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**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 August 29, 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 1-10658



**Micron Technology, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of incorporation or organization)

**8000 S. Federal Way, Boise, Idaho**

(Address of principal executive offices)

Registrant's telephone number, including area code

Securities registered pursuant to Section 12(b) of the Act:

**75-1618004**

(IRS Employer Identification No.)

**83716-9632**

(Zip Code)

(208) 368-4000

Common Stock, par value \$0.10 per share

**Trading Symbol**

MU

**Name of each exchange on which registered**

NASDAQ Global Select Market

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 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer  Accelerated Filer  Non-Accelerated Filer  Smaller Reporting Company  Emerging Growth Company

If an 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 was \$36.2 billion based on the closing price reported on the NASDAQ Global Select Market on February 28, 2019. Shares of common stock held by each executive officer and director and by each person who owns 5% or more of the outstanding common stock were excluded as they may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the registrant's common stock as of October 10, 2019 was 1,107,050,823.

**DOCUMENTS INCORPORATED BY REFERENCE:** Portions of the Proxy Statement for the registrant's Fiscal 2019 Annual Meeting of Shareholders to be held on January 16, 2020 are incorporated by reference into Part II and Part III of this Annual Report on Form 10-K.

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# Micron Company Profile

Founded over 40 years ago  
on October 5, 1978

Headquartered in  
Boise, Idaho, USA

**\$23.4B**  
FY19 annual revenue

**4th**  
Largest semiconductor company  
in the world\*

**40,000**  
Patents granted and growing\*

**18**  
Countries\*

**13**  
Manufacturing sites and  
13 customer labs\*

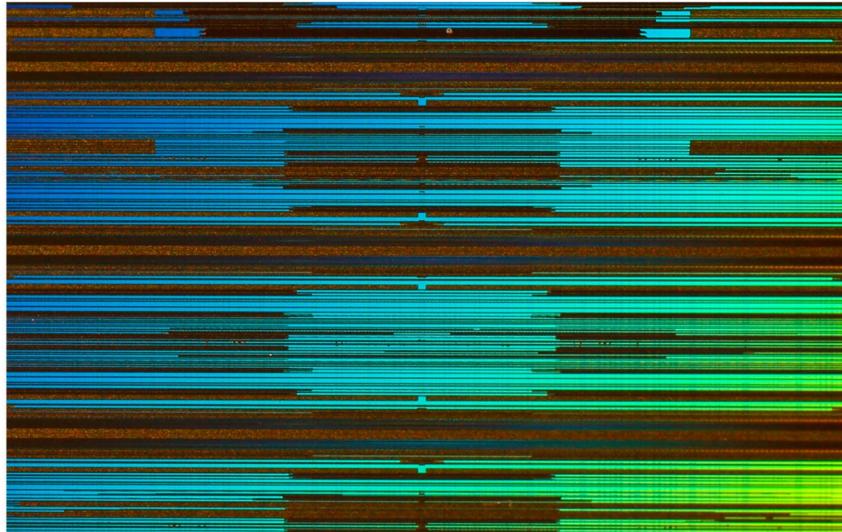
**37,000**  
Team members\*

\*Micron data as of Aug. 29, 2019; Gartner Market Share:  
Semiconductors by End Market, Worldwide, 2018. (April 2019)

**Media Inquiries**  
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## It's All About Data

**Data is today's new business currency, and memory and storage are emerging as strategic differentiators that will redefine how we extract value from data to learn, explore, communicate and experience.**

### Who We Are

For over 40 years, Micron's memory and storage solutions have been foundational to innovations that have transformed the world in countless ways. Our technology and expertise are core to computers that boot up in an instant and work harder and faster; mobile phones with brilliant screen resolution and longer battery life; and new business models that are disrupting entire industries faster than ever — such as entertainment, manufacturing and finance.

### Our Vision

As a global leader in memory and storage solutions, we are transforming how the world uses information to enrich life by enabling technologies to collect, store and manage data with unprecedented speed and efficiency. We are accelerating the transformation of information into intelligence — inspiring the world to learn, communicate and advance faster than ever.

### Our Commitment

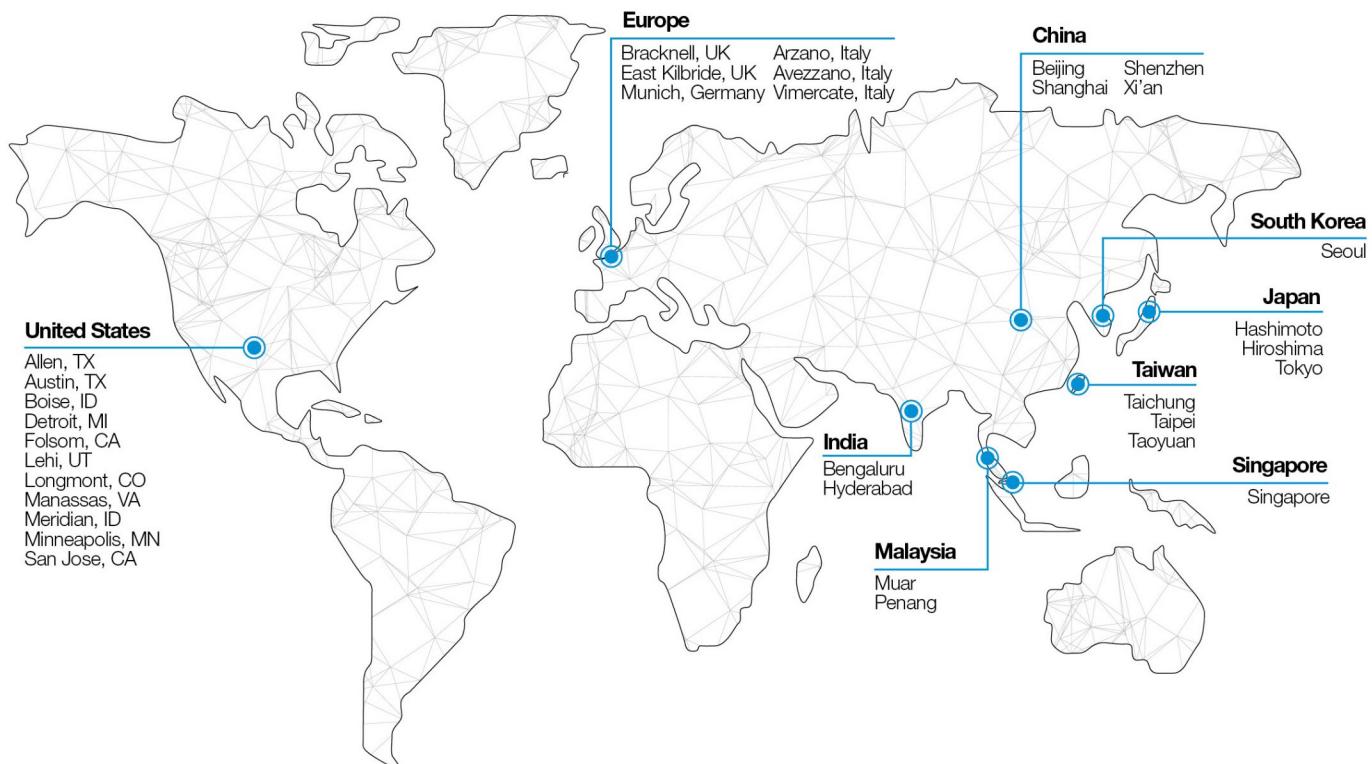
Micron's dedication to employee health and safety, environmental quality, diversity and inclusion, and community engagement is part of our commitment worldwide. This dedication includes working toward building and maintaining sustainable operations, products, and supply chains around the globe. Through the Micron Foundation we provide opportunities for learning and enrichment by sharing our resources and people in the communities where our team members live and work.

### Global Product Portfolio

DRAM | NAND | 3D XPoint™ Memory | NOR | Solid-State Drives  
Multichip Packages | Advanced Solutions | High Bandwidth Memory (HBM)

**Connect with us on [micron.com](http://micron.com)**

# Micron's Global Footprint



Micron's global footprint map highlights locations that include our manufacturing sites, customer labs and core design or sales offices. Not all Micron locations are represented on this map.

## Vision

Transforming how the world uses information to enrich life

## Mission

Be a global leader in memory and storage solutions

### Customer Focus

We win by knowing our customers.

### Collaboration

We work as one team.

## Values

### People

We care about each other.

### Innovation

We develop solutions that shape the world's future.

### Tenacity

Nothing shakes our resolve.



## Forward-Looking Statements

*This Form 10-K contains trend information and other forward-looking statements that involve a number of risks and uncertainties. Forward-looking statements include, but are not limited to, statements such as those made regarding the timing and effects of our conversion to replacement gate technology, timing of bit crossover of our 96-layer 3D NAND, timing of our production of 128-layer 3D NAND, timing of and purchase price for Intel's interest in IMFT; debt incurred to finance our capital investments and noncontrolling interest in IMFT; the sufficiency of our cash and investments; capital spending in 2020; increase in underutilization of IMFT manufacturing capacity; anticipated change to the depreciable life of our NAND equipment and resulting change in depreciation expense; and the effects of adopting the new lease accounting standard in 2020. Our actual results could differ materially from our historical results and those discussed in the forward-looking statements. Factors that could cause actual results to differ materially include, but are not limited to, those identified in "Part I – Item 1A. Risk Factors." All period references are to our fiscal periods unless otherwise indicated.*

## Definitions of Commonly Used Terms

As used herein, "we," "our," "us," and similar terms include Micron Technology, Inc. and our consolidated subsidiaries, unless the context indicates otherwise. Abbreviations, terms, or acronyms are commonly used or found in multiple locations throughout this report and include the following:

Term	Definition	Term	Definition
2022 Term Loan B	Senior Secured Term Loan B due 2022	Micron	Micron Technology, Inc. (Parent Company)
2024 Notes	5.25% Senior Notes due 2024	MMJ	Micron Memory Japan, Inc.
2025 Notes	5.50% Senior Notes due 2025	MMJ Companies	MAI and MMJ
2026 Notes	5.63% Senior Notes due 2026	MMJ Group	MMJ and its subsidiaries
2027 Notes	4.19% Senior Notes due 2027	MMT	Micron Memory Taiwan Co., Ltd.
2029 Notes	5.33% Senior Notes due 2029	MSP	Micron Semiconductor Products, Inc.
2030 Notes	4.66% Senior Notes due 2027	MSTW	Micron Semiconductor Taiwan Co., Ltd.
2032D Notes	3.13% Convertible Senior Notes due 2032	MTTW	Micron Technology Taiwan, Inc.
2033F Notes	2.13% Convertible Senior Notes due 2033	NAND	Not And
2043G Notes	3.00% Convertible Senior Notes due 2043	Nanya	Nanya Technology Corporation
ASIC	Application-Specific Integrated Circuit	NOR	Not Or
CuA	CMOS Under the Array	NVMe	Non-Volatile Memory Express
DDR	Double Data Rate	OEM	Original Equipment Manufacturer
DRAM	Dynamic Random Access Memory	PCIe	Peripheral Component Interconnect Express
e.MMC	Embedded Multi-Media Controller	Qimonda	Qimonda AG
eMCP	An e.MMC or UFS solution with LPDRAM in the same package	QLC	Quad-Level Cell (four bits per cell)
GDDR	Graphics Double Data Rate	RDIMM	Registered Dual In-line Memory Module
HDD	Hard Disk Drive	SATA	Serial AT Attachment
IMFT	IM Flash Technologies, LLC	SLC	Single-Level Cell (one bit per cell)
Inotera	Inotera Memories, Inc.	SSD	Solid State Drive
Intel	Intel Corporation	TLC	Triple-Level Cell (three bits per cell)
LPDDR	Low Power Double Data Rate	UFS	Universal Flash Storage
MAI	Micron Akita, Inc.	uMCP	UFS-based MCP
MCP	Multi-Chip Package	VIE	Variable Interest Entity

Micron, Crucial, Ballistix, any associated logos, and all other Micron trademarks are the property of Micron. 3D XPoint is a trademark of Intel in the United States and/or other countries in the United States and/or other countries. Other product names or trademarks that are not owned by Micron are for identification purposes only and may be the trademarks of their respective owners.

## PART I

### ITEM 1. BUSINESS

#### Overview

Micron Technology, Inc., including its consolidated subsidiaries, is an industry leader in innovative memory and storage solutions. Through our global brands – Micron®, Crucial®, and Ballistix® – our broad portfolio of high-performance memory and storage technologies, including DRAM, NAND, 3D XPoint™ memory, and NOR, is transforming how the world uses information to enrich life. Backed by 40 years of technology leadership, our memory and storage solutions enable disruptive trends, including artificial intelligence, 5G, machine learning, and autonomous vehicles, in key market segments like mobile, data center, client, consumer, industrial, graphics, automotive, and networking.

We manufacture our products at wholly-owned and joint venture facilities and also utilize subcontractors to perform certain manufacturing processes. In recent years, we have increased our manufacturing scale and product diversity through strategic acquisitions, expansion, and various partnering arrangements.

We make significant investments to develop proprietary product and process technology, which are implemented in our manufacturing facilities. We generally increase the density per wafer and reduce manufacturing costs of each generation of product through advancements in product and process technology, such as our leading-edge line-width process technology and 3D NAND architecture. We continue to introduce new generations of products that offer improved performance characteristics, including higher data transfer rates, advanced packaging solutions to meet industry standards, lower power consumption, improved read/write reliability, and increased memory density. Our managed NAND and SSD storage products, which incorporate NAND, a controller, and firmware, constitute a significant portion of our revenues. We develop firmware and, in 2019, introduced our proprietary controllers into our SSDs. Development of advanced technologies enables us to diversify our product portfolio toward a richer mix of differentiated, high-value solutions and to target high-growth markets.

We market our products through our internal sales force, independent sales representatives, and distributors primarily to original equipment manufacturers and retailers located around the world. We face intense competition in the semiconductor memory and storage markets and, to remain competitive, we must continuously develop and implement new products and technologies and decrease manufacturing costs. Our success is largely dependent on obtaining returns on our R&D investments, efficient utilization of our manufacturing infrastructure, development and integration of advanced product and process technologies, market acceptance of our diversified portfolio of semiconductor-based memory and storage solutions, and return-driven capital spending.

#### Products

Our product portfolio of memory and storage solutions, advanced solutions, and storage platforms are based on our high-performance semiconductor memory and storage technologies, including DRAM, NAND, NOR, 3D XPoint memory, and other technologies. We sell our products into various markets through our four business units in various forms, including wafers, components, modules, SSDs, and MCP products. MCP products combine DRAM, NAND, and/or NOR and in some cases also include a controller and firmware. We are relentlessly focused on evolving our product portfolio to a richer mix of high-value solutions and cultivating deeper relationships with customers. Our position as a developer and manufacturer of DRAM, NAND, NOR, and other emerging memory technologies uniquely enables us to collaborate with our customers to ensure our technology and engineering roadmaps deliver critical features. We continuously introduce new products on our advanced technologies, delivering performance, quality, and cost advantages to our customers.

#### Compute and Networking Business Unit

CNBU includes memory products and solutions sold into client, cloud server, enterprise, graphics, and networking markets. CNBU reported revenue of \$9.97 billion in 2019, \$15.25 billion in 2018, and \$8.62 billion in 2017. We achieved bit shipment crossover to 1Xnm DRAM products in 2019 and began shipments of our 1Ynm DRAM. In 2019, we began enablement of our 1Znm products, designed to meet the need for better performance, higher density, and reduced power consumption in data center and other applications, and became the first memory company to begin mass production of 16Gb DDR4 memory products using 1Znm technology. Our 1Znm 16Gb DDR4 product delivers substantially higher bit density as well as significant

performance enhancements and lower cost compared to the previous generation 1Ynm node and reduces power consumption by approximately 40% compared to previous generations of 8Gb DDR4-based products.

**Client:** The client market was CNBU's largest revenue segment in 2019 and consisted predominantly of our DDR4 DRAM products. We also offer LPDDR4/4X and LPDDR3 products that are incorporated into ultra-thin notebooks with low power features. In 2019, we achieved significant production and sales to the client market from our 1Xnm and 1Ynm technology. Our products sold to the client market support both commercial and consumer PC unit growth, with commercial growth driven primarily by replacement cycles from upgraded operating systems. Growth was primarily driven by increases in memory content per unit.

**Cloud Server:** CNBU sales to the cloud market in 2019 consisted predominantly of our second-generation 1Xnm DDR4 DRAM. In 2019, we qualified RDIMM products incorporating our 1Ynm DRAM with key cloud server customers. The cloud server market continues to experience significant growth, offering improved costs, security, stability, and flexibility. The cloud server market has been driven, in part, by intelligent edge devices capable of artificial intelligence and augmented reality that store and access data in the cloud. Cloud servers supporting artificial intelligence workloads require significantly increasing quantities of DRAM and, as the number and capabilities of these intelligent edge devices increase, more data is stored, processed, and accessed in the cloud, creating a virtuous cycle between the cloud and edge devices.

**Enterprise:** CNBU sales in 2019 into the enterprise market consisted predominantly of our second-generation 1Xnm DDR4 DRAM products. In 2019, we qualified our 64GB DDR4 modules incorporating our 1Ynm DRAM with key enterprise customers for use in servers. The enterprise market is experiencing demand from intelligent edge devices requiring rapid data analysis and storage to enable machine learning, training, and inferencing. Our enterprise RDIMM DRAM memory modules provide the high performance, quality, and reliability required for these applications.

**Graphics:** The graphics market is driven by the need for high-performance, high-bandwidth, and cost-effective memory solutions. Our GDDR6 and GDDR5 DRAM graphics products are incorporated into game consoles, PC graphics cards and graphics processing unit-based data center solutions, which are the driving force behind applications such as artificial intelligence, virtual and augmented reality, 4K and 8K gaming, and professional design. In 2018, we started volume production of our 8Gb GDDR6 DRAM and, in 2019, expanded our customer base and introduced our high-performance 16Gb GDDR6 DRAM.

**Networking:** The networking memory market is characterized by long life-cycle DRAM products, and accordingly, a significant portion of our sales consisted of products manufactured on our legacy 25nm and 20nm-series DRAM technology. In 2019, we accelerated sales of 4Gb and 8Gb DDR4 DRAM into emerging 5G applications and supported further build-out of advanced networking infrastructure to our large corporate and cloud data center customers.

## **Mobile Business Unit**

MBU includes memory products sold into smartphone and other mobile-device markets and includes discrete DRAM, discrete NAND, and managed NAND. MBU managed NAND includes e.MMC and universal flash storage ("UFS") solutions, each of which combine high-capacity NAND with a high-speed controller and firmware in a small ball-grid array, and eMCP products, which combine an e.MMC/UFS solution with LPDRAM. MBU reported revenue of \$6.40 billion in 2019, \$6.58 billion in 2018, and \$4.42 billion in 2017. In 2019, we introduced our 1Ynm 12Gb LPDDR5 mobile DRAM, which offers the highest performance and density available for the mobile market. We also started volume shipments of our 1Znm 16Gb LPDDR4 mobile DRAM in discrete and MCP packages, which is the world's first 16Gb monolithic LPDRAM, enabling higher densities for the mobile market at a more competitive cost structure. In 2019, we launched our second-generation UFS product with best-in-class endurance.

**Smartphone:** MBU sales to the smartphone market in 2019 consisted primarily of our 1Xnm LPDDR4 and managed NAND solutions. High-end smartphones incorporate higher levels of NAND and LPDRAM that enable features such as larger 4K displays, multiple high-resolution cameras, and 4K high-dynamic range video recording. Additionally, our smartphone products are utilized by OEMs to enable artificial intelligence, augmented reality, and life-like virtual reality capabilities into high-end phones, including facial and voice recognition, real-time translation, fast image search, and scene detection. Our managed NAND bit shipments in 2019 more than tripled year-on-year, driven by growth of MCP and discrete NAND e.MMC and UFS products. In the fourth quarter of 2019, we started volume shipments of a new leading-edge UFS-based MCP ("uMCP") that uses our 1Z LPDRAM. This new UFS MCP enables flagship-like performance and densities to mid and high-end smartphones. Our LPDRAM solutions are engineered to meet the demanding performance and power specifications of industry-leading smartphone manufacturers.

**Other:** MBU sales also include products sold into the feature phone, mobile PC, and tablet markets. Sales primarily consist of LPDDR4, LPDDR3, and TLC NAND.

## **Storage Business Unit**

SBU includes SSDs and component-level solutions sold into enterprise and cloud, client, and consumer storage markets and other discrete storage products sold in component and wafer forms to removable storage markets. SBU reported revenue of \$3.83 billion in 2019, \$5.02 billion in 2018, and \$4.51 billion in 2017. In 2019, we continued to ramp our 96-layer 3D NAND, enabling cost reductions as compared to our 64-layer 3D NAND. Our 3D NAND technologies utilize CMOS under the array ("CuA") technology to reduce die sizes and deliver improved performance when compared to competitive approaches.

In 2019, we continued to make progress on our 128-layer 3D NAND, which uses replacement gate technology. Our first replacement gate node will be based on our 128-layer 3D NAND, but is expected to be used across a select set of products. With the high initial capital requirements of transitioning from floating gate to replacement gate technology, we don't expect meaningful cost reductions until 2021, when our second-generation replacement gate node is broadly deployed. We believe our replacement gate architecture will allow us to deliver performance improvements and provide an efficient path towards scaling multiple future generations of 3D NAND. Given a more limited initial deployment of our first node of replacement gate technology, we expect that our NAND bit supply growth in calendar 2020 will be below industry demand levels and plan to utilize our cost-effective floating gate inventory to meet growth in customer demand.

**SSDs:** SSD storage products incorporate NAND, a controller, and firmware and offer significant performance and features over HDDs, including a smaller form factor, faster read and write speeds, solid-state architecture, reliability, and lower power consumption. We offer SSD solutions utilizing our NAND technology to the enterprise and cloud, client, and consumer markets.

***Enterprise and Cloud SSDs:*** SBU sales to the enterprise and cloud SSD markets in 2019 consisted primarily of our flagship SATA 5200 and 5100 series SSDs. In 2019, we continued offering our 5200 series SATA SSDs, which deliver best-in-class performance and capacity and achieved revenue crossover from our 5100 series SSDs. In 2019, we launched our 9300 Datacenter NVMe SSDs for enterprise and cloud markets. These 9300 NVMe SSDs feature industry-leading sequential write performance and latency, increased capacities, and nearly a 30% reduction in power consumption over the previous generation. Similar to trends in the memory market, the enterprise and cloud storage markets have been driven by intelligent edge devices capable of artificial intelligence, augmented reality, and other features that store, access, and analyze data in the cloud. Artificial intelligence servers require significantly higher SSD capacity and our 64-layer QLC NAND technology provides cost-optimized storage solutions with significantly lower total cost of ownership for read-intensive cloud workloads. By leveraging our advanced CuA NAND in enterprise and cloud SSDs, we deliver low-cost, high-density, high-performance storage solutions.

***Client SSDs:*** SBU sales to the client SSD market in 2019 consisted primarily of our 1100 series 3D NAND SATA Client SSDs, which are targeted for leading personal computer OEMs as a replacement to HDDs. Our client SSDs, used in notebooks, desktops, workstations, and other consumer applications, deliver high performance, power efficiency, security, and capacity to our customers. In 2019, we introduced our next-generation 1300 series SATA SSD, which is one of the industry's first 96-layer TLC 3D NAND-based SSDs. Our 1300 series SATA SSD offers fast storage, device-level security, thermal management, and extended battery life for mobile, desktop, and workstation PCs. We also introduced our 2200 series PCIe NVMe SSD portfolio, which supports the NVM Express™ protocol, bringing increased bandwidth and reduced latency to client computing markets. The 2200 PCIe NVMe SSD is a vertically integrated solution that includes our 3D TLC NAND, internally designed ASIC, and firmware in an M.2 form factor. In 2019, we began shipments to large PC OEMs of our new 2200 PCIe NVMe SSD and we continue to achieve qualification with more customers.

***Consumer SSDs:*** SBU sales to the consumer SSD market in 2019 consisted primarily of our Crucial-branded MX500 SATA SSD, utilizing our 64-layer TLC 3D NAND. In 2019, we began offering our BX500 SATA SSD, utilizing our 96-layer TLC 3D NAND, and also gained market acceptance of our NVMe SSDs utilizing our QLC NAND. Similar to the client SSD market, our consumer SSD solutions are replacing HDDs as end-users seek the higher performance, power savings, and reliability of our SSDs.

**Components and Wafers:** SBU sales of components in 2019 included NAND products and 3D XPoint technology. NAND products primarily consist of our 64-layer and 96-layer TLC and QLC NAND technology sold into storage markets. Sales of 3D XPoint technology includes wafers sold to Intel through our IMFT joint venture. 3D XPoint technology has higher chip density than DRAM, up to 1,000 times lower latency, and exponentially greater endurance than NAND. These specifications

create a significant value opportunity for 3D XPoint technology in solutions between DRAM and NAND in the memory and storage hierarchy. We continue to develop products and solutions for 3D XPoint technology in the memory and storage hierarchies. Revenue from sales of 3D XPoint products are included within the business unit that most closely aligns to the memory or storage use of the end product. Trends in machine learning, big data analytics, and artificial intelligence are driving demand for the features offered by 3D XPoint technology.

### **Embedded Business Unit**

EBU includes memory and storage products sold into automotive, industrial, and consumer markets and includes discrete and module DRAM, discrete NAND, managed NAND, and NOR. EBU reported revenue of \$3.14 billion in 2019, \$3.48 billion in 2018, and \$2.70 billion in 2017. The embedded market has traditionally been characterized by long life-cycle DRAM and non-volatile products manufactured on mature process technologies. With strong trends of digitization, connectivity, and intelligence in every device, demand continues to grow for leading-edge products from newer process technologies emerging into the embedded market, which contributed to a fivefold increase in LPDDR4 bit-shipments to the automotive market in 2019 as compared to 2018. Our embedded products enable edge devices to store, connect, and share information in the growing internet of things ("IoT") and are utilized in a diverse set of applications in the automotive, industrial, and consumer markets.

***Automotive:*** Our DDR3 DRAM, e.MMC managed NAND, and LPDDR4 DRAM automotive memory and storage products enable connected, large display infotainment systems and higher definition 4K displays and support improved voice and gesture control in automotive applications. Advancements in autonomous driving and advanced driver-assistance systems continue to increase the requirements for high-performing memory and storage products, with higher reliability requirements for leading-edge products. Our comprehensive and expanding portfolio of DRAM, NAND, and NOR solutions to the automotive market, as well as our extensive customer support network, enable us to maintain our strong leadership position in this market. In 2019, we introduced our UFS 2.1 managed NAND portfolio, based on our reliable automotive-grade 64-layer 3D TLC NAND, that features ultrafast boot-up time with up to three times the sequential read-performance of e.MMC-based products. We also introduced the industry's first 1TB TLC NVMe automotive SSD.

***Industrial:*** Our industrial products, featuring DDR4 and DDR3 DRAM, SLC NAND, NAND MCPs, and NOR, enable applications in the growing industrial IoT market, including machine-to-machine communication, factory automation, transportation, surveillance, retail, and smart infrastructure. Our Authenta™ technology provides a new level of cyber protection for the lowest layers of IoT device software by leveraging existing flash memory sockets to enable IoT device health and identity without adding additional hardware components.

***Consumer:*** Our DDR4 and DDR3 DRAM, LPDDR4 DRAM, and eMCP managed NAND products sold into the consumer market are used in a diverse set of consumer products, including service provider and IP set-top boxes, digital home assistants, digital still and video cameras, home networking, ultra-high definition televisions, and many more applications. Our embedded memory and storage solutions enable edge devices in the consumer products market to store, connect, and share information in the IoT. In 2019, we began offering high density 128GB to 1TB microSD card products for the consumer markets, leveraging our most advanced 96-layer 3D QLC NAND technology.

## **Manufacturing**

In recent years, we have centralized certain key functions of our operations. These centers of excellence enable us to maximize yield and reduce cycle times by combining front and back-end manufacturing, product engineering, and specific technology development to most effectively transfer and ramp technology while driving efficient manufacturing. In 2019, we completed construction and began operating our new Singapore leading-edge 3D NAND clean room expansion. Our Singapore center of excellence enables us to transition to leading-edge technology nodes, which require substantially more clean room space than prior nodes, and maintain existing wafer capacity to meet market demand in our expanding storage business. In 2019, we also completed construction and opened our new Taiwan back-end assembly and test facility, which together with our existing Taiwan facilities, constitute our Taiwan DRAM center of excellence. The new facility enables us to integrate back-end processes into our manufacturing environment while benefitting from economies of scale.

We manufacture our products at our wholly-owned and joint venture facilities located in Taiwan, Singapore, Japan, the United States, China, and Malaysia and also utilize subcontractors to perform certain manufacturing processes. Nearly all our products are manufactured on 300mm wafers in facilities that generally operate 24 hours per day, seven days per week. Semiconductor manufacturing is extremely capital intensive, requiring large investments in sophisticated facilities and equipment. Our DRAM, NAND, 3D XPoint memory, and NOR products share a number of common manufacturing processes, enabling us to leverage much of our product and process technology and manufacturing infrastructure across these product lines.

Our process for manufacturing semiconductor products is complex and involves a number of precise steps, including wafer fabrication, assembly, and test. Efficient production of semiconductor products requires utilization of advanced semiconductor manufacturing techniques and effectively deploying those techniques across multiple facilities. The primary determinants of manufacturing cost are process line-width, 3D non-volatile layers, NAND cell levels, process complexity (including number of mask layers and fabrication steps) and manufacturing yield. Other factors include the cost and sophistication of manufacturing equipment, equipment utilization, process complexity, cost of raw materials, labor productivity, package type, cleanliness of our manufacturing environment, and utilization of subcontractors to perform certain manufacturing processes. We continuously enhance our production processes, increasing bits per wafer and transitioning to higher density products. As semiconductor memory technology has matured, the rate of increases in bits per wafer and product density has slowed. In 2019, we achieved bit shipment crossover to the 1Xnm process node for DRAM, significantly increased our production of the 1Ynm process node, and commenced volume production of 16Gb DDR4 products with 1Znm technology. In 2019, we also continued to ramp our 96-layer 3D NAND technology and make progress on our 128-layer 3D NAND, which uses replacement gate technology, that we expect to ramp in 2020.

Wafer fabrication occurs in a highly-controlled clean environment to minimize yield-limiting and quality contaminants. Despite stringent manufacturing controls, individual circuits may be nonfunctional or wafers may be scrapped due to equipment errors, minute impurities in materials, defects in photomasks, circuit design marginalities or defects, and airborne particle defects. Success of our manufacturing operations depends largely on minimizing defects to maximize yield of high-quality circuits. In this regard, we employ rigorous quality controls throughout the manufacturing, screening, and testing processes. We are able to recover certain devices by testing and grading them to their highest level of functionality.

Our products are manufactured and sold in both packaged and unpackaged bare die forms. Our packaged products include memory modules, SSDs, and managed NAND including MCPs and eMMCs. We assemble many products in-house and, in some cases, outsource assembly services for certain memory modules, SSDs, and MCPs. We test our products at various stages in the manufacturing process, conduct numerous quality control inspections throughout the entire production flow, and perform high temperature burn-in on finished products. In addition, we use our proprietary AMBYX™ line of intelligent test and burn-in systems to perform simultaneous circuit tests of semiconductor die during the burn-in process, capturing quality and reliability data and reducing testing time and cost.

In recent years, we have produced an increasingly broad portfolio of products and system solutions which enhances our ability to allocate resources to our most profitable products but also increases the complexity of our manufacturing and supply chain operations. Although our product lines generally use similar manufacturing processes, our costs can be affected by frequent conversions to new products, the allocation of manufacturing capacity to more complex, smaller-volume products, and the reallocation of manufacturing capacity across various product lines.

## **Arrangements with Intel**

### **IMFT**

Since 2006, we have owned 51% of IMFT, a joint venture between us and Intel. IMFT is governed by a Board of Managers, for which the number of managers appointed by each member varies based on the members' respective ownership interests. IMFT manufactures semiconductor products exclusively for its members under a long-term supply agreement at prices approximating cost. In 2018, IMFT discontinued production of NAND and subsequent to that time manufactured 3D XPoint memory. Members pay their proportionate share of fixed costs associated with IMFT's capacity.

In January 2019, we exercised our option to acquire Intel's interest in IMFT. Intel has set the closing date to occur on October 31, 2019. In connection with our acquisition, in the first quarter of 2020, we expect to pay Intel approximately \$1.4 billion for Intel's interest in IMFT as well as IMFT member debt owed to Intel.

Until we complete our acquisition of Intel's noncontrolling interest in IMFT, the members have rights and obligations to the capacity of IMFT in proportion to their investment, including member debt financing. Any capital contribution or member debt financing results in a proportionate adjustment to the sharing of output on an eight-month lag. Intel provided member debt financing of \$1.01 billion to IMFT in 2018 and IMFT repaid \$316 million to Intel in 2019. As a result, as of August 29, 2019, current debt included \$693 million of IMFT member debt.

## **R&D Arrangements**

We have had agreements to jointly develop NAND and 3D XPoint technologies with Intel. In 2018, we and Intel agreed to independently develop subsequent generations of 3D NAND. We substantially completed our NAND development cost-sharing arrangement with Intel in the third quarter of 2019. In 2018, we also announced that we and Intel would no longer jointly develop 3D XPoint technology beyond the second generation. We substantially completed this cost-sharing arrangement in the first quarter of 2020.

## **Supply Chain, Materials, and Use of Third-Party Service Providers**

Our supply chain and operations are dependent on the availability of materials that meet exacting standards and also on the use of third parties to provide us with components and services. We generally have multiple sources of supply for our materials and services; however, only a limited number of suppliers are capable of delivering certain materials and services that meet our standards. In some cases, materials, components, or services are provided by a single supplier. Various factors could reduce the availability of materials or components such as chemicals, silicon wafers, gases, photoresist, controllers, substrates, lead frames, printed circuit boards, targets, and reticle glass blanks. Shortages or increases in lead times may occur from time to time in the future. Our manufacturing processes are also dependent on our relationships with third-party manufacturers of controllers used in a number of our products and with outsourced semiconductor assembly and test providers, contract manufacturers, logistic carriers, and other service providers. We monitor and manage supply-chain activities to mitigate risks associated with raw materials and service providers. Certain materials are primarily available in certain countries, including rare earth elements, minerals, and metals available primarily from China. Trade disputes or other political or economic conditions may limit our availability to obtain such materials. Although these rare earth and other materials are generally available from multiple suppliers, China is the predominant producer of certain of these materials. In addition, we and/or our suppliers and service providers are, and may continue to be, affected by tariffs, embargoes or other trade restrictions, as well as laws and regulations enacted in response to concerns regarding climate change, conflict minerals, and responsible sourcing practices, which can limit the supply of our materials and/or increase the cost.

## **Marketing and Customers**

We continue to transform how we interact with our customers from transactional opportunistic sales of standardized memory components to collaborative relationships where we work with our customers to understand their unique opportunities and challenges. Many of our customers require thorough review or qualification of our products. By engaging with our customers early in the product life-cycle to identify and design features and performance characteristics into our products, we are able to manufacture products that anticipate and address their changing needs. Collaborating with our customers on their design needs in a changing end market allows us to differentiate our memory and storage solutions, which provides greater value to our customers.

Our semiconductor memory and storage products are offered under our Micron, Crucial, and Ballistix brand names and through private labels. We market our semiconductor memory and storage products primarily through our own direct sales force and maintain sales or representative offices in our primary markets around the world. We sell our Crucial-branded products through a web-based customer direct sales channel as well as through channel and distribution partners. Our products are also offered through independent sales representatives, distributors, and retailers. Our independent sales representatives obtain orders subject to final acceptance by us, and we make shipments against the orders directly to our customers. Our distributors carry our products in inventory and typically sell a variety of other semiconductor products, including competitors' products. We maintain inventory at locations in close proximity to certain key customers to facilitate rapid delivery of products.

In each of the last three years, approximately one-half of our total net sales were to our top ten customers. For other information regarding our concentrations and customers, see "Part II – Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Certain Concentrations."

## **Backlog**

Because of volatile industry conditions, customers are generally reluctant to enter into long-term, fixed-price contracts. Accordingly, new order volumes for our memory and storage products may fluctuate significantly. We typically accept orders with acknowledgment that the terms may be adjusted to reflect market conditions at the time of shipment. For these reasons, we do not believe that our order backlog as of any particular date is a reliable indicator of actual sales for any succeeding period.

## **Product Warranty**

Because the design and manufacturing process for semiconductor products is highly complex, it is possible that we may produce products that do not comply with applicable specifications, contain defects, or are otherwise incompatible with end uses. In accordance with industry practice, we generally provide a limited warranty that our products comply with applicable specifications existing at the time of delivery and will operate to those specifications during a stated warranty period. Under our standard terms and conditions of sale, liability for certain failures of product during a stated warranty period is usually limited to repair or replacement of defective items or return of, or a credit with respect to, amounts paid for such items. Under certain circumstances, we provide more extensive limited warranty coverage than that provided under our standard terms and conditions.

## **Competition**

We face intense competition in the semiconductor memory and storage markets from a number of companies, including Intel; Samsung Electronics Co., Ltd.; SK Hynix Inc.; Toshiba Memory Corporation; and Western Digital Corporation. Some of our competitors are large corporations or conglomerates that may have greater resources to invest in technology, capitalize on growth opportunities, and withstand downturns in the semiconductor markets in which we compete. Consolidation of industry competitors could put us at a competitive disadvantage. Our competitors generally seek to increase wafer capacity, improve yields, and reduce die size in their product designs which may result in significant increases in worldwide supply and downward pressure on prices. Increases in worldwide supply of semiconductor memory and storage also result from fabrication capacity expansions, either by way of new facilities, increased capacity utilization, or reallocation of other semiconductor production to semiconductor memory and storage production. Our competitors may increase capital expenditures resulting in future increases in worldwide supply. We and some of our competitors have plans to ramp, or are constructing or ramping, production at new fabrication facilities. If competitors are more successful at developing or implementing new product or process technology, their products could have cost or performance advantages. Certain of our memory and storage products are manufactured to industry standard specifications and, as such, have similar performance characteristics to those of our competitors. For these products, the principal competitive factors are generally price and performance characteristics including operating speed, power consumption, reliability, compatibility, size, and form factors.

Some governments have provided, and may continue to provide, significant assistance, financial or otherwise, to some of our competitors or to new entrants and may intervene in support of national industries and/or competitors. In particular, we face the threat of increasing competition as a result of significant investment in the semiconductor industry by the Chinese government and various state-owned or affiliated entities that is intended to advance China's stated national policy objectives. In addition, the Chinese government may restrict us from participating in the China market or may prevent us from competing effectively with Chinese companies. Some of our competitors may use aggressive pricing to obtain market share or take business of our key customers.

## **Research and Development**

Our R&D efforts are focused primarily on development of product and process technology that enables continuous improvement to cost structures and performance enhancements for our future products. We are also focused on developing new fundamentally different memory structures, materials, and packages designed to facilitate our transition to next generation products. Additional R&D efforts focus on the enablement of advanced computing, storage, and mobile memory architectures and the investigation of new opportunities that leverage our core semiconductor expertise. Product design and development efforts include high-density DDR4, DDR5, LPDDR4, LPDDR5, and advanced graphics DRAM; 3D NAND (including 96-layer and 128-layer TLC and QLC technologies); 3D XPoint technology; HBM technology; SSDs (including firmware and controllers); managed NAND; specialty memory; and other memory technologies and systems.

To compete in the semiconductor memory and storage markets, we must continue to develop technologically advanced products and processes. The continued evolution of our semiconductor product offerings is necessary to meet expected market demand for memory and storage products and solutions. Our process, design, and package development efforts occur at multiple locations across the world. Our largest R&D center is located in Boise, Idaho and other product and process development centers are located in Japan, China, Germany, Italy, India, Singapore, Taiwan, and other sites in the United States.

R&D expenses vary with the number of development wafers processed and end-product solutions developed, the cost of advanced equipment dedicated to new product and process development, and personnel costs. Because of the lead times necessary to manufacture our products, we typically begin to process wafers before completion of performance and reliability testing. Development of a product is deemed complete when it is qualified through reviews and tests for performance and reliability. As a result, R&D expenses can vary significantly depending on the timing of product qualification.

We have had agreements to share the cost of certain product and process development activities under development agreements with partners, including agreements with Intel to jointly develop NAND and 3D XPoint technologies. Amounts received from our development partners for reimbursements under our cost-sharing arrangements are reflected as reductions of R&D expenses. We substantially completed our NAND technology cost-sharing arrangement with Intel in the third quarter of 2019 and our 3D XPoint arrangement in the first quarter of 2020.

## **Patents and Licenses**

We are a recognized leader in per capita and quality of patents issued. As of August 29, 2019, we owned approximately 13,750 active U.S. patents and 5,500 active foreign patents. In addition, we have thousands of U.S. and foreign patent applications pending. Our patents have various terms expiring through 2039.

From time to time, we sell and/or license our technology to other parties and continue to pursue opportunities to monetize our investments in our intellectual property through partnering and other arrangements. We have also jointly developed memory and storage product and process technology with third parties on a limited basis.

We have a number of patent and intellectual property license agreements and have, from time to time, licensed or sold our intellectual property to third parties. Some of these license agreements require us to make one-time or periodic payments while others have resulted in us receiving payments. We may need to obtain additional licenses or renew existing license agreements in the future, and we may enter into additional sales or licenses of intellectual property and partnering arrangements. We are unable to predict whether these license agreements can be obtained or renewed on terms acceptable to us.

## **Employees**

As of August 29, 2019, we had approximately 37,000 employees.

## **Environmental Compliance**

We approach environmental stewardship and sustainability proactively to ensure we meet all government regulations regarding use of raw materials, discharges, emissions, and wastes from our manufacturing processes. Compliance with the law and other compliance obligations is considered a minimum environmental expectation at Micron. Our wafer fabrication facilities continued to conform to the requirements of the International Organization for Standardization ("ISO") 14001 environmental management systems standard to ensure we are continuously improving our performance. As part of the ISO 14001 framework, we have established a global environmental policy and meet requirements in terms of environmental aspects evaluation and control, compliance obligations, commitment, training, communication, control of documented information, operational control, emergency preparedness and response, and management review. While we have not experienced any material adverse effects to our operations from environmental regulations, changes in regulations could necessitate additional capital expenditures, modification of our operations, or other compliance actions.

## **Information About Our Directors and Executive Officers**

Our executive officers are appointed annually by our Board of Directors and our directors are elected annually by our shareholders. Any directors appointed by our Board to fill vacancies on the Board serve until the next election by our shareholders. All officers and directors serve until their successors are duly chosen or elected and qualified, except in the case of earlier death, resignation, or removal.

The following presents information, as of August 29, 2019, about our directors and executive officers who were subject to the reporting requirements of Section 16(a) of the Securities Exchange Act of 1934, as amended:

Name	Age	Officer/ Director Since	Position
April S. Arnzen	48	2015	Senior Vice President, Human Resources
Michael W. Bokan	58	2019	Senior Vice President, Worldwide Sales
Manish Bhatia	47	2018	Executive Vice President, Global Operations
Scott J. DeBoer	53	2007	Executive Vice President, Technology Development
Sanjay Mehrotra	61	2017	President and Chief Executive Officer, Director
Joel L. Poppen	55	2013	Senior Vice President, Legal Affairs, General Counsel, and Corporate Secretary
Sumit Sadana	50	2017	Executive Vice President and Chief Business Officer
David A. Zinsner	50	2018	Senior Vice President and Chief Financial Officer
Robert L. Bailey	62	2007	Director
Richard M. Beyer	70	2013	Director
Patrick J. Byrne	58	2011	Director
Steven J. Gomo	67	2019	Director
Mary Pat McCarthy	64	2019	Director
Robert E. Switz	72	2006	Chairman of the Board of Directors
MaryAnn Wright	57	2019	Director

*April S. Arnzen* joined us in December 1996 and has served in various leadership positions since that time. Ms. Arnzen was named Senior Vice President, Human Resources in June 2017. Ms. Arnzen holds a BS in Human Resource Management and Marketing from the University of Idaho and is a graduate of the Stanford Graduate School of Business Executive Program.

*Michael W. Bokan* joined us in 1996 and has served in various leadership positions since that time. Mr. Bokan was named Senior Vice President, Worldwide Sales in October 2018. Mr. Bokan holds a BS in Business Administration from Colorado State University.

*Manish Bhatia* joined us in October 2017 as our Executive Vice President of Global Operations. From May 2016 to October 2017, Mr. Bhatia served as the Executive Vice President of Silicon Operations at Western Digital Corporation. From March 2010 to May 2016, Mr. Bhatia held several executive roles at SanDisk Corporation including Executive Vice President of Worldwide Operations when it was acquired by Western Digital in May 2016. Mr. Bhatia holds a BS and MS in Mechanical Engineering and an MBA, each from the Massachusetts Institute of Technology.

*Scott J. DeBoer* joined us in February 1995 and has served in various leadership positions since that time. Dr. DeBoer was named Executive Vice President, Technology Development in June 2017. Dr. DeBoer holds a PhD in Electrical Engineering and an MS in Physics from Iowa State University. He completed his undergraduate degree at Hastings College.

*Sanjay Mehrotra* joined us in May 2017 as our President, Chief Executive Officer, and Director. Mr. Mehrotra co-founded and led SanDisk Corporation as a start-up in 1988 until its eventual sale in May 2016, serving as its President and Chief Executive Officer from January 2011 to May 2016, and as a member of its Board of Directors from July 2010 to May 2016. Mr. Mehrotra served as a member of the Board of Directors for Cavium, Inc. from July 2009 until July 2018 and for Western Digital Corp. from May 2016 to February 2017. Mr. Mehrotra holds a BS and an MS in Electrical Engineering and Computer Science from the University of California, Berkeley and is a graduate of the Stanford Graduate School of Business Executive Program.

*Joel L. Poppen* joined us in October 1995 and has held various leadership positions since that time. Mr. Poppen was named Senior Vice President, Legal Affairs, General Counsel, and Corporate Secretary in June 2017. Mr. Poppen holds a BS in Electrical Engineering from the University of Illinois and a JD from the Duke University School of Law.

*Sumit Sadana* joined us in June 2017 as our Executive Vice President and Chief Business Officer. From April 2010 to May 2016, Mr. Sadana served in various roles at SanDisk Corporation, including Executive Vice President, Chief Strategy Officer, and General Manager, Enterprise Solutions when it was acquired by Western Digital in May 2016. Mr. Sadana currently serves on the Board of Directors of Silicon Laboratories, Inc. Mr. Sadana holds a B.Tech. in Electrical Engineering from the Indian Institute of Technology, Kharagpur, India and an MS in Electrical Engineering from Stanford University.

*David A. Zinsner* joined us in February 2018 as our Senior Vice President and Chief Financial Officer. From April 2017 to February 2018, Mr. Zinsner served as the President and Chief Operating Officer of Affirmed Networks. From January 2009 to April 2017, Mr. Zinsner served as the Senior Vice President of Finance and Chief Financial Officer of Analog Devices. From July 2005 to January 2009, Mr. Zinsner served as the Senior Vice President and Chief Financial Officer of Intersil Corporation. Mr. Zinsner holds an MBA, Finance and Accounting from Vanderbilt University and a BS in Industrial Management from Carnegie Mellon University.

*Robert L. Bailey* was Chief Executive Officer of Blue Willow Systems, Inc. from August 2017 until August 2018. Blue Willow is a software as a service resident safety platform for senior living facilities. Mr. Bailey was the Chairman of the Board of Directors of PMC-Sierra, Inc. from 2005 until May 2011 and also served as PMC's Chairman from February 2000 until February 2003. Mr. Bailey served as a director of PMC from October 1996 to May 2011. He also served as the Chief Executive Officer of PMC from July 1997 until May 2008. Within the past five years, Mr. Bailey also served on the Board of Directors of Entropic Communications. Mr. Bailey holds a BS in Electrical Engineering from the University of Bridgeport and an MBA from the University of Dallas.

*Richard M. Beyer* was Chairman and Chief Executive Officer of Freescale Semiconductor, Inc. from 2008 through June 2012 and served as a director with Freescale until April 2013. Prior to Freescale, Mr. Beyer was President, Chief Executive Officer and a director of Intersil Corporation from 2002 to 2008. He also has previously served in executive management roles at FVC.com, VLSI Technology, and National Semiconductor Corporation. Within the past five years, Mr. Beyer served on the Board of Directors of Microsemi Corporation, Analog Devices, Inc., and Freescale. He currently serves on the Board of Directors of Dialog Semiconductor. Mr. Beyer served three years as an officer in the United States Marine Corps. He holds a BS and an MS in Russian from Georgetown University and an MBA in Marketing and International Business from Columbia University Graduate School of Business. Mr. Beyer is the Chair of the Board of Directors' Governance and Sustainability Committee.

*Patrick J. Byrne* is the Chief Executive Officer of General Electric Company's digital business and is responsible for leading GE's digital strategy. Prior to his role at GE, he served as Senior Vice President of Fortive Corporation when Danaher Corporation completed the separation of its Test & Measurement and Industrial Technologies segments, and as President of Tektronix, a subsidiary of Danaher. Mr. Byrne also served as Vice President of Strategy and Business Development and Chief Technical Officer of Danaher from November 2012 to July 2014. Danaher designs, manufactures, and markets innovative products and services to professional, medical, industrial, and commercial customers. Mr. Byrne served as Director, President and Chief Executive Officer of Intermec, Inc. from 2007 to May 2012. Within the past five years, Mr. Byrne served on the Board of Directors of Flow International. Mr. Byrne holds a BS in Electrical Engineering from the University of California, Berkeley and an MS in Electrical Engineering from Stanford University.

*Steven J. Gomo* was Executive Vice President, Finance and Chief Financial Officer from October 2004 until his retirement in December 2011, and Senior Vice President, Finance and Chief Financial Officer from August 2002 to September 2004, at NetApp, Inc., a storage and data management company. Within the past five years, Mr. Gomo served on the Board of Directors of SanDisk Corporation and NetSuite, Inc. He currently serves on the Board of Directors of Nutanix, Inc. and Enphase Energy, Inc. Mr. Gomo is the Chair of the Board of Directors' Audit Committee. He received his BS in Business Administration from the Oregon State University in 1974, and an MBA in Finance from the Santa Clara University in 1977.

*Mary Pat McCarthy* served as Vice Chair of KPMG LLP, the U.S. member firm of the global audit, tax, and advisory services firm from July 1998 until her retirement in December 2011. She joined KMPG in 1977 and became a partner in 1987 and held numerous senior leadership positions with the firm during her tenure. Within the past five years, Ms. McCarthy served on the Board of Directors of Andeavor (previously known as Tesoro Corporation) and Mutual of Omaha. She currently serves on the Board of Directors of Palo Alto Networks, Inc. She is a Certified Public Accountant (RET) and received her BS in Business Administration from the Creighton University in 1977 and completed the University of Pennsylvania Wharton School's KMPG International Development Program. Ms. McCarthy is the Chair of the Board of Directors' Finance Committee.

*Robert E. Switz* was the Chairman, President, and Chief Executive Officer of ADC Telecommunications, Inc., a supplier of network infrastructure products and services, from August 2003 until December 2010, when Tyco Electronics Ltd. acquired ADC. Mr. Switz joined ADC in 1994 and throughout his career there held numerous leadership positions. Within the past five years, Mr. Switz served on the Board of Directors of GT Advanced Technologies Inc., Broadcom Corporation, Cyan, Inc., Pulse Electronics Corporation, Leap Wireless International, Inc., and Gigamon, Inc. Mr. Switz currently serves on the Board of Directors for Marvell Technology Group Ltd. and FireEye, Inc. Mr. Switz holds an MBA from the University of Bridgeport and a BS in Business Administration from Quinnipiac University. Mr. Switz was appointed Chairman of the Board of Directors in 2012 and is the Chair of the Board of Directors' Compensation Committee.

*MaryAnn Wright* was Group Vice President of Engineering and Product Development of Johnson Controls International from 2013 to 2017, and Vice President and General Manager from 2009 to 2013. Ms. Wright also served as Vice President and General Manager for Johnson Controls Hybrid Systems business and as CEO of Johnson Controls-Saft from 2007 to 2009. Ms. Wright joined the Ford Motor Company in 1988 and throughout her career there held several executive positions including Chief Engineer from 2003 to 2005, and Director of sustainable mobility technologies and hybrid and fuel cell vehicle programs from 2004 to 2005. Ms. Wright earned a BA in Economics and International Business and an MSE in Engineering from the University of Michigan. She also earned an MBA from Wayne State University. In addition to her position on Micron's board of directors, Ms. Wright serves on the boards of Group1 Automotive Inc., Maxim Integrated, and Delphi Technologies.

There are no family relationships between any of our directors or executive officers.

## Available Information

Micron is a Delaware corporation and was incorporated in 1978. Our executive offices are located at 8000 South Federal Way, Boise, Idaho 83716-9632 and our telephone number is (208) 368-4000. Information about us is available at our website, [www.micron.com](http://www.micron.com). Also available on our website are our Corporate Governance Guidelines, Governance and Sustainability Committee Charter, Compensation Committee Charter, Audit Committee Charter, Finance Committee Charter, and Code of Business Conduct and Ethics. Any amendments or waivers of our Code of Business Conduct and Ethics will also be posted on our website within four business days of the amendment or waiver. Copies of these documents are available to shareholders upon request. Information contained or referenced on our website is not incorporated by reference and does not form a part of this Annual Report on Form 10-K.

We use our investor relations website <http://investors.micron.com> as a routine channel for distribution of important information, including news releases, analyst presentations, and financial information. Our filings are available free of charge on our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the U.S. Securities and Exchange Commission ("SEC"), including our annual and quarterly reports on Forms 10-K and 10-Q and current reports on Form 8-K, our proxy statements, and any amendments to those reports or statements. The SEC's website, [www.sec.gov](http://www.sec.gov), contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The content on any website referred to in this Form 10-K is not incorporated by reference in this Form 10-K unless expressly noted.

## **ITEM 1A. RISK FACTORS**

In addition to the factors discussed elsewhere in this Form 10-K, the following are important factors, the order of which is not necessarily indicative of the level of risk that each poses to us, which could cause actual results or events to differ materially from those contained in any forward-looking statements made by us. Any of these factors could have a material adverse effect on our business, results of operations, financial condition, or stock price. Our operations could also be affected by other factors that are presently unknown to us or not considered significant.

### **Volatility in average selling prices for our semiconductor memory and storage products may adversely affect our business.**

We have experienced significant volatility in our average selling prices, including dramatic declines as noted in the table below, and may continue to experience such volatility in the future. In some prior periods, average selling prices for our products have been below our manufacturing costs and we may experience such circumstances in the future. Average selling prices for our products that decline faster than our costs could have a material adverse effect on our business, results of operations, or financial condition.

	<b>DRAM</b>	<b>NAND</b>
	(percentage change in average selling prices)	
2019 from 2018		(30)%
2018 from 2017	37 %	(8)%
2017 from 2016	19 %	(7)%
2016 from 2015		(35)%
2015 from 2014	(11)%	(15)%

### **We may be unable to maintain or improve gross margins.**

Our gross margins are dependent in part upon continuing decreases in per gigabit manufacturing costs achieved through improvements in our manufacturing processes and product designs, including, but not limited to, process line-width, additional 3D memory layers, additional bits per cell (i.e., cell levels), architecture, number of mask layers, number of fabrication steps, and yield. In future periods, we may be unable to reduce our per gigabit manufacturing costs at sufficient levels to maintain or improve gross margins. Factors that may limit our ability to maintain or reduce costs include, but are not limited to, strategic product diversification decisions affecting product mix, the increasing complexity of manufacturing processes, difficulties in transitioning to smaller line-width process technologies, 3D memory layers, NAND cell levels, transitioning to replacement gate technology for NAND, process complexity including number of mask layers and fabrication steps, manufacturing yield, technological barriers, changes in process technologies, and new products that may require relatively larger die sizes.

Many factors may result in a reduction of our output or a delay in ramping production, which could lead to underutilization of our production assets. These factors may include, among others, a weak demand environment, industry oversupply, inventory surpluses, declining selling prices, and changes in supply agreements. A significant portion of our manufacturing costs are fixed and do not vary proportionally with changes in production output. As a result, lower utilization and increases in our per gigabit manufacturing costs may adversely affect our gross margins, business, results of operations, or financial condition.

In addition, per gigabit manufacturing costs may also be affected by a broader product portfolio, which may have smaller production quantities and shorter product lifecycles. Our business and the markets we serve are subject to rapid technological changes and material fluctuations in demand based on end-user preferences. As a result, we may have work in process or finished goods inventories that could become obsolete or in amounts that are in excess of our customers' demand. As a result, we may incur charges in connection with obsolete or excess inventories, which could have a material adverse effect on our business, results of operations, or financial condition. Our inability to maintain or improve gross margins could have a material adverse effect on our business, results of operations, or financial condition.

### **The semiconductor memory and storage markets are highly competitive.**

We face intense competition in the semiconductor memory and storage markets from a number of companies, including Intel; Samsung Electronics Co., Ltd.; SK Hynix Inc.; Toshiba Memory Corporation; and Western Digital Corporation. Some of our competitors are large corporations or conglomerates that may have greater resources to invest in technology, capitalize on growth opportunities, and withstand downturns in the semiconductor markets in which we compete. Consolidation of industry

competitors could put us at a competitive disadvantage. In addition, some governments have provided, and may continue to provide, significant assistance, financial or otherwise, to some of our competitors or to new entrants and may intervene in support of national industries and/or competitors. In particular, we face the threat of increasing competition as a result of significant investment in the semiconductor industry by the Chinese government and various state-owned or affiliated entities that is intended to advance China's stated national policy objectives. In addition, the Chinese government may restrict us from participating in the China market or may prevent us from competing effectively with Chinese companies. Some of our competitors may use aggressive pricing to obtain market share or take business of our key customers.

Our competitors generally seek to increase wafer capacity, improve yields, and reduce die size in their product designs which may result in significant increases in worldwide supply and downward pressure on prices. Increases in worldwide supply of semiconductor memory and storage also result from fabrication capacity expansions, either by way of new facilities, increased capacity utilization, or reallocation of other semiconductor production to semiconductor memory and storage production. Our competitors may increase capital expenditures resulting in future increases in worldwide supply. We and some of our competitors have plans to ramp, or are constructing or ramping, production at new fabrication facilities. Increases in worldwide supply of semiconductor memory and storage, if not accompanied by commensurate increases in demand, could lead to further declines in average selling prices for our products and could materially adversely affect our business, results of operations, or financial condition. If competitors are more successful at developing or implementing new product or process technology, their products could have cost or performance advantages.

The competitive nature of our industry could have a material adverse effect on our business, results of operations, or financial condition.

**We may be unable to generate sufficient cash flows or obtain access to external financing necessary to fund our operations, make scheduled debt payments, and make adequate capital investments.**

Our cash flows from operations depend primarily on the volume of semiconductor memory and storage products sold, average selling prices, and manufacturing costs. To develop new product and process technology, support future growth, achieve operating efficiencies, and maintain product quality, we must make significant capital investments in manufacturing technology, capital equipment, facilities, R&D, and product and process technology.

We estimate that capital expenditures in 2020 for property, plant, and equipment, net of partner contributions, will be approximately \$7 billion to \$8 billion, focused on technology transitions and product enablement. Investments in capital expenditures may not generate expected returns or cash flows. Delays in completion and ramping of new production facilities could significantly impact our ability to realize expected returns on our capital expenditures, which could have a material adverse effect on our business, results of operations, or financial condition.

As a result of the corporate reorganization proceedings of MMJ initiated in 2012, and for so long as such proceedings are continuing, MMJ is prohibited from paying dividends, including any cash dividends, to us and such proceedings require that excess earnings be used in MMJ's business or to fund the MMJ creditor payments. In addition, pursuant to an order of the Tokyo District Court, MMJ cannot make loans or advances, other than certain ordinary course advances, to us without the consent of the Tokyo District Court and may, under certain circumstances, be subject to approval of the legal trustee. As a result, the assets of MMJ are not available for use by us in our other operations. Furthermore, certain uses of the assets of MMJ, including certain capital expenditures of MMJ, may require consent of MMJ's trustees and/or the Tokyo District Court.

In the past we have utilized external sources of financing when needed. As a result of our debt levels, expected debt amortization, and general economic conditions, it may be difficult for us to obtain financing on terms acceptable to us. We have experienced volatility in our cash flows and operating results and may continue to experience such volatility in the future, which may negatively affect our credit rating. Our credit rating may also be affected by our liquidity, financial results, economic risk, or other factors, which may increase the cost of future borrowings and make it difficult for us to obtain financing on terms acceptable to us. In 2019, we suspended the security interest in the collateral under our credit facility upon achieving specified credit ratings and the prepayment of our 2022 Term Loan B; however, the security interest would be automatically reinstated upon a decline in our corporate credit rating below a certain level. There can be no assurance that we will be able to generate sufficient cash flows, use cash held by MMJ to fund its capital expenditures, access capital markets or find other sources of financing to fund our operations, make debt payments, and make adequate capital investments to remain competitive in terms of technology development and cost efficiency. Our inability to do any of the foregoing could have a material adverse effect on our business, results of operations, or financial condition.

**Increases in tariffs or other trade restrictions or taxes on our or our customers' products or equipment and supplies could have an adverse impact on our operations.**

In 2019, 89% of our revenue was from products shipped to customer locations outside the United States. We also purchase a significant portion of equipment and supplies from suppliers outside the United States. Additionally, a significant portion of our facilities are located outside the United States, including in Taiwan, Singapore, Japan, and China.

The United States and other countries have levied tariffs and taxes on certain goods. General trade tensions between the U.S. and China have been escalating since 2018, with U.S. tariffs on Chinese goods and retaliatory Chinese tariffs on U.S. goods. Some of our products are included in these tariffs. Higher duties on existing tariffs and further rounds of tariffs have been announced or threatened by U.S. and Chinese leaders. Additionally, the U.S. has threatened to impose tariffs on goods imported from other countries, which could also impact certain of our customers' or our operations. If the U.S. were to impose current or additional tariffs on components that we or our suppliers source, our cost for such components would increase. We may also incur increases in manufacturing costs and supply chain risks due to our efforts to mitigate the impact of tariffs on our customers and our operations. Additionally, tariffs on our customers' products could impact their sales of such end products, resulting in lower demand for our products.

We cannot predict what further actions may ultimately be taken with respect to tariffs or trade relations between the U.S. and other countries, what products may be subject to such actions, or what actions may be taken by other countries in retaliation. Further changes in trade policy, tariffs, additional taxes, restrictions on exports or other trade barriers, or restrictions on supplies, equipment, and raw materials including rare earth minerals, may limit our ability to produce products, increase our selling and/or manufacturing costs, decrease margins, reduce the competitiveness of our products, or inhibit our ability to sell products or purchase necessary equipment and supplies, which could have a material adverse effect on our business, results of operations, or financial condition.

**U.S. trade regulations have restricted our ability to sell our products to a significant customer and could restrict our ability to sell our products to other customers.**

On May 16, 2019, the Bureau of Industry and Security ("BIS") of the U.S. Department of Commerce added Huawei to the BIS's Entity List, which imposes limitations on the supply of certain U.S. items and product support to Huawei. In 2019, our sales to Huawei accounted for 12% of our total revenue. To ensure compliance with the Entity List restrictions, we suspended shipments of all products to Huawei, effective May 16, 2019. We are reviewing our product portfolio to determine whether our products and related support are subject to the Export Administration Regulations, and therefore within the scope of the Entity List restrictions. We have determined that certain products Huawei purchases from us are not subject to the Export Administration Regulations and consequently can be lawfully sold and shipped to Huawei. Accordingly, we resumed shipping certain products to Huawei in the fourth quarter of 2019.

While Huawei remains on the Entity List, and in the absence of a license from the BIS, we may be unable to work with Huawei on future product development, which may have a negative effect on our ability to sell products to Huawei in the future. Entity List restrictions may also encourage Huawei to seek to obtain a greater supply of similar or substitute products from our competitors that are not subject to these restrictions, thereby decreasing our long-term competitiveness as a supplier to Huawei. Moreover, although Huawei is not prohibited from paying (and we are not restricted from collecting) accounts receivable for products we sell to Huawei, the credit risks associated with these accounts may have increased as a result of the BIS's actions.

We cannot predict what additional actions the U.S. government may take with respect to Huawei, including modifications to, or interpretations of, Entity List restrictions, export restrictions, tariffs, or other trade limitations or barriers. Due to the customized nature of certain of the products we manufacture, we may be unable to sell certain finished goods inventory to an alternative customer or manufacture in-process inventory to different specifications, which may result in excess and obsolescence charges in future periods.

The Entity List trade restrictions enacted during our third quarter of 2019 had an adverse effect on our business. We are unable to predict the duration of the export restrictions imposed with respect to Huawei, whether any licenses will be issued, or the long-term effects on our business. Other companies may be added to the Entity List and/or subject to trade restrictions. For example, in October 2019, the U.S. government added several additional Chinese organizations to the Entity List, effective October 9, 2019. In addition, there may be indirect impacts to our business which we cannot reasonably quantify, including that some of our other customer's products which incorporate our solutions may also be impacted by these and other trade restrictions that may be imposed by the U.S., China, or other countries. Restrictions on our ability to sell and ship our products to Huawei have had, and may continue to have, an adverse effect on our business, results of operations, or financial condition.

In addition, restrictions on our ability to sell and ship our products to other organizations added to the Entity List may have a further adverse effect on our business, results of operations, or financial condition.

**Our future success depends on our ability to develop and produce competitive new memory and storage technologies.**

Our key semiconductor memory and storage products and technologies face technological barriers to continue to meet long-term customer needs. These barriers include potential limitations on stacking additional 3D memory layers, increasing bits per cell (i.e., cell levels), meeting higher density requirements, and improving power consumption and reliability. We may face technological barriers to continue to shrink our products at our current or historical rate, which has generally reduced per-unit cost. We have invested and expect to continue to invest in R&D for new and existing products, which involves significant risk and uncertainties. We may be unable to recover our investment in R&D or otherwise realize the economic benefits of reducing die size or increasing memory and storage densities. Our competitors are working to develop new memory and storage technologies that may offer performance and/or cost advantages to existing technologies and render existing technologies obsolete. Accordingly, our future success may depend on our ability to develop and produce viable and competitive new memory and storage technologies. There can be no assurance of the following:

- that we will be successful in developing competitive new semiconductor memory and storage technologies;
- that we will be able to cost-effectively manufacture new products;
- that we will be able to successfully market these technologies; and
- that margins generated from sales of these products will allow us to recover costs of development efforts.

We develop and produce advanced memory technologies, including 3D XPoint memory, a new class of non-volatile technology. There is no assurance that our efforts to develop and market new product technologies will be successful. Unsuccessful efforts to develop new semiconductor memory and storage technologies could have a material adverse effect on our business, results of operations, or financial condition.

**A significant portion of our revenue is concentrated with a select number of customers.**

In each of the last three years, approximately one-half of our total revenue was from our top ten customers. A disruption in our relationship with any of these customers could adversely affect our business. We could experience fluctuations in our customer base or the mix of revenue by customer as markets and strategies evolve. In addition, any consolidation of our customers could reduce the number of customers to whom our products could be sold. Our inability to meet our customers' requirements or to qualify our products with them could adversely impact our revenue. The loss of one or more of our major customers or any significant reduction in orders from, or a shift in product mix by, these customers could have a material adverse effect on our business, results of operations, or financial condition.

**We face risks associated with our international sales and operations that could materially adversely affect our business, results of operations, or financial condition.**

In 2019, 53% of our revenue was to customers who have headquarters located in the United States. We ship our products to the locations specified by our customers. Customers with global supply chains and operations may request we deliver products to countries where they own or operate production facilities or to countries where they utilize third-party subcontractors or warehouses. As a result, 89% of our revenue was from products shipped to customer locations outside the United States. In addition, a substantial portion of our manufacturing operations are located outside the United States. In particular, a significant portion of our manufacturing operations are concentrated in Singapore, Taiwan, Japan, and China. Many of our customers, suppliers, and vendors operate internationally and are also subject to the risks described below. In addition, the U.S. government has in the past restricted American firms from selling products and software to certain of our customers and may in the future impose similar bans or other restrictions on sales to one or more of our significant customers. These restrictions may not prohibit our competitors from selling similar products to our customers, which may result in our loss of sales and market share. Even when such restrictions are lifted, financial or other penalties or continuing export restrictions imposed with respect to our customers could have a continuing negative impact on our future revenue and results of operations, and we may not be able to recover any customers or market share we lose while complying with such restrictions. We have experienced restrictions on our ability to sell products to certain foreign customers where sales of products require export licenses or are prohibited by government action. Possible future U.S. government actions could lead to additional or enhanced controls on exports from the United States to China or other countries, bans on sales to other key customers, or other similar restrictions.

Trade-related government actions, by China or other countries, that impose barriers or restrictions that would impact our ability to sell or ship products to Huawei or other customers may have a negative impact on our financial condition and results of operations. We cannot predict the actions government entities may take in this context and may be unable to quickly offset or

effectively react to government actions that restrict our ability to sell to certain customers or in certain jurisdictions. Government actions that affect our customers' ability to sell products or access critical elements of their supply chains may result in a decreased demand for their products, which may consequently reduce their demand for our products.

Our international sales and operations are subject to a variety of risks, including:

- export and import duties, changes to import and export regulations, customs regulations and processes, and restrictions on the transfer of funds;
- imposition of bans on sales of goods or services to one or more of our significant foreign customers;
- compliance with U.S. and international laws involving international operations, including the Foreign Corrupt Practices Act of 1977, as amended, export and import laws, and similar rules and regulations;
- theft of intellectual property;
- political and economic instability;
- government actions or civil unrest preventing the flow of products, including delays in shipping and obtaining products, cancellation of orders, or loss or damage of products;
- problems with the transportation or delivery of products;
- issues arising from cultural or language differences and labor unrest;
- longer payment cycles and greater difficulty in collecting accounts receivable;
- compliance with trade, technical standards, and other laws in a variety of jurisdictions;
- contractual and regulatory limitations on the ability to maintain flexibility with staffing levels;
- disruptions to manufacturing operations as a result of actions imposed by foreign governments;
- changes in economic policies of foreign governments; and
- difficulties in staffing and managing international operations.

If we or our customers, suppliers, or vendors are impacted by these risks, it could have a material adverse effect on our business, results of operations, or financial condition.

#### **We have been served with complaints in Chinese courts alleging patent infringement.**

We have been served with complaints in Chinese courts alleging that we infringe certain Chinese patents by manufacturing and selling certain products in China. The complaints seek orders requiring us to destroy inventory of the accused products and equipment for manufacturing the accused products in China; to stop manufacturing, using, selling, and offering for sale the accused products in China; and to pay damages plus court fees.

We are unable to predict the outcome of these assertions of infringement made against us and therefore cannot estimate the range of possible loss. A determination that our products or manufacturing processes infringe the intellectual property rights of others or entering into a license agreement covering such intellectual property could result in significant liability and/or require us to make material changes to our operations in China, products, and/or manufacturing processes. Any of the foregoing could have a material adverse effect on our business, results of operations, or financial condition. (See "Part II. Financial Information – Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Contingencies.")

#### **We are subject to allegations of anticompetitive conduct.**

On April 27, 2018, a complaint was filed against Micron and other DRAM suppliers in the U.S. District Court for the Northern District of California. Subsequently, two substantially identical cases were filed in the same court. The lawsuits purport to be on behalf of a nationwide class of indirect purchasers of DRAM products. The complaints assert claims based on alleged price-fixing of DRAM products under federal and state law during the period from June 1, 2016 to February 1, 2018, and seek treble monetary damages, costs, interest, attorneys' fees, and other injunctive and equitable relief. On September 3, 2019, the District Court granted Micron's motion to dismiss and allowed plaintiffs the opportunity to file an amended complaint.

On June 26, 2018, a complaint was filed against Micron and other DRAM suppliers in the U.S. District Court for the Northern District of California. Subsequently, four substantially identical cases were filed in the same court. The lawsuits purport to be on behalf of a nationwide class of direct purchasers of DRAM products. The complaints assert claims based on alleged price-fixing of DRAM products under federal and state law during the period from June 1, 2016 to February 1, 2018, and seek treble monetary damages, costs, interest, attorneys' fees, and other injunctive and equitable relief.

Additionally, six cases have been filed in the following Canadian courts: Superior Court of Quebec, the Federal Court of Canada, the Ontario Superior Court of Justice, and the Supreme Court of British Columbia. The substantive allegations in these cases are similar to those asserted in the cases filed in the United States.

On May 15, 2018, the Chinese State Administration for Market Regulation ("SAMR") notified Micron that it was investigating potential collusion and other anticompetitive conduct by DRAM suppliers in China. On May 31, 2018, SAMR made unannounced visits to our sales offices in Beijing, Shanghai, and Shenzhen to seek certain information as part of its investigation. We are cooperating with SAMR in its investigation.

We are unable to predict the outcome of these matters and therefore cannot estimate the range of possible loss. The final resolution of these matters could result in significant liability and could have a material adverse effect on our business, results of operations, or financial condition.

**Our business, results of operations, or financial condition could be adversely affected by the limited availability and quality of materials, supplies, and capital equipment, or the dependency on third-party service providers.**

Our supply chain and operations are dependent on the availability of materials that meet exacting standards and the use of third parties to provide us with components and services. We generally have multiple sources of supply for our materials and services. However, only a limited number of suppliers are capable of delivering certain materials and services that meet our standards and, in some cases, materials, components, or services are provided by a single supplier. Various factors could reduce the availability of materials or components such as chemicals, silicon wafers, gases, photoresist, controllers, substrates, lead frames, printed circuit boards, targets, and reticle glass blanks. Shortages or increases in lead times may occur from time to time in the future. Our manufacturing processes are also dependent on our relationships with third-party manufacturers of controllers used in a number of our products and with outsourced semiconductor assembly and test providers, contract manufacturers, logistic carriers, and other service providers.

Certain materials are primarily available in certain countries, including rare earth elements, minerals, and metals available primarily from China. Trade disputes or other political or economic conditions may limit our availability to obtain such materials. Although these rare earth and other materials are generally available from multiple suppliers, China is the predominant producer of certain of these materials. If China were to stop exporting these materials, our suppliers' ability to obtain such supply may be constrained and we may be unable to obtain sufficient quantities, or obtain supply in a timely manner, or at a commercially reasonable cost. Constrained supply of rare earth elements, minerals, and metals may restrict our ability to manufacture certain of our products and make it difficult or impossible to compete with other semiconductor memory manufacturers who are able to obtain sufficient quantities of these materials from China.

We and/or our suppliers and service providers could be affected by tariffs, embargoes or other trade restrictions, as well as laws and regulations enacted in response to concerns regarding climate change, conflict minerals, and responsible sourcing practices, which could limit the supply of our materials and/or increase the cost. Environmental regulations could limit our ability to procure or use certain chemicals or materials in our operations or products. In addition, disruptions in transportation lines could delay our receipt of materials. Lead times for the supply of materials have been extended in the past. The disruption of our supply of materials, components, services, or the extension of our lead times could have a material adverse effect on our business, results of operations, or financial condition.

Our operations are dependent on our ability to procure advanced semiconductor manufacturing equipment that enables the transition to lower cost manufacturing processes. For certain key types of equipment, including photolithography tools, we are sometimes dependent on a single supplier. From time to time, we have experienced difficulties in obtaining some equipment on a timely basis due to suppliers' limited capacity. Our inability to obtain equipment on a timely basis could adversely affect our ability to transition to next generation manufacturing processes and reduce our costs. Delays in obtaining equipment could also impede our ability to ramp production at new facilities and could increase our overall costs of a ramp. Our inability to obtain advanced semiconductor manufacturing equipment in a timely manner could have a material adverse effect on our business, results of operations, or financial condition.

**New product and market development may be unsuccessful.**

We are developing new products, including system-level memory and storage products and solutions, which complement our traditional products or leverage their underlying design or process technology. We have made significant investments in product and process technology and anticipate expending significant resources for new semiconductor product and system-level solution development over the next several years. Additionally, we are increasingly differentiating our products and solutions to meet the specific demands of our customers, which increases our reliance on our customer's ability to accurately forecast the

end-customer's needs and preferences. As a result, our product demand forecasts may be impacted significantly by the strategic actions of our customers. For certain of our markets, it is important that we deliver products in a timely manner with increasingly advanced performance characteristics at the time our customers are designing and evaluating samples for their products. If we do not meet their product design schedules, our customers may exclude us from further consideration as a supplier for those products. The process to develop new products requires us to demonstrate advanced functionality and performance, often well in advance of a planned ramp of production, in order to secure design wins with our customers. In addition, some of our components have long lead-times, requiring us to place orders several months in advance of anticipated demand. Such long lead-times increase the risk of excess inventory or loss of sales in the event our forecasts vary substantially from actual demand. There can be no assurance of the following:

- that our product development efforts will be successful;
- that we will be able to cost-effectively manufacture new products;
- that we will be able to successfully market these products;
- that we will be able to establish or maintain key relationships with customers, or that we will not be prohibited from working with certain customers, for specific chip set or design requirements;
- that we will be able to introduce new products into the market and qualify them with our customers on a timely basis; or
- that margins generated from sales of these products will allow us to recover costs of development efforts.

Our unsuccessful efforts to develop new products and solutions could have a material adverse effect on our business, results of operations, or financial condition.

**Increases in sales of system solutions may increase our dependency upon specific customers and our costs to develop and qualify our system solutions.**

Our development of system-level memory and storage products is dependent, in part, upon successfully identifying and meeting our customers' specifications for those products. Developing and manufacturing system-level products with specifications unique to a customer increases our reliance upon that customer for purchasing our products in sufficient volume, quantity, and in a timely manner. If we fail to identify or develop products on a timely basis, or at all, that comply with our customers' specifications or achieve design wins with our customers, we may experience a significant adverse impact on our revenues and margins. Even if our products meet customer specifications, our sales of system-level solutions are dependent upon our customers choosing our products over those of our competitors and purchasing our products at sufficient volumes and prices. Our competitors' products may be less costly, provide better performance, or include additional features when compared to our products. Our long-term ability to sell system-level memory and storage products is reliant upon our customers' ability to create, market, and sell their products containing our system-level solutions at sufficient volumes and prices in a timely manner. If we fail to successfully develop and market system-level products, our business, results of operations, or financial condition may be materially adversely affected.

Even if we are successful in selling system-level solutions to our customers in sufficient volume, we may be unable to generate sufficient profit if our per-unit manufacturing costs exceed our per-unit selling prices. Manufacturing system-level solutions to customer specifications requires a longer development cycle, as compared to discrete products, to design, test, and qualify, which may increase our costs. Additionally, some of our system solutions are increasingly dependent on sophisticated firmware that may require significant customization to meet customer specifications, which increases our costs and time to market. Additionally, we may need to update our firmware or develop new firmware as a result of new product introductions or changes in customer specifications and/or industry standards, which increases our costs. System complexities and extended warranties for system-level products could also increase our warranty costs. Our failure to cost-effectively manufacture system-level solutions and/or firmware in a timely manner may result in reduced demand for our system-level products and could have a material adverse effect on our business, results of operations, or financial condition.

**Products that fail to meet specifications, are defective, or that are otherwise incompatible with end uses could impose significant costs on us.**

Products that do not meet specifications or that contain, or are perceived by our customers to contain, defects or that are otherwise incompatible with end uses could impose significant costs on us or otherwise materially adversely affect our business, results of operations, or financial condition. From time to time, we experience problems with nonconforming, defective, or incompatible products after we have shipped such products. In recent periods, we have further diversified and expanded our product offerings, which could potentially increase the chance that one or more of our products could fail to meet specifications in a particular application. Our products and solutions may be deemed fully or partially responsible for functions in our customers' products and may result in sharing or shifting of product or financial liability from our customers to us for

costs incurred by the end user as a result of our customers' products failing to perform as specified. We could be adversely affected in several ways, including the following:

- we may be required or agree to compensate customers for costs incurred or damages caused by defective or incompatible products and to replace products;
- we could incur a decrease in revenue or adjustment to pricing commensurate with the reimbursement of such costs or alleged damages; and
- we may encounter adverse publicity, which could cause a decrease in sales of our products or harm our relationships with existing or potential customers.

Any of the foregoing items could have a material adverse effect on our business, results of operations, or financial condition.

**We may be unable to protect our intellectual property or retain key employees who are knowledgeable of and develop our intellectual property.**

We maintain a system of controls over our intellectual property, including U.S. and foreign patents, trademarks, copyrights, trade secrets, licensing arrangements, confidentiality procedures, non-disclosure agreements with employees, consultants, and vendors, and a general system of internal controls. Despite our system of controls over our intellectual property, it may be possible for our current or future competitors to obtain, copy, use, or disclose, illegally or otherwise, our product and process technology or other proprietary information. The laws of some foreign countries may not protect our intellectual property to the same degree as do U.S. laws and our confidentiality, non-disclosure, and non-compete agreements may be unenforceable or difficult and costly to enforce.

Additionally, our ability to maintain and develop intellectual property is dependent upon our ability to attract, develop, and retain highly skilled employees. Global competition for such skilled employees in our industry is intense. Due to the volatile nature of our industry and our operating results, a decline in our operating results and/or stock price may adversely affect our ability to retain key employees whose compensation is dependent, in part, upon the market price of our common stock, achieving certain performance metrics, levels of company profitability, or other financial or company-wide performance. If our competitors or future entrants into our industry are successful in hiring our employees, they may directly benefit from the knowledge these employees gained while they were under our employment.

Our inability to protect our intellectual property or retain key employees who are knowledgeable of and develop our intellectual property could have a material adverse effect on our business, results of operations, or financial condition.

**Claims that our products or manufacturing processes infringe or otherwise violate the intellectual property rights of others, or failure to obtain or renew license agreements covering such intellectual property, could materially adversely affect our business, results of operations, or financial condition.**

As is typical in the semiconductor and other high technology industries, from time to time others have asserted, and may in the future assert, that our products or manufacturing processes infringe upon, misappropriate, misuse, or otherwise violate their intellectual property rights. We are unable to predict the outcome of these assertions made against us. Any of these types of claims, regardless of the merits, could subject us to significant costs to defend or resolve such claims and may consume a substantial portion of management's time and attention. As a result of these claims, we may be required to:

- pay significant monetary damages, fines, royalties, or penalties;
- enter into license or settlement agreements covering such intellectual property rights;
- make material changes to or redesign our products and/or manufacturing processes; and/or
- cease manufacturing, having made, selling, offering for sale, importing, marketing, or using products and/or manufacturing processes in certain jurisdictions.

We may not be able to take any of the actions described above on commercially reasonable terms and any of the foregoing results could have a material adverse effect on our business, results of operations, or financial condition. (See "Part II. Financial Information – Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Contingencies.")

We have a number of intellectual property license agreements. Some of these license agreements require us to make one-time or periodic payments. We may need to obtain additional licenses or renew existing license agreements in the future. We are

unable to predict whether these license agreements can be obtained or renewed on terms acceptable to us. The failure to obtain or renew licenses as necessary could have a material adverse effect on our business, results of operations, or financial condition.

**Litigation could have a material adverse effect on our business, results of operations, or financial condition.**

From time to time we are subject to various legal proceedings and claims that arise out of the ordinary conduct of our business or otherwise, both domestically and internationally. Any claim, with or without merit, could result in significant legal fees that could negatively impact our financial results, disrupt our operations, and require significant attention from our management. We could be subject to litigation or arbitration disputes arising from our relationships with vendors or customers, supply agreements, or contractual obligations with our subcontractors or business partners. We may also be associated with and subject to litigation arising from the actions of our subcontractors or business partners. We may also be subject to litigation as a result of indemnities we issue, primarily with our customers, the terms of our product warranties, and from product liability claims. As we continue to focus on developing system solutions with manufacturers of consumer products, including autonomous driving, augmented reality, and others, we may be exposed to greater potential for personal liability claims against us as a result of consumers' use of those products. There can be no assurance that we are adequately insured to protect against all claims and potential liabilities, and we may elect to self-insure with respect to certain matters. Exposures to various litigation could lead to significant costs and expenses as we defend claims, are required to pay damage awards, or enter into settlement agreements, any of which could have a material adverse effect on our business, results of operations, or financial condition.

**We are subject to allegations of securities violations and related wrongful acts.**

On March 5, 2019, a shareholder derivative complaint was filed in the U.S. District Court for the District of Delaware, allegedly on behalf of and for the benefit of Micron, against certain current and former officers and directors of Micron for alleged breaches of their fiduciary duties and other violations of law. The allegations are based on, among other things, purported false and misleading statements regarding anticompetitive behavior in the DRAM industry. The complaint seeks damages, fees, interest, costs, and other appropriate relief. Similar shareholder derivative complaints have subsequently been filed in the U.S. District Court for the District of Delaware and the U.S. District Court for the District of Idaho.

We are unable to predict the outcome of these matters and therefore cannot estimate the range of possible loss. The final resolution of these matters could result in significant liability and could have a material adverse effect on our business, results of operations, or financial condition.

**If our manufacturing process is disrupted by operational issues, natural disasters, or other events, our business, results of operations, or financial condition could be materially adversely affected.**

We and our subcontractors manufacture products using highly complex processes that require technologically advanced equipment and continuous modification to improve yields and performance. Difficulties in the manufacturing process or the effects from a shift in product mix can reduce yields or disrupt production and may increase our per gigabit manufacturing costs. We and our subcontractors maintain operations and continuously implement new product and process technology at manufacturing facilities, which are widely dispersed in multiple locations in several countries including the United States, Singapore, Taiwan, Japan, Malaysia, and China. Additionally, until we complete our acquisition of Intel's noncontrolling interest in IMFT, our control over operations at IMFT is limited by our agreements with Intel. From time to time, there have been disruptions in the manufacturing process as a result of power outages, improperly functioning equipment, disruptions in supply of raw materials or components, or equipment failures. We have manufacturing and other operations in locations subject to natural occurrences such as severe weather and geological events, including earthquakes or tsunamis, that could disrupt operations. In addition, our suppliers and customers also have operations in such locations. If production is disrupted for any reason, manufacturing yields may be adversely affected, or we may be unable to meet our customers' requirements and they may purchase products from other suppliers. This could result in a significant increase in manufacturing costs, loss of revenues, or damage to customer relationships, any of which could have a material adverse effect on our business, results of operations, or financial condition.

**A downturn in the worldwide economy may harm our business.**

Downturns in the worldwide economy have harmed our business in the past and future downturns could also adversely affect our business. Adverse economic conditions affect demand for devices that incorporate our products, such as personal computers, mobile devices, SSDs, and servers. Reduced demand for these products could result in significant decreases in our average selling prices and product sales. A deterioration of current conditions in worldwide credit markets could limit our ability to obtain external financing to fund our operations and capital expenditures. In addition, we may experience losses on our holdings of cash and investments due to failures of financial institutions and other parties. Difficult economic conditions

may also result in a higher rate of losses on our accounts receivables due to credit defaults. As a result, a downturn in the worldwide economy could have a material adverse effect on our business, results of operations, or financial condition.

#### **Breaches of our security systems, or those of our customers, suppliers, or business partners, could expose us to losses.**

We maintain a system of controls over the physical security of our facilities. We also manage and store various proprietary information and sensitive or confidential data relating to our operations. In addition, we process, store, and transmit large amounts of data relating to our customers and employees, including sensitive personal information. Unauthorized persons or employees may gain access to our facilities or network systems to steal trade secrets or other proprietary information, compromise confidential information, create system disruptions, or cause shutdowns. These parties may also be able to develop and deploy viruses, worms, and other malicious software programs that disrupt our operations and create security vulnerabilities. Breaches of our physical security and attacks on our network systems, or breaches or attacks on our customers, suppliers, or business partners who have confidential or sensitive information regarding us and our customers and suppliers, could result in significant losses and damage our reputation with customers and suppliers and may expose us to litigation if the confidential information of our customers, suppliers, or employees is compromised. The foregoing could have a material adverse effect on our business, results of operations, or financial condition.

#### **Our joint ventures and strategic relationships involve numerous risks.**

We have entered into strategic relationships to develop new manufacturing process technologies and products and to manufacture certain products, including our joint development partnership and our IMFT joint venture with Intel. In January 2019, we exercised our option to acquire Intel's interest in IMFT. Subsequently, Intel set the closing date to occur on October 31, 2019. In the first quarter of 2020, we expect to pay Intel approximately \$1.4 billion in cash for Intel's noncontrolling interest in IMFT and IMFT member debt. As of August 29, 2019, current debt included \$693 million of IMFT member debt.

Our joint ventures and strategic relationships are subject to various risks that could adversely affect the value of our investments and our results of operations, including the following:

- diverging interests between us and our partners and disagreements on the following:
  - ongoing or future development, manufacturing, or operational activities;
  - the amount, timing, or nature of further investments; and
  - commercial terms in our joint ventures or strategic relationships;
- competition from our partners;
- access by our partners to our proprietary product and process technology which they may use;
- difficulties in transferring technology to joint ventures;
- difficulties and delays in ramping production at joint ventures;
- limited control over the operations of our joint ventures;
- inability of our partners to meet their commitments to us or our joint ventures;
- differences in participation on funding capital investments in our joint ventures due to differing business models or long-term business goals;
- inadequate cash flows to fund increased capital requirements of our joint ventures;
- difficulties or delays in collecting amounts due to us from our joint ventures and partners;
- disputes with partners regarding the terms of arrangements, including the termination or discontinuance of our joint ventures, or that terms of such arrangements are unfavorable; and
- changes in tax, legal, or regulatory requirements that necessitate changes in the agreements with our partners.

Our pending acquisition of Intel's noncontrolling interest in IMFT may involve additional risks, including, but not limited to, an inability to sell the product IMFT produces, increases in underutilization charges, increase in R&D expenses, retention of key employees, and successful integration of IMFT.

Our joint ventures and strategic relationships, if unsuccessful, could have a material adverse effect on our business, results of operations, or financial condition.

#### **Debt obligations could adversely affect our financial condition.**

We have incurred in the past, and expect to incur in the future, debt to finance our capital investments, business acquisitions, and restructuring of our capital structure. As of August 29, 2019, we had debt with a carrying value of \$5.85 billion. As of August 29, 2019, we also had an undrawn credit facility totaling \$3.75 billion consisting of (1) an undrawn revolving credit facility that matures in July 2023 and provides for borrowings of up to \$2.50 billion and (2) a term loan facility

for up to \$1.25 billion available to be drawn in a single advance prior to November 9, 2019. As of August 29, 2019, the conversion value in excess of principal of our convertible notes was \$654 million, based on the trading price of our common stock of \$44.67 per share on such date.

Our debt obligations could adversely impact us. For example, these obligations could:

- require us to use a large portion of our cash flow to pay principal and interest on debt, which will reduce the amount of cash flow available to fund working capital, capital expenditures, acquisitions, R&D expenditures, and other business activities;
- require us to use cash and/or issue shares of our common stock to settle any conversion obligations of our convertible notes;
- result in certain of our debt instruments being accelerated to be immediately due and payable or being deemed to be in default if certain terms of default are triggered, such as applicable cross payment default and/or cross-acceleration provisions;
- adversely impact our credit rating, which could increase future borrowing costs;
- limit our future ability to raise funds for capital expenditures, strategic acquisitions or business opportunities, R&D, and other general corporate requirements;
- restrict our ability to incur specified indebtedness, create or incur certain liens, and enter into sale-leaseback financing transactions;
- increase our vulnerability to adverse economic and semiconductor memory and storage industry conditions;
- increase our exposure to interest rate risk from variable rate indebtedness;
- continue to dilute our earnings per share as a result of the conversion provisions in our convertible notes; and
- require us to continue to pay cash amounts substantially in excess of the principal amounts upon settlement of our convertible notes to minimize dilution of our earnings per share.

Our ability to meet our payment obligations under our debt instruments depends on our ability to generate significant cash flows in the future. This, to some extent, is subject to market, economic, financial, competitive, legislative, and regulatory factors as well as other factors that are beyond our control. There can be no assurance that our business will generate cash flow from operations, or that additional capital will be available to us, in amounts sufficient to enable us to meet our debt payment obligations and to fund other liquidity needs. Additionally, events and circumstances may occur which would cause us to not be able to satisfy applicable draw-down conditions and utilize our revolving credit facility. In 2019, we suspended the security interest in the collateral under our credit facility upon achieving a specified credit rating and prepaying the 2022 Term Loan B; however, if our corporate credit rating were to decline below a certain level, the security interest would be automatically reinstated. If we are unable to generate sufficient cash flows to service our debt payment obligations, we may need to refinance or restructure our debt, sell assets, reduce or delay capital investments, or seek to raise additional capital. If we are unable to implement one or more of these alternatives, we may be unable to meet our debt payment obligations, which could have a material adverse effect on our business, results of operations, or financial condition.

### **We must attract, retain, and motivate highly skilled employees.**

To remain competitive, we must attract, retain, and motivate executives and other highly skilled employees. Competition for experienced employees in our industry can be intense and hiring and retaining qualified executives, engineers, technical staff, and sales representatives are critical to our business. Our inability to attract and retain key employees may inhibit our ability to maintain or expand our business operations. Additionally, changes to immigration policies in the numerous countries in which we operate, including the United States, may limit our ability to hire and/or retain talent in specific locations. If our total compensation programs and workplace culture cease to be viewed as competitive, our ability to attract, retain, and motivate employees could be weakened, which could have a material adverse effect on our business, results of operations, or financial condition.

### **The acquisition of our ownership interest in Inotera from Qimonda has been challenged by the administrator of the insolvency proceedings for Qimonda.**

On January 20, 2011, Dr. Michael Jaffé, administrator for Qimonda's insolvency proceedings, filed suit against Micron and Micron Semiconductor B.V. ("Micron B.V."), in the District Court of Munich, Civil Chamber. The complaint seeks to void, under Section 133 of the German Insolvency Act, a share purchase agreement between Micron B.V. and Qimonda signed in fall 2008, pursuant to which Micron B.V. purchased substantially all of Qimonda's shares of Inotera (the "Inotera Shares"), representing approximately 18% of Inotera's outstanding shares as of August 29, 2019, and seeks an order requiring us to re-transfer those shares to the Qimonda estate. The complaint also seeks, among other things, to recover damages for the alleged

value of the joint venture relationship with Inotera and to terminate, under Sections 103 or 133 of the German Insolvency Code, a patent cross-license between us and Qimonda entered into at the same time as the share purchase agreement.

Following a series of hearings with pleadings, arguments, and witnesses on behalf of the Qimonda estate, on March 13, 2014, the court issued judgments: (1) ordering Micron B.V. to pay approximately \$1 million in respect of certain Inotera Shares sold in connection with the original share purchase; (2) ordering Micron B.V. to disclose certain information with respect to any Inotera Shares sold by it to third parties; (3) ordering Micron B.V. to disclose the benefits derived by it from ownership of the Inotera Shares, including in particular, any profits distributed on the Inotera Shares and all other benefits; (4) denying Qimonda's claims against Micron for any damages relating to the joint venture relationship with Inotera; and (5) determining that Qimonda's obligations under the patent cross-license agreement are canceled. In addition, the Court issued interlocutory judgments ordering, among other things: (1) that Micron B.V. transfer to the Qimonda estate the Inotera Shares still owned by Micron B.V. and pay to the Qimonda estate compensation in an amount to be specified for any Inotera Shares sold to third parties; and (2) that Micron B.V. pay the Qimonda estate as compensation an amount to be specified for benefits derived by Micron B.V. from ownership of the Inotera Shares. The interlocutory judgments have no immediate, enforceable effect on us, and, accordingly, we expect to be able to continue to operate with full control of the Inotera Shares subject to further developments in the case. On April 17, 2014, Micron and Micron B.V. filed a notice of appeal with the German Appeals Court challenging the District Court's decision. After opening briefs, the Appeals Court held a hearing on the matter on July 9, 2015, and thereafter appointed two independent experts to perform an evaluation of Dr. Jaffé's claims that the amount Micron paid for Qimonda was less than fair market value. On January 25, 2018, the court-appointed experts issued their report concluding that the amount paid by Micron was within an acceptable fair-value range. The Appeals Court held a subsequent hearing on April 30, 2019, and on May 28, 2019, the Appeals Court remanded the case to the experts for supplemental expert opinion.

We are unable to predict the outcome of the matter and, therefore, cannot estimate the range of possible loss. The final resolution of this lawsuit could result in the loss of the Inotera Shares or monetary damages, unspecified damages based on the benefits derived by Micron B.V. from the ownership of the Inotera Shares, and/or the termination of the patent cross-license, which could have a material adverse effect on our business, results of operations, or financial condition.

#### **We may incur additional tax expense or become subject to additional tax exposure.**

We operate in a number of locations outside the United States, including Singapore, where we have tax incentive arrangements that are conditional, in part, upon meeting certain business operations and employment thresholds. Our domestic and international taxes are dependent upon the geographic mix of our earnings among these jurisdictions. Our provision for income taxes and cash tax liabilities in the future could be adversely affected by numerous factors, including challenges by tax authorities to our tax positions and intercompany transfer pricing arrangements, failure to meet performance obligations with respect to tax incentive agreements, expanding our operations in various countries, and changes in tax laws and regulations. Additionally, we file income tax returns with the U.S. federal government, various U.S. states, and various other jurisdictions throughout the world and certain tax returns may remain open to examination for several years. The results of audits and examinations of previously filed tax returns and continuing assessments of our tax exposures may have an adverse effect on our provision for income taxes and cash tax liability. The foregoing items could have a material adverse effect on our business, results of operations, or financial condition.

#### **A change in tax laws in key jurisdictions could materially increase our tax expense.**

We are subject to income taxes in the U.S. and many foreign jurisdictions. Changes to income tax laws and regulations in any of the jurisdictions in which we operate, or in the interpretation of such laws, could significantly increase our effective tax rate and ultimately reduce our cash flow from operating activities and otherwise have a material adverse effect on our financial condition. For example, our effective tax rate increased from 1.2% for 2018 to 9.8% for 2019 primarily as a result of the Tax Cuts and Jobs Act enacted on December 22, 2017 by the United States. The U.S. Treasury Department continues to issue interpretive guidance on the Tax Act, including foreign tax credits, foreign minimum tax, foreign derived intangible income, and interest expense deduction limitations. It is anticipated that the guidance will be finalized over the next several months. Additionally, various levels of government are increasingly focused on tax reform and other legislative actions to increase tax revenue. Further changes in the tax laws of foreign jurisdictions could arise as a result of the base erosion and profit shifting project undertaken by the Organization for Economic Co-operation and Development, which represents a coalition of member countries and recommended changes to numerous long-standing tax principles. If adopted by countries, such changes, as well as changes in U.S. federal and state tax laws or in taxing jurisdictions' administrative interpretations, decisions, policies, and positions, could have a material adverse effect on our business, results of operations, or financial condition.

**Our incentives from various governments are conditional upon achieving or maintaining certain performance obligations and are subject to reduction, termination, or clawback.**

We have received, and may in the future continue to receive, benefits and incentives from national, state, and local governments in various regions of the world designed to encourage us to establish, maintain, or increase investment, workforce, or production in those regions. These incentives may take various forms, including grants, loan subsidies, and tax arrangements, and typically require us to perform or maintain certain levels of investment, capital spending, employment, technology deployment, or research and development activities to qualify for such incentives. We cannot guarantee that we will successfully achieve performance obligations required to qualify for these incentives or that the granting agencies will provide such funding. These incentive arrangements typically provide the granting agencies with rights to audit our performance with the terms and obligations. Such audits could result in modifications to, or termination of, the applicable incentive program. The incentives we receive could be subject to reduction, termination, or clawback, and any decrease or clawback of government incentives could have a material adverse effect on our business, results of operations, or financial condition.

**We may make future acquisitions and/or alliances, which involve numerous risks.**

Acquisitions and the formation or operation of alliances, such as joint ventures and other partnering arrangements, involve numerous risks, including the following:

- integrating the operations, technologies, and products of acquired or newly formed entities into our operations;
- increasing capital expenditures to upgrade and maintain facilities;
- increased debt levels;
- the assumption of unknown or underestimated liabilities;
- the use of cash to finance a transaction, which may reduce the availability of cash to fund working capital, capital expenditures, R&D expenditures, and other business activities;
- diverting management's attention from daily operations;
- managing larger or more complex operations and facilities and employees in separate and diverse geographic areas;
- hiring and retaining key employees;
- requirements imposed by governmental authorities in connection with the regulatory review of a transaction, which may include, among other things, divestitures or restrictions on the conduct of our business or the acquired business;
- inability to realize synergies or other expected benefits;
- failure to maintain customer, vendor, and other relationships;
- inadequacy or ineffectiveness of an acquired company's internal financial controls, disclosure controls and procedures, compliance programs, and/or environmental, health and safety, anti-corruption, human resource, or other policies or practices; and
- impairment of acquired intangible assets, goodwill, or other assets as a result of changing business conditions, technological advancements, or worse-than-expected performance of the acquired business.

In previous years, supply of memory and storage products has significantly exceeded customer demand resulting in significant declines in average selling prices. The global memory and storage industry has experienced consolidation and may continue to consolidate. We engage, from time to time, in discussions regarding potential acquisitions and similar opportunities. To the extent we are successful in completing any such transactions, we could be subject to some or all of the risks described above, including the risks pertaining to funding, assumption of liabilities, integration challenges, and increases in debt that may accompany such transactions. Acquisitions of, or alliances with, technology companies are inherently risky and may not be successful and could have a material adverse effect on our business, results of operations, or financial condition.

**Changes in foreign currency exchange rates could materially adversely affect our business, results of operations, or financial condition.**

Across our global operations, significant transactions and balances are denominated in currencies other than the U.S. dollar (our reporting currency), primarily the euro, Singapore dollar, New Taiwan dollar, and yen. Although we hedge our primary exposures to changes in currency exchange rates from our monetary assets and liabilities, the effectiveness of these hedges is dependent upon our ability to accurately forecast our monetary assets and liabilities. In addition, a significant portion of our manufacturing costs are denominated in foreign currencies. Exchange rates for some of these currencies against the U.S. dollar, particularly the yen, have been volatile in recent periods. If these currencies strengthen against the U.S. dollar, our manufacturing costs could significantly increase. Exchange rates for the U.S. dollar that adversely change against our foreign currency exposures could have a material adverse effect on our business, results of operations, or financial condition.

### **We may incur additional restructuring charges in future periods.**

From time to time, we have, and may in the future, enter into restructure initiatives in order to, among other items, streamline our operations, respond to changes in business conditions, our markets or product offerings, or to centralize certain key functions. We may not realize expected savings or other benefits from our restructure activities and may incur additional restructure charges or other losses in future periods associated with other initiatives. In connection with any restructure initiatives, we could incur restructure charges, loss of production output, loss of key personnel, disruptions in our operations, and difficulties in the timely delivery of products, which could have a material adverse effect on our business, results of operations, or financial condition.

### **Compliance with customer and responsible sourcing requirements and related regulations could limit the supply and increase the cost of certain materials, supplies, and services used in manufacturing our products.**

Many of our customers have adopted responsible sourcing programs that require us to periodically report on our supply chain and responsible sourcing efforts to ensure we source the materials, supplies, and services we use and incorporate into the products we sell in a manner that is consistent with their programs. Some of our customers may elect to disqualify us as a supplier or reduce purchases from us if we are unable to verify that our products meet the specifications of their responsible sourcing programs. Meeting customer requirements may limit the sourcing and availability of some of the materials, supplies, and services we use, particularly when the availability of such is concentrated to a limited number of suppliers. This in turn may affect our ability and/or the cost to obtain materials, supplies, and services necessary for the manufacture of our products in sufficient quantities.

This increased focus on environmental protection and social responsibility initiatives led to the passage of Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and its implementing SEC regulations. The act imposes supply chain diligence and disclosure requirements for certain manufacturers of products containing specific minerals that may originate in or near the Democratic Republic of the Congo and finance or benefit local armed groups. These conflict minerals are commonly found in materials used in the manufacture of semiconductors.

Our inability to comply with customers' requirements for responsible sourcing or with regulations could have a material adverse effect on our business, results of operations, or financial condition.

### **We and others are subject to a variety of laws and regulations that may result in additional costs and liabilities.**

The manufacturing of our products requires the use of facilities, equipment, and materials that are subject to a broad array of laws and regulations in numerous jurisdictions in which we operate. Additionally, we are subject to a variety of other laws and regulations relative to the construction, maintenance, and operations of our facilities. Any of these laws or regulations could cause us to incur additional direct costs, as well as increased indirect costs related to our relationships with our customers and suppliers, and otherwise harm our operations and financial condition. Any failure to comply with these laws or regulations could adversely impact our reputation and our financial results. Additionally, we engage various third parties to represent us or otherwise act on our behalf and we partner with other companies in our joint ventures, all of whom are also subject to a broad array of laws and regulations. Our engagement with these third parties and our ownership in these joint ventures may also expose us to risks associated with their respective compliance with these laws and regulations. As a result of these items, we could experience the following:

- suspension of production;
- remediation costs;
- alteration of our manufacturing processes;
- regulatory penalties, fines, and legal liabilities; and
- reputational challenges.

Our failure, or the failure of our third-party agents or joint ventures, to comply with these laws and regulations could have a material adverse effect on our business, results of operations, or financial condition.

### **We are subject to counterparty default risks.**

We have numerous arrangements with financial institutions that subject us to counterparty default risks, including cash deposits, investments, capped call contracts on our common stock, and derivative instruments. As a result, we are subject to the risk that the counterparty to one or more of these arrangements will default on its performance obligations. A counterparty may

not comply with their contractual commitments which could then lead to their defaulting on their obligations with little or no notice to us, which could limit our ability to take action to mitigate our exposure. Additionally, our ability to mitigate our exposures may be constrained by the terms of our contractual arrangements or because market conditions prevent us from taking effective action. If one of our counterparties becomes insolvent or files for bankruptcy, our ability to recover any losses suffered as a result of that counterparty's default may be limited by the liquidity of the counterparty or the applicable laws governing the bankruptcy proceedings. In the event of such default, we could incur significant losses, which could have a material adverse effect on our business, results of operations, or financial condition.

**The operations of MMJ are subject to continued oversight by the Tokyo District Court during the pendency of the corporate reorganization proceedings.**

Because MMJ's plan of reorganization provides for ongoing payments to creditors following the closing of the MMJ acquisition, the reorganization proceedings in Japan (the "Japan Proceedings") are continuing and MMJ remains subject to the oversight of the Tokyo District Court and of the trustees (including a trustee designated by us, who we refer to as the business trustee, and a trustee designated by the Tokyo District Court, who we refer to as the legal trustee), pending completion of the reorganization proceedings. The business trustee is responsible for overseeing the operation of the business of the MMJ Companies, other than oversight in relation to acts that need to be carried out in connection with the Japan Proceedings, which are the responsibility of the legal trustee. The final creditor payment under MMJ's plan of reorganization is scheduled to occur in December 2019. Following distribution of the final payment and the Tokyo District Court's approval and issuance of an order concluding the reorganization proceedings, MMJ's reorganization proceedings in Japan and oversight of the Tokyo District Court will terminate.

During the pendency of the reorganization proceedings in Japan, MMJ is obligated to provide periodic financial reports to the Tokyo District Court and may be required to obtain the consent of the Tokyo District Court prior to taking a number of significant actions relating to its businesses, including transferring or disposing of, or acquiring, certain material assets, incurring or guaranteeing material indebtedness, settling material disputes, or entering into certain material agreements. The consent of the legal trustee may also be required for matters that would likely have a material impact on the operations or assets of MMJ or for transfers of material assets, to the extent the matters or transfers would reasonably be expected to materially and adversely affect execution of MMJ's plan of reorganization. Accordingly, during the pendency of the reorganization proceedings in Japan, our ability to operate MMJ as part of our global business or to cause MMJ to take certain actions that we deem advisable for its business could be adversely affected if the Tokyo District Court or the legal trustee is unwilling to consent to various actions that we may wish to take with respect to MMJ.

The operations of MMJ being subject to the continued oversight by the Tokyo District Court during the pendency of the corporate reorganization proceedings could have a material adverse effect on our business, results of operations, or financial condition.

## **ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

## **ITEM 2. PROPERTIES**

Our corporate headquarters are located in Boise, Idaho. The following is a summary of our principal facilities as of August 29, 2019:

<b>Location</b>	<b>Principal Operations</b>
Taiwan	R&D, wafer fabrication, component assembly and test, module assembly and test
Singapore	R&D, wafer fabrication, component assembly and test, module assembly and test
Japan	R&D, wafer fabrication
United States	R&D, wafer fabrication, reticle manufacturing
China	Component assembly and test, module assembly and test
Malaysia	Component assembly and test, module assembly and test

We own or lease numerous other facilities in locations throughout the world used for design, R&D, and sales and marketing activities. We generally utilize all of our manufacturing capacity; however, a portion of our IMFT facility was underutilized for 2019 and 2018. We believe that our existing facilities are suitable and adequate for our present purposes. We do not identify or allocate assets by operating segment, other than goodwill. (See "Part II – Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Geographic Information.")

## **ITEM 3. LEGAL PROCEEDINGS**

### **Reorganization Proceedings of the MMJ Companies**

In 2013, we completed the acquisition of Elpida Memory, Inc., now known as MMJ, a Japanese corporation, pursuant to the terms and conditions of an Agreement on Support for Reorganization Companies (as amended, the "Sponsor Agreement") that we entered into in 2012 with the trustees of the MMJ Companies' pending corporate reorganization proceedings under the Corporate Reorganization Act of Japan. Under the Sponsor Agreement, we agreed to provide certain support for the reorganization of the MMJ Companies and the trustees agreed to prepare and seek approval from the Tokyo District Court and the MMJ Companies' creditors of plan of reorganization consistent with such support.

The plan of reorganization provides for payments by the MMJ Companies to their secured and unsecured creditors in an aggregate amount of 200 billion yen, less certain expenses of the reorganization proceedings and certain other items. The plan of reorganization also provided for the investment by us pursuant to the Sponsor Agreement of 60 billion yen paid at closing in cash into MMJ in exchange for 100% ownership of MMJ's equity and the use of such investment to fund the initial installment payment by the MMJ Companies to their creditors of 60 billion yen, subject to reduction for certain items specified in the Sponsor Agreement and plan of reorganization.

Under MMJ's plan of reorganization, secured creditors will recover 100% of the amount of their fixed claims and unsecured creditors will recover at least 17.4% of the amount of their fixed claims. The actual recovery of unsecured creditors will be higher, however, based in part on events and circumstances occurring following the plan approval. The remaining portion of the unsecured claims will be discharged, without payment, over the period that payments are made pursuant to the plan of reorganization. The secured creditors were paid in full on or before the sixth installment payment date, while the unsecured creditors will be paid in seven installments. The unsecured creditors of MAI were scheduled to be paid in seven installments; however, in connection with our sale of MAI in 2017, the remaining MAI creditor obligation was paid in full and MAI's reorganization proceedings were closed.

Because MMJ's plan of reorganization provides for ongoing payments to creditors following the closing of the MMJ acquisition, the reorganization proceedings in Japan are continuing and MMJ remains subject to the oversight of the Tokyo District Court and of the trustees (including a trustee designated by us, who we refer to as the business trustee, and a trustee designated by the Tokyo District Court, who we refer to as the legal trustee), pending completion of the reorganization proceedings. The business trustee is responsible for overseeing the operation of the businesses of the MMJ Companies, other than oversight in relation to acts that need to be carried out in connection with the Japan Proceedings, which are the responsibility of the legal trustee. The final creditor payment under MMJ's plan of reorganization is scheduled to occur in December 2019. MMJ's reorganization proceedings in Japan and oversight of the Tokyo District Court will terminate following the distribution of the final creditor payment and the Tokyo District Court's approval and issuance of an order concluding the reorganization proceedings.

During the pendency of the reorganization proceedings in Japan, MMJ is obligated to provide periodic financial reports to the Tokyo District Court and may be required to obtain the consent of the Tokyo District Court prior to taking a number of significant actions relating to its businesses, including transferring or disposing of, or acquiring, certain material assets, incurring or guaranteeing material indebtedness, settling material disputes, or entering into certain material agreements. The consent of the legal trustee may also be required for matters that would likely have a material impact on the operations or assets of MMJ or for transfers of material assets, to the extent the matters or transfers would reasonably be expected to materially and adversely affect execution of MMJ's plan of reorganization. Accordingly, during the pendency of the reorganization proceedings in Japan, our ability to effectively integrate MMJ as part of our global operations or to cause MMJ to take certain actions that we deem advisable for its businesses could be adversely affected if the Tokyo District Court or the legal trustee is unwilling to consent to various actions that we may wish to take with respect to MMJ.

See "Part II – Financial Information – Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Contingencies" and "Item 1A. Risk Factors" for a discussion of other legal proceedings.

## **ITEM 4. MINE SAFETY DISCLOSURES**

Not applicable.

## **PART II**

## **ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES**

### **Holders of Record**

As of October 10, 2019, there were 2,009 shareholders of record of our common stock.

### **Equity Compensation Plan Information**

The information required by this item is incorporated by reference from the information to be included in our 2019 Proxy Statement under the section entitled "Equity Compensation Plan Information," which will be filed with the Securities and Exchange Commission within 120 days after August 29, 2019.

### **Issuer Purchase of Equity Securities**

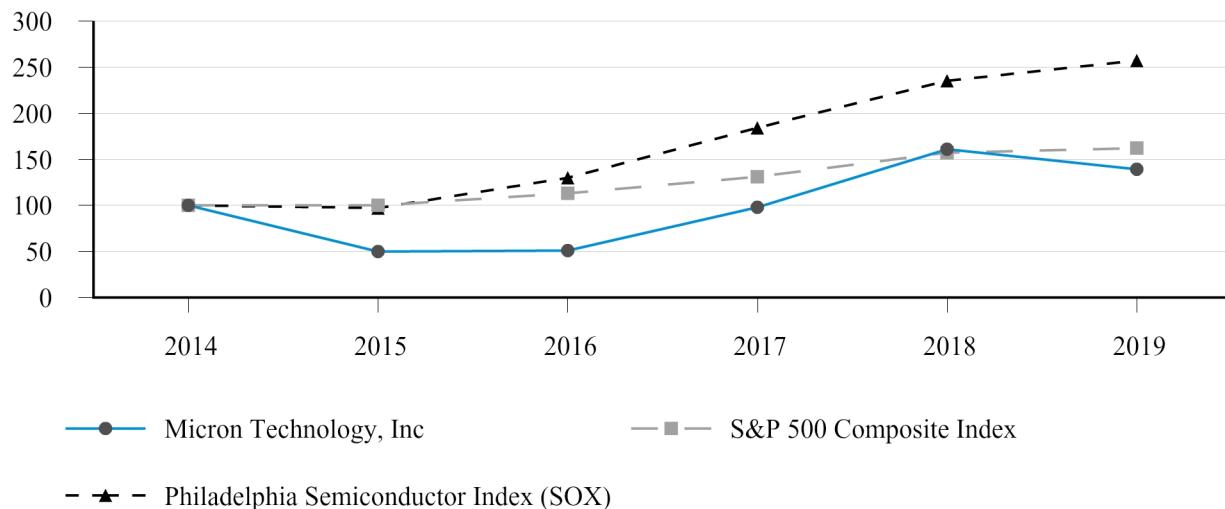
**Common Stock Repurchase Authorization:** Our Board of Directors has authorized the discretionary repurchase of up to \$10 billion of our outstanding common stock beginning in fiscal 2019. We may purchase shares on a discretionary basis through open-market purchases, block trades, privately-negotiated transactions, derivative transactions, and/or pursuant to Rule 10b5-1 trading plans, subject to market conditions and our ongoing determination of the best use of available cash. The repurchase authorization does not obligate us to acquire any common stock.

<b>Period</b>	<b>(a) Total number of shares purchased</b>	<b>(b) Average price paid per share</b>	<b>(c) Total number of shares (or units) purchased as part of publicly announced plans or programs</b>	<b>(d) Maximum number (or approximate dollar value) of shares (or units) that may yet be purchased under publicly announced plans or programs</b>
May 31, 2019 – July 4, 2019	—	\$ —	—	
July 5, 2019 – August 1, 2019	—	—	—	
August 2, 2019 – August 29, 2019	—	—	—	
	<b>—</b>	<b>—</b>		\$ 7,337,838,234

Shares of common stock withheld as payment of withholding taxes and exercise prices in connection with the vesting or exercise of equity awards are also treated as common stock repurchases. Those withheld shares of common stock are not considered common stock repurchases under an authorized common stock repurchase plan and accordingly are excluded from the amounts in the table above.

## Performance Graph

The following graph illustrates a five-year comparison of cumulative total returns for our common stock, the S&P 500 Composite Index, and the Philadelphia Semiconductor Index (SOX) from August 31, 2014, through August 31, 2019. We operate on a 52 or 53 week fiscal year which ends on the Thursday closest to August 31. Accordingly, the last day of our fiscal year varies. For consistent presentation and comparison to the industry indices shown herein, we have calculated our stock performance graph assuming an August 31 year end.



*Note: Management cautions that the stock price performance information shown in the graph above may not be indicative of current stock price levels or future stock price performance.*

The performance graph above assumes \$100 was invested on August 31, 2014 in common stock of Micron Technology, Inc., the S&P 500 Composite Index, and the Philadelphia Semiconductor Index (SOX). Any dividends paid during the period presented were assumed to be reinvested. The performance was plotted using the following data:

	2014	2015	2016	2017	2018	2019
Micron Technology, Inc.	\$ 100	\$ 50	\$ 51	\$ 98	\$ 161	\$ 139
S&P 500 Composite Index	100	100	113	131	157	162
Philadelphia Semiconductor Index (SOX)	100	97	130	184	235	257

## ITEM 6. SELECTED FINANCIAL DATA

	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>
(in millions, except per share amounts)					
Revenue	\$ 23,406	\$ 30,391	\$ 20,322	\$ 12,399	\$ 16,192
Gross margin	10,702	17,891	8,436	2,505	5,215
Operating income	7,376	14,994	5,868	168	2,998
Net income (loss)	6,358	14,138	5,090	(275)	2,899
Net income (loss) attributable to Micron	6,313	14,135	5,089	(276)	2,899
Diluted earnings (loss) per share	5.51	11.51	4.41	(0.27)	2.47
Cash and short-term investments	7,955	6,802	5,428	4,398	3,521
Total current assets	16,503	16,039	12,457	9,495	8,596
Property, plant, and equipment	28,240	23,672	19,431	14,686	10,554
Total assets	48,887	43,376	35,336	27,540	24,143
Total current liabilities	6,390	5,754	5,334	4,835	3,905
Long-term debt	4,541	3,777	9,872	9,154	6,252
Total Micron shareholders' equity	35,881	32,294	18,621	12,080	12,302
Noncontrolling interests in subsidiaries	889	870	849	848	937
Total equity	36,770	33,164	19,470	12,928	13,239

In December 2016, we acquired the 67% remaining interest in Inotera and began consolidating Inotera's operating results. In the periods presented above through December 2016, Inotera sold DRAM products exclusively to us through supply agreements. The cash paid for the Inotera Acquisition was funded, in part, with a term loan of 80 billion New Taiwan dollars and \$986 million from the sale of 58 million shares of our common stock. See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Acquisition of Inotera."

## ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*This discussion should be read in conjunction with the consolidated financial statements and accompanying notes for the year ended August 29, 2019. All period references are to our fiscal periods unless otherwise indicated. Our fiscal year is the 52 or 53-week period ending on the Thursday closest to August 31. Our fiscal 2019, 2018, and 2017 each contain 52 weeks. All tabular dollar amounts are in millions, except per share amounts.*

For an overview of our business, see "Part I – Item 1. Business – Overview."

## Results of Operations

### Consolidated Results

For the year ended	2019		2018		2017	
Revenue	\$23,406	100 %	\$30,391	100 %	\$20,322	100 %
Cost of goods sold	12,704	54 %	12,500	41 %	11,886	58 %
Gross margin	10,702	46 %	17,891	59 %	8,436	42 %
Selling, general, and administrative	836	4 %	813	3 %	743	4 %
Research and development	2,441	10 %	2,141	7 %	1,824	9 %
Other operating (income) expense, net	49	— %	(57)	— %	1	— %
Operating income	7,376	32 %	14,994	49 %	5,868	29 %
Interest income (expense), net	77	— %	(222)	(1)%	(560)	(3)%
Other non-operating income (expense), net	(405)	(2)%	(465)	(2)%	(112)	(1)%
Income tax (provision) benefit	(693)	(3)%	(168)	(1)%	(114)	(1)%
Equity in net income (loss) of equity method investees	3	— %	(1)	— %	8	— %
Net income attributable to noncontrolling interests	(45)	— %	(3)	— %	(1)	— %
Net income attributable to Micron	<u>\$ 6,313</u>	<u>27 %</u>	<u>\$14,135</u>	<u>47 %</u>	<u>\$ 5,089</u>	<u>25 %</u>

### Total Revenue

Total revenue for 2019 decreased 23% as compared to 2018 primarily due to pricing declines resulting from the challenging memory market environment in 2019. Sales of DRAM products for 2019 decreased 28% as compared to 2018 primarily due to declines in average selling prices of approximately 30% resulting from supply and demand imbalances, customer inventory corrections, and CPU shortages. Sales of NAND products for 2019 decreased 12% as compared to 2018 primarily due to declines in average selling prices in the mid-40% range resulting from supply and demand imbalances, which were partially offset by significant increases in sales volumes. In addition, demand for our NAND products was adversely affected by the transition from SATA SSDs to NVMe SSDs. The higher NAND sales volumes in 2019 were driven by increases in sales of high-value mobile managed NAND products as well as discrete NAND products enabled by our execution in ramping 64- and 96-layer TLC 3D NAND.

Total revenue for 2018 increased 50% as compared to 2017. Higher revenue in 2018 for both DRAM and NAND as compared to 2017 were driven by strong execution in delivering high-value products featuring our 1Xnm DRAM and 64-layer 3D NAND technologies combined with strong demand for products across our primary markets. Sales of DRAM products for 2018 increased 64% from 2017 primarily due to an increase in average selling prices of approximately 35% and an increase in sales volumes of approximately 20% as a result of strong market conditions, particularly for cloud, enterprise, mobile, and graphics markets, combined with increased sales into high-value markets. Sales of NAND products for 2018 increased 20% from 2017 despite declines in average selling prices primarily due to an increase in sales volumes of approximately 30% driven by increases in sales of high-value SSD and mobile managed NAND products enabled by strong demand and our execution in delivering 3D NAND products.

### Overall Gross Margin

Our overall gross margin percentage decreased to 46% for 2019 from 59% for 2018 primarily due to declines in average selling prices partially offset by cost reductions resulting from strong execution in delivering products featuring advanced technologies and from continuous improvement initiatives to reduce production costs. Underutilization of IMFT assets adversely impacted our gross margin by a per-quarter average of approximately \$100 million in 2019 and \$65 million in 2018, and we anticipate the adverse impact of underutilization at IMFT to increase to approximately \$150 million per quarter beginning in the first quarter of 2020.

We continue to evaluate planned technology node transitions, capital spending and re-use rates for NAND equipment. Based on our preliminary assessment, we anticipate changing the depreciable life of our NAND equipment from five to seven years beginning in the first quarter of 2020. We anticipate this change will reduce our depreciation expense included in cost of goods sold for the first quarter of 2020 by approximately \$80 million, increasing to approximately \$100 to \$150 million per quarter for the remainder of 2020.

Our overall gross margin percentage increased to 59% for 2018 from 42% for 2017 primarily due to favorable market conditions across key markets combined with strong execution in delivering products featuring advanced technologies, including 1Xnm DRAM and 64-layer 3D NAND, enabling manufacturing cost reductions. For 2018 as compared to 2017, pricing for DRAM products increased while manufacturing costs declined and, for NAND products, manufacturing cost reductions outpaced declines in average selling prices.

#### Revenue by Business Unit

For the year ended	2019	2018	2017
CNBU	\$ 9,968	43%	\$ 15,252
MBU	6,403	27%	6,579
SBU	3,826	16%	5,022
EBU	3,137	13%	3,479
All Other	72	—%	59
	<u>\$23,406</u>	<u>\$30,391</u>	<u>\$20,322</u>

*Percentages of total revenue may not total 100% due to rounding.*

CNBU revenue for 2019 decreased 35% as compared to 2018 due to challenging market conditions in 2019, which led to price declines. MBU revenue for 2019 decreased 3% as compared to 2018 primarily due to price declines offset by strong execution in developing and qualifying mobile managed NAND products and continued content growth in smartphones, which combined to drive significant increase in shipment volumes. SBU revenue for 2019 decreased 24% as compared to 2018 primarily due to price declines, partially offset by significant growth in shipment volumes as a result of strong execution in ramping 64-layer and 96-layer TLC NAND products. SBU revenue includes products manufactured and sold to Intel under a long-term supply agreement at prices approximating cost, which included 3D XPoint memory and NAND, aggregating \$682 million, \$541 million, and \$53 million, for 2019, 2018, and 2017, respectively. EBU revenue for 2019 decreased 10% as compared to 2018 primarily due to lower sales to consumer markets as a result of weak demand and pricing, partially offset by increases in sales to automotive and industrial markets.

CNBU revenue for 2018 increased 77% as compared to 2017 due to strong market conditions and demand in key markets, including cloud server, client, enterprise server, and graphics, which drove increases in pricing and sales volumes. Sales into cloud and graphics markets more than doubled in 2018 as compared to 2017. MBU revenue for 2018 increased 49% as compared to 2017 primarily due to customer qualifications for LPDRAM and managed NAND products, which combined with higher memory content in smartphones to drive improvements in DRAM pricing and increases in sales volumes. SBU revenue for 2018 from all other sales of NAND products (excluding sales to Intel at prices approximating cost) increased 13% as compared to 2017 driven by higher sales of SSD storage products, which increased by 72%, partially offset by declines in SBU NAND component sales from a strategic reallocation of supply from component sales to SSD and mobile managed NAND products. Increases in SBU sales volumes for 2018 resulting from strong demand for cloud and enterprise SSD markets more than offset declines in selling prices. EBU revenue for 2018 increased 29% as compared to 2017 primarily due to strong demand across EBU's primary markets including consumer, industrial multimarkets, and automotive.

#### Operating Income (Loss) by Business Unit

For the year ended	2019	2018	2017
CNBU	\$ 4,645	47 %	\$ 9,773
MBU	2,606	41 %	3,033
SBU	(386)	(10)%	964
EBU	923	29 %	1,473
All Other	13	18 %	—
	<u>\$ 7,801</u>	<u>\$15,243</u>	<u>\$ 6,232</u>

*Percentages reflect operating income (loss) as a percentage of revenue for each business unit.*

CNBU operating income for 2019 decreased from 2018 primarily due to declines in pricing and higher R&D costs, partially offset by cost reductions. MBU operating income for 2019 decreased from 2018 primarily due to declines in pricing partially offset by increases in sales of high-value managed NAND products and manufacturing cost reductions. SBU operating margin for 2019 declined from 2018 primarily due to declines in pricing, which were partially offset by manufacturing cost reductions and increases in sales volumes. SBU operating results for 2019 and 2018 were adversely impacted by the underutilization charges at IMFT. EBU operating income for 2019 decreased from 2018 as a result of declines in pricing and higher R&D costs partially offset by manufacturing cost reductions and increases in sales volumes.

CNBU operating income for 2018 improved from 2017 primarily due to improved pricing and higher sales volumes resulting from strong demand for our products combined with manufacturing cost reductions. MBU operating income for 2018 improved from 2017 primarily due to increases in pricing and sales volumes for LPDRAM products, higher sales of high-value managed NAND products, and manufacturing cost reductions. SBU operating income for 2018 improved from 2017 primarily due to manufacturing cost reductions enabled by our execution in transitioning to 64-layer TLC 3D NAND products and improvements in product mix. SBU operating income for 2018 was adversely impacted by higher costs associated with IMFT's production of 3D XPoint memory products at less than full capacity. EBU operating income for 2018 increased as compared to 2017 as a result of increases in average selling prices, manufacturing cost reductions, and increases in sales volumes, partially offset by higher R&D costs.

## **Operating Expenses and Other**

### ***Selling, General, and Administrative***

SG&A expenses for 2019 were 3% higher than 2018 primarily due to increases in legal costs and consulting fees, partially offset by a reduction in employee compensation and sales commissions. SG&A expenses for 2018 were 9% higher than 2017 primarily due to increases in legal costs, consulting fees, and employee compensation.

### ***Research and Development***

R&D expenses vary primarily with the number of development wafers processed, amounts reimbursed under R&D cost-sharing agreements, the cost of advanced equipment dedicated to new product and process development, and personnel costs. Because of the lead times necessary to manufacture our products, we typically begin to process wafers before completion of performance and reliability testing. Development of a product is deemed complete when it is qualified through reviews and tests for performance and reliability. R&D expenses can vary significantly depending on the timing of product qualification.

R&D expenses for 2019 were 14% higher than 2018 primarily due to decreases in reimbursements from our R&D cost-sharing arrangements as described below, increases in depreciation expense as a result of increases in capital spending, and increases in employee compensation. R&D expenses for 2018 were 17% higher than 2017 primarily due to increases in employee compensation, volumes of development and pre-qualification wafers, and depreciation expense as a result of increases in capital spending.

We share the cost of certain product and process development activities under development agreements with partners, including agreements to jointly develop NAND and 3D XPoint technologies with Intel. Our R&D expenses were reduced by reimbursements under these development partner arrangements by \$60 million, \$201 million, and \$213 million for 2019, 2018, and 2017, respectively. The decrease in R&D reimbursements for 2019 was primarily due to reductions in our joint development activities with Intel for 3D NAND and 3D XPoint technologies. In 2018, we and Intel agreed to independently develop subsequent generations of 3D NAND and we substantially completed this cost-sharing agreement in the third quarter of 2019. In 2018, we announced that we and Intel will no longer jointly develop 3D XPoint technology beyond the second generation and we substantially completed this cost-sharing agreement in the first quarter of 2020.

### ***Income Taxes***

On December 22, 2017, the United States enacted comprehensive tax legislation, commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"), which imposed a one-time transition tax in 2018 (the "Repatriation Tax") and, beginning in 2019, created a new minimum tax on certain foreign earnings (the "Foreign Minimum Tax"). In connection with the provisions of the Tax Act, we made an accounting policy election to treat the Foreign Minimum Tax provision as a period cost in the period the tax is incurred. SEC Staff Accounting Bulletin No. 118 ("SAB 118") allowed the use of provisional amounts (reasonable estimates) if the analyses of the impacts of the Tax Act had not been completed when financial statements were issued. During

2019, we finalized the computations of the income tax effects of the Tax Act. As such, in accordance with SAB 118, our accounting for the effects of the Tax Act is complete.

Our income tax (provision) benefit consisted of the following:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Income tax (provision) benefit, excluding items below	\$ (530)	\$ (274)	\$ (168)
Utilization of and other changes in net deferred tax assets of MMJ, MMT, and MTTW	(173)	(68)	54
Repatriation Tax, net of adjustments related to uncertain tax positions	10	(1,030)	—
Release of the valuation allowance on net deferred tax assets of our U.S. operations	—	1,337	—
Remeasurement of deferred tax assets and liabilities reflecting lower U.S. corporate tax rates	—	(133)	—
	<b>\$ (693)</b>	<b>\$ (168)</b>	<b>\$ (114)</b>
Effective tax rate	9.8%	1.2%	2.2%

Our effective tax rate increased in 2019 primarily as a result of the Foreign Minimum Tax. Our income tax rates include operations outside the United States, including Singapore, where we have tax incentive arrangements that further decrease our effective tax rates.

As a result of the Tax Act, we reevaluated our indefinite reinvestment assertion in 2018 and deemed a portion of our accumulated foreign earnings to be no longer indefinitely reinvested. Although these earnings have been subject to U.S. federal income tax under the Repatriation Tax, the repatriation to the United States of all or a portion of these earnings would potentially be subject to foreign withholding and state income tax. As of August 29, 2019, we had a deferred tax liability of \$10 million associated with our undistributed earnings.

We operate in a number of jurisdictions outside the United States, including Singapore, where we have tax incentive arrangements, which expire in whole or in part at various dates through 2034, that are conditional, in part, upon meeting certain business operations and employment thresholds. The effect of tax incentive arrangements reduced our tax provision by \$756 million (benefiting our diluted earnings per share by \$0.66) for 2019, by \$1.96 billion (\$1.59 per diluted share) for 2018, and by \$742 million (\$0.64 per diluted share) for 2017.

(See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Income Taxes.")

#### ***Other***

Interest income increased 71% for 2019 as compared to 2018 primarily due to increases in interest rates. Interest expense decreased 63% as compared to 2018 primarily due to prepayments, repurchases, and conversions of debt in 2018 and 2019 and increases in capitalized interest from higher levels of capital spending, partially offset by the issuance of the 2024 Notes, 2026 Notes, 2027 Notes, 2029 Notes, and 2030 Notes in 2019.

Interest income increased 193% for 2018 as compared to 2017 primarily due to increases in marketable investments and interest rates. Interest expense decreased 43% as compared to 2017 primarily due to decreases in debt obligations.

Further discussion of other operating and non-operating income and expenses can be found in the following notes contained in "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements":

- Equity Plans
- Research and Development
- Other Operating Income (Expense), Net
- Other Non-Operating Income (Expense), Net

## Liquidity and Capital Resources

Our primary sources of liquidity are cash generated from operations and financing obtained from capital markets and financial institutions. Cash generated from operations is highly dependent on selling prices for our products, which can vary significantly from period to period. We are continuously evaluating alternatives for efficiently funding our capital expenditures and ongoing operations. We expect, from time to time, to engage in a variety of financing transactions for such purposes, including the issuance of securities. As of August 29, 2019, we had undrawn credit facilities totaling \$3.75 billion consisting of (1) an undrawn revolving credit facility that matures in July 2023 and provides for borrowings of up to \$2.50 billion and (2) a term loan facility of up to \$1.25 billion available to be drawn in a single advance prior to November 9, 2019 which matures on the fifth anniversary of the funding date. We expect to draw under the term loan facility prior to acquiring Intel's interest in IMFT in the first quarter of 2020. We expect that our cash and investments, cash flows from operations, and available financing will be sufficient to meet our requirements at least through the next 12 months.

To develop new product and process technology, support future growth, achieve operating efficiencies, and maintain product quality, we must continue to invest in manufacturing technologies, facilities and equipment, and R&D. We estimate that capital expenditures in 2020 for property, plant, and equipment, net of partner contributions, to be \$7 billion to \$8 billion, focused on technology transitions and product enablement. The actual amounts for 2020 will vary depending on market conditions. As of August 29, 2019, we had commitments of approximately \$4.3 billion for the acquisition of property, plant, and equipment, approximately \$3.2 billion is expected to be paid in 2020 and the remainder in 2021.

Our Board of Directors has authorized the discretionary repurchase of up to \$10 billion of our outstanding common stock beginning in 2019, which we may purchase on a discretionary basis through open-market purchases, block trades, privately-negotiated transactions, derivative transactions, and/or pursuant to a Rule 10b5-1 trading plan, subject to market conditions and our ongoing determination of the best use of available cash. The repurchase authorization does not obligate us to acquire any common stock. In 2019, we repurchased 67 million shares of our common stock for \$2.66 billion under an accelerated share repurchase agreement, Rule 10b5-1 plans, and through open market repurchases. See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Equity."

In January 2019, we exercised our option to acquire Intel's interest in IMFT. Intel has set the closing date to occur on October 31, 2019. In connection with our acquisition, in the first quarter of 2020, we expect to pay Intel approximately \$1.4 billion for Intel's interest in IMFT as well as IMFT member debt owed to Intel. As of August 29, 2019, current debt included \$693 million of IMFT member debt.

Cash and marketable investments totaled \$9.12 billion as of August 29, 2019 and \$7.28 billion as of August 30, 2018. Our investments consist primarily of money market funds and liquid investment-grade, fixed-income securities, diversified among industries and individual issuers. To mitigate credit risk, we invest through high-credit-quality financial institutions and by policy generally limit the concentration of credit exposure by restricting the amount of investments with any single obligor. As of August 29, 2019, \$2.50 billion of our cash and marketable investments was held by our foreign subsidiaries.

### Limitations on the Use of Cash and Investments

**MMJ Group:** Cash and marketable investments as of August 29, 2019 included \$536 million held by the MMJ Group. As a result of the corporate reorganization proceedings of MMJ initiated in March 2012, and for so long as such proceedings are continuing, the MMJ Group is prohibited from paying dividends to us. In addition, pursuant to an order of the Tokyo District Court, the MMJ Group cannot make loans or advances, other than certain ordinary course advances, to us without the consent of the Tokyo District Court and may, under certain circumstances, be subject to the approval of the legal trustee. As a result, the assets of the MMJ Group are not available for use by us in our other operations. Furthermore, certain uses of the assets of the MMJ Group, including investments in certain capital expenditures, may require consent of MMJ's trustees and/or the Tokyo District Court.

**IMFT:** Cash and marketable investments included \$130 million held by IMFT as of August 29, 2019. Our ability to access funds held by IMFT to finance our other operations is subject to agreement by Intel and contractual limitations. Amounts held by IMFT are not anticipated to be available to finance our other operations.

## Cash Flows

For the year ended	2019	2018	2017
Net cash provided by operating activities	\$ 13,189	\$ 17,400	\$ 8,153
Net cash provided by (used for) investing activities	(10,085)	(8,216)	(7,537)
Net cash provided by (used for) financing activities	(2,438)	(7,776)	349
Effect of changes in currency exchange rates on cash, cash equivalents, and restricted cash	26	(37)	(12)
Net increase in cash, cash equivalents, and restricted cash	\$ 692	\$ 1,371	\$ 953

**Operating Activities:** For 2019, cash provided by operating activities was due primarily to cash generated by our operations and the effect of working capital adjustments, which included a \$2.43 billion decrease in receivables due to a lower level of net sales and a \$1.53 billion increase in inventory due to higher levels of work in process and raw materials inventories.

For 2018, cash provided by operating activities was due primarily to cash generated by our operations and the effect of working capital adjustments, which included a \$1.73 billion increase in receivables due to a higher level of net sales.

For 2017, cash provided by operating activities was due primarily to cash generated by our operations and the effect of working capital adjustments, which included a \$1.65 billion increase in receivables due to a higher level of net sales, \$361 million of payments attributed to intercompany balances in connection with the Inotera Acquisition, and a \$456 million increase in accounts payable and accrued expenses.

**Investing Activities:** For 2019, net cash used for investing activities consisted primarily of \$9.03 billion of expenditures for property, plant, and equipment (net of partner contributions) and \$1.17 billion of net outflows from sales, maturities, and purchases of available-for-sale securities.

For 2018, net cash used for investing activities consisted primarily of \$7.99 billion of expenditures for property, plant, and equipment (net of partner contributions), partially offset by \$164 million of net inflows from sales, maturities, and purchases of available-for-sale securities.

For 2017, net cash used for investing activities consisted primarily of \$4.73 billion of expenditures for property, plant, and equipment (net of partner contributions), \$2.63 billion of net cash paid for the Inotera Acquisition (net of \$361 million of payments attributed to intercompany balances with Inotera included in operating activities), and \$269 million of net outflows from sales, maturities, and purchases of available-for-sale securities.

**Financing Activities:** For 2019, net cash used for financing activities consisted primarily of \$2.66 billion for the acquisition of 67 million shares of treasury stock under our \$10 billion share repurchase authorization and cash payments to reduce our debt, including \$1.65 billion to settle conversions of notes, \$728 million to prepay the 2022 Term Loan B, \$316 million for IMFT member debt repayments, and \$643 million for scheduled repayment of other notes and capital leases. Cash used for financing activities was partially offset by net proceeds of \$3.53 billion from the aggregate issuance of the 2024 Notes, 2026 Notes, 2027 Notes, 2029 Notes, and 2030 Notes.

For 2018, net cash used for financing activities consisted primarily of cash payments to reduce our debt, including \$9.42 billion to prepay or repurchase debt and settle conversions of notes and \$774 million for scheduled repayment of other notes and capital leases. Cash used for financing activities was partially offset by net proceeds of \$1.36 billion from the issuance of 34 million shares of our common stock for \$41.00 per share in a public offering and \$1.01 billion of proceeds from IMFT member debt.

For 2017, net cash provided by financing activities consisted primarily of \$2.48 billion of net proceeds from the 2021 MSTW Term Loan, and \$795 million of net proceeds from the 2021 MSAC Term Loan, partially offset by \$1.63 billion to repurchase notes, repayments of \$381 million of capital lease obligations, repayments of \$550 million of other debt and convertible notes, and payments of \$519 million on equipment purchase contracts.

See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Debt."

## Potential Settlement Obligations of Convertible Notes

Since the closing price of our common stock exceeded 130% of the conversion price per share of all our convertible notes for at least 20 trading days in the 30 trading day period ended on September 30, 2019, holders may convert these notes through the calendar quarter ended December 31, 2019. The following table summarizes the potential settlements that we could be required to make for the calendar quarter ending December 31, 2019 if all holders converted their notes. The amounts in the table below are based on our closing share price of \$44.67 as of August 29, 2019.

	Settlement Option		Underlying Shares	If Settled With Minimum Cash Required		If Settled Entirely With Cash
	Principal Amount	Amount in Excess of Principal		Cash	Remainder in Shares	
2032D Notes	Cash and/or shares	Cash and/or shares	13	\$ —	13	\$ 598
2033F Notes	Cash	Cash and/or shares	6	197	1	252
			<b>19</b>	<b>\$ 197</b>	<b>14</b>	<b>\$ 850</b>

As of August 29, 2019, convertible notes in the table above included an aggregate of \$179 million net carrying amount for the settlement obligation (including principal and amounts in excess of principal) for conversions of 2033F Notes. The 20 consecutive trading day measurement period ended in the first quarter of 2020, and we settled the conversion for \$192 million in cash in the first quarter of 2020.

## Contractual Obligations

As of August 29, 2019	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Notes payable <sup>(1)(2)</sup>	\$ 6,811	\$ 1,302	\$ 530	\$ 978	\$ 4,001
Capital lease obligations <sup>(2)</sup>	702	248	180	85	189
Operating leases <sup>(3)</sup>	752	54	127	112	459
Purchase obligations <sup>(4)</sup>	7,575	5,155	1,997	67	356
Other long-term liabilities <sup>(5)</sup>	325	190	109	9	17
Total	<b>\$ 16,165</b>	<b>\$ 6,949</b>	<b>\$ 2,943</b>	<b>\$ 1,251</b>	<b>\$ 5,022</b>

<sup>(1)</sup> Amounts include MMJ Creditor Payments, convertible notes, and other notes.

<sup>(2)</sup> Amounts include principal and interest.

<sup>(3)</sup> Amounts include contractually obligated minimum lease payments for operating leases having an initial noncancelable term in excess of one year.

<sup>(4)</sup> Purchase obligations include all commitments to purchase goods or services of either a fixed or minimum quantity that meet any of the following criteria: (1) they are noncancelable, (2) we would incur a penalty if the agreement was canceled, or (3) we must make specified minimum payments even if we do not take delivery of the contracted products or services. If the obligation to purchase goods or services is noncancelable, the entire value of the contract was included in the above table. If the obligation is cancelable, but we would incur a penalty if canceled, only the dollar amount of the penalty was included as a purchase obligation. Contracted minimum amounts specified in any take-or-pay contracts were included in the above table as they represent the portion of each contract that is a firm commitment.

<sup>(5)</sup> Amounts represent future cash payments to satisfy other long-term liabilities recorded on our consolidated balance sheet, including \$190 million for the current portion of these long-term liabilities. We are unable to reliably estimate the timing of future certain payments related to uncertain tax positions and deferred tax liabilities; therefore, the amount has been excluded from the preceding table. However, other noncurrent liabilities recorded on our consolidated balance sheet included these uncertain tax positions and deferred tax liabilities.

The timing of payment amounts of the obligations discussed above is based on current information. Any redemptions, repurchases, or conversions of debt could impact the amount and timing of our cash payments.

## Off-Balance Sheet Arrangements

In connection with our 2033F Notes, we entered into the 2033F Capped Calls, which are intended to reduce the effect of potential dilution. See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Equity – Micron Shareholders' Equity – Outstanding Capped Calls."

## Critical Accounting Estimates

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, expenses, and related disclosures. Estimates and judgments are based on historical experience, forecasted events, and various other assumptions that we believe to be reasonable under the circumstances. Estimates and judgments may vary under different assumptions or conditions. We evaluate our estimates and judgments on an ongoing basis. Our management believes the accounting policies below are critical in the portrayal of our financial condition and results of operations and require management's most difficult, subjective, or complex judgments.

**Business acquisitions:** Accounting for acquisitions requires us to estimate the fair value of consideration paid and the individual assets and liabilities acquired, which involves a number of judgments, assumptions, and estimates that could materially affect the amount and timing of costs recognized in subsequent periods. Accounting for acquisitions can also involve significant judgment to determine when control of the acquired entity is transferred. We typically obtain independent third-party valuation studies to assist in determining fair values, including assistance in determining future cash flows, discount rates, and comparable market values. Items involving significant assumptions, estimates, and judgments include the following:

- Debt, including discount rate and timing of payments;
- Deferred tax assets, including projections of future taxable income and tax rates;
- Fair value of consideration paid or transferred;
- Intangible assets, including valuation methodology, estimations of future revenue and costs, profit allocation rates attributable to the acquired technology, and discount rates;
- Inventory, including estimated future selling prices, timing of product sales, and completion costs for work in process; and
- Property, plant, and equipment, including determination of values in a continued-use model.

**Consolidation:** We have interests in entities that are VIEs. Determining whether to consolidate a VIE requires judgment in assessing whether an entity is a VIE and if we are the entity's primary beneficiary. If we are the primary beneficiary of a VIE, we are required to consolidate it. To determine if we are the primary beneficiary, we evaluate whether we have the power to direct the activities that most significantly impact the VIE's economic performance and the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. Our evaluation includes identification of significant activities and an assessment of our ability to direct those activities based on governance provisions and arrangements to provide or receive product and process technology, product supply, operations services, equity funding, financing, and other applicable agreements and circumstances. Our assessments of whether we are the primary beneficiary of our VIEs require significant assumptions and judgments.

**Contingencies:** We are subject to the possibility of losses from various contingencies. Significant judgment is necessary to estimate the probability and amount of a loss, if any, from such contingencies. An accrual is made when it is probable that a liability has been incurred or an asset has been impaired and the amount of loss can be reasonably estimated. We accrue a liability and charge operations for the estimated costs of adjudication or settlement of asserted and unasserted claims existing as of the balance sheet date. In accounting for the resolution of contingencies, significant judgment may be necessary to estimate amounts pertaining to periods prior to the resolution that are charged to operations in the period of resolution and amounts related to future periods.

**Goodwill and intangible assets:** We test goodwill for impairment in the fourth quarter of our fiscal year, or more frequently if indicators of an impairment exist, to determine whether it is more likely than not that the fair value of the reporting unit with goodwill is less than its carrying value. For reporting units for which this assessment concludes that it is more likely than not that the fair value is more than its carrying value, goodwill is considered not impaired and we are not required to perform the goodwill impairment test. Qualitative factors considered in this assessment include industry and market considerations, overall financial performance, and other relevant events and factors affecting the fair value of the reporting unit. For reporting units for which this assessment concludes that it is more likely than not that the fair value is below the carrying value, goodwill is tested

for impairment by determining the fair value of each reporting unit and comparing it to the carrying value of the net assets assigned to the reporting unit. If the fair value of the reporting unit exceeds its carrying value, goodwill is considered not impaired. If the carrying value of the reporting unit exceeds its fair value, then we would record an impairment loss up to the difference between the carrying value and implied fair value.

Determining when to test for impairment, the reporting units, the assets and liabilities of the reporting unit, and the fair value of the reporting unit requires significant judgment and involves the use of significant estimates and assumptions. These estimates and assumptions include revenue growth rates, forecasted manufacturing costs, and other expenses and are developed as part of our long-range planning process. The same estimates are used in business planning, forecasting, and capital budgeting as part of our long-term manufacturing capacity analysis. We test the reasonableness of the output of our long-range planning process by calculating an implied value per share and comparing that to current stock prices, analysts' consensus pricing, and management's expectations. These estimates and assumptions are used to calculate projected future cash flows for the reporting unit, which are discounted using a risk-adjusted rate to estimate a fair value. The discount rate requires determination of appropriate market comparables. We base fair value estimates on assumptions we believe to be reasonable but that are unpredictable and inherently uncertain. Actual future results may differ from those estimates. During the fourth quarter of 2019, we performed a sensitivity analysis for goodwill impairment with respect to each of our respective reporting units and determined that a hypothetical 10% decline in the fair value of each reporting unit would not result in an impairment of goodwill for any reporting unit.

We test other identified intangible assets with definite useful lives when events and circumstances indicate the carrying value may not be recoverable by comparing the carrying amount to the sum of undiscounted cash flows expected to be generated by the asset. We test intangible assets with indefinite lives annually for impairment using a fair value method such as discounted cash flows. Estimating fair values involves significant assumptions, including future sales prices, sales volumes, costs, and discount rates.

**Income taxes:** We are required to estimate our provision for income taxes and amounts ultimately payable or recoverable in numerous tax jurisdictions around the world. These estimates involve significant judgment and interpretations of regulations and are inherently complex. Resolution of income tax treatments in individual jurisdictions may not be known for many years after completion of the applicable fiscal year. We are also required to evaluate the realizability of our deferred tax assets on an ongoing basis in accordance with U.S. GAAP, which requires the assessment of our performance and other relevant factors. Realization of deferred tax assets is dependent on our ability to generate future taxable income. In recent periods, our results of operations have benefitted from increases in the amount of deferred taxes we expect to realize, primarily from the levels of capital spending and increases in the amount of taxable income we expect to realize in Japan and the United States. Our income tax provision or benefit is dependent, in part, on our ability to forecast future taxable income in these and other jurisdictions. Such forecasts are inherently difficult and involve significant judgments including, among others, projecting future average selling prices and sales volumes, manufacturing and overhead costs, levels of capital spending, and other factors that significantly impact our analyses of the amount of net deferred tax assets that are more likely than not to be realized.

**Inventories:** Inventories are stated at the lower of average cost or net realizable value. Cost includes depreciation, labor, material, and overhead costs, including product and process technology costs. Determining net realizable value of inventories involves significant judgments, including projecting future average selling prices and future sales volumes. To project average selling prices and sales volumes, we review recent sales volumes, existing customer orders, current contract prices, industry analyses of supply and demand, seasonal factors, general economic trends, and other information. When these analyses reflect estimated net realizable values below our manufacturing costs, we record a charge to cost of goods sold in advance of when inventories are actually sold. Differences in forecasted average selling prices used in calculating lower of cost or net realizable value adjustments can result in significant changes in the estimated net realizable value of product inventories and accordingly the amount of write-down recorded. For example, a 5% variance in the estimated selling prices would have changed the estimated net realizable value of our inventory by approximately \$469 million as of August 29, 2019. Due to the volatile nature of the semiconductor memory and storage markets, actual selling prices and volumes often vary significantly from projected prices and volumes; as a result, the timing of when product costs are charged to operations can vary significantly.

U.S. GAAP provides for products to be grouped into categories in order to compare costs to net realizable values. The amount of any inventory write-down can vary significantly depending on the determination of inventory categories. We review the major characteristics of product type and markets in determining the unit of account for which we perform the lower of average cost or net realizable value analysis and categorize inventories primarily as memory (including DRAM, NAND, and other memory).

**Property, plant, and equipment:** We periodically assess the estimated useful lives of our property, plant, and equipment based on technology node transitions, capital spending, and equipment re-use rates. We also review the carrying value of property, plant, and equipment for impairment when events and circumstances indicate that the carrying value of an asset or group of assets may not be recoverable from the estimated future cash flows expected to result from its use and/or disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to the amount by which the carrying value exceeds the estimated fair value of the assets. The estimate of future cash flows involves numerous assumptions which require significant judgment by us, including, but not limited to, future use of the assets for our operations versus sale or disposal of the assets, future selling prices for our products and future production and sales volumes. In addition, significant judgment is required in determining the groups of assets for which impairment tests are separately performed.

**Research and development:** Costs related to the conceptual formulation and design of products and processes are expensed as R&D as incurred. Determining when product development is complete requires significant judgment. We deem development of a product complete once the product has been thoroughly reviewed and tested for performance and reliability. Subsequent to product qualification, product costs are included in cost of goods sold.

**Revenue recognition:** Revenue is primarily recognized at a point in time when control of the promised goods is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those goods. Contracts with our customers are generally short-term in duration at fixed, negotiated prices with payment generally due shortly after delivery. We estimate a liability for returns using the expected value method based on historical rates of return. In addition, we generally offer price protection to our distributors, which is a form of variable consideration that decreases the transaction price. We use the expected value method, based on historical price adjustments and current pricing trends, to estimate the amount of revenue recognized from sales to distributors. Differences between the estimated and actual amounts are recognized as adjustments to revenue.

**Stock-based compensation:** Stock-based compensation is estimated at the grant date based on the fair value of the award and is recognized as expense using the straight-line amortization method over the requisite service period. For performance-based stock awards, the expense recognized is dependent on our assessment of the likelihood of the performance measure being achieved. We utilize forecasts of future performance to assess these probabilities and this assessment requires significant judgment.

Determining the appropriate fair-value model and calculating the fair value of stock-based awards at the grant date requires significant judgment, including estimating stock price volatility and expected option life. We develop these estimates based on historical data and market information which can change significantly over time. A small change in the estimates used can result in a relatively large change in the estimated valuation. We use the Black-Scholes option valuation model to value employee stock options and awards granted under our employee stock purchase plan. We estimate stock price volatility based on an average of historical volatility and the implied volatility derived from traded options on our stock.

## **Recently Adopted Accounting Standards**

See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Recently Adopted Accounting Standards."

## **Recently Issued Accounting Standards Not Yet Adopted**

See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Recently Issued Accounting Standards Not Yet Adopted."

## **ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

### **Interest Rate Risk**

We are exposed to interest rate risk related to our indebtedness and our investment portfolio. As of August 29, 2019 and August 30, 2018, we had fixed-rate debt of \$5.3 billion and \$3.1 billion, respectively, and as a result, the fair value of our debt fluctuates with changes in market interest rates. We estimate that, as of August 29, 2019 and August 30, 2018, a decrease in market interest rates of 1% would increase the fair value of our fixed-rate debt by approximately \$290 million and \$79 million, respectively. As of August 29, 2019, we had no variable-rate debt. As of August 30, 2018, we had variable-rate debt of \$725 million. As of August 30, 2018, a 1% increase in the interest rates of our variable-rate debt would result in an increase in annual interest expense of approximately \$7 million.

### **Foreign Currency Exchange Rate Risk**

The information in this section should be read in conjunction with the information related to changes in the currency exchange rates in "Part I – Item 1A. Risk Factors." Changes in currency exchange rates could materially adversely affect our results of operations or financial condition.

The functional currency for all of our operations is the U.S. dollar. The substantial majority of our sales are transacted in the U.S. dollar; however, significant amounts of our debt, operating expenditures, and capital purchases are incurred in or exposed to other currencies, primarily the euro, New Taiwan dollar, Singapore dollar, and yen. We have established currency risk management programs for our monetary assets and liabilities denominated in foreign currencies to hedge against fluctuations in the fair value and volatility of future cash flows caused by changes in currency exchange rates. We generally utilize currency forward contracts in these hedging programs, which reduce, but do not always entirely eliminate, the impact of currency exchange rate movements. We do not use derivative financial instruments for trading or speculative purposes.

Based on monetary assets and liabilities denominated in foreign currencies, we estimate that a 10% adverse change in exchange rates versus the U.S. dollar would result in losses of approximately \$149 million as of August 29, 2019 and \$78 million as of August 30, 2018. We hedge our exposure to changes in currency exchange rates by utilizing a rolling hedge strategy for our primary currency exposures with currency forward contracts that generally mature within three months. The effectiveness of our hedges is dependent, among other factors, upon our ability to accurately forecast our monetary assets and liabilities. To hedge the exposure of changes in cash flows from changes in currency exchange rates for certain capital expenditures, we may utilize currency forward contracts that generally mature within 12 months. (See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Derivative Instruments.")

## **ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

### **Index to Consolidated Financial Statements**

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**MICRON TECHNOLOGY, INC.**

**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(in millions, except per share amounts)

<b>For the year ended</b>	<b>August 29, 2019</b>	<b>August 30, 2018</b>	<b>August 31, 2017</b>
Revenue	\$ 23,406	\$ 30,391	\$ 20,322
Cost of goods sold	12,704	12,500	11,886
Gross margin	10,702	17,891	8,436
 Selling, general, and administrative	836	813	743
Research and development	2,441	2,141	1,824
Other operating (income) expense, net	49	(57)	1
Operating income	7,376	14,994	5,868
 Interest income	205	120	41
Interest expense	(128)	(342)	(601)
Other non-operating income (expense), net	(405)	(465)	(112)
	7,048	14,307	5,196
 Income tax (provision) benefit	(693)	(168)	(114)
Equity in net income (loss) of equity method investees	3	(1)	8
Net income	6,358	14,138	5,090
 Net income attributable to noncontrolling interests	(45)	(3)	(1)
Net income attributable to Micron	\$ 6,313	\$ 14,135	\$ 5,089
 Earnings per share			
Basic	\$ 5.67	\$ 12.27	\$ 4.67
Diluted	5.51	11.51	4.41
 Number of shares used in per share calculations			
Basic	1,114	1,152	1,089
Diluted	1,143	1,229	1,154

*See accompanying notes to consolidated financial statements.*

**MICRON TECHNOLOGY, INC.**

**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**  
(in millions)

<b>For the year ended</b>	<b>August 29, 2019</b>	<b>August 30, 2018</b>	<b>August 31, 2017</b>
Net income	\$ 6,358	\$ 14,138	\$ 5,090
Other comprehensive income (loss), net of tax			
Pension liability adjustments	(6)	(3)	1
Gains (losses) on derivative instruments	(3)	(15)	15
Foreign currency translation adjustments	(1)	1	48
Gains (losses) on investments	9	(2)	—
Other comprehensive income (loss)	(1)	(19)	64
Total comprehensive income	6,357	14,119	5,154
Comprehensive income attributable to noncontrolling interests	(45)	(3)	(1)
Comprehensive income attributable to Micron	<u>\$ 6,312</u>	<u>\$ 14,116</u>	<u>\$ 5,153</u>

*See accompanying notes to consolidated financial statements.*

**MICRON TECHNOLOGY, INC.**

**CONSOLIDATED BALANCE SHEETS**  
(in millions, except par value amounts)

As of	<b>August 29, 2019</b>	<b>August 30, 2018</b>
<b>Assets</b>		
Cash and equivalents	\$ 7,152	\$ 6,506
Short-term investments	803	296
Receivables	3,195	5,478
Inventories	5,118	3,595
Other current assets	235	164
Total current assets	16,503	16,039
Long-term marketable investments	1,164	473
Property, plant, and equipment	28,240	23,672
Intangible assets	340	331
Deferred tax assets	837	1,022
Goodwill	1,228	1,228
Other noncurrent assets	575	611
Total assets	\$ 48,887	\$ 43,376
<b>Liabilities and equity</b>		
Accounts payable and accrued expenses	\$ 4,626	\$ 4,374
Current debt	1,310	859
Other current liabilities	454	521
Total current liabilities	6,390	5,754
Long-term debt	4,541	3,777
Noncurrent unearned government incentives	636	227
Other noncurrent liabilities	452	354
Total liabilities	12,019	10,112
Commitments and contingencies		
Redeemable convertible notes	—	3
Redeemable noncontrolling interest	98	97
Micron shareholders' equity		
Common stock, \$0.10 par value, 3,000 shares authorized, 1,182 shares issued and 1,106 outstanding (1,170 shares issued and 1,161 outstanding as of August 30, 2018)	118	117
Additional capital	8,214	8,201
Retained earnings	30,761	24,395
Treasury stock, 76 shares held (9 shares as of August 30, 2018)	(3,221)	(429)
Accumulated other comprehensive income	9	10
Total Micron shareholders' equity	35,881	32,294
Noncontrolling interests in subsidiaries	889	870
Total equity	36,770	33,164
Total liabilities and equity	\$ 48,887	\$ 43,376

*See accompanying notes to consolidated financial statements.*

**MICRON TECHNOLOGY, INC.**

**CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY**  
(in millions)

Micron Shareholders											
	Common Stock			Accumulated Other Comprehensive Income (Loss)							
	Number of Shares	Amount	Additional Capital	Retained Earnings	Treasury Stock	\$	(35)	Total Micron Shareholders' Equity	\$	Noncontrolling Interests in Subsidiaries	Total Equity
<b>Balance at September 1, 2016</b>	1,094	\$ 109	\$ 7,736	\$ 5,299	\$(1,029)	\$	(35)	\$ 12,080	\$ 848	\$ 12,928	
Net income				5,089				5,089	1	5,090	
Other comprehensive income (loss), net							64	64		64	
Stock issued under stock plans	20	3	139					142		142	
Stock-based compensation expense			217	(2)				215		215	
Repurchase and retirement of stock	(2)	—	(13)	(22)				(35)		(35)	
Stock issued to Nanya for Inotera Acquisition	4	—	70	(104)	1,029			995		995	
Settlement of capped calls			192		(67)			125		125	
Reclassification of redeemable convertible notes, net			(21)					(21)		(21)	
Conversion of convertible notes			(33)				29	(33)		(33)	
<b>Balance at August 31, 2017</b>	1,116	\$ 112	\$ 8,287	\$ 10,260	\$ (67)	\$	29	\$ 18,621	\$ 849	\$ 19,470	
Net income				14,135				14,135	3	14,138	
Other comprehensive income (loss), net							(19)	(19)		(19)	
Stock issued in public offering	34	3	1,363					1,366		1,366	
Stock issued under stock plans	22	2	287					289		289	
Stock-based compensation expense			198					198		198	
Contributions from noncontrolling interest								—	18	18	
Repurchase and retirement of stock	(2)	—	(71)					(71)		(71)	
Settlement of capped calls			429		(429)			—		—	
Reclassification of redeemable convertible notes, net			18					18		18	
Conversion and repurchase of convertible notes			(2,310)		67			(2,243)		(2,243)	
<b>Balance at August 30, 2018</b>	1,170	\$ 117	\$ 8,201	\$ 24,395	\$ (429)	\$	10	\$ 32,294	\$ 870	\$ 33,164	
Cumulative effect of adopting new accounting standards				92				92		92	
Net income				6,313				6,313	36	6,349	
Other comprehensive income (loss), net							(1)	(1)		(1)	
Stock issued under stock plans	14	1	178					179		179	
Stock-based compensation expense			243					243		243	
Repurchase of stock	(2)	—	103	(39)	(2,792)			(2,728)		(2,728)	
Acquisitions of noncontrolling interests			1					1	(17)	(16)	
Reclassification of redeemable convertible notes, net			3					3		3	
Conversion of convertible notes			(515)					(515)		(515)	
<b>Balance at August 29, 2019</b>	1,182	\$ 118	\$ 8,214	\$ 30,761	\$ (3,221)	\$	9	\$ 35,881	\$ 889	\$ 36,770	

*See accompanying notes to consolidated financial statements.*

**MICRON TECHNOLOGY, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(in millions)

For the year ended	August 29, 2019	August 30, 2018	August 31, 2017
<b>Cash flows from operating activities</b>			
Net income	\$ 6,358	\$ 14,138	\$ 5,090
Adjustments to reconcile net income to net cash provided by operating activities			
Depreciation expense and amortization of intangible assets	5,424	4,759	3,861
Amortization of debt discount and other costs	49	101	125
Loss on debt prepayments, repurchases, and conversions	396	385	99
Stock-based compensation	243	198	215
Gain on remeasurement of previously-held equity interest in Inotera	—	—	(71)
Change in operating assets and liabilities			
Receivables	2,431	(1,734)	(1,651)
Inventories	(1,528)	(472)	50
Accounts payable and accrued expenses	(174)	668	456
Payments attributed to intercompany balances with Inotera	—	—	(361)
Deferred income taxes, net	150	(265)	(22)
Other	(160)	(378)	362
Net cash provided by operating activities	13,189	17,400	8,153
<b>Cash flows from investing activities</b>			
Expenditures for property, plant, and equipment	(9,780)	(8,879)	(4,734)
Purchases of available-for-sale securities	(4,218)	(760)	(1,239)
Acquisition of Inotera	—	—	(2,634)
Proceeds from maturities of available-for-sale securities	1,541	320	194
Proceeds from sales of available-for-sale securities	1,504	604	776
Proceeds from government incentives	748	355	21
Other	120	144	79
Net cash provided by (used for) investing activities	(10,085)	(8,216)	(7,537)
<b>Cash flows from financing activities</b>			
Repayments of debt	(3,340)	(10,194)	(2,558)
Payments to acquire treasury stock	(2,729)	(71)	(36)
Payments on equipment purchase contracts	(75)	(206)	(519)
Proceeds from issuance of debt	3,550	1,009	3,311
Proceeds from issuance of stock	179	1,655	142
Other	(23)	31	9
Net cash provided by (used for) financing activities	(2,438)	(7,776)	349
Effect of changes in currency exchange rates on cash, cash equivalents, and restricted cash	26	(37)	(12)
Net increase in cash, cash equivalents, and restricted cash	692	1,371	953
Cash, cash equivalents, and restricted cash at beginning of period	6,587	5,216	4,263
Cash, cash equivalents, and restricted cash at end of period	\$ 7,279	\$ 6,587	\$ 5,216
<b>Supplemental disclosures</b>			
Income taxes paid, net	\$ (524)	\$ (226)	\$ (99)
Interest paid, net of amounts capitalized	(53)	(312)	(468)
Noncash investing and financing activity			
Equipment acquisitions on contracts payable and capital leases	119	84	813

*See accompanying notes to consolidated financial statements.*

## MICRON TECHNOLOGY, INC.

### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (All tabular amounts in millions, except per share amounts)

#### Significant Accounting Policies

**Basis of Presentation:** Micron Technology, Inc., including its consolidated subsidiaries, is an industry leader in innovative memory and storage solutions. Through our global brands – Micron, Crucial, and Ballistix – our broad portfolio of high-performance memory and storage technologies, including DRAM, NAND, 3D XPoint memory, and NOR, is transforming how the world uses information to enrich life. Backed by 40 years of technology leadership, our memory and storage solutions enable disruptive trends, including artificial intelligence, 5G, machine learning, and autonomous vehicles, in key market segments like mobile, data center, client, consumer, industrial, graphics, automotive, and networking. The accompanying consolidated financial statements include the accounts of Micron and our consolidated subsidiaries and have been prepared in accordance with accounting principles generally accepted in the United States of America. Intercompany balances and transactions have been eliminated in consolidation. Certain reclassifications have been made to prior period amounts to conform to current period presentation. Information prior to 2019 is presented in accordance with the accounting guidance in effect during that period and has not been recast for recently adopted accounting standards. See "Recently Adopted Accounting Standards" note.

Our fiscal year is the 52 or 53-week period ending on the Thursday closest to August 31. Fiscal years 2019, 2018, and 2017 each contained 52 weeks. All period references are to our fiscal periods unless otherwise indicated.

**Derivative and Hedging Instruments:** We use derivative instruments to manage our exposure to changes in currency exchange rates from (1) our monetary assets and liabilities denominated in currencies other than the U.S. dollar and (2) forecasted cash flows for certain capital expenditures. Derivative instruments are measured at their fair values and recognized as either assets or liabilities. The accounting for changes in the fair value of derivative instruments is based on the intended use of the derivative and the resulting designation. For derivative instruments that are not designated for hedge accounting, gains or losses from changes in fair values are recognized in other non-operating income (expense).

For derivative instruments designated as cash flow hedges, the effective portion of the realized and unrealized gains or losses on derivatives is included as a component of accumulated other comprehensive income. Amounts in accumulated other comprehensive income are reclassified into earnings in the same line items and in the same periods in which the underlying transactions affect earnings. For the periods presented prior to the second quarter of 2018, the ineffective and excluded portion of the realized and unrealized gain or loss was included in other non-operating income (expense). As a result of adopting Accounting Standards Update ("ASU") 2017-12, beginning in the second quarter of 2018, such amounts are included in the same line item in which the underlying transactions affect earnings.

For derivative forward contracts designated as fair value hedges, hedge effectiveness is determined by the change in the fair value of the undiscounted spot rate of the forward contract. The changes in fair values of hedge instruments attributed to changes in undiscounted spot rates are recognized in other non-operating income (expense). The time value associated with hedge instruments is excluded from the assessment of the effectiveness of hedges and is recognized on a straight-line basis over the life of hedges to other non-operating income (expense).

We enter into master netting arrangements with our counterparties to mitigate credit risk in derivative hedge transactions. These master netting arrangements allow us and our counterparties to net settle amounts owed to each other. Derivative assets and liabilities that can be net settled with each counterparty have been presented in our consolidated balance sheet on a net basis.

**Financial Instruments:** Cash equivalents include highly liquid short-term investments with original maturities to us of three months or less that are readily convertible to known amounts of cash. Other investments with remaining maturities of less than one year are included in short-term investments. Investments with remaining maturities greater than one year are included in long-term marketable investments. The carrying value of investment securities sold is determined using the specific identification method.

**Functional Currency:** The U.S. dollar is the functional currency for us and all of our consolidated subsidiaries.

**Goodwill and Non-Amortizing Intangible Assets:** We perform an annual impairment assessment for goodwill and non-amortizing intangible assets in the fourth quarter of our fiscal year.

**Government Incentives:** We receive incentives from governmental entities related to expenses, assets, and other activities. Our government incentives may require that we meet or maintain specified spending levels and other operational metrics and may be subject to reimbursement if such conditions are not met or maintained. Government incentives are recorded in the financial statements in accordance with their purpose: as a reduction of expenses, a reduction of asset costs, or other income. Incentives related to specific operating activities are offset against the related expense in the period the expense is incurred. Incentives related to the acquisition or construction of fixed assets are recognized as a reduction in the carrying amounts of the related assets and reduce depreciation expense over the useful lives of the assets. Other incentives are recognized as other operating income. Government incentives received prior to being earned are recognized in current or noncurrent deferred income, whereas government incentives earned prior to being received are recognized in current or noncurrent receivables. Cash received from government incentives related to operating expenses is included as an operating activity in the statement of cash flows, whereas cash received from incentives related to the acquisition of property, plant, and equipment is included as an investing activity.

**Inventories:** Inventories are stated at the lower of average cost or net realizable value. Cost includes depreciation, labor, material, and overhead costs, including product and process technology costs. When net realizable value (which requires projecting future average selling prices, sales volumes, and costs to complete products in work in process inventories) is below cost, we record a charge to cost of goods sold to write down inventories to their estimated net realizable value in advance of when inventories are actually sold. We review the major characteristics of product type and markets in determining the unit of account for which we perform the lower of average cost or net realizable value analysis and categorize inventories primarily as memory (including DRAM, NAND, and other memory). We remove amounts from inventory and charge such amounts to cost of goods sold on an average cost basis.

**Product and Process Technology:** Costs incurred to (1) acquire product and process technology, (2) patent technology, and (3) maintain patent technology, are capitalized and amortized on a straight-line basis over periods ranging up to 12.5 years. We capitalize a portion of the costs incurred to patent technology based on historical data of patents issued as a percent of patents we file. Capitalized product and process technology costs are amortized over the shorter of (1) the estimated useful life of the technology, (2) the patent term, or (3) the term of the technology agreement. Fully-amortized assets are removed from product and process technology and accumulated amortization.

**Product Warranty:** We generally provide a limited warranty that our products are in compliance with applicable specifications existing at the time of delivery. Under our standard terms and conditions of sale, liability for certain failures of product during a stated warranty period is usually limited to repair or replacement of defective items or return of, or a credit with respect to, amounts paid for such items. Under certain circumstances, we provide more extensive limited warranty coverage than that provided under our standard terms and conditions. Our warranty obligations are not material.

**Property, Plant, and Equipment:** Property, plant, and equipment is stated at cost and depreciated using the straight-line method over estimated useful lives of generally 10 to 30 years for buildings, 5 to 7 years for equipment, and 3 to 5 years for software. Assets held for sale are carried at the lower of cost or estimated fair value and are included in other noncurrent assets. When property, plant, or equipment is retired or otherwise disposed, the net book value is removed and we recognize any gain or loss in results of operations.

We capitalize interest on borrowings during the period of time we carry out the activities necessary to bring assets to the condition of their intended use and location. Capitalized interest becomes part of the cost of assets.

**Research and Development:** Costs related to the conceptual formulation and design of products and processes are charged to R&D expense as incurred. Development of a product is deemed complete when it is qualified through reviews and tests for performance and reliability. Subsequent to product qualification, product costs are included in cost of goods sold. Product design and other R&D costs for certain technologies may be shared with a development partner. Amounts from cost-sharing arrangements are reflected as a reduction of R&D expense.

**Revenue Recognition:** Revenue is primarily recognized at a point in time when control of the promised goods is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those goods. Contracts with our customers are generally short-term in duration at fixed, negotiated prices with payment generally due shortly after delivery. We estimate a liability for returns using the expected value method based on historical rates of return. In addition, we generally offer price protection to our distributors, which is a form of variable consideration that decreases the transaction

price. We use the expected value method, based on historical price adjustments and current pricing trends, to estimate the amount of revenue recognized from sales to distributors. Differences between the estimated and actual amounts are recognized as adjustments to revenue.

**Stock-based Compensation:** Stock-based compensation is measured at the grant date, based on the fair value of the award, and recognized as expense under the straight-line attribution method over the requisite service period. We account for forfeitures as they occur. We issue new shares upon the exercise of stock options or conversion of share units.

**Treasury Stock:** Treasury stock is carried at cost. When we retire our treasury stock, any excess of the repurchase price paid over par value is allocated between additional capital and retained earnings.

**Use of Estimates:** The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires our management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, expenses, and related disclosures. Estimates and judgments are based on historical experience, forecasted events, and various other assumptions that we believe to be reasonable under the circumstances. Estimates and judgments may differ under different assumptions or conditions. We evaluate our estimates and judgments on an ongoing basis. Actual results could differ from estimates.

## Variable Interest Entities

We have interests in entities that are VIEs. If we are the primary beneficiary of a VIE, we are required to consolidate it. To determine if we are the primary beneficiary, we evaluate whether we have the power to direct the activities that most significantly impact the VIE's economic performance and the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. Our evaluation includes identification of significant activities and an assessment of our ability to direct those activities based on governance provisions and arrangements to provide or receive product and process technology, product supply, operations services, equity funding, financing, and other applicable agreements and circumstances. Our assessments of whether we are the primary beneficiary of our VIEs require significant assumptions and judgments.

### Unconsolidated VIE

**PTI Xi'an:** Powertech Technology Inc. Xi'an ("PTI Xi'an") is a wholly-owned subsidiary of Powertech Technology Inc. ("PTI") and was created to provide assembly services to us at our manufacturing site in Xi'an, China. We do not have an equity interest in PTI Xi'an. PTI Xi'an is a VIE because of the terms of its service agreement with us and its dependency on PTI to finance its operations. We do not have the power to direct the activities of PTI Xi'an that most significantly impact its economic performance, primarily because we do not have governance rights. Therefore, we do not consolidate PTI Xi'an. In connection with our assembly services with PTI, as of August 29, 2019 and August 30, 2018, we had net property, plant, and equipment of \$50 million and \$63 million, respectively, and capital lease obligations of \$47 million and \$63 million, respectively.

### Consolidated VIE

**IMFT:** IMFT is a VIE because all of its costs are passed to us and its other member, Intel, through product purchase agreements and because IMFT is dependent upon us or Intel for additional cash requirements. The primary activities of IMFT are driven by the constant introduction of product and process technology. Because we perform a significant majority of the technology development, we have the power to direct its key activities. We consolidate IMFT because we have the power to direct the activities of IMFT that most significantly impact its economic performance and because we have the obligation to absorb losses and the right to receive benefits from IMFT that could potentially be significant to it. In January 2019, we exercised our option to acquire Intel's interest in IMFT. Subsequently, Intel set the closing date to occur on October 31, 2019, at which time IMFT will become a wholly-owned subsidiary. (See "Equity – Noncontrolling Interests in Subsidiaries – IMFT" note.)

## Recently Adopted Accounting Standards

In October 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-16 – *Intra-Entity Transfers Other Than Inventory* ("ASU 2016-16"), which requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. We adopted this ASU in the first quarter of 2019 under the modified retrospective method and, in connection therewith, made certain adjustments as noted in the table below.

In January 2016, the FASB issued ASU 2016-01 – *Recognition and Measurement of Financial Assets and Financial Liabilities*, which provides guidance for the recognition, measurement, presentation, and disclosure of financial assets and liabilities. We adopted this ASU in the first quarter of 2019 under the modified retrospective method, with prospective adoption for amendments related to equity securities without readily determinable fair values. The adoption of this ASU did not have a material impact on our financial statements.

In May 2014, the FASB issued ASU 2014-09 – *Revenue from Contracts with Customers* (as amended, "ASC 606"), which supersedes nearly all existing revenue recognition guidance under generally accepted accounting principles in the United States. The core principal of ASC 606 is that an entity should recognize revenue when it transfers control of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASC 606 also requires additional disclosure about the nature, amount, timing, and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments, and assets recognized from costs incurred to obtain or fulfill a contract. We adopted ASC 606 in the first quarter of 2019 under the modified retrospective method and, in connection therewith, made certain adjustments as noted in the table below. We applied ASC 606 to contracts with customers that had not yet been completed as of the adoption date.

The following table summarizes the effects of adopting ASU 2016-16 and ASC 606:

	<b>Ending Balance as of August 30, 2018</b>	<b>ASU 2016-16</b>	<b>ASC 606</b>	<b>Opening Balance as of August 31, 2018</b>
Receivables	\$ 5,478	\$ —	\$ 114	\$ 5,592
Inventories	3,595	—	(5)	3,590
Other current assets	164	(14)	30	180
Deferred tax assets	1,022	56	(92)	986
Other current liabilities	521	—	(4)	517
Other noncurrent liabilities	354	—	1	355
Retained earnings	24,395	42	50	24,487

As a result of the adoption of ASC 606, the opening balances as of August 31, 2018 for receivables, other current assets, and other current liabilities increased due to the reclassification of allowances for rebates, pricing adjustments, and returns to conform to the new presentation requirements. In addition, the margin from previously deferred sales to distributors was reclassified from other current liabilities to retained earnings. The tax effects of the adoption of ASC 606 were recorded primarily as a reduction of net deferred tax assets, substantially as a result of recognizing income for accounting purposes earlier under ASC 606 than for tax purposes in various jurisdictions.

The effects of ASC 606 to our consolidated statement of operations and balance sheet were as follows:

	Year ended August 29, 2019			Amounts Without the Effects of Adoption of ASC 606
	As Reported	Adjustments		
Revenue	\$ 23,406	\$ (40)		\$ 23,366
Cost of goods sold	12,704	(70)		12,634
Interest expense	(128)	5		(123)
Income tax (provision) benefit	(693)	(19)		(712)
Net income attributable to Micron	6,313	16		6,329

As of August 29, 2019	As Reported	Adjustments	Amounts Without the Effects of Adoption of ASC 606
Receivables	\$ 3,195	\$ (94)	\$ 3,101
Other current assets	235	(44)	191
Deferred tax assets	837	79	916
Accounts payable and accrued expenses	4,626	6	4,632
Other current liabilities	454	(30)	424
Other noncurrent liabilities	452	(1)	451
Retained earnings	30,761	(34)	30,727

## Recently Issued Accounting Standards Not Yet Adopted

In November 2018, the FASB issued ASU 2018-18 – *Collaborative Arrangements*, which clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue when the collaborative arrangement participant is a customer in the context of a unit of account and precludes recognizing as revenue consideration received from a collaborative arrangement participant if the participant is not a customer. This ASU will be effective for us in the first quarter of 2021 with early adoption permitted. This ASU requires retrospective adoption to the date we adopted ASC 606, which was August 31, 2018, by recognizing a cumulative-effect adjustment to the opening balance of retained earnings of the earliest annual period presented. We do not anticipate the adoption of this ASU to have a material impact to our financial statements.

In June 2016, the FASB issued ASU 2016-13 – *Measurement of Credit Losses on Financial Instruments*, which requires a financial asset (or a group of financial assets) measured on the basis of amortized cost to be presented at the net amount expected to be collected. This ASU requires that the income statement reflect the measurement of credit losses for newly recognized financial assets as well as the increases or decreases of expected credit losses that have taken place during the period. This ASU requires that credit losses of debt securities designated as available-for-sale be recorded through an allowance for credit losses and limits the credit loss to the amount by which fair value is below amortized cost. This ASU will be effective for us in the first quarter of 2021 with adoption permitted as early as the first quarter of 2020. This ASU requires modified retrospective adoption, with prospective adoption for debt securities for which an other-than-temporary impairment had been recognized before the effective date. We are evaluating the timing and effects of our adoption of this ASU on our financial statements.

In February 2016, the FASB issued ASU 2016-02 – *Leases*, which amends a number of aspects of lease accounting, including requiring lessees to recognize operating leases with a term greater than one year on their balance sheet as a right-of-use asset and corresponding liability, measured at the present value of lease payments. We will adopt the provisions of this ASU under a modified retrospective method at the beginning of 2020 and not recast prior periods. The adoption of this ASU will result in an increase to our consolidated balance sheet of approximately \$550 million for operating lease liabilities and right-of-use assets.

## Acquisition of Inotera

Through December 6, 2016, we held a 33% ownership interest in Inotera, now known as MTTW, Nanya and certain of its affiliates held a 32% ownership interest, and the remaining ownership interest was publicly held. On December 6, 2016, we acquired the 67% remaining interest in Inotera not owned by us (the "Inotera Acquisition") and began consolidating Inotera's operating results. The cash paid for the Inotera Acquisition was funded, in part, with proceeds from the 2021 MSTW Term Loan and the sale of the Micron Shares (as defined below) to Nanya. Inotera manufactures DRAM products at its 300mm wafer fabrication facility in Taoyuan City, Taiwan. From December 2015 until our acquisition of the remaining interest in Inotera, the price for DRAM products purchased by us was based on a formula that equally shared margin between Inotera and us. Under these agreements, we purchased \$504 million of DRAM products in 2017 through the date of our acquisition. SG&A expenses for 2017 and 2016 included transaction costs of \$13 million and \$3 million, respectively, incurred in connection with the Inotera Acquisition.

In connection with the Inotera Acquisition, we revalued our previously-held 33% equity interest to its fair value. In determining the fair value, we used various valuation techniques, including the share price of Inotera prior to the announcement of the Inotera Acquisition and discounted cash flow projections using inputs including discount rate and terminal growth rate (Level 3). As a result, we recognized a non-operating gain of \$71 million in 2017.

In connection with the Inotera Acquisition, we sold 58 million shares of our common stock to Nanya (the "Micron Shares") and received cash proceeds of \$986 million. Because the sale of the Micron Shares to Nanya was contemporaneous with, and contingent upon, the closing of the Inotera Acquisition, the issuance of the Micron Shares was treated in purchase accounting as a non-cash exchange for a portion of the shares of Inotera held by Nanya. The Micron Shares were issued in a transaction exempt from the registration requirements of the Securities Act of 1933, as amended, and were subject to certain restrictions on transfers at the time of sale. To reflect the lack of transferability, the fair value of the Micron Shares (based on the trading price of our common stock on the acquisition date) was reduced by a discount of \$81 million, based on the implied volatility derived from traded options on our stock and on the duration of the lack of transferability (Level 2).

The allocation of purchase price to assets acquired and liabilities assumed of Inotera was as follows:

### Consideration

Cash paid for Inotera Acquisition	\$ 4,099
Less cash received from sale of Micron Shares	(986)
Net cash paid for Inotera Acquisition	3,113
Fair value of our previously-held equity interest in Inotera	1,441
Fair value of Micron Shares exchanged for Inotera shares	995
Other	3
Payments attributed to intercompany balances with Inotera	(361)
	<u>\$ 5,191</u>

### Assets acquired and liabilities assumed

Cash and equivalents	\$ 118
Inventories	285
Other current assets	27
Property, plant, and equipment	3,722
Deferred tax assets	82
Goodwill	1,124
Other noncurrent assets	130
Accounts payable and accrued expenses	(232)
Debt	(56)
Other noncurrent liabilities	(9)
	<u>\$ 5,191</u>

The Inotera Acquisition enhanced our flexibility to drive new technology, optimized the deployment of capital, and enabled us to adapt our product offerings to changes in market conditions. As a result of these synergies, we allocated goodwill of \$829

million, \$198 million, and \$97 million to CNBU, MBU, and EBU, respectively. Goodwill resulting from the Inotera Acquisition is not deductible for Taiwan corporate income tax purposes; however, it is deductible for Taiwan surtax purposes.

### **Unaudited Pro Forma Financial Information**

The following unaudited pro forma financial information presents the combined results of operations as if the Inotera Acquisition had occurred on September 4, 2015. The pro forma financial information includes the accounting effects of the business combination, including adjustments for depreciation of property, plant, and equipment, interest expense, elimination of intercompany activities, and revaluation of inventories. The unaudited pro forma financial information below is not necessarily indicative of either future results of operations or results that might have been achieved had the Inotera Acquisition occurred on September 4, 2015.

<b>Year ended</b>	<b>August 31, 2017</b>
Net sales	\$ 20,317
Net income	5,172
Net income attributable to Micron	5,171
Earnings per share	
Basic	4.68
Diluted	4.42

The unaudited pro forma financial information for 2017 includes our results for the year ended August 31, 2017 (which includes the results of Inotera since our acquisition of Inotera on December 6, 2016), the results of Inotera for the three months ended November 30, 2016, and the adjustments described above.

### **Technology Transfer and License Agreements with Nanya**

Effective December 6, 2016, the terms of technology transfer and license agreements provided Nanya with options to require us to transfer to Nanya certain technology for Nanya's use and deliverables related to the next DRAM process node generation after our 20nm process node (the "1X Process Node") and the next DRAM process node generation after the 1X Process Node (the "1Y Process Node"). Nanya's option for the 1X Process Node expired unexercised. If Nanya exercises its right for the 1Y Process Node, Nanya would pay us royalties for a license to the transferred 1Y Process Node technology based on revenues from products utilizing the technology, subject to specified caps, and we would also receive an equity interest in Nanya upon the achievement of certain milestones.

## Cash and Investments

Substantially all of our marketable debt and equity investments were classified as available-for-sale as of the dates noted below. Cash and equivalents and the fair values of our available-for-sale investments, which approximated amortized costs, were as follows:

As of	2019				2018			
	Cash and Equivalents	Short-term Investments	Long-term Marketable Investments <sup>(1)</sup>	Total Fair Value	Cash and Equivalents	Short-term Investments	Long-term Marketable Investments <sup>(1)</sup>	Total Fair Value
Cash	\$ 2,388	\$ —	\$ —	\$ 2,388	\$ 3,223	\$ —	\$ —	\$ 3,223
<b>Level 1<sup>(2)</sup></b>								
Money market funds	3,418	—	—	3,418	2,443	—	—	2,443
<b>Level 2<sup>(3)</sup></b>								
Certificates of deposits	1,292	13	1	1,306	806	11	2	819
Corporate bonds	—	550	689	1,239	3	172	272	447
Government securities	36	149	232	417	5	63	103	171
Asset-backed securities	—	67	242	309	—	34	96	130
Commercial paper	18	24	—	42	26	16	—	42
	<u>7,152</u>	<u>\$ 803</u>	<u>\$ 1,164</u>	<u>\$ 9,119</u>	<u>6,506</u>	<u>\$ 296</u>	<u>\$ 473</u>	<u>\$ 7,275</u>
Restricted cash <sup>(4)</sup>	<u>127</u>			<u>81</u>				
Cash, cash equivalents, and restricted cash	<u><u>\$ 7,279</u></u>			<u><u>\$ 6,587</u></u>				

<sup>(1)</sup> The maturities of long-term marketable securities range from one to four years.

<sup>(2)</sup> The fair value of Level 1 securities is measured based on quoted prices in active markets for identical assets.

<sup>(3)</sup> The fair value of Level 2 securities is measured using information obtained from pricing services, which obtain quoted market prices for similar instruments, non-binding market consensus prices that are corroborated by observable market data, or various other methodologies, to determine the appropriate value at the measurement date. We perform supplemental analysis to validate information obtained from these pricing services. No adjustments were made to the fair values indicated by such pricing information as of August 29, 2019 or August 30, 2018.

<sup>(4)</sup> Restricted cash is included in other noncurrent assets and primarily relates to the MMJ Creditor Payments and government incentives received prior to being earned. The restrictions lapse on the MMJ Creditor Payments upon approval by the trustees and/or Tokyo District Court and for the government incentives upon achieving certain performance conditions.

Gross realized gains and losses from sales of available-for-sale securities were not material for any period presented. As of August 29, 2019, there were no available-for-sale securities that had been in a loss position for longer than 12 months.

## Receivables

As of	2019	2018
Trade receivables	\$ 2,778	\$ 5,056
Income and other taxes	242	161
Other	175	261
	<u><u>\$ 3,195</u></u>	<u><u>\$ 5,478</u></u>

## Inventories

As of	2019	2018
Finished goods	\$ 757	\$ 815
Work in process	3,825	2,357
Raw materials and supplies	536	423
	<u>\$ 5,118</u>	<u>\$ 3,595</u>

## Property, Plant, and Equipment

As of	2019	2018
Land	\$ 352	\$ 345
Buildings (includes \$528 and \$483, respectively, under capital leases)	10,931	8,680
Equipment <sup>(1)</sup> (includes \$905 and \$1,336, respectively, under capital leases)	44,051	38,249
Construction in progress <sup>(2)</sup>	1,700	1,162
Software	790	655
	<u>57,824</u>	<u>49,091</u>
Accumulated depreciation (includes \$733 and \$868, respectively, under capital leases)	(29,584)	(25,419)
	<u>\$ 28,240</u>	<u>\$ 23,672</u>

<sup>(1)</sup> Included costs related to equipment not placed into service of \$2.33 billion as of August 29, 2019 and \$1.73 billion as of August 30, 2018.

<sup>(2)</sup> Included building-related construction, tool installation, and software costs for assets not placed into service.

Depreciation expense was \$5.34 billion, \$4.66 billion, and \$3.76 billion for 2019, 2018, and 2017, respectively. Interest capitalized as part of the cost of property, plant, and equipment was \$103 million, \$44 million, and \$7 million for 2019, 2018, and 2017, respectively.

## Intangible Assets and Goodwill

As of	2019		2018	
	Gross Amount	Accumulated Amortization	Gross Amount	Accumulated Amortization
Amortizing assets				
Product and process technology	\$ 583	\$ (243)	\$ 567	\$ (344)
Non-amortizing assets				
In-process R&D	—	—	108	—
Total intangible assets	<u>\$ 583</u>	<u>\$ (243)</u>	<u>\$ 675</u>	<u>\$ (344)</u>
Goodwill	<u>\$ 1,228</u>		<u>\$ 1,228</u>	

In 2019, 2018, and 2017, we capitalized \$91 million, \$48 million, and \$29 million, respectively, for product and process technology with weighted-average useful lives of 8 years, 10 years, and 11 years, respectively. In 2019, we placed \$108 million of in-process R&D in service, which is being amortized on a straight-line basis over six years. Expected amortization expense for our intangible assets is \$72 million for 2020, \$62 million for 2021, \$50 million for 2022, \$44 million for 2023, and \$40 million for 2024.

## Accounts Payable and Accrued Expenses

As of		2019	2018
Accounts payable		\$ 1,677	\$ 1,692
Property, plant, and equipment		1,782	1,238
Salaries, wages, and benefits		695	841
Income and other taxes		309	402
Other		163	201
		<u>\$ 4,626</u>	<u>\$ 4,374</u>

## Debt

As of	2019						2018					
	Instrument	Stated Rate	Effective Rate	Principal	Net Carrying Amount			Principal	Net Carrying Amount			
					Current	Long-Term	Total <sup>(1)</sup>		Current	Long-Term	Total <sup>(1)</sup>	
IMFT Member Debt	N/A	N/A	\$ 693	\$ 693	\$ —	\$ 693	\$ 1,009	\$ —	\$ 1,009	\$ 1,009	\$ 1,009	
Capital lease obligations	N/A	4.30%	591	223	368	591	846	310	536	846		
MMJ Creditor Payments	N/A	9.76%	206	198	—	198	520	\$ 309	183	492		
2024 Notes	4.64%	4.76%	600	—	597	597	—	—	—	—		
2025 Notes	5.50%	5.56%	519	—	516	516	519	—	515	515		
2026 Notes	4.98%	5.07%	500	—	497	497	—	—	—	—		
2027 Notes	4.19%	4.27%	900	—	895	895	—	—	—	—		
2029 Notes	5.33%	5.40%	700	—	696	696	—	—	—	—		
2030 Notes	4.66%	4.73%	850	—	845	845	—	—	—	—		
2032D Notes <sup>(2)</sup>	3.13%	6.33%	134	—	127	127	143	—	132	132		
2033F Notes <sup>(2)(3)</sup>	2.13%	4.93%	62	196	—	196	107	235	—	235		
2043G Notes	3.00%	6.76%	—	—	—	—	1,019	—	682	682		
2022 Term Loan B	4.24%	4.65%	—	—	—	—	735	5	720	725		
			<u>\$ 5,755</u>	<u>\$ 1,310</u>	<u>\$ 4,541</u>	<u>\$ 5,851</u>	<u>\$ 4,898</u>	<u>\$ 859</u>	<u>\$ 3,777</u>	<u>\$ 4,636</u>		

<sup>(1)</sup> Net carrying amount is the principal amount less unamortized debt discount and issuance costs. In addition, the net carrying amount as of August 29, 2019 and August 30, 2018 included \$135 million and \$132 million, respectively, of derivative debt liabilities recognized as a result of our election to settle entirely in cash converted notes with an aggregate principal amount of \$44 million and \$35 million, respectively.

<sup>(2)</sup> Since the closing price of our common stock exceeded 130% of the conversion price per share for at least 20 trading days in the 30 trading day period ended on June 30, 2019, these notes are convertible by the holders through the calendar quarter ended September 30, 2019. Additionally, the closing price of our common stock also exceeded the thresholds for the calendar quarter ended September 30, 2019; therefore, these notes are convertible by the holders at any time through December 31, 2019.

<sup>(3)</sup> Current debt as of August 29, 2019 included an aggregate of \$179 million for the settlement obligation (including principal and amounts in excess of principal) for conversions of our 2033F Notes that settled in cash in the first quarter of 2020. The remainder of the 2033F Notes were classified as current as of August 29, 2019 because the terms of these notes require us to pay cash for the principal amount of any converted notes and holders of these notes had the right to convert their notes as of that date.

Our convertible and other senior notes are unsecured obligations that rank equally in right of payment with all of our other existing and future unsecured indebtedness and are effectively subordinated to all of our other existing and future secured indebtedness, to the extent of the value of the assets securing such indebtedness. As of August 29, 2019, Micron had \$4.37

billion of unsecured debt (net of unamortized discount and debt issuance costs), including the 2024 Notes, 2025 Notes, 2026 Notes, 2027 Notes, 2029 Notes, 2030 Notes, 2032D Notes, and 2033F Notes that were structurally subordinated to all liabilities of its subsidiaries, including trade payables. The terms of our indebtedness generally contain cross payment default and cross acceleration provisions. Micron guarantees certain debt obligations of its subsidiaries but does not guarantee the MMJ Creditor Payments. Micron's guarantees of its subsidiary debt obligations are unsecured obligations ranking equally in right of payment with all of Micron's other existing and future unsecured indebtedness.

### **IMFT Member Debt**

Pursuant to the terms of the IMFT joint venture agreement, Intel provided debt financing ("IMFT Member Debt") of \$1.01 billion to IMFT in 2018. IMFT Member Debt is non-interest bearing and is convertible, at the election of Intel, in whole or in part, into a capital contribution to IMFT. Additionally, to the extent IMFT distributes cash to its members under the terms of the IMFT joint venture agreement, Intel may, at its option, designate any portion of the distribution to be a repayment of IMFT Member Debt. The remaining balance of IMFT Member Debt on October 31, 2019 will be paid by Micron upon the closing of the IMFT transaction as a component of the consideration paid to Intel for their interest in IMFT. As a result, it was classified as current as of August 29, 2019. (See "Equity – Noncontrolling Interests in Subsidiaries – IMFT" note.)

### **Capital Lease Obligations**

In 2019, we recorded capital lease obligations aggregating \$53 million at a weighted-average effective interest rate of 5.4%, with a weighted-average expected term of ten years. In 2018, we recorded capital lease obligations aggregating \$20 million.

### **MMJ Creditor Payments**

Under the MMJ Companies' corporate reorganization proceedings, which set forth the treatment of the MMJ Companies' pre-petition creditors and their claims, the MMJ Companies were required to pay 200 billion yen, less certain expenses of the reorganization proceedings and other items, to their secured and unsecured creditors in seven annual installment payments (the "MMJ Creditor Payments"). The MMJ Creditor Payments do not provide for interest and, as a result of our acquisition of the MMJ Companies in 2013, we recorded the MMJ Creditor Payments at fair value. The fair-value discount is accreted to interest expense over the term of the installment payments.

Under the MMJ Companies' corporate reorganization proceedings, the secured creditors of MMJ recovered 100% of the amount of their fixed claims in six annual installment payments through October 2018 and the unsecured creditors will recover at least 17.4% of the amount of their fixed claims in seven annual installment payments through December 2019. The remaining portion of the unsecured claims of the creditors of MMJ not recovered pursuant to the corporate reorganization proceedings will be discharged, without payment, through December 2019. The following table presents the remaining MMJ Creditor Payment (stated in Japanese yen and U.S. dollars) as of August 29, 2019:

2020	¥ 21,757	\$ 206
Less unamortized discount	(709)	(8)
	<u>¥ 21,048</u>	<u>\$ 198</u>

In 2012, we entered into a series of agreements with the corporate reorganization trustees of the MMJ Companies and the MMJ Companies, including supply agreements, research and development services agreements, and general services agreements, which are intended to generate operating cash flows to meet the requirements of the MMJ Companies' businesses, including the funding of the MMJ Creditor Payments.

### **Senior Unsecured Notes**

Our 2024 Notes, 2025 Notes, 2026 Notes, 2027 Notes, 2029 Notes, and 2030 Notes (the "Senior Unsecured Notes") each contain covenants that, among other things, limit, in certain circumstances, our ability and/or the ability of our restricted subsidiaries (which are generally domestic subsidiaries in which we own at least 80% of the voting stock) to (1) create or incur certain liens, (2) enter into certain sale and lease-back transactions, (3) consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our assets, to another entity, and (4) for our 2025 Notes, create, assume, incur, or guarantee certain additional secured indebtedness and unsecured indebtedness of our domestic restricted subsidiaries. These covenants are subject to a number of limitations and exceptions. If a change in control triggering event occurs, as defined in

the indenture governing our Senior Unsecured Notes, we will be required to offer to purchase such notes at 101% of the outstanding aggregate principal amount plus accrued interest up to the purchase date.

**Redemption at Our Option:** We may redeem the 2025 Notes, in whole or in part, at prices above the principal amount that decline over time, as specified in the indenture, together with accrued and unpaid interest. We may redeem all other Senior Unsecured Notes, in whole or in part, at our option prior to their maturity at a price equal to accrued interest plus the present value of the remaining scheduled payments and we may redeem, in whole or in part, at a price equal to par between one and three months prior to maturity.

### Convertible Senior Notes

	Holder Put Date <sup>(1)</sup>	Maturity Date	Conversion Price Per Share	Conversion Price Per Share Threshold <sup>(2)</sup>	Underlying Shares of Common Stock	Conversion Value in Excess of Principal <sup>(3)</sup>	Principal Settlement Option <sup>(4)</sup>
2032D Notes	May 2021	May 2032	\$ 9.98	\$ 12.97	13	\$ 464	Cash and/or shares
2033F Notes <sup>(5)</sup>	Feb. 2020	Feb. 2033	10.93	14.21	6	190	Cash
					19	\$ 654	

<sup>(1)</sup> Debt discount and debt issuance costs are amortized through the earliest holder put date.

<sup>(2)</sup> Represents 130% of the conversion price per share. If the trading price of our common stock exceeds such threshold for a specified period, holders may convert such notes during a specified period. See "Conversion Rights" below.

<sup>(3)</sup> Based on the trading price of our common stock of \$44.67 as of August 29, 2019.

<sup>(4)</sup> It is our current intent to settle in cash the principal amount of our convertible notes upon conversion. As a result, only the amounts payable in excess of the principal amounts upon conversion of our convertible notes are considered in diluted earnings per share under the treasury stock method. For each of our convertible notes, we may elect to settle any amounts in excess of the principal in cash, shares of our common stock, or a combination thereof.

<sup>(5)</sup> Holders may put their notes to us on February 15, 2020 and on February 15, 2023.

**Conversion Rights:** Holders of our convertible notes may convert their notes under the following circumstances: (1) if the notes are called for redemption; (2) during any calendar quarter if the closing price of our common stock for at least 20 trading days in the 30 consecutive trading days ending on the last trading day of the preceding calendar quarter is more than 130% of the conversion price (see "Conversion Price Per Share Threshold" in the table above); (3) if the trading price of the notes is less than 98% of the product of the closing price of our common stock and the conversion rate of the notes during the periods specified in the indentures; (4) if specified distributions or corporate events occur, as set forth in the indenture for the notes; or (5) during the last three months prior to the maturity date of the notes. For the calendar quarter ended September 30, 2019, the closing price of our common stock exceeded 130% of the conversion price for each series of our convertible notes; therefore, those notes are convertible by the holders through December 31, 2019.

In August 2019, holders of our 2033F Notes with an aggregate principal amount of \$44 million converted their notes, which were settled in cash the first quarter of 2020. As a result of our election to settle all amounts due upon conversion in cash for these notes, such settlement obligations became derivative debt liabilities in 2019 subject to mark-to-market accounting treatment based on the volume-weighted-average price of our common stock over a period of 20 consecutive trading days. Accordingly, at the dates of our elections to settle the conversions in cash, we reclassified the fair values of the equity components of each of the converted notes from additional capital to derivative debt liabilities within current debt in our consolidated balance sheet. The net carrying amount for 2019 included \$179 million for the fair values of the derivative debt liabilities as of August 29, 2019. The 20 consecutive trading day period ended in the first quarter of 2020, and we settled the conversion for \$192 million in cash.

**Cash Redemption at Our Option:** We may redeem our convertible notes under the circumstances listed in the table below. The redemption price for the notes will equal the principal amount at maturity plus accrued and unpaid interest.

	<b>Conditional Redemption Period at Our Option<sup>(1)</sup></b>	<b>Unconditional Redemption Period at Our Option</b>	<b>Redemption Period Requiring Make-Whole</b>
2032D Notes	On or after May 1, 2017	On or after May 4, 2021	Prior to May 4, 2021 <sup>(2)</sup>
2033F Notes	N/A	On or after Feb. 20, 2020	N/A

<sup>(1)</sup> *We may redeem for cash on or after the applicable dates if the volume weighted average price of our common stock has been at least 130% of the conversion price for at least 20 trading days during any 30 consecutive trading day period.*

<sup>(2)</sup> *If we redeem prior to the applicable date, we will pay a make-whole premium in cash equal to the present value of the remaining scheduled interest payments from the redemption date to May 4, 2021.*

**Cash Repurchase at the Option of the Holders:** We may be required by the holders of our convertible notes to repurchase for cash all or a portion of the notes on the "Holder Put Date" listed in the table above. The repurchase price would equal the principal amount plus accrued and unpaid interest. Also, upon a change in control or a termination of trading, as defined in the respective indentures, holders of our convertible notes may require us to repurchase for cash all or a portion of their notes.

**Other:** Interest expense for our convertible notes consisted of contractual interest of \$21 million, \$44 million, and \$51 million for 2019, 2018, and 2017, respectively, and amortization of discount and issuance costs of \$14 million, \$32 million, and \$37 million for 2019, 2018, and 2017, respectively. As of August 29, 2019 and August 30, 2018, the carrying amounts of the equity components of our convertible notes, which are included in additional capital, were \$29 million and \$208 million, respectively.

### **Credit Facility**

In July 2018, we entered into a credit agreement providing a committed revolving credit facility that matures in July 2023. On November 27, 2018, we amended the credit agreement to increase the amount available to draw under the revolving credit facility from \$2.0 billion to \$2.5 billion. On July 9, 2019, we entered into an incremental amendment to the credit agreement to obtain a term loan facility for up to \$1.25 billion of financing. We suspended the security interest in the collateral under the credit agreement in 2019 upon satisfying the requirements under the credit agreement, including achieving specified credit ratings and prepayment of the 2022 Term Loan B; however, the security interest would be automatically reinstated upon a decline below a certain level in our corporate credit rating. If the security interest is reinstated, any amounts drawn under the credit agreement would be collateralized by substantially all of the assets of Micron and MSP, subject to certain permitted liens.

Borrowings under either the revolving credit facility or the term loan facility will generally bear interest at a rate equal to LIBOR plus 1.25% to 2.00%, depending on our corporate credit ratings or leverage ratio. We may elect to convert outstanding revolving or term loan interest to other variable-rate indexes. The term loan facility may be drawn in a single advance prior to November 9, 2019. If drawn, the term loan matures on the fifth anniversary of the funding date of the term loan. Principal payments are due annually in an amount equal to 5.0% of the initial aggregate principal amount with the balance due at maturity. As of August 29, 2019, there were no outstanding amounts drawn under either the revolving credit facility or the term loan facility.

Under the terms of the credit agreement, we must maintain ratios, calculated as of the last day of each fiscal quarter, of total indebtedness to adjusted EBITDA not to exceed 2.75 to 1.00 and adjusted EBITDA to net interest expense of not less than 3.50 to 1.00. The credit agreement contains other covenants that, among other things, limit, in certain circumstances, our ability and/or the ability of our restricted subsidiaries to (1) create or incur certain liens and enter into sale and lease-back transactions, (2) create, assume, incur, or guarantee certain additional secured indebtedness and unsecured indebtedness of our restricted subsidiaries, and (3) consolidate with or merge with or into, or convey, transfer, lease, or otherwise dispose of all or substantially all of our assets, to another entity. These covenants are subject to a number of limitations, exceptions, and qualifications.

## Debt Activity

The table below presents the effects of issuances, prepayments, and conversions of debt in 2019. When we receive a notice of conversion for any of our convertible notes and elect to settle in cash any amount of the conversion obligation in excess of the principal amount, the cash settlement obligations become derivative debt liabilities subject to mark-to-market accounting treatment based on the volume-weighted-average price of our common stock over a period of 20 consecutive trading days. Accordingly, at the date of our election to settle a conversion in cash, we reclassify the fair value of the equity component of the converted notes from additional capital to derivative debt liability within current debt in our consolidated balance sheet.

	Increase (Decrease) in Principal	Increase (Decrease) in Carrying Value	Increase (Decrease) in Cash	Decrease in Equity	Gain (Loss)
<b>Issuances</b>					
2024 Notes <sup>(1)</sup>	\$ 600	\$ 597	\$ 597	\$ —	\$ —
2026 Notes <sup>(1)</sup>	500	497	497	—	—
2027 Notes <sup>(2)</sup>	900	895	895	—	—
2029 Notes <sup>(1)</sup>	700	695	695	—	—
2030 Notes <sup>(2)</sup>	850	845	845	—	—
<b>Prepayments</b>					
2022 Term Loan B	(728)	(721)	(728)	—	(7)
<b>Settled conversions</b>					
2032D Notes	(10)	(9)	(35)	(28)	2
2033F Notes	(45)	(175)	(192)	(28)	11
2043G Notes	(1,019)	(691)	(1,426)	(326)	(400)
<b>Conversions not settled</b>					
2033F Notes <sup>(3)</sup>	—	135	—	(133)	(2)
	<b>\$ 1,748</b>	<b>\$ 2,068</b>	<b>\$ 1,148</b>	<b>\$ (515)</b>	<b>\$ (396)</b>

<sup>(1)</sup> Issued February 6, 2019.

<sup>(2)</sup> Issued July 12, 2019.

<sup>(3)</sup> As of August 29, 2019, an aggregate of \$44 million principal amount of our 2033F Notes (with a carrying value of \$179 million) had converted but not settled. These notes settled in the first quarter of 2020 for \$192 million in cash.

In 2018, we repurchased or redeemed \$6.96 billion of principal amount of notes (carrying value of \$6.93 billion) for an aggregate of \$9.42 billion in cash and 4 million shares of our treasury stock. As of August 30, 2018, an aggregate of \$35 million principal amount of our 2033F Notes (with a carrying value of \$165 million) had converted but not settled. These notes settled in 2019 for \$153 million in cash and the effect of the settlement is included in the table above. In connection with these transactions, we recognized aggregate non-operating losses of \$385 million in 2018.

In 2017, we repurchased or redeemed \$1.55 billion of principal amount of notes (carrying value of \$1.54 billion) for an aggregate of \$1.63 billion in cash. In connection with these transactions, we recognized aggregate non-operating losses of \$94 million in 2017.

## **Maturities of Notes Payable and Future Minimum Lease Payments**

As of August 29, 2019, maturities of notes payable (including the MMJ Creditor Payments) and future minimum lease payments under capital lease obligations were as follows:

	<b>Notes Payable</b>	<b>Capital Lease Obligations</b>
2020	\$ 1,095	\$ 248
2021	134	107
2022	—	73
2023	—	48
2024	600	37
2025 and thereafter	3,469	189
Unamortized discounts and interest, respectively	(38)	(111)
	<b>\$ 5,260</b>	<b>\$ 591</b>

## **Commitments**

As of August 29, 2019, we had commitments of approximately \$7.6 billion of purchase obligations, a substantial majority of which will be due within five years. Purchase obligations include payments for the acquisition of property, plant, and equipment, and other goods or services of either a fixed or minimum quantity.

We lease certain facilities and equipment under operating leases, for which expense was \$93 million, \$63 million, and \$52 million for 2019, 2018, and 2017, respectively. Minimum future operating lease commitments as of August 29, 2019 were as follows:

2020	\$ 54
2021	64
2022	63
2023	59
2024	53
2025 and thereafter	459
	<b>\$ 752</b>

## **Contingencies**

We have accrued a liability and charged operations for the estimated costs of adjudication or settlement of various asserted and unasserted claims existing as of the balance sheet date, including those described below. We are currently a party to other legal actions arising from the normal course of business, none of which is expected to have a material adverse effect on our business, results of operations, or financial condition.

## **Patent Matters**

As is typical in the semiconductor and other high-tech industries, from time to time, others have asserted, and may in the future assert, that our products or manufacturing processes infringe upon their intellectual property rights.

On August 12, 2014, MLC Intellectual Property, LLC filed a patent infringement action against Micron in the United States District Court for the Northern District of California. The complaint alleges that Micron infringes a single U.S. patent and seeks damages, attorneys' fees, and costs.

On November 21, 2014, Elm 3DS Innovations, LLC ("Elm") filed a patent infringement action against Micron; Micron Semiconductor Products, Inc.; and Micron Consumer Products Group, Inc. in the U.S. District Court for the District of Delaware. On March 27, 2015, Elm filed an amended complaint against the same entities. The amended complaint alleges that

unspecified semiconductor products of ours that incorporate multiple stacked die infringe 13 U.S. patents and seeks damages, attorneys' fees, and costs.

On December 15, 2014, Innovative Memory Solutions, Inc. ("IMS") filed a patent infringement action against Micron in the U.S. District Court for the District of Delaware. The complaint alleges that a variety of our NAND products infringe eight U.S. patents and seeks damages, attorneys' fees, and costs. On July 23, 2018, IMS served a patent infringement complaint on Micron Semiconductor (Deutschland) GmbH and Micron Europe Limited in the Regional Court, Mannheim, Germany alleging that products including our SSDs infringe a European patent. The complaint seeks unspecified damages and an order forbidding Micron Semiconductor (Deutschland) GmbH and Micron Europe Limited from offering to sell, using, and importing the accused products. On June 7, 2019, the Regional Court found no infringement and dismissed the case. On August 31, 2018, Micron was served with a complaint filed by IMS in Shenzhen Intermediate People's Court in Guangdong Province, China. The complaint alleges that certain of our NAND flash products infringe a Chinese patent. The complaint seeks an order requiring Micron to stop manufacturing, using, selling, and offering for sale the accused products in China, and to pay damages of 1 million Chinese yuan plus expenses.

On March 19, 2018, Micron Semiconductor (Xi'an) Co., Ltd. ("MXA") was served with a patent infringement complaint filed by Fujian Jinhua Integrated Circuit Co., Ltd. ("Jinhua") in the Fuzhou Intermediate People's Court in Fujian Province, China (the "Fuzhou Court"). On April 3, 2018, Micron Semiconductor (Shanghai) Co. Ltd. ("MSS") was served with the same complaint. The complaint alleges that MXA and MSS infringe a Chinese patent by manufacturing and selling certain Crucial DDR4 DRAM modules. The complaint seeks an order requiring MXA and MSS to destroy inventory of the accused products and equipment for manufacturing the accused products in China, to stop manufacturing, using, selling, and offering for sale the accused products in China, and to pay damages of 98 million Chinese yuan plus court fees incurred.

On March 21, 2018, MXA was served with a patent infringement complaint filed by United Microelectronics Corporation ("UMC") in the Fuzhou Court. On April 3, 2018, MSS was served with the same complaint. The complaint alleges that MXA and MSS infringe a Chinese patent by manufacturing and selling certain Crucial DDR4 DRAM modules. The complaint seeks an order requiring MXA and MSS to destroy inventory of the accused products and equipment for manufacturing the accused products in China, to stop manufacturing, using, selling, and offering for sale the accused products in China, and to pay damages of 90 million Chinese yuan plus court fees incurred.

On April 3, 2018, MSS was served with another patent infringement complaint filed by Jinhua and two additional complaints filed by UMC in the Fuzhou Court. The three additional complaints allege that MSS infringes three Chinese patents by manufacturing and selling certain Crucial MX300 SSDs and certain GDDR5 memory chips. The two complaints filed by UMC each seek an order requiring MSS to destroy inventory of the accused products and equipment for manufacturing the accused products in China, to stop manufacturing, using, selling, and offering for sale the accused products in China, and to pay damages for each complaint of 90 million Chinese yuan plus court fees incurred. The complaint filed by Jinhua seeks an order requiring MSS to destroy inventory of the accused products and equipment for manufacturing the accused products in China; to stop manufacturing, using, selling, and offering for sale the accused products in China; and to pay damages of 98 million Chinese yuan plus court fees incurred. On October 9, 2018, UMC withdrew its complaint that alleged MSS infringed a Chinese patent by manufacturing and selling certain GDDR5 memory chips.

On July 5, 2018, MXA and MSS were notified that the Fuzhou Court granted a preliminary injunction against those entities that enjoins them from manufacturing, selling, or importing certain Crucial and Ballistic-branded DRAM modules and solid-state drives in China. The affected products make up slightly more than 1% of our annualized revenues. We are complying with the ruling and have requested the Fuzhou Court to reconsider or stay its decision.

Among other things, the above lawsuits pertain to substantially all of our DRAM, NAND, and other memory and storage products we manufacture, which account for a significant portion of our revenue.

## **Qimonda**

On January 20, 2011, Dr. Michael Jaffé, administrator for Qimonda's insolvency proceedings, filed suit against Micron and Micron Semiconductor B.V., ("Micron B.V."), in the District Court of Munich, Civil Chamber. The complaint seeks to void, under Section 133 of the German Insolvency Act, a share purchase agreement between Micron B.V. and Qimonda signed in fall 2008, pursuant to which Micron B.V. purchased substantially all of Qimonda's shares of Inotera (the "Inotera Shares"), representing approximately 18% of Inotera's outstanding shares as of August 29, 2019, and seeks an order requiring us to re-transfer those shares to the Qimonda estate. The complaint also seeks, among other things, to recover damages for the alleged value of the joint venture relationship with Inotera and to terminate, under Sections 103 or 133 of the German Insolvency Code, a patent cross-license between us and Qimonda entered into at the same time as the share purchase agreement.

Following a series of hearings with pleadings, arguments, and witnesses on behalf of the Qimonda estate, on March 13, 2014, the court issued judgments: (1) ordering Micron B.V. to pay approximately \$1 million in respect of certain Inotera Shares sold in connection with the original share purchase; (2) ordering Micron B.V. to disclose certain information with respect to any Inotera Shares sold by it to third parties; (3) ordering Micron B.V. to disclose the benefits derived by it from ownership of the Inotera Shares, including in particular, any profits distributed on the Inotera Shares and all other benefits; (4) denying Qimonda's claims against Micron for any damages relating to the joint venture relationship with Inotera; and (5) determining that Qimonda's obligations under the patent cross-license agreement are canceled. In addition, the court issued interlocutory judgments ordering, among other things: (1) that Micron B.V. transfer to the Qimonda estate the Inotera Shares still owned by Micron B.V. and pay to the Qimonda estate compensation in an amount to be specified for any Inotera Shares sold to third parties; and (2) that Micron B.V. pay the Qimonda estate as compensation an amount to be specified for benefits derived by Micron B.V. from ownership of the Inotera Shares. The interlocutory judgments have no immediate, enforceable effect on us, and, accordingly, we expect to be able to continue to operate with full control of the Inotera Shares subject to further developments in the case. On April 17, 2014, Micron and Micron B.V. filed a notice of appeal with the German Appeals Court challenging the District Court's decision. After opening briefs, the Appeals Court held a hearing on the matter on July 9, 2015, and thereafter appointed two independent experts to perform an evaluation of Dr. Jaffé's claims that the amount Micron paid for Qimonda was less than fair market value. On January 25, 2018, the court-appointed experts issued their report concluding that the amount paid by Micron was within an acceptable fair-value range. The Appeals Court held a subsequent hearing on April 30, 2019, and on May 28, 2019, the Appeals Court remanded the case to the experts for supplemental expert opinion.

## **Antitrust Matters**

On April 27, 2018, a complaint was filed against Micron and other DRAM suppliers in the U.S. District Court for the Northern District of California. Subsequently, two substantially identical cases were filed in the same court. The lawsuits purport to be on behalf of a nationwide class of indirect purchasers of DRAM products. The complaints assert claims based on alleged price-fixing of DRAM products under federal and state law during the period from June 1, 2016 to February 1, 2018, and seek treble monetary damages, costs, interest, attorneys' fees, and other injunctive and equitable relief. On September 3, 2019, the District Court granted Micron's motion to dismiss and allowed plaintiffs the opportunity to file an amended complaint.

On June 26, 2018, a complaint was filed against Micron and other DRAM suppliers in the U.S. District Court for the Northern District of California. Subsequently, four substantially identical cases were filed in the same court. The lawsuits purport to be on behalf of a nationwide class of direct purchasers of DRAM products. The complaints assert claims based on alleged price-fixing of DRAM products under federal and state law during the period from June 1, 2016 to February 1, 2018, and seek treble monetary damages, costs, interest, attorneys' fees, and other injunctive and equitable relief.

Additionally, six cases have been filed in the following Canadian courts: Superior Court of Quebec, the Federal Court of Canada, the Ontario Superior Court of Justice, and the Supreme Court of British Columbia. The substantive allegations in these cases are similar to those asserted in the cases filed in the United States.

On May 15, 2018, the Chinese State Administration for Market Regulation ("SAMR") notified Micron that it was investigating potential collusion and other anticompetitive conduct by DRAM suppliers in China. On May 31, 2018, SAMR made unannounced visits to our sales offices in Beijing, Shanghai, and Shenzhen to seek certain information as part of its investigation. We are cooperating with SAMR in its investigation.

## **Securities Matters**

On January 23, 2019, a complaint was filed against Micron and two of our officers, Sanjay Mehrotra and David Zinsner, in the U.S. District Court for the Southern District of New York. The lawsuit purports to be brought on behalf of a class of purchasers of our stock during the period from June 22, 2018 through November 19, 2018. Subsequently two substantially similar cases were filed in the same court adding one of our former officers, Ernie Maddock, as a defendant and alleging a class action period from September 26, 2017 through November 19, 2018. The separate cases were joined, and a consolidated amended complaint was filed on June 15, 2019. The consolidated amended complaint alleges that defendants committed securities fraud through misrepresentations and omissions about purported anticompetitive behavior in the DRAM industry and seek compensatory and punitive damages, fees, interest, costs, and other appropriate relief. On October 2, 2019, the parties submitted a joint stipulation to dismiss the complaint. The Court approved the stipulation and dismissed the complaint on October 3, 2019.

On March 5, 2019, a shareholder derivative complaint was filed in the U.S. District Court for the District of Delaware, allegedly on behalf of and for the benefit of Micron, against certain current and former officers and directors of Micron for alleged breaches of their fiduciary duties and other violations of law. The allegations are based on, among other things, purported false and misleading statements regarding anticompetitive behavior in the DRAM industry. The complaint seeks damages, fees, interest, costs, and other appropriate relief. Similar shareholder derivative complaints have subsequently been filed in the U.S. District Court for the District of Delaware and the U.S. District Court for the District of Idaho.

## **Other**

On December 5, 2017, Micron filed a complaint against UMC and Jinhua in the U.S. District Court for the Northern District of California. The complaint alleges that UMC and Jinhua violated the Defend Trade Secrets Act, the civil provisions of the Racketeer Influenced and Corrupt Organizations Act, and California's Uniform Trade Secrets Act by misappropriating Micron's trade secrets and other misconduct. Micron's complaint seeks damages, restitution, disgorgement of profits, injunctive relief, and other appropriate relief.

On June 13, 2019, current Micron employee Chris Manning filed a putative class action lawsuit on behalf of Micron employees subject to the Idaho Claim Act who earned a performance-based bonus after the conclusion of fiscal year 2018 whose performance rating was calculated based upon a mandatory percentage distribution range of performance ratings. On behalf of himself and the putative class, Manning asserts claims for violation of the Idaho Wage Claim Act, breach of contract, breach of the covenant of good faith and fair dealing, and fraud.

In the normal course of business, we are a party to a variety of agreements pursuant to which we may be obligated to indemnify the other party. It is not possible to predict the maximum potential amount of future payments under these types of agreements due to the conditional nature of our obligations and the unique facts and circumstances involved in each particular agreement. Historically, our payments under these types of agreements have not had a material adverse effect on our business, results of operations, or financial condition.

We are unable to predict the outcome of the patent matters, the Qimonda matter, antitrust matters, securities matters, and other matters noted above and therefore cannot estimate the range of possible loss. A determination that our products or manufacturing processes infringe the intellectual property rights of others or entering into a license agreement covering such intellectual property could result in significant liability and/or require us to make material changes to our products and/or manufacturing processes. Any of the foregoing, as well as the resolution of any other legal matter noted above, could have a material adverse effect on our business, results of operations, or financial condition.

## **Redeemable Convertible Notes**

Under the terms of the indentures governing our 2033F Notes, upon conversion, we would be required to pay cash equal to the lesser of (1) the aggregate principal amount or (2) the conversion value of the notes being converted. To the extent the conversion value exceeds the principal amount, we could pay cash, shares of common stock, or a combination thereof, at our option, for the amount of such excess. The closing price of our common stock met the threshold for conversion and our 2033F Notes were convertible by their holders as of August 29, 2019 and August 30, 2018. As a result, the balance of these notes was classified as current debt and the difference between the principal amount and the carrying value was classified as redeemable convertible notes.

## **Redeemable Noncontrolling Interest**

Redeemable noncontrolling interest reflects 100,000 preferred shares authorized and issued by Micron Semiconductor Asia Operations Pte. Ltd. ("MSAO") in 2018 for proceeds, net of issuance related costs, of \$97 million. Holders of the preferred shares are entitled to receive a cumulative dividend of 7.75% per annum, to be paid from the profits of MSAO on the last day of each quarter and a liquidation preference senior to MSAO's common shares. We recognize the accrued dividend in net income attributable to noncontrolling interests. Holders may require us to purchase their shares after August 29, 2028, and we have the right to reacquire the shares during the period beginning August 31, 2020 through August 29, 2026, each for par value per share plus accrued dividends.

## **Equity**

### **Micron Shareholders' Equity**

***Common Stock Repurchases:*** Our Board of Directors has authorized the discretionary repurchase of up to \$10 billion of our outstanding common stock beginning in fiscal 2019. We may purchase shares on a discretionary basis through open-market purchases, block trades, privately-negotiated transactions, derivative transactions, and/or pursuant to Rule 10b5-1 trading plans, subject to market conditions and our ongoing determination of the best use of available cash. The repurchase authorization does not obligate us to acquire any common stock. In 2019, we repurchased 67 million shares of our common stock for \$2.66 billion under an accelerated share repurchase agreement, Rule 10b5-1 plans, and through open market repurchases. The shares were recorded as treasury stock.

***Common Stock Issuance:*** In 2018, we issued 34 million shares of our common stock for \$41.00 per share in a public offering, for net proceeds of \$1.36 billion, net of underwriting fees and other offering costs.

***Treasury Stock:*** In connection with the Inotera Acquisition, we sold 58 million shares of our common stock to Nanya for \$986 million in cash, of which 54 million shares were issued from treasury stock. As a result, in 2017, treasury stock decreased by \$1.03 billion while retained earnings decreased by \$104 million for the difference between the carrying value of the treasury stock and its \$925 million fair value.

***Outstanding Capped Calls:*** In connection with our 2033F Notes, we entered into the 2033F Capped Calls, which cover, subject to anti-dilution adjustments similar to those contained in the 2033F Notes, 27 million shares of common stock and are intended to reduce the effect of potential dilution. The 2033F Capped Calls have an initial strike price of \$10.93, subject to certain adjustments, which equals the conversion price of the 2033F Notes, a cap price of \$14.51, and provide for our receipt of cash or shares, at our election, from our counterparties if the trading price of our stock is above the strike prices on the expiration dates. The 2033F Capped Calls expire on various dates between January 2020 and February 2020. As of August 29, 2019, the dollar value of cash or shares that we would receive from our 2033F Capped Calls upon their expiration dates range from \$0, if the trading price of our stock is below the strike prices at expiration, to \$98 million, if the trading price of our stock is at or above the cap prices. Settlement of the capped calls prior to the expiration dates may be for an amount less than the maximum value at expiration.

**Expiration of Capped Calls:** In 2018, we share-settled certain capped calls upon their expirations, and received 9 million shares, equal to a value of \$429 million. In 2017, we cash-settled and share-settled certain capped calls upon their expirations, and received \$125 million in cash and 4 million shares, equal to a value of \$67 million. The amounts received upon settlement were based on volume-weighted-average trading prices of our stock at the expiration dates. The shares received in all periods were recorded as treasury stock.

**Accumulated Other Comprehensive Income:** Changes in accumulated other comprehensive by component for the year ended August 29, 2019 were as follows:

	Pension Liability Adjustments	Gains (Losses) on Derivative Instruments	Cumulative Foreign Currency Translation Adjustment	Unrealized Gains (Losses) on Investments	Total
As of August 30, 2018	\$ 10	\$ 2	\$ —	\$ (2)	\$ 10
Other comprehensive income	(13)	(3)	(1)	14	(3)
Amount reclassified out of accumulated other comprehensive income	4	—	—	(3)	1
Tax effects	3	—	—	(2)	1
Other comprehensive income	(6)	(3)	(1)	9	(1)
As of August 29, 2019	<u>\$ 4</u>	<u>\$ (1)</u>	<u>\$ (1)</u>	<u>\$ 7</u>	<u>\$ 9</u>

#### Noncontrolling Interests in Subsidiaries

As of	2019		2018	
	Balance	Percentage	Balance	Percentage
IMFT	\$ 889	49%	\$ 853	49%
Other	—	—	17	Various
	<u>\$ 889</u>		<u>\$ 870</u>	

**IMFT:** Since 2006, we have owned 51% of IMFT, a joint venture between us and Intel. IMFT is governed by a Board of Managers, for which the number of managers appointed by each member varies based on the members' respective ownership interests. IMFT manufactures semiconductor products exclusively for its members under a long-term supply agreement at prices approximating cost. In 2018, IMFT discontinued production of NAND and subsequent to that time manufactured 3D XPoint memory. In 2018, we announced that we and Intel will no longer jointly develop 3D XPoint technology beyond the second generation and we substantially completed this cost-sharing arrangement in the first quarter of 2020. IMFT sales to Intel were \$731 million, \$507 million, and \$493 million for 2019, 2018, and 2017, respectively.

IMFT's capital requirements are generally determined based on an annual plan approved by the members, and capital contributions to IMFT are requested as needed. Capital requests are made to the members in proportion to their then-current ownership interest. Members may elect to not contribute their proportional share, and in such event, the contributing member may elect to contribute any amount of the capital request, either in the form of an equity contribution or member debt financing. Under the supply agreement, the members have rights and obligations to the capacity of IMFT in proportion to their investment, including member debt financing. Any capital contribution or member debt financing results in a proportionate adjustment to the sharing of output on an eight-month lag. Pursuant to the terms of the IMFT joint venture agreement, Intel provided debt financing of \$1.01 billion to IMFT in 2018 and IMFT repaid \$316 million to Intel in 2019. As of August 29, 2019, current debt included \$693 million of IMFT Member Debt. Members pay their proportionate share of fixed costs associated with IMFT's capacity.

In January 2019, we exercised our option to acquire Intel's interest in IMFT. Subsequently, Intel set the closing date to occur on October 31, 2019, at which time IMFT will become a wholly-owned subsidiary. In the first quarter of 2020, we expect to pay Intel approximately \$1.4 billion in cash for Intel's noncontrolling interest in IMFT and IMFT member debt. Pursuant to the terms of the IMFT wafer supply agreement, Intel notified us of its election to receive supply from IMFT from the closing date through April 2020 at a volume equal to approximately 50% of their volume from IMFT in the six-month period prior to closing.

Creditors of IMFT have recourse only to IMFT's assets and do not have recourse to any other of our assets. The following table presents the assets and liabilities of IMFT included in our consolidated balance sheets:

As of	2019	2018
<b>Assets</b>		
Cash and equivalents	\$ 130	\$ 91
Receivables	128	126
Inventories	124	114
Other current assets	9	8
Total current assets	<u>391</u>	<u>339</u>
Property, plant, and equipment	2,235	2,641
Other noncurrent assets	38	45
Total assets	<u>\$ 2,664</u>	<u>\$ 3,025</u>
<b>Liabilities</b>		
Accounts payable and accrued expenses	\$ 118	\$ 138
Current debt	696	20
Other current liabilities	37	9
Total current liabilities	<u>851</u>	<u>167</u>
Long-term debt	53	1,064
Other noncurrent liabilities	5	74
Total liabilities	<u>\$ 909</u>	<u>\$ 1,305</u>

*Amounts exclude intercompany balances that were eliminated in our consolidated balance sheets.*

## Fair Value Measurements

Substantially all of our marketable debt and equity investments were classified as available-for-sale and carried at fair value. Amounts reported as cash and equivalents, receivables, and accounts payable and accrued expenses approximate fair value. The estimated fair value and carrying value of our outstanding debt instruments (excluding the carrying value of equity and mezzanine equity components of our convertible notes) were as follows:

As of	2019		2018	
	Fair Value	Carrying Value	Fair Value	Carrying Value
Notes and MMJ Creditor Payments	\$ 5,194	\$ 4,937	\$ 2,798	\$ 2,741
Convertible notes	852	323	3,124	1,049

The fair values of our convertible notes were determined based on Level 2 inputs, including the trading price of our convertible notes when available, our stock price, and interest rates based on similar debt issued by parties with credit ratings similar to ours. The fair values of our other debt instruments were estimated based on Level 2 inputs, including discounted cash flows, the trading price of our notes, when available, and interest rates based on similar debt issued by parties with credit ratings similar to ours.

Other operating (income) expense, net included unrealized losses primarily from semiconductor equipment held for sale of \$82 million in 2019. The fair values were based on quotations obtained from equipment dealers, which consider the remaining useful life and configuration of the equipment (Level 3). As of August 29, 2019, assets held for sale were not material.

## Derivative Instruments

	Gross Notional Amount	Fair Value of	
		Current Assets <sup>(1)</sup>	Current Liabilities <sup>(2)</sup>
<b>As of August 29, 2019</b>			
Derivative instruments with hedge accounting designation			
Cash flow currency hedges	\$ 146	\$ 1	\$ —
Derivative instruments without hedge accounting designation			
Non-designated currency hedges	1,871	1	(9)
Convertible notes settlement obligation <sup>(3)</sup>	—	—	(179)
	<u>1</u>	<u>1</u>	<u>(188)</u>
	<u><u>\$ 2</u></u>	<u><u>\$ (188)</u></u>	
<b>As of August 30, 2018</b>			
Derivative instruments with hedge accounting designation			
Cash flow currency hedges	\$ 538	\$ —	\$ (13)
Derivative instruments without hedge accounting designation			
Non-designated currency hedges	1,919	14	(10)
Convertible notes settlement obligation <sup>(3)</sup>	—	—	(167)
	<u>14</u>	<u>14</u>	<u>(177)</u>
	<u><u>\$ 14</u></u>	<u><u>\$ (190)</u></u>	

<sup>(1)</sup> Included in receivables – other.

<sup>(2)</sup> Included in accounts payable and accrued expenses – other for forward contracts and in current debt for convertible notes settlement obligations.

<sup>(3)</sup> Notional amounts of convertible notes settlement obligations as of August 29, 2019 and August 30, 2018 were 4 million and 3 million shares of our common stock, respectively.

### Derivative Instruments with Hedge Accounting Designation

We utilize currency forward contracts that generally mature within 12 months to hedge our exposure to changes in currency exchange rates. Currency forward contracts are measured at fair value based on market-based observable inputs including currency exchange spot and forward rates, interest rates, and credit-risk spreads (Level 2). We do not use derivative instruments for speculative purposes.

**Cash Flow Hedges:** We utilize cash flow hedges for our exposure from changes in currency exchange rates for certain capital expenditures. We recognized losses of \$3 million and \$17 million and gains of \$15 million for 2019, 2018, and 2017, respectively, in accumulated other comprehensive income from the effective portion of cash flow hedges. Neither the amount excluded from hedge effectiveness nor the reclassifications from accumulated other comprehensive income to earnings were material in 2019, 2018, or 2017. The amounts from cash flow hedges included in accumulated other comprehensive income that are expected to be reclassified into earnings in the next 12 months were also not material.

**Fair Value Hedges:** In 2018, we utilized fair value hedges for our exposure from changes in currency exchange rates for certain monetary assets and liabilities. The effects of fair value hedges on our consolidated statements of operations were as follows:

For the year ended	Other Non-Operating Income (Expense)	2018
Loss on remeasurement of hedged assets and liabilities	\$ (25)	(25)
Gain on derivatives designated as hedged instruments	25	25
Amortization of amounts excluded from hedge effectiveness	(32)	(32)
	<hr/>	<hr/>
	\$ (32)	(32)

#### Derivative Instruments without Hedge Accounting Designation

**Currency Derivatives:** We generally utilize a rolling hedge strategy with currency forward contracts that mature within three months to hedge our exposures of monetary assets and liabilities from changes in currency exchange rates. At the end of each reporting period, monetary assets and liabilities denominated in currencies other than the U.S. dollar are remeasured into U.S. dollars and the associated outstanding forward contracts are marked to market. Currency forward contracts are valued at fair values based on the middle of bid and ask prices of dealers or exchange quotations (Level 2). Realized and unrealized gains and losses on derivative instruments without hedge accounting designation as well as the changes in the underlying monetary assets and liabilities from changes in currency exchange rates are included in other non-operating income (expense). For derivative instruments without hedge accounting designation, we recognized losses of \$32 million, \$38 million, and \$45 million for 2019, 2018, and 2017, respectively.

**Convertible Notes Settlement Obligations:** For settlement obligations associated with our convertible notes subject to mark-to-market accounting treatment, the fair values of the underlying derivative settlement obligations were initially determined using the Black-Scholes option valuation model (Level 2), which requires inputs of stock price, expected stock-price volatility, estimated option life, risk-free interest rate, and dividend rate. The subsequent measurement amounts were based on the volume-weighted-average trading price of our common stock (Level 2). (See "Debt" note.) We recognized losses of \$58 million and \$124 million for 2019 and 2018, respectively, in other non-operating income (expense), net for the changes in fair value of the derivative settlement obligations. Recognized gains and losses for 2017 were not material.

#### Derivative Counterparty Credit Risk and Master Netting Arrangements

Our derivative instruments expose us to credit risk to the extent counterparties may be unable to meet the terms of the contracts. Our maximum exposure to loss due to credit risk if counterparties fail completely to perform according to the terms of the contracts would generally equal the fair value of assets for these contracts as listed in the tables above. We seek to mitigate such risk by limiting our counterparties to major financial institutions and by spreading risk across multiple financial institutions. As of August 29, 2019 and August 30, 2018, amounts netted under our master netting arrangements were not material.

## Equity Plans

As of August 29, 2019, 108 million shares of our common stock were available for future awards under our equity plans, including 29 million shares approved for issuance under our employee stock purchase plan ("ESPP").

#### Restricted Stock and Restricted Stock Units ("Restricted Stock Awards")

As of August 29, 2019, there were 16 million shares of Restricted Stock Awards outstanding, 14 million of which contained only service conditions. For service-based Restricted Stock Awards, restrictions generally lapse in one-fourth or one-third increments during each year of employment after the grant date. Restrictions lapse on Restricted Stock granted in 2019 with performance or market conditions over a three-year period if conditions are met. At the end of the performance period, the number of actual shares to be awarded will vary between 0% and 200% of target amounts, depending upon the achievement level. Restricted Stock Awards activity for 2019 is summarized as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value Per Share
Outstanding as of August 30, 2018	15	\$ 25.18
Granted	9	41.11
Restrictions lapsed	(6)	24.22
Canceled	(2)	24.79
Outstanding as of August 29, 2019	<u><u>16</u></u>	<u><u>34.72</u></u>

For the year ended	2019	2018	2017
Restricted stock award shares granted	9	4	8
Weighted-average grant-date fair value per share	\$ 41.11	\$ 42.48	\$ 18.77
Aggregate vesting-date fair value of shares vested	\$ 248	\$ 259	\$ 115

### Stock Options

Our stock options are generally exercisable in increments of either one-fourth or one-third per year beginning one year from the date of grant. Stock options issued after February 2014 expire eight years from the date of grant. Options issued prior to February 2014 expire six years from the date of grant. Option activity for 2019 is summarized as follows:

	Number of Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (In Years)	Aggregate Intrinsic Value
Outstanding as of August 30, 2018	18	\$ 23.38		
Granted	—	44.30		
Exercised	(5)	17.50		
Canceled or expired	(1)	22.60		
Outstanding as of August 29, 2019	<u><u>12</u></u>	<u><u>25.94</u></u>	4.3	\$ 220
Exercisable as of August 29, 2019	7	\$ 25.37	3.7	\$ 143
Unvested as of August 29, 2019	5	26.94	5.5	77

The total intrinsic value was \$108 million, \$446 million, and \$198 million for options exercised in 2019, 2018, and 2017, respectively.

Stock options granted and assumptions used in the Black-Scholes option valuation model were as follows:

For the year ended	2019	2018	2017
Stock options granted	—	2	8
Weighted-average grant-date fair value per share	\$ 19.50	\$ 18.65	\$ 8.68
Average expected life in years	5.4	5.5	5.5
Weighted-average expected volatility	44.0%	44.0%	46.0%
Weighted-average risk-free interest rate	2.9%	2.2%	1.8%
Expected dividend yield	0.0%	0.0%	0.0%

Stock price volatility was based on an average of historical volatility and the implied volatility derived from traded options on our stock. The expected lives of options granted were based, in part, on historical experience and on the terms and conditions of the options. The risk-free interest rates utilized were based on the U.S. Treasury yield in effect at each grant date.

## Employee Stock Purchase Plan

Our employee stock purchase plan ("ESPP") was offered to substantially all employees beginning in August 2018 and permits eligible employees to purchase shares of our common stock through payroll deductions of up to 10% of their eligible compensation, subject to certain limitations. The purchase price of the shares under the ESPP equals 85% of the lower of the fair market value of our common stock on either the first or last day of each six-month offering period. Compensation expense is calculated as of the beginning of the offering period as the fair value of the employees' purchase rights utilizing the Black-Scholes option valuation model and is recognized over the offering period. Assumptions used in the Black-Scholes option valuation model were as follows:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>
Weighted-average grant-date fair value per share	\$ 11.60	\$ 14.55
Average expected life in years	0.5	0.5
Weighted-average expected volatility	45.0%	43.0%
Weighted-average risk-free interest rate	2.2%	2.2%
Expected dividend yield	0.0%	0.0%

Employees purchased 3 million shares of common stock for \$95 million in 2019 under the ESPP.

## Stock-based Compensation Expense

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Stock-based compensation expense by caption			
Cost of goods sold	\$ 102	\$ 83	\$ 88
Selling, general, and administrative	73	61	75
Research and development	68	54	52
	<b>\$ 243</b>	<b>\$ 198</b>	<b>\$ 215</b>
Stock-based compensation expense by type of award			
Restricted stock awards	\$ 178	\$ 140	\$ 144
Stock options	33	55	71
ESPP	32	3	—
	<b>\$ 243</b>	<b>\$ 198</b>	<b>\$ 215</b>

The income tax benefit related to share-based compensation was \$66 million, \$158 million and \$97 million for 2019, 2018 and 2017, respectively. The income tax benefits related to share-based compensation for the periods presented prior to the second quarter of 2018 were offset by an increase in the U.S. valuation allowance. Stock-based compensation expense of \$30 million and \$19 million was capitalized and remained in inventory as of August 29, 2019 and August 30, 2018, respectively. As of August 29, 2019, \$439 million of total unrecognized compensation costs for unvested awards, before the effect of any future forfeitures, was expected to be recognized through the fourth quarter of 2023, resulting in a weighted-average period of 1.3 years.

## **Employee Benefit Plans**

We have employee retirement plans at our U.S. and international sites. Details of the more significant plans are discussed as follows:

### Employee Savings Plan for U.S. Employees

We have a 401(k) retirement plan under which U.S. employees may contribute up to 75% of their eligible pay, subject to Internal Revenue Service annual contribution limits, to various savings alternatives, none of which include direct investment in our stock. We match in cash eligible contributions from employees up to 5% of the employee's annual eligible earnings. Contribution expense for the 401(k) plan was \$67 million, \$61 million, and \$52 million in 2019, 2018, and 2017, respectively.

## **Retirement Plans**

We have pension plans in various countries available to local employees which are generally government mandated. As of August 29, 2019, the projected benefit obligations of our plans were \$206 million and plan assets were \$195 million. As of August 30, 2018, the projected benefit obligations of our plans were \$190 million and plan assets were \$171 million. Pension expense was not material for 2019, 2018, or 2017.

## **Revenue and Contract Liabilities**

Revenue by product type was as follows:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
DRAM	\$ 15,247	\$ 21,232	\$ 12,963
NAND <sup>(1)</sup>	6,946	7,897	6,585
Other (primarily 3D XPoint memory and NOR)	1,213	1,262	774
	<b>\$ 23,406</b>	<b>\$ 30,391</b>	<b>\$ 20,322</b>

<sup>(1)</sup> MCP revenue is reported within NAND.

Our contract liabilities from customer advances are for advance payments received from customers to secure product in future periods. Other contract liabilities consist of amounts received in advance of satisfying performance obligations. These balances are reported within other current liabilities and other noncurrent liabilities. Revenue and interest expense associated with contract liabilities for the time value of advance payments was not material in any period presented. As of August 29, 2019, our future performance obligations beyond one year were not material. Contract liabilities were as follows:

<b>As of</b>	<b>August 29, 2019</b>	<b>Opening Balance as of August 31, 2018</b>
Contract liabilities from customer advances	\$ 61	\$ 235
Other contract liabilities	69	113
	<b>\$ 130</b>	<b>\$ 348</b>

Revenue recognized during 2019 from the opening balance was \$273 million, primarily from shipments against customer advances, which was partially offset by new customer advances.

As of August 29, 2019, other current liabilities included \$326 million for estimates of consideration payable to customers, including estimates for pricing adjustments and returns.

## **Research and Development**

We share the cost of certain product and process development activities with development partners. Our R&D expenses were reduced by \$60 million, \$201 million, and \$213 million for 2019, 2018, and 2017, respectively, pursuant to reimbursements under these arrangements.

We have had agreements to jointly develop NAND and 3D XPoint technologies with Intel. In 2018, we and Intel agreed to independently develop subsequent generations of 3D NAND and we substantially completed this cost-sharing arrangement in the third quarter of 2019. In 2018, we announced that we and Intel will no longer jointly develop 3D XPoint technology beyond the second generation and we substantially completed this cost-sharing arrangement in the first quarter of 2020.

## Other Operating (Income) Expense, Net

For the year ended	2019	2018	2017
(Gain) loss on disposition of property, plant, and equipment	\$ 43	\$ (96)	\$ (22)
Restructure and asset impairments	(29)	28	18
Other	35	11	5
	<b>\$ 49</b>	<b>\$ (57)</b>	<b>\$ 1</b>

Restructure and asset impairments primarily relate to our continued emphasis to centralize certain key functions. In addition, in 2019, we finalized the sale of our 200mm fabrication facility in Singapore and recognized restructure gains of \$128 million. In 2017, we recognized net restructure gains of \$15 million related to the sale of our Lexar assets; our assets associated with our 200mm fabrication facility in Singapore; and our 40% ownership interest in Tera Probe, Inc and assembly and test facility located in Akita, Japan.

## Other Non-Operating Income (Expense), Net

For the year ended	2019	2018	2017
Loss on debt prepayments, repurchases, and conversions	\$ (396)	\$ (385)	\$ (100)
Loss from changes in currency exchange rates	(9)	(75)	(74)
Gain on remeasurement of previously-held equity interest in Inotera	—	—	71
Other	—	(5)	(9)
	<b>\$ (405)</b>	<b>\$ (465)</b>	<b>\$ (112)</b>

## Income Taxes

On December 22, 2017, the United States enacted comprehensive tax legislation, commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"), which imposed a one-time transition tax in 2018 (the "Repatriation Tax") and, beginning in 2019, created a new minimum tax on certain foreign earnings (the "Foreign Minimum Tax"). In connection with the provisions of the Tax Act, we made an accounting policy election to treat the Foreign Minimum Tax provision as a period cost in the period the tax is incurred. SEC Staff Accounting Bulletin No. 118 ("SAB 118") allowed the use of provisional amounts (reasonable estimates) if the analyses of the impacts of the Tax Act had not been completed when financial statements were issued. During 2019, we finalized the computations of the income tax effects of the Tax Act. As such, in accordance with SAB 118, our accounting for the effects of the Tax Act is complete.

Our income tax (provision) benefit consisted of the following:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Income (loss) before income taxes, net income (loss) attributable to noncontrolling interests, and equity in net income (loss) of equity method investees			
U.S.	\$ (67)	\$ 141	\$ (56)
Foreign	7,115	14,166	5,252
	<b>\$ 7,048</b>	<b>\$ 14,307</b>	<b>\$ 5,196</b>
Income tax (provision) benefit			
Current			
U.S. federal	\$ (36)	\$ (54)	\$ —
State	(2)	1	(1)
Foreign	(319)	(374)	(152)
	<b>(357)</b>	<b>(427)</b>	<b>(153)</b>
Deferred			
U.S. federal	(146)	232	—
State	91	101	—
Foreign	(281)	(74)	39
	<b>(336)</b>	<b>\$ 259</b>	<b>39</b>
Income tax (provision) benefit	<b>\$ (693)</b>	<b>\$ (168)</b>	<b>\$ (114)</b>

The table below reconciles our tax (provision) benefit based on the U.S. federal statutory rate to our effective rate:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>			
U.S. federal income tax (provision) benefit at statutory rate	\$ (1,480)	21.0 %	\$ (3,677)	25.7 %	\$ (1,819)	35.0 %
Foreign tax rate differential	993	(14.1)%	2,606	(18.2)%	1,600	(30.8)%
U.S. tax on foreign operations	(327)	4.6 %	(20)	0.1 %	(37)	0.7 %
Repatriation Tax related to the Tax Act	(10)	0.1 %	(1,049)	7.3 %	—	— %
Remeasurement of deferred tax assets and liabilities related to the Tax Act	—	— %	(179)	1.3 %	—	— %
Change in valuation allowance	(40)	0.6 %	2,079	(14.5)%	64	(1.2)%
State taxes, net of federal benefit	102	(1.4)%	(84)	0.6 %	—	— %
Research and development tax credits	118	(1.7)%	90	(0.6)%	66	(1.3)%
Other	(49)	0.7 %	66	(0.5)%	12	(0.2)%
Income tax (provision) benefit	<b>\$ (693)</b>	<b>9.8 %</b>	<b>\$ (168)</b>	<b>1.2 %</b>	<b>\$ (114)</b>	<b>2.2 %</b>

Measurement period adjustments in 2019 included \$47 million of benefit for the Repatriation Tax, net of adjustments related to uncertain tax positions. Provisional estimates for 2018 in the table above included \$1.34 billion of benefit for the release of the valuation allowance on the net deferred tax assets of our U.S. operations and \$1.03 billion of provision for the Repatriation Tax, net of adjustments related to uncertain tax positions.

We operate in a number of jurisdictions outside the United States, including Singapore, where we have tax incentive arrangements, which expire in whole or in part at various dates through 2034, that are conditional, in part, upon meeting certain business operations and employment thresholds. The effect of tax incentive arrangements reduced our tax provision by \$756 million (benefiting our diluted earnings per share by \$0.66) for 2019, by \$1.96 billion (\$1.59 per diluted share) for 2018, and by \$742 million (\$0.64 per diluted share) for 2017.

A provision has been recognized for deferred taxes on undistributed earnings of non-U.S. subsidiaries to the extent that dividend payments from such companies are expected to be subject to additional foreign withholding or state income tax. As of August 29, 2019, we had a deferred tax liability of \$10 million associated with our undistributed earnings. Certain non-U.S. subsidiaries had cumulative undistributed earnings of \$2.84 billion that were deemed to be indefinitely reinvested. Determination of the amount of unrecognized deferred tax liabilities related to investments in these foreign subsidiaries is not practicable.

Deferred income taxes reflect the net tax effects of temporary differences between the bases of assets and liabilities for financial reporting and income tax purposes as well as carryforwards. Deferred tax assets and liabilities consist of the following:

As of	2019	2018
Deferred tax assets		
Net operating loss and tax credit carryforwards	\$ 1,045	\$ 1,417
Accrued salaries, wages, and benefits	122	163
Property, plant, and equipment	80	—
Other	110	115
Gross deferred tax assets	<u>1,357</u>	<u>1,695</u>
Less valuation allowance	(277)	(228)
Deferred tax assets, net of valuation allowance	<u>1,080</u>	<u>1,467</u>
Deferred tax liabilities		
Product and process technology	(138)	(62)
Property, plant, and equipment	—	(173)
Other	(109)	(213)
Deferred tax liabilities	<u>(247)</u>	<u>(448)</u>
Net deferred tax assets	<u><u>\$ 833</u></u>	<u><u>\$ 1,019</u></u>
Reported as		
Deferred tax assets	\$ 837	\$ 1,022
Deferred tax liabilities (included in other noncurrent liabilities)	(4)	(3)
Net deferred tax assets	<u><u>\$ 833</u></u>	<u><u>\$ 1,019</u></u>

We assess positive and negative evidence for each jurisdiction to determine whether it is more likely than not that existing deferred tax assets will be realized. As of August 29, 2019, and August 30, 2018, we had a valuation allowance of \$277 million and \$228 million, respectively, against our net deferred tax assets, primarily related to net operating loss carryforwards in Japan. Changes in 2019 in the valuation allowance were due to adjustments based on management's assessment of tax credits and net operating losses that are more likely than not to be realized.

As of August 29, 2019, our federal, state, and foreign net operating loss carryforward amounts and expiration periods, as reported to tax authorities, were as follows:

Year of Expiration	U.S. Federal	State	Japan	Taiwan	Other Foreign	Total
2020 - 2024	\$ —	\$ 48	\$ 969	\$ 309	\$ 4	\$ 1,330
2025 - 2029	—	404	524	4	12	944
2030 - 2034	—	296	—	—	—	296
2035 - 2039	5	72	—	—	—	77
Indefinite	—	1	—	241	8	250
	<u><u>\$ 5</u></u>	<u><u>\$ 821</u></u>	<u><u>\$ 1,493</u></u>	<u><u>\$ 554</u></u>	<u><u>\$ 24</u></u>	<u><u>\$ 2,897</u></u>

As of August 29, 2019, our federal and state tax credit carryforward amounts and expiration periods, as reported to tax authorities, were as follows:

<b>Year of Tax Credit Expiration</b>	<b>U.S. Federal</b>	<b>State</b>	<b>Total</b>
2020 - 2024	\$ —	\$ 55	\$ 55
2025 - 2029	—	58	58
2030 - 2034	3	113	116
2035 - 2039	350	4	354
Indefinite	—	75	75
	<b>\$ 353</b>	<b>\$ 305</b>	<b>\$ 658</b>

Below is a reconciliation of the beginning and ending amount of our unrecognized tax benefits:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Beginning unrecognized tax benefits	\$ 261	\$ 327	\$ 304
Increases related to tax positions from prior years	124	—	—
Increases related to tax positions taken in current year	44	68	15
Decreases related to tax positions from prior years	(46)	(126)	—
Settlements with tax authorities	—	(8)	(47)
Increases due to the Inotera Acquisition	—	—	54
Other	—	—	1
Ending unrecognized tax benefits	<b>\$ 383</b>	<b>\$ 261</b>	<b>\$ 327</b>

As of August 29, 2019, gross unrecognized tax benefits were \$383 million, substantially all of which would affect our effective tax rate in the future, if recognized. The amount accrued for interest and penalties related to uncertain tax positions was not material for any period presented. The resolution of tax audits or expiration of statute of limitations could also reduce our unrecognized tax benefits. Although the timing of final resolution is uncertain, the estimated potential reduction in our unrecognized tax benefits in the next 12 months would not be material.

We and our subsidiaries file income tax returns with the U.S. federal government, various U.S. states, and various foreign jurisdictions throughout the world. Our U.S. federal and state tax returns remain open to examination for 2015 through 2019. In addition, tax returns that remain open to examination in Japan range from the years 2013 to 2019 and in Singapore and Taiwan from 2014 to 2019. We believe that adequate amounts of taxes and related interest and penalties have been provided, and any adjustments as a result of examinations are not expected to materially adversely affect our business, results of operations, or financial condition.

## Earnings Per Share

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Net income attributable to Micron – Basic	\$ 6,313	\$ 14,135	\$ 5,089
Assumed conversion of debt	(12)	—	—
Net income attributable to Micron – Diluted	<b>\$ 6,301</b>	<b>\$ 14,135</b>	<b>\$ 5,089</b>
Weighted-average common shares outstanding – Basic	1,114	1,152	1,089
Dilutive effect of equity plans and convertible notes	29	77	65
Weighted-average common shares outstanding – Diluted	<b>1,143</b>	<b>1,229</b>	<b>1,154</b>
Earnings per share			
Basic	\$ 5.67	\$ 12.27	\$ 4.67
Diluted	5.51	11.51	4.41

Listed below are the potential common shares, as of the end of the periods shown, that could dilute basic earnings per share in the future that were not included in the computation of diluted earnings per share because to do so would have been antidilutive:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Equity plans	8	3	21
Convertible notes	—	—	26

## Segment Information

Segment information reported herein is consistent with how it is reviewed and evaluated by our chief operating decision maker. We have the following four business units, which are our reportable segments:

**Compute and Networking Business Unit ("CNBU"):** Includes memory products sold into client, cloud server, enterprise, graphics, and networking markets.

**Mobile Business Unit ("MBU"):** Includes memory products sold into smartphone and other mobile-device markets.

**Storage Business Unit ("SBU"):** Includes SSDs and component-level solutions sold into enterprise and cloud, client, and consumer storage markets as well as other discrete storage products sold in component and wafer forms to the removable storage markets and sales of 3D XPoint memory.

**Embedded Business Unit ("EBU"):** Includes memory and storage products sold into automotive, industrial, and consumer markets.

Certain operating expenses directly associated with the activities of a specific segment are charged to that segment. Other indirect operating income and expenses are generally allocated to segments based on their respective percentage of cost of goods sold or forecasted wafer production. We do not identify or report internally our assets (other than goodwill) or capital expenditures by segment, nor do we allocate gains and losses from equity method investments, interest, other non-operating income or expense items, or taxes to segments. As of August 29, 2019 and August 30, 2018, CNBU, MBU, SBU, and EBU had goodwill of \$832 million, \$198 million, \$101 million, and \$97 million, respectively.

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Revenue			
CNBU	\$ 9,968	\$ 15,252	\$ 8,624
MBU	6,403	6,579	4,424
SBU	3,826	5,022	4,514
EBU	3,137	3,479	2,695
All Other	72	59	65
	<b>\$ 23,406</b>	<b>\$ 30,391</b>	<b>\$ 20,322</b>
Operating income (loss)			
CNBU	\$ 4,645	\$ 9,773	\$ 3,755
MBU	2,606	3,033	927
SBU	(386)	964	552
EBU	923	1,473	975
All Other	13	—	23
	<b>7,801</b>	<b>15,243</b>	<b>6,232</b>
Unallocated			
Stock-based compensation	(243)	(198)	(215)
Employee severance	(116)	—	—
Start-up and preproduction costs	(58)	—	—
Restructure and asset impairments	32	(28)	(18)
Flow-through of Inotera inventory step up	—	—	(107)
Other	(40)	(23)	(24)
	<b>(425)</b>	<b>(249)</b>	<b>(364)</b>
Operating income	<b>\$ 7,376</b>	<b>\$ 14,994</b>	<b>\$ 5,868</b>

Depreciation and amortization expense included in operating income was as follows:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
CNBU	\$ 1,833	\$ 1,755	\$ 1,344
MBU	1,235	1,077	926
SBU	1,555	1,295	1,083
EBU	748	603	484
All Other	27	18	13
Unallocated	26	11	11
	<b>\$ 5,424</b>	<b>\$ 4,759</b>	<b>\$ 3,861</b>

## Certain Concentrations

Markets with concentrations of revenue were approximately as follows:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Mobile	25%	20%	20%
Client and graphics	20%	25%	20%
Enterprise and cloud server	20%	25%	15%
SSDs and other storage	15%	15%	20%
Automotive, industrial, and consumer	15%	10%	15%

Revenue from Huawei Technologies Co. Ltd. was 12% of total revenue for 2019. Revenue from Kingston Technology Company, Inc. was 11% of total revenue for 2019 and 10% of total revenue for 2018 and 2017. No other customer exceeded 10% of our total revenue. Our sales to Huawei were included in our MBU, CNBU, SBU, and EBU segments and our sales to Kingston were included in our CNBU, MBU, and SBU segments.

We generally have multiple sources of supply for our raw materials and production equipment; however, only a limited number of suppliers are capable of delivering certain raw materials and production equipment that meet our standards and, in some cases, materials or production equipment are provided by a single supplier.

Financial instruments that potentially subject us to concentrations of credit risk consist principally of cash, money market accounts, certificates of deposit, fixed-rate debt securities, trade receivables, share repurchase, capped call, and derivative contracts. We invest through high-credit-quality financial institutions and, by policy, generally limit the concentration of credit exposure by restricting investments with any single obligor and monitoring credit risk of bank counterparties on an ongoing basis. A concentration of credit risk may exist with respect to receivables of certain customers. We perform ongoing credit evaluations of customers worldwide and generally do not require collateral from our customers. Historically, we have not experienced material losses on receivables. A concentration of risk may also exist with respect to our foreign currency hedges as the number of counterparties to our hedges is limited and the notional amounts are relatively large. We seek to mitigate such risk by limiting our counterparties to major financial institutions and through entering into master netting arrangements. Capped call agreements expose us to credit risk to the extent the counterparties may be unable to meet the terms of the agreements. We seek to mitigate such risk by limiting our counterparties to major financial institutions and by spreading the risk across several major financial institutions. In addition, the potential risk of loss with any one counterparty resulting from this type of credit risk is monitored on an ongoing basis.

## Geographic Information

Revenue based on the geographic location of our customer's headquarters was as follows:

<b>For the year ended</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
United States	\$ 12,451	\$ 17,116	\$ 11,359
Mainland China (excluding Hong Kong)	3,595	3,607	1,539
Taiwan	2,703	3,918	2,892
Hong Kong	1,614	1,761	1,429
Other Asia Pacific	1,032	1,458	1,078
Japan	958	1,265	1,042
Other	1,053	1,266	983
	<b>\$ 23,406</b>	<b>\$ 30,391</b>	<b>\$ 20,322</b>

We ship our products to locations specified by our customers and, as a result, customers may have headquarters in one location with global supply chain and operations in other locations. Our customers may request we deliver products to countries where they own or operate production facilities or to countries where they utilize third-party subcontractors or warehouses. Based on the ship-to locations specified by our customers, revenue from sales into China (including Hong Kong) accounted for 53%, 57%, and 51% of total revenue in 2019, 2018, and 2017, respectively; revenue from sales into Taiwan accounted for 13%, 9%, and 13% of total revenue in 2019, 2018, and 2017, respectively; and revenue from sales into the United States accounted for 11%, 12%, and 14% of total revenue in 2019, 2018, and 2017, respectively.

Net property, plant, and equipment by geographic area was as follows:

<b>As of</b>	<b>2019</b>	<b>2018</b>
Taiwan	\$ 9,397	\$ 7,640
Singapore	7,986	6,933
Japan	5,202	3,451
United States	5,048	5,113
China	370	398
Other	237	137
	<b>\$ 28,240</b>	<b>\$ 23,672</b>

**Quarterly Financial Information (Unaudited)**  
 (in millions, except per share amounts)

2019	<b>Fourth Quarter</b>	<b>Third Quarter</b>	<b>Second Quarter</b>	<b>First Quarter</b>
Revenue	\$ 4,870	\$ 4,788	\$ 5,835	\$ 7,913
Gross margin	1,395	1,828	2,864	4,615
Operating income	650	1,010	1,957	3,759
Net income	586	851	1,625	3,296
Net income attributable to Micron	561	840	1,619	3,293

Earnings per share				
Basic	\$ 0.51	\$ 0.76	\$ 1.45	\$ 2.91
Diluted	0.49	0.74	1.42	2.81

2018	<b>Fourth Quarter</b>	<b>Third Quarter</b>	<b>Second Quarter</b>	<b>First Quarter</b>
Revenue	\$ 8,440	\$ 7,797	\$ 7,351	\$ 6,803
Gross margin	5,151	4,723	4,270	3,747
Operating income	4,377	3,953	3,567	3,097
Net income	4,326	3,823	3,311	2,678
Net income attributable to Micron	4,325	3,823	3,309	2,678

Earnings per share				
Basic	\$ 3.73	\$ 3.30	\$ 2.86	\$ 2.36
Diluted	3.56	3.10	2.67	2.19

## **Report of Independent Registered Public Accounting Firm**

To the Shareholders and Board of Directors of Micron Technology, Inc.:

### ***Opinions on the Financial Statements and Internal Control over Financial Reporting***

We have audited the accompanying consolidated balance sheets of Micron Technology, Inc. and its subsidiaries (the "Company") as of August 29, 2019 and August 30, 2018, and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the three years in the period ended August 29, 2019, including the related notes and schedule of valuation and qualifying accounts for each of the three years in the period ended August 29, 2019 as 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 August 29, 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 August 29, 2019 and August 30, 2018, and the results of its operations and its cash flows for each of the three years in the period ended August 29, 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 August 29, 2019, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the COSO.

### ***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.

### ***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 matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

#### **Valuation of Inventories (Finished goods and Work in process)**

As described in the Significant Accounting Policies and Inventories notes to the consolidated financial statements, determining the net realizable value of the Company's net inventories involves significant judgments, including projecting future average selling prices and future sales volumes. As of August 29, 2019, the Company had a net inventory balance for finished goods and work in process inventory totaling approximately \$4.6 billion.

The principal considerations for our determination that performing procedures relating to the valuation of finished goods and work in process inventories is a critical audit matter are the valuation involved the application of significant judgment on the part of management, which in turn led to significant judgment, subjectivity and effort in performing our audit procedures over the reasonableness of the significant assumptions used to estimate net realizable value of its finished goods and work in process inventories, including future average selling prices and future sales volumes.

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 Company's estimate of net realizable value of its finished goods and work in process inventories, significant assumptions, and data used to value its inventories. These procedures also included, among others, testing management's process for developing the net realizable value estimate of its finished goods and work in process inventories; evaluating the appropriateness of the Company's estimated net realizable value methodology; testing the completeness, accuracy, and relevance of underlying data used in the estimate of net realizable value of its finished goods and work in process inventories; and evaluating the reasonableness of management's assumptions, including future average selling prices and future sales volumes. Evaluating management's assumptions related to future average selling prices and future sales volumes involved evaluating whether the assumptions used by management were reasonable considering (i) current and past results, including recent sales, (ii) the consistency with external market, industry data and current contract prices, (iii) a comparison of the prior year estimates to actual results in the current year, and (iv) and whether these assumptions were consistent with evidence obtained in other areas of the audit.

/s/ PricewaterhouseCoopers LLP

San Jose, California  
October 17, 2019

We have served as the Company's auditor since 1984.

## **ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

## **ITEM 9A. CONTROLS AND PROCEDURES**

An evaluation was carried out under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934) as of the end of the period covered by this report. Based upon that evaluation, the principal executive officer and principal financial officer concluded that those disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act are recorded, processed, summarized, and reported within the time periods specified in the Commission's rules and forms and that such information is accumulated and communicated to our management, including the principal executive officer and principal financial officer, to allow timely decision regarding disclosure.

During the fourth quarter of 2019, there were no changes in our internal control over financial reporting that 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. 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 accounting principles generally accepted in the United States of America. Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately reflect the transactions and dispositions of our assets; (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 our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our 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.

Management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that our internal control over financial reporting was effective as of August 29, 2019. The effectiveness of our internal control over financial reporting as of August 29, 2019 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report, which is included in Part II, Item 8, of this Form 10-K.

## **ITEM 9B. OTHER INFORMATION**

None.

## **PART III**

### **ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE**

### **ITEM 11. EXECUTIVE COMPENSATION**

### **ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

### **ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

### **ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

Certain information concerning our executive officers is included under the caption, "Information About Our Directors and Executive Officers" in Part I, Item 1 of this report. Other information required by Items 10, 11, 12, 13, and 14 will be contained in our Proxy Statement which will be filed with the Securities and Exchange Commission within 120 days after August 29, 2019 and is incorporated herein by reference.

## PART IV

### ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

1. Financial Statements: See Index to Consolidated Financial Statements under Item 8.
2. Financial Statement Schedule:  
Schedule II – Valuation and Qualifying Accounts

Certain Financial Statement Schedules have been omitted since they are either not required, not applicable, or the information is otherwise included.

3. Exhibits.

**SCHEDULE II**  
**VALUATION AND QUALIFYING ACCOUNTS**  
(in millions)

**MICRON TECHNOLOGY, INC.**

<u>Deferred Tax Asset Valuation Allowance</u>	<u>Balance at Beginning of Year</u>	<u>Charged (Credited) to Income Tax Provision</u>	<u>Currency Translation and Charges to Other Accounts</u>	<u>Balance at End of Year</u>
Year ended August 29, 2019	\$ 228	\$ 40	\$ 9	\$ 277
Year ended August 30, 2018	2,321	(2,079)	(14)	228
Year ended August 31, 2017	2,107	(64)	278	2,321

Amounts charged to other accounts for the year ended August 31, 2017 includes \$325 million as a result of the adoption of ASU 2016-09 – *Improvements to Employee Share-Based Payment Accounting*.

### 3. Exhibits.

Exhibit Number	Description of Exhibit	Filed Herewith	Form	Period Ending	Exhibit/ Appendix	Filing Date
2.1*	<a href="#">English Translation of Agreement on Support for Reorganization Companies with Nobuaki Kobayashi and Yukio Sakamoto, the trustees of Elpida Memory, Inc. and its wholly-owned subsidiary, Akita Elpida Memory, Inc. dated July 2, 2012</a>		8-K/A		2.1	10/31/12
2.2*	<a href="#">English Translation of Agreement Amending Agreement on Support for Reorganization Companies, dated October 29, 2012, by and among Micron Technology, Inc. and Nobuaki Kobayashi and Yukio Sakamoto, the trustees of Elpida Memory, Inc. and Akita Elpida Memory, Inc.</a>		8-K		2.3	10/31/12
2.3*	<a href="#">English Translation of Agreement Amending Agreement on Support for Reorganization Companies, dated July 31, 2013, by and among Micron Technology, Inc. and Nobuaki Kobayashi and Yukio Sakamoto, the trustees of Elpida Memory, Inc. and Akita Elpida Memory, Inc.</a>		8-K		2.4	8/6/13
2.4	<a href="#">English Translation of the Reorganization Plan of Elpida Memory, Inc.</a>		8-K		2.5	8/6/13
2.5	<a href="#">2016 Share Swap Agreement, dated February 3, 2016 by and among Micron Technology B.V., Micron Semiconductor Taiwan Co. Ltd. and Inotera Memories, Inc.</a>	10-Q		3/3/16	2.6	4/8/16
3.1	<a href="#">Restated Certificate of Incorporation of the Registrant</a>		8-K		99.2	1/26/15
3.2	<a href="#">Bylaws of the Registrant, Amended and Restated</a>		8-K		99.2	7/1/19
4.1	<a href="#">Indenture dated as of April 18, 2012, by and between Micron Technology, Inc. and U.S. Bank National Association, as Trustee for 3.125% Convertible Senior Notes due 2032</a>		8-K		4.3	4/18/12
4.2	<a href="#">Form of 2032D Note (included in Exhibit 4.1)</a>		8-K		4.3	4/18/12
4.3	<a href="#">Indenture, dated as of February 12, 2013, by and between Micron Technology, Inc. and U.S. Bank National Association, as trustee</a>		8-K		4.3	2/12/13
4.4	<a href="#">Form of 2033F Note (included in Exhibit 4.3)</a>		8-K		4.3	2/12/13
4.5	<a href="#">Indenture, dated as of July 28, 2014, by and between Micron Technology, Inc. and U.S. Bank National Association, as Trustee</a>		8-K		4.1	7/29/14
4.6	<a href="#">Form of Note (included in Exhibit 4.5)</a>		8-K		4.1	7/29/14
4.7	<a href="#">Section 382 Rights Agreement, dated as of July 20, 2016 by and between Micron Technology, Inc. and Wells Fargo Bank, National Association, as rights agent</a>		8-K		4.1	7/22/16
4.8	<a href="#">Indenture, dated February 6, 2019, by and between Micron Technology, Inc. and U.S. Bank National Association, as Trustee</a>		8-K		4.1	2/6/19
4.9	<a href="#">Supplemental Indenture, dated February 6, 2019, by and between Micron Technology, Inc. and U.S. Bank National Association, as Trustee</a>		8-K		4.2	2/6/19
4.10	<a href="#">Form of Note for Micron Technology, Inc.'s 4.640% Notes due 2024 (included in Exhibit 4.9)</a>		8-K		4.3	2/6/19
4.11	<a href="#">Form of Note for Micron Technology, Inc.'s 4.975% Notes due 2026 (included in Exhibit 4.9)</a>		8-K		4.4	2/6/19
4.12	<a href="#">Form of Note for Micron Technology, Inc.'s 5.327% Notes due 2029 (included in Exhibit 4.9)</a>		8-K		4.5	2/6/19
4.13	<a href="#">Second Supplemental Indenture, dated July 12, 2019, by and between Micron Technology, Inc. and U.S. Bank National Association, as Trustee</a>		8-K		4.2	7/12/19

<b>Exhibit Number</b>	<b>Description of Exhibit</b>	<b>Filed Herewith</b>	<b>Form</b>	<b>Period Ending</b>	<b>Exhibit/Appendix</b>	<b>Filing Date</b>
4.14	<a href="#">Form of Note for Micron Technology, Inc.'s 4.185% Notes due 2027 (included in Exhibit 4.13)</a>		8-K		4.3	7/12/19
4.15	<a href="#">Form of Note for Micron Technology, Inc.'s 4.663% Notes due 2030 (included in Exhibit 4.13)</a>		8-K		4.4	7/12/19
10.1	<a href="#">Micron Technology, Inc. Executive Officer Performance Incentive Plan</a>		DEF 14A		B	12/7/17
10.2	<a href="#">2004 Equity Incentive Plan, as Amended and Restated</a>	10-K	9/1/16	10.6	10/28/16	
10.3	<a href="#">2004 Equity Incentive Plan Forms of Agreement and Terms and Conditions</a>	10-K	9/1/16	10.7	10/28/16	
10.4	<a href="#">Amended and Restated 2007 Equity Incentive Plan</a>	10-K	9/1/16	10.8	10/28/16	
10.5	<a href="#">2007 Equity Incentive Plan Forms of Agreement</a>	10-K	9/1/16	10.9	10/28/16	
10.6	<a href="#">Nonstatutory Stock Option Plan, as Amended</a>	10-K	9/1/16	10.10	10/28/16	
10.7	<a href="#">Nonstatutory Stock Option Plan Form of Agreement and Terms and Conditions</a>	10-K	9/1/16	10.11	10/28/16	
10.8*	<a href="#">Patent License Agreement dated September 15, 2006, by and among Toshiba Corporation, Acclaim Innovations, LLC and Micron Technology, Inc.</a>	10-Q	11/30/06	10.66	1/16/07	
10.9	<a href="#">Form of Indemnification Agreement between the Registrant and its officers and directors</a>	10-Q	2/27/14	10.3	4/7/14	
10.10*	<a href="#">Master Agreement dated as of November 18, 2005, between Micron Technology, Inc. and Intel Corporation</a>	10-Q	12/1/05	10.155	1/10/06	
10.11	<a href="#">Form of Severance Agreement</a>	8-K		99.2	11/1/07	
10.12	<a href="#">Share Purchase Agreement by and among Micron Technology, Inc. as the Buyer Parent, Micron Semiconductor B.V., as the Buyer, Qimonda Ag as the Seller Parent and Qimonda Holding B.V., as the Seller Sub dated as of October 11, 2008</a>	10-Q	12/4/08	10.70	1/13/09	
10.13*	<a href="#">2012 Master Agreement by and among Intel Corporation, Intel Technology Asia PTE LTD, Micron Technology, Inc., Micron Semiconductor Asia PTE LTD, IM Flash Technologies, LLC and IM Flash Singapore, LLP dated February 27, 2012</a>	10-Q	3/1/12	10.104	4/9/12	
10.14*	<a href="#">Second Amended and Restated Limited Liability Company Operating Agreement of IM Flash Technologies, LLC dated April 6, 2012, between Micron Technology, Inc. and Intel Corporation</a>	10-Q	5/31/12	10.108	7/9/12	
10.15*	<a href="#">Amendment to the Master Agreement dated April 6, 2012, between Intel Corporation and Micron Technology, Inc.</a>	10-Q	5/31/12	10.109	7/9/12	
10.16*	<a href="#">Amended and Restated Supply Agreement dated April 6, 2012, between Intel Corporation and IM Flash Technologies, LLC</a>	10-Q	5/31/12	10.110	7/9/12	
10.17*	<a href="#">Amended and Restated Supply Agreement dated April 6, 2012, between Micron Technology, Inc. and IM Flash Technologies, LLC</a>	10-Q	5/31/12	10.111	7/9/12	
10.18*	<a href="#">Product Supply Agreement dated April 6, 2012, among Micron Technology, Inc., Intel Corporation and Micron Semiconductor Asia Pte. Ltd.</a>	10-Q	5/31/12	10.112	7/9/12	
10.19*	<a href="#">Technology Transfer and License Option Agreement for 20NM Process Node, dated January 17, 2013, by and between Micron Technology, Inc. and Nanya Technology Corporation</a>	10-Q/A	2/28/13	10.126	8/7/13	
10.20*	<a href="#">Omnibus IP Agreement, dated January 17, 2013, by and between Nanya Technology Corporation and Micron Technology, Inc.</a>	10-Q	2/28/13	10.127	4/8/13	

<b>Exhibit Number</b>	<b>Description of Exhibit</b>	<b>Filed Herewith</b>	<b>Form</b>	<b>Period Ending</b>	<b>Exhibit/ Appendix</b>	<b>Filing Date</b>
10.21*	<a href="#">Second Amended and Restated Technology Transfer and License Agreement for 68-50NM Process Nodes, dated January 17, 2013, by and between Micron Technology, Inc. and Nanya Technology Corporation</a>		10-Q/A	2/28/13	10.128	8/7/13
10.22*	<a href="#">Third Amended and Restated Technology Transfer and License Agreement, dated January 17, 2013, by and between Micron Technology, Inc. and Nanya Technology Corporation</a>		10-Q	2/28/13	10.129	4/8/13
10.23*	<a href="#">English Translation of Front-End Manufacturing Supply Agreement, dated July 31, 2013, by and between Micron Semiconductor Asia Pte. Ltd. and Elpida Memory, Inc.</a>		8-K/A		10.139	10/2/13
10.24*	<a href="#">English Translation of Research and Development Engineering Services Agreement, dated July 31, 2013, by and between Micron Technology, Inc. and Elpida Memory, Inc.</a>		8-K		10.140	8/6/13
10.25*	<a href="#">English Translation of General Services Agreement, dated July 31, 2013, by and between Micron Semiconductor Asia Pte. Ltd. and Elpida Memory, Inc.</a>		8-K/A		10.141	10/2/13
10.26	<a href="#">Form of Capped Call Confirmation dated February 2013</a>		8-K		10.1	2/12/13
10.27*	<a href="#">Amended and Restated Supplemental Wafer Supply Agreement, dated February 10, 2017, by and among Micron Technology, Inc., Intel Corporation and Micron Semiconductor Asia Pte. Ltd.</a>		10-Q	3/2/17	10.50	3/28/17
10.28*	<a href="#">2016 Technology Transfer and License Option Agreement for 1Y Process Node dated as of February 3, 2016 by and between Micron Technology, Inc. and Nanya Technology Corporation</a>		10-Q/A	3/3/16	10.57	9/8/16
10.29	<a href="#">2016 First Amendment to the Second Amended and Restated Operating Agreement dated January 5, 2016 by and among Micron Technology, Inc. and Intel Corporation</a>		10-Q	3/3/16	10.59	4/8/16
10.30*	<a href="#">Amendment to Technology Transfer and License Option Agreement for 1Y Process Node dated as of May 17, 2016 by and between Micron Technology Inc. and Nanya Technology Corporation</a>		10-Q	6/2/16	10.61	7/6/16
10.31	<a href="#">Deferred Compensation Plan</a>		10-Q	5/31/18	10.64	6/22/18
10.32	<a href="#">Executive Agreement dated April 26, 2017 by and between Micron Technology, Inc. and Sanjay Mehrotra</a>		10-Q	6/1/17	10.67	6/30/17
10.33	<a href="#">Severance Benefits for Sumit Sadana</a>		10-Q	11/30/17	10.70	12/20/17
10.34	<a href="#">Second Amendment to the Amended and Restated Severance Agreement effective July 24, 2017 by and between Micron Technology, Inc. and D. Mark Durcan</a>		10-K	8/31/17	10.71	10/26/17
10.35	<a href="#">Form of Amendment to Executive/Severance Agreement</a>		8-K		99.1	11/13/17
10.36	<a href="#">Severance Benefits for Manish Bhatia</a>		10-Q	11/30/17	10.74	12/20/17
10.37	<a href="#">Micron Technology, Inc. Employee Stock Purchase Plan</a>		DEF 14A		A	12/7/17
10.38	<a href="#">Severance Benefits for David A. Zinsner</a>		10-Q	3/1/18	10.76	3/23/18
10.39	<a href="#">Credit Agreement, dated as of July 3, 2018, by and among Micron Technology, Inc., as borrower, JPMorgan Chase Bank, N.A., as administrative agent and collateral agent, and the other agents party thereto and each financial institution party from time to time thereto</a>		10-K	8/30/18	10.68	10/15/18
10.40	<a href="#">Guarantee and Collateral Agreement, dated as of July 3, 2018, made by Micron Technology, Inc. and certain of its subsidiaries in favor of JPMorgan Chase Bank, N.A., as collateral agent</a>		10-K	8/30/18	10.69	10/15/18

<b>Exhibit Number</b>	<b>Description of Exhibit</b>	<b>Filed Herewith</b>	<b>Form</b>	<b>Period Ending</b>	<b>Exhibit/ Appendix</b>	<b>Filing Date</b>
10.41	<a href="#"><u>Incremental Amendment No. 1 to Credit Agreement dated July 3, 2018, by and among Micron Technology, Inc., as borrower, JPMorgan Chase Bank, N.A., as administrative agent and collateral agent, and the other agents party thereto and each financial institution party from time to time thereto</u></a>		10-Q	11/29/18	10.70	12/19/18
10.42	<a href="#"><u>Incremental Amendment No. 2 to Credit Agreement dated July 3, 2018 by and among Micron Technology, Inc., as borrower, JPMorgan Chase Bank, N.A., as administrative agent and collateral agent, and the other agents party thereto and each financial institution party from time to time thereto</u></a>	X				
21.1	<a href="#"><u>Subsidiaries of the Registrant</u></a>	X				
23.1	<a href="#"><u>Consent of Independent Registered Public Accounting Firm</u></a>	X				
31.1	<a href="#"><u>Rule 13a-14(a) Certification of Chief Executive Officer</u></a>	X				
31.2	<a href="#"><u>Rule 13a-14(a) Certification of Chief Financial Officer</u></a>	X				
32.1	<a href="#"><u>Certification of Chief Executive Officer Pursuant to 18 U.S.C. 1350</u></a>	X				
32.2	<a href="#"><u>Certification of Chief Financial Officer Pursuant to 18 U.S.C. 1350</u></a>	X				
101.INS	XBRL Instance Document	X				
101.SCH	XBRL Taxonomy Extension Schema Document	X				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	X				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	X				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	X				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	X				

\* Portions of this exhibit have been omitted pursuant to a request for confidential treatment filed with the Commission.

## **ITEM 16. 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.

Date October 17, 2019

Micron Technology, Inc.

By: /s/ David A. Zinsner

**David A. Zinsner**

Senior Vice President and Chief Financial Officer  
(Principal Financial Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual 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>Title</u>	<u>Date</u>
<u>/s/ Sanjay Mehrotra</u> <b>(Sanjay Mehrotra)</b>	President and Chief Executive Officer and Director (Principal Executive Officer)	October 17, 2019
<u>/s/ David A. Zinsner</u> <b>(David A. Zinsner)</b>	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	October 17, 2019
<u>/s/ Paul Marosvari</u> <b>(Paul Marosvari)</b>	Vice President and Chief Accounting Officer (Principal Accounting Officer)	October 17, 2019
<u>/s/ Robert L. Bailey</u> <b>(Robert L. Bailey)</b>	Director	October 17, 2019
<u>/s/ Richard M. Beyer</u> <b>(Richard M. Beyer)</b>	Director	October 17, 2019
<u>/s/ Patrick J. Byrne</u> <b>(Patrick J. Byrne)</b>	Director	October 17, 2019
<u>/s/ Steve Gomo</u> <b>(Steve Gomo)</b>	Director	October 17, 2019
<u>/s/ Mary Pat McCarthy</u> <b>(Mary Pat McCarthy)</b>	Director	October 17, 2019
<u>/s/ Robert E. Switz</u> <b>(Robert E. Switz)</b>	Chairman of the Board Director	October 17, 2019
<u>/s/ MaryAnn Wright</u> <b>(MaryAnn Wright)</b>	Director	October 17, 2019

INCREMENTAL AMENDMENT NO. 2,  
dated as of July 9, 2019

to the

CREDIT AGREEMENT,  
dated as of July 3, 2018

among

MICRON TECHNOLOGY, INC.,  
as Borrower,

THE LENDERS PARTY HERETO,

and

JPMORGAN CHASE BANK, N.A.,  
as Administrative Agent and as Collateral Agent

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WELLS FARGO SECURITIES, LLC, HSBC SECURITIES (USA) INC. and JPMORGAN CHASE BANK, N.A.,  
as Joint Lead Arrangers and Joint Bookrunners

DBS BANK LTD., INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED, NEW YORK BRANCH, MIZUHO  
BANK LTD., OVERSEA-CHINESE BANKING CORPORATION LIMITED, AUSTRALIA AND NEW ZEALAND  
BANKING GROUP LIMITED, BNP PARIBAS SECURITIES CORP., CITIBANK N.A., CREDIT AGRICOLE CORPORATE  
AND INVESTMENT BANK, CREDIT SUISSE AG, CAYMAN ISLAND BRANCH and MUFG BANK, LTD  
as Joint Lead Arrangers

WELLS FARGO SECURITIES, LLC,  
as Syndication Agent

HSBC SECURITIES (USA) INC., DBS BANK LTD., INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED,  
NEW YOUR BRANCH, MIZUHO BANK, LTD., OVERSEA-CHINESE BANKING CORPORATION LIMITED,  
AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED, BNP PARIBAS SECURITIES CORP., CITIBANK  
N.A., CREDIT AGRICOLE CORPORATE AND INVESTMENT BANK, CREDIT SUISSE AG, CAYMAN ISLAND  
BRANCH and MUFG BANK, LTD.  
as Co-Documentation Agents

## INCREMENTAL AMENDMENT NO. 2

INCREMENTAL AMENDMENT NO. 2 TO THE CREDIT AGREEMENT, dated as of July 9, 2019 (this “Amendment”), among Micron Technology, Inc., a Delaware corporation (the “Company” or “Borrower”), the other Loan Parties, the lenders party hereto (the “2019 Incremental Term Loan Lenders”), JPMorgan Chase Bank, N.A., as administrative agent and as collateral agent under the Credit Agreement (the “Administrative Agent”), and Wells Fargo Securities, LLC, as lead left arranger for the 2019 Incremental Term Loan Commitments (as defined below) (the “Lead Left Arranger”).

### W I T N E S S E T H :

WHEREAS, reference is hereby made to the Credit Agreement, dated as of July 3, 2018 (as amended, restated, supplemented or otherwise modified from time to time heretofore, the “Existing Credit Agreement” and as amended by this Amendment, the “Amended Credit Agreement”);

WHEREAS, the Company desires to establish Incremental Term Loan Commitments pursuant to Section 2.25 of the Credit Agreement in an aggregate principal amount equal to \$1,250,000,000 (the “2019 Incremental Term Loan Commitments”); and

WHEREAS, subject to the terms and conditions set forth herein and with the consent of the 2019 Incremental Term Loan Lenders, the 2019 Incremental Term Loan Lenders have agreed to provide 2019 Incremental Term Loan Commitments in the amounts set forth in Exhibit A hereto.

NOW, THEREFORE, the parties hereto hereby agree as follows:

**SECTION 1. Defined Terms.** Unless otherwise defined herein, terms defined in the Amended Credit Agreement and used herein shall have the meanings given to them in the Amended Credit Agreement.

**SECTION 2. Incremental Term Loan Commitments.** Subject to the satisfaction of the conditions set forth in Section 4 below, each 2019 Incremental Term Loan Lender agrees to provide a 2019 Incremental Term Loan Commitment in such amount as forth opposite its name on Exhibit A hereto and agrees, during the period from and including the 2019 Incremental Amendment Effective Date (as defined below) to the 2019 Incremental Term Loan Commitment Termination Date (as defined in the Amended Credit Agreement), to make a 2019 Incremental Term Loan to the Borrower in an aggregate principal amount at any one time outstanding not to exceed the amount of such Lender’s 2019 Incremental Term Loan Commitment in accordance with Section 2.6 of the Amended Credit Agreement. For the avoidance of doubt, the notice requirements set forth in Section 2.25(b) of the Credit Agreement are hereby deemed to be satisfied. From and after the 2019 Incremental Amendment Effective Date, except where the context otherwise requires, the 2019 Incremental Term Loan Commitments shall constitute “Incremental Term Loan Commitments” for all purposes of the Amended Credit Agreement, and all provisions of the Amended Credit Agreement applicable to Incremental Term Loan Commitments shall be applicable to the 2019 Incremental Term Loan Commitments, and each 2019 Incremental Term Loan Lender shall have all of the rights and obligations of a “Lender” and an “Incremental Term Loan Lender” under the Amended Credit Agreement and the other Loan Documents.

**SECTION 3. Amendments.** The Credit Agreement is hereby amended in accordance with Exhibit B hereto by deleting the stricken text (indicated textually in the same manner as the following example: ~~stricken text~~) and by inserting the double-underlined text (indicated textually in the same manner as the following example: double-underlined text), in each case, in the place where such text appears therein.

**SECTION 4. Conditions to Effectiveness.** This Amendment and the obligation of the 2019 Incremental Term Loan Lenders to make the 2019 Incremental Term Loan Commitments to be made by it pursuant to Section 2 of this Amendment shall become effective on the date (the “2019 Incremental Amendment Effective Date”) that each of the following conditions shall have been satisfied or waived:

(a) This Amendment shall have been executed and delivered by (i) a duly authorized officer of each Loan Party, (ii) the 2019 Incremental Term Loan Lenders, (iii) the Administrative Agent and (iv) the Lead Left Arranger.

(b) The Administrative Agent and the Lead Left Arranger shall have received (i) a certificate of each Loan Party, dated the 2019 Incremental Amendment Effective Date, in the case of the Borrower, substantially in the form of Exhibit A-1 to the Credit Agreement, and, in the case of the Guarantors substantially in the form of Exhibit A-2 to the Credit Agreement, each with appropriate insertions and attachments, including the certificate of incorporation of each Loan Party that

is a corporation certified by the relevant authority of the jurisdiction of organization of such Loan Party, and (ii) a long form good standing certificate for each Loan Party from its jurisdiction of organization.

(c) No Default or Event of Default shall have occurred and be continuing, or would result from the effectiveness of this Amendment on the 2019 Incremental Amendment Effective Date.

(d) All representations and warranties contained in the Loan Documents shall be true and correct in all material respects on and as of the 2019 Incremental Amendment Effective Date, with the same effect as if made on and as of such date (unless stated to relate to a specific earlier date, in which case, such representations and warranties shall be true and correct in all material respects as of such earlier date) (it being understood that any representation or warranty that is qualified as to materiality or Material Adverse Effect shall be correct in all respects).

(e) the Borrower shall be in compliance, on a pro forma basis (assuming the 2019 Incremental Term Loan Commitments were drawn in full), with the financial covenants set forth in Section 6.6 of the Amended Credit Agreement recomputed as of the last day of the most recently ended fiscal quarter for which financial statements have been or were required to be delivered pursuant to Section 5.1 of the Amended Credit Agreement.

(f) The Administrative Agent and the Lead Left Arranger shall have received a certificate of a Financial Officer certifying compliance with Sections 4(c), (d) and (e) above, together with reasonably detailed calculations demonstrating compliance with Section 4(e) above (which calculations shall, if made as of the last day of any fiscal quarter of the Borrower for which the Borrower has not delivered to the Administrative Agent the financial statements and Compliance Certificate required to be delivered by Section 5.2 of the Amended Credit Agreement, be accompanied by a reasonably detailed calculation of Consolidated EBITDA and Consolidated Interest Expense of the Borrower for the relevant period).

(g) (i) the Administrative Agent shall have received from the Company payment of all fees and expenses required to be paid to the Administrative Agent on or before the 2019 Incremental Amendment Effective Date and (ii) the Lead Left Arranger shall have received from the Company payment of all fees and expenses required to be paid to the Lead Left Arranger and the 2019 Incremental Term Loan Lenders on or before the 2019 Incremental Amendment Effective Date, in each case, for which written invoices in reasonable detail have been submitted at least two Business Days prior to the 2019 Incremental Amendment Effective Date.

(h) The Administrative Agent and the Lead Left Arranger shall have received executed legal opinions from (i) Wilson Sonsini Goodrich & Rosati, P.C., counsel to the Borrower and the Guarantors, (ii) the general counsel of the Borrower and (iii) Stoel Rives LLP, Idaho counsel to the Loan Parties, each in form and substance satisfactory to the Administrative Agent and the Lead Left Arranger.

(i) (i) The Lead Left Arranger shall have received all documentation and information as is reasonably requested in writing at least five days prior to the 2019 Incremental Amendment Effective Date by any 2019 Incremental Term Loan Lender about the Borrower and its Subsidiaries that is required by U.S. Governmental Authorities under applicable “know your customer” and anti-money laundering rules and regulations, including without limitation, the Patriot Act and (ii) to the extent the Borrower qualifies as a “legal entity customer” under the Beneficial Ownership Regulation, at least five days prior to the 2019 Incremental Amendment Effective Date, any 2019 Incremental Term Loan Lender that has requested, in a written notice to the Borrower at least 10 days prior to the 2019 Incremental Amendment Effective Date, a Beneficial Ownership Certification in relation to the Borrower shall have received such Beneficial Ownership Certification (provided that, upon the execution and delivery by such Lender of its signature page to this Amendment, the condition set forth in this clause (ii) shall be deemed to be satisfied).

(j) With respect to each Mortgaged Property, the Administrative Agent shall have received a completed “life-of-loan” Federal Emergency Management Agency standard flood hazard determination, and, to the extent a Mortgaged Property is located in an area identified by the Federal Emergency Management Agency (or any successor agency) as a special flood hazard area with respect to which flood insurance has been made available under the Flood Insurance Laws, together with a notice about special flood hazard area status and flood disaster assistance duly executed by the Borrower and the applicable Loan Party relating thereto and evidence of flood insurance, as required by Section 5.4(b) of the Existing Credit Agreement.

**SECTION 5. Representations of the Loan Parties.** On and as of the 2019 Incremental Amendment Effective Date, after giving effect to this Amendment, each Loan Party hereby represents and warrants to the Administrative Agent, the Lead Left Arranger and each Lender that this Amendment has been duly authorized by all necessary corporate or other organizational action. This Amendment has been duly executed and delivered by each Loan Party party hereto and constitutes a legal, valid and binding obligation of each Loan Party party hereto, enforceable against such Person in accordance

with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law.

**SECTION 6.     No Other Amendment or Waivers; Confirmation; Reaffirmation.**

(a) Except as expressly provided hereby, all of the terms and provisions of the Existing Credit Agreement and the other Loan Documents are and shall remain in full force and effect. The amendments contained herein shall not be construed as an amendment of any other provision of the Existing Credit Agreement or the other Loan Documents or for any purpose except as expressly set forth herein or a consent to any further or future action on the part of any Loan Party that would require the waiver or consent of the Administrative Agent or the Lenders. This Amendment shall constitute a Loan Document for purposes of the Amended Credit Agreement and from and after the 2019 Incremental Amendment Effective Date, all references to the Credit Agreement in any Loan Document and all references to "this Agreement", "hereunder", "hereof" or words of like import referring to the Credit Agreement in the Amended Credit Agreement shall, unless expressly provided otherwise, refer to the Amended Credit Agreement.

(b) Each Loan Party hereby (i) expressly acknowledges the terms of the Amended Credit Agreement, (ii) ratifies and affirms its obligations under the Loan Documents (including guarantees and security agreements) to which it is a party, (iii) acknowledges, renews and extends its continued liability under all such Loan Documents and agrees such Loan Documents remain in full force and effect, (iv) agrees that each Security Document secures all Obligations of the Loan Parties in accordance with the terms thereof and (v) further confirms that each Loan Document to which it is a party is and shall continue to be in full force and effect and the same are hereby ratified and confirmed in all respects.

(c) Each Loan Party hereby reaffirms, as of the 2019 Incremental Amendment Effective Date, (i) the covenants and agreements contained in each Loan Document to which it is a party, including, in each case, such covenants and agreements as in effect immediately after giving effect to this Amendment and the transactions contemplated thereby, and (ii) its guarantee of payment of the Obligations pursuant to the Guarantee and Collateral Agreement and its grant of Liens on the Collateral to secure the Obligations.

**SECTION 7.     APPLICABLE LAW; WAIVER OF JURY TRIAL. THIS AMENDMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK. EACH PARTY HERETO HEREBY AGREES AS SET FORTH IN SECTION 9.16 OF THE EXISTING CREDIT AGREEMENT AS IF SUCH SECTION WERE SET FORTH IN FULL HEREIN.**

**SECTION 8.     Miscellaneous.** (a) This Amendment may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Amendment by telecopy or other electronic imaging means shall be effective as delivery of a manually executed counterpart of this Amendment.

(b) The provisions of this Amendment shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns permitted hereby (including permitted assignees of its Revolving Loans in whole or in part prior to effectiveness hereof).

**SECTION 9.     Headings.** Section headings herein are included herein for convenience of reference only and shall not constitute a part hereof for any other purpose or be given any substantive effect.

**SECTION 10.     Post-Closing Obligations.** Within 90 days after the 2019 Incremental Amendment Effective Date (which period may be extended in the reasonable discretion of the Administrative Agent upon the request of the Borrower) (unless during such period a Guarantee and Collateral Suspension Date shall have occurred and a Guarantee and Collateral Suspension Period is continuing, in which event Borrower shall not be required to satisfy the requirements of this Section 10 until the Collateral Reinstatement Date), the Borrower or relevant Loan Party shall deliver to the Administrative Agent either:

(a) written confirmation (which confirmation may be provided in the form of an electronic mail acknowledgment in form and substance reasonably satisfactory to the Collateral Agent, and which may include assumptions, exclusions and limitations which are consistent with local opinion practice) from local counsel in the jurisdiction in which the Mortgaged Property is located substantially to the effect that: (x) the recording of the existing Mortgage is the only filing or recording necessary to give constructive notice to third parties of the lien created by such Mortgage as security for the Secured Obligations, including the Secured Obligations evidenced by the Existing Credit Agreement, as amended pursuant to this Amendment, for the benefit of the Secured Parties; and (y) no other documents, instruments, filings, recordings, re-recordings, re-filings or other actions, including, without limitation, the payment of any mortgage recording taxes or similar taxes, are

necessary or appropriate under applicable law in order to maintain the continued enforceability, validity or priority of the lien created by such Mortgage as security for the Secured Obligations, including the Secured Obligations evidenced by the Existing Credit Agreement, as amended pursuant to this Amendment, for the benefit of the Secured Parties; or

(b) the following documents:

(i) with respect to each Mortgage encumbering a Mortgaged Property, an amendment thereof (a "Mortgage Amendment") duly executed and acknowledged by Borrower or the relevant Loan Party, in form for recording in the recording office where the Mortgage was recorded and in form approved by local counsel in the jurisdiction in which the Mortgaged Property is located, together with such certificates or affidavits as shall be required in connection with the recording or filing thereof under applicable law, in each case in form and substance reasonably satisfactory to the Collateral Agent;

(ii) with respect to each Mortgage Amendment, a mortgage modification endorsement or other similar title product and at the reasonable request of the Agent, a recent title search or report (which shall not be required to "date-down" or otherwise extend the date of the policy) to the existing title policy relating to the Mortgage encumbering the applicable Mortgaged Property (a "Title Policy Endorsement") and each such Title Policy Endorsement shall otherwise be in form and substance reasonably satisfactory to the Collateral Agent which provide insurance to the effect that the validity and enforceability of the Mortgage, as amended by such Mortgage Amendment is not affected thereby; and

(iii) evidence acceptable to the Collateral Agent of payment by the Borrower or relevant Loan Party of all applicable title insurance premiums, search and examination charges, and related charges, mortgage recording taxes, and expenses required for the recording of the Mortgage Amendments and issuance of the Title Policy Endorsements.

[*Signature Pages Follow*]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered by their proper and duly authorized officers as of the day and year first above written.

**MICRON TECHNOLOGY, INC.**

By: /s/ Gregory Routin

Name: Gregory Routin

Title: Treasurer

**MICRON SEMICONDUCTOR PRODUCTS,  
INC.**

By: /s/ Daniel Newman

Name: Daniel Newman

Title: Vice President and Treasurer

**JPMORGAN CHASE BANK, N.A.,**  
as Administrative Agent

By: /s/ Caitlin Stewart

Name: Caitlin Stewart

Title: Executive Director

**WELLS FARGO SECURITIES, LLC**, as Lead  
Left Arranger

By: /s/ Russell Jeter

Name: Russell Jeter

Title: Vice President

**WELLS FARGO BANK NATIONAL  
ASSOCIATION, as a 2019 Incremental Term Loan  
Lender**

By: /s/ Lacy Houstoun

Name: Lacy Houstoun

Title: Managing Director

**DBS BANK LTD.**, as a 2019 Incremental Term  
Loan Lender

By: /s/ Loy Hwee Chuan

Name: Loy Hwee Chuan

Title: Senior Vice President

**HSBC BANK USA, NATIONAL ASSOCIATION,**  
as a 2019 Incremental Term Loan Lender

By: /s/ Eric Seltenrich

Name: Eric Seltenrich

Title: Managing Director

**INDUSTRIAL AND COMMERCIAL BANK OF  
CHINA LIMITED, NEW YORK BRANCH, as a  
2019 Incremental Term Loan Lender**

By: /s/ Tony Huang  
Name: Tony Huang  
Title: Director

By: /s/ Dayi Liu  
Name: Dayi Liu  
Title: Executive Director

**MIZUHO BANK, LTD.**, as a 2019 Incremental  
Term Loan Lender

By: /s/ Tracy Rahn

Name: Tracy Rahn

Title: Authorized Signatory

**OVERSEA CHINESE BANKING  
CORPORATION LIMITED, LOS ANGELES  
AGENCY, as a 2019 Incremental Term Loan Lender**

By: /s/ Charles Ong

Name: Charles Ong

Title: General Manager

**AUSTRALIA AND NEW ZEALAND BANKING  
GROUP LIMITED**, as a 2019 Incremental Term  
Loan Lender

By: /s/ Robert Grillo

Name: Robert Grillo

Title: Director

**BNP PARIBAS**, as a 2019 Incremental Term Loan  
Lender

By: /s/ Christopher Sked

Name: Christopher Sked

Title: Managing Director

By: /s/ Karim Remtoula

Name: Karim Remtoula

Title: Vice President

**CITIBANK N.A.**, as a 2019 Incremental Term Loan  
Lender

By: /s/ Sean Klimchalk

Name: Sean Klimchalk

Title: Managing Director

**CREDIT AGRICOLE CORPORATE AND  
INVESTMENT BANK, as a 2019 Incremental  
Term Loan Lender**

By: /s/ Jill Wong  
Name: Jill Wong  
Title: Director

By: /s/ Gary Herzog  
Name: Gary Herzog  
Title: Managing Director

**CREDIT SUISSE AG, CAYMAN ISLANDS  
BRANCH, as a 2019 Incremental Term Loan  
Lender**

By: /s/ William O'Daly

Name: William O'Daly

Title: Authorized Signatory

By: /s/ Mark Zihlmann

Name: Mark Zihlmann

Title: Authorized Signatory

**JPMORGAN CHASE BANK, N.A., as a 2019  
Incremental Term Loan Lender**

By: /s/ Caitlin Stewart

Name: Caitlin Stewart

Title: Executive Director

**MUFG BANK, LTD**, as a 2019 Incremental Term  
Loan Lender

By: /s/ Matthew Antioco

Name: Matthew Antioco

Title: Director

**GOLDMAN SACHS BANK USA**, as a 2019  
Incremental Term Loan Lender

By: /s/ Ryan Durkin

Name: Ryan Durkin

Title: Authorized Signatory

**MORGAN STANLEY BANK, N.A., as a 2019  
Incremental Term Loan Lender**

By: */s/ Michael King*

Name: Michael King

Title: Authorized Signatory

**2019 Incremental Term Loan Commitments**

<b>2019 Incremental Term Loan Lender</b>	<b>2019 Incremental Term Loan Commitment</b>
Wells Fargo Bank, National Association	\$105,000,000.00
DBS Bank Ltd.	\$105,000,000.00
HSBC Bank USA, National Association	\$105,000,000.00
Industrial and Commercial Bank of China Limited, New York Branch	\$105,000,000.00
Mizuho Bank, Ltd.	\$105,000,000.00
Oversea-Chinese Banking Corporation Limited	\$105,000,000.00
Australia and New Zealand Banking Group Limited	\$74,000,000.00
BNP Paribas	\$74,000,000.00
Citibank N.A.	\$74,000,000.00
Credit Agricole Corporate and Investment Bank	\$74,000,000.00
Credit Suisse AG, Cayman Islands Branch	\$74,000,000.00
JPMorgan Chase Bank, N.A.	\$74,000,000.00
MUFG Bank, Ltd	\$74,000,000.00
Goldman Sachs Bank USA	\$51,000,000.00
Morgan Stanley Bank, N.A.	\$51,000,000.00
	<b>Total: \$1,250,000,000</b>

**CONFORMED VERSION REFLECTING  
INCREMENTAL AMENDMENT NO. 1, DATED NOVEMBER 27, 2018  
AND INCREMENTAL AMENDMENT NO. 2, DATED JULY 9, 2019**

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CREDIT AGREEMENT

among

MICRON TECHNOLOGY, INC.,  
as Borrower

and

THE LENDERS PARTY HERETO,

and

JPMORGAN CHASE BANK, N.A.,  
as Administrative Agent and as Collateral Agent

Dated as of July 3, 2018

JPMORGAN CHASE BANK, N.A.  
and  
HSBC SECURITIES (USA) INC.

as Joint Bookrunners

JPMORGAN CHASE BANK, N.A.,  
HSBC SECURITIES (USA) INC.,  
BNP PARIBAS SECURITIES CORP.,  
CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK,  
MIZUHO BANK, LTD.,  
DBS BANK, LTD.,  
OVERSEA-CHINESE BANKING CORPORATION LIMITED,  
CITIBANK, N.A.,  
INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED, NEW YORK BRANCH,  
and  
MUFG BANK, LTD.

as Joint Lead Arrangers

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THIS CREDIT AGREEMENT, dated as of July 3, 2018, among MICRON TECHNOLOGY, INC., a Delaware corporation (the “Borrower”), JPMORGAN CHASE BANK, N.A. (“JPMorgan”), as administrative agent (in such capacity and including any successors in such capacity, the “Administrative Agent” or the “Agent”) and as collateral agent (in such capacity and including any successors in such capacity, the “Collateral Agent”), the other agents party hereto and each of the financial institutions from time to time party hereto (collectively, the “Lenders”).

W I T N E S S E T H:

WHEREAS, the Borrower intends to use the Loans (as defined below) for general corporate purposes.

NOW, THEREFORE, the parties hereto hereby agree as follows:

SECTION 1  
Definitions

1.1. Defined Terms. As used in this Agreement, the following terms shall have the meanings specified below:

“Administrative Agent”: the meaning set forth in the preamble to this Agreement.

“Affiliate”: as to any Person, any other Person which, directly or indirectly, is in control of, is controlled by, or is under common control with, such Person. For purposes of this definition, “control” of a Person means the power, directly or indirectly, to direct or cause the direction of the management and policies of such Person whether through the ownership of voting securities, by contract or otherwise.

“Agent”: the meaning set forth in the preamble to this Agreement.

“Aggregate Domestic Priority Debt”: Aggregate Priority Debt that is Domestic Priority Debt.

“Aggregate Exposure”: with respect to any Lender at any time, an amount equal to the sum of (i) the amount of such Lender’s 2019 Incremental Term Loan Commitment then in effect or, if the 2019 Incremental Term Loan Commitments have been terminated, the amount of such Lender’s 2019 Incremental Term Loans then outstanding, (ii) if any Incremental Term Loans other than the 2019 Incremental Term Loans are then outstanding, the aggregate then unpaid principal amount of such Lender’s other Incremental Term Loans and (iii) the amount of such Lender’s Revolving Commitment then in effect or, if the Revolving Commitments have been terminated, the amount of such Lender’s Revolving Extensions of Credit then outstanding.

“Aggregate Exposure Percentage”: with respect to any Lender at any time, the ratio (expressed as a percentage) of such Lender’s Aggregate Exposure at such time to the Aggregate Exposure of all Lenders at such time.

“Aggregate First Lien Debt”: as of the date of determination, the then aggregate outstanding amount, without duplication, of First Lien Debt, provided, in no event will the amount of any Indebtedness (including Guarantees of such Indebtedness) be required to be included in the calculation of Aggregate First Lien Debt more than once despite the fact more than one Person is liable with respect to such Indebtedness and despite the fact that such Indebtedness is secured by the assets of more than one Person (for example, and for avoidance of doubt, in the case where more than one Restricted Subsidiary has Guaranteed or otherwise become liable for such Indebtedness or in the case where there are Liens on assets of one or more of the Borrower and its Restricted Subsidiaries securing such Indebtedness or one or more Guarantees thereof, the amount of Indebtedness so Guaranteed or secured shall only be included once in the calculation of Aggregate First Lien Debt).

“Aggregate Priority Debt”: the sum of the following as of the date of determination: (1) the then aggregate outstanding amount of the Indebtedness of the Borrower and its Restricted Subsidiaries, without duplication, secured by Liens not permitted under Section 6.1(a) or Section 6.1(d) (determined in accordance with Section 6.1); (2) the then aggregate outstanding amount of all Restricted Subsidiary Debt, without duplication, and not permitted under Section 6.1(b) (including as a result of the exclusions set forth in clauses (1) through (5) of Section 6.1(b) and Section 6.1(d)); provided that any such Restricted Subsidiary Debt will be excluded from this clause (2) to the extent that such Restricted Subsidiary Debt (or the related Indebtedness) is included in clause (1) or (3) of this definition; and (3) the then existing Attributable Debt of the Borrower and its Restricted Subsidiaries in respect of sale and lease-back transactions, without duplication, not permitted under Section 6.4(a); provided that any such Attributable Debt will be excluded from this clause (3) to the extent of indebtedness relating thereto is included in clause (1) or (2) of this definition, provided further, in no event will the amount of any Indebtedness (including Guarantees of such Indebtedness) be required to be included in the calculation of Aggregate Priority Debt more than once despite the fact more than one Person is liable with respect to such Indebtedness and despite the fact that such

Indebtedness is secured by the assets of more than one Person (for example, and for avoidance of doubt, in the case where more than one Restricted Subsidiary has Guaranteed or otherwise become liable for such Indebtedness or in the case where there are Liens on assets of one or more of the Borrower and its Restricted Subsidiaries securing such Indebtedness or one or more Guarantees thereof, the amount of Indebtedness so Guaranteed or secured shall only be included once in the calculation of Aggregate Priority Debt).

“Agreement”: this Credit Agreement, as the same may be amended, restated, amended and restated, supplemented or otherwise modified from time to time.

“ALTA”: American Land Title Association.

“Anti-Corruption Laws”: means all laws, rules and regulations of any jurisdiction applicable to the Borrower or any of its Subsidiaries from time to time concerning or relating to bribery or corruption, including, without limitation, the Foreign Corrupt Practices Act of 1977, as amended.

“Applicable Margin”:

(a) with respect to the Revolving Loans and the 2019 Incremental Term Loans, for any day, with respect to any Eurodollar ~~Revolving~~ Loan or any Base Rate ~~Revolving~~ Loan, as the case may be, the applicable rate per annum set forth below under the caption “Eurodollar Spread” or “Base Rate Spread”, as the case may be, corresponding to either (1) the applicable Corporate Ratings from the Rating Agencies or (2) the Borrower’s Total Leverage Ratio, whichever yields a lower pricing level, applicable on such date:

Pricing Level:	Corporate Ratings:	Total Leverage Ratio	Eurodollar Spread	ABR Spread
Level 1	BBB-/Baa3 or higher	Less than or equal to 0.5:1.00	1.25%	0.25%
Level 2	BB+/Ba1	Greater than 0.5:1.00 but less than or equal to 1.25:1.00	1.50%	0.50%
Level 3	BB/Ba2	Greater than 1.25:1.00 but less than or equal to 2.00:1.00	1.75%	0.75%
Level 4	BB-/Ba3 or lower	Greater than 2.00:1.00	2.00%	1.00%

; provided that on or prior to October 27, 2018, Level 3 shall apply.

For purposes of the foregoing, (i) if neither Moody’s nor S&P shall have in effect a Corporate Rating (regardless of whether Fitch then does), the pricing level shall be determined based on the Total Leverage Ratio, (ii) if the Corporate Ratings established by the relevant Rating Agencies shall fall within different Categories, the Applicable Margin shall be based on (1) if two Corporate Ratings are in effect, the lower of the two Corporate Ratings and if three Corporate Ratings are in effect, the Corporate Rating remaining after excluding the highest Corporate Rating and the lowest Corporate Rating or (2) the Total Leverage Ratio, whichever yields a lower pricing level; and (iii) if the Corporate Ratings established by the relevant Rating Agencies shall be changed (other than as a result of a change in the rating system of any relevant Rating Agency), such change shall be effective as of the date on which it is first announced by the applicable rating agency, irrespective of when notice of such change shall have been furnished by the Borrower to the Administrative Agent.

For the purposes of the foregoing, changes in the Total Leverage Ratio shall become effective on the date on which the Compliance Certificate is delivered to the Administrative Agent pursuant to Section 5.2. If any Compliance Certificate referred to above is not delivered within the time period specified in Section 5.2, then the pricing level shall be determined based on the Corporate Rating.

Each change in the Applicable Margin shall apply during the period commencing on the effective date of such change and ending on the date immediately preceding the effective date of the next Corporate Rating or Total Leverage Ratio change. If neither the Corporate Rating nor the Total Leverage Ratio can be determined, then (i) upon the request of the Required Revolving Lenders with respect to the Revolving Loans, Level 4 shall apply and (ii) upon the request of the Required 2019 Incremental Term Loan Lenders with respect to the 2019 Incremental Term Loans, Level 4 shall apply.

(b) with respect to the Incremental Term Loans ([other than the 2019 Incremental Term Loans](#)), such per annum rates as shall be agreed by the Borrower and the applicable Incremental Term Loan Lenders as shown in the applicable Incremental Amendment.

**“Approved Electronic Communication”:** any notice, demand, communication, information, document or other material that any Loan Party provides to the Administrative Agent pursuant to any Loan Document or the transactions contemplated therein which is distributed to the Agent or to the Lenders by means of electronic communications pursuant to [Section 9.2\(b\)](#).

**“Approved Fund”:** as defined in [Section 9.6\(b\)\(ii\)](#).

**“Arranger”:** each of the Joint Lead Arrangers.

**“Assignee”:** as defined in [Section 9.6\(b\)\(i\)](#).

**“Assignment and Acceptance”:** an assignment and acceptance entered into by a Lender and an Assignee and accepted by the Administrative Agent to the extent required pursuant to [Section 9.6](#), substantially in the form of [Exhibit D](#) hereto.

**“Attributable Debt”:** in connection with a sale and lease-back transaction the lesser of: (1) the fair value of the assets subject to such transaction, as determined in good faith by a Responsible Officer of the Borrower; and (2) the present value of the minimum rental payments called for during the terms of the lease (including any period for which such lease has been extended), determined in accordance with GAAP, discounted at a rate that, at the inception of the lease, the lessee would have incurred to borrow over a similar term the funds necessary to purchase the leased assets.

**“Availability Period”:** the period from and including the Closing Date to but excluding the earlier of the Revolving Maturity Date and the date of termination of the Revolving Commitments.

**“Bail-In Action”:** the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority in respect of any liability of an EEA Financial Institution.

**“Bail-In Legislation”:** with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule.

**“Bankruptcy Code”:** the United States Bankruptcy Code, codified as Title 11, U.S. Code §101-1330, as amended.

**“Base Rate”:** for any day, a rate per annum equal to the greatest of (a) the Prime Rate in effect on such day, (b) the NYFRB Rate in effect on such day plus  $\frac{1}{2}$  of 1% and (c) Eurodollar Rate for a one month Interest Period on such day (or if such day is not a Business Day, the immediately preceding Business Day) plus 1%. Any change in the Base Rate due to a change in the Prime Rate, the NYFRB Rate or the Eurodollar Rate shall be effective from and including the effective date of such change in the Prime Rate, the NYFRB Rate or the Eurodollar Rate, respectively. If the Base Rate is being used as an alternate rate of interest pursuant to [Section 2.11](#) hereof, then the Base Rate shall be the greater of clauses (a) and (b) above and shall be determined without reference to clause (c) above. For the avoidance of doubt, if the Base Rate as so determined would be less than zero, such rate shall be deemed to be zero for purposes of this Agreement.

**“Base Rate Loans”:** Loans the rate of interest applicable to which is based upon the Base Rate.

**“Base Rate Revolving Borrowing”:** a Borrowing of Revolving Loans that are Base Rate Loans.

**“Beneficial Ownership Certification”:** a certification regarding beneficial ownership as required by the Beneficial Ownership Regulation.

**“Beneficial Ownership Regulation”:** 31 C.F.R. § 1010.230.

**“Benefit Plan”:** any of (a) an “employee benefit plan” (as defined in Section 3(3) of ERISA) that is subject to Title I of ERISA, (b) a “plan” as defined in Section 4975 of the Code to which Section 4975 of the Code applies, and (c) any Person whose assets include (for purposes of the Plan Asset Regulations or otherwise for purposes of Title I of ERISA or Section 4975 of the Code) the assets of any such “employee benefit plan” or “plan”.

“Benefited Lender”: the meaning set forth in Section 9.7(a).

“Board of Directors”: the board of directors of the Borrower or any committee thereof duly authorized to act on behalf of such board.

“Board of Governors”: the Board of Governors of the Federal Reserve System of the United States or any Governmental Authority which succeeds to the powers and functions thereof.

“Boise Property”: all real property vested solely in the Borrower or a Guarantor at the location commonly known as 8000 S. Federal Way; Boise, Idaho 83716 together with all real property vested solely in the Borrower or a Guarantor adjoining, contiguous to, or in vicinity of the Boise Property.

“Borrower”: the meaning set forth in the preamble to this Agreement.

“Borrowing”: Loans of the same Type, made, converted or continued on the same date and, in the case of Eurodollar Loans, as to which a single Interest Period is in effect.

“Borrowing Date”: the Business Day specified in a Borrowing Request as a date on which the Borrower requests the making of Loans hereunder.

“Borrowing Request”: a request by the Borrower for a Borrowing in accordance with Section 2.3 or Section 2.6, which shall be substantially in the form of Exhibit B or any other form approved by the Administrative Agent.

“Business Day”: any day other than a Legal Holiday.

“Captive Insurance Subsidiary”: any Restricted Subsidiary of the Borrower that is subject to regulation as an insurance company (or any Restricted Subsidiary thereof).

“Capital Stock”: any and all shares of stock of a corporation, partnership interests or other equivalent interests (however designated, whether voting or non-voting) in such Person’s equity, entitling the holder to receive a share of the profits and losses, and a distribution of assets, after liabilities, of such Person.

“CFC”: any controlled foreign corporation within the meaning of Section 957 of the Code.

“Change of Control”: any “person” or “group” (as such terms are used in Sections 13(d) and 14(d) of the Exchange Act), other than the Borrower, its Subsidiaries or any employee benefit plan of the Borrower or its Subsidiaries, has filed a Schedule 13D or Schedule TO (or any successor schedule, form or report) pursuant to the Exchange Act disclosing that such person has become the direct or indirect “beneficial owner” (as such term is used in Rules 13d-3 and 13d-5 under the Exchange Act) of more than 50% of the Voting Stock of the Borrower, unless such beneficial ownership (a) arises solely as a result of a revocable proxy delivered in response to a proxy or consent solicitation made pursuant to the applicable rules and regulations under the Exchange Act, and (b) is not also then reportable on Schedule 13D (or any successor schedule under the Exchange Act, except that for the purpose of this clause (1) a person will be deemed to have beneficial ownership of all shares that such person has the right to acquire irrespective of whether that right is exercisable immediately or only after the passage of time); provided, however, that a transaction will not be deemed to involve a Change of Control under this clause (1) if (a) the Borrower becomes a direct or indirect wholly owned subsidiary of a holding company, and (b) (i) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Borrower’s Voting Stock immediately prior to that transaction or (ii) immediately following that transaction no “person” or “group” (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Class”: when used in reference to any Loan or Borrowing, refers to whether such Loan, or the Loans comprising such Borrowing, are Revolving Loans or Incremental Loans made with respect to the same Incremental Facility.

“Closing Date”: the date on which the conditions precedent set forth in Section 4.1 shall have been satisfied or waived, which date is July 3, 2018.

“Charges”: any charge, expense, cost, accrual or reserve of any kind.

“Code”: the Internal Revenue Code of 1986, as amended from time to time.

**“Collateral”**: all “Collateral” as defined in any Security Document and all of the other property and assets that are or are required under the terms hereof or under the Security Documents to be subject to Liens in favor of the Collateral Agent for the benefit of the Secured Parties.

**“Collateral Agent”**: the meaning set forth in the preamble to this Agreement.

**“Commitment”**: with respect to any Lender, each Revolving Commitment or Incremental Commitment, if any, of such Lender.

**“Commitment Fee Percentage”**: the applicable rate per annum set forth below under the caption “Commitment Fee Percentage” corresponding to either (1) the Corporate Ratings from the Rating Agencies or (2) the Borrower’s Total Leverage Ratio, whichever yields a lower pricing level, applicable on such date:

Pricing Level:	Corporate Ratings:	Total Leverage Ratio	Commitment Fee Percentage
Level 1	BBB-/Baa3 or higher	Less than or equal to 0.5:1.00	0.20%
Level 2	BB+/Ba1	Greater than 0.5:1.00 but less than or equal to 1.25:1.00	0.25%
Level 3	BB/Ba2	Greater than 1.25:1.00 but less than or equal to 2.00:1.00	0.30%
Level 4	BB-/Ba3 or lower	Greater than 2.00:1.00	0.35%

; provided that on or prior to the last day of the Borrower’s fiscal quarter ending November 29, 2018, Level 2 shall apply.

For purposes of the foregoing, (i) if neither Moody’s nor S&P shall have in effect a Corporate Rating (regardless of whether Fitch then does), the pricing level shall be determined based on the Total Leverage Ratio, (ii) if the Corporate Ratings established by the relevant Rating Agencies shall fall within different Categories, the Applicable MarginCommitment Fee Percentage shall be based on (1) if two Corporate Ratings are in effect, the lower of the two Corporate Ratings and if three Corporate Ratings are in effect, the Corporate Rating remaining after excluding the highest Corporate Rating and the lowest Corporate Rating or (2) the Total Leverage Ratio, whichever yields a lower pricing level; and (iii) if the Corporate Ratings established by the relevant Rating Agencies shall be changed (other than as a result of a change in the rating system of any relevant Rating Agency), such change shall be effective as of the date on which it is first announced by the applicable rating agency, irrespective of when notice of such change shall have been furnished by the Borrower to the Administrative Agent.

For the purposes of the foregoing, changes in the Total Leverage Ratio shall become effective on the date on which the Compliance Certificate is delivered to the Administrative Agent pursuant to Section 5.2. If any Compliance Certificate referred to above is not delivered within the time period specified in Section 5.2, then the pricing level shall be determined based on the Corporate Rating.

Each change in the Commitment Fee Percentage shall apply during the period commencing on the effective date of such change and ending on the date immediately preceding the effective date of the next Corporate Rating or Total Leverage Ratio change. If neither the Corporate Rating nor the Total Leverage Ratio can be determined, then upon the request of the Required Revolving Lenders, Level 4 shall apply.

**“Commonly Controlled Entity”**: an entity, whether or not incorporated, that is under common control with the Borrower within the meaning of Section 4001 of ERISA or is part of a controlled group that includes the Borrower and that is treated as a single employer under Section 414 of the Code.

**“Compliance Certificate”**: a compliance certificate to be delivered pursuant to Section 5.2(a), substantially in the form of Exhibit C.

**“Consolidated EBITDA”**: with respect to any Person for any Measurement Period, the sum of, without duplication, the amounts for such period, taken as a single accounting period, of (1) Consolidated Net Income; excluding (to the extent deducted or otherwise excluded in calculating Consolidated Net Income in such Measurement Period), the following amounts (or, to the

extent attributable to a non-wholly owned consolidated entity, a portion of the following amounts proportionate to the Borrower's allocable interest in such entity): (2) Consolidated Non-cash Charges; (3)(A) extraordinary Charges and (B) unusual or nonrecurring Charges, in each case, to the extent not of a type described in clause (2), (4) Consolidated Interest Expense; (5) Consolidated Income Tax Expense; (6) restructuring expenses and charges; (7) any expenses or charges related to any equity offering, Investment, recapitalization or incurrence of Indebtedness not prohibited under this Agreement (whether or not successful) or related to the entry into this Agreement; and (8) any charges, expenses or costs incurred in connection or associated with mergers, acquisitions or divestitures after the Closing Date.

Consolidated EBITDA shall be calculated after giving effect on a pro forma basis for the applicable Measurement Period to any asset sales or other dispositions or acquisitions, investment, mergers, consolidations and discontinued operations (as determined in accordance with GAAP) by such Person and its Consolidated Subsidiaries (1) that have occurred during such Measurement Period or at any time subsequent to the last day of such Measurement Period and on or prior to the date of the transaction in respect of which Consolidated EBITDA is being determined and (2) that the Borrower determines in good faith are outside the ordinary course of business, in each case as if such asset sale or other disposition or acquisition, investment, merger, consolidation or disposed operation occurred on the first day of such Measurement Period. For purposes of this definition, pro forma calculations shall be made in accordance with Article 11 of Regulation S-X under the Securities Act; provided that such pro forma calculations may include operating expense reductions for such period resulting from the transaction which is being given pro forma effect that are reasonably identifiable and factually supportable and have been realized or for which the steps necessary for realization have been taken or have been identified and are reasonably expected to be taken within one year following any such transaction (which operating expense reductions are reasonably expected to be sustainable); provided that, the Borrower shall not be required to give pro forma effect to any transaction that it does not in good faith deem material. Such pro forma calculations shall be made in good faith by a responsible financial or accounting officer of the Borrower.

**“Consolidated Income Tax Expense”:** with respect to any Person for any period, the provision for (or benefit of) federal, state, local and foreign income taxes of such Person and its Consolidated Subsidiaries for such period as determined on a consolidated basis in accordance with GAAP, including any penalties and interest related to such taxes or arising from any tax examinations, to the extent the same were deducted (or added back, in the case of income tax benefit) in computing Consolidated Net Income.

**“Consolidated Interest Expense”:** with respect to any Person, for any period, (a) the sum of all interest expense (including imputed interest charges with respect to capital lease obligations) of such Person and its Consolidated Subsidiaries payable in cash for such period determined on a consolidated basis in accordance with GAAP but excluding (i) any non-cash interest expense attributable to the movement in the mark to market valuation of hedging obligations or other derivative instruments pursuant to GAAP, amortization of deferred financing fees, debt issuance costs, commissions, fees and expenses, (ii) any expensing of bridge, commitment and other financing fees, (iii) any annual administrative or other agency fees, (iv) any premiums, fees or other charges incurred in connection with the refinancing, incurrence, purchase or redemption of Indebtedness, (v) any amortization of debt discounts, including discounts on convertible notes, and (vi) amortization of other costs, including imputed interest charges on liabilities other than capital lease obligations and premiums and discounts on investments, minus (b) interest income of such Person and its Consolidated Subsidiaries for such period determined on a consolidated basis in accordance with GAAP.

**“Consolidated Net Income”:** with respect to any Person, for any period, the consolidated net income (or loss) of such Person and its Consolidated Subsidiaries, after deduction of net income (or loss) attributable to non-controlling interests, for such period as determined in accordance with GAAP, adjusted, to the extent included in calculating such net income, by excluding, without duplication, the following (or, to the extent attributable to a non-wholly owned consolidated entity, a portion of the following amounts proportionate to the Borrower's allocable interest in such entity): (1) all extraordinary, unusual or nonrecurring gains or losses (net of fees and expense relating to the transaction giving rise thereto); (2) gains or losses in respect of any asset impairments, write-offs or sales (net of fees and expenses relating to the transaction giving rise thereto); (3) any expenses, losses or charges incurred related to lower of cost or market write-downs for work in process or finished goods inventories; (4) any expenses, losses or charges incurred related to excess or obsolete inventories; (5) the net income (loss) from any disposed or discontinued operations or any net gains or losses on disposed or discontinued operations; (6) any gain or loss realized as a result of the cumulative effect of a change in accounting principles; (7) any net gains or losses attributable to the early extinguishment or conversion of Indebtedness, derivative instruments, embedded derivatives or other similar obligations; (8) equity in net income (loss) of equity method investees; (9) gains, losses, income and expenses resulting from the application of fair value accounting to derivative instruments; and (10) gains or losses resulting from currency fluctuations. In addition, to the extent not already included in Consolidated Net Income of such Person and its Consolidated Subsidiaries, the amount of proceeds received from business interruption insurance and reimbursements of any expenses or

charges that are covered by indemnification or other reimbursement provisions in connection with any investment or sale, conveyance, transfer or disposition of assets not prohibited under this Agreement.

**“Consolidated Net Tangible Assets”**: with respect to any Person, the total amount of assets of such Person and its Consolidated Subsidiaries after deducting therefrom (a) all current liabilities of such Person and its Consolidated Subsidiaries (excluding (i) the current portion of long-term debt and the portion of any convertible debt classified as “current” despite having a stated maturity more than 12 months from the date as of which the amount thereof is being computed and (ii) any liabilities which are by their terms renewable or extendible at the option of the obligor thereon to a date more than 12 months from the date as of which the amount thereof is being computed) and (b) all goodwill, trade names, trademarks, patents, unamortized debt discount and expense and any other like intangibles of such Person and its Consolidated Subsidiaries, all as set forth on the consolidated balance sheet of such Person for the most recently completed fiscal quarter for which financial statements have been filed with the SEC and computed in accordance with GAAP.

**“Consolidated Non-cash Charges”**: with respect to any Person for any period determined on a consolidated basis in accordance with GAAP, the aggregate depreciation; amortization (including amortization of goodwill, other intangibles, deferred financing fees, debt issuance costs, commissions, fees and expenses); non-cash compensation expense incurred in connection with the issuance of Equity Interests to any director, officer, employee or consultant of such Person or any Consolidated Subsidiary; and other non-cash expenses of such Person and its Subsidiaries reducing Consolidated Net Income of such Person and its Consolidated Subsidiaries for such period (excluding any such charge which requires an accrual of or a reserve for cash charges for any future period).

**“Consolidated Subsidiaries”**: as of any date of determination and with respect to any Person, those Subsidiaries of that Person whose financial data is, in accordance with GAAP, reflected in that Person’s consolidated financial statements.

**“Contractual Obligation”**: as to any Person, any provision of any security issued by such Person or of any agreement, instrument or other undertaking to which such Person is a party or by which it or any of its property is bound.

**“Copyrights”**: (i) all copyrights, database rights, design rights, mask works and works of authorship arising under the laws of the United States, any other country or any political subdivision thereof, whether registered or unregistered and whether published or unpublished, all registrations and recordings thereof, and all applications in connection therewith, including, without limitation, all registrations, recordings and applications in the United States Copyright Office, and (ii) the right to obtain all renewals thereof.

**“Copyright Licenses”**: any written agreement naming the Borrower or any Guarantor as a party, granting any right under any Copyright, including, without limitation, the grant of rights to reproduce, prepare derivative works based upon, perform, display, manufacture, distribute, exploit and sell materials derived from any Copyright.

**“Corporate Rating”**: the Borrower’s “corporate rating” or “corporate family rating” from S&P or Moody’s or Fitch, respectively, including any successor term for such rating adopted by such rating agency.

**“DC Disbursement”**: a payment made by an Issuing Bank pursuant to a Documentary Credit.

**“DC Exposure”**: at any time, the sum of (a) the aggregate undrawn and unexpired amount of all outstanding Documentary Credits at such time plus (b) the aggregate amount of all DC Disbursements that have not yet been reimbursed by or on behalf of the Borrower at such time. The DC Exposure of any Revolving Lender at any time shall be its Revolving Loan Percentage of the DC Exposure at such time.

**“DC Obligations”**: at any time, an amount equal to the sum of (a) the aggregate then undrawn and unexpired amount of the then outstanding Documentary Credits and (b) the aggregate amount of drawings under Documentary Credits that have not then been reimbursed pursuant to Section 2.4(c).

**“Debtor Relief Laws”**: the Bankruptcy Code of the United States, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief laws of the United States or other applicable jurisdictions from time to time in effect and affecting the rights of creditors generally.

**“Default”**: any of the events specified in Section 7.1, whether or not any requirement for the giving of notice, the expiration of applicable cure or grace periods, or both, has been satisfied.

**“Defaulting Lender”**: means any Lender that (a) has failed to (i) fund all or any portion of its Loans within one Business Day of the date such Loans were required to be funded hereunder unless such Lender notifies the Administrative Agent and the Borrower in writing that such failure is the result of such Lender’s determination that one or more conditions precedent to funding (each of which conditions precedent, together with any applicable default, shall be specifically identified in writing) has not been satisfied, or (ii) pay to the Administrative Agent or any other Lender any other amount required to be paid by it hereunder within one Business Day of the date when due, (b) has notified the Borrower and the Administrative Agent in writing that it does not intend to comply with its funding obligations hereunder (unless such writing relates to such Lender’s obligation to fund a Loan hereunder and states that such position is based on such Lender’s determination that a condition precedent to funding (which condition precedent, together with any applicable default, shall be specifically identified in such writing) cannot be satisfied), (c) has failed, within two Business Days after written request by the Administrative Agent or the Borrower, to confirm in writing to the Administrative Agent and the Borrower that it will comply with its prospective funding obligations hereunder (provided that such Lender shall cease to be a Defaulting Lender pursuant to this clause (c) upon receipt of such written confirmation by the Administrative Agent and the Borrower), or (d) has, or has a direct or indirect parent company that has, after the Closing Date, (i) become the subject to any bankruptcy event, (ii) had appointed for it a receiver, liquidator, examiner, custodian, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or assets, including the Federal Deposit Insurance Corporation or any other state or federal regulatory authority acting in such a capacity or (iii) become the subject of a Bail-In Action; provided that a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any equity interest in that Lender or any direct or indirect parent company thereof by a Governmental Authority so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Administrative Agent in consultation with the Borrower that a Lender is a Defaulting Lender under any one or more of clauses (a) through (d) above shall be conclusive and binding absent manifest error, and such Lender shall be deemed to be a Defaulting Lender (subject to Section 2.29(b)) upon delivery of written notice of such determination to the Borrower and each Lender.

**“Dollars”** and **“\$”**: dollars in lawful currency of the United States.

**“Documentary Credit”**: any letter of credit or bank guarantee issued pursuant to this Agreement.

**“Domestic Priority Debt”**: Priority Debt created or incurred by the Borrower or its Domestic Restricted Subsidiaries; provided that such Domestic Priority Debt shall not include any Priority Debt created or incurred through the issuance of debt securities or the incurrence of loans in the capital markets; provided further that such limitation shall not prohibit the incurrence of Indebtedness under asset-based, warehouse or other similar debt facilities utilized by the Borrower and its Domestic Restricted Subsidiaries with the primary purpose of accessing efficient working capital.

**“Domestic Restricted Subsidiary”**: with respect to any Person, any Restricted Subsidiary of such Person that is organized or existing under the laws of the United States, any state thereof or the District of Columbia other than any such Subsidiary that is a direct or indirect Subsidiary of one or more Foreign Subsidiaries of such Person.

**“EEA Financial Institution”**: (a) any institution established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any institution established in an EEA Member Country which is a subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

**“EEA Member Country”**: any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

**“EEA Resolution Authority”**: any public administrative authority or any Person entrusted with public administrative authority of any EEA Member Country (including any delegatee) having responsibility for the resolution of any EEA Financial Institution.

**“Engagement Letter”**: that certain engagement letter dated May 21, 2018 among the Borrower and the Arrangers.

**“Environmental Laws”**: any and all applicable foreign, federal, state, local or municipal laws, rules, orders, regulations, statutes, ordinances, codes, decrees, legally binding requirements of any Governmental Authority or other Requirements of Law (including common law) regulating, relating to or imposing liability or standards of conduct concerning protection of the environment or of human health (to the extent related to exposure to Materials of Environmental Concern), as now or may at any time hereafter be in effect.

**“Equity Interests”**: all Capital Stock and all warrants or options with respect to, or other rights to purchase, Capital Stock, but excluding Indebtedness convertible into or exchangeable for equity.

**“ERISA”**: the Employee Retirement Income Security Act of 1974, as amended from time to time, and the regulations promulgated and rulings issued thereunder.

**“ERISA Event”**: (a) any Reportable Event; (b) the existence with respect to any Plan of an “minimum funding deficiency” (as defined in Section 412 of the Code or Section 302 of ERISA), whether or not waived; (c) the filing pursuant to Section 412(d) of the Code or Section 303(d) of ERISA of an application for a waiver of the minimum funding standard with respect to any Plan; (d) the incurrence by the Borrower or any of its ERISA Affiliates of any liability under Title IV of ERISA with respect to the termination of any Plan; (e) the receipt by the Borrower or any ERISA Affiliate from the PBGC or a plan administrator of any notice relating to an intention to terminate any Plan or Plans or to appoint a trustee to administer any Plan; (f) the incurrence by the Borrower or any of its ERISA Affiliates of any liability with respect to the withdrawal or partial withdrawal from any Plan or Multiemployer Plan; or (g) the receipt by the Borrower or any Commonly Controlled Entity of any notice, or the receipt by any Multiemployer Plan from the Borrower or any Commonly Controlled Entity of any notice, concerning the imposition of withdrawal liability under ERISA or a determination that a Multiemployer Plan is, or is expected to be, insolvent, within the meaning of Title IV of ERISA.

**“EU Bail-In Legislation Schedule”**: the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor Person), as in effect from time to time.

**“Eurocurrency Reserve Requirements”**: for any day as applied to a Eurodollar Loan, the aggregate (without duplication) of the maximum rates (expressed as a decimal fraction) of reserve requirements in effect on such day (including basic, supplemental, marginal and emergency reserves) under any regulations of the Board of Governors or other Governmental Authority having jurisdiction with respect thereto dealing with reserve requirements prescribed for eurocurrency funding (currently referred to as “Eurocurrency Liabilities” in Regulation D of the Board of Governors) maintained by a member bank of the Federal Reserve System.

**“Eurodollar Base Rate”**: with respect to each day during each Interest Period pertaining to a Eurodollar Loan, the rate per annum equal to the London Interbank Offered Rate (“LIBOR”) (or a comparable or successor rate which rate is approved by the Administrative Agent), as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) at approximately 11:00 A.M. (London time) on the date that is two Business Days prior to the beginning of the relevant Interest Period for deposits in Dollars for a period equal to such Interest Period; provided that, to the extent that an interest rate is not ascertainable pursuant to the foregoing provisions of this definition, the “Eurodollar Base Rate” shall be the interest rate per annum determined by the Administrative Agent to be the average of the rates per annum at which deposits in Dollars are offered for such relevant Interest Period to major banks in the London interbank market in London, England by the Administrative Agent at approximately 11:00 a.m. (London time) on the date that is two Business Days prior to the beginning of such Interest Period.

**“Eurodollar Loans”**: Loans the rate of interest applicable to which is based upon the Eurodollar Rate.

**“Eurodollar Rate”**: with respect to each day during each Interest Period pertaining to a Eurodollar Loan, a rate per annum determined for such day in accordance with the following formula (rounded upward to the nearest 1/100th of 1%):

$$\frac{\text{Eurodollar Base Rate}}{1.00 - \frac{\text{Eurocurrency Reserve Requirements}}{100}}$$

; provided that in no event shall the Eurodollar Rate be less than 0.00%.

**“Eurodollar Revolving Borrowing”**: a Borrowing of Revolving Loans that are Eurodollar Loans.

**“Event of Default”**: any of the events specified in Section 7.1, provided that any requirement for the giving of notice, the lapse of time, or both, has been satisfied.

**“Exchange Act”**: the Securities Exchange Act of 1934, as amended, or any successor statute or statutes thereto.

“Excluded Taxes”: those Taxes referenced in Section 2.19(a)(i) through 2.19(a)(v).

“Excluded Subsidiary”: (a) any Subsidiary that is prohibited by any applicable law, rule or regulation or by any Contractual Obligation existing on the Closing Date (or, if later, the date of the acquisition of such Subsidiary and not incurred in contemplation of such acquisition) from guaranteeing or providing collateral for the Obligations (only to the extent such prohibition is applicable and not rendered ineffective) or would require a governmental (including regulatory) consent, approval, license or authorization in order to provide such guarantee, (b) any Foreign Subsidiary, FSHCO or Subsidiary of a Foreign Subsidiary, (c) any Captive Insurance Subsidiary, (d) any not-for-profit subsidiary, (e) any Subsidiary that is not a wholly-owned Subsidiary, (f) any Subsidiary with respect to which the creation or perfection of a security interest in its assets or the Guarantee of the Obligations by it would reasonably be expected to result in material adverse tax consequences to the Borrower or any of its Subsidiaries as reasonably determined by the Borrower in consultation with Administrative Agent or the cost or other consequences (including any adverse tax consequences) of providing Collateral or guaranteeing the Obligations shall be excessive in view of the benefits to be obtained by the Lenders therefrom as reasonably determined by the Administrative Agent and the Borrower and (g) any other Subsidiary of the Borrower designated by the Borrower as an Excluded Subsidiary subsequent to the Closing Date, until such Person ceases to be an Excluded Subsidiary of the Borrower in accordance with Section 5.9.

“Excluded Subsidiary Threshold”: the meaning set forth in Section 5.9(b).

“Extended Revolving Commitments”: the meaning set forth in Section 2.27(a).

“Extension”: the meaning set forth in Section 2.27(a).

“Extension Offer”: the meaning set forth in Section 2.27(a).

“Fair Market Value”: the value that would be paid by a willing buyer to an unaffiliated willing seller in a transaction not involving distress or necessity of either party, determined in good faith by the chief financial officer of the Borrower (unless otherwise provided in this Agreement).

“FATCA”: Sections 1471 through 1474 of the Code as in existence on the date hereof (and any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future Treasury regulations thereunder or published administrative guidance implementing such Sections, any agreement entered into pursuant to current Section 1471(b)(1) of the Code (or any amended or successor version described above) and any intergovernmental agreements (and related legislation or official administrative guidance) implementing the foregoing.

“Federal Funds Effective Rate”: for any day, the rate calculated by the NYFRB based on such day’s federal funds transactions by depository institutions, as determined in such manner as the NYFRB shall set forth on its public website from time to time, and published on the next succeeding Business Day by the NYFRB as the effective federal funds rate, provided that if the Federal Funds Effective Rate as so determined would be less than zero, such rate shall be deemed to zero for the purposes of this Agreement.

“Fees”: collectively, the fees pursuant to Engagement Letter and Section 2.22, the fees referred to in Section 9.5 and any other fees payable by any Loan Party pursuant to this Agreement or any other Loan Document.

“Financial Officer”: the Chief Financial Officer, Principal Accounting Officer, Controller or Treasurer of the Borrower.

“First Lien”: a Lien granted by (i) a Security Document to the Collateral Agent or (ii) any other security agreement with respect to any other series of First Lien Debt, in each case, for the benefit of the holders of First Lien Debt, at any time, upon any property of any Loan Party to secure Secured Obligations.

“First Lien Debt”:

(1) all Obligations; and

(2) to the extent issued or outstanding, any other Indebtedness, including permitted refinancings of First Lien Debt, that are secured equally and ratably with the Obligations by a First Lien that was expressly permitted to be incurred and so secured under this Agreement;

**“First Lien Intercreditor Agreement”**: the intercreditor agreement dated April 26, 2016 executed in connection with the Term Loan Credit Agreement or, after the termination of such intercreditor agreement, an intercreditor agreement substantially in the form attached as Exhibit E entered into in connection with any First Lien Debt that is subject to documentation separate from this Agreement.

**“Fitch”**: Fitch, Inc. and any successor to its rating agency business.

**“Flood Insurance Laws”**: collectively, (i) National Flood Insurance Reform Act of 1994 (which comprehensively revised the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973) as now or hereafter in effect or any successor statute thereto, (ii) the Flood Insurance Reform Act of 2004 as now or hereafter in effect or any successor statute thereto and (iii) the Biggert-Waters Insurance Reform Act of 2012 as now or hereafter in effect or any successor statute thereto.

**“Foreign Subsidiary”**: with respect to any Person, any Subsidiary of such Person other than one that is organized or existing under the laws of the United States, any state thereof or the District of Columbia.

**“FSHCO”**: with respect to any Person, any Subsidiary substantially all the assets of which consist of Equity Interests of, and/or intercompany debt obligations owed or treated as owed by, one or more (i) CFCs and/or (ii) Subsidiaries described in this definition.

**“Funding Office”**: the office of the Administrative Agent specified in Section 9.2(a) or such other office as may be specified from time to time by the Administrative Agent as its funding office by written notice to the Borrower and the Lenders.

**“GAAP”**: generally accepted accounting principles in the United States set forth in the statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as have been approved by a significant segment of the accounting profession, which are in effect as of the date of determination.

**“Governmental Authority”**: the government of the United States or any other nation, or of any political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any supra-national bodies such as the European Union or the European Central Bank).

**“Grantors”**: any Person that pledges any Collateral under the Security Documents to secure any Secured Obligations.

**“Guarantee”**: any obligation, contingent or otherwise, of any Person directly or indirectly guaranteeing any Indebtedness of any other Person; provided that (1) obligations pursuant to commercial transactions on arm’s-length terms entered into in the ordinary course of business that are not primarily for the purpose of guaranteeing any Indebtedness of another Person shall not constitute a Guarantee, and (2) for avoidance of doubt, an agreement or arrangement or series of related agreements or arrangements providing for or in connection with the purchase or sale of assets, securities, services or rights that is entered into in connection with the business of the Company or any Subsidiary (including any consent or acknowledgement of assignment, including any assignment of payment obligations, warranties, indemnities, performance guarantees and related obligations, and related waivers), shall not constitute a Guarantee, provided that payment obligations, warranties, indemnities, performance guarantees and related obligations provided for under such agreements or arrangements are limited to payments for assets, securities, services and rights and other ancillary obligations customary in such transactions. The term “Guarantee” used as a verb has a corresponding meaning.

**“Guarantee and Collateral Agreement”**: that certain Guarantee and Collateral Agreement, dated as of the date hereof, by and among the Borrower and Grantors from time to time party thereto and the Collateral Agent.

**“Guarantee and Collateral Period”**: the meaning set forth in Section 9.14.

**“Guarantee and Collateral Suspension Date”**: any Business Day after the end of the fiscal quarter in which Closing Date occurs on which (I) (a) the Borrower has achieved a Corporate Rating equal to or higher than the following from at least two of the following three Ratings Agencies: (i) at least Ba1 from Moody’s, (ii) at least BB+ from S&P and (iii) at least BB+ from Fitch, in each case, with a stable or better outlook, (b) there exists no Priority Debt or Attributable Debt then outstanding other than Priority Debt or Attributable Debt that would be permitted pursuant to Section 6.1(c)(2) or Section 6.4(a) if the Borrower and its Restricted Subsidiaries were deemed to have created, assumed, incurred, Guaranteed or otherwise be liable for such then outstanding Priority Debt or Attributable Debt on such date, and (c) the Borrower has repaid all outstanding amounts under the Term Loan Credit Agreement and (II) the Administrative Agent shall have received a certificate from a Responsible Officer of the Borrower certifying as to the satisfaction (or concurrent satisfaction) of the foregoing.

“Guarantee and Collateral Suspension Period”: the meaning set forth in Section 9.14.

“Guarantors”: any Restricted Subsidiary of the Borrower that is a party to the Guarantee and Collateral Agreement, and its successors and assigns, in each case, until the Guarantee of such Person under the Guarantee and Collateral Agreement has been released in accordance with the provisions of this Agreement or the Guarantee and Collateral Agreement.

“Guaranty Reimbursement Obligations”: all obligations of the Loan Parties under Section 2 of the Guarantee and Collateral Agreement.

“Incremental Amendment”: the meaning set forth in Section 2.25.

“Incremental Commitment”: an Incremental Revolving Commitment or an Incremental Term Loan Commitment.

“Incremental Facility”: an Incremental Revolving Facility or an Incremental Term Loan Facility.

“Incremental Lender”: an Incremental Revolving Lender or an Incremental Term Loan Lender.

“Incremental Loans”: Loans made pursuant to Section 2.25.

“Incremental Revolving Commitment”: with respect to any Lender, the commitment of such Lender, established pursuant to an Incremental Amendment and Section 2.25, to make Revolving Loans hereunder, expressed as an amount representing the maximum aggregate amount of such Lender’s Revolving Extensions of Credit under such Incremental Amendment.

“Incremental Revolving Facility”: an incremental portion of the Revolving Commitments established hereunder pursuant to an Incremental Amendment providing for Incremental Revolving Commitments.

“Incremental Revolving Lender”: a Lender with an Incremental Revolving Commitment.

“Incremental Term Loan Commitment”: with respect to any Lender, the commitment of such Lender, established pursuant to an Incremental Amendment and Section 2.25, to make Incremental Term Loans hereunder, expressed as an amount representing the maximum principal amount of the Incremental Term Loans to be made by such Lender.

“Incremental Term Loan Facility”: an incremental term loan facility established hereunder pursuant to an Incremental Amendment providing for Incremental Term Loan Commitments.

“Incremental Term Loan Maturity Date”: with respect to Incremental Term Loans, the scheduled date on which such Incremental Term Loans shall become due and payable in full hereunder, as specified in the applicable Incremental Amendment. For the avoidance of doubt, the 2019 Incremental Term Loan Maturity Date shall constitute the Incremental Term Loan Maturity Date with respect to the 2019 Incremental Term Loans.

“Incremental Term Loan Lender”: a Lender with an Incremental Term Loan Commitment or an outstanding Incremental Term Loan.

“Incremental Term Loans”: Loans made by an Incremental Term Loan Lenders to the Borrower pursuant to Section 2.25. For the avoidance of doubt, the 2019 Incremental Term Loans shall constitute Incremental Term Loans.

“Indebtedness”: indebtedness for borrowed money. For the avoidance of doubt, Indebtedness with respect to a Person only includes indebtedness for the repayment of money provided to such Person, and does not include any other kind of indebtedness or obligation notwithstanding that such other indebtedness or obligation may be evidenced by a note, bond, debenture or other similar instrument, may be in the nature of a financing transaction, or may be an obligation that under GAAP is classified as “debt” or another type of liability, whether required to be reflected on the balance sheet of the obligor or otherwise.

The amount of any Indebtedness outstanding as of any date will be:

(1) the accreted value of the Indebtedness, in the case of any Indebtedness that does not require the current payment of interest;

(2) the principal amount of the Indebtedness, in the case of any other Indebtedness;

(3) in respect of Indebtedness of another Person secured by a Lien on the assets of the specified Person (and not otherwise Guaranteed by the specified Person), the lesser of: (a) the fair value (as determined in good faith by a Responsible Officer of the Borrower) of such assets at the date of determination; and (b) the principal amount of the Indebtedness of the other Person;

(4) in respect of any Indebtedness of another Person Guaranteed by the specified Person or one or more of such Persons, the lesser of: (a) the principal amount of such Indebtedness of such other Person and (b) the maximum amount of such Indebtedness payable under the Guarantee or Guarantees (without duplication in the case of one or more Guarantees of the same Indebtedness by Restricted Subsidiaries); and

(5) in the case of obligations under any sale and lease-back transaction that are included in any calculation of Indebtedness pursuant to this Agreement (whether or not Indebtedness), an amount calculated in accordance with clause (2) of the definition of Attributable Debt.

In addition, accrual of interest and accretion or amortization of original issue discount will not be deemed to be an incurrence of Indebtedness for any purpose hereunder. For the avoidance of doubt, the inclusion of specific obligations in Section 6.1 or the definition of Permitted Liens or the inclusion of Attributable Debt in any calculation of Indebtedness shall not create any implication that any such obligations constitute Indebtedness.

“Indemnified Liabilities”: the meaning set forth in Section 9.5.

“Indemnitee”: the meaning set forth in Section 9.5.

“Insolvency”: with respect to any Multiemployer Plan, the condition that such Plan is insolvent within the meaning of Section 4245 of ERISA.

“Insolvent”: pertaining to a condition of Insolvency.

“Intellectual Property”: the collective reference to all rights, priorities and privileges relating to intellectual property, whether arising under United States, multinational or foreign laws or otherwise, including, without limitation, the Copyrights, the Copyright Licenses, the Patents, the Patent Licenses, the Trademarks and the Trademark Licenses, trade secrets, and any transferable rights to sue at law or in equity for any infringement or other impairment thereof, including the right to receive all proceeds and damages therefrom.

“Interest Coverage Ratio” as of the date of determination thereof, the ratio of Consolidated EBITDA of the Borrower for such Measurement Period to Consolidated Interest Expense of the Borrower for such Measurement Period.

“Interest Payment Date”: (a) as to any Base Rate Loan, the last Business Day of each March, June, September and December to occur while such Base Rate Loan is outstanding and the final maturity date of such Base Rate Loan, (b) as to any Eurodollar Loan having an Interest Period of three months or less, the last day of such Interest Period, (c) as to any Eurodollar Loan having an Interest Period longer than three months, each day that is three months, or a whole multiple thereof, after the first day of such Interest Period and the last day of such Interest Period and (d) as to any Eurodollar Loan, the date of any repayment or prepayment made in respect thereof.

“Interest Period”: as to any Eurodollar Loan, each period commencing on the last day of the next preceding Interest Period applicable to such Eurodollar Loan and ending one, three or six (or, if agreed to by all relevant Lenders, twelve) months thereafter, as selected by the Borrower by irrevocable notice to the Administrative Agent not later than 10:00 A.M., New York City time, on the date that is three (3) Business Days prior to the last day of the then current Interest Period with respect thereto; provided that, all of the foregoing provisions relating to Interest Periods are subject to the following:

(i) if any Interest Period would otherwise end on a day that is not a Business Day, such Interest Period shall be extended to the next succeeding Business Day unless the result of such extension would be to carry such Interest Period into another calendar month in which event such Interest Period shall end on the immediately preceding Business Day;

(ii) the Borrower may not select an Interest Period that would extend beyond the Revolving Maturity Date or an Incremental Term Loan Maturity Date, as applicable; and

(iii) any Interest Period that begins on the last Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Interest Period) shall end on the last Business Day of a calendar month.

**“Investment”:** any direct or indirect loan, advance (or other extension of credit) or capital contribution to (by means of any transfer of cash or other property or assets to another Person or any other payments for property or services for the account or use of another Person) another Person, including, without limitation, the following: (1) the purchase or acquisition of any Capital Stock or other evidence of beneficial ownership in another Person; and (2) the purchase, acquisition or Guarantee of the Indebtedness or other liability of another Person.

**“Issuing Bank”:** JPMorgan Chase Bank, N.A., HSBC Bank USA, National Association and each other Lender designated by the Borrower as an “Issuing Bank” hereunder that has agreed to such designation (and is reasonably acceptable to the Administrative Agent), each in its capacity as the issuer of Documentary Credits hereunder, and its successors in such capacity as provided in Section 2.4(i). Any Issuing Bank may, in its discretion and with notice to the Borrower and the Administrative Agent, arrange for one or more Documentary Credits to be issued by Affiliates of such Issuing Bank, in which case the term “Issuing Bank” shall include any such Affiliate with respect to Documentary Credits issued by such Affiliate.

**“JPMorgan”:** the meaning set forth in the preamble to this Agreement.

**“Joint Lead Arrangers”:** JPMorgan Chase Bank, N.A., HSBC Securities (USA) Inc., BNP Paribas Securities Corp., Crédit Agricole Corporate and Investment Bank, Mizuho Bank, Ltd., DBS Bank, Ltd., Oversea-Chinese Banking Corporation Limited, Citibank, N.A., Industrial and Commercial Bank of China Limited, New York Branch and MUFG Bank, Ltd.

**“Joint Venture”:** with respect to any Person, any partnership, corporation or other entity in which up to and including 50% of the Equity Interests is owned, directly or indirectly, by such Person and/or one or more of its Subsidiaries.

**“Legal Holiday”:** a Saturday, a Sunday or a day on which banking institutions in the City of New York or at a place of payment are authorized by law, regulation or executive order to remain closed. If a payment date is a Legal Holiday at a place of payment, payment may be made at that place on the next succeeding day that is not a Legal Holiday.

**“Lenders”:** the meaning set forth in the preamble to this Agreement.

**“Lien”:** any lien, security interest, mortgage, charge or similar encumbrance, provided, however, that in no event shall either (i) any legal or equitable encumbrances deemed to exist by reason of a negative pledge or (ii) an operating lease or a non-exclusive license be deemed to constitute a Lien.

**“Loan”:** a loan made by a Lender to the Borrower pursuant to this Agreement.

**“Loan Documents”:** this Agreement, the Security Documents, the First Lien Intercreditor Agreement and any joinder to such First Lien Intercreditor Agreement, any Incremental Amendment, and, after execution and delivery thereof pursuant to the terms of this Agreement, each Note, and any amendment, waiver, supplement or other modification to any of the foregoing.

**“Loan Parties”:** the Borrower and the Guarantors.

**“Manassas Property”:** all real property vested solely in the Borrower or a Guarantor at the location commonly known 9600 Godwin Drive; Manassas, Virginia 20110 together with all real property vested solely in the Borrower or a Guarantor adjoining, contiguous to, or in vicinity of the Manassas Property.

**“Material Adverse Effect”:** a material adverse effect on (a) the business, financial condition, results of operations or properties of the Borrower and its Subsidiaries taken as a whole, (b) the ability of the Loan Parties, taken as a whole, to perform their obligations under the Loan Documents, (c) the validity or enforceability of the Loan Documents taken as a whole or (d) the material rights and remedies available to, or conferred upon, the Lenders, the Administrative Agent and the Collateral Agent under the other Loan Documents, taken as a whole (it being understood that any event or condition described in Section 7.1(h) or (i) hereof that would not give rise to a Default or Event of Default thereunder shall not constitute a Material Adverse Effect under preceding clause (c) or (d)).

**“Material Subsidiary”**: each Restricted Subsidiary that, as of the last day of the fiscal quarter of the Borrower most recently ended for which financial statements are available, had total assets (based on book value after intercompany eliminations) as of the end of such quarter in excess of \$200,000,000 or that is designated by the Borrower as a “Material Subsidiary.”

**“Materials of Environmental Concern”**: any gasoline or petroleum (including crude oil or any fraction thereof) or petroleum products, or asbestos, or polychlorinated biphenyls or any other chemicals, substances, materials, wastes, pollutants or contaminants in any form, regulated under any Environmental Law.

**“Maturity Date”**: the Revolving Maturity Date or the Incremental Term Maturity Date.

**“Measurement Period”**: at any date of determination, the most recently completed four fiscal quarters of the Borrower for which financial statements have been filed with the SEC.

**“Minimum Extension Condition”**: the meaning set forth in Section 2.27(b).

**“Moody’s”**: Moody’s Investors Service, Inc. and any successor to its rating agency business.

**“Mortgaged Property”**: collectively, the Boise Property and the Manassas Property and the other real properties of the Borrower or any Guarantor, as to which the Collateral Agent for the benefit of the Secured Parties is or shall be granted a Lien pursuant to the Mortgages.

**“Mortgages”**: collectively, each of the mortgages, deeds of trust, deeds to secure debt and security deeds made by any Loan Party in favor of, or for the benefit of, the Collateral Agent for the benefit of the Secured Parties referred to therein, as each may be amended, restated, supplemented or otherwise modified from time to time; provided, however, in the event any Mortgaged Property is located in a jurisdiction which imposes mortgage recording taxes or similar fees, the applicable Mortgage shall not secure an amount in excess of 100% of the Fair Market Value of such Mortgaged Property.

**“Multiemployer Plan”**: a Plan that is a multiemployer plan as defined in Section 4001(a)(3) of ERISA.

**“Non-Excluded Taxes”**: the meaning set forth in Section 2.19(a).

**“Notes”**: the collective reference to any promissory note evidencing Loans.

**“NYFRB”**: the Federal Reserve Bank of New York.

**“NYFRB Rate”**: for any day, the greater of (a) the Federal Funds Effective Rate in effect on such day and (b) the Overnight Bank Funding Rate in effect on such day (or for any day that is not a Business Day, for the immediately preceding Business Day); provided that if none of such rates are published for any day that is a Business Day, the term “NYFRB Rate” means the rate for a federal funds transaction quoted at 11:00 a.m. on such day received by the Administrative Agent from a federal funds broker of recognized standing selected by it; provided, further, that if any of the aforesaid rates as so determined be less than zero, such rate shall be deemed to be zero for purposes of this Agreement.

**“Obligations”**: the unpaid principal of and interest on (including interest accruing after the maturity of the Loans and interest accruing after the filing of any petition in bankruptcy, or the commencement of any insolvency, reorganization or like proceeding, relating to the Borrower, whether or not a claim for post-filing or post-petition interest is allowed in such proceeding) the Loans, DC Exposure and all other obligations and liabilities of the Borrower to the Administrative Agent or to any Lender, whether direct or indirect, absolute or contingent, due or to become due, or now existing or hereafter incurred, which may arise under, out of, or in connection with, this Agreement, any other Loan Document or any other document made, delivered or given in connection herewith or therewith, whether on account of principal, interest, reimbursement obligations, fees, indemnities, costs, expenses (including all fees, charges and disbursements of counsel to the Administrative Agent or to any Lender that are required to be paid by the Borrower pursuant hereto) or otherwise.

**“Original Revolving Maturity Date”**: means July 3, 2023.

**“Other Taxes”**: all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes arising from any payment made hereunder or under any other Loan Document or from the execution, delivery or enforcement of, or otherwise with respect to, this Agreement or any other Loan Document, except any such Taxes imposed with respect to an assignment (other than an assignment pursuant to Section 2.26 (Replacement of Lenders)) as a result of the Administrative

Agent, Lender or assignee having a present or former connection with the applicable taxing jurisdiction (other than any such connection arising solely from the Administrative Agent or such Lender or assignee having executed, delivered, become a party to, or performed its obligations or received a payment under, or enforced, and/or engaged in any activities contemplated with respect to this Agreement or any other Loan Document).

**“Overnight Bank Funding Rate”**: for any day, the rate comprised of both overnight federal funds and overnight Eurodollar borrowings by U.S.-managed banking offices of depository institutions, as such composite rate shall be determined by the NYFRB as set forth on its public website from time to time, and published on the next succeeding Business Day by the NYFRB as an overnight bank funding rate.

**“Pari Passu Lien Indebtedness”**: Indebtedness secured by a Lien created or incurred in reliance on Section 6.1 and subject to the terms of a First Lien Intercreditor Agreement.

**“Participant”**: the meaning set forth in Section 9.6(c).

**“Participant Register”**: the meaning set forth in Section 9.6(c)(ii).

**“Patents”**: (i) all letters patent and patent rights of the United States, any other country or any political subdivision thereof, all reissues, reexaminations, and extensions thereof, (ii) all applications for letters patent of the United States or any other country and all divisionals, continuations and continuations-in-part thereof, and (iii) all rights to obtain any reissues or extensions of the foregoing.

**“Patent License”**: all agreements, whether written or oral, providing for the grant by or to Borrower or any Guarantor of any right to make, have made, manufacture, use, sell, offer to sell, have sold, import or export any invention covered in whole or in part by a Patent.

**“Patriot Act”**: the USA Patriot Act, Title III of Pub. L. 107-56, signed into law on October 26, 2001, as amended.

**“PBGC”**: the Pension Benefit Guaranty Corporation established pursuant to Subtitle A of Title IV of ERISA (or any successor).

**“Permitted Liens”**:

(1) Liens existing as of the Closing Date or arising thereafter pursuant to related agreements existing as of the Closing Date (other than Liens securing the Secured Obligations);

(2) Liens securing the Obligations;

(3) Liens on property given to secure all or any part of the payment of or financing of all or any part of the purchase price thereof, or the cost of development, operation, construction, alteration, repair or improvement of all or any part thereof; provided that such Liens shall be given (or given pursuant to firm commitment financing arrangements obtained within such period) within 18 months (or in the case of Liens securing any Indebtedness supported by an export credit agency, 24 months) after the later of (i) the acquisition of such property and/or the completion of any such development, operation, construction, alteration, repair or improvement, whichever is later and (ii) the placing into commercial operation of such property after the acquisition or completion of any such development, operation, construction, alteration, repair or improvement and shall attach solely to the property acquired, or constructed, altered or repaired and any improvements then or thereafter placed thereon and the capital stock of any Person formed to acquire such property, and any proceeds thereof, accessions thereto and insurance proceeds thereof;

(4) Liens existing on any property at the time of acquisition of such property or Liens existing on assets of a Person and its Restricted Subsidiaries prior to the time such Person becomes a Restricted Subsidiary (or arising thereafter pursuant to contractual commitments entered into prior to acquiring such property) (including acquisition through merger or consolidation) or at the time of such acquisition (or arising thereafter pursuant to contractual commitments entered into prior to such Person becoming a Restricted Subsidiary) by the Borrower or any Restricted Subsidiary of the Borrower; provided that such Liens do not extend to other assets of the Borrower or its other Restricted Subsidiaries;

(5) (a) Liens on the Equity Interests of any Person, including any Joint Venture, and its Restricted Subsidiaries which, when such Liens arise, concurrently becomes a Restricted Subsidiary or Liens on all or substantially all of the assets of such Person, including any Joint Venture, and its Subsidiaries arising in connection with the purchase or acquisition thereof or of an interest therein by the Borrower or a Subsidiary, including, without limitation, any such Liens on the Equity Interests in or the assets of IM Flash Technologies, LLC or its Subsidiaries to secure obligations of the Borrower or any of its Subsidiaries with respect to all or a portion of the purchase price for the acquisition of any Equity Interests in or all or a portion of the assets of IM Flash Technologies, LLC and its Subsidiaries not owned by the Borrower or its Subsidiaries as of the Closing Date, and (b) Liens on Equity Interests in any Joint Venture of the Borrower or any of its Subsidiaries, or in any Subsidiary of the Borrower that owns an Equity Interest in a Joint Venture to secure Indebtedness contributed or advanced solely to that Joint Venture; provided that, in the case of each of the preceding clauses (a) and (b), such Liens do not extend to other assets of the Borrower or its other Restricted Subsidiaries;

(6) Liens securing Indebtedness of up to 5.0% of Consolidated Net Tangible Assets to any strategic partner of the Borrower and/or one or more of its Restricted Subsidiaries incurred in connection with joint technology efforts between such partner and the Borrower and/or one or more of its Subsidiaries and/or the financing of manufacturing of products;

(7) Liens in favor of the Borrower or a Restricted Subsidiary of the Borrower;

(8) Liens imposed by law, such as carriers', warehousemen's and mechanic's Liens and other similar Liens arising in the ordinary course of business, Liens in connection with legal proceedings and Liens arising solely by virtue of any statutory, common law or contractual provision relating to banker's Liens, rights of set-off or similar rights and remedies as to securities accounts, deposit accounts or other funds maintained with a creditor depository institution;

(9) Liens for taxes, assessments or other governmental charges not yet overdue for a period of more than 30 days or subject to penalties for non-payment or which are being contested in good faith by appropriate proceedings and for which adequate reserves with respect thereto are maintained on the books of the Borrower or the affected Restricted Subsidiary, as the case may be, in accordance with GAAP;

(10) Liens to secure the performance of bids, trade or commercial contracts, government contracts, purchase, construction, sales and servicing contracts (including utility contracts), leases, statutory obligations, surety, stay, customs and appeal bonds, performance bonds and other obligations of a like nature, in each case in the ordinary course of business, deposits as security for contested taxes, import or customs duties, liabilities to insurance carriers or for the payment of rent, and Liens to secure letters of credit, Guarantees, bonds or other sureties given in connection with the foregoing obligations or in connection with workers' compensation, unemployment insurance or other types of social security or similar laws and regulations;

(11) Liens in favor of any customer arising in respect of and not exceeding the amount of performance deposits and partial, progress, advance or other payments by the customer for goods produced or services rendered (or to be produced or rendered) to that customer and consignment arrangements (whether as consignor or consignee) or similar arrangements for the sale or purchase of goods;

(12) Liens upon specific items of inventory or other goods, documents of title and proceeds of any Person securing such Person's obligation in respect of letters of credit or banker's acceptances issued or created in the ordinary course of business for the account of such Person to facilitate the purchase, shipment, or storage of such inventory or other goods;

(13) Liens and deposits securing netting services, business credit card programs, overdraft protection and other treasury, depository and cash management services or incurred in connection with any automated clearing-house transfers of funds or other fund transfer or payment processing services;

(14) Liens on, and consisting of, deposits made by the Borrower to discharge or defease any other Indebtedness;

(15) Liens on insurance policies and the proceeds thereof (i) incurred in connection with the financing of insurance premiums or (ii) with respect to any Subsidiary that is not a Restricted Subsidiary to the extent of such Subsidiary's interest as an insured under such policies;

(16) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods and Liens deemed to exist in connection with Investments in repurchase agreements;

(17) Liens securing Indebtedness or other obligations in an aggregate amount, together with all other Indebtedness and other obligations secured by Liens pursuant to this clause (17), not to exceed \$100,000,000 at any one time outstanding; or

(18) any extension, renewal, substitution or replacement (or successive extensions, renewals, substitutions or replacements), in whole or in part, of any Lien referred to in this clause (18) or the preceding clauses (1) through (17), or any Liens that secure an extension, renewal, replacement, refinancing or refunding (including any successive extensions, renewals, replacements, refinancings or refundings) of any Indebtedness within 12 months of the maturity, retirement or other repayment or prepayment of the Indebtedness (including any such repayment pursuant to amortization obligations with respect to such Indebtedness) being extended, renewed, substituted, replaced, refinanced or refunded, which Indebtedness is or was secured by a Lien referred to in this clause (18) or the preceding clauses (1) through (17).

For the avoidance of doubt, the inclusion of specific Liens in the definition of Permitted Liens shall not create any implication that the obligations secured by such Liens constitute Indebtedness. Terms used in the foregoing definition of Permitted Liens that are defined in the UCC, including the terms accounts, consignee, consignment, consignor, deposit accounts, goods, inventory, securities accounts, security interest and proceeds shall have the meanings set forth in the UCC.

**“Person”:** any individual, corporation, partnership, joint venture, association, joint stock company, trust, unincorporated organization, joint venture, limited liability company, Governmental Authority or other entity of whatever nature.

**“Plan”:** at a particular time, any employee benefit plan that is covered by ERISA and in respect of which the Borrower or a Commonly Controlled Entity is (or, if such plan were terminated at such time, would under Section 4069 of ERISA be deemed to be) an “employer” as defined in Section 3(5) of ERISA.

**“Plan Asset Regulations”:** 29 CFR § 2510.3-101 *et seq.*, as modified by Section 3(42) of ERISA, as amended from time to time.

**“Platform”:** the meaning set forth in Section 9.2(b).

**“Prime Rate”:** the rate of interest last quoted by The Wall Street Journal as the “Prime Rate” in the U.S. or, if The Wall Street Journal ceases to quote such rate, the highest per annum interest rate published by the Federal Reserve Board in Federal Reserve Statistical Release H.15 (519) (Selected Interest Rates) as the “bank prime loan” rate or, if such rate is no longer quoted therein, any similar rate quoted therein (as determined by the Administrative Agent) or any similar release by the Federal Reserve Board (as determined by the Administrative Agent). Each change in the Prime Rate shall be effective from and including the date such change is publicly announced or quoted as being effective.

**“Principal Property”:** with respect to any Person, all of such Person’s interests in any kind of property or asset (including the capital stock in and other securities of any other Person), except such as the Board of Directors by resolution determines in good faith (taking into account, among other things, the materiality of such property to the business, financial condition and earnings of the Borrower and its Consolidated Subsidiaries taken as a whole) not to be material to the business of the Borrower and its Consolidated Subsidiaries, taken as a whole.

**“Priority Debt”:** (i) Indebtedness of the Borrower or any Restricted Subsidiary (including Guarantees by the Borrower or any Restricted Subsidiary of Indebtedness) that is secured by Liens on Principal Property or Collateral of the Borrower or any Restricted Subsidiary and that is not otherwise permitted pursuant to Section 6.1(a) or Section 6.1(d) and (ii) any Indebtedness of Restricted Subsidiaries that are not Guarantors that is not included in clause (i) of this definition, and that is not otherwise permitted pursuant to Section 6.1(b) or Section 6.1(d).

**“PTE”:** a prohibited transaction class exemption issued by the U.S. Department of Labor, as any such exemption may be amended from time to time.

**“Public Lender”:** the meaning set forth in Section 9.15.

**“Qualified Acquisition”**: any acquisition (directly or through the acquisition of equity interests) of all or substantially all or any significant portion of the assets of a Person, an operating unit, division or line of business, or other bulk purchase transaction not prohibited under this Agreement so long as (i) the consideration, which shall be cash consideration and/or other non-equity consideration (including any assumed liabilities), equals or exceeds \$400,000,000 and (ii) that the Borrower notifies the Administrative Agent in writing at least five Business Days (or such shorter period as may be reasonably acceptable to the Administrative Agent) prior to the consummation of such acquisition that such acquisition shall be a “Qualified Acquisition” for purposes of this Agreement along with a certificate signed by a Responsible Officer of the Borrower setting forth a calculation of (x) the Total Leverage Ratio immediately prior to such Qualified Acquisition and (y) the Total Leverage Ratio after giving pro forma effect to such Qualified Acquisition; provided that if the Borrower publicly announces such Acquisition later than five Business Days prior to consummation of the Acquisition, the Borrower shall deliver such notice (and certificate, if applicable) on the date of announcement.

**“Rating Agencies”**: each of Moody’s and S&P and if a Corporate Rating of the Borrower is in effect from Fitch, Fitch.

**“Register”**: the meaning set forth in Section 9.6(b)(iv).

**“Regulation U”**: Regulation U of the Board of Governors as in effect from time to time.

**“Related Persons”**: with respect to any Indemnitee, any Affiliate of such Indemnitee and any officer, director, employee, representative or agent of such Indemnitee or Affiliate thereof, in each case that has provided any services in connection with the transactions contemplated under this Agreement and the other Loan Documents.

**“Reportable Event”**: any of the events set forth in Section 4043(c) of ERISA, other than those events as to which the thirty (30) day notice period is waived under any regulation promulgated by the PBGC.

**“Required Lenders”**: at any time, Lenders holding more than 50% of the sum of (a) (i) the total 2019 Incremental Term Loan Commitments then in effect or, if the 2019 Incremental Term Loan Commitments have been terminated, the aggregate 2019 Incremental Term Loans then outstanding and (ii) the aggregate unpaid principal amount of any other Incremental Term Loans then outstanding and (b) the total Revolving Commitments then in effect or, if the Revolving Commitments have been terminated, the aggregate Revolving Credit Exposure then outstanding; provided that whenever there are one or more Defaulting Lenders, the portion of the Loans, 2019 Incremental Term Loan Commitments, Revolving Commitments and Revolving Credit Exposure held or deemed held by each Defaulting Lender shall be excluded for purposes of making a determination of Required Lenders.

**“Required Revolving Lenders”**: at any time, Lenders holding more than 50% of the total Revolving Commitments then in effect or, if the Revolving Commitments have been terminated, the aggregate Revolving Credit Exposure then outstanding; provided that whenever there are one or more Defaulting Lenders, the Revolving Commitments and Revolving Credit Exposure held or deemed held by each Defaulting Lender shall be excluded for purposes of making a determination of Required Revolving Lenders.

**“Required 2019 Incremental Term Loan Lenders”**: at any time, Lenders holding more than 50% of the total 2019 Incremental Term Loan Commitments then in effect or, if the 2019 Incremental Term Loan Commitments have been terminated, the aggregate 2019 Incremental Term Loans then outstanding; provided that whenever there are one or more Defaulting Lenders, the 2019 Incremental Term Loan Commitments and 2019 Incremental Term Loans held or deemed held by each Defaulting Lender shall be excluded for purposes of making a determination of Required 2019 Incremental Term Loan Lenders.

**“Requirement of Law”**: as to any Person, the certificate of incorporation and by laws or other organizational or governing documents of such Person, and any law, treaty, rule or regulation or determination of an arbitrator or a court or other Governmental Authority, in each case applicable to or binding upon such Person or any of its property or to which such Person or any of its property is subject.

**“Responsible Officer”**: the chief executive officer, any president, any vice president, the chief financial officer, the treasurer, any assistant treasurer, the secretary or any assistant secretary of the Borrower.

**“Restricted Subsidiary”**: each Subsidiary of the Borrower, (i) at least 80% of the Voting Stock of which is owned by the Borrower or one or more Subsidiaries of which at least 80% of the Voting Stock is owned directly or indirectly by the

Borrower and (ii) is not an Unrestricted Subsidiary, provided that, for purposes of clause (i), any Voting Stock owned by a Subsidiary of the Borrower that is not a Restricted Subsidiary based on the foregoing clause shall be excluded.

“Restricted Subsidiary Debt”: the meaning set forth in Section 6.1(b).

“Revolving Commitments”: with respect to each Lender, the commitment of such Lender to make Revolving Loans and to acquire participations in Documentary Credits hereunder, expressed as an amount representing the maximum aggregate amount of such Lender’s Revolving Credit Exposure hereunder, as such commitment may be (a) reduced from time to time pursuant to Section 2.7 and (b) reduced or increased from time to time pursuant to assignments by or to such Lender pursuant to Section 9.4. The initial amount of each Lender’s Revolving Commitment is set forth on Schedule 1.1, or in the Assignment and Assumption or other documentation or record (as such “term” is defined in Section 9-102(a)(70) of the New York Uniform Commercial Code) as provided in Section 9.04(b)(ii)(C), pursuant to which such Lender shall have assumed its Revolving Commitment, as applicable. As of the 2018 Incremental Amendment Effective Date, the aggregate amount of the Lenders’ Revolving Commitments is \$2,500,000,000.

“Revolving Credit Exposure”: with respect to any Lender at any time, the sum of the outstanding principal amount of such Lender’s Revolving Loans and its DC Exposure at such time.

“Revolving Extensions of Credit”: as to any Lender at any time, an amount equal to the sum of (a) the aggregate principal amount of all Revolving Loans made by such Lender then outstanding, and (b) such Lender’s Revolving Loan Percentage of the DC Obligations then outstanding.

“Revolving Facility”: the Revolving Commitments and the extensions of credit made thereunder.

“Revolving Loan”: a Loan made pursuant to Section 2.3.

“Revolving Loan Percentage”: as to any Lender at any time, the percentage of which such Lender’s Revolving Commitment represents of the aggregate Revolving Commitments or, if the Revolving Commitments have been terminated, the percentage held by such Lender of the aggregate principal amount of all Revolving Loans and DC Obligations (via risk participation) then outstanding.

“Revolving Maturity Date”: the earlier to occur of (a) the Stated Maturity and (b) the acceleration of the Revolving Loans and termination of the Revolving Commitments. In the event that one or more Extensions are effected in accordance with Section 2.27, then the Revolving Maturity Date of the Revolving Loans shall be determined based on the respective Stated Maturity applicable thereto (except in cases where clause (b) of the preceding sentence is applicable).

“S&P”: Standard & Poor’s Ratings Services, and any successor to its rating agency business.

“Sanctioned Country” means, at any time, a country, region or territory which is itself the subject or target of any Sanctions (at the time of this Agreement, Crimea, Cuba, Iran, Libya, North Korea and Syria).

“Sanctioned Person” means, at any time, (a) any Person listed in any Sanctions-related list of designated Persons maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury, the U.S. Department of State, by the United Nations Security Council, the European Union, any European Union member state, Her Majesty’s Treasury of the United Kingdom or other relevant sanctions authority, (b) any Person operating, organized or resident in a Sanctioned Country or (c) any Person owned or controlled by any such Person or Persons described in the foregoing clauses (a) or (b).

“Sanctions” means all economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by (a) the U.S. government, including those administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, or (b) the United Nations Security Council, the European Union, any European Union member state or Her Majesty’s Treasury of the United Kingdom.

“SEC”: the Securities and Exchange Commission, any successor thereto and any analogous Governmental Authority.

“Secured Covenants Period”: the meaning assigned to such term in Section 9.14.

“Secured Covenant Reinstatement Event”: any day following a Guarantee and Collateral Suspension Date on which (i) the Borrower’s Corporate Rating shall be equal to or less than either (x) Ba3 from Moody’s or (y) BB- from S&P (or, if the Borrower also maintains a Fitch Corporate Rating, then the Borrower’s Corporate Rating for two of the three rating agencies is

equal to or less than (x) Ba3 from Moody's, (y) BB- from S&P and (z) BB- from Fitch) or (ii) the Borrower notifies the Administrative Agent in writing that it has elected to terminate a Guarantee and Collateral Suspension Period.

**“Secured Obligations”**: means any principal, interest, premium (if any), fees, indemnifications, reimbursements, expenses, damages and other liabilities payable under (i) the Security Documents and (ii) any other security agreement with respect to any other series of First Lien Debt, in each case, including, without limitation, all outstanding Obligations, and such obligations in respect of any other series of First Lien Debt issued or outstanding after the date of this Agreement.

**“Secured Parties”**: (a) the Administrative Agent, (b) the Collateral Agent, (c) the Lenders and (d) any other Person to whom a Secured Obligation is owned by a Loan Party pursuant to the terms of the Loan Documents.

**“Securities Act”**: the Securities Act of 1933, as amended, or any successor statute or statutes thereto.

**“Security Documents”**: the Guarantee and Collateral Agreement, the Mortgages, and all security agreements, mortgages, deeds of trust or other grants for security executed and delivered by the Borrower or any other Guarantor creating (or purporting to create) a Lien upon Collateral in favor of the Collateral Agent, for the benefit of the Secured Parties, in each case, as amended, modified, renewed, restated or replaced, in whole or in part, from time to time, in accordance with its terms.

**“Significant Subsidiary”**: any Subsidiary that is a “significant subsidiary” of the Borrower as defined under clauses (1) or (2) of Rule 1-02(w) of Regulation S-X under the Exchange Act; provided that references to “10 percent” in clauses (1) and (2) of such definition shall be replaced with “20 percent”.

**“Single Employer Plan”**: any Plan that is covered by Title IV of ERISA, but that is not a Multiemployer Plan.

**“Solvent”**: when used with respect to any Person and its Subsidiaries, means that, as of any date of determination, (a) the amount of the “present fair saleable value” of the assets of such Person and its Subsidiaries on a consolidated basis will, as of such date, exceed the amount of all “liabilities of such Person and its Subsidiaries on a consolidated basis, contingent or otherwise”, as of such date, as such quoted terms are determined in accordance with applicable federal and state laws governing determinations of the insolvency of debtors, (b) the present fair saleable value of the assets of such Person and its Subsidiaries will, as of such date, be greater than the amount that will be required to pay the probable liability of such Person and its Subsidiaries on a consolidated basis on its debts as such debts become absolute and matured, (c) such Person and its Subsidiaries on a consolidated basis will not have, as of such date, an unreasonably small amount of capital with which to conduct their business, and (d) such Person and its Subsidiaries will be able to pay their debts as they mature. For purposes of this definition, (i) “debt” means liability on a “claim”, and (ii) “claim” means any (x) right to payment, whether or not such a right is reduced to judgment, liquidated, unliquidated, fixed, contingent, matured, unmatured, disputed, undisputed, legal, equitable, secured or unsecured or (y) right to an equitable remedy for breach of performance if such breach gives rise to a right to payment, whether or not such right to an equitable remedy is reduced to judgment, fixed, contingent, matured or unmatured, disputed, undisputed, secured or unsecured.

**“Stated Maturity”**: the Original Revolving Maturity Date; provided that, with respect to any Extended Revolving Commitments, the Stated Maturity with respect thereto shall instead be the final maturity date as specified in the applicable Extension Offer accepted by the respective Lender.

**“Subsidiary”**: with respect to any specified Person:

(1) any corporation, association or other business entity of which more than 50% of the total voting power of shares of Capital Stock entitled (without regard to the occurrence of any contingency and after giving effect to any voting agreement or stockholders' agreement that effectively transfers voting power) to vote in the election of directors, managers or trustees of the corporation, association or other business entity is at the time owned or controlled, directly or indirectly, by that Person or one or more of the other Subsidiaries of that Person (or a combination thereof); and

(2) any partnership (a) the sole general partner or the managing general partner of which is such Person or a Subsidiary of such Person or (b) the only general partners of which are that Person or one or more Subsidiaries of that Person (or any combination thereof).

**“Taxes”**: all present or future taxes, levies, imposts, duties, deductions, charges, assessments, fees, withholdings or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

**“Term Loan Credit Agreement”**: the Credit Agreement, dated as of April 26, 2016 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time), by and among Micron Technology, Inc., as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and collateral agent and the other parties thereto.

**“Term Loan Agent”**: Morgan Stanley Senior Funding, Inc., as administrative agent and collateral agent under the Term Loan Credit Agreement.

**“Title Insurance Company”**: First American Title Insurance Company, or such other title insurance company as shall be reasonably acceptable to the Administrative Agent.

**“Total Leverage Ratio”**: as of the date of determination thereof, the ratio of Indebtedness of the Borrower and its Consolidated Subsidiaries as of such date to Consolidated EBITDA of the Borrower for such Measurement Period.

**“Total Revolving Credit Exposure”** means, the sum of the outstanding principal amount of all Lenders’ Revolving Loans and their DC Exposure at such time.

**“Trademarks”**: (i) all trademarks, service marks, trade names, corporate names, company names, business names, fictitious business names, trade styles, service marks, logos, domain names, and other source or business identifiers, and all goodwill associated therewith, all registrations and recordings thereof, and all applications in connection therewith (other than “intent to use” applications included in Excluded Property (as defined in the Guarantee and Collateral Agreement), whether in the United States Patent and Trademark Office or in any similar office or agency of the United States, any state thereof or any other country or any political subdivision thereof, or otherwise, and all common-law rights related thereto, and (ii) the right to obtain all renewals thereof.

**“Trademark License”**: any agreement, whether written or oral, providing for the grant by or to Borrower or any Guarantor of any right to use any Trademark.

**“tranche”**: the meaning set forth in Section 2.27(a).

**“Transferee”**: any Assignee or Participant.

**“2018 Incremental Amendment”**: means that certain Incremental Amendment No. 1 to the Credit Agreement, dated as of November 27, 2018, among the Loan Parties, the Lenders party thereto and the Administrative Agent.

**“2018 Incremental Amendment Effective Date”**: as defined in the 2018 Incremental Amendment.

**“2018 Incremental Revolving Commitments”**: as defined in the 2018 Incremental Amendment.

**“2018 Incremental Revolving Lenders”**: as defined in the 2018 Incremental Amendment.

**“2019 Incremental Amendment”**: means that certain Incremental Amendment No. 2 to the Credit Agreement, dated as of July 9, 2019, among the Loan Parties, the Lenders party thereto, the Administrative Agent, and Wells Fargo Securities, LLC.

**“2019 Incremental Amendment Effective Date”**: as defined in the 2019 Incremental Amendment.

**“2019 Incremental Term Loan”**: each Loan made by a 2019 Incremental Term Loan Lender to the Borrower pursuant to Section 2.6.

**“2019 Incremental Term Loan Availability Period”**: the period from the 2019 Incremental Amendment Effective Date to and including the 2019 Incremental Term Loan Commitment Termination Date.

**“2019 Incremental Term Loan Commitment Termination Date”**: means the earliest to occur of (i) 5:00 p.m. (New York City time) on November 9, 2019 (at which date and time all unfunded 2019 Incremental Term Loan Commitments shall automatically be reduced to \$0), (ii) the 2019 Incremental Term Loan Funding Date and (iii) the date on which all unfunded 2019 Incremental Term Loan Commitments have been reduced to \$0 pursuant to Section 2.7(e) or terminated pursuant to Section 7.1.

**“2019 Incremental Term Loan Commitments”**: as defined in the 2019 Incremental Amendment.

“2019 Incremental Term Loan Funding Date”: the date of the Borrowing of the 2019 Incremental Term Loans in accordance with Sections 2.6 and 4.2.

“2019 Incremental Term Loan Lenders”: as defined in the 2019 Incremental Amendment.

“2019 Incremental Term Loan Maturity Date”: the earlier to occur of (a) the date that is five years after the 2019 Incremental Term Loan Funding Date and (b) the acceleration of the 2019 Incremental Term Loans.

“2019 Incremental Term Loan Ticking Fee”: as defined in Section 2.22(d).

“2019 Incremental Term Loan Ticking Fee Percentage”: the applicable rate per annum set forth below under the caption “2019 Incremental Term Loan Ticking Fee Percentage” corresponding to either (1) the Corporate Ratings from the Rating Agencies or (2) the Borrower’s Total Leverage Ratio, whichever yields a lower pricing level, applicable on such date:

<u>Pricing Level:</u>	<u>Corporate Ratings:</u>	<u>Total Leverage Ratio</u>	<u>2019 Incremental Term Loan Ticking Fee Percentage</u>
<u>Level 1</u>	<u>BBB-/Baa3 or higher</u>	<u>Less than or equal to 0.5:1.00</u>	<u>0.20%</u>
<u>Level 2</u>	<u>BB+/Ba1</u>	<u>Greater than 0.5:1.00 but less than or equal to 1.25:1.00</u>	<u>0.25%</u>
<u>Level 3</u>	<u>BB/Ba2</u>	<u>Greater than 1.25:1.00 but less than or equal to 2.00:1.00</u>	<u>0.30%</u>
<u>Level 4</u>	<u>BB-/Ba3 or lower</u>	<u>Greater than 2.00:1.00</u>	<u>0.35%</u>

For purposes of the foregoing, (i) if neither Moody’s nor S&P shall have in effect a Corporate Rating (regardless of whether Fitch then does), the pricing level shall be determined based on the Total Leverage Ratio, (ii) if the Corporate Ratings established by the relevant Rating Agencies shall fall within different Categories, the 2019 Incremental Term Loan Ticking Fee Percentage shall be based on (1) if two Corporate Ratings are in effect, the lower of the two Corporate Ratings and if three Corporate Ratings are in effect, the Corporate Rating remaining after excluding the highest Corporate Rating and the lowest Corporate Rating or (2) the Total Leverage Ratio, whichever yields a lower pricing level; and (iii) if the Corporate Ratings established by the relevant Rating Agencies shall be changed (other than as a result of a change in the rating system of any relevant Rating Agency), such change shall be effective as of the date on which it is first announced by the applicable rating agency, irrespective of when notice of such change shall have been furnished by the Borrower to the Administrative Agent.

For the purposes of the foregoing, changes in the Total Leverage Ratio shall become effective on the date on which the Compliance Certificate is delivered to the Administrative Agent pursuant to Section 5.2. If any Compliance Certificate referred to above is not delivered within the time period specified in Section 5.2, then the pricing level shall be determined based on the Corporate Rating.

Each change in the 2019 Incremental Term Loan Ticking Fee Percentage shall apply during the period commencing on the effective date of such change and ending on the date immediately preceding the effective date of the next Corporate Rating or Total Leverage Ratio change. If neither the Corporate Rating nor the Total Leverage Ratio can be determined, then upon the request of the Required 2019 Incremental Term Loan Lenders, Level 4 shall apply.

“Type”: when used in reference to any Loan or Borrowing, refers to whether the rate of interest on such Loan, or on the Loans comprising such Borrowing, is determined by reference to the Base Rate or the Eurodollar Rate.

“UCC”: the Uniform Commercial Code as in effect from time to time in the State of New York.

“United States”: the United States of America.

“Unrestricted Subsidiary”: (1) any Subsidiary of the Borrower designated by the Borrower as an Unrestricted Subsidiary pursuant to Section 5.9 subsequent to the Closing Date, until such Person ceases to be an Unrestricted Subsidiary of the Borrower in accordance with Section 5.9 and (2) any Subsidiary of an Unrestricted Subsidiary.

**“Unsecured Covenants Period”**: meaning assigned to such term in Section 9.14.

**“Unused Revolving Commitment”**: with respect to any Lender at any time, an amount equal to the excess, if any, of (a) such Lender’s Revolving Commitment then in effect over (b) such Lender’s Revolving Extensions of Credit then outstanding.

**“Voting Stock”**: all classes of capital stock or other interests (including partnership interests) of a Person then outstanding and normally entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof.

**“Write-Down and Conversion Powers”** means, with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule.

#### **1.2. Other Definitional Provisions.**

(a) Unless otherwise specified therein, all terms defined in this Agreement shall have the defined meanings when used in the other Loan Documents or any certificate or other document made or delivered pursuant hereto or thereto.

(b) As used herein and in the other Loan Documents, and any certificate or other document made or delivered pursuant hereto or thereto, (i) the words “include”, “includes” and “including” shall be deemed to be followed by the phrase “without limitation”, (ii) the word “incur” shall be construed to mean incur, create, issue, assume, become liable in respect of or suffer to exist (and the words “incurred” and “incurrence” shall have correlative meanings) and (iii) the words “asset” and “property” shall be construed to have the same meaning and effect and to refer to any and all tangible and intangible assets and properties, including cash, Capital Stock, securities, revenues, accounts, leasehold interests and contract rights.

(c) The words “hereof”, “herein” and “hereunder” and words of similar import, when used in this Agreement, shall refer to this Agreement as a whole and not to any particular provision of this Agreement, and Section, Schedule and Exhibit references are to this Agreement unless otherwise specified.

(d) The meanings given to terms defined herein shall be equally applicable to both the singular and plural forms of such terms. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. References to agreements or other Contractual Obligations shall, unless otherwise specified, be deemed to refer to such agreements or Contractual Obligations as amended, supplemented, restated or otherwise modified from time to time to the extent permitted herein.

Except as otherwise provided herein, all terms of an accounting or financial nature shall be construed in accordance with GAAP.

**1.3. Delivery of Notices.** Any reference to a delivery or notice date that is not a Business Day shall be deemed to mean the next succeeding day that is a Business Day.

## **SECTION 2** **The Credits**

**2.1. Revolving Commitments.** Subject to the terms and conditions hereof, each Lender agrees to make Revolving Loans to the Borrower from time to time during the Availability Period in an aggregate amount that will not result (after giving effect to any application of proceeds of such Borrowing pursuant to Section 2.8) in (a) such Lender’s Revolving Credit Exposure exceeding such Lender’s Revolving Commitment or (b) the sum of the Total Revolving Credit Exposure exceeding the total Revolving Commitments. Within the foregoing limits and subject to the terms and conditions set forth herein, the Borrower may borrow, prepay and reborrow Revolving Loans. The Revolving Loans may from time to time be Eurodollar Loans or Base Rate Loans, as determined by the Borrower and notified to the Administrative Agent in accordance with Sections 2.2 and 2.15. For the avoidance of doubt, with effect from the 2018 Incremental Amendment Effective Date, unless the context otherwise requires, the 2018 Incremental Revolving Commitments shall constitute “Revolving Commitments” for all purposes of this Agreement, and all provisions of this Agreement applicable to the Revolving Commitments shall be applicable to the 2018 Incremental Revolving Commitments.

**2.2. Revolving Loans and Borrowing.** (a) Each Revolving Loan shall be made as part of a Borrowing consisting of Revolving Loans made by the Lenders ratably in accordance with their respective Revolving Loan Percentages. The failure

of any Lender to make any Revolving Loan required to be made by it shall not relieve any other Lender of its obligations hereunder; provided that the Revolving Commitments of the Lenders are several and no Lender shall be responsible for any other Lender's failure to make Loans as required.

(b) Subject to Section 2.11, each Revolving Borrowing shall be comprised entirely of Base Rate Loans or Eurodollar Loans as the Borrower may request in accordance herewith. Each Lender at its option may make any Eurodollar Loan by causing any domestic or foreign branch or Affiliate of such Lender to make such Loan by designating such branch or Affiliate as its lending office; provided that any exercise of such option shall not affect the obligation of the Borrower to repay such Loan in accordance with the terms of this Agreement.

(c) At the commencement of each Interest Period for any Eurodollar Revolving Borrowing, such Borrowing shall be in an aggregate amount that is an integral multiple of \$1,000,000 and not less than \$5,000,000. At the time that each Base Rate Revolving Borrowing is made, such Borrowing shall be in an aggregate amount that is an integral multiple of \$1,000,000 and not less than \$3,000,000; provided that a Base Rate Revolving Borrowing may be in an aggregate amount that is equal to the entire unused balance of the total Revolving Commitments or that is required to finance the reimbursement of an DC Disbursement as contemplated by Section 2.6(e). Borrowings of more than one Type and Class may be outstanding at the same time; provided that there shall not at any time be more than a total of ten Eurodollar Revolving Borrowings outstanding.

(d) Notwithstanding any other provision of this Agreement, the Borrower shall not be entitled to request, or to elect to convert or continue, any Borrowing if the Interest Period requested with respect thereto would end after the Maturity Date.

2.3. Requests for Revolving Borrowings. To request a Revolving Borrowing, the Borrower shall notify the Administrative Agent of such request by submitting a Borrowing Request (a) in the case of a Eurodollar Borrowing, not later than 1:00 p.m. New York City time, three Business Days before the date of the proposed Borrowing or (b) in the case of a Base Rate Borrowing, not later than 12:00 p.m. New York City time, on the date of the proposed Borrowing (which shall be a Business Day). Each such Borrowing Request shall be irrevocable and shall be signed by a Responsible Officer of the Borrower. Each such Borrowing Request shall specify the following information in compliance with Section 2.2:

- (i) the aggregate amount of the requested Borrowing;
- (ii) the Borrowing Date;
- (iii) whether such Borrowing is to be a Base Rate Borrowing or a Eurodollar Borrowing;
- (iv) in the case of a Eurodollar Borrowing, the initial Interest Period to be applicable thereto, which shall be a period contemplated by the definition of the term "Interest Period"; and
- (v) the location and number of the Borrower's account to which funds are to be disbursed, which shall comply with the requirements of Section 2.5.

If no election as to the Type of Revolving Borrowing is specified, then the requested Revolving Borrowing shall be a Base Rate Borrowing. If no Interest Period is specified with respect to any requested Eurodollar Revolving Borrowing, then the Borrower shall be deemed to have selected an Interest Period of one month's duration. Promptly following receipt of a Borrowing Request in accordance with this Section, the Administrative Agent shall advise each Lender of the details thereof and of the amount of such Lender's Loan to be made as part of the requested Borrowing.

2.4. Documentary Credits. (a) General. Subject to the terms and conditions set forth herein, the Borrower may request the issuance of Documentary Credits as the applicant thereof for the support of its or its Subsidiaries' obligations, in a form reasonably acceptable to the Administrative Agent and the Issuing Bank, at any time and from time to time during the Availability Period. In the event of any inconsistency between the terms and conditions of this Agreement and the terms and conditions of any Documentary Credit Agreement, the terms and conditions of this Agreement shall control. Notwithstanding anything herein to the contrary, the Issuing Bank shall have no obligation hereunder to issue, and shall not issue, any Documentary Credit the proceeds of which would be made available to any Person (i) to fund any activity or business of or with any Sanctioned Person, or in any Sanctioned Country, (ii) in any manner that would result in a violation of any Sanctions by any party to this Agreement or (iii) in any manner that would result in a violation of one or more policies of such Issuing Bank applicable to letters of credit or bank guarantees generally.

(b) Notice of Issuance, Amendment, Renewal, Extension; Certain Conditions. To request the issuance of a Documentary Credit (or the amendment, renewal or extension of an outstanding Documentary Credit), the Borrower shall hand deliver or telecopy (or transmit by electronic communication, if arrangements for doing so have been approved by the Issuing Bank) to the Issuing Bank and the Administrative Agent (reasonably in advance of the requested date of issuance, amendment, renewal or extension, but in any event no less than three Business Days) a notice requesting the issuance of a Documentary Credit, or identifying the Documentary Credit to be amended, renewed or extended, and specifying the date of issuance, amendment, renewal or extension (which shall be a Business Day), the date on which such Documentary Credit is to expire (which shall comply with paragraph (c) of this Section), the amount of such Documentary Credit, the name and address of the beneficiary thereof and such other information as shall be necessary to prepare, amend, renew or extend such Documentary Credit. In addition, as a condition to any such Documentary Credit issuance, the Borrower shall have entered into a continuing agreement (or other letter of credit agreement) for the issuance of letters of credit and/or shall submit a letter of credit application, in each case, as required by the Issuing Bank and using such bank's standard form (each, a "Documentary Credit Agreement"). A Documentary Credit shall be issued, amended, renewed or extended only if (and upon issuance, amendment, renewal or extension of each Documentary Credit the Borrower shall be deemed to represent and warrant that), after giving effect to such issuance, amendment, renewal or extension (i) the DC Exposure shall not exceed \$200,000,000, (ii) the sum of the total Revolving Credit Exposures shall not exceed the total Revolving Commitments, (iii) following an Extension Offer and acceptance of such Extension Office, the DC Exposure in respect of all Documentary Credits having an expiration date after the fifth Business Day prior to the Revolving Maturity Date shall not exceed the total Revolving Commitments outstanding after such extension and (iv) the applicable Issuing Bank has consented, in its sole discretion, to issue such Documentary Credit.

(c) Expiration Date. Each Documentary Credit shall expire (or be subject to termination by notice from the Issuing Bank to the beneficiary thereof) at or prior to the close of business on the earlier of (i) the date one year after the date of the issuance of such Documentary Credit (or, in the case of any renewal or extension thereof, one year after such renewal or extension) and (ii) the date that is five Business Days prior to the Revolving Maturity Date.

(d) Participations. By the issuance of a Documentary Credit (or an amendment to a Documentary Credit increasing the amount thereof) and without any further action on the part of the Issuing Bank or the Lenders, the Issuing Bank hereby grants to each Revolving Lender, and each Revolving Lender hereby acquires from the Issuing Bank, a participation in such Documentary Credit equal to such Revolving Lender's Revolving Loan Percentage of the aggregate amount available to be drawn under such Documentary Credit. In consideration and in furtherance of the foregoing, each Lender hereby absolutely and unconditionally agrees to pay to the Administrative Agent, for the account of the Issuing Bank, such Revolving Lender's Revolving Loan Percentage of each DC Disbursement made by the Issuing Bank and not reimbursed by the Borrower on the date due as provided in paragraph (e) of this Section, or of any reimbursement payment required to be refunded to the Borrower for any reason. Each Revolving Lender acknowledges and agrees that its obligation to acquire participations pursuant to this paragraph in respect of Documentary Credits is absolute and unconditional and shall not be affected by any circumstance whatsoever, including any amendment, renewal or extension of any Documentary Credit or the occurrence and continuance of a Default or reduction or termination of the Commitments, and that each such payment shall be made without any offset, abatement, withholding or reduction whatsoever.

(e) Reimbursement. If the Issuing Bank shall make any DC Disbursement in respect of a Documentary Credit, the Borrower shall reimburse such DC Disbursement by paying to the Administrative Agent an amount equal to such DC Disbursement not later than 12:00 noon, New York City time, on the date that is two Business Days after such DC Disbursement is made, if the Borrower shall have received notice of such DC Disbursement prior to 10:00 a.m., New York City time, on such date, or, if such notice has not been received by the Borrower prior to such time on such date, then not later than 12:00 noon, New York City time, on the Business Day immediately following the day that the Borrower receives such notice, if such notice is not received prior to such time on the day of receipt; provided that the Borrower may, subject to the conditions to borrowing set forth herein, request in accordance with Section 2.3 or 2.5 that such payment be financed with a Base Rate Revolving Borrowing in an equivalent amount and, to the extent so financed, the Borrower's obligation to make such payment shall be discharged and replaced by the resulting Base Rate Revolving Borrowing Loan. If the Borrower fails to make such payment when due, the Administrative Agent shall notify each Revolving Lender of the applicable DC Disbursement, the payment then due from the Borrower in respect thereof and such Lender's Revolving Loan Percentage thereof. Promptly following receipt of such notice, each Lender shall pay to the Administrative Agent its Revolving Loan Percentage of the payment then due from the Borrower, in the same manner as provided in Section 2.5 with respect to Revolving Loans made by such Lender (and Section 2.5 shall apply, *mutatis mutandis*, to the payment obligations of the Revolving Lenders), and the Administrative Agent shall promptly pay to the Issuing Bank the amounts so received by it from the Revolving Lenders. Promptly following receipt by the Administrative Agent of any payment from the Borrower pursuant to this paragraph, the Administrative Agent shall distribute such payment to the Issuing Bank or, to the extent that Revolving Lenders have made payments pursuant to this paragraph to reimburse the Issuing Bank, then to such Revolving Lenders and the Issuing Bank as their interests may appear. Any payment made by a Revolving Lender pursuant to this paragraph to reimburse the Issuing Bank

for any DC Disbursement (other than the funding of Base Rate Revolving Loans as contemplated above) shall not constitute a Loan and shall not relieve the Borrower of its obligation to reimburse such DC Disbursement.

(f) Obligations Absolute. The Borrower's obligation to reimburse DC Disbursements as provided in paragraph (e) of this Section shall be absolute, unconditional and irrevocable, and shall be performed strictly in accordance with the terms of this Agreement under any and all circumstances whatsoever and irrespective of (i) any lack of validity or enforceability of any Documentary Credit, any Documentary Credit Agreement or this Agreement, or any term or provision therein, (ii) any draft or other document presented under a Documentary Credit proving to be forged, fraudulent or invalid in any respect or any statement therein being untrue or inaccurate in any respect, (iii) payment by the Issuing Bank under a Documentary Credit against presentation of a draft or other document that does not comply with the terms of such Documentary Credit, or (iv) any other event or circumstance whatsoever, whether or not similar to any of the foregoing, that might, but for the provisions of this Section, constitute a legal or equitable discharge of, or provide a right of setoff against, the Borrower's obligations hereunder. Neither the Administrative Agent, the Lenders nor the Issuing Bank, nor any of their Related Parties, shall have any liability or responsibility by reason of or in connection with the issuance or transfer of any Documentary Credit or any payment or failure to make any payment thereunder (irrespective of any of the circumstances referred to in the preceding sentence), or any error, omission, interruption, loss or delay in transmission or delivery of any draft, notice or other communication under or relating to any Documentary Credit (including any document required to make a drawing thereunder), any error in interpretation of technical terms or any consequence arising from causes beyond the control of the Issuing Bank; provided that the foregoing shall not be construed to excuse the Issuing Bank from liability to the Borrower to the extent of any direct damages (as opposed to special, indirect, consequential or punitive damages, claims in respect of which are hereby waived by the Borrower to the extent permitted by applicable law) suffered by the Borrower that are caused by the Issuing Bank's failure to exercise care when determining whether drafts and other documents presented under a Documentary Credit comply with the terms thereof. The parties hereto expressly agree that, in the absence of gross negligence or willful misconduct on the part of the Issuing Bank (as finally determined by a court of competent jurisdiction), the Issuing Bank shall be deemed to have exercised care in each such determination. In furtherance of the foregoing and without limiting the generality thereof, the parties agree that, with respect to documents presented which appear on their face to be in substantial compliance with the terms of a Documentary Credit, the Issuing Bank may, in its sole discretion, either accept and make payment upon such documents without responsibility for further investigation, regardless of any notice or information to the contrary, or refuse to accept and make payment upon such documents if such documents are not in strict compliance with the terms of such Documentary Credit.

(g) Disbursement Procedures. The Issuing Bank shall, promptly following its receipt thereof, examine all documents purporting to represent a demand for payment under a Documentary Credit. The Issuing Bank shall promptly notify the Administrative Agent and the Borrower by telephone (confirmed by telecopy or electronic mail) of such demand for payment and whether the Issuing Bank has made or will make an DC Disbursement thereunder; provided that any failure to give or delay in giving such notice shall not relieve the Borrower of its obligation to reimburse the Issuing Bank and the Lenders with respect to any such DC Disbursement.

(h) Interim Interest. If the Issuing Bank shall make any DC Disbursement, then, unless the Borrower shall reimburse such DC Disbursement in full on the date such DC Disbursement is made, the unpaid amount thereof shall bear interest, for each day from and including the date such DC Disbursement is made to but excluding the date that the reimbursement is due and payable at the rate *per annum* then applicable to Base Rate Revolving Loans and such interest shall be due and payable on the date when such reimbursement is payable; provided that, if the Borrower fails to reimburse such DC Disbursement when due pursuant to paragraph (e) of this Section, then Section 2.9(c) shall apply. Interest accrued pursuant to this paragraph shall be for the account of the Issuing Bank, except that interest accrued on and after the date of payment by any Lender pursuant to paragraph (e) of this Section to reimburse the Issuing Bank shall be for the account of such Lender to the extent of such payment.

(i) Replacement of the Issuing Bank. (i) An Issuing Bank may be replaced at any time by written agreement among the Borrower, the Administrative Agent, the replaced Issuing Bank and the successor Issuing Bank. The Administrative Agent shall notify the Lenders of any such replacement of an Issuing Bank. At the time any such replacement shall become effective, the Borrower shall pay all unpaid fees accrued for the account of the replaced Issuing Bank pursuant to Section 2.22(c). From and after the effective date of any such replacement, (x) the successor Issuing Bank shall have all the rights and obligations of Issuing Banks under this Agreement with respect to Documentary Credits to be issued thereafter and (y) references herein to the term "Issuing Bank" shall be deemed to refer to such successor or to any previous Issuing Banks, or to such successor and all previous Issuing Banks, as the context shall require. After the replacement of an Issuing Bank hereunder, the replaced Issuing Bank shall remain a party hereto and shall continue to have all the rights and obligations of an Issuing Bank under this Agreement with respect to Documentary Credits issued by it prior to such replacement, but shall not be required to issue additional Documentary Credits.

(ii) Subject to the appointment and acceptance of a successor Issuing Bank, any Issuing Bank may resign as an Issuing Bank at any time upon thirty days' prior written notice to the Administrative Agent, the Borrower and the Lenders, in which case, such Issuing Bank shall be replaced in accordance with Section 2.6(i) above.

(j) Cash Collateralization. During a Secured Covenants Period, if any Event of Default shall occur and be continuing, on the Business Day that the Borrower receives notice from the Administrative Agent or the Required Revolving Lenders (or, if the maturity of the Loans has been accelerated, Revolving Lenders with DC Exposure representing greater than 50% of the total DC Exposure) demanding the deposit of cash collateral pursuant to this paragraph, the Borrower shall deposit in an account with the Administrative Agent, in the name of the Administrative Agent and for the benefit of the Revolving Lenders, an amount in cash equal to the DC Exposure as of such date plus any accrued and unpaid interest thereon; provided that the obligation to deposit such cash collateral shall become effective immediately, and such deposit shall become immediately due and payable, without demand or other notice of any kind, upon the occurrence of any Event of Default with respect to the Borrower described in Section 7.1(f) or (g). Such deposit shall be held by the Administrative Agent as collateral for the payment and performance of the obligations of the Borrower under this Agreement. The Administrative Agent shall have exclusive dominion and control, including the exclusive right of withdrawal, over such account. Other than any interest earned on the investment of such deposits, which investments shall be made at the option and sole discretion of the Administrative Agent and at the Borrower's risk and expense, such deposits shall not bear interest. Interest or profits, if any, on such investments shall accumulate in such account. Moneys in such account shall be applied by the Administrative Agent to reimburse the Issuing Bank for DC Disbursements for which it has not been reimbursed and, to the extent not so applied, shall be held for the satisfaction of the reimbursement obligations of the Borrower for the DC Exposure at such time or, if the maturity of the Loans has been accelerated (but subject to the consent of Revolving Lenders with DC Exposure representing greater than 50% of the total DC Exposure), be applied to satisfy other Obligations. If the Borrower is required to provide an amount of cash collateral hereunder as a result of the occurrence of an Event of Default, such amount (to the extent not applied as aforesaid) shall be returned to the Borrower within three Business Days after all Events of Default have been cured or waived.

(k) Documentary Credits Issued for Account of Restricted Subsidiaries. Notwithstanding that a Documentary Credit issued or outstanding hereunder supports any obligations of, or is for the account of, a Subsidiary of the Borrower, or states that a Subsidiary of the Borrower is the "account party," "applicant," "customer," "instructing party," or the like or of or for such Documentary Credit, and without derogating from any rights of the applicable Issuing Bank (whether arising by contract, at law, in equity or otherwise) against such Subsidiary in respect of such Documentary Credit, the Borrower (i) shall reimburse, indemnify and compensate the applicable Issuing Bank hereunder for such Documentary Credit (including to reimburse any and all drawings thereunder) as if such Documentary Credit had been issued solely for the account of the Borrower and (ii) irrevocably waives any and all defenses that might otherwise be available to it as a guarantor or surety of any or all of the obligations of such Subsidiary in respect of such Documentary Credit. The Borrower hereby acknowledges that the issuance of such Documentary Credits for its Subsidiaries inures to the benefit of the Borrower, and that the Borrower's business derives substantial benefits from the businesses of such Subsidiaries.

## 2.5. Funding of Revolving Borrowings.

(a) Each Revolving Lender shall make each Revolving Loan to be made by it hereunder on the proposed date thereof by wire transfer of immediately available funds by 2:00 p.m., New York City time, to the account of the Administrative Agent most recently designated by it for such purpose by notice to the Lenders. The Administrative Agent will make such Loans available to the Borrower by promptly crediting the amounts so received, in like funds, to an account of the Borrower maintained at a financial institution reasonably acceptable to the Administrative Agent and designated by the Borrower in the applicable Borrowing Request; provided that Base Rate Revolving Loans made to finance the reimbursement of an DC Disbursement as provided in Section 2.4(e) shall be remitted by the Administrative Agent to the relevant Issuing Bank.

(b) Unless the Administrative Agent shall have received notice from a Revolving Lender prior to the proposed date of any Borrowing that such Revolving Lender will not make available to the Administrative Agent such Lender's Revolving Loan Percentage of such Borrowing, the Administrative Agent may assume that such Lender has made such Revolving Loan Percentage of such Borrowing available on such date in accordance with paragraph (a) of this Section and may, in reliance upon such assumption, make available to the Borrower a corresponding amount. In such event, if a Revolving Lender has not in fact made its Revolving Loan Percentage of the applicable Borrowing available to the Administrative Agent, then the applicable Revolving Lender and the Borrower severally agree to pay to the Administrative Agent forthwith on demand such corresponding amount with interest thereon, for each day from and including the date such amount is made available to the Borrower to but excluding the date of payment to the Administrative Agent, at (i) in the case of such Revolving Lender, the greater of the NYFRB Rate and a rate determined by the Administrative Agent in accordance with banking industry rules on

interbank compensation or (ii) in the case of the Borrower, the interest rate applicable to Base Rate Loans. If such Lender pays such amount to the Administrative Agent, then such amount shall constitute such Lender's Revolving Loan included in such Borrowing.

2.6. [RESERVED](#)2019 Incremental Term Loan Commitments; 2019 Incremental Term Loans and Borrowing; Requests for 2019 Incremental Term Loan Borrowings.

(a) Subject to the terms and conditions hereof, each 2019 Incremental Term Loan Lender severally agrees to make a 2019 Incremental Term Loan to the Borrower during the 2019 Incremental Term Loan Availability Period in a single drawing on the 2019 Incremental Term Loan Funding Date in an aggregate amount up to the 2019 Incremental Term Loan Commitment of such Lender. The 2019 Incremental Term Loans may from time to time be Eurodollar Loans or Base Rate Loans, as determined by the Borrower and notified to the Administrative Agent in accordance with Sections 2.6(b) and 2.15.

(b) The Borrower shall give the Administrative Agent irrevocable notice substantially in the form of Exhibit B hereto (which notice must be received by the Administrative Agent (a) in the case of a Eurodollar Borrowing, not later than 1:00 p.m. New York City time, three Business Days before the date of the proposed Borrowing or (b) in the case of a Base Rate Borrowing, not later than 12:00 p.m. New York City time, on the date of the proposed Borrowing (which shall be a Business Day)) requesting that the 2019 Incremental Term Loan Lenders make the 2019 Incremental Term Loans on the requested Borrowing Date. Each such Borrowing Request shall be irrevocable and shall be signed by a Responsible Officer of the Borrower. Each such Borrowing Request shall specify the following information:

- (i) the aggregate amount of the requested Borrowing;
- (ii) the Borrowing Date;
- (iii) whether such Borrowing is to be a Base Rate Borrowing or a Eurodollar Borrowing;
- (iv) in the case of a Eurodollar Borrowing, the initial Interest Period to be applicable thereto, which shall be a period contemplated by the definition of the term "Interest Period"; and
- (v) the location and number of the Borrower's account to which funds are to be disbursed, which shall comply with the requirements of Section 2.6(c).

If no election as to the Type of Borrowing is specified, then the requested Borrowing shall be a Base Rate Borrowing. If no Interest Period is specified with respect to any requested Eurodollar Borrowing, then the Borrower shall be deemed to have selected an Interest Period of one month's duration. Promptly following receipt of a Borrowing Request in accordance with this Section, the Administrative Agent shall advise each 2019 Incremental Term Loan Lender of the details thereof and of the amount of such 2019 Incremental Term Loan Lender's 2019 Incremental Term Loan to be made as part of the requested Borrowing.

(c) Each 2019 Incremental Term Loan Lender shall make each 2019 Incremental Term Loan to be made by it hereunder on the proposed date thereof by wire transfer of immediately available funds by 2:00 p.m., New York City time, to the account of the Administrative Agent most recently designated by it for such purpose by notice to the 2019 Incremental Term Loan Lenders. The Administrative Agent will make such 2019 Incremental Term Loans available to the Borrower by promptly crediting the amounts so received, in like funds, to an account of the Borrower maintained at a financial institution reasonably acceptable to the Administrative Agent and designated by the Borrower in the applicable Borrowing Request.

(d) Unless the Administrative Agent shall have received notice from a 2019 Incremental Term Loan Lender prior to the proposed date of such Borrowing that such 2019 Incremental Term Loan Lender will not make available to the Administrative Agent such Lender's 2019 Incremental Term Loan to be made as part of the requested Borrowing, the Administrative Agent may assume that such 2019 Incremental Term Loan Lender has made such 2019 Incremental Term Loan available on such date in accordance with paragraph (c) of this Section and may, in reliance upon such assumption, make available to the Borrower a corresponding amount. In such event, if a 2019 Incremental Term Loan Lender has not in fact made its 2019 Incremental Term Loan available to the Administrative Agent, then the applicable 2019 Incremental Term Loan Lender and the Borrower severally agree to pay to the Administrative Agent forthwith on demand such corresponding amount with interest thereon, for each day from and including the date such amount is made available to the Borrower to but excluding the date of payment to the Administrative Agent, at (i) in the case of such 2019 Incremental Term Loan Lender, the greater of the NYFRB Rate and a rate determined by the Administrative Agent in accordance with banking industry rules on interbank compensation or (ii) in the case of the Borrower, the interest rate applicable to Base Rate Loans. If such Lender pays such

amount to the Administrative Agent, then such amount shall constitute such 2019 Incremental Term Loan Lender's 2019 Incremental Term Loan included in such Borrowing.

2.7. Termination and Reduction of Revolving Commitments.

- (a) Unless previously terminated, the Revolving Commitments shall terminate on the Revolving Maturity Date.
- (b) The Borrower may at any time terminate, or from time to time reduce, the Revolving Commitments; provided that (i) each reduction of the Revolving Commitments shall be in an amount that is an integral multiple of \$5,000,000 and not less than \$10,000,000 and (ii) the Borrower shall not terminate or reduce the Revolving Commitments if, after giving effect to any concurrent prepayment of the Revolving Loans in accordance with Section 2.13, the sum of the Revolving Credit Exposures would exceed the total Revolving Commitments.
- (c) The Borrower shall notify the Administrative Agent of any election to terminate or reduce the Revolving Commitments under paragraph (b) of this Section at least three Business Days prior to the effective date of such termination or reduction, specifying such election and the effective date thereof. Promptly following receipt of any notice, the Administrative Agent shall advise the Lenders of the contents thereof. Each notice delivered by the Borrower pursuant to this Section shall be irrevocable; provided that a notice of termination of the Commitments delivered by the Borrower may state that such notice is conditioned upon the effectiveness of other credit facilities or another contingency, in which case such notice may be revoked by the Borrower (by notice to the Administrative Agent on or prior to the specified effective date) if such condition is not satisfied. Any termination or reduction of the Revolving Commitments shall be permanent. Each reduction of the Revolving Commitments shall be made ratably among the Lenders in accordance with their respective Revolving Commitments.
- (d) Unless previously terminated, the 2019 Incremental Term Loan Commitments shall terminate upon the earlier to occur of (i) the 2019 Incremental Term Loan Funding Date and (ii) the 2019 Incremental Term Loan Commitment Termination Date.
- (e) The Borrower may at any time terminate, or from time to time reduce, the 2019 Incremental Term Loan Commitments; provided that each reduction of the 2019 Incremental Term Loan Commitments shall be in an amount that is an integral multiple of \$1,000,000 and not less than \$5,000,000.

(f) The Borrower shall notify the Administrative Agent of any election to terminate or reduce the 2019 Incremental Term Loan Commitments under paragraph (e) of this Section at least three Business Days prior to the effective date of such termination or reduction, specifying such election and the effective date thereof. Promptly following receipt of any notice, the Administrative Agent shall advise the 2019 Incremental Term Loan Lenders of the contents thereof. Each notice delivered by the Borrower pursuant to this Section shall be irrevocable; provided that a notice of termination of the 2019 Incremental Term Loan Commitments delivered by the Borrower may state that such notice is conditioned upon the effectiveness of other credit facilities or another contingency, in which case such notice may be revoked by the Borrower (by notice to the Administrative Agent on or prior to the specified effective date) if such condition is not satisfied. Any termination or reduction of the 2019 Incremental Term Loan Commitments shall be permanent. Each reduction of the 2019 Incremental Term Loan Commitments shall be made ratably among the 2019 Incremental Term Loan Lenders in accordance with their respective 2019 Incremental Term Loan Commitments.

2.8. Repayment of Loans; Evidence of Debt.

- (a) The Borrower hereby unconditionally promises to pay the Administrative Agent for the account of each Lender the then unpaid principal amount of each Loan made by such Lender on the applicable Maturity Date.
- (b) Each Lender shall maintain in accordance with its usual practice an account or accounts evidencing Indebtedness of the Borrower to such Lender resulting from each Loan of such Lender from time to time, including the amounts of principal and interest payable and paid to such Lender from time to time under this Agreement.
- (c) The Administrative Agent shall, in respect of this Agreement, record in the Register, with separate sub-accounts for each Lender, (i) the amount and Borrowing Date of each Loan made hereunder, (ii) the amount of any principal or interest due and payable or to become due and payable from the Borrower to each Lender hereunder and (iii) both the amount of any payment received by the Administrative Agent hereunder from the Borrower and each Lender's share thereof.
- (d) The entries made in the Register and the accounts of each Lender maintained pursuant to Sections 2.8(b) and (c) shall, to the extent permitted by applicable law, be prima facie evidence of the existence and amounts of the obligations of

the Borrower therein recorded absent manifest error; provided, however, that the failure of any Lender or the Administrative Agent to maintain the Register or any such account, or any error therein, shall not in any manner affect the obligation of the Borrower to repay (with applicable interest) the Loans made to the Borrower by such Lender in accordance with the terms of this Agreement.

(e) If so requested after the Closing Date by any Lender by written notice to the Borrower (with a copy to the Administrative Agent), the Borrower will execute and deliver to such Lender, promptly after the Borrower's receipt of such notice, a Note to evidence such Lender's Loans in form and substance reasonably satisfactory to the Administrative Agent and the Borrower.

(f) On each anniversary of the 2019 Incremental Term Loan Funding Date, the Borrower shall repay to the Administrative Agent for the ratable account of the 2019 Incremental Term Loan Lenders an aggregate principal amount of 2019 Incremental Term Loans then outstanding equal to 5.00% of the aggregate initial principal amount of all 2019 Incremental Term Loans borrowed by the Borrower on the 2019 Incremental Term Loan Funding Date (which amounts shall be reduced as a result of the application of prepayments or repayments (which, for the avoidance of doubt, shall not include repayments pursuant to this Section 2.8)). The remaining unpaid principal amount of the 2019 Incremental Term Loans and all other Obligations under or in respect of the 2019 Incremental Term Loans shall be due and payable in full, if not earlier in accordance with this Agreement, on the 2019 Incremental Term Loan Maturity Date.

#### 2.9. Interest Rates and Payment Dates.

(a) Each Eurodollar Loan shall bear interest for each day during each Interest Period with respect thereto at a rate per annum equal to the Eurodollar Rate determined for such Interest Period plus the Applicable Margin.

(b) Each Base Rate Loan shall bear interest at a rate per annum equal to the Base Rate from time to time plus the Applicable Margin.

(c) Notwithstanding the foregoing, upon the occurrence and during the continuance of an Event of Default under Section 7.1(a) or (b), at any time after the date on which any principal amount of any Loan is due and payable (whether on the maturity date therefor, upon acceleration or otherwise), or after any other monetary Obligation of the Borrower or any other Loan Party shall have become due and payable, and, in each case, for so long as such overdue Obligation remains unpaid, the Borrower shall pay, but only to the extent permitted by law, interest (after as well as before judgment) on such unpaid overdue amounts at a rate per annum equal to (i) in the case of overdue principal on any Loan, the rate of interest that otherwise would be applicable to such Loan plus 2% per annum and (ii) in the case of overdue interest, fees, and other monetary Obligations, the rate then applicable to Base Rate Loans plus 2% per annum.

(d) Interest shall be payable in arrears on each Interest Payment Date; provided that interest accruing pursuant to paragraph (c) of this Section shall be payable from time to time on demand.

(e) The provisions of this Section 2.9 (and the interest rates applicable to various extensions of credit hereunder) shall be subject to modification as expressly provided in Section 2.27 hereof.

#### 2.10. Computation of Interest and Fees.

(a) Interest and fees payable pursuant hereto shall be calculated on the basis of a 360-day year for the actual days elapsed, except that, with respect to Base Rate Loans, when the Base Rate is based on the Prime Rate the interest thereon shall be calculated on the basis of a 365- (or 366-, as the case may be) day year for the actual days elapsed. The Administrative Agent shall as soon as practicable notify the Borrower and the Lenders of each determination of a Eurodollar Rate. Any change in the interest rate on a Loan resulting from a change in the Base Rate or the Eurocurrency Reserve Requirements shall become effective as of the opening of business on the day on which such change becomes effective. The Administrative Agent shall as soon as practicable notify the Borrower and the Lenders of the effective date and the amount of each such change in interest rate.

(b) Each determination of an interest rate by the Administrative Agent pursuant to any provision of this Agreement shall be conclusive and binding on the Borrower and the Lenders in the absence of manifest error. The Administrative Agent shall, at the request of the Borrower, deliver to the Borrower a statement showing the quotations used by the Administrative Agent in determining any interest rate hereunder.

#### 2.11. Inability to Determine Interest Rate.

- (a) If prior to the first day of any Interest Period:
- (i) the Administrative Agent shall have reasonably determined (which determination shall be conclusive and binding upon the Borrower) that, by reason of circumstances affecting the relevant market, adequate and reasonable means do not exist for ascertaining the Eurodollar Rate for such Interest Period, or
  - (ii) the Administrative Agent shall have received notice from the Required Lenders that the Eurodollar Rate determined or to be determined for such Interest Period in good faith by such Required Lenders will not adequately and fairly reflect the cost to such Lenders (as conclusively certified by such Lenders) of making or maintaining their affected Loans during such Interest Period,

the Administrative Agent shall give telecopy or telephonic notice thereof to the Borrower and the relevant Lenders as soon as practicable thereafter. If such notice is given (x) any Eurodollar Loans hereunder requested to be made on the first day of such Interest Period shall be made as Base Rate Loans, (y) any Loans hereunder that were to have been converted on the first day of such Interest Period to Eurodollar Loans shall be continued as Base Rate Loans and (z) any outstanding Eurodollar Loans hereunder shall be converted, on the last day of the then-current Interest Period, to Base Rate Loans; provided that if the circumstances giving rise to such notice shall cease or otherwise become inapplicable to such Required Lenders, then such Required Lenders shall promptly give notice of such change in circumstances to the Administrative Agent and the Borrower. Until such notice has been withdrawn by the Administrative Agent, no further Eurodollar Loans hereunder shall be made or continued as such, nor shall the Borrower have the right to convert Loans hereunder to Eurodollar Loans.

(b) If at any time the Administrative Agent determines (which determination shall be conclusive absent manifest error) that (i) the circumstances set forth in clause (a)(i) have arisen and such circumstances are unlikely to be temporary or (ii) the circumstances set forth in clause (a)(i) have not arisen but either (w) the supervisor for the administrator of the LIBOR has made a public statement that the administrator of the LIBOR is insolvent (and there is no successor administrator that will continue publication of the LIBOR), (x) the administrator of the LIBOR has made a public statement identifying a specific date after which the LIBOR will permanently or indefinitely cease to be published by it (and there is no successor administrator that will continue publication of the LIBOR), (y) the supervisor for the administrator of the LIBOR has made a public statement identifying a specific date after which the LIBOR will permanently or indefinitely cease to be published or (z) the supervisor for the administrator of the LIBOR or a Governmental Authority having jurisdiction over the Administrative Agent has made a public statement identifying a specific date after which the LIBOR may no longer be used for determining interest rates for loans, then the Administrative Agent and the Borrower shall endeavor to establish an alternate rate of interest to the Eurodollar Rate that gives due consideration to the then prevailing market convention for determining a rate of interest for syndicated loans in the United States at such time, and shall enter into an amendment to this Agreement to reflect such alternate rate of interest and such other related changes to this Agreement as may be applicable (but for the avoidance of doubt, such related changes shall not include a reduction of the Applicable Margin); provided that, if such alternate rate of interest as so determined would be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement. Notwithstanding anything to the contrary in Section 9.1, such amendment shall become effective without any further action or consent of any other party to this Agreement so long as the Administrative Agent shall not have received, within five Business Days of the date notice of such alternate rate of interest is provided to the Lenders, a written notice from the Required Lenders of each Class stating that such Required Lenders object to such amendment. Until an alternate rate of interest shall be determined in accordance with this clause (b) (but, in the case of the circumstances described in clause (ii) of the first sentence of this Section 2.11(b), only to the extent the LIBOR for such Interest Period is not available or published at such time on a current basis), (x) any requests to convert of any Borrowing to, or continuation of any Borrowing as, a Eurodollar Borrowing shall be ineffective and (y) if any Borrowing Request requests a Eurodollar Borrowing, such Borrowing shall be made as a Base Rate Borrowing.

#### 2.12. RESERVED.

#### 2.13. Prepayment of Loans.

(a) Subject to the provisos below, the Borrower may at any time and from time to time prepay the **Revolving** Loans, in whole or in part, without premium or penalty, upon irrevocable notice, which shall be in substantially the form attached hereto as Exhibit H, delivered to the Administrative Agent prior to 10:00 A.M., New York City time on the same Business Day, which notice shall specify the date and amount of prepayment and whether the prepayment is of Eurodollar Loans or Base Rate Loans; provided that if a Eurodollar Loan is prepaid on any day other than the last day of the Interest Period applicable thereto, the Borrower shall also pay any amounts owing pursuant to Section 2.20. Upon receipt of any such notice of prepayment, the Administrative Agent shall notify each relevant Lender thereof on the date of receipt of such notice. If any such notice is given, the amount specified in such notice shall be due and payable on the date specified therein, together with

(except in the case of prepayments of Loans maintained as Base Rate Loans) accrued interest to such date on the amount prepaid. Partial prepayments shall be in an aggregate principal amount of \$1,000,000 or a whole multiple of \$1,000,000 in excess thereof (or, if less, the then outstanding principal amount of Loans). The application of any prepayment pursuant to this Section 2.13(a) shall be made, first, to Base Rate Loans of the respective ~~Revolving~~ Lenders (and of the respective tranche, if there are multiple tranches) and, second, to Eurodollar Loans of the respective ~~Revolving~~ Lenders (and of the respective tranche, if there are multiple tranches). Any prepayments of the 2019 Incremental Term Loans pursuant to this Section 2.13(a) shall be applied to the remaining scheduled installments of the 2019 Incremental Term Loans as directed by the Borrower. A notice of prepayment of all outstanding ~~Revolving~~ Loans pursuant to this Section 2.13(a) may state that such notice is conditioned upon the effectiveness of other credit facilities, securities offerings or other transactions, the proceeds of which will be used to refinance in full this Agreement, in which case such notice may be revoked by the Borrower (by notice to the Administrative Agent on or prior to the specified effective date) if such condition is not satisfied.

2.14. RESERVED.

2.15. Conversion and Continuation Options.

(a) The Borrower may elect from time to time to convert Eurodollar Loans to Base Rate Loans by giving the Administrative Agent prior irrevocable notice, in substantially the form attached hereto as Exhibit G, of such election no later than 12:00 Noon, New York City time, on the Business Day preceding the proposed conversion date, provided that any such conversion of Eurodollar Loans may only be made on the last day of an Interest Period with respect thereto. The Borrower may elect from time to time to convert Base Rate Loans to Eurodollar Loans by giving the Administrative Agent prior irrevocable notice of such election no later than 12:00 Noon, New York City time, on the third (3rd) Business Day preceding the proposed conversion date (which notice shall specify the length of the initial Interest Period therefor), provided that no Base Rate Loan may be converted into a Eurodollar Loan when any Event of Default has occurred and is continuing and the Administrative Agent or the Required Lenders have determined in its or their sole discretion not to permit such conversions. Upon receipt of any such notice, the Administrative Agent shall promptly notify each relevant Lender thereof.

(b) Any Eurodollar Loan may be continued as such upon the expiration of the then current Interest Period with respect thereto by the Borrower giving irrevocable notice no later than 12:00 Noon, New York City time, on the third (3rd) Business Day preceding the proposed continuation date to the Administrative Agent, in substantially the form attached hereto as Exhibit G, in accordance with the applicable provisions of the term "Interest Period" set forth in Section 1.1, of the length of the next Interest Period to be applicable to such Loans, provided that no Eurodollar Loan may be continued as such when any Event of Default has occurred and is continuing and the Administrative Agent has or the Required Lenders have determined in its or their sole discretion not to permit such continuations, and provided, further, that if the Borrower shall fail to give any required notice as described above in this paragraph or if such continuation is not permitted pursuant to the preceding proviso such Eurodollar Loans shall be automatically converted to Base Rate Loans on the last day of such then expiring Interest Period. Upon receipt of any such notice, the Administrative Agent shall promptly notify each relevant Lender thereof.

2.16. Limitations on Eurodollar Tranches. Notwithstanding anything to the contrary in this Agreement, all borrowings, conversions and continuations of Eurodollar Loans and all selections of Interest Periods shall be in such amounts and be made pursuant to such elections so that no more than ten different Interest Periods for any Class of Loans be outstanding at any one time (unless a greater number of Interest Periods is permitted by the Administrative Agent).

2.17. Pro Rata Treatment, etc.

(a) Except as otherwise provided herein (including Section 2.27), each borrowing by the Borrower from the Revolving Lenders hereunder shall be made pro rata according to their Revolving Loan Percentages.

(b) Except as otherwise provided herein (including Section 2.27), each payment (including each prepayment) by the Borrower on account of principal or interest on each Class of Loans shall be made pro rata according to the respective outstanding principal amounts of such Class of Loans then held by the applicable Lenders.

(c) All payments by the Borrower hereunder and under the Notes shall be made in Dollars in immediately available funds without setoff or counterclaim at the Funding Office of the Administrative Agent by 2:00 P.M., New York City time, on the date on which such payment shall be due, provided that if any payment hereunder would become due and payable on a day other than a Business Day such payment shall become due and payable on the next succeeding Business Day and, with respect to payments of principal, interest thereon shall be payable at the then applicable rate during such extension. Interest in respect of any Loan hereunder shall accrue from and including the date of such Loan to but excluding the date on which such Loan is paid in full.

(d) RESERVED.

(e) Unless the Administrative Agent shall have been notified in writing by the Borrower prior to the date of any payment due to be made by the Borrower hereunder that the Borrower will not make such payment to the Administrative Agent, the Administrative Agent may assume that the Borrower is making such payment, and the Administrative Agent may, but shall not be required to, in reliance upon such assumption, make available to the Lenders their respective pro rata shares of a corresponding amount. If such payment is not made to the Administrative Agent by the Borrower within three (3) Business Days after such due date, the Administrative Agent shall be entitled to recover, on demand, from each Lender to which any amount which was made available pursuant to the preceding sentence, such amount with interest thereon at the rate per annum equal to the daily average Federal Funds Effective Rate. Nothing herein shall be deemed to limit the rights of the Administrative Agent or any Lender against the Borrower.

(f) Notwithstanding anything to the contrary contained in this Section 2.17 or elsewhere in this Agreement, the Borrower may extend the final maturity of Loans in connection with an Extension that is permitted under Section 2.27 without being obligated to effect such extensions on a pro rata basis among the Lenders. Furthermore, the Borrower may take all actions contemplated by Section 2.27 in connection with any Extension (including modifying pricing and repayments or prepayments), and in each case such actions shall be permitted, and the differing payments contemplated therein shall be permitted without giving rise to any violation of this Section 2.17 or any other provision of this Agreement.

2.18. Requirements of Law.

(a) If the adoption of or any change in any Requirement of Law or in the interpretation or application thereof or compliance by any Lender or Issuing Bank with any request or directive (whether or not having the force of law) from any central bank or other Governmental Authority, in each case, made subsequent to the Closing Date (including, but not limited to, (i) the Dodd-Frank Wall Street Reform and Consumer Protection Act and, in each case, all requests, rules, guidelines or directives thereunder or issued in connection therewith and (ii) all requests, rules, guidelines, requirements and directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign Governmental Authorities, in each case pursuant to Basel III):

(i) shall subject the Administrative Agent, any Lender or Issuing Bank to any Tax of any kind whatsoever with respect to this Agreement or any Eurodollar Loan made by it (except for Non-Excluded Taxes or Other Taxes covered by Section 2.19 and any Excluded Taxes);

(ii) shall impose, modify or hold applicable any reserve, special deposit, compulsory loan or similar requirement against assets held by, deposits or other liabilities in or for the account of, advances, loans or other extensions of credit by, or any other acquisition of funds by, any office of such Lender or Issuing Bank that is not otherwise included in the determination of the Eurodollar Rate; or

(iii) shall impose on any such Lender or Issuing Bank or the London interbank market (by reasons of such Lender or Issuing Bank's participation in the London interbank market) any other condition, cost or expense (other than Taxes) affecting this Agreement or Loans made by such Lender or any Documentary Credit or participation therein;

and the result of any of the foregoing is to increase the cost to such Lender or Issuing Bank, by an amount that such Lender or Issuing Bank deems to be material, of making, converting into, continuing or maintaining Eurodollar Loans or any Documentary Credit, or to reduce any amount receivable hereunder in respect thereof, then, in any such case, the Borrower shall promptly pay such Lender or Issuing Bank, upon its demand, any additional amounts necessary to compensate such Lender or Issuing Bank for such increased cost or reduced amount receivable. If any Lender or Issuing Bank becomes entitled to claim any additional amounts pursuant to this paragraph, it shall promptly notify the Borrower (with a copy to the Administrative Agent) of the event of which it has become so entitled.

(b) If any Lender or Issuing Bank shall have determined that the adoption of or any change in any Requirement of Law regarding capital adequacy or liquidity requirements or in the interpretation or application thereof or compliance by such Lender or Issuing Bank or any corporation controlling such Lender or Issuing Bank with any request or directive regarding capital adequacy or liquidity requirements (whether or not having the force of law) from any Governmental Authority made subsequent to the Closing Date shall have the effect of reducing the rate of return on such Lender's, such Issuing Bank's or such corporation's capital as a consequence of its obligations hereunder to a level below that which such Lender, such Issuing Bank's or such corporation could have achieved but for such adoption, change or compliance (taking into consideration such Lender's,

such Issuing Bank's or such corporation's policies with respect to capital adequacy or liquidity requirements) by an amount deemed by such Lender to be material, then from time to time, after submission by such Lender or Issuing Bank to the Borrower (with a copy to the Administrative Agent) of a written request therefor, the Borrower shall pay to such Lender or Issuing Bank such additional amount or amounts as will compensate such Lender, such Issuing Bank or such corporation for such reduction.

(c) A certificate as to any additional amounts payable pursuant to this Section submitted by any Lender or Issuing Bank to the Borrower (with a copy to the Administrative Agent) shall be conclusive in the absence of manifest error. Notwithstanding anything to the contrary in this Section 2.18, the Borrower shall not be required to compensate any Lender or Issuing Bank pursuant to this Section 2.18 for any amounts incurred more than 180 days prior to the date that such Lender or Issuing Bank notifies the Borrower of such Lender's or Issuing Bank's intention to claim compensation therefor; provided that, if the circumstances giving rise to such claim have a retroactive effect, then such 180 days period shall be extended to include the period of such retroactive effect. The obligations of the Borrower pursuant to this Section 2.18 shall survive the termination of this Agreement and the payment of the Loans and all other amounts payable hereunder.

2.19. Taxes.

(a) Unless required by applicable law (as determined in good faith by the applicable withholding agent), all payments by or on account of any obligation of any Loan Party hereunder or under any other Loan Document shall be made free and clear of, and without deduction or withholding for or on account of, any Taxes, excluding (i) Taxes imposed on or measured by net income (however denominated), gross receipts Taxes (imposed in lieu of net income Taxes) and franchise Taxes (imposed in lieu of net income Taxes) imposed on the Administrative Agent or any Lender as a result of such recipient (A) being organized or having its principal office in the applicable taxing jurisdiction, or in the case of any Lender, having its applicable lending office in such jurisdiction, or (B) having any other present or former connection with the applicable taxing jurisdiction (other than any such connection arising solely from the Administrative Agent or such Lender having executed, delivered, become a party to, or performed its obligations or received a payment under, or enforced, and/or engaged in any activities contemplated with respect to this Agreement or any other Loan Document); (ii) any Taxes in the nature of the branch profits tax within the meaning of Section 884 of the Code imposed by any jurisdiction described in clause (i) above; (iii) other than in the case of an assignee pursuant to a request by the Borrower under Section 2.26 hereof, any U.S. federal withholding tax except (A) to the extent such withholding tax results from a change in a Requirement of Law after the recipient became a party hereto or changed its lending office or (B) to the extent that such recipient's assignor (if any) was entitled immediately prior to such assignment or such recipient was entitled immediately prior to changing its lending office to receive additional amounts from any Loan Party with respect to such withholding tax pursuant to this Section 2.19(a); (iv) any withholding Tax that is attributable to the recipient's failure to comply with Section 2.19(e) hereof; and (v) any withholding Taxes imposed pursuant to FATCA. If any such non-excluded Taxes ("Non-Excluded Taxes") or Other Taxes are required by law to be withheld by the applicable withholding agent from any amounts payable to the Administrative Agent or any Lender hereunder, or under any other Loan Document: (x) the amounts so payable by the applicable Loan Party to the Administrative Agent or such Lender shall be increased to the extent necessary so that after all required deductions for Non-Excluded Taxes and Other Taxes (including deductions for Non-Excluded Taxes and Other Taxes applicable to additional sums payable under this Section 2.19) have been made, the Lender (or, in the case of any payment made to the Administrative Agent for its own account, the Administrative Agent) receives an amount equal to the sum it would have received had no such deduction or withholding for Non-Excluded Taxes and Other Taxes been made, (y) the applicable withholding agent shall make such deductions, and (z) the applicable withholding agent shall timely pay the full amount deducted to the relevant Governmental Authority in accordance with applicable law.

Notwithstanding anything to the contrary contained in this Section 2.19(a) or Section 2.19(b), unless the Administrative Agent or a Lender gives notice to the applicable Loan Party that such Loan Party is obligated to pay an amount under Section 2.19(a) or Section 2.19(b) within 180 days of the later of (x) the date the applicable party incurs the Taxes or (y) the date the applicable party has knowledge of its incurrence of the Taxes, then such party shall not be entitled to be compensated for any penalties, interest or expenses relating to such Taxes, except to the extent such penalties, interest or expenses arise or accrue on or after the date that occurs 180 days prior to the date such party gives notice to the applicable Loan Party, but if the circumstances giving rise to such claim have a retroactive effect (e.g., in connection with the audit of a prior tax year), then such 180 day period shall be extended to include such period of retroactive effect.

(b) In addition, the relevant Loan Party shall timely pay any Other Taxes to the relevant Governmental Authority in accordance with applicable law.

(c) Whenever any Taxes are payable by a Loan Party pursuant to this Section 2.19, as promptly as possible thereafter such Loan Party shall send to the Administrative Agent for its own account or for the account of the relevant Lender,

as the case may be, a certified copy of an original official receipt received, if any, by the Borrower or other documentary evidence showing payment thereof.

(d) The Borrower shall indemnify the Administrative Agent and each Lender (within 10 days after demand therefor) for the full amount of any Non-Excluded Taxes or Other Taxes (including Non-Excluded Taxes or Other Taxes imposed or asserted on or attributable to amounts payable under this Section 2.19), and for any reasonable expenses arising therefrom or with respect thereto, that may become payable by the Administrative Agent or any Lender, whether or not such Non-Excluded Taxes or Other Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority; provided that the Borrower shall not be obligated to indemnify the Administrative Agent or any Lender for any penalties, interest or expenses relating to Non-Excluded Taxes or Other Taxes to the extent that such penalties, interest or expenses are found by a final and nonappealable decision of a court of competent jurisdiction to have resulted from such party's gross negligence or willful misconduct. A certificate as to the amount of such payment or liability delivered to the Borrower by a Lender (with a copy to the Administrative Agent), or by the Administrative Agent on its own behalf or on behalf of a Lender, shall be conclusive absent manifest error.

(e) Each Lender shall, at such times as are reasonably requested by the Borrower or the Administrative Agent, provide the Borrower and the Administrative Agent with any documentation prescribed by law, or reasonably requested by the Borrower or the Administrative Agent, certifying as to any entitlement of such Lender to an exemption from, or reduction in, any withholding Tax with respect to any payments to be made to such Lender under the Loan Documents. In addition, each Lender shall, at such times as reasonably requested by the Borrower or the Administrative Agent, deliver such other documentation prescribed by applicable law or reasonably requested by the Borrower or the Administrative Agent as will enable the Borrower or the Administrative Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Each such Lender shall, whenever a lapse in time or change in circumstances renders any such documentation (including any documentation specifically referenced below) expired, obsolete or inaccurate in any material respect, or upon the reasonable request of the Borrower or the Administrative Agent, deliver promptly to the Borrower and the Administrative Agent updated or other appropriate documentation (including any new documentation reasonably requested by the applicable withholding agent) or promptly notify the Borrower and the Administrative Agent of its legal inability to do so. Unless the applicable withholding agent has received forms or other documents satisfactory to it indicating that payments under any Loan Document to or for a Lender are not subject to withholding tax or are subject to such Tax at a rate reduced by an applicable tax treaty, the Borrower, Administrative Agent or other applicable withholding agent shall withhold amounts required to be withheld by applicable law from such payments at the applicable statutory rate. Each Lender hereby authorizes the Administrative Agent to deliver to the Borrower and to any successor Administrative Agent any documentation provided to the Administrative Agent pursuant to this Section 2.19(e).

Without limiting the generality of the foregoing:

(i) Each Lender that is a "United States person" (as defined in Section 7701(a)(30) of the Code) shall deliver to the Borrower and the Administrative Agent on or before the date on which it becomes a party to this Agreement two properly completed and duly signed original copies of Internal Revenue Service Form W-9 (or any successor form) certifying that such Lender is exempt from U.S. federal backup withholding.

(ii) Each Lender that is not a "United States person" (as defined in Section 7701(a)(30) of the Code) shall deliver to the Borrower and the Administrative Agent on or before the date on which it becomes a party to this Agreement whichever of the following is applicable:

(A) two duly completed copies of Internal Revenue Service Form W-8BEN or W-8BEN-E (or any successor forms) claiming eligibility for benefits of an income tax treaty to which the United States of America is a party,

(B) two duly completed copies of Internal Revenue Service Form W-8ECI (or any successor forms),

(C) in the case of a Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate, in substantially the form of Exhibit F (any such certificate a "United States Tax Compliance Certificate"), or any other form approved by the Administrative Agent, to the effect that such Lender is not (A) a "bank" within the meaning of Section 881(c)(3)(A) of the Code, (B) a "10 percent shareholder" of the Borrower within the meaning of Section 881(c)(3)(B) of the Code, or (C) a "controlled foreign corporation" described in Section 881(c)(3)(C) of the Code, and that no payments in connection with the Loan Documents are effectively connected with such Lender's conduct of a U.S. trade or

business and (y) two duly completed copies of Internal Revenue Service Form W-8BEN or W-8BEN-E (or any successor forms),

(D) to the extent a Lender is not the beneficial owner (for example, where the Lender is a partnership, or is a Lender that has granted a participation), Internal Revenue Service Form W-8IMY (or any successor forms) of the Lender, accompanied by a Form W-8ECI, W-8BEN or W-8BEN-E, United States Tax Compliance Certificate, Form W-9, Form W-8IMY (or other successor forms) or any other required information from each beneficial owner, as applicable (provided that, if the Lender is a partnership (and not a participating Lender) and one or more direct or indirect partners are claiming the portfolio interest exemption, the United States Tax Compliance Certificate shall be provided by such Lender on behalf of such direct or indirect partner(s)), or

(E) any other form prescribed by applicable requirements of U.S. federal income tax law as a basis for claiming exemption from or a reduction in U.S. federal withholding tax duly completed together with such supplementary documentation as may be prescribed by applicable requirements of law to permit the Borrower and the Administrative Agent to determine the withholding or deduction required to be made.

(iii) If a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower and the Administrative Agent at the time or times prescribed by law and at such time or times reasonably requested by the Borrower or the Administrative Agent such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower or the Administrative Agent as may be necessary for the Borrower and the Administrative Agent to comply with their FATCA obligations, to determine whether such Lender has or has not complied with such Lender's FATCA obligations and to determine the amount, if any, to deduct and withhold from such payment. Solely for purposes of this clause (iii), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

Notwithstanding any other provision of this clause (e), a Lender shall not be required to deliver any forms, documentation or other information that such Lender is not legally eligible to deliver.

(f) If the Administrative Agent or any Lender determines, in its sole discretion, that it has received a refund of any Non-Excluded Taxes or Other Taxes as to which it has been indemnified by a Loan Party or with respect to which a Loan Party has paid additional amounts pursuant to this Section 2.19, it shall pay over such refund to the applicable Loan Party (but only to the extent of indemnity payments made, or additional amounts paid, by the such Loan Party under this Section 2.19 with respect to the Non-Excluded Taxes or Other Taxes giving rise to such refund), net of all out-of-pocket expenses (including Taxes) of the Administrative Agent or such Lender, as the case may be, and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund, net of any Taxes payable by the Administrative Agent or such Lender); provided that the applicable Loan Party, upon the request of the Administrative Agent or such Lender, agrees to repay the amount paid over to such Loan Party (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) to the Administrative Agent or such Lender in the event the Administrative Agent or such Lender, as the case may be, is required to repay such refund to such Governmental Authority. This paragraph shall not be construed to require the Administrative Agent or any Lender to make available its tax returns (or any other information relating to its Taxes which it deems confidential) to the Borrower or any other Person.

(g) The agreements in this Section 2.19 shall survive the termination of this Agreement, any assignment by or replacement of a Lender, resignation of the Administrative Agent and the payment of the Loans and all other amounts payable hereunder or any other Loan Document.

(h) For the avoidance of doubt, any payments made by the Administrative Agent to any Lender shall be treated as payments made by the applicable Loan Party.

2.20. Indemnity. The Borrower agrees to indemnify each Lender for, and to hold each Lender harmless from, any loss or expense that such Lender may sustain or incur as a consequence of (a) default by the Borrower in making a borrowing of, conversion into or continuation of Eurodollar Loans after the Borrower has given a notice requesting the same in accordance with the provisions of this Agreement, (b) default by the Borrower in making any prepayment of or conversion from Eurodollar Loans after the Borrower has given a notice thereof in accordance with the provisions of this Agreement, or (c) the making of a prepayment or conversion of Eurodollar Loans on a day that is not the last day of an Interest Period with respect thereto. Such

indemnification may include an amount equal to the excess, if any, of (i) the amount of interest that would have accrued on the amount so prepaid, or not so borrowed, converted or continued, for the period from the date of such prepayment or of such failure to borrow, convert or continue to the last day of such Interest Period (or, in the case of a failure to borrow, convert or continue, the Interest Period that would have commenced on the date of such failure) in each case at the applicable rate of interest for such Loans provided for herein (excluding, however, the Applicable Margin included therein, if any) over (ii) the amount of interest (as reasonably determined by such Lender) that would have accrued to such Lender on such amount by placing such amount on deposit for a comparable period with leading banks in the interbank eurodollar market. A certificate as to any amounts payable pursuant to this Section submitted to the Borrower by any Lender shall be conclusive in the absence of manifest error. Notwithstanding anything to the contrary in this Section 2.20, the Borrower shall not be required to compensate a Lender pursuant to this Section 2.20 for any amounts incurred more than 180 days prior to the date that such Lender notifies the Borrower of such Lender's intention to claim compensation therefor; provided that, if the circumstances giving rise to such claim have a retroactive effect, then such 180 days period shall be extended to include the period of such retroactive effect. This covenant shall survive the termination of this Agreement and the payment of the Loans and all other amounts payable hereunder.

2.21. Change of Lending Office. Each Lender agrees that, upon the occurrence of any event giving rise to the operation of Section 2.18 or 2.19(a) with respect to such Lender, it will, if requested by the Borrower, use reasonable efforts (subject to overall policy considerations of such Lender) to designate another lending office for any Loans affected by such event with the object of avoiding the consequences of such event; provided that such designation is made on terms that, in the good faith judgment of such Lender, cause such Lender and its lending office(s) to suffer no economic, legal or regulatory disadvantage, and provided, further, that nothing in this Section shall affect or postpone any of the obligations of the Borrower or the rights of any Lender pursuant to Section 2.18 or 2.19(a).

2.22. Fees.

(a) The Borrower agrees to pay to the Administrative Agent (i) the fees in the amounts and on the dates as set forth in the Engagement Letter and (ii) for its own account, the annual administration fee separately agreed in writing between the Borrower and the Administrative Agent, and, in each case, to perform any other obligations contained therein.

(b) The Borrower agrees to pay to the Administrative Agent for the ratable account of each Revolving Lender according to its Revolving Loan Percentage a commitment fee at a rate per annum equal to the Commitment Fee Percentage (computed on the basis of a year of 360 days and the actual number of days elapsed) on the average daily aggregate Unused Revolving Commitments (the "Commitment Fee"); provided, however, that no Commitment Fee shall accrue to the Unused Revolving Credit Commitment of a Defaulting Lender, or be payable for the benefit of such Lender, so long as such Lender shall be a Defaulting Lender. Such Commitment Fee amount accrued through and including the last day of March, June, September and December of each year shall be payable quarterly in arrears on the third Business Day following the Borrower's receipt of an invoice from Administrative Agent for such period, commencing on the first such date to occur after the date hereof; provided that such Commitment Fee shall also be payable on the date on which the Revolving Commitments terminate.

(c) The Borrower agrees to pay (i) to the Administrative Agent for the account of each Revolving Lender (other than a Defaulting Lender) a participation fee with respect to its participations in Documentary Credits, which shall accrue at the same Applicable Margin used to determine the interest rate applicable to Eurodollar Revolving LoansBorrowings on the average daily amount of such Lender's DC Exposure (excluding any portion thereof attributable to unreimbursed DC Disbursements) during the period from and including the Closing Date to but excluding the later of the date on which such Lender's Revolving Commitment terminates and the date on which such Lender ceases to have any DC Exposure, and (ii) to the relevant Issuing Bank a fronting fee, as may be agreed between the Issuing Bank and the Borrower, as well as such Issuing Bank's standard fees with respect to the issuance, amendment, renewal or extension of any Documentary Credit or processing of drawings thereunder. Participation fees and fronting fees accrued through and including the last day of March, June, September and December of each year shall be payable on the third Business Day following the Borrower's receipt of an invoice from Administrative Agent for such period, commencing on the first such date to occur after the Closing Date; provided that all such fees shall be payable on the date on which the Commitments terminate and any such fees accruing after the date on which the Commitments terminate shall be payable on demand. Any other fees payable to any Issuing Bank pursuant to this paragraph shall be payable within 10 days after demand (accompanied by reasonable back-up documentation relating thereto). All participation fees and fronting fees shall be computed on the basis of a year of 360 days and shall be payable for the actual number of days elapsed (including the first day but excluding the last day).

(d) The Borrower shall pay to the Administrative Agent for the ratable account of each 2019 Incremental Term Loan Lender having a 2019 Incremental Term Loan Commitment a ticking fee (the "2019 Incremental Term Loan Ticking Fee") during the 2019 Incremental Term Loan Availability Period in Dollars equal to the outstanding 2019 Incremental Term

Loan Commitments multiplied by a per annum rate equal to the Ticking Fee Percentage (computed on the basis of a year of 360 days and the actual number of days elapsed); provided, however, that no 2019 Incremental Term Loan Ticking Fee shall accrue on the outstanding 2019 Incremental Term Loan Commitment of a Defaulting Lender, or be payable for the benefit of such Defaulting Lender, so long as such Lender shall be a Defaulting Lender. The 2019 Incremental Term Loan Ticking Fee shall accrue on the outstanding 2019 Incremental Term Loan Commitments from and including the last day on which the 2019 Incremental Term Loan Ticking Fee was paid (or if no such payment has yet been made, from and including the 2019 Incremental Amendment Effective Date). Such 2019 Incremental Term Loan Ticking Fee amount accrued through and including the last day of March, June, September and December of each year during the 2019 Incremental Term Loan Availability Period shall be payable quarterly in arrears on the third Business Day following the Borrower's receipt of an invoice from Administrative Agent for such period, commencing on the first such date to occur after the date hereof; provided that such 2019 Incremental Term Loan Ticking Fee shall also be payable on the earlier to occur of (A) the 2019 Incremental Term Loan Funding Date and (B) the 2019 Incremental Term Loan Commitment Termination Date.

(e) The Borrower shall pay to the Administrative Agent for the account of each 2019 Incremental Term Loan Lender, on the 2019 Incremental Term Loan Funding Date, a fee equal to 0.15% of the aggregate principal amount of the 2019 Incremental Term Loan so advanced by such 2019 Incremental Term Loan Lender on the 2019 Incremental Term Loan Funding Date.

2.23. RESERVED.

2.24. Nature of Fees. All Fees shall be paid on the dates due, in immediately available funds, to the Administrative Agent (for the respective accounts of the Administrative Agent and the Lenders), as provided herein. Once paid, none of the Fees shall be refundable under any circumstances.

2.25. Incremental Facilities.

(a) The Borrower may at any time or from time to time after the Closing Date, by notice to the Administrative Agent, request (i) the establishment of Incremental Term Loan Commitments and/or (ii) during the Availability Period, the establishment of Incremental Revolving Commitments; provided that

(i) except as otherwise agreed by the Incremental Lenders providing an Incremental Facility (y) no Default or Event of Default shall have occurred and be continuing or would exist after giving effect thereto and (z) the conditions set forth in Section 4.2 are satisfied;

(ii) on the date of the incurrence or effectiveness of such Incremental Facility (in the case of the incurrence or effectiveness of Incremental Revolving Commitments, assuming such increase has been drawn in full), the Borrower shall be in compliance, on a pro forma basis, with the financial covenants set forth in Section 6.6 recomputed as of the last day of the most recently ended fiscal quarter for which financial statements have been or were required to be delivered pursuant to Section 5.1; provided that, to the extent incurred in connection with an acquisition, at the Borrower's election, the Borrower's compliance on a pro forma basis with the financial covenants set forth in Section 6.6 may be determined at the time of the signing of any acquisition agreement with respect thereto or at the time of the closing of such acquisition; provided, further that if the Borrower has made the election to measure such compliance on the date of the signing of an acquisition agreement, in connection with the calculation of any ratio with respect to the incurrence of Indebtedness or Liens, or following such date and until the earlier of the date on which such acquisition is consummated or the definitive agreement for such acquisition is terminated or expired (but not for the purposes of calculating any financial covenant), such ratio shall be calculated on a pro forma basis assuming such acquisition (including the incurrence of Indebtedness) have been consummated;

(iii) each Incremental Term Loan Facility shall have an Incremental Term Loan Maturity Date no earlier than the Revolving Maturity Date and the 2019 Incremental Term Loan Maturity Date;

(iv) the interest rate applicable to any Incremental Term Loan Facility or Incremental Term Loans will be determined by the Borrower and the Incremental Term Loan Lenders providing such Incremental Term Loan Facility or Incremental Term Loans; provided that, such interest rate will not be more than 0.50% higher than the corresponding interest rate applicable to any other existing incremental term loans or incremental facility of the same type (e.g., "term loan A" or "term loan B") (the "Relevant Existing Facility") unless the interest rate with respect to the Relevant Existing Facility is adjusted to be equal to the interest rate with respect to the relevant Incremental Term Loans or Incremental Term Loan Facility, *minus* 0.50%; provided, further, that in determining the applicable interest rate under this clause (iv): (w) original issue discount ("OID") or upfront fees paid in connection with the Relevant

Existing Facility or such Incremental Term Loan Facility or Incremental Term Loans (based on a four-year average life to maturity), shall be included, (x) any amendments to or changes in the Applicable Margin with respect to the Relevant Existing Facility that became effective subsequent to the Closing Date but prior to the time of (or concurrently with) the addition of such Incremental Term Loan Facility or Incremental Term Loans shall be included, (y) arrangement, commitment, structuring and underwriting fees and any amendment fees paid or payable to the Joint Lead Arrangers (or their affiliates) in their respective capacities as such in connection with the Relevant Existing Facility or to one or more arrangers (or their affiliates) in their capacities as such applicable to such Incremental Term Loan Facility or Incremental Term Loans shall be excluded and (z) if such Incremental Term Loan Facility or Incremental Term Loans include any interest rate floor greater than that applicable to the Relevant Existing Facility, and such floor is applicable to the Relevant Existing Facility on the date of determination, such excess amount shall be equated to interest margin for determining the increase;

(v) all Incremental Facilities shall rank *pari passu* or junior in right of payment and right of security in respect of the Collateral (if any) with the Revolving Loans [and the 2019 Incremental Term Loans](#) or may be unsecured; provided that to the extent any such Incremental Facilities are subordinated in right of payment or right of security they shall be subject to intercreditor arrangements reasonably satisfactory to the Administrative Agent, provided further that to the extent any such Incremental Facilities are *pari passu* in right of security and subject to separate documentation, the agent for such Incremental Facilities shall become party to the First Lien Intercreditor Agreement;

(vi) no Incremental Facility shall be guaranteed by any Person which is not a Loan Party;

(vii) the Borrower shall have delivered to the Administrative Agent a certificate of a Financial Officer certifying to the effect set forth in subclauses (i) and (ii) above, together with reasonably detailed calculations demonstrating compliance with subclause (ii) above (which calculations shall, if made as of the last day of any fiscal quarter of the Borrower for which the Borrower has not delivered to the Administrative Agent the financial statements and Compliance Certificate required to be delivered by [Section 5.2](#), be accompanied by a reasonably detailed calculation of Consolidated EBITDA and Consolidated Interest Expense of the Borrower for the relevant period);

(viii) all fees or other payments owing pursuant to this Agreement or as otherwise agreed in writing to the Administrative Agent and the applicable Incremental Lenders shall have been paid; and

(ix) (A) the other terms and conditions of any Incremental Revolving Facility shall be identical to those of the Revolving Commitments and Revolving Loans then outstanding, and shall be treated as a single Class with such Revolving Commitments and Revolving Loans; provided that the upfront fees applicable to any Incremental Revolving Facility shall be as determined by the Borrower and the Incremental Revolving Lenders providing such Incremental Revolving Facility and (B) the other terms and conditions (excluding those referenced in clauses (i) through (viii) above) of such Incremental Term Loan Facility shall be substantially identical to, or (taken as a whole) not materially more favorable (as reasonably determined by the Borrower) to the lenders providing such Incremental Term Loan Facility than those applicable to the Revolving Loans (except for covenants or other provisions applicable only to periods after the latest final maturity date other than existing Revolving Loans or Revolving Commitments); provided that to the extent the terms of any Incremental Term Loans are not substantially identical to the terms applicable to the Revolving Loans, such terms shall be reasonably satisfactory to the Administrative Agent taking into consideration typical differences between terms and conditions governing revolving credit facilities and term loan facilities.

(b) Each notice from the Borrower pursuant to this [Section 2.25](#) shall specify (i) the date on which the Borrower proposes that the Incremental Term Loan Commitments or the Incremental Revolving Facility shall, as applicable shall be effective, which shall be a date not less than five (5) Business Days (or such shorter period as may be agreed to by the Administrative Agent) after the date on which such notice is delivered to the Administrative Agent and (ii) the requested amount and proposed terms of the relevant Incremental Term Loan Commitments or Incremental Revolving Commitments, as applicable (it being agreed that (x) any Lender approached to provide any Incremental Term Loan Commitment or Incremental Revolving Commitment may elect or decline, in its sole discretion, to provide such Incremental Term Loan Commitment or Incremental Revolving Commitment and (y) any Person that the Borrower proposes to become an Incremental Revolving Lender, must be consented to (such consent not to be unreasonably withheld, delayed or conditioned) by the Administrative Agent and each Issuing Bank if such consent would be required under [Section 9.4](#) for an assignment of Loans or Commitments, as applicable to such Lender or Incremental Lender.

(c) Incremental Commitments in respect of Incremental Loans shall become Commitments under this Agreement pursuant to an amendment (an “Incremental Amendment”) to this Agreement and, as appropriate, the other Loan Documents, executed (in the case of such amendment to this Agreement) by the Borrower, each Lender agreeing to provide such Commitment, if any, each Incremental Term Loan Lender (if any) or Incremental Revolving Credit Lender (if any), as applicable, and the Administrative Agent.

(d) Any Incremental Amendment may, without the consent of any other Lenders, effect such amendments to this Agreement and the other Loan Documents as may be necessary or appropriate, in the reasonable opinion of the Administrative Agent and the Borrower, to effect the provisions of this Section, including (x) imposing “call-protection” applicable to any existing term loans in the case of any fungible add-on thereto and (y) limiting the ability of future Incremental Term Loan Facility to have a maturity date prior to the maturity date applicable to any Incremental Term Loan Facility then being established. The Borrowers may use the proceeds of the Incremental Loans for any purpose not prohibited by this Agreement.

(e) Upon each increase in the Revolving Commitments pursuant to this Section 2.25, (i) each Lender with a Revolving Commitment immediately prior to such increase will automatically and without further act be deemed to have assigned to each Incremental Revolving Lender in respect of such increase, and each Incremental Revolving Lender will automatically and without further act be deemed to have assumed, a portion of such Lender’s participations hereunder in outstanding Documentary Credits such that, immediately after giving effect to each such deemed assignment and assumption of participations, the percentage of the aggregate outstanding participations hereunder in Documentary Credits held by each Lender with a Revolving Commitment (including each Incremental Revolving Lender) will equal the percentage of the aggregate Revolving Commitments of all Lenders with Revolving Commitments represented by such Lender’s Revolving Commitment and (ii) if, on the date of such increase, there are any Revolving Loans outstanding, such Revolving Loans shall on or prior to the effectiveness of such increase in the Revolving Commitments be prepaid from the proceeds of additional Revolving Loans made hereunder (reflecting such increase in Revolving Commitments), which prepayment shall be accompanied by accrued interest on the Revolving Loans being prepaid and any costs incurred by any Lender in accordance with Section 2.20. The Administrative Agent and the Lenders hereby agree that the minimum Borrowing, *pro rata* Borrowing and *pro rata* payment requirements contained elsewhere in this Agreement shall not apply to the transactions effected pursuant to the immediately preceding sentence.

(f) During any Secured Covenants Period, any incurrence under an Incremental Facility shall constitute incurrence of First Lien Debt for purposes of Section 6.1(c)(1) and during any Unsecured Covenants Period any incurrence under an Incremental Facility shall constitute incurrence of Indebtedness that is not secured by a Lien on Principal Property or Collateral.

(g) This Section 2.25 shall supersede any provisions in Section 9.1 to the contrary.

2.26. Replacement of Lenders. The Borrower shall be permitted to replace any Lender that (a) requests reimbursement for amounts owing pursuant to Section 2.18, 2.19 or 2.20, and is unable to designate a different lending office in accordance with Section 2.21 so as to eliminate the continued need for payment of amounts owing pursuant to Sections 2.18, 2.19 or 2.20, (b) refuses to extend its Loans pursuant to an Extension Offer pursuant to Section 2.27 or (c) does not consent to any proposed amendment, supplement, modification, consent or waiver of any provision of this Agreement or any other Loan Document that requires the consent of each of the Lenders or each of the Lenders affected thereby (so long as the consent of the Required Lenders (of all Loans or the affected Classes of Loans) has been obtained), in each case with a replacement financial institution(s); provided that (i) such replacement does not conflict with any Requirement of Law, (ii) no Event of Default shall have occurred and be continuing at the time of such replacement, (iii) the replacement financial institution(s) shall purchase, at par, all Loans outstanding, Revolving Commitments, DC Exposure and other amounts related thereto owing to such replaced Lender on or prior to the date of replacement, (iv) the Borrower shall be liable to such replaced Lender under Section 2.20 if any Eurodollar Loan owing to such replaced Lender shall be purchased other than on the last day of the Interest Period relating thereto, (v) the replacement financial institution(s) (if other than a then existing Lender or an affiliate thereof) shall be reasonably satisfactory to the Administrative Agent (such consent not to be unreasonably withheld, delayed or conditioned), (vi) the replaced Lender shall be obligated to make such replacement in accordance with the provisions of Section 9.6 (provided that the Borrower shall be obligated to pay the registration and processing fee referred to therein), (vii) until such time as such replacement shall be consummated, the Borrower shall pay all additional amounts (if any) required pursuant to Section 2.18, 2.19 or 2.20, as the case may be, and (viii) any such replacement shall not be deemed to be a waiver of any rights that the Borrower, the Administrative Agent or any other Lender shall have against the replaced Lender.

2.27. Extensions of Commitments.

(a) Notwithstanding anything to the contrary in this Agreement, pursuant to one or more offers (each, an “Extension Offer”) made from time to time by the Borrower to any or all Lenders holding Commitments in the same Credit Facility with a like Maturity Date, the Borrower may from time to time request an extension to the applicable Maturity Date and otherwise modify the terms of such Commitments pursuant to the terms of the relevant Extension Offer (including, without limitation, by increasing the interest rate or fees payable in respect of such Loans (and related outstandings)) (an “Extension”, such Commitments so extended, “Extended Commitments”; and each group of Commitments so extended, as well as the original Commitments of such Credit Facility (not so extended), being a “tranche”; any Extended Commitments shall constitute a separate tranche of Commitments from the tranche of Commitments from which they were converted and Loans made pursuant to Extended Commitments shall constitute a separate Class of Loan); provided that (i) each applicable Lender shall have the right (but not the obligation) to agree to the extension of the applicable Maturity Date, (ii) no Default or Event of Default shall have occurred and be continuing at the time any the offering document (if any) in respect of an Extension Offer is delivered to the Lenders, (iii) except as to interest rates, fees and final maturity, the Extended Commitments of any Lender shall have the same terms as the original Commitments in the applicable Credit Facility; provided that at no time shall there be more than three different Revolving Maturity Dates, (iv) if the aggregate principal amount of Commitments in respect of which Lenders shall have accepted the relevant Extension Offer shall exceed the maximum aggregate principal amount of Commitments offered to be extended by the Borrower pursuant to such Extension Offer, then the Commitments of such Lenders shall be extended ratably up to such maximum amount based on the respective principal amounts (but not to exceed actual holdings of record) with respect to which such Lenders have accepted such Extension Offer, (v) all documentation in respect of such Extension shall be consistent with the foregoing, and all written communications by the Borrower generally directed to the Lenders in connection therewith shall be in form and substance consistent with the foregoing and otherwise reasonably satisfactory to the Administrative Agent and (vi) any applicable Minimum Extension Condition shall be satisfied.

(b) With respect to an Extension consummated by the Borrower pursuant to this Section 2.27, (i) such Extensions shall not constitute prepayments for purposes of Section 2.13 or prepayments for purposes of an Incremental Term Loan Facility and (ii) no Extension Offer is required to be in any minimum amount or any minimum increment, provided that the Borrower may at its election specify as a condition (a “Minimum Extension Condition”) to consummating any such Extension that a minimum amount (to be determined and specified in the relevant Extension Offer in the Borrower’s discretion) of Commitments of any or all applicable tranches be tendered.

(c) The Lenders hereby irrevocably authorize the Administrative Agent to enter into amendments to this Agreement and the other Loan Documents with the Borrower as may be necessary in order establish new tranches or sub-tranches in respect of Commitments so extended and such technical amendments as may be necessary in connection with the establishment of such new tranches or sub-tranches, in each case on terms consistent with this Section 2.27. Notwithstanding the foregoing, the Administrative Agent shall have the right (but not the obligation) to seek the advice or concurrence of the Required Lenders (of one or more Classes of Loans) with respect to any matter contemplated by this Section 2.27(c) and, if the Administrative Agent seeks such advice or concurrence, the Administrative Agent shall be permitted to enter into such amendments with the Borrower in accordance with any instructions actually received by such Required Lenders and shall also be entitled to refrain from entering into such amendments with the Borrower unless and until it shall have received such advice or concurrence; provided, however, that whether or not there has been a request by the Administrative Agent for any such advice or concurrence, all such amendments entered into with the Borrower by the Administrative Agent hereunder shall be binding and conclusive on the Lenders. Without limiting the foregoing, in connection with any Extensions, the respective Loan Parties shall (at their expense) amend (and the Collateral Agent is hereby directed to amend) any Mortgage that has a maturity date prior to the then latest Maturity Date so that such maturity date is extended to the then latest Maturity Date (or such later date as may be advised by local counsel to the Collateral Agent).

(d) In connection with any Extension, the Borrower shall provide the Administrative Agent at least five (5) Business Days’ (or such shorter period as may be agreed by the Administrative Agent) prior written notice thereof, and shall agree to such procedures, if any, as may be established by, or acceptable to, the Administrative Agent, in each case acting reasonably to accomplish the purposes of this Section 2.27.

2.28. Reserved.

2.29. Defaulting Lenders. Notwithstanding anything to the contrary contained in this Agreement, if any Lender becomes a Defaulting Lender, then, until such time as such Lender is no longer a Defaulting Lender, to the extent permitted by applicable law:

(a) Waivers and Amendments. The Loans and Commitments of such Defaulting Lender shall not be included in

determining whether the Required Lenders have taken or may take any action hereunder or under any other Loan Document (including any consent to any amendment, waiver or other modification pursuant to Section 9.1); provided that any amendment, waiver or other modification requiring the consent of all Lenders or all Lenders affected thereby shall, except as otherwise provided in Section 9.1, require the consent of such Defaulting Lender in accordance with the terms hereof.

(b) Defaulting Lender Waterfall. Any payment of principal, interest, fees or other amounts received by the Administrative Agent for the account of such Defaulting Lender hereunder (whether voluntary, at maturity, pursuant to Article VII or otherwise) shall be applied at such time or times as may be determined by the Administrative Agent as follows: first, to the payment of any amounts owing by such Defaulting Lender to the Administrative Agent hereunder; second, as the Borrower may request (so long as no Default exists), to the funding of any Loan in respect of which such Defaulting Lender has failed to fund its portion thereof as required by this Agreement, as determined by the Administrative Agent; third, if so determined by the Administrative Agent and the Borrower, to be held in a deposit account and released pro rata in order to satisfy such Defaulting Lender's potential future funding obligations with respect to Loans under this Agreement; fourth, to the payment of any amounts owing to the Lenders or Issuing Banks as a result of any judgment of a court of competent jurisdiction obtained by any Lender against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement; fifth, so long as no Default exists, to the payment of any amounts owing to the Borrower as a result of any judgment of a court of competent jurisdiction obtained by the Borrower against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement; and sixth, to such Defaulting Lender or as otherwise directed by a court of competent jurisdiction; provided that if (x) such payment is a payment of the principal amount of any Loans in respect of which such Defaulting Lender has not fully funded its appropriate share, and (y) such Loans were made at a time when the conditions set forth in Section 4.1 were satisfied or waived, such payment shall be applied solely to pay the Loans of the same Class of all non-Defaulting Lenders on a pro rata basis prior to being applied to the payment of any Loans of such Class of such Defaulting Lender until such time as all Loans of such Class are held by the Lenders pro rata in accordance with the applicable Commitments. Any payments, prepayments or other amounts paid or payable to a Defaulting Lender that are applied (or held) to pay amounts owed by a Defaulting Lender or to post cash collateral pursuant to this Section shall be deemed paid to and redirected by such Defaulting Lender, and such Defaulting Lender irrevocably consents hereto.

(c) Defaulting Lender Cure. If the Borrower and the Administrative Agent (unless the Administrative Agent is the Defaulting Lender) agree in writing that a Lender is no longer a Defaulting Lender, the Administrative Agent will so notify the applicable parties hereto, whereupon as of the effective date specified in such notice and subject to any conditions set forth therein (which may include arrangements with respect to any cash collateral), that Lender will, to the extent applicable, purchase at par that portion of outstanding Loans of the other Lenders or take such other actions as the Administrative Agent (unless the Administrative Agent is the Defaulting Lender) may determine to be necessary to cause the Loans to be held pro rata by the Lenders in accordance with the relative amounts of their Commitments for each applicable Class of Loans, whereupon such Lender will cease to be a Defaulting Lender; provided that no adjustments will be made retroactively with respect to fees accrued or payments made by or on behalf of the Borrower while that Lender was a Defaulting Lender; and provided, further, that except to the extent otherwise expressly agreed by the affected parties, no change hereunder from Defaulting Lender to non-Defaulting Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender.

### SECTION 3 Representations and Warranties

The Borrower represents and warrant on the Closing Date to the Administrative Agent, each Lender and each Issuing Bank as follows:

3.1. Existence; Compliance with Law. Each Loan Party (a) is duly organized, validly existing and (to the extent such concept is applicable) in good standing under the laws of the jurisdiction of its organization, (b) has the power and authority, and the legal right, to own and operate its property, to lease the property it operates as lessee and to conduct the business in which it is currently engaged, (c) is duly qualified as a foreign corporation or other organization and (to the extent such concept is applicable) in good standing under the laws of each jurisdiction where its ownership, lease or operation of property or the conduct of its business requires such qualification, and (d) is in compliance with all Requirements of Law, except, in the case of each of the foregoing clauses (a) through (d), to the extent that the failure to comply therewith would not, in the aggregate, reasonably be expected to have a Material Adverse Effect.

3.2. Power; Authorizations; Enforceable Obligations. Each Loan Party has the power and authority, and the legal right, to make, deliver and perform the Loan Documents to which it is a party and, in the case of the Borrower, to obtain extensions of credit hereunder. Each Loan Party has taken all necessary organizational action to authorize the execution, delivery and performance of the Loan Documents to which it is a party and, in the case of the Borrower, to authorize the

extensions of credit on the terms and conditions of this Agreement. No consent or authorization of, filing with, notice to or other act by or in respect of, any Governmental Authority is required in connection with the extensions of credit hereunder or with the execution, delivery, performance, validity or enforceability of this Agreement or any of the Loan Documents, except (i) that have been obtained or made and are in full force and effect, (ii) the filings made in respect of the Security Documents and (iii) to the extent that the failure to obtain any such consent, authorization, filing, notice or other act would not, in the aggregate, reasonably be expected to have a Material Adverse Effect. Each Loan Document has been duly executed and delivered on behalf of each Loan Party party thereto. This Agreement constitutes, and each other Loan Document upon execution will constitute, a legal, valid and binding obligation of each Loan Party party thereto, enforceable against each such Loan Party in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the enforcement of creditors' rights generally and by general equitable principles (whether enforcement is sought by proceedings in equity or at law).

3.3. No Legal Bar. The execution, delivery and performance of this Agreement and the other Loan Documents, the borrowings hereunder and the use of the proceeds thereof (x) will not violate any Requirement of Law or any material Contractual Obligation of any Loan Party and (y) will not result in, or require, the creation or imposition of any Lien on any of their respective properties or revenues pursuant to any Requirement of Law or any such material Contractual Obligation (other than the Liens created by the Security Documents) except, in the case of each of the foregoing clauses (x) and (y), to the extent that the failure to comply therewith would not, in the aggregate, reasonably be expected to have a Material Adverse Effect.

3.4. Accuracy of Information. No statement or information contained in this Agreement, any other Loan Document, or any other document, certificate or statement furnished by or on behalf of any Loan Party to the Administrative Agent or the Lenders, or any of them, for use in connection with the transactions contemplated by this Agreement or the other Loan Documents, contained as of the Closing Date, taken as a whole and in light of the circumstances in which made, any untrue statement of a material fact or omitted to state a material fact necessary to make the statements contained herein or therein not materially misleading; provided that, with respect to projected financial information, each Loan Party represents only that such information was prepared in good faith based upon assumptions believed by them to be reasonable at the time delivered and, if such projected financial information was delivered prior to the Closing Date, as of the Closing Date, it being understood that any such projected financial information may vary from actual results and such variations could be material.

3.5. No Material Adverse Effect. Since the last day of the most recently ended fiscal year of the Borrower prior to the Closing Date or such subsequent date as this representation may be re-made with respect to which financial statements have been delivered to the Administrative Agent pursuant to Section 5.1 there has been no development or event that has had or would reasonably be expected to have a Material Adverse Effect.

3.6. Restricted Subsidiaries. Schedule 3.6 annexed hereto sets forth the name and jurisdiction of organization of each direct Restricted Subsidiary of the Borrower, the Capital Stock of which will be pledged as Collateral, as of the Closing Date and, as to each such Restricted Subsidiary, the percentage of each class of Capital Stock owned by the Borrower as of the Closing Date, and (b) as of the Closing Date, there are no outstanding subscriptions, options, warrants, calls, rights or other agreements or commitments (other than stock options or restricted stock granted to employees or directors and directors' qualifying shares) of any nature relating to any Capital Stock that is included in the Collateral, except as created by the Loan Documents or as are not prohibited by Section 6.2.

3.7. Title to Assets; Liens. The Borrower and its Restricted Subsidiaries have good and marketable title to, or a valid leasehold or easement interest in, all their other material property (including any Mortgaged Property), taken as a whole, except for minor defects in title that do not interfere with their ability to conduct their business as currently conducted or as proposed to be conducted or to utilize such properties for their intended purposes, in each case, except as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, and none of such property is subject to any Lien except Permitted Liens or Liens not prohibited by Section 6.2(b).

3.8. Intellectual Property. The Borrower and its Restricted Subsidiaries own, or are licensed to use, all Intellectual Property material to the conduct of their businesses, and the use thereof by the Borrower and its Restricted Subsidiaries does not, to the knowledge of the Borrower, infringe upon, misappropriate or otherwise violate the Intellectual Property rights of any other Person, in each case except where the failure to own or license Intellectual Property, or any infringement on Intellectual Property rights would not, in the aggregate, reasonably be expected to have a Material Adverse Effect.

3.9. Use of Proceeds. The proceeds of the Loans shall be utilized for general corporate purposes.

3.10. Litigation. No litigation, investigation or proceeding of or before any arbitrator or Governmental Authority is pending or, to the knowledge of the Borrower, threatened (including "cease and desist" letters and invitations to take a patent

license) by or against the Borrower or its Restricted Subsidiaries or against any of their respective properties, rights or revenues that, in the aggregate, would reasonably be expected to have a Material Adverse Effect.

3.11. Federal Reserve Regulations. No part of the proceeds of any Loan will be used for any purpose that violates the provisions of the Regulations of the Board of Governors. Neither the Borrower nor any of its Subsidiaries is engaged principally, or as one of its important activities, in the business of extending credit for the purpose of purchasing or carrying any “margin stock.”

3.12. Solvency. The Borrower and its Subsidiaries, taken as a whole, are, and after giving effect to the incurrence of all Indebtedness and obligations being incurred in connection herewith will be, Solvent.

3.13. Taxes. Each of the Borrower and its Restricted Subsidiaries has filed or caused to be filed all federal and state income Tax and other Tax returns that are required to be filed, except if the failure to make any such filing would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, and has paid all Taxes shown to be due and payable on said returns or on any assessments made against it or any of its property and all other Taxes, fees or other charges imposed on it or any of its property by any Governmental Authority (other than any (x) the amount or validity of which are currently being contested in good faith by appropriate proceedings and with respect to which reserves in conformity with GAAP have been provided on the books of the relevant entity, or (y) those where the failure to pay, individually or in the aggregate, would not reasonably be expected to have a Material Adverse Effect). There is no proposed Tax assessment or other claim against, and no Tax audit with respect to, the Borrower or its Restricted Subsidiaries that would reasonably be expected to, individually or in the aggregate, have a Material Adverse Effect.

3.14. ERISA. Except as, in the aggregate, does not or would not reasonably be expected to result in a Material Adverse Effect: neither a Reportable Event nor a failure to satisfy the minimum funding standard of Section 430 of the Code or Section 303 of ERISA, whether or not waived, with respect to a Plan has occurred during the five-year period prior to the date on which this representation is made or deemed made with respect to any Plan, and each Plan has complied in all respects with the applicable provisions of ERISA and the Code; no termination of a Single Employer Plan has occurred, and no Lien in favor of the PBGC or a Plan has arisen, during such five-year period; the present value of all accrued benefits under each Single Employer Plan (based on those assumptions used to fund such Plans) did not, as of the last annual valuation date prior to the date on which this representation is made or deemed made, exceed the value of the assets of such Plan allocable to such accrued benefits; neither the Borrower nor any Commonly Controlled Entity has had a complete or partial withdrawal from any Multiemployer Plan; to the knowledge of the Borrower after due inquiry, neither the Borrower nor any Commonly Controlled Entity would become subject to any liability under ERISA if the Borrower or any such Commonly Controlled Entity were to withdraw completely from any Multiemployer Plans as of the valuation date most closely preceding the date on which this representation is made or deemed made; and to the knowledge of the Borrower after due inquiry, no Multiemployer Plan is in “critical status” (within the meaning of Section 432 of the Code or Section 305 of ERISA) or Insolvent.

3.15. Environmental Matters; Hazardous Material. There has been no matter with respect to Environmental Laws or Materials of Environmental Concern which, in the aggregate, would reasonably be expected to have a Material Adverse Effect.

3.16. Investment Company Act; Other Regulations. Neither the Borrower nor any Restricted Subsidiary is required to register as an “investment company”, or a company “controlled” by an “investment company”, within the meaning of the Investment Company Act of 1940, as amended. Neither the Borrower nor any Restricted Subsidiary is subject to regulation under any Requirement of Law that limits its ability to incur Indebtedness under this Agreement and the other Loan Documents.

3.17. Labor Matters. Except as, in the aggregate, would not reasonably be expected to have a Material Adverse Effect: (a) there are no strikes or other labor disputes against the Borrower or any Restricted Subsidiary pending or, to the knowledge of the Borrower, threatened; (b) hours worked by and payment made to employees of each of the Borrower and its Restricted Subsidiaries have not been in violation of the Fair Labor Standards Act or any other applicable Requirement of Law dealing with such matters; and (c) all payments due from the Borrower and its Restricted Subsidiaries on account of employee health and welfare insurance have been paid or accrued as a liability on the books of the relevant entity.

3.18. Security Documents. The Security Documents are effective to create in favor of the Collateral Agent, for the benefit of the Lenders, a legal, valid and enforceable security interest in the Collateral described therein and proceeds thereof. In the case of the pledged stock of a Material Subsidiary described and as defined in the Guarantee and Collateral Agreement, when stock certificates (if any) representing such Pledged Stock of a Material Subsidiary are delivered to the Collateral Agent (or to the “Controlling Collateral Agent” pursuant to the terms of the First Lien Intercreditor Agreement), and in the case of the other Collateral described in the Guarantee and Collateral Agreement, when financing statements and other filings specified on

Schedule 3.18 in appropriate form are filed in the offices specified on Schedule 3.18, including the United States Patent and Trademark Office and the United States Copyright Office, the Guarantee and Collateral Agreement shall constitute a fully perfected Lien on, and security interest in, all right, title and interest of the Loan Parties in such Collateral and the proceeds thereof to the extent security interests can be so perfected (by delivery or filing UCC financing statements and other such filings as applicable) on such Collateral, as security for the Obligations (as defined in the Guarantee and Collateral Agreement) and including the Obligations, in each such case prior and superior in right to any other Person (except other Permitted Liens and Liens not prohibited by Section 6.2).

3.19. Anti-Corruption Laws and Sanctions. The Borrower has implemented and maintains in effect policies and procedures designed to ensure compliance by the Borrower, its Subsidiaries and their respective directors, officers, employees and agents with Anti-Corruption Laws and applicable Sanctions, and the Borrower, its Subsidiaries and their respective officers and directors and to the knowledge of the Borrower its employees and agents, are in compliance with Anti-Corruption Laws and applicable Sanctions in all material respects. None of (a) the Borrower, any Subsidiary or any of their respective directors, officers or employees, or (b) to the knowledge of the Borrower, any agent of the Borrower or any Subsidiary that will act in any capacity in connection with or benefit from the credit facility established hereby, is a Sanctioned Person. No Borrowing, use of proceeds or other transaction contemplated by this Agreement will violate any Anti-Corruption Law or applicable Sanctions.

3.20. EEA Financial Institutions. No Loan Party is an EEA Financial Institution.

3.21. Disclosure. As of the Closing Date, to the best knowledge of the Borrower, the information included in the Beneficial Ownership Certification provided on or prior to the Closing Date to any Lender in connection with this Agreement is true and correct in all respects.

3.22. ERISA Event. No ERISA Event has occurred or is reasonably expected to occur that, when taken together with all other such ERISA Events for which liability is reasonably expected to occur, would reasonably be expected to result in a Material Adverse Effect.

#### SECTION 4 Conditions Precedent

4.1. Conditions to the Closing Date. The obligations of the Lenders to make Loans and of the Issuing Banks to issue Documentary Credits hereunder shall not become effective until the date on which each of the following conditions is satisfied (or waived in accordance with Section 9.1):

(a) Loan Documents. The Administrative Agent shall have received (i) counterparts hereof executed and delivered by the Borrower, the Administrative Agent, the Collateral Agent, and each other Lender and Issuing Bank; (ii) Schedules to this Agreement; (iii) the Guarantee and Collateral Agreement, executed and delivered by each Loan Party party thereto and (iv) Schedules to the Guarantee and Collateral Agreement, executed and delivered by the parties thereto.

(b) Corporate Documents and Proceedings. The Administrative Agent shall have received (i) a certificate of each Loan Party, dated the Closing Date, in the case of the Borrower, substantially in the form attached hereto as Exhibit A-1, and, in the case of the Guarantors substantially in the form attached here to as Exhibit A-2, each with appropriate insertions and attachments, including the certificate of incorporation of each Loan Party that is a corporation certified by the relevant authority of the jurisdiction of organization of such Loan Party, and (ii) a long form good standing certificate for each Loan Party from its jurisdiction of organization.

(c) No Material Adverse Effect. Since August 31, 2017, there has been no development or event that has had or would reasonably be expected to have a Material Adverse Effect.

(d) Officer's Certificate. The Administrative Agent shall have received a certificate, dated as of the Closing Date by a Responsible Officer of the Borrower, confirming compliance with the conditions set forth in Section 4.1(c) and Section 4.2(a) and (b) (and covering all representations and warranties in Section 3).

(e) Lien Searches. The Administrative Agent shall have received the results of a recent lien search in each jurisdiction where a Loan Party is organized, and such search shall reveal no liens on any of the assets of the Loan Parties except for Permitted Liens and Liens not prohibited by Section 6.2 or discharged on or prior to the Closing Date pursuant to documentation reasonably satisfactory to the Administrative Agent.

(f) Solvency Certificate. The Administrative Agent shall have received a customary certificate from the chief financial officer of the Borrower in form and substance satisfactory to the Administrative Agent certifying as to the solvency of the Borrower and its Subsidiaries on a consolidated basis after giving effect to the transactions contemplated to occur on the Closing Date.

(g) Payment of Fees; Expenses. The Arrangers and the Administrative Agent shall have received all fees required to be paid, and all reasonable costs and expenses required to be paid and for which invoices have been presented (including the reasonable fees and expenses of legal counsel), on or before the Closing Date.

(h) Legal Opinion. The Administrative Agent shall have received the following executed legal opinions:

(i) one or more legal opinions from Wilson Sonsini Goodrich & Rosati P.C., counsel to the Borrower and the Guarantors, in form and substance satisfactory to the Administrative Agent; and

(ii) the legal opinion of such local counsel, in form and substance satisfactory to the Administrative Agent and as may be reasonably required by the Administrative Agent.

(i) Filings, Registrations and Recordings. Each document (including any Uniform Commercial Code financing statement and filings with the United States Patent and Trademark Office and United States Copyright Office) required by the Security Documents to be filed on the Closing Date or under law or reasonably requested by the Administrative Agent to be filed, registered or recorded in order to create in favor of the Collateral Agent, for the benefit of the Secured Parties, a perfected Lien on the Collateral described therein, prior and superior in right to any other Person (other than with respect to Permitted Liens and Liens not prohibited by Section 6.2), shall be in proper form for filing, registration or recordation except to the extent of items identified in Section 5.8.

(j) Insurance. The Administrative Agent shall have received insurance certificates satisfying the requirements of Section 5.4, except to the extent contemplated by Section 5.8.

(k) Reserved.

(l) Term Loan Credit Agreement. The Administrative Agent shall have received a joinder to the First Lien Intercreditor Agreement, executed by the Administrative Agent and acknowledged by the Term Loan Agent and the Borrower.

(m) Patriot Act and Beneficial Ownership Regulation. (i) The Administrative Agent shall have received, at least three (3) Business Days prior to the Closing Date, all documentation and information as is reasonably requested in writing by any Lender at least eight days prior to the Closing Date about the Borrower and its Subsidiaries that is required by U.S. Governmental Authorities under applicable “know your customer” and anti-money laundering rules and regulations, including without limitation, the Patriot Act and (ii) to the extent the Borrower qualifies as a “legal entity customer” under the Beneficial Ownership Regulation, at least five days prior to the Closing Date, any Lender that has requested, in a written notice to the Borrower at least 10 days prior to the Closing Date, a Beneficial Ownership Certification in relation to the Borrower shall have received such Beneficial Ownership Certification (provided that, upon the execution and delivery by such Lender of its signature page to this Agreement, the condition set forth in this clause (ii) shall be deemed to be satisfied).

4.2. Each Credit Event. The obligation of each Lender to make a Revolving Loan or a 2019 Incremental Term Loan on the occasion of any Borrowing, and of each Issuing Bank to issue, amend, renew or extend any Documentary Credit, is subject to the satisfaction of the following conditions:

(a) All representations and warranties contained in this Agreement shall be true and correct in all material respects on and as of the date of such Borrowing or the date of issuance, amendment, renewal or extension of such Documentary Credit, as applicable, with the same effect as if made on and as of such date (unless stated to relate to a specific earlier date, in which case, such representations and warranties shall be true and correct in all material respects as of such earlier date) (it being understood that any representation or warranty that is qualified as to materiality or Material Adverse Effect shall be correct in all respects).

(b) At the time of and immediately after giving effect to such Revolving Loan, 2019 Incremental Term Loan or the issuance, amendment, renewal or extension of such Documentary Credit, as applicable, no Default or Event of Default shall have occurred and be continuing.

(c) The Administrative Agent shall have received a notice requesting such Borrowing or the issuance, amendment, renewal or extension of such Documentary Credit, as applicable to the extent required hereunder.

Each Borrowing and each issuance, amendment, renewal or extension of a Documentary Credit shall be deemed to constitute a representation and warranty by the Borrower on the date thereof as to the matters specified in paragraphs (a) and (b) of this Section.

## SECTION 5 Affirmative Covenants

Until the Commitments have expired or been terminated and the principal of and interest on each Loan and all fees payable hereunder shall have been paid in full and all Documentary Credits shall have expired or terminated and all DC Disbursements shall have been reimbursed, the Borrower covenants and agrees that:

5.1. Financial Statements, etc. The Borrower will furnish to the Administrative Agent (for distribution to the Lenders), within 15 days after the Borrower has filed the same with the SEC, copies of the quarterly and annual reports and the information, documents and reports (or copies of such portions of any of the foregoing as the SEC may prescribe) that the Borrower may be required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act (other than confidential filings, documents subject to confidential treatment and correspondence with the SEC); provided that in each case the delivery of materials to the Administrative Agent by electronic means or filing of documents pursuant to the SEC's "EDGAR" system (or any successor electronic filing system) shall be deemed to be "furnished" with the Administrative Agent as of the time such documents are filed via the "EDGAR" system for purposes of this Section 5.1.

5.2. Compliance Certificate; Reporting.

(a) Promptly (and in any event within 5 Business Days) following delivery of the quarterly and annual financial statements provided for in Section 5.1 on Form 10-Q or 10-K, as applicable, a certificate of a Financial Officer of the Borrower substantially in the form of Exhibit C (y) stating no Default or Event of Default has occurred and is then continuing or, if a Default or Event of Default exists, a detailed description of the Default or Event of Default and all actions the Borrower is taking with respect to such Default or Event of Default and (z) containing calculations demonstrating the Borrower's compliance with the covenants set forth in Section 6.6.

(b) The Borrower will deliver to the Administrative Agent, forthwith upon any Responsible Officer becoming aware of any Default or Event of Default (which shall be no more than five (5) Business Days following the date on which the Responsible Officer becomes aware of such Default or Event of Default), an officer's certificate of a Responsible Officer of the Borrower specifying such Default or Event of Default and what action the Borrower is taking or proposes to take with respect thereto.

(c) Promptly following any request therefor, the Borrower will deliver information and documentation reasonably requested by the Administrative Agent or any Lender for purposes of compliance with applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act and the Beneficial Ownership Regulation. Promptly following any request therefor, the Borrower shall provide written notice of any change in the list of beneficial owners identified in the most recent Beneficial Ownership Certification delivered to Administrative Agent or a Lender.

5.3. Maintenance of Existence. The Borrower and its Restricted Subsidiaries shall preserve, renew and keep in full force and effect its organizational existence and (ii) take all reasonable action to maintain all rights, privileges and franchises reasonably necessary in the normal conduct of its business, except, in each case, (x) as otherwise permitted by Section 6.3 or (y) to the extent that failure to do so would not, in the aggregate, reasonably be expected to have a Material Adverse Effect.

5.4. Maintenance of Insurance.

(a) (i) The Loan Parties will maintain insurance policies (or self-insurance) on all its property in at least such amounts and against at least such risks as are usually insured against by companies of a similar size engaged in the same or a similar business (after giving effect to any self-insurance which in the good faith judgment of management of the Borrower is reasonable and prudent in light of the size and nature of its business) and (ii) other than during a Guarantee and Collateral Suspension Period, each general liability policy of insurance maintained by a Loan Party shall name the Collateral Agent, as an additional insured thereunder as its interests may appear and each general property insurance policy maintained by a Loan Party shall contain a mortgagee and lender loss payable endorsement that names the Collateral Agent, as mortgagee and lender loss

payee thereunder as its interests may appear, provided that, unless an Event of Default shall have occurred and be continuing, (A) all proceeds from insurance policies shall be paid to the Borrower (or a designated Loan Party), (B) to the extent the Collateral Agent receives any proceeds, the Collateral Agent shall turn over to the Borrower any amounts received by it as an additional insured or lender loss payee under any property insurance maintained by the Borrower and its Restricted Subsidiaries, and (C) the Collateral Agent agrees that the Borrower and/or its applicable Restricted Subsidiary shall have the sole right to adjust or settle any claims under such insurance. Notwithstanding anything to the contrary herein, with respect to Foreign Subsidiaries and any Collateral located outside of the United States, the requirements of this Section 5.4 shall be deemed satisfied if the Borrower obtains insurance policies that are customary and appropriate for the applicable jurisdiction. Upon the request of the Collateral Agent, the Borrower and the Guarantors will furnish to the Collateral Agent full information as to their general property and liability insurance carriers; and

(b) If at any time any Mortgaged Property that remains subject to a Mortgage is at any time located in an area identified by the Federal Emergency Management Agency (or any successor agent) as a special flood hazard area, then the Borrower shall, or shall cause the applicable Loan Party to, (i) maintain, or cause to be maintained, with a financially sound and reputable insurer reasonably acceptable to the Administrative Agent, flood insurance in an amount and otherwise sufficient to comply with all applicable rules and regulations promulgated pursuant to the Flood Insurance Laws and (ii) deliver to the Collateral Agent evidence of such compliance in form and substance reasonably acceptable to the Collateral Agent.

5.5. Use of Proceeds and Documentary Credits. The proceeds of the Loans and the Documentary Credits will be used only for general corporate purposes. No part of the proceeds of any Loan or any Documentary Credit will be used, whether directly or indirectly, for any purpose that entails a violation of any of the regulations of the Federal Reserve Board, including Regulations T, U and X.

5.6. After-Acquired Collateral; Further Assurances.

(a) With respect to any property acquired after the date of this Agreement by the Borrower or any Guarantor (other than any property or rights described in clause (b) and (c) of this Section 5.6) that constitutes Collateral and as to which the Collateral Agent, for the benefit of the Secured Parties, does not have a perfected Lien to the extent required by the Guarantee and Collateral Agreement, the Borrower and each applicable Guarantor shall promptly (provided that, in the case of Intellectual Property, at least quarterly) (other than during a Guarantee and Collateral Suspension Period):

(i) execute and deliver to the Collateral Agent such amendments to the Guarantee and Collateral Agreement or such other documents as the Collateral Agent deems necessary or advisable to grant to the Collateral Agent, for the benefit of the Secured Parties, a security interest in such property or rights; and

(ii) (A) file Uniform Commercial Code financing statements or amendments thereto with the applicable filing office in the jurisdiction of formation or incorporation of the Borrower or any Guarantor (as applicable) and/or (B) record filings with the United States Patent and Trademark Office and United States Copyright Office within the time specified in the Guarantee and Collateral Agreement, as applicable, in each case, to perfect a security interest in favor of the Collateral Agent, for the benefit of the Secured Parties, in such property or rights that is prior to all other Liens on the Collateral other than Permitted Liens and Liens not prohibited by Section 6.2.

(b) With respect to any fee interest in any real property located in the United States having a Fair Market Value (together with improvements thereof) of at least \$100,000,000 acquired after the date of this Agreement by the Borrower or any Guarantor (other than any such real property subject to a Permitted Lien which precludes the granting of a Mortgage thereon), within 90 days after the acquisition thereof, the Borrower and each applicable Guarantor shall (other than during a Guarantee and Collateral Suspension Period):

(i) execute and deliver a first priority Mortgage or where appropriate under the circumstances, an amendment to an existing Mortgage, in each case in favor of the Collateral Agent, for the benefit of the Secured Parties, covering such real property,

(ii) if requested by the Collateral Agent, provide the Secured Parties with (A) either (x) title insurance covering such real property in an amount at least equal to the purchase price of such real property (or such other amount as shall be reasonably specified by the Collateral Agent) in form and substance reasonably satisfactory to the Collateral Agent, as well as a current ALTA survey thereof, together with a surveyor's certificate or (y) where an amendment to an existing Mortgage has been delivered pursuant to clause (i), an endorsement to the existing title policy adding such property as an insured parcel, and (B) any consents or estoppels reasonably deemed necessary or advisable by the Collateral Agent in connection with such Mortgage or Mortgage amendment (to the extent obtainable

using commercially reasonable efforts), each of the foregoing in form and substance reasonably satisfactory to the Collateral Agent;

(iii) if requested by the Collateral Agent, deliver to the Collateral Agent legal opinions relating to the matters described in clauses (i) and (ii) above, which opinions shall be in form and substance, and from counsel, reasonably satisfactory to the Collateral Agent and include opinions regarding the enforceability of such Mortgage and the due authorization, execution and delivery thereof; and

(iv) deliver to the Collateral Agent a completed “Life-of-Loan” Federal Emergency Management Agency Standard Flood Hazard Determination (together with a notice about special flood hazard area status and flood disaster assistance duly executed by the respective Loan Party) with respect to such property and, if such property is located in an area identified by the Federal Emergency Management Agency (or any successor agency) as a special flood hazard area, evidence of flood insurance required by Section 5.4.

(c) With respect to any Restricted Subsidiary (excluding any Excluded Subsidiary) that is required to become a Guarantor in order to comply with the requirements of Section 6.1 or otherwise elects to become a Guarantor, within 60 days of the date such Restricted Subsidiary is required to become a Guarantor (or such date of election if such election is made by such Restricted Subsidiary) the Borrower and each applicable Guarantor shall (other than during a Guarantee and Collateral Suspension Period):

(i) cause such Restricted Subsidiary (A) to become a party to the Guarantee and Collateral Agreement, (B) file Uniform Commercial Code financing statements or other filings in such jurisdictions as may be required by the Guarantee and Collateral Agreement or by law or as may be reasonably requested by the Collateral Agent to grant to the Collateral Agent for the benefit of the Secured Parties a perfected first priority security interest (subject to Permitted Liens and Liens not prohibited by Section 6.2) in the Collateral described in the Guarantee and Collateral Agreement with respect to such Restricted Subsidiary and (C) to deliver to the Collateral Agent a customary closing certificate of such Restricted Subsidiary, in form and substance reasonably satisfactory to the Collateral Agent, with appropriate insertions and attachments; and

(ii) if requested by the Collateral Agent, deliver to the Collateral Agent customary legal opinions relating to the matters described above, which opinions shall be in form and substance, and from counsel, reasonably satisfactory to the Collateral Agent.

5.7. Compliance with Laws. The Borrower will maintain in effect and enforce policies and procedures designed to ensure compliance by the Borrower, its Subsidiaries and their respective directors, officers, employees and agents with Anti-Corruption Laws and applicable Sanctions.

5.8. Post-Closing Obligations. The Borrower shall deliver to the Administrative Agent on or prior to the date that is 90 days after the Closing Date (or such later date as the Administrative Agent may reasonably agree) (i) counterparts of a Mortgage with respect to each Mortgaged Property duly executed and delivered by the record title holder of such Mortgaged Property, (ii) to the extent applicable in the relevant jurisdiction (A) a policy or policies of title insurance (or marked unconditional commitment to issue such policy or policies) in the amount equal to not less than 100% (or such lesser amount as reasonably agreed to by the Administrative Agent) of the Fair Market Value of such Mortgaged Property and fixtures, as reasonably determined by the Borrower and agreed to by the Administrative Agent, issued by the Title Insurance Company insuring the Lien of each such Mortgage as a first priority Lien on the Mortgaged Property described therein, free of any other Liens except for Permitted Liens, together with such endorsements (other than a creditor’s rights endorsement) as the Administrative Agent may reasonably request to the extent available in the applicable jurisdiction at commercially reasonable rates, (B) such affidavits, instruments of indemnification (including a so-called “gap” indemnification) as are customarily requested by the Title Insurance Company to induce the Title Insurance Company to issue the title policies and endorsements contemplated above, (C) evidence reasonably acceptable to the Collateral Agent of payment by the Borrower of all title policy premiums, search and examination charges, escrow charges and related charges, mortgage recording taxes, fees, charges, costs and expenses required for the recording of the Mortgages and issuance of the title policies referred to above, (D) a survey of each Mortgaged Property in such form as shall be required by the Title Insurance Company to issue the so-called comprehensive and other survey-related endorsements and to remove the standard survey exceptions from the title policies and endorsements contemplated above (provided, however, that a survey shall not be required to the extent that the issuer of the applicable title insurance policy provides reasonable and customary survey-related coverages (including, without limitation, survey-related endorsements) in the applicable title insurance policy based on an existing survey and/or such other documentation as may be reasonably satisfactory to the Title Insurance Company), (E) completed “Life-of-Loan” Federal Emergency Management Agency (“FEMA”) Standard Flood Hazard Determination with respect to each Mortgaged Property

subject to the applicable FEMA rules and regulations (together with a notice about special flood hazard area status and flood disaster assistance duly executed by the Borrower and each Loan Party relating thereto) and (F) if any Mortgaged Property is located in an area determined by FEMA to have special flood hazards, evidence of such flood insurance as may be required under Section 5.4 and (iii) such legal opinions as the Administrative Agent may reasonably request with respect to any such Mortgage or Mortgaged Property.

5.9. Designation of Subsidiaries.

(a) The Borrower may at any time by written notice to the Administrative Agent (i) designate any Restricted Subsidiary as an Excluded Subsidiary or an Unrestricted Subsidiary or (ii) remove such designation with respect to any Excluded Subsidiary or designate any Unrestricted Subsidiary as a Restricted Subsidiary; provided that no Default or Event of Default shall have occurred and be continuing or would result therefrom.

(b) Any Excluded Subsidiary shall be treated like an Unrestricted Subsidiary for all purposes of this Agreement; provided that the Excluded Subsidiaries designated pursuant to clause (g) of the definition thereof and Unrestricted Subsidiaries that are designated by the Borrower pursuant to Section 5.9(a) in the aggregate shall not constitute (after intercompany eliminations) greater than 10% of the total assets of the Borrower and its Consolidated Subsidiaries as of the end of the most recently completed fiscal year of the Borrower (such level, the "Excluded Subsidiary Threshold"). In the event the Excluded Subsidiary Threshold is exceeded as of the end of the most recently completed fiscal year of the Borrower, the Borrower shall within three Business Days after delivering its annual financial statements to the Administrative Agent pursuant to Section 5.1, by written notice to the Administrative Agent, remove the designation applicable to one or more Excluded Subsidiaries designated an Excluded Subsidiary pursuant to clause (g) of the definition thereof or Unrestricted Subsidiaries in accordance with Section 5.9(a) in order to comply with the Excluded Subsidiary Threshold.

SECTION 6  
Negative Covenants

Until the Commitments have expired or been terminated and the principal of and interest on each Loan and all fees payable hereunder shall have been paid in full and all Documentary Credits shall have expired or terminated and all DC Disbursements shall have been reimbursed, the Borrower a covenants and agrees that:

6.1. Limitation on Indebtedness secured by Liens and Restricted Subsidiary Indebtedness.

(a) The Borrower will not, and will not permit any of its Restricted Subsidiaries to create, assume, incur, Guarantee or otherwise become liable for any Indebtedness secured by a Lien on Principal Property or on Collateral, in each case, whether now owned or hereafter acquired, except Permitted Liens.

(b) The Borrower will not permit any of its Restricted Subsidiaries to create, assume, incur, Guarantee or otherwise become liable for any Indebtedness that is not secured by a Lien on Principal Property or on Collateral without causing such Restricted Subsidiary (excluding any Excluded Subsidiary and any Subsidiary that is not a Material Subsidiary) to become a Guarantor (any such Indebtedness or Guarantee, "Restricted Subsidiary Debt"), except the foregoing restriction shall not apply to, and there shall be excluded from Restricted Subsidiary Debt in any computation under such restriction, Restricted Subsidiary Debt constituting:

(1) Restricted Subsidiary Debt in respect of or under the Obligations;

(2) Restricted Subsidiary Debt of a Person existing at the time such Person is merged into or consolidated with or otherwise acquired by the Borrower or any Restricted Subsidiary of the Borrower or otherwise becomes a Restricted Subsidiary of the Borrower (or arising thereafter pursuant to contractual commitments entered into prior to such Person becoming a Restricted Subsidiary) or at the time of a sale, lease or other disposition of the properties and assets of such Person (or a division thereof) as an entirety or substantially as an entirety to any Restricted Subsidiary of the Borrower (or arising thereafter pursuant to contractual commitments entered into prior to such Person becoming a Restricted Subsidiary) and is assumed by such Subsidiary, other than any increase in the amount of such Restricted Subsidiary Debt (including any increase in the amount of such Restricted Subsidiary Debt arising pursuant to contractual commitments entered into prior to such acquisition) incurred in contemplation thereof; provided that any such Restricted Subsidiary Debt is not Guaranteed by any other Restricted Subsidiary of the Borrower (other than any Guarantee existing at the time of such merger, consolidation or sale, lease or other disposition of properties and assets and that was not issued in contemplation thereof);

(3) Restricted Subsidiary Debt owed to the Borrower or any Restricted Subsidiary or under Guarantees of any such Restricted Subsidiary Debt;

(4) Restricted Subsidiary Debt created, incurred, issued, assumed or Guaranteed to pay or finance the payment of all or any part of the purchase price or the cost of development, operation, construction, alteration, repair or improvement of property, assets or equipment acquired or developed, operated, constructed, altered, repaired or improved by a Restricted Subsidiary, and any related transactional fees, costs and expenses, provided such Restricted Subsidiary Debt is created, incurred, issued, assumed or Guaranteed within 18 months (or in the case of any Restricted Subsidiary Debt supported by an export credit agency, 24 months) after the later of (i) the acquisition or the completion of any such development, operation, construction, alteration, repair or improvement of such property, assets or equipment, whichever is later, or (ii) the placing into commercial operation of such property after the acquisition or completion of any such development, operation, construction, alteration, repair or improvement (or, in each case, is incurred pursuant to firm commitment financing arrangements obtained within such period), and, provided further, that the outstanding amount of such Restricted Subsidiary Debt, without duplication, does not exceed 100% of the fair value of the property or equipment acquired or developed, operated, constructed, altered, repaired or improved at the time such Restricted Subsidiary Debt is incurred; or

(5) Restricted Subsidiary Debt permitted to be secured by Liens permitted by clauses (5) or (6) of the definition of Permitted Lien (whether or not such Restricted Subsidiary Debt is in fact secured by such Liens) and any Guarantees thereof.

For purposes of this Section 6.1(b), in the event that any Restricted Subsidiary Debt meets the criteria of more than one of the types of Restricted Subsidiary Debt in such Section, the Borrower, in its sole discretion, will classify, and may reclassify, such Restricted Subsidiary Debt and only be required to include the amount and type of such Restricted Subsidiary Debt in one of clauses (1) through (5) of Section 6.1(b) or Section 6.1(c) and Restricted Subsidiary Debt may be divided and classified and reclassified into more than one of the types of Restricted Subsidiary Debt described above. In addition, for purposes of calculating compliance with this Section 6.1, in no event will the amount of any Restricted Subsidiary Debt be required to be included more than once despite the fact more than one Person is or becomes liable with respect to any related Indebtedness (for example, and for avoidance of doubt, in the case where more than one Restricted Subsidiary incurs Restricted Subsidiary Debt or otherwise becomes liable for such Restricted Subsidiary Debt, the amount of such Restricted Subsidiary Debt shall only be included once for purposes of such calculations).

(c) Notwithstanding the other provisions of Section 6.1(a), Section 6.1(b) and Section 6.4(a),

(1) at such time as a Secured Covenants Period is in effect, the Borrower and its Restricted Subsidiaries may create, assume, incur, Guarantee or otherwise become liable for Indebtedness that otherwise would not be permitted pursuant to Section 6.1(a), Section 6.1(b) or Section 6.1(d) and enter into sale and leaseback transactions that otherwise would not be permitted pursuant to Section 6.4(a), if after giving effect thereto, (1) in the case of Indebtedness or a Guarantee of Indebtedness that constitutes First Lien Debt, the Aggregate First Lien Debt of the Borrower and its Restricted Subsidiaries does not exceed the greater of (x) \$5,000,000,000 and (y) 33% of Consolidated EBITDA of the Borrower for the Measurement Period immediately preceding the date of such creation, assumption or incurrence of such Indebtedness or Guaranteeing of or otherwise becoming liable for such Indebtedness or the entering into such sale lease-back transaction, as the case may be, and (2) the Aggregate Priority Debt of the Borrower and its Restricted Subsidiaries does not exceed the greater of (x) \$7,500,000,000 and (y) 75% of Consolidated EBITDA of the Borrower for the Measurement Period immediately preceding the date of such creation, assumption or incurrence of such Indebtedness or Guaranteeing of or otherwise becoming liable for such Indebtedness or the entering into such sale lease-back transaction, as the case may be; and

(2) at such time as an Unsecured Covenants Period is in effect, the Borrower and its Restricted Subsidiaries may create, assume, incur, Guarantee or otherwise become liable for Indebtedness that otherwise would not be permitted pursuant to Section 6.1(a), Section 6.1(b) or Section 6.1(d) and enter into sale and leaseback transactions that otherwise would not be permitted pursuant to Section 6.4(a), if after giving effect thereto, (1) in the case of Indebtedness or a Guarantee of Indebtedness that constitutes Domestic Priority Debt, the Aggregate Domestic Priority Debt of the Borrower and its Domestic Restricted Subsidiaries does not exceed the greater of (x) \$1,500,000,000 and (y) 10% of Consolidated EBITDA of the Borrower for the Measurement Period immediately preceding the date of such creation, assumption or incurrence of such Indebtedness or Guaranteeing of or otherwise becoming liable for such Indebtedness or the entering into such sale lease-back transaction, as the case may be, and (2) the Aggregate Priority Debt of the Borrower and its Restricted Subsidiaries does not exceed the greater of (x)

\$4,000,000,000 and (y) 25% of Consolidated EBITDA of the Borrower for the Measurement Period immediately preceding the date of such creation, assumption or incurrence of such Indebtedness or Guaranteeing of or otherwise becoming liable for such Indebtedness or the entering into such sale lease-back transaction, as the case may be.

(d) Notwithstanding the other provisions of Section 6.1(a), (b) and (c), the Borrower and its Restricted Subsidiaries may create, assume, incur, Guarantee or otherwise become liable for Indebtedness not otherwise permitted pursuant to Sections 6.1(a), (b) or (c) that is an extension, renewal, substitution, replacement, refinancing or refunding of Indebtedness that was permitted pursuant to Section 6.1(a), (b) or (c) at the time such Indebtedness was created or incurred; provided that (1) any Indebtedness incurred to so extend, renew, substitute, replace, refinance or refund shall be incurred within 12 months of the maturity, retirement or other repayment or prepayment (including any such repayment pursuant to amortization obligations with respect to such Indebtedness), (2) the outstanding amount of the Indebtedness incurred to so extend, renew, substitute, replace, refinance or refund shall not exceed the outstanding amount of Indebtedness being extended, renewed, substituted, replaced, refinanced or refunded plus any premiums or fees (including tender premiums) or other reasonable amounts payable, plus the amount of fees, expenses and other costs incurred, in connection with any such extension, renewal, substitution, replacement, refinancing or refunding, (3) if the Indebtedness being extended, renewed, substituted, replaced, refinanced or refunded was secured by a Lien on Collateral or Principal Property, the Indebtedness incurred to so extend, renew, substitute, replace, refinance or refund may be secured by Collateral or Principal Property, and (4) if the Indebtedness being extended, renewed, substituted, replaced, refinanced or refunded was not secured by a Lien on Collateral or Principal Property, the Indebtedness incurred to so extend, renew, substitute, replace, refinance or refund shall not be secured by Collateral or Principal Property.

(e) For purposes of this Section 6.1 and Section 6.2, (1) the creation of a Lien to secure Indebtedness which existed prior to the creation of such Lien will be deemed to involve Indebtedness in an amount equal to the lesser of (x) the fair value (as determined in good faith by the Borrower) of the asset subjected to such Lien and (y) the principal amount secured by such Lien, and (2) in the event that Indebtedness secured by a Lien meets the criteria of more than one of the types of Indebtedness secured by a Lien that is permitted pursuant to Section 6.1(a) or 6.1(c) the Borrower, in its sole discretion, will classify, and may reclassify, such Indebtedness and only be required to include the amount and type of such Indebtedness as permitted pursuant to Section 6.1(a) or 6.1(c), and Indebtedness secured by a Lien may be divided and classified and reclassified into more than one of such types of Indebtedness. In addition, for purposes of calculating compliance with this Section 6.1 or Section 6.2, in no event will the amount of any Indebtedness be required to be included more than once in the same calculation (including in respective calculations of Aggregate First Lien Debt, Domestic Priority Debt, Priority Debt, Aggregate Priority Debt and Aggregate Domestic Priority Debt) despite the fact more than one Person is or becomes liable with respect to such Indebtedness and despite the fact such Indebtedness is secured by the assets of more than one Person and despite the fact that such Indebtedness is both Indebtedness of a Restricted Subsidiary and Indebtedness secured by a Lien (for example, and for avoidance of doubt, in the case where there are Liens on assets of one or more of the Borrower and its Restricted Subsidiaries securing any Indebtedness, the amount of such Indebtedness secured shall only be included once for purposes of such calculations).

6.2. Limitation on Liens. The Borrower will not, and will not permit any of its Restricted Subsidiaries, to create or incur any Lien on any Principal Property or on Collateral, in each case, whether now owned or hereafter acquired, in order to secure any Indebtedness, except for (a) Permitted Liens and (b) other Liens securing Indebtedness that is permitted pursuant to Section 6.1(c) or Section 6.1(d)(3). Notwithstanding the foregoing, the Borrower or any Restricted Subsidiary of the Borrower also may create or incur Liens that extend, renew, substitute or replace (including successive extensions, renewals, substitutions or replacements), in whole or in part, any Lien securing such Indebtedness).

6.3. Merger, Consolidation, or Sale of Assets.

(a) The Borrower may not consolidate with or merge with or into, or sell, assign, convey, transfer, lease or otherwise dispose of all or substantially all of the properties, rights and assets of the Borrower and its Restricted Subsidiaries, taken as a whole, to any Person, in a single transaction or in a series of related transactions, unless:

(1) either (i) the Person formed by or surviving such consolidation or merger is the Borrower or (ii) the Person (if other than the Borrower) formed by such consolidation or into which the Borrower is merged or the Person which acquires by conveyance or transfer, or which leases, all or substantially all of the properties, rights and assets of the Borrower (the “Successor Company”), is an entity organized under the laws of the United States of America, any State thereof or the District of Columbia; provided that such Successor Company shall provide such information reasonably requested by the Administrative Agent or any Lender for purposes of compliance with applicable “know your customer” rules and regulations;

(2) in any such transaction in which there is a Successor Company, the Successor Company expressly assumes the Obligations pursuant to joinder agreements or other documents reasonably satisfactory to the Administrative Agent; and

(3) immediately after giving effect to the transaction, no Event of Default and no Default shall have occurred and be continuing.

This Section 6.3 shall not apply to:

(i) a merger of the Borrower with an Affiliate solely for the purpose of reincorporating the Borrower in another jurisdiction in the United States of America, any State thereof or the District of Columbia; or

(ii) any consolidation or merger of (a) the Borrower into a Guarantor, (b) a Guarantor into the Borrower or another Guarantor or (c) a Restricted Subsidiary of the Borrower into the Borrower or another Restricted Subsidiary of the Borrower; or

(iii) any sale, assignment, transfer, conveyance, lease or other disposition of property, rights or assets (a) by the Borrower to a Guarantor, (b) by a Guarantor to the Borrower or another Guarantor or (c) by a Restricted Subsidiary of the Borrower to the Borrower or another Restricted Subsidiary of the Borrower.

(b) Upon any consolidation of the Borrower with, or merger of the Borrower into, any other Person or any sale, assignment, conveyance, transfer, lease or other disposition of all or substantially all the properties, rights and assets of the Borrower to a Successor Company in accordance with the conditions described in Section 6.3(a), the Successor Company shall succeed to and be substituted for, and may exercise every right and power of, the Borrower under this Agreement, the First Lien Intercreditor Agreement and the Security Documents with the same effect as if such Successor Company had been named as the Borrower and thereafter, except in the case of a lease, the predecessor Person shall be relieved of all obligations and covenants under this Agreement, the First Lien Intercreditor Agreement and the Security Documents.

#### 6.4. Limitation on Sale and Leaseback Transactions.

(a) The Borrower will not, and will not permit any of its Restricted Subsidiaries, to enter into any sale and lease-back transaction with respect to any Principal Property or Collateral, whether now owned or hereafter acquired, unless:

(1) such transaction was entered into prior to the Closing Date;

(2) such transaction was for the sale and leasing back to the Borrower or a Restricted Subsidiary by the Borrower or any Restricted Subsidiary of any Principal Property or Collateral;

(3) such transaction involves a lease of Principal Property or Collateral executed by the time of or within 18 months (or in the case of any transaction supported by the credit of an export credit agency, 24 months) after the later of (i) the acquisition or the completion of any such development, operation, construction, alteration, repair or improvement of such property, assets or equipment or (ii) the placing into commercial operation of such Principal Property or Collateral after the acquisition or completion of any such development, operation, construction, alteration, repair or improvement;

(4) such transaction involves a lease for not more than three years (or which may be terminated by the Borrower or the applicable Restricted Subsidiary within a period of not more than three years);

(5) the Borrower or the applicable Restricted Subsidiary would be entitled to incur Indebtedness secured by a Lien on the property to be leased in an amount equal to Attributable Debt with respect to such sale and lease-back transaction pursuant to Section 6.1(a); or

(6) the Borrower or the applicable Restricted Subsidiary applies an amount equal to the net proceeds from the sale of the Principal Property to the purchase of other Principal Property or to the retirement, repurchase or other repayment or prepayment of the Loans or other Pari Passu Lien Indebtedness within 365 calendar days before or after the effective date of any such sale and lease-back transaction; and

(b) Notwithstanding the other provisions of Section 6.4(a), the Borrower and the applicable Restricted Subsidiary may enter into any sale and lease-back transaction with respect to any Principal Property or Collateral if the Borrower or the

applicable Restricted Subsidiary would be entitled to incur Indebtedness secured by a Lien on the property to be leased in an amount equal to Attributable Debt with respect to such sale and lease-back transaction pursuant to Section 6.1(c).

6.5. Anti-Corruption Laws and Sanctions. The Borrower will not request any Borrowing or Documentary Credit, and the Borrower shall not use, and shall procure that its Subsidiaries and its or their respective directors, officers, employees and agents shall not use, the proceeds of any Borrowing or Documentary Credit (a) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any Person in violation of any Anti-Corruption Laws, (b) for the purpose of funding, financing or facilitating any activities, business or transaction of or with any Sanctioned Person, or in any Sanctioned Country, to the extent such activities, business or transaction would be prohibited by Sanctions if conducted by a corporation incorporated in the United States or in a European Union member state, or (c) in any manner that would result in the violation of any Sanctions applicable to any party hereto.

6.6. Financial Covenants.

(a) The Borrower will not permit, as of the last day of any fiscal quarter of the Borrower, the Total Leverage Ratio to exceed 2.75 to 1.00; provided that following the consummation of a Qualified Acquisition for the four fiscal quarters of the Borrower then ended as set forth in the last Compliance Certificate delivered pursuant to Section 5.2, the Total Leverage Ratio set forth above shall increase for each of the four fiscal quarters of the Borrower ending following the consummation of a Qualified Acquisition to 3.00 to 1.00.

(b) The Borrower will not permit, as of the last day of any fiscal quarter of the Borrower, the Interest Coverage Ratio to be less than 3.50 to 1.00.

SECTION 7  
Events of Default

7.1. Events of Default. Each of the following is an “Event of Default”:

(a) failure by the Borrower to pay principal of a Loan when due;

(b) failure by the Borrower to pay (i) any interest or scheduled fees due under this Agreement or the Security Documents for five Business Days after such amount” becomes due and (ii) any other obligation due under this Agreement or the Security Documents for ten Business Days after such amount becomes due; provided that during any Unsecured Covenants Period, failure by the Borrower to make any such payments under the Security Documents shall not be an Event of Default;

(c) failure by the Borrower to comply with Section 6.6;

(d) failure by the Borrower or any of its Restricted Subsidiaries to perform, or breach by the Borrower or any of its Restricted Subsidiaries of, any other covenant, agreement, representation or warranty or condition in this Agreement or any Security Document for 30 calendar days after either the Administrative Agent or the Required Lenders have given the Borrower written notice of the breach in the manner required by this Agreement;

(e) default under any mortgage, indenture or instrument under which there is issued or by which there is secured or evidenced any Indebtedness of the Borrower or any Guarantor, whether such Indebtedness or guarantee now exists or is created after the Closing Date, if both: (a) such default either results from the failure to pay any principal of such Indebtedness at its stated final maturity (after giving effect to any applicable grace periods) or such default is with respect to another obligation under such Indebtedness and results in the holder or holders of such Indebtedness causing the payment of such Indebtedness to be accelerated and to become due prior to its stated maturity without such Indebtedness (so long as such Indebtedness is not First Lien Debt) having been discharged or such acceleration having been cured, waived, rescinded or annulled within a period of thirty (30) calendar days; and (b) the principal amount of such Indebtedness, together with the principal amount of any other such Indebtedness not so paid when due, or the maturity of which has been so accelerated, aggregates \$100,000,000 or more;

(f) the Borrower or any Significant Subsidiary, pursuant to or within the meaning of any Debtor Relief Law:

(1) commences proceedings to be adjudicated bankrupt or insolvent;

(2) consents to the institution of bankruptcy or insolvency proceedings against it, or the filing by it of a petition or answer or consent seeking an arrangement of debt, reorganization, dissolution, winding up or relief under applicable Debtor Relief Laws;

(3) consents to the appointment of a receiver, interim receiver, receiver and manager, liquidator, assignee, trustee, sequestrator or other similar official of it or for all or substantially all of its property; or

(4) makes a general assignment for the benefit of its creditors;

(g) a court of competent jurisdiction enters an order or decree under any Debtor Relief Law that:

(1) is for relief against the Borrower or any Significant Subsidiary in a proceeding in which the Borrower or any Significant Subsidiary is to be adjudicated bankrupt or insolvent;

(2) appoints a receiver, interim receiver, receiver and manager, liquidator, assignee, trustee, sequestrator or other similar official of the Borrower or any Significant Subsidiary, or for all or substantially all of the property of the Borrower or any Significant Subsidiary; or

(3) orders the liquidation, dissolution or winding up of the Borrower or any Significant Subsidiary; and the order or decree remains unstayed and in effect for 60 consecutive days;

provided that, in the cases of the foregoing clauses (f) and (g), (i) such event or circumstance is either (x) a voluntary proceeding or results therefrom or (y) under or pursuant to the laws of such Person's jurisdiction of incorporation or organization or the jurisdiction in which its head office is located or the laws of the jurisdictions in which all or substantially all its assets are located, and (ii) in no event shall any such event or circumstance constitute an Event of Default if such event or circumstance is a result of a bankruptcy, insolvency, reorganization or other similar proceeding with respect such Person or its assets or business that was ongoing or in process at the time such Person became a Subsidiary of the Borrower (including any alternate proceedings) or other such proceedings that are in the nature of either a continuation or extension thereof;

(h) other than during a Guarantee and Collateral Suspension Period, any of the Security Documents shall cease, for any reason, to be in full force and effect (other than in accordance with its terms) with respect to Collateral with a book value greater than \$150,000,000, or any Loan Party shall so assert, or any Lien (affecting Collateral with a book value greater than \$150,000,000) created by any of the Security Documents shall cease to be enforceable and of the same effect and priority purported to be created thereby (other than, in each case, pursuant to a failure of the Administrative Agent, the Collateral Agent, any other agent appointed by the Administrative Agent, the Collateral Agent or the Lenders to take any action within the sole control of such Person) (it being understood that the release of Collateral from the Security Documents or the discharge of a Guarantor therefrom shall not be construed (x) as any of the Security Documents ceasing to be in full force and effect or (y) as any of the Liens created thereunder ceasing to be enforceable or of the same priority and effect purported to be created thereby) and such Default continues for 60 calendar days after either the Administrative Agent or the Required Lenders have given the Borrower written notice of the Default in the manner required by this Agreement;

(i) other than during a Guarantee and Collateral Suspension Period and except as permitted by this Agreement or the Guarantee and Collateral Agreement, any Guaranty Reimbursement Obligation of a Significant Subsidiary ceases, for any reason, to be in full force and effect (other than in accordance with its terms), or any Significant Subsidiary that is a Guarantor denies or disaffirms in writing its obligations under its Guaranty Reimbursement Obligation;

(j) An ERISA Event has occurred or is reasonably expected to occur that, when taken together with all other such ERISA Events for which liability is reasonably expected to occur, would reasonably be expected to result in a Material Adverse Effect; and

(k) any Change of Control shall occur.

In the case of an Event of Default, then, and in every such event (other than an event with respect to the Borrower described in clause (f) or (g) of this Section), and at any time thereafter during the continuance of such event, the Administrative Agent may take any and all of the following actions: (A) at the request of the Required Revolving Lenders, the Administrative Agent shall, by notice to the Borrower, (i) terminate the Revolving Commitments, and thereupon the Revolving Commitments shall terminate immediately and (ii) require that the Borrower provide cash collateral as required in Section 2.4(j) and (B) at the request of the Required 2019 Incremental Term Loan Lenders, the Administrative Agent shall, by notice to the Borrower, terminate the 2019 Incremental Term Loan Commitments, and thereupon the 2019 Incremental Term Loan Commitments shall terminate immediately and (C) at the request of the Required Lenders, the Administrative Agent shall, by notice to the

Borrower (i) declare the Loans then outstanding to be due and payable in whole (or in part, in which case any principal not so declared to be due and payable may thereafter be declared to be due and payable), and thereupon the principal of the Loans so declared to be due and payable, together with accrued interest thereon and all fees and other obligations of the Borrower accrued hereunder, shall become due and payable immediately, without presentment, demand, protest or other notice of any kind, all of which are hereby waived by the Borrower and (ii) exercise on behalf of itself, the Lenders and the Issuing Banks all rights and remedies available to it, the Lenders and the Issuing Banks under the Loan Documents and Applicable Law. In case of any event with respect to the Borrower described in clause (f) or (g) of this Section, the Commitments shall automatically terminate and the principal of the Loans then outstanding, together with accrued interest thereon and all fees and other obligations of the Borrower accrued hereunder, shall automatically become due and payable, and the obligation of the Borrower to cash collateralize the DC Exposure as provided in clause (ii) above shall automatically become effective, in each case, without presentment, demand, protest or other notice of any kind, all of which are hereby waived by the Borrower.

In the event of a declaration of acceleration of the Loans because an Event of Default described in Section 7.1(e) has occurred and is continuing, the declaration of acceleration of the Loans shall be automatically annulled if the event of default or payment default triggering such Event of Default pursuant to Section 7.1(e) shall be remedied or cured, or waived by the holders of the Indebtedness or the Indebtedness that gave rise to such Event of Default shall have been discharged in full, within thirty (30) calendar days after declaration of acceleration with respect thereto, and if (1) the annulment of the acceleration of the Loans would not conflict with any judgment or decree of a court of competent jurisdiction and (2) all existing Events of Default, except nonpayment of principal, premium or interest on the Loans that became due solely because of the acceleration of the Loans, have been cured or waived.

## SECTION 8

### The Agents

8.1. Appointment. Each Lender and each Issuing Bank hereby irrevocably designates and appoints the Administrative Agent as the agent of such Lender under this Agreement and the other Loan Documents, and each such Lender and Issuing Bank irrevocably authorizes the Administrative Agent, in such capacity, to take such action on its behalf under the provisions of this Agreement and the other Loan Documents and to exercise such powers and perform such duties as are expressly delegated to the Administrative Agent by the terms of this Agreement and the other Loan Documents, together with such other powers as are reasonably incidental thereto. Each Lender and each Issuing Bank hereby irrevocably designates and appoints the Collateral Agent as the agent of such Lender and Issuing Bank under this Agreement and the other Loan Documents, and each such Lender and Issuing Bank irrevocably authorizes the Collateral Agent, in such capacity, to take such action on its behalf under the provisions of this Agreement and the other Loan Documents and to exercise such powers and perform such duties as are expressly delegated to the Collateral Agent by the terms of this Agreement and the other Loan Documents, together with such other powers as are reasonably incidental thereto. Notwithstanding any provision to the contrary elsewhere in this Agreement, none of the Administrative Agent and the Collateral Agent shall have any duties or responsibilities, except those expressly set forth herein, or any fiduciary relationship with any Lender or Issuing Bank, and no implied covenants, functions, responsibilities, duties, obligations or liabilities shall be read into this Agreement or any other Loan Document or otherwise exist against the Administrative Agent or the Collateral Agent.

8.2. Delegation of Duties. Each of the Administrative Agent and the Collateral Agent may execute any of their duties under this Agreement and the other Loan Documents by or through agents or attorneys in fact and shall be entitled to advice of counsel concerning all matters pertaining to such duties. None of the Administrative Agent and the Collateral Agent shall be responsible for the negligence or misconduct of any agents or attorneys in fact selected by it with reasonable care.

8.3. Exculpatory Provisions. Neither any Agent nor any of their respective officers, directors, employees, agents, attorneys in fact or affiliates shall be (i) liable for any action lawfully taken or omitted to be taken by it or such Person under or in connection with this Agreement or any other Loan Document (except to the extent that any of the foregoing are found by a final and non-appealable decision of a court of competent jurisdiction to have resulted from its or such Person's own gross negligence or willful misconduct) or (ii) responsible in any manner to any of the Lenders or Issuing Banks for any recitals, statements, representations or warranties made by any Loan Party or any officer thereof contained in this Agreement or any other Loan Document or in any certificate, report, statement or other document referred to or provided for in, or received by the Agent under or in connection with, this Agreement or any other Loan Document or for the value, validity, effectiveness, genuineness, enforceability or sufficiency of this Agreement or any other Loan Document or for any failure of any Loan Party a party thereto to perform its obligations hereunder or thereunder. The Agents shall not be under any obligation to any Lender or Issuing Bank to ascertain or to inquire as to the observance or performance of any of the agreements contained in, or conditions of, this Agreement or any other Loan Document, or to inspect the properties, books or records of any Loan Party.

8.4. Reliance by the Administrative Agent. The Administrative Agent shall be entitled to rely, and shall be fully protected in relying, upon any instrument, writing, resolution, notice, consent, certificate, affidavit, letter, telecopy, email message, statement, order or other document or conversation believed by it to be genuine and correct and to have been signed, sent or made by the proper Person or Persons and upon advice and statements of legal counsel (including counsel to the Borrower), independent accountants and other experts reasonably selected by the Administrative Agent. The Administrative Agent may deem and treat the payee of any Note as the owner thereof for all purposes unless a written notice of assignment, negotiation or transfer thereof shall have been filed with the Administrative Agent. The Administrative Agent shall be fully justified in failing or refusing to take any action under this Agreement or any other Loan Document unless the Administrative Agent shall first receive such advice or concurrence of the Required Lenders (or, if so specified by this Agreement, all Lenders and Issuing Banks) as it deems appropriate or it shall first be indemnified to its satisfaction by the Lenders and Issuing Banks against any and all liability and expense that may be incurred by it by reason of taking or continuing to take any such action. The Administrative Agent shall in all cases be fully protected in acting, or in refraining from acting, under this Agreement and the other Loan Documents in accordance with a request of the Required Lenders (or, if so specified by this Agreement or any other Loan Document, all Lenders and Issuing Banks), and such request and any action taken or failure to act pursuant thereto shall be binding upon all the Lenders and Issuing Banks and all future holders of the Loans.

8.5. Notice of Default. The Administrative Agent shall not be deemed to have knowledge or notice of the occurrence of any Default or Event of Default unless it has received written notice from a Lender, Issuing Bank or the Borrower referring to this Agreement, describing such Default or Event of Default and stating that such notice is a "notice of default". In the event that the Administrative Agent receives such a notice, it shall give notice thereof to the Lenders and Issuing Banks. The Administrative Agent shall take such action with respect to such Default or Event of Default as shall be reasonably directed by the Required Lenders (or, if so specified by this Agreement or any other Loan Document, all Lenders and Issuing Banks); provided that unless and until the Administrative Agent shall have received such directions, the Administrative Agent may (but shall not be obligated to) take such action, or refrain from taking such action, with respect to such Default or Event of Default as the Administrative Agent shall deem advisable in the best interests of the Lenders and Issuing Banks.

8.6. Non-Reliance on the Agent and Other Lenders. Each Lender and each Issuing Bank expressly acknowledges that neither the Agent nor any of their respective officers, directors, employees, agents, attorneys in fact or affiliates have made any representations or warranties to it and that no act by any Agent hereafter taken, including any review of the affairs of a Loan Party or any affiliate of a Loan Party, shall be deemed to constitute any representation or warranty by any Agent to any Lender or Issuing Bank. Each Lender and Issuing Bank represents to the Agent that it has, independently and without reliance upon any Agent, any other Lender or any Issuing Bank, and based on such documents and information as it has deemed appropriate, made its own appraisal of and investigation into the business, operations, property, financial and other condition and creditworthiness of the Loan Parties and their affiliates and made its own decision to make its Loans hereunder and enter into this Agreement. Each Lender and Issuing Bank also represents that it will, independently and without reliance upon any Agent, any other Lender or any Issuing Bank, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit analysis, appraisals and decisions in taking or not taking action under this Agreement and the other Loan Documents, and to make such investigation as it deems necessary to inform itself as to the business, operations, property, financial and other condition and creditworthiness of the Loan Parties and their affiliates. Except for notices, reports and other documents expressly required to be furnished to the Lenders and Issuing Banks by the Administrative Agent hereunder, the Administrative Agent shall not have any duty or responsibility to provide any Lender or Issuing Bank with any credit or other information concerning the business, operations, property, condition (financial or otherwise), prospects or creditworthiness of any Loan Party or any affiliate of a Loan Party that may come into the possession of the Administrative Agent or any of its officers, directors, employees, agents, attorneys in fact or affiliates.

8.7. Indemnification. To the extent the Borrower fails to pay any amount required to be paid by it to the Administrative Agent, the Collateral Agent or any other agent under Section 9.5, the Lenders and Issuing Banks severally agree to indemnify the Agent in their capacity as such (to the extent not reimbursed by the Borrower and without limiting the obligation of the Borrower to do so), ratably according to their respective Revolving Loan Aggregate Exposure Percentage in effect on the date on which indemnification is sought under this Section 8.7 (or, if indemnification is sought after the date upon which the Commitments shall have terminated and the Loans shall have been paid in full, ratably in accordance with such Revolving Loan Aggregate Exposure Percentage immediately prior to such date), from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind whatsoever that may at any time (whether before or after the payment of the Loans) be imposed on, incurred by or asserted against such Agent, in any way relating to or arising out of, the Commitments, this Agreement, any of the other Loan Documents or any documents contemplated by or referred to herein or therein or the transactions contemplated hereby or thereby or any action taken or omitted by such Agent under or in connection with any of the foregoing; provided that no Lender shall be liable for the payment of any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements that are found by a final and nonappealable decision of a court of competent jurisdiction to have resulted from

such Agent's, gross negligence or willful misconduct. The agreements in this Section 8.7 shall survive the payment of the Loans and all other amounts payable hereunder.

8.8. Agent in Its Individual Capacity. Each Agent and its affiliates may make loans to, accept deposits from and generally engage in any kind of business with any Loan Party as though such Agent were not an Agent. With respect to its Loans made or renewed by it, each Agent shall have the same rights and powers under this Agreement and the other Loan Documents as any Lender and may exercise the same as though it were not an Agent, and the terms "Lender" and "Lenders" shall include each Agent in its individual capacity.

8.9. Successor Administrative Agent. The Administrative Agent may resign as Administrative Agent upon 30 days' notice to the Lenders, Issuing Bank and the Borrower. If the Administrative Agent shall resign as Administrative Agent under this Agreement and the other Loan Documents, then the Required Lenders shall appoint from among the Lenders and Issuing Banks a successor agent for the Lenders and Issuing Banks, which successor agent shall be subject to approval by the Borrower (which approval shall not be unreasonably withheld or delayed), whereupon such successor agent shall succeed to the rights, powers and duties of the Administrative Agent, and the term "Administrative Agent" shall mean such successor agent effective upon such appointment and approval, and the former Administrative Agent's rights, powers and duties as an Administrative Agent shall be terminated, without any other or further act or deed on the part of such former Administrative Agent or any of the parties to this Agreement or any holders of the Loans. If no successor agent has accepted appointment as an Administrative Agent by the date that is ten (10) days following the retiring Administrative Agent's notice of resignation, the retiring Administrative Agent's resignation shall nevertheless thereupon become effective, and the Lenders and Issuing Banks shall assume and perform all of the duties of the Administrative Agent hereunder until such time, if any, as the Required Lenders appoint a successor agent as provided for above. After the retiring Administrative Agent's resignation, the provisions of this Section 8 and Section 9.5 shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Administrative Agent under this Agreement and the other Loan Documents.

8.10. RESERVED.

8.11. Collateral Security. Other than during a Guarantee and Collateral Suspension Period, the Collateral Agent will hold, administer and manage any Collateral pledged from time to time under the Guarantee and Collateral Agreement either in its own name or as Collateral Agent, but each Lender shall hold a direct, undivided pro rata beneficial interest therein, on the basis of its proportionate interest in the Secured Obligations, by reason of and as evidenced by this Agreement and the other Loan Documents, subject to the priority of payments referenced in Section 6.4 of the Guarantee and Collateral Agreement.

8.12. Enforcement by the Administrative Agent and Collateral Agent. All rights of action under this Agreement and under the Notes and all rights to the Collateral hereunder may be enforced by the Administrative Agent and the Collateral Agent and any suit or proceeding instituted by the Administrative Agent or the Collateral Agent in furtherance of such enforcement shall be brought in its name as Administrative Agent or Collateral Agent without the necessity of joining as plaintiffs or defendants any other Lenders or Issuing Banks, and the recovery of any judgment shall be for the benefit of Lenders and Issuing Banks subject to the expenses of the Administrative Agent and the Collateral Agent.

8.13. Withholding Tax. Each Lender and Issuing Bank shall severally indemnify the Administrative Agent, within 10 days after demand therefor, for (i) any Non-Excluded Taxes or Other Taxes attributable to such Lender or Issuing Bank (but only to the extent that the Borrower has not already indemnified the Administrative Agent for such Non-Excluded Taxes or Other Taxes and without limiting the obligation of the Borrower to do so), (ii) any Taxes attributable to such Lender or Issuing Bank's failure to comply with the provisions of Section 9.6(c) relating to the maintenance of a Participant Register and (iii) any Excluded Taxes attributable to such Lender or Issuing Bank, in each case, that are payable or paid by the Administrative Agent in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender or Issuing Bank by the Administrative Agent shall be conclusive absent manifest error. Each Lender and Issuing Bank hereby authorizes the Administrative Agent to set off and apply any and all amounts at any time owing to such Lender and Issuing Bank under this Agreement or any other Loan Document against any amount due to the Administrative Agent under this Section 8.13. The agreements in this Section 8.13 shall survive the resignation and/or replacement of the Administrative Agent, any assignment of rights by, or the replacement of, a Lender or Issuing Bank, the termination of this Agreement and the repayment, satisfaction or discharge of all other Obligations.

8.14. Certain ERISA Matters. (a) Each Lender (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent, and each Arranger and their respective

Affiliates, and not, for the avoidance of doubt, to or for the benefit of the Borrower or any other Loan Party, that at least one of the following is and will be true:

- (i) such Lender is not using “plan assets” (within the meaning of the Plan Asset Regulations) of one or more Benefit Plans in connection with the Loans, the Documentary Credits or the Commitments,
  - (ii) the transaction exemption set forth in one or more PTEs, such as PTE 84-14 (a class exemption for certain transactions determined by independent qualified professional asset managers), PTE 95-60 (a class exemption for certain transactions involving insurance company general accounts), PTE 90-1 (a class exemption for certain transactions involving insurance company pooled separate accounts), PTE 91-38 (a class exemption for certain transactions involving bank collective investment funds) or PTE 96-23 (a class exemption for certain transactions determined by in-house asset managers), is applicable with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Documentary Credits, the Commitments and this Agreement, and the conditions for exemptive relief thereunder are and will continue to be satisfied in connection therewith,
  - (iii) (A) such Lender is an investment fund managed by a “Qualified Professional Asset Manager” (within the meaning of Part VI of PTE 84-14), (B) such Qualified Professional Asset Manager made the investment decision on behalf of such Lender to enter into, participate in, administer and perform the Loans, the Documentary Credits, the Commitments and this Agreement, (C) the entrance into, participation in, administration of and performance of the Loans, the Documentary Credits, the Commitments and this Agreement satisfies the requirements of sub-sections (b) through (g) of Part I of PTE 84-14 and (D) to the best knowledge of such Lender, the requirements of subsection (a) of Part I of PTE 84-14 are satisfied with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Documentary Credits, the Commitments and this Agreement, or
  - (iv) such other representation, warranty and covenant as may be agreed in writing between the Administrative Agent, in its sole discretion, and such Lender.
- (b) In addition, unless sub-clause (i) in the immediately preceding clause (a) is true with respect to a Lender or such Lender has not provided another representation, warranty and covenant as provided in sub-clause (iv) in the immediately preceding clause (a), such Lender further (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent, and each Arranger and their respective Affiliates, and not, for the avoidance of doubt, to or for the benefit of the Borrower or any other Loan Party, that:
- (i) none of the Administrative Agent, or any Arranger or any of their respective Affiliates is a fiduciary with respect to the assets of such Lender (including in connection with the reservation or exercise of any rights by the Administrative Agent under this Agreement, any Loan Document or any documents related to hereto or thereto),
  - (ii) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Documentary Credits, the Commitments and this Agreement is independent (within the meaning of 29 CFR § 2510.3-21, as amended from time to time) and is a bank, an insurance carrier, an investment adviser, a broker-dealer or other person that holds, or has under management or control, total assets of at least \$50 million, in each case as described in 29 CFR § 2510.3-21(c)(1)(i)(A)-(E),
  - (iii) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Documentary Credits, the Commitments and this Agreement is capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies (including in respect of the obligations),
  - (iv) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Documentary Credits, the Commitments and this Agreement is a fiduciary under ERISA or the Code, or both, with respect to the Loans, the Documentary Credits, the Commitments and this Agreement and is responsible for exercising independent judgment in evaluating the transactions hereunder, and
  - (v) no fee or other compensation is being paid directly to the Administrative Agent, or any Arranger or any their respective Affiliates for investment advice (as opposed to other services) in connection with the Loans, the Documentary Credits, the Commitments or this Agreement.

(c) The Administrative Agent, and each Arranger hereby informs the Lenders that each such Person is not undertaking to provide impartial investment advice, or to give advice in a fiduciary capacity, in connection with the transactions contemplated hereby, and that such Person has a financial interest in the transactions contemplated hereby in that such Person or an Affiliate thereof (i) may receive interest or other payments with respect to the Loans, the Documentary Credits, the Commitments and this Agreement, (ii) may recognize a gain if it extended the Loans, the Documentary Credits or the Commitments for an amount less than the amount being paid for an interest in the Loans, the Documentary Credits or the Commitments by such Lender or (iii) may receive fees or other payments in connection with the transactions contemplated hereby, the Loan Documents or otherwise, including structuring fees, commitment fees, arrangement fees, facility fees, upfront fees, underwriting fees, ticking fees, agency fees, administrative agent or collateral agent fees, utilization fees, minimum usage fees, letter of credit fees, fronting fees, deal-away or alternate transaction fees, amendment fees, processing fees, term out premiums, banker's acceptance fees, breakage or other early termination fees or fees similar to the foregoing.

## SECTION 9

### Miscellaneous

#### 9.1. Amendments and Waivers.

(a) None of this Agreement, any Note, any other Loan Document, nor any terms hereof or thereof may be amended, supplemented or modified except in accordance with the provisions of this Section 9.1. Except to the extent otherwise provided in (or permitted by) the Guarantee and Collateral Agreement, the Required Lenders and each Loan Party party to the relevant Loan Document may, or, with the written consent of the Required Lenders, the Administrative Agent and each Loan Party party to the relevant Loan Document may, from time to time, (I) enter into written amendments, supplements or modifications hereto or to the other Loan Documents for the purpose of adding any provisions to this Agreement or the other Loan Documents or changing in any manner the rights of the Lenders or of the Loan Parties hereunder or thereunder or (II) waive, on such terms and conditions as the Required Lenders or the Administrative Agent, as the case may be, may specify in such instrument, any of the requirements of this Agreement or the other Loan Documents or any Default or Event of Default and its consequences; provided, however, that no such waiver and no such amendment, supplement or modification shall (A) (i) forgive the principal amount or extend the final scheduled date of maturity of any Loan, (ii) reduce the stated rate of any interest or fee payable hereunder (except in connection with the waiver of applicability of any post-default increase in interest rates (which waiver shall be effective with the consent of the Required Lenders)) or extend the scheduled date of any payment thereof, (iii) increase the amount or extend the expiration date of any Lender's Commitment (it being understood that a waiver of any Event of Default or Default shall not be deemed to be an increase in the amount of or extension of the expiration date of any Lender's Commitments), or (iv) release all or substantially all of the Collateral for the Obligations or release all or substantially all of the Guarantors (except, in either case, as expressly permitted by the Loan Documents, including in accordance with Section 9.14), in each case without the written consent of each Lender directly affected thereby, (B) RESERVED; (C) without the consent of all the Lenders, (i) amend, modify or waive any provision of this Section 9.1(a) or any other provision of any Section hereof expressly requiring the consent of all the Lenders (except, in either case, for technical amendments with respect to additional extensions of credit pursuant to this Agreement which afford protections to such additional extensions of credit of the type provided to the Commitments on the Closing Date), or (ii) reduce the percentage specified in or otherwise change the definition of Required Lenders (it being understood that, with the consent of the Required Lenders or as otherwise permitted hereunder, additional extensions of credit pursuant to this Agreement may be included in the determination of the Required Lenders on substantially the same basis as the extensions of Commitments are included on the Closing Date), or (iii) change Section 2.17 in a manner that would alter the pro rata sharing of payments required thereby (other than as permitted thereby or by Section 9.1(b)), (D) amend, modify or waive any provision of Section 8 or any other provision of this Agreement or the other Loan Documents, which affects, the rights, duties or obligations of the Administrative Agent without the written consent of the Administrative Agent and (E) require consent of any Person to an amendment to this Agreement made pursuant to Section 2.27 other than the Borrower and each Lender participating in the respective Extension; provided further that no such agreement shall amend, modify or otherwise affect the rights or duties of the Administrative Agent or Issuing Banks hereunder without the prior written consent of the Administrative Agent and Issuing Banks. Any such waiver and any such amendment, supplement or modification shall apply equally to each of the Lenders and shall be binding upon the Loan Parties, the Lenders, the Administrative Agent and all future holders of the Loans. In the case of any waiver, the Loan Parties, the Lenders and the Administrative Agent shall be restored to their former position and rights hereunder and under any other Loan Documents, and any Default or Event of Default waived shall be deemed to have not occurred or to be cured and not continuing, as the parties may agree; but no such waiver shall extend to any subsequent or other Default or Event of Default, or impair any right consequent thereon. In addition, notwithstanding the foregoing provisions of this Section 9.1(a), only the consent of the Required Lenders and the Borrower shall be required in respect of any amendments or modifications of the following definitions: "Guarantee and Collateral Suspension Period" and "Guarantee and Collateral Period".

(b) Notwithstanding anything to the contrary contained in this Section 9.1, if the Administrative Agent and the Borrower shall have jointly identified an obvious error or any error or omission of a technical or immaterial nature, in each case, in any provision of the Loan Documents, then the Administrative Agent and the Borrower shall be permitted to amend such provision and such amendment shall become effective without any further action or consent of any other party to any Loan Document if the same is not objected to in writing by the Required Lenders within ten (10) Business Days following receipt of notice thereof. Notwithstanding anything to the contrary in this Agreement or the other Loan Documents, the Administrative Agent and the Collateral Agent are each hereby irrevocably authorized by each Lender and Issuing Bank (and each such Lender and Issuing Bank expressly consents), without any further action or the consent of any other party to any Loan Document, to make any technical amendments to the Guarantee and Collateral Agreement to correct any cross-references therein to any provision of this Agreement that may be necessary in order to properly reflect the amendments made to this Agreement.

(c) Notwithstanding anything to the contrary contained in the Loan Documents, the Loans of any Lender that is at the time a Defaulting Lender shall not have any voting or approval rights under the Loan Documents and shall be excluded in determining whether all Lenders, all affected Lenders or the Required Lenders have taken or may take any action hereunder (including any consent to any amendment or waiver pursuant to this Section 9.1); provided that any waiver, amendment or modification (i) requiring the consent of all Lenders or (ii) each affected Lender that affects any Defaulting Lender more adversely than other affected Lenders shall require the consent of each Defaulting Lender.

(d) Notwithstanding the foregoing, (i) only the consent of the Required Revolving Lenders and the Required 2019 Incremental Term Loan Lenders (and the consent of Required Lenders for any other Class of Credit Facility to the extent such consent is expressly required in the related Incremental Amendment) shall be required in respect of amendments, modifications or waivers of the financial covenants set forth in Section 6.6 (or any component definition thereof to the extent applicable thereto)-and, (ii) only the consent of the Required Revolving Lenders shall be required with respect to waivers of any conditions to the Borrowing of any Revolving Loans, and any such amendment, modification or waiver may be made without the consent of any other Lender (including, for the avoidance of doubt, the Required Lenders)- and (iii) only the consent of the Required 2019 Incremental Term Loan Lenders shall be required with respect to waivers of any conditions to the Borrowing of any 2019 Incremental Term Loans, and any such amendment, modification or waiver may be made without the consent of any other Lender (including, for the avoidance of doubt, the Required Lenders).

## 9.2. Notices.

(a) All notices, requests and demands to or upon the respective parties hereto to be effective shall be in writing (including by telecopy), and, unless otherwise expressly provided herein, shall be deemed to have been duly given or made when received, addressed as follows in the case of the Loan Parties and the Administrative Agent, and as set forth in the administrative questionnaire delivered to the Administrative Agent in the case of the Lenders and Issuing Banks, or to such other address as may be hereafter notified by the respective parties hereto and any future parties:

The Borrower:

Micron Technology, Inc.  
8000 S. Federal Way  
Boise, Idaho 83716-9632  
Attention: General Counsel

with copies (which shall not constitute notice) to:

Wilson Sonsini Goodrich & Rosati  
650 Page Mill Road  
Palo Alto, CA 94304  
Attention: John Fore  
Telecopier No.: 650-493-6811

The Administrative Agent:

JPMorgan Chase Bank, N.A.  
JPM Loan & Agency Services  
10 S. Dearborn St  
Chicago, IL 60603  
Attention: Pastell Jenkins  
Telephone: 312-732-2568  
Email: Jpm.agency.cri@jpmorgan.com

with copies (which shall not constitute notice) to:

Simpson Thacher & Bartlett LLP  
425 Lexington Ave  
New York, NY 10017  
Attention: Justin M. Lungstrum  
Telecopier No.: 212-455-2502

(b) Notices and other communications to the Lenders and Issuing Banks hereunder may be delivered or furnished by electronic communications (including e-mail and Internet or intranet websites or other information platform) (the “Platform”) pursuant to procedures approved by the Administrative Agent; provided that the foregoing shall not apply to notices pursuant to Sections 2.2, 2.4, 2.7, 2.8(e), 2.11, 2.13, 2.14, 2.15, 2.20 and 2.27(d) unless otherwise agreed by the Administrative Agent and the applicable Lender or the applicable Issuing Bank. The Administrative Agent or the Borrower may, in its discretion, agree to accept notices and other communications to it hereunder by electronic communications pursuant to procedures approved by it; provided that approval of such procedures may be limited to particular notices or communications. Unless the Administrative Agent otherwise prescribes, (i) notices and other communications sent to an e-mail address shall be deemed received upon the sender’s receipt of an acknowledgement from the intended recipient (such as by the “return receipt requested” function, as available, return e-mail or other written acknowledgement), provided that if such notice or other communication is not sent during the normal business hours of the recipient, such notice or communication shall be deemed to have been sent at the opening of business on the next Business Day for the recipient, and (ii) notices or communications posted to an Internet or intranet website shall be deemed received upon the deemed receipt by the intended recipient at its e-mail address as described in the foregoing clause (i) of notification that such notice or communication is available and identifying the website address therefor.

(c) RESERVED.

(d) Each of the Loan Parties understands that the distribution of material through an electronic medium is not necessarily secure and that there are confidentiality and other risks associated with such distribution and agrees and assumes the risks associated with such electronic distribution, except to the extent caused by the willful misconduct or gross negligence of the Administrative Agent, as determined by a final, non-appealable judgment of a court of competent jurisdiction.

(e) The Platform and any Approved Electronic Communications are provided “as is” and “as available”. None of the Agent or any of their respective officers, directors, employees, agents, advisors or representatives warrant the accuracy, adequacy, or completeness of the Approved Electronic Communications or the Platform and each expressly disclaims liability for errors or omissions in the Platform and the Approved Electronic Communications. No warranty of any kind, express, implied or statutory, including any warranty of merchantability, fitness for a particular purpose, non-infringement of third party rights or freedom from viruses or other code defects is made by any of the Agent or any of their respective officers, directors, employees, agents, advisors or representatives in connection with the Platform or the Approved Electronic Communications.

(f) Each of the Loan Parties, the Lenders, Issuing Banks and the Agent agree that Administrative Agent may, but shall not be obligated to, store any Approved Electronic Communications on the Platform in accordance with the Administrative Agent’s customary document retention procedures and policies.

9.3. No Waiver; Cumulative Remedies. No failure to exercise and no delay in exercising, on the part of the Administrative Agent, any Lender or any Issuing Bank, any right, remedy, power or privilege hereunder or under the other Loan Documents shall operate as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. The rights, remedies, powers and privileges herein provided are cumulative and not exclusive of any rights, remedies, powers and privileges provided by law.

9.4. Survival of Representations and Warranties. All representations and warranties made hereunder, in the other Loan Documents and in any document, certificate or statement delivered pursuant hereto or in connection herewith shall survive the execution and delivery of this Agreement and the making of the Loans and the other extensions of credit hereunder.

9.5. Payment of Expenses. The Borrower agrees (a) to pay or reimburse each of the Administrative Agent and the Collateral Agent for all its reasonable out-of-pocket costs and expenses reasonably incurred in connection with (i) the development, negotiation, preparation, execution and delivery of this Agreement, the Notes and any other documents prepared in connection herewith or therewith, including any amendment, supplement or modification to any of the foregoing and (ii) the consummation and administration of the transactions contemplated hereby and thereby, and the reasonable fees and disbursements of one counsel to the Administrative Agent, the Collateral Agent and the Arrangers, taken as a whole (and, to the

extent necessary, one local counsel in each relevant jurisdiction for all such entities, taken as a whole and, solely in the case of an actual or potential conflict of interest, one additional local counsel in each relevant jurisdiction to the affected entities similarly situated, taken as a whole), and security interest filing and recording fees and expenses, (b) to pay or reimburse the Administrative Agent, the Collateral Agent, each Lender and each Issuing Bank for all its reasonable costs and expenses reasonably incurred in connection with the enforcement or preservation of any rights under this Agreement, the Notes, the other Loan Documents and any such other documents following the occurrence and during the continuance of an Event of Default, including without limitation, the reasonable fees and disbursements of one counsel to the Administrative Agent, the Collateral Agent, the Lenders and Issuing Banks and each of their respective affiliates, taken as a whole (and, to the extent reasonably necessary, one local counsel in each relevant jurisdiction for all such entities, taken as a whole, and, solely in the case of an actual or potential conflict of interest, one additional local counsel in each relevant jurisdiction to the affected entities similarly situated, taken as a whole), and (c) to pay, and indemnify and hold harmless each Lender, each Arranger, the Collateral Agent, the Administrative Agent, each Issuing Bank and each of their respective Affiliates, directors, officers, employees, representatives, partners and agents (each, an "Indemnitee") from and against any and all other liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever with respect to the execution, delivery, enforcement, performance, preservation of rights and administration of this Agreement, the Notes, the other Loan Documents or the use of the proceeds of the Loans or any of the foregoing relating to the violation of, noncompliance with or liability under, any Environmental Law applicable to the operations of the Loan Parties or any of their respective properties and the reasonable fees and expenses of one legal counsel for the Indemnitees taken as a whole in connection with claims, actions or proceedings by any Indemnitee against any Loan Party under any Loan Document (all the foregoing in this clause (c), collectively, the "indemnified liabilities"), provided that the Borrower shall have no obligation hereunder to any Indemnitee with respect to indemnified liabilities to the extent (x) determined by the final judgment of a court of competent jurisdiction to have resulted from the bad faith, gross negligence or willful misconduct of such Indemnitee or any of such Indemnitee's Related Persons, (y) resulting from a material breach by such Indemnitee or any of such Indemnitee's Related Persons of its material obligations under this Agreement or the other Loan Documents or (z) related to any dispute solely among Indemnitees other than any claims against any Indemnitee in its capacity or in fulfilling its role as an Agent, an Issuing Bank, an Arranger or any similar role under this Agreement and the other Loan Documents and other than any claims involving any act or omission on the part of the Borrower or its Subsidiaries; provided, further, that the Borrower shall in no event be responsible for consequential, indirect, special or punitive damages to any Indemnitee pursuant to this Section 9.5 except such consequential, indirect, special or punitive damages required to be paid by such Indemnitee in respect of any indemnified liabilities. Without limiting the foregoing, and to the extent permitted by applicable law, the Borrower agrees not to assert and to cause its Subsidiaries not to assert, and hereby waives and agrees to cause its Subsidiaries to waive, all rights for contribution or any other rights of recovery with respect to all claims, demands, penalties, fines, liabilities, settlements, damages, costs and expenses of whatever kind or nature, under or related to Environmental Laws, that any of them might have by statute or otherwise against any Indemnitee. To the extent permitted by applicable law, no Loan Party nor any of their respective Subsidiaries shall assert, and each Loan Party hereby waives, on behalf of itself and its Subsidiaries, any claim against each Lender, each Arranger, each Agent, each Issuing Bank and their respective affiliates, directors, officers, employees, attorneys, representatives, agents or sub-agents, on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) (whether or not the claim therefor is based on contract, tort or duty imposed by any applicable legal requirement) arising out of, in connection with, as a result of, or in any way related to, this Agreement or any Loan Document or any agreement or instrument contemplated hereby or thereby or referred to herein or therein, the transactions contemplated hereby or thereby, any Loan or the use of the proceeds thereof or any act or omission or event occurring in connection therewith, and each Loan Party hereby waives, releases and agrees, on behalf of themselves and each of their respective Subsidiaries, not to sue upon any such claim or any such damages, whether or not accrued and whether or not known or suspected to exist in its favor. All amounts due under this Section 9.5 shall be payable not later than 10 days after written demand therefor. The agreements in this Section shall survive the termination of this Agreement and repayment of the Loans and all other amounts payable hereunder. This Section 9.5 shall not apply with respect to Taxes other than any Taxes that represent losses, claims, damages, etc. arising from any non-Tax claim.

#### 9.6. Successors and Assigns; Participations.

(a) The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns permitted, except that (i) unless otherwise permitted by Section 6.3 hereof, the Borrower may not assign or otherwise transfer any of its rights or obligations hereunder without the prior written consent of each Lender and Issuing Bank (and any attempted assignment or transfer by the Borrower without such consent shall be null and void) and (ii) no Lender may assign or otherwise transfer its rights or obligations hereunder except in accordance with this Section.

(b) (i) Subject to the conditions set forth in paragraph (b)(ii) below, any Lender may assign to one or more assignees (each, an "Assignee") all or a portion of its rights and obligations under this Agreement (including all or a portion of its Commitments and the Loans at the time owing to it) with the prior written consent of:

(A) the Borrower (such consent not to be unreasonably withheld, delayed or conditioned), provided that no consent of the Borrower shall be required for an assignment to a Lender, a depositary institution affiliate of a Lender having access to discount window credit of the Federal Reserve (as defined below), in the case of any Incremental Term Loan, Approved Fund, or, if an Event of Default under Section 7.1(a) or (b) has occurred and is continuing, any other Person; provided further that, with respect to any Incremental Term Loans, the Borrower's consent shall be deemed to have been given if the Borrower has not responded within five Business Days;

(B) the Administrative Agent (such consent not to be unreasonably withheld, delayed or conditioned), provided that no consent of the Administrative Agent shall be required for an assignment to a Lender, an affiliate of a Lender or an Approved Fund; and

(C) each Issuing Bank (such consent not to be unreasonably withheld, delayed or conditioned), provided that (i) no consent of the Issuing Banks shall be required for an assignment to a Lender, an affiliate of a Lender or an Approved Fund and (ii) no consent of the Issuing Banks shall be required for an assignment of the 2019 Incremental Term Loan Commitments.

(ii) Assignments shall be subject to the following additional conditions:

(A) except in the case of an assignment to a Lender, an affiliate of a Lender or an Approved Fund or an assignment of the entire remaining amount of the assigning Lender's Commitments or Loans, the amount of the Commitments or Loans of the assigning Lender subject to each such assignment (determined as of the date the Assignment and Acceptance with respect to such assignment is delivered to the Administrative Agent) shall not be less than \$5,000,000 (or, in the case of Incremental Term Loans, \$1,000,000) unless each of the Borrower and the Administrative Agent otherwise consent, provided that (1) no such consent of the Borrower shall be required if an Event of Default under Section 7.1(a) or (b) has occurred and is continuing and (2) such amounts shall be aggregated in respect of each Lender and its affiliates or Approved Funds, if any;

(B) (1) the parties to each assignment shall execute and deliver to the Administrative Agent an Assignment and Acceptance, together with a processing and recordation fee of \$3,500 (although the Borrower shall not be responsible for the payment of the recordation fee unless the Borrower has chosen to replace a Lender pursuant to Section 2.26) and (2) the assigning Lender shall have paid in full any amounts owing by it to the Administrative Agent;

(C) the Assignee, if it shall not be a Lender, shall deliver to the Administrative Agent an administrative questionnaire in which the Assignee designates one or more credit contacts to whom all syndicate-level information (which may contain material non-public information about the Borrower and its Affiliates and their related parties or their respective securities) will be made available and who may receive such information in accordance with the assignee's compliance procedures and applicable laws, including federal and state securities laws;

(D) any partial assignment shall be made as an assignment of a proportionate part of all the assigning Lender's rights and obligations under this Agreement with respect to any single Class of Loans and related Commitments, except that this clause (D) shall not prohibit any Lender from assigning all or a portion of its rights and obligations among separate Classes on a non- pro rata basis; and

(E) none of the Loan Parties, their respective Affiliates or any natural person shall be an Assignee hereunder.

For the purposes of this Section 9.6, "Approved Fund" means any Person (other than a natural person) that is engaged in making, purchasing, holding or investing in bank loans and similar extensions of credit in the ordinary course of its business and that is administered or managed by (a) a Lender, (b) an affiliate of a Lender or (c) an entity or an affiliate of an entity that administers or manages a Lender.

(iii) Subject to acceptance and recording thereof pursuant to paragraph (b)(iv) below, from and after the effective date specified in each Assignment and Acceptance the Assignee thereunder shall be a party hereto and, to the extent of the interest assigned by such Assignment and Acceptance, have the rights and obligations of a Lender under

this Agreement, and the assigning Lender thereunder shall, to the extent of the interest assigned by such Assignment and Acceptance, be released from its obligations under this Agreement (and, in the case of an Assignment and Acceptance covering all of the assigning Lender's rights and obligations under this Agreement, such Lender shall cease to be a party hereto) but shall continue to be entitled to the benefits of Sections 2.18, 2.19, 2.20 and 9.5 for the period of time in which it was a Lender hereunder. Any assignment or transfer by a Lender of rights or obligations under this Agreement that does not comply with this Section 9.6 shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with paragraph (c) of this Section.

(iv) The Administrative Agent, acting solely for this purpose as an agent of the Borrower, shall maintain at one of its offices a copy of each Assignment and Acceptance delivered to it and a register for the recordation of the names and addresses of the Lenders, and the Commitments of, and principal amount (and interest amounts) of the Loans owing to, each Lender pursuant to the terms hereof from time to time (the "Register"). The entries in the Register shall be conclusive (absent manifest error), and the Borrower, the Administrative Agent and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement, notwithstanding notice to the contrary. The Register shall be available for inspection by the Borrower or any Lender at any reasonable time and from time to time upon reasonable prior notice. Any assignment shall be effective only upon appropriate entries with respect thereto being made in the Register.

(v) Upon its receipt of an Assignment and Acceptance (executed via an electronic settlement system acceptable to the Administrative Agent (or, if previously agreed with the Administrative Agent, manually)), by a transferor Lender and an Assignee, as the case may be (and, in the case of an Assignee that is not then a Lender, by the Administrative Agent and the Borrower to the extent required under this Section 9.6), together with payment to the Administrative Agent by the transferor Lender or the Assignee of a recordation and processing fee of \$3,500 (which fee may be waived or reduced in the sole discretion of the Administrative Agent), the Administrative Agent shall (i) promptly accept such Assignment and Acceptance, (ii) on the effective date of such transfer determined pursuant thereto record the information contained therein in the Register and (iii) give notice of such acceptance and recordation to the transferor Lender, the Assignee and the Borrower.

(c) Any Lender may, without the consent of the Borrower, the Administrative Agent or any Issuing Bank, sell participations to one or more banks or other entities (a "Participant") in all or a portion of such Lender's rights and obligations under this Agreement (including all or a portion of its Loans owing to it); provided that (A) such Lender's obligations under this Agreement shall remain unchanged, (B) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations and (C) the Borrower, the Administrative Agent and the other Lenders shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement. Any agreement pursuant to which a Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce this Agreement and the other Loan Documents and to approve any amendment, modification or waiver of any provision of this Agreement and any other Loan Document or to otherwise exercise its voting rights under this Agreement and any other Loan Document; provided that such agreement may provide that such Lender will not, without the consent of the Participant, agree to any amendment, modification or waiver that (1) requires the consent of each Lender directly affected thereby pursuant to the proviso to the second sentence of Section 9.1(a) and (2) directly affects such Participant. Subject to paragraph (c)(i) of this Section, the Borrower agrees that each Participant shall be entitled to the benefits of Sections 2.18, 2.19 and 2.20 (subject to the requirements and limitations of such sections and Sections 2.21 and 2.26 and it being understood that the documentation required under Section 2.19(e) shall be delivered solely to the participating Lender) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to paragraph (b) of this Section. To the extent permitted by law, each Participant also shall be entitled to the benefits of Section 9.7(b) as though it were a Lender, provided such Participant shall be subject to Section 9.7(a) as though it were a Lender.

(i) A Participant shall not be entitled to receive any greater payment under Section 2.18, 2.19 or 2.20 than the applicable Lender would have been entitled to receive with respect to the participation sold to such Participant, except to the extent that any entitlement to a greater payment results from a change in any Requirement of Law arising after such Participant became a Participant.

(ii) Each Lender that sells a participation shall, acting solely for this purpose as a non-fiduciary agent of the Borrower, maintain a register on which it enters the name and address of each participant and the principal amounts (and related interest amounts) of each participant's interest in the Loans or other obligations under this Agreement (the "Participant Register"). The entries in a Participant Register shall be conclusive, absent manifest error, and such Lender shall treat each person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary. No Lender shall have any obligation to disclose all or any portion of a Participant Register to any Person (including the identity of any

Participant or any information relating to a Participant's interest in any Loans) except to the extent that such disclosure is necessary to establish that such Loan is in registered form under Section 5f.103(c) of the United States Treasury Regulations or, if different, under Sections 871(h) or 881(c) of the Code.

(d) Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank, and this Section shall not apply to any such pledge or assignment of a security interest; provided that no such pledge or assignment of a security interest shall release a Lender from any of its obligations hereunder or substitute any such pledgee or Assignee for such Lender as a party hereto.

(e) Subject to Section 9.15, the Borrower authorizes each Lender to disclose to any Transferee and any prospective Transferee (in each case which agrees to comply with the provisions of Section 9.15 or confidentiality requirements no less restrictive on such prospective transferee than those set forth in Section 9.15) any and all financial information in such Lender's possession concerning the Borrower and its Affiliates which has been delivered to such Lender by or on behalf of the Borrower pursuant to this Agreement or any other Loan Document or which has been delivered to such Lender by or on behalf of the Borrower in connection with such Lender's credit evaluation of the Borrower and its Affiliates prior to becoming a party to this Agreement.

#### 9.7. Adjustments; Setoff.

(a) Except to the extent that this Agreement, any other Loan Document or a court order expressly provides or permits for payments to be allocated to a particular Lender or Issuing Bank or to the Lenders and Issuing Banks, if any Lender or Issuing Bank (a "Benefited Lender") shall receive any payment of all or part of the Obligations owing to it (other than in connection with an assignment or participation made pursuant to Section 9.6), or receive any collateral in respect thereof (whether voluntarily or involuntarily, by setoff or otherwise), in a greater proportion than any such payment to or collateral received by any other Lender or Issuing Bank, if any, in respect of the Obligations owing to such other Lender or Issuing Bank, such Benefited Lender shall purchase for cash from the other Lenders and Issuing Banks a participating interest in such portion of the Obligations owing to each such other Lender and Issuing Bank, or shall provide such other Lenders and Issuing Banks with the benefits of any such collateral, as shall be necessary to cause such Benefited Lender to share the excess payment or benefits of such collateral ratably with each of the Lenders and Issuing Banks; provided that if all or any portion of such excess payment or benefits is thereafter recovered from such Benefited Lender, such purchase shall be rescinded, and the purchase price and benefits returned, to the extent of such recovery, but without interest. Notwithstanding anything to the contrary contained in this Section 9.7(a), no extension of Loans that is permitted under Section 2.27 shall constitute a payment of any of such Loans for purposes of this Section 9.7.

(b) In addition to any rights and remedies of the Lenders and Issuing Banks provided by law and subject to the terms of the Guarantee and Collateral Agreement, each Lender and Issuing Bank shall have the right, unless otherwise agreed in writing by such Lender or Issuing Bank with the Borrower, without notice to the Borrower, any such notice being expressly waived by the Borrower to the extent permitted by applicable law, upon any Obligations becoming due and payable by the Borrower (whether at the stated maturity, by acceleration or otherwise), to apply to the payment of such Obligations, by setoff or otherwise, any and all deposits (general or special, time or demand, provisional or final), in any currency, and any other credits, indebtedness or claims, in any currency, in each case whether direct or indirect, absolute or contingent, matured or unmatured, at any time held or owing by such Lender, such Issuing Bank, any affiliate thereof or any of their respective branches or agencies to or for the credit or the account of the Borrower. Each Lender and Issuing Bank agrees promptly to notify the Borrower and the Administrative Agent after any such application made by such Lender or Issuing Bank, provided that the failure to give such notice shall not affect the validity of such application.

9.8. Counterparts. This Agreement may be executed by one or more of the parties to this Agreement on any number of separate counterparts, and all of said counterparts taken together shall be deemed to constitute one and the same instrument. Delivery of an executed signature page of this Agreement by facsimile or email transmission shall be effective as delivery of a manually executed counterpart hereof.

9.9. Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

9.10. Integration. This Agreement and the other Loan Documents represent the entire agreement of the Borrower, the Administrative Agent and the Lenders with respect to the subject matter hereof and thereof, and there are no promises,

undertakings, representations or warranties by the Administrative Agent or any Lender relative to the subject matter hereof not expressly set forth or referred to herein or in the other Loan Documents.

9.11. GOVERNING LAW. THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES UNDER THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

9.12. Submission To Jurisdiction; Waivers.

(a) Subject to clause (b)(iii) of this Section 9.12, each party hereto hereby irrevocably and unconditionally submits for itself and its property in any legal action or proceeding relating to this Agreement and the other Loan Documents to which it is a party, or for recognition and enforcement of any judgment in respect thereof, to the exclusive general jurisdiction of the courts of the State of New York, the courts of the United States for the Southern District of New York, and appellate courts from any thereof, in each case that are located in the Borough of Manhattan, the City of New York;

(b) The Borrower hereby irrevocably and unconditionally:

(i) agrees that any such action or proceeding shall be brought in such courts and waives any objection that it may now or hereafter have to the venue of any such action or proceeding in any such court or that such action or proceeding was brought in an inconvenient court and agrees not to plead or claim the same;

(ii) agrees that service of process in any such action or proceeding may be effected by mailing a copy thereof by registered or certified mail (or any substantially similar form of mail), postage prepaid, to the Borrower at its address set forth in Section 9.2 or at such other address of which the Administrative Agent shall have been notified pursuant thereto;

(iii) agrees that nothing herein shall affect the right to effect service of process in any other manner permitted by law or shall limit the right of any Agent, any Arranger or any Lender to sue in any other jurisdiction; and

(iv) waives, to the maximum extent not prohibited by law, any right it may have to claim or recover in any legal action or proceeding referred to in this Section any special, exemplary, punitive or consequential damages.

9.13. Acknowledgements. The Borrower hereby acknowledges that:

(a) it has been advised by counsel in the negotiation, execution and delivery of this Agreement and the other Loan Documents;

(b) notwithstanding the provisions of this Agreement or any of the other Loan Documents, the Arrangers shall have no powers, duties, responsibilities or liabilities with respect to this Agreement and the other Loan Documents;

(c) the Agent, the Arrangers, the Lenders, the Issuing Banks and their Affiliates may have economic interests that conflict with those of the Borrower; and

(d) no joint venture is created hereby or by the other Loan Documents or otherwise exists by virtue of the transactions contemplated hereby among the Lenders, among the Issuing Banks or among the Borrower and the Lenders.

9.14. Releases of Guarantees and Liens.

(a) Notwithstanding anything to the contrary contained herein or in any other Loan Document, each of the Administrative Agent and the Collateral Agent is hereby irrevocably authorized by each Lender and Issuing Bank (and each such Lender and Issuing Bank hereby expressly consents) (without requirement of notice to or consent of any Lender or Issuing Bank except as expressly required by Section 9.1(a)), and each of the Administrative Agent and the Collateral Agent hereby agrees with the Borrower, to take any action reasonably requested by the Borrower to effect the release of any Collateral or Guarantor from its guarantee obligations (i) during a Guarantee and Collateral Suspension Period, (ii) to the extent necessary to permit consummation of any transaction not prohibited by any Loan Document or that has been consented to in accordance with Section 9.1(a) including, in each case and without limitation, any sale, transfer or other disposition of any Collateral or Guarantor (other than to the Borrower or another Guarantor), including as a result of any investments of Collateral in non-Guarantor Subsidiaries to the extent not prohibited by the Loan Documents, (iii) to the extent any such release is permitted at such time pursuant to the Guarantee and Collateral Agreement (including in connection with the grant of a Permitted Prior Lien

(as defined in the Guarantee and Collateral Agreement) or (iv) under the circumstances described in paragraphs (b) or (c) below (and, upon the consummation of any such transaction in preceding clause (ii), (iii) or (iv), such Collateral shall be transferred free and clear of all Liens under the Security Documents and/or such Guarantor shall be released from its obligations under the Guarantee and Collateral Agreement).

(b) At such time as the Commitments shall have been terminated and the Loans and the other obligations under the Loan Documents shall have been paid in full, the Collateral shall be released from the Liens created by the Security Documents with respect to the Loans, and the Security Documents and all obligations with respect to the Loans (other than those expressly stated to survive such termination) of the Administrative Agent, the Collateral Agent and each Loan Party under the Security Documents shall terminate, all without delivery of any instrument or performance of any act by any Person.

(c) Notwithstanding anything to the contrary contained herein or in any other Loan Document, the Lenders and Issuing Banks hereby agree, and each of the Administrative Agent and the Collateral Agent is hereby irrevocably authorized by each Lender and Issuing Bank (without requirement of notice to or consent of any Lender or Issuing Bank) to take any action required by the Borrower having the effect of releasing a Guarantor from its guarantee obligations hereunder and as a Grantor under the Security Documents if (i) all or substantially all of the assets of such Guarantor have been sold or otherwise disposed of (including by way of merger or consolidation) to a Person that is not a Borrower or a Guarantor or (ii) such Guarantor has been liquidated or dissolved.

(d) In connection with any release of Collateral of the type described above in clause (a) or (c) or any other transaction involving Collateral which transaction is not prohibited by the Loan Documents, notwithstanding anything to the contrary contained herein or in any other Loan Document, each of the Administrative Agent and the Collateral Agent is hereby irrevocably authorized by each Lender and Issuing Bank (and each such Lender and Issuing Bank hereby expressly consents) (without requirement of notice to or consent of any Lender or Issuing except as expressly required by Section 9.1(a)) to take any action with respect to the Collateral requested by the Borrower to the extent necessary to evidence such release or other transaction, including without limitation, directing the Collateral Agent to execute agreements (including, without limitation, with third parties) with respect to any Collateral, upon the delivery to the Administrative Agent and Collateral Agent of a certificate signed by an officer of the Borrower stating that such action and the release of the Collateral or other transaction, as applicable, is permitted by each Security Document.

(e) The Guarantee of the Obligations by any Guarantor will terminate upon:

(1) a sale or other disposition (including by way of consolidation or merger) of the Capital Stock of such Guarantor such that such Guarantor is no longer a Restricted Subsidiary of the Borrower;

(2) designation of such Guarantor as an Excluded Subsidiary pursuant to Section 5.9;

(3) if such Guarantor was not required to Guarantee the Obligations pursuant to Section 5.6 but did so at its option, the request by such Guarantor of release at any time; provided that after giving effect to such release the Borrower would be in compliance with the covenants set forth in Sections 5.6 and 6.1; and

(4) upon the occurrence of a Guarantee and Collateral Suspension Period, subject to reinstatement pursuant to Section 9.14(f).

The Administrative Agent will execute any documents reasonably required in order to evidence the release of any Guarantor from its obligations under its Guarantee pursuant to the foregoing.

(f) Notwithstanding anything to the contrary contained in this Agreement or any Loan Document, on or following a Guarantee and Collateral Suspension Date, (a) the Borrower shall be entitled to request by written notice to the Administrative Agent and Collateral Agent the release of any or all of the Liens granted on the Collateral and the release of any or all of the Guarantors from their obligations under any Guarantee of the Obligations, (b) the Lenders hereby irrevocably agree such Liens shall automatically be released and any Guarantee of the Obligations shall automatically be discharged and released without any further action by any Person (and the Administrative Agent and Collateral Agent shall (and are authorized by the Lenders to), at the expense of the Borrower, take all steps reasonably requested by the Borrower to promptly evidence or confirm any such release) and (c) the Unsecured Covenant Period shall become effective.

(g) Notwithstanding anything to the contrary contained herein or in any other Loan Document, the Lenders and Issuing Banks hereby agree, and each of the Administrative Agent and the Collateral Agent is hereby irrevocably authorized by each Lender and Issuing Bank (without requirement of notice to or consent of any Lender or Issuing Bank) to amend any

Security Document, enter into any new Security Document and make filings related thereto in connection with any Secured Covenant Reinstatement Event.

(h) If, after any Guarantee and Collateral Suspension Date, a Secured Covenant Reinstatement Event occurs, the Guarantee and Collateral Suspension Period shall terminate and all Collateral and the Security Documents, and all Liens granted or purported to be granted therein, and all guaranties of the Guarantors of the Obligations, shall be reinstated on the same terms as of the applicable Collateral Reinstatement Date, and the Loan Parties shall, at their sole cost and expense, take all actions and execute and deliver all documents including the delivery of new guaranty and pledge and security documents, UCC-1 financing statements and stock certificates accompanied by stock powers reasonably requested by the Administrative Agent or Collateral Agent as necessary to create and perfect the Liens of the Collateral Agent in such Collateral, in form and substance reasonably satisfactory to the Administrative Agent and Collateral Agent, within 90 days of such Secured Covenant Reinstatement Event (or such longer period as the Administrative Agent may agree in its sole discretion) (the first date on which a new pledge and/or security document is required to be delivered pursuant to the foregoing, the "Collateral Reinstatement Date"). Upon the occurrence of a Secured Covenant Reinstatement Event, a Secured Covenants Period shall be in effect until such time as a subsequent Guarantee and Collateral Suspension Date shall occur. Notwithstanding anything to the contrary contained in this Agreement or any Loan Document, no action taken or omitted to be taken by the Borrower or any of its Restricted Subsidiaries during a Unsecured Covenants Period shall give rise to a Default or Event of Default on or after a Secured Covenant Reinstatement Event so long as such action or omission was permitted during such Unsecured Covenants Period.

(i) For purposes of this Agreement, (i) the period of time between a Guarantee and Collateral Suspension Date and the subsequent Collateral Reinstatement Date is referred to as the "Guarantee and Collateral Suspension Period," (ii) any period of time prior to the first Guarantee and Collateral Suspension Date, or following the first Guarantee and Collateral Suspension Date and after a Collateral Reinstatement Date but prior to the subsequent Guarantee and Collateral Suspension Date, is referred to as a "Guarantee and Collateral Period", (iii) the period of time between a Guarantee and Collateral Suspension Date and the date of the subsequent Secured Covenant Reinstatement Event, is referred to as the "Unsecured Covenants Period" and (iv) any period of time prior to the first Guarantee and Collateral Suspension Date, or following the first Guarantee and Collateral Suspension Date and after a Secured Covenant Reinstatement Event but prior to the subsequent Guarantee and Collateral Suspension Date, is referred to as the "Secured Covenants Period".

(j) During any Guarantee and Collateral Suspension Period, any representation, warranty or covenant contained in any Loan Document relating to any Collateral or Guarantor released pursuant to this Section 9.14 shall no longer be deemed to be repeated with respect to such released Collateral or released Guarantor.

9.15. Confidentiality. Each Agent, each Arranger, each Lender, each Issuing Bank agrees to keep confidential all non-public information provided to it by any Loan Party, the Administrative Agent or any Lender pursuant to or in connection with this Agreement; provided that nothing herein shall prevent any Agent, any Arranger, any Lender or Issuing Bank from disclosing any such information (a) to the Administrative Agent, any other Lender or any affiliate thereof (so long as such affiliate agrees to be bound by the provisions of this Section 9.15), (b) subject to an agreement to comply with provisions no less restrictive than this Section 9.15, or to any actual or prospective Transferee (or any professional advisor to such counterparty), (c) to its employees, directors, officers, agents, attorneys, accountants, partners and other professional advisors or those of any of its affiliates, (d) upon the request or demand, or in accordance with the requirements (including reporting requirements), of any Governmental Authority having jurisdiction over such Lender, provided that to the extent permitted by law, such Lender shall promptly notify the applicable Loan Party of such disclosure (except with respect to any audit or examination conducted by bank accountants or any governmental bank authority exercising examination or regulatory authority), I in response to any order of any court or other Governmental Authority or as may otherwise be required pursuant to any Requirement of Law or other legal process, provided that to the extent permitted by law, such Lender shall promptly notify the applicable Loan Party of such disclosure (except with respect to any audit or examination conducted by bank accountants or any governmental bank authority exercising examination or regulatory authority), (f) if requested or required to do so in connection with any litigation or similar proceeding; provided that to the extent permitted by law, such Lender shall promptly notify the applicable Loan Party of such disclosure, (g) to the extent such information has been independently developed by such Lender or that has been publicly disclosed other than in breach of this Agreement, (h) to the National Association of Insurance Commissioners or any similar organization or any nationally recognized rating agency that requires access to information about a Lender's investment portfolio in connection with ratings issued with respect to such Lender, or (i) in connection with the exercise of any remedy hereunder or under any other Loan Document.

Each Lender acknowledges that all information, including requests for waivers and amendments, furnished by the Borrower or the Administrative Agent pursuant to, or in the course of administering this Agreement or the other Loan Documents, will be syndicate-level information, which may (except as provided in the following paragraph) contain material

non-public information concerning the Borrower and its Affiliates and their related parties or their respective securities. Accordingly, each Lender confirms to the Borrower and the Administrative Agent that (i) it has developed compliance procedures regarding the use of material non-public information, (ii) it has identified in its administrative questionnaire a credit contact who may receive information that may contain material non-public information in accordance with its compliance procedures and applicable law, including federal and state securities laws and (iii) it will handle such material non-public information in accordance with those procedures and applicable law, including federal and state securities laws.

The Borrower acknowledges that certain of the Lenders may be “public-side” Lenders (Lenders that do not wish to receive material non-public information with respect to the Borrower, its subsidiaries or their securities) (each, a “Public Lender”) and, if documents required to be delivered pursuant to Section 5.1 or 5.2 or otherwise are being distributed through the Platform, the Borrower agrees to designate those documents or other information that are suitable for delivery to the Public Lenders as such. Any document that the Borrower has indicated contains non-public information shall not be posted on that portion of the Platform designated for such Public Lenders. If the Borrower has not indicated whether a document delivered pursuant to Section 5.1 or 5.2 contains non-public information, the Administrative Agent reserves the right to post such document or notice solely on that portion of the Platform designated for Lenders who wish to receive material nonpublic information with respect to the Borrower, its Subsidiaries and their securities. The Borrower acknowledges and agrees that copies of the Loan Documents may be distributed to Public Lenders (unless the Borrower promptly notifies the Administrative Agent that any such document contains material non-public information with respect to the Borrower or its securities).

9.16. WAIVERS OF JURY TRIAL. THE BORROWER, THE ADMINISTRATIVE AGENT, THE COLLATERAL AGENT, THE LENDERS AND THE ISSUING BANKS HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVE TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT AND FOR ANY COUNTERCLAIM THEREIN.

9.17. Patriot Act. Each Lender that is subject to the requirements of the Patriot Act hereby notifies each Loan Party that pursuant to the requirements of the Patriot Act, it is required to obtain, verify and record information that identifies each Loan Party, which information includes the name and address of such Loan Party and other information that will allow such Lender to identify such Loan Party in accordance with the Patriot Act. The Borrower shall, and shall cause each of its Subsidiaries to, provide, to the extent commercially reasonable, such information and take such actions as are reasonably requested by each Lender and the Administrative Agent to maintain compliance with the Patriot Act.

9.18. No Fiduciary Duty. Each Agent, each Lender, the Arrangers, the Issuing Banks and their respective Affiliates (collectively, solely for purposes of this paragraph, the “Lenders”) may have economic interests that conflict with those of the Borrower, its stockholders and/or its affiliates. The Borrower agrees that nothing in the Loan Documents or otherwise will be deemed to create an advisory, fiduciary or agency relationship or fiduciary or other implied duty between any Lender, on the one hand, and the Borrower, its stockholders or its affiliates, on the other. The Borrower acknowledges and agrees that (i) the transactions contemplated by the Loan Documents (including the exercise of rights and remedies hereunder and thereunder) are arm’s-length commercial transactions between the Lenders, on the one hand, and the Borrower, on the other, and (ii) in connection therewith and with the process leading thereto, (x) no Lender has assumed an advisory or fiduciary responsibility in favor of the Borrower, its stockholders or its affiliates with respect to the transactions contemplated hereby (or the exercise of rights or remedies with respect thereto) or the process leading thereto (irrespective of whether any Lender has advised, is currently advising or will advise the Borrower, its stockholders or its affiliates on other matters) or any other obligation to the Borrower except the obligations expressly set forth in the Loan Documents and (y) each Lender is acting solely as principal and not as the agent or fiduciary of the Borrower, its management, stockholders, creditors or any other Person. The Borrower acknowledges and agrees that the Borrower has consulted its own legal and financial advisors to the extent it deemed appropriate and that it is responsible for making its own independent judgment with respect to such transactions and the process leading thereto. The Borrower agrees that it will not claim that any Lender has rendered advisory services of any nature or respect, or owes a fiduciary or similar duty to the Borrower, in connection with such transaction or the process leading thereto. None of the Arrangers identified on the cover page or signature pages of this Agreement shall have any rights, powers, obligations, liabilities, responsibilities or duties under this Agreement or any of the other Loan Documents, except in its capacity, as applicable, as a Lender hereunder. Without limiting any other provision of this Article, none of such Arrangers in their respective capacities as such shall have or be deemed to have any fiduciary relationship with any Lender, the Administrative Agent or any other Person by reason of this Agreement or any other Loan Document.

9.19. Acknowledgement and Consent to Bail-In of EEA Financial Institutions. Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any EEA Financial Institution arising under any Loan Document may be subject to the write-down and conversion powers of an EEA Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

- (a) the application of any Write-Down and Conversion Powers by an EEA Resolution Authority to any such liabilities arising hereunder which may be payable to it by any party hereto that is an EEA Financial Institution; and
- (b) the effects of any Bail-In Action on any such liability, including, if applicable:
  - (1) a reduction in full or in part or cancellation of any such liability;
  - (2) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such EEA Financial Institution, its parent entity, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or
  - (3) the variation of the terms of such liability in connection with the exercise of the Write-Down and Conversion Powers of any EEA Resolution Authority.

9.20. Lien Sharing and Priority Confirmation. Each Lender party to this Agreement, and the Administrative Agent on behalf of the Lenders, hereby agree that:

- (a) all First Lien Obligations will be and are secured equally and ratably by all First Liens at any time granted by the Borrower or any other Grantor to secure any Obligations (as defined in the First Lien Intercreditor Agreement) in respect of this Agreement and the Loan Documents, whether or not upon property otherwise constituting collateral for such Obligations (as defined in the First Lien Intercreditor Agreement) in respect of this Agreement and the Loan Documents and that all such First Liens will be enforceable by the Collateral Agent for the benefit of all holders of First Lien Obligations equally and ratably;
- (b) the Administrative Agent and each of the Lenders in respect of the Obligations (as defined in the First Lien Intercreditor Agreement) in respect of this Agreement and the Loan Documents represented thereby are bound by the provisions of the First Lien Intercreditor Agreement, including without limitation the provisions relating to the ranking of First Liens and the order of application of proceeds from enforcement of First Liens; and
- (c) the Administrative Agent and each of the Lenders consent to and direct the Collateral Agent to perform the Collateral Agent's obligations under the First Lien Intercreditor Agreement and the Security Documents.

The foregoing provisions of this Section 9.20 are intended for the enforceable benefit of, and will be enforceable as a third party beneficiary by, all holders of First Lien Debt, each existing and future representative of First Lien Debt and the Collateral Agent.

IN WITNESS HEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and the year first written.

**BORROWER:**

**MICRON TECHNOLOGY, INC.**

By: \_\_\_\_\_

Name:

Title:

[Signature Page to Micron Technology, Inc. Credit Agreement]

**JPMORGAN CHASE BANK, N.A.,  
as Administrative Agent and a Lender**

By: \_\_\_\_\_

Name:

Title:

[Signature Page to Micron Technology, Inc. Credit Agreement]

[•],  
as a Lender

By: \_\_\_\_\_  
Name:  
Title:

**MICRON TECHNOLOGY, INC.****SUBSIDIARIES OF THE REGISTRANT\***

Name	State (or Jurisdiction) in which Organized
IM Flash Technologies, LLC	Delaware
Micron Asia Pacific LLC	Delaware
Micron International LLC	Delaware
Micron Memory Japan, G.K.	Japan
Micron Memory Taiwan Co., Ltd.	Taiwan
Micron Semiconductor Asia, LLC	Delaware
Micron Semiconductor Asia Operations Pte. Ltd.	Singapore
Micron Semiconductor Asia Pte. Ltd.	Singapore
Micron Semiconductor Products, Inc.	Idaho
Micron Semiconductor Taiwan Co., Ltd.	Taiwan
Micron Semiconductor (Xi'an) Co., Ltd.	China
Micron Technology B.V.	Netherlands
Micron Technology Finance LLC	Delaware
Micron Technology Taiwan, Inc.	Taiwan

\* The above list of subsidiaries of Micron Technology, Inc. omitted subsidiaries which, considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary as of the end of the year covered by this report.

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (File No. 333-220882) and S-8 (File Nos. 333-17073, 333-50353, 333-103341, 333-120620, 333-133667, 333-140091, 333-148357, 333-159711, 333-171717, 333-179592, 333-190010, 333-196293, 333-203467, 333-217314, 333-223874) of Micron Technology, Inc. of our report dated October 17, 2019 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

San Jose, California  
October 17, 2019

**RULE 13a-14(a) CERTIFICATION OF  
CHIEF EXECUTIVE OFFICER**

I, Sanjay Mehrotra, certify that:

1. I have reviewed this Annual Report on Form 10-K of Micron Technology, Inc.;
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: October 17, 2019

/s/ Sanjay Mehrotra

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Sanjay Mehrotra  
President and Chief Executive Officer and Director

**RULE 13a-14(a) CERTIFICATION OF  
CHIEF FINANCIAL OFFICER**

I, David A. Zinsner, certify that:

1. I have reviewed this Annual Report on Form 10-K of Micron Technology, Inc.;
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: October 17, 2019

/s/ David A. Zinsner

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David A. Zinsner

Senior Vice President and Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO 18 U.S.C. 1350**

I, Sanjay Mehrotra, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Micron Technology, Inc. on Form 10-K for the period ended August 29, 2019, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in the Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Micron Technology, Inc.

Date: October 17, 2019

/s/ Sanjay Mehrotra

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Sanjay Mehrotra  
President and Chief Executive Officer and Director

**CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO 18 U.S.C. 1350**

I, David A. Zinsner, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Micron Technology, Inc. on Form 10-K for the period ended August 29, 2019, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in the Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Micron Technology, Inc.

Date: October 17, 2019

/s/ David A. Zinsner

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David A. Zinsner

Senior Vice President and Chief Financial Officer