other than pursuant to our warranty.

Electronic Manufacturing Service Providers Sales to electronic manufacturing service providers accounted for approximately 7% of our revenue in 2019 and 6% of our revenue in each of 2018 and 2017. These customers are manufacturers who typically provide contract manufacturing services for OEMs. Many OEMs outsource a large part of their manufacturing to electronic manufacturing service providers in order to focus on their core competencies. Generally, our electronic manufacturing service customers do not have the right to return our products following a sale other than pursuant to our warranty.

Manufacturing Operations

We operate front-end wafer fabrication facilities in Belgium, the Czech Republic, Japan, South Korea, Malaysia and the United States and back-end assembly and test site facilities in Canada, China, Japan, Malaysia, the Philippines, Vietnam and the United States. In addition to these front-end and back-end manufacturing operations, our facility in Rožnov pod Radhoštěm, Czech Republic manufactures silicon wafers that are used by a number of our facilities.

The table below sets forth information with respect to the manufacturing facilities we operate either directly or pursuant to joint ventures, the reportable segments that use such facilities, and the approximate gross square footage of each site's building, which includes, among other things, manufacturing, laboratory, warehousing, office, utility, support and unused areas.

Location	Reportable Segment	Size (sq. ft.)
<i>Front-end Facilities:</i>		
Gresham, Oregon	ASG, ISG and PSG	558,457
Pocatello, Idaho	ASG, ISG and PSG	582,384
Rožnov pod Radhoštěm, Czech Republic	ASG and PSG	438,882
Oudenaarde, Belgium (5)	ASG, ISG and PSG	422,605
Seremban, Malaysia (Site 2) (3)	ASG and PSG	133,061
Niigata, Japan	ASG, ISG and PSG	1,106,779
Rochester, New York (2) (4)	ISG	275,642
Bucheon, South Korea	ASG and PSG	861,081
South Portland, Maine	ASG and PSG	344,588
Mountaintop, Pennsylvania	ASG and PSG	437,000
Aizuwakamatsu, Japan	ASG and PSG	734,482
<i>Back-end Facilities:</i>		
Burlington, Canada (1)	ASG	95,440
Leshan, China (3)	ASG and PSG	416,339
Seremban, Malaysia (Site 1) (3)	ASG and PSG	328,275
Carmona, Philippines (3)	ASG, ISG and PSG	926,367
Tarlac City, Philippines (3)	ASG, ISG and PSG	381,764
Shenzhen, China (1)	ASG, ISG and PSG	275,463
Bien Hoa, Vietnam (3)	ASG and PSG	294,418
Nampa, Idaho (1) (2)	ISG	166,268
Cebu, Philippines (3)	ASG and PSG	228,460
Suzhou, China (3)	ASG and PSG	452,639
<i>Other Facilities:</i>		
Rožnov pod Radhoštěm, Czech Republic	ASG, ISG and PSG	11,873
Thuan An District, Vietnam (3)	ASG and PSG	30,494

- (1) These facilities are leased.
- (2) This facility is used for both front-end and back-end operations.
- (3) These facilities are located on leased land.
- (4) One building owned and a portion of another leased. We intend to close this facility in 2020 and eventually market it for sale.
- (5) In February 2020, we announced that we are exploring the sale of this facility and are looking for partners for an orderly transition.

See Note 5: "Acquisitions, Divestitures and Licensing Transactions" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K regarding the pending acquisition of a manufacturing facility in 2022. We operate all of our existing manufacturing facilities directly except our assembly and test operations facility located in Leshan, China, which is owned by Leshan-Phoenix Semiconductor Company Limited, a joint venture company in which we own a majority of the outstanding equity interests ("Leshan") and our manufacturing facility located in Aizuwakamatsu, Japan, which is owned by ON Semiconductor Aizu Co., Ltd., a joint venture company in which we own a majority of the outstanding equity interests ("OSA"). Our investments in Leshan and OSA have been consolidated in our financial statements.

Our joint venture partner in Leshan, Leshan Radio Company Ltd., is formerly a state-owned enterprise. Pursuant to the joint venture agreement, requests for production capacity are made to the board of directors of Leshan by each shareholder of the joint venture. Each request represents a purchase commitment by the requesting shareholder, provided that the shareholder may

elect to pay the cost associated with the unused capacity (which is generally equal to the fixed cost of the capacity) in lieu of satisfying the commitment. We committed to purchase 80% of Leshan's production capacity in each of 2019, 2018 and 2017 and are currently committed to purchase approximately 80% of Leshan's expected production capacity in 2020.

Our joint venture partner in OSA is Fujitsu Semiconductor Limited ("FSL"), a Japanese corporation. Pursuant to a foundry agreement, on a quarterly basis, ON and FSL are required to allocate the capacity of OSA and provide a rolling twenty-four month forecast consistent with the capacity allocated to each joint venture partner. We have committed to purchase 60% of OSA's production capacity, and our committed capacity is scheduled to increase gradually through April 1, 2020, when, subject to the fulfillment of certain conditions, we are required to increase our ownership in OSA to 100%.

We use third-party contractors for some of our manufacturing activities, primarily for wafer fabrication and the assembly and testing of finished goods. Our agreements with these contract manufacturers typically require us to forecast product needs and commit to purchase services consistent with these forecasts. In some cases, longer-term commitments are required in the early stages of the relationship. These contract manufacturers collectively accounted for approximately 31% of our manufacturing costs in 2019 and 36% of our manufacturing costs in each of 2018 and 2017. The decrease in contract manufacturing costs in 2019 is due to the consolidation of the financial results of OSA after acquiring the majority of the outstanding equity interests during the fourth quarter of 2018.

For information regarding risks associated with our foreign operations, see "Risk Factors —Trends, Risks and Uncertainties Related to Our Business" included elsewhere in this Form 10-K.

Raw Materials

Our manufacturing processes use many raw materials, including silicon wafers, SiC wafers, gold, copper, lead frames, mold compound, ceramic packages and various chemicals and gases as well as other production supplies used in our manufacturing processes. We obtain our raw materials and supplies from a large number of sources, generally on a just-in-time basis, and material agreements with our suppliers that impose minimum or continuing supply obligations are reflected in our contractual obligations table in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Contractual Obligations" included elsewhere in this Form 10-K. From time to time, suppliers may extend lead times, limit supplies or increase prices due to capacity constraints or other factors. Although we believe that supplies of the raw materials we use are currently and will continue to be available, shortages could occur in various essential materials due to interruption of supply, increased demand in the industry or other factors.

Sales, Marketing and Distribution

As of December 31, 2019, our sales and marketing organization consisted of approximately 1,800 professionals servicing customers globally. We support our customers through logistics organizations and just-in-time warehouses. Global and regional distribution channels further support our customers' needs for quick response and service. We offer efficient, cost-effective global applications support from our technical information centers and solution engineering centers, allowing for applications which are developed in one region of the world to be instantaneously available throughout all other regions.

Patents, Trademarks, Copyrights and Other Intellectual Property Rights

We market our products primarily under our registered trademark ON Semiconductor[®] and our ON logo, and, in the United States and internationally, we rely primarily on a combination of patents, trademarks, copyrights, trade secrets, employee and non-disclosure agreements and licensing agreements to protect our IP. We acquired or were licensed or sublicensed to a significant amount of IP, including patents and patent applications, in connection with our acquisitions, and we have numerous U.S. and foreign patents issued, allowed and pending. As of December 31, 2019, we held patents with expiration dates ranging from 2020 to 2039, and none of the patents that expire in the next three years materially affect our business. Our policy is to protect our products and processes by asserting our IP rights where appropriate and prudent and by obtaining patents, copyrights and other IP rights used in connection with our business when practicable and appropriate.

Seasonality

We believe our business today is driven more by content gains within applications and secular growth drivers and not solely by macroeconomic and industry cyclicity, as was the case historically. As experienced in 2019, we could again experience period-to-period fluctuations in operating results due to general industry or economic conditions. For information regarding risks associated with the cyclicity and seasonality of our business, see "Risk Factors—Trends, Risks and Uncertainties Related to Our Business" included elsewhere in this Form 10-K.

Backlog and Inventory

Our trade sales are made primarily pursuant to orders that are predominantly booked as far as 26 weeks in advance of delivery. Generally, prices and quantities are fixed at the time of booking. Backlog as of a given date consists of existing orders and forecasted demand from our EDI customers, in each case scheduled to be shipped over the 13-week period following such date. Backlog is influenced by several factors, including market demand, pricing and customer order patterns in reaction to product lead times. During 2019, our backlog at the beginning of each quarter represented between 85% and 87% of actual revenue during such quarter, which is consistent with backlog levels in recent prior periods. As manufacturing capacity utilization in the industry increases, customers tend to order products further in advance and, as a result, backlog at the beginning of a period as a percentage of revenue during such period is likely to increase.

In the semiconductor industry, backlog quantities and shipment schedules under outstanding purchase orders are frequently revised to reflect changes in customer needs. Agreements calling for the sale of specific quantities are either contractually subject to quantity revisions or, as a matter of industry practice, are often not enforced. Therefore, a significant portion of our order backlog may be cancelable. For these reasons, the amount of backlog as of any particular date may not be an accurate indicator of future results.

We sell products to key customers pursuant to contracts that allow us to schedule production capacity in advance and allow the customers to manage their inventory levels consistent with just-in-time principles while shortening the cycle times required for producing ordered products. However, these contracts are typically amended to reflect changes in customer demands and periodic price renegotiations. We routinely generate inventory based on customers' estimates of end-user demand for their products, which are difficult to predict. See "Risk Factors—Trends, Risks and Uncertainties Related to Our Business" located elsewhere in this Form 10-K for additional information regarding the inventory practices within the semiconductor industry.

Competition

We face significant competition within each of our product lines from major international semiconductor companies, as well as smaller companies focused on specific market niches. Because some of our components are often building block semiconductors that, in some cases, can be integrated into more complex ICs, we also face competition from manufacturers of ICs, ASICs and fully-customized ICs, as well as customers who develop their own IC products. See "Risk Factors—Trends, Risks and Uncertainties Related to Our Business" included elsewhere in this Form 10-K for additional information.

In comparison, several of our competitors are larger in scale and size, have substantially greater financial and other resources with which to pursue development, engineering, manufacturing, marketing and distribution of their products and may generally be better situated to withstand adverse economic or market conditions. The semiconductor industry has experienced, and may continue to experience, significant consolidation among companies and vertical integration among customers. The following discusses the effects of competition on our three operating segments:

PSG

PSG is a leading provider of power semiconductors to the automotive, industrial, wireless and mass markets. Our competitive strengths include our core competencies of leading edge fabrication technologies, micro packaging expertise, breadth of product line and IP portfolio, high quality cost effective manufacturing and supply chain management which ensures supply to our customers. Our commitment to continual innovation allows us to provide an ever broader range of semiconductor solutions to our customers who differentiate in power density and power efficiency, the key performance characteristics driving our markets.

The principal methods of competition in our discrete, module and integrated semiconductor products are through new products and package innovations enabling enhanced performance over existing products. Of particular importance are our power MOSFETs, IGBTs, WBG MOSFETs and diodes, including SiC and GaN rectifiers and power module portfolio for power conversion applications, and ESD portfolio for hi-speed serial interface protection products, where we believe we have significant performance advantages over our competition. PSG's competitors include: Broadcom Limited ("Broadcom"), Diodes Incorporated, Infineon Technologies AG ("Infineon"), KEC Corporation, Nexperia BV, Rohm Semiconductor USA LLC, Semtech Corporation, STMicroelectronics N.V. ("STMicroelectronics"), Texas Instruments Incorporated, Toshiba Corporation and Vishay Intertechnology, Inc.

ASG

The principal bases for competition in ASG are design experience, manufacturing capability, depth and quality of IP, ability to service customer needs from the design phase to the shipping of a completed product, length of design cycle, longevity of technology support and experience of sales and technical support personnel. Our competitive position is also enhanced by long-standing relationships with leading OEM customers.

Our ability to compete successfully depends on internal and external variables, both inside and outside of our control. These variables include, but are not limited to, the timeliness with which we can develop new products and technologies, product performance and quality, manufacturing yields and availability of supply, customer service, pricing, industry trends and general economic trends. Competitors for certain of ASG's products and solutions include: Infineon, Maxim Integrated Products, Inc., NXP Semiconductors N.V. ("NXP"), Renesas Electronics Corporation, STMicroelectronics and Texas Instruments Incorporated.

ISG

ISG differentiates itself from the competition through deep technical knowledge and close customer relationships to drive leading edge sensing performance for both human and machine vision applications. ISG has over four decades of imaging experience, was the first to commercialize CMOS active pixel sensors and was also the first to introduce CMOS technology into many of our markets. ISG has leveraged this expertise into market leading positions in automotive and industrial applications, which allows us to offer a wealth of technical and end-user applications knowledge to help customers develop innovative sensing solutions across a broad range of end-user needs. Competitors for certain of ISG's products and solutions include: Sony Semiconductor Manufacturing Corporation ("Sony Semiconductor"), Samsung Electronics Co., Ltd. ("Samsung"), Omnivision, STMicroelectronics and Toshiba Corporation for image sensors; Rohm Semiconductor, Renesas Electronics Corporation and Dongwoon Anatech Co., Ltd. for actuator drivers; Texas Instruments Incorporated, NXP, and Infineon for radar; and Hamamatsu Photonics K.K., Broadcom and ST Microelectronics for SiPMs and SPADs.

Government Regulation

Our manufacturing operations are subject to environmental and worker health and safety laws and regulations. These laws and regulations include those relating to emissions and discharges into the air and water, the management and disposal of hazardous substances, the release of hazardous substances into the environment at or from our facilities and at other sites and the investigation and remediation of contamination. As with other companies engaged in like businesses, the nature of our operations exposes us to the risk of liabilities and claims, regardless of fault, with respect to such matters, including personal injury claims and civil and criminal fines.

We believe that our operations are in material compliance with applicable environmental and health and safety laws and regulations. The costs we incurred in complying with applicable environmental regulations for the year ended December 31, 2019 were not material, and we do not expect the cost of complying with existing environmental and health and safety laws and regulations, together with any liabilities for currently known environmental conditions, to have a material adverse effect on the capital expenditures, earnings or competitive position of the Company or its subsidiaries. It is possible, however, that future developments, including changes in laws and regulations, government policies, customer specification, personnel and physical property conditions, including currently undiscovered contamination, could lead to material costs, and such costs may have a material adverse effect on our future business or prospects. See Note 13: "Commitments and Contingencies" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for information on certain environmental matters.

Employees

As of December 31, 2019, we had approximately 34,800 employees worldwide, of which approximately 4,600 employees were in the United States. None of our employees in the United States are covered by collective bargaining agreements, except for approximately 117 of our employees (or approximately 2.6% of our U.S.-based employees) at the Mountain Top, Pennsylvania manufacturing facility. Certain of our foreign employees are covered by collective bargaining arrangements (e.g., those in China, South Korea, Japan and Belgium) or similar arrangements or are represented by workers councils. For information regarding employee risk associated with our international operations, see "Risk Factors—Trends, Risks and Uncertainties Related to Our Business" included elsewhere in this Form 10-K. Of the total number of our employees as of December 31, 2019, approximately 28,600 were engaged in manufacturing, approximately 3,300 were engaged in research and development, approximately 1,800 were engaged in customer service or other aspects of sales and marketing, and approximately 1,100 were engaged in administration.

Executive Officers of the Registrant

Certain information concerning our executive officers as of February 13, 2020 is set forth below.

<u>Name</u>	<u>Age</u>	<u>Position</u>
Keith D. Jackson	64	President, Chief Executive Officer and Director
Bernard Gutmann	60	Executive Vice President, Chief Financial Officer and Treasurer
George H. Cave	62	Executive Vice President, General Counsel, Chief Compliance Officer, Chief Risk Officer, Chief Privacy Officer and Corporate Secretary
Vincent C. Hopkin	57	Executive Vice President and General Manager, ASG
Simon Keeton	47	Executive Vice President and General Manager, PSG
Taner Ozcelik	52	Senior Vice President and General Manager, ISG
Paul E. Rolls	57	Executive Vice President, Sales and Marketing
William A. Schromm	61	Executive Vice President and Chief Operating Officer

All of our executive officers are also officers of SCI LLC. The present term of office for the officers named above will generally expire on the earliest of their retirement, resignation or removal. There is no family relationship among our executive officers.

Keith D. Jackson. Mr. Jackson was elected as a Director of ON Semiconductor and appointed as President and Chief Executive Officer of ON Semiconductor and SCI LLC in November 2002. Mr. Jackson has more than 40 years of semiconductor industry experience. Before joining ON Semiconductor, he was with Fairchild, serving as Executive Vice President and General Manager, Analog, Mixed Signal, and Configurable Products Groups, beginning in 1998, and, more recently, was head of its Integrated Circuits Group. From 1996 to 1998, he served as President and a member of the board of directors of Tritech Microelectronics in Singapore, a manufacturer of analog and mixed signal products. From 1986 to 1996, Mr. Jackson worked for National Semiconductor Corporation, most recently as Vice President and General Manager of the Analog and Mixed Signal division. He also held various positions at Texas Instruments Incorporated, including engineering and management positions, from 1973 to 1986. Mr. Jackson has served on the board of directors of Veeco Instruments, Inc. since February 2012. Mr. Jackson has served on the board of directors of the Semiconductor Industry Association since 2008 and in 2019, after serving a term as Vice Chair, was elected Chair of the board. In February 2014, Mr. Jackson became a National Association of Corporate Directors Board Leadership Fellow, the highest level of credentialing for corporate directors and corporate governance professionals.

Bernard Gutmann. Mr. Gutmann was promoted and appointed Executive Vice President and Chief Financial Officer of ON Semiconductor and SCI LLC in September 2012 and has served as ON Semiconductor's and SCI LLC's Treasurer since January 2013. Before his promotion, he worked with the Company as Vice President, Corporate Analysis & Strategy of SCI LLC, serving in that position from April 2006 to September 2012. In these roles, his responsibilities have included finance integration, financial reporting, restructuring, tax, treasury and financial planning and analysis. From November 2002 to April 2006, Mr. Gutmann served as Vice President, Financial Planning & Analysis and Treasury of SCI LLC. From September 1999 to November 2002, he held the position of Director, Financial Planning & Analysis of SCI LLC. Prior to joining ON Semiconductor, Mr. Gutmann served in various financial positions with Motorola from 1982 to 1999, including controller of various divisions and an off-shore wafer and backend factory, finance and accounting manager, financial planning manager and financial analyst. He holds a Bachelor of Science in Management Engineering from Worcester Polytechnic Institute in

Massachusetts (U.S.). Additionally, he is fluent in English, French and Spanish and is conversant in German.

George H. "Sonny" Cave. Mr. Cave is the founding General Counsel and Corporate Secretary of ON Semiconductor, positions he has held since the 1999 spin-out from Motorola. He is also Executive Vice President, Chief Compliance Officer, Chief Risk Officer and Chief Privacy Officer of ON Semiconductor and SCI LLC. His extensive legal and business experience spans over 30 years, including seven years with Motorola. For two years prior to ON Semiconductor's spin-out, he was an ex-patriate stationed in Geneva, Switzerland as Regulatory Affairs Director for Motorola's Semiconductor Components Group. Before that assignment, he spent five years with Motorola's Corporate Law Department in Phoenix, Arizona, where he was Senior Counsel for global Environmental Health and Safety. Mr. Cave also practiced law for six years with two large law firms in Denver and Phoenix. He has extensive experience in corporate and commercial law, governance, enterprise risk management and compliance and ethics. He holds a Juris Doctorate degree from the University of Colorado School of Law, a Master of Science degree from Arizona State University and a Bachelor of Science degree *cum laude* from Duke University.

Vincent C. Hopkin. Mr. Hopkin joined the Company in March 2008 and currently serves as Executive Vice President and General Manager of ASG for ON Semiconductor and SCI LLC. From September 2016 to May 2018, he was Senior Vice President and General Manager of the Digital and DC/DC Solutions Division. He has more than three decades of experience in the electronics industry. During his career, Mr. Hopkin has held various leadership positions within business units, sales and manufacturing. Prior to joining ON Semiconductor in 2008, he successfully managed several businesses including ASIC, military/aerospace, image sensing and foundry services at AMIS. Mr. Hopkin joined AMIS in 1983 and worked in several operations functions. Mr. Hopkin holds a Bachelor of Science degree in management and organizational behavior from Idaho State University.

Simon Keeton. Mr. Keeton joined the Company in July 2007 and is currently the Executive Vice President and General Manager of PSG of ON Semiconductor and SCI LLC. During his career, Mr. Keeton has held various management positions within the Company. Before Mr. Keeton's promotion to his current role on January 1, 2019, he was a Senior Vice President and General Manager of the MOSFET Division. From 2012 to 2016, Mr. Keeton served as Vice President and General Manager of the Integrated Circuit Division under our former Standard Products Group. Prior to that time, he served as Vice President and General Manager of the Consumer Products Division from 2009 to 2012 and as Business Unit Director of our Signals and Interface Business Unit from 2007 to 2009. Before joining the Company, Mr. Keeton served as Strategic Planning Manager of the Digital Enterprise Group of Intel Corporation and held various marketing and business management roles at Vitesse Semiconductor Corporation.

Taner Ozcelik. Mr. Ozcelik joined ON Semiconductor in August 2014 as the Senior Vice President of the Aptina Imaging Business, and on February 20, 2015, he was named the Senior Vice President and General Manager of ISG of ON Semiconductor and SCI LLC. Mr. Ozcelik has served at the intersection of semiconductors, consumer electronics, computing and automotive industries for more than two decades. Before joining ON Semiconductor in August 2014, he served as Senior Vice President of Aptina's Automotive and Embedded business. Prior to this, Mr. Ozcelik served as Vice President and General Manager of the NVIDIA Corporation ("NVIDIA") automotive business from 2012 to 2014, and as General Manager of the Avionics, Automotive and Embedded Business of NVIDIA from 2006 to 2012. While at NVIDIA, he developed several award winning firsts in automotive, which spanned a variety of applications including infotainment systems, digital instrument clusters, automotive tablets and ADAS, which are now featured in cars worldwide. During his career, Mr. Ozcelik has also held positions as President and CEO at MobileSmarts, Inc. and as Vice President and General Manager at Sony Semiconductor for its Digital Home Platform Division. Mr. Ozcelik holds a Masters of Business Administration degree from the Wharton School of the University of Pennsylvania, a Ph.D. in Electrical Engineering from Northwestern University and a Bachelor of Science in Electrical Engineering from Bogazici University, Turkey. He is listed as an inventor on 23 U.S. patents.

Paul E. Rolls. Mr. Rolls was promoted and appointed Executive Vice President, Sales and Marketing of ON Semiconductor and SCI LLC in July 2013. Before his promotion, he served as Senior Vice President, Japan Sales and Marketing and Senior Vice President of Global Sales Operations, serving in that position from October 2012 to July 2013. Mr. Rolls has more than 26 years of technology sales, sales management and operations experience, with more than 19 years of sales and sales management experience in the semiconductor industry. Before joining the Company, Mr. Rolls was the Senior Vice President, Worldwide Sales and Marketing at Integrated Device Technology, Inc. from January 2010 to April 2012. From August 1996 to December 2009, he held multiple sales positions at International Rectifier Corp., most recently as Senior Vice President, Global Sales. During his career, he has also held management roles at Compaq Computer Corporation.

William A. Schromm. Mr. Schromm has more than 30 years of semiconductor industry experience, has been with the Company since August 1999 and has served as Executive Vice President and Chief Operating Officer of ON Semiconductor and SCI LLC since August 2014. Prior to becoming Chief Operating Officer, he was a Senior Vice President responsible for quality, external manufacturing, manufacturing under our former System Solutions Group segment, global supply chain, information technology, and corporate program management. Prior to this role, Mr. Schromm served as Senior Vice President and General Manager of the Company's former Computing and Consumer Products Group from June 2006 through September 2012. During his tenure with the Company, he has held various positions. From August 2004 through May 2006, he served as the Vice President and General Manager of the Company's former High Performance Analog Division and also led the Company's former Analog Products Group. Beginning in January 2003, he served as Vice President of the Clock and Data Management business and continued in that role with additional product responsibilities when this business became the High Performance Analog Division in August 2004. Prior to that, he served as the Vice President of Tactical Marketing from July 2001 through December 2002, after leading the Company's Standard Logic Division since August 1999. From April 2015 to August 2019, Mr. Schromm served on the board of directors of II-VI, Inc. Mr. Schromm earned a Bachelor of Science degree from Boston College and a Master of Business Administration degree from the University of Phoenix.

Geographical Information

For certain geographic operating information, see Note 3: "Revenue and Segment Information" and Note 16: "Income Taxes" in the notes to our audited consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations," in each case as included elsewhere in this Form 10-K. For information regarding other risks associated with our foreign operations, see "Risk Factors—Trends, Risks and Uncertainties Related to Our Business" included elsewhere in this Form 10-K.

Available Information

We make our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports available, free of charge, in the "Investor Relations" section of our website as soon as reasonably practicable after we electronically file these materials with, or furnish these materials to the SEC. Our website is www.onsemi.com. Information on or connected to our website is neither part of, nor incorporated by reference into, this Form 10-K or any other report filed with or furnished to the SEC. You will find these materials on the SEC website at www.sec.gov, which contains reports, proxy statements and other information regarding issuers that file electronically with the SEC.

Item 1A. Risk Factors

Forward-Looking Statements

This Annual Report on Form 10-K includes "forward-looking statements," as that term is defined in Section 27A of the Securities Act and Section 21E of the Exchange Act. All statements, other than statements of historical facts, included or incorporated in this Form 10-K could be deemed forward-looking statements, particularly statements about our plans, strategies and prospects under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business." Forward-looking statements are often characterized by the use of words such as "believes," "estimates," "expects," "projects," "may," "will," "intends," "plans," or "anticipates," or by discussions of strategy, plans or intentions. All forward-looking statements in this Form 10-K are made based on our current expectations, forecasts, estimates and assumptions, and involve risks, uncertainties and other factors that could cause results or events to differ materially from those expressed in the forward-looking statements. Among these factors are our revenue and operating performance; economic conditions and markets (including current financial conditions); risk related to changes in tariffs or other government trade policies, including between the U.S. and China; risks related to our ability to meet our assumptions regarding outlook for revenue and gross margin as a percentage of revenue; effects of exchange rate fluctuations; the cyclical nature of the semiconductor industry; changes in demand for our products; changes in inventories at our customers and distributors; risks associated with restructuring actions and workforce reductions; technological and product development risks; risks that our products may be accused of infringing the IP rights of others; enforcement and protection of our IP rights and related risks; risks related to the security of our information systems and secured network; availability of raw materials, electricity, gas, water and other supply chain uncertainties; our ability to effectively shift production to other facilities when required in order to maintain supply continuity for our customers; variable demand and the aggressive pricing environment for semiconductor products; our ability to successfully manufacture in increasing volumes on a cost-effective basis and with acceptable quality for our current products; risks associated with our acquisitions and dispositions generally, including our ability to realize the anticipated benefits of our acquisitions and dispositions, including our acquisition of Quantenna; risks that acquisitions or dispositions may disrupt our current plans and operations, the risk of unexpected costs, charges or expenses resulting from acquisitions or dispositions and difficulties arising from integrating and consolidating acquired businesses, our timely filing of financial information with the SEC for acquired businesses and our ability to accurately predict the future financial performance

of acquired businesses; competitor actions, including the adverse impact of competitor product announcements; pricing and gross profit pressures; risks associated with the addition of Huawei Technologies Co., Ltd. and its non-U.S. affiliates and subsidiaries, and other customers, to the U.S. Departments of Commerce, Bureau of Industry Security Entity List; loss of key customers; order cancellations or reduced bookings; changes in manufacturing yields; control of costs and expenses and realization of cost savings and synergies from restructurings; the costs to defend against or pursue litigation and the potential significant costs associated with adverse litigation outcomes; risks associated with decisions to expend cash reserves for various uses in accordance with our capital allocation policy such as debt prepayment, stock repurchases or acquisitions rather than to retain such cash for future needs; risks associated with our substantial leverage and restrictive covenants in our debt agreements that may be in place from time to time; risks associated with our worldwide operations, including changes in trade policies, foreign employment and labor matters associated with unions and collective bargaining arrangements, continuing political unrest in markets in which we do significant business, including Hong Kong, as well as man-made and/or natural disasters affecting our operations or financial results; the threat or occurrence of international armed conflict and terrorist activities both in the United States and internationally; risks of changes in U.S. or international tax rates or legislation; risks and costs associated with increased and new regulation of corporate governance and disclosure standards; risks related to new legal requirements; risks related to the potential impact of climate change and regulations related thereto on our operations; and risks and expenses involving environmental or other governmental regulation. Readers are cautioned not to place undue reliance on forward-looking statements. We assume no obligation to update such information, except as may be required by law.

You should carefully consider the trends, risks and uncertainties described below and other information in this Form 10-K and subsequent reports filed with or furnished to the SEC before making any investment decision with respect to our securities. If any of the following trends, risks or uncertainties actually occurs or continues, our business, financial condition or operating results could be materially adversely affected, the trading prices of our securities could decline, and you could lose all or part of your investment. All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by this cautionary statement.

Trends, Risks and Uncertainties Related to Our Business

Changes in tariffs or other government trade policies may materially adversely affect our business and results of operations, including by reducing demand for our products.

The imposition of tariffs and trade restrictions as a result of international trade disputes or changes in trade policies may adversely affect our sales and profitability. For example, in 2018 and 2019, the U.S. government imposed and proposed, among other actions, new or higher tariffs on specified imported products originating from China in response to what it characterizes as unfair trade practices, and China has responded by imposing and proposing new or higher tariffs on specified products, including some semiconductors fabricated in the United States and certain transistors, diodes, ICs and other products that we import into China as part of our supply chain. Although the United States and China announced an initial “phase one” trade agreement in December 2019, the result of which may roll back or delay the imposition of additional tariffs, details have not yet been released, and there can be no assurance that a broader trade agreement will be successfully negotiated between the United States and China to reduce or eliminate these tariffs. These tariffs, and the related geopolitical uncertainty between the United States and China, may cause decreased end-market demand for our products from distributors and other customers, which could have a material adverse effect on our business and results of operations. For example, certain of our foreign customers may respond to the imposition of tariffs or threat of tariffs on products we produce by delaying purchase orders, purchasing products from our competitors or developing their own products. Ongoing international trade disputes and changes in trade policies could also impact economic activity and lead to a general contraction of customer demand. In addition, tariffs on components that we import from China or other nations that have imposed, or may in the future impose, tariffs will adversely affect our profitability unless we are able to exclude such components from the tariffs or we raise prices for our products, which may result in our products becoming less attractive relative to products offered by our competitors. Future actions or escalations by either the United States or China that affect trade relations may also impact our business, or that of our suppliers or customers, and we cannot provide any assurances as to whether such actions will occur or the form that they may take. To the extent that our sales or profitability are negatively affected by any such tariffs or other trade actions, our business and results of operations may be materially adversely affected.

Changes in government trade policies could limit our ability to sell our products to certain customers, which may materially adversely affect our sales and results of operations.

The U.S. Congress or U.S. regulatory authorities may take administrative, legislative or regulatory action that could materially interfere with our ability to make sales to certain of our customers, particularly in China. We could experience unanticipated restrictions on our ability to sell to certain foreign customers where sales of products and the provision of services may require export licenses or are prohibited by government action. Export restrictions may also include technical discussions with customers that can impede our ability to pursue design-wins with customers and thus may impact future sales. For example, in May 2019, the U.S. Department of Commerce added Huawei Technologies Co., Ltd. and its non-U.S. affiliates and subsidiaries, and certain other customers, to the U.S. Department of Commerce's Bureau of Industry and Security's Entity List, imposing significant restrictions on the export and transfer of U.S. goods and technologies to such entities, and the U.S. may ban the export of U.S. products, goods and technologies to additional foreign customers. The terms and duration of any such restrictions may not be known to us in advance and may be subject to ongoing modifications. Even to the extent such restrictions are subsequently lifted or temporarily suspended, any financial or other penalties imposed on affected foreign customers could have a negative impact on future orders. Such foreign customers may also respond to sanctions or the threat of sanctions by employing their own solutions to address the impacts of restrictions. The loss or temporary loss of customers as a result of such future regulatory limitations could materially adversely affect our sales, business and results of operations.

Downturns or volatility in general economic conditions could have a material adverse effect on our business and results of operations.

In recent years, worldwide semiconductor industry sales have tracked the impact of the financial crisis, subsequent recovery and persistent economic uncertainty. We believe that the state of global economic conditions is particularly uncertain due to recent and expected shifts in political, legislative and regulatory conditions concerning, among other matters, international trade and taxation, and that an uneven recovery or a renewed global downturn may put pressure on our sales due to reductions in customer demand as well as customers deferring purchases. Volatile or uncertain economic conditions, as well as continuing political unrest in markets in which we conduct significant business, including Hong Kong, can adversely impact sales and profitability and make it difficult for us and our competitors to accurately forecast and plan our future business activities.

Historically, the semiconductor industry has been highly cyclical and, as a result, subject to significant downturns and upturns in customer demand for semiconductors and related products. We believe our business today is driven more by secular growth drivers and not solely by macroeconomic and industry cyclicity, as was the case historically. As experienced in 2019, we could again experience period-to-period fluctuations in operating results due to general industry or economic conditions. We cannot accurately predict the timing of future downturns and upturns in the semiconductor industry or how severe and prolonged these conditions might be. Significant downturns often occur in connection with, or in anticipation of, maturing product cycles (for semiconductors and for the end-user products in which they are used) or declines in general economic conditions and can result in reduced product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices, any of which could materially adversely affect our operating results as a result of increased operating expenses outpacing decreased revenue, reduced margins, underutilization of our manufacturing capacity and/or asset impairment charges. On the other hand, significant upturns can cause us to be unable to satisfy demand in a timely and cost efficient manner. In the event of such an upturn, we may not be able to expand our workforce and operations in a sufficiently timely manner, procure adequate resources and raw materials, or locate suitable third-party suppliers to respond effectively to changes in demand for our existing products or to the demand for new products requested by our customers, and our business and results of operations could be materially and adversely affected.

To the extent we incorrectly plan for favorable economic conditions that do not materialize or take longer to materialize than expected, we may face oversupply of our products relative to customer demand. In the past, reduced customer spending has driven us, and may in the future drive us and our competitors, to reduce product pricing, which results in a negative effect on gross profit. Moreover, volatility in revenue as a result of unpredictable economic conditions may alter our anticipated working capital needs and interfere with our short-term and long-term strategies. To the extent that our sales, profitability and strategies are negatively affected by downturns or volatility in general economic conditions, our business and results of operations may be materially adversely affected.

The loss of one of our largest customers, or a significant reduction in the revenue we generate from these customers, could materially adversely affect our revenue, profitability, and results of operations.

Product sales to our ten largest end-customers, which excludes distributors, have historically accounted for a significant amount of our business. For instance, for the year ended December 31, 2019, revenue from our 10 largest end-customers collectively represented approximately 27% of our total revenue. Many of our customers operate in cyclical industries, and, in the past, we have experienced significant fluctuations from period to period in the volume of our products ordered. Generally, our agreements with our customers impose no minimum or continuing obligations to purchase our products. We cannot assure you that our largest customers will not cease purchasing products from us in favor of products produced by other suppliers, significantly reduce orders or seek price reductions in the future, and any such event could have a material adverse effect on our revenue, profitability, and results of operations.

Because a significant portion of our revenue is derived from customers in the automotive, industrial and communications industries, a downturn or lower sales to customers in either industry could materially adversely affect our business and results of operations.

A significant portion of our sales are to customers within the automotive, industrial (including medical, aerospace and defense) and communications industries (including wireless and networking). Sales into these industries represented approximately 33%, 26%, and 19% of our revenue, respectively, for the year ended December 31, 2019, and those percentages will vary from quarter to quarter. Each of the automotive, industrial and communications industries is cyclical, and, as a result, our customers in these industries are sensitive to changes in general economic conditions, disruptive innovation and end-market preferences, which can adversely affect sales of our products and, correspondingly, our results of operations. Additionally, the quantity and price of our products sold to customers in these industries could decline despite continued growth in their respective end markets. Lower sales to customers in the automotive, industrial or communications industry may have a material adverse effect on our business and results of operations.

Shortages or increased prices of raw materials could materially adversely affect our results of operations.

Our manufacturing processes rely on many raw materials, including various chemicals and gases, polysilicon, silicon wafers, aluminum, gold, silver, copper, lead frames, mold compound and ceramic packages. Generally, our agreements with suppliers of raw materials impose no minimum or continuing supply obligations, and we obtain our raw materials and supplies from a large number of sources on a just-in-time basis. From time to time, suppliers of raw materials may extend lead times, limit supplies or increase prices due to capacity constraints or other factors beyond our control. Shortages could occur in various essential raw materials due to interruption of supply or increased demand. If we are unable to obtain adequate supplies of raw materials in a timely manner, the costs of our raw materials increases significantly, their quality deteriorates or they give rise to compatibility or performance issues in our products, our results of operations could be materially adversely affected.

Many of our facilities and processes are interdependent and an operational disruption at any particular facility could have a material adverse effect on our ability to produce many of our products, which could materially adversely affect our business and results of operations.

We utilize an integrated manufacturing platform in which multiple facilities may each produce one or more components necessary for the assembly of a single product. As a result of the necessary interdependence within our network of manufacturing facilities, an operational disruption at a facility toward the front-end of our manufacturing process may have a disproportionate impact on our ability to produce many of our products. For example, our facility in Rožnov pod Radhoštěm, Czech Republic, manufactures silicon wafers used by a number of our facilities, and ISG relies predominantly on one third-party for manufacturing at the front-end of its manufacturing process, and any operational disruption, natural or man-made disaster or other extraordinary event that impacted either of those facilities would have a material adverse effect on our ability to produce a number of our products worldwide. In the event of a disruption at any such facility, we may be unable to effectively source replacement components on acceptable terms from qualified third parties, in which case our ability to produce many of our products could be materially disrupted or delayed. Conversely, many of our facilities are single source facilities that only produce one of our end-products, and a disruption at any such facility would materially delay or cease production of the related product. In the event of any such operational disruption, we may experience difficulty in beginning production of replacement components or products at new facilities (for example, due to construction delays) or transferring production to other existing facilities (for example, due to capacity constraints or difficulty in transitioning to new manufacturing processes), any of which could result in a loss of future revenues and materially adversely affect our business and results of operations.

If our technologies are subject to claims of infringement on the IP rights of others, efforts to address such claims could have a material adverse effect on our results of operations.

We may from time to time be subject to claims that we may be infringing the IP rights of others. If necessary or desirable, we may seek licenses under such IP rights. However, we cannot assure you that we will obtain such licenses or that the terms of any offered licenses will be acceptable to us. The failure to obtain a license from a third-party for IP we use could cause us to incur substantial liabilities or to suspend the manufacture or shipment of products or our use of processes requiring such technologies. Further, we may be subject to IP litigation, which could cause us to incur significant expense, materially adversely affect sales of the challenged product or technologies and divert the efforts of our technical and management personnel, whether or not such litigation is resolved in our favor. In the event of an adverse outcome or pursuant to the terms of a settlement of any such litigation, we may be required to:

- pay substantial damages or settlement costs;
- indemnify customers or distributors;
- cease the manufacture, use, sale or importation of infringing products;
- expend significant resources to develop or acquire non-infringing technologies;
- discontinue the use of processes; or
- obtain licenses, which may not be available on reasonable terms, to the infringing technologies.

Please see Note 13: "Commitments and Contingencies" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for a more detailed description of the litigation we are currently engaged in. The outcome of IP litigation is inherently uncertain and, if not resolved in our favor, could materially and adversely affect our business, financial condition and results of operations.

If we are unable to protect the IP we use, our business, results of operations and financial condition could be materially adversely affected.

The enforceability of our patents, trademarks, copyrights, software licenses and other IP is uncertain in certain circumstances. Effective IP protection may be unavailable, limited or not applied for in the U.S. and internationally. The various laws and regulations governing our registered and unregistered IP assets, patents, trade secrets, trademarks, mask works and copyrights to protect our products and technologies are subject to legislative and regulatory change and interpretation by courts. With respect to our IP generally, we cannot assure you that:

- any of the substantial number of U.S. or foreign patents and pending patent applications that we employ in our business will not lapse or be invalidated, circumvented, challenged, abandoned or licensed to others;
- any of our pending or future patent applications will be issued or have the coverage originally sought;
- any of the trademarks, copyrights, trade secrets, know-how or mask works that we employ in our business will not lapse or be invalidated, circumvented, challenged, abandoned or licensed to others;
- any of our pending or future trademark, copyright, or mask work applications will be issued or have the coverage originally sought; or
- that we will be able to successfully enforce our IP rights in the U.S. or foreign countries.

When we seek to enforce our rights, we are often subject to claims that the IP right is invalid, is otherwise not enforceable or is licensed to the party against whom we are asserting a claim. In addition, our assertion of IP rights often results in the other party seeking to assert alleged IP rights of its own against us, which may materially adversely impact our business. An unfavorable ruling in these sorts of matters could include money damages or an injunction prohibiting us from manufacturing or selling one or more products, which could in turn negatively affect our business, results of operations or cash flows.

In addition, some of our products and technologies are not covered by any patents or pending patent applications. We seek to protect our proprietary technologies, including technologies that may not be patented or patentable, in part by confidentiality agreements and, if applicable, inventors' rights agreements with our collaborators, advisors, employees and consultants. We cannot assure you that these agreements will not be breached, that we will have adequate remedies for any breach or that persons or institutions will not assert rights to IP arising out of our research. Should we be unable to protect our IP, competitors may develop products or technologies that duplicate our products or technologies, benefit financially from innovations for which we bore the costs of development and undercut the sales and marketing of our products, all of which could have a material adverse effect on our business, results of operations and financial condition.

If we are unable to identify and make the substantial research and development investments required to remain competitive in our business, our business, financial condition and results of operations may be materially adversely affected.

The semiconductor industry requires substantial investment in research and development in order to develop and bring to market new and enhanced technologies and products. The development of new products is a complex and time-consuming process and often requires significant capital investment and lead time for development and testing. We cannot assure you that we will have sufficient resources to maintain the level of investment in research and development that is required to remain competitive. In addition, the lengthy development cycle for our products limits our ability to adapt quickly to changes affecting the product markets and requirements of our customers and end-users, and we may be unable to develop innovative responses to our customers' and end-users' evolving needs on the timelines they require or at all. There can be no assurance that we will win competitive bid selection processes, known as "design wins," for new products. In addition, design wins do not guarantee that we will make customer sales or that we will generate sufficient revenue to recover design and development investments, as expenditures for technology and product development are generally made before the commercial viability for such developments can be assured. There is no assurance that we will realize a return on the capital expended to develop new products, that a significant investment in new products will be profitable or that we will have margins as high as we anticipate at the time of investment or have experienced historically. To the extent that we underinvest in our research and development efforts, fail to recognize the need for innovation with respect to our products, or that our investments and capital expenditures in research and development do not lead to sales of new products, we may be unable to bring to market technologies and products that are attractive to our customers, and as a result our business, financial condition and results of operations may be materially adversely affected.

We may be unable to successfully integrate new strategic acquisitions, which could materially adversely affect our business, results of operations and financial condition.

We have made, and may continue to make, strategic acquisitions and alliances that involve significant risks and uncertainties. Successful acquisitions and alliances in the semiconductor industry are difficult to accomplish because they require, among other things, efficient integration and aligning of product offerings and manufacturing operations and coordination of sales and marketing and research and development efforts, often in markets or regions in which we have less experience than others. Our decision to pursue an acquisition is based on, among other factors, our estimates of expected future earnings growth and potential cost savings. For example, we may anticipate rationalization of a combined infrastructure and savings through integration of a newly acquired business into our business, and our estimates could turn out to be incorrect. Risks related to successful integration of an acquisition include, but are not limited to: (1) the ability to integrate information technology and other systems; (2) unidentified issues not discovered in our due diligence; (3) customers responding by changing their existing business relationships with us or the acquired company; (4) diversion of management's attention from our day to day operations; and (5) loss of key employees due to uncertainty about positions post-integration. In addition, we may incur unexpected costs, such as operating or restructuring costs (including severance payments to departing employees) or taxes resulting from the acquisition or integration of the newly acquired business. In the past, we have recorded goodwill impairment charges related to certain of our acquisitions as a result of such factors as significant underperformance relative to historical or projected future operating results. Missteps or delays in integrating our acquisitions, which could be caused by factors outside of our control, or our failure to realize the expected benefits of the acquisitions on the timeline we anticipate or at all, could materially adversely affect our results of operations and financial condition.

Depending on the level of our ownership interest in and the extent to which we can exercise control over the acquired business, we may be required by U.S. generally accepted accounting principles ("GAAP") and SEC rules and regulations to consolidate newly acquired businesses into our consolidated financial statements. The acquired businesses may not have independent audited financial statements, such statements may not be prepared in accordance with GAAP or the acquired businesses may have financial controls and systems that are not compatible with our financial controls and systems, any of which could materially impair our ability to properly integrate such businesses into our consolidated financial statements on a timely basis. Any revisions to, inaccuracies in or restatements of our consolidated financial statements due to accounting for our acquisitions could have a material adverse effect on our financial condition and results of operations.

We may be unable to maintain manufacturing efficiency, which could have a material adverse effect on our results of operations.

We believe that our success materially depends on our ability to maintain or improve our current margin levels related to our manufacturing. Semiconductor manufacturing requires advanced equipment and significant capital investment, leading to high fixed costs which include depreciation expense. Manufacturing semiconductor components also involves highly complex processes that we and our competitors are continuously modifying to improve yields and product performance. In addition, impurities, waste or other difficulties in the manufacturing process can lower production yields. Our manufacturing efficiency is

and will continue to be an important factor in our future profitability, and we cannot assure you that we will be able to maintain our manufacturing efficiency, increase manufacturing efficiency to the same extent as our competitors, or be successful in our manufacturing rationalization plans. If we are unable to utilize our manufacturing and testing facilities at expected levels, or if production capacity increases while revenue does not, the fixed costs and other operating expenses associated with these facilities will not be fully absorbed, resulting in higher average unit costs and lower gross profits, which could have a material adverse effect on our results of operations.

The failure to successfully implement cost reduction initiatives, including through restructuring activities, could materially adversely affect our business and results of operations.

From time to time, we have implemented cost reduction initiatives in response to significant downturns in our industry, including relocating manufacturing to lower cost regions, transitioning higher-cost external supply to internal manufacturing, working with our material suppliers to lower costs, implementing personnel reductions and voluntary retirement programs, reducing employee compensation, temporary shutdowns of facilities with mandatory vacation and aggressively streamlining our overhead. In addition, we continuously monitor productivity and capital expenditures at our facilities in order to make strategic determinations regarding the temporary or permanent shutdown or disposition of facilities to improve our cost structure. In the past, we have recorded net restructuring charges to cover costs associated with our cost reduction initiatives. These costs have been primarily composed of employee separation costs (including severance payments) and asset impairments. We also often undertake restructuring activities and programs to improve our cost structure in connection with our business acquisitions, which can result in significant charges, including charges for severance payments to terminated employees and asset impairment charges.

We cannot assure you that our cost reduction and restructuring initiatives will be successfully or timely implemented or that they will materially and positively impact our profitability. Because our restructuring activities involve changes to many aspects of our business, including but not limited to the location of our production facilities and personnel, the associated cost reductions could materially adversely impact productivity and sales to an extent we have not anticipated. Even if we fully execute and implement these activities and they generate the anticipated cost savings, there may be other unforeseeable and unintended consequences that could materially adversely impact our profitability and business, including unintended employee attrition or harm to our competitive position. To the extent that we do not achieve the profitability enhancement or other benefits of our cost reduction and restructuring initiatives that we anticipate, our results of operations may be materially adversely effected.

We may be unable to develop new products to satisfy changing customer demands or regulatory requirements, which may materially adversely affect our business and results of operations.

The semiconductor industry is characterized by rapidly changing technologies, evolving regulatory and industry standards and certifications, changing customer needs and frequent new product introductions. Our success is largely dependent on our ability to accurately predict, identify and adapt to changes affecting the requirements of our customers in a timely and cost-effective manner. Additionally, the emergence of new industry or regulatory standards and certification requirements may adversely affect the demand for our products. We focus our independent new product development efforts on market segments and applications that we anticipate will experience growth, but there can be no assurance that we will be successful in identifying high-growth areas or develop products that meet industry standards or certification requirements in a timely manner. A fundamental shift in technologies, the regulatory climate or consumption patterns and preferences in our existing product markets or the product markets of our customers or end-users could make our current products obsolete, prevent or delay the introduction of new products that we planned to make or render our current or new products irrelevant to our customers' needs. If our new product development efforts fail to align with the needs of our customers, including due to circumstances outside of our control like a fundamental shift in the product markets of our customers and end users or regulatory changes, our business and results of operations could be materially adversely affected.

Uncertainties regarding the timing and amount of customer orders could lead to excess inventory and write-downs of inventory that could materially adversely affect our financial condition and results of operations.

Our sales are typically made pursuant to individual purchase orders or customer agreements, and we generally do not have long-term supply arrangements with our customers requiring a commitment to purchase. Our customers may cancel orders 30 days prior to shipment for standard products and, generally prior to start of production for custom products without incurring a penalty. We routinely generate inventory based on customers' estimates of end-user demand for their products, which is difficult to predict. This difficulty may be compounded when we sell to OEMs indirectly through distributors or contract manufacturers, or both, as our forecasts for demand are then based on estimates provided by multiple parties, which may vary significantly. In times of under supply for certain products, some customers could respond by inflating their demand signals. As

markets level off and supply capacity begins to match actual market demands, we could experience an increased risk of inventory write-downs, which may materially adversely affect our results of operations and our financial condition. In addition, our customers may change their inventory practices on short notice for any reason. Furthermore, short customer lead times are standard in the industry due to overcapacity. The cancellation or deferral of product orders, the return of previously sold products, or overproduction of products due to the failure of anticipated orders to materialize could result in excess obsolete inventory, which could result in write-downs of inventory or the incurrence of significant cancellation penalties under our arrangements with our raw materials and equipment suppliers. Unsold inventory, canceled orders and cancellation penalties may materially adversely affect our results of operations, and inventory write-downs, which may materially adversely affect our financial condition.

If we do not have access to capital on favorable terms, on the timeline we anticipate, or at all, our financial condition and results of operations could be materially adversely affected.

We require a substantial amount of capital to meet our operating requirements and remain competitive. We routinely incur significant costs to implement new manufacturing and information technologies, to increase our productivity and efficiency, to upgrade equipment and to expand production capacity, and there can be no assurance that we will realize a return on the capital expended. We have incurred and may continue to incur material amounts of debt to fund these requirements. Significant volatility or disruption in the global financial markets may result in us not being able to obtain additional financing on favorable terms, on the timeline we anticipate, or at all, and we may not be able to refinance, if necessary, any outstanding debt when due, all of which could have a material adverse effect on our financial condition. Any inability to obtain additional funding on favorable terms, on the timeline we anticipate, or at all, may cause us to curtail our operations significantly, reduce planned capital expenditures and research and development, or obtain funds through arrangements that management does not currently anticipate, including disposing of our assets and relinquishing rights to certain technologies, the occurrence of any of which may significantly impair our ability to remain competitive. If our operating results falter, our cash flow or capital resources prove inadequate, or if interest rates increase significantly, we could face liquidity problems that could materially and adversely affect our results of operations and financial condition.

The semiconductor industry is highly competitive, and our inability to compete effectively could materially adversely affect our business and results of operations.

The semiconductor industry is highly competitive, and our ability to compete successfully depends on elements both within and outside of our control. We face significant competition within each of our product lines from major global semiconductor companies as well as smaller companies focused on specific market niches. Because our components are often building block semiconductors that, in some cases, are integrated into more complex ICs, we also face competition from manufacturers of ICs, ASICs and fully customized ICs, as well as from customers who develop their own IC products. In addition, companies not currently in direct competition with us may introduce competing products in the future.

Our inability to compete effectively could materially adversely affect our business and results of operations. Products or technologies developed by competitors that are larger and have more substantial research and development budgets, or that are smaller and more targeted in their development efforts, may render our products or technologies obsolete or noncompetitive. We also may be unable to market and sell our products if they are not competitive on the basis of price, quality, technical performance, features, system compatibility, customized design, innovation, availability, delivery timing and reliability. If we fail to compete effectively on developing strategic relationships with customers and customer sales and technical support, our sales and revenue may be materially adversely affected. Competitive pressures may limit our ability to raise prices, and any inability to maintain revenue or raise prices to offset increases in costs could have a significant adverse effect on our gross margin. Reduced sales and lower gross margins would materially adversely affect our business and results of operations.

The semiconductor industry has experienced rapid consolidation and our inability to compete with large competitors or failure to identify attractive opportunities to consolidate may materially adversely affect our business.

The semiconductor industry is characterized by the high costs associated with developing marketable products and manufacturing technologies as well as high levels of investment in production capabilities. As a result, the semiconductor industry has experienced, and may continue to experience, significant consolidation among companies and vertical integration among customers. Larger competitors resulting from consolidations may have certain advantages over us, including, but not limited to: substantially greater financial and other resources with which to withstand adverse economic or market conditions and pursue development, engineering, manufacturing, marketing and distribution of their products; longer independent operating histories; presence in key markets; patent protection; and greater name recognition. In addition, we may be at a competitive disadvantage to our peers if we fail to identify attractive opportunities to acquire companies to expand our business. Consolidation among our competitors and integration among our customers could erode our market share, negatively impact

our capacity to compete and require us to restructure our operations, any of which would have a material adverse effect on our business.

Natural disasters, health and safety epidemics and other business disruptions could cause significant harm to our business operations and facilities and could adversely affect our supply chain and our customer base, any of which may materially adversely affect our business, results of operation, and financial condition.

Our U.S. and international manufacturing facilities and distribution centers, as well as the operations of our third-party suppliers, are susceptible to losses and interruptions caused by floods, hurricanes, earthquakes, typhoons, and similar natural disasters, as well as power outages, telecommunications failures, industrial accidents, health and safety epidemics and similar events. The occurrence of natural disasters in any of the regions in which we operate could severely disrupt the operations of our businesses by negatively impacting our supply chain, our ability to deliver products, and the cost of our products. For example, as a result of the outbreak of the Coronavirus in the first quarter of 2020, we and/or certain of our third party vendors may experience decreased production in our facilities in China and elsewhere, which may lead to interruptions in our supply chain, delays in delivery of or inability to deliver products on expected timeframes or at all, and/or loss of customers. Such events can negatively impact revenue and earnings and can significantly impact cash flow, both from decreased revenue and from increased costs associated with the event. In addition, these events could cause consumer confidence and spending to decrease or result in increased volatility to the U.S. and worldwide economies. Although we carry insurance to generally compensate for losses of the type noted above, such insurance may not be adequate to cover all losses that may be incurred or continue to be available in the affected area at commercially reasonable rates and terms. To the extent any losses from natural disasters or other business disruptions are not covered by insurance, any costs, write-downs, impairments and decreased revenue can materially adversely affect our business, our results of operations and our financial condition.

We are dependent on the services of third-party suppliers and contract manufacturers, and any disruption in or deterioration of the quality of the services delivered by such third parties could materially adversely affect our business and results of operations.

We use third-party contractors for certain of our manufacturing activities, primarily wafer fabrication and the assembly and testing of final goods. Our agreements with these manufacturers typically require us to commit to purchase services based on forecasted product needs, which may be inaccurate, and, in some cases, require longer-term commitments. We are also dependent upon a limited number of highly specialized third-party suppliers for required components and materials for certain of our key technologies. Arranging for replacement manufacturers and suppliers can be time consuming and costly, and the number of qualified alternative providers can be extremely limited. Our business operations, productivity and customer relations could be materially adversely affected if these contractual relationships were disrupted or terminated, the cost of such services increased significantly, the quality of the services provided deteriorated or our forecasted needs proved to be materially incorrect.

We could be subject to changes in tax rates or the adoption of new U.S. or international tax legislation or have exposure to additional tax liabilities, which could adversely affect our results of operations or financial condition.

Changes to tax or other applicable laws or regulations in the United States and the jurisdictions in which we operate, or in the interpretation of such laws or regulations, could, under our existing tax structure, significantly increase our effective tax rate and ultimately reduce our cash flow from operating activities, result in us having to restructure and otherwise have a material adverse effect on our financial condition. In addition, other factors or events, including business combinations and investment transactions, changes in the valuation of our deferred tax assets and liabilities, adjustments to income taxes upon finalization of various tax returns or as a result of deficiencies asserted by taxing authorities, increases in expenses not deductible for tax purposes, changes in available tax credits, increasing operations in high tax jurisdictions, and changes in tax rates, could also increase our future effective tax rate.

Our tax filings are subject to review or audit by the Internal Revenue Service (the "IRS") and state, local and foreign taxing authorities. We exercise significant judgment in determining our worldwide provision for income taxes and, in the ordinary course of our business, there may be transactions and calculations where the ultimate tax determination is uncertain. We are also liable for potential tax liabilities of businesses we acquire. The final determination in an audit may be materially different than the treatment reflected in our historical income tax provisions and accruals. An assessment of additional taxes because of an audit could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Further changes in the tax laws of foreign jurisdictions could arise as a result of the base erosion and profit shifting ("BEPS") project that was undertaken by the Organization for Economic Co-operation and Development ("OECD"). The OECD, which represents a coalition of member countries, recommended changes to numerous long-standing tax principles. The changes arising from the BEPS project, if adopted by countries in which we do business, could increase tax uncertainty and may

adversely affect our provision for income taxes, which could, ultimately, materially adversely affect our financial condition, results of operations and cash flows.

The impact of U.S. tax legislation is uncertain and could have a material adverse impact on our cash flows and results of operations.

On December 22, 2017, the U.S. enacted comprehensive tax legislation, H.R.1, commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”). The Tax Act made broad and complex changes to the U.S. tax code. Some of the changes still require additional guidance, including through the issuance of final Treasury Regulations, which could lessen or increase certain adverse impacts of the Tax Act. Our analysis and interpretation of the Tax Act and proposed Treasury Regulations are ongoing and may include judgments and interpretations that could change based on final Treasury Regulations or other guidance or due to actions that the Company may take in response to such regulatory change. As a result, the impact of the Tax Act on our results of operations and cash flows may differ from our estimates, possibly materially.

The Tax Act could have a material benefit or material adverse impact and could result in volatility in our effective tax rate, tax expense and cash flow. Any benefit associated with the lower U.S. corporate tax rate could be reduced or outweighed by the cost of compliance or other adverse regulatory changes related to the Tax Act or final Treasury Regulations.

We operate a global business through numerous foreign subsidiaries, and there is a risk that tax authorities will challenge our transfer pricing methodologies and/or legal entity structures, which could adversely affect our operating results and financial condition.

We conduct operations worldwide through our foreign subsidiaries and are, therefore, subject to complex transfer pricing regulations in the jurisdictions in which we operate. Transfer pricing regulations generally require that, for tax purposes, transactions between related parties be priced on a basis that would be comparable to an arm’s length transaction between unrelated parties. There is uncertainty and inherent subjectivity in complying with these rules. To the extent that any foreign tax authorities disagree with our transfer pricing policies, we could become subject to significant tax liabilities and penalties. The ultimate outcome of a tax examination could differ materially from our provisions and could have a material adverse effect on our business, financial condition, results or operations and cash flows.

Our legal organizational structure and the domicile of our entities that own our IP could result in unanticipated unfavorable tax or other consequences which could have a material adverse effect on our financial condition, results of operations and cash flows. Changes in laws, regulations, future jurisdictional profitability of us and our subsidiaries, and related regulatory interpretations in the countries in which we operate may impact the taxes we pay or tax provision we record, which could have a material adverse effect on our results of operations. In addition, any challenges to how our entities are structured or realigned or their business purpose by taxing authorities could result in us becoming subject to significant tax liabilities and penalties which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Currency fluctuations, changes in foreign exchange regulations and repatriation delays and costs could have a material adverse effect on our results of operations and financial condition.

We have sizeable sales and operations in the Asia/Pacific region and Europe and a significant amount of this business is transacted in currency other than U.S. dollars. In addition, while a significant percentage of our cash and cash equivalents is held outside the U.S., many of our liabilities, including our outstanding indebtedness, and certain other cash payments, such as share repurchases, are payable in U.S. dollars. As a result, currency fluctuations and changes in foreign exchange regulations can have a material adverse effect on our liquidity and financial condition.

In addition, repatriation of funds held outside the U.S. could have adverse tax consequences and could be subject to delay due to required local country approvals or local obligations. From time to time, we are required to make cash deposits outside of the U.S. to support bank guarantees of our obligations under certain office leases or amounts we owe to certain vendors and such cash deposits are not available for other uses as long as the related bank guarantees are outstanding. Foreign exchange regulations may also limit our ability to convert or repatriate foreign currency. As a result of having a lower amount of cash and cash equivalents in the U.S., our financial flexibility may be reduced, which could have a material adverse effect on our ability to make interest and principal payments due under our various debt obligations. Restrictions on repatriation or the inability to use cash held abroad to fund our operations in the U.S. may have a material adverse effect on our liquidity and financial condition.

Rapid innovation and short product life cycles in the semiconductor industry can result in price erosion of older products, which may materially adversely affect our business and results of operations.

The semiconductor industry is characterized by rapid innovation and short product life cycles, which often results in price erosion, especially with respect to products containing older technology. Products are frequently replaced by more technologically advanced substitutes and, as demand for older technology falls, the price at which such products can be sold drops, in some cases precipitously. In addition, our and our competitors' excess inventory levels can accelerate general price erosion.

In order to continue to profitably supply older products, we must offset lower prices by reducing production costs, typically through improvements in process technology and production efficiencies. If we cannot advance our process technologies or improve our production efficiencies to a degree sufficient to maintain required margins, we will no longer be able to make a profit from the sale of older products. Moreover, in certain limited cases, we may not be able to cease production of older products, either due to contractual obligations or for customer relationship reasons and, as a result, may be required to bear a loss on such products for a sustained period of time. If reductions in our production costs fail to keep pace with reductions in market prices for the products we sell, our business and results of operations could be materially adversely affected.

We may be unable to attract and retain highly skilled personnel.

Our success depends on our ability to attract, motivate and retain highly skilled personnel, including technical, marketing, management and staff personnel, both in the U.S. and internationally. In the semiconductor industry, the competition for qualified personnel, particularly experienced design engineers and other technical employees, is intense, particularly when the business cycle is improving. During such periods, competitors may try to recruit our most valuable technical employees. While we devote a great deal of our attention to designing competitive compensation programs aimed at attracting and retaining personnel, specific elements of our compensation programs may not be competitive with those of our competitors, and there can be no assurance that we will be able to retain our current personnel or recruit the key personnel we require. Loss of the services of, or failure to effectively recruit, qualified personnel, including senior managers, could have a material adverse effect on our competitive position and on our business.

If we must reduce our use of equity awards to compensate our employees, our competitiveness in the employee marketplace could be adversely affected and our results of operations could vary as a result of changes in our stock-based compensation programs.

We have issued in the past, and expect to continue to issue, RSUs with time-based vesting, performance-based awards and common stock options that generally have exercise prices at the market value at the time of the grant and that are subject to vesting over time as compensation tools. While this is a routine practice in many parts of the world, foreign exchange and income tax regulations in some countries make this practice more and more difficult. Such regulations tend to diminish the value of equity compensation to our employees in those countries. Our current practice is to seek stockholder approval of new, or amendments to existing, equity compensation plans. If these proposals do not receive stockholder approval, we may not be able to grant equity awards to employees at the same levels as in the past, which could materially adversely affect our ability to attract, retain and motivate qualified personnel, thereby materially adversely affecting our business. In addition, changes in forecasted stock-based compensation expense could cause our results of operations to vary by impacting our gross margin percentage, research and development expenses, marketing, general and administrative expenses and our tax rate.

Disruptions caused by labor disputes or organized labor activities could materially harm our business and reputation.

Labor disputes could lead to disruption from time to time in our union and non-union facilities. Disputes with the current labor union or new union organizing activities could lead to production slowdowns or stoppages and make it difficult or impossible for us to meet scheduled delivery times for product shipments to our customers, which could result in a loss of business and material damage to our reputation. In addition, union activity and compliance with international labor standards could result in higher labor costs, which could have a material adverse effect on our financial position and results of operations.

Environmental and health and safety liabilities and expenditures could materially adversely affect our results of operations and financial condition.

Our operations are subject to various environmental, health and safety laws and regulations. For example, our manufacturing operations are subject to laws and regulations relating to the management, disposal and remediation of hazardous substances and the emission and discharge of pollutants into the air, water and ground, and we have been identified as either a primary responsible party or a potentially responsible party at sites where we or our predecessors operated or disposed of waste in the

past. Our other operations are also subject to laws and regulations relating to workplace safety and worker health, which, among other requirements, regulate employee exposure to hazardous substances. We have indemnities from third parties for certain environmental and health and safety liabilities for periods prior to our operations at some of our current and past sites, and we have also purchased environmental insurance to cover certain claims related to historical contamination and future releases of hazardous substances. However, we cannot assure you that such indemnification arrangements and insurance will cover any or all of our material environmental costs. In addition, the nature of our operations exposes us to the continuing risk of environmental and health and safety liabilities including:

- changes in U.S. and international environmental or health and safety laws or regulations, including, but not limited to, future laws or regulations imposed in response to climate change concerns;
- the manner in which environmental or health and safety laws or regulations will be enforced, administered or interpreted;
- our ability to enforce and collect under indemnity agreements and insurance policies relating to environmental liabilities;
- the cost of compliance with future environmental or health and safety laws or regulations or the costs associated with any future environmental claims, including the cost of clean-up of currently unknown environmental conditions; or
- the cost of fines, penalties or other legal liability, should we fail to comply with environmental or health and safety laws or regulations.

To the extent that we face unforeseen environmental or health and safety compliance costs or remediation expenses or liabilities that are not covered by indemnities or insurance, we may bear the full effect of such costs, expense and liabilities, which could materially adversely affect our results of operations and financial condition.

We are exposed to increased costs and risks associated with complying with increasing and new regulation of corporate governance and disclosure standards.

Like most publicly traded companies, we incur significant cost and spend a significant amount of management time and internal resources to comply with changing laws, regulations and standards relating to corporate governance and public disclosure, which requires management's annual review and evaluation of our internal control over financial reporting and attestations of the effectiveness of these systems by our management and by our independent registered public accounting firm. As we continue to make strategic acquisitions, mergers and alliances, the integration of these businesses increases the complexity of our systems of controls. While we devote significant resources and time to comply with the internal control over financial reporting requirements under Section 404 of the Sarbanes-Oxley Act of 2002 ("SOX"), we cannot be certain that these measures will ensure that we design, implement and maintain adequate control over our financial process and reporting in the future.

There can be no assurance that we or our independent registered public accounting firm will not identify a material weakness in the combined company's internal control over financial reporting in the future. Failure to comply with SOX, including delaying or failing to successfully integrate our acquisitions into our internal control over financial reporting or the identification and reporting of a material weakness, may cause investors to lose confidence in our consolidated financial statements or even in our ability to recognize the anticipated synergies and benefits of such transactions, and the trading price of our common stock or other securities may decline. In addition, if we fail to remedy any material weakness, our investors and others may lose confidence in our financial statements, our financial statements may be materially inaccurate, our access to capital markets may be restricted and the trading price of our common stock may decline.

Warranty claims, product liability claims and product recalls could harm our business, results of operations and financial condition.

Manufacturing semiconductors is a highly complex and precise process, requiring production in a tightly controlled, clean environment. Minute impurities in our manufacturing materials, contaminants in the manufacturing environment, manufacturing equipment failures, and other defects can cause our products to be non-compliant with customer requirements or otherwise nonfunctional. We face an inherent business risk of exposure to warranty and product liability claims in the event that our products fail to perform as expected or such failure of our products results, or is alleged to result, in bodily injury or property damage (or both). In addition, if any of our designed products are or are alleged to be defective, we may be required to participate in their recall. As suppliers become more integrally involved in electrical design, OEMs are increasingly expecting them to warrant their products and are increasingly looking to them for contributions when faced with product liability claims or recalls. A successful warranty or product liability claim against us in excess of our available insurance coverage, if any, and established reserves, or a requirement that we participate in a product recall, could have material adverse effects on our business, results of operations and financial condition. Additionally, in the event that our products fail to perform as expected or such failure of our products results in a recall, our reputation may be damaged, which could make it more difficult for us to sell

our products to existing and prospective customers and could materially adversely affect our business, results of operations and financial condition.

Since a defect or failure in our product could give rise to failures in the goods that incorporate them (and claims for consequential damages against our customers from their customers), we may face claims for damages that are disproportionate to the revenue and profits we receive from the products involved. In certain instances, we attempt to limit our liability through our standard terms and conditions of sale and other customer contracts. There is no assurance that such limitations will be effective, and to the extent that we are liable for damages in excess of the revenue and profits we received from the products involved, our results of operations and financial condition could be materially adversely affected.

We may be subject to disruptions or breaches of our secured network that could irreparably damage our reputation and our business, expose us to liability and materially adversely affect our results of operations.

We routinely collect and store sensitive data, including confidential and other proprietary information about our business and our customers, suppliers and business partners. The secure processing, maintenance and transmission of this information is critical to our operations and business strategy. We may be subject to disruptions or breaches of our secured network caused by computer viruses, illegal hacking, criminal fraud or impersonation, acts of vandalism or terrorism or employee error. Our security measures and/or those of our third-party service providers and/or customers may not detect or prevent such security breaches. The costs to us to reduce the risk of or alleviate cyber security breaches and vulnerabilities could be significant, and our efforts to address these problems may not be successful and could result in interruptions and delays that may materially impede our sales, manufacturing, distribution or other critical functions. Any such compromise of our information security could result in the misappropriation or unauthorized publication of our confidential business or proprietary information or that of other parties with which we do business, an interruption in our operations, the unauthorized transfer of cash or other of our assets, the unauthorized release of customer or employee data or a violation of privacy or other laws. In addition, computer programmers and hackers also may be able to develop and deploy viruses, worms and other malicious software programs that attack our products, or that otherwise exploit any security vulnerabilities, and any such attack, if successful, could expose us to liability to customer claims. Any of the foregoing could irreparably damage our reputation and business, which could have a material adverse effect on our results of operations.

Sales through distributors and other third parties expose us to risks that, if realized, could have a material adverse effect on our results of operations.

We face risks related to our sale of a significant, and increasing, portion of our products through distributors. Distributors may sell products that compete with our products, and we may need to provide financial and other incentives to focus distributors on the sale of our products. We may rely on one or more key distributors for a product, and the loss of these distributors could reduce our revenue. Distributors may face financial difficulties, including bankruptcy, which could harm our collection of accounts receivable and financial results. Violations of the FCPA or similar laws by distributors or other third-party intermediaries could have a material impact on our business. Failure to manage risks related to our use of distributors may reduce sales, increase expenses, and weaken our competitive position, any of which could have a material adverse effect on our results of operations.

The failure to comply with the terms and conditions of our contracts could result in, among other things, damages, fines or other liabilities.

We have a diverse customer base consisting of both private sector clients and public sector clients, including the U.S. government. Sales to our private sector clients are generally based on stated contractual terms, the terms and conditions on our website or terms contained in purchase orders on a transaction-by-transaction basis. Sales to our public sector clients are generally derived from sales to federal, state and local governmental departments and agencies through various contracts and programs which may require compliance with regulations covering many areas of our operations, including, but not limited to, accounting practices, IP rights, information handling, and security. Noncompliance with contract terms, particularly with respect to highly-regulated public sector clients, or with government procurement regulations could result in fines or penalties against us, termination of such contracts or civil, criminal and administrative liability to the Company. With respect to public sector clients, the government's remedies may also include suspension or debarment from future government business. In addition, almost all of our contracts have default provisions, and certain of our contracts in the public sector are terminable at any time for convenience of the contracting agency. The effect of any of these possible actions or the adoption of new or modified procurement regulations or practices could materially adversely affect our business, financial position and results of operations.

The Company is subject to governmental laws, regulations and other legal obligations related to privacy and data protection.

The legislative and regulatory framework for privacy and data protection issues worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. The Company collects personally identifiable information ("PII") and other data as part of its business processes and activities. This data is subject to a variety of U.S. and international laws and regulations, including oversight by various regulatory or other governmental bodies. Many foreign countries and governmental bodies, including the European Union and other relevant jurisdictions where the Company conducts business, have laws and regulations concerning the collection and use of PII and other data obtained from their residents or by businesses operating within their jurisdictions that are currently more restrictive than those in the U.S. Additionally, in May 2016, the European Union adopted the General Data Protection Regulation that imposed more stringent data protection requirements and provided for greater penalties for noncompliance beginning in May 2018. In addition, among other applicable laws, California adopted significant new consumer privacy laws in June 2018 that became effective on January 1, 2020 and Thailand adopted the Personal Data Protection Act B.E. 2562 in May 2019. In addition, from time to time our global operations may require importing, exporting or transferring data across international borders in compliance with both U.S. customs and export control regulations, including the Export Administration Regulations and the International Traffic in Arms Regulations. Any inability, or perceived inability, to adequately address privacy and data protection concerns, even if unfounded, or to comply with applicable laws, regulations, policies, industry standards, contractual obligations or other legal obligations, could result in additional cost and liability to the Company or company officials, including substantial monetary fines, and could damage our reputation, inhibit sales and adversely affect our business.

Expectations of the Company relating to environmental, social and governance factors may impose additional costs and expose us to new risks.

There is an increasing focus from certain investors, employees and other stakeholders concerning corporate social responsibility ("CSR"), specifically related to environmental, social and governance factors. Some investors may use these factors to guide their investment strategies and, in some cases, may choose not to invest in us if they believe our policies relating to CSR are inadequate. Third-party providers of CSR ratings and reports on companies have increased to meet growing investor demand for measurement of CSR performance. In addition, the criteria by which companies' CSR practices are assessed may change, which could result in greater expectations of us and cause us to undertake costly initiatives to satisfy such new criteria. Alternatively, if we elect not to or are unable to satisfy such new criteria, investors may conclude that our policies with respect to CSR are inadequate. We may face reputational damage in the event that our CSR procedures or standards do not meet the standards set by various constituencies. Furthermore, if our competitors' CSR performance is perceived to be greater than ours, potential or current investors may elect to invest with our competitors instead. In addition, in the event that we communicate certain initiatives and goals regarding environmental, social and governance matters, we could fail, or be perceived to fail, in our achievement of such initiatives or goals, or we could be criticized for the scope of such initiatives or goals. If we fail to satisfy the expectations of investors, employees and other stakeholders or our initiatives are not executed as planned, our reputation and financial results could be materially and adversely affected.

Climate change, and the regulatory and legislative developments related to climate change, may materially adversely affect our business and financial condition.

The potential physical impacts of climate change on our operations are highly uncertain and would be particular to the geographic circumstances in areas in which we operate. These may include changes in rainfall and storm patterns and intensities, water shortages, changing sea levels and changing temperatures. The impacts of climate change may materially and adversely impact the cost, production and financial performance of our operations. Further, any impacts to our business and financial condition as a result of climate change are likely to occur over a sustained period of time and are therefore difficult to quantify with any degree of specificity. For example, extreme weather events may result in adverse physical effects on portions of our infrastructure, which could disrupt our supply chain and ultimately our business operations. In addition, disruption of transportation and distribution systems could result in reduced operational efficiency and customer service interruption. Climate-related events have the potential to disrupt our business, including the business of our customers, and may cause us to experience higher attrition, losses and additional costs to resume operations.

A number of governments or governmental bodies have introduced or are contemplating legislative and regulatory changes in response to various climate change interest groups and the potential impact of climate change. Legislation and increased regulation regarding climate change could impose significant costs on us and our suppliers, including costs related to increased energy requirements, capital equipment, environmental monitoring and reporting, and other costs to comply with such regulations. Any future climate change regulations could also negatively impact our ability to compete with companies situated in areas not subject to such limitations. Given the political significance and uncertainty around the impact of climate change and how it should be addressed, we cannot predict how legislation and regulation will affect our financial condition, operating performance and ability to compete. Furthermore, even without such regulation, increased awareness and any adverse publicity

in the global marketplace about potential impacts on climate change by us or other companies in our industry could harm our reputation. Any of the foregoing could result in a material adverse effect on our business and financial condition.

Trends, Risks and Uncertainties Relating to Our Indebtedness

Our substantial debt could materially adversely affect our financial condition and results of operations.

As of December 31, 2019, we had \$3,749.2 million of outstanding indebtedness. We may need to incur additional indebtedness in the future to repay or refinance other outstanding debt, to make acquisitions or for other purposes, and if we incur additional debt, the related risks that we now face could intensify. The degree to which we are leveraged could have important consequences to our potential and current investors, including:

- our ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions, general corporate purposes or other purposes may be impaired;
- the timing, amount and execution of our capital allocation policy, including our 2018 Share Repurchase Program, could be affected by the degree to which we are leveraged;
- a significant portion of our cash flow from operating activities must be dedicated to the payment of interest and principal on our debt, which reduces the funds available to us for our operations and may limit our ability to engage in acts that may be in our long-term best interests;
- some of our debt is and will continue to be at variable rates of interest, which may result in higher interest expense in the event of increases in market interest rates;
- our debt agreements may contain, and any agreements to refinance our debt likely will contain, financial and restrictive covenants, and our failure to comply with them may result in an event of default which if not cured or waived, could have a material adverse effect on us;
- our level of indebtedness will increase our vulnerability to, and reduce our flexibility to respond to, general economic downturns and adverse industry and business conditions;
- as our long-term debt ages, we must repay, and may need to renegotiate, such debt or seek additional financing;
- to the extent the debt we incur requires collateral to secure such indebtedness, our assets could be at risk and our flexibility related to such assets could be limited;
- our debt service obligations could limit our flexibility in planning for, or reacting to, changes in our business and the semiconductor industry;
- our substantial leverage could place us at a competitive disadvantage vis-à-vis our competitors who may have less leverage relative to their overall capital structures; and
- our level of indebtedness may place us at a competitive disadvantage relative to less leveraged competitors.

To the extent that we continue to maintain or expand our significant indebtedness, our financial condition and results of operations may be materially adversely affected.

The inability to meet our obligations under our Amended Credit Agreement could materially and adversely affect us by, among other things, limiting our ability to conduct our operations and reducing our flexibility to respond to changing business and economic conditions.

Our Amended Credit Agreement provides for our \$1.97 billion Revolving Credit Facility and our \$2.4 billion Term Loan “B” Facility, the proceeds of which have been used, among other things, to fund acquisitions. The obligations under the Amended Credit Agreement are collateralized by a lien on substantially all of the personal property and material real property assets of the Company and most of the Company’s domestic subsidiaries. As a result, if we are unable to satisfy our obligations under the Amended Credit Agreement, the lenders could take possession of and foreclose on the pledged collateral securing the indebtedness, in which case we would be at risk of losing the related collateral, which would have a material adverse effect on our business and operations. In addition, subject to customary exceptions, the Amended Credit Agreement requires mandatory prepayment under certain circumstances, which may result in prepaying outstanding amounts under the Revolving Credit Facility and the Term Loan “B” Facility rather than using funds for other business purposes. Our acquisition-related financing could have a material adverse effect on our business and financial condition, including, among other things, our ability to obtain additional financing for working capital, capital expenditures, acquisitions, and other general corporate purposes and could reduce our flexibility to respond to changing business and economic conditions.

The agreements relating to our indebtedness, including the Amended Credit Agreement, may restrict our ability to operate our business, and as a result may materially adversely affect our results of operations.

Our debt agreements, including the Amended Credit Agreement, contain, and any future debt agreements may include, a number of restrictive covenants that impose significant operating and financial restrictions on us and our subsidiaries. Such restrictive covenants may significantly limit our ability to:

- incur additional debt, including issuing guarantees;
- incur liens;
- make certain investments;
- settle a conversion of our 1.00% and 1.625% Notes in whole or in part with cash;
- sell or otherwise dispose of assets;
- make some acquisitions;
- engage in mergers or consolidations or certain other “change of control” transactions;
- make distributions to our stockholders;
- engage in restructuring activities;
- engage in certain sale and leaseback transactions; and
- issue or repurchase stock or other securities.

Such agreements may also require us to satisfy other requirements, including maintaining certain financial ratios and condition tests. Our ability to meet these requirements can be affected by events beyond our control, and we may be unable to meet them. To the extent we fail to meet any such requirements and are in default under our debt obligations, our financial condition may be materially adversely affected. These restrictions may limit our ability to engage in activities that could otherwise benefit us. To the extent that we are unable to engage in activities that support the growth, profitability and competitiveness of our business, our results of operations may be materially adversely affected.

We may not be able to generate sufficient cash flow to meet our debt service obligations, and any inability to repay our debt when due would have a material adverse effect on our business, financial condition and results of operations.

Our ability to generate sufficient cash flow from operating activities to make scheduled payments on our debt obligations will depend on our future financial performance, which will be affected by a range of economic, competitive and business factors, many of which are outside of our control. If we do not generate sufficient cash flow from operating activities and proceeds from sales of assets in the ordinary course of business to satisfy our debt obligations as they come due, we may have to undertake alternative financing plans, such as refinancing or restructuring our debt, selling additional assets, reducing or delaying capital investments or seeking to raise additional capital. We cannot assure you that any refinancing would be possible, that any assets could be sold, or, if sold, of the timing of the sales and the amount of proceeds realized from those sales, or that additional financing could be obtained on acceptable terms, if at all, or would be permitted under the terms of our various debt instruments then in effect. Furthermore, we cannot assure you that, if we were required to repurchase any of our debt securities upon a change of control or other specified event, our assets or cash flow would be sufficient to fully repay borrowings under our outstanding debt instruments or that we would be able to refinance or restructure the payments on those debt securities. If we are unable to repay, refinance or restructure our indebtedness under our collateralized debt, the holders of such debt could proceed against the collateral securing that indebtedness, which could materially negatively impact our results of operations and financial condition. A default under our committed credit facilities, including our Amended Credit Agreement, could also limit our ability to make further borrowings under those facilities, which could materially adversely affect our business and results of operations. In addition, to the extent we are not able to borrow or refinance debt obligations, we may have to issue additional shares of our common stock, which would have a dilutive effect to the current stockholders.

An event of default under any agreement relating to our outstanding indebtedness could cross default other indebtedness, which could have a material adverse effect on our business, financial condition and results of operations.

If there were an event of default under certain of our agreements relating to our outstanding indebtedness, the holders of the defaulted debt could cause all amounts outstanding with respect to that debt to be due and payable immediately, which default or acceleration of debt could cross default other indebtedness. Any such cross default would put immediate pressure on our liquidity and financial condition and would amplify the risks described above with regards to being unable to repay our indebtedness when due and payable. We cannot assure you that our assets or cash flow would be sufficient to fully repay borrowings under our outstanding debt instruments if accelerated upon an event of default, and, as described above, any inability to repay our debt when due would have a material adverse effect on our business, financial condition and results of operations.

If our operating subsidiaries, which may have no independent obligation to repay our debt, are not able to make cash available to us for such repayment, our business, financial condition and results of operations may be adversely affected.

We conduct our operations through our subsidiaries. Repayment of our indebtedness is dependent on the generation of cash flow by our subsidiaries and their ability to make such cash available to us, by dividend, debt repayment or otherwise. Unless they are guarantors of our indebtedness, our subsidiaries have no obligation to pay amounts due on such indebtedness or to make funds available for that purpose. Our subsidiaries may not be able to, or may not be permitted to, make distributions to enable us to make payments in respect of our indebtedness. Each subsidiary is a distinct legal entity, and, under certain circumstances, legal and contractual restrictions may limit our ability to obtain cash from our subsidiaries. In the event that we do not receive distributions or payments from our subsidiaries, we may be unable to make required principal and interest payments on our indebtedness and, as described above, any inability to repay our debt when due would have a material adverse effect on our business, financial condition and results of operations.

If interest rates increase, our debt service obligations under our variable rate indebtedness could increase significantly, which would have a material adverse effect on our results of operations.

Borrowings under certain of our facilities from time to time, including under our Amended Credit Agreement, are at variable rates of interest and as a result expose us to interest rate risk. If interest rates were to increase, our debt service obligations on the variable rate indebtedness would increase even though the amount borrowed remained the same, and our net income and cash flows, including cash available for servicing our indebtedness, will correspondingly decrease. During the first quarters of 2017 and 2019, we entered into interest rate swaps that involved the exchange of floating for fixed rate interest payments in order to reduce interest rate volatility for a portion of our Term Loan "B" Facility through the end of 2021. However, we may not maintain interest rate swaps with respect to all of our variable rate indebtedness, and any swaps we enter into may not fully mitigate our interest rate risk. To the extent the risk materializes and is not fully mitigated, the resulting increase in interest expense could have a material adverse effect on our results of operations.

A number of our current debt agreements, including the Amended Credit Agreement, have an interest rate tied to LIBO Rate, which is expected to be discontinued after 2021. While some of our debt agreements provide procedures for determining an alternative base rate in the event that LIBO Rate is discontinued, not all do so. Regardless, there can be no assurances as to what alternative base rates may be and whether such base rate will be more or less favorable than LIBO Rate and any other unforeseen impacts of the potential discontinuation of LIBO Rate. The Company intends to monitor the developments with respect to the potential phasing out of LIBO Rate after 2021 and work with its lenders to ensure any transition away from LIBO Rate will have minimal impact on its financial condition, but can provide no assurances that the impact of the discontinuation of LIBO Rate would not have a material adverse effect on our results of operations.

Servicing the 1.00% Notes and 1.625% Notes may require a significant amount of cash, and we may not have sufficient cash flow or the ability to raise the funds necessary to satisfy our obligations under the 1.00% Notes and 1.625% Notes in a timely manner.

In June 2015, we issued \$690.0 million aggregate principal amount of our 1.00% Notes, and in March 2017, we issued \$575.0 million aggregate principal amount of our 1.625% Notes. Holders of the 1.00% Notes and the 1.625% Notes will have the right to require us to repurchase all or a portion of their notes upon the occurrence of a fundamental change (as defined under the respective indentures governing such notes) at a repurchase price equal to 100% of their principal amount, plus accrued and unpaid interest, if any, to, but not including, the fundamental change repurchase date. In addition, upon conversion of the 1.00% Notes and/or the 1.625% Notes to be repurchased, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional shares), we will be required to make cash payments in respect of such 1.00% Notes and/or 1.625% Notes being converted. Moreover, we will be required to repay the 1.00% Notes and the 1.625% Notes in cash at their maturity, unless earlier converted or repurchased. Servicing the 1.00% Notes and the 1.625% Notes may require a significant amount of cash, and we may not have sufficient cash flow or the ability to raise the funds necessary to satisfy our obligations under the 1.00% Notes and the 1.625% Notes. Our ability to make cash payments in connection with conversions of the 1.00% Notes and/or the 1.625% Notes, repurchase the 1.00% Notes and/or the 1.625% Notes in the event of a fundamental change or repay such notes at maturity will depend on market conditions and our future performance, which is subject to economic, financial, competitive and other factors beyond our control. If we are unable to make cash payments upon conversion of the 1.00% Notes and/or the 1.625% Notes, we would be required to issue significant amounts of our common stock, which would dilute existing stockholders. In addition, if we do not have sufficient cash to repurchase the 1.00% Notes and/or the 1.625% Notes following a fundamental change, we would be in default under the terms of such notes, which could cross default other debt and materially, adversely harm our business. The terms of the Amended Credit Agreement limit the amount of future indebtedness we may incur, but the terms of the 1.00% Notes and the 1.625% Notes do not limit the amount of future indebtedness we may incur. If we incur significantly more debt, this could intensify the

risks described above. Our decision to use our cash for other purposes, such as to make acquisitions or to repurchase our common stock, could also intensify these risks.

The conditional conversion feature of the 1.00% Notes or the 1.625% Notes, if triggered, may adversely affect our financial condition and results of operations and, if we elect to settle the conversion of the 1.00% Notes or the 1.625% Notes in common stock, any such settlement could materially dilute the ownership interests of existing stockholders.

If specified conditions are met, holders of the 1.00% Notes may convert their notes prior to the close of business on the business day immediately preceding September 1, 2020 and holders of the 1.625% Notes may convert their notes prior to the close of business on the business day immediately preceding July 15, 2023. Unless we elect to satisfy our conversion obligations by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional shares), in the event the conditional conversion feature under either the 1.00% Notes or the 1.625% Notes is triggered, holders electing to convert their notes could require us to settle a portion or all of our conversion obligations through the payment of cash, which could materially adversely affect our liquidity. Alternatively, if the conditional conversion feature under either the 1.00% Notes or the 1.625% Notes is triggered, and holders do not elect to convert their notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of such notes as a current rather than long-term liability, which would result in a material reduction of our net working capital. Any material decrease in our liquidity or reduction in our net working capital could have a material adverse effect on our financial condition and results of operations. In addition, we may elect to settle a conversion of the 1.00% Notes or the 1.625% Notes solely in common stock to avoid an event of default under our Amended Credit Agreement, and any such issuance of common stock could materially dilute the ownership interests of existing stockholders, including stockholders who previously converted such notes to shares of our common stock.

The fundamental change repurchase feature of our 1.00% Notes and 1.625% Notes may delay or prevent an otherwise beneficial attempt to take over our Company.

The terms of our 1.00% Notes and 1.625% Notes require us to repurchase such notes in the event of a fundamental change (as defined under the respective indentures governing such notes). In certain circumstances, a takeover of our Company could trigger an option of the holders of the 1.00% Notes and the 1.625% Notes to require us to repurchase such notes. This may have the effect of delaying or preventing a takeover of our Company that would otherwise be beneficial to investors in the 1.00% Notes and the 1.625% Notes and our common stock, which could materially decrease the value of such notes and of our common stock.

Note hedge and warrant transactions we have entered into may materially adversely affect the value of our common stock.

Concurrently with the issuance of the 1.00% Notes and the 1.625% Notes, we entered into note hedge transactions with certain financial institutions, which we refer to as the option counterparties. The convertible note hedges are expected to reduce the potential dilution upon any conversion of the respective series of notes and/or offset any cash payments we are required to make in excess of the principal amount of converted notes of such series, as the case may be. We also entered into warrant transactions with the option counterparties. However, the warrant transactions could separately have a dilutive effect on our common stock to the extent that the market price per share of our common stock exceeds \$25.96, with respect to the 1.00% Notes, and \$30.70, with respect to the 1.625% Notes, which would trigger the conditional conversion feature under such notes. For example, in the first quarter of 2018, the conditional conversion feature was triggered with respect to the 1.00% Notes, as a result of which holders were permitted to convert their 1.00% Notes into shares of common stock, cash or a combination thereof at our election for a three-month period. We can provide no assurance as to when or whether these conditional conversion features will be triggered again in the future.

In connection with establishing their initial hedge of the convertible note hedges and warrant transactions, the option counterparties or their respective affiliates have purchased shares of our common stock and/or entered into various derivative transactions with respect to our common stock following the pricing of the 1.00% Notes and the 1.625% Notes, respectively. The option counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various derivatives contracts with respect to our common stock and/or purchasing or selling our common stock or other securities of ours in secondary market transactions prior to the maturity of the 1.00% Notes and the 1.625% Notes, respectively (and are likely to do so during any observation period related to a conversion of 1.00% Notes or 1.625% Notes following any repurchase of the 1.00% Notes or 1.625% Notes by us on any fundamental change repurchase date or otherwise). The potential effect, if any, of these transactions and activities on the market price of our common stock will depend in part on market conditions and cannot be ascertained at this time. Any of these activities could materially adversely affect the value of our common stock.

Counterparty risk with respect to the note hedge transactions, if realized, could have a material adverse impact on our results of operations.

The option counterparties are financial institutions or affiliates of financial institutions, and we are subject to the risk that these option counterparties may default under the note hedge transactions. We can provide no assurances as to the financial stability or viability of any of the option counterparties. Our exposure to the credit risk of the option counterparties is not secured by any collateral. If one or more of the option counterparties to one or more of our note hedge transactions becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at the time under those transactions.

To the extent the option counterparties do not honor their contractual commitments with us pursuant to the note hedge transactions, we could face a material increase in our exposure to potential dilution upon any conversion of the 1.00% Notes or the 1.625% Notes and/or cash payments we are required to make in excess of the principal amount of converted 1.00% Notes or 1.625% Notes, as the case may be. Our exposure will depend on many factors but, generally, the increase in our exposure will be correlated to the increase in the market price of our common stock and in the volatility of the market price of our common stock. In addition, upon a default by one of the option counterparties, we may suffer adverse tax consequences with respect to our common stock. Any such adverse tax consequences or increased cash payments could have a material adverse effect on our results of operations.

Trends, Risks and Uncertainties Relating to Our Common Stock

Fluctuations in our quarterly operating results may cause the market price of our common stock to decline.

Given the nature of the markets in which we participate, we cannot reliably predict future revenue and profitability, and unexpected changes may impact the value of our common stock. A large portion of our costs are fixed, due in part to our significant sales, research and development and manufacturing costs. Thus, small declines in revenue could negatively affect our operating results in any given quarter. In addition to the other factors described above, factors that could affect our quarterly operating results include:

- the timing and size of orders from our customers, including cancellations and reschedulings;
- the timing of introduction of new products;
- the gain or loss of significant customers, including as a result of industry consolidation or as a result of our acquisitions;
- seasonality in some of our target markets;
- changes in the mix of products we sell;
- changes in demand by the end-users of our customers' products;
- market acceptance of our current and future products;
- variability of our customers' product life cycles;
- availability of supplies and manufacturing services;
- changes in manufacturing yields or other factors affecting the cost of goods sold, such as the cost and availability of raw materials and the extent of utilization of manufacturing capacity;
- changes in the prices of our products, which can be affected by the level of our customers' and end-users' demand, technological change, product obsolescence, competition or other factors;
- cancellations, changes or delays of deliveries to us by our third-party manufacturers, including as a result of the availability of manufacturing capacity and the proposed terms of manufacturing arrangements;
- our liquidity and access to capital; and
- our research and development activities and the funding thereof.

An adverse change or development in any of the above factors could cause the market price of common stock to materially decline.

The market price of our common stock may be volatile, which could result in substantial losses for investors.

The stock markets in general, and the markets for high technology stocks in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock.

The market price of the common stock may also fluctuate significantly in response to the following factors, among others, some of which are beyond our control:

- variations in our quarterly operating results;
- declines in our gross margins;
- the issuance or repurchase of shares of our common stock;
- changes in securities analysts' estimates of our financial performance;
- changes in market valuations of similar companies;
- announcements by us or our competitors of significant contracts, acquisitions, strategic partnerships, joint ventures, capital commitments, new products or product enhancements;
- loss of a major customer or failure to complete significant transactions; and
- additions or departures of key personnel.

The trading price of our common stock in the past has had significant volatility, and we cannot accurately predict every potential risk that may materially and adversely affect our stock price.

Provisions in our charter documents may delay or prevent the acquisition of our Company, which could materially adversely affect the value of our common stock.

Our certificate of incorporation and by-laws contain provisions that could make it harder for a third-party to acquire us without the consent of our board of directors. These provisions:

- establish advance notice requirements for submitting nominations for election to the board of directors and for proposing matters that can be acted upon by stockholders at a meeting;
- authorize the issuance of "blank check" preferred stock, which is preferred stock that our board of directors can create and issue without prior stockholder approval and that could be issued with voting or other rights or preferences that could impede a takeover attempt; and
- require the approval by holders of at least 66 2/3% of our outstanding common stock to amend any of these provisions in our certificate of incorporation or by-laws.

Although we believe these provisions make a higher third-party bid more likely by requiring potential acquirers to negotiate with our board of directors, these provisions apply even if an initial offer may be considered beneficial by some stockholders. Any delay or prevention of an acquisition of our Company that would have been beneficial to our stockholders could materially decrease the value of our common stock.

Item 1B. *Unresolved Staff Comments*

None.

Item 2. *Properties*

Our corporate headquarters as well as certain design center and research and development operations are located in approximately 600,000 square feet of building space on property that we own in Phoenix, Arizona. We also own and lease properties around the world for use as sales offices, design centers, research and development labs, warehouses, logistic centers, trading offices and manufacturing support. The size and location of these properties, which are used by all of our reportable segments, change from time to time based on business requirements. We operate distribution centers, which are leased or contracted through a third-party, in locations throughout Asia, Europe and the Americas. See "Business—Manufacturing Operations" included elsewhere in this Form 10-K for information on properties used in our manufacturing operations. While these facilities are primarily used in manufacturing operations, they also include office, utility, laboratory, warehouse and unused space. Additionally, we own and lease research and development facilities located in Australia, Belgium, Canada, China, the Czech Republic, France, Germany, Hong Kong, India, Japan, Singapore, South Korea, Romania, Russia, the Slovak Republic, Switzerland, Taiwan, the United Kingdom and the United States. Our joint ventures in Leshan, China and in Aizuwakamatsu, Japan also own manufacturing, warehouse, laboratory, office and other unused space. We believe that our facilities around the world, whether owned or leased, are well-maintained.

Certain of our properties are subject to encumbrances such as mortgages and liens. See Note 9: "Long-Term Debt" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for further information. In addition, due to local law restrictions, the land upon which our facilities are located in certain foreign locations is subject to varying long-term leases.

See "Business—Manufacturing Operations" and "Sales, Marketing and Distribution" included elsewhere in this Form 10-K for

further details on our properties and "Business-Governmental Regulation" for further details on environmental regulation of our properties.

Item 3. *Legal Proceedings*

See Note 13: "Commitments and Contingencies" under the heading "Legal Matters" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for a description of legal proceedings and related matters.

Item 4. *Mine Safety Disclosure*

Not applicable.

PART II

Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our common stock is traded under the symbol "ON" on the Nasdaq Global Select Market. The stock price details can be obtained from the Nasdaq website at www.nasdaq.com. As of February 13, 2020, there were approximately 222 holders of record of our common stock and 411,065,636 shares of common stock outstanding.

We have neither declared nor paid any cash dividends on our common stock since our initial public offering. Our future dividend policy with respect to our common stock will depend upon our earnings, capital requirements, financial condition, debt restrictions and other factors deemed relevant by our board of directors in its sole discretion.

Our outstanding debt facilities may limit the amount of dividends we are permitted to pay and the amount we are permitted to buy back shares under the 2018 Share Repurchase Program (as defined below). So long as no default has occurred and is continuing or results therefrom, our Amended Credit Agreement permits us to pay cash dividends to our common stockholders, buy back shares under the 2018 Share Repurchase Program, or a combination thereof, in an amount up to \$100.0 million. Additionally, we may pay dividends and buy back shares under the 2018 Share Repurchase Program in an unlimited amount so long as, after giving effect thereto, the consolidated total net leverage ratio (calculated in accordance with our Amended Credit Agreement) does not exceed 2.50 to 1.00. See Note 9: "Long-Term Debt" in the notes to the audited consolidated financial statements included elsewhere in this Form 10-K for further discussion of our Amended Credit Agreement.

Issuer Purchases of Equity Securities

The following table provides information regarding repurchases of our common stock during the quarter ended December 31, 2019:

Period (1)	Total Number of Shares Purchased (2)	Average Price Paid per Share (3)	Total Number of Shares Purchased as part of Publicly Announced Plans or Programs	Approximate dollar value of Shares that may yet be Purchased under the Plans or Programs (\$ in millions)(4)
September 28, 2019 - October 25, 2019	44,381	\$ 18.29	—	\$ 1,361.1
October 26, 2019 - November 22, 2019	12,285	21.66	—	1,361.1
November 23, 2019 - December 31, 2019	41,358	21.11	—	1,361.1
Total	98,024	19.90	—	

(1) These time periods represent our fiscal month start and end dates for the fourth quarter of 2019.

(2) The number of shares purchased represents shares of common stock held by employees who tendered owned shares of common stock to the Company to satisfy the employee withholding taxes due upon the vesting of RSUs.

(3) The price per share is based on the fair market value at the time of tender or repurchase, respectively.

(4) On November 15, 2018, we announced a new share repurchase program pursuant to the Capital Allocation Policy (the "2018 Share Repurchase Program" for up to \$1.5 billion of our common stock, effective from December 1, 2018, exclusive of any fees, commissions or other expenses. The 2018 Share Repurchase Program expires on December 31, 2022.

Share Repurchase Program

We repurchased approximately 7.8 million shares of common stock for \$138.9 million under the 2018 Share Repurchase Program during the year ended December 31, 2019. Of the total amount authorized, \$1,361.1 million remained unutilized as of December 31, 2019.

Under the 2018 Share Repurchase Program, we may repurchase up to \$1.5 billion (exclusive of fees, commissions and other expenses) of our common stock from December 1, 2018 through December 31, 2022, subject to certain contingencies. We may repurchase our common stock from time to time in privately negotiated transactions or open market transactions, including pursuant to a trading plan in accordance with Rule 10b5-1 and Rule 10b-18 of the Exchange Act, or by any combination of such methods or other methods. The timing of any repurchases and the actual number of shares repurchased will depend on a variety of factors, including our stock price, corporate and regulatory requirements, restrictions under our debt obligations, other market and economic conditions. The 2018 Share Repurchase Program does not require us to purchase any particular amount of common stock and is subject to a variety of factors including the Board's discretion.

See Note 10: "Earnings Per Share and Equity" of the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for further information on shares of common stock tendered to the Company by employees to satisfy applicable employee withholding taxes due upon vesting of RSUs and the 2018 Share Repurchase Program.

Item 6. Selected Financial Data

The following table sets forth certain of our selected financial data for the periods indicated. The statement of operations and balance sheet data set forth below are derived from our audited consolidated financial statements. The table below includes consolidated results, including our recent acquisitions, thus comparability will be materially affected. See Note 4: "Recent Accounting Pronouncements", Note 5: "Acquisitions, Divestitures and Licensing Transactions" and Note 13: "Commitments and Contingencies" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for further information.

You should read this information in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our audited consolidated financial statements, including the notes thereto, included elsewhere in this Form 10-K.

	Year ended December 31,				
	2019	2018	2017	2016	2015
	(in millions, except per share data)				
Consolidated Statements of Operations:					
Revenue	\$ 5,517.9	\$ 5,878.3	\$ 5,543.1	\$ 3,906.9	\$ 3,495.8
Income tax (provision) benefit	(62.7)	(125.1)	265.5	3.9	(10.8)
Net income	213.9	629.9	813.0	184.5	209.0
Diluted net income per common share attributable to ON Semiconductor Corporation	0.51	1.44	1.89	0.43	0.48
	As of				
	2019	2018	2017	2016	2015
	(in millions)				
Consolidated Balance Sheets:					
Total assets (1)	\$ 8,425.5	\$ 7,587.6	\$ 7,195.1	\$ 6,924.4	\$ 3,869.6
Net long-term debt, including current maturities (1)	3,612.5	2,766.1	2,951.8	3,622.3	1,393.9
Total stockholders' equity	3,324.1	3,194.1	2,801.0	1,845.0	1,631.9

(1) Increased in 2016 primarily due to the acquisition of Fairchild.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion in conjunction with our audited historical consolidated financial statements, including the notes thereto, which are included elsewhere in this Form 10-K. Management's Discussion and Analysis of Financial Condition and Results of Operations contains statements that are forward-looking. These statements are based on current expectations and assumptions that are subject to risk, uncertainties, and other factors. Actual results could differ materially because of the factors discussed in "Risk Factors" included elsewhere in this Form 10-K.

Executive Overview

This executive overview presents summarized information regarding our industry, markets, business, and operating trends only. For further information relating to the information summarized herein, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in its entirety.

Industry Overview

According to WSTS (an industry research firm), worldwide semiconductor industry sales were \$412.1 billion in 2019, a decrease of approximately 12.1% from \$468.8 billion in 2018. We participate in unit and revenue surveys and use data summarized by WSTS to evaluate overall semiconductor market trends and to track our progress against the market in the areas we provide semiconductor components. The following table sets forth total worldwide semiconductor industry revenue since 2015:

Year Ended December 31,	Worldwide Semiconductor Industry Sales (1)	Percentage Change
	(in billions)	
2019	\$412.1	(12.1)%
2018	\$468.8	13.7%
2017	\$412.2	21.6%
2016	\$338.9	1.1%
2015	\$335.2	(0.2)%

- (1) Based on shipment information published by WSTS. We believe the data provided by WSTS is reliable, but we have not independently verified it. WSTS periodically revises its information. We assume no obligation to update such information.

As indicated above, worldwide semiconductor sales increased from \$335.2 billion in 2015 to \$412.1 billion in 2019. The decrease of 12.1% from 2018 to 2019 was the result of decreased demand for semiconductor products. Our revenue decreased by \$360.4 million, or 6.1%, from 2018 to 2019.

ON Semiconductor Overview

Our new product development efforts continue to be focused on building solutions in product areas that appeal to customers in focused market segments and across multiple high-growth applications. We collaborate with our customers to identify desired innovations in electronic systems in each end-market that we serve. This enables us to participate in the fastest growing sectors of the market. We also innovate in advanced packaging technologies to support ongoing size reduction in electronic systems and in advanced thermal packaging to support high performance power conversion applications. It is our practice to regularly re-evaluate our research and development spending, to assess the deployment of resources and to review the funding of high-growth technologies. We deploy people and capital with the goal of maximizing our investment in research and development in order to facilitate continued growth by targeting innovative products and solutions for high growth applications that position us to outperform the industry. Our design expertise in analog, digital, mixed signal and imaging ICs, combined with our extensive portfolio of standard products enable the company to offer comprehensive, value-added solutions to our global customers for their electronics systems.

We believe that some of the key factors and trends affecting our current and future results of operations include, but not limited to:

- Macroeconomic conditions affecting the semiconductor industry;
- The cyclical and seasonality of the semiconductor industry;
- The global economic climate;
- Our significant indebtedness, including the indebtedness incurred for the acquisition of Fairchild and Quantenna;
- The impact of U.S. corporate tax reform and an uncertain corporate tax environment abroad;
- An uncertain political climate and related impacts on global trade, such as tariffs on imports into the U.S. from China;
- The effects of trends in the automotive and industrial end-markets on our revenue;
- Competitive conditions, and in particular, consolidation, within our industry; and
- Underutilization of installed capacity and competitive pricing environment.

Acquisition of Quantenna

On June 19, 2019, we completed our acquisition of Quantenna pursuant to the definitive Agreement and Plan of Merger with each of Quantenna and Raptor Operations Sub, Inc., our wholly-owned subsidiary (“Raptor”), which provided for the merger of Quantenna with Raptor, whereby Quantenna continued as the surviving corporation and our wholly-owned subsidiary. Following the acquisition, Quantenna changed its name to ON Semiconductor Connectivity Solutions, Inc. The purchase price totaled \$1,039.3 million, of which \$1,026.6 million was paid through December 31, 2019, with the proceeds from a \$900.0 million draw against our Revolving Credit Facility and cash on hand. We believe the acquisition of Quantenna creates a strong platform for addressing connectivity solutions for industrial IoT by combining our expertise in power management and bluetooth technologies with Quantenna’s Wi-Fi technologies and software capabilities.

Recent ON Semiconductor Results

Our total revenue for the year ended December 31, 2019 was \$5,517.9 million, a decrease of 6.1% from \$5,878.3 million from the year ended December 31, 2018. The decrease was primarily attributable to reduced demand for our products across PSG, ASG and ISG. During 2019, we reported net income attributable to ON Semiconductor of \$211.7 million compared to \$627.4 million in 2018. The decrease was primarily due to the impact of reduced demand and a one-time litigation settlement charge. Our gross margin decreased by approximately 230 basis points to 35.8% in 2019 from 38.1% in 2018. The decrease in gross margin was primarily due to a competitive pricing environment and decreased demand for our products.

Business and Macroeconomic Environment Influence on Cost Savings and Restructuring Activities

The semiconductor industry has traditionally been highly cyclical, has often experienced significant downturns in connection with, or in anticipation of, declines in general economic conditions, and may experience significant uncertainty and volatility in the future. We believe our business today is driven more by secular growth drivers and not solely by macroeconomic and industry cyclical, as was the case historically. As experienced in 2019, we could again experience period-to-period fluctuations in operating results due to general industry or economic conditions.

During the year ended December 31, 2019, geopolitical and macroeconomic factors continued to adversely impact product demand in the semiconductor industry. In light of these factors, we expect that such demand for our products could be adversely affected in the short-term. We also believe, however, that secular megatrends in the automotive, industrial, and cloud-power end-markets will continue to drive long-term growth in the semiconductor industry.

In response to the above industry trends, we are investing and taking other measures to further strengthen our position in the automotive, industrial, and cloud-power end-markets. In an effort to mitigate adverse demand trends in the semiconductor industry, we have historically pursued, and expect to continue to pursue, cost-saving initiatives to align our overall cost structure, capital investments and other expenditures with our expected revenue, spending and capacity levels based on our current sales and manufacturing projections. We have recognized efficiencies from previously implemented restructuring activities and programs and continue to implement profitability enhancement programs to improve our cost structure. We have historically taken significant actions to align our overall cost structure with our expectations of market conditions by focusing on synergies-related cost reductions arising from each of our acquisitions. However, there can be no assurances that we will adequately forecast economic conditions or that we will effectively align our cost structure, capital investments and other expenditures with our revenue, spending and capacity levels in the future.

See Note 7: "Restructuring, Asset Impairments and Other Charges, net" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for information relating to our most recent cost-saving initiatives.

Results of Operations

Our results of operations for the year ended December 31, 2019 includes the partial year results from Quantenna, which we acquired on June 19, 2019.

For a discussion and comparison of the results of our operations for the year ended December 31, 2018 with the year ended December 31, 2017, refer to "Management's Discussion and Analysis of Financial Conditions and Results of Operations" in our Form 10-K for the year ended December 31, 2018 filed with the SEC on February 20, 2019.

Operating Results

The following table summarizes certain information relating to our operating results that has been derived from our audited consolidated financial statements (in millions):

	Year ended December 31,		Dollar Change
	2019	2018	2018 to 2019
Revenue	\$ 5,517.9	\$ 5,878.3	\$ (360.4)
Cost of revenue (exclusive of amortization shown below)	3,544.3	3,639.6	(95.3)
Gross profit	1,973.6	2,238.7	(265.1)
Operating expenses:			
Research and development	640.9	650.7	(9.8)
Selling and marketing	301.0	324.7	(23.7)
General and administrative	284.0	293.3	(9.3)
Litigation settlement	169.5	—	169.5
Amortization of acquisition-related intangible assets	115.2	111.7	3.5
Restructuring, asset impairments and other charges, net	28.7	4.3	24.4
Goodwill and intangible asset impairment	1.6	6.8	(5.2)
Total operating expenses	1,540.9	1,391.5	149.4
Operating income	432.7	847.2	(414.5)
Other income (expense), net:			
Interest expense	(148.3)	(128.2)	(20.1)
Interest income	10.2	6.1	4.1
Loss on debt refinancing and prepayment	(6.2)	(4.6)	(1.6)
Gain on divestiture of business	—	5.0	(5.0)
Licensing income	—	36.6	(36.6)
Other expense	(11.8)	(7.1)	(4.7)
Other income (expense), net	(156.1)	(92.2)	(63.9)
Income before income taxes	276.6	755.0	(478.4)
Income tax provision	(62.7)	(125.1)	62.4
Net income	213.9	629.9	(416.0)
Less: Net income attributable to non-controlling interest	(2.2)	(2.5)	0.3
Net income attributable to ON Semiconductor Corporation	\$ 211.7	\$ 627.4	\$ (415.7)

Revenue

Revenue was \$5,517.9 million and \$5,878.3 million for 2019 and 2018, respectively. The decrease of \$360.4 million, or 6.1% was primarily attributable to an 8.2%, 4.8% and 1.5% decrease in revenue in PSG, ASG and ISG, respectively, which is further explained below.

Revenue by reportable segment for each were as follows (dollars in millions):

	2019	As a % of Revenue (1)	2018	As a % of Revenue (1)
PSG	\$ 2,788.3	50.5 %	\$ 3,038.2	51.7 %
ASG	1,972.3	35.7 %	2,071.2	35.2 %
ISG	757.3	13.7 %	768.9	13.1 %
Total revenue	<u>\$ 5,517.9</u>		<u>\$ 5,878.3</u>	

(1) Certain of the amounts may not total due to rounding of individual amounts.

Revenue from PSG

Revenue from PSG decreased by \$249.9 million, or approximately 8%, which was due to a combination of a decrease in volume of products sold and a competitive pricing environment. The revenue in our Protection and Signal Division, Integrated Circuits Division, and High Power Division, decreased by \$106.5 million, \$96.6 million and \$91.5 million, respectively. This was partially offset by an increase in revenue of \$30.1 million and \$15.0 million from our Foundry Services and Power Mosfet Division, respectively.

Revenue from ASG

Revenue from ASG decreased by \$98.9 million, or approximately 5%, which was also due to a combination of a decrease in volume of products sold and a competitive pricing environment. The revenue in our Industrial and Offline Power Division and our Signal Processing, Wireless and Medical Division, decreased by \$100.5 million and \$56.4 million, respectively. This was partially offset by \$84.8 million of revenue from Quantenna, which was acquired during 2019.

Revenue from ISG

Revenue from ISG decreased by \$11.6 million, or 1.5%, which was due to a decrease in our Industrial Sensing Division revenue of \$20.8 million, primarily due to decreased demand, which was partially offset by an increase in revenue in other divisions.

Revenue by Geographic Location

Revenue by geographic location, including local sales made by operations within each area, based on sales billed from the respective country, are as follows (dollars in millions):

	2019	As a % of Revenue (1)	2018	As a % of Revenue (1)
Singapore	\$ 1,713.1	31.0 %	\$ 1,955.0	33.3 %
Hong Kong	1,417.3	25.7 %	1,489.1	25.3 %
United Kingdom	921.6	16.7 %	946.5	16.1 %
United States	810.3	14.7 %	862.7	14.7 %
Other	655.6	11.9 %	625.0	10.6 %
Total	<u>\$ 5,517.9</u>		<u>\$ 5,878.3</u>	

(1) Certain of the amounts may not total due to rounding of individual amounts.

Gross Profit and Gross Margin (exclusive of amortization of acquisition-related intangible assets described below)

Our gross profit by reportable segment was as follows (dollars in millions):

	2019	As a % of Segment Revenue (1)	2018	As a % of Segment Revenue (1)
PSG	\$ 976.0	35.0 %	\$ 1,110.1	36.5 %
ASG	794.8	40.3 %	878.3	42.4 %
ISG	275.4	36.4 %	317.1	41.2 %
Gross profit for all segments	\$ 2,046.2		\$ 2,305.5	
Unallocated manufacturing costs (2)	(72.6)	(1.3)%	(66.8)	(1.1)%
Total gross profit	<u>\$ 1,973.6</u>	35.8 %	<u>\$ 2,238.7</u>	38.1 %

(1) Certain of the amounts may not total due to rounding of individual amounts.

(2) Unallocated manufacturing costs are presented as a percentage of total revenue (includes expensing of the fair market value step-up of inventory of \$19.6 million during 2019 and \$1.0 million during 2018).

The decrease in gross profit of \$265.1 million, or approximately 12%, was primarily due to the impact of the decrease in sales volume, higher fixed costs due to the expansion in our manufacturing capacity as well as the expensing of \$19.6 million excess over book value of inventory, commonly referred to as the fair market value step-up, from the Quantenna acquisition.

Gross margin decreased to 35.8% during 2019 compared to 38.1% during 2018. The decrease was due to a competitive pricing environment resulting in a decline in average selling prices, higher demand for lower margin products, increased manufacturing costs due to a higher mix of external manufacturing and decreased demand for our products, as explained in the revenue section.

Operating Expenses

Research and Development

Research and development expenses were \$640.9 million and \$650.7 million for 2019 and 2018, respectively, representing approximately 12% of revenue in 2019 and 11% of revenue for 2018. The decrease in research and development expenses of \$9.8 million, or approximately 2%, was primarily related to a decrease in variable compensation in 2019, which was partially offset by expenses in Quantenna.

Selling and Marketing

Selling and marketing expenses were \$301.0 million and \$324.7 million for 2019 and 2018, respectively, representing approximately 5% of revenue in 2019 and 6% of revenue in 2018. The decrease in selling and marketing expenses of \$23.7 million, or approximately 7%, was primarily related to a decrease in variable compensation in 2019, which was partially offset by expenses in Quantenna.

General and Administrative

General and administrative expenses were \$284.0 million and \$293.3 million, representing approximately 5%, of revenue for 2019 and 2018, respectively. The decrease in general and administrative expenses of \$9.3 million, or approximately 3%, was due to a decrease in variable compensation in 2019, which was partially offset by an increase in acquisition-related expenses and the expenses in Quantenna.

Litigation Settlement

Litigation settlement expense was \$169.5 million for 2019, compared to zero for 2018. On October 19, 2019, we entered into the Settlement Agreement with PI pursuant to which the parties agreed to withdraw all outstanding legal and administrative disputes. Pursuant to the Settlement Agreement, we paid PI \$175.0 million in cash on October 22, 2019, of which \$5.5 million was previously accrued.

Amortization of Acquisition—Related Intangible Assets

Amortization of acquisition-related intangible assets was \$115.2 million and \$111.7 million for 2019 and 2018, respectively. The increase of \$3.5 million, or approximately 3%, during 2019 compared to 2018 was primarily due to the amortization of our technology-related intangible assets acquired from the SensL acquisition, which began in 2019, along with the amortization of intangible assets acquired from Quantenna.

See Note 5: "Acquisitions, Divestitures and Licensing Transactions" and Note 6: "Goodwill and Intangible Assets" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for additional information with respect to the acquired intangible assets.

Restructuring, Asset Impairments and Other Charges, Net

Restructuring, asset impairments and other charges, net was \$28.7 million and \$4.3 million for 2019 and 2018, respectively. The information below summarizes the major activities in each year.

2019

During 2019, we recorded \$28.7 million of restructuring charges primarily related to the post-Quantenna acquisition related restructuring program as well as certain restructuring actions undertaken by us aimed at cost savings, primarily through workforce reductions.

2018

During 2018, we recorded approximately \$4.3 million of net charges attributable to the asset impairments and severance charges relating to the restructuring programs in effect during the period, offset by gain on sale of certain assets.

For additional information, see Note 7: "Restructuring, Asset Impairments and Other Charges, net" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K.

Goodwill and Intangible Asset Impairment

Goodwill and intangible asset impairments were \$1.6 million and \$6.8 million for 2019 and 2018, respectively. The information below summarizes the major activities in each year.

2019

During 2019, we abandoned two of our previously capitalized IPRD projects and recorded intangible asset impairment charges of \$1.6 million.

2018

During 2018, we recorded \$3.3 million of goodwill impairment charges and \$3.5 million relating to the impairment in the value of one project as a result of the indefinite-lived impairment test performed during the fourth quarter of 2018.

See Note 6: "Goodwill and Intangible Assets" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for additional information.

Other Income and Expenses

Interest Expense

Interest expense increased by \$20.1 million, or approximately 16%, to \$148.3 million during 2019 compared to \$128.2 million in 2018, primarily due to an increase in the outstanding long-term debt balance incurred relating to the acquisition of Quantenna. We recorded amortization of debt discount to interest expense of \$37.8 million and \$36.1 million for 2019 and 2018, respectively. Our average gross amount of long-term debt balance (including current maturities) during 2019 and 2018 was \$3,344.1 million and \$3,057.0 million, respectively. Our weighted average interest rate on our gross amount of long-term

debt (including current maturities) was 4.4% and 4.2% per annum in 2019 and 2018, respectively. See "Liquidity and Capital Resources—Key Financing and Capital Events" below and Note 9: "Long-Term Debt" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for a description of our indebtedness and our refinancing activities.

Loss on Debt Refinancing and Prepayment

2019

Loss on debt refinancing and prepayment increased by \$1.6 million, or approximately 35%, from \$4.6 million in 2018 to \$6.2 million in 2019. During 2019, we recorded a loss on debt refinancing and prepayment of \$5.8 million related to the Seventh Amendment and \$0.4 million related to the Fifth Amendment.

We recorded a debt extinguishment charge of \$2.6 million related to refinancing of the Term Loan "B" Facility and expensed \$2.0 million of unamortized debt discount and issuance costs attributable to the partial pay-down of the Term Loan "B" Facility during 2018.

See Note 9: "Long-Term Debt" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for additional information.

Gain on Divestiture of Business

Gain on divestiture of business was zero in 2019, compared to \$5.0 million for 2018. During 2018, we divested the transient voltage suppressing diodes business we acquired from Fairchild to TSC America, Inc. and recorded a gain of \$4.6 million. For additional information, see Note 5: "Acquisitions, Divestitures and Licensing Transactions" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K.

Licensing Income

Licensing income was zero in 2019 compared to \$36.6 million for 2018. The 2018 licensing income was primarily due to the achievement of the established criteria based on which income was recognized under the various licensing agreements. We completed recognizing all licensing income under existing agreements as of December 31, 2018.

See Note 5: "Acquisitions, Divestitures and Licensing Transactions" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for more information.

Other Income (Expense)

Other expense increased by \$4.7 million, or approximately 66%, from expense of \$7.1 million in 2018 to expense of \$11.8 million in 2019. The increase in other expense is attributed to an increase in recognized actuarial loss of \$9.8 million, which was partially offset by \$7.8 million of indemnification gain relating to the resolution of a foreign tax dispute and other IP related claims recognized in 2019.

Income Tax Provision

We recorded an income tax provision of \$62.7 million and \$125.1 million in 2019 and 2018, respectively.

The income tax provision for the year ended December 31, 2019 consisted primarily of \$66.4 million for income and withholding taxes of certain of our foreign and domestic operations, \$6.0 million relating to the resolution of a foreign tax dispute and \$3.3 million of new reserves and interest on existing reserves for uncertain tax positions in foreign jurisdictions and \$2.1 million of prior year adjustments. These amounts were offset by discrete benefits of \$9.2 million relating to the release of reserves and interest for uncertain tax positions in foreign jurisdictions related to prior years and \$5.9 million relating to equity award excess tax benefits.

The income tax provision for the year ended December 31, 2018 consisted primarily of \$180.0 million for income and withholding taxes of certain of our foreign and domestic current year operations and \$35.2 million related to the finalization of the Company's tax impacts of U.S. tax reform. These expenses were offset by a one-time benefit of \$48.2 million related to U.S. tax method changes made during the year that impacted the Company's Global Intangible Low Tax Income ("GILTI") inclusion, a benefit of \$17.1 million relating to an increase in deferred tax assets expected to be realized in the foreseeable future due to the liquidation of a foreign subsidiary, a benefit of \$14.0 million relating to the lapse of the statute of limitations on certain unrecognized tax benefits, a benefit of \$7.6 million relating to equity award excess tax benefits and a benefit of \$3.2 million relating to changes in valuation allowance.

In line with the OECD's BEPS conclusions and changes to tax laws in the United States and certain countries in the European Union, we are considering simplifying our corporate structure by repatriating the economic rights to our intellectual property to the United States during the second half of 2020. The impact of such repatriation may have a material impact on our 2020 effective tax rate.

We expect our effective tax rate, before discrete items or the impact mentioned above from the proposed repatriation of the economic rights to our intellectual property, to be between 22% and 26% until we fully utilize all of our U.S. federal net operating losses. The primary difference between our effective tax rate and the federal statutory rate of 21% is due to foreign taxes for which the Company will not receive a U.S. tax credit as a result of U.S. tax reform until our U.S. federal net operating losses are fully utilized. Once our U.S. federal net operating losses are fully utilized, we expect our future effective tax rate, before discrete items, to approximate, or be lower than, the federal statutory rate of 21%. We anticipate our U.S. federal net operating losses and credits will be substantially utilized by 2021.

Our cash tax, as a percentage of income before income taxes ("Cash Tax Rate"), has historically been significantly lower than our effective tax rate due to the current utilization of our U.S. federal net operating losses and credits. During 2019, our Cash Tax Rate approximated our effective tax rate primarily due to the litigation settlement with PI. We expect our future Cash Tax Rate to be lower than our effective tax rate until our U.S. federal net operating losses and credits are fully utilized.

We continue to maintain a full valuation allowance on our U.S. state deferred tax assets and a valuation allowance on foreign net operating losses and tax credits in certain other foreign jurisdictions, a substantial portion of which relate to Japan net operating losses which are projected to expire prior to utilization.

For additional information, see Note 16: "Income Taxes" in the notes to the audited consolidated financial statements included elsewhere in this Form 10-K.

Liquidity and Capital Resources

This section includes a discussion and analysis of our cash requirements, off-balance sheet arrangements, contingencies, sources and uses of cash, operations, working capital and long-term assets and liabilities.

Contractual Obligations

Our principal outstanding contractual obligations relate to our long-term debt, operating leases and purchase obligations. The following table summarizes our contractual obligations at December 31, 2019 and the effect such obligations are expected to have on our liquidity and cash flow in the future (in millions):

Contractual obligations (1)	Total	Payments Due by Period					
		2020	2021	2022	2023	2024	Thereafter
Long-term debt, excluding finance leases (2)	\$ 4,332.1	\$ 868.9	\$ 117.7	\$ 117.1	\$ 691.4	\$ 890.3	\$ 1,646.7
Operating leases	144.8	31.3	26.0	21.4	15.1	14.1	36.9
Purchase obligations (3):							
Capital purchase obligations	47.4	43.9	3.2	0.1	0.1	0.1	—
Inventory and external manufacturing purchase obligations	216.1	183.0	7.7	6.8	6.6	6.5	5.5
Information technology, communication and mainframe support services	14.2	10.0	2.8	0.6	0.6	0.2	—
Other (4)	387.9	38.1	10.6	337.7	1.5	—	—
Total contractual obligations	\$ 5,142.5	\$ 1,175.2	\$ 168.0	\$ 483.7	\$ 715.3	\$ 911.2	\$ 1,689.1

- (1) The table above excludes approximately \$28.1 million of liabilities related to unrecognized tax benefits because we are unable to reasonably estimate the timing of the settlement of such liabilities.
- (2) Includes interest payments at applicable rates as of December 31, 2019.
- (3) These represent our off-balance sheet arrangements (See "Liquidity and Capital Resources—Off-Balance Sheet Arrangements" for a description of our off-balance sheet arrangements).
- (4) During 2019, we incurred additional commitments of \$330.0 million relating to the pending acquisition of a manufacturing facility which is included in the contractual obligations table. See Note 5: "Acquisitions, Divestitures and Licensing Transactions" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for more information.

The table also excludes our pension obligations. We expect to make cash contributions to comply with local funding requirements and required benefit payments of approximately \$17.3 million and \$5.0 million, respectively, in 2020. This future payment estimate assumes we continue to meet our statutory funding requirements. The timing and amount of contributions may be impacted by a number of factors, including the funded status of the plans. Beyond 2020, the actual amounts required to be contributed are dependent upon, among other things, interest rates, underlying asset returns and the impact of legislative or regulatory actions related to pension funding obligations. See Note 12: "Employee Benefit Plans" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for more information on our pension obligations.

Our balance of cash and cash equivalents was \$894.2 million as of December 31, 2019. We believe that our cash flows from operations, coupled with our existing cash and cash equivalents, and cash available from our Revolving Credit Facility, will be adequate to fund our operating and capital needs for at least the next 12 months. Total cash and cash equivalents at December 31, 2019 include approximately \$371.9 million available in the United States. We require a substantial amount of cash in the United States for operating requirements, debt service, debt repayments and acquisitions. While we hold a significant amount of cash and cash equivalents outside the United States in various foreign subsidiaries, we have the ability to obtain cash in the United States in order to cover our domestic needs, through distributions from our foreign subsidiaries, by utilizing existing credit facilities or through new bank loans or debt obligations.

See Note 9: "Long-Term Debt," in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for a discussion of our long-term debt. See "Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities" included elsewhere in this Form 10-K for a discussion of restrictions on our ability to pay dividends and our stock repurchase activities.

Off-Balance Sheet Arrangements

In the ordinary course of business, we provide standby letters of credit or other guarantee instruments to certain parties in connection with certain transactions including, but not limited to: material purchase commitments, agreements to mitigate collection risk, leases, utilities or customs guarantees. As of December 31, 2019, our Revolving Credit Facility included \$15.0 million of availability for the issuance of letters of credit. There were \$1.0 million letters of credit outstanding under our Revolving Credit Facility as of December 31, 2019, which reduces our borrowing capacity dollar-for-dollar. As of December 31, 2019, we also had outstanding guarantees and letters of credit outside of our Revolving Credit Facility in the amount of \$11.7 million.

As part of securing financing in the ordinary course of business, we issued guarantees related to certain of our subsidiaries' finance lease obligations, equipment financing, lines of credit and real estate mortgages, which totaled \$1.8 million as of December 31, 2019. Based on historical experience and information currently available, we believe that we will not be required to make payments under the standby letters of credit or guarantee arrangements for the foreseeable future.

We have not recorded any liability in connection with these letters of credit and guarantee arrangements. See Note 9: "Long-Term Debt," and Note 13: "Commitments and Contingencies" in the notes to our audited consolidated financial statements found elsewhere in this Form 10-K for additional information.

Contingencies

We are a party to a variety of agreements entered into in the ordinary course of business pursuant to which we may be obligated to indemnify other parties for certain liabilities that arise out of or relate to the subject matter of the agreements. Some of the agreements entered into by us require us to indemnify the other party against losses due to IP infringement, environmental contamination and other property damage, personal injury, our failure to comply with applicable laws, our negligence or willful misconduct or our breach of representations, warranties or covenants related to such matters as title to sold assets.

We face risk of exposure to warranty and product liability claims in the event that our products fail to perform as expected or such failure of our products results, or is alleged to result, in economic damage, bodily injury or property damage. In addition, if any of our designed products are alleged to be defective, we may be required to participate in their recall. Depending on the significance of any particular customer and other relevant factors, we may agree to provide more favorable rights to such customer for valid defective product claims.

We maintain directors' and officers' insurance policies that indemnify our directors and officers against various liabilities, including certain liabilities under the Exchange Act, that might be incurred by any director or officer in his or her capacity as such.

The Fairchild acquisition agreement provides for indemnification and insurance rights in favor of Fairchild's then current and former directors, officers and employees. Specifically, we have agreed that, for no fewer than six years following the Fairchild acquisition, we will: (a) indemnify and hold harmless each such indemnitee against losses and expenses (including advancement of attorneys' fees and expenses) in connection with any proceeding asserted against the indemnified party in connection with such person's services as a director, officer, employee or other fiduciary of Fairchild or its subsidiaries prior to the effective time of the acquisition; (b) maintain in effect all provisions of the certificate of incorporation or bylaws of Fairchild or any of its subsidiaries or any other agreements of Fairchild or any of its subsidiaries with any indemnified party regarding elimination of liability, indemnification of officers, directors and employees and advancement of expenses in existence on the date of the Fairchild Agreement for acts or omissions occurring prior to the effective time of the acquisition and; (c) subject to certain qualifications, provide to Fairchild's then current directors and officers an insurance and indemnification policy that provides coverage for events occurring prior to the effective time of the acquisition that is no less favorable than Fairchild's then-existing policy, or, if insurance coverage that is no less favorable is unavailable, the best available coverage.

Similarly, the Quantenna Agreement provides for indemnification and insurance rights in favor of Quantenna's then current and former directors, officers, employees and agents. Specifically, the Company has agreed that, for no fewer than six years following the Quantenna acquisition, the Company will: (a) indemnify and hold harmless each such indemnified party to the fullest extent permitted by Delaware law in the event of any threatened or actual claim suit, action, proceeding or investigation against the indemnified party based in whole or in part on, or pertaining to, such person's serving as a director, officer, employee or agent of Quantenna or its subsidiaries or predecessors prior to the effective time of the acquisition or in connection with the Quantenna Agreement; (b) maintain in effect provisions of the certificate of incorporation and bylaws of Quantenna and each of its subsidiaries regarding the elimination of liability of directors and indemnification of officers, directors and

employees that are no less advantageous to the intended beneficiaries than the corresponding provisions in the certificate of incorporation and bylaws of Quantenna and each of its subsidiaries in existence on the date of the Quantenna Agreement; and (c) obtain and fully pay the premium for a non-cancelable extension of directors' and officers' liability coverage of Quantenna's directors' and officers' policies and Quantenna's fiduciary liability insurance policies in effect as of the date of the Quantenna Agreement.

While our future obligations under certain agreements may contain limitations on liability for indemnification, other agreements do not contain such limitations and under such agreements it is not possible to predict the maximum potential amount of future payments due to the conditional nature of our obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by us under any of these indemnities have not had a material effect on our business, financial condition, results of operations or cash flows, and we do not believe that any amounts that we may be required to pay under these indemnities in the future will be material to our business, financial condition, results of operations or cash flows.

See "Legal Proceedings" and Note 13: "Commitments and Contingencies" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for possible contingencies related to legal matters. See also "Business—Government Regulation" for information on certain environmental matters.

Sources and Uses of Cash

We require cash to fund our operating expenses and working capital requirements, including outlays for strategic acquisitions and investments, for research and development, to make capital expenditures, to repurchase our common stock and other Company securities, and to pay debt service, including principal and interest and finance lease payments. We expect interest expense to remain significant in future periods as we continue to service our debt. Our principal sources of liquidity are cash on hand, cash generated from operations and funds from external borrowings and equity issuances. In the near term, we expect to fund our primary cash requirements through cash generated from operations and with cash and cash equivalents on hand. We also have the ability to utilize our Revolving Credit Facility.

As part of our business strategy, we review acquisition and divestiture opportunities and proposals on a regular basis. During 2019, we completed the acquisition of Quantenna. See Note 5: "Acquisitions, Divestitures and Licensing Transactions" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for additional information.

We believe that the key factors that could affect our internal and external sources of cash include:

- Factors that affect our results of operations and cash flows, including the impact on our business and operations as a result of changes in demand for our products, competitive pricing pressures, effective management of our manufacturing capacity, our ability to achieve further reductions in operating expenses, the impact of our restructuring programs on our production and cost efficiency and our ability to make the research and development expenditures required to remain competitive in our business; and
- Factors that affect our access to bank financing and the debt and equity capital markets that could impair our ability to obtain needed financing on acceptable terms or to respond to business opportunities and developments as they arise, including interest rate fluctuations, macroeconomic conditions, sudden reductions in the general availability of lending from banks or the related increase in cost to obtain bank financing, and our ability to maintain compliance with covenants under our debt agreements in effect from time to time.

Our ability to service our long-term debt, including our 1.625% Notes, 1.00% Notes, Revolving Credit Facility and Term Loan "B" Facility, to remain in compliance with the various covenants contained in our debt agreements and to fund working capital, capital expenditures and business development efforts will depend on our ability to generate cash from operating activities, which is subject to, among other things, our future operating performance, as well as to general economic, financial, competitive, legislative, regulatory and other conditions, some of which may be beyond our control.

If we fail to generate sufficient cash from operations, we may need to raise additional equity or borrow additional funds to achieve our longer term objectives. There can be no assurance that such equity or borrowings will be available or, if available, will be at rates or prices acceptable to us. We believe that cash flow from operating activities coupled with existing cash and cash equivalents and existing credit facilities will be adequate to fund our operating and capital needs, as well as enable us to maintain compliance with our various debt agreements, through at least the next 12 months. To the extent that results or events differ from our financial projections or business plans, our liquidity may be adversely impacted.

During the ordinary course of business, we evaluate our cash requirements and, if necessary, adjust our expenditures for inventory, operating expenditures and capital expenditures to reflect the current market conditions and our projected sales and

demand. Our capital expenditures are primarily directed toward production equipment and capacity expansion. Our capital expenditure levels can materially influence our available cash for other initiatives. For example, during 2019, we paid approximately \$534.6 million for capital expenditures, while in 2018 we paid approximately \$514.8 million. While our capital expenditures have historically been approximately 6% to 7% of annual revenue, we incurred capital expenditures of approximately 10% and 9% of annual revenue in 2019 and 2018, respectively, and expect to incur capital expenditures of approximately 8% of revenue in 2020 to further improve our manufacturing cost structure. Future capital expenditures are expected to be lower, however, may be impacted by events and transactions that are not currently forecasted.

On March 31, 2017, we completed the private unregistered offering of \$575.0 million aggregate principal amount of the 1.625% Notes, which amount includes the full exercise of the initial purchasers' option to purchase additional 1.625% Notes. The net proceeds from the offering of the 1.625% Notes were used to repay \$562.1 million of borrowings outstanding under the Term Loan "B" Facility.

On November 30, 2017, we entered into the Third Amendment (as defined below) pursuant to which, among other things, we increased the amount that may be borrowed under the Revolving Credit Facility to \$1.0 billion. In connection with the Third Amendment, we prepaid \$400.0 million of borrowings under the Term Loan "B" Facility.

On June 12, 2019, the Company entered into the Fifth Amendment (as defined below) to the Amended Credit Agreement. The Fifth Amendment provided for, among other things, modifications to the Amended Credit Agreement to increase the amount that may be borrowed pursuant to the Revolving Credit Facility by \$900.0 million to \$1.9 billion. The \$900.0 million was drawn to partially fund the acquisition of Quantenna on June 19, 2019.

On August 15, 2019, the Company entered into the Sixth Amendment (as defined below) to the Amended Credit Agreement, which increased amounts that may be borrowed under the Revolving Credit Facility by \$70.0 million to \$1.97 billion.

On September 19, 2019, the Company entered into the Seventh Amendment (as defined below) to the Amended Credit Agreement. The Seventh Amendment provided for, among other things, modifications to the Amended Credit Agreement to increase the amount that may be borrowed pursuant to the Term Loan "B" Facility by approximately \$500.5 million, up to an aggregate principal amount of \$1.635 billion. We utilized the additional borrowings under the Term Loan "B" Facility to repay \$500.0 million of outstanding balance under the Revolving Credit Facility.

As of December 31, 2019, there was \$1,630.9 million outstanding under the Term Loan "B" Facility and \$800.0 million outstanding under the Revolving Credit Facility. The associated interest expense related to the Term Loan "B" Facility and Revolving Credit Facility has had, and will continue to have, a material impact on our results of operations throughout the term of the Amended Credit Agreement.

During the year ended December 31, 2019, we repurchased 7.8 million shares of common stock worth approximately \$138.9 million under the 2018 Share Repurchase Program.

Cash Management

Our ability to manage cash is limited, as our primary cash inflows and outflows are dictated by the terms of our sales and supply agreements, contractual obligations, debt instruments and legal and regulatory requirements. While we have some flexibility with respect to the timing of capital equipment purchases, we must invest in capital equipment on a timely basis to allow us to maintain our manufacturing efficiency and support our platforms of new products.

Primary Cash Flow Sources

Our long-term cash generation is dependent on the ability of our operations to generate cash. Our cash flows from operating activities were \$694.7 million, \$1,274.2 million, and \$1,094.2 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Our cash flows provided by operating activities for the year ended December 31, 2019 decreased by \$579.5 million, or 45.5%, compared to the year ended December 31, 2018. The decrease was primarily attributable to a reduction in net income resulting in lower cash flows, payment of variable compensation for prior year and litigation settlement payments. Our ability to maintain positive operating cash flows is dependent on, among other factors, our success in achieving our revenue goals and manufacturing and operating cost targets.

Our management of our assets and liabilities, including both working capital and long-term assets and liabilities, also influences our operating cash flows, and each of these components is discussed below.

Working Capital

Working capital, calculated as total current assets less total current liabilities, fluctuates depending on end-market demand and our effective management of certain items such as receivables, inventory and payables. In times of escalating demand, our working capital requirements may be affected as we purchase additional manufacturing materials and increase production. Our working capital may also be affected by restructuring programs, which may require us to use cash for severance payments, asset transfers and contract termination costs. In addition, our working capital may be affected by acquisitions and transactions involving our convertible notes and other debt instruments. Our working capital, excluding cash and cash equivalents and the current portion of long-term debt, was \$1,043.4 million as of December 31, 2019 and has fluctuated between \$767.4 million and \$1,043.4 million at the end of each of our last eight fiscal quarters. Our working capital, including cash and cash equivalents and the current portion of long-term debt, was \$1,201.6 million as of December 31, 2019 and has fluctuated between \$1,022.0 million and \$1,797.4 million at the end of each of our last eight fiscal quarters.

Although investments made to fund working capital will reduce our cash balances, these investments are necessary to support business and operating initiatives. For the year ended December 31, 2019, our working capital was most significantly impacted by our payments for variable compensation, litigation settlement payments and capital expenditures. See Note 9: "Long-Term Debt" and Note 10: "Earnings Per Share and Equity" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for additional information.

Long-Term Assets and Liabilities

Our long-term assets consist primarily of property, plant and equipment, intangible assets, deferred taxes and goodwill.

Our manufacturing rationalization plans have included efforts to utilize our existing manufacturing assets and supply arrangements more efficiently. We believe that near-term access to additional manufacturing capacity, should it be required, could be readily obtained on reasonable terms through manufacturing agreements with third parties. We will continue to look for opportunities to make strategic purchases in the future for additional capacity.

Our long-term liabilities, excluding long-term debt and deferred taxes, consist of liabilities under our foreign defined benefit pension plans, operating lease liabilities and contingent tax reserves. In regard to our foreign defined benefit pension plans, our annual funding of these obligations is equal to the minimum amount legally required in each jurisdiction in which the plans operate. This annual amount is dependent upon numerous actuarial assumptions. For additional information, see Note 12: "Employee Benefit Plans", "Note 8: "Balance Sheet Information" and Note 16: "Income Taxes" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K.

Key Financing and Capital Events

Overview

For the past several years, we have undertaken various measures to secure liquidity to pursue acquisitions, repurchase shares of our common stock, reduce interest costs, amend existing key financing arrangements and, in some cases, extend a portion of our debt maturities to continue to provide us additional operating flexibility. Certain of these measures continued in 2019. Set forth below is a summary of certain key financing events affecting our capital structure during the last three years. For further discussion of our debt instruments, see Note 9: "Long-Term Debt" and for further discussion on Share Repurchase Programs, see Note 10: "Earnings Per Share and Equity" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K.

Recent Events

2019 Financing Events

Amendments to the Amended Credit Agreement

On June 12, 2019, the Company entered into the Fifth Amendment to the Amended Credit Agreement (the "Fifth Amendment"), with the subsidiary guarantors party thereto, Deutsche Bank AG New York Branch, as administrative agent, collateral agent and issuing lender, the "2019 Incremental Revolving Lenders" party thereto, and the "New Required Lenders" party thereto. The Fifth Amendment provided for, among other things, modifications to the Amended Credit Agreement to: (i) increase the amount that may be borrowed pursuant to the Revolving Credit Facility by \$900.0 million to \$1.9 billion; (ii) extend the maturity date of borrowings under the Revolving Credit Facility to the later of (x) December 30, 2022 or (y) June 12, 2024 so long as the borrowings under the Term Loan "B" Facility have been fully repaid or otherwise redeemed, discharged or defeased on or prior to December 30, 2022, or if the maturity date of borrowings under the Term Loan "B" Facility has been extended prior to December 30, 2022, to a date no earlier than June 12, 2024; and (iii) amend certain financial covenants, including deleting the minimum Interest Coverage Ratio and increasing the maximum Consolidated Total Net Leverage Ratio (as such terms are defined in the Amended Credit Agreement) from 4.00 to 1.00 to 4.50 to 1.00 during any period of four consecutive fiscal quarters commencing after a Permitted Acquisition (as defined in the Amended Credit Agreement) with consideration in excess of \$250.0 million. On June 19, 2019, the Company drew \$900.0 million of the Revolving Credit Facility to partially fund the acquisition of Quantenna.

On August 15, 2019, the Company entered into the Sixth Amendment to the Amended Credit Agreement (the "Sixth Amendment"), which increased amounts that may be borrowed under the Revolving Credit Facility by \$70.0 million to \$1.97 billion.

On September 19, 2019, the Company entered into the Seventh Amendment to the Amended Credit Agreement (the "Seventh Amendment"). The Seventh Amendment provided for, among other things, modifications to the Amended Credit Agreement to (i) increase the amount that may be borrowed pursuant to the Term Loan "B" Facility by approximately \$500.5 million, up to an aggregate principal amount of \$1.635 billion; (ii) extend the maturity date of borrowings under the Term Loan "B" Facility to September 19, 2026; (iii) for any interest period ending after the date of the Seventh Amendment, increase the interest rate for borrowings under the Term Loan "B" Facility to (a) with respect to eurocurrency loans, a base rate per annum equal to the Adjusted LIBO Rate (as defined in the Amended Credit Agreement) plus an applicable margin of 2.00% and (b) with respect to alternate base rate loans, a base rate per annum equal to the Alternate Base Rate (as defined in the Amended Credit Agreement) plus an applicable margin equal to 1.00%; and (iv) make certain amendments providing for the determination of an alternate interest rate to the Adjusted LIBO Rate and/or the LIBO Rate (as defined in the Amended Credit Agreement) in the event of certain circumstances that result in the inability to adequately and reasonably determine such rates or such rates no longer adequately and fairly reflecting the cost of the applicable loans. In addition, pursuant to the Fifth Amendment (defined above), as a result of the extension described in (ii) above, the maturity date of borrowings under the Revolving Credit Facility was extended to June 12, 2024.

The Company utilized the additional borrowings pursuant to the Seventh Amendment to repay \$500.0 million of the outstanding balance under the Revolving Credit Facility.

Share Repurchase Program

During the year ended December 31, 2019, we repurchased 7.8 million shares of our common stock for an aggregate purchase

price of \$138.9 million pursuant to the 2018 Share Repurchase Program.

2018 Financing Events

Amendments to the Amended Credit Agreement

On May 31, 2018, the Company, the Guarantors, the several lenders party thereto and the Agent entered into the Fourth Amendment to the Amended Credit Agreement (the "Fourth Amendment"). Pursuant to the Fourth Amendment, for any interest period ending after the date of the Fourth Amendment, Eurocurrency Loans will accrue interest at (i) a base rate per annum equal to the Adjusted LIBO Rate (as defined in the Amended Credit Agreement) plus (ii) an applicable margin equal to (x) 1.25% with respect to borrowings under the Revolving Credit Facility (with step-downs and step-ups as set forth in the Amended Credit Agreement) or (y) 1.75% with respect to borrowings under the Term Loan "B" Facility.

Pursuant to the Fourth Amendment, ABR Loans will accrue interest at (i) a base rate per annum equal to the highest of (x) the Federal funds rate plus 0.50%, (y) the prime commercial lending rate announced by the Agent from time to time as its prime lending rate and (z) the Adjusted LIBO Rate for a one month interest period (or if such day is not a business day, the immediately preceding business day) (determined after giving effect to any applicable "floor") plus 1.00%; provided that, the Adjusted LIBO Rate for any day shall be based on the LIBO Rate (as defined in the Amended Credit Agreement), subject to the interest rate floors set forth in the Amended Credit Agreement, plus (ii) an applicable margin equal to (x) 0.25% with respect to borrowings under the Revolving Credit Facility (with step-ups as set forth in the Amended Credit Agreement) or (y) 0.75% with respect to borrowings under the Term Loan "B" Facility.

During the year ended December 31, 2018 we prepaid \$70.0 million of borrowings under the Term Loan "B" Facility.

Share Repurchase Program

During the year ended December 31, 2018, we repurchased 16.8 million shares of our common stock for an aggregate purchase price of \$315.0 million under the 2014 Share Repurchase Program.

2017 Financing Events

Amendments to the Amended Credit Agreement

On April 15, 2016, we and the Guarantors entered into the Amended Credit Agreement. On March 31, 2017, we and the Guarantors entered into the Second Amendment to the Amended Credit Agreement (the "Second Amendment"), which among other things, reduced the interest rates payable under the Term Loan "B" Facility.

On November 30, 2017, we and the Guarantors entered into the Third Amendment to the Amended Credit Agreement (the "Third Amendment"). The Third Amendment provided for, among other things, modifications to the Amended Credit Agreement to reduce the interest rate payable under the Term Loan "B" Facility and to increase the amount that may be borrowed pursuant to the Revolving Credit Facility to \$1.0 billion.

In connection with the Third Amendment, we prepaid \$400.0 million of borrowings under the Term Loan "B" Facility, using the proceeds from the borrowings under the Revolving Credit Facility. Additionally, we also prepaid \$200.0 million of borrowings under the Term Loan "B" Facility during 2017.

Issuance of 1.625% Notes

On March 31, 2017, we completed a private placement of \$575.0 million of our 1.625% Notes to qualified institutional buyers pursuant to Rule 144A under the Securities Act. The 1.625% Notes are governed by an indenture (the "1.625% Indenture") between the Company, the guarantors party thereto, and Wells Fargo Bank, National Association, as trustee. The net proceeds from the offering of the 1.625% Notes were used to repay \$562.1 million of borrowings outstanding under the Term Loan "B" Facility. The 1.625% Notes bear interest at the rate of 1.625% per year from the date of issuance, payable semiannually in arrears on April 15 and October 15 of each year, beginning on October 15, 2017. The 1.625% Notes are fully and unconditionally guaranteed, on a joint and several basis, by each of our subsidiaries that is a borrower or guarantor under our Amended Credit Agreement.

Share Repurchase Program

During the year ended December 31, 2017, we repurchased approximately 1.6 million shares of our common stock for an aggregate purchase price of \$25.0 million pursuant to the 2014 Share Repurchase Program in connection with the offering of the 1.625% Notes.

Debt Guarantees and Related Covenants

As of December 31, 2019, we were in compliance with the indentures relating to our 1.00% Notes and 1.625% Notes and with covenants relating to our Term Loan "B" Facility, Revolving Credit Facility and our other debt agreements. Our 1.00% Notes are senior to the existing and future subordinated indebtedness of ON Semiconductor and its guarantor subsidiaries. Our 1.625% Notes rank equally in right of payment to all of our existing and future senior debt and as unsecured obligations are subordinated to all of our existing and future secured debt. See Note 9: "Long-Term Debt" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K for additional information.

Critical Accounting Policies and Estimates

The accompanying discussion and analysis of our financial condition and results of operations is based upon our audited consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. We believe certain of our accounting policies are critical to understanding our financial position and results of operations. We utilize the following critical accounting policies in the preparation of our financial statements.

Use of Estimates. The preparation of financial statements in accordance with GAAP requires us to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the financial statements and the reported amount of revenue and expenses during the reporting period. We evaluate these estimates and judgments on an ongoing basis and base our estimates on experience, current and expected future conditions, third-party evaluations and various other assumptions that we believe are reasonable under the circumstances. Significant estimates have been used by management in conjunction with the following: (i) future payouts for customer incentives and amounts subject to allowances, returns and warranties; (ii) measurement of valuation allowances relating to inventories; (iii) assumptions used in business combinations; (iv) fair values of share-based compensation and (v) measurement of valuation allowances against deferred tax assets, and evaluations of unrecognized tax benefits. Additionally, during periods where it becomes applicable, significant estimates will be used by management in determining the future cash flows used to assess and test for impairment of goodwill, indefinite-lived intangible assets and long-lived assets. Actual results may differ from the estimates and assumptions used in the consolidated financial statements and related notes.

Revenue. We generate revenue from sales of our semiconductor products to OEMs, electronic manufacturing service providers and distributors. We also generate revenue, to a much lesser extent, from product development agreements and manufacturing services provided to customers. We recognize revenue when we satisfy a performance obligation in an amount reflecting the consideration to which we expect to be entitled. For sales agreements, we have identified the promise to transfer products, each of which is distinct, to be the performance obligation. For product development agreements, we have identified the completion of a service defined in the agreement to be the performance obligation. We apply a five step approach in determining the amount and timing of revenue to be recognized: (1) identifying the contract with a customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations in the contract; and (5) recognizing revenue when the performance obligation is satisfied. We allocate the transaction price to each distinct product based on its relative stand-alone selling price. In determining the transaction price, we evaluate whether the price is subject to refund or adjustment to determine the net consideration to which we expect to be entitled. Substantially all of our revenue is recognized at the time control of the products transfers to the customer.

Sales to certain distributors, primarily those with ship and credit rights, can be subject to price adjustment on certain products. We develop an estimate of their expected claims under the ship and credit program based on the historical claims data submitted by product and customer and expected future claims, which requires the use of estimates and assumptions related to the amount of each claim as well as the historical period used to develop the estimate.

Our OEM customers do not have the right to return products, other than pursuant to the provisions of the Company's standard warranty. Sales to distributors, however, are typically made pursuant to agreements that provide return rights and stock rotation provisions permitting limited levels of product returns. Provisions for discounts and rebates to customers, estimated returns and allowances, ship and credit claims and other adjustments are provided for in the same period the related revenue are recognized, and are netted against revenue. For returns, we recognize a related asset for the right to recover returned products with a corresponding reduction to cost of goods sold. We record a reserve for cash discounts as a reduction to accounts receivable and

a reduction to revenue, based on the experience with each customer. Although payment terms vary, most distributor agreements require payment within 30 days. In addition, the Company offers cash discounts to certain customers for payments received within an agreed upon time, generally 10 days after shipment.

Inventories. We carry our inventories at the lower of standard cost (which approximates actual cost on a first-in, first-out basis) or net realizable value and record provisions for potential excess and obsolete inventories based upon a regular analysis of inventory on hand compared to historical and projected end-user demand. The determination of projected end-user demand requires the use of estimates and assumptions related to projected unit sales for each product. These provisions can influence our results from operations. For example, when demand falls for a given part, all or a portion of the related inventory that is considered to be in excess of anticipated demand is reserved, impacting our cost of revenue and gross profit. If demand recovers and the parts previously reserved are sold, we will generally recognize a higher than normal margin. However, the majority of product inventory that has been previously reserved is ultimately discarded. Although we do sell some products that have previously been written down, such sales have historically been relatively consistent over the period and the related impact on our margins has not been significant.

Share-Based Compensation. We record compensation expense for all share-based payment awards including RSUs and ESPPs and measure them at the grant date, based on the estimated fair value of the award, recognized as an expense over the employee's requisite service period. Determining the amount of share-based compensation to be recorded requires us to develop estimates to be used in calculating the grant-date fair value of the award. We calculate the grant-date fair value of the award using valuation models, which are based on historical information and judgment regarding market factors and trends. For the past several years, we have utilized RSUs as our primary equity incentive compensation for employees. We have outstanding awards with service, performance, and market-based vesting provisions.

Income Taxes. Income taxes are accounted for using the asset and liability method. Under this method, deferred income tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which these temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance is provided for those deferred tax assets for which we cannot conclude that it is more likely than not that such deferred tax assets will be realized.

In determining the amount of the valuation allowance, estimated future taxable income, as well as feasible tax planning strategies for each taxing jurisdiction, are considered. If we determine it is more likely than not that all or a portion of the remaining deferred tax assets will not be realized, the valuation allowance will be increased with a charge to income tax expense. Conversely, if we determine it is more likely than not to be able to utilize all or a portion of the deferred tax assets for which a valuation allowance has been provided, the related portion of the valuation allowance will be recorded as a reduction to income tax expense.

We recognize and measure benefits for uncertain tax positions using a two-step approach. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the weight of available evidence indicates that it is more likely than not that the tax positions will be sustained upon audit, including resolution of any related appeals or litigation processes. For tax positions that are more likely than not to be sustained upon audit, the second step is to measure the tax benefit as the largest amount that is more than 50% likely to be realized upon settlement. Our practice is to recognize interest and/or penalties related to income tax matters in income tax expense. Significant judgment is required to evaluate uncertain tax positions. Evaluations are based upon a number of factors, including changes in facts or circumstances, changes in tax law, correspondence with tax authorities during the course of tax audits and effective settlement of audit issues. Changes in the recognition or measurement of uncertain tax positions could result in material increases or decreases in income tax expense in the period in which the change is made, which could have a material impact to our effective tax rate.

Business Combination. We use significant estimates and assumptions in allocating the purchase price of acquired business by utilizing established valuation techniques appropriate for the technology industry to record the acquired assets and liabilities at fair value. We utilize the income approach, cost approach or market approach, depending upon which approach is the most appropriate based on the nature and reliability of available data. If the income approach is used, the fair value determination is predicated upon the value of the future cash flows that an asset is expected to generate over its economic life and involves significant assumptions as to cash flows, associated expenses, long-term growth rates and discount rates. The cost approach takes into account the cost to replace (or reproduce) the asset and involves assumptions relating to the asset's value of physical, functional and/or economic obsolescence that has occurred with respect to the asset. The market approach is used to estimate value from an analysis of actual transactions or offerings for economically comparable assets available as of the valuation date. Determining the fair value of acquired technology assets is judgmental in nature and requires the use of significant estimates

and assumptions, including the discount rate, revenue growth rates, projected gross margins, and estimated research and development expenses.

Impairment of Goodwill, Indefinite-lived Intangible Assets and Long-Lived Assets. We evaluate our goodwill for potential impairment annually during the fourth quarter and whenever events or changes in circumstances indicate the carrying value of goodwill may not be recoverable. Our impairment evaluation consists of a qualitative assessment, and if deemed necessary, a quantitative test is performed which compares the fair value of a reporting unit with its carrying amount, including goodwill.

If the fair value of the reporting unit exceeds the carrying value of the net assets associated with that unit, goodwill is not considered impaired. If the carrying value of the net assets associated with the reporting unit exceeds the fair value of the reporting unit, goodwill is considered impaired and will be determined as the amount by which the reporting units carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. Determining the fair value of our reporting units is subjective in nature and involves the use of significant estimates and assumptions, including projected net cash flows, discount and long-term growth rates. We determine the fair value of our reporting units based on an income approach, whereby the fair value of the reporting unit is derived from the present value of estimated future cash flows. The assumptions about estimated cash flows include factors such as future revenue, gross profit, operating expenses, and industry trends. We consider historical rates and current market conditions when determining the discount and long-term growth rates to use in its analysis. We consider other valuation methods, such as the cost approach or market approach, if it is determined that these methods provide a more representative approximation of fair value.

We are required to test our IPRD assets for impairment annually using the guidance for indefinite-lived intangible assets. An IPRD asset is considered to be impaired when the asset's carrying amount is greater than its fair value. Our impairment evaluation consists of first assessing qualitative factors, and if deemed necessary, we calculate the fair value of the IPRD asset and record an impairment charge if the carrying amount exceeds fair value. We determine the fair value based on an income approach, which is calculated as the present value of the estimated future cash flows of the IPRD asset. The assumptions about estimated cash flows include factors such as future revenue, gross profit, operating expenses, and industry trends.

We evaluate the recoverability of the carrying amount of our property, plant and equipment and intangible assets (excluding IPRD), whenever events or changes in circumstances indicate that the carrying amount of an asset group may not be fully recoverable. Impairment is first assessed when the undiscounted expected cash flows derived for an asset group are less than its carrying amount. Impairment losses, if applicable, are measured as the amount by which the carrying value of an asset group exceeds its fair value and are recognized in operating results. We continually apply our best judgment when applying these impairment rules to determine the timing of the impairment test, the undiscounted cash flows used to assess impairments and the fair value of an impaired asset group. The dynamic economic environment in which we operate and the resulting assumptions used to estimate future cash flows impact the outcome of our impairment tests.

Contingencies. We are involved in a variety of legal matters that arise in the normal course of business. Based on the available information, we evaluate the relevant range and likelihood of potential outcomes and we record the appropriate liability when the amount is deemed probable and reasonably estimable.

For a further listing and discussion of our accounting policies, see Note 2: "Significant Accounting Policies" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K.

Recent Accounting Pronouncements

For a discussion of recent accounting pronouncements, see Note 4: "Recent Accounting Pronouncements" in the notes to our audited consolidated financial statements included elsewhere in this Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to financial market risks, including changes in interest rates and foreign currency exchange rates. To mitigate these risks, we utilize derivative financial instruments. We do not use derivative financial instruments for speculative or trading purposes.

As of December 31, 2019, our long-term debt (including current maturities) totaled \$3,749.2 million. We have no interest rate exposure to rate changes on our fixed rate debt, which totaled \$2,265.1 million. We do have interest rate exposure with respect to the \$1,484.1 million balance of our variable interest rate debt outstanding as of December 31, 2019. A 50 basis point increase in interest rates would impact our expected annual interest expense for the next 12 months by approximately \$7.4 million. However, some of this impact would be offset by additional interest earned on our cash and cash equivalents should rates on

deposits and investments also increase. We entered into interest rate swaps to hedge some of the risk of variability in cash flows resulting from future interest payments on our variable interest rate debt.

To ensure the adequacy and effectiveness of our foreign exchange hedge positions, we continually monitor our foreign exchange forward positions, both on a stand-alone basis and in conjunction with their underlying foreign currency exposures, from an accounting and economic perspective. However, given the inherent limitations of forecasting and the anticipatory nature of exposures intended to be hedged, we cannot provide any assurances that such programs will offset more than a portion of the adverse financial impact resulting from unfavorable movements in foreign exchange rates.

We are subject to risks associated with transactions that are denominated in currencies other than our functional currencies, as well as the effects of translating amounts denominated in a foreign currency to the U.S. Dollar as a normal part of the reporting process. Some of our Japanese operations utilize Japanese Yen as the functional currency, which results in a translation adjustment that is included as a component of accumulated other comprehensive income.

We enter into forward foreign currency contracts that economically hedge the gains and losses generated by the re-measurement of certain recorded assets and liabilities in a non-functional currency. Changes in the fair value of these undesignated hedges are recognized in other income and expense immediately as an offset to the changes in the fair value of the assets or liabilities being hedged. The notional amount of foreign exchange contracts at December 31, 2019 and 2018 was \$183.3 million and \$157.3 million, respectively. Our policies prohibit speculation on financial instruments, trading in currencies for which there are no underlying exposures, or entering into trades for any currency to intentionally increase the underlying exposure.

Substantially all of our revenue is transacted in U.S. Dollars. However, a significant amount of our operating expenditures and capital purchases are transacted in local currencies, including Japanese Yen, Euros, Korean Won, Malaysian Ringgit, Philippine Peso, Singapore Dollars, Swiss Francs, Chinese Renminbi, and Czech Koruna. Due to the materiality of our transactions in these local currencies, our results are impacted by changes in currency exchange rates measured against the U.S. Dollar. For example, we determined that based on a hypothetical weighted-average change of 10% in currency exchange rates, our results would have impacted our income before taxes by approximately \$105.7 million for the year ended December 31, 2019, assuming no offsetting hedge position or correlated activities.

See Note 15: "Financial Instruments" in the notes to the audited consolidated financial statements included elsewhere in this Form 10-K for further information with respect to our hedging activity.

Item 8. *Financial Statements and Supplementary Data*

Our consolidated Financial Statements listed in the index appearing under Part IV, Item 15(a)(1) of this Form 10-K and the Financial Statement Schedule listed in the index appearing under Part IV, Item 15(a)(2) of this Form 10-K are filed as part of this Form 10-K and are incorporated herein by reference in this Item 8.

Item 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure*

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures.

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act). Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered in this Form 10-K, our disclosure controls and procedures were effective to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the required time periods and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting.

We also carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of changes to our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that occurred during the fiscal quarter ended December 31, 2019.

There have been no changes to our internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) that occurred during the fiscal quarter ended December 31, 2019 which have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)). Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2019. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control—Integrated Framework 2013*. Based on this assessment, management has concluded that our internal control over financial reporting was effective as of December 31, 2019.

Management's assessment of the effectiveness of our internal control over financial reporting as of December 31, 2019 excluded Quantenna, which was acquired by the Company on June 19, 2019. Quantenna is a wholly-owned subsidiary of the Company that is excluded from management's assessment of internal control over financial reporting and represented approximately 1% and 2% of total assets and total revenue, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2019.

The effectiveness of our internal control over financial reporting as of December 31, 2019 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears in "Exhibits and Financial Statement Schedules" of this Form 10-K.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information under the heading "Executive Officers of the Registrant" in this Form 10-K is incorporated by reference into this section. Information concerning directors and persons nominated to become directors and executive officers is incorporated by reference from the text under the captions "Management Proposals—Proposal No. 1: Election of Directors," "The Board of Directors and Corporate Governance," "Section 16(a) Reporting Compliance" and "Miscellaneous Information—Stockholder Nominations and Proposals" in our Proxy Statement to be filed pursuant to Regulation 14A within 120 days after our fiscal year

ended December 31, 2019 in connection with our 2020 Annual Meeting of Stockholders ("Proxy Statement").

Code of Business Conduct

Information concerning our Code of Business Conduct is incorporated by reference from the text under the caption "The Board of Directors and Corporate Governance—Code of Business Conduct" in our Proxy Statement.

Item 11. Executive Compensation

Information concerning executive compensation is incorporated by reference from the text under the captions "The Board of Directors and Corporate Governance—2019 Compensation of Directors," "Compensation of Executive Officers," "Compensation Committee Report," "Compensation Discussion and Analysis," "ON Semiconductor 2019 Pay Ratio Disclosure" and "Compensation Committee Interlocks and Insider Participation" in our Proxy Statement.

The information incorporated by reference under the caption "Compensation Committee Report" in our Proxy Statement shall be deemed furnished, and not filed, in this Form 10-K and shall not be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act as a result of this furnishing, except to the extent that we specifically incorporate it by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information concerning security ownership of certain beneficial owners and management is incorporated by reference from the text under the captions "Principal Stockholders," "Share Ownership of Directors and Officers" and "Share-Based Compensation Plan Information" in our Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Information concerning certain relationships and related transactions involving us and certain others is incorporated by reference from the text under the captions "Management Proposals—Proposal No. 1: Election of Directors," "The Board of Directors and Corporate Governance," and "Relationships and Related Transactions" in our Proxy Statement.

Item 14. Principal Accountant Fees and Services

Information concerning principal accounting fees and services is incorporated by reference from the text under the caption "Audit and Related Fees" in our Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) The following documents are filed as part of this Annual Report on Form 10-K:

(1) Consolidated Financial Statements:

ON Semiconductor Corporation Consolidated Financial Statements:

[Report of Independent Registered Public Accounting Firm](#)

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[Consolidated Balance Sheets as of December 31, 2019 and December 31, 2018](#)

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[Consolidated Statements of Operations and Comprehensive Income for the years ended December 31, 2019, 2018 and 2017](#)

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[Consolidated Statements of Stockholders' Equity for the years ended December 31, 2019, 2018 and 2017](#)

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[Consolidated Statements of Cash Flows for the years ended December 31, 2019, 2018 and 2017](#)

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[Notes to Consolidated Financial Statements](#)

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(2) Consolidated Financial Statement Schedule:

All other schedules are omitted because they are not applicable or the required information is shown in the financial statements or related notes

(3) Exhibits:

EXHIBIT INDEX*

<u>Exhibit No.</u>	<u>Exhibit Description</u>
2.1	<u>Asset Purchase Agreement, dated as of March 11, 1997, between Fairchild Semiconductor Corporation and National Semiconductor Corporation (incorporated by reference to Exhibit 2.02 to Fairchild Semiconductor Corporation's Registration Statement filed with the Commission on May 12, 1997 (File No. 333-26897))†</u>
2.2	<u>Reorganization Agreement, dated as of May 11, 1999, among Motorola, Inc., SCG Holding Corporation and Semiconductor Components Industries, LLC (incorporated by reference to Exhibit 2.1 to the Company's Registration Statement filed with the Commission on November 5, 1999 (File No. 333-90359))†</u>
2.3(a)	<u>Agreement and Plan of Recapitalization and Merger, as amended, dated as of May 11, 1999, among SCG Holding Corporation, Semiconductor Components Industries, LLC, Motorola, Inc., TPG Semiconductor Holdings LLC, and TPG Semiconductor Acquisition Corp. (incorporated by reference to Exhibit 2.2 to the Company's Registration Statement filed with the Commission on November 5, 1999 (File No. 333-90359))†</u>
2.3(b)	<u>Amendment No. 1 to Agreement and Plan of Recapitalization and Merger, dated as of July 28, 1999, among SCG Holding Corporation, Semiconductor Components Industries, LLC, Motorola, Inc., TPG Semiconductor Holdings LLC, and TPG Semiconductor Acquisition Corp. (incorporated by reference to Exhibit 2.3 to the Company's Registration Statement filed with the Commission on November 5, 1999 (File No. 333-90359))†</u>
2.4(a)	<u>Purchase Agreement by and among ON Semiconductor Corporation, Semiconductor Components Industries, LLC and SANYO Electric Co., Ltd. dated July 15, 2010 (incorporated by reference to Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on November 4, 2010))†</u>
2.4(b)	<u>Amendment No. 1 to Purchase Agreement by and among ON Semiconductor Corporation, Semiconductor Components Industries, LLC and SANYO Electric Co., Ltd. dated November 30, 2010 (incorporated by reference to Exhibit 2.2 to the Company's Current Report on Form 8-K filed with the Commission on January 6, 2011))†</u>
2.5	<u>Agreement and Plan of Merger by and among ON Semiconductor Benelux B.V., Alpine Acquisition Sub, Aptina, Inc. and Fortis Advisors LLC, as Equityholder Representative, dated as of June 9, 2014 (incorporated by reference to Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 1, 2014))†</u>
2.6	<u>Agreement and Plan of Merger, dated November 18, 2015, by and among Fairchild Semiconductor International, Inc., ON Semiconductor Corporation and Falcon Operations Sub, Inc. (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Commission on November 18, 2015))†</u>
2.7	<u>Agreement and Plan of Merger, dated March 27, 2019, by and among Quantenna Communications, Inc., ON Semiconductor Corporation and Raptor Operations Sub, Inc. (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Commission on March 27, 2019))†</u>
3.1(a)	<u>Certificate of Incorporation of ON Semiconductor Corporation, as further amended through March 26, 2008 (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on May 7, 2008)</u>
3.1(b)	<u>Certificate of Amendment to the Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Commission on June 3, 2014)</u>
3.1(c)	<u>Certificate of Amendment to the Amended and Restated Certificate of Incorporation, dated May 17, 2017 (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 7, 2017)</u>
3.2	<u>By-Laws of ON Semiconductor Corporation as Amended and Restated on November 21, 2013 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Commission on November 25, 2013)</u>
4.1	<u>Specimen of share certificate of Common Stock, par value \$0.01, ON Semiconductor Corporation (incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K filed with the Commission on March 10, 2004)</u>

- 4.2(a) [Indenture regarding the 1.00% Convertible Senior Notes due 2020, dated June 8, 2015, among ON Semiconductor Corporation, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Commission on June 8, 2015\)](#)
- 4.2(b) [Form of Global 1.00% Convertible Senior Note due 2020 \(included in Exhibit 4.2\(a\)\)](#)
- 4.2(c) [Supplemental Indenture to the Indenture regarding the 1.00% Convertible Senior Notes due 2020, dated March 11, 2016, among ON Semiconductor Corporation, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Commission on March 17, 2016\)](#)
- 4.2(d) [Second Supplemental Indenture to the Indenture regarding the 1.00% Convertible Senior Notes 2020, dated April 14, 2016, among ON Semiconductor Corporation, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Commission on April 15, 2016\)](#)
- 4.2(e) [Third Supplemental Indenture to the Indenture regarding the 1.00% Convertible Senior Notes due 2020, dated November 21, 2016, among ON Semiconductor Corporation, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Commission on November 21, 2016\)](#)
- 4.2(f) [Fourth Supplemental Indenture to the Indenture regarding the 1.00% Convertible Senior Notes due 2020, dated January 7, 2020, among ON Semiconductor Corporation, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee\(1\)](#)
- 4.3(a) [Indenture regarding the 1.625% Convertible Senior Notes due 2023, dated as of March 31, 2017 among ON Semiconductor Corporation, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Commission on April 3, 2017\)](#)
- 4.3(b) [Form of Global 1.625% Convertible Senior Note due 2023 \(included in Exhibit 4.3\(a\)\)](#)
- 4.3(c) [First Supplemental Indenture to the Indenture regarding the 1.625% Convertible Senior Notes due 2023, dated as of January 7, 2020 among ON Semiconductor Corporation, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee\(1\)](#)
- 4.4 [Description of the Registrant's Securities Registered under Section 12 of the Securities Exchange Act of 1934, as amended\(1\)](#)
- 10.1 [Amended and Restated Intellectual Property Agreement, dated August 4, 1999, among Semiconductor Components Industries, LLC and Motorola, Inc. \(incorporated by reference to Exhibit 10.5 to Amendment No. 1 to the Company's Registration Statement filed with the Commission on January 11, 2000 \(File No. 333-90359\)\)](#)
- 10.2 [Lease for 52nd Street property, dated July 31, 1999, among Semiconductor Components Industries, LLC as Lessor, and Motorola, Inc. as Lessee \(incorporated by reference to Exhibit 10.16 to the Company's Registration Statement filed with the Commission on November 5, 1999 \(File No. 333-90359\)\)](#)
- 10.3 [Declaration of Covenants, Easement of Restrictions and Options to Purchase and Lease, dated July 31, 1999, among Semiconductor Components Industries, LLC and Motorola, Inc. \(incorporated by reference to Exhibit 10.17 to the Company's Registration Statement filed with the Commission on November 5, 1999 \(File No. 333-90359\)\)](#)
- 10.4(a) [Joint Venture Contract for Leshan-Phoenix Semiconductor Company Limited, amended and restated on April 20, 2006 between SCG \(China\) Holding Corporation \(a subsidiary of ON Semiconductor Corporation\) and Leshan Radio Company Ltd. \(incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed with the Commission on July 28, 2006\)](#)
- 10.4(b) [Amendment Agreement, dated September 29, 2014, to Joint Venture Contract for Leshan-Phoenix Semiconductor Company Limited between ON Semiconductor \(China\) Holding, LLC \(a subsidiary of ON Semiconductor Corporation\) and Leshan Radio Company Ltd. \(incorporated by reference to Exhibit 10.5\(b\) to the Company's Annual Report on Form 10-K filed with the Commission on February 27, 2015\)](#)

- 10.5(a) [Credit Agreement, dated April 15, 2016, among ON Semiconductor Corporation, as borrower, the several lenders party thereto, Deutsche Bank AG New York Branch, as administrative agent and collateral agent, Deutsche Bank Securities Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, BMO Capital Markets Corp., HSBC Securities \(USA\) Inc. and Sumitomo Mitsui Banking Corporation, as joint lead arrangers and joint bookrunners, Barclays Bank PLC, Compass Bank, The Bank of Tokyo-Mitsubishi UFJ, Ltd., Morgan Stanley Senior Funding, Inc., BOKF, NA and KBC Bank N.V., as co-managers, and HSBC Bank USA, N.A. and Sumitomo Mitsui Banking Corporation, as co-documentation agents \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on April 15, 2016\)](#)
- 10.5(b) [Guarantee and Collateral Agreement, dated April 15, 2016, made by ON Semiconductor Corporation and the other signatories thereto in favor of Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Commission on April 15, 2016\)](#)
- 10.5(c) [Escrow Agreement, dated April 15, 2016, among ON Semiconductor Corporation, MUFG Union Bank, N.A., as escrow agent, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the Commission on April 15, 2016\)](#)
- 10.5(d) [Joinder to Amended and Restated Guaranty, dated March 15, 2016, among the guarantors party thereto \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on March 17, 2016\)](#)
- 10.5(e) [Joinder to Amended and Restated Guaranty, dated April 14, 2016, among the guarantors party thereto \(incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed with the Commission on April 15, 2016\)](#)
- 10.5(f) [Assumption Agreement, dated September 19, 2016, by and between ON Semiconductor \(China\) Holdings, LLC and Deutsche Bank AG New York Branch \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on September 23, 2016\)](#)
- 10.5(g) [Pledge Supplement, dated September 19, 2016, by ON Semiconductor \(China\) Holdings, LLC \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Commission on September 23, 2016\)](#)
- 10.5(h) [Assumption Agreement, dated September 19, 2016, by and among Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, Fairchild Semiconductor Corporation of California, Giant Holdings, Inc., Fairchild Semiconductor West Corporation, Kota Microcircuits, Inc., Silicon Patent Holdings, Giant Semiconductor Corporation, Micro-Ohm Corporation, Fairchild Energy, LLC and Deutsche Bank AG New York Branch \(incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the Commission on September 23, 2016\)](#)
- 10.5(i) [Pledge Supplement, dated September 19, 2016, by Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, Fairchild Semiconductor Corporation of California, Giant Holdings, Inc., Fairchild Semiconductor West Corporation, Kota Microcircuits, Inc., Silicon Patent Holdings, Giant Semiconductor Corporation, Micro-Ohm Corporation and Fairchild Energy, LLC \(incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed with the Commission on September 23, 2016\)](#)
- 10.5(j) [First Amendment to Credit Agreement, dated September 30, 2016, among ON Semiconductor Corporation, as borrower, certain subsidiaries thereof, as guarantors, the several lenders party thereto, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on September 30, 2016\)](#)
- 10.5(k) [Second Amendment to Credit Agreement, dated March 31, 2017, among ON Semiconductor Corporation, as borrower, certain subsidiaries thereof, as guarantors, the several lenders party thereto, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on April 3, 2017\)](#)
- 10.5(l) [Third Amendment to Credit Agreement, dated November 30, 2017, among ON Semiconductor Corporation, as borrower, certain subsidiaries thereof, as guarantors, the several lenders party thereto, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on December 4, 2017\)](#)

- 10.5(m) [Fourth Amendment to Credit Agreement, dated May 31, 2018, among ON Semiconductor Corporation, as borrower, certain subsidiaries thereof, as guarantors, the several lenders party thereto, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on July 30, 2018\)](#)
- 10.5(n) [Fifth Amendment to Credit Agreement, dated June 12, 2019, among ON Semiconductor Corporation, as borrower, certain subsidiaries thereof, as guarantors, the several lenders party thereto, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on June 17, 2019\)](#)
- 10.5(o) [Sixth Amendment to Credit Agreement, dated August 15, 2019, among ON Semiconductor Corporation, as borrower, certain subsidiaries thereof, as guarantors, the several lenders party thereto, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on October 28, 2019\)](#)
- 10.5(p) [Seventh Amendment to Credit Agreement, dated September 19, 2019, among ON Semiconductor Corporation, as borrower, certain subsidiaries thereof, as guarantors, the several lenders party thereto, and Deutsche Bank AG New York Branch, as administrative agent and collateral agent \(incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Commission on September 20, 2019\)](#)
- 10.6(a) [Form of Convertible Note Hedge and Warrant Transactions \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on June 8, 2015\)](#)
- 10.6(b) [Form of Warrant Confirmation \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Commission on June 8, 2015\)](#)
- 10.7(a) [ON Semiconductor Corporation 2000 Stock Incentive Plan, as amended and restated May 19, 2004 \(incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 6, 2004\)\(2\)](#)
- 10.7(b) [Amendment to the ON Semiconductor Corporation 2000 Stock Incentive Plan, dated May 16, 2007 \(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 1, 2007\)\(2\)](#)
- 10.7(c) [Non-qualified Stock Option Agreement for the ON Semiconductor Corporation 2000 Stock Incentive Plan \(incorporated by reference to Exhibit 10.35\(d\) to Amendment No. 1 to the Company's Registration Statement filed with the Commission on March 24, 2000 \(File No. 333-30670\)\)\(2\)](#)
- 10.7(d) [ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(incorporated by reference to Exhibit 4.1 to the Company's Registration Statement filed with the Commission on May 19, 2010 \(File No. 333-166958\)\)\(2\)](#)
- 10.7(e) [First Amendment to the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 3, 2012\)\(2\)](#)
- 10.7(f) [Second Amendment to the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan, effective May 20, 2015 \(incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 3, 2015\)\(2\)](#)
- 10.7(g) [Third Amendment to the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan, effective May 17, 2017 \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 7, 2017\)\(2\)](#)
- 10.7(h) [Non-qualified Stock Option Agreement for Senior Vice Presidents and Above for the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(form of standard agreement\) \(incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 5, 2010\)\(2\)](#)
- 10.7(i) [Restricted Stock Units Award Agreement for Senior Vice Presidents and Above for the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(form of standard agreement\) \(incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 5, 2010\)\(2\)](#)

- 10.7(j) [Stock Grant Award Agreement for Directors under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(form of standard Stock Grant Award for Non-employee Directors\) \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on May 6, 2011\)\(2\)](#)
- 10.7(k) [Performance-Based Restricted Stock Units Award Agreement under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(2016 form of Performance-Based Award for Senior Vice Presidents and Above\) \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 8, 2016\)\(2\)](#)
- 10.7(l) [Performance-Based Restricted Stock Units Award Agreement under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(2017 form of Performance-Based Award for Senior Vice Presidents and Above\) \(incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 7, 2017\)\(2\)](#)
- 10.7(m) [Performance-Based Restricted Stock Units Award Agreement under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(2018 form of Performance-Based Award for Senior Vice Presidents and Above\) \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on April 30, 2018\)\(2\)](#)
- 10.7(n) [Restricted Stock Units Award Agreement under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(2018 form agreement for Senior Vice Presidents and Above\) \(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the Commission on April 30, 2018\)\(2\)](#)
- 10.7(o) [Restricted Stock Units Award Agreement under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(2019 form agreement for Section 16 Officers\) \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on February 19, 2019\)\(2\)](#)
- 10.7(p) [Performance-Based Restricted Stock Units Award Agreement under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(2019 form agreement for Senior Vice Presidents and Above\) \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Commission on February 19, 2019\)\(2\)](#)
- 10.7(q) [Performance-Based Restricted Stock Units Upside Award Agreement under the ON Semiconductor Corporation Amended and Restated Stock Incentive Plan \(2019 form agreement for Senior Vice Presidents and Above\) \(incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the Commission on February 19, 2019\)\(2\)](#)
- 10.8(a) [ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended and restated as of May 20, 2009 \(incorporated by reference to Exhibit 4.1 to the Registration Statement on Form S-8 No. 333-159381 filed with the Commission on May 21, 2009\)\(2\)](#)
- 10.8(b) [Amendment to the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended as of May 15, 2013 \(incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q filed with the Commission on August 2, 2013\)\(2\)](#)
- 10.8(c) [Amendment to the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended as of May 20, 2015 \(incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 3, 2015\)\(2\)](#)
- 10.8(d) [Amendment to the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended as of May 17, 2017 \(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 7, 2017\)\(2\)](#)
- 10.9 [Amended and Restated Employment Agreement, effective June 1, 2017, by and between Semiconductor Components Industries, LLC and Keith Jackson \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on June 2, 2017\)\(2\)](#)
- 10.10 [Amended and Restated Employment Agreement, effective June 1, 2017, by and between Semiconductor Components Industries, LLC and George H. Cave \(incorporated by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K filed with the Commission on February 21, 2018\)\(2\)](#)
- 10.11(a) [Employment Agreement by and between Semiconductor Components Industries, LLC and Bernard Gutmann, dated as of September 26, 2012 \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on September 27, 2012\)\(2\)](#)

- 10.11(b) [Amendment No. 1 to Employment Agreement by and between Semiconductor Components Industries, LLC and Bernard Gutmann, dated as of June 1, 2017 \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Commission on June 2, 2017\)\(2\)](#)
- 10.12(a) [Employment Agreement between Semiconductor Components Industries, LLC and William Schromm dated as of August 25, 2014 \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on August 25, 2014\)\(2\)](#)
- 10.12(b) [Amendment No. 1 to Employment Agreement by and between Semiconductor Components Industries, LLC and William Schromm, dated as of June 1, 2017 \(incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed with the Commission on June 2, 2017\)\(2\)](#)
- 10.13(a) [Employment Agreement between Semiconductor Components Industries, LLC and Paul Rolls dated as of July 14, 2013 \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on May 4, 2015\)\(2\)](#)
- 10.13(b) [Amendment No. 1 to Employment Agreement by and between Semiconductor Components Industries, LLC and Paul Rolls, effective June 1, 2017 \(incorporated by reference to Exhibit 10.21\(b\) to the Company's Annual Report on Form 10-K filed with the Commission on February 21, 2018\)\(2\)](#)
- 10.14 [Key Officer Severance and Change of Control Agreement by and between Semiconductor Components Industries, LLC and Taner Ozcelik, dated as of June 1, 2017 \(incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K filed with the Commission on February 21, 2018\)\(2\)](#)
- 10.15 [Employment Agreement by and between Semiconductor Components Industries, LLC and Vince Hopkin, dated as of May 11, 2018 \(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the Commission on July 30, 2018\)\(2\)](#)
- 10.16 [Employment Agreement by and between Semiconductor Components Industries, LLC and Simon Keeton, dated January 1, 2019 \(incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K filed with the Commission on February 20, 2019\)\(2\)](#)
- 10.17 [Form of Indemnification Agreement with Directors and Officers \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on February 25, 2016\)\(2\)](#)
- 10.18(a) [Environmental Side Letter, dated March 11, 1997, between National Semiconductor Corporation and Fairchild Semiconductor Corporation \(incorporated by reference to Exhibit 10.19 to Fairchild Semiconductor Corporation's Registration Statement filed with the Commission on May 12, 1997 \(File No. 333-26897\)\)](#)
- 10.18(b) [Intellectual Property License Agreement, dated April 13, 1999, between Samsung Electronics Co., Ltd. and Fairchild Korea Semiconductor, Ltd. \(incorporated by reference to Exhibit 10.41 to Fairchild Semiconductor International, Inc.'s Registration Statement filed with the Commission on June 30, 1999 \(File No. 333-78557\)\)](#)
- 10.18(c) [Fairchild Benefit Restoration Plan \(incorporated by reference to Exhibit 10.23 to Fairchild Semiconductor Corporation's Registration Statement filed with the Commission on May 12, 1997 \(File No. 333-26897\)\)\(2\)](#)
- 10.18(d) [Technology Licensing and Transfer Agreement, dated March 11, 1997, between National Semiconductor Corporation and Fairchild Semiconductor Corporation \(incorporated by reference to Amendment No. 3 to Fairchild Semiconductor Corporation's Registration Statement on Form S-4, filed July 9, 1997 \(File No. 333-28697\)\)](#)
- 10.18(e) [Intellectual Property Assignment and License Agreement, dated December 29, 1997, between Raytheon Semiconductor, Inc. and Raytheon Company \(incorporated by reference to Fairchild Semiconductor International, Inc.'s Current Report on Form 8-K, dated December 31, 1997, filed January 13, 1998. \(File No. 333-26897\)\)](#)
- 10.19 [Asset Purchase Agreement, dated as of April 22, 2019, between GLOBALFOUNDRIES U.S. Inc. and Semiconductor Components Industries, LLC \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 5, 2019\)†](#)
- 10.20 [Settlement Agreement, dated October 19, 2019, by and between ON Semiconductor Corporation and Power Integrations, Inc.\(1\)](#)

14.1	ON Semiconductor Corporation Code of Business Conduct effective as of August 16, 2016 (incorporated by reference to Exhibit 14.1 to the Company's Current Report on Form 8-K filed with the Commission on August 24, 2016)
21.1	List of Significant Subsidiaries(1)
23.1	Consent of Independent Registered Public Accounting Firm-PricewaterhouseCoopers LLP(1)
24.1	Powers of Attorney(1)
31.1	Certification by CEO pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002(1)
31.2	Certification by CFO pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002(1)
32	Certification by CEO and CFO pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002(3)
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File - the cover page XBRL tags are embedded within the Inline XBRL document.

* Reports filed under the Securities Exchange Act (Form 10-K, Form 10-Q and Form 8-K) are filed under File No. 000-30419.

(1) Filed herewith.

(2) Management contract or compensatory plan, contract or arrangement.

(3) Furnished herewith.

† Schedules or other attachments to these exhibits not filed herewith shall be furnished to the Commission upon request.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

February 19, 2020

ON Semiconductor Corporation

By: /s/ KEITH D. JACKSON

Name: Keith D. Jackson

Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Titles</u>	<u>Date</u>
<u>/s/ KEITH D. JACKSON</u> Keith D. Jackson	President, Chief Executive Officer and Director (Principal Executive Officer)	February 19, 2020
<u>/s/ BERNARD GUTMANN</u> Bernard Gutmann	Executive Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)	February 19, 2020
* — Alan Campbell	Chair of the Board of Directors	February 19, 2020
* — Atsushi Abe	Director	February 19, 2020
* — Curtis J. Crawford	Director	February 19, 2020
* — Gilles Delfassy	Director	February 19, 2020
* Emmanuel T. Hernandez	Director	February 19, 2020
* — Paul A. Mascarenas	Director	February 19, 2020
* — Daryl A. Ostrander	Director	February 19, 2020
* — Teresa M. Ressel	Director	February 19, 2020
* — Christine Y. Yan	Director	February 19, 2020
*By: <u>/s/ BERNARD GUTMANN</u> Bernard Gutmann	Attorney in Fact	February 19, 2020

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of ON Semiconductor Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of ON Semiconductor Corporation and its subsidiaries (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of operations and comprehensive income, of stockholders’ equity and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes and financial statement schedule listed in the index appearing under Item 15(a) (2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 4 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As described in Management’s Report on Internal Control Over Financial Reporting, management has excluded Quantenna from its assessment of internal control over financial reporting as of December 31, 2019 because it was acquired by the Company in a purchase business combination during 2019. We have also excluded Quantenna from our audit of internal control over financial reporting. Quantenna is a wholly-owned subsidiary whose total assets and total revenues excluded from management’s assessment and our audit of internal control over financial reporting represent approximately 1% and 2%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2019.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Ship and Credit Reserves

As described in Notes 2 and 8 to the consolidated financial statements, the Company's ship and credit reserves are \$178.7 million as of December 31, 2019. Sales returns and allowances, which include ship and credit reserves for distributors, are estimated by management based on historical claims data and expected future claims. Provisions for ship and credit claims are provided for in the same period the related revenue is recognized, and are netted against revenue.

The principal considerations for our determination that performing procedures relating to ship and credit reserves is a critical audit matter are there was significant judgment by management to estimate the reserves, which in turn led to significant auditor judgment, subjectivity and effort in performing procedures to evaluate management's expected future claims assumptions.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the ship and credit reserves. These procedures also included, among others, testing management's process for determining the estimate, evaluating the appropriateness of the approach used by management in developing the estimate and the reasonableness of the expected future claims assumptions, and testing the completeness and accuracy of historical claims data. Evaluating the assumptions related to the expected future claims involved evaluating whether the assumptions used were reasonable considering the past claim activity.

Valuation of Inventories

As described in Notes 2 and 8 to the consolidated financial statements, the Company's inventory balance of \$1,232.4 million as of December 31, 2019, is stated at the lower of standard cost (which approximates actual cost on a first-in, first-out basis) or net realizable value. Management writes down excess and obsolete inventories based upon a regular analysis of inventory on hand compared to historical and projected end-user demand.

The principal considerations for our determination that performing procedures relating to the valuation of inventories is a critical audit matter are there was significant judgment by management in developing the write down for excess and obsolete inventories. This in turn led to significant auditor judgment, subjectivity and effort in performing procedures to evaluate the reasonableness of management's analysis, including the inputs utilized and the significant assumptions related to projected end-user demand employed within the analysis.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall

opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the valuation of inventories. These procedures also included, among others, testing management's process for developing the write down for excess and obsolete inventories, evaluating the appropriateness of the analysis and the reasonableness of the significant assumptions used by management in developing the write down for excess and obsolete inventories, including projected end-user demand. Evaluating the reasonableness of the assumptions related to projected end-user demand involved considering the performance of product sales and whether they were consistent with evidence obtained in other areas of the audit.

Acquisition of Quantenna – Valuation of Developed Technology

As described in Notes 2 and 5 to the consolidated financial statements, the Company acquired 100% of the outstanding shares of Quantenna for \$1,039.3 million on June 19, 2019, which resulted in \$58.3 million of developed technology intangible assets being recorded. Management determined the value assigned to developed technology using the income approach, which is predicated upon the value of the future cash flows that an asset is expected to generate over its economic life. Determining the fair value is judgmental in nature and requires the use of significant estimates and assumptions, including the discount rate, revenue growth rates, projected gross margins, and estimated research and development expenses.

The principal considerations for our determination that performing procedures relating to the valuation of developed technology in connection with the acquisition of Quantenna is a critical audit matter are there was significant judgment by management when developing the fair value measurement of the developed technology acquired. This in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence related to management's cash flow projections and significant assumptions, including the discount rate, revenue growth rates, projected gross margins, and estimated research and development expenses. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained from these procedures.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the acquisition accounting, including controls over management's valuation of the acquired developed technology, as well as controls over the development of the significant assumptions, including the discount rate, revenue growth rates, projected gross margins, and estimated research and development expenses. These procedures also included, among others, reading the purchase agreement and testing management's process for estimating the fair value of acquired developed technology. Testing management's process included evaluating the appropriateness of the income approach; testing the completeness and accuracy of the underlying data used in the income approach; and evaluating the reasonableness of significant assumptions used by management, including the discount rate, revenue growth rates, projected gross margins, and estimated research and development expenses. Evaluating the reasonableness of management's significant assumptions related to the discount rate, revenue growth rates, projected gross margins, and estimated research and development expenses involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the acquired business, (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's income approach and certain significant assumptions, including the discount rate.

/s/ PricewaterhouseCoopers LLP
Phoenix, Arizona
February 19, 2020

We have served as the Company's auditor since 1999.

ON SEMICONDUCTOR CORPORATION
CONSOLIDATED BALANCE SHEETS
(in millions, except share and per share data)

	December 31, 2019	December 31, 2018
Assets		
Cash and cash equivalents	\$ 894.2	\$ 1,069.6
Receivables, net	705.0	686.0
Inventories	1,232.4	1,225.2
Other current assets	188.4	187.0
Total current assets	3,020.0	3,167.8
Property, plant and equipment, net	2,591.6	2,549.6
Goodwill	1,659.2	932.5
Intangible assets, net	590.5	566.4
Deferred tax assets	307.8	266.2
Other assets	256.4	105.1
Total assets	\$ 8,425.5	\$ 7,587.6
Liabilities, Non-Controlling Interest and Stockholders' Equity		
Accounts payable	\$ 543.6	\$ 671.7
Accrued expenses and other current liabilities	538.8	659.1
Current portion of long-term debt	736.0	138.5
Total current liabilities	1,818.4	1,469.3
Long-term debt	2,876.5	2,627.6
Deferred tax liabilities	60.2	54.8
Other long-term liabilities	346.3	241.8
Total liabilities	5,101.4	4,393.5
Commitments and contingencies (Note 13)		
ON Semiconductor Corporation stockholders' equity:		
Common stock (\$0.01 par value, 1,250,000,000 shares authorized, 565,562,607 and 558,701,620 shares issued, 411,312,664 and 413,834,227 shares outstanding, respectively)	5.7	5.6
Additional paid-in capital	3,809.5	3,702.3
Accumulated other comprehensive loss	(54.3)	(37.9)
Accumulated earnings	1,191.3	979.6
Less: Treasury stock, at cost; 154,249,943 and 144,867,393 shares, respectively	(1,650.5)	(1,478.0)
Total ON Semiconductor Corporation stockholders' equity	3,301.7	3,171.6
Non-controlling interest	22.4	22.5
Total stockholders' equity	3,324.1	3,194.1
Total liabilities and stockholders' equity	\$ 8,425.5	\$ 7,587.6

See accompanying notes to consolidated financial statements

ON SEMICONDUCTOR CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME
(in millions, except per share data)

	Year ended December 31,		
	2019	2018	2017
Revenue	\$ 5,517.9	\$ 5,878.3	\$ 5,543.1
Cost of revenue (exclusive of amortization shown below)	3,544.3	3,639.6	3,507.5
Gross profit	1,973.6	2,238.7	2,035.6
Operating expenses:			
Research and development	640.9	650.7	594.7
Selling and marketing	301.0	324.7	316.6
General and administrative	284.0	293.3	285.0
Litigation settlement (Note 13)	169.5	—	—
Amortization of acquisition-related intangible assets	115.2	111.7	123.8
Restructuring, asset impairments and other charges, net	28.7	4.3	20.8
Goodwill and intangible asset impairment	1.6	6.8	13.1
Total operating expenses	1,540.9	1,391.5	1,354.0
Operating income	432.7	847.2	681.6
Other income (expense), net:			
Interest expense	(148.3)	(128.2)	(141.2)
Interest income	10.2	6.1	3.0
Loss on debt refinancing and prepayment	(6.2)	(4.6)	(47.2)
Gain on divestiture of business	—	5.0	12.5
Licensing income	—	36.6	47.6
Other expense	(11.8)	(7.1)	(8.8)
Other income (expense), net	(156.1)	(92.2)	(134.1)
Income before income taxes	276.6	755.0	547.5
Income tax (provision) benefit	(62.7)	(125.1)	265.5
Net income	213.9	629.9	813.0
Less: Net income attributable to non-controlling interest	(2.2)	(2.5)	(2.3)
Net income attributable to ON Semiconductor Corporation	\$ 211.7	\$ 627.4	\$ 810.7
Comprehensive income (loss), net of tax:			
Net income	\$ 213.9	\$ 629.9	\$ 813.0
Foreign currency translation adjustments	0.1	0.7	7.0
Effects of cash flow hedges	(16.5)	2.0	2.6
Other comprehensive income (loss), net of tax	(16.4)	2.7	9.6
Comprehensive income	197.5	632.6	822.6
Comprehensive income attributable to non-controlling interest	(2.2)	(2.5)	(2.3)
Comprehensive income attributable to ON Semiconductor Corporation	\$ 195.3	\$ 630.1	\$ 820.3
Net income per common share attributable to ON Semiconductor Corporation:			
Basic	\$ 0.52	\$ 1.48	\$ 1.92
Diluted	\$ 0.51	\$ 1.44	\$ 1.89
Weighted-average common shares outstanding:			
Basic	410.9	423.8	421.9
Diluted	416.0	435.9	428.3

See accompanying notes to consolidated financial statements

ON SEMICONDUCTOR CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions, except share data)

	Common Stock					Treasury Stock			Non-Controlling Interest in Consolidated Subsidiary	Total Equity
	Number of shares	At Par Value	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated (Deficit) Earnings	Number of shares	At Cost			
Balance at December 31, 2016	542,317,788	\$ 5.4	\$ 3,473.3	\$ (50.2)	\$ (527.3)	(123,376,075)	\$ (1,078.0)	\$ 21.8	\$ 1,845.0	
Impact of the adoption of ASU 2016-09	—	—	—	—	68.1	—	—	—	68.1	
Stock option exercises	2,213,859	—	18.0	—	—	—	—	—	18.0	
Shares issued pursuant to the ESPP	1,913,528	—	23.6	—	—	—	—	—	23.6	
RSUs and stock grant awards issued	5,427,940	0.1	(0.1)	—	—	—	—	—	—	
Shares withheld for employee taxes on RSUs	—	—	—	—	—	(1,750,182)	(28.1)	—	(28.1)	
Share-based compensation expense	—	—	69.8	—	—	—	—	—	69.8	
Repurchase of common stock	—	—	—	—	—	(1,628,664)	(25.0)	—	(25.0)	
Repayment of 2.625% Notes, Series B - Equity Portion	—	—	(55.7)	—	—	—	—	—	(55.7)	
Dividend to non-controlling shareholder	—	—	—	—	—	—	—	(1.9)	(1.9)	
Warrants and bond hedge, net	—	—	(59.5)	—	—	—	—	—	(59.5)	
Issuance of 2023 convertible notes	—	—	113.1	—	—	—	—	—	113.1	
Tax impact of 2023 convertible notes, warrants and bond hedge	—	—	11.0	—	—	—	—	—	11.0	
Comprehensive income	—	—	—	9.6	810.7	—	—	2.3	822.6	
Balance at December 31, 2017	551,873,115	5.5	3,593.5	(40.6)	351.5	(126,754,921)	(1,131.1)	22.2	2,801.0	
Impact of the adoption of ASU 2016-16	—	—	—	—	(1.4)	—	—	—	(1.4)	
Impact of the adoption of ASC 606	—	—	—	—	2.1	—	—	—	2.1	
Stock option exercises	794,165	—	5.7	—	—	—	—	—	5.7	
Shares issued pursuant to the ESPP	1,516,012	—	24.9	—	—	—	—	—	24.9	
RSUs and stock grant awards issued	4,518,328	0.1	(0.1)	—	—	—	—	—	—	
Shares withheld for employee taxes on RSUs	—	—	—	—	—	(1,343,961)	(31.6)	—	(31.6)	
Share-based compensation expense	—	—	78.3	—	—	—	—	—	78.3	
Repurchase of common stock	—	—	—	—	—	(16,768,511)	(315.3)	—	(315.3)	
Dividend to non-controlling shareholder	—	—	—	—	—	—	—	(2.2)	(2.2)	
Comprehensive income	—	—	—	2.7	627.4	—	—	2.5	632.6	
Balance at December 31, 2018	558,701,620	5.6	3,702.3	(37.9)	979.6	(144,867,393)	(1,478.0)	22.5	3,194.1	
Stock option exercises	266,363	—	1.7	—	—	—	—	—	1.7	
Shares issued pursuant to the ESPP	1,666,559	—	26.2	—	—	—	—	—	26.2	
RSUs and stock grant awards issued	4,928,065	0.1	(0.1)	—	—	—	—	—	—	
Shares withheld for employee taxes on RSUs	—	—	—	—	—	(1,620,543)	(33.5)	—	(33.5)	
Share-based compensation expense	—	—	79.4	—	—	—	—	—	79.4	
Repurchase of common stock	—	—	—	—	—	(7,762,007)	(139.0)	—	(139.0)	
Dividend to non-controlling shareholder	—	—	—	—	—	—	—	(2.3)	(2.3)	
Comprehensive income (loss)	—	—	—	(16.4)	211.7	—	—	2.2	197.5	
Balance at December 31, 2019	565,562,607	\$ 5.7	\$ 3,809.5	\$ (54.3)	\$ 1,191.3	(154,249,943)	\$ (1,650.5)	\$ 22.4	\$ 3,324.1	

See accompanying notes to consolidated financial statements.

ON SEMICONDUCTOR CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Year ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	\$ 213.9	\$ 629.9	\$ 813.0
Adjustments to reconcile net income to net cash provided by operating activities and other adjustments:			
Depreciation and amortization	593.1	508.7	481.9
Loss on sale or disposal of fixed assets	1.9	2.4	3.9
Gain on divestiture of business	—	(5.0)	(12.5)
Loss on debt refinancing and prepayment	6.2	4.6	47.2
Amortization of debt discount and issuance costs	13.0	13.2	16.0
Payments for term debt modification	—	(1.1)	(3.8)
Share-based compensation expense	79.4	78.3	69.8
Non-cash interest on convertible notes	37.8	36.1	30.8
Non-cash asset impairment charges	3.4	2.4	7.9
Goodwill and intangible asset impairment charges	1.6	6.8	13.1
Change in deferred taxes	11.2	69.2	(348.3)
Other	(0.1)	(1.6)	2.2
Changes in assets and liabilities (exclusive of the impact of acquisitions and divestitures):			
Receivables	4.7	(2.7)	(57.9)
Inventories	34.6	(129.5)	(59.9)
Other assets	(34.6)	(37.4)	(86.0)
Accounts payable	(79.9)	44.8	51.8
Accrued expenses and other current liabilities	(201.7)	56.5	211.1
Deferred income on sales to distributors	—	—	(109.8)
Other long-term liabilities	10.2	(1.4)	23.7
Net cash provided by operating activities	694.7	1,274.2	1,094.2
Cash flows from investing activities:			
Purchase of property, plant and equipment	(534.6)	(514.8)	(387.5)
Proceeds from sales of property, plant and equipment	1.9	36.5	14.3
Deposits utilized (made) for purchases of property, plant and equipment	4.6	4.1	(8.2)
Purchase of business, net of cash acquired	(888.0)	(70.9)	(0.8)
Purchase of equity interest and assets, net of cash acquired	—	(24.6)	—
Purchase of license and deposit made for manufacturing facility	(100.0)	—	—
Proceeds from divestiture of business and release of escrow	5.2	8.4	20.0
Proceeds from repayment of note receivable	—	10.2	—
Other	—	2.2	(2.6)
Net cash used in investing activities	(1,510.9)	(548.9)	(364.8)
Cash flows from financing activities:			
Proceeds for the issuance of common stock under the ESPP	26.2	25.0	23.6
Proceeds from exercise of stock options	1.7	5.7	18.0
Payments of tax withholding for restricted shares	(33.5)	(31.6)	(28.1)
Repurchase of common stock	(139.0)	(315.3)	(25.0)
Borrowings under debt agreements	1,404.8	15.3	1,106.2
Payment of debt issuance and other financing costs	(24.0)	—	—
Repayment of long-term debt	(594.4)	(298.4)	(1,831.4)
Release of escrow related to prior acquisition	(10.4)	—	—
Payment of finance lease obligations	(0.8)	(3.6)	(8.9)
Purchase of convertible note hedges	—	—	(144.7)
Proceeds from issuance of warrants	—	—	85.2
Payment of contingent consideration	—	—	(3.9)
Acquisition related payments	(5.2)	—	—
Dividend to non-controlling shareholder	(2.3)	(2.2)	(1.9)
Net cash provided by (used in) financing activities	623.1	(605.1)	(810.9)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	0.2	0.3	2.3
Net increase (decrease) in cash, cash equivalents and restricted cash	(192.9)	120.5	(79.2)
Cash, cash equivalents and restricted cash, beginning of period (Note 18)	1,087.1	966.6	1,045.8
Cash, cash equivalents and restricted cash, end of period (Note 18)	894.2	1,087.1	966.6

See accompanying notes to consolidated financial statements

ON SEMICONDUCTOR CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1: Background and Basis of Presentation

ON Semiconductor Corporation, together with its wholly and majority-owned subsidiaries (the "Company"), prepares its consolidated financial statements in accordance with GAAP. As of December 31, 2019, the Company was organized into three operating segments, which also represent its three reportable segments: PSG, ASG and ISG. Additional information about the Company's operating and reportable segments is included in Note 3: "Revenue and Segment Information".

Unless otherwise noted, all dollar amounts are in millions, except per share amounts.

Note 2: Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements include the assets, liabilities, revenue and expenses of all wholly-owned and majority-owned subsidiaries over which the Company exercises control and, when applicable, entities in which the Company has a controlling financial interest or is the primary beneficiary. Investments in affiliates where the Company does not exert a controlling financial interest are not consolidated. All material intercompany balances and transactions have been eliminated.

Use of Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the financial statements and the reported amount of revenue and expenses during the reporting period. Management evaluates these estimates and judgments on an ongoing basis and bases its estimates on experience, current and expected future conditions, third-party evaluations and various other assumptions that management believes are reasonable under the circumstances. Significant estimates have been used by management in conjunction with the following: (i) future payouts for customer incentives and amounts subject to allowances, returns and warranties; (ii) measurement of valuation allowances relating to inventories; (iii) assumptions used in business combinations; (iv) fair values of share-based compensation; and (v) measurement of valuation allowances against deferred tax assets and evaluations of unrecognized tax benefits. Additionally, during periods where it becomes applicable, significant estimates will be used by management in determining the future cash flows used to assess and test for impairment of goodwill, indefinite-lived intangible assets and long-lived assets. Actual results may differ from the estimates and assumptions used in the consolidated financial statements and related notes.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity to the Company of three months or less to be cash equivalents. Cash and cash equivalents are maintained with reputable major financial institutions. If, due to current economic conditions, one or more of the financial institutions with which the Company maintains deposits fails, the Company's cash and cash equivalents may be at risk. Deposits with these banks generally exceed the amount of insurance provided on such deposits; however, these deposits typically may be redeemed upon demand and, as a result of the quality of the respective financial institutions, management believes these deposits bear minimal risk.

Inventories

Inventories are stated at the lower of standard cost (which approximates actual cost on a first-in, first-out basis) or net realizable value. General market conditions, as well as the Company's design activities, can cause certain of its products to become obsolete. The Company writes down excess and obsolete inventories based upon a regular analysis of inventory on hand compared to historical and projected end-user demand. The determination of projected end-user demand requires the use of estimates and assumptions related to projected unit sales for each product. These write downs can influence results from operations. For example, when demand for a given part falls, all or a portion of the related inventory that is considered to be in excess of anticipated demand is written down, impacting cost of revenue and gross profit. If demand recovers and the parts previously written down are sold, a higher than normal margin will generally be recognized. However, the majority of product inventory that has been previously written down is ultimately discarded. Although the Company does sell some products that

have previously been written down, such sales have historically been consistently insignificant and the related impact on the Company's gross profit has also been insignificant.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost and are depreciated over estimated useful lives of 30-50 years for buildings and 3-20 years for machinery and equipment using straight-line methods. Expenditures for maintenance and repairs are charged to operations in the period in which the expense is incurred. When assets are retired or otherwise disposed of, the related costs and accumulated depreciation are removed from the balance sheet and any resulting gain or loss is reflected in operations in the period realized.

The Company evaluates the recoverability of the carrying amount of its property, plant and equipment whenever events or changes in circumstances indicate that the carrying value of an asset group may not be fully recoverable. A potential impairment charge is evaluated when the undiscounted expected cash flows derived from an asset group are less than its carrying amount. Impairment losses, if applicable, are measured as the amount by which the carrying value of an asset group exceeds its fair value and are recognized in operating results. Judgment is used when applying these impairment rules to determine the timing of the impairment test, the undiscounted cash flows used to assess impairments and the fair value of the asset group.

Business Combination Purchase Price Allocation

The allocation of the purchase price of business combinations is based on management estimates and assumptions, which utilize established valuation techniques appropriate for the technology industry. These techniques include the income approach, cost approach or market approach, depending upon which approach is the most appropriate based on the nature and reliability of available data. Management records the acquired assets and liabilities at fair value. If the income approach is used, the fair value determination is predicated upon the value of the future cash flows that an asset is expected to generate over its economic life. The cost approach takes into account the cost to replace (or reproduce) the asset and the effects on the asset's value of physical, functional and/or economic obsolescence that has occurred with respect to the asset. The market approach is used to estimate value from an analysis of actual market transactions or offerings for economically comparable assets available as of the valuation date. Determining the fair value of acquired technology assets is judgmental in nature and requires the use of significant estimates and assumptions, including the discount rate, revenue growth rates, projected gross margins, and estimated research and development expenses.

Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of the net assets acquired in the Company's acquisitions. The Company evaluates its goodwill for potential impairment annually during the fourth quarter and whenever events or changes in circumstances indicate the carrying value of a reporting unit may not be recoverable. The Company's divisions are one level below the operating segments, constituting individual businesses, at which level the Company's segment management conducts regular reviews of the operating results. The Company's divisions, either individually or in a combination, constitute reporting units for purposes of allocating and testing goodwill.

The Company's impairment evaluation of goodwill consists of a qualitative assessment. If this qualitative assessment indicates it is more likely than not the estimated fair value of a reporting unit exceeds its carrying value, no further analysis is required and goodwill is not impaired. Otherwise, the Company performs a quantitative goodwill impairment test by comparing the fair value of a reporting unit with its carrying value, including goodwill. If the carrying value of the net assets associated with the reporting unit exceeds the fair value of the reporting unit, goodwill is considered impaired and will be determined as the amount by which the reporting units carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The Company can bypass the qualitative assessment for any period and proceed directly to the quantitative impairment test.

Determining the fair value of the Company's reporting units is subjective in nature and involves the use of significant estimates and assumptions, including projected net cash flows, discount and long-term growth rates. The Company determines the fair value of its reporting units based on an income approach, whereby the fair value of the reporting unit is derived from the present value of estimated future cash flows. The assumptions about estimated cash flows include factors such as future revenue, gross profit, operating expenses and industry trends. The Company considers historical rates and current market conditions when determining the discount and long-term growth rates to use in its analysis. The Company considers other valuation methods, such as the cost approach or market approach, if it is determined that these methods provide a more representative approximation of fair value.

Intangible Assets

The Company's acquisitions have resulted in intangible assets consisting of values assigned to customer relationships, patents, developed technology, IPRD and trademarks. IPRD is considered an indefinite-lived intangible asset until the abandonment or completion of the associated research and development efforts. If abandoned, the assets would be impaired. If the activities are completed, a determination is made regarding the useful lives of such assets and methods of amortization.

The Company is required to test its IPRD assets for impairment annually using the guidance for indefinite-lived intangible assets. The Company's impairment evaluation consists of first assessing qualitative factors to determine whether events and circumstances indicate that it is more likely than not that the IPRD asset is impaired. If it is more likely than not that the asset is impaired, the Company calculates the fair value of the IPRD asset and records an impairment charge if the carrying amount exceeds fair value. The Company determines the fair value based on an income approach, which is calculated as the present value of the estimated future cash flows of the IPRD asset. The assumptions about estimated cash flows include factors such as future revenue, gross profit, operating expenses and industry trends. The Company can bypass the qualitative assessment for any asset in any period and proceed directly to the quantitative impairment test.

The remaining intangible assets are considered long-lived assets and are stated at cost less accumulated amortization, are amortized over their estimated useful lives, and are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of an asset group containing these assets may not be recoverable.

Leases

The Company determines if an arrangement is a lease at its inception. Operating lease arrangements are comprised primarily of real estate and equipment agreements for which the right-of-use ("ROU") assets are included in other assets and the corresponding lease liabilities, depending on their maturity, are included in accrued expenses and other current liabilities or other long-term liabilities in the Consolidated Balance Sheet.

ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the lease commencement date based on the estimated present value of lease payments over the lease term. The lease term includes options to extend the lease when it is reasonably certain that the option will be exercised. Leases with a term of 12 months or less are not recorded on the Consolidated Balance Sheet.

The Company uses its estimated incremental borrowing rate in determining the present value of lease payments considering the term of the lease, which is derived from information available at the lease commencement date, giving consideration to publicly available data for instruments with similar characteristics. The Company accounts for the lease and non-lease components as a single lease component.

Debt Issuance Costs

Debt issuance costs for line-of-credit agreements, including the Company's Revolving Credit Facility, are capitalized and amortized over the term of the underlying agreements on a straight-line basis. Amortization of these debt issuance costs is included in interest expense while the unamortized balance is included in other assets.

Debt issuance costs for the Company's convertible notes and Term Loan "B" Facility are recorded as a direct deduction from the carrying amount of the convertible notes and the Term Loan "B" Facility, consistent with debt discounts, and are amortized over their term using the effective interest method. Amortization of these debt issuance costs is included in interest expense.

Contingencies

The Company is involved in a variety of legal matters, IP matters, environmental, financing and indemnification contingencies that arise in the ordinary course of business. Based on the information available, management evaluates the relevant range and likelihood of potential outcomes and records the appropriate liability when the amount is deemed probable and reasonably estimable.

Treasury Stock

Treasury stock is recorded at cost, inclusive of fees, commissions and other expenses, when outstanding common shares are repurchased by the Company, including when outstanding shares are withheld to satisfy tax withholding obligations in connection with certain shares pursuant to RSUs under the Company's share-based compensation plans.

Revenue Recognition

The Company generates revenue from sales of its semiconductor products to OEMs, electronic manufacturing service providers and distributors. The Company also generates revenue, to a much lesser extent, from product development agreements and manufacturing services provided to customers. The Company recognizes revenue when it satisfies a performance obligation in an amount reflecting the consideration to which it expects to be entitled. For sales agreements, the Company has identified the promise to transfer products, each of which is distinct, as the performance obligation. For product development agreements, the Company has identified the completion of a service defined in the agreement as the performance obligation. The Company applies a five-step approach in determining the amount and timing of revenue to be recognized: (1) identifying the contract with a customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations in the contract; and (5) recognizing revenue when the performance obligation is satisfied.

Sales agreements with customers are renewable periodically and contain terms and conditions with respect to payment, delivery, warranty and supply, but typically do not require minimum purchase commitments. In the absence of a sales agreement, the Company's standard terms and conditions apply. The Company considers the customer purchase orders, governed by sales agreements or the Company's standard terms and conditions, to be the contract with the customer. The Company evaluates certain factors including the customer's ability to pay (or credit risk).

Most of the Company's OEM customers negotiate pricing terms on an annual basis, distributors generally negotiate pricing terms on a quarterly basis, while the pricing terms for electronic manufacturing service providers are negotiated periodically during the year. Pricing terms on product development agreements are negotiated at the beginning of a project. The Company allocates the transaction price to each distinct product based on its relative stand-alone selling price.

In determining the transaction price, the Company evaluates whether the price is subject to refund or adjustment to determine the net consideration to which the Company expects to be entitled. The Company's OEM customers do not have the right to return products, other than pursuant to the provisions of the Company's standard warranty. Sales to distributors, however, are typically made pursuant to agreements that provide return rights and stock rotation provisions permitting limited levels of product returns. Sales to certain distributors, primarily those with ship and credit rights, can also be subject to price adjustment on certain products. Although payment terms vary, most distributor agreements require payment within 30 days. In addition, the Company offers cash discounts to certain customers for payments received within an agreed upon time, generally ten days after shipment.

The Company recognizes revenue when it satisfies a performance obligation. The Company recognizes revenue from sales agreements upon transferring control of a product to the customer. This typically occurs when products are shipped or delivered, depending on the delivery terms, or when products that are consigned at customer locations are consumed. The Company recognizes revenue from product development agreements over time based on the cost-to-cost method. Sales returns and allowances, which include ship and credit reserves for distributors, are estimated based on historical claims data and expected future claims. Provisions for discounts and rebates to customers, estimated returns and allowances, ship and credit claims and other adjustments are provided for in the same period the related revenue are recognized, and are netted against revenue. For returns, the Company recognizes a related asset for the right to recover returned products with a corresponding reduction to cost of goods sold. The Company records a reserve for cash discounts as a reduction to accounts receivable and a reduction to revenue, based on the experience with each customer.

Frequently, the Company receives orders with multiple delivery dates that may extend across reporting periods. Since each delivery constitutes a performance obligation, the Company allocates the transaction price of the contract to each performance obligation based on the stand-alone selling price of the products. The Company invoices the customer for each delivery upon shipment and recognizes revenue in accordance with delivery terms. As scheduled delivery dates are within one year, revenue allocated to future shipments of partially completed contracts are not disclosed.

The Company records freight and handling costs associated with outbound freight after control over a product has transferred to a customer as a fulfillment cost and includes it in cost of revenue. Taxes assessed by government authorities on revenue-producing transactions, including value-added and excise taxes, are presented on a net basis (excluded from revenue).

The Company generally warrants that products sold to its customers will, at the time of shipment, be free from defects in workmanship and materials and conform to specifications. The Company's standard warranty extends for a period of two years from the date of delivery, except in the case of image sensor products, which are warranted for one year from the date of delivery. At the time revenue is recognized, the Company establishes an accrual for estimated warranty expenses associated with its sales and records them as a component of the cost of revenue.

Research and Development Costs

Research and development costs are expensed as incurred.

Income Taxes

Income taxes are accounted for using the asset and liability method. Under this method, deferred income tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which these temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance is provided for those deferred tax assets for which management cannot conclude that it is more likely than not that such deferred tax assets will be realized.

In determining the amount of the valuation allowance, estimated future taxable income, as well as feasible tax planning strategies for each taxing jurisdiction are considered. If the Company determines it is more likely than not that all or a portion of the remaining deferred tax assets will not be realized, the valuation allowance will be increased with a charge to income tax expense. Conversely, if the Company determines it is more likely than not to be able to utilize all or a portion of the deferred tax assets for which a valuation allowance has been provided, the related portion of the valuation allowance will be recorded as a reduction to income tax expense.

The Company recognizes and measures benefits for uncertain tax positions using a two-step approach. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the weight of available evidence indicates that it is more likely than not that the tax positions will be sustained upon audit, including resolution of any related appeals or litigation processes. For tax positions that are more likely than not to be sustained upon audit, the second step is to measure the tax benefit as the largest amount that is more than 50% likely to be realized upon settlement. The Company's practice is to recognize interest and/or penalties related to income tax matters in income tax expense. Significant judgment is required to evaluate uncertain tax positions. Evaluations are based upon a number of factors, including changes in facts or circumstances, changes in tax law, correspondence with tax authorities during the course of tax audits and effective settlement of audit issues. Changes in the recognition or measurement of uncertain tax positions could result in material increases or decreases in income tax expense in the period in which the change is made, which could have a material impact to the Company's effective tax rate.

Foreign Currencies

Most of the Company's foreign subsidiaries conduct business primarily in U.S. dollars and, as a result, utilize the dollar as their functional currency. For the remeasurement of financial statements of these subsidiaries, assets and liabilities in foreign currencies that are receivable or payable in cash are remeasured at current exchange rates, while inventories and other non-monetary assets in foreign currencies are remeasured at historical rates. Gains and losses resulting from the remeasurement of such financial statements are included in the operating results, as are gains and losses incurred on foreign currency transactions.

Some of the Company's Japanese subsidiaries utilize Japanese Yen as their functional currency. The assets and liabilities of these subsidiaries are translated at current exchange rates, while revenue and expenses are translated at the average rates in effect for the period. The related translation gains and losses are included in other comprehensive income or loss within the Consolidated Statements of Operations and Comprehensive Income.

Share-Based Compensation

Share-based compensation cost is measured at the grant date, based on the estimated fair value of the award, and is recognized as expense over the employee's requisite service period. The Company has outstanding awards that vest based on service, performance and market conditions.

Defined Benefit Pension Plans

The Company maintains defined benefit pension plans covering certain of its foreign employees. Net periodic pension costs and pension obligations are determined based on actuarial assumptions, including discount rates for plan obligations, assumed rates of return on pension plan assets and assumed rates of compensation increases for employees participating in plans. These assumptions are based upon management's judgment and consultation with actuaries, considering all known trends and uncertainties. The service cost component of the net periodic pension cost is allocated between the cost of revenue, research and development, selling and marketing and general and administrative line items, while the other components are included in other expense in the Consolidated Statements of Operations and Comprehensive Income.

Fair Value Measurement

The Company measures certain of its financial and non-financial assets at fair value by using the fair value hierarchy that prioritizes certain inputs into individual fair value measurement approaches. Fair value is the exchange price that would be received for an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The fair value hierarchy is based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value, as follows:

- Level 1 - Quoted prices in active markets for identical assets or liabilities;
- Level 2 - Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and
- Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Companies may choose to measure certain financial instruments and certain other items at fair value. Unrealized gains and losses on items for which the fair value option has been elected must be reported in earnings. The Company has elected not to carry any of its debt instruments at fair value.

Note 3: Revenue and Segment Information

Revenue recognized for sales agreements amounted to \$5,492.0 million and \$5,849.0 million for the years ended December 31, 2019 and 2018, respectively. Revenue recognized for product development agreements amounted to \$25.9 million and \$29.3 million for the years ended December 31, 2019 and 2018, respectively.

The Company is organized into three operating and reportable segments consisting of PSG, ASG and ISG. The Company's wafer manufacturing facilities fabricate ICs for all business units, as necessary, and their operating costs are reflected in the segments' cost of revenue on the basis of product costs. Because operating segments are generally defined by the products they design and sell, they do not make sales to each other. The Company does not allocate income taxes or interest expense to its operating segments as the operating segments are principally evaluated on gross profit. Additionally, restructuring, asset impairments and other charges, net and certain other manufacturing and operating expenses, which include corporate research and development costs, unallocated inventory reserves and miscellaneous nonrecurring expenses, are not allocated to any segment. In addition to the operating and reportable segments, the Company also operates global operations, sales and marketing, information systems and finance and administration groups. A portion of the expenses of these groups are allocated to the segments based on specific and general criteria and are included in the segment results.

Revenue and gross profit for the Company's operating and reportable segments are as follows (in millions):

	PSG	ASG	ISG	Total
For year ended December 31, 2019:				
Revenue from external customers	\$ 2,788.3	\$ 1,972.3	\$ 757.3	\$ 5,517.9
Segment gross profit	976.0	794.8	275.4	2,046.2
For year ended December 31, 2018:				
Revenue from external customers	\$ 3,038.2	\$ 2,071.2	\$ 768.9	\$ 5,878.3
Segment gross profit	1,110.1	878.3	317.1	2,305.5
For year ended December 31, 2017:				
Revenue from external customers	\$ 2,819.3	\$ 1,950.9	\$ 772.9	\$ 5,543.1
Segment gross profit	959.8	817.8	302.6	2,080.2

Gross profit is exclusive of the amortization of acquisition-related intangible assets. Depreciation expense is included in segment gross profit. Reconciliations of segment gross profit to consolidated gross profit are as follows (in millions):

	Year Ended December 31,		
	2019	2018	2017
Gross profit for reportable segments	\$ 2,046.2	\$ 2,305.5	\$ 2,080.2
Less: unallocated manufacturing costs	(72.6)	(66.8)	(44.6)
Consolidated gross profit	\$ 1,973.6	\$ 2,238.7	\$ 2,035.6

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Revenue for the Company's operating and reportable segments disaggregated into geographic locations based on sales billed from the respective country and sales channels are as follows (in millions):

	Year Ended December 31, 2019			
	PSG	ASG	ISG	Total
Geographic Location				
Singapore	\$ 864.7	\$ 679.7	\$ 168.7	\$ 1,713.1
Hong Kong	843.5	436.8	137.0	1,417.3
United Kingdom	467.1	303.5	151.0	921.6
United States	356.3	332.6	121.4	810.3
Other	256.7	219.7	179.2	655.6
Total	\$ 2,788.3	\$ 1,972.3	\$ 757.3	\$ 5,517.9

Sales Channel				
Distributors	\$ 1,740.6	\$ 971.5	\$ 461.0	\$ 3,173.1
OEM/ODM	857.5	860.3	258.8	1,976.6
Electronic Manufacturing Service Providers	190.2	140.5	37.5	368.2
Total	\$ 2,788.3	\$ 1,972.3	\$ 757.3	\$ 5,517.9

	Year Ended December 31, 2018			
	PSG	ASG	ISG	Total
Geographic Location				
Singapore	\$ 1,086.6	\$ 704.2	\$ 164.2	\$ 1,955.0
Hong Kong	847.9	496.5	144.7	1,489.1
United Kingdom	488.5	319.8	138.2	946.5
United States	398.5	339.2	125.0	862.7
Other	216.7	211.5	196.8	625.0
Total	\$ 3,038.2	\$ 2,071.2	\$ 768.9	\$ 5,878.3

Sales Channel				
Distributors	\$ 2,011.1	\$ 1,066.4	\$ 464.2	\$ 3,541.7
OEM	846.8	860.7	263.4	1,970.9
Electronic Manufacturing Service Providers	180.3	144.1	41.3	365.7
Total	\$ 3,038.2	\$ 2,071.2	\$ 768.9	\$ 5,878.3

The Company operates in various geographic locations. Sales to unaffiliated customers have little correlation with the location of manufacturers. It is, therefore, not meaningful to present operating profit by geographical location.

The Company does not discretely allocate assets to its operating segments, nor does management evaluate operating segments using discrete asset information. The Company's consolidated assets are not specifically ascribed to its individual reportable segments. Rather, assets used in operations are generally shared across the Company's operating and reportable segments.

Property, plant and equipment, net by geographic location, are summarized as follows (in millions):

	As of December 31,	
	2019	2018
United States	\$ 616.7	\$ 616.9
South Korea	485.4	383.1
Philippines	433.5	474.5
China	243.6	248.4
Japan	218.1	205.0
Czech Republic	213.4	194.5
Malaysia	204.4	229.1
Other	176.5	198.1
	\$ 2,591.6	\$ 2,549.6

The following table illustrates the product technologies under each of the Company's reportable segments based on the Company's operating strategy. Because many products are sold into different end-markets, the total revenue reported for a segment is not indicative of actual sales in the end-market associated with that segment, but rather is the sum of the revenue from the product lines assigned to that segment. These segments represent the Company's view of the business and as such are used to evaluate progress of major initiatives and allocation of resources.

PSG	ASG	ISG
Analog products	Analog products	LSI products
Discrete products	ASIC products	Sensors
HD products	Connectivity products	
IPM products	ECL products	
Isolation products	Foundry products / services	
MOSFET products	Gate Driver products	
Memory products	LSI products	
PIM products		
Sensors		
Standard logic products		

Note 4: Recent Accounting Pronouncements

Adopted:

ASU No. 2016-02 - Leases (Topic 842) ("ASU 2016-02"), ASU No. 2018-10 - Codification improvements to Topic 842, Leases ("ASU 2018-10"), ASU No. 2018-11 - Leases (Topic 842) ("ASU 2018-11") (collectively, the "New Leasing Standard")

In February 2016, the FASB issued ASU 2016-02, which amended the accounting treatment for leases. ASU 2016-02 requires that a lessee should recognize on its balance sheet a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term. Lessees must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach would not require any transition accounting for leases that expired before the earliest comparative period presented. In July 2018, the FASB issued ASU 2018-10 and ASU 2018-11. ASU 2018-10 provides certain areas for improvement in ASU 2016-02 and ASU 2018-11 provides an additional optional transition method by allowing entities to initially apply the New Leasing Standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption (the "effective date method"). The New Leasing Standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years.

The Company adopted the New Leasing Standard as of January 1, 2019 using the effective date method by recording right-of-

use assets of \$112.3 million, net of deferred rent liabilities of \$5.1 million that were reclassified to right-of-use assets, and lease liabilities of \$117.4 million. Under this method, periods prior to 2019 remain unchanged. The Company applied the practical expedients relating to the leases that commenced before January 1, 2019 whereby the Company elected to not reassess the following: (i) whether any expired or existing contracts contain leases; (ii) the lease classification for any expired or existing leases; and (iii) initial direct costs for any existing leases. See Note 8: "Balance Sheet Information" for further information and disclosures relating to the New Leasing Standard.

Pending Adoption:

ASU 2016-13 – Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (“ASU 2016-13”)

In June 2016, the FASB issued ASU 2016-13 and subsequently issued further clarifications and amendments which changed the incurred loss impairment methodology under current GAAP with a methodology that reflects a current expected credit loss (“CECL”) measurement to estimate the allowance for credit losses over the contractual life of the financial assets and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. There are no prescribed methods to develop an estimate of CECL. The CECL model, among others, applies to trade receivables and contract assets that result from revenue transactions, debt instruments except available for sale debt securities and loan commitments. The standard is effective for public companies on January 1, 2020. The Company has evaluated the provisions of the standard and does not anticipate the adoption of the ASU 2016-13 with its subsequent amendments to have a material impact on its consolidated financial statements.

ASU 2018-15 – Intangibles—Goodwill and Other— Internal-Use Software (Subtopic 350-40) (“ASU 2018-15”)

In 2018, the FASB issued ASU 2018-15 requiring a customer in a cloud computing arrangement (i.e. hosting arrangement) that is a service contract to follow the internal-use software guidance in ASC 350-40: Intangibles – Goodwill and Other, Internal-Use Software to determine which implementation costs to capitalize as assets or expense as incurred. The capitalized costs will be amortized over the term of the hosting arrangement, beginning when the module or component of the hosting arrangement is ready for its intended use. This standard is effective on January 1, 2020. Companies are permitted to apply either a retrospective or prospective transition approach to adopt the guidance. With the hosting arrangements currently in effect, the Company does not anticipate the adoption of ASU 2018-15 will have a material impact on its consolidated financial statements.

ASU 2019-12 – Income taxes (Topic 740): Simplifying the accounting for income taxes (“ASU 2019-12”)

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740), which simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740. The amendments also improve consistent application of and simplify GAAP for other areas of Topic 740 by clarifying and amending existing guidance. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. Early adoption is permitted, provided that the Company reflects any adjustments as of the beginning of the annual period that includes the interim period for which such early adoption occurs. The Company does not anticipate the adoption of ASU 2019-12 will have a material impact on its consolidated financial statements.

Note 5: Acquisitions, Divestitures and Licensing Transactions

The Company pursues strategic acquisitions and divestitures from time to time to leverage its existing capabilities and further build its business. Acquisition costs are not included as components of consideration transferred and instead are accounted for as expenses in the period in which the costs are incurred. During the years ended December 31, 2019 and 2018, the Company incurred acquisition and divestiture related costs of approximately \$11.3 million and \$4.5 million, respectively, which are included in operating expenses in the Company's Consolidated Statements of Operations and Comprehensive Income.

2019 Acquisition

On June 19, 2019, the Company acquired 100% of the outstanding shares of Quantenna, a global leader and innovator of high performance Wi-Fi solutions, whereby Quantenna became a wholly-owned subsidiary of the Company. The acquisition of Quantenna creates a strong platform for addressing connectivity solutions for industrial IoT by combining the Company's expertise in power management and bluetooth technologies with Quantenna's Wi-Fi technologies and software capabilities. Following the acquisition, Quantenna changed its name to ON Semiconductor Connectivity Solutions, Inc.

The purchase price consideration for the acquisition totaled \$1,039.3 million, of which \$1,026.6 million was paid in cash during the year ended December 31, 2019. The remaining amount of \$12.7 million will be paid in multiple installments through 2023. The acquisition was funded by a combination of a draw of \$900.0 million against the Revolving Credit Facility and cash on hand. See Note 9: "Long-Term Debt" for further information on the Revolving Credit Facility.

From the closing date of the Quantenna acquisition through December 31, 2019, the Company recognized approximately \$84.8 million in revenue and \$39.3 million in net loss relating to Quantenna, which included the amortization of fair market value step-up of inventory and intangible assets and restructuring charges.

The following table presents the allocation of the purchase price of Quantenna for the assets acquired and liabilities assumed based on their relative fair values, which has been finalized during the year ended December 31, 2019 (in millions):

	Purchase Price Allocation
Cash and cash equivalents	\$ 133.4
Receivables	22.2
Inventories	41.8
Other current assets	4.3
Property, plant and equipment	16.9
Goodwill	726.7
Intangible assets (excluding IPRD)	87.1
IPRD	23.8
Deferred tax assets	29.2
Other non-current assets	12.7
Total assets acquired	1,098.1
Accounts payable	22.6
Other current liabilities	17.5
Deferred tax liabilities	3.3
Other non-current liabilities	15.4
Total liabilities assumed	58.8
Net assets acquired/purchase price	\$ 1,039.3

Acquired intangible assets of \$110.9 million include developed technology of \$58.3 million (which are estimated to have a useful life of eight years). The value assigned to developed technology was determined using the income approach. The total weighted average amortization period for the acquired intangibles is eight years.

IPRD assets are amortized over the estimated useful life of the assets upon successful completion of the related projects. The value assigned to IPRD was determined by estimating the net cash flows from the projects when completed and discounting the net cash flows to their present value using a discount rate of approximately 12.0%. The cash flows from IPRD's significant products are expected to commence from 2020 onwards.

The acquisition produced \$726.7 million of goodwill, which has been assigned to a reporting unit within ASG. The goodwill is attributable to a combination of Quantenna's assembled workforce, expectations regarding a more meaningful engagement by the customers due to the scale of the combined company and other product and operating synergies. Goodwill arising from the Quantenna acquisition is not deductible for tax purposes.

Pro-Forma Results of Operations

The following unaudited pro-forma consolidated results of operations for the years ended December 31, 2019 and December 31, 2018 have been prepared as if the acquisition of Quantenna had occurred on January 1, 2018 and includes adjustments for amortization of intangibles, interest expense from financing, restructuring, and the effect of purchase accounting adjustments including the step-up of inventory (in millions, except per share data):

	Year Ended	
	December 31, 2019	December 31, 2018
Revenue	\$ 5,613.2	\$ 6,098.8
Net income	218.2	567.2
Net income attributable to ON Semiconductor Corporation	216.0	564.7
Net income per common share attributable to ON Semiconductor Corporation:		
Basic	0.53	1.33
Diluted	0.52	1.30

Pending Acquisition of Manufacturing Facility and Related Assets

On April 22, 2019, through SCI LLC, the Company entered into an Asset Purchase Agreement (the "Asset Purchase Agreement") with GLOBALFOUNDRIES U.S. Inc. ("GFUS") and GLOBALFOUNDRIES Inc. pursuant to which the Company will acquire GFUS's East Fishkill, New York site and fabrication facilities, including a post-fabrication facility, support buildings and related assets (the "Transferred Assets"), and assume certain liabilities, including those relating to Company's ownership and operation of the Transferred Assets (collectively, the "Asset Purchase"). The closing of the Asset Purchase is expected to occur on or around December 31, 2022, subject to the satisfaction or waiver of the conditions to closing as specified in the Asset Purchase Agreement. The aggregate purchase price for the Asset Purchase is \$400.0 million in cash, subject to adjustment as described in the Asset Purchase Agreement, of which a non-refundable deposit of \$70.0 million, subject to downward adjustment, was paid by SCI LLC to GFUS in cash on April 22, 2019. The remaining \$330.0 million will be paid on or around the closing date of the Asset Purchase.

In connection with the Asset Purchase Agreement, the parties entered into certain ancillary agreements (the "Ancillary Agreements") pursuant to which SCI LLC will be provided with technology transfer and development services as well as foundry services prior to the closing date, and GFUS will be provided foundry services for a limited period of time following the closing date. Pursuant to the Ancillary Agreements, on April 22, 2019, SCI LLC paid GFUS a license fee in the amount of \$30.0 million in cash, subject to upward adjustment, for certain technology. This amount has been recorded as an intangible asset in the Consolidated Balance Sheet as of December 31, 2019 and will be amortized when the revenue from the sale of products under the Ancillary Agreement commences.

The Company incurred approximately \$4.0 million of expenses in connection with these transactions and expects to incur an additional \$5.0 million in legal fees, advisory fees and other third party costs on or around the closing date.

2018 Acquisition

On May 8, 2018, the Company acquired 100% of the outstanding shares of SensL, a company specializing in SiPM, single photon avalanche diode and LiDAR sensing products for the automotive, medical, industrial and consumer markets, for \$71.6 million, funded with cash on hand. This acquisition positions the Company to extend its products in automotive sensing applications for ADAS and autonomous driving by adding LiDAR capabilities to the Company's existing capabilities in imaging and radar.

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The following table presents the allocation of the purchase price of SensL for the assets acquired and liabilities assumed based on their fair values (in millions):

	Purchase Price Allocation
Current assets (including cash and cash equivalents of \$0.7)	\$ 4.2
Property, plant and equipment and other non-current assets	1.8
Goodwill	18.9
Intangible assets (excluding IPRD)	31.4
IPRD	20.0
Total assets acquired	76.3
Current liabilities	0.7
Other non-current liabilities	4.0
Total liabilities assumed	4.7
Net assets acquired/purchase price	\$ 71.6

Acquired intangible assets of \$31.4 million include developed technology of \$30.0 million (which are estimated to have a weighted-average useful life of seven years). The total weighted average amortization period for the acquired intangibles is seven years. IPRD assets are amortized over the estimated useful life of the assets upon successful completion of the related projects. The value assigned to IPRD was determined by estimating the net cash flows from the projects when completed and discounting the net cash flows to their present value using a discount rate of 30.0%. The cash flows from IPRD's significant products commenced in 2019.

The acquisition produced \$18.9 million of goodwill, which was allocated to ISG. Goodwill is attributable to a combination of SensL's assembled workforce, expectations regarding a more meaningful engagement by the customers due to the scale of the combined company and other product and operating synergies. Goodwill arising from the SensL acquisition is not deductible for tax purposes.

Unaudited pro-forma consolidated results of operations for the years ended December 31, 2018 and 2017 are not included considering the significance of the acquisition to the results of the Company.

2018 Divestiture

On June 25, 2018, the Company divested the transient voltage suppressing diodes business it acquired from Fairchild to TSC America, Inc. for \$5.6 million in cash and recorded a gain of \$4.6 million after writing off the carrying values of the assets and liabilities disposed. There were certain other insignificant transactions resulting in a total gain of \$5.0 million during the year ended December 31, 2018.

2017 Divestiture

On September 29, 2017, the Company entered into a Share Purchase Agreement with mCube, whereby mCube acquired 100% of the outstanding shares of Xsens Holding B.V., a wholly owned subsidiary of the Company, for cash consideration of \$26.0 million (collectively, the "Xsens Transaction"). Twenty percent of the consideration, or \$5.2 million, was deposited into an escrow account and the remaining \$20.8 million was received on September 29, 2017. There were no indemnification liabilities identified, and the escrow amount was considered as part of the consideration in calculating the gain of \$12.5 million after writing off the carrying value of the assets and liabilities sold of \$7.0 million and goodwill of \$6.5 million. The escrow amount was released to the Company during the year ended December 31, 2019.

Licensing Transactions

During 2016 and 2017, the Company entered into an Asset Purchase Agreement with Huaian Imaging Device Manufacturer Corporation ("HIDM") pursuant to which the Company received \$52.5 million in cash in 2017 and provided perpetual, non-exclusive licenses relating to certain technologies to HIDM. Of this, \$42.5 million and \$10.0 million was recognized as licensing income during the years ended December 31, 2017 and 2018, respectively.

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On November 29, 2017, the Company and QST Co. Ltd (“QST”) entered into an IP license and technology transfer agreement (“IP Agreement”) to grant QST patent licenses and IP rights to certain of the Company’s technologies. Pursuant to the IP Agreement, QST receives perpetual, worldwide, nonexclusive and nontransferable patents licenses and IP rights upon the payment of license fees of \$13.0 million and other fees of \$8.5 million in its entirety. Such amounts were paid by QST during the years ended December 31, 2017 and 2018, and the Company recognized licensing income of \$22.7 million during the year ended December 31, 2018. The Company also recognized certain insignificant amounts of licensing income relating to other transactions during the year ended December 31, 2018.

Note 6: Goodwill and Intangible Assets

Goodwill

Goodwill is tested for impairment at the reporting unit level, which is one level below the Company’s operating segments. The Company performed qualitative assessments for the annual impairment analysis during the fourth quarters of 2019 and 2018 and concluded that it is more likely than not that the fair value of its reporting units exceed their carrying amounts and a quantitative impairment test was not required.

The following table summarizes goodwill by operating and reportable segments (in millions):

	As of December 31, 2019			As of December 31, 2018			As of December 31, 2017		
	Goodwill	Accumulated Impairment Losses	Carrying Value	Goodwill	Accumulated Impairment Losses	Carrying Value	Goodwill	Accumulated Impairment Losses	Carrying Value
<i>Operating and Reportable Segments:</i>									
ASG	\$ 1,563.4	\$ (418.9)	\$ 1,144.5	\$ 836.7	\$ (418.9)	\$ 417.8	\$ 836.7	\$ (418.9)	\$ 417.8
ISG	114.4	—	114.4	114.4	—	114.4	95.5	—	95.5
PSG	432.2	(31.9)	400.3	432.2	(31.9)	400.3	432.2	(28.6)	403.6
Total	\$ 2,110.0	\$ (450.8)	\$ 1,659.2	\$ 1,383.3	\$ (450.8)	\$ 932.5	\$ 1,364.4	\$ (447.5)	\$ 916.9

The following table summarizes the change in goodwill (in millions):

Net balance as of December 31, 2017	\$	916.9
Addition due to business combination		18.9
Goodwill impairment		(3.3)
Net balance as of December 31, 2018		932.5
Addition due to business combination		726.7
Net balance as of December 31, 2019	\$	1,659.2

The goodwill impairment charge of \$3.3 million in 2018 was the result of the licensing transaction with QST and represented the entire goodwill assigned to a reporting unit within PSG.

Intangible Assets

Intangible assets, net, were as follows (in millions):

	As of December 31, 2019			
	Original Cost	Accumulated Amortization	Accumulated Impairment Losses	Carrying Value
Customer relationships	\$ 585.2	\$ (386.8)	\$ (20.1)	\$ 178.3
Developed technology	779.5	(440.3)	(2.6)	336.6
IPRD	64.7	—	(24.1)	40.6
Licenses	30.0	—	—	30.0
Other intangibles	79.3	(59.1)	(15.2)	5.0
Total intangible assets	<u>\$ 1,538.7</u>	<u>\$ (886.2)</u>	<u>\$ (62.0)</u>	<u>\$ 590.5</u>

	As of December 31, 2018			
	Original Cost	Accumulated Amortization	Accumulated Impairment Losses	Carrying Value
Customer relationships	\$ 556.7	\$ (359.1)	\$ (20.1)	\$ 177.5
Developed technology	698.0	(356.4)	(2.6)	339.0
IPRD	64.1	—	(22.5)	41.6
Other intangibles	82.3	(58.8)	(15.2)	8.3
Total intangible assets	<u>\$ 1,401.1</u>	<u>\$ (774.3)</u>	<u>\$ (60.4)</u>	<u>\$ 566.4</u>

During the year ended December 31, 2019, the Company abandoned two previously capitalized IPRD projects under ISG and recorded aggregate impairment losses in the amount of \$1.6 million. The Company also completed certain of its IPRD projects resulting in the reclassification of \$23.2 million from IPRD to developed technology.

During the year ended December 31, 2018, the Company determined that the value of one of its IPRD projects under ISG was impaired and recorded a charge of \$3.5 million. The Company also completed certain of its IPRD projects resulting in the reclassification of \$10.4 million from IPRD to developed technology.

During the year ended December 31, 2017, the Company recorded impairment charges of \$13.1 million related to cancellation and impairment of certain of its previously capitalized IPRD projects under PSG and ASG. The Company also completed certain of its IPRD projects, resulting in the reclassification of \$99.4 million from IPRD to developed technology and disposed of \$8.7 million of intangible assets as part of the Xsens Transaction.

Amortization expense for intangible assets for the years ended December 31, 2019, 2018 and 2017 amounted to \$115.2 million, \$111.7 million and \$123.8 million, respectively. Amortization expense for intangible assets, with the exception of the \$40.6 million of IPRD assets that will be amortized once the corresponding projects have been completed, is expected to be as follows over the next five years, and thereafter (in millions):

	Total
2020	\$ 116.5
2021	94.9
2022	80.6
2023	63.2
2024	52.1
Thereafter	142.6
Total estimated amortization expense	<u>\$ 549.9</u>

Note 7: Restructuring, Asset Impairments and Other Charges, net

Summarized activity included in the “Restructuring, asset impairments and other charges, net” caption on the Company's Consolidated Statements of Operations and Comprehensive Income for the years ended December 31, 2019, 2018 and 2017 is as follows (in millions):

	<u>Restructuring</u>	<u>Asset Impairments (1)</u>	<u>Other (2)</u>	<u>Total</u>
Year Ended December 31, 2019				
General workforce reduction	\$ 8.4	\$ —	\$ —	\$ 8.4
Post-Quantenna acquisition restructuring	15.7	—	—	15.7
Other	0.8	3.4	0.4	4.6
Total	<u>\$ 24.9</u>	<u>\$ 3.4</u>	<u>\$ 0.4</u>	<u>\$ 28.7</u>
Year Ended December 31, 2018				
Other	\$ 3.9	\$ 4.6	\$ (4.2)	\$ 4.3
Total	<u>\$ 3.9</u>	<u>\$ 4.6</u>	<u>\$ (4.2)</u>	<u>\$ 4.3</u>
Year Ended December 31, 2017				
Post-Fairchild acquisition restructuring costs	\$ 9.7	\$ —	\$ —	\$ 9.7
Manufacturing relocation	(2.1)	—	—	(2.1)
Former System Solutions Group segment voluntary workforce reduction	2.2	—	—	2.2
Other	0.1	7.3	3.6	11.0
Total	<u>\$ 9.9</u>	<u>\$ 7.3</u>	<u>\$ 3.6</u>	<u>\$ 20.8</u>

(1) Includes, among others, impairment charges for ROU assets of \$2.5 million, asset impairment charges of \$4.6 million, and held-for-sale asset impairment charges of \$7.3 million for the years ended December 31, 2019, 2018 and 2017, respectively.

(2) Includes gain on sale of certain held-for-sale assets for the year ended December 31, 2018 and charges related to other facility closures and asset disposal activities for the year ended December 31, 2017.

Summary of changes in accrued restructuring charges as follows (in millions):

	<u>Estimated employee separation charges</u>	<u>Estimated costs to exit</u>	<u>Total</u>
<i>Balance as of December 31, 2017</i>	\$ 1.9	\$ 0.2	\$ 2.1
Charges	3.9	—	3.9
Usage	(5.5)	—	(5.5)
<i>Balance as of December 31, 2018</i>	\$ 0.3	\$ 0.2	\$ 0.5
Charges	24.9	—	24.9
Usage	(25.1)	(0.1)	(25.2)
<i>Balance as of December 31, 2019</i>	<u>\$ 0.1</u>	<u>\$ 0.1</u>	<u>\$ 0.2</u>

General workforce reduction

During the first quarter of 2019, the Company approved and began to implement certain restructuring actions aimed at cost savings, primarily through workforce reductions. As of December 31, 2019, the Company had notified approximately 143 employees of their employment termination, all of whom had exited by December 31, 2019. For the year ended December 31, 2019, the expense for this program amounted to \$8.4 million, all of which was paid as of December 31, 2019.

The Company has initiated the next phase of this program during the first quarter of 2020. Approximately 100 employees were notified of their employment termination, most of whom are expected to exit before the end of the first quarter of 2020. Restructuring costs pertaining to this program are expected to be approximately \$4.5 million for the first quarter of 2020.

Post-Quantenna acquisition restructuring

Following the acquisition of Quantenna and during the quarter ended June 28, 2019, the Company implemented a cost-reduction plan resulting in the elimination of approximately eight executive positions from Quantenna's workforce, primarily as a result of redundancies. During the year ended December 31, 2019, the Company terminated an additional ten employees. The total restructuring expense of \$15.7 million was attributable to the accelerated vesting of stock awards previously issued by Quantenna, executive retention and other severance benefits. All severance benefits for this program were paid as of December 31, 2019.

The Company did not have any significant restructuring activities during the year ended December 31, 2018.

Activity related to the Company's significant restructuring programs that were initiated during 2017 was as follows:

Post-Fairchild Acquisition Restructuring Costs

Following the acquisition of Fairchild, the Company approved the implementation of a cost-reduction plan, which eliminated approximately 225 positions from its workforce as a result of redundancies. Restructuring charges of \$25.7 million were recorded during the year ended December 31, 2016. During the year ended December 31, 2017, an additional 111 positions were eliminated, totaling 336 pursuant to the plan. As of December 31, 2017, a total of 331 employees had exited, and the remaining five exited during 2018. The restructuring expense attributable to severance and termination benefits was \$7.9 million and to other exit costs was \$1.8 million for the year ended December 31, 2017. The total expense for this program amounted to \$35.4 million and the Company paid \$13.4 million and \$20.2 million during the years ended December 31, 2017 and 2016, respectively. Accrued severance benefits for this program was \$1.8 million as of December 31, 2017, which were paid during the year ended December 31, 2019.

Manufacturing Relocation

During the first quarter of 2016, the Company announced a plan to relocate certain of its manufacturing operations to another existing location. During the first quarter of 2017, the Company made the decision to cancel the plans for relocation and announced all workforce would remain intact. As a result, the accrued balance of \$2.1 million was released.

Former System Solutions Group Segment Voluntary Workforce Reduction

During the second quarter of 2017, the Company announced a voluntary resignation program for the former System Solutions Group. A total of 36 employees had signed employee separation agreements as of December 31, 2017 and the related expense for the year was \$2.2 million, of which \$2.0 million had been paid as of December 31, 2017. The remaining amounts were paid during 2018.

Note 8: Balance Sheet Information

Certain significant amounts included in the Company's Consolidated Balance Sheets consist of the following (in millions):

	As of	
	December 31, 2019	December 31, 2018
Inventories:		
Raw materials	\$ 138.4	\$ 137.3
Work in process	772.9	760.7
Finished goods	321.1	327.2
	<u>\$ 1,232.4</u>	<u>\$ 1,225.2</u>
Property, plant and equipment, net:		
Land	\$ 125.2	\$ 125.5
Buildings	860.6	820.4
Machinery and equipment	4,275.2	3,980.2
Property, plant and equipment, gross	5,261.0	4,926.1
Less: Accumulated depreciation	(2,669.4)	(2,376.5)
	<u>\$ 2,591.6</u>	<u>\$ 2,549.6</u>
Accrued expenses:		
Accrued payroll and related benefits	\$ 153.4	\$ 240.8
Sales related reserves	247.3	294.8
Income taxes payable	22.5	38.2
Other	115.6	85.3
	<u>\$ 538.8</u>	<u>\$ 659.1</u>

Assets classified as held-for-sale, consisting primarily of properties, are required to be recorded at the lower of carrying value or fair value less any costs to sell. The carrying value of these assets as of December 31, 2019 was \$1.4 million, and is reported as other current assets on the Company's Consolidated Balance Sheet.

Depreciation expense for property, plant and equipment, including amortization of finance leases, totaled \$409.7 million, \$359.3 million and \$325.2 million for 2019, 2018 and 2017, respectively.

Included within sales related reserves are ship and credit reserves for distributors amounting to \$178.7 million and \$230.8 million as of December 31, 2019 and 2018, respectively.

Leases

Operating lease arrangements are comprised primarily of real estate and equipment agreements. There are also certain insignificant finance leases recorded in the Consolidated Balance Sheet. The Company's existing leases do not contain significant restrictive provisions or residual value guarantees; however, certain leases contain renewal options and provisions for payment of real estate taxes, insurance and maintenance costs by the Company.

The components of lease expense are as follows (in millions):

	Year Ended	
	December 31, 2019	
Operating lease	\$	35.0
Variable lease		4.0
Short-term lease		2.6
Total lease expense	<u>\$</u>	<u>41.6</u>

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The lease liabilities included in the following captions in the Consolidated Balance Sheet are as follows (in millions):

	As of
	December 31, 2019
Accrued expenses and other current liabilities	\$ 26.1
Other long-term liabilities	87.9
	\$ 114.0

Operating lease assets of \$110.2 million are included in other assets in the Consolidated Balance Sheet as of December 31, 2019. As of December 31, 2019, the weighted-average remaining lease-term was 6.4 years and the weighted-average discount rate was 5.4%.

As of December 31, 2019, there are additional operating lease commitments of approximately \$0.4 million that have not yet commenced. The reconciliation of the maturities of the operating leases to the lease liabilities recorded in the Consolidated Balance Sheet as of December 31, 2019 is as follows (in millions):

2020	\$ 31.3
2021	26.0
2022	21.4
2023	15.1
2024	14.1
Thereafter	36.9
Total lease payments	\$ 144.8
Less: Interest	(30.8)
Amounts recorded in the Consolidated Balance Sheet	\$ 114.0

Total rent expense associated with operating leases for 2018 and 2017 was \$43.6 million and \$45.3 million, respectively. As of December 31, 2018, future minimum lease obligations under non-cancelable operating leases were as follows:

2019	\$ 36.8
2020	27.6
2021	21.9
2022	16.8
2023	12.3
Thereafter	45.4
Total (1)	\$ 160.8

(1) Excludes \$12.3 million of expected sublease income.

Warranty Reserves

The activity related to the Company's warranty reserves are as follows (in millions):

Balance as of December 31, 2016	\$	8.8
Provision		6.8
Usage		(7.6)
Balance as of December 31, 2017		8.0
Provision		0.4
Usage		(3.2)
Balance as of December 31, 2018		5.2
Provision		3.3
Usage		(4.1)
Balance as of December 31, 2019	\$	4.4

Note 9: Long-Term Debt

The Company's long-term debt consists of the following (annualized interest rates, dollars in millions):

	As of	
	December 31, 2019	December 31, 2018
Amended Credit Agreement:		
Revolving Credit Facility due 2024, interest payable monthly at 3.30% and 3.77%, respectively	\$ 800.0	\$ 400.0
Term Loan "B" Facility due 2026, interest payable monthly at 3.80% and 4.27%, respectively	1,630.9	1,134.5
1.00% Notes due 2020 (1)	690.0	690.0
1.625% Notes due 2023 (2)	575.0	575.0
Other long-term debt (3)	53.3	139.5
Gross long-term debt, including current maturities	3,749.2	2,939.0
Less: Debt discount (4)	(102.7)	(139.4)
Less: Debt issuance costs (5)	(34.0)	(33.5)
Net long-term debt, including current maturities	3,612.5	2,766.1
Less: Current maturities	(736.0)	(138.5)
Net long-term debt	\$ 2,876.5	\$ 2,627.6

(1) Interest is payable on June 1 and December 1 of each year at 1.00% annually.

(2) Interest is payable on April 15 and October 15 of each year at 1.625% annually.

(3) Consists of U.S. real estate mortgages, term loans, revolving lines of credit, notes payable and other facilities at certain international locations where interest is payable weekly, monthly or quarterly, with interest rates between 1.00% and 4.00% and maturity dates between 2019 and 2022.

(4) Debt discount of \$20.4 million and \$41.6 million for the 1.00% Notes, \$71.8 million and \$88.5 million for the 1.625% Notes and \$10.5 million and \$9.3 million for the Term Loan "B" Facility, in each case as of December 31, 2019 and December 31, 2018, respectively.

(5) Debt issuance costs of \$2.8 million and \$5.8 million for the 1.00% Notes, \$6.9 million and \$8.5 million for the 1.625% Notes and \$24.3 million and \$19.2 million for the Term Loan "B" Facility, in each case as of December 31, 2019 and December 31, 2018, respectively.

Maturities

Expected maturities relating to the Company’s gross long-term debt (including current maturities) as of December 31, 2019 are as follows (in millions):

	Annual Maturities
2020	\$ 759.6
2021	16.4
2022	16.4
2023	591.4
2024	816.3
Thereafter	1,549.1
Total	\$ 3,749.2

Amended Credit Agreement

On April 15, 2016, the Company obtained capital for the acquisition of Fairchild and other general corporate purposes. The acquisition of Fairchild on September 19, 2016, was funded with cash on hand and by borrowings under a Credit Agreement, dated as of April 15, 2016, by and among the Company, as borrower, the several lenders party thereto, Deutsche Bank AG, New York Branch, as administrative agent and collateral agent, and certain other parties (as subsequently amended, the “Amended Credit Agreement”). The Amended Credit Agreement provides for a \$1.97 billion revolving credit facility (the “Revolving Credit Facility”) and a \$2.4 billion term loan “B” facility (the “Term Loan “B” Facility”). The acquisition of Fairchild was funded with the proceeds from the Term Loan “B” Facility of \$2.2 billion, Company-funded amounts previously deposited into escrow accounts of \$67.7 million, proceeds from a \$200.0 million draw against the Revolving Credit Facility and existing cash on hand.

Amendments to the Amended Credit Agreement

On September 30, 2016, the Company, and certain of the Company’s subsidiaries, as guarantors (the “Guarantors”), entered into the First Amendment to the Amended Credit Agreement (the “First Amendment”) with the several lenders party thereto and Deutsche Bank AG New York Branch, as the administrative agent (the “Agent”). Among other things, the First Amendment reduced the interest rates payable under the Term Loan “B” Facility and the Revolving Credit Facility and increased the Term Loan “B” Facility to \$2.4 billion. The Company used the additional \$200.0 million proceeds under the Term Loan “B” Facility to pay off the outstanding balance under the Revolving Credit Facility. On March 31, 2017, November 30, 2017 and May 31, 2018, the Company, the Guarantors, the several lenders party thereto and the Agent entered into the Second Amendment, Third Amendment and Fourth Amendment, respectively, to the Amended Credit Agreement. These amendments, among other things, reduced the interest rates payable under the Term Loan “B” Facility and the Revolving Credit Facility. The Third Amendment also increased the amount that may be borrowed pursuant to the Revolving Credit Facility to \$1.0 billion.

On June 12, 2019, the Company entered into the Fifth Amendment to the Amended Credit Agreement (the “Fifth Amendment”), with the subsidiary guarantors party thereto, Deutsche Bank AG New York Branch, as administrative agent, collateral agent and issuing lender, the “2019 Incremental Revolving Lenders” party thereto, and the “New Required Lenders” party thereto. The Fifth Amendment provided for, among other things, modifications to the Amended Credit Agreement to: (i) increase the amount that may be borrowed pursuant to the Revolving Credit Facility to \$1.9 billion; (ii) extend the maturity date of borrowings under the Revolving Credit Facility to the later of (x) December 30, 2022 or (y) June 12, 2024 so long as the borrowings under the Term Loan “B” Facility have been fully repaid or otherwise redeemed, discharged or defeased on or prior to December 30, 2022, or if the maturity date of borrowings under the Term Loan “B” Facility has been extended prior to December 30, 2022, to a date no earlier than June 12, 2024; and (iii) amend certain financial covenants, including deleting the minimum Interest Coverage Ratio and increasing the maximum Consolidated Total Net Leverage Ratio (as such terms are defined in the Amended Credit Agreement) from 4.00 to 1.00 to 4.50 to 1.00 during any period of four consecutive fiscal quarters commencing after a Permitted Acquisition (as defined in the Amended Credit Agreement) with consideration in excess of \$250.0 million.

On August 15, 2019, the Company entered into the Sixth Amendment to the Amended Credit Agreement (the “Sixth Amendment”), which increased amounts that may be borrowed under the Revolving Credit Facility by \$70.0 million to \$1.97 billion.

On September 19, 2019, the Company entered into the Seventh Amendment to the Amended Credit Agreement (the “Seventh Amendment”). The Seventh Amendment provided for, among other things, modifications to the Amended Credit Agreement to (i) increase the amount that may be borrowed pursuant to the Term Loan “B” Facility by approximately \$500.5 million, up to an aggregate principal amount of \$1.635 billion; (ii) extend the maturity date of borrowings under the Term Loan “B” Facility to September 19, 2026; (iii) for any interest period ending after the date of the Seventh Amendment, increase the interest rate for borrowings under the Term Loan “B” Facility to (a) with respect to eurocurrency loans, a base rate per annum equal to the Adjusted LIBO Rate (as defined in the Amended Credit Agreement) plus an applicable margin of 2.00% and (b) with respect to alternate base rate loans, a base rate per annum equal to the Alternate Base Rate (as defined in the Amended Credit Agreement) plus an applicable margin equal to 1.00%; and (iv) make certain amendments providing for the determination of an alternate interest rate to the Adjusted LIBO Rate and/or the LIBO Rate (as defined in the Amended Credit Agreement) in the event of certain circumstances that result in the inability to adequately and reasonably determine such rates or such rates no longer adequately and fairly reflecting the cost of the applicable loans. In addition, pursuant to the Fifth Amendment, as a result of the extension described in (ii) above, the maturity date of borrowings under the Revolving Credit Facility was extended to June 12, 2024.

The Company utilized the additional borrowings pursuant to the Seventh Amendment to repay \$500.0 million of the outstanding balance under the Revolving Credit Facility.

The obligations under the Amended Credit Agreement are guaranteed by the Guarantors and collateralized by a pledge of substantially all of the assets of the Company and the Guarantors, including a pledge of the equity interests in certain of the Company’s domestic and first tier foreign subsidiaries, subject to customary exceptions. The obligations under the Amended Credit Agreement are also collateralized by mortgage on certain real property assets of the Company and its domestic subsidiaries.

The Amended Credit Agreement includes financial maintenance covenants, including, among others, a maximum total net leverage ratio and a minimum interest coverage ratio. It also contains other customary affirmative and negative covenants and events of default. The Company was in compliance with its covenants as of December 31, 2019.

Debt Refinancing and Prepayments

In connection with the Seventh Amendment, the Company incurred fees to lenders, third parties, legal and other costs amounting to \$17.5 million, of which a significant portion was capitalized. Management performed an analysis and recorded a loss on debt refinancing amounting to \$5.8 million related to the Seventh Amendment, which included a proportionate write-off of the unamortized debt discount and issuance costs represented by the exited lenders, and the third party fees incurred for the transaction. The remaining costs will be amortized over the term of the loan using the effective interest method. The Company did not incur significant costs in connection with the Sixth Amendment.

The Company incurred third party, legal and other fees of \$6.6 million and recorded \$0.4 million as loss on extinguishment of debt related to the Fifth Amendment. The remaining unamortized debt issuance costs along with the additional costs incurred for the Fifth Amendment will be amortized straight-line over the term of the Revolving Credit Facility.

The loss on debt refinancing and prepayment amounted to \$6.2 million for the year ended December 31, 2019.

The Company incurred third-party, legal and other fees of \$1.1 million related to the Fourth Amendment and recorded debt extinguishment charges of \$2.6 million, which included a write-off of \$1.5 million of unamortized debt discount and issuance costs and \$1.1 million in third-party fees. The Company also prepaid \$70.0 million of borrowings under the Term Loan “B” Facility during the year ended December 31, 2018 and expensed \$2.0 million of unamortized debt discount and issuance costs attributed to the partial pay-down as loss on debt refinancing and prepayment.

The loss on debt refinancing and prepayment amounted to \$4.6 million for the year ended December 31, 2018.

The Company incurred third-party, legal and other fees of \$3.3 million related to the Third Amendment and capitalized \$1.9 million of closing costs relating to the Revolving Credit Facility which will be amortized straight-line over its term and expensed \$1.4 million of third-party fees and expenses relating to the Term Loan "B" Facility. The Company also expensed \$19.6 million of unamortized debt discount and issuance costs attributed to the partial pay down of \$600.0 million of the Term Loan "B" Facility on multiple dates during the year ended December 31, 2017.

The Company incurred legal and other fees of \$2.4 million related to the Second Amendment and recorded debt extinguishment charges of \$5.6 million, which included a \$3.2 million write-off of unamortized debt issuance costs and \$2.4 million in third-party fees. On March 31, 2017, the Company used the proceeds from the issuance of the 1.625% Notes, amounting to \$562.1 million, and cash on hand of \$12.9 million to prepay \$575.0 million of the outstanding balance of the Term Loan "B" Facility and expensed \$20.6 million of unamortized debt discount and issuance costs.

As a result of the above, the Company recorded debt refinancing and prepayment charges of \$47.2 million for the year ended December 31, 2017.

1.00% Notes due 2020

On June 8, 2015, the Company completed a private placement of \$690.0 million of its 1.00% Notes to qualified institutional buyers pursuant to Rule 144A under the Securities Act. The Company was the sole issuer in the private unregistered offering of the 1.00% Notes. The notes bear interest at the rate of 1.00% per year from the date of issuance, payable semiannually in arrears on June 1 and December 1 of each year, beginning on December 1, 2015. The 1.00% Notes are fully and unconditionally guaranteed on a senior unsecured obligation basis by certain existing subsidiaries of the Company.

The 1.00% Notes are convertible by holders into cash and shares of the Company's common stock at a conversion rate of 54.0643 shares of common stock per \$1,000 principal amount of notes (subject to adjustment in certain events), which is equivalent to an initial conversion price of \$18.50 per share of common stock. The Company will settle conversion of all 1.00% Notes validly tendered for conversion in cash and shares of the Company's common stock, if applicable, subject to the Company's right to pay the share amount in additional cash. Holders may convert their 1.00% Notes only under the following circumstances: (i) during any calendar quarter commencing after the calendar quarter ending on September 30, 2015, if the last reported sale price of common stock for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; (ii) during the five business-day period immediately following any five consecutive trading-day period in which the trading price per \$1,000 principal amount of 1.00% Notes for each day of such period was less than 98% of the product of the closing sale price of the Company's common stock and the conversion rate; (iii) upon occurrence of the specified transactions described in the 1.00% Indenture; or (iv) on and after September 1, 2020. Upon conversion of the 1.00% Notes, the Company will deliver cash, shares of its common stock or a combination of cash and shares of its common stock, at the Company's election. For a discussion of the dilutive effects for earnings per share calculations, see Note 10: "Earnings Per Share and Equity."

The 1.00% Notes will mature on December 1, 2020 and has been reclassified as current portion of long-term debt along with the corresponding debt discount and issuance costs in the Consolidated Balance Sheet as of December 31, 2019. If a holder elects to convert its 1.00% Notes in connection with the occurrence of specified fundamental changes that occur prior to September 1, 2020, the holder will be entitled to receive, in addition to cash and shares of common stock equal to the conversion rate, an additional number of shares of common stock, in each case as described in the 1.00% Indenture. Notwithstanding these conversion rate adjustments, the 1.00% Notes contain an explicit limit on the number of shares issuable upon conversion.

1.625% Notes due 2023

On March 31, 2017, the Company completed a private placement of \$575.0 million of its 1.625% Notes to qualified institutional buyers pursuant to Rule 144A under the Securities Act. The Company incurred issuance costs of \$13.7 million in connection with the issuance of the 1.625% Notes, of which \$11.1 million was capitalized as debt issuance costs and is being amortized using the effective interest method, and \$2.6 million was allocated to the conversion option (as further described below) and was recorded as equity. The 1.625% Notes are governed by the 1.625% Indenture.

The net proceeds from the offering of the 1.625% Notes were used to repay \$562.1 million of borrowings outstanding under the Term Loan "B" Facility. The 1.625% Notes bear interest at the rate of 1.625% per year from the date of issuance, payable semiannually in arrears on April 15 and October 15 of each year, beginning on October 15, 2017. The 1.625% Notes are fully and unconditionally guaranteed, on a joint and several basis, by each of the Company's subsidiaries that is a borrower or guarantor under the Amended Credit Agreement.

The initial conversion rate of the 1.625% Notes is 48.2567 shares of common stock per \$1,000 principal amount of 1.625% Notes (subject to adjustment in certain events), which is equivalent to an initial conversion price of approximately \$20.72 per share of common stock. Prior to the close of business on the business day immediately preceding July 15, 2023, the 1.625% Notes will be convertible only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2017 (and only during such calendar quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; (2) during the five business day period after any five consecutive trading day period in which the trading price per \$1,000 principal amount of the 1.625% Notes for each trading day of such period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or (3) upon the occurrence of specified corporate transactions described in the 1.625% Indenture. On or after July 15, 2023, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders of the 1.625% Notes may convert all or a portion of their 1.625% Notes at any time. Upon conversion of the 1.625% Notes, the Company will deliver cash, shares of its common stock or a combination of cash and shares of its common stock, at the Company's election. For a discussion of the dilutive effects for earnings per share calculations, see Note 10: "Earnings Per Share and Equity".

The 1.625% Notes will mature on October 15, 2023. If a holder elects to convert its 1.625% Notes in connection with the occurrence of specified fundamental changes that occur prior to July 15, 2023, the holder will be entitled to receive, in addition to cash and/or shares of common stock equal to the conversion rate, an additional number of shares of common stock, as described in the 1.625% Indenture. Notwithstanding these conversion rate adjustments, the 1.625% Notes contain an explicit limit on the number of shares issuable upon conversion.

In connection with the occurrence of specified fundamental changes, holders may require the Company to repurchase for cash all or a portion of their 1.625% Notes at a purchase price equal to 100% of the principal amount of the 1.625% Notes to be repurchased, plus accrued and unpaid interest to, but not including, the fundamental change repurchase date.

The 1.625% Notes, which are the Company's unsecured obligations, rank equally in right of payment to all of the Company's existing and future unsubordinated indebtedness and are senior in right of payment to all of the Company's existing and future subordinated obligations. The 1.625% Notes are effectively subordinated to any of the Company's or its subsidiaries' secured indebtedness to the extent of the value of the assets securing such indebtedness. ON Semiconductor was the sole issuer of the 1.625% Notes.

In accordance with accounting guidance on embedded conversion features, the Company valued and bifurcated the conversion option associated with the 1.625% Notes from the respective host debt instrument, which is referred to as the debt discount, and initially recorded the conversion option of \$115.7 million in stockholders' equity. The resulting debt discount is being amortized to interest expense at an effective interest rate of 5.38% over the contractual terms of the notes.

Concurrently with the offering of the 1.625% Notes, the Company used \$59.5 million of borrowings under the Revolving Credit Facility to enter into convertible note hedge and warrant transactions with certain of the initial purchasers of the 1.625% Notes. Pursuant to these transactions, the Company has the option to purchase (subject to adjustment for certain specified transactions) an aggregate of 27.7 million shares of its common stock at a price of \$20.72 per share. The total cost of the convertible note hedge transactions was \$144.7 million. In addition, the Company sold warrants to certain bank counterparties whereby the holders of the warrants have the option to purchase initially (subject to adjustment for certain specified events) a total of 27.7 million shares of the Company's common stock at a price of \$30.70 per share. The Company received \$85.2 million in cash proceeds from the sale of these warrants. The tax impact of the conversion option and the convertible note hedge and warrant transactions amounted to \$11.0 million and was recorded in stockholders' equity.

Together, the purchase of the convertible note hedges and the sale of the warrants are intended to reduce the potential dilution from the conversion of the 1.625% Notes. As these transactions meet certain accounting criteria, the convertible note hedges

and warrants are recorded in stockholders' equity and are not accounted for as derivatives. The net cost incurred in connection with the convertible note hedge and warrant transactions was recorded as a reduction to additional paid-in capital in the consolidated balance sheet. All of the shares subject to the conversion of the 1.625% Notes and hedging transactions were reserved from the Company's unallocated shares.

Other Long-term Debt

Note Payable to Fujitsu

On October 1, 2018, the Company assumed a yen-denominated non-collateralized loan obligation amounting to \$50.6 million as a result of the Company acquiring a majority ownership in OSA. Amortization and maturity of the loan is at the request of the lender, FSL. The loan bears a variable interest rate which is payable monthly and the ending balance amounting to \$52.3 million has been classified as current portion of long-term debt in the Consolidated Balance Sheet as of December 31, 2019.

U.S. Real Estate Mortgages

During 2014, one of the Company's U.S. subsidiaries entered into an amended and restated loan agreement with a bank for approximately \$49.4 million, which was collateralized by real estate, including certain of the Company's facilities in California, Oregon, and Idaho. The balance was paid in full during the year ended December 31, 2019.

Philippine Term Loans

During 2015, the Company borrowed \$50.0 million under two non-collateralized term loans entered into by the Company's wholly-owned Philippine subsidiaries and ON Semiconductor, as guarantor. The balance was repaid in full during the year ended December 31, 2018.

Malaysia Revolving Line of Credit

During 2014, one of the Company's wholly-owned Malaysian subsidiaries and ON Semiconductor, as guarantor, borrowed \$25.0 million under a non-collateralized and uncommitted line of credit. The balance was repaid in full during the year ended December 31, 2019, and the facility was closed.

Vietnam Revolving Line of Credit

During 2014, one of the Company's wholly-owned Vietnamese subsidiaries and ON Semiconductor, as guarantor, entered into a non-collateralized and uncommitted \$25.0 million line of credit. The balance was repaid in full during the year ended December 31, 2019, and the facility was closed.

Finance Lease Obligations

The Company has finance lease obligations primarily for buildings, which, as of December 31, 2019, totaled \$0.1 million, with interest rates ranging from 1.0% to 5.2% and maturing in 2022. Future payments for the Company's finance lease obligations are included in the annual maturities table.

Note 10: Earnings Per Share and Equity

Earnings Per Share

Calculations of net income per common share attributable to ON Semiconductor Corporation are as follows (in millions, except per share data):

	Year ended December 31,		
	2019	2018	2017
Net income attributable to ON Semiconductor Corporation	\$ 211.7	\$ 627.4	\$ 810.7
Basic weighted average common shares outstanding	410.9	423.8	421.9
Add: Incremental shares for:			
Dilutive effect of share-based awards	1.9	4.3	5.5
Dilutive effect of convertible notes	3.2	7.8	0.9
Diluted weighted average common shares outstanding	416.0	435.9	428.3
Net income per common share attributable to ON Semiconductor Corporation:			
Basic	\$ 0.52	\$ 1.48	\$ 1.92
Diluted	\$ 0.51	\$ 1.44	\$ 1.89

Basic income per common share is computed by dividing net income attributable to ON Semiconductor Corporation by the weighted average number of common shares outstanding during the period.

To calculate the diluted weighted-average common shares outstanding, the number of incremental shares from the assumed exercise of stock options and assumed issuance of shares relating to RSUs is calculated by applying the treasury stock method. Share-based awards whose impact is considered to be anti-dilutive under the treasury stock method were excluded from the diluted net income per share calculation. The excluded number of anti-dilutive share-based awards was approximately 0.8 million, 0.6 million and 0.2 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The dilutive impact related to the Company's 1.00% Notes and 1.625% Notes is determined in accordance with the net share settlement requirements, under which the Company's convertible notes are assumed to be convertible into cash up to the par value, with the excess of par value being convertible into common stock. Additionally, if the average price of the Company's common stock exceeds \$25.96 per share, with respect to the 1.00% Notes, or \$30.70 per share, with respect to the 1.625% Notes, during the relevant reporting period, the effect of the additional potential shares that may be issued related to the warrants that were issued concurrently with the issuance of the convertible notes will also be included in the calculation of diluted weighted-average common shares outstanding. Prior to conversion, the convertible note hedges are not considered for purposes of the earnings per share calculations, as their effect would be anti-dilutive. Upon conversion, the convertible note hedges are expected to offset the dilutive effect of the 1.00% Notes and 1.625% Notes, respectively, when the stock price is above \$18.50 per share, with respect to the 1.00% Notes, and \$20.72 per share, with respect to the 1.625% Notes.

Equity

Share Repurchase Programs

On December 1, 2014, the Company announced the "Capital Allocation Policy" under which the Company intends to return to stockholders approximately 80 percent of free cash flow, less repayments of long-term debt, subject to a variety of factors, including the strategic plans, market and economic conditions and the discretion of the Company's board of directors. For the purposes of the Capital Allocation Policy, the Company defines "free cash flow" as net cash provided by operating activities less purchases of property, plant and equipment.

On December 1, 2014, the Company announced the 2014 Share Repurchase Program (the "2014 Share Repurchase Program") pursuant to the Capital Allocation Policy. Under the Company's 2014 Share Repurchase Program, the Company had the ability to repurchase up to \$1.0 billion (exclusive of fees, commissions and other expenses) of the Company's common stock over a

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period of four years from December 1, 2014, subject to certain contingencies. The 2014 Share Repurchase Program, which did not require the Company to purchase any particular amount of common stock and was subject to the discretion of the board of directors, expired on November 30, 2018 with approximately \$288.2 million remaining unutilized.

The Company repurchased common stock worth approximately \$315.0 million and \$25.0 million under the 2014 Share Repurchase Program during the years ended December 31, 2018 and December 31, 2017, respectively.

On November 15, 2018, the Company announced the 2018 Share Repurchase Program (the "2018 Share Repurchase Program") pursuant to the Capital Allocation Policy. Under the 2018 Share Repurchase Program, the Company is authorized to repurchase up to \$1.5 billion of its common shares from December 1, 2018 through December 31, 2022, exclusive of any fees, commissions or other expenses. The Company may repurchase its common stock from time to time in privately negotiated transactions or open market transactions, including pursuant to a trading plan in accordance with Rule 10b5-1 and Rule 10b-18 of the Exchange Act, or by any combination of such methods or other methods. The timing of any repurchases and the actual number of shares repurchased will depend on a variety of factors, including the Company's stock price, corporate and regulatory requirements, restrictions under the Company's debt obligations and other market and economic conditions. There were \$138.9 million in repurchases of the Company's common stock under the 2018 Share Repurchase Program during the year ended December 31, 2019. As of December 31, 2019, the remaining authorized amount under the 2018 Share Repurchase Program was \$1,361.1 million.

Information relating to the Company's 2018 and 2014 Share Repurchase Programs is as follows (in millions, except per share data):

	Year ended December 31,		
	2019	2018	2017
Number of repurchased shares (1)	7.8	16.8	1.6
Aggregate purchase price	\$ 138.9	\$ 315.0	\$ 25.0
Fees, commissions and other expenses	0.1	0.3	—
Total cash used for share repurchases	<u>\$ 139.0</u>	<u>\$ 315.3</u>	<u>\$ 25.0</u>
Weighted-average purchase price per share	\$ 17.89	\$ 18.78	\$ 15.35
Available for future purchases at period end	\$ 1,361.1	\$ 1,500.0	\$ 603.2

(1) None of these shares had been reissued or retired as of December 31, 2019, but may be reissued or retired by the Company at a later date.

Shares for Restricted Stock Units Tax Withholding

Treasury stock is recorded at cost and is presented as a reduction of stockholders' equity in the accompanying consolidated financial statements. Shares with a fair market value equal to the applicable amount of the employee withholding taxes due are withheld by the Company upon the vesting of RSUs to pay the applicable amount of employee withholding taxes and are considered common stock repurchases. The Company then pays the applicable amount of withholding taxes in cash. The amounts remitted in the years ended December 31, 2019, 2018 and 2017 were \$33.5 million, \$31.6 million and \$28.1 million, respectively, for which the Company withheld approximately 1.6 million, 1.3 million and 1.8 million shares of common stock, respectively, that were underlying the RSUs that vested. None of these shares had been reissued or retired as of December 31, 2019, but may be reissued or retired by the Company at a later date. These deemed repurchases in connection with tax withholding upon vesting were not made under the 2018 or 2014 Share Repurchase Programs, and the amounts spent in connection with such deemed repurchases did not reduce the authorized amount remaining under the 2018 Share Repurchase Program.

Non-Controlling Interest

The Company owns 80% of the outstanding equity interests in Leshan, and the results of Leshan have been consolidated in the Company's financial statements. Leshan operates assembly and test operations in Leshan, China. At December 31, 2019, the Leshan non-controlling interest balance was \$22.4 million. This balance included the Leshan non-controlling interest's \$2.2 million share of the earnings for the year ended December 31, 2019 offset by \$2.3 million of dividends paid to the non-controlling shareholder of Leshan. At December 31, 2018, the Leshan non-controlling interest balance was \$22.5 million. This balance included the Leshan non-controlling interest's \$2.5 million share of the earnings for the year ended December 31, 2018 offset by \$2.2 million of dividends paid to the non-controlling shareholder of Leshan.

During 2018, the Company acquired an incremental 50% equity interest in OSA for approximately \$24.6 million, net of cash acquired. The Company is currently the majority owner with 60% of the equity interest in OSA. OSA operates a front-end wafer fabrication facility in Aizuwakamatsu, Japan. The results of OSA have been consolidated in the Company's financial statements. Due to the terms of the agreement with FSL, the former parent of OSA, there is no non-controlling interest balance recorded for the remaining 40% held by FSL. Subject to the fulfillment of certain conditions, the Company is required to increase its equity interest in OSA to 100% by no later than April 1, 2020.

Note 11: Share-Based Compensation

Total share-based compensation expense related to the Company's stock options, RSUs, stock grant awards and ESPP were recorded within the Consolidated Statements of Operations and Comprehensive Income as follows (in millions):

	Year Ended December 31,		
	2019	2018	2017
Cost of revenue	\$ 10.6	\$ 7.0	\$ 6.0
Research and development	17.0	14.3	12.5
Selling and marketing	14.8	14.1	11.7
General and administrative	37.0	42.9	39.6
Share-based compensation expense	79.4	78.3	69.8
Related income tax benefits at federal rate (1)	(16.7)	(16.4)	(24.4)
Share-based compensation expense, net of taxes	<u>\$ 62.7</u>	<u>\$ 61.9</u>	<u>\$ 45.4</u>

(1) Recognition of related income tax benefits are the result of the adoption of ASU 2016-09 during the first quarter of 2017 through a cumulative effect adjustment of \$68.1 million recorded as a credit to retained earnings as of January 1, 2017. Tax benefit is calculated using the federal statutory rate of 21% during the years ended December 31, 2019 and December 31, 2018, and 35% for the year ended December 31, 2017.

At December 31, 2019, total unrecognized share-based compensation expense, net of estimated forfeitures, related to non-vested RSUs with service, performance and market conditions was \$74.9 million, which is expected to be recognized over a weighted-average period of 1.3 years. The total intrinsic value of stock options exercised during the year ended December 31, 2019 was \$3.9 million. The Company received cash of \$1.7 million and \$26.2 million from the exercise of stock options and the issuance of shares under the ESPP, respectively. Upon option exercise, vesting of RSUs, stock grant awards, or completion of a purchase under the ESPP, the Company issues new shares of common stock.

Share-Based Compensation Information

The fair value per unit of RSU and stock grant award is determined on the grant date. There were no employee stock options granted during the years ended December 31, 2019, 2018 and 2017. Share-based compensation expense is based on awards ultimately expected to vest. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The annualized pre-vesting forfeitures for RSUs were estimated to be approximately 5% for the years ended December 31, 2019, 2018 and 2017.

Plan Descriptions

On March 23, 2010, the Company adopted the Amended and Restated SIP, which was subsequently approved by the Company's stockholders at the annual stockholder meeting on May 18, 2010 and reapproved by the Company's stockholders at the annual stockholder meeting on May 20, 2015. The Amended and Restated SIP provides key employees, directors and consultants with various equity-based incentives as described in the plan document. The Amended and Restated SIP is administered by the Board of Directors or a committee thereof, which is authorized to determine, among other things, the key employees, directors or consultants who will receive awards under the plan, the amount and type of award, exercise prices or performance criteria, if applicable, and vesting schedules. On May 15, 2012, stockholders approved certain amendments to the Amended and Restated SIP to increase the number of shares of common stock subject to all awards under the Amended and Restated SIP by 33.0 million. On May 17, 2017, stockholders approved certain amendments to the Amended and Restated SIP to increase the number of shares of common stock subject to all awards under the Amended and Restated SIP by 27.9 million to 87.0 million, exclusive of shares of common stock subject to awards that were previously granted pursuant to the 2000 SIP that have or will become available for grant pursuant to the Amended and Restated SIP.

Generally, RSUs granted under the Amended and Restated SIP vest over three years or based on the achievement of certain performance or market-based conditions and are payable in shares of the Company's stock upon vesting. The options granted under the Amended and Restated SIP vest over a period of three to four years and have a contractual term of seven years. Under the plan, certain outstanding options vest automatically upon a change of control, as defined in the plan document, provided the option holder is employed by the Company on the date of the change of control. Certain other outstanding options may also vest upon a change of control if the Board of Directors of the Company, at its discretion, provides for acceleration of the vesting of said options. Generally, upon the termination of an option holder's employment, all unvested options will immediately terminate and vested options will generally remain exercisable for a period of 90 days after the date of termination (one year in the case of death or disability).

As of December 31, 2019, there was an aggregate of 25.5 million shares of common stock available for grant under the Amended and Restated SIP.

Stock Options

The number of options outstanding at December 31, 2018 was 0.3 million at a weighted average exercise price of \$6.41 per option, of which 0.3 million options were exercised at a weighted average exercise price of \$6.37 per option during the year ended December 31, 2019. There were an insignificant number of options outstanding as of December 31, 2019, at a weighted average exercise price of \$8.19 per option and had an aggregate intrinsic value of \$0.2 million. All outstanding options had exercise prices below \$24.38 per share, the closing price of the Company's common stock at December 31, 2019, and will expire at varying times between 2020 and 2021.

Restricted Stock Units

A summary of the RSU transactions for the year ended December 31, 2019 are as follows (number of shares in millions):

	Number of Shares	Weighted-Average Grant Date Fair Value
Nonvested shares of RSUs at December 31, 2018	8.6	\$ 16.59
Granted	5.4	21.64
Achieved	0.2	24.46
Released	(4.8)	14.41
Canceled	(0.5)	19.74
Nonvested shares of RSUs at December 31, 2019	<u>8.9</u>	<u>20.84</u>

During 2019, the Company awarded 2.6 million RSUs to certain officers and employees of the Company that vest upon the achievement of certain performance criteria and market conditions. The number of units expected to vest is evaluated each reporting period and compensation expense is recognized for those units for which achievement of the performance criteria is considered probable. Compensation expense for RSUs with market conditions are recognized based on the grant date fair value

irrespective of the achievement of the condition.

As of December 31, 2019, unrecognized compensation expense, net of estimated forfeitures related to non-vested RSUs granted under the Amended and Restated SIP with service, performance and market conditions, was \$60.9 million, \$10.1 million and \$3.9 million, respectively. For RSUs with time-based service conditions, expense is being recognized over the vesting period; for RSUs with performance criteria, expense is recognized over the period during which the performance criteria is expected to be achieved; for RSUs with market conditions expense is recognized over the period in which the condition is assessed irrespective of whether it would be achieved or not. Unrecognized compensation cost related to awards with certain performance criteria that are not expected to be achieved is not included here. Total compensation expense related to performance-based, service-based, and market-based RSUs was \$69.8 million for the year ended December 31, 2019, which included \$48.4 million for RSUs with time-based service conditions that were granted in 2019 and prior that are expected to vest.

Stock Grant Awards

During the year ended December 31, 2019, the Company granted 0.1 million shares of stock under stock grant awards to certain directors of the Company with immediate vesting at a weighted-average grant date fair value of \$18.08 per share. Total compensation expense related to stock grant awards for the year ended December 31, 2019 was \$1.8 million.

Employee Stock Purchase Plan

On February 17, 2000, the Company adopted the ESPP. Subject to local legal requirements, each of the Company's eligible employees may elect to contribute up to 10% of eligible payroll applied towards the purchase of shares of the Company's common stock at a price equal to 85% of the fair market value of such shares as determined under the plan. Employees are limited to annual purchases of \$25,000 under this plan. In addition, during each quarterly offering period, employees may not purchase stock exceeding the lesser of: (i) 500 shares; or (ii) the number of shares equal to \$6,250 divided by the fair market value of the stock on the first day of the offering period. During the year ended December 31, 2019, employees purchased approximately 1.7 million shares under the ESPP. During the years ended December 31, 2018 and 2017, employees purchased approximately 1.5 million and 1.9 million shares, respectively, under the ESPP. On May 17, 2017 stockholders approved an amendment to the Company's ESPP which increased the number of shares reserved and available to be issued pursuant to the ESPP to a total of 28.5 million. As of December 31, 2019, there were approximately 4.8 million shares available for issuance under the ESPP. Total compensation expense related to the ESPP for the year ended December 31, 2019 was \$7.8 million.

Note 12: Employee Benefit Plans

Defined Benefit Pension Plans

The Company maintains defined benefit pension plans for employees of certain of its foreign subsidiaries. Such plans conform to local practice in terms of providing minimum benefits mandated by law, collective agreements or customary practice. The Company recognizes the aggregate amount of all overfunded plans as assets and the aggregate amount of all underfunded plans as liabilities in its financial statements. The Company's expected long-term rate of return on plan assets is updated at least annually, taking into consideration its asset allocation, historical returns on similar types of assets and the current economic environment. For estimation purposes, the Company assumes its long-term asset mix will generally be consistent with the current mix. The Company determines its discount rates using highly rated corporate bond yields and government bond yields.

Benefits under all of the Company's plans are valued utilizing the projected unit credit cost method. The Company's policy is to fund its defined benefit plans in accordance with local requirements and regulations. The funding is primarily driven by the Company's current assessment of the economic environment and projected benefit payments of its foreign subsidiaries. The Company's measurement date for determining its defined benefit obligations for all plans is December 31 of each year.

The Company recognizes actuarial gains and losses in the period the Company's annual pension plan actuarial valuations are prepared, which generally occurs during the fourth quarter of each year, or during any interim period where a revaluation is deemed necessary.

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The following is a summary of the status of the Company's foreign defined benefit pension plans and the net periodic pension cost (dollars in millions):

	Year Ended December 31,		
	2019	2018	2017
Service cost	\$ 9.4	\$ 9.6	\$ 10.0
Interest cost	5.0	4.7	4.3
Expected return on plan assets	(6.0)	(6.1)	(5.5)
Curtailement gain	—	(0.3)	—
Actuarial and other loss	15.6	6.1	1.9
Total net periodic pension cost	\$ 24.0	\$ 14.0	\$ 10.7
Weighted average assumptions			
Discount rate used for net periodic pension costs	1.74 %	1.66 %	1.60 %
Discount rate used for pension benefit obligations	1.43 %	1.74 %	1.66 %
Expected return on plan assets	3.23 %	3.18 %	3.22 %
Rate of compensation increase	3.07 %	3.22 %	3.22 %

The long term rate of return on plan assets was determined using the weighted-average method, which incorporates factors that include the historical inflation rates, interest rate yield curve and current market conditions.

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	2019	2018
Change in projected benefit obligation (PBO)		
Projected benefit obligation at the beginning of the year	\$ 290.8	\$ 292.7
Service cost	9.4	9.6
Interest cost	5.0	4.7
Net actuarial (gain) loss	25.8	(6.1)
Benefits paid by plan assets	(5.7)	(5.6)
Benefits paid by the Company	(3.8)	(1.7)
Curtailments and settlements	(0.2)	(0.6)
Translation and other (gain) loss	1.6	(2.2)
Projected benefit obligation at the end of the year	\$ 322.9	\$ 290.8
Accumulated benefit obligation at the end of the year	\$ 258.8	\$ 249.2
Change in plan assets		
Fair value of plan assets at the beginning of the year	\$ 174.9	\$ 183.4
Actual return (loss) on plan assets	16.2	(6.1)
Benefits paid from plan assets	(5.7)	(5.6)
Employer contributions	4.6	5.0
Settlements	(0.2)	(0.3)
Translation and other gain (loss)	0.4	(1.5)
Fair value of plan assets at the end of the year	\$ 190.2	\$ 174.9
As of December 31,		
	2019	2018
Plans with underfunded or non-funded projected benefit obligation		
Projected benefit obligation	\$ 314.7	\$ 282.6
Fair value of plan assets	180.5	166.2
Plans with underfunded or non-funded accumulated benefit obligation		
Accumulated benefit obligation	\$ 193.6	\$ 181.4
Fair value of plan assets	115.2	102.1
Amounts recognized in the balance sheet consist of		
Non-current assets	\$ —	\$ 0.3
Current liabilities	(0.3)	(0.2)
Non-current liabilities	(132.4)	(116.0)
Funded status	\$ (132.7)	\$ (115.9)

As of December 31, 2019 and 2018, respectively, the assets of the Company's foreign plans were invested 21% and 18% in equity securities, 19% and 19% in debt securities, including corporate bonds, 43% and 46% in insurance and investment contracts, 3% and 3% in cash and 14% and 14% in other investments, including foreign government securities, equity securities and mutual funds. This asset allocation is based on the anticipated required funding amounts, timing of benefit payments, historical returns on similar assets and the influence of the current economic environment.

Plan Assets

The Company's overall investment strategy is to focus on stable and low credit risk investments aimed at providing a positive rate of return to the plan assets. The Company has an investment mix with a wide diversification of asset types and fund strategies that are aligned with each region and foreign location's economy and market conditions. Investments in government securities are generally guaranteed by the respective government offering the securities. Investments in corporate bonds, equity

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securities, and foreign mutual funds are made with the expectation that these investments will give an adequate rate of long-term returns despite periods of high volatility. Other types of investments include investments in cash deposits, money market funds and insurance contracts. Asset allocations are based on the anticipated required funding amounts, timing of benefit payments, historical returns on similar assets and the influence of the current economic environment.

The following table sets forth, by level within the fair value hierarchy, a summary of investments measured at fair value and the asset allocations of the plan assets in the Company's foreign pension plans (in millions):

As of December 31, 2019					
Asset Category	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Cash/Money Markets	\$ 4.5	\$ 4.5	\$ —	\$ —	
Foreign Government/Treasury Securities (1)	19.4	19.4	—	—	
Corporate Bonds, Debentures (2)	35.3	—	35.3	—	
Equity Securities (3)	40.4	—	40.4	—	
Mutual Funds	8.0	—	8.0	—	
Investment and Insurance Annuity Contracts (4)	82.6	—	30.6	52.0	
	<u>\$ 190.2</u>	<u>\$ 23.9</u>	<u>\$ 114.3</u>	<u>\$ 52.0</u>	

As of December 31, 2018					
Asset Category	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Cash/Money Markets	\$ 4.6	\$ 4.6	\$ —	\$ —	
Foreign Government/Treasury Securities (1)	17.3	17.3	—	—	
Corporate Bonds, Debentures (2)	33.3	—	33.3	—	
Equity Securities (3)	32.3	—	32.3	—	
Mutual Funds	7.3	—	7.3	—	
Investment and Insurance Annuity Contracts (4)	80.1	—	29.5	50.6	
	<u>\$ 174.9</u>	<u>\$ 21.9</u>	<u>\$ 102.4</u>	<u>\$ 50.6</u>	

(1) Includes investments primarily in guaranteed return securities.

(2) Includes investments in government bonds and corporate bonds of developed countries, emerging market government bonds, emerging market corporate bonds and convertible bonds.

(3) Includes investments in equity securities of developed countries and emerging markets.

(4) Includes certain investments with insurance companies which guarantee a minimum rate of return on the investment.

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When available, the Company uses observable market data, including pricing on recently closed market transactions and quoted prices, which are included in Level 2. When data is unobservable, valuation methodologies using comparable market data are utilized and included in Level 3. Activity during the years ended December 31, 2019 and 2018, respectively, for plan assets with fair value measurement using significant unobservable inputs (Level 3) were as follows (in millions):

	Investment and Insurance Contracts
Balance at December 31, 2017	\$ 55.2
Actual return on plan assets	(0.5)
Purchase, sales and settlements, net	(2.0)
Foreign currency impact	(2.1)
Balance at December 31, 2018	\$ 50.6
Actual return on plan assets	3.3
Purchase, sales and settlements, net	(0.9)
Foreign currency impact	(1.0)
Balance at December 31, 2019	\$ 52.0

The expected benefit payments for the Company's defined benefit plans by year from 2020 through 2024 and the five years thereafter are as follows (in millions):

2020	\$ 5.0
2021	9.9
2022	12.0
2023	15.3
2024	15.6
Five years thereafter	110.7
Total	\$ 168.5

The total underfunded status was \$132.7 million at December 31, 2019. The Company expects to contribute \$17.3 million during 2020 to its foreign defined benefit plans.

Defined Contribution Plans

The Company has a deferred compensation savings plan for all eligible U.S. employees established under the provisions of Section 401(k) of the Internal Revenue Code (the "Code"). Eligible employees may contribute a percentage of their salary subject to certain limitations. The Company has elected to match 100% of employee contributions between 0% and 4% of their salary, with an annual limit of \$11,200. The Company recognized \$18.1 million, \$19.2 million and \$18.4 million of expense relating to matching contributions in 2019, 2018 and 2017, respectively.

Certain foreign subsidiaries have defined contribution plans in which eligible employees participate. The Company recognized compensation expense of \$20.6 million, \$20.5 million and \$16.8 million relating to these plans for the years ended 2019, 2018 and 2017, respectively.

Note 13: Commitments and Contingencies

Purchase Obligations

The Company has agreements with suppliers, external manufacturers and other parties to purchase inventory, manufacturing services and other goods and services. The following is a schedule by year of future minimum purchase obligations under non-cancelable arrangements in the ordinary course of business as of December 31, 2019 (in millions):

Year Ending December 31,		
2020	\$	275.0
2021		24.3
2022 (1)		345.2
2023		8.8
2024		6.8
Thereafter		5.5
Total	\$	<u>665.6</u>

(1) During 2019, the Company incurred additional commitments of \$330.0 million relating to the pending acquisition of a manufacturing facility.

Environmental Contingencies

The Company's headquarters in Phoenix, Arizona are located on property that is a "Superfund" site, which is a property listed on the National Priorities List and subject to clean-up activities under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). Motorola and Freescale (acquired by NXP Semiconductors N.V.) have been involved in the clean-up activities of on-site solvent contaminated soil and groundwater and off-site contaminated groundwater pursuant to consent decrees with the State of Arizona. As part of the Company's separation from Motorola in 1999, Motorola retained responsibility for this contamination, and Motorola and Freescale have agreed to indemnify the Company with respect to remediation costs and other costs or liabilities related to this matter. Any costs to the Company in connection with this matter have not been, and, based on the information available, are not expected to be, material.

The Company's former front-end manufacturing location in Aizu, Japan is located on property where soil and ground water contamination was detected. The Company believes that the contamination originally occurred during a time when the facility was operated by a prior owner. The Company worked with local authorities to implement a remediation plan and has completed remaining remediation. The majority of the cost of remediation was covered by insurance. During 2018, semi-annual groundwater monitoring indicated that the treatment was effective, and accordingly, we ceased such monitoring and have determined that this remediation project is complete. Any costs to the Company in connection with this matter have not been, and, based on the information available, are not expected to be material.

The Company's manufacturing facility in the Czech Republic has undergone remediation to respond to releases of hazardous substances that occurred during the years that this facility was operated by government-owned entities. The remediation projects consisted primarily of monitoring groundwater wells located on-site and off-site with additional action plans developed to respond in the event certain contamination levels are exceeded. The government of the Czech Republic has agreed to indemnify the Company and its respective subsidiaries, subject to specified limitations, for remediation costs associated with this historical contamination. The Company has completed remediation on this project, and accordingly, has ceased all related monitoring efforts. Any costs to the Company in connection with this matter have not been, and, based on the information available, are not expected to be, material.

The Company's design center in East Greenwich, Rhode Island is located on property that has localized soil contamination. In connection with the purchase of the facility, the Company entered into a Settlement Agreement and Covenant Not to Sue with the State of Rhode Island. This agreement requires that remedial actions be undertaken and a quarterly groundwater monitoring program be initiated by the former owners of the property. Any costs to the Company in connection with this matter have not been, and, based on the information available, are not expected to be material.

As a result of the acquisition of AMIS in 2008, the Company is a "primary responsible party" to an environmental remediation

and clean-up plan at AMIS's former corporate headquarters in Santa Clara, California. Costs incurred by AMIS include implementation of the clean-up plan, operations and maintenance of remediation systems, and other project management costs. However, AMIS's former parent company, a subsidiary of Nippon Mining, contractually agreed to indemnify AMIS and the Company for any obligations relating to environmental remediation and clean-up activities at this location. Any costs to the Company in connection with this matter have not been, and, based on the information available, are not expected to be material.

Through its acquisition of Fairchild, the Company acquired a facility in South Portland, Maine. This facility has ongoing environmental remediation projects to respond to certain releases of hazardous substances that occurred prior to the leveraged recapitalization of Fairchild from its former parent company, National Semiconductor Corporation, which is now owned by Texas Instruments Incorporated. Although the Company may incur certain liabilities with respect to these remediation projects, pursuant to a 1997 asset purchase agreement entered into in connection with the Fairchild recapitalization, National Semiconductor Corporation agreed to indemnify Fairchild, without limitation and for an indefinite period of time, for all future costs related to these projects. Under a 1999 asset purchase agreement pursuant to which Fairchild purchased the power device business of Samsung, Samsung agreed to indemnify Fairchild in an amount up to \$150.0 million for remediation costs and other liabilities related to historical contamination at Samsung's Bucheon, South Korea operations. Any costs to the Company in connection with this matter have not been, and, based on the information available, are not expected to be material.

Under a 2001 asset purchase agreement pursuant to which Fairchild purchased a manufacturing facility in Mountain Top, Pennsylvania, Intersil Corp. (subsequently acquired by Renesas Electronics Corporation) agreed to indemnify Fairchild for remediation costs and other liabilities related to historical contamination at the facility. Any costs to the Company incurred to respond to the above conditions and projects have not been, and are not expected to be, material, and any future payments the Company makes in connection with such liabilities are not expected to be material.

The Company was notified by the EPA that it has been identified as a PRP under CERCLA in the Chemetco Superfund matter. Chemetco, a defunct reclamation services supplier that operated in Hartford, Illinois at what is now a Superfund site, has performed reclamation services for the Company in the past. The EPA is pursuing Chemetco customers for contribution to the site clean-up activities. The Company has joined a PRP group, which is cooperating with the EPA in the evaluation and funding of the clean-up activities. Any costs to the Company in connection with this matter have not been, and, based on the information available, are not expected to be material.

Financing Contingencies

In the ordinary course of business, the Company provides standby letters of credit or other guarantee instruments to certain parties initiated by either the Company or its subsidiaries, as required for transactions, including, but not limited to, material purchase commitments, agreements to mitigate collection risk, leases, utilities or customs guarantees. As of December 31, 2019, the Company's Revolving Credit Facility included \$15.0 million of availability for the issuance of letters of credit. There were \$1.0 million letters of credit outstanding under the Revolving Credit Facility as of December 31, 2019, which reduces the Company's borrowing capacity. The Company also had outstanding guarantees and letters of credit outside of its Revolving Credit Facility totaling \$11.7 million as of December 31, 2019.

As part of obtaining financing in the ordinary course of business, the Company issued guarantees related to certain of its subsidiaries' finance lease obligations, and a line of credit, which totaled \$1.8 million as of December 31, 2019.

Based on historical experience and information currently available, the Company believes that it will not be required to make payments under the standby letters of credit or guarantee arrangements for the foreseeable future.

Indemnification Contingencies

The Company is a party to a variety of agreements entered into in the ordinary course of business pursuant to which it may be obligated to indemnify the other parties for certain liabilities that arise out of or relate to the subject matter of the agreements. Some of the agreements entered into by the Company require it to indemnify the other party against losses due to IP infringement, property damage (including environmental contamination), personal injury, failure to comply with applicable laws, the Company's negligence or willful misconduct or breach of representations and warranties and covenants related to such matters as title to sold assets.

The Company faces risk of exposure to warranty and product liability claims in the event that its products fail to perform as

expected or such failure of its products results, or is alleged to result, in economic damage, bodily injury or property damage. In addition, if any of the Company's designed products are alleged to be defective, the Company may be required to participate in their recall. Depending on the significance of any particular customer and other relevant factors, the Company may agree to provide more favorable rights to such customer for valid defective product claims.

The Company and its subsidiaries provide for indemnification of directors, officers and other persons in accordance with limited liability company operating agreements, certificates of incorporation, by-laws, articles of association or similar organizational documents, as the case may be. Section 145 of the Delaware General Corporation Law ("DGCL") authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers under certain circumstances and subject to certain limitations. The terms of Section 145 of the DGCL are sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement of expenses incurred, arising under the Exchange Act. As permitted by the DGCL, the Company's Amended and Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), contains provisions relating to the limitation of liability and indemnification of directors and officers. The Certificate of Incorporation eliminates the personal liability of each of the Company's directors to the fullest extent permitted by Section 102(b)(7) of the DGCL, as it may be amended or supplemented, and provides that the Company will indemnify its directors and officers to the fullest extent permitted by Section 145 of the DGCL, as amended from time to time.

The Company has entered into indemnification agreements with each of its directors and executive officers. The form of agreement (the "Indemnification Agreement") provides, subject to certain exceptions and conditions specified in the Indemnification Agreement, that the Company will indemnify each indemnitee to the fullest extent permitted by Delaware law against all expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with a proceeding or claim in which such person is involved because of his or her status as one of the Company's directors or executive officers. In addition, the Indemnification Agreement provides that the Company will, to the extent not prohibited by law and subject to certain exceptions and repayment conditions, advance specified indemnifiable expenses incurred by the indemnitee in connection with such proceeding or claim.

The Company also maintains directors' and officers' insurance policies that indemnify its directors and officers against various liabilities, including certain liabilities under the Exchange Act, that might be incurred by any director or officer in his or her capacity as such.

The agreement and plan of merger relating to the acquisition of Fairchild (the "Fairchild Agreement") provides for indemnification and insurance rights in favor of Fairchild's then current and former directors, officers and employees. Specifically, the Company has agreed that, for no fewer than six years following the Fairchild acquisition, the Company will: (a) indemnify and hold harmless each such indemnitee against losses and expenses (including advancement of attorneys' fees and expenses) in connection with any proceeding asserted against the indemnified party in connection with such person's services as a director, officer, employee or other fiduciary of Fairchild or its subsidiaries prior to the effective time of the acquisition; (b) maintain in effect all provisions of the certificate of incorporation or bylaws of Fairchild or any of its subsidiaries or any other agreements of Fairchild or any of its subsidiaries with any indemnified party regarding elimination of liability, indemnification of officers, directors and employees and advancement of expenses in existence on the date of the Fairchild Agreement for acts or omissions occurring prior to the effective time of the acquisition; and (c) subject to certain qualifications, provide to Fairchild's then current directors and officers an insurance and indemnification policy that provides coverage for events occurring prior to the effective time of the acquisition that is no less favorable than Fairchild's then-existing policy, or, if insurance coverage that is no less favorable is unavailable, the best available coverage.

Similarly, the agreement and plan of merger relating to the acquisition of Quantenna (the "Quantenna Agreement") provides for indemnification and insurance rights in favor of Quantenna's then current and former directors, officers, employees and agents. Specifically, the Company has agreed that, for no fewer than six years following the Quantenna acquisition, the Company will: (a) indemnify and hold harmless each such indemnified party to the fullest extent permitted by Delaware law in the event of any threatened or actual claim suit, action, proceeding or investigation against the indemnified party based in whole or in part on, or pertaining to, such person's serving as a director, officer, employee or agent of Quantenna or its subsidiaries or predecessors prior to the effective time of the acquisition or in connection with the Quantenna Agreement; (b) maintain in effect provisions of the certificate of incorporation and bylaws of Quantenna and each of its subsidiaries regarding the elimination of liability of directors and indemnification of officers, directors and employees that are no less advantageous to the intended beneficiaries than the corresponding provisions in the certificate of incorporation and bylaws of Quantenna and each of its subsidiaries in existence on the date of the Quantenna Agreement; and (c) obtain and fully pay the premium for a non-cancelable extension of directors' and officers' liability coverage of Quantenna's directors' and officers' policies and Quantenna's fiduciary liability

insurance policies in effect as of the date of the Quantenna Agreement.

While the Company's future obligations under certain agreements may contain limitations on liability for indemnification, other agreements do not contain such limitations and under such agreements it is not possible to predict the maximum potential amount of future payments due to the conditional nature of the Company's obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by the Company under any of these indemnities have not had a material effect on the Company's business, financial condition, results of operations or cash flows. Additionally, the Company does not believe that any amounts that it may be required to pay under these indemnities in the future will be material to the Company's business, financial position, results of operations, or cash flows.

Legal Matters

From time to time, the Company is party to various legal proceedings arising in the ordinary course of business, including indemnification claims, claims of alleged infringement of patents, trademarks, copyrights and other IP rights, claims of alleged non-compliance with contract provisions and claims related to alleged violations of laws and regulations. The Company regularly evaluates the status of the legal proceedings in which it is involved to assess whether a loss is probable or there is a reasonable possibility that a loss, or an additional loss, may have been incurred and determines if accruals are appropriate. If accruals are not appropriate, the Company further evaluates each legal proceeding to assess whether an estimate of possible loss or range of possible loss can be made for disclosure. Although litigation is inherently unpredictable, the Company believes that it has adequate provisions for any probable and estimable losses. Nevertheless, it is possible that the Company's consolidated financial position, results of operations or liquidity could be materially and adversely affected in any particular period by the resolution of a legal proceeding. The Company's estimates do not represent its maximum exposure. Legal expenses related to defense, negotiations, settlements, rulings and advice of outside legal counsel are expensed as incurred.

The Company is currently involved in a variety of legal matters that arise in the ordinary course of business. Based on information currently available, except as disclosed below, the Company is not involved in any pending or threatened legal proceedings that it believes could reasonably be expected to have a material adverse effect on its financial condition, results of operations or liquidity. The litigation process and the administrative process at the United States Patent and Trademark Office (the "USPTO") are inherently uncertain, and the Company cannot guarantee that the outcome of these matters will be favorable to it.

Patent Litigation with Power Integrations, Inc.

On October 19, 2019, the Company and Power Integrations, Inc. ("PI") entered into a Settlement Agreement (the "Settlement Agreement") pursuant to which the parties agreed to withdraw all outstanding legal and administrative disputes on the terms set forth in a binding term sheet previously entered into by and among the Company and PI on October 4, 2019 (the "Term Sheet"). Prior to entering into the Settlement Agreement, there were eleven outstanding civil litigation proceedings with PI, six of which were between SCI LLC and PI and five of which were pending between PI and various Fairchild entities (including Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and Fairchild (Taiwan) Corporation, f/k/a System General Corporation (collectively referred to in this sub-section as "Fairchild")) prior to the acquisition of Fairchild. There were also numerous outstanding administrative proceedings between the parties at the USPTO in which each party challenged the validity of the other party's patents.

Pursuant to the Settlement Agreement, the Company paid PI \$175.0 million in cash on October 22, 2019, and the parties have dismissed all previously pending litigation and administrative proceedings. In addition, each party agreed to release the other party from any claims to damages or monetary relief for alleged acts of patent infringement across the various patent infringement litigations and not to file any additional action for legal or equitable relief until June 30, 2023. Neither party granted any licenses to the other. The Company believes that the settlement will likely result in meaningful cost savings due to the elimination of litigation costs related to the previously pending civil litigation proceedings with PI. Further, the Company believes that the settlement will eliminate distractions to management resulting from uncertainty of the previously pending court actions and ensuing appeals, allowing management to focus more fully on pursuing business opportunities.

Litigation with AcBel Polytech, Inc.

On November 27, 2013, Fairchild and Fairchild Semiconductor Corporation were named as defendants in a complaint filed by AcBel Polytech, Inc. ("AcBel") in the U.S. District Court for the District of Massachusetts. The lawsuit alleged a number of causes of action, including breach of warranty, fraud, negligence and strict liability, and has been docketed as *AcBel Polytech*,

Inc. v. Fairchild Semiconductor International, Inc. et al, Case # 1:13-CV-13046-DJC. On December 10, 2016, the Court issued an order on the Company's motion for summary judgment dismissing all of AcBel's claims except for claims alleging breach of implied warranties. A bench trial was held in June 2017. On December 27, 2017, the Court rendered a verdict in favor of the Fairchild defendants on the remaining implied warranty claims. AcBel appealed the Court's ruling, and on September 11, 2018, the U.S. Court of Appeals for the First Circuit heard arguments in this matter from Fairchild and AcBel. On June 20, 2019, the First Circuit vacated the decision of the District Court in favor of Fairchild and remanded the matter for additional discovery and a new trial. The First Circuit also reversed the District Court's dismissal of the fraud, fraudulent misrepresentation and negligent misrepresentation claims at the summary judgment phase and remanded those claims for trial. The District Court scheduled a new trial for July 2020. The Company will continue to vigorously defend itself in this matter.

In parallel to the litigation with AcBel, Fairchild filed an arbitration against its distributor, Synnex Technology International Corp ("Synnex"), in Hong Kong in response to Synnex's failure to pass along Fairchild's limited warranty to AcBel. The arbitration was held in December 2017. On August 17, 2018, the arbitrator ruled in favor of Fairchild and ordered Synnex to indemnify Fairchild for any damages Fairchild is required to pay AcBel in connection with the litigation between Fairchild and AcBel. On November 16, 2018, Synnex appealed the arbitrator's ruling. A hearing was held on October 23, 2019, and on November 1, 2019, a Hong Kong court affirmed the arbitrator's ruling in favor of Fairchild.

Intellectual Property Matters

The Company faces risk of exposure from claims of infringement of the IP rights of others. In the ordinary course of business, the Company receives letters asserting that the Company's products or components breach another party's rights. Such letters may request royalty payments from the Company, that the Company cease and desist using certain IP or other remedies.

Note 14: Fair Value Measurements

Fair Value of Financial Instruments

The following table summarizes the Company's financial assets and liabilities, excluding pension assets, measured at fair value on a recurring basis (in millions):

Description	As of December 31, 2019	Fair Value Hierarchy		
		Level 1	Level 2	Level 3
Assets:				
Cash, cash equivalents:				
Demand and time deposits	\$ 28.2	\$ 28.2	—	—

Description	As of December 31, 2018	Fair Value Hierarchy		
		Level 1	Level 2	Level 3
Assets:				
Cash, cash equivalents:				
Demand and time deposits	\$ 21.2	\$ 21.2	—	—

During the year ended December 31, 2018, the contingent consideration payable relating to the earn-out for the AXSEM acquisition was reduced to zero due to a revision in the Company's expectations regarding the likelihood that the earn-out would be achieved.

Other

The carrying amounts of other current assets and liabilities, such as accounts receivable and accounts payable, approximate fair value based on the short-term nature of these instruments.

Fair Value of Long-Term Debt, Including Current Portion

The carrying amounts and fair values of the Company's long-term borrowings (excluding finance lease obligations, real estate mortgages and equipment financing) are as follows (in millions):

	As of December 31,			
	2019		2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Long-term debt, including current portion				
Convertible notes (1)	\$ 1,163.1	\$ 1,730.2	\$ 1,120.6	\$ 1,368.5
Long-term debt (1)	2,449.3	2,427.8	1,615.1	1,585.9

(1) Carrying amount shown is net of debt discounts and debt issuance costs.

The fair value of the Company's 1.00% Notes and 1.625% Notes were estimated based on market prices in active markets (Level 1). The fair value of other long-term debt was estimated based on discounting the remaining principal and interest payments using current market rates for similar debt (Level 2) at December 31, 2019 and December 31, 2018.

Fair Values Measured on a Non-Recurring Basis

Our non-financial assets, such as property, plant and equipment, goodwill and intangible assets are recorded at fair value upon acquisition and are remeasured at fair value only if an impairment charge is recognized. The Company uses unobservable inputs to the valuation methodologies that are significant to the fair value measurements, and the valuations require management's judgment due to the absence of quoted market prices. We determine the fair value of our held and used assets, goodwill and intangible assets using an income, cost or market approach as determined reasonable.

As of December 31, 2019 and December 31, 2018, there were no non-financial assets included in the Company's Consolidated Balance Sheet that were remeasured at fair value on a nonrecurring basis.

The following table shows the adjustments to fair value of certain of the Company's non-financial assets that had an impact on the Company's results of operations (in millions):

	Year Ended December 31,		
	2019	2018	2017
Nonrecurring fair value measurements			
Impairment of property, plant and equipment held-for-sale or disposal (Level 3)	\$ 3.4	\$ 2.4	\$ 7.9
Goodwill and IPRD (Level 3)	1.6	6.8	13.1
	<u>\$ 5.0</u>	<u>\$ 9.2</u>	<u>\$ 21.0</u>

Note 15: Financial Instruments

Foreign Currencies

As a multinational business, the Company's transactions are denominated in a variety of currencies. When appropriate, the Company uses forward foreign currency contracts to reduce its overall exposure to the effects of currency fluctuations on its results of operations and cash flows. The Company's policy prohibits trading in currencies for which there are no underlying exposures and entering into trades for any currency to intentionally increase the underlying exposure.

The Company primarily hedges existing assets and liabilities associated with transactions currently on its balance sheet, which are undesignated hedges for accounting purposes.

As of December 31, 2019 and 2018, the Company had net outstanding foreign exchange contracts with net notional amounts of \$183.3 million and \$157.3 million, respectively. Such contracts were obtained through financial institutions and were scheduled to mature within one to three months from the time of purchase. Management believes that these financial instruments should not subject the Company to increased risks from foreign exchange movements because gains and losses on these contracts should offset losses and gains on the underlying assets, liabilities and transactions to which they are related.

The following schedule summarizes the Company's net foreign exchange positions in U.S. dollars (in millions):

	As of December 31,			
	2019		2018	
	Buy (Sell)	Notional Amount	Buy (Sell)	Notional Amount
Japanese Yen	\$ 49.8	\$ 49.8	\$ 29.9	\$ 29.9
Philippine Peso	36.4	36.4	30.1	30.1
Malaysian Ringgit	20.4	20.4	—	—
Chinese Yuan	20.2	20.2	20.4	20.4
Korean Won	18.1	18.1	20.8	20.8
Czech Koruna	11.9	11.9	9.2	9.2
Euro	—	—	13.1	13.1
Other currencies - Buy	21.9	21.9	26.3	26.3
Other currencies - Sell	(4.6)	4.6	(7.5)	7.5
	\$ 174.1	\$ 183.3	\$ 142.3	\$ 157.3

Amounts receivable or payable under the contracts are included in other current assets or accrued expenses in the accompanying Consolidated Balance Sheets. For the years ended December 31, 2019, 2018 and 2017, realized and unrealized foreign currency transactions totaled a loss of \$5.0 million, \$8.0 million and \$6.3 million, respectively. The realized and unrealized foreign currency transactions are included in other income and expenses in the Company's Consolidated Statements of Operations and Comprehensive Income.

Cash Flow Hedges

All derivatives are recognized on the balance sheet at their fair value and classified based on the instrument's maturity date.

Interest rate risk

The Company uses interest rate swap contracts to mitigate its exposure to interest rate fluctuations. On February 25, 2019, the Company entered into interest rate swap agreements for notional amounts totaling \$1.0 billion (effective as of December 31, 2019) and \$750.0 million (effective as of December 31, 2020) with expiry dates of December 31, 2020 and December 31, 2021, respectively. The notional amounts of the interest rate swap agreements outstanding amounted to \$1.0 billion as of December 31, 2019 and December 31, 2018, respectively. The Company performed effectiveness assessments and concluded that there was no ineffectiveness during the year ended December 31, 2019.

Foreign currency risk

The purpose of the Company's foreign currency hedging activities is to protect the Company from the risk that the eventual cash flows resulting from transactions in foreign currencies will be adversely affected by changes in exchange rates. The Company enters into forward contracts that are designated as foreign currency cash flow hedges of selected forecasted payments denominated in currencies other than U.S. dollars.

The Company did not have outstanding derivatives for its foreign currency exposure designated as cash flow hedges as of December 31, 2019 and 2018.

See Note 17: "Changes in Accumulated Other Comprehensive Loss" for the effective amounts related to derivative instruments designated as cash flow hedges affecting accumulated other comprehensive loss and the Company's Consolidated Statements of Operations and Comprehensive Income for the year ended December 31, 2019.

Convertible Note Hedges

The Company entered into convertible note hedges in connection with the issuance of the 1.00% Notes and 1.625% Notes.

Other

At December 31, 2019, the Company had no outstanding commodity derivatives, currency swaps or options relating to either its debt instruments or investments. The Company does not hedge the value of its equity investments in its subsidiaries or affiliated companies. The Company is exposed to credit-related losses if counterparties to hedge contracts fail to perform their obligations. As of December 31, 2019, the counterparties to the Company's hedge contracts are held at financial institutions which the Company believes to be highly rated, and no credit related losses are anticipated.

Note 16: Income Taxes

The Company's geographic sources of income (loss) before income taxes and non-controlling interest are as follows (in millions):

	Year ended December 31,		
	2019	2018	2017
United States	\$ (308.2)	\$ (181.8)	\$ (270.1)
Foreign	584.8	936.8	817.6
	<u>\$ 276.6</u>	<u>\$ 755.0</u>	<u>\$ 547.5</u>

The Company's provision (benefit) for income taxes is as follows (in millions):

	Year ended December 31,		
	2019	2018	2017
Current:			
Federal	\$ 1.2	\$ (2.0)	\$ 26.3
State and local	—	(2.2)	0.2
Foreign	48.5	55.3	53.1
	<u>49.7</u>	<u>51.1</u>	<u>79.6</u>
Deferred:			
Federal	(5.0)	99.4	(356.3)
State and local	—	—	0.4
Foreign	18.0	(25.4)	10.8
	<u>13.0</u>	<u>74.0</u>	<u>(345.1)</u>
Total provision (benefit)	<u>\$ 62.7</u>	<u>\$ 125.1</u>	<u>\$ (265.5)</u>

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On December 22, 2017, the U.S. enacted comprehensive tax legislation, (the "Tax Act"). The Tax Act reduced the U.S. federal corporate tax rate from 35% to 21%, and required companies to pay a one-time mandatory repatriation tax on earnings of certain foreign subsidiaries that were previously tax deferred and created new taxes on certain future foreign earnings. In December 2017, the SEC staff issued Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act ("SAB 118"), which allowed the Company to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. As of December 31, 2017, the Company had not completed its accounting for the tax effects of the enactment of the Tax Act; however, in certain cases, specifically as follows, the Company had made a reasonable estimate of (i) the effects on its existing deferred tax balances and (ii) the effects of the one-time mandatory repatriation tax. The Company had recognized a provisional tax benefit of \$449.9 million in the year ended December 31, 2017 associated with the items it could reasonably estimate as described in the reconciliation of the U.S. federal statutory income tax rate to the Company's effective income tax rate table.

The Company completed its accounting for the provisions of the Tax Act as of December 22, 2018, which marked the end of the measurement period pursuant to SAB 118. With respect to (i) the effects on its existing deferred tax asset balances, the Company recognized an additional tax expense of \$31.8 million related to the Company's deferred tax liability for undistributed prior years' earnings of the Company's foreign subsidiaries and \$1.8 million for the impact to deferred taxes related to an increase in the limitation on deductibility of prior years' executive compensation. With respect to (ii) the tax effects of the one-time mandatory repatriation tax, the Company recognized an additional expense of \$1.5 million. The Company has concluded on the policy to record Global Intangible Low Tax Income ("GILTI") as a period cost. The Company has also concluded on the policy of tax law ordering for reflecting the realization of the net operating losses related to GILTI as a permanent adjustment.

A reconciliation of the U.S. federal statutory income tax rate to the Company's effective income tax rate is as follows:

	Year ended December 31,		
	2019	2018	2017
U.S. federal statutory rate	21.0 %	21.0 %	35.0 %
Increase (decrease) resulting from:			
State and local taxes, net of federal tax benefit	(2.6)	(1.0)	2.2
Impact of U.S. Tax Reform and related effects (1)	—	4.7	(82.2)
Impact of foreign operations	3.8	(1.2)	(1.5)
Impact of U.S. tax method changes (2)	—	(6.4)	—
Change in valuation allowance and related effects (3) (4)	1.8	0.6	0.4
Non-deductible share-based compensation costs	(0.5)	(0.5)	(1.6)
U.S. federal R&D credit	(3.7)	(1.1)	(1.5)
Nondeductible officer compensation	1.5	0.4	0.8
Other	1.4	0.1	(0.1)
Total	22.7 %	16.6 %	(48.5) %

(1) For the year ended December 31, 2018, this primarily included expense of \$31.8 million, or 4.2%, related to the recognition of the Company's deferred tax liability for undistributed prior years' earnings of the Company's foreign subsidiaries, \$1.8 million, or 0.3% related to the limitation on deductibility of prior years' executive compensation, and \$1.5 million, or 0.2% related to the impact of the mandatory repatriation tax. These adjustments were made pursuant to SAB 118. For the year ended December 31, 2017, this included the benefit of \$744.1 million, or 135.9% for the reduction in the Company's deferred tax liability for undistributed current and prior years' earnings of the Company's foreign subsidiaries and the benefit of \$33.0 million, or 6.0% for the release of valuation allowance on federal foreign tax credit carryforwards which were utilized against the mandatory repatriation tax. These benefits were offset by the expense for the mandatory repatriation tax, net of unrecognized tax benefits, of \$207.1 million, or 37.8% and expense related to the change in the federal rate from 35% to 21% of \$120.1 million, or 21.9% on the Company's remaining net federal deferred tax asset balances.

(2) For the year ended December 31, 2018, this included a one-time benefit of \$48.2 million, or 6.4%, related to U.S. tax method changes made during the year that impacted the Company's GILTI inclusion.

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- (3) For the year ended December 31, 2019, this included an expense of \$11.2 million, or 4.0%, primarily related to the write-off of Hong Kong net operating loss (“NOL”) and expiration of Japan NOL, netted with the offsetting benefit of \$11.2 million, or 4.0%, primarily for the decrease in related valuation allowance for those same Hong Kong and Japan net operating losses. For the year ended December 31, 2018, this included an expense of \$135.2 million, or 17.9%, primarily related to the expiration of Japan net operating losses, netted with the offsetting benefit of \$135.2 million, or 17.9%, primarily for the decrease in the related valuation allowance for those same Japan net operating losses.
- (4) For the year ended December 31, 2017, the Company included the benefit related to the change in valuation allowance on federal foreign tax credits which were previously set to expire unutilized but were utilized against the expense related to the mandatory repatriation tax of \$33.0 million or 6.0%, in the line “Impact of U.S. Tax Reform and related effects”

The Company’s effective tax rate for 2019 was 22.7%, which differs from the U.S. federal income tax rate of 21.0%, primarily due to foreign taxes for which the Company will not receive a U.S. tax credit as well as period costs related to the Company’s GILTI inclusion.

The Company’s effective tax rate for 2018 was 16.6%, which differs from the U.S. federal statutory income tax rate of 21% primarily due to a one-time benefit of U.S. tax method changes made during the year that impacted the Company’s GILTI inclusion. The Company’s effective tax rate for 2017 was a benefit of 48.5%, which differs from the U.S. federal statutory income tax rate of 35% primarily due to impact of the U.S. tax reform codified under the Tax Act.

The tax effects of temporary differences in the recognition of income and expense for tax and financial reporting purposes that give rise to significant portions of the net deferred tax asset (liability) are as follows (in millions):

	As of December 31,	
	2019	2018
Net operating loss and tax credit carryforwards	\$ 612.9	\$ 584.9
163 (j) interest expense carryforward	49.3	—
Tax-deductible goodwill and amortizable intangibles	(48.6)	(29.4)
Capitalization of research and development expenses	42.7	—
Reserves and accruals	27.5	57.4
Property, plant and equipment	(81.2)	(63.5)
Inventories	22.0	20.2
Undistributed earnings of foreign subsidiaries	(63.7)	(48.7)
Share-based compensation	10.3	7.7
Pension	26.3	24.3
Other	8.0	6.0
Deferred tax assets and liabilities before valuation allowance	605.5	558.9
Valuation allowance	(357.9)	(347.5)
Net deferred tax asset	\$ 247.6	\$ 211.4

As of December 31, 2019 and 2018, the Company had approximately \$521.9 million and \$768.9 million, respectively, of federal NOL carryforwards, before reduction for unrecognized tax benefits, which are subject to annual limitations prescribed in Section 382 of the Internal Revenue Code. The decrease is due to current year utilization. If not utilized, a portion of the NOLs will expire in varying amounts from 2024 to 2036; however, a small portion of the NOL that was generated after December 31, 2017 is carried forward indefinitely.

As of December 31, 2019 and 2018, the Company had approximately \$134.5 million and \$83.7 million, respectively, of federal credit carryforwards, before consideration of valuation allowance or reduction for unrecognized tax benefits, which are subject to annual limitations prescribed in Section 383 of the Internal Revenue Code. If not utilized, the credits will expire in varying amounts from 2028 to 2039.

As of December 31, 2019 and 2018, the Company had approximately \$825.8 million and \$801.0 million, respectively, of state NOL carryforwards, before consideration of valuation allowance or reduction for unrecognized tax benefits. If not utilized, a

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portion of the NOLs will expire in varying amounts starting in 2020. Certain states have adopted the federal rule allowing unlimited NOL carryover for NOLs generated in tax years beginning after December 31, 2017. Therefore, a portion of the state NOLs generated after 2017 carry forward indefinitely. As of December 31, 2019 and 2018, the Company had \$138.6 million and \$115.8 million, respectively, of state credit carryforwards before consideration of valuation allowance or reduction for unrecognized tax benefits. If not utilized, a portion of the credits will begin to expire in varying amounts starting in 2020.

As of December 31, 2019 and 2018, the Company had approximately \$757.1 million and \$734.4 million, respectively, of foreign NOL carryforwards, before consideration of valuation allowance. If not utilized, a portion of the NOLs will begin to expire in varying amounts starting in 2020. A significant portion of these NOLs will expire by 2025. As of December 31, 2019 and 2018, the Company had \$76.8 million and \$68.8 million, respectively, of foreign credit carryforwards before consideration of valuation allowance. If not utilized, the majority of these credits will expire by 2026.

The Company continues to maintain a valuation allowance of \$186.3 million on a portion of its Japan NOLs, which expire in varying amounts from 2020 to 2024.

In addition to the valuation allowance mentioned above on Japan NOLs, the Company continues to maintain a full valuation allowance on its U.S. state deferred tax assets, and a valuation allowance on foreign NOLs and tax credits in certain other foreign jurisdictions.

At December 31, 2019, 2018 and 2017, respectively, the Company was not indefinitely reinvested with respect to the earnings of its foreign subsidiaries and has therefore accrued withholding taxes that would be owed upon future distributions of such earnings.

The Company maintains liabilities for unrecognized tax benefits. These liabilities involve considerable judgment and estimation and are continuously monitored by management based on the best information available, including changes in tax regulations, the outcome of relevant court cases, and other information. The Company is currently under examination by various taxing authorities. Although the outcome of any tax audit is uncertain, the Company believes that it has adequately provided in its consolidated financial statements for any additional taxes that the Company may be required to pay as a result of such examinations. If the payment ultimately proves not to be necessary, the reversal of these tax liabilities would result in tax benefits being recognized in the period the Company determines such liabilities are no longer necessary. However, if an ultimate tax assessment exceeds the Company's estimate of tax liabilities, additional tax expense will be recorded. The impact of such adjustments could have a material impact on the Company's results of operations in future periods.

The activity for unrecognized gross tax benefits is as follows (in millions):

	2019	2018	2017
Balance at beginning of year	\$ 112.2	\$ 114.8	\$ 136.7
Acquired balances	15.5	—	—
Additions for tax benefits related to the current year	9.4	7.4	23.6
Additions for tax benefits of prior years	8.0	2.8	4.7
Reductions for tax benefits of prior years	(0.2)	(1.9)	(1.6)
Lapse of statute	(8.2)	(10.9)	(16.3)
Settlements	(6.7)	—	(4.9)
Change in rate due to U.S. Tax Reform	—	—	(27.4)
Balance at end of year	<u>\$ 130.0</u>	<u>\$ 112.2</u>	<u>\$ 114.8</u>

Included in the December 31, 2019 balance of \$130.0 million is \$97.2 million related to unrecognized tax benefits that, if recognized, would impact the annual effective tax rate. Also included in the balance of unrecognized tax benefits as of December 31, 2019 is \$32.8 million of benefit that, if recognized, would result in adjustments to other tax accounts, primarily deferred taxes. Although the Company cannot predict the timing of resolution with taxing authorities, if any, the Company believes it is reasonably possible that its unrecognized tax benefits will be reduced by \$1.5 million in the next 12 months due to settlement with tax authorities or expiration of the applicable statute of limitations.

The Company did not recognize any additional tax benefit or expense for interest and penalties during the year ended

ON SEMICONDUCTOR CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

December 31, 2019. The Company recognized approximately \$0.8 million of tax benefit and \$1.5 million of tax expense for interest and penalties during the years ended December 31, 2018 and 2017, respectively. The Company had approximately \$5.1 million, \$5.1 million, and \$5.9 million of accrued interest and penalties at December 31, 2019, 2018, and 2017, respectively. The Company recognizes interest and penalties accrued in relation to unrecognized tax benefits in tax expense.

Tax years prior to 2016 are generally not subject to examination by the IRS except for items involving tax attributes that have been carried forward to tax years whose statute of limitations remains open. The Company is not currently under IRS examination. For state returns, the Company is generally not subject to income tax examinations for years prior to 2015. The Company is also subject to routine examinations by various foreign tax jurisdictions in which it operates. With respect to jurisdictions outside the United States, the Company's subsidiaries are generally no longer subject to income tax audits for years prior to 2009. The Company is currently under audit in the following jurisdictions including, but not limited to, Canada, China, the Czech Republic, the Philippines, Singapore and the United Kingdom.

Note 17: Changes in Accumulated Other Comprehensive Loss

Amounts comprising the Company's accumulated other comprehensive loss and reclassifications are as follows (in millions):

	Foreign Currency Translation Adjustments	Effects of Cash Flow Hedges	Total
<i>Balance December 31, 2017</i>	\$ (43.2)	2.6	\$ (40.6)
Other comprehensive income (loss) prior to reclassifications	0.7	(1.3)	(0.6)
Amounts reclassified from accumulated other comprehensive loss	—	3.3	3.3
Net current period other comprehensive income (1)	0.7	2.0	2.7
<i>Balance December 31, 2018</i>	(42.5)	4.6	(37.9)
Other comprehensive income (loss) prior to reclassifications	0.1	(19.6)	(19.5)
Amounts reclassified from accumulated other comprehensive loss	—	3.1	3.1
Net current period other comprehensive income (loss) (1)	0.1	(16.5)	(16.4)
<i>Balance December 31, 2019</i>	\$ (42.4)	\$ (11.9)	\$ (54.3)

(1) Effects of cash flow hedges are net of tax benefit of \$4.4 million and net of tax expense of \$0.5 million for the years ended December 31, 2019 and December 31, 2018, respectively.

Amounts which were reclassified from accumulated other comprehensive loss to the Company's Consolidated Statements of Operations and Comprehensive Income were as follows (net of tax of \$0.7 million and \$0.8 million in 2019 and 2018, respectively, in millions):

	Amounts Reclassified from Accumulated Other Comprehensive Loss - Year Ended December 31,		Statement of Operations and Comprehensive Income Line Item
	2019	2018	
Interest rate swaps	\$ (3.1)	\$ (3.3)	Interest expense
Total reclassifications	\$ (3.1)	\$ (3.3)	

Note 18: Supplemental Disclosures

Supplemental Disclosure of Cash Flow Information

The Company's non-cash financing activities and cash payments for interest and income taxes are as follows (in millions):

ON SEMICONDUCTOR CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

	Year ended December 31,		
	2019	2018	2017
Non-cash financing activities:			
Liability incurred for purchase of business	\$ 12.7	\$ —	\$ —
Debt assumed through purchase of equity interest and assets	—	50.6	—
Non-cash activities:			
Capital expenditures in accounts payable and other liabilities	\$ 155.3	\$ 233.9	\$ 165.6
Right-of-use assets obtained in exchange of lease liabilities (1)	17.5		
Cash (received) paid for:			
Interest income	\$ (10.2)	\$ (6.1)	\$ (3.0)
Interest expense	97.2	80.0	92.1
Income taxes, net of refunds	62.9	53.2	67.8
Operating lease payments in operating cash flows (1)	37.6		

(1) These disclosures are not applicable for the years ended December 31, 2018 and 2017 due to the method of adoption of the New Leasing Standard.

The Company adopted ASU 2016-18 on a retrospective basis during the year ended December 31, 2018. The following is a reconciliation of the captions in the Consolidated Balance Sheets to the Consolidated Statements of Cash Flows (in millions):

	As of December 31,		
	2019	2018	2017
Consolidated Balance Sheets:			
Cash and cash equivalents	\$ 894.2	\$ 1,069.6	\$ 949.2
Restricted cash (included in other current assets)	—	17.5	17.4
Cash, cash equivalents and restricted cash in Consolidated Statements of Cash Flows	<u>\$ 894.2</u>	<u>\$ 1,087.1</u>	<u>\$ 966.6</u>

The restricted cash balance, which included the consideration held in escrow for the acquisition of Aptina in 2014, was settled during the year ended December 31, 2019, upon satisfaction of certain outstanding items contained in the merger agreement relating to such acquisition.

Note 19: Supplementary Financial Information - Selected Quarterly Financial Data (Unaudited)

Consolidated unaudited quarterly financial information is as follows (in millions, except per share data):

ON SEMICONDUCTOR CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

	Quarters ended in 2019			
	March 29	June 28	September 27 (1)	December 31
Revenue	\$ 1,386.6	\$ 1,347.7	\$ 1,381.8	\$ 1,401.8
Gross Profit (exclusive of the amortization of acquisition-related intangible assets)	513.7	499.0	475.2	485.7
Net income (loss) attributable to ON Semiconductor Corporation	114.1	101.8	(60.7)	56.5
Diluted net income (loss) per common share attributable to ON Semiconductor Corporation	0.27	0.24	(0.15)	0.14

(1) The net loss for the quarter ended September 27, 2019 was primarily due to the expensing of \$169.5 million relating to the settlement of litigation with PI.

	Quarters ended in 2018			
	March 30	June 29	September 28	December 31
Revenue	\$ 1,377.6	\$ 1,455.9	\$ 1,541.7	\$ 1,503.1
Gross Profit (exclusive of the amortization of acquisition-related intangible assets)	517.4	555.0	596.6	569.7
Net income attributable to ON Semiconductor Corporation	139.6	155.3	166.9	165.6
Diluted net income per common share attributable to ON Semiconductor Corporation	0.31	0.35	0.38	0.39

ON SEMICONDUCTOR CORPORATION
SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
(in millions)

Description	Balance at Beginning of Period	Charged (Credited) to Costs and Expenses	Charged to Other Accounts	Deductions/Write- offs	Balance at End of Period
<i>Allowance for deferred tax assets</i>					
Year ended December 31, 2017	\$ 474.1	\$ (30.6)	\$ 18.8 (1)	\$ —	\$ 462.3
Year ended December 31, 2018	462.3	4.6	15.8 (1)	(135.2) (2)	347.5
Year ended December 31, 2019	347.5	5.0	16.6 (3)	(11.2) (4)	357.9

(1) Primarily represents the effects of cumulative translation adjustments.

(2) Primarily relates to the expiration of Japan net operating losses. See Note 16: "Income Taxes".

(3) Primarily represents the effects of cumulative translation adjustments and includes \$14.0 million of additional allowance for deferred tax assets arising from the Quantenna acquisition.

(4) Primarily relates to the write-off of Hong Kong net operating losses upon the liquidation of Sanyo Semiconductor (H.K.) Co., Ltd. as well as the expiration of Japan net operating losses.

ON SEMICONDUCTOR CORPORATION

and

THE GUARANTORS NAMED HEREIN

1.00% CONVERTIBLE SENIOR NOTES DUE 2020

FOURTH SUPPLEMENTAL INDENTURE
AND AMENDMENT – GUARANTEE

DATED AS OF JANUARY 7, 2020

WELLS FARGO BANK, NATIONAL ASSOCIATION,

Trustee

This FOURTH SUPPLEMENTAL INDENTURE (this “Supplemental Indenture”), dated as of January 7, 2020, is among ON Semiconductor Corporation, a Delaware corporation (the “Company”), ON Semiconductor Connectivity Solutions, Inc., a Delaware corporation (the “Guarantor”), and Wells Fargo Bank, National Association, a national banking association, as Trustee.

RECITALS

WHEREAS, the Company, the initial Guarantors and the Trustee entered into an Indenture, dated as of June 8, 2015 (the “Indenture”), pursuant to which the Company has issued \$690,000,000 in principal amount of 1.00% Convertible Senior Notes due 2020 (the “Notes”); and

WHEREAS, Section 10.01(c) of the Indenture provides that the Company, the Guarantors and the Trustee may amend or supplement the Indenture in order to add Guarantors with respect to the Notes, without the consent of the Holders; and

WHEREAS, all acts and things prescribed by the Indenture, by law and by the Certificate of Incorporation and the Bylaws (or comparable constituent documents) of the Company, of the Guarantors and of the Trustee necessary to make this Supplemental Indenture a valid instrument legally binding on the Company, the Guarantors and the Trustee, in accordance with its terms, have been duly done and performed;

NOW, THEREFORE, to comply with the provisions of the Indenture and in consideration of the above premises, the Company, the Guarantors and the Trustee covenant and agree for the equal and proportionate benefit of the respective Holders as follows:

ARTICLE 1

Section 1.01 This Supplemental Indenture is supplemental to the Indenture and does and shall be deemed to form a part of, and shall be construed in connection with and as part of, the Indenture for any and all purposes.

Section 1.02 This Supplemental Indenture shall become effective immediately upon its execution and delivery by each of the Company, the Guarantor and the Trustee.

ARTICLE 2

From this date, by executing this Supplemental Indenture, the Guarantor whose signature appears below shall be a Guarantor with respect to the Notes on terms contemplated by and subject to the provisions of Article 13 of the Indenture.

ARTICLE 3

Section 3.01 Except as specifically modified herein, the Indenture and the Notes are in all respects ratified and confirmed (mutatis mutandis) and shall remain in full force and effect in accordance with their terms with all capitalized terms used herein without definition having the same respective meanings ascribed to them as in the Indenture.

Section 3.02 Except as otherwise expressly provided herein, no duties, responsibilities or liabilities are assumed, or shall be construed to be assumed, by the Trustee by reason of this Supplemental Indenture. This Supplemental Indenture is executed and accepted by the Trustee subject to all the terms and conditions set forth in the Indenture with the same force and effect as if those terms and conditions were repeated at length herein and made applicable to the Trustee with respect hereto.

Section 3.03 THIS SUPPLEMENTAL INDENTURE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

Section 3.04 The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of such executed copies together shall represent the same agreement.

[NEXT PAGE IS SIGNATURE PAGE]

IN WITNESS WHEREOF, the parties hereto have caused this Supplemental Indenture to be duly executed, all as of the date first written above.

ON SEMICONDUCTOR CORPORATION

By /s/ Keith D. Jackson
Name: Keith D. Jackson
Title: President and Chief Executive Officer

**ON SEMICONDUCTOR CONNECTIVITY
SOLUTIONS, INC.**

By /s/ George H. Cave
Name: George H. Cave
Title: Secretary

**WELLS FARGO BANK, NATIONAL ASSOCIATION,
AS TRUSTEE**

By /s/ Michael Q. Tu
Name: Michael Q. Tu
Title: Vice President

Signature page to Fourth Supplemental Indenture to 1.00% Notes Indenture

ON SEMICONDUCTOR CORPORATION

and

THE GUARANTORS NAMED HEREIN

1.625% CONVERTIBLE SENIOR NOTES DUE 2023

FIRST SUPPLEMENTAL INDENTURE
AND AMENDMENT – GUARANTEE

DATED AS OF JANUARY 7, 2020

WELLS FARGO BANK, NATIONAL ASSOCIATION,

Trustee

This FIRST SUPPLEMENTAL INDENTURE (this “Supplemental Indenture”), dated as of January 7, 2020, is among ON Semiconductor Corporation, a Delaware corporation (the “Company”), ON Semiconductor Connectivity Solutions, Inc., a Delaware corporation (the “Guarantor”), and Wells Fargo Bank, National Association, a national banking association, as Trustee.

RECITALS

WHEREAS, the Company, the initial Guarantors and the Trustee entered into an Indenture, dated as of March 31, 2017 (the “Indenture”), pursuant to which the Company has issued \$575,000,000 in principal amount of 1.625% Convertible Senior Notes due 2023 (the “Notes”); and

WHEREAS, Section 10.01(c) of the Indenture provides that the Company, the Guarantors and the Trustee may amend or supplement the Indenture in order to add Guarantors with respect to the Notes, without the consent of the Holders; and

WHEREAS, all acts and things prescribed by the Indenture, by law and by the Certificate of Incorporation and the Bylaws (or comparable constituent documents) of the Company, of the Guarantors and of the Trustee necessary to make this Supplemental Indenture a valid instrument legally binding on the Company, the Guarantors and the Trustee, in accordance with its terms, have been duly done and performed;

NOW, THEREFORE, to comply with the provisions of the Indenture and in consideration of the above premises, the Company, the Guarantors and the Trustee covenant and agree for the equal and proportionate benefit of the respective Holders as follows:

ARTICLE 1

Section 1.01 This Supplemental Indenture is supplemental to the Indenture and does and shall be deemed to form a part of, and shall be construed in connection with and as part of, the Indenture for any and all purposes.

Section 1.02 This Supplemental Indenture shall become effective immediately upon its execution and delivery by each of the Company, the Guarantor and the Trustee.

ARTICLE 2

From this date, by executing this Supplemental Indenture, the Guarantor whose signature appears below shall be a Guarantor with respect to the Notes on terms contemplated by and subject to the provisions of Article 13 of the Indenture.

ARTICLE 3

Section 3.01 Except as specifically modified herein, the Indenture and the Notes are in all respects ratified and confirmed (mutatis mutandis) and shall remain in full force and effect in accordance with their terms with all capitalized terms used herein without definition having the same respective meanings ascribed to them as in the Indenture.

Section 3.02 Except as otherwise expressly provided herein, no duties, responsibilities or liabilities are assumed, or shall be construed to be assumed, by the Trustee by reason of this Supplemental Indenture. This Supplemental Indenture is executed and accepted by the Trustee subject to all the terms and conditions set forth in the Indenture with the same force and effect as if those terms and conditions were repeated at length herein and made applicable to the Trustee with respect hereto.

Section 3.03 THIS SUPPLEMENTAL INDENTURE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

Section 3.04 The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of such executed copies together shall represent the same agreement.

[NEXT PAGE IS SIGNATURE PAGE]

IN WITNESS WHEREOF, the parties hereto have caused this Supplemental Indenture to be duly executed, all as of the date first written above.

ON SEMICONDUCTOR CORPORATION

By /s/ Keith D. Jackson
Name: Keith D. Jackson
Title: President and Chief Executive Officer

**ON SEMICONDUCTOR CONNECTIVITY
SOLUTIONS, INC.**

By /s/ George H. Cave
Name: George H. Cave
Title: Secretary

**WELLS FARGO BANK, NATIONAL ASSOCIATION,
AS TRUSTEE**

By /s/ Michael Q. Tu
Name: Michael Q. Tu
Title: Vice President

Signature page to First Supplemental Indenture to 1.625% Notes Indenture

**DESCRIPTION OF THE REGISTRANT’S SECURITIES
REGISTERED UNDER SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934, AS AMENDED**

Our common stock is registered under Section 12 of the Securities Exchange Act of 1934, as amended.

DESCRIPTION OF COMMON STOCK

In the paragraphs below, we describe our common stock. However, this summary does not purport to be complete and is subject to, and is qualified in its entirety by express reference to, the provisions of our Certificate of Incorporation (the “Certificate”) and our bylaws (the “Bylaws”), each as amended, copies of which have been filed with the Securities and Exchange Commission (the “Commission”) and the applicable provisions of the Delaware General Corporation Law (the “DGCL”).

References herein to “we,” “us,” “our” or the “Company” refer to ON Semiconductor Corporation.

Authorized Capital Stock

The Certificate provides that the total number of shares of capital stock that may be issued by the Company is 1,250,100,000, and the number of authorized shares and the par value of the shares of each such class are as follows:

Class	No. of Shares Authorized	Par Value
Common	1,250,000,000	\$ 0.01
Preferred	100,000	\$ 0.01

Description of the Company’s Common Stock

Voting Rights

General

Except as otherwise provided by law or as set forth in the Certificate or as otherwise provided by any outstanding series of preferred stock, the holders of the Company’s common stock will have general voting power on all matters as a single class.

Votes Per Share

On each matter to be voted on by the holders of the Company’s common stock, each outstanding share of the Company’s common stock will be entitled to one vote per share.

Cumulative Voting

Holders of the Company’s common stock are not entitled to cumulative voting of their shares in elections of Directors.

Liquidation Rights

In the event of a voluntary or involuntary liquidation, dissolution, or winding up of the Company, the prior rights of the Company’s creditors and the liquidation preference of any preferred stock then outstanding must first be satisfied. The holders of common stock will be entitled to share in the remaining assets of the Company on a pro rata basis.

Dividends

Subject to any preferential rights of any series of preferred stock, holders of shares of common stock will be entitled to receive dividends on the stock out of assets legally available for distribution when, as, and if authorized and declared by our Board of Directors. The payment of dividends on the common stock will be a business decision to be made by our Board of Directors from time to time based upon results of our operations and our financial condition and any other factors our Board of Directors considers relevant. Payment of dividends on the Company’s common stock may be restricted by loan agreements, indentures, and other transactions entered into by us from time to time. In addition, our principal income consists of dividends paid to us by our subsidiaries. Our subsidiaries’

ability to pay dividends could be limited or restricted from time to time by loan agreements, indentures, and other transactions or by law or regulatory authorities.

Preemptive and Other Rights

No holder of shares of any class or series of capital stock of the Company has any preemptive right to subscribe for, purchase, or otherwise acquire shares of any class or series of capital stock of the Company. The common stock has no conversion rights and is not subject to redemption. All outstanding shares of common stock are fully paid and nonassessable.

Transfer Agent and Registrar

The transfer agent and registrar for the Company's common stock is currently Computershare Investor Services, LLC, but this may change from time to time.

Anti-Takeover Provisions

The DGCL, the Certificate, and the Bylaws contain provisions that could discourage or make more difficult a change in control of the Company, including an acquisition of the Company by means of a tender offer or an acquisition of the Company by means of a proxy contest and removal of the Company's incumbent officers and directors, without the support of the Board of Directors. A summary of these provisions follows.

Board of Directors

Subject to the rights granted to holders of preferred stock, members of our Board of Directors (each a "Director" and collectively, "Directors") may be removed from office for any reason with the affirmative vote of the majority of holders of the voting power of the Company's capital stock entitled to vote generally in the election of Directors.

The Certificate limits the number of Directors. Within these limits, the Board of Directors must determine the exact number of Directors and may increase or decrease the size of the Board of Directors from time to time. Any vacancy on the Board of Directors may be filled by a majority of the Directors then in office, or in certain cases, by a sole remaining Director.

Under the Bylaws, subject to the rights granted to holders of preferred stock, each Director is elected by the vote of the majority of the votes cast with respect to that Director's election at any meeting for the election of Directors at which a quorum is present. However, if, as of the 10th day preceding the date we first mail the notice of such meeting to our stockholders, the number of nominees exceeds the number of Directors to be elected ("Contested Election"), the Directors shall be elected by the vote of a plurality of the votes cast. A majority of votes cast means that the number of votes cast "for" a Director's election exceeds the number of votes cast "against" that Director's election (with "abstentions" and "broker non-votes" not counted as a vote cast either "for" or "against" that Director's election).

In the event an incumbent Director fails to receive a majority of the votes cast in an election that is not a Contested Election, the incumbent Director must promptly tender his or her resignation to the Board of Directors. The Corporate Governance and Nominating Committee of the Company, or such other committee designated by the Board of Directors for this purpose (the "Committee"), shall make a recommendation to the Board of Directors as to whether to accept or reject the resignation of such incumbent Director, or whether other action should be taken. The Board of Directors must act on the resignation, taking into account the Committee's recommendation, and publicly disclose (by a press release and filing an appropriate disclosure with the Commission) its decision regarding the resignation and, if such resignation is rejected, the rationale behind the decision, within 90 days following certification of the election results. The Committee, in making its recommendation, and the Board of Directors, in making its decision, each may consider any factors and other information that it considers appropriate and relevant. If the Board of Directors accepts a Director's resignation pursuant to these provisions, or if a nominee for Director is not elected and the nominee is not an incumbent Director, then the resulting vacancy may be filled by vote of a majority of the Directors then in office.

This system of electing and removing Directors may discourage a third party from making a tender offer, or otherwise attempting to obtain control of the Company, because it generally makes it more difficult for stockholders to replace a majority of the Directors.

Stockholder Meetings

Under the Bylaws, except as described below, only the Board of Directors or the chair of the Board of Directors may call special meetings of stockholders, and any business conducted at any special meeting will be limited to the purpose or purposes specified in the order calling for the special meeting. The Bylaws also provide that, subject to certain requirements and restrictions, a special meeting of stockholders may also be called upon the written request of stockholders holding at least 25% of the voting power of the outstanding capital stock of the Company entitled to vote on the matters to be brought before the proposed special meeting. The requesting stockholders must timely provide certain specified information, including information with respect to the requesting stockholders and the beneficial owners, if any, on whose behalf the proposal is made, their holdings of Company stock, the matters to be acted upon at the proposed special meeting, and any material interest of the requesting stockholders and beneficial owners in such matters.

Requirements for Advance Notification of Stockholder Nominations and Proposals

The Bylaws contain provisions requiring stockholders to give advance written notice to the Company of a proposal or Director nomination in order to have the proposal or the nominee considered at an annual meeting of stockholders. The written notice must usually be given not less than 90 nor more than 120 days before the first Tuesday in June (or, if the Board of Directors has designated another date for an annual meeting, not less than 90 nor more than 120 days before such other date, or, if such other date has not been publicly disclosed or announced at least 105 days in advance, then not less than 15 days after the initial public disclosure or announcement of the date). The stockholders submitting the proposal or Director nomination must timely provide certain specified information, including a brief description of the proposal, the name and address of the stockholder, the class and number of shares owned by the stockholder, and any material interest of the stockholder in such proposal.

Undesignated Preferred Stock

The Certificate authorizes the issuance of undesignated or “blank check” preferred stock. The authorization of blank check preferred stock makes it possible for the Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of the Company. These and other provisions may have the effect of deferring hostile takeovers or delaying, deterring, or preventing a change in control or management of the Company.

Business Combinations with Interested Stockholders

The Certificate provides that Section 203 of the DGCL shall not apply to or govern the Company.

Amendment of Charter or Bylaw Provisions

The amendment of specified provisions of the Certificate and Bylaws requires approval by holders of at least 66 2/3% of the voting power of the Company’s capital stock entitled to vote in the election of Directors. Among other such provisions are the provisions described above under the headings “Stockholder Meetings,” “Requirements for Advance Notification of Stockholder Nominations and Proposals,” and “Business Combinations with Interested Stockholders.” In addition, the same vote would be required to change this voting requirement.

SETTLEMENT AGREEMENT

This SETTLEMENT AGREEMENT (the “**Agreement**”) is entered into by and between Power Integrations, Inc., a Delaware corporation with an office at 5245 Hellyer Avenue, San Jose, California 95138 (together with its Affiliates, as defined below, “**PI**”), and ON Semiconductor Corporation, a Delaware corporation with an office at 5005 East McDowell Road, Phoenix, Arizona 85008 (together with its Affiliates, “**ON**”), as of October 19, 2019 (the “**Effective Date**”).

1. Definitions.

“**Acquirer**” means the person or entity or group of persons or entities acquiring the stock or assets of a Party (or otherwise assuming control of a Party) in a Change of Control Transaction.

“**Affiliate(s)**” of a Party means any and all Entities, past, present, or future, that are or were Controlled, directly or indirectly, by the Party, but only for so long as such Control exists or existed.

“**Agreement**” shall have the meaning ascribed to it in the preamble.

“**Assert**” (or “**Assertion**”) means bringing, commencing, filing, prosecuting, or otherwise instituting, or funding, encouraging or assisting any third party in bringing, commencing, filing, prosecuting, or otherwise instituting, any patent infringement claim, petition for declaratory judgment of non-infringement of any patent, or other proceeding alleging infringement or non-infringement, invalidity, or unenforceability of any patent before any legal, judicial, arbitral, administrative, executive, or other body or tribunal, anywhere in the world, that has or claims to have authority to adjudicate such claim, including without limitation any court or arbitral body, the U.S. International Trade Commission, the U.S. Patent and Trademark Office, the Chinese Patent Office, the Taiwan Patent Office, and the European Patent Office.

“**Binding Term Sheet**” means the Binding Term Sheet by and between the Parties executed on October 2, 2019.

“**Change of Control**” means the transfer, assignment, sale, lease, loan, or other disposition of any material portion of the tangible or intangible assets, personnel, technology, equipment, or business, equity interest, or voting interest of a Party that are related to this Agreement.

“**Change of Control Transaction**” means a single transaction, or a transaction that is part of a series of transactions (including a merger and a triangular merger) to effect a Change of Control.

“**Control**” means the legal, beneficial, or equitable ownership of more than fifty percent (50%) of (i) the voting power representing the right to vote for directors or other managing authority, (ii) equity ownership interest in an Entity, or (iii) other ownership interest in an Entity.

“**Cooling Off Period**” shall mean the period commencing on the Effective Date and continuing for a period of three (3) years from the Release Date.

“**Effective Date**” shall have the meaning ascribed to it in the preamble.

“**Entity**” means a corporation, association, partnership, business trust, joint venture, limited liability company, proprietorship, unincorporated association, or other entity that can exercise independent legal standing.

“**Fee**” means One Hundred Seventy-Five Million United States Dollars (US\$175,000,000), subject to Section 5.

“**ON**” shall have the meaning ascribed to it in the preamble.

“**Party**” means PI or ON and “**Parties**” means PI and ON.

“**Pending Proceedings**” means the proceedings set forth in Exhibit A, some of which are further classified therein as either “Fairchild Legal Proceedings” or “ON Semi Legal Proceedings.”

“**PI**” shall have the meaning ascribed to it in the preamble.

“**Released Claims**” means any and all claims and judgments for damages or monetary relief for acts of patent infringement asserted in any of the Pending Proceedings occurring on or before the Release Date.

“**Release Date**” means June 30, 2020.

2. Dismissals. Within five (5) business days after PI has received the Fee, the Parties shall jointly submit to the relevant court or administrative body a document in the applicable form attached hereto as Exhibits C through L in order to withdraw, dismiss, or terminate (with or without prejudice as reflected in the applicable form) all claims made and judgments entered in the Pending Proceedings, including appeals therefrom, and the Parties will cooperate to terminate each such proceeding. The Parties intend and will request that each Fairchild Legal Proceeding will be dismissed with prejudice and that each ON Semi Legal Proceeding will be dismissed without prejudice. For the IPRs and associated appeals listed in Exhibit A, (1) for any IPRs having a pending appeal to the Federal Circuit, the Parties will jointly request the appeal be dismissed, (2) for any IPRs for which the final written decision has been vacated by the Federal Circuit, the Parties will jointly request that the IPR be dismissed per the applicable order of the Federal Circuit, and (3) for any IPR that is currently pending before the PTAB, the Parties will jointly request termination.

3. Mutual Releases. Contingent upon ON’s performance under Section 5, PI does hereby for itself and its Affiliates irrevocably and forever release and absolutely discharge (a) ON, including its Affiliates, and their respective employees, representatives, agents, officers, directors, past, present, and future, of and from any and all Released Claims, and (b) each of the direct and indirect distributors, resellers, representatives, customers, and end users of ON, including its Affiliates, of and from any and all Released Claims to the extent directed to a product of ON, including its Affiliates. ON does hereby for itself and its Affiliates irrevocably and forever release and absolutely discharge (a) PI, including its Affiliates, and their respective employees, representatives, agents, officers, directors, past, present, and future, of and from any and all Released Claims, and (b) each of the direct and indirect distributors, resellers, representatives, customers, and end users of PI, including its Affiliates, of and from any and all Released Claims to the extent directed to a product of PI, including its Affiliates. The Parties acknowledge and

agree that this Agreement fully and finally releases and forever resolves the Released Claims that are unknown, unanticipated, or unsuspected or that may hereafter arise as a result of the discovery of new or additional facts. The Parties acknowledge and understand the significance and potential consequence of the release of unknown claims. The Parties intend that the Released Claims released under this Agreement be construed as broadly as possible and agree to waive and relinquish all rights and benefits each may have under Section 1542 of the Civil Code of the State of California, or any similar statute or law of any other jurisdiction, with respect to the Released Claims. Section 1542 reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY."

4. Standstill. Each Party represents and warrants as of the Effective Date that it has not made any new Assertion that is not identified in Exhibit A, which each Party represents contains an up-to-date list of all Assertions by either Party as of the Effective Date. Each Party further represents and warrants as of the Effective Date that it has no knowledge of any Assertion outside the United States by a third-party Entity or individual against the other Party, other than the assertions identified in Exhibit A and other than the assertion initiated by Huizhou Jinhua Industrial Development Co., Ltd. with respect to the Chinese patent number ZL200410061704.6. Provided that PI has received the Fee, during the Cooling Off Period, neither Party nor any of its Affiliates shall make any Assertion against the other Party or any of its Affiliates. Further, provided that PI has received the Fee, neither Party, nor any of its Affiliates, during the Cooling Off Period will make any Assertion against any direct or indirect distributor, representative, reseller, customer, or end user of the other Party to the extent based on an allegation of patent infringement directed to a product of the other Party. The foregoing constitutes a limited, non-exhaustive standstill during the Cooling Off Period only and not a license, release, or other intellectual property right or immunity. For the avoidance of doubt and without limitation, after the end of the Cooling Off Period, a Party is not precluded by this Agreement from filing suit, seeking recovery of damages occurring during or after the Cooling Off Period for alleged or actual infringement, or from seeking an injunction against future infringement occurring after the Cooling Off Period, subject to all applicable laws anywhere in the world, including 35 U.S.C. § 286 and other applicable statutes of limitations. For the further avoidance of doubt, the absence of an Assertion during the Cooling Off Period shall not be relied on by either Party as a basis for a denial of an injunction. Notwithstanding the foregoing, a Party may initiate a challenge to the validity and enforceability of any patent Asserted against such Party or any of its Affiliates, or against any of their respective products during the Cooling Off Period. Each Party agrees that breach of this Section 4 by one Party will cause irreparable harm and significant injury to the other Party, the extent of which will be difficult to ascertain and for which there will be no adequate remedy at law. Accordingly, each Party agrees that the other Party, in addition to any other available remedies, shall have the right to an immediate injunction and other equitable relief enjoining any breach or threatened breach of this Section 4 without the necessity of posting any bond or other security and the court may dismiss or terminate the claims brought in violation of this Section 4 without prejudice to Assertion after the Cooling Off Period. Neither Party may assign or otherwise transfer any of its rights under any patents the Assertion of which is subject to this Section 4 unless such assignment or transfer is expressly made subject to this Agreement. The Parties agree that during the Cooling Off Period they will not manufacture or sell copies of

the other Party's products derived from reverse engineering at the schematic level (copying to be determined at the overall product level, and not just with reference to a single feature or subset of features) provided that this sentence shall in no case apply to (a) a Party's products that were on sale or otherwise publicly announced prior to or as of the Effective Date, or (b) a Party's products that were accused of infringement in any of the Pending Proceedings.

5. Payment. Semiconductor Components Industries, LLC, an Affiliate of ON Semiconductor Corporation, will pay Power Integrations, Inc. the Fee no later than October 23, 2019, via electronic transfer to the following account:

Bank Name:	[Redacted]
SWIFT Code:	[Redacted]
ABA#:	[Redacted]
Account Name:	[Redacted]
Account Number:	[Redacted]

The Fee is non-refundable and constitutes the complete monetary consideration for PI to enter into this Agreement and complete satisfaction for any and all judgments entered in the Pending Proceedings.

6. No Admission of Liability. The Parties agree that the settlement of the Released Claims is intended solely as a compromise of the disputed claims, and without any acknowledgment of liability, fault, damages, or any other merits of the Released Claims and the Pending Proceedings. Nothing in this Agreement shall extinguish, impair, or otherwise affect any defense or position of PI or ON that patents are not infringed, invalid, or not enforceable, or that any claims are barred by equitable estoppel, implied license, statute of limitation, or laches. Nor shall this Agreement be admissible in any legal proceeding as a basis to claim infringement or non-infringement of any patent. Neither Party is waiving any argument or position (now or in the future) that any order, ruling or judgment that is currently the subject of any pending appeal that is being dismissed with or without prejudice in connection with the Settlement was in error.

7. No License. Nothing contained in this Agreement shall be construed as conferring or granting by implication, estoppel or otherwise, any right or license, express or implied, under any patent, copyright, mask work, trade name, trademark, service mark, trade secret right, other identification of source or origin belonging to the other Party, other proprietary right or other intellectual property right, whether now existing or hereafter obtained, and no such license or other right shall arise from this Agreement or from any acts or omissions in connection with the execution of this Agreement or the performance of the obligations of the Parties hereunder.

8. Payment of Costs and Expenses. Each Party shall be responsible for payment of its own attorneys' fees and other costs, disbursements and expenses arising out of or relating to the Parties' legal proceedings through the Effective Date.

9. Notices. Any notice or communication required or permitted to be given by either Party hereunder shall be in written form and shall be considered to be sufficiently given if transmitted and confirmed by overnight courier, addressed to the Parties hereto as follows:

To PI:

Power Integrations, Inc.
5245 Hellyer Avenue
San Jose, California 95138
ATTN: President

With copy to:

Fish & Richardson
One Marina Park Drive
Boston, Massachusetts 02210
ATTN: Frank E. Scherkenbach

To ON:

ON Semiconductor Corporation
5005 East McDowell Road
Phoenix, Arizona 85008
ATTN: Vice President and Chief IP Counsel

With copy to:
Morrison & Foerster LLP
755 Page Mill Road
Palo Alto, California 94304
ATTN: Colette Reiner Mayer

or to such changed address as the addressee shall have specified by written notice in accordance with this provision.

10. Governing Law. The Parties hereto agree that this Agreement shall be considered to have been made in, and construed and interpreted in accordance with the substantive laws of Delaware. The Parties consent to the exclusive jurisdiction of the United States District Court for the District of Delaware to resolve any disputes relating to or arising out of this Agreement and agree to have that court retain jurisdiction to enforce the terms of the Agreement as part of the Parties' dismissal papers; provided, however, that any Party against whom an action is brought may, at its sole election, assert a claim arising from this Agreement as a defense or counterclaim in such an action and, in those circumstances, the court in that action shall also have jurisdiction to resolve the asserted defense or counterclaim based on this Agreement and to provide an appropriate remedy.

11. Representations and Warranties. Each of Power Integrations, Inc. and ON Semiconductor Corporation represents and warrants that it is a corporation in good standing under the laws of the state of Delaware; that it has the authority to enter into this Agreement; and that this Agreement is valid, binding and enforceable in accordance with its terms. Each of Power Integrations, Inc. and ON Semiconductor Corporation further represents and warrants that it has sufficient right, title, and interest to grant the releases and enter into the standstill set forth in this Agreement.

12. 408+ Agreement Modification. Each Party agrees that the Binding Term Sheet dated October 2, 2019 and this Agreement shall not be subject to the Confidentiality and Federal Rule of Evidence 408+ Agreement dated August 22, 2019 (the “408+ Agreement,” as amended pursuant to the immediately following sentence), and waives and releases the other Party from any claim to liability, including without limitation any claim of actual or liquidated damages, due to the public disclosure or public discussion of the terms of the Binding Term Sheet or this Agreement.
13. No Right to Terminate. Neither Party may terminate this Agreement without the express, written consent of the other Party.
14. Fee shifting. The Parties agree that the prevailing Party in any action relating to or arising out of this Agreement will be awarded its reasonable attorneys’ fees and costs incurred as a result of such a proceeding.
15. Waiver. No waiver of this Agreement or any of the promises, obligations, terms, or conditions herein shall be valid unless it is written and signed by the Party against whom the waiver is to be enforced. No valid waiver of any of the promises, obligations, terms, or conditions herein shall be deemed a subsequent waiver of any of such promises, obligations, terms, or conditions, nor shall any such waiver constitute a continuing waiver. Failure to insist on compliance with a term, covenant, or condition contained in this Agreement shall not be deemed a waiver of that term, covenant, or condition.
16. Severability. In the event that any provision of this Agreement is prohibited by any law governing its construction, performance or enforcement, such provision shall be ineffective to the extent of such prohibition without invalidating thereby any of the remaining provisions of this Agreement and the Parties shall craft a substitute provision that most closely effects the Parties’ intent.
17. Amendment. The terms and conditions of this Agreement may not be modified or amended except in a writing which states that it is a modification, and is signed by an officer or a duly authorized representative of each Party.
18. Change of Control. Notwithstanding any other statement in this Agreement, this Agreement and/or the Binding Term Sheet (or any parts thereof) may not be assigned other than in, or in connection with, any Change of Control Transaction, and then only on the condition that the Acquirer first enters into an agreement of the form set out in Exhibit B (Written Declaration of Assumption), acknowledging and transferring obligations under the Agreement and the Binding Term Sheet to the Acquirer. Any attempted assignment in derogation of the foregoing sentence is null and void. Any violation of the foregoing condition shall constitute a material breach of the Agreement and the Non-Acquired Party reserves the right to terminate the Agreement upon notice to the Acquired Party.

After the Written Declaration of Assumption has been signed by the Acquirer and the Acquired Party, and the Change of Control Transaction effected, the covenants provided in the Agreement and the Binding Term Sheet: (i) apply to any patent (x) owned, controlled, or enforceable by the Acquired Party prior to the Change of Control Transaction; and (y) based on any invention conceived of by Acquirer after the Change of Control Transaction in the context of the continuation of Acquired Party’s business, but (ii) do not apply to any patent (x) owned,

controlled or enforceable by Acquirer before the Change of Control Transaction; or (y) based on any invention conceived of by Acquirer after the Change of Control Transaction outside the context of the continuation of the Acquired Party's business.

19. Headings for Convenience Only. The headings contained in this Agreement are for convenience and reference purposes only and shall not affect the meaning or interpretation of this Agreement.
20. Rules of Construction. The Parties hereto agree that they have been represented by counsel during the negotiation and execution of this Agreement. The language used in this Agreement shall be deemed to be language chosen by all Parties to express their mutual intent, and no rule of strict construction against any Party shall be applied to any term or provision hereof.
21. Entire Agreement. This Agreement constitutes the entire agreement between the Parties concerning the subject matter hereof and supersedes all written and oral prior agreements and understandings with respect thereto, including without limitation the Binding Term Sheet. No variation or modification of the terms of this Agreement, nor any waiver of any of the terms or provisions hereof, shall be valid unless in writing and signed by an authorized representative of each Party.
22. Counterparts. This Agreement may be executed in two counterparts in the English language and each such counterpart shall be deemed an original thereof. Facsimile signatures or signatures delivered by e-mail in .pdf or similar format will be deemed original signatures for purposes of this Agreement.

[The remainder of this page is blank; signature page follows.]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as of the Effective Date. Each individual signing below represents and warrants that he or she has authority to sign for and enter into this Agreement on behalf of his or her respective Party.

Agreed to:

POWER INTEGRATIONS, INC.

By: /s/ Balu Balakrishnan
Name: Balu Balakrishnan
Title: President & CEO

Agreed to:

ON SEMICONDUCTOR CORPORATION

By: /s/ Keith Jackson
Name: Keith Jackson
Title: President and CEO

EXHIBIT A

PENDING PROCEEDINGS

UNITED STATES

Case Name	Case No.	Venue	Classification
<i>Power Integrations, Inc. v. Fairchild Semiconductor International, Inc. and Fairchild Semiconductor Corporation</i>	No. 04-1371-LPS	Delaware	Fairchild Legal Proceeding
<i>Power Integrations, Inc. v. Fairchild Semiconductor International, Inc. and Fairchild Semiconductor Corporation</i>	No. 2019-1246, No. 2019-1247	Fed. Cir.	Fairchild Legal Proceeding
<i>Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and Fairchild (Taiwan) Corporation</i>	No. 08-309 LPS	Delaware	Fairchild Legal Proceeding
<i>Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and Fairchild (Taiwan) Corporation</i>	No. 2019-2377, No. 2020-1007	Fed. Cir.	Fairchild Legal Proceeding
<i>Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and Fairchild (Taiwan) Corporation</i>	No. 09-cv-05235-MMC	N.D. Cal.	Fairchild Legal Proceeding
<i>Fairchild Semiconductor Corporation and Fairchild (Taiwan) Corporation v. Power Integrations, Inc.</i>	No. 12-cv-00540-LPS	Delaware	Fairchild Legal Proceeding
<i>Fairchild Semiconductor Corporation and Fairchild (Taiwan) Corporation v. Power Integrations, Inc.</i>	No. 2019-2378, No. 2020-1003	Fed. Cir.	Fairchild Legal Proceeding
<i>Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and Fairchild (Taiwan) Corporation</i>	No. 15-cv-04854-MMC	N.D. Cal.	Fairchild Legal Proceeding
<i>Power Integrations, Inc. v. ON Semiconductor Corporation and Semiconductor Components Industries, LLC</i>	No. 16-cv-6371-BLF, No. 17-cv-3189-BLF	N.D. Cal.	ON Semi Legal Proceeding
<i>ON Semiconductor Corporation and Semiconductor Components Industries, LLC v. Power Integrations, Inc.</i>	No. 17-cv-00247-LPS	Delaware	ON Semi Legal Proceeding
<i>In re: Application Pursuant to 28 U.S.C. § 1782 of SEMICONDUCTOR COMPONENTS INDUSTRIES, LLC v. Power Integrations, Inc.</i>	No. 19-mc-80163-NC	N.D. Cal.	ON Semi Legal Proceeding

<i>In re: Application Pursuant to 28 U.S.C. § 1782 of SEMICONDUCTOR COMPONENTS INDUSTRIES, LLC Semiconductor Components, LLC v. Power Integrations, Inc.</i>	No. 19-16936	Ninth Cir.	ON Semi Legal Proceeding
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PEOPLE’S REPUBLIC OF CHINA

<p>Beijing IP Bureau: Case number: 2019-1361 Patent number: ZL200410061704.6 Title of invention: 半导体器件及混合集成电路器件 (Semiconductor Device and Hybrid Integrated Circuit Device) Patentee: 半导体元件有限公司 (Semiconductor Components Industries, LLC) Petitioner: 半导体元件有限公司 (Semiconductor Components Industries, LLC) Respondent 1: 北京九道州通信仪器有限公司 (Beijing Jiudazhou Communication Instrument Co., Ltd.) Respondent 2: 淮州金湖工业发展有限公司 (Huizhou Jinhu Industrial Development Co., Ltd.)</p>	<p>ON Semi Legal Proceeding</p>
<p>Shanghai IP Court: Case number: (2019) Hu 73 Zhi Min Chu 679 [(2019) 沪 73 民 679 号] Plaintiff: Semiconductor Components Industries, LLC Defendants: Power Integrations Netherlands B.V., Huizhou Jinhu Industrial Development Co., Ltd. (淮州金湖工业发展有限公司), Shanghai Jiading Anting Chuanglian Communication Devices Shop (上海嘉定安亭创联通信设备店) Case number: (2019) Hu 73 Zhi Min Chu 680 [(2019) 沪 73 民 680 号] Plaintiff: Semiconductor Components Industries, LLC Defendants: Power Integrations Netherlands B.V., Huizhou Jinhu Industrial Development Co., Ltd. (淮州金湖工业发展有限公司), Shanghai Jiading Anting Chuanglian Communication Devices Shop (上海嘉定安亭创联通信设备店)</p>	<p>ON Semi Legal Proceeding</p>

TAIWAN

<p>Semiconductor Components Industries, LLC v. Power Integrations, Inc. and Power Integrations Netherlands, B.V., Taiwan Branch (November 2017, Taiwan Intellectual Property Court, 107-Ming-Chung-Su-Tzu-22, Appeal Docket No.: 108-Min-Zhuan-Shang- Zi-#21)</p>	<p>ON Semi Legal Proceeding</p>
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IPRs and associated appeals

Patent and IPR #	USPTO Case Number	CAFC Appeal (if any)
'871#1	IPR2018-01810	n/a (still pending at USPTO)
'871#2	IPR2018-01812	n/a (still pending at USPTO)
'483#1	IPR2018-01816	n/a (still pending at USPTO)
'483#2	IPR2018-01818	n/a (still pending at USPTO)
'475#1	IPR2018-01811	n/a (still pending at USPTO)
'475#2	IPR2018-01813	n/a (still pending at USPTO)
'788#1	IPR2018-01814	n/a (still pending at USPTO)
'788#2	IPR2018-01815	n/a (still pending at USPTO)
'272	IPR2018-01539	n/a (still pending at USPTO)
'623	IPR2018-00166	CAFC 19-2173 (consolidated with 19-2174, 19-2177)
'471	IPR2018-00165	CAFC 19-2177 (con with 19-2173)
'119	IPR2018-00160	CAFC 19-2178
'221	IPR2018-00180	CAFC 19-2212
'624	IPR2017-01907	CAFC 19-1863 (con with 19-1868)
'764#1	IPR2017-01329	CAFC 19-1414
'841	IPR2016-01453	CAFC 19-1448
'605	IPR2016-01600	CAFC 18-1852
'876#2	IPR2016-01589	CAFC 18-1705
'457#2	IPR2016-01595	CAFC 18-1851
'079#1	IPR2016-00809	CAFC 18-1607
'079#2	IPR2016-01590	CAFC 18-2085 (con with 18-2086)
'079#3	IPR2016-01592	
'908#1	IPR2016-00995	CAFC 18-1602 (con with 18-1741)
'908#2	IPR2016-01597	

Exhibit B

Written Declaration of Assumption

General Counsel
Non-Acquired Party
XXXXXXXXXXXXXX
XXXXXXXXXXXXXX

Re: Acquirer’s Agreement to Perform Obligations of Acquired Party

Dear General Counsel:

A Change of Control Transaction, as defined in the Settlement Agreement entered into on _____, 2019, between Power Integrations, Inc., a Delaware Corporation with a principal place of business at 5245 Hellyer Avenue, San Jose, CA 95138, and On Semiconductor, a Delaware corporation, with a principal place of business at _____ (the Agreement) has occurred with respect to the Acquired Party, _____, having a principal place of business at _____.

The Non-Acquired Party consents to the Acquired Party assigning the Agreement, and the Binding Term sheet entered into between the Acquired Party and the Non-Acquired Party dated as of October 2, 2019 to the Acquirer. In consideration of such consent, the Acquirer, _____, having a principal place of business at _____, hereby agrees to keep, perform, and fulfill all of the terms, covenants, conditions and obligations required to be kept, performed, and fulfilled by the Acquired Party under the Agreement and the Binding Term Sheet as of and following the effective date of the Change of Control Transaction.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as of the Effective Date. Each individual signing below represents and warrants that he or she has authority to sign for and enter into this Agreement on behalf of his or her respective Party.

Agreed to:

[ACQUIRER]

By: _____

Name: _____

Title: _____

Date: _____

Agreed to:

[NON-ACQUIRED PARTY]

By: _____

Name: _____

Title: _____

Date: _____

EXHIBIT C AND FOLLOWING

EXHIBIT C

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

POWER INTEGRATIONS, INC.,

Plaintiff,

v.

FAIRCHILD SEMICONDUCTOR
INTERNATIONAL, INC. and FAIRCHILD
SEMICONDUCTOR CORPORATION,

Defendant.

C.A. No. 04-1371-LPS

**JOINT MOTION AND [PROPOSED] ORDER FOR
VOLUNTARY DIMISSAL WITH PREJUDICE [F.R.C.P. RULE 41(a)(2)]**

Pursuant to Federal Rule of Civil Procedure 41(a)(2) and a settlement agreement, the parties jointly move that this Court dismiss this action with prejudice, with each party to bear its own costs and attorneys' fees.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment was in error in any of the parties' cases that is being dismissed with or without prejudice in connection with the parties' settlement agreement, including any arguments that were the subject of any appeal dismissed pursuant to the parties' settlement agreement.

ASHBY & GEDDES

/s/

John G. Day (#2403)
Andrew C. Mayo (#5207)
500 Delaware Avenue, 8th Floor
P.O. Box 1150
Wilmington, DE 19899
(302) 654-1888
jday@ashbygeddes.com
amayo@ashbygeddes.com

Attorneys for Defendants

FISH & RICHARDSON P.C.

/s/

Douglas E. McCann (#3852)
222 Delaware Ave, 17th Floor
Wilmington, DE 19801
(302) 652-5070
DMcCann@fr.com

Frank E. Scherkenbach
One Marina Park Drive
Boston, MA 02210-1878
(617) 542-5070

Howard G. Pollack
Michael R. Headley
500 Arguello Street, Suite 500
Redwood City, CA 94063
(650) 839-5070

Attorneys for Plaintiff

Dated: October __, 2019

SO ORDERED this ____ day of _____, 2019.

Chief Judge

EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

POWER INTEGRATIONS, INC.,

Plaintiff,

v.

FAIRCHILD SEMICONDUCTOR
INTERNATIONAL, INC., FAIRCHILD
SEMICONDUCTOR CORPORATION, and
FAIRCHILD (TAIWAN) CORPORATION

Defendant.

C.A. No. 08-309-LPS

**JOINT MOTION AND [PROPOSED] ORDER FOR
VOLUNTARY DIMISSAL WITH PREJUDICE [F.R.C.P. RULE 41(a)(2)]**

Pursuant to Federal Rule of Civil Procedure 41(a)(2) and a settlement agreement, the parties jointly move that this Court dismiss this action with prejudice, with each party to bear its own costs and attorneys' fees.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment was in error in any of the parties' cases that is being dismissed with or without prejudice in connection with the parties' settlement agreement, including any arguments that were the subject of any appeal dismissed pursuant to the parties' settlement agreement.

ASHBY & GEDDES

/s/

John G. Day (#2403)
Andrew C. Mayo (#5207)
500 Delaware Avenue, 8th Floor
P.O. Box 1150
Wilmington, DE 19899
(302) 654-1888
jday@ashbygeddes.com
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Attorneys for Defendants

FISH & RICHARDSON P.C.

/s/

Douglas E. McCann (#3852)
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(617) 542-5070

Howard G. Pollack
Michael R. Headley
500 Arguello Street, Suite 500
Redwood City, CA 94063
(650) 839-5070

Attorneys for Plaintiffs

Dated: October __, 2019

SO ORDERED this ____ day of _____, 2019.

Chief Judge

EXHIBIT E

COLETTE REINER MAYER (SBN 263630)
CRMayer@mofo.com
MORRISON & FOERSTER LLP
755 Page Mill Road
Palo Alto, CA 94304-1018
Tel: (650) 813-5600
Fax: (650) 494-0792

Attorneys for Defendants
FAIRCHILD SEMICONDUCTOR
INTERNATIONAL, INC., FAIRCHILD
SEMICONDUCTOR CORPORATION, and
FAIRCHILD (TAIWAN) CORPORATION

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500 Arguello Street, Suite 500
Redwood City, CA 94063
Telephone: (650) 839-5070

Attorneys for Plaintiff
POWER INTEGRATIONS, INC.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

POWER INTEGRATIONS, INC.,
a Delaware corporation,

Plaintiff,

v.

FAIRCHILD SEMICONDUCTOR INTERNATIONAL,
INC., a Delaware corporation, FAIRCHILD
SEMICONDUCTOR CORPORATION, a Delaware
corporation, and FAIRCHILD (TAIWAN) CORPORATION, a
Taiwanese corporation,

Defendants.

Case No. 3:09-cv-5235-MMC

**STIPULATION AND [PROPOSED]
ORDER FOR VOLUNTARY
DIMISSAL WITH PREJUDICE
[F.R.C.P. RULE 41(A)(2)]**

Hon. Maxine M. Chesney

Pursuant to Federal Rule of Civil Procedure 41(a)(2) and a settlement agreement, it is hereby stipulated by the parties to this action, through their respective counsel, that this Court dismiss this action with prejudice. It is further stipulated and agreed that each party will bear its own costs and attorneys' fees.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment was in error in any of the parties' cases that is being dismissed with or without prejudice in connection with the parties' settlement agreement, including any arguments that were the subject of any appeal dismissed pursuant to the parties' settlement agreement.

Dated: October ___, 2019

Respectfully submitted,

MORRISON & FOERSTER LLP

By: /s/ DRAFT

COLETTE REINER MAYER

Attorney for Defendants
FAIRCHILD SEMICONDUCTOR
INTERNATIONAL, INC.,
FAIRCHILD SEMICONDUCTOR
CORPORATION, AND FAIRCHILD
(TAIWAN) CORPORATION

Dated: October ___, 2019

FISH & RICHARDSON P.C.

By: /s/ DRAFT

MICHAEL R. HEADLEY

Attorneys for Plaintiff
POWER INTEGRATIONS, INC.

SIGNATURE ATTESTATION

Pursuant to Civil Local Rule 5-1(i)(3), I attest under penalty of perjury that concurrence in the filing of this document has been obtained from counsel for Plaintiff.

Dated: October ____, 2019

/s/ DRAFT

COLETTE REINER MAYER

PURSUANT TO STIPULATION, IT IS SO ORDERED.

Dated: _____

MAXINE M. CHESNEY
UNITED STATES DISTRICT JUDGE

EXHIBIT F

ERIK J. OLSON (SBN 175815)
EJolson@mofo.com
COLETTE REINER MAYER (SBN 263630)
CRMayer@mofo.com
PIETER S. DE GANON (SBN 320385)
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Attorneys for Defendants
FAIRCHILD SEMICONDUCTOR
INTERNATIONAL, INC., FAIRCHILD
SEMICONDUCTOR CORPORATION, and
FAIRCHILD (TAIWAN) CORPORATION

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

POWER INTEGRATIONS, INC.,
Plaintiff,

v.

FAIRCHILD SEMICONDUCTOR
INTERNATIONAL, INC., a Delaware corporation,
FAIRCHILD SEMICONDUCTOR CORPORATION, a
Delaware corporation, and FAIRCHILD (TAIWAN)
CORPORATION, a Taiwanese corporation,
Defendants.

FRANK E. SCHERKENBACH
(SBN 142549)
scherkenbach@fr.com
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HOWARD G. POLLACK
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Telephone: (650) 839-5070

Attorneys for Plaintiff
POWER INTEGRATIONS, INC.

Case No. 3:15-cv-04854-MMC

**STIPULATION AND [PROPOSED]
ORDER FOR VOLUNTARY
DIMISSAL WITH PREJUDICE
[F.R.C.P. RULE 41(A)(2)]**

Hon. Maxine M. Chesney

Pursuant to Federal Rule of Civil Procedure 41(a)(2) and a settlement agreement, it is hereby stipulated by the parties to this action, through their respective counsel, that this Court dismiss this action with prejudice, including all claims and counterclaims by any of the parties. It is further stipulated and agreed that each party will bear its own costs and attorneys' fees.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment was in error in any of the parties' cases that is being dismissed with or without prejudice in connection with the parties' settlement agreement, including any arguments that were the subject of any appeal dismissed pursuant to the parties' settlement agreement.

Dated: October ___, 2019

Respectfully submitted,

MORRISON & FOERSTER LLP

By: /s/ DRAFT

COLETTE REINER MAYER

Attorney for Defendants
FAIRCHILD SEMICONDUCTOR
INTERNATIONAL, INC.,
FAIRCHILD SEMICONDUCTOR
CORPORATION, AND FAIRCHILD
(TAIWAN) CORPORATION

Dated: October ___, 2019

FISH & RICHARDSON P.C.

By: /s/ DRAFT

MICHAEL R. HEADLEY

Attorneys for Plaintiff
POWER INTEGRATIONS, INC.

SIGNATURE ATTESTATION

Pursuant to Civil Local Rule 5-1(i)(3), I attest under penalty of perjury that concurrence in the filing of this document has been obtained from counsel for Plaintiff.

Dated: October ____, 2019

/s/ DRAFT

COLETTE REINER MAYER

PURSUANT TO STIPULATION, IT IS SO ORDERED.

Dated: _____

MAXINE M. CHESNEY
UNITED STATES DISTRICT JUDGE

EXHIBIT G

Roger Fulghum (*Pro hac vice*)
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Attorneys for ON SEMICONDUCTOR
CORP. AND SEMICONDUCTOR
COMPONENTS INDUSTRIES, LLC

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Facsimile: (650) 839-5071

Attorneys for POWER INTEGRATIONS, INC.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

POWER INTEGRATIONS, INC.,

Plaintiff,

v.

ON SEMICONDUCTOR CORP. and
SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC,

Defendants.

Case No. 16-cv-06371-BLF

**STIPULATION AND [PROPOSED]
ORDER FOR VOLUNTARY
DIMISSAL WITHOUT PREJUDICE
[F.R.C.P. RULE 41(A)(2)]**

ON SEMICONDUCTOR CORPORATION;
and SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC,

Plaintiffs,

v.

POWER INTEGRATIONS, INC.

Defendant.

Case No. 3:17-cv-03189 BLF

Pursuant to Federal Rule of Civil Procedure 41(a)(2) and a settlement agreement, the parties hereby stipulate and jointly move that this Court dismiss this action without prejudice, with each party to bear its own costs and attorneys' fees.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment was in error in any of the parties' cases that is being dismissed with or without prejudice in connection with the parties' settlement agreement, including any arguments that were the subject of any appeal dismissed pursuant to the parties' settlement agreement.

Dated: October ___, 2019

Respectfully submitted,

MORRISON & FOERSTER LLP

By: /s/ DRAFT

COLETTE REINER MAYER

Attorneys for ON SEMICONDUCTOR
CORP. AND SEMICONDUCTOR
COMPONENTS INDUSTRIES, LLC

Dated: October ___, 2019

FISH & RICHARDSON P.C.

By: /s/ DRAFT

MICHAEL R. HEADLEY

Attorneys for POWER
INTEGRATIONS, INC.

SIGNATURE ATTESTATION

Pursuant to Civil Local Rule 5-1(i)(3), I attest under penalty of perjury that concurrence in the filing of this document has been obtained from counsel for Plaintiff.

Dated: October __, 2019

/s/ DRAFT

COLETTE REINER MAYER

PURSUANT TO STIPULATION, IT IS SO ORDERED.

Dated: _____

BETH LABSON FREEMAN
UNITED STATES DISTRICT JUDGE

EXHIBIT H

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ON SEMICONDUCTOR CORPORATION and
SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC,

Plaintiffs,

v.

POWER INTEGRATIONS, INC.,

Defendant.

C.A. No. 17-247-LPS-CJB

**JOINT MOTION AND [PROPOSED] ORDER FOR
VOLUNTARY DIMISSAL WITHOUT PREJUDICE [F.R.C.P. RULE 41(a)(2)]**

Pursuant to Federal Rule of Civil Procedure 41(a)(2) and the Settlement Agreement, the parties jointly move that this Court dismiss this action without prejudice, with each party to bear its own costs and attorneys' fees.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling or judgment that is currently the subject of any pending appeal that is being dismissed with or without prejudice in connection with the Settlement was in error.

This Court retains jurisdiction for the purpose of ensuring compliance with the Settlement Agreement entered into by the parties on October ____, 2019, a redacted version of which is attached as Exhibit A.

ASHBY & GEDDES

/s/

John G. Day (#2403)
Andrew C. Mayo (#5207)
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Attorneys for Plaintiffs

Dated: October __, 2019

FISH & RICHARDSON P.C.

/s/

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Attorneys for Defendant

SO ORDERED this ____ day of _____, 2019.

Chief Judge

EXHIBIT I

**IN THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

POWER INTEGRATIONS, INC.,

Plaintiff-Cross-Appellant,

v.

**FAIRCHILD SEMICONDUCTOR INTERNATIONAL, INC.,
FAIRCHILD SEMICONDUCTOR CORPORATION**

Defendants-Appellants.

JOINT MOTION TO DISMISS INTERLOCUTORY APPEALS

Appellants Fairchild Semiconductor International, Inc. and Fairchild Semiconductor Corporation and cross-appellant Power Integrations, Inc. respectfully request under Federal Rule of Appellate Procedure 42(b) that the Court dismiss these appeals from an order that the District Court certified pursuant to 28 U.S.C. § 1292(b). Pursuant to Federal Rule of Civil Procedure 41(a)(2) and a settlement agreement, the parties have dismissed the underlying district court action with prejudice. The parties have agreed that each side will bear its own costs associated with the appeals.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment that is currently the subject of the present appeal and cross-appeal was in error.

Dated: October __, 2019

s/
KATHLEEN M. SULLIVAN
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*Counsel for Defendants-Appellants Fairchild
Semiconductor International, Inc. and Fairchild
Semiconductor Corporation*

Respectfully submitted,

s/
FRANK SCHERKENBACH
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MICHAEL R. HEADLEY
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JOHN WINSTON THORNBURGH
FISH & RICHARDSON, PC
12390 El Camino Real
San Diego, CA 921303
Telephone: (858) 678-5070

*Counsel for Plaintiff-Cross-Appellant Power
Integrations, Inc.*

CERTIFICATE OF INTEREST

Counsel for plaintiffs-cross-appellants Power Integrations certify the following:

1. The full name of every party or amicus represented by me is:

Power Integrations, Inc.

2. The name of the Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:

N/A

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

BlackRock, Inc.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

Fish & Richardson P.C.: Frank. E. Scherkenbach, Howard G. Pollack, Michael R. Headley, Neil A. Warren, John W. Thornburgh, Craig Countryman, Jonathan J. Lamberson, Michael J. Kane, Douglas E. McCann, Joseph B. Warden, William J. Marsden,* Tamara D. Fraizer,* Kyle W. Compton,* David J. Miclean,* Gina M. Steele,* Sean P. Hayes,*Desa L. Burton*, John D. Hamann*, John Horvath*; and Abrams & Bayliss LLP: John M. Seaman.

(*No longer with firm.)

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

Power Integrations, Inc. v. Fairchild Semiconductor et al., USDC-D. DE Case 04-1371-LPS; Power Integrations, Inc v. Fairchild Semiconductor et al., USDC-D. DE Case 08-309-LPS.

Dated: October __, 2019

/s/ _____
[NAME]

CERTIFICATE OF INTEREST

Counsel for defendants-appellants Fairchild Semiconductor International, Inc. and Fairchild Semiconductor Corporation certify the following:

1. The full name of every party or amicus represented by me is:

Fairchild Semiconductor International, Inc.; Fairchild Semiconductor Corp.

2. The name of the Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:

N/A

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

Fairchild Semiconductor International, Inc. and Fairchild Semiconductor Corporation are 100% owned direct or indirect subsidiaries of ON Semiconductor Corporation. Except for ON Semiconductor Corporation, none of the foregoing entities or any other direct or indirect subsidiary of ON Semiconductor Corporation is publicly traded.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

QUINN EMANUEL URQUHART & SULLIVAN, LLP: Kathleen M. Sullivan, Kevin A. Smith, Cleland B. Welton II

ASHBY & GEDDES: John G. Day, Steven J. Balick, Andrew Colin Mayo, Tiffany Geyer Lydon, Lauren E. Maguire*

ORRICK HERRINGTON & SUTCLIFFE LLP: Bas de Blank, George Hopkins Guy III*, Vickie L. Feeman, Raymis H. Kim*, Duo Chen, Brian H. VanderZanden*, William L. Anthony*, Gabriel M. Ramsey*

MCDERMOTT WILL & EMERY LLP: Brett E. Bachtell, Terrence P. MacMahon, Leigh J. Martinson, Eric W. Hagen

MORRISON & FOERSTER LLP: Colette Reiner Mayer

PAUL HASTINGS LLP: Blair M. Jacobs, Christina A. Ondrick, Patrick Stafford*

ON Semiconductor: Joshua Engel

* Attorneys no longer with designated firms.

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

Power Integrations, Inc v. Fairchild Semiconductor et al., USDC-D. DE Case 04-1371-LPS.

Dated: October __, 2019

/s/ Kathleen M. Sullivan

Kathleen M. Sullivan

CERTIFICATE OF COMPLIANCE

This motion complies with the type-volume limitations in Federal Rules of Appellate Procedure 27 and 32 because it contains __ words.

Dated: October __, 2019

/s/

[NAME]

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the CM/ECF system on October __, 2019.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

Dated: October __, 2019

/s/

[NAME]

EXHIBIT J

**IN THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

POWER INTEGRATIONS, INC.,

Plaintiff-Cross-Appellant,

v.

**FAIRCHILD SEMICONDUCTOR INTERNATIONAL, INC.,
FAIRCHILD SEMICONDUCTOR CORPORATION,
FAIRCHILD (TAIWAN) CORPORATION**

Defendants-Appellants.

JOINT MOTION TO DISMISS APPEALS

Appellants Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and Fairchild (Taiwan) Corporation and cross-appellant Power Integrations, Inc. respectfully request under Federal Rule of Appellate Procedure 42(b) that the Court dismiss these appeals. The parties have agreed that each side will bear its own costs associated with the appeals.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment that is currently the subject of the present appeal and cross-appeal was in error.

Dated: October __, 2019

Respectfully submitted,

s/

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*Counsel for Defendants-Appellants Fairchild
Semiconductor International, Inc., Fairchild
Semiconductor Corporation, and Fairchild (Taiwan)
Corporation*

s/

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San Diego, CA 921303
Telephone: (858) 678-5070

*Counsel for Plaintiff-Cross-Appellant Power
Integrations, Inc.*

CERTIFICATE OF INTEREST

Counsel for plaintiff-cross-appellant Power Integrations, Inc. certify the following:

1. The full name of every party or amicus represented by me is:

Power Integrations, Inc.

2. The name of the Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:

None

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

BlackRock, Inc.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

FISH & RICHARDSON P.C.: Frank E. Scherkenbach, Howard G. Pollack, Michael R. Headley, Neil Warren, John Thornburgh, Douglas E. Mccann, James Huguenin-Love, Joseph B. Warden, Craig E. Countryman*, William J. Marsden*, Keeley I. Vega*, Kyle Wagner Compton*, Scott A. Penner*.

*No longer with firm

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

None

Dated: October __, 2019

/s/_____
[NAME]

CERTIFICATE OF INTEREST

Counsel for defendants-appellants Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and Fairchild (Taiwan) Corporation certify the following:

1. The full name of every party or amicus represented by me is:

Fairchild Semiconductor International, Inc.; Fairchild Semiconductor Corp.; and Fairchild (Taiwan) Corp.

2. The name of the Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:

N/A

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

Fairchild Semiconductor Corporation, Fairchild Semiconductor International, Inc., and Fairchild (Taiwan) Corp. are 100% owned direct or indirect subsidiaries of ON Semiconductor Corporation. Except for ON Semiconductor Corporation, none of the foregoing entities or any other direct or indirect subsidiary of ON Semiconductor Corporation is publicly traded.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

QUINN EMANUEL URQUHART & SULLIVAN, LLP: Kathleen M. Sullivan, Kevin A. Smith, Felipe Corredor, Lance Yang, Patrick Stafford, John (Jay) M. Neukom*

MORRISON & FOERSTER LLP: Erik J. Olson, Colette Reiner Mayer, Scott F. Llewellyn, Esther Chang, Thomas J. Pardini

ASHBY & GEDDES, P.A.: John G. Day, Andrew Colin Mayo, Tiffany Geyer Lydon, Lauren E. Maguire*, Caroline Hong*

PAUL HASTINGS LLP: Blair M. Jacobs, Christina A. Ondrick

BAKER BOTTS LLP: Roger J. Fulghum, Brett J. Thompsen, George Hopkins Guy, III

MCDERMOTT WILL & EMERY LLP: Leigh J. Martinson*, Michael F. Martin*, Rose S. Whelan*

ORRICK HERRINGTON & SUTCLIFFE LLP: Bas de Blank, Diana M. Rutowski, Vicki L. Feeman, Ulysses Hui*

ON SEMICONDUCTOR CORP.: Joshua Engel

* Attorneys no longer with designated firms.

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

Fairchild Semiconductor Corp. v. Power Integrations, Inc., No. 19-2378 (Fed. Cir.).

Dated: October __, 2019

/s/ Kathleen M. Sullivan
Kathleen M. Sullivan

CERTIFICATE OF COMPLIANCE

This motion complies with the type-volume limitations in Federal Rules of Appellate Procedure 27 and 32 because it contains __ words.

Dated: October __, 2019

/s/

[NAME]

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the CM/ECF system on October __, 2019.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

Dated: October __, 2019

/s/

[NAME]

EXHIBIT K

**IN THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

**FAIRCHILD SEMICONDUCTOR CORPORATION
and FAIRCHILD (TAIWAN) CORPORATION,**

Plaintiffs-Appellants,

v.

POWER INTEGRATIONS, INC.,

Defendant-Cross-Appellant.

JOINT MOTION TO DISMISS APPEALS

Appellants Fairchild Semiconductor Corporation and Fairchild (Taiwan) Corporation and cross-appellant Power Integrations, Inc. respectfully request under Federal Rule of Appellate Procedure 42(b) that the Court dismiss these appeals. The parties have agreed that each side will bear its own costs associated with the appeals.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment that is currently the subject of the present appeal and cross-appeal was in error.

Dated: October __, 2019

Respectfully submitted,

s/

MICHAEL HAWES
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*Counsel for Plaintiffs-Appellants
Fairchild Semiconductor
Corporation, and Fairchild (Taiwan)
Corporation*

s/

FRANK SCHERKENBACH
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MICHAEL R. HEADLEY
HOWARD G. POLLACK
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JOHN WINSTON THORNBURGH
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San Diego, CA 921303
Telephone: (858) 678-5070

*Counsel for Defendant-Cross-Appellant
Power Integrations, Inc.*

CERTIFICATE OF INTEREST

Counsel for plaintiffs-appellants Fairchild Semiconductor Corporation and Fairchild (Taiwan Corporation) certify the following:

1. The full name of every party or amicus represented by me is:

Fairchild Semiconductor Corp.; Fairchild (Taiwan) Corporation

2. The name of the Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:

None

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

Fairchild Semiconductor Corporation and Fairchild (Taiwan) Corporation are wholly-owned subsidiaries of Fairchild Semiconductor International, Inc. Fairchild Semiconductor International, Inc. is a wholly-owned subsidiary of Semiconductor Components Industries, LLC. Semiconductor Components Industries, LLC is a wholly-owned subsidiary of ON Semiconductor Corporation. There is no parent corporation or publicly held company that owns 10% or more of the stock in ON Semiconductor Corporation.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

John G. Day, Andrew Mayo, Lauren E. Maguire - Ashby & Geddes; Rose Whelan - Cooley; Scott F. Llewellyn, Collette Reiner Mayer, Pieter S. de Ganon, Ryan J. Gatzemeyer - Morrison & Foerster LLP; Blair Jacobs, Christina Ondrick, Yar Chaikovsky, Robert Walters, Patrick Stafford, Charles Hawkins - Paul Hastings; Jennifer Nall - Baker Botts LLP; Joshua Engel - ON Semiconductor; Jeremiah Armstrong, Alexander Ott, Leigh Martinson, Michael Martin, Terrence McMahon - McDermott, Will & Emery

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

CAFC 2019-2377 Power Integrations Inc. v. Fairchild Semiconductor Corporation; ON Semiconductor Corporation, et al. v. Power Integrations, Inc., 1:17-0247 - LPS (D. Del.); Power Integrations, Inc. v. ON Semiconductor Corporation, et al., 5:16-06371 (N.D. Cal.)

Dated: October __, 2019

/s/ Michael Hawes
Michael Hawes

CERTIFICATE OF INTEREST

Counsel for defendant-cross-appellant Power Integrations, Inc. certify the following:

1. The full name of every party or amicus represented by me is:

Power Integrations, Inc.

2. The name of the Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:

None

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

BlackRock, Inc.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

FISH & RICHARDSON P.C.: Frank E. Scherkenbach, Howard G. Pollack, Michael R. Headley, Neil Warren, John Thornburgh, Warren K. Mabey, Jr., Douglas E. Mccann, Joseph Warden, James Huguenin-Love, William Marsden*, Limin Zheng*

*No longer with the firm

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

CAFC Appeal No. 18-1851

Dated: October __, 2019

/s/ _____
[NAME]

CERTIFICATE OF COMPLIANCE

This motion complies with the type-volume limitations in Federal Rules of Appellate Procedure 27 and 32 because it contains __ words.

Dated: October __, 2019

/s/

[NAME]

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the CM/ECF system on October __, 2019.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

Dated: October __, 2019

/s/

[NAME]

EXHIBIT L

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

FAIRCHILD SEMICONDUCTOR CORPORATION and
FAIRCHILD (TAIWAN) CORPORATION,

Plaintiffs,

v.

POWER INTEGRATIONS, INC.

Defendant.

C.A. No. 12-540-LPS

**JOINT MOTION AND [PROPOSED] ORDER FOR
VOLUNTARY DIMISSAL WITH PREJUDICE [F.R.C.P. RULE 41(a)(2)]**

Pursuant to Federal Rule of Civil Procedure 41(a)(2) and a settlement agreement, the parties jointly move that this Court dismiss this action with prejudice, with each party to bear its own costs and attorneys' fees.

Neither Party is waiving any argument or position (now or in the future) that any order, ruling, or judgment was in error in any of the parties' cases that is being dismissed with or without prejudice in connection with the parties' settlement agreement, including any arguments that were the subject of any appeal dismissed pursuant to the parties' settlement agreement.

ASHBY & GEDDES

/s/

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/s/

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Attorneys for Defendant

Dated: October __, 2019

SO ORDERED this ____ day of _____, 2019.

Chief Judge

ON SEMICONDUCTOR CORPORATION

List of Subsidiaries as of 12/31/2019 (1)

AMI Semiconductor Canada Company {Nova Scotia, Canada}
AMIS Foreign Holdings, Inc. {Delaware}
Aptina Holdings (Cayman) Inc. {Cayman Islands}
Aptina Imaging Corporation {Cayman Islands}
Aptina India Private Limited {India}
Aptina, LLC {Delaware}
Aptina (Mauritius) Limited {Mauritius}
Aptina Pte. Ltd. {Singapore}
Axsem AG {Switzerland}
Bestcyber Developments Limited {Samoa}
Fairchild (Taiwan) Corporation {Taiwan}
Fairchild Energy, LLC {Maine}
Fairchild Semiconductor (Malaysia) Sdn. Bhd. {Malaysia}
Fairchild Semiconductor (Netherlands) B.V. {Netherlands}
Fairchild Semiconductor (Suzhou) Co., Ltd. {China (PRC)}
Fairchild Semiconductor Corporation {Delaware}
Fairchild Semiconductor Corporation of California {Delaware}
Fairchild Semiconductor GmbH {Germany}
Fairchild Semiconductor Hong Kong (Holdings) Limited {Hong Kong, China (PRC)}
Fairchild Semiconductor Hong Kong Limited {Hong Kong, China (PRC)}
Fairchild Semiconductor International, Inc. {Delaware}
Fairchild Semiconductor Mauritius (Trading) Ltd. {Mauritius}
Fairchild Semiconductor Mauritius Ltd. {Mauritius}
Fairchild Semiconductor Pte. Ltd. {Singapore}
Fairchild Semiconductor Technology (Beijing) Co., Ltd. {China (PRC)}
Fairchild Semiconductor Technology (Shanghai) Co., Ltd. {China (PRC)}
Giant Holdings, Inc. {Delaware}
Giant Semiconductor Corporation {North Carolina}
Leshan-Phoenix Semiconductor Company Limited {China (PRC)}
Micro-Ohm Corporation {North Carolina}
New Conversion Co., Ltd. {Taiwan}
ON Design Czech s.r.o. {Czech Republic}
ON Design Israel Ltd. {Israel}
ON Electronics Private Limited {India}
ON Management Ltd. {Bermuda}
ON Semiconductor (Shenzhen) Limited {China (PRC)}
ON Semiconductor (Thailand) Co. Ltd. {Thailand}
ON Semiconductor Adria d.o.o. {Slovenia}
ON Semiconductor Aizu Co., Ltd. {Japan}
ON Semiconductor Belgium BVBA {Belgium}
ON Semiconductor Benelux B.V. {Netherlands}
ON Semiconductor Binh Duong Company Limited {Vietnam}
ON Semiconductor Canada Holding Corporation {Ontario, Canada}
ON Semiconductor Canada Trading Corporation {Nova Scotia, Canada}
ON Semiconductor Cebu Philippines, Inc. {Philippines}
ON Semiconductor Connectivity Solutions, Inc. {Delaware}
ON Semiconductor Coöperatief U.A. {Netherlands}
ON Semiconductor Czech Republic, s.r.o. {Czech Republic}
ON Semiconductor France SAS {France}
ON Semiconductor Germany GmbH {Germany}
ON Semiconductor Holdings Malaysia Sdn. Bhd. {Malaysia}
ON Semiconductor Holland B.V. {Netherlands}
ON Semiconductor Ireland Research and Design Limited {Ireland}

ON Semiconductor Italy S.r.l. {Italy}
ON Semiconductor Japan Holdings Ltd. {Japan}
ON Semiconductor Japan Ltd. {Japan}
ON Semiconductor Kanto Co. Ltd. {Japan}
ON Semiconductor Korea, Ltd. {South Korea}
ON Semiconductor Leasing BVBA {Belgium}
ON Semiconductor Limited {United Kingdom}
ON Semiconductor, LLC {Delaware}
ON Semiconductor Malaysia Sdn. Bhd. {Malaysia}
ON Semiconductor Netherlands BV {Netherlands}
ON Semiconductor Netherlands Coöperatief U.A. {Netherlands}
ON Semiconductor Niigata Co., Ltd. {Japan}
ON Semiconductor Philippines, Inc. {Philippines}
ON Semiconductor Romania SRL {Romania}
ON Semiconductor s.r.l. {Italy}
ON Semiconductor SAS {France}
ON Semiconductor Shenzhen China (ONSC) Limited {China (PRC)}
ON Semiconductor Slovakia a.s. {Slovak Republic}
ON Semiconductor SSMP Philippines Corporation {Philippines}
ON Semiconductor Switzerland SA {Switzerland}
ON Semiconductor Technology Hong Kong Limited {Hong Kong, China (PRC)}
ON Semiconductor Technology India Private Ltd. {India}
ON Semiconductor Technology Korea Limited {South Korea}
ON Semiconductor Trading (Shanghai) Limited {China (PRC)}
ON Semiconductor Trading Sàrl {Switzerland}
ON Semiconductor United Kingdom Limited {United Kingdom}
ON Semiconductor Vietnam Company Limited {Vietnam}
Quantenna Communications (Shanghai) Co., Ltd. {China (PRC)}
Quantenna Communications (Wuxi) Co. Ltd. {China (PRC)}
Quantenna Communications Australia Pty. Ltd. {Australia}
Quantenna Communications B.V. {Netherlands}
Quantenna Communications Hong Kong Limited {Hong Kong, China (PRC)}
Quantenna Communications International Pte Ltd {Singapore}
Quantenna Communications Limited Liability Company {Russia}
Quantenna Communications Spain SL {Spain}
Quantenna France SARL {France}
Quantenna Ltd. {Bermuda}
ROCTOV, LLC {Delaware}
SANYO LSI Technology India Private Limited {India}
SANYO Semiconductor (S) Pte. Ltd. {Singapore}
SCG Czech Design Center, s.r.o. {Czech Republic}
SCG Hong Kong SAR Limited {Hong Kong, China (PRC)}
SCG Korea Limited {South Korea}
Semiconductor Components Industries Singapore Pte Ltd {Singapore}
Semiconductor Components Industries, LLC {Delaware}
SensL Technologies Limited {Ireland}
Silicon Patent Holdings {California}
Sound Design Technologies Ltd. {Ontario, Canada}
System Solutions Distribution Co., Ltd. {Japan}
TranSiC AB {Sweden}

{ } Denotes jurisdiction.

(1) All ON Semiconductor Corporation subsidiaries generally do business under the name “ON Semiconductor” or such other similar name as they transition to “ON Semiconductor.”

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-219751, No. 333-21975, No. 333-206471, No. 333-190344, No. 333-183389, No. 333-166958, No. 333-159381, No. 333-118814, and No. 333-71336) of ON Semiconductor Corporation of our report dated February 19, 2020 relating to the financial statements and financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Phoenix, Arizona
February 19, 2020

**POWER OF ATTORNEY
(Atsushi Abe)**

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ ATSUSHI ABE

Atsushi Abe

POWER OF ATTORNEY
(Alan Campbell)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ ALAN CAMPBELL

Alan Campbell

POWER OF ATTORNEY
(Curtis J. Crawford)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ CURTIS J. CRAWFORD

Curtis J. Crawford

POWER OF ATTORNEY
(Gilles Delfassy)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ GILLES DELFASSY

Gilles Delfassy

**POWER OF ATTORNEY
(Emmanuel T. Hernandez)**

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ EMMANUEL T. HERNANDEZ

Emmanuel T. Hernandez

POWER OF ATTORNEY
(Paul A. Mascarenas)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ PAUL A. MASCARENAS

Paul A. Mascarenas

POWER OF ATTORNEY
(Daryl A. Ostrander)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ DARYL A. OSTRANDER

Daryl A. Ostrander

POWER OF ATTORNEY
(Teresa M. Ressel)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ TERESA M. RESSEL

Teresa M. Ressel

POWER OF ATTORNEY
(Christine Y. Yan)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation (the "Corporation") and file with the Securities and Exchange Commission the Corporation's Annual Report on Form 10-K for 2019, and any amendments.

Dated: February 19, 2020

/s/ CHRISTINE Y. YAN

Christine Y. Yan

CERTIFICATIONS

I, Keith D. Jackson, certify that:

1. I have reviewed this annual report on Form 10-K of ON Semiconductor Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 19, 2020

/s/ KEITH D. JACKSON

Keith D. Jackson

Chief Executive Officer

CERTIFICATIONS

I, Bernard Gutmann, certify that:

1. I have reviewed this annual report on Form 10-K of ON Semiconductor Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 19, 2020

/s/ BERNARD GUTMANN

Bernard Gutmann
Chief Financial Officer

Certification**Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906
of the Sarbanes-Oxley Act of 2002**

For purposes of Section 1350 of Chapter 63 of Title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, each of the undersigned officers of ON Semiconductor Corporation, a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 10-K for the fiscal year ended December 31, 2019 (the "Form 10-K") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 19, 2020

/s/ KEITH D. JACKSON

Keith D. Jackson

President and Chief Executive Officer

Dated: February 19, 2020

/s/ BERNARD GUTMANN

Bernard Gutmann

Executive Vice President,

Chief Financial Officer, and Treasurer