UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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(Mark One) ✓		REPORT PURSUA GE ACT OF 1934	NT TO SECT	ΓΙΟΝ 13 OR 1	5(d) OF THE SECURITIES
		For the fisca	ll year ended Dece	mber 28, 2019	
			or		
		ION REPORT PUR IES EXCHANGE A		SECTION 13 (OR 15(d) OF THE
		For the transitio	n period from	to	
		Commiss	ion file number:	000-29823	
		SILICON LA	ABORAT	CORIES 1	INC.
				ified in its charter)	
	(State or other	aware er jurisdiction of or organization)			74-2793174 (I.R.S. Employer dentification No.)
		havez, Austin, Texas pal executive offices)			78701 (Zip Code)
	•	•	(512) 416-8500)	
		(Registrant's tele	, ,	ncluding area code))
		Securities registere	d pursuant to Sec	tion 12(b) of the A	.ct:
Titi	le of each class		Trading Symbol(s)	Na	ame of each exchange on which registered
Common S	tock, \$0.0001 par	value	SLAB		The NASDAQ Stock Market LLC
		Securities registered p	ursuant to Sectio	n 12(g) of the Act:	None
Indicate by □ No	check mark if t	he registrant is a well-kno	wn seasoned issi	ıer, as defined in R	tule 405 of the Securities Act. þ Yes
Indicate by No	check mark if t	he registrant is not require	ed to file reports	pursuant to Section	n 13 or Section 15(d) of the Act. \square Yes
Securities Exch	ange Act of 1934		months (or for s	uch shorter period	d by Sections 13 or 15(d) of the that the registrant was required to file ☐ No
oursuant to Rul	e 405 of Regulat	_	chapter) during		ctive Data File required to be submitted nonths (or for such shorter period that the
reporting compa	any, or an emerg		the definitions o	f "large accelerated	filer, a non-accelerated filer, a smaller d filer," "accelerated filer," "smaller
Large accelera	ted filer þ	Accelerated filer \square	Non-acc	celerated filer 🗆	Smaller reporting company \square Emerging growth company \square
					to use the extended transition period for ion 13(a) of the Exchange Act. \square
Indicate by	check mark wh	ether the registrant is a sh	ell company (as	defined in Rule 12	b-2 of the Exchange Act). \square Yes \square No
The aggres	gate market value	e of the voting and non-vo	oting common eq	uity held by non-a	ffiliates computed by reference to the

There were 43,498,444 shares of the registrant's common stock issued and outstanding as of January 20, 2020.

DOCUMENTS INCORPORATED BY REFERENCE

price at which the common equity was last sold as of the last business day of the registrant's most recently completed second fiscal quarter (June 28, 2019) was approximately \$4.4 billion (assuming, for this purpose, that only directors and officers are deemed

Portions of the Proxy Statement for the registrant's 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

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Cautionary Statement

Except for the historical financial information contained herein, the matters discussed in this report on Form 10-K (as well as documents incorporated herein by reference) may be considered "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Such forward-looking statements include declarations regarding the intent, belief or current expectations of Silicon Laboratories Inc. and its management and may be signified by the words "believe," "estimate," "expect," "intend," "anticipate," "plan," "project," "will" or similar language. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve a number of risks and uncertainties. Actual results could differ materially from those indicated by such forward-looking statements. Factors that could cause or contribute to such differences include those discussed under "Risk Factors" and elsewhere in this report. Silicon Laboratories disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Item 1. Business

General

Silicon Laboratories Inc. is a leading provider of silicon, software and solutions for a smarter, more connected world. Our award-winning technologies are shaping the future of the Internet of Things (IoT), Internet infrastructure, industrial automation, consumer and automotive markets. Our world-class engineering team creates products focused on performance, energy savings, connectivity and simplicity.

Our primary semiconductor products are mixed-signal integrated circuits (ICs), which are electronic components that convert real-world analog signals into digital signals that electronic products can process. Our mixed-signal ICs leverage standard complementary metal oxide semiconductor (CMOS), a low cost, widely available process technology. Use of CMOS technology enables smaller, more cost-effective and energy-efficient solutions. Our expertise in analog-intensive, mixed-signal IC design in CMOS allows us to develop new and innovative products that are highly integrated, simplifying our customers' designs and improving their time-to-market.

Industry Background

The pervasiveness of connectivity and mobile devices is driving semiconductor consumption. Intelligence is being added to electronic systems to enable Internet connectivity, power efficiency, monitoring our health, safety and consumption of precious resources and an improved user experience. This in turn is increasing the demand for bandwidth, requiring more infrastructure to support higher performance networks. The nearly ubiquitous availability of Internet access and the increasing intelligence of electronic devices and mobility are enabling what is called the Internet of Things, a term that describes the exponential increase in IP-enabled devices connected to the Internet.

These trends require more and more interaction between the analog world we live in and the digital world of computing, which is driving the need for analog-intensive, mixed-signal circuits in a wide range of electronic products. Traditional mixed-signal designs relied upon solutions built with numerous, complex discrete analog and digital components. While these traditional designs provide the required functionality, they are often inefficient and inadequate for use in markets where size, cost, power consumption and performance are increasingly important product differentiators. To improve their competitive position, electronics manufacturers must reduce the cost and complexity of their systems and enable new features or functionality to differentiate themselves from their competitors.

Simultaneously, these manufacturers face accelerating time-to-market demands and must rapidly adapt to evolving industry standards and new technologies. Because analog-intensive, mixed-signal design expertise is difficult to find, these manufacturers increasingly are turning to third parties, like us, to provide advanced mixed-signal solutions. Mixed-signal design requires specific expertise and relies on creative, experienced engineers to deliver solutions that optimize speed, power and performance, despite the noisy digital environment, and within the constraints of standard manufacturing processes. The development of this design expertise typically requires years of practical analog design experience under the guidance of a senior engineer, and engineers with the required level of skill and expertise are in short supply.

Many IC solution providers lack sufficient analog expertise to develop compelling mixed-signal products. As a result, manufacturers of electronic devices value providers that can supply them with mixed-signal solutions offering greater functionality, smaller size and lower power requirements at a reduced cost and shorter time-to-market.

Products

We provide analog-intensive, mixed-signal solutions for use in a variety of electronic products in a broad range of applications for the IoT including connected home and security, industrial automation and control, smart metering, smart lighting, commercial building automation, consumer electronics, asset tracking and medical instrumentation. We are a supplier of wireless connectivity solutions for the IoT based on Zigbee®, sub-GHz proprietary technologies, Bluetooth®, Z-Wave®, Thread, and Wi-Fi®.

We provide a wide range of timing and isolation products for infrastructure applications including high-performance clocks and oscillators for networking equipment, data centers, servers and storage, wireless base stations, and automotive applications, as well as digital isolators and current sensors for industrial control and automation, power supplies, electric vehicles and battery management, solar inverters and motor control. We also provide broadcast products for applications such as TVs, set-top boxes and automotive infotainment systems, and access products including subscriber line interface circuits for voice over IP (VoIP), embedded modems, and Power over Ethernet (PoE) power source equipment and powered device ICs.

Our products integrate complex mixed-signal functions that are frequently performed by numerous discrete components in competing products into a single chip, chipset or system-on-chip (SoC). By doing so, we create products that, when compared to many competing products, offer the following benefits:

- Require less printed circuit board (PCB) space;
- Reduce the use of external components lowering the system cost and simplifying design;
- Offer superior performance improving our customers' end products;
- Provide increased reliability and manufacturability, improving customer yields; and/or
- Reduce system power requirements enabling smaller form factors and/or longer battery life.

We group our products into the following categories:

- Internet of Things products, which include wireless, microcontroller (MCU) and sensor products;
- Broadcast products, which include broadcast consumer and automotive products;
- Infrastructure products, which include timing products (clocks and oscillators), and isolation devices; and
- Access products, which include Voice over IP (VoIP) products, embedded modems and Power over Ethernet (PoE) devices.

The following table summarizes the diverse product areas and applications for the various products that we have introduced to customers:

Product Areas and Description

Internet of Things Products

Microcontrollers and Wireless Products

We offer a family of products ideally suited to ultra-low power IoT embedded systems that include energy friendly 8-bit mixed-signal microcontrollers, ultra-low power 32-bit microcontroller and wireless MCU connectivity solutions using the ARM® Cortex-M0+/M3/M4 and newer M33 cores. Single and multi-protocol SoC devices and modules provide flexible, highly integrated solutions designed to meet demanding requirements of IoT applications. Wireless protocols include Zigbee, sub-GHz proprietary, Bluetooth, Z-Wave, Thread and Wi-Fi technologies. Our EFM32™, EFM8™, 8051, wireless MCUs and wireless SoCs are supported by Simplicity Studio™, which provides one-click access to design tools, documentation, software and support resources. In-house protocol stacks and Micrium® real-time operating system (RTOS) help simplify software development for IoT developers by coordinating and prioritizing multiprotocol connectivity, SoC peripherals and other system-level activities. The introduction of our Series 2 portfolio provides a greater focus on updatable device security which is becoming vital to the evolution and success of IoT. We bring enhanced capability to the industry protecting user data, system keys and manufacturer brands from malicious threats both hands-on and Internet-based. Our broad portfolio addresses a variety of target markets, including smart home, commercial (building automation and retail) and industrial (smart energy, factory automation, smart cities).

Applications

- Home automation /security systems
- Industrial automation and control
- Smart metering
- Smart lighting
- Commercial building automation
- Consumer electronics
- Asset tracking
- Medical instrumentation

Sensors

Our sensor products include optical sensors (proximity, ambient light gestures and heart rate monitoring), as well as relative humidity (RH) / temperature sensors and Hall effect magnetic sensors. These devices leverage our mixed-signal capability to provide high accuracy, process technology to improve performance and lower power consumption than competing parts.

- Consumer health & fitness (wearables)
- Smart home sensing
- Industrial controls
- Toys and consumer electronics
- Monitors and lavatory controls
- Consumer medical

Infrastructure Products

Timing Devices

Robust demand for bandwidth is driving the deployment of next-generation Internet infrastructure equipment to deliver higher speed, higher capacity and more flexible networks. This transition puts unique requirements on the clocks and oscillators used to provide timing and synchronization for the equipment responsible for switching, transporting, processing and storing network traffic. To meet this need, we provide low-jitter, frequency-flexible, mass-customizable timing solutions that accelerate development time, minimize cost and improve system reliability. Our high-performance "clock-tree-on-a-chip" products offer highly integrated single-chip IC solutions for clock synthesis and jitter attenuation, offering superior jitter performance and frequency flexibility for high data rate applications.

- Optical networking
- Telecommunications
- Data center
- Switches/routers
- Industrial
- Servers and storage
- Mobile fronthaul and backhaul
- Wireless base stations
- Small cells
- Broadcast video
- Automotive

Applications

Isolation Products

Our digital isolation techniques enable customers to deploy more energy efficient power solutions that meet isolation safety standards and solve difficult electronic noise issues. Systems such as data center servers, cellular base stations, uninterruptable power supplies and electric vehicles require increasingly energy efficient power solutions. Electric motors used in electric vehicles, pumps, HVAC compressors, fans and automated machinery need more sophisticated and efficient digital controls. Our isolation technology enables customers to address these demanding requirements. Products include multi-channel isolators, isolated drivers, isolated power converters and mixed-signal devices that simplify design, improve reliability, minimize noise emissions and reduce system cost

- Industrial control and automation systems
- Cloud, datacenter and telecom power supplies
- Electric vehicle charging and battery management
- Solar inverters
- Hybrid / Electric automotive drive trains
- High power audio
- Test and measurement equipment

Broadcast Products

Broadcast Consumer

Our single-chip hybrid TV tuners leverage our proven digital low-IF architecture and support all major analog and digital TV standards, including NTSC, PAL/SECAM, ATSC 1.0/3.0, DVB-T2/T/C2/C, ISDB-T and DTMB, enabling TV makers worldwide to deliver improved picture quality and better reception for both analog and digital broadcasts. Our single-chip, low-power and high-performance single- and dual-channel digital video demodulators are ideal for customer premises equipment (CPE) receiving DVB-T/T2, DVB-S/S2/S2X, DVB-C/C2 and/or ISDB-T. Our AM/FM, HD Radio™ and DAB/DAB+ receivers deliver a complete radio solution, from antenna input to audio output, in a single chip. Our broadcast audio products are based on an innovative digital architecture enabling significant improvements in performance, which translates to a better consumer experience, while reducing system cost and board space for our customers.

- Worldwide 4K/8K UHD TVs and smart TVs
- Free-to-Air (FtA) or pay-TV set-top boxes
- PVR/DVD/Blu-Ray/HDD video recorders
- PC-TV applications
- AM/FM clock radios
- DAB digital radios
- HD Radio digital radios
- Home theater systems
- Portable audio devices
- MP3/digital media players

Broadcast Automotive

Our high-performance automotive infotainment solutions include hybrid Software Defined Radio (SDR) tuners, data receivers and digital radio coprocessors that improve the end user experience, reduce system cost, and support all major digital radio standards, including DAB/DAB+, HD Radio and DRM. Our scalable architecture enables automotive infotainment system suppliers to leverage their investments across multiple product lines ranging from entry-level car radios to cutting-edge multi-tuner, multiantenna radios for premium vehicles.

- Automotive OEM infotainment systems
- Aftermarket car radios
- Navigation/GPS devices

Access Products

ProSLIC® Subscriber Line Interface Circuits for VoIP

Our ProSLIC provides the analog subscriber line interface on the source end of the telephone which generates dial tone, busy tone, caller ID and ring signal. Our offerings are well suited for the market for Voice over IP telephony applications deployed over cable, DSL, optical and wireless fixed terminal networks.

- Voice functionality for cable, DSL and optical digital modems and terminal adapters
- VoIP residential gateways
- Wireless local loop remote access systems
- PBXs

Product Areas and Description

ISOmodem® Embedded Modems

Our ISOmodem embedded modems leverage innovative silicon direct access arrangement (DAA) technology and a digital signal processor (DSP) to deliver a globally compliant, compact analog modem for embedded applications.

Power over Ethernet

Our PoE power source equipment and powered device ICs offer highly differentiated solutions with a reduced total bill of materials (BOM) and improved performance and reliability. Our solutions offer a higher level of integration not available with competing solutions.

Applications

- Fax machines and multi-function printers
- Point of sale (POS) terminals
- Security systems
- Industrial monitoring
- Remote medical monitoring
- Enterprise networking routers and switches
- Wireless access points (WAP)
- VoIP phones
- POS terminals
- Security cameras

Revenues during fiscal 2019, 2018 and 2017 were generated predominately by sales of our mixed-signal products. The following summarizes our revenue by product category (in thousands):

		Fiscal Year	
	2019	2017	
Internet of Things	\$488,156	\$463,838	\$395,012
Infrastructure	183,189	199,478	152,158
	,	,	_ ,
Broadcast	114,899	141,412	152,980
	51,310	63,539	68,717
Access	31,310	03,339	00,717
	\$837,554	\$868,267	\$768,867

Customers, Sales and Marketing

We market our products through our direct sales force and through a network of independent sales representatives and distributors. Direct and distribution customers buy on an individual purchase order basis, rather than pursuant to long-term agreements.

We consider our customer to be the end customer purchasing either directly from a distributor, a contract manufacturer or us. During fiscal 2019, our ten largest end customers accounted for 21% of our revenues. We had no customer that represented more than 10% of our revenues during this period. An end customer purchasing through a contract manufacturer typically instructs such contract manufacturer to obtain our products and incorporate such products with other components for sale by such contract manufacturer to the end customer. Although we sell the products to, and are paid by distributors and contract manufacturers, we refer to such end customer as our customer. Two of our distributors who sell directly to our customers, Arrow Electronics and Edom Technology, each represented 26% and 20% of our revenues during fiscal 2019, respectively.

We maintain numerous sales offices in Asia, the Americas and Europe. Revenue is attributed to a geographic area based on the shipped-to location. The percentage of our revenues derived from outside of the United States was 87% in fiscal 2019. For further information regarding our revenues and long-lived assets by geographic area, see Note 18, *Segment Information*, to the Consolidated Financial Statements.

Our direct sales force is comprised of many sales professionals who possess varied levels of responsibility and experience, including directors, country managers, regional sales managers, district sales managers, strategic account managers, field sales engineers and sales representatives. We also utilize independent sales representatives and distributors to generate sales of our products. We have relationships with many independent sales representatives and distributors worldwide whom we have selected based on their understanding of the mixed-signal marketplace and their ability to provide effective field sales applications support for our products.

Our marketing efforts are targeted at both identified industry leaders and emerging market participants. Direct marketing activities are supplemented by a focused marketing communications effort that seeks to raise awareness of our company and products. Our public relations efforts are focused on leading trade and business publications. Our external website is used to deliver corporate and product information. We also pursue targeted advertising in key trade publications and we have a cooperative marketing program that allows our distributors and representatives to promote our products to their local markets in conjunction with their own advertising activities. Finally, we maintain a presence at strategic trade shows and industry events. These activities, in combination with direct sales activities, help drive demand for our products.

Due to the complex and innovative nature of our products, we employ experienced applications engineers who work closely with customers and distributors to support the design-win process, and can significantly accelerate the customer's time to market. A design win occurs when a customer has designed our ICs into its product architecture and ordered product from us. A considerable amount of effort to help a customer incorporate our ICs into its products is typically required prior to any sale. In many cases, our innovative ICs require significantly different implementations than existing approaches and, therefore, successful implementations may require extensive communication with potential customers. The amount of time required to achieve a design win can vary substantially depending on a customer's development cycle, which can be relatively short (such as three months) or very long (such as two years) based on a wide variety of customer factors. Not all design wins ultimately result in revenue, or may result in less revenue than expected. However, once a completed design architecture has been implemented and produced in high volumes, our customers are reluctant to significantly alter their designs due to this extensive design-win process. We believe this process, coupled with our intellectual property protection, promotes relatively longer product life cycles for our products and high barriers to entry for competitive products, even if such competing products are offered at lower prices. Our close collaboration with our customers provides us with knowledge of derivative product ideas or completely new product line offerings that may not otherwise arise in other new product discussions.

Research and Development

Through our research and development efforts, we leverage experienced analog and mixed-signal engineering talent and expertise to create new ICs that integrate functions typically performed less efficiently by multiple discrete components. This integration generally results in lower costs, smaller die sizes, lower power demands and enhanced price/performance characteristics. We attempt to reuse successful techniques for integration in new applications where similar benefits can be realized. We believe that we have attracted many of the best engineers in our industry. We believe that reliable and precise analog and mixed-signal ICs can only be developed by teams of engineers who have significant analog experience and are familiar with the intricacies of designing these ICs for commercial volume production. The development of test methodologies is just one example of a critical activity requiring experience and know-how to enable the rapid release of a new product for commercial success. We have accumulated a vast set of trade secrets that allow us to pursue innovative approaches to mixed-signal problems that are difficult for competitors to duplicate. We highly value our engineering talent and strive to maintain a very high bar when bringing new recruits to the company.

Research and development expenses were \$257.2 million, \$238.3 million and \$209.5 million in fiscal 2019, 2018 and 2017, respectively.

Technology

Our product development process facilitates the design of highly-innovative, analog-intensive, mixed-signal ICs. Our engineers' deep knowledge of existing and emerging standards and performance requirements helps us to assess the technical feasibility of a particular IC. We target areas where we can provide compelling product improvements. Once we have solved the primary challenges, our field application engineers continue to work closely with our customers' design teams to maintain and develop an understanding of our customers' needs, allowing us to formulate derivative products and refined features.

In providing mixed-signal ICs for our customers, we believe our key competitive advantages are:

- Analog and RF design expertise in CMOS;
- Mixed-signal, firmware and system design expertise;
- Microcontroller and system on a chip design expertise;
- Software expertise, including multiprotocol connectivity and real-time operating systems for the IoT;
- Module integration and wireless design expertise;

- Silicon-to-cloud security integration expertise; and
- Our broad understanding of systems technology and trends.

To fully capitalize on these advantages, we have assembled a world-class development team with exceptional analog and mixed-signal design expertise led by accomplished senior engineers.

Analog and RF Design Expertise in CMOS

We believe that our most significant core competency is world-class analog and RF design capability. Additionally, we strive to design substantially all our ICs in standard CMOS processes. Most of our product designs now incorporate some type of RF in CMOS technology. While it is often significantly more difficult to design analog ICs in CMOS, CMOS provides multiple benefits versus existing alternatives, including significantly reduced cost, reduced technology risk and greater worldwide foundry capacity. CMOS is the most commonly used process technology for manufacturing digital ICs and as a result is most likely to be used for the manufacturing of ICs with finer line geometries. These finer line geometries can enable smaller and faster ICs. By designing our ICs in CMOS, we enable our products to benefit from this trend towards finer line geometries, which allows us to integrate more digital functionality into our mixed-signal ICs.

Designing analog and mixed-signal ICs is significantly more complicated than designing standalone digital ICs. While advanced software tools exist to help automate digital IC design, there are far fewer tools for advanced analog and mixed-signal IC design. In many cases, our analog circuit design efforts begin at the fundamental transistor level. We believe that we have a demonstrated ability to design the most difficult analog and RF circuits using standard CMOS technologies.

Mixed-Signal, Firmware and System Design Expertise

We consider the partitioning of a circuit to be a proprietary and creative design technique. Deep systems knowledge allows us to use our mixed-signal and RF in CMOS design expertise to maximize the price/performance characteristics of both the analog and digital functions and allow our ICs to work in an optimized manner to accomplish particular tasks. Generally, we attempt to move analog functions into the digital domain as quickly as possible, creating system efficiencies without compromising performance. These patented approaches require our advanced signal processing and systems expertise. We then leverage our firmware know-how to change the 'personality' of our devices, optimizing features and functions needed by various markets we serve. For example, our wireless SoC devices for IoT applications integrate both digital and analog domains in a single chip. The SoCs combine ARM Cortex-M processor cores, a variety of digital and analog peripherals, hardware cryptography accelerators, and analog-intensive multiprotocol radio transceivers. This system integration at the chip level leverages our deep expertise in mixed-signal and RF design, and low-power wireless MCU architectures pioneered for more than a decade.

Microcontroller and System on a Chip Design Expertise

We have the talent and circuit integration methodologies required to combine precision analog, high-speed digital, flash memory and in-system programmability into a single, monolithic CMOS integrated circuit. Our microcontroller products are designed to capture an external analog signal, convert it to a digital signal, compute digital functions on the stream of data and then communicate the results through a standard digital interface. The ability to develop standard products with the broadest possible customer application base while being cost efficient with the silicon area of the monolithic CMOS integrated circuit requires a keen sense of customer value and engineering capabilities. Additionally, to manage the wide variety of signals on a monolithic piece of silicon including electrical noise, harmonics and other electronic distortions requires a fundamental knowledge of device physics and accumulated design expertise.

Software Expertise

Our software expertise allows us to develop products for markets where intelligent data capture, high-performance processing and communication are increasingly important product differentiators. The software we have developed to address these markets enables machine-to-machine communications, providing intelligence to electronic systems. Our products integrate high-performance, low-power wireless and microcontroller ICs with reliable and scalable software into a flexible and robust networking platform.

The demand for low-power, small-footprint wireless technology is accelerating as more and more IP-enabled end points are being connected to the IoT. Our software enables a broad range of power-sensitive applications for the IoT, including smart energy, home automation, security and other connected products. We believe that the combination of our software and IC design expertise differentiates us from many of our competitors.

As the IoT continues to mature, a new class of embedded applications is emerging, presenting feature-rich and task-intensive use cases. This growing complexity is driving the need for real-time operating systems to help simplify software development for IoT applications by coordinating and prioritizing multiprotocol connectivity, SoC peripherals and other system-level activities. In addition to being able to manage numerous application tasks, an RTOS enhances scalability, and makes complex applications predictable and reliable. To address these application needs, we acquired Micrium, an embedded RTOS provider. Micrium has established itself as a reliable, high performance and trusted RTOS software platform, with an installed base that has grown to millions of devices.

Module Integration and Wireless Design Expertise

The market for wireless modules has grown as customers search for solutions that provide turnkey wireless connectivity for their products. The development of modules is difficult due to stringent requirements, including high levels of integration, programmability, performance, reliability, security and power efficiency. In addition, designs must meet numerous wireless standards deployed in various environments and serving diverse requirements.

Our combined expertise in IC design and software development allows us to engineer modules that provide robust, high-performance connections in challenging wireless environments. We have developed wireless modules based on numerous wireless standards, including Z-Wave, Bluetooth, Zigbee, Thread, Wi-Fi and sub-GHz. We believe our demonstrated proficiency in the design of modules provides our customers with significant advantages such as fast time to market, reduced development cost, global wireless certifications and software reuse.

Silicon-to-Cloud Security Integration Expertise

Security is of paramount importance to our customers. More than ever before, device manufacturers and OEMs developing IoT products have specific needs to ensure their solutions are secure. Security is a complex endeavor involving the convergence of multiple integrated hardware and software technologies. IoT products are designed to ensure the devices operate in a trusted and reliable manner, enforce policies as well as protect the confidentiality, authenticity and integrity of data and private information being processed and transmitted. The building blocks are built in hardware based on dedicated IC security components integrated into SoC designs. These specialized security components are designed to enhance cryptographic capabilities and exploit unique physical characteristics of CMOS to establish foundations of trust and enable device identity and assurance.

In addition to developing specific security hardware and software capabilities, we also focus design and engineering efforts on technologies that simplify and accelerate adoption by customers of security features engineered into our silicon chips. This is primarily achieved through software tools such as Simplicity Studio and its integration with cloud-based services that simplify implementation, reduce complexity and enable management of security for fleets of devices. Those capabilities are designed to help customers develop products and solutions with chip-to-cloud security integration, enable faster time to market and reduce security defects, risks and losses due to security attacks and incidents. We are creating innovative security solutions that enable customers to develop best-in-class, simple and economical solutions. We will continue investing in security-specific research and development that addresses a dynamic threat landscape, emerging regulatory requirements, and evolving customer security and privacy needs.

Understanding of Systems Technology and Trends

Our focused expertise in mixed-signal ICs is the result of the breadth of engineering talent we have assembled with experience working in analog-intensive CMOS design for a wide variety of applications. This expertise, which we consider a competitive advantage, is the foundation of our in-depth understanding of the technology and trends that impact electronic systems and markets. Our expertise includes:

- Isolation, which is critical for existing and emerging industrial, hybrid and hybrid-electric applications and telecom networks;
- Frequency synthesis, which is core technology for wireless and clocking applications;
- Integration, which enables the elimination of discrete components in a system; and

 Signal processing and precision analog, which forms the heart of consumer, industrial, medical and automotive electronics applications.

Our understanding of the role of analog/digital interfaces within electronic systems, standards evolution, and end market drivers enables us to identify product development opportunities and capitalize on market trends.

Manufacturing

As a fabless semiconductor company, we conduct IC design and development in our facilities and electronically transfer our proprietary IC designs to third-party semiconductor fabricators who process silicon wafers to produce the ICs that we design. Our IC designs typically use industry-standard CMOS manufacturing process technology to achieve a level of performance normally associated with more expensive special-purpose IC fabrication technology. We believe the use of CMOS technology facilitates the rapid production of our ICs within a lower cost framework. Our IC production employs submicron process geometries which are readily available from leading foundry suppliers worldwide, thus increasing the likelihood that manufacturing capacity will be available throughout our products' life cycles. We currently partner primarily with Taiwan Semiconductor Manufacturing Co. (TSMC) and Semiconductor Manufacturing International Corporation (SMIC) to manufacture the majority of our semiconductor wafers. We believe that our fabless manufacturing model significantly reduces our capital requirements and allows us to focus our resources on design, development and marketing of our ICs.

Once the silicon wafers have been produced, they are shipped directly to our third-party assembly subcontractors. The assembled ICs are then moved to the final testing stage. This operation can be performed by the same contractor that assembled the IC, other third-party test subcontractors or within our internal facilities prior to shipping to our customers. During fiscal 2019, most of our units shipped were tested by offshore third-party test subcontractors. We expect that our utilization of offshore third-party test subcontractors will remain substantial during fiscal 2020.

Backlog

We include in backlog accepted product purchase orders from customers and worldwide distributor stocking orders. Product orders in our backlog are subject to changes in delivery schedules or cancellation at the option of the purchaser typically without penalty. Our backlog may fluctuate significantly depending upon customer order patterns which may, in turn, vary considerably based on rapidly changing business circumstances. Accordingly, we do not believe that our backlog at any time is necessarily representative of actual sales for any succeeding period.

Competition

The markets for semiconductors generally, and for analog and mixed-signal ICs in particular, are intensely competitive. We anticipate that the market for our products will continually evolve and will be subject to rapid technological change. We believe the principal competitive factors in our industry are:

- Product size;
- Level of integration;
- Product capabilities;
- Reliability;
- Price;
- Performance;

- Power requirement;
- Customer support;
- Reputation;
- Ability to rapidly introduce new products to market;
- Intellectual property; and
- Software.

We believe that we are competitive with respect to these factors, particularly because our ICs typically are smaller in size, are highly integrated, achieve high performance specifications at lower price points than competitive products and are manufactured in standard CMOS which generally enables us to supply them on a relatively rapid basis to customers to meet their product introduction schedules. However, disadvantages we face include our relatively short operating history in certain of our markets and the need for customers to redesign their products and modify their software to implement our ICs in their products.

Due to our diversified product portfolio and the numerous markets and applications we serve, we target a relatively large number of competitors. We compete with AltoBeam, Analog Devices, Aura, Broadcom, Cypress, Dialog, Espressif, Infineon, Maxim Integrated Products, MaxLinear, MediaTek, Microchip, Nordic Semiconductor, NXP, Qualcomm, Rafael, Renesas, STMicroelectronics, Synaptics, Telink, Texas Instruments and others. We expect to face competition in the future from our current competitors, other manufacturers and designers of semiconductors and startup semiconductor design companies. Our competitors may also offer bundled solutions offering a more complete product, which may negatively impact our competitive position despite the technical merits or advantages of our products. In addition, our customers could develop products or technologies internally that would replace their need for our products and would become a source of competition. We could also face competition from module makers or other systems suppliers that may include mixed-signal components in their products that could eliminate the need for our ICs.

Many of our competitors and potential competitors have longer operating histories, greater name recognition, access to larger customer bases, complementary product offerings, and significantly greater financial, sales and marketing, manufacturing, distribution, technical and other resources than us. Current and potential competitors have established or may establish financial and strategic relationships between themselves or with our existing or potential customers, resellers or other third parties. Accordingly, it is possible that new competitors or alliances among competitors could emerge and rapidly acquire significant market share.

Intellectual Property

Our future success depends in part upon our proprietary technology. We seek to protect our technology through a combination of patents, copyrights, trade secrets, trademarks and confidentiality procedures. As of December 28, 2019, we had approximately 1,771 issued or pending United States and foreign patents. There can be no assurance that patents will ever be issued with respect to our patent applications. Furthermore, it is possible that any patents held by us may be invalidated, circumvented, challenged or licensed to others. In addition, there can be no assurance that such patents will provide us with competitive advantages or adequately safeguard our proprietary rights. While we continue to file new patent applications with respect to our recent developments, existing patents are granted for prescribed time periods and will expire at various times in the future.

We claim copyright protection for proprietary documentation for our products. We have filed for registration, or are in the process of filing for registration, the visual images of certain ICs with the U.S. Copyright Office. We have registered the "Silicon Labs" logo and a variety of other product and product family names as trademarks in the United States and selected foreign jurisdictions. All other trademarks, service marks or trade names appearing in this report are the property of their respective owners. We also attempt to protect our trade secrets and other proprietary information through agreements with our customers, suppliers, employees and consultants, and through other customary security measures. We intend to protect our rights vigorously, but there can be no assurance that our efforts will be successful. In addition, the laws of other countries in which our products are sold may not protect our products and intellectual property rights to the same extent as the laws of the United States.

While our ability to effectively compete depends in large part on our ability to protect our intellectual property, we believe that our technical expertise and ability to introduce new products in a timely manner will be an important factor in maintaining our competitive position.

Many participants in the semiconductor and electronics industries have a significant number of patents and have frequently demonstrated a readiness to commence litigation based on allegations of patent and other intellectual property infringement. From time to time, third parties may assert infringement claims against us. We may not prevail in any such litigation or may not be able to license any valid and infringed patents from third parties on commercially reasonable terms, if at all. Litigation, regardless of the outcome, is likely to result in substantial cost and diversion of our resources, including our management's time. Any such litigation could materially adversely affect us.

Our licenses include industry standard licenses with our vendors, such as wafer fabrication tool libraries, third-party core libraries, computer-aided design applications and business software applications.

Employees

As of December 28, 2019, we employed 1,545 people. Our success depends on the continued service of our key technical and senior management personnel and on our ability to continue to attract, retain and motivate highly skilled analog and mixed-signal engineers. The competition for such personnel is intense. We have never had a work stoppage and none of our U.S. employees are represented by a labor organization. We consider our employee relations to be good.

Environmental Regulation

Federal, state and local regulations impose various environmental controls on the storage, use, discharge and disposal of certain chemicals and gases used in the semiconductor industry. Our compliance with these laws and regulations has not had a material impact on our financial position or results of operations.

Available Information

Our website address is www.silabs.com. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 are available through the investor relations page of our website free of charge as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (SEC). Our website and the information contained therein or connected thereto are not intended to be incorporated into this Annual Report on Form 10-K.

Item 1A. Risk Factors

Risks Related to our Business

We may not be able to maintain our historical growth and may experience significant period-to-period fluctuations in our revenues and operating results, which may result in volatility in our stock price

Although we have generally experienced revenue growth in our history, we may not be able to sustain this growth. We may also experience significant period-to-period fluctuations in our revenues and operating results in the future due to a number of factors, and any such variations may cause our stock price to fluctuate. In some future period our revenues or operating results may be below the expectations of public market analysts or investors. If this occurs, our stock price may drop, perhaps significantly.

A number of factors, in addition to those cited in other risk factors applicable to our business, may contribute to fluctuations in our revenues and operating results, including:

- The timing and volume of orders received from our customers;
- The timeliness of our new product introductions and the rate at which our new products may cannibalize our older products;
- The rate of acceptance of our products by our customers, including the acceptance of new products we may develop for integration in the products manufactured by such customers, which we refer to as "design wins";
- The time lag and realization rate between "design wins" and production orders;
- The demand for, and life cycles of, the products incorporating our mixed-signal solutions;
- The rate of adoption of mixed-signal products in the markets we target;
- Deferrals or reductions of customer orders in anticipation of new products or product enhancements from us or our competitors or other providers of mixed-signal ICs;
- Changes in product mix;
- The average selling prices for our products could drop suddenly due to competitive offerings or competitive predatory pricing;
- The average selling prices for our products generally decline over time;
- Changes in market standards;
- Impairment charges related to inventory, equipment or other long-lived assets;
- The software used in our products, including software provided by third parties, may not meet the needs of our customers;
- Our customers may not be able to obtain other components such as capacitors (which are currently in short supply) that they need to incorporate in conjunction with our products, leading to potential downturn in the demand for our products;
- Significant legal costs to defend our intellectual property rights or respond to claims against us; and

 The rate at which new markets emerge for products we are currently developing or for which our design expertise can be utilized to develop products for these new markets.

The markets for consumer electronics, for example, are characterized by rapid fluctuations in demand and seasonality that result in corresponding fluctuations in the demand for our products that are incorporated in such devices. Additionally, the rate of technology acceptance by our customers results in fluctuating demand for our products as customers are reluctant to incorporate a new IC into their products until the new IC has achieved market acceptance. Once a new IC achieves market acceptance, demand for the new IC can quickly accelerate to a point and then level off such that rapid historical growth in sales of a product should not be viewed as indicative of continued future growth. In addition, demand can quickly decline for a product when a new IC product is introduced and receives market acceptance. Due to the various factors mentioned above, the results of any prior quarterly or annual periods should not be relied upon as an indication of our future operating performance.

If we are unable to develop or acquire new and enhanced products that achieve market acceptance in a timely manner, our operating results and competitive position could be harmed

Our future success will depend on our ability to develop or acquire new products and product enhancements that achieve market acceptance in a timely and cost-effective manner. The development of mixed-signal ICs is highly complex, and we have at times experienced delays in completing the development and introduction of new products and product enhancements. Successful product development and market acceptance of our products depend on a number of factors, including:

- Requirements of customers;
- Accurate prediction of market and technical requirements;
- Timely completion and introduction of new designs;
- Timely qualification and certification of our products for use in our customers' products;
- Commercial acceptance and volume production of the products into which our ICs will be incorporated;
- Availability of foundry, assembly and test capacity;
- Achievement of high manufacturing yields;
- Quality, price, performance, power use and size of our products;
- Availability, quality, price and performance of competing products and technologies;
- Our customer service, application support capabilities and responsiveness;
- Successful development of our relationships with existing and potential customers;
- Technology, industry standards or end-user preferences; and
- Cooperation of third-party software providers and our semiconductor vendors to support our chips within a system.

We cannot provide any assurance that products which we recently have developed or may develop in the future will achieve market acceptance. We have introduced to market or are in development of many products. If our products fail to achieve market acceptance, or if we fail to develop new products on a timely basis that achieve market acceptance, our growth prospects, operating results and competitive position could be adversely affected. The growth of the IoT market is dependent on the adoption of industry standards to permit devices to connect and communicate with each other. If the industry cannot agree on a common set of standards, then the growth of the IoT market may be slower than expected.

Our research and development efforts are focused on a limited number of new technologies and products, and any delay in the development, or abandonment, of these technologies or products by industry participants, or their failure to achieve market acceptance, could compromise our competitive position

Our products serve as components and solutions in electronic devices in various markets. As a result, we have devoted and expect to continue to devote a large amount of resources to develop products based on new and emerging technologies and standards that will be commercially introduced in the future. Research and development expense during fiscal 2019 was \$257.2 million, or 30.7% of revenues. A number of companies are actively involved in the development of these new technologies and standards. Should any of these companies delay or abandon their efforts to develop commercially available products based on new technologies and standards, our research and development efforts with respect to these technologies and standards likely would have no appreciable value. In addition, if we do not correctly anticipate new technologies and standards, or if the products that we develop based on these new technologies and standards fail to achieve market acceptance, our competitors may be better able to address market demand than we would. Furthermore, if markets for these new technologies and standards develop later than we anticipate, or do not develop at all, demand for our products that are currently in development would suffer, resulting in lower sales of these products than we currently anticipate.

We are a global company, which subjects us to additional business risks including logistical and financial complexity, political instability and currency fluctuations

We have established international subsidiaries and have opened offices in international markets to support our activities in Asia, the Americas and Europe. This has included the establishment of a headquarters in Singapore for non-U.S. operations. During fiscal 2019, the percentage of our revenues derived from outside of the United States was 87% (and the revenue associated with end customers in China was 24%, and revenue attributed to China based on shipped-to location was 42)%. We may not be able to maintain or increase global market demand for our products. Our international operations are subject to a number of risks, including:

- Complexity and costs of managing international operations and related tax obligations, including our headquarters for non-U.S. operations in Singapore;
- Protectionist laws and business practices, including trade restrictions, tariffs, export controls, quotas and other trade barriers, including China-U.S. trade policies and the potential effects of Brexit;
- Trade tensions, geopolitical uncertainty, or governmental actions, including those arising from the trade
 dispute between the U.S. and China, may lead customers to favor products from non-US companies which
 could put us at a competitive disadvantage and result in decreased customer demand for our products and our
 customers' products;
- Restrictions or tariffs imposed on certain countries and sanctions or export controls imposed on customers or suppliers may affect our ability to sell and source our products;
- Difficulties related to the protection of our intellectual property rights in some countries;
- Multiple, conflicting and changing tax and other laws and regulations that may impact both our international
 and domestic tax and other liabilities and result in increased complexity and costs, including the impact of the
 Tax Cuts and Jobs Act;
- Longer sales cycles;
- Greater difficulty in accounts receivable collection and longer collection periods;
- High levels of distributor inventory subject to price protection and rights of return to us;
- Political and economic instability;
- Greater difficulty in hiring and retaining qualified personnel; and
- The need to have business and operations systems that can meet the needs of our international business and operating structure.

To date, substantially all of our sales to international customers and purchases of components from international suppliers have been denominated in U.S. dollars. As a result, an increase in the value of the U.S. dollar relative to foreign currencies could make our products more expensive for our international customers to purchase, thus rendering our products less competitive. Similarly, a decrease in the value of the U.S. dollar could reduce our buying power with respect to international suppliers.

Significant litigation over intellectual property in our industry may cause us to become involved in costly and lengthy litigation which could adversely affect our business

The semiconductor and software industries have experienced significant litigation involving patents and other intellectual property rights. From time to time, third parties, including non-practicing entities, allege intellectual property infringement by our products, our customers' products, or products using technologies or communications standards used in our industry. We also receive communications from customers or suppliers requesting indemnification for allegations brought against them by third parties. Some of these allegations have resulted, and may result in the future, in our involvement in litigation. We have certain contractual obligations to defend and indemnify our customers from certain infringement claims. We also have been involved in litigation to protect our intellectual property rights in the past and may become involved in such litigation again in the future.

Given the unpredictable nature of litigation and the complexity of the technology, we may not prevail in any such litigation. Legal proceedings could subject us to significant liability, invalidate our proprietary rights, or harm our businesses and our ability to compete. Legal proceedings initiated by us to protect our intellectual property rights could also result in counterclaims or countersuits against us. Any litigation, regardless of its outcome or merit, could be time-consuming and expensive to resolve and could divert our management's time and attention. Intellectual property litigation also could force us to take specific actions, including:

- Cease using, selling or manufacturing certain products, services or processes;
- Attempt to obtain a license, which license may require the payment of substantial royalties or may not be available on reasonable terms or at all;
- Incur significant costs, time delays and lost business opportunities to develop alternative technologies or redesign products; or
- Pursue legal remedies with third parties to enforce our indemnification rights, which may not adequately
 protect our interests.

Any acquisitions we make could disrupt our business and harm our financial condition

As part of our growth and product diversification strategy, we continue to evaluate opportunities to acquire other businesses, intellectual property or technologies that would complement our current offerings, expand the breadth of our markets or enhance our technical capabilities. The acquisitions that we have made and may make in the future entail a number of risks that could materially and adversely affect our business and operating results, including:

- Problems integrating the acquired operations, technologies or products with our existing business and products;
- Diversion of management's time and attention from our core business;
- Need for financial resources above our planned investment levels;
- Difficulties in retaining business relationships with suppliers and customers of the acquired company;
- Risks associated with entering markets in which we lack prior experience;
- Risks associated with the transfer of licenses of intellectual property;
- Increased operating costs due to acquired overhead;
- Tax issues associated with acquisitions;
- Acquisition-related disputes, including disputes over earn-outs and escrows;
- Potential loss of key employees of the acquired company; and
- Potential impairment of related goodwill and intangible assets.

Future acquisitions also could cause us to incur debt or contingent liabilities or cause us to issue equity securities that could negatively impact the ownership percentages of existing shareholders.

We may be unable to protect our intellectual property, which would negatively affect our ability to compete

Our products rely on our proprietary technology, and we expect that future technological advances made by us will be critical to sustain market acceptance of our products. Therefore, we believe that the protection of our intellectual property rights is and will continue to be important to the success of our business. We rely on a combination of patent, copyright, trademark and trade secret laws and restrictions on disclosure to protect our intellectual property rights. We also enter into confidentiality or license agreements with our employees, consultants, intellectual property providers and business partners, and control access to and distribution of our documentation and other proprietary information. Despite these efforts, unauthorized parties may attempt to copy or otherwise obtain and use our proprietary technology. Monitoring unauthorized use of our technology is difficult, and we cannot be certain that the steps we have taken will prevent unauthorized use of our technology, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States. We cannot be certain that patents will be issued as a result of our pending applications nor can we be certain that any issued patents would protect or benefit us or give us adequate protection from competing products. For example, issued patents may be circumvented or challenged and declared invalid or unenforceable. We also cannot be certain that others will not develop effective competing technologies on their own.

Failure to manage our distribution channel relationships could impede our future growth

The future growth of our business will depend in large part on our ability to manage our relationships with current and future distributors and sales representatives, develop additional channels for the distribution and sale of our products and manage these relationships. During fiscal 2019, 73% of our revenue was derived from distributors. As we execute our indirect sales strategy, we must manage the potential conflicts that may arise with our direct sales efforts. For example, conflicts with a distributor may arise when a customer begins purchasing directly from us rather than through the distributor. The inability to successfully execute or manage a multi-channel sales strategy could impede our future growth. In addition, relationships with our distributors often involve the use of price protection and inventory return rights. This often requires a significant amount of sales management's time and system resources to manage properly. Because we consolidated our distribution relationships to a single global distributor, Arrow Electronics, in fiscal 2018, termination of the relationship with Arrow Electronics, either by us or by Arrow Electronics, could result in a temporary or permanent loss of revenue. If Arrow Electronics fails to effectively market and sell our products in full compliance with applicable laws, or if we are unable to maintain our existing relationship with Arrow Electronics, we may not be able to find a distributor with the scale and resources of Arrow Electronics, maintain existing levels of international revenue or realize expected long-term international revenue growth. We may not be successful in finding suitable alternative global distributors on satisfactory terms, or at all, and this could adversely affect our ability to effectively sell our solutions in certain geographical locations or to certain end customers.

We do not have long-term commitments from our customers

Our customers regularly evaluate alternative sources of supply in order to diversify their supplier base, which increases their negotiating leverage with us and protects their ability to secure these components. We believe that any expansion of our customers' supplier bases could have an adverse effect on the prices we are able to charge and volume of product that we are able to sell to our customers, which would negatively affect our revenues and operating results.

Customers may decide not to purchase our products at all, purchase fewer products than they did in the past, or alter their purchasing patterns, particularly because:

- We do not have material long-term purchase contracts with our customers;
- Substantially all of our sales to date have been made on a purchase order basis, which permits our customers to cancel, change or delay product purchase commitments with little or no notice to us and without penalty;
- Some of our customers may have efforts underway to actively diversify their vendor base which could reduce purchases of our products; and
- Some of our customers have developed or acquired products that compete directly with products these customers purchase from us, which could affect our customers' purchasing decisions in the future.

We are subject to increased inventory risks and costs because we build our products based on forecasts provided by customers before receiving purchase orders for the products

In order to ensure availability of our products for some of our largest customers, we start the manufacturing of our products in advance of receiving purchase orders based on forecasts provided by these customers. However, these forecasts do not represent binding purchase commitments and we do not recognize sales for these products until they are shipped to the customer. As a result, we incur inventory and manufacturing costs in advance of anticipated sales. Because demand for our products may not materialize, manufacturing based on forecasts subjects us to increased risks of high inventory carrying costs, increased obsolescence and increased operating costs. These inventory risks are exacerbated when our customers purchase indirectly through contract manufacturers or hold component inventory levels greater than their consumption rate because this causes us to have less visibility regarding the accumulated levels of inventory for such customers. A resulting write-off of unusable or excess inventories would adversely affect our operating results.

Our products are complex and may contain errors which could lead to liability, an increase in our costs and/or a reduction in our revenues

Our products are complex and may contain errors, particularly when first introduced and/or when new versions are released. Our products are increasingly designed in more complex processes, including higher levels of software and hardware integration in modules and system-level solutions and/or include elements provided by third parties which further increase the risk of errors. We rely primarily on our in-house testing personnel to design test operations and procedures to detect any errors or vulnerabilities prior to delivery of our products to our customers.

Should problems occur in the operation or performance of our products, we may experience delays in meeting key introduction dates or scheduled delivery dates to our customers. These errors could also cause significant re-engineering costs, the diversion of our engineering personnel's attention from our product development efforts and cause significant customer relations and business reputation problems. Any defects could result in refunds, product replacement, product recall or other liability. Any of the foregoing could impose substantial costs and harm our business.

Product liability, data breach or cyber liability claims may be asserted with respect to our products. Many of our products focus on wireless connectivity and the IoT market and such connectivity may make these products particularly susceptible to cyber-attacks. Our products are typically sold at prices that are significantly lower than the cost of the end-products into which they are incorporated. A defect, failure or vulnerability in our product could cause failure in our customer's end-product, so we could face claims for damages that are disproportionately higher than the revenues and profits we receive from the products involved. Furthermore, product liability risks are particularly significant with respect to medical and automotive applications because of the risk of serious harm to users of these end-products. There can be no assurance that any insurance we maintain will sufficiently protect us from such claims.

We rely on third parties to manufacture, assemble and test our products and the failure to successfully manage our relationships with our manufacturers and subcontractors would negatively impact our ability to sell our products

We do not have our own wafer fab manufacturing facilities. Therefore, we rely on third-party vendors to manufacture the products we design. We also currently rely on Asian third-party assembly subcontractors to assemble and package the silicon chips provided by the wafers for use in final products. Additionally, we rely on these offshore subcontractors for a substantial portion of the testing requirements of our products prior to shipping. We expect utilization of third-party subcontractors to continue in the future.

The cyclical nature of the semiconductor industry drives wide fluctuations in available capacity at third-party vendors. On occasion, we have been unable to adequately respond to unexpected increases in customer demand due to capacity constraints and, therefore, were unable to benefit from this incremental demand. We may be unable to obtain adequate foundry, assembly or test capacity from our third-party subcontractors to meet our customers' delivery requirements even if we adequately forecast customer demand.

There are significant risks associated with relying on these third-party foundries and subcontractors, including:

- Failure by us, our customers or their end customers to qualify a selected supplier;
- Potential insolvency of the third-party subcontractors;
- Reduced control over delivery schedules and quality;

- Limited warranties on wafers or products supplied to us;
- Potential increases in prices or payments in advance for capacity;
- Increased need for international-based supply, logistics and financial management;
- Their inability to supply or support new or changing packaging technologies; and
- Low test yields.

We typically do not have long-term supply contracts with our third-party vendors which obligate the vendor to perform services and supply products to us for a specific period, in specific quantities, and at specific prices. Our third-party foundry, assembly and test subcontractors typically do not guarantee that adequate capacity will be available to us within the time required to meet demand for our products. In the event that these vendors fail to meet our demand for whatever reason, we expect that it would take up to 12 months to transition performance of these services to new providers. Such a transition may also require qualification of the new providers by our customers or their end customers.

Most of the silicon wafers for the products that we have sold were manufactured either by Taiwan Semiconductor Manufacturing Co. (TSMC) or Semiconductor Manufacturing International Corporation (SMIC). Our customers typically complete their own qualification process. If we fail to properly balance customer demand across the existing semiconductor fabrication facilities that we utilize or are required by our foundry partners to increase, or otherwise change the number of fab lines that we utilize for our production, we might not be able to fulfill demand for our products and may need to divert our engineering resources away from new product development initiatives to support the fab line transition, which would adversely affect our operating results.

Our customers require our products to undergo a lengthy and expensive qualification process without any assurance of product sales

Prior to purchasing our products, our customers require that our products undergo an extensive qualification process, which involves testing of the products in the customer's system as well as rigorous reliability testing. This qualification process may continue for six months or longer. However, qualification of a product by a customer does not ensure any sales of the product to that customer. Even after successful qualification and sales of a product to a customer, a subsequent revision to the product or software, changes in the IC's manufacturing process or the selection of a new supplier by us may require a new qualification process, which may result in delays and in us holding excess or obsolete inventory. After our products are qualified, it can take an additional six months or more before the customer commences volume production of components or devices that incorporate our products. Despite these uncertainties, we devote substantial resources, including design, engineering, sales, marketing and management efforts, toward qualifying our products with customers in anticipation of sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, such failure or delay would preclude or delay sales of such product to the customer, which may impede our growth and cause our business to suffer.

Our inability to manage growth could materially and adversely affect our business

Our past growth has placed, and any future growth of our operations will continue to place, a significant strain on our management personnel, systems and resources. We anticipate that we will need to implement a variety of new and upgraded sales, operational and financial enterprise-wide systems, information technology infrastructure, procedures and controls, including the improvement of our accounting and other internal management systems to manage this growth and maintain compliance with regulatory guidelines, including Sarbanes-Oxley Act requirements. To the extent our business grows, our internal management systems and processes will need to improve to ensure that we remain in compliance. We also expect that we will need to continue to expand, train, manage and motivate our workforce. All of these endeavors will require substantial management effort, and we anticipate that we will require additional management personnel and internal processes to manage these efforts and to plan for the succession from time to time of certain persons who have been key management and technical personnel. If we are unable to effectively manage our expanding global operations, including our international headquarters in Singapore, our business could be materially and adversely affected.

We have recently had a material weakness in our internal control over financial reporting and if we are unable to implement and maintain effective internal control over financial reporting, or our independent registered public accounting firm is unable to provide an unqualified report thereon, we could be materially adversely effected

We identified a material weakness that existed as of the end of our fiscal 2018 regarding our internal controls over business combinations, primarily the maintenance of sufficient contemporaneous documentation of management review controls over assumptions used in the valuation of acquired intangible assets and related recording of goodwill. As a result of this material weakness, management concluded that our disclosure controls and procedures and internal control over financial reporting were not effective as of December 29, 2018.

This material weakness has been remediated. However, should new material weaknesses arise or be discovered in the future, material misstatements could occur and go undetected in our interim or annual consolidated financial statements and we may be required to restate our financial statements. In addition, we may experience delays in satisfying our reporting obligations or to comply with Securities and Exchange Commission rules and regulations, which could result in investigations and sanctions by regulatory authorities. Any of these results could adversely affect our business and the value of our common stock.

Our products incorporate technology licensed from third parties

We incorporate technology (including software) licensed from third parties in our products. We could be subjected to claims of infringement regardless of our lack of involvement in the development of the licensed technology. Although a third-party licensor is typically obligated to indemnify us if the licensed technology infringes on another party's intellectual property rights, such indemnification is typically limited in amount and may be worthless if the licensor becomes insolvent. See *Significant litigation over intellectual property in our industry may cause us to become involved in costly and lengthy litigation which could seriously harm our business*. Furthermore, any failure of third-party technology to perform properly would adversely affect sales of our products incorporating such technology.

We are subject to risks relating to product concentration

We derive a substantial portion of our revenues from a limited number of products, and we expect these products to continue to account for a large percentage of our revenues in the near term. Continued market acceptance of these products, is therefore, critical to our future success. In addition, substantially all of our products that we have sold include technology related to one or more of our issued U.S. patents. If these patents are found to be invalid or unenforceable, our competitors could introduce competitive products that could reduce both the volume and price per unit of our products. Our business, operating results, financial condition and cash flows could therefore be adversely affected by:

- A decline in demand for any of our more significant products;
- Failure of our products to achieve continued market acceptance;
- Competitive products;
- New technological standards or changes to existing standards that we are unable to address with our products;
- A failure to release new products or enhanced versions of our existing products on a timely basis; and
- The failure of our new products to achieve market acceptance.

We are subject to credit risks related to our accounts receivable

We do not generally obtain letters of credit or other security for payment from customers, distributors or contract manufacturers. Accordingly, we are not protected against accounts receivable default or bankruptcy by these entities. Our ten largest customers or distributors represent a substantial majority of our accounts receivable. If any such customer or distributor, or a material portion of our smaller customers or distributors, were to become insolvent or otherwise not satisfy their obligations to us, we could be materially harmed.

We depend on our key personnel to manage our business effectively in a rapidly changing market, and if we are unable to retain our current personnel and hire additional personnel, our ability to develop and successfully market our products could be harmed

We believe our future success will depend in large part upon our ability to attract and retain highly skilled managerial, engineering, sales and marketing personnel. We believe that our future success will be dependent on retaining the services of our key personnel, developing their successors and certain internal processes to reduce our reliance on specific individuals, and on properly managing the transition of key roles when they occur. There is currently a shortage of qualified personnel with significant experience in the design, development, manufacturing, marketing and sales of analog and mixed-signal products. In particular, there is a shortage of engineers who are familiar with the intricacies of the design and manufacturability of analog elements, and competition for such personnel is intense. Our key technical personnel represent a significant asset and serve as the primary source for our technological and product innovations. We may not be successful in attracting and retaining sufficient numbers of technical personnel to support our anticipated growth. The loss of any of our key employees or the inability to attract or retain qualified personnel both in the United States and internationally, including engineers, sales, applications and marketing personnel, could delay the development and introduction of, and negatively impact our ability to sell, our products.

Any dispositions could harm our financial condition

Any disposition of a product line would entail a number of risks that could materially and adversely affect our business and operating results, including:

- Diversion of management's time and attention from our core business;
- Difficulties separating the divested business;
- Risks to relations with customers who previously purchased products from our disposed product line;
- Reduced leverage with suppliers due to reduced aggregate volume;
- Risks related to employee relations;
- Risks associated with the transfer and licensing of intellectual property;
- Security risks and other liabilities related to the transition services provided in connection with the disposition;
- Tax issues associated with dispositions; and
- Disposition-related disputes, including disputes over earn-outs and escrows.

Our stock price may be volatile

The market price of our common stock has been volatile in the past and may be volatile in the future. The market price of our common stock may be significantly affected by the following factors:

- Actual or anticipated fluctuations in our operating results;
- Changes in financial estimates by securities analysts or our failure to perform in line with such estimates;
- Changes in market valuations of other technology companies, particularly semiconductor companies;
- Announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, joint ventures or capital commitments;
- Introduction of technologies or product enhancements that reduce the need for our products;
- The loss of, or decrease in sales to, one or more key customers;
- A large sale of stock by a significant shareholder;
- Dilution from the issuance of our stock in connection with acquisitions;
- The addition or removal of our stock to or from a stock index fund;

- Departures of key personnel;
- The required expensing of stock awards; and
- The required changes in our reported revenue and revenue recognition accounting policy under ASC Topic 606, *Revenue from Contracts with Customers*.

The stock market has experienced extreme volatility that often has been unrelated to the performance of particular companies. These market fluctuations may cause our stock price to fall regardless of our performance.

Most of our current manufacturers, assemblers, test service providers, distributors and customers are concentrated in the same geographic region, which increases the risk that a natural disaster, epidemic, labor strike, war or political unrest could disrupt our operations or sales

Most of our foundries and several of our assembly and test subcontractors' sites are located in Taiwan and most of our other foundry, assembly and test subcontractors are located in the Pacific Rim region. In addition, many of our customers are located in the Pacific Rim region. The risk of earthquakes in Taiwan and the Pacific Rim region is significant due to the proximity of major earthquake fault lines in the area. Earthquakes, tsunamis, fire, flooding, lack of water or other natural disasters, an epidemic, political unrest, war, labor strikes or work stoppages in countries where our semiconductor manufacturers, assemblers and test subcontractors are located, likely would result in the disruption of our foundry, assembly or test capacity. There can be no assurance that alternate capacity could be obtained on favorable terms, if at all.

A natural disaster, epidemic, labor strike, war or political unrest where our customers' facilities are located would likely reduce our sales to such customers. North Korea's recent geopolitical maneuverings, including nuclear weapons and long-range missile testing, have created unrest. Such unrest could create economic uncertainty or instability, could escalate to war or otherwise adversely affect South Korea and our South Korean customers and reduce our sales to such customers, which would materially and adversely affect our operating results. In addition, a significant portion of the assembly and testing of our products occurs in South Korea. Any disruption resulting from these events could also cause significant delays in shipments of our products until we are able to shift our manufacturing, assembling or testing from the affected subcontractor to another third-party vendor.

The semiconductor manufacturing process is highly complex and, from time to time, manufacturing yields may fall below our expectations, which could result in our inability to satisfy demand for our products in a timely manner and may decrease our gross profit due to higher unit costs

The manufacturing of our products is a highly complex and technologically demanding process. Although we work closely with our foundries and assemblers to minimize the likelihood of reduced manufacturing yields, we have from time to time experienced lower than anticipated manufacturing yields. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials could result in lower than anticipated manufacturing yields or unacceptable performance deficiencies, which could lower our gross profit. If our foundries fail to deliver fabricated silicon wafers of satisfactory quality in a timely manner, we will be unable to meet our customers' demand for our products in a timely manner, which would adversely affect our operating results and damage our customer relationships.

We depend on our customers to support our products, and some of our customers offer competing products

We rely on our customers to provide hardware, software, intellectual property indemnification and other technical support for the products supplied by our customers. If our customers do not provide the required functionality or if our customers do not provide satisfactory support for their products, the demand for these devices that incorporate our products may diminish or we may otherwise be materially adversely affected. Any reduction in the demand for these devices would significantly reduce our revenues.

In certain products, some of our customers offer their own competitive products. These customers may find it advantageous to support their own offerings in the marketplace in lieu of promoting our products.

Our convertible senior notes could adversely affect our operating results and financial condition

Upon conversion, our convertible senior notes may be settled in cash, shares of our common stock or a combination of cash and shares, at our election. We intend to settle the principal amount of the notes in cash. If we do not have adequate cash available, we may not be able to settle the principal amount in cash. In such case, we will be required to settle the principal amount in stock, which would result in immediate, and likely material, dilution to the ownership interests of our existing stockholders. Any sales in the public market of our common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock.

Following any conclusion that we no longer have the ability to settle the convertible senior notes in cash, we will be required on a going forward basis to change our accounting policy for earnings per share from the treasury stock method to the if-converted method. Earnings per share may be lower under the if-converted method as compared to the treasury stock method.

The principal balance of the convertible senior notes was separated into liability and equity components, which were recorded initially at fair value. The excess of the principal amount of the liability component over its carrying amount represents the debt discount, which is accreted to interest expense over the term of the notes using the effective interest method. Accordingly, we will report higher interest expense because of the recognition of both the debt discount amortization and the notes' coupon interest.

Our debt could adversely affect our operations and financial condition

We believe we have the ability to service our debt, but our ability to make the required payments thereunder when due depends upon our future performance, which will be subject to general economic conditions, industry cycles and other factors affecting our operations, including risk factors described herein, many of which are beyond our control. Our credit facility also contains covenants, including financial covenants. If we breach any of the covenants under our credit facility and do not obtain appropriate waivers, then, subject to any applicable cure periods, our outstanding indebtedness thereunder could be declared immediately due and payable.

We could seek to raise additional debt or equity capital in the future, but additional capital may not be available on terms acceptable to us, or at all

We believe that our existing cash, cash equivalents, investments and credit under our credit facility will be sufficient to meet our working capital needs, capital expenditures, investment requirements and commitments for at least the next 12 months. However, our ability to borrow further under the credit facility is dependent upon our ability to satisfy various conditions, covenants and representations. It is possible that we may need to raise additional funds to finance our activities or to facilitate acquisitions of other businesses, products, intellectual property or technologies. We believe we could raise these funds, if needed, by selling equity or debt securities to the public or to selected investors. In addition, even though we may not need additional funds, we may still elect to sell additional equity or debt securities or obtain credit facilities for other reasons. However, we may not be able to obtain additional funds on favorable terms, or at all. If we decide to raise additional funds by issuing equity or convertible debt securities, the ownership percentages of existing shareholders would be reduced.

We have limited resources compared to some of our current and potential competitors and we may not be able to compete effectively and increase market share

Some of our current and potential competitors have longer operating histories, significantly greater resources and name recognition and a larger base of customers than we have. As a result, these competitors may have greater credibility with our existing and potential customers. They also may be able to adopt more aggressive pricing policies and devote greater resources to the development, promotion and sale of their products than we can to ours. In addition, some of our current and potential competitors have already established supplier or joint development relationships with the decision makers at our current or potential customers. These competitors may be able to leverage their existing relationships to discourage their customers from purchasing products from us or persuade them to replace our products with their products. Our competitors may also offer bundled solutions offering a more complete product despite the technical merits or advantages of our products. These competitors may elect not to support our products which could complicate our sales efforts. We also face increased competition as a result of China actively promoting its domestic semiconductor industry through policy changes and investment. These actions, as well as China-U.S. trade barriers, may restrict our participation in the China market or may prevent us from competing effectively with Chinese companies or companies from other countries that China favors over the United States. These and other competitive pressures may prevent us from competing successfully against current or future competitors, and may materially harm our business. Competition could decrease our prices, reduce our sales, lower our gross profit and/or decrease our market share.

Provisions in our charter documents and Delaware law could prevent, delay or impede a change in control of us and may reduce the market price of our common stock

Provisions of our certificate of incorporation and bylaws could have the effect of discouraging, delaying or preventing a merger or acquisition that a stockholder may consider favorable. For example, our certificate of incorporation and bylaws provide for:

- The division of our Board of Directors into three classes to be elected on a staggered basis, one class each year;
- The ability of our Board of Directors to issue shares of our preferred stock in one or more series without further authorization of our stockholders;
- A prohibition on stockholder action by written consent;
- Elimination of the right of stockholders to call a special meeting of stockholders;
- A requirement that stockholders provide advance notice of any stockholder nominations of directors or any
 proposal of new business to be considered at any meeting of stockholders; and
- A requirement that a supermajority vote be obtained to amend or repeal certain provisions of our certificate of incorporation.

We also are subject to the anti-takeover laws of Delaware which may discourage, delay or prevent someone from acquiring or merging with us, which may adversely affect the market price of our common stock.

Risks related to our industry

We are subject to the cyclical nature of the semiconductor industry, which has been subject to significant fluctuations

The semiconductor industry is highly cyclical and is characterized by constant and rapid technological change, rapid product obsolescence and price erosion, evolving standards, short product life cycles and wide fluctuations in product supply and demand. The industry has experienced significant fluctuations, often connected with, or in anticipation of, maturing product cycles and new product introductions of both semiconductor companies' and their customers' products and fluctuations in general economic conditions. Deteriorating general worldwide economic conditions, including reduced economic activity, concerns about credit and inflation, increased energy costs, decreased consumer confidence, reduced corporate profits, decreased spending and similar adverse business conditions, would make it very difficult for our customers, our vendors, and us to accurately forecast and plan future business activities and could cause U.S. and foreign businesses to slow spending on our products. We cannot predict the timing, strength, or duration of any economic slowdown or economic recovery. If the economy or markets in which we operate deteriorate, our business, financial condition, and results of operations would likely be materially and adversely affected.

Downturns have been characterized by diminished product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices. We believe the semiconductor industry is currently suffering a downturn due in large part to adverse macroeconomic conditions, characterized by a slowdown in overall GDP performance and factory activity in certain regions, particularly in China , higher levels of customer inventory, the impact of tariffs on trade relations, and greater overall uncertainty regarding the economy. This downturn has had, and may continue to have, a material adverse effect on our business and operating results.

Upturns have been characterized by increased product demand and production capacity constraints created by increased competition for access to third-party foundry, assembly and test capacity. We are dependent on the availability of such capacity to manufacture, assemble and test our products. None of our third-party foundry, assembly or test subcontractors have provided assurances that adequate capacity will be available to us.

The average selling prices of our products could decrease rapidly which may negatively impact our revenues and gross profit

We may experience substantial period-to-period fluctuations in future operating results due to the erosion of our average selling prices. We have reduced the average unit price of our products in anticipation of or in response to competitive pricing pressures, new product introductions by us or our competitors and other factors. If we are unable to offset any such reductions in our average selling prices by increasing our sales volumes, increasing our sales content per application or reducing production costs, our gross profit and revenues will suffer. To maintain our gross profit, we will need to develop and introduce new products and product enhancements on a timely basis and continually reduce our costs. Our failure to do so could cause our revenues and gross profit to decline.

Competition within the numerous markets we target may reduce sales of our products and reduce our market share

The markets for semiconductors in general, and for mixed-signal products in particular, are intensely competitive. We expect that the market for our products will continually evolve and will be subject to rapid technological change. In addition, as we target and supply products to numerous markets and applications, we face competition from a relatively large number of competitors. We compete with AltoBeam, Analog Devices, Aura, Broadcom, Cypress, Dialog, Espressif, Infineon, Maxim Integrated Products, MaxLinear, MediaTek, Microchip, Nordic Semiconductor, NXP, Qualcomm, Rafael, Renesas, STMicroelectronics, Synaptics, Telink, Texas Instruments and others. We expect to face competition in the future from our current competitors, other manufacturers and designers of semiconductors, and start-up semiconductor design companies. As the markets for communications products grow, we also may face competition from traditional communications device companies. These companies may enter the mixed-signal semiconductor market by introducing their own products or by entering into strategic relationships with or acquiring other existing providers of semiconductor products. In addition, large companies may restructure their operations to create separate companies or may acquire new businesses that are focused on providing the types of products we produce or acquire our customers.

We may be the victim of business disruptions and security breaches, including cyber-attacks, which could lead to liability or could damage our reputation and financial results

Information technology system and/or network disruptions, regardless of the cause, but including acts of sabotage, error, or other actions, could harm the company's operations. Failure to effectively prevent, detect, and recover from security breaches, including cyber-attacks, could result in the misuse of company assets, disruption to the company, diversion of management resources, regulatory inquiries, legal claims or proceedings, reputational damage, loss of sales and other costs to the company. We routinely face attacks that attempt to breach our security protocols, gain access to or disrupt our computerized systems or steal proprietary company, customer, partner or employee information. These attacks are sometimes successful. These attacks may be due to security breaches, employee error, theft, malfeasance, phishing schemes, ransomware, faulty password or data security management, or other irregularities. The theft, loss, destruction, unavailability or misuse of personal or business data collected, used, stored or transferred by us to run our business could result in increased security costs or costs related to defending legal claims. Industrial espionage, theft or loss of our intellectual property data could lead to counterfeit products or harm the competitive position of our products and services. Costs to implement, test and maintain measures to promote compliance with applicable privacy and data security laws as well as to protect the overall security of our system could be significant. Attempted or successful attacks against our products and services could damage our reputation with customers or users and reduce demand for our products and services.

Changes in the Privacy and Data Security/Protection Laws Could Have an Adverse Effect on our Operations

Federal, state and international privacy-related or data protection laws and regulations could have an adverse effect on our operations. Complying with these laws and the possibility of proceedings against us by governmental entities or others in relation to these laws could increase operational costs. In May 2018, the European Union's General Data Protection Regulation ("GDPR") went into effect, replacing the EU's 1995 Data Protection Directive. The costs of compliance with the GDPR and the potential for fines and penalties in the event of a breach of the GDPR may have an adverse effect on our operations.

We may be subject to information technology failures that could damage our reputation, business operations and financial condition

We rely on information technology for the effective operation of our business. Our systems are subject to damage or interruption from a number of potential sources, including natural disasters, accidents, power disruptions, telecommunications failures, acts of terrorism or war, computer viruses, theft, physical or electronic break-ins, cyberattacks, sabotage, vandalism, or similar events or disruptions. Our security measures may not detect or prevent such security breaches. Any such compromise of our information security could result in the theft or unauthorized publication or use of our confidential business or proprietary information, result in the unauthorized release of customer, supplier or employee data, result in a violation of privacy or other laws, expose us to a risk of litigation or damage our reputation. In addition, our inability to use or access information systems at critical points in time could unfavorably impact the timely and efficient operation of our business, which could negatively affect our business and operating results.

Third parties with which we conduct business, such as foundries, assembly and test contractors, distributors and customers, have access to certain portions of our sensitive data. In the event that these third parties do not properly safeguard our data that they hold, security breaches could result and negatively impact our reputation, business operations and financial results.

Our products must conform to industry standards and technology in order to be accepted by end users in our markets

Generally, our products comprise only a part of a device. All components of such devices must uniformly comply with industry standards in order to operate efficiently together. We depend on companies that provide other components of the devices to support prevailing industry standards. Many of these companies are significantly larger and more influential in affecting industry standards than we are. Some industry standards may not be widely adopted or implemented uniformly, and competing standards may emerge that may be preferred by our customers or end users. If larger companies do not support the same industry standards that we do, or if competing standards emerge, market acceptance of our products could be adversely affected which would harm our business.

Products for certain applications are based on industry standards that are continually evolving. Our ability to compete in the future will depend on our ability to identify and ensure compliance with these evolving industry standards. The emergence of new industry standards could render our products incompatible with products developed by other suppliers. As a result, we could be required to invest significant time and effort and to incur significant expense to redesign our products to ensure compliance with relevant standards. If our products are not in compliance with prevailing industry standards for a significant period of time, we could miss opportunities to achieve crucial design wins. For example, the IoT market is relatively new and is continuously evolving. Furthermore, products in the IoT market frequently require interoperability across multiple standards. We may need to adjust our portfolio to meet the needs of this evolving market through acquisitions or significant new investments in research and development.

Our pursuit of necessary technological advances may require substantial time and expense. We may not be successful in developing or using new technologies or in developing new products or product enhancements that achieve market acceptance. If our products fail to achieve market acceptance, our growth prospects, operating results and competitive position could be adversely affected.

Customer demands and new regulations related to conflict-free minerals may adversely affect us

The Dodd-Frank Wall Street Reform and Consumer Protection Act imposes new disclosure requirements regarding the use of "conflict" minerals mined from the Democratic Republic of Congo and adjoining countries in products, whether or not these products are manufactured by third parties. These new requirements could affect the pricing, sourcing and availability of minerals used in the manufacture of semiconductor devices (including our products). There will be additional costs associated with complying with the disclosure requirements, such as costs related to determining the source of any conflict minerals used in our products. Our supply chain is complex and we may be unable to verify the origins for all metals used in our products. We may also encounter challenges with our customers and stockholders if we are unable to certify that our products are conflict free.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters, housing engineering, sales and marketing, administration and test operations, is located in Austin, Texas. Our headquarters facilities consist of two buildings, which we own, that are located on land which we have leased through 2099. The buildings contain approximately 441,000 square feet of floor space, of which approximately 87,000 square feet were leased to other tenants. In addition to these properties, we lease smaller facilities in various locations in the United States, Australia, Canada, China, Denmark, Finland, France, Germany, Hungary, Italy, Japan, Norway, Singapore, South Korea, Taiwan and the United Kingdom for engineering, sales and marketing, administrative and manufacturing support activities. We believe that these facilities are suitable and adequate to meet our current operating needs.

Item 3. Legal Proceedings

Information regarding legal proceedings is provided in Note 12, *Commitments and Contingencies*, to the Consolidated Financial Statements. Such information is incorporated by reference herein.

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

Market Information and Holders

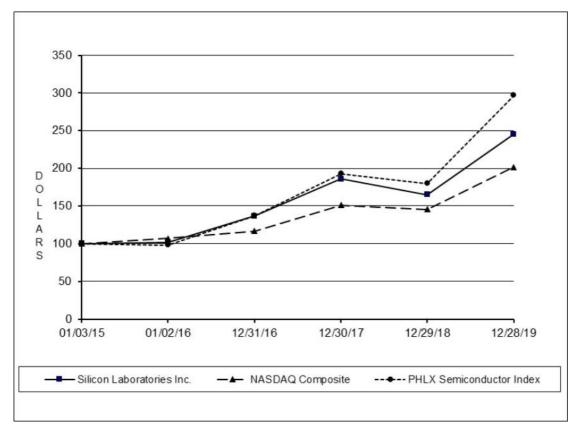
Our registration statement (Registration No. 333-94853) under the Securities Act of 1933, as amended, relating to our initial public offering of our common stock became effective on March 23, 2000. Our common stock is quoted on the NASDAQ National Market (NASDAQ) under the symbol "SLAB". As of January 20, 2020, there were 67 holders of record of our common stock.

Dividend Policy

We have never declared or paid any cash dividends on our common stock and we currently do not intend to pay cash dividends. We currently expect to retain any future earnings to fund the operation and expansion of our business.

Stock Performance Graph

The graph depicted below shows a comparison of cumulative total stockholder returns for an investment in Silicon Laboratories Inc. common stock, the NASDAQ Composite Index and the PHLX Semiconductor Index.



Company / Index	01/03/15	01/02/16	12/31/16	12/30/17	12/29/18	12/28/19
	#400.00	#40D 4 =	#400.04	#40 = 06	#4.0 = DD	#D 45 D5
Silicon Laboratories Inc.	\$100.00	\$102.17	\$136.81	\$185.86	\$165.23	\$245.25
NASDAO Composite Index	\$100.00	\$107.16	\$116.66	\$151.23	\$145.80	\$201.60
	4=00.00	4-0111-0	4-1-1-1	4-0-1-0	4=10.00	4_00_00
PHLX Semiconductor Index	\$100.00	\$ 98.43	\$137.13	\$192.73	\$179.85	\$297.05

⁽¹⁾ The graph assumes that \$100 was invested in our common stock and in each index at the market close on January 3, 2015, and that all dividends were reinvested. No cash dividends have been declared on our common stock.

⁽²⁾ Stockholder returns over the indicated period should not be considered indicative of future stockholder returns.

Issuer Purchases of Equity Securities

The following table summarizes repurchases of our common stock during the three months ended December 28, 2019 (in thousands, except per share amounts):

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
September 29, 2019 – October 26, 2019	_	\$ —	_	\$ 134,023
October 27, 2019 – November 23, 2019	_	\$ —	_	\$ 134,023
November 24, 2019 – December 28, 2019		\$		\$ 134,023
Total	_	\$ —	_	

Our existing share repurchase program has an authorization amount of \$200 million and a termination date of December 2020. The program allows for repurchases to be made in the open market or in private transactions, including structured or accelerated transactions, subject to applicable legal requirements and market conditions.

Item 6. Selected Financial Data

Please read this selected consolidated financial data in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations," our Consolidated Financial Statements and the notes to those statements included in this Form 10-K.

	Fiscal Year									
	<u>2019</u> <u>2018 (1)</u> <u>2017</u> <u>2016</u>							2015		
				(in thous	ands	, except per s	hare	data)		
Consolidated Statements of Income Data										
Revenues	\$	837,554	\$	868,267	\$	768,867	\$	697,626	\$	644,826
Operating income	\$	56,697	\$	85,208	\$	84,974	\$	66,277	\$	32,234
Net income	\$	19,265	\$	83,591	\$	47,092	\$	61,494	\$	29,586
Earnings per share:										
Basic	\$	0.44	\$	1.94	\$	1.11	\$	1.47	\$	0.70
Diluted	\$	0.43	\$	1.90	\$	1.09	\$	1.45	\$	0.69
Consolidated Balance Sheet Data										
Cash, cash equivalents and investments	\$	731,618	\$	619,581	\$	769,704	\$	300,263	\$	250,112
Working capital		806,158		681,793		785,317		351,156		280,819
Total assets	1	1,674,853	1	,624,354	1	,535,082	1	1,081,844	1	,011,463
Long-term obligations		422,101		412,219		419,741		115,191		108,028
Total stockholders' equity	-	1,115,051	1	,067,290		953,016		826,958		761,114

⁽¹⁾ In fiscal 2018, we adopted Accounting Standards Codification (ASC) Topic 606, *Revenue from Contracts with Customers*. We elected the modified retrospective method of adoption. Periods prior to fiscal 2018 have not been adjusted.

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

The following discussion and analysis of financial condition and results of operations should be read in conjunction with the Consolidated Financial Statements and related notes thereto included elsewhere in this report. This discussion contains forward-looking statements. Please see the "Cautionary Statement" and "Risk Factors" above for discussions of the uncertainties, risks and assumptions associated with these statements. Our fiscal year-end financial reporting periods are a 52- or 53-week fiscal year that ends on the Saturday closest to December 31. Fiscal 2019, 2018 and 2017 were 52-week years and ended on December 28, 2019, December 29, 2018 and December 30, 2017, respectively. Fiscal 2020 will have 53 weeks with the extra week occurring in the first quarter of the year.

Overview

We are a leading provider of silicon, software and solutions for a smarter, more connected world. Our award-winning technologies are shaping the future of the Internet of Things (IoT), Internet infrastructure, industrial automation, consumer and automotive markets. Our world-class engineering team creates products focused on performance, energy savings, connectivity and simplicity. Our primary semiconductor products are mixed-signal integrated circuits (ICs), which are electronic components that convert real-world analog signals, such as sound and radio waves, into digital signals that electronic products can process.

As a fabless semiconductor company, we rely on third-party semiconductor fabricators in Asia, and to a lesser extent the United States and Europe, to manufacture the silicon wafers that reflect our IC designs. Each wafer contains numerous die, which are cut from the wafer to create a chip for an IC. We rely on third parties in Asia to assemble, package, and, in most cases, test these devices and ship these units to our customers. Testing performed by such third parties facilitates faster delivery of products to our customers (particularly those located in Asia), shorter production cycle times, lower inventory requirements, lower costs and increased flexibility of test capacity.

Our expertise in analog-intensive, high-performance, mixed-signal ICs and software enables us to develop highly differentiated solutions that address multiple markets. We group our products into the following categories:

- Internet of Things products, which include wireless, microcontroller (MCU) and sensor products;
- Broadcast products, which include broadcast consumer and automotive products;
- Infrastructure products, which include timing products (clocks and oscillators), and isolation devices; and
- Access products, which include Voice over IP (VoIP) products, embedded modems and Power over Ethernet (PoE) devices.

The sales cycle for our ICs can be as long as 12 months or more. An additional three to six months or more are usually required before a customer ships a significant volume of devices that incorporate our ICs. Due to this lengthy sales cycle, we typically experience a significant delay between incurring research and development and selling, general and administrative expenses, and the corresponding sales. Consequently, if sales in any quarter do not occur when expected, expenses and inventory levels could be disproportionately high, and our operating results for that quarter and, potentially, future quarters would be adversely affected. Moreover, the amount of time between initial research and development and commercialization of a product, if ever, can be substantially longer than the sales cycle for the product. Accordingly, if we incur substantial research and development costs without developing a commercially successful product, our operating results, as well as our growth prospects, could be adversely affected.

Because some of our ICs are designed for use in consumer products such as televisions, set-top boxes and radios, we expect that the demand for our products will be typically subject to some degree of seasonal demand. However, rapid changes in our markets and across our product areas make it difficult for us to accurately estimate the impact of seasonal factors on our business.

Current Period Highlights

Revenues decreased \$30.7 million in fiscal 2019 compared to fiscal 2018, due to decreased revenues from our Infrastructure, Broadcast and Access products offset by increased revenues from our IoT products. Gross profit decreased \$11.1 million during the same period due primarily to decreased product sales. Gross margin increased to 60.9% in fiscal 2019 compared to 60.1% in fiscal 2018 primarily due to the fair value write-up associated with acquired inventory in fiscal 2018, offset in part by a decrease resulting from variations in product mix. Operating expenses increased \$17.4 million in fiscal 2019 compared to fiscal 2018 due primarily to increased personnel-related expenses, occupancy costs and amortization of intangible assets, offset in part by decreased acquisition-related costs and sales commissions. Operating income in fiscal 2019 was \$56.7 million compared to \$85.2 million in fiscal 2018.

We ended fiscal 2019 with \$726.0 million in cash, cash equivalents and short-term investments. Net cash provided by operating activities was \$166.5 million during fiscal 2019. Accounts receivable was \$75.6 million at December 28, 2019, representing 31 days sales outstanding (DSO). Inventory was \$73.1 million at December 28, 2019, representing 76 days of inventory (DOI). In fiscal 2019, we repurchased 0.3 million shares of our common stock for \$26.7 million.

Through acquisitions and internal development efforts, we have continued to diversify our product portfolio and introduce new products and solutions with added functionality and further integration. In October 2019, we acquired IEEE 1588 precision time protocol (PTP) software and module assets from Qulsar. This complementary portfolio simplifies adoption of IEEE 1588 synchronization in 5G wireless, transport and access networks.

In fiscal 2019, we introduced new highly integrated Wireless Gecko modules that streamline secure IoT product design; a portfolio of automotive grade timing solutions designed to meet the demanding clocking needs of in-vehicle systems; robust isolated smart switches designed to drive loads in harsh industrial environments; hybrid software-defined radio (SDR) tuners supporting global digital radio standards with a common platform; 5G-ready jitter attenuators with new device options featuring a fully integrated crystal; the next generation of our Wireless Gecko platform, Series 2, designed to make IoT products more powerful, efficient and reliable; a portfolio of timing solutions that provide superior jitter performance and meet the latest generation PCI Express® (PCIe®) 5.0 specification; isolation products designed to provide precise current and voltage measurement with very low temperature drift; new Bluetooth software for our Wireless Gecko portfolio that increases location services accuracy; and Wi-Fi modules and transceivers that cut power consumption for IoT applications. We plan to continue to introduce products that increase the content we provide for existing applications, thereby enabling us to serve markets we do not currently address and expand our total available market opportunity.

During fiscal 2019, 2018 and 2017, we had no customer that represented more than 10% of our revenues. In addition to direct sales to customers, some of our end customers purchase products indirectly from us through distributors and contract manufacturers. An end customer purchasing through a contract manufacturer typically instructs such contract manufacturer to obtain our products and incorporate such products with other components for sale by such contract manufacturer to the end customer. Although we actually sell the products to, and are paid by, the distributors and contract manufacturers, we refer to such end customer as our customer. Two of our distributors who sell to our customers, Arrow Electronics and Edom Technology, each represented 26% and 20% of our revenues during fiscal 2019, and 21% and 17% of our revenues during fiscal 2018, respectively. Edom, Avnet and Arrow, each represented 19%, 14% and 12% of our revenues during fiscal 2017, respectively.

The percentage of our revenues derived from outside of the United States was 87% in fiscal 2019, 83% in fiscal 2018 and 85% in fiscal 2017. All of our revenues to date have been denominated in U.S. dollars. We believe that a majority of our revenues will continue to be derived from customers outside of the United States.

Results of Operations

The following describes the line items set forth in our Consolidated Statements of Income:

Revenues. Revenues are generated predominately by sales of our products. Our revenues are subject to variation from period to period due to the volume of shipments made within a period, the mix of products we sell and the prices we charge for our products.

Cost of Revenues. Cost of revenues includes the cost of purchasing finished silicon wafers processed by independent foundries; costs associated with assembly, test and shipping of those products; costs of personnel and equipment associated with manufacturing support, logistics and quality assurance; costs of software royalties, other intellectual property license costs and certain acquired intangible assets; and an allocated portion of our occupancy costs. Our gross margin fluctuates depending on product mix, manufacturing yields, inventory valuation adjustments, average selling prices and other factors.

Research and Development. Research and development expense consists primarily of personnel-related expenses, including stock-based compensation, as well as new product masks, external consulting and services costs, equipment tooling, equipment depreciation, amortization of intangible assets and an allocated portion of our occupancy costs. Research and development activities include the design of new products, refinement of existing products and design of test methodologies to ensure compliance with required specifications.

Selling, General and Administrative. Selling, general and administrative expense consists primarily of personnel-related expenses, including stock-based compensation, as well as an allocated portion of our occupancy costs, sales commissions to independent sales representatives, amortization of intangible assets, professional fees, legal fees, and promotional and marketing expenses.

Interest Income and Other, Net. Interest income and other, net reflects interest earned on our cash, cash equivalents and investment balances, foreign currency remeasurement adjustments and other non-operating income and expenses.

Interest Expense. Interest expense consists of interest on our short and long-term obligations, including our convertible senior notes and credit facility. Interest expense on our convertible senior notes includes contractual interest, amortization of the debt discount and amortization of debt issuance costs.

Provision (Benefit) for Income Taxes. Provision (benefit) for income taxes includes both domestic and foreign income taxes at the applicable tax rates adjusted for non-deductible expenses, research and development tax credits and other permanent differences.

The following table sets forth our Consolidated Statements of Income data as a percentage of revenues for the periods indicated:

	Fiscal Year			
	2019	2017		
Revenues	100.0 %	100.0 %	100.0 %	
Cost of revenues	39.1	39.9	40.9	
Gross margin	60.9	60.1	59.1	
Operating expenses:				
Research and development	30.7	27.5	27.2	
Selling, general and administrative	23.4	22.8	20.8	
Operating expenses	54.1	50.3	48.0	
Operating income	6.8	9.8	11.1	
Other income (expense):				
Interest income and other, net	1.5	8.0	8.0	
Interest expense	(2.4)	(2.3)	(1.9)	
Income before income taxes	5.9	8.3	10.0	
Provision (benefit) for income taxes	3.6	(1.3)	3.9	
Net income	2.3 %	9.6 %	6.1 %	

Comparison of Fiscal 2019 to Fiscal 2018

Revenues

	Fisca	ıl Year		%
(in millions)	2019	2018	Change	Change
Internet of Things	\$ 488.2	\$ 463.8	\$ 24.4	5.2 %
Infrastructure	183.2	199.5	(16.3)	(8.2)%
Broadcast	114.9	141.4	(26.5)	(18.7)%
Access	51.3	63.6	(12.3)	(19.2)%
Total	\$ 837.6	\$ 868.3	\$ (30.7)	(3.5)%

The change in revenues in fiscal 2019 was due primarily to:

- Increased revenues of \$24.4 million for our IoT products, due primarily to the addition of revenues from an
 acquisition and increased demand for our wireless products offset by decreased demand for our MCU
 products.
- Decreased revenues of \$16.3 million for our Infrastructure products, due primarily to decreased demand for our timing and isolation products.
- Decreased revenues of \$26.5 million for Broadcast products, due primarily to decreased demand for our consumer broadcast products and decreased demand for our automotive broadcast products.

• Decreased revenues of \$12.3 million for our Access products, due primarily to decreased demand for our products and a decreasing market for such products.

Unit volumes of our products decreased by 3.8% and average selling prices increased by 0.2% compared to fiscal 2018. The average selling prices of our products may fluctuate significantly from period to period due to changes in product mix and other factors. In general, as our products become more mature, we expect to experience decreases in average selling prices. We anticipate that newly announced, higher priced, next generation products and product derivatives will offset some of these decreases.

Gross Profit

	Fiscal	Yea	r		
(in millions)	 2019		2018	_ (Change
Gross profit	\$ 510.3	\$	521.4	\$	(11.1)
Gross margin	60.9 %		60.1 %	ó	0.8 %

Gross profit decreased in fiscal 2019 due primarily to decreased product sales. The change in gross profit in fiscal 2019 was due to decreases in gross profit of \$20.8 million for our Infrastructure products, \$13.2 million for our Broadcast products and \$8.0 million for our Access products, offset by an increase in gross profit of \$30.9 million for our Internet of Things products. Gross profit in fiscal 2018 included \$6.1 million in acquisition-related charges for the fair value write-up associated with acquired inventory. Gross margin increased in fiscal 2019 primarily due to the impact of the fair value write-up associated with acquired inventory in fiscal 2018. The increase in gross margin in fiscal 2019 was offset in part by a decrease in gross margin resulting from variations in product mix.

We may experience declines in the average selling prices of certain of our products. This creates downward pressure on gross margin and may be offset to the extent we are able to introduce higher margin new products and gain market share with our products; reduce costs of existing products through improved design; achieve lower production costs from our wafer suppliers and third-party assembly and test subcontractors; achieve lower production costs per unit as a result of improved yields throughout the manufacturing process; or reduce logistics costs.

Research and Development

	Fiscal		%	
(in millions)	2019	2018	Change	Change
Research and development	\$ 257.2	\$ 238.3	\$ 18.9	7.9 %
Percent of revenue	30.7 %	27.5 %	6	

The increase in research and development expense in fiscal 2019 was primarily due to increases of \$13.7 million for personnel-related expenses, including costs associated with increased headcount and an acquisition, \$2.8 million for occupancy costs and \$2.2 million for the amortization of intangible assets. We expect that research and development expense will increase in absolute dollars in the first quarter of 2020 compared to the fourth quarter of 2019.

Selling, General and Administrative

	Fiscal Year			%
(in millions)	2019	2018	Change	Change
Selling, general and administrative	\$ 196.4	\$ 197.8	\$ (1.4)	(0.7)%
Percent of revenue	23.4 %	22.8 %	, D	

The decrease in selling, general and administrative expense in fiscal 2019 was primarily due to decreases of \$2.0 million for acquisition-related costs and \$1.0 million for sales commissions. The decrease in selling, general and administrative expense was offset in part by an increase of \$1.8 million for personnel-related expenses, including costs associated with increased headcount and an acquisition. We expect that selling, general and administrative expense will increase in absolute dollars in the first quarter of 2020 compared to the fourth quarter of 2019.

Interest Income and Other, Net

Interest income and other, net in fiscal 2019 was \$13.2 million compared to \$6.6 million in fiscal 2018. The increase in interest income and other, net in fiscal 2019 was primarily due to increased interest income earned as a result of higher market interest rates and higher investment balances.

Interest Expense

Interest expense in fiscal 2019 was relatively flat at \$20.2 million compared to \$19.7 million in fiscal 2018.

Provision (Benefit) for Income Taxes

			Fiscal Year					
(in millions)		2019		2018	C	Change		
Provision (benefit) for income taxes	\$	30.4	\$	(11.4)	\$	41.8		
Effective tax rate		61.2 %	6	(15.8)%)			

The effective tax rate for fiscal 2019 increased from fiscal 2018 primarily due to a change in our financial statement position related to the treatment of stock-based compensation within our intercompany cost-sharing arrangement. Due to the Ninth Circuit's reversal of the Altera Corp v. Commissioner Tax Court decision, we are no longer reflecting a net tax benefit within our financial statements related to the removal of stock-based compensation from our intercompany cost-sharing arrangement. As such, we recognized incremental, discrete income tax expense of \$27.2 million in fiscal 2019 related to this change.

The effective tax rates for each of the periods presented differ from the U.S. federal statutory tax rates of 21% due to the aforementioned impact of the Altera decision, the amount of income earned in foreign jurisdictions where the tax rate may be higher or lower than the federal statutory tax rate, and other permanent items including research and development tax credits and GILTI, or global intangible low-tax income.

Comparison of Fiscal 2018 to Fiscal 2017

Revenues

	Fiscal Year			%
(in millions)	2018	2017	Change	Change
Internet of Things	\$ 463.8	\$ 395.0	\$ 68.8	17.4 %
Infrastructure	199.5	152.2	47.3	31.1 %
Broadcast	141.4	153.0	(11.6)	(7.6)%
Access	63.6	68.7	(5.1)	(7.5)%
Total	\$ 868.3	\$ 768.9	\$ 99.4	12.9 %

The change in revenues in fiscal 2018 was due primarily to:

- Increased revenues of \$68.8 million for our IoT products, due primarily to increased demand for our wireless products and the addition of revenues from an acquisition.
- Increased revenues of \$47.3 million for our Infrastructure products, due primarily to increased demand for our isolation and timing products.
- Decreased revenues of \$11.6 million for Broadcast products, due primarily to decreases in the market for our consumer products.
- Decreased revenues of \$5.1 million for our Access products, due primarily to decreased demand for our VoIP products and decreases in the market for such products.

Unit volumes of our products increased by 11.5% and average selling prices increased by 1.1% compared to fiscal 2017.

Gross Profit

	Fisca	r			
(in millions)	 2018		2017	_ C	hange
Gross profit	\$ 521.4	\$	454.2	\$	67.2
Gross margin	60.1 %)	59.1 %	ó	1.0 %

Gross profit increased in fiscal 2018 due primarily to increased product sales. The increased dollar amount of gross profit in fiscal 2018 was due to increases in gross profit of \$42.8 million for our Internet of Things products and \$34.6 million for our Infrastructure products, offset by decreases in gross profit of \$8.5 million for our Broadcast products and \$1.7 million for our Access products. Gross profit in fiscal 2018 included \$6.1 million in acquisition-related charges for the fair value write-up associated with acquired inventory. Gross margin increased in fiscal 2018 primarily due to a higher mix of Infrastructure products sold.

Research and Development

	Fiscal Year				
(in millions)	2018	2017	Change	Change	
Research and development	\$ 238.3	\$ 209.5	\$ 28.8	13.8 %	
Percent of revenue	27.5 %	27.2 %	, 0		

The increase in research and development expense in fiscal 2018 was primarily due to increases of \$16.5 million for personnel-related expenses, including costs associated with increased headcount and an acquisition, and \$7.2 million for the amortization of intangible assets.

Selling, General and Administrative

	Fiscal Year			%		
(in millions)	2018	2017	Change	Change		
Selling, general and administrative	\$ 197.8	\$ 159.7	\$ 38.1	23.9 %		
Percent of revenue	22.8 %	20.8 %	6			

The increase in selling, general and administrative expense in fiscal 2018 was primarily due to increases of \$23.6 million for personnel-related expenses, including costs associated with increased headcount and an acquisition, \$3.6 million for the amortization of intangible assets and \$3.4 million for acquisition-related costs.

Interest Income and Other, Net

Interest income and other, net in fiscal 2018 was \$6.6 million compared to \$6.1 million in fiscal 2017. The increase in interest income and other, net in fiscal 2018 was primarily due to increased interest income earned as a result of higher market interest rates and higher investment balances, offset by a net loss of \$1.8 million recorded in connection with fair value adjustments to an equity investment.

Interest Expense

Interest expense in fiscal 2018 was \$19.7 million compared to \$14.1 million in fiscal 2017. The increase in interest expense in fiscal 2018 was primarily due to increased interest expense of \$3.8 million on our convertible debt, including amortization of the debt discount and debt issuance costs, as a result of recording a full year of interest expense in fiscal 2018 versus a partial year in fiscal 2017. In addition, interest expense in fiscal 2017 was lower than fiscal 2018 due to a \$2.0 million gain recorded in fiscal 2017 in connection with the termination of our interest rate swap agreement.

Provision (Benefit) for Income Taxes

	Fiscal Year					
(in millions)		2018		2017		Change
Provision (benefit) for income taxes	\$	(11.4)	\$	29.8	\$	(41.2)
Effective tax rate		(15.8)%)	38.8 %	ó	

The effective tax rate for fiscal 2018 decreased from fiscal 2017 primarily due to a reduction in the U.S. federal statutory rate as well as the inclusion of one-time tax impacts recorded in 2017 from the enactment of the Tax Cuts and Jobs Act. This overall decrease in the effective tax rate was offset by a decrease in the Company's foreign tax rate benefit.

Business Outlook

The following represents our business outlook for the first quarter of fiscal 2020.

Income Statement Item	Estimate
Revenues	\$209 million to \$219 million
Gross margin	59.5%
Operating expenses	\$127 million
Effective tax rate	0.0%
Diluted earnings (loss) per share	\$(0.03) to \$0.07

Liquidity and Capital Resources

Our principal sources of liquidity as of December 28, 2019 consisted of \$726.0 million in cash, cash equivalents and short-term investments, of which approximately \$583.8 million was held by our U.S. entities. The remaining balance was held by our foreign subsidiaries. Our cash equivalents and short-term investments consisted of government debt securities, which include agency bonds, municipal bonds, U.S. government securities and variable-rate demand notes; corporate debt securities, which include asset-backed securities, corporate bonds and commercial paper; and money market funds. Our long-term investments consisted of auction-rate securities.

Operating Activities

Net cash provided by operating activities was \$166.5 million during fiscal 2019, compared to net cash provided of \$173.5 million during fiscal 2018. Operating cash flows during fiscal 2019 reflect our net income of \$19.3 million, adjustments of \$147.8 million for depreciation, amortization, stock-based compensation and deferred income taxes, and a net cash outflow of \$0.6 million due to changes in our operating assets and liabilities.

Net cash provided by operating activities was \$173.5 million during fiscal 2018, compared to net cash provided of \$189.5 million during fiscal 2017. Operating cash flows during fiscal 2018 reflect our net income of \$83.6 million, adjustments of \$114.7 million for depreciation, amortization, stock-based compensation and deferred income taxes, and a net cash outflow of \$24.8 million due to changes in our operating assets and liabilities.

Accounts receivable increased to \$75.6 million at December 28, 2019 from \$73.2 million at December 29, 2018. The increase in accounts receivable resulted primarily from normal variations in the timing of collections and billings. Our average DSO was 31 days at December 28, 2019 and December 29, 2018.

Inventory decreased to \$73.1 million at December 28, 2019 from \$75.0 million at December 29, 2018. Our inventory level is primarily impacted by our need to make purchase commitments to support forecasted demand and variations between forecasted and actual demand. Our DOI was 76 days at December 28, 2019 and 79 days at December 29, 2018.

Investing Activities

Net cash used in investing activities was \$106.8 million during fiscal 2019, compared to net cash used of \$197.0 million during fiscal 2018. The decrease in cash outflows was principally due to a decrease of \$237.2 million in net payments for the acquisition of businesses, offset by a decrease of \$157.8 million in net purchases and sales of marketable securities in the current period.

Net cash used in investing activities was \$197.0 million during fiscal 2018, compared to net cash used of \$374.3 million during fiscal 2017. The decrease in cash outflows was principally due to an increase of \$420.1 million in net purchases and sales of marketable securities, offset by an increase of \$224.6 million in net payments for the acquisition of businesses.

We anticipate capital expenditures of approximately \$23 to \$27 million for fiscal 2020. Additionally, as part of our growth strategy, we expect to evaluate opportunities to invest in or acquire other businesses, intellectual property or technologies that would complement or expand our current offerings, expand the breadth of our markets or enhance our technical capabilities.

Financing Activities

Net cash used in financing activities was \$29.6 million during fiscal 2019, compared to cash used of \$48.8 million during fiscal 2018. The decrease in cash outflows was principally due to a decrease of \$12.6 million for repurchases of our common stock during fiscal 2019. Our existing share repurchase program has an authorization amount of \$200 million and a termination date of December 2020.

Net cash used in financing activities was \$48.8 million during fiscal 2018, compared to net cash provided of \$313.0 million during fiscal 2017. The decrease in cash inflows was principally due to \$389.5 million in net proceeds from the issuance of long-term debt during fiscal 2017 and an increase of \$39.3 million for repurchases of our common stock during fiscal 2018, offset by a decrease of \$72.5 million in payments on debt.

Our debt facilities include \$400 million principal amount convertible senior notes (the "Notes") and a \$400 million revolving credit facility. The Notes bear interest semi-annually at a rate of 1.375% per year and will mature on March 1, 2022, unless repurchased, redeemed or converted at an earlier date. We have an option to increase the size of the borrowing capacity of the revolving credit facility by up to the greater of an aggregate of \$250 million and 100% of EBITDA, plus an amount that would not cause a secured leverage ratio to exceed 3.25 to 1.00, subject to certain conditions. See Note 10, *Debt*, to the Consolidated Financial Statements for additional information.

Our future capital requirements will depend on many factors, including the rate of sales growth, market acceptance of our products, the timing and extent of research and development projects, potential acquisitions of companies or technologies and the expansion of our sales and marketing activities. We believe our existing cash, cash equivalents, investments and credit under our Credit Facility are sufficient to meet our capital requirements through at least the next 12 months, although we could be required, or could elect, to seek additional funding prior to that time. We may enter into acquisitions or strategic arrangements in the future which also could require us to seek additional equity or debt financing.

Contractual Obligations

The following table summarizes our contractual obligations as of December 28, 2019 (in thousands):

	Payments due by period							
	Total	2020	2021	2022	2023	2024	Thereafter	
Long-term debt obligations (1)	\$400,000	\$ —	s —	\$400,000	s —	s —	\$	
Long-term debt obligations (1)	\$400,000	Ψ —	Ψ —	\$400,000	Ψ —	Ψ —	Ψ —	
Interest on long-term debt obligations (2)	\$ 17,417	\$ 6,300	\$6,300	\$ 3,550	\$ 800	\$ 467	\$ —	
Operating lease obligations (3)	\$ 20,584	\$ 5,604	\$4,410	\$ 3,713	\$3,061	\$2,524	\$ 1,272	
Purchase obligations (4)	\$ 38,780	\$38,780	\$ —	\$ —	\$ —	\$ —	\$ —	
Other long-term obligations (5)	\$ 21,902	\$ —	\$ —	\$ 2,820	\$4,753	\$6,338	\$ 7,991	

- (1) Long-term debt obligations represent the principal portion of our convertible senior notes (the "Notes"). The Notes mature on March 1, 2022, unless repurchased, redeemed or converted at an earlier date.
- (2) Interest on our long-term debt obligations primarily represents contractual interest on the Notes, which bear interest semi-annually at a rate of 1.375% per year. Interest excludes non-cash amortization of the debt discount and debt issuance costs.
- (3) Operating lease obligations include amounts for leased facilities.
- (4) Purchase obligations include contractual arrangements in the form of purchase orders with suppliers where there is a fixed non-cancelable payment schedule or minimum payments due with a reduced delivery schedule.
- (5) Other long-term obligations primarily represent non-current income taxes.

We are unable to make a reasonably reliable estimate as to when or if cash settlement with taxing authorities will occur for our unrecognized tax benefits. Therefore, our liability of \$2.4 million for unrecognized tax benefits is not included in the table above. See Note 17, *Income Taxes*, to the Consolidated Financial Statements for additional information.

Off-Balance Sheet Arrangements

As of December 28, 2019, we had no significant off-balance sheet arrangements.

Critical Accounting Policies and Estimates

The preparation of financial statements and accompanying notes in conformity with U.S. generally accepted accounting principles requires that we make estimates and assumptions that affect the amounts reported. Changes in facts and circumstances could have a significant impact on the resulting estimated amounts included in the financial statements. We believe the following critical accounting policies affect our more complex judgments and estimates.

Inventory valuation — We assess the recoverability of inventories through the application of a set of methods, assumptions and estimates. In determining net realizable value, we write down inventory that may be slow moving or have some form of obsolescence, including inventory that has aged more than 12 months. We also adjust the valuation of inventory when its manufacturing cost exceeds the estimated selling price less costs of completion, disposal and transportation. We assess the potential for any unusual customer returns based on known quality or business issues and write-off inventory losses for scrap or non-saleable material. Inventory not otherwise identified to be written down is compared to an assessment of our 12-month forecasted demand. The result of this methodology is compared against the product life cycle and competitive situations in the marketplace to determine the appropriateness of the resulting inventory levels. Demand for our products may fluctuate significantly over time, and actual demand and market conditions may be more or less favorable than those that we project. In the event that actual demand is lower or market conditions are worse than originally projected, additional inventory write-downs may be required.

Impairment of goodwill and other long-lived assets – We review long-lived assets which are held and used, including fixed assets and purchased intangible assets, for impairment whenever changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Such evaluations compare the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset over its expected useful life and are significantly impacted by estimates of future prices and volumes for our products, capital needs, economic trends and other factors which are inherently difficult to forecast. If the asset is considered to be impaired, we record an impairment charge equal to the amount by which the carrying value of the asset exceeds its fair value determined by either a quoted market price, if any, or a value determined by utilizing a discounted cash flow technique.

We test our goodwill for impairment annually as of the first day of our fourth fiscal quarter and in interim periods if certain events occur indicating that the carrying value of goodwill may be impaired. The goodwill impairment test is a two-step process. The first step of the impairment analysis compares our fair value to our net book value. In determining fair value, the accounting guidance allows for the use of several valuation methodologies, although it states quoted market prices are the best evidence of fair value. If the fair value is less than the net book value, the second step of the analysis compares the implied fair value of our goodwill to its carrying amount. If the carrying amount of goodwill exceeds its implied fair value, we recognize an impairment loss equal to that excess amount.

Acquired intangible assets — When we acquire a business, a portion of the purchase price is typically allocated to identifiable intangible assets, such as acquired technology and customer relationships. Fair value of these assets is determined primarily using the income approach, which requires us to project future cash flows and apply an appropriate discount rate. We amortize intangible assets with finite lives over their expected useful lives. Our estimates are based upon assumptions believed to be reasonable but which are inherently uncertain and unpredictable. Assumptions may be incomplete or inaccurate, and unanticipated events and circumstances may occur. Incorrect estimates could result in future impairment charges, and those charges could be material to our results of operations.

Revenue recognition — We recognize revenue when control of the promised goods or services is transferred to customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services. In order to achieve this core principle, we apply a five-step process. As part of this process, we analyze the performance obligations in a customer contract and estimate the consideration we expect to receive. The evaluation of performance obligations requires that we identify the promised goods and services in the contract. For contracts that contain more than one promised good and service, we then must determine whether the promises are capable of being distinct and if they are separately identifiable from other promises in the contract. Additionally, for our sales to distributors, we must estimate the impact that price adjustments and rights of return will have on consideration. We make these estimates based on available information, including recent sales activity and pricing data. If our evaluation of performance obligations is incorrect, we may recognize revenue sooner or later than is appropriate. If our estimates of consideration are inaccurate, we may recognize too much or too little revenue in a period.

Stock-based compensation — We recognize the fair-value of stock-based compensation transactions in the Consolidated Statements of Income. The fair value of our full-value stock awards (with the exception of market-based performance awards) equals the fair market value of our stock on the date of grant. The fair value of our market-based performance awards is estimated at the date of grant using a Monte-Carlo simulation. The fair value of our stock option and employee stock purchase plan grants is estimated at the date of grant using the Black-Scholes option pricing model. In addition, we are required to estimate the expected forfeiture rate of our stock grants and only recognize the expense for those shares expected to vest. If our actual experience differs significantly from the assumptions used to compute our stock-based compensation cost, or if different assumptions had been used, we may have recorded too much or too little stock-based compensation cost. See Note 15, Stock-Based Compensation, to the Consolidated Financial Statements for additional information.

Income taxes — We are required to calculate income taxes in each of the jurisdictions in which we operate. This process involves calculating the actual current tax liability together with assessing temporary differences in recognition of income (loss) for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which are included in our Consolidated Balance Sheet. We record a valuation allowance when it is more likely than not that some portion or all of the deferred tax assets will not be realized. In assessing the need for a valuation allowance, we are required to estimate the amount of expected future taxable income. Judgment is inherent in this process and differences between the estimated and actual taxable income could result in a material impact on our Consolidated Financial Statements.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step requires us to determine whether the weight of available evidence indicates that the tax position has met the threshold for recognition. Therefore, we must evaluate whether it is more likely than not that the position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step requires us to measure the tax benefit of the tax position taken, or expected to be taken, in an income tax return as the largest amount that is more than 50% likely of being realized upon ultimate settlement. This measurement step is inherently complex and requires subjective estimations of such amounts to determine the probability of various possible outcomes. We re-evaluate the uncertain tax positions each quarter based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, expirations of statutes of limitation, effectively settled issues under audit, and new audit activity. Such a change in recognition or measurement would result in the recognition of a tax benefit or an additional charge to the tax provision in the period.

Although we believe the measurement of our liabilities for uncertain tax positions is reasonable, no assurance can be given that the final outcome of these matters will not be different than what is reflected in the historical income tax provisions and accruals. If additional taxes are assessed as a result of an audit or litigation, they could have a material effect on our income tax provision and net income in the period or periods for which that determination is made. We operate within multiple taxing jurisdictions and are subject to audit in these jurisdictions. These audits can involve complex issues which may require an extended period of time to resolve and could result in additional assessments of income tax. We believe adequate provisions for income taxes have been made for all periods.

Recent Accounting Pronouncements

Information regarding recent accounting pronouncements is provided in Note 2, *Significant Accounting Policies*, to the Consolidated Financial Statements. Such information is incorporated by reference herein.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Interest Income

Our investment portfolio includes cash, cash equivalents, short-term investments and long-term investments. Our main investment objectives are the preservation of investment capital and the maximization of after-tax returns on our investment portfolio. Our interest income is sensitive to changes in the general level of U.S. interest rates. A 100 basis point decline in yield on our investment portfolio holdings as of December 28, 2019 and December 29, 2018 would decrease our future annual interest income by approximately \$6.6 million and \$5.6 million, respectively. We believe that our investment policy, which defines the duration, concentration, and minimum credit quality of the allowable investments, meets our investment objectives.

Interest Expense

We are exposed to interest rate fluctuations in the normal course of our business, including through our Credit Facility. The interest rate on the Credit Facility consists of a variable-rate of interest and an applicable margin. While we have drawn from the Credit Facility in the past, we have no borrowings as of December 28, 2019. If we borrow from the Credit Facility in the future, we will again be exposed to interest rate fluctuations.

Foreign currency exchange rate risk

We are exposed to foreign currency exchange rate risk primarily through assets, liabilities and operating expenses of our subsidiaries denominated in currencies other than the U.S. dollar. Our foreign subsidiaries are considered to be extensions of the U.S. parent. The functional currency of the foreign subsidiaries is the U.S. dollar. Accordingly, gains and losses resulting from remeasuring transactions denominated in currencies other than U.S. dollars are recorded in the Consolidated Statements of Income. We use foreign currency forward contracts to manage exposure to foreign exchange risk. Gains and losses on foreign currency forward contracts are recognized in earnings in the same period during which the hedged transaction is recognized.

Investments in Auction-rate Securities

As of December 28, 2019, we held \$6.0 million par value auction-rate securities, all of which have experienced failed auctions because sell orders exceeded buy orders. We are unable to predict if these funds will become available before their maturity dates. Additionally, if we determine that an other-than-temporary decline in the fair value of any of our available-for-sale auction-rate securities has occurred, we may be required to adjust the carrying value of the investments through an impairment charge.

Item 8. Financial Statements and Supplementary Data

The Financial Statements and supplementary data required by this item are included in Part IV, Item 15 of this Form 10-K and are presented beginning on page F-1.

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We have performed an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), of the effectiveness of our disclosure controls and procedures, as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the Exchange Act). Based on that evaluation, our management, including our CEO and CFO, concluded that our disclosure controls and procedures were effective as of December 28, 2019 to provide reasonable assurance that information required to be disclosed by us in the reports filed or submitted by us under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Such disclosure controls and procedures include controls and procedures designed to ensure that information required to be disclosed is accumulated and communicated to our management, including our CEO and CFO, to allow timely decisions regarding required disclosures.

Changes in Internal Control over Financial Reporting

There was no change in our internal controls during the fiscal quarter ended December 28, 2019 that materially affected, or is reasonably likely to materially affect, our internal controls 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. Our internal control system was designed to provide reasonable assurance to our management and Board of Directors regarding the preparation and fair presentation of published financial statements.

Our management assessed the effectiveness of our internal control over financial reporting as of December 28, 2019. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control—Integrated Framework* (2013 framework). Based on our assessment we concluded that, as of December 28, 2019, our internal control over financial reporting is effective based on those criteria.

Our independent registered public accounting firm, Ernst & Young LLP, issued an attestation report on our internal control over financial reporting. This report appears on page F-1.

Item 9B. Other Information

None.

Part III

Certain information required by Part III is omitted from this report because we intend to file a definitive Proxy Statement pursuant to Regulation 14A (the "Proxy Statement") no later than 120 days after the end of the fiscal year covered by this report, and certain information to be included therein is incorporated herein by reference.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is incorporated by reference to the Proxy Statement under the sections captioned "Proposal One: Election of Directors," "Executive Compensation," "Section 16(a) Beneficial Ownership Reporting Compliance" and "Code of Ethics."

Item 11. Executive Compensation

The information under the caption "Executive Compensation" and "Proposal One: Election of Directors" appearing in the Proxy Statement, is incorporated herein by reference.

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

The information under the caption "Ownership of Securities" and "Equity Compensation Plan Information" appearing in the Proxy Statement is incorporated herein by reference.

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

The information under the caption "Certain Relationships and Related Transactions, and Director Independence" appearing in the Proxy Statement is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information under the caption "Proposal Two: Ratification of Appointment of Independent Registered Public Accounting Firm" appearing in the Proxy Statement is incorporated herein by reference.

Part IV

Item 15. Exhibits and Financial Statement Schedules

(a) 1. Financial Statements

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2. Schedules

All schedules have been omitted since the information required by the schedule is not applicable, or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the Consolidated Financial Statements and notes thereto.

3. Exhibits

The exhibits listed on the accompanying index to exhibits immediately following the Consolidated Financial Statements are filed as part of, or hereby incorporated by reference into, this Form 10-K.

(b) Exhibits

Exhibit Number

- 2.1* <u>Agreement and Plan of Merger, dated December 7, 2017, by and among Silicon Laboratories Inc., Seguin Merger Subsidiary, Inc. and Sigma Designs, Inc. (filed as Exhibit 2.1 to the Form 8-K filed on December 8, 2017).</u>
- 3.1* Form of Fourth Amended and Restated Certificate of Incorporation of Silicon Laboratories Inc. (filed as Exhibit 3.1 to the Registration Statement on Form S-1 (Securities and Exchange Commission File No. 333-94853) (the "IPO Registration Statement")).
- 3.2* Fourth Amended and Restated Bylaws of Silicon Laboratories Inc. (filed as Exhibit 3.2 to the Form 8-K filed on January 27, 2017).
- 4.1* Specimen certificate for shares of common stock (filed as Exhibit 4.1 to the IPO Registration Statement).
- 4.2* <u>Indenture between Silicon Laboratories Inc. and Wilmington Trust, National Association, as trustee, dated March 6, 2017 (filed as Exhibit 4.1 to the Form 8-K filed on March 6, 2017).</u>
- 4.3* Form of 1.375% Convertible Senior Note due 2022 (filed as Exhibit 4.2 to the Form 8-K filed on March 6, 2017).
- 10.1*+ Form of Indemnification Agreement between Silicon Laboratories Inc. and each of its directors and executive officers (filed as Exhibit 10.1 to the IPO Registration Statement).
- 10.2* Credit Agreement, dated July 31, 2012, by and among Silicon Laboratories Inc., the subsidiaries of the borrower identified therein, Bank of America, N.A., Wells Fargo Bank, National Association, and Regions Bank (filed as Exhibit 10.1 to the Form 8-K filed August 1, 2012).
- 10.3* First Amendment to Credit Agreement, dated July 24, 2015, by and among Silicon Laboratories Inc., the subsidiaries of the borrower identified therein, Wells Fargo Bank, National Association, Citibank, N.A., Regions Bank, Bank of America, N.A. and the lenders party thereto (filed as Exhibit 10.1 to the Form 8-K filed on July 29, 2015).
- 10.4* Second Amendment to Credit Agreement, dated February 27, 2017, by and among Silicon Laboratories Inc., the subsidiaries of the borrower identified therein, Wells Fargo Bank, National Association and the lenders party thereto (filed as Exhibit 10.1 to the Form 8-K filed on February 27, 2017).
- 10.5* Third Amendment to Credit Agreement, dated August 7, 2019, by and among Silicon Laboratories Inc., the subsidiaries of the borrower identified therein, Wells Fargo Bank, National Association and the lenders party thereto (filed as Exhibit 10.1 to the Form 8-K filed on August 7, 2019).
- 10.6* Security and Pledge Agreement, dated July 31, 2012, by and among Silicon Laboratories Inc., with the other parties identified as "Obligors" (as defined therein) and such other parties that may become Obligors thereunder after the date thereof, and Bank of America, N.A (filed as Exhibit 10.2 to the Form 8-K filed August 1, 2012).
- 10.7*+ Silicon Laboratories Inc. 2009 Stock Incentive Plan, as amended and restated on April 20, 2017 (filed as Exhibit 10.1 to the Form 10-Q filed on July 26, 2017).
- 10.8*+ Silicon Laboratories Inc. 2009 Employee Stock Purchase Plan, as amended and restated on April 20, 2017 (filed as Exhibit 10.2 to the Form 10-Q filed on July 26, 2017).
- 10.9*+ Form of Restricted Stock Units Grant Notice and Global Restricted Stock Units Award Agreement under Registrant's 2009 Stock Incentive Plan, as amended and restated (filed as Exhibit 10.7 to the Form 10-K filed on February 1, 2017).
- 10.10*+ Form of Market Stock Units Grant Notice and Global Market Stock Units Award Agreement under Registrant's 2009 Stock Incentive Plan, as amended and restated (filed as Exhibit 10.8 to the Form 10-K filed on February 1, 2017).
- 10.11*+ Form of Stock Option Grant Notice and Global Stock Option Award Agreement under Registrant's 2009

 Stock Incentive Plan, as amended and restated (filed as Exhibit 10.9 to the Form 10-K filed on February 1, 2017).
- 10.12*+ Form of Performance Stock Units Grant Notice and Global PSU Award Agreement under Registrant's 2009
 Stock Incentive Plan, as amended and restated (filed as Exhibit 10.10 to the Form 10-K filed on February 1, 2017).
- 10.13* Purchase Agreement between Silicon Laboratories Inc. and Goldman, Sachs & Co. and Wells Fargo
 Securities, LLC, as representatives of the several initial purchasers named therein, dated February 28, 2017
 (filed as Exhibit 10.1 to the Form 8-K filed on March 6, 2017).

Exhibit

- 10.14*+ CEO Change in Control Agreement dated October 23, 2018 between Silicon Laboratories Inc. and G. Tyson Tuttle (filed as Exhibit 10.1 to the Form 8-K filed on October 24, 2018).
- 10.15*+ <u>Silicon Laboratories Inc. Form of Change in Control Agreement (filed as Exhibit 10.2 to the Form 8-K filed on October 24, 2018).</u>
- 10.16*+ Silicon Laboratories Inc. 2020 Bonus Plan (filed as Exhibit 10.1 to the Form 8-K filed on January 24, 2020).
 - 21 Subsidiaries of the Registrant.
 - 23.1 Consent of Independent Registered Public Accounting Firm.
 - 24 Power of Attorney (included on signature page to this Form 10-K).
 - 31.1 <u>Certification of the Principal Executive Officer, as required by Section 302 of the Sarbanes-Oxley Act of 2002.</u>
 - 31.2 <u>Certification of the Principal Financial Officer, as required by Section 302 of the Sarbanes-Oxley Act of 2002.</u>
 - 32.1 Certification as required by Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS Inline XBRL Instance Document the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
- 101.SCH Inline XBRL Taxonomy Extension Schema Document
- 101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document
- 101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document
- 101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document
- 101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document
 - 104 Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

Item 16. Form 10-K Summary

None.

Incorporated herein by reference to the indicated filing.

Management contract or compensatory plan or arrangement

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, in Austin, Texas, on January 29, 2020.

SILICON L	ABOR A	TORIES	INC

By: _	/s/ G. Tyson Tuttle
	G. Tyson Tuttle
	President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints G. Tyson Tuttle and John C. Hollister and each of them, acting individually, as his or her attorney-in-fact, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this annual report on Form 10-K and other documents in connection herewith and therewith, and to file the same, with all exhibits thereto, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection herewith and therewith and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

Name	Title	Date
/s/ Navdeep S. Sooch Navdeep S. Sooch	Chairman of the Board	January 29, 2020
/s/ G. Tyson Tuttle G. Tyson Tuttle	President, Chief Executive Officer and Director (Principal Executive Officer)	January 29, 2020
/s/ John C. Hollister John C. Hollister	Senior Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	January 29, 2020
/s/ William G. Bock William G. Bock	Director	January 29, 2020
/s/ Jack R. Lazar Jack R. Lazar	Director	January 29, 2020
/s/ Gregg Lowe Gregg Lowe	Director	January 29, 2020
/s/ Nina Richardson Nina Richardson	Director	January 29, 2020
/s/ Sumit Sadana Sumit Sadana	Director	January 29, 2020
/s/ William P. Wood William P. Wood	Director	January 29, 2020
/s/ Christy Wyatt Christy Wyatt	Director	January 29, 2020

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Silicon Laboratories Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Silicon Laboratories Inc.'s internal control over financial reporting as of December 28, 2019, based on criteria established in Internal Control— Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Silicon Laboratories Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 28, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Silicon Laboratories Inc. as of December 28, 2019 and December 29, 2018, the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 28, 2019, and the related notes and our report dated January 29, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

/s/ Ernst & Young LLP

Austin, Texas January 29, 2020

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Silicon Laboratories Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Silicon Laboratories Inc. (the Company) as of December 28, 2019 and December 29, 2018, the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 28, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 28, 2019 and December 29, 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 28, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 28, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated January 29, 2020 expressed an unqualified opinion thereon.

Adoption of ASU 2014-09 and ASU 2016-02

As discussed in Note 2 to the consolidated financial statements, the Company changed its method of accounting for revenue from sales to distributors in 2018 due to the adoption of ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The Company changed its method of accounting for leases in 2019 due to the adoption of ASU No. 2016-02, *Leases (Topic 842)*.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Recognition of Variable Consideration

Description of the Matter

At December 28, 2019, the Company's returns liability, which is included in the Deferred revenues and returns liability in the consolidated balance sheet, was \$19.3 million. As discussed in Note 2 of the consolidated financial statements, when recording revenue for its contracts with customers the Company estimates variable consideration at the most likely amount to which it expects to be entitled. Variable consideration that does not meet revenue recognition criteria is deferred and a returns liability amount is recorded. The variable consideration estimate considers both the likelihood of a return and the amount of a potential price concession.

Auditing management's estimate of the returns liability was judgmental because the calculation involves subjective management assumptions about estimates of expected price concessions and product returns. For example, the estimated variable consideration included in the transaction price reflects management's evaluation of contractual terms, historical experience and assumptions about future economic conditions. Changes in those assumptions can have a material effect on the amount of variable consideration recognized.

How We Addressed the Matter in Our Audit We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the measurement and valuation of the variable consideration recognized as revenue and the returns liability. For example, we tested controls over management's review of the variable consideration methodology, the significant assumptions, and the historical data utilized in the estimate for assumed product returns and expected price concessions.

To test the variable consideration recognized as revenue and the returns liability, we performed audit procedures that included, among others, an evaluation of the Company's methodology and significant assumptions, and tested the completeness and accuracy of the historical data utilized in the estimate. In our assessment of the methodology, we considered changes in the business and changes to specific distributor contracts. We evaluated significant assumptions used by comparison to current trends and recent transactions. We also evaluated the accuracy of management's assumed product returns and expected price concession at prior periods by comparing to subsequent actual activity.

Uncertain Tax Positions

Description of the Matter

As discussed in Note 2 of the consolidated financial statements, uncertain tax positions must meet a more-likely-than-not threshold to be recognized in the consolidated financial statements and the tax benefits recognized are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon final settlement. The Company is a party to many transactions in the ordinary course of business where the ultimate tax outcome is uncertain. To account for this uncertainty, the Company uses significant judgment in determining whether a tax position is more likely than not to be sustained and measuring the amount of tax benefit that qualifies for recognition. As described in Note 17 of the consolidated financial statements, at December 28, 2019 the Company had gross unrecognized tax benefits, inclusive of interest, of \$2.4 million.

Auditing management's analysis of the uncertainties in its tax positions was complex and judgmental because the evaluation and measurement of each tax position is based on interpretations of tax laws and legal rulings.

How We Addressed the Matter in Our Audit We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the existence of uncertain tax positions and measurement of the benefit of those positions. For example, we tested controls over management's review of the technical merits of tax positions, the events and information that impacted tax positions, the estimate of the most likely outcome, and the data utilized in the estimate.

To test the valuation of uncertain tax positions, our audit procedures included, among others, analyzing the Company's assumptions and data used to determine the amount of tax benefit to recognize and tested the accuracy of the calculations. In considering the measurement criteria, we involved our tax professionals to assess the technical merits of the Company's tax positions. This included assessing the Company's correspondence with the relevant tax authorities and evaluating income tax opinions or other third-party advice obtained by the Company. We also used our knowledge of, and experience with, the application of international and local income tax laws by the relevant income tax authorities to evaluate the Company's accounting for those tax positions. We also evaluated the Company's income tax disclosures included in Note 17 to the consolidated financial statements in relation to these matters.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1996. Austin, Texas January 29, 2020

Silicon Laboratories Inc. Consolidated Balance Sheets (In thousands, except per share data)

	D	ecember 28, 2019	De	ecember 29, 2018
Assets				
Current assets:				
Cash and cash equivalents	\$	227,146	\$	197,043
Short-term investments		498,825		416,779
Accounts receivable, net		75,639		73,194
Inventories		73,057		74,972
Prepaid expenses and other current assets		69,192		64,650
Total current assets		943,859		826,638
Property and equipment, net		135,939		139,049
Goodwill		398,402		397,344
Other intangible assets, net		134,279		170,832
Other assets, net		62,374		90,491
Total assets	\$	1,674,853	\$ 1	1,624,354
Liabilities and Stockholders' Equity				
Current liabilities:				
Accounts payable	\$	38,899	\$	41,171
Deferred revenue and returns liability		19,251		22,494
Other current liabilities		79,551		81,180
Total current liabilities		137,701		144,845
Convertible debt		368,257		354,771
Other non-current liabilities		53,844		57,448
Total liabilities		559,802		557,064
Commitments and contingencies				
Stockholders' equity:				
Preferred stock – \$0.0001 par value; 10,000 shares authorized; no shares issued		_		_
Common stock – \$0.0001 par value; 250,000 shares authorized; 43,496 and 43,088				
shares issued and outstanding at December 28, 2019 and December 29, 2018,				
respectively		4		4
Additional paid-in capital		133,793		107,517
Retained earnings		980,608		961,343
Accumulated other comprehensive income (loss)		646		(1,574)
Total stockholders' equity		1,115,051		1,067,290
Total liabilities and stockholders' equity	\$	1,674,853	\$ 1	1,624,354

Silicon Laboratories Inc. Consolidated Statements of Income (In thousands, except per share data)

			Ye	ear Ended		
	De	cember 28, 2019	De	cember 29, 2018	Dec	cember 30, 2017
Revenues	\$	837,554	\$	868,267	\$	768,867
Cost of revenues	_	327,270		346,868		314,676
Gross profit		510,284		521,399		454,191
Operating expenses:						
Research and development		257,150		238,347		209,491
Selling, general and administrative	_	196,437		197,844		159,726
Operating expenses		453,587		436,191		369,217
Operating income		56,697		85,208		84,974
Other income (expense):						
Interest income and other, net		13,185		6,647		6,057
Interest expense	_	(20,233)		(19,694)		(14,128)
Income before income taxes		49,649		72,161		76,903
Provision (benefit) for income taxes	_	30,384		(11,430)		29,811
Net income	\$	19,265	\$	83,591	\$	47,092
Earnings per share:	_					
Basic	\$	0.44	\$	1.94	\$	1.11
Diluted	\$	0.43	\$	1.90	\$	1.09
Weighted-average common shares outstanding:						
Basic		43,346		43,159		42,446
Diluted		44,290		44,044		43,332

Silicon Laboratories Inc. Consolidated Statements of Comprehensive Income (In thousands)

			Ye	ar Ended		
	De	cember 28, 2019	Dec	cember 29, 2018	Dec	cember 30, 2017
Net income	\$	19,265	\$	83,591	\$	47,092
Other comprehensive income (loss), before tax:						
Net changes to available-for-sale securities:						
Unrealized gains (losses) arising during the period		2,564		376		(729)
Reclassification for (gains) losses included in net income		(218)		49		_
Net changes to cash flow hedges:						
Unrealized losses arising during the period		(321)		(953)		_
Reclassification for (gains) losses included in net income		784		316		(1,808)
Other comprehensive income (loss), before tax		2,809		(212)		(2,537)
Provision (benefit) for income taxes		589		(45)		(888)
Other comprehensive income (loss)		2,220		(167)		(1,649)
Comprehensive income	\$	21,485	\$	83,424	\$	45,443

Silicon Laboratories Inc. Consolidated Statements of Changes in Stockholders' Equity (In thousands)

	Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' <u>Equity</u>
Balance as of December 31, 2016	41,889	\$ 4	\$ 24,463	\$801,999	\$ 492	\$ 826,958
Cumulative effect of adoption of						
accounting standard	_	_		2,216		2,216
Net income	_	_	_	47,092	_	47,092
Other comprehensive income (loss)	_	_	_	_	(1,649)	(1,649)
Stock issuances, net of shares withheld						
for taxes	818	_	(3,938)	_	_	(3,938)
Stock-based compensation	_	_	44,809	_	_	44,809
Convertible debt issuance			37,528			37,528
Balance as of December 30, 2017	42,707	4	102,862	851,307	(1,157)	953,016
Cumulative effect of adoption of						
accounting standard	_	_	_	26,445	(250)	26,195
Net income	_	_	_	83,591	_	83,591
Other comprehensive income (loss)	_	_	_	_	(167)	(167)
Stock issuances, net of shares withheld						
for taxes	815	_	(6,180)	_	_	(6,180)
Repurchases of common stock	(434)	_	(39,276)	_	_	(39,276)
Stock-based compensation			50,111			50,111
Balance as of December 29, 2018	43,088	4	107,517	961,343	(1,574)	1,067,290
Net income	_			19,265		19,265
Other comprehensive income (loss)	_	_	_	_	2,220	2,220
Stock issuances, net of shares withheld						
for taxes	709		(1,799)			(1,799)
Repurchases of common stock	(301)	_	(26,716)	_	_	(26,716)
Stock-based compensation			54,791			54,791
Balance as of December 28, 2019	43,496	\$ 4	\$133,793	\$980,608	\$ 646	\$1,115,051

Silicon Laboratories Inc. Consolidated Statements of Cash Flows (In thousands)

			Y	ear Ended		
	De	ecember 28,		ecember 29,	De	cember 30,
Operating Activities	_	2019		2018		2017
Net income	\$	19,265	\$	83,591	\$	47,092
Adjustments to reconcile net income to cash provided by operating	Ψ	13,203	Ψ	00,001	Ψ	47,032
activities:						
Depreciation of property and equipment		16,883		15,912		14,766
Amortization of other intangible assets and other assets		39,584		44,102		27,246
Amortization of debt discount and debt issuance costs		13,485		12,892		10,146
Stock-based compensation expense		54,799		50,077		44,752
Deferred income taxes		23,048		(8,210)		(26,452)
Changes in operating assets and liabilities:		25,040		(0,210)		(20,432)
Accounts receivable		(2,401)		3,931		3,234
Inventories		2,171		7,660		(13,416)
Prepaid expenses and other assets		8,965		(4,960)		25,266
Accounts payable		7,830		5,952		(468)
Other current liabilities and income taxes						, ,
		(6,826)		(21,828)		61,924
Deferred income, deferred revenue and returns liability		(3,243)		(6,202)		4,453
Other non-current liabilities	_	(7,038)		(9,375)		(9,022)
Net cash provided by operating activities		166,522		173,542		189,521
Investing Activities						
Purchases of available-for-sale investments		(424,524)		(395,904)		(636,363)
Sales and maturities of available-for-sale investments		344,937		474,129		294,452
Purchases of property and equipment		(16,279)		(24,462)		(12,252)
Purchases of other assets		(8,396)		(11,063)		(4,960)
Acquisitions of businesses, net of cash acquired		(2,510)		(239,729)		(15,168)
Net cash used in investing activities		(106,772)		(197,029)		(374,291)
Financing Activities						
Financing Activities Proceeds from issuance of long-term debt						400,000
		(1 122)		_		
Payments on debt		(1,132)		_		(10,532)
Payments on debt		(26.716)		(20.276)		(72,500)
Repurchases of common stock Payment of taxes withheld for vested stock awards		(26,716)		(39,276)		(15.752)
		(16,295)		(19,483)		(15,753)
Proceeds from the issuance of common stock		14,496		13,303		11,815
Payment of acquisition-related contingent consideration	_	(20.645)	_	(3,380)	_	
Net cash provided by (used in) financing activities		(29,647)		(48,836)		313,030
Increase (decrease) in cash and cash equivalents		30,103		(72,323)		128,260
Cash and cash equivalents at beginning of period		197,043		269,366		141,106
Cash and cash equivalents at end of period	\$	227,146	\$	197,043	\$	269,366
Supplemental Disclosure of Cash Flow Information:	_				_	
Interest paid	\$	6,367	\$	6,227	\$	3,859
Income taxes paid	\$	10,291	\$	20,599	\$	8,929
1						

 $\label{thm:companying} \textit{ notes are an integral part of these Consolidated Financial Statements.}$

1. Description of Business

Silicon Laboratories Inc. (the "Company"), a Delaware corporation, is a leading provider of silicon, software and solutions for a smarter, more connected world. Our award-winning technologies are shaping the future of the Internet of Things (IoT), Internet infrastructure, industrial automation, consumer and automotive markets. Within the semiconductor industry, the Company is known as a "fabless" company meaning that the integrated circuits (ICs) incorporated in its products are manufactured by third-party foundry semiconductor companies.

2. Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The Company prepares financial statements on a 52- or 53-week fiscal year that ends on the Saturday closest to December 31. Fiscal 2019, 2018 and 2017 had 52 weeks and ended on December 28, 2019, December 29, 2018 and December 30, 2017, respectively. The accompanying Consolidated Financial Statements include the accounts of the Company and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

Foreign Currency Transactions

The Company's foreign subsidiaries are considered to be extensions of the U.S. Company. The functional currency of the foreign subsidiaries is the U.S. dollar. Accordingly, gains and losses resulting from remeasuring transactions denominated in currencies other than U.S. dollars are included in interest income and other, net in the Consolidated Statements of Income.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Among the significant estimates affecting the financial statements are those related to inventories, goodwill, acquired intangible assets, other long-lived assets, revenue recognition, stock-based compensation and income taxes. Actual results could differ from those estimates, and such differences could be material to the financial statements.

Adoption of New Lease Accounting Standard

The Company adopted Accounting Standards Codification (ASC) Topic 842, *Leases*, on December 30, 2018, the first day of its fiscal year ended December 28, 2019. We elected the package of practical expedients permitted under the transition guidance within the new standard, which allowed us to not reassess historical lease classifications, initial direct costs of existing leases or whether any expired or existing contracts were or contained leases.

The Company elected the retrospective method of adoption at the beginning of the period of adoption through a cumulative-effect adjustment. Prior periods have not been adjusted. The following reflects the material changes recorded in connection with the cumulative-effect adjustment (in thousands):

Financial Statement Line Item	Decrease
Prepaid expenses and other current assets	\$ (481)
Other assets, net	\$ 18,166
Other current liabilities	\$ 3,516
Other non-current liabilities	\$ 14,169

The primary impact of the Company's adoption of ASC 842 resulted from the recognition of right-of-use assets and operating lease liabilities. The adoption had no significant impact to the Consolidated Statements of Income or to cash provided by or used in net operating, investing or financing activities in the Consolidated Statements of Cash Flows.

2. Significant Accounting Policies (Continued)

Adoption of New Revenue Accounting Standard

The Company adopted Accounting Standards Codification (ASC) Topic 606, *Revenue from Contracts with Customers*, on December 31, 2017, the first day of its fiscal year ended December 29, 2018. The Company elected the modified retrospective method of adoption which only applies to those contracts which were not completed as of December 31, 2017. Prior periods have not been adjusted. In connection with its adoption of ASC 606, the Company recorded a cumulative-effect adjustment to retained earnings of \$26.2 million on December 31, 2017. The following reflects the material changes recorded in connection with the cumulative-effect adjustment (in thousands):

Financial Statement Line Item	Increa	ise (Decrease)
Accounts receivable, net	\$	230
Prepaid expenses and other current assets	\$	7,579
Other assets, net	\$	(2,282)
Deferred revenue and returns liability	\$	27,806
Deferred income on shipments to distributors	\$	(50,115)
Other current liabilities	\$	1,641
Retained earnings	\$	26,195

The primary impact of the Company's adoption of ASC 606 resulted from the acceleration of the timing of revenue recognition on sales to distributors. The Company previously deferred revenue and cost of revenue on such sales until the distributors sold the product to the end customers. The Company now recognizes revenue at the time of sale to the distributor provided all other revenue recognition criteria have been met. The Company records a right of return asset and a returns liability in place of the deferred income on shipments to distributors previously recorded under ASC 605.

Fair Value of Financial Instruments

The fair values of the Company's financial instruments are recorded using a hierarchical disclosure framework based upon the level of subjectivity of the inputs used in measuring assets and liabilities. The three levels are described below:

- Level 1 Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement
- Level 2 Inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3 Inputs are unobservable for the asset or liability and are developed based on the best information available in the circumstances, which might include the Company's own data.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash deposits, certificates of deposit, money market funds and investments in debt securities with original maturities of ninety days or less when purchased.

Investments

The Company's investments typically have original maturities greater than ninety days as of the date of purchase and are classified as either available- for-sale or trading securities. Investments in available-for-sale securities are reported at fair value, with unrealized gains and losses, net of tax, recorded as a component of accumulated other comprehensive income (loss) in the Consolidated Balance Sheet. Investments in trading securities are reported at fair value, with both realized and unrealized gains and losses recorded in interest income and other, net in the Consolidated Statement of Income. Investments in which the Company has the ability and intent, if necessary, to liquidate in order to support its current operations (including those with contractual maturities greater than one year from the date of purchase) are classified as short-term.

2. Significant Accounting Policies (Continued)

The Company reviews its available-for-sale investments as of the end of each reporting period for other-than-temporary declines in fair value based on the specific identification method. The Company considers various factors in determining whether an impairment is other-than-temporary, including the severity and duration of the impairment, changes in underlying credit ratings, forecasted recovery, its intent to sell or the likelihood that it would be required to sell the investment before its anticipated recovery in market value and the probability that the scheduled cash payments will continue to be made. When the Company concludes that an other-than-temporary impairment has occurred, the Company assesses whether it intends to sell the security or if it is more likely than not that it will be required to sell the security before recovery. If either of these two conditions is met, the Company recognizes a charge in earnings equal to the entire difference between the security's amortized cost basis and its fair value. If the Company does not intend to sell a security and it is not more likely than not that it will be required to sell the security before recovery, the unrealized loss is separated into an amount representing the credit loss, which is recognized in earnings, and the amount related to all other factors, which is recorded in accumulated other comprehensive income (loss).

In addition, the Company has made equity investments in non-publicly traded companies. Equity investments in which the Company does not have control, but has the ability to exercise significant influence over operating and financial policies, are accounted for using the equity method. The Company's proportionate share of income or loss is recorded in interest income and other, net in the Consolidated Statement of Income. All other non-marketable equity investments are recorded at cost minus impairment, if any, plus or minus changes resulting from qualifying observable price changes. The Company periodically reviews its equity investments for other-than-temporary declines in fair value based on the specific identification method and writes down investments to their fair values when it determines that an other-than-temporary decline has occurred.

Derivative Financial Instruments

The Company uses derivative financial instruments to manage certain exposures to the variability of foreign currency exchange rates and interest rates. The Company's objective is to offset increases and decreases in expenses resulting from these exposures with gains and losses on the derivative contracts, thereby reducing volatility of earnings. The Company does not use derivative contracts for speculative or trading purposes. The Company recognizes derivatives, on a gross basis, in the Consolidated Balance Sheet at fair value. Cash flows from derivatives are classified according to the nature of the cash receipt or payment in the Consolidated Statement of Cash Flows.

Cash flow hedges used by the Company include foreign currency forward contracts and interest rate swap agreements. Foreign currency forward contracts are used to reduce the earnings impact that exchange rate fluctuations have on operating expenses denominated in currencies other than the U.S. dollar. Interest rate swap agreements are used to manage exposure to interest rate risks.

The Company also uses foreign currency forward contracts to reduce the earnings impact that exchange rate fluctuations have on non-U.S. dollar balance sheet exposures. The Company does not apply hedge accounting to these foreign currency forward contracts.

Inventories

Inventories are stated at the lower of cost, determined using the first-in, first-out method, or net realizable value. The Company writes down the carrying value of inventory to net realizable value for estimated obsolescence or unmarketable inventory based upon assumptions about the age of inventory, future demand and market conditions. Inventory impairment charges establish a new cost basis for inventory and charges are not subsequently reversed to income even if circumstances later suggest that increased carrying amounts are recoverable.

Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is computed using the straight-line method over the useful lives of the assets ranging from three to fifteen years. Leasehold improvements are depreciated over the lease term or their useful life, whichever is shorter.

2. Significant Accounting Policies (Continued)

The Company owns the facilities it had previously leased for its headquarters in Austin, Texas. The buildings are located on land which is leased through 2099 from a third party. The rents for these ground leases were prepaid for the term of the leases by the previous lessee. The buildings and leasehold interest in ground leases are being depreciated on a straight-line basis over their estimated useful lives of 40 years and 86 years, respectively.

Business Combinations

The Company records business combinations using the acquisition method of accounting and, accordingly, allocates the fair value of purchase consideration to the assets acquired and liabilities assumed based on their fair values at the acquisition date. The excess of the fair value of purchase consideration over the fair value of the assets acquired and liabilities assumed is recorded as goodwill. The results of operations of the businesses acquired are included in the Company's consolidated results of operations beginning on the date of the acquisition.

Long-Lived Assets

Purchased intangible assets are stated at cost, net of accumulated amortization, and are amortized using the straight-line method over their estimated useful lives, ranging from four to twelve years. Fair values are determined primarily using the income approach, in which the Company projects future expected cash flows and applies an appropriate discount rate.

Long-lived assets "held and used" by the Company are reviewed for impairment whenever events or changes in circumstances indicate that their net book value may not be recoverable. When such factors and circumstances exist, the Company compares the projected undiscounted future cash flows associated with the related asset or group of assets over their estimated useful lives against their respective carrying amounts. Impairment, if any, is based on the excess of the carrying amount over the fair value of those assets and is recorded in the period in which the determination was made.

The carrying value of goodwill is reviewed at least annually by the Company for possible impairment. The goodwill impairment test is a two-step process. The first step of the impairment analysis compares the fair value of the reporting unit to the net book value of the reporting unit. In determining fair value, several valuation methodologies are allowed, although quoted market prices are the best evidence of fair value. If the results of the first step demonstrate that the net book value is greater than the fair value, the Company must proceed to step two of the analysis. Step two of the analysis compares the implied fair value of goodwill to its carrying amount. If the carrying amount of goodwill exceeds its implied fair value, an impairment loss is recognized equal to that excess. The Company tests goodwill for impairment annually as of the first day of its fourth fiscal quarter and in interim periods if events occur that would indicate that the carrying value of goodwill may be impaired.

Leases

At the commencement date of a lease, the Company recognizes a liability to make lease payments and an asset representing the right to use the underlying asset during the lease term. The lease liability is measured at the present value of lease payments over the lease term. As its leases typically do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date taking into consideration necessary adjustments for collateral, depending on the facts and circumstances of the lease and the leased asset, and term to match the lease term. The right-of-use ("ROU") asset is measured at cost, which includes the initial measurement of the lease liability and initial direct costs incurred by the Company and excludes lease incentives. Lease liabilities are recorded in other current liabilities and other non-current liabilities. ROU assets are recorded in other assets, net.

Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Operating lease costs are recognized on a straight-line basis over the lease term. Lease agreements that contain both lease and non-lease components are generally accounted for separately.

2. Significant Accounting Policies (Continued)

Revenue Recognition

Revenue is recognized when control of the promised goods or services is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. Substantially all of the Company's contracts with customers contain a single performance obligation, the sale of mixed-signal integrated circuit (IC) products. This performance obligation is satisfied when control of the product is transferred to the customer, which typically occurs upon delivery. Unsatisfied performance obligations primarily represent contracts for products with future delivery dates. The Company has opted to not disclose the amount of unsatisfied performance obligations as these contracts have original expected durations of less than one year.

The transaction price reflects the Company's expectations about the consideration it will be entitled to receive from the customer and may include fixed or variable amounts. Variable consideration primarily includes sales made to distributors under agreements allowing certain rights of return, referred to as stock rotation, and credits issued to the distributor due to price protection. The Company estimates variable consideration at the most likely amount to which it expects to be entitled. The estimate is based on information available to the Company, including recent sales activity and pricing data. The Company applies a constraint to its variable consideration estimate which considers both the likelihood of a return and the amount of a potential price concession. Variable consideration that does not meet revenue recognition criteria is deferred. The Company records a right of return asset in prepaid expenses and other current assets for the costs of distributor inventory not meeting revenue recognition criteria. A corresponding deferred revenue and returns liability amount is recorded for unrecognized revenue associated with such costs. The Company's products carry a one-year replacement warranty. Payments are typically due within 30 days of invoicing and do not include a significant financing component.

Shipping and Handling

Shipping and handling costs are classified as a component of cost of revenues in the Consolidated Statements of Income.

Stock-Based Compensation

The Company has stock-based compensation plans, which are more fully described in Note 15, *Stock-Based Compensation*. The Company accounts for those plans using a fair-value method and recognizes the expense in its Consolidated Statement of Income.

Research and Development

Research and development costs are expensed as incurred. Research and development expense consists primarily of personnel-related expenses, including stock-based compensation, as well as new product masks, external consulting and services costs, equipment tooling, equipment depreciation, amortization of intangible assets, and an allocated portion of our occupancy costs. Assets purchased to support the Company's ongoing research and development activities are capitalized when related to products which have achieved technological feasibility or have an alternative future use, and are amortized over their estimated useful lives.

Advertising

Advertising costs are expensed as incurred. Advertising expenses were \$1.6 million, \$1.9 million and \$1.4 million in fiscal 2019, 2018 and 2017, respectively.

2. Significant Accounting Policies (Continued)

Income Taxes

The Company accounts for income taxes using the asset and liability method whereby deferred tax asset and liability account balances are determined based on differences between the financial reporting and the tax bases of assets and liabilities and are measured using the enacted tax laws and related rates that will be in effect when the differences are expected to reverse. These differences result in deferred tax assets and liabilities, which are included in the Company's Consolidated Balance Sheet. The Company then assesses the likelihood that the deferred tax assets will be realized. A valuation allowance is established against deferred tax assets to the extent the Company believes that it is more likely than not that the deferred tax assets will not be realized, taking into consideration the level of historical taxable income and projections for future taxable income over the periods in which the temporary differences are deductible.

Uncertain tax positions must meet a more-likely-than-not threshold to be recognized in the financial statements and the tax benefits recognized are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon final settlement. See Note 17, *Income Taxes*, for additional information.

Recent Accounting Pronouncements

In January 2017, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.* This ASU eliminates Step 2 from the goodwill impairment test, which previously measured an impairment loss by comparing the implied fair value of goodwill with its carrying amount. Instead, an entity should recognize an impairment charge for the amount by which the carrying value exceeds the reporting unit's fair value, not to exceed the total amount of goodwill allocated to that reporting unit. This ASU is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. The Company expects that the adoption will not have a material impact on its financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments.* This ASU requires instruments measured at amortized cost to be presented at the net amount expected to be collected. Entities are also required to record allowances for available-for-sale debt securities rather than reduce the carrying amount. This ASU is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The Company expects that the adoption will not have a material impact on its financial statements.

3. Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per share (in thousands, except per share data):

		Year Ended					
	De	cember 28, 2019	De	cember 29, 2018	December 30, 2017		
Net income	\$	19,265	\$	83,591	\$	47,092	
Shares used in computing basic earnings per share		43,346		43,159		42,446	
Effect of dilutive securities:							
Stock-based awards and convertible debt		944		885		886	
Shares used in computing diluted earnings per share		44,290		44,044		43,332	
Earnings per share:							
Basic	\$	0.44	\$	1.94	\$	1.11	
Diluted	\$	0.43	\$	1.90	\$	1.09	

3. Earnings Per Share (Continued)

The Company intends to settle the principal amount of its convertible senior notes in cash and any excess value in shares in the event of a conversion. Accordingly, shares issuable upon conversion of the principal amount have been excluded from the calculation of diluted earnings per share. If the market value of the notes under certain prescribed conditions exceeds the conversion amount, the excess is included in the denominator for the computation of diluted earnings per share using the treasury stock method. For fiscal 2019 and 2018, approximately 0.4 million shares and 0.1 million shares, respectively, were included in the denominator for the calculation of diluted earnings per share. For fiscal 2017, no such shares were included in the denominator for the calculation of diluted earnings per share. See Note 10, *Debt*, to the Consolidated Financial Statements for additional information.

4. Fair Value of Financial Instruments

The following summarizes the valuation of the Company's financial instruments (in thousands). The tables do not include either cash on hand or assets and liabilities that are measured at historical cost or any basis other than fair value.

Fair Value Measurements

	at December 28, 2019 Using						
Description	Activ Idei	ted Prices in e Markets for ntical Assets (Level 1)		nificant Other Observable Inputs (Level 2)	Un	ignificant observable Inputs Level 3)	Total
Assets:							
Cash equivalents:							
Money market funds	\$	92,379	\$	_	\$	_	\$ 92,379
Corporate debt securities		_		1,325		_	1,325
Total cash equivalents	\$	92,379	\$	1,325	\$	_	\$ 93,704
Short-term investments:							
Government debt securities	\$	85,189	\$	86,682	\$	_	\$ 171,871
Corporate debt securities		<u> </u>		326,954			 326,954
Total short-term investments	\$	85,189	\$	413,636	\$	_	\$ 498,825
Other assets, net:							
Auction rate securities	\$	<u> </u>	\$	<u> </u>	\$	5,647	\$ 5,647
Total	\$	_	\$	_	\$	5,647	\$ 5,647
Total	\$	177,568	\$	414,961	\$	5,647	\$ 598,176

4. Fair Value of Financial Instruments (Continued)

	Fair Value Measurements at December 29, 2018 Using							
Description	Quoted Prices in Significant Other		S Un	ignificant observable Inputs (Level 3)	_	Total		
Assets:								
Cash equivalents:								
Money market funds	\$	74,990	\$	_	\$	_	\$	74,990
Corporate debt securities		_		18,820		_		18,820
Government debt securities		9,338		_		_		9,338
Total cash equivalents	\$	84,328	\$	18,820	\$	_	\$	103,148
Short-term investments:								
Government debt securities	\$	48,141	\$	99,211	\$	_	\$	147,352
Corporate debt securities		_		269,427		_		269,427
Total short-term investments	\$	48,141	\$	368,638	\$	_	\$	416,779
Other assets, net:								
Auction rate securities	\$	_	\$	_	\$	5,759	\$	5,759
Total	\$	_	\$	_	\$	5,759	\$	5,759
Total	\$	132,469	\$	387,458	\$	5,759	\$	525,686

<u>Valuation methodology</u>

The Company's cash equivalents and short-term investments that are classified as Level 2 are valued using non-binding market consensus prices that are corroborated with observable market data; quoted market prices for similar instruments in active markets; or pricing models, such as a discounted cash flow model, with all significant inputs derived from or corroborated with observable market data. Investments classified as Level 3 are valued using a discounted cash flow model. The assumptions used in preparing the discounted cash flow model include estimates for interest rates, amount of cash flows, expected holding periods of the securities and a discount to reflect the Company's inability to liquidate the securities. The Company's derivative instruments are valued using discounted cash flow models. The assumptions used in preparing the valuation models include foreign exchange rates, forward and spot prices for currencies, and market observable data of similar instruments.

Available-for-sale investments

The Company's investments are reported at fair value, with unrealized gains and losses, net of tax, recorded as a component of accumulated other comprehensive income (loss) in the Consolidated Balance Sheet. The following summarizes the contractual underlying maturities of the Company's available-for-sale investments at December 28, 2019 (in thousands):

		Fair
	Cost	Value
Due in one year or less	\$381,583	\$382,259
Due after one year through ten years	196,702	197,370
Due after ten years	18,900	18,547
	\$597,185	\$598,176

4. Fair Value of Financial Instruments (Continued)

The available-for-sale investments that were in a continuous unrealized loss position, aggregated by length of time that individual securities have been in a continuous loss position, were as follows (in thousands):

	Less Than	12 M	12 Months or Greater			er Total			
As of December 28, 2019	Fair Value	Unr	ealized osses	Gross Fair Unrealized Value Losses		r Unrealized Fair		Un	Gross realized Losses
Government debt securities	\$ 11,947	\$	(19)	\$ 7,183	\$	(7)	\$ 19,130	\$	(26)
Corporate debt securities	68,116		(81)	20		_	68,136		(81)
Auction rate securities	_		_	5,647		(353)	5,647		(353)
	\$ 80,063	\$	(100)	\$ 12,850	\$	(360)	\$ 92,913	\$	(460)
	Less Than	_		12 Months			То	tal	
As of December 29, 2018	Less Than Fair Value	G	onths ross ealized osses	12 Months Fair Value	Un	Freater Gross Frealized Losses	To Fair Value	Un	Gross realized Losses
As of December 29, 2018 Government debt securities	Fair	G	ross ealized	Fair	Un	Gross realized	Fair	Un	realized
	Fair Value	G Unro Lo	ross ealized osses	Fair Value	Un	Gross realized Losses	Fair Value	Un I	realized Losses
Government debt securities	Fair Value \$ 13,278	G Unro Lo	ross ealized osses (10)	Fair Value \$ 88,696	Un	Gross realized Losses (583)	Fair Value \$101,974	Un I	realized Losses (593)

The gross unrealized losses as of December 28, 2019 and December 29, 2018 were due primarily to changes in market interest rates and the illiquidity of the Company's auction-rate securities. The Company's auction-rate securities have been illiquid since 2008 when auctions for the securities failed because sell orders exceeded buy orders. These securities have a contractual maturity date of 2046. The Company is unable to predict if these funds will become available before their maturity date.

The Company considers the declines in market value of its marketable securities investment portfolio to be temporary in nature. When evaluating an investment for other-than-temporary impairment, the Company reviews factors such as the severity and duration of the impairment, changes in underlying credit ratings, forecasted recovery, the Company's intent to sell or the likelihood that it would be required to sell the investment before its anticipated recovery in market value and the probability that the scheduled cash payments will continue to be made. As of December 28, 2019, the Company has determined that no other-than-temporary impairment losses existed.

At December 28, 2019 and December 29, 2018, there were no material unrealized gains associated with the Company's available-for-sale investments.

Level 3 fair value measurements

The following summarizes quantitative information about Level 3 fair value measurements.

Auction rate securities

Fair Value at December 28, 2019 (000s)	Valuation Technique	Unobservable Input	Weighted Average
\$ 5,64	Discounted cash flo	w Estimated yield	3.49 %
		Expected holding period	10 years
		Estimated discount rate	3.03 %

4. Fair Value of Financial Instruments (Continued)

The Company has followed an established internal control procedure used in valuing auction rate securities. The procedure involves the analysis of valuation techniques and evaluation of unobservable inputs commonly used by market participants to price similar instruments, and which have been demonstrated to provide reasonable estimates of prices obtained in actual market transactions. Outputs from the valuation process are assessed against various market sources when they are available, including marketplace quotes, recent trades of similar illiquid securities, benchmark indices and independent pricing services. The technique and unobservable input parameters may be recalibrated periodically to achieve an appropriate estimation of the fair value of the securities.

Significant changes in any of the unobservable inputs used in the fair value measurement of auction rate securities in isolation could result in a significantly lower or higher fair value measurement. An increase in expected yield would result in a higher fair value measurement, whereas an increase in expected holding period or estimated discount rate would result in a lower fair value measurement. Generally, a change in the assumptions used for expected holding period is accompanied by a directionally similar change in the assumptions used for estimated yield and discount rate.

The following summarizes the activity in Level 3 financial instruments for the years ended December 28, 2019 and December 29, 2018 (in thousands):

Assets

	Year Ended			
Auction Rate Securities	Dec	ember 28, 2019	Dec	ember 29, 2018
Beginning balance	\$	5,759	\$	5,681
Gain (loss) included in other comprehensive income (loss)		(112)		78
Ending balance	\$	5,647	\$	5,759

Fair values of other financial instruments

The Company's debt is recorded at cost, but is measured at fair value for disclosure purposes. The fair value of the Company's convertible senior notes is determined using observable market prices. The notes are traded in less active markets and are therefore classified as a Level 2 fair value measurement. As of December 28, 2019 and December 29, 2018, the fair value of the convertible senior notes was \$524.0 million and \$419.0 million, respectively.

The Company's other financial instruments, including cash, accounts receivable and accounts payable, are recorded at amounts that approximate their fair values due to their short maturities.

5. Derivative Financial Instruments

The Company uses derivative financial instruments to manage certain exposures to the variability of foreign currency exchange rates and interest rates. The Company's objective is to offset increases and decreases in expenses resulting from these exposures with gains and losses on the derivative contracts, thereby reducing volatility of earnings.

Cash Flow Hedges

Foreign Currency Forward Contracts

The Company uses foreign currency forward contracts to reduce the earnings impact that exchange rate fluctuations have on operating expenses denominated in currencies other than the U.S. dollar. Changes in the fair value of the contracts are recorded in accumulated other comprehensive income (loss) in the Consolidated Balance Sheet and subsequently reclassified into earnings in the period during which the hedged transaction is recognized. The reclassified amount is reported in the same financial statement line item as the hedged item. If the foreign currency forward contracts are terminated or can no longer qualify as hedging instruments prior to maturity, the fair value of the contracts recorded in accumulated other comprehensive income (loss) may be recognized in the Consolidated Statement of Income based on an assessment of the contracts at the time of termination.

5. Derivative Financial Instruments (Continued)

The Company has entered into foreign currency forward contracts for a portion of its forecasted operating expenses denominated in the Norwegian Krone. As of December 28, 2019, the contracts had maturities of one to seven months and an aggregate notional value of \$5.0 million. Losses expected to be reclassified into earnings in the next 12 months were not material. The fair value of the contracts, contract losses recognized in other comprehensive income (loss) and amounts reclassified from accumulated other comprehensive income (loss) into earnings were not material for any of the periods presented.

Interest Rate Swaps

The Company entered into an interest rate swap agreement with an original notional value of \$72.5 million in connection with its Credit Facility in July 2016. The Company terminated the swap agreement in March 2017, which resulted in the reclassification of \$1.8 million of unrealized gains into earnings during fiscal 2017.

Non-designated Hedges

Foreign Currency Forward Contracts

The Company uses foreign currency forward contracts to reduce the earnings impact that exchange rate fluctuations have on non-U.S. dollar balance sheet exposures. The Company recognizes gains and losses on the foreign currency forward contracts in interest income and other, net in the Consolidated Statement of Income in the same period as the remeasurement loss and gain of the related foreign currency denominated asset or liability. The Company does not apply hedge accounting to these foreign currency forward contracts.

As of December 28, 2019, the Company held one foreign currency forward contract denominated in Singapore Dollars with a notional value of \$6.2 million. The fair value of foreign contracts and contract losses recognized in income were not material for any of the periods presented.

6. Balance Sheet Details

The following tables show the details of selected Consolidated Balance Sheet items (in thousands):

Accounts Receivable, Net

	De	cember 28, 2019	De	cember 29, 2018
Accounts receivable	\$	76,277	\$	73,832
Allowance for doubtful accounts		(638)		(638)
	\$	75,639	\$	73,194

Inventories

	De	2019	Dec	2018
Work in progress	\$	52,350	\$	50,983
Finished goods		20,707		23,989
	\$	73,057	\$	74,972

6. Balance Sheet Details (Continued)

Property and Equipment

	December 28, 2019	December 29, 2018
Buildings and improvements	\$ 112,673	\$ 109,025
Equipment	65,843	62,895
Computers and purchased software	45,879	42,487
Leasehold interest in ground leases	23,840	23,840
Leasehold improvements	8,782	12,006
Furniture and fixtures	8,291	7,794
	265,308	258,047
Accumulated depreciation	(129,369)	(118,998)
	\$ 135,939	\$ 139,049

Other Current Liabilities

	December 28, 2019		December 29 2018	
Accrued compensation and benefits	\$	41,138	\$	37,113
Accrued price protection credits		4,918		12,033
Other		33,495		32,034
	\$	79,551	\$	81,180

7. Risks and Uncertainties

Financial Instruments

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash equivalents, investments, accounts receivable, notes receivable and derivatives. The Company places its cash equivalents and investments primarily in municipal bonds, money market funds, corporate bonds, variable-rate demand notes, U.S. government securities, agency securities, asset-back securities, commercial paper and auction-rate securities. Concentrations of credit risk with respect to accounts receivable are primarily due to customers with large outstanding balances. The Company's customers that accounted for greater than 10% of accounts receivable consisted of the following:

	December 28, 2019	December 29, 2018
Edom Technology	17 %	10 %
Arrow Electronics	14 %	12 %
Other	11 %	*

Less than 10% of accounts receivable

The Company performs periodic credit evaluations of its customers' financial condition and generally requires no collateral from its customers. The Company provides an allowance for potential credit losses based upon the expected collectibility of such receivables. Losses have not been significant for any of the periods presented.

The Company holds two notes receivable from a privately held company. The total carrying value of the notes was \$1.2 million as of December 28, 2019. The Company holds an equity investment in another privately held company. The investment is accounted for using the equity method and had a carrying value of \$6.7 million as of December 28, 2019. The notes receivable and the investment were recorded in other assets, net in the Consolidated Balance Sheet.

7. Risks and Uncertainties (Continued)

As a result of its use of derivative instruments, the Company is exposed to the risk that its counterparties will fail to meet their contractual obligations. To mitigate this counterparty credit risk, the Company has a policy to enter into contracts with only selected major financial institutions. The Company periodically reviews and re-assesses the creditworthiness of such counterparties based on a variety of factors.

Distributor Advances

On sales to distributors, the Company's payment terms often require the distributor to initially pay amounts owed to the Company for an amount in excess of their ultimate cost. The Company's sales price to its distributors may be higher than the amount that the distributors will ultimately owe the Company because distributors often negotiate price reductions after purchasing the product from the Company and such reductions are often significant. These negotiated price discounts are not granted until the distributor sells the product to the end customer, which may occur after the distributor has paid the original invoice amount to the Company. Payment of invoices prior to receiving an associated discount can have an adverse impact on the working capital of the Company's distributors. Accordingly, the Company has entered into agreements with certain distributors whereby it advances cash to the distributors to reduce the distributor's working capital requirements. The advance amounts are based on the distributor's inventory balance, and are adjusted quarterly. Such amounts are recorded in prepaid expenses and other current assets in the Consolidated Balance Sheet. The terms of these advances are set forth in binding legal agreements and are unsecured, bear no interest on unsettled balances and are due upon demand. The agreements governing these advances can be cancelled by the Company at any time.

Suppliers

A significant portion of the Company's products are fabricated by Taiwan Semiconductor Manufacturing Co. (TSMC) or Semiconductor Manufacturing International Corporation (SMIC). The inability of TSMC or SMIC to deliver wafers to the Company on a timely basis could impact the production of the Company's products for a substantial period of time, which could have a material adverse effect on the Company's business, financial condition, results of operations and cash flows.

Customers

The Company sells directly to end customers, distributors and contract manufacturers. Although the Company actually sells the products to, and is paid by, distributors and contract manufacturers, the Company refers to the end customer as its customer. None of the Company's end customers or contract manufacturers accounted for greater than 10% of revenue during fiscal 2019, 2018 or 2017. The Company's distributors that accounted for greater than 10% of revenue consisted of the following:

	Year Ended			
	December 28, 2019	December 29, 2018	December 30, 2017	
Arrow Electronics	26 %	21 %	12 %	
Edom Technology	20 %	17 %	19 %	
Avnet	*	*	14 %	

^{*} Less than 10% of revenue

8. Acquisitions

Z-Wave

On April 18, 2018, the Company completed the acquisition of the Z-Wave business from Sigma Designs, Inc. for \$243 million in cash. Z-Wave is an Internet of Things (IoT) technology for smart home solutions.

8. Acquisitions (Continued)

This strategic acquisition expanded the Company's IoT connectivity portfolio in the connected home and security market, while further scaling the Company's engineering team. These factors contributed to a purchase price that was in excess of the fair value of the net assets acquired and, as a result, the Company recorded goodwill. A portion of the goodwill is deductible for tax purposes. The purchase price was allocated as follows (in thousands):

	Amount	Weighted-Average Amortization Period (Years)
Intangible assets:		
In-process research and development	\$ 20,900	Not amortized
Developed technology	69,875	7
Customer relationships	25,000	4
Trademarks	9,900	7
	125,675	
Cash and cash equivalents	2,841	
Accounts receivable	5,311	
Inventory	15,581	
Other current assets	329	
Goodwill	109,117	
Other non-current assets	2,587	
Accounts payable	(3,306)	
Other current liabilities	(8,918)	
Other non-current liabilities	(6,648)	
Total purchase price	\$242,569	

The following unaudited pro forma financial information presents combined results of operations for each of the periods presented, giving effect to the acquisition as if it had been completed on January 1, 2017. The pro forma financial information includes charges for the fair value write-up associated with acquired inventory, adjustments for amortization expense of acquired intangible assets and tax-related expenses. The pro forma results of operations are presented for informational purposes only and are not necessarily indicative of the results of operations that would have been achieved if the acquisition had taken place on January 1, 2017 or of results that may occur in the future (in thousands, except per share data):

		Year Ended		
	De	December 29,		
	2018 2019 (Unaudited)			2017
Revenues	\$	882,109	\$	824,009
Net income	\$	87,874	\$	27,958
Earnings per share:				
Basic	\$	2.04	\$	0.66
Diluted	\$	2.00	\$	0.65

Zentri

On January 20, 2017, the Company acquired Zentri, Inc., a private company. Zentri was an innovator in low-power, cloud-connected Wi-Fi technologies for the IoT. The Company acquired Zentri for approximately \$18.1 million, including initial cash consideration of approximately \$14.3 million, and potential additional consideration with an estimated fair value of approximately \$3.8 million at the date of acquisition.

8. Acquisitions (Continued)

The purchase price was allocated as follows: intangible assets—\$6.7 million; goodwill—\$12.1 million; and other net liabilities—\$0.7 million. The goodwill is not deductible for tax purposes. Pro forma information related to this acquisition has not been presented because it would not be materially different from amounts reported.

Other

In October 2019, the Company acquired IEEE 1588 precision time protocol (PTP) software and module assets from Qulsar. The transaction was accounted for as a business combination, which was not material to the Company.

9. Goodwill and Other Intangible Assets

Goodwill

The following summarizes the activity in goodwill for the years ended December 28, 2019 and December 29, 2018 (in thousands):

	Year l	Ended
	December 28, 2019	December 29, 2018
Beginning balance	\$ 397,344	\$ 288,227
Additions due to business combinations	1,058	109,117
Ending balance	\$ 398,402	\$ 397,344

Other Intangible Assets

The gross carrying amount and accumulated amortization of other intangible assets are as follows (in thousands):

	Weighted-Average Amortization	Decembe	er 28, 2019	Decemb	er 29, 2018
	Period (Years)	Gross Amount	Accumulated Amortization	Gross Amount	Accumulated Amortization
Core and developed technology	8	\$219,695	\$ (111,634)	\$237,265	\$ (102,116)
Customer relationships	6	40,795	(22,742)	46,890	(21,075)
Trademarks	7	12,310	(4,145)	12,310	(2,442)
Total	8	\$272,800	\$(138,521)	\$296,465	\$(125,633)

Gross intangible assets decreased \$26.6 million in fiscal 2019 due to the removal of fully amortized assets. This decrease was offset by \$3.0 million for the addition of certain assets acquired from Qulsar.

Amortization expense related to intangible assets for fiscal 2019, 2018 and 2017 was \$39.5 million, \$38.0 million and \$27.1 million, respectively. The estimated aggregate amortization expense for intangible assets subject to amortization for each of the five succeeding fiscal years is as follows (in thousands):

Fiscal Year	
2020	\$ 38,100
2021	33,266
2022	23,801
2023	18,029
2024	15,569

10. Debt

1.375% Convertible Senior Notes

On March 6, 2017, the Company completed a private offering of \$400 million principal amount convertible senior notes (the "Notes"). The Notes bear interest semi-annually at a rate of 1.375% per year and will mature on March 1, 2022, unless repurchased, redeemed or converted at an earlier date. The Company used \$72.5 million of the proceeds to pay off the then remaining balance under its credit agreement.

The Notes are convertible at an initial conversion rate of 10.7744 shares of common stock per \$1,000 principal amount of the Notes, or approximately 4.3 million shares of common stock, which is equivalent to a conversion price of approximately \$92.81 per share. The conversion rate is subject to adjustment under certain circumstances. Holders may convert the Notes under the following circumstances: during any calendar quarter after the calendar quarter ended on June 30, 2017 if the closing price of the Company's 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 greater than or equal to \$120.66 per share, representing 130% of the conversion price of the Notes; during the five business day period after any ten consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the closing sale price of our common stock and the conversion rate on each such trading day; if specified distributions or corporate events occur; if the Notes are called for redemption; or at any time after December 1, 2021. The Company may redeem all or any portion of the Notes, at its option, on or after March 6, 2020, if the last reported sale price of the Company's common stock has been at least 130% of the conversion price then in effect for at least 20 trading days during any 30 consecutive trading day period. Upon conversion, the Notes may be settled in cash, shares of the Company's common stock or a combination of cash and shares, at the Company's election.

The principal balance of the Notes was separated into liability and equity components, and was recorded initially at fair value. The excess of the principal amount of the liability component over its carrying amount represents the debt discount, which is amortized to interest expense over the term of the Notes using the effective interest method. The carrying amount of the liability component was estimated by discounting the contractual cash flows of similar non-convertible debt at an appropriate market rate at the date of issuance.

The Company incurred debt issuance costs of approximately \$10.6 million, which was allocated to the liability and equity components in proportion to the allocation of the proceeds. The costs allocated to the liability component are being amortized as interest expense over the term of the Notes using the effective interest method.

The carrying amount of the Notes consisted of the following (in thousands):

	December 28, 2019	December 29, 2018
Liability component		
Principal	\$ 400,000	\$ 400,000
Unamortized debt discount	(27,580)	(39,298)
Unamortized debt issuance costs	(4,163)	(5,931)
Net carrying amount	\$ 368,257	\$ 354,771
Equity component		
Net carrying amount	\$ 57,735	\$ 57,735

The liability component of the Notes is recorded in convertible debt on the Consolidated Balance Sheet. The equity component of the Notes is recorded in additional paid-in capital. The effective interest rate for the liability component was 4.75%. As of December 28, 2019, the remaining period over which the debt discount and debt issuance costs will be amortized was 2.2 years.

10. Debt (Continued)

Interest expense related to the Notes was comprised of the following (in thousands):

	Year Ended					
	Dec	cember 28, 2019	De	cember 29, 2018	D	ecember 30, 2017
Contractual interest expense	\$	5,485	\$	5,500	\$	4,492
Amortization of debt discount		11,717		11,202		8,816
Amortization of debt issuance costs		1,768		1,690		1,330
	\$	18,970	\$	18,392	\$	14,638

Credit Facility

On August 7, 2019, the Company and certain of its domestic subsidiaries (the "Guarantors") amended its existing credit agreement. The amended agreement (the "Credit Facility") consists of a \$400 million revolving credit facility with a maturity date of August 7, 2024. The Credit Facility includes a \$25 million letter of credit sublimit and a \$10 million swingline loan sublimit. The Company also has an option to increase the size of the borrowing capacity by up to the greater of an aggregate of \$250 million and 100% of EBITDA, plus an amount that would not cause a secured leverage ratio (funded debt secured by assets/EBITDA) to exceed 3.25 to 1.00, subject to certain conditions.

The revolving credit facility, other than swingline loans, will bear interest at the Eurodollar rate plus an applicable margin or, at the option of the Company, a base rate (defined as the highest of the Wells Fargo prime rate, the Federal Funds rate plus 0.50% and the Eurodollar Base Rate plus 1.00%) plus an applicable margin. Swingline loans accrue interest at the base rate plus the applicable margin for base rate loans. The applicable margins for the Eurodollar rate loans range from 1.00% to 1.75% and for base rate loans range from 0.00% to 0.75%, depending in each case, on the leverage ratio as defined in the Credit Facility.

The Credit Facility contains various conditions, covenants and representations with which the Company must be in compliance in order to borrow funds and to avoid an event of default, including financial covenants that the Company must maintain a leverage ratio (funded debt/EBITDA) of no more than 4.25 to 1, a secured leverage ratio of no more than 3.50 to 1, and a minimum interest coverage ratio (EBITDA/interest payments) of no less than 2.50 to 1. As of December 28, 2019, the Company was in compliance with all covenants of the Credit Facility. The Company's obligations under the Credit Facility are guaranteed by the Guarantors and are secured by a security interest in substantially all assets of the Company and the Guarantors.

11. Leases

The Company leases certain facilities under operating lease agreements that expire at various dates through 2027. Some of these arrangements contain renewal options and require the Company to pay taxes, insurance and maintenance costs.

The Company adopted ASC Topic 842, *Leases*, on December 30, 2018, the first day of its fiscal 2019. Lease costs for operating leases were \$5.8 million during fiscal 2019. The Company elected the practical expedient to not provide comparable presentation for periods prior to adoption. Rent expense for operating leases was \$6.0 million and \$5.5 million for fiscal 2018 and 2017, respectively.

Supplemental Lease Information

Balance Sheet Information (in thousands)	Dec	cember 28, 2019
Operating lease right-of-use assets	\$	16,086
Operating lease liabilities	\$	17,894
Cash Flow Information (in thousands)		r Ended ber 28, 2019
Cash paid for operating lease liabilities	\$	6,023
Right-of-use assets obtained in exchange for operating lease obligations	\$	2,631

11. Leases (Continued)

Operating Lease Information	December 28, 2019
Weighted-average remaining lease term	4.5 years
Weighted-average discount rate	5.26 %

The maturities of operating lease liabilities as of December 28, 2019 were as follows (in thousands):

Fiscal Year	
2020	\$ 5,604
2021	4,410
2022	3,713
2023	3,061
2024	2,524
Thereafter	1,272
Total lease payments	20,584
Less imputed interest	(2,690)
Total lease liabilities	\$ 17,894

12. Commitments and Contingencies

Investment Commitment

The Company has committed to invest up to \$10.0 million in a limited partnership, of which approximately \$6.6 million was funded through December 28, 2019.

Legal Proceedings

The Company is involved in various legal proceedings that have arisen in the normal course of business. While the ultimate results cannot be predicted with certainty, the Company does not expect them to have a material adverse effect on its Consolidated Financial Statements.

13. Stockholders' Equity

Common Stock

The Company issued 0.7 million shares of common stock during fiscal 2019.

Share Repurchase Programs

The Company's existing share repurchase program has an authorization amount of \$200 million and a termination date of December 2020. This program allows for repurchases to be made in the open market or in private transactions, including structured or accelerated transactions, subject to applicable legal requirements and market conditions. The Company repurchased 0.3 million shares and 0.4 million shares of its common stock for \$26.7 million and \$39.3 million during fiscal 2019 and 2018, respectively. The Company did not repurchase any shares of its common stock during fiscal 2017. These shares were retired upon repurchase.

13. Stockholders' Equity (Continued)

Reclassifications From Accumulated Other Comprehensive Income (Loss)

The following table summarizes the effect on net income from reclassifications out of accumulated other comprehensive income (loss) (in thousands):

	Year ended							
Reclassification	December 28, December 29, 2019 2018				/		Dec	ember 30, 2017
Gains (losses) on available-for-sales securities to:								
Interest income and other, net	\$	218	\$	(49)	\$	_		
Gains (losses) on cash flow hedges to:								
Operating expenses		(784)		(316)				
Interest expense		_		_		1,808		
		(566)		(365)		1,808		
Income tax (expense) benefit		119		77		(633)		
Total reclassifications	\$	(447)	\$	(288)	\$	1,175		

Income Tax Allocated to the Components of Other Comprehensive Income (Loss)

The income tax effects of the components of other comprehensive income (loss) were as follows (in thousands):

	Year ended						
	Dec	ember 28,	December 29,		De	ecember 30,	
Income tax (expense) benefit on:		2019		2018		2017	
Net changes to available-for-sale securities:							
Unrealized gains (losses) arising during the period	\$	(538)	\$	(79)	\$	255	
Reclassification for gains (losses) included in net income		46		(10)		_	
Net changes to cash flow hedges:							
Unrealized losses arising during the period		68		200		_	
Reclassification for gains (losses) included in net income		(165)		(66)		633	
	\$	(589)	\$	45	\$	888	

14. Revenues

The Company groups its revenues into four categories, based on the markets and applications in which its products may be used. The following disaggregates the Company's revenue by product category (in thousands):

	Year Ended													
	December 28, 2019		,		,		,				December 29, 2018		December 30, 2017 ⁽¹⁾	
Internet of Things	\$	488,156	\$	463,838	\$	395,012								
Infrastructure		183,189		199,478		152,158								
Broadcast		114,899		141,412		152,980								
Access		51,310		63,539		68,717								
	\$	837,554	\$	868,267	\$	768,867								

⁽¹⁾ Under the modified retrospective method, amounts prior to fiscal 2018 have not been adjusted.

14. Revenues (Continued)

A portion of the Company's sales are made to distributors under agreements allowing certain rights of return and/or price protection related to the final selling price to the end customers. These factors impact the timing and uncertainty of revenues and cash flows. The Company recognized revenue of \$17.6 million and \$24.3 million during fiscal 2019 and 2018, respectively, from performance obligations that were satisfied in previous reporting periods. The following disaggregates the Company's revenue by sales channel (in thousands):

		Year Ended						
	D	ecember 28, 2019	December 29, 2018				9, December 2017 ⁽¹	
Distributors	\$	610,410	\$	618,989	\$	547,419		
Direct customers		227,144		249,278		221,448		
	\$	837,554	\$	868,267	\$	768,867		

(1) Under the modified retrospective method, amounts prior to fiscal 2018 have not been adjusted.

15. Stock-Based Compensation

In fiscal 2009, the stockholders of the Company approved the 2009 Stock Incentive Plan (the "2009 Plan") and the 2009 Employee Stock Purchase Plan (the "2009 Purchase Plan"). In fiscal 2017, the stockholders of the Company approved amendments to both the 2009 Plan and the 2009 Purchase Plan. These amendments authorized additional shares of common stock for issuance, to comply with changes in applicable law, improve the Company's corporate governance and to implement other best practices.

2009 Stock Incentive Plan

Under the 2009 Plan, the following may be granted: stock options, stock appreciation rights, performance shares, performance stock units, restricted stock units (RSUs), restricted stock awards (RSAs), performance-based awards and other awards (collectively, all such grants are referred to as "awards"). The fiscal 2017 amendments to the 2009 Plan created a single share pool. All awards now deduct one share from the 2009 Plan shares available for issuance for each share granted. Awards granted under the 2009 Plan generally contain vesting provisions ranging from three to four years. The exercise price of stock options offered under the 2009 Plan may not be less than 100% of the fair market value of a share of our common stock on the date of grant. To the extent awards granted under the 2009 Plan terminate, expire or lapse for any reason, or are settled in cash, shares subject to such awards will again be available for grant.

Stock Grants and Modifications

The Company granted to its employees 0.7 million, 0.6 million and 0.7 million shares of full value awards and no stock options from the 2009 Plan during fiscal 2019, 2018 and 2017, respectively.

There were no significant modifications made to any stock grants during fiscal 2019, 2018 or 2017.

Included in the full value awards granted under the 2009 Plan in fiscal 2019, 2018 and 2017 were a total of 93 thousand, 41 thousand and 54 thousand market-based stock awards, respectively. The awards, also known as market stock units (MSUs), provide the rights to acquire a number of shares of common stock for no cash consideration based upon achievement of specified levels of market conditions. The requisite service period for these MSUs is also the vesting period, which is generally three years. The performance criteria of the MSUs measure the difference between the total stockholders' return of the Company against that of the PHLX Semiconductor Sector Total Return Index.

Also included in the full value awards granted under the 2009 Plan during fiscal 2018 and 2017 were 41 thousand and 54 thousand performance-based stock awards (PSUs), respectively. There were no PSUs granted during fiscal 2019. PSUs provide for the rights to acquire a number of shares of common stock for no cash consideration based upon the achievement of specified revenue objectives during the year. The requisite service period for these PSUs is approximately three years from the date of grant.

15. Stock-Based Compensation (Continued)

2009 Employee Stock Purchase Plan

The rights to purchase common stock granted under the 2009 Purchase Plan are intended to be treated as either (i) purchase rights granted under an "employee stock purchase plan," as that term is defined in Section 423(b) of the Internal Revenue Code (the "423(b) Plan"), or (ii) purchase rights granted under an employee stock purchase plan that is not subject to the terms and conditions of Section 423(b) of the Internal Revenue Code (the "Non-423(b) Plan"). The Company will retain the discretion to grant purchase rights under either the 423(b) Plan or the Non-423(b) Plan. Eligible employees may purchase a limited number of shares of the Company's common stock at no less than 85% of the fair market value of a share of common stock at prescribed purchase intervals during an offering period. Each offering period will be comprised of a series of one or more successive and/or overlapping purchase intervals and has a maximum term of 24 months. During fiscal 2019, 2018 and 2017, the Company issued 208 thousand, 223 thousand and 239 thousand shares, respectively, under the 2009 Purchase Plan to its employees. The weighted-average fair value for purchase rights granted in fiscal 2019 under the 2009 Purchase Plan was \$29.92 per share.

Accounting for Stock-Based Compensation

Stock-based compensation costs are based on the fair values on the date of grant for stock awards and stock options and on the date of enrollment for the employee stock purchase plans. The fair values of stock awards (such as RSUs, PSUs and RSAs) are estimated based on their intrinsic values. The fair values of MSUs are estimated using a Monte Carlo simulation. The fair values of stock options and employee stock purchase plans are estimated using the Black-Scholes option-pricing model.

The Black-Scholes valuation calculation requires the Company to estimate key assumptions such as future stock price volatility, expected terms, risk-free rates and dividend yield. Expected stock price volatility is based upon a combination of both historical volatility and implied volatility derived from traded options on the Company's stock in the marketplace. Expected term is derived from an analysis of historical exercises and remaining contractual life of options. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant. The Company has never paid cash dividends and does not currently intend to pay cash dividends, thus it has assumed a 0% dividend yield.

The Monte Carlo simulation used to calculate the fair value of the MSUs simulates the present value of the potential outcomes of future stock prices of the Company and the Philadelphia Semiconductor Sector Total Return Index over the requisite service period. The projection of stock prices are based on the risk-free rate of return, the volatilities of the stock price of the Company and the Index, and the correlation of the stock price of the Company with the Index.

The Company estimates potential forfeitures of stock grants and adjusts compensation cost recorded accordingly. The estimate of forfeitures will be adjusted over the requisite service period to the extent that actual forfeitures differ, or are expected to differ, from such estimates. Changes in estimated forfeitures are recognized through a cumulative catchup adjustment in the period of change and will also impact the amount of stock-based compensation expense to be recognized in future periods.

The fair values of stock options and RSUs are amortized as compensation expense on a straight-line basis over the vesting period of the grants. The fair values of RSAs are fully expensed in the period of grant, when shares are immediately issued with no vesting restrictions. The fair values of MSUs are amortized as compensation expense on a straight-line basis over the performance and service periods of the grants. The fair values of PSUs are amortized as compensation expense on a straight-line basis over the performance period when the performance is probable of achievement, and over the remaining service periods thereafter. Compensation expense recognized is shown in the operating activities section of the Consolidated Statements of Cash Flows.

15. Stock-Based Compensation (Continued)

The fair values estimated from the Black-Scholes option-pricing model for ESPP granted were calculated using the following assumptions:

		Year Ended				
Employee Stock Purchase Plan	December 28, 2019	December 29, 2018	December 30, 2017			
Expected volatility	37 %	30 %	28 %			
Risk-free interest rate %	1.6 %	2.4 %	1.1 %			
Expected term (in months)	9	9	8			
Dividend vield	_		_			

The fair values estimated from Monte Carlo simulation for MSUs were calculated using the following assumptions:

		Year Ended				
MSUs	December 28, 2019	December 29, 2018	December 30, 2017			
Expected volatility	31 %	29 %	31 %			
Risk-free interest rate %	2.4	2.4 %	1.6 %			
Expected term (in years)	2.9	2.9	2.9			
Dividend vield	<u> </u>		_			

A summary of stock-based compensation activity with respect to fiscal 2019 follows:

Stock Options	Shares (000s)	Weighted- Average Exercise Price		Weighted-Average Remaining Contractual Term (In Years)	Aggregate Intrinsic Value (000s)
Outstanding at December 29, 2018	137	\$	39.47		
Outstanding at December 28, 2019	137	\$	39.47	6.13	\$ 10,515
Vested at December 28, 2019 and expected to vest	43	\$	40.39	6.12	\$ 3,265
Exercisable at December 28, 2019	93	\$	39.04	6.13	\$ 7,224
RSAs and RSUs	Shares (000s)	Weighted- Average Purchase Price		Weighted-Average Remaining Vesting Term (In Years)	Aggregate Intrinsic Value (000s)
Outstanding at December 29, 2018	1,218	\$	_		 \
Granted	576	\$	_		
Vested or issued	(639)	\$	_		
Cancelled or forfeited	(71)	\$	_		
Outstanding at December 28, 2019	1,084	\$		0.95	\$ 126,259
Outstanding at December 28, 2019 and expected to vest	1,014	\$	_	0.95	\$ 118,106
PSUs and MSUs	Shares (000s)	Weighted- Average Purchase Price		Weighted-Average Remaining Vesting Term (In Years)	Aggregate Intrinsic Value (000s)
Outstanding at December 29, 2018	282	\$	_		
Granted	93	\$	_		
Earned or issued	(43)	\$	_		
Cancelled or forfeited	(70)	\$	_		
Outstanding at December 28, 2019	262	\$	_	1.04	\$ 30,583
Outstanding at December 28, 2019 and expected to vest	244	\$	_	1.04	\$ 28,418

15. Stock-Based Compensation (Continued)

The following summarizes the Company's weighted average fair value at the date of grant:

		Year Ended				
	Ī	December 28, 2019 December 29, 2018			9, December 30, 2017	
Per grant of RSAs and RSUs	\$	89.35	\$	93.75	\$	72.85
Per grant of PSUs and MSUs	\$	85.79	\$	97.53	\$	78.40

The following summarizes the Company's stock-based payment and stock option values (in thousands):

		Year Ended					
	De	cember 28, 2019	De	cember 29, 2018	De	cember 30, 2017	
Intrinsic value of stock options exercised	\$	_	\$	1,952	\$	2,174	
Intrinsic value of RSUs that vested	\$	57,693	\$	68,012	\$	53,093	
Grant date fair value of RSUs that vested	\$	40,434	\$	37,720	\$	32,449	
Intrinsic value of MSUs that vested	\$	3,649	\$	3,562	\$	687	
Grant date fair value of PSUs and MSUs that vested	\$	1,461	\$	1,788	\$	633	

The Company received cash of \$14.5 million for the issuance of common stock, and paid \$16.3 million for shares withheld for taxes, during fiscal 2019. The Company issues shares from the shares reserved under its stock plans upon the exercise of stock options, vesting of RSUs, PSUs and MSUs, and purchases through employee stock purchase plans. The Company does not currently expect to repurchase shares from any source to satisfy such obligation.

The following table presents details of stock-based compensation costs recognized in the Consolidated Statements of Income (in thousands):

	Year Ended					
	De	cember 28, 2019				cember 30, 2017
Cost of revenues	\$	1,316	\$	1,238	\$	1,090
Research and development		26,187		23,867		21,771
Selling, general and administrative		27,296		24,972		21,891
		54,799		50,077		44,752
Income tax benefit		2,476		8,890		11,073
	\$	52,323	\$	41,187	\$	33,679
				_		

The decrease in income tax benefit in fiscal 2019 was primarily due to a change in the Company's position related to the treatment of stock-based compensation within its intercompany cost-sharing arrangement. The decrease in income tax benefit in fiscal 2018 was due to the reduced current and future deductibility of executive stock compensation as a result of the Tax Cuts and Jobs Act. See Note 17, *Income Taxes*, to the Consolidated Financial Statements for additional information. The Company had approximately \$59.6 million of total unrecognized compensation costs related to granted stock options and awards as of December 28, 2019 that are expected to be recognized over a weighted-average period of approximately 2.0 years. There were no significant stock-based compensation costs capitalized into assets in any of the periods presented.

As of December 28, 2019, the Company had reserved shares of common stock for future issuance as follows (in thousands):

2009 Stock Incentive Plan	1,815
2009 Employee Stock Purchase Plan	777
Total shares reserved	2,592

16. Employee Benefit Plan

The Company maintains a defined contribution or 401(k) Plan for its qualified U.S. employees. Participants may contribute a percentage of their compensation on a pre-tax basis, subject to a maximum annual contribution imposed by the Internal Revenue Code. The Company may make discretionary matching contributions as well as discretionary profit-sharing contributions to the 401(k) Plan. The Company contributed \$3.9 million, \$3.7 million and \$3.5 million to the 401(k) Plan during fiscal 2019, 2018 and 2017, respectively.

17. Income Taxes

Income before income taxes includes the following components (in thousands):

		Year Ended						
	De	December 28, 2019		cember 29, 2018	Dec	ember 30, 2017		
Domestic	\$	2,025	\$	19,777	\$	9,700		
Foreign		47,624		52,384		67,203		
	\$	49,649	\$	72,161	\$	76,903		

The provision (benefit) for income taxes consists of the following (in thousands):

	Year Ended						
	December 28, 2019			December 29, 2018		cember 30, 2017	
Current:							
Domestic	\$	(779)	\$	(8,843)	\$	48,947	
Foreign		8,157		5,888		7,077	
Total Current		7,378		(2,955)		56,024	
Deferred:							
Domestic		33,624		(8,978)		(25,760)	
Foreign		(10,618)		503		(453)	
Total Deferred		23,006		(8,475)		(26,213)	
Provision (benefit) for income taxes	\$	30,384	\$	(11,430)	\$	29,811	

17. Income Taxes (Continued)

The reconciliation of the federal statutory tax rate to the Company's effective tax rate is as follows:

		Year Ended	
	December 28, 2019	December 29, 2018	December 30, 2017
Federal statutory rate	21.0 %	21.0 %	35.0 %
Foreign tax rate benefit	(13.8)	(12.9)	(25.4)
Research and development tax credits	(15.2)	(9.8)	(4.5)
GILTI and Subpart F income	5.8	4.3	1.4
Nondeductible (nontaxable) foreign expenses	3.9	3.9	1.1
State tax expense	1.0	1.5	0.9
Release of prior year unrecognized tax benefits	(0.4)	(2.7)	(0.6)
Nondeductible officer compensation	4.3	2.4	1.5
Other tax effects of equity compensation	8.0	(0.4)	(2.2)
Change in cost-sharing treatment of stock-based compensation	54.8	(2.2)	5.2
Excess tax benefit of stock-based compensation	(2.2)	(5.9)	(5.6)
Change in prior period valuation allowance	1.3	(2.5)	(1.3)
Transition tax on unremitted foreign earnings	_	(8.4)	70.8
Revaluation of deferred tax balances	_	0.3	28.2
Other deferred tax impacts of tax reform	(0.5)	(3.1)	(64.8)
Other	0.4	(1.3)	(0.9)
Effective Tax Rate	61.2 %	(15.8)%	38.8 %

The effective tax rate for fiscal 2019 increased from fiscal 2018 primarily due to a change in the Company's financial statement position related to the treatment of stock-based compensation within its intercompany cost-sharing arrangement.

The effective tax rate for fiscal 2018 decreased from fiscal 2017 primarily due to the reduction in the U.S. federal statutory rate as well as the inclusion of one-time tax impacts recorded in 2017 from the enactment of the Tax Cuts and Jobs Act ("the Act"). This decrease in the effective tax rate was offset by a decrease in the Company's foreign tax rate benefit.

On July 27, 2015, the U.S. Tax Court issued an opinion in Altera Corp. v. Commissioner which concluded that related parties in an intercompany cost-sharing arrangement are not required to share costs related to stock-based compensation. In February 2016, the U.S. Internal Revenue Service appealed the decision to the U.S Court of Appeals for the Ninth Circuit (the "Ninth Circuit"). On June 7, 2019, the Ninth Circuit reversed the 2015 decision of the U.S. Tax Court. As a result of this decision, the Company no longer reflects a tax benefit related to the removal of stock-based compensation from its intercompany cost-sharing arrangement within its financial statements. During the three months ended June 29, 2019, the Company removed the deferred tax assets and a deferred tax liability associated with this matter from its financial statements. This removal resulted in a full year discrete income tax expense of \$27.2 million. On November 12, 2019, the Ninth Circuit denied a petition for rehearing the case en banc. The Company will continue to monitor ongoing developments in this matter and potential impacts to its financial statements.

The Company's operations in Singapore are subject to reduced tax rates through June 30, 2024, as long as certain conditions are met. Without the impact of a one-time transition tax, the income tax benefit from the reduced Singapore tax rate reflected in earnings was approximately \$1.5 million (representing \$0.03 per diluted share) in fiscal 2019, \$5.4 million (representing \$0.12 per diluted share) in fiscal 2018 and approximately \$11.0 million (representing \$0.25 per diluted share) in fiscal 2017.

The Act was enacted in the U.S. on December 22, 2017 and required companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously deferred from U.S income tax under U.S. tax law. The Company elected to pay the transition tax over the eight-year period provided in the Act. As of December 28, 2019, the unpaid balance of its transition tax obligation is \$21.3 million, which is payable between April 2022 and April 2025.

17. Income Taxes (Continued)

Deferred Income Taxes

Deferred tax assets and liabilities are recorded for the estimated tax impact of temporary differences between the tax basis and book basis of assets and liabilities. Significant components of the Company's deferred taxes as of December 28, 2019 and December 29, 2018 are as follows (in thousands):

	De	cember 28, 2019	Dec	cember 29, 2018
Deferred tax assets:				
Net operating loss carryforwards	\$	7,912	\$	9,973
Research and development tax credit carryforwards		14,755		12,500
Stock-based compensation		2,619		4,360
Depreciation and amortization		7,424		7,799
Capitalized research and development		1,735		2,521
Deferred income on shipments to distributors		4,018		5,824
Expected future cost-sharing adjustment				25,257
Leases		3,446		_
Accrued liabilities and other		7,374		7,737
		49,283		75,971
Less: Valuation allowance		(4,486)		(4,975)
		44,797		70,996
Deferred tax liabilities:				
Acquired intangible assets		16,621		20,656
Depreciation and amortization		4,969		4,604
Leases		3,166		_
Long-term debt		5,741		8,080
Prepaid expenses and other		2,424		2,142
		32,921		35,482
Net deferred tax assets	\$	11,876	\$	35,514

As of December 28, 2019, the Company had federal net operating loss and research and development tax credit carryforwards of approximately \$27.9 million and \$1.9 million, respectively, as a result of the Silicon Clocks, Spectra Linear and Ember acquisitions. These carryforwards expire in fiscal years 2020 through 2031. Recognition of these loss and credit carryforwards is subject to an annual limit, which may cause them to expire before they are used. Additionally, as of December 28, 2019, the Company had generated \$3.3 million of federal research and development credit carryforwards. These credits expire in 2039 and are not currently subject to an annual limitation.

The Company also had state loss, state tentative minimum tax credit, and state research and development tax credit carryforwards of approximately \$33.1 million, \$0.1 million, and \$12.6 million, respectively. A portion of these loss and credit carryforwards was generated by the Company and a portion was acquired through the Integration Associates, Silicon Clocks, Spectra Linear and Zentri acquisitions. Certain of these carryforwards expire in fiscal years 2024 through 2036, and others do not expire. Recognition of some of these loss and credit carryforwards is subject to an annual limit, which may cause them to expire before they are used.

A valuation allowance is established against a deferred tax asset when it is more likely than not that the deferred tax asset will not be realized. The Company maintains a valuation allowance with respect to certain deferred tax assets relating to state research and development tax credit and state net operating loss carryforwards.

17. Income Taxes (Continued)

The following table summarizes the activity related to the valuation allowance for deferred tax assets (in thousands):

	_	alance at ginning of Period	Cl	dditions narged to expenses	C	Additions harged to er Accounts	D	eductions	alance at I of Period
Year ended December 28, 2019	\$	4,975	\$	1,044	\$	_	\$	(1,533)	\$ 4,486
Year ended December 29, 2018	\$	6,518	\$	435	\$	_	\$	(1,978)	\$ 4,975
Year ended December 30, 2017	\$	12,361	\$	2,110	\$	1,732	\$	(9,685)	\$ 6,518

At the end of fiscal 2019, undistributed earnings of certain of the Company's foreign subsidiaries of approximately \$71.5 million are intended to be permanently reinvested outside the U.S. Accordingly, no provision for foreign withholding tax and state income taxes associated with a distribution of these earnings has been made. Determination of the amount of the unrecognized deferred tax liability on these unremitted earnings is not practicable.

Uncertain Tax Positions

The following table summarizes the activity related to gross unrecognized tax benefits (in thousands):

	Year Ended					
	December 28, 2019			ember 29, 2018	December 30, 2017	
Beginning balance	\$	2,036	\$	3,187	\$	3,054
Additions based on tax positions related to current year		436		630		456
Additions based on tax positions related to prior years		_		115		114
Reductions based on tax positions related to prior years		(196)				_
Reductions for tax positions as a result of a lapse of the applicable						
statute of limitations		<u> </u>		(1,896)		(437)
Ending balance	\$	2,276	\$	2,036	\$	3,187

As of December 28, 2019, December 29, 2018 and December 30, 2017, the Company had gross unrecognized tax benefits, inclusive of interest, of \$2.4 million, \$2.1 million and \$3.2 million, respectively, of which \$1.9 million, \$2.1 million and \$3.2 million, respectively, would affect the effective tax rate if recognized.

The Company recognizes interest and penalties related to unrecognized tax benefits in the provision for income taxes. These amounts were not material for any of the periods presented.

Following the completion of the Norwegian Tax Administration ("NTA") examination of the Company's Norwegian subsidiary for income tax matters relating to fiscal years 2013, 2014, 2015 and 2016, the Company received an assessment from the NTA in December 2017 concerning an adjustment to its 2013 taxable income related to the pricing of an intercompany transaction. The Company is currently appealing the assessment. The adjustment to the pricing of the intercompany transaction results in approximately \$16.0 million additional Norwegian income tax. The Company disagrees with the NTA's assessment and believes the Company's position on this matter is more likely than not to be sustained. The Company plans to exhaust all available administrative remedies, and if unable to resolve this matter through administrative remedies with the NTA, the Company plans to pursue judicial remedies.

The Company believes that it has accrued adequate reserves related to all matters contained in tax periods open to examination. Should the Company experience an unfavorable outcome in the NTA matter, however, such an outcome could have a material impact on its financial statements.

17. Income Taxes (Continued)

Tax years 2015 through 2019 remain open to examination by the major taxing jurisdictions in which the Company operates. The Company is not currently under audit in any major taxing jurisdiction.

The Company does not believe gross unrecognized tax benefits will decrease in the next 12 months.

18. Segment Information

The Company has one operating segment, mixed-signal analog intensive products, consisting of numerous product areas. The Company's chief operating decision maker is considered to be its Chief Executive Officer. The chief operating decision maker allocates resources and assesses performance of the business and other activities at the operating segment level.

The Company groups its products into four categories, based on the markets and applications in which the products may be used. See Note 14, *Revenues*, for a summary of the Company's revenue by product category.

Revenue is attributed to a geographic area based on the shipped-to location. The following summarizes the Company's revenue by geographic area (in thousands):

	Year Ended							
	December 28, 2019				De	ecember 29, 2018	De	ecember 30, 2017
United States	\$	110,451	\$	149,385	\$	112,574		
China		354,855		344,255		307,748		
Rest of world		372,248		374,627		348,545		
Total	\$	\$ 837,554		868,267	\$	768,867		

The following summarizes the Company's property and equipment, net by geographic area (in thousands):

	December 28, I 2019	December 29, 2018
United States	\$ 126,572 \$	128,622
Rest of world	9,367	10,427
Total	\$ 135,939	139,049

Supplementary Financial Information (Unaudited)

Quarterly financial information for fiscal 2019 and 2018 is as follows. All quarterly periods reported here had 13 weeks (in thousands, except per share amounts):

	Fiscal 2019							
	 Fourth		th Third		Second		First	
	 Quarter		Quarter		Quarter		Quarter	
Revenues	\$ 219,438	\$	223,294	\$	206,709	\$	188,113	
Gross profit	133,271		134,090		127,049		115,874	
Operating income	13,229		23,820		14,556		5,092	
Net income (loss)	\$ 9,715	\$	20,181	\$	(16,029)(1)	\$	5,398	
Earnings (loss) per share:								
Basic	\$ 0.22	\$	0.47	\$	(0.37)(1)	\$	0.12	
Diluted	\$ 0.22	\$	0.45	\$	(0.37)(1)	\$	0.12	

	Fiscal 2018									
		Fourth Quarter		Third Quarter				Second Quarter		First Quarter
Revenues	\$	215,534	\$	230,243	\$	217,106	\$	205,384		
Gross profit		130,243		135,627		131,292		124,237		
Operating income		18,362		25,130		18,001		23,715		
Net income	\$	15,145	\$	27,761	\$	14,280	\$	26,405		
Earnings per share:										
Basic	\$	0.35	\$	0.64	\$	0.33	\$	0.61		
Diluted	\$	0.35	\$	0.63	\$	0.32	\$	0.60		

⁽¹⁾ Includes a discrete charge to the income tax provision of \$28.1 million (\$0.64 per share) related to a net deferred tax asset previously recognized in connection with intercompany cost sharing arrangements.