UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

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

For the Fiscal Year Ended June 27, 2020

Or

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

For the transition period from _______ to

Commission File Number 000-49602

SYNAPTICS INCORPORATED
(Exact name of registrant as specified in its charter)

Delaware	**77-0118518**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
1251 McKay Drive San Jose, California (Address of principal executive offices)	**95131 (Zip Code)**

(408) 904-1100
Registrant's telephone number, including area code

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value $.001 per share	**SYNA**	**The Nasdaq Global Select Market**

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

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

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

The aggregate market value of Common Stock held by nonaffiliates of the registrant (20,753,257 shares), based on the closing price of the registrant’s Common Stock as reported on the Nasdaq Global Select Market on December 27, 2019 of $66.89, was $1,388,185,361. For purposes of this computation, all officers, directors, and 10% beneficial owners of the registrant are deemed to be affiliates. Such determination should not be deemed to be an admission that such officers, directors, or 10% beneficial owners are, in fact, affiliates of the registrant.

As of August 17, 2020, there were outstanding 34,229,602 shares of the registrant's Common Stock, par value $.001 per share.

Documents Incorporated by Reference

Portions of the registrant's definitive Proxy Statement for the 2020 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

SYNAPTICS INCORPORATED
ANNUAL REPORT ON FORM 10-K
FISCAL 2020

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Statement Regarding Forward-Looking Statements

This report on Form 10-K for the year ended June 27, 2020 contains forward-looking statements that are subject to the safe harbors created under the Securities Act of 1933, as amended (the “Securities Act”), and the Securities Act of 1934, as amended (the “Exchange Act”). Forward-looking statements give our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business, including our expectations regarding the potential impacts on our business of the COVID-19 pandemic, and can be identified by the fact that they do not relate strictly to historical or current facts. Such forward-looking statements may include words such as “expect,” “anticipate,” “intend,” “believe,” “estimate,” “plan,” “target,” “strategy,” “continue,” “may,” “will,” “should,” variations of such words, or other words and terms of similar meaning. All forward-looking statements reflect our best judgment and are based on several factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control. Such factors include, but are not limited to, the risks as identified in the “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business” sections in this report on Form 10-K, and other risks as identified from time to time in our Securities and Exchange Commission reports. Forward-looking statements are based on information available to us on the date hereof, and we do not have, and expressly disclaim, any obligation to publicly release any updates or any changes in our expectations, or any change in events, conditions, or circumstances on which any forward-looking statement is based. Our actual results and the timing of certain events could differ materially from the forward-looking statements. These forward-looking statements do not reflect the potential impact of any mergers, acquisitions, or other business combinations that had not been completed as of the date of this filing.

Statements made in this report, unless the context otherwise requires, include the use of the terms “us,” “we,” “our,” the “Company” and “Synaptics” to refer to Synaptics Incorporated and its consolidated subsidiaries.

PART I

ITEM 1. BUSINESS

Impact of COVID-19

On March 11, 2020, the World Health Organization declared the COVID-19 outbreak a pandemic, which continues to spread in the U.S. and globally. Governmental authorities have implemented numerous containment measures, including travel bans and restrictions, quarantines, shelter-in-place orders, and business restrictions and shutdowns, resulting in rapidly changing market and economic conditions.

While the severity and duration of business disruption to our customers and suppliers due to the COVID-19 pandemic is still uncertain, we expect that it will continue to weigh on our business and consolidated results of operations in the near term and may further impact our financial condition (including liquidity) in the future. We have not incurred significant disruptions thus far from the COVID-19 outbreak, but we are unable to accurately predict the full impact COVID-19 will have on our future results due to numerous uncertainties, including the severity of the disease, the duration of the outbreak, a potential future recurrence of the outbreak, further containment actions that may be taken by governmental authorities, the impact to the businesses of our customers and suppliers and other factors.

We will continue to evaluate the nature and scope of the impact to our business, consolidated results of operations, and financial condition, and may take further actions altering our business operations and managing our costs and liquidity that we deem necessary or appropriate to respond to this fast moving and uncertain global health crisis and the resulting global economic consequences.

Overview

We are a leading worldwide developer and supplier of custom-designed semiconductor solutions that enable people to interact more easily and intuitively with a wide variety of mobile computing, communications, entertainment, and other electronic devices. We currently generate revenue from the markets for Internet of Things, or IoT, products, which include smart devices with voice, speech, video, wireless connectivity, smartphones, tablets, personal computer, or PC, products, and other select electronic devices, including devices in automobiles. We deliver semiconductor solutions including connectivity products, audio input and output System-On-Chips, or SoCs, high-definition video and vision SoCs, touch controllers, display drivers, fingerprint sensors, and touchpads, which comprise our semiconductor chip, firmware, and software as a complete customer solution.

We are a market leader in providing premium mixed signal semiconductor solutions to our target markets. Our original equipment manufacturer, or OEM, customers include most of the world’s largest OEMs for smart home devices, automotive solutions, smartphones and tablets, PC devices and peripherals and many large OEMs for audio and video products. We generally supply our product solutions to our OEM customers through their contract manufacturers, which take delivery of our products and pay us directly for such products.

Our website is located at www.synaptics.com. Through our website, we make available, free of charge, all our Securities and Exchange Commission, or SEC, filings, including our annual reports on Form 10-K, our proxy statements, our quarterly reports on Form 10-Q, and our current reports on Form 8-K, as well as Form 3, Form 4, and Form 5 Reports for our directors, officers, and principal stockholders, together with amendments to those reports filed or furnished pursuant to Sections 13(a), 15(d), or 16 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. These reports are available on our website promptly after their electronic filing with the SEC. You can also read these SEC filings and reports over the Internet at the SEC’s website at www.sec.gov. Our website also includes corporate governance information, including our Code of Conduct, our Code of Ethics for the Chief Executive Officer and Senior Financial Officers, and our Board Committee Charters. The contents of our website are not incorporated into or deemed to be a part of this report.

We were initially incorporated in California in 1986 and were re-incorporated in Delaware in 2002. Our fiscal year is the 52- or 53-week period ending on the last Saturday in June. The fiscal years presented in this report were the 52-week periods ended June 27, 2020, and June 29, 2019 and the 53-week period ended June 30, 2018.

IoT Applications Market

Our IoT market solutions broadly consist of SoC products, audio and video solutions, and wireless connectivity solutions. We provide SoC products used in human interface solutions for enabling smart devices at the edge. We enable products for service provider set-top boxes, smart assistant speakers, over-the-top multimedia devices, wireless speakers, voice driven intelligent devices, including those integrating far-field technology, personal voice and audio products, video interface solutions for docking stations, hubs, high-speed connectivity for virtual reality devices, video surveillance, and imaging solutions for use in printers and fax/modems. In addition, our automotive solutions include over a decade of mass production experience in mature touch solutions and display drivers adapted from our mobile consumer business to meet automotive-grade quality standards. Net revenue for our IoT product solutions accounted for approximately 24%, 21% and 21% of our net revenue for fiscal 2020, 2019 and 2018, respectively.

Within the fast growing consumer IoT market, we continue to expand our footprint in various devices by bringing converged video, vision, audio, and voice technologies coupled with leading edge human interface solutions and wireless connectivity capabilities. Our deep investment in far-field voice technology, our intellectual property portfolio for video, vision, audio and security, and our significant experience enabling Android-based platforms for service providers, coupled with our focus on enabling high performance, low power, and highly secure SoC solutions enable us to effectively serve our existing customers and position us to grow within the addressable market of consumer IoT devices.

Mobile Product Applications Markets

We believe our intellectual property portfolio, engineering know-how, systems engineering experience, technological expertise, and experience in providing human interface product solutions to major OEMs of electronic devices position us to be a key technological enabler for multiple consumer electronic devices targeted to meet the mobile product applications markets. Mobile product applications include smartphones, tablets, large touchscreen applications, as well as a variety of mobile, handheld, and entertainment devices. Our array of product solutions for mobile product applications are designed to enrich the interface on smartphones, tablets, and peripherals, and enable the owner to view the screen on these devices and to more seamlessly interact with the content on these devices. We believe our existing technologies, our range of product solutions, and our emphasis on ease of use, advanced functionality, small size, low power consumption, durability, and reliability enable us to serve multiple aspects of the markets for mobile product applications and other electronic devices.

Our human interface product solutions for mobile applications constitute a substantial percentage of our net revenue. Net revenue for our mobile product applications accounted for approximately 52%, 61%, and 63% of our net revenue for fiscal 2020, 2019, and 2018, respectively. Our ongoing success in serving these markets will depend upon the size of the smartphone portion of the overall mobile phone market; our ability to demonstrate to OEMs the advantages of our product solutions in terms of performance, usability, size, simplified security, durability, power consumption, integration, and industrial design possibilities; and the success of products utilizing our human interface product solutions. In addition, our success will depend on our ability to demonstrate to mobile OEMs the advantages of our high-performance touch controller products and Display Driver Integrated Circuits, or DDIC products, our flexible touchscreen panel and systems engineering expertise, including our ability to successfully deliver DDIC products into the Organic Light Emitting Diode, or OLED, smartphone market. The OLED smartphone market remains a key growth area for us. The thinner bendable (e.g. flexible and folding) displays will require special touch solutions to address the unique challenges such displays present to touch controllers. We believe we are well-positioned to take advantage of this growing market based on our technology, engineering know-how, systems engineering experience, and the acceptance of our product solutions by OEMs in this market. The adoption of flexible OLED at top OEMs is expected to continue to grow, which could drive opportunities for our products.

The extended reality, or XR markets, including virtual reality, augmented reality, and mixed reality, represents growth opportunities for our display driver products. The XR market is expected to continue to grow, with major investors in the space including today's major hardware makers, in addition to new start-ups. Our high-performance, low power display driver technology is well-suited to the demands of the XR market. The wearables market is also continuing to grow with many high-end wearables such as smartwatches utilizing a touchscreen that can be addressed by our touch and DDIC technologies. Our engineering know-how and technological expertise with display drivers could represent an opportunity for us in these markets.

PC Product Applications Market

We provide custom product solutions for navigation, cursor control, access to devices or applications through fingerprint authentication, and audio codecs for the world's premier PC OEMs. These functions are offered as both stand-alone and integrated touch pads plus fingerprint recognition solutions. In addition to notebook applications, other PC product applications for our technology include peripherals, such as high-end keyboards and accessory touchpads. Net revenue for our human interface product solutions for PC product applications accounted for approximately 24%, 18%, and 16% of our net revenue for fiscal 2020, 2019, and 2018, respectively.

We continue to expand our available product offerings through technology development enabling us to increase our product content within each notebook unit. We are also applying our technologies to enable adoption of fingerprint recognition solutions to broaden our market opportunities. Based on the strength of our technology and engineering know-how, we believe we are well positioned to continue taking advantage of opportunities in the PC product applications market.

Recent Divestiture

In April 2020, we completed the sale of the assets of our Liquid Crystal Display, or LCD, Touch Controller and Display Driver Integration product line, or TDDI, for LCD-based mobile displays. We retained our automotive TDDI product line and our discrete touch and discrete display driver product lines supporting LCD and OLED for the mobile market. The assets sold under the asset purchase agreement, had a carrying value of approximately $33.6 million as of the closing date of the transaction for cash consideration of $138.7 million. The gain on sale of the assets was $105.1 million.

Our Strategy

Our objective is to continue to enhance our position as a leading supplier of premium semiconductor product solutions for each of the target markets in which we operate, including the IoT applications market, mobile product applications markets, and the PC product applications market. Key aspects of our strategy to achieve this objective include those set forth below.

Extend Our Technological Leadership

We plan to utilize our extensive intellectual property portfolio, engineering know-how, and technological expertise to extend the functionality of our current product solutions and offer new and innovative product solutions to customers across multiple markets. We intend to continue utilizing our technological expertise to reduce the overall size, cost, and power consumption of our product solutions while increasing their applications, capabilities, and performance. We plan to continue enhancing the ease of use and functionality of our solutions. We plan to invest in our research and development efforts through our engineering activities, including advancement of existing technologies, the hiring of key engineering personnel, and strategic acquisitions and alliances. We believe that these efforts will enable us to meet customer expectations and achieve our goal of supplying, on a timely and cost-effective basis, the most advanced, easy-to-use, functional human interface semiconductor product solutions to our target markets.

Capitalize on Growth of New and Evolving Markets

We intend to capitalize on the growth of new and evolving markets, such as the smart home and home automation market, voice enabled assistants, virtual reality, video interface docking, and wearables within the IoT market, the smartphone market, portions of the PC market, and the automotive market, brought about by the convergence of computing, communications, and entertainment devices. We intend to build upon our existing innovative and intuitive and intelligent semiconductor product solutions portfolio and continue to address the evolving portability, connectivity, security, and functionality requirements of these new markets. We will offer our solutions to existing and potential customers to enable increased functionality, reduced size, lower cost, simplified security, enhanced industrial design features, and to enhance the user experience of our OEMs' products. We plan to utilize our existing technologies as well as aggressively pursue new technologies as new markets evolve that demand new solutions.

Enhance Our Position in the Smartphone, Tablet, and PC Product Application Markets

We intend to continue introducing market-leading human interface product solutions in terms of performance, power consumption, functionality, size, and ease of use for the smartphone, tablet, and PC product applications markets. We plan to continue enhancing our customers' industrial design options and device functionality through innovative product development, in order to enhance and grow our position within our target markets. As the high-end market for smartphones continues the shift to OLED solutions, we intend to deliver further enhancements to our products to support that market.

Emphasize and Expand Customer Relationships

We intend to emphasize and expand our strong and long-standing customer relationships and seek to build and establish successful relationships with new customers. In each market we serve, we plan to provide the most advanced human interface product solutions for our customers' products. We believe that our human interface product solutions enable our customers to deliver a positive user experience and to differentiate their products from those of their competitors. We continually strive to enhance the competitive position of our customers by providing them with innovative, distinctive, and high-quality human interface product solutions on a timely and cost-effective basis. To do so, we work continually to improve our productivity, reduce costs, and increase the speed of delivery of our product solutions. We endeavor to streamline the entire design and delivery process through our ongoing design, engineering, and production improvement efforts. We also focus on providing timely pre- and post-sales support to our customers, assisting with their efforts to develop, integrate, and manufacture their products with our solutions.

We plan to offer IoT voice, audio, and video solutions, wireless connectivity solutions, touch and display driver solutions, and fingerprint sensor solutions, as well as design tools, technical support and documentation to assist in the development of human interface designs in products such as digital entertainment devices, smartphones, notebooks, PC peripherals, and other applications. We offer our customers a choice of our chip solutions or our custom module solutions. Our chip solution consists of our proprietary integrated circuit, firmware and software, including customer-specific firmware and software, while our custom module solution enables customers to utilize our proprietary integrated circuit together with third-party components and assembly.

Pursue Strategic Relationships and Acquisitions

We intend to develop and expand our strategic relationships to enhance our ability to offer value-added semiconductor product solutions to our customers, penetrate new markets, and strengthen the technological leadership of our product solutions. We also intend to evaluate the potential acquisitions of companies and assets in order to expand our technological expertise and to establish or strengthen our presence in selected target markets.

Fabless Semiconductor Manufacturing

We plan to selectively partner with foundries and backend processors to solidify our longstanding key supply chain relationships. This strategy results in a scalable business model, enables us to concentrate on our core competencies of research and development and product design and engineering, and reduces our capital expenditures and working capital requirements. Our fabless semiconductor manufacturing strategy allows us to maintain a variable cost model, in which we do not incur most of our manufacturing costs until our product solutions have been shipped and invoiced to our customers.

Competitive Advantages

We develop advanced human interface technologies that enrich the users' experience in interacting with their computing, communications, and entertainment devices. We engage with our customers in the design of their custom products and offer product solutions ranging from chips, which may include customer-specific firmware, to full module solutions. Our innovative and intuitive human interface product solutions are engineered to accommodate diverse platforms, and our expertise in device interfaces and usability help improve the features and functionality of our solutions. Our extensive array of technologies includes chips, firmware, software, mechanical and electrical designs, artificial intelligence, or AI, and algorithm-based pattern recognition, multi-finger touch-sensing technologies, advanced noise mitigation technologies, display driver technologies, image, voice and multimedia processing.

Our products are custom-engineered, total solutions including sensor design, module layout, application specific integrated circuits, or ASICs, firmware, and software features for which we provide design, manufacturing and testing support. This allows us to be a one-stop supplier for complete human interface design from concept prototyping, to product development, manufacturing, testing and support. Through our engineering know-how and technological expertise, we provide our customers with solutions that address their individual design requirements and result in high-performance, feature-rich, and reliable interface solutions. We believe our solutions offer the following characteristics:

- *Advanced Functionality*. Our solutions offer advanced features, such as voice barge-in, ambient noise cancellation, and video noise reduction to enhance the user experience, high-performance multimedia encode/decode for high resolution video processing and transport, security and AI algorithms embedded, face detect, force sensing, 240Hz touch report rate, and 144Hz display refresh technology for mobile applications.
- *Low Power Consumption*. The low power consumption of our solutions enables our customers to offer products with longer battery life and/or smaller battery capacity.

- *Small Size*. The small, thin size of our solutions and reduced number of external components enables our customers to reduce the overall size and weight of their products in order to satisfy consumer demand for portability.
- *Ease of Use*. Our solutions offer the ease of use and intuitive interaction that users demand.
- *Reliability*. The reliability of our solutions satisfies consumer requirements for dependability, which is a major component of consumer satisfaction.
- *Durability*. Our solutions withstand repeated use, harsh physical treatment, and temperature fluctuations while providing an enduring, superior level of performance.
- *Simplified Security*. Our fingerprint authentication solutions protect the user's identity, while simplifying the user experience for electronic devices.

We believe these characteristics will enable us to continue enhancing our position as a technological enabler within our target markets.

Our emphasis on technological leadership and design capabilities positions us to provide unique human interface product solutions that address specific customer requirements, as well as satisfy specifications, for features and functionality, industrial design, security, mechanical, and electrical requirements. With our Edge SOC products, we offer full system solutions that enable an immersive voice/audio, multimedia and vision experience. Our Edge SOCs enable secure artificial intelligence processing on device, for enhanced privacy and responsiveness. Our diversified audio product line enables clear voice for audio calls, immersive surround sound for gaming, advanced noise cancellation for consumer products and ultra-low-power hi-fidelity audio for mobile applications. Our products also offer unique integration options, including the ability to place our capacitive sensors underneath plastic or glass surfaces on a device or the combining of a touchpad and fingerprint sensor in one device and the ability to optimize the performance our wireless connectivity together with our AI enhanced edge SoC multimedia processors.

Our long-term working relationships with large, global OEMs and leading display manufacturers provide us with the experience to satisfy their demanding design specifications and other requirements. Our custom product solutions provide OEMs with numerous benefits, including:

- Shorter product time to market;
- Improved product functionality and utility;
- Reduced product development costs;
- Ease of system integration;
- Compact and efficient platforms;
- Product differentiation; and
- Continuity of supply.

Our collaborative efforts with our customers reduce duplication and overlap of investment and resources, enabling our OEM partners to devote more time and resources to the market development of their differentiated products.

Products

Our family of product solutions allows our customers to solve their interface needs and differentiate their products from those of their competitors.

VideoSmart™

Our VideoSmart series SoCs include CPUs running at up to 40K DMIPS, gaming-grade GPUs, voice, and Neural Network processing units. These powerful solutions combine a CPU, NPU, and GPU into a single software-enriched SoC. They enable smart multimedia devices including set-top boxes, or STB, over-the-top, or OTT, streaming devices, soundbars, surveillance cameras and smart displays.

AudioSmart®

AudioSmart products bring forward optimum analog, mixed-signal and digital signal processor, or DSP, technologies for high-fidelity voice and audio processing. Our AudioSmart products include far-field voice technologies that enable accurate voice command recognition from a distance while disregarding other sounds, such as music, in order to activate smart devices such as smart speakers. AudioSmart also includes personal voice and audio solutions for high-performance headsets that enable active noise cancellation.

ConnectSmart™

Our ConnectSmart video interface IC portfolio offers a full range of high-speed video/audio/data connectivity solutions that are designed for linking CPUs/GPUs and various endpoints for applications including PC docking stations, travel docks, dongles, protocol converters and virtual reality head mounted displays.

DisplayLink®

Our DisplayLink products utilize highly efficient video encode/decode algorithms to deliver a semiconductor-based solution which transmits compressed video frames across low bandwidth connections. These solutions are used in PC docking applications, conference room video display systems, and video casting applications.

Wireless Connectivity

Our wireless connectivity solutions include state-of-the-art Wi-Fi, Bluetooth, GPS, and GNSS, to address broad IoT market applications including home automation, multimedia streamers, security cameras, wireless speakers, games, drones, printers, wearable and fitness devices, in addition to numerous other applications which require a wireless connection.

ImagingSmart™

Our ImagingSmart solutions include a product portfolio that spans four distinct product areas including document and photo imaging controllers, digital video, fax, and modem solutions. ImagingSmart products leverage image processing IP, JPEG encoders and DSP technology to deliver a wide range of fax, modem, digital video and printer solutions for home, mobile and imaging applications.

ClearPad®

Our ClearPad family of products enables the user to interact directly with the display on electronic devices, such as mobile smartphones, tablets, and automobiles. Our ClearPad has distinct advantages, including low-profile form factor; high reliability, durability, and accuracy; and low power consumption. We typically sell our ClearPad solution as a chip, together with customer-specific firmware, to sensor manufacturers, OLED manufacturers or LCD manufacturers, to integrate into their touch-enabled products. A discrete touchscreen product typically consists of a transparent, thin capacitive sensor that is placed over or integrated into a display, such as an LCD or OLED, and combined with a flexible circuit board and a touch controller chip. Each ClearPad solution is custom designed to integrate customer-specific input preferences such as force sensing, pen input, gloved finger recognition and proximity.

We utilize capacitive technology, rather than resistive or mechanical technology, in our touch and fingerprint solutions. Unlike resistive and mechanical technology, our solid-state capacitive technology has no moving parts and does not require activation force, thereby providing a durable and more reliable solution that can be integrated into both curved and flat surfaces. Capacitive technologies also allow for much thinner sensors than resistive or mechanical technology, providing for slimmer, more compact and unique industrial designs.

Our ClearPad Series 3 product family can provide full-time tracking of ten or more fingers simultaneously, and features stylus support as well as support for various sensor configurations, including traditional discrete sensors; sensor-on-lens, which includes sensor electrodes patterned on the bottom of the glass cover lens and on-cell, which includes sensor electrodes patterned on the display glass.

Our ClearPad Series 7 product family is designed to meet the requirements of the large touchscreen market for products more closely related to tablets, notebooks, slates and similar devices. Our ClearPad Series 7 products include low-cost, single-chip touchscreen solutions and multi-chip touchscreen solutions designed for devices that have more demanding user input requirements, such as gaming applications.

ClearView™

Our ClearView display driver products offer advanced image processing and low power technology for displays on electronic devices, including smartphones and tablets. ClearView products include adaptive image processing that works in concert with proprietary customization options to enable development of efficient and cost-effective high-performance solutions and faster time to market. Our display driver products offer automatic regional control of color balance that optimizes light and dark areas of an image simultaneously, and sunlight readability enhancement capabilities that optimize image quality under various lighting conditions. Our virtual reality bridge and virtual reality DDIC chips enable our customers to move to higher resolution displays that solve the "screen door" effect caused by lower resolution displays.

Natural ID®

Our Natural ID family of capacitive-based fingerprint ID products is designed for use in automobiles, notebook PCs, PC peripherals, and other applications. Thin form factors provide industrial design flexibility, while robust matching algorithms and anti-spoofing technology provide strong security. Our Natural ID family of products spans a range of form factors, colors, and materials suitable for design on the front, back or side of a device.

Natural ID products are designed to be compatible with Fast IDentity Online, or FIDO, protocols, enhancing security and interoperability with a broad range of solutions. FIDO was formed to enhance online authentication by developing open, scalable technical standards to help facilitate the adoption of robust, easy to use authentication that reduces the reliance on passwords. Natural ID products increase the security of automobile and PC products while maintaining ease of use for the customer.

TouchPad™

Our TouchPad family of products, which can take the place of, and exceed the functionality of a mouse, consists of a touch-sensitive pad that senses the position and movement of one or more fingers on its surface through the measurement of capacitance. Our TouchPad provides an accurate, comfortable, and reliable method for screen navigation, cursor movement, and gestures, and provides a platform for interactive input for both the consumer and corporate markets. Our TouchPad solutions allow our OEMs to provide stylish, simple, user-friendly, and intuitive solutions to consumers. Our TouchPad solutions also offer various advanced features, including scrolling, customizable tap zones, tapping and dragging of icons, and device interaction.

Our TouchPad solutions are available in a variety of sizes, electrical interfaces, and thicknesses, and are designed to meet the electrical and mechanical specifications of our customers. Customized firmware and driver software ensure the availability of specialized features. As a result of their solid-state characteristics, our TouchPad solutions have no moving parts that wear out, resulting in a robust and reliable input solution that also allows for unique industrial designs.

SecurePad™

Our SecurePad integrates our Natural ID fingerprint sensor directly into the TouchPad area, improving usability and simplifying the supply chain for notebook PC manufacturers.

ClickPad™

Our ClickPad introduces a clickable mechanical design to the TouchPad solution, eliminating the need for physical buttons. The button-less design of our ClickPad allows for unique, intuitive industrial design and makes an excellent alternative to conventional input and navigation devices. Our ClickPad is activated by pressing down on the internal tact switch to perform left-button or right-button clicks and provides tactile feedback similar to pressing a physical button. The latest version of ClickPad features ClickEQ™, a mechanical solution that provides uniform click depth to maximize the surface area available for gestures and improves click performance over hinged designs.

ForcePad®

Our ForcePad is a thinner version of our ClickPad, which introduces a new dimension in control through the addition of variable force sensitivity. ForcePad is designed to provide consistent performance across OEM models through its design intelligence and self-calibration features. By detecting the amount of force applied, ForcePad is engineered to enable more intuitive and precise user interactions in operating system controls and applications. Designed with thin and light notebooks in mind, ForcePad is 40% thinner than a conventional touch pad.

Other Products

Other product solutions we offer include Dual Pointing Solutions, and TouchStyk™. Our dual pointing solutions offer TouchPad with a pointing stick in a single notebook computer, enabling users to select their interface of choice. TouchStyk is a self-contained pointing stick module that uses capacitive technology similar to that used in our TouchPad.

Technologies

We have developed and own an extensive array of technologies, encompassing ASICs, firmware, software, mechanical and electrical designs, display systems, pattern recognition, touch-sensing technologies, fingerprint sensing, voice, audio, imaging, modem and multimedia technologies. We continue to develop technology in these areas. We believe these technologies and the related intellectual property rights create barriers for competitors and allow us to provide high-value human interface semiconductor product solutions in a variety of high-growth markets.

Our broad line of human interface semiconductor product solutions is currently based upon the following key technologies:

- Proprietary microcontroller technology;
- Proprietary vector co-processor technology;
- Multimedia processing technology;
- Voice and audio technology;
- Pattern recognition technology;
- Deep learning and neural network inferencing technology.
- Mixed-signal integrated circuit technology;
- Wireless technology;
- Video interface and compression technology;
- Imaging and modem technology;
- Capacitive position and force sensing technology;
- Capacitive active pen technology;
- Multi-touch technology; and
- Display systems and circuit technology.

In addition to these technologies, we develop firmware and device driver software that we incorporate into our products, which provide unique and advanced features. In addition, our ability to integrate all our products to interface with major operating systems provides us with a competitive advantage.

Proprietary Microcontroller Technology. One example of our microcontroller technology is our proprietary 16-bit microcontroller core that is embedded in the digital portion of our capacitive touch mixed signal ASICs, which is allowing us to optimize our ASICs for position sensing tasks. Our embedded microcontroller provides great flexibility in customizing our products via firmware, which eliminates the need to design new circuitry for each new application.

Proprietary Vector Co-Processor Technology. Our vector co-processor technology is designed for use in our ASICs, accompanying either one of our own proprietary microcontroller cores or a commercially available one. The co-processor boosts an ASIC's computational performance by efficiently processing vectors of data for a range of mathematical operations. This allows us to implement more computationally intensive algorithms within our firmware.

Multimedia Processing Technology. This technology allows us to create multimedia SoC products for set-top boxes, soundbars, digital personal assistants, smart displays, virtual reality, OTT, audio and video. Our video processing technology includes hardware and algorithms to reduce analog and digital noise, convert to different video formats, and enhance color and contrast. Our products include security and secure encrypt/decrypt technology, including secure boot and hardware root of trust.

Voice and Audio Technology. This technology allows us to develop human interface and communication products based on voice and audio interaction. The technology embodies a broad range of analog and mixed signal circuits expertise and audio signal processing algorithms, including:

- Noise suppression;
- Acoustic echo cancellation;
- De-reverberation;
- Active noise cancellation;
- Trigger word detection;
- Mid-field and far-field voice processing;
- Audio digital signal processor architecture;
- Audio codecs;
- Audio post processing;
- Voice activity detection;
- High performance audio analog-to-digital converters, or ADCs, and digital-to-analog converters, or DACs;
- Audio amplifiers;
- USB interfaces;
- Efficient charge pumps and low drop-out regulators, or LDOs;
- Low power audio processing;
- Speaker protection; and
- Product acoustic design.

Pattern Recognition Technology. This technology is a set of software algorithms and techniques for converting real world data, such as gestures and handwriting, into a digital form that can be recognized and manipulated within a computer. Our technology provides reliable gesture decoding and handwriting recognition and can be used in other applications such as signature verification for a richer user experience.

Deep Learning and Neural Network Inferencing Technology. This technology allows us to create and train deep neural networks for audio, image processing, video processing and computer vision functions. Some of our products contain hardware designed to evaluate deep neural networks securely and with low latency. We also have technology that allows us to compress our trained neural networks for more efficient AI-at-the-edge on our hardware. These neural network algorithms improve the quality of the sensed data (for example, reduce the noise, or increase the resolution) as well as interpret the sensed data.

Mixed-Signal Integrated Circuit Technology. This hybrid analog-digital integrated circuit technology combines the power of digital computation with the ability to interface with non-digital, real-world signals, such as the position of a finger or stylus on a surface. Our patented design techniques permit us to utilize this technology to optimize our core ASIC engine for all our products. Our mixed-signal technology consists of a broad portfolio of circuit expertise in areas such as the following:

- High-speed serial interfaces;
- Analog-to-digital and digital-to-analog converters;
- SRAM, DRAM, and non-volatile memories;
- Electromagnetic emissions suppression and susceptibility hardening;
- Very Large Scale Integrated, or VLSI, digital circuits with multiple clock and power domains;
- Communications and signal processing circuits;
- Power management (switching converters, charge pumps, and LDOs);
- Precision capacitance measurement;
- LCD source and VCOM drivers; and
- Display timing controllers, or TCONs.

Wireless Technology. Our wireless connectivity solutions include discrete and integrated Wi-Fi and Bluetooth solutions, and satellite-based GPS/GNSS mobile navigation receivers. Wi-Fi allows devices on a local area network to communicate wirelessly, adding the convenience of mobility to the utility of high-speed data networks. We offer a family of high performance, low power Wi-Fi chipsets. We offer products which incorporate the latest Wi-Fi standards such as 802.11AX, which is known as Wifi-6. Bluetooth is a low power technology that enables direct connectivity between devices. We offer a complete family of Bluetooth silicon and software solutions that enable customers to easily and cost-effectively add Bluetooth functionality to virtually any device. These solutions include combination chips that offer integrated Wi-Fi and Bluetooth functionality, which provides significant performance advantages over discrete solutions.

We also offer a family of GPS and GNSS semiconductor products, software and data services. These products are part of a broad location platform that enable customer devices to wirelessly communicate and receive precise location and navigational data from satellite constellations for use in various location services applications.

Video Compression Technology. Our video interface solutions include our ConnectSmart and DisplayLink portfolios, offering a full range of interface solutions that connect devices to external displays and support the latest versions of the most widely used protocols, connectors and operating systems. Our flexible product lines for connecting devices combine high-performance interface with low power consumption and are designed for both commercial and consumer end-products. Our solutions have been broadly adopted by the top OEMs and original device manufacturers, or ODMs, to enable video expansion and protocol conversion, leverage high-end features, and deliver the bandwidth needed to drive multiple high-resolution external displays simultaneously.

Imaging and Modem Technology. This technology allows us to create a family of SoC integrated circuits and software for printers, video cameras, fax machines and modems. Key functional blocks include:

- Image processing hardware accelerators;
- Motion detection;
- Low power video codecs;
- Printer imaging pipeline;
- Inkjet, laser, and thermal print engine and motor control;
- Scan/camera and peripheral control; and
- Data and fax modem hardware and firmware.

Capacitive Fingerprint Sensing Technology. Our fingerprint sensing technology simplifies the system or application authentication process by substituting the user's fingerprint for the login name and password. Our capacitive fingerprint sensing technology provides for fingerprint authentication by scanning and matching an image of a user's fingerprint, as well as initial fingerprint enrollment. Our sensing technology also incorporates spoof detection and includes many implementation choices including the back of the phone or PC, button integration, touchpad integration, and under glass.

Capacitive Position and Force Sensing Technology. Our Position Sensing technology provides a method for sensing the presence, position, and contact area of one or more fingers or a stylus on a flat or curved surface. Our technology works with very light touch, supports full multi-touch capabilities, and provides highly responsive cursor navigation, scrolling, and selection. It uses no moving parts, can be implemented under plastic or glass, and is extremely durable. Our technology can also track one or more fingers in proximity to the touch surface. Our Force Sensing technology senses the direction and magnitude of a force applied to an object. The object can either move when force is applied, like a typical joystick used for gaming applications, or it can be isometric, with no perceptible motion during use, like our TouchStyk, ForcePad, or ClearForce. The primary competition for this technology is resistive strain gauge technology. Our electronic circuitry determines the magnitude and direction of an applied force, permits very accurate sensing of tiny changes in capacitance, and minimizes electrical interference from other sources. Our capacitive force sensing technology can be integrated with our position sensing technology.

Capacitive Active Pen Technology. This technology allows us to develop a pen that can be used for input on a capacitive touchscreen. As well as generating a signal that allows the touchscreen to track the pen, additional data, such as the pen applied force and pen button states, are also communicated to the touchscreen device. Information can also be communicated from the touchscreen to the pen.

Multi-touch Technology. This technology allows us to create capacitive touch products that simultaneously track the presence, position and other characteristics of multiple objects in contact with or in close proximity to a flat or curved touch surface. It enables, for example, the recognition of multi-finger gestures, the tracking of a stylus position while the user's palm is also in contact with the touch surface, and the simultaneous interaction of multiple users with the same touch surface.

Display Systems and Circuit Technology. This technology enables us to develop optimized human interface semiconductor product solutions with improved compatibility with their application environments. This technology consists of mobile and large format display semiconductor expertise, including the following functional blocks:

- Display timing controllers, or TCONs;
- Thin-Film-Transistor, or TFT, gamma references;
- Smooth dimming and content adaptive brightness control;
- Contrast enhancement;
- Color enhancement;
- Color space adjustment;
- Gamma curve control;
- Force, touch and display synchronization;
- Local area active contrast optimization;
- Sunlight readability enhancements;
- Adaptive image compression and decompression;
- Sub-pixel rendering;
- Demura compensation;
- Rounded corner processing;
- Video scaling;
- Edge enhancement;

- Frame rate control;
- High-speed serial interfaces such as MIPI DSI and Qualcomm MDDI; and
- Display power circuits such as inductive switchers, charge pumps, and LDOs.

This technology also enables us to develop advanced products that combine the functions of the display and touch sensing systems to enable highly integrated display and touch functionality with improved performance, thinner form factors, and lower system cost.

Our latest addition to our automotive portfolio is an automotive grade integrated touch and display drivers, or TDDI, for indium gallium zinc oxide and amorphous silicon gate-in-panel displays and low-temperature polycrystalline panels up to 4K resolution.

Research and Development

We conduct ongoing research and development programs that focus on advancing our existing interface technologies, improving our current product solutions, developing new products, improving design and manufacturing processes, enhancing the quality and performance of our product solutions, and expanding our technologies to serve new markets. Our goal is to provide our customers with innovative solutions that address their needs and improve their competitive positions.

Our research and development programs focus on the development of accurate, easy to use, reliable, and intuitive human interfaces for electronic devices. We believe our innovative interface technologies can be applied to many diverse products, and we believe the interface is a key factor in the differentiation of these products. AI-at-the-edge is a focus area for us in enabling better performance and enhancing user experience in many of these products. We believe that our interface technologies enable us to provide customers with product solutions that have significant advantages over alternative technologies in terms of functionality, size, power consumption, durability, and reliability. We also intend to pursue strategic relationships and acquisitions to enhance our research and development capabilities, leverage our technology, and shorten our time to market with new technological applications.

Our research, design, and engineering teams frequently work directly with our customers to design custom solutions for specific applications. We focus on enabling our customers to overcome their technical barriers and enhance the performance of their products. We believe our engineering know-how and electronic systems expertise provide significant benefits to our customers by enabling them to concentrate on their core competencies of production and marketing.

As of the end of fiscal 2020, we employed 1,012 people in our technology, engineering, and product design functions in the United States, China, Taiwan, Japan, India, Korea, and Hong Kong. Our research and development expenses were $302.5 million, $342.7 million, and $363.2 million for fiscal 2020, 2019, and 2018, respectively.

Intellectual Property Rights

Our success and ability to compete depend in part on our ability to maintain the proprietary aspects of our technologies and products. We rely on a combination of patents, trade secrets, copyrights, confidentiality agreements, and other statutory and contractual provisions to protect our intellectual property, but these measures may provide only limited protection.

As of June 27, 2020, we held 1,851 active patents and 725 pending patent applications worldwide. Collectively, these patents and patent applications cover various aspects of our key technologies, including those for capacitive sensing, secure biometrics, display driver and integrated sensing, video processing, optical imaging, acoustics and audio processing, far-field voice and speech capture, image processing, edge computing, and wired connectivity. Our proprietary firmware and software, including source code, are also protected by copyright laws and applicable trade secret laws.

Our extensive array of technologies include those related to ICs, firmware, software, and mechanical hardware. Our products rely on a combination of these technologies, making it difficult to use any single technology as the basis for replicating our products. Furthermore, the lengths of our customers' design cycles and the customizations required within the products we provide to our customers also serve to protect our intellectual property rights.

Customers

Our customers include many of the world's largest mobile and PC OEMs, based on unit shipments, as well as many large IoT OEMS, automotive manufacturers and a variety of consumer electronics manufacturers. Our demonstrated track record of technological leadership, design innovation, product performance, cost effectiveness, and on-time deliveries have resulted in our leadership position in providing human interface semiconductor product solutions. We believe our strong relationship with our OEM customers, many of which are also currently developing product solutions which are focused in several of our target markets, will continue to position us as a source of supply for their product offerings.

Our leading OEM customers in fiscal 2020 included the following:

- **Acer**
- **Dell**
- **Ford**
- **Google**
- **Hewlett-Packard**
- **Huawei**
- **Lenovo**
- **LG Electronics**
- **Microsoft**
- **Nikon**
- **Oppo Mobile**
- **Samsung**
- **Sony**
- **Technicolor**
- **Vivo**

We generally supply custom-designed products to OEMs through their contract manufacturers, supply chain or distributors. Sales to Fuhrmeister Electronics Co., Ltd. and Sharp Corporation accounted for 18% and 12%, respectively, of our net revenue in fiscal 2020.

We consider both the OEMs and their contract manufacturers or supply chain partners to be our customers, as well as in some cases, our distributors. Both the OEMs and their partners may determine the design and pricing requirements and make the overall decision regarding the use of our human interface semiconductor product solutions in their products. The contract manufacturers and distributors place orders with us for the purchase of our products, take title to the products purchased upon delivery by us, and pay us directly for those purchases. The majority of these customers do not have return rights except for warranty provisions.

Strategic Relationships

We have used strategic relationships to enhance our ability to offer value-added customer solutions in the past. We intend to enter additional strategic relationships with companies that may help us serve our target markets.

Sales and Marketing

We sell our product solutions for incorporation into the products of our OEM customers. We generate sales through direct sales employees as well as outside sales representatives, distributors and value-added resellers. Our sales personnel receive substantial technical assistance and support from our internal technical marketing and engineering resources because of the highly technical nature of our product solutions. Sales frequently result from multi-level sales efforts that involve senior management, design engineers, and our sales personnel interacting with our customers' decision makers throughout the product development and order process.

As of the end of fiscal 2020, we employed 172 sales and marketing professionals. We maintain customer support offices domestically and internationally, which are located in the United States, Taiwan, China, India, Korea, Japan, and Europe. In addition, we utilize value-added resellers and sales distributors which are primarily located in the United States, China, Korea and Taiwan.

International sales constituted over 94% of our revenue for each of fiscal 2020, 2019, and 2018. Approximately 78%, 78% and 75% of our sales in fiscal 2020, 2019 and 2018, respectively, were made to companies located in China, Japan, and South Korea that provide design and manufacturing services for major notebook computer and mobile product applications OEMs. Our sales are almost exclusively denominated in U.S. dollars. This information should be read in conjunction with Note 12 Segment, Customers, and Geographic Information to the consolidated financial statements contained elsewhere in this report.

Manufacturing

We employ a fabless semiconductor manufacturing platform through third-party relationships. We currently utilize third-party semiconductor wafer manufacturers to supply us with silicon wafers integrating our proprietary design specifications. The completed silicon wafers are forwarded to third-party package and test processors for further processing into die and packaged ASICs, as applicable, which are then utilized in our custom interface products or processed as our ASIC-based solution.

After processing and testing, the die and ASICs are consigned to various contract manufacturers for assembly or are shipped directly to our customers. During the assembly process, our die or ASIC is either combined with other components to complete the module for our custom human interface solution or the ASIC is maintained as a standalone finished good. The finished assembled product is subsequently shipped directly to our customers or by our contract manufacturers directly to our customers for integration into their products.

We diversify our production capacity through third-party relationships, thereby strengthening our supply chain platform. We believe our third-party manufacturing strategy provides a scalable business model, enables us to concentrate on our core competencies of research and development, technological advances, and product design and engineering, and reduces our capital investment.

Our third-party contract manufacturers and semiconductor fabricators are predominately Asia-based organizations. We generally provide our contract manufacturers with six-month rolling forecasts of our production requirements. We generally do not have long-term agreements with our contract manufacturers that guarantee production capacity, prices, lead times, or delivery schedules. Our reliance on these parties exposes us to vulnerability owing to our dependence on a few sources of supply. We believe, however, that other sources of supply are available. We may establish relationships with other contract manufacturers in order to reduce our dependence on any one source of supply.

Periodically, we purchase inventory from our contract manufacturers when a customer delays its delivery schedule or cancels its order. In those circumstances in which our customer has cancelled its order and we purchase inventory from our contract manufacturers, we consider a write-down to reduce the carrying value of the inventory purchased to its net realizable value. We charge write-downs to reduce the carrying value of obsolete, slow moving, and non-usable inventory to its net realizable value and charge such write-downs to cost of revenue. We also record a liability and charge to cost of revenue for estimated losses on inventory we are obligated to purchase from our contract manufacturers when such losses become probable from customer delays or order cancellations.

Backlog

As of the end of fiscal 2020, we had a backlog of orders of $256.6 million, a decrease of $20.4 million compared with a backlog of orders as of the end of fiscal 2019 of $277.0 million. The decrease in backlog as compared to those reflected in backlog at the end of fiscal 2019 is primarily due to a lower number of units in backlog for our mobile business at the end of fiscal 2020, largely due to the sale of our TDDI mobile business which closed in April 2020, partially offset by an increase in the number of units in backlog for the same period in our PC business, as well as higher average selling prices of products ordered in backlog in all our businesses. Our backlog consists of products for which purchase orders have been received and are scheduled for shipment on a subsequent date. Most orders are subject to rescheduling or cancellation with limited penalties. Because of the possibility of customer changes in product shipments, our backlog as of a particular date may not necessarily be indicative of net revenue for any succeeding period.

Competition

IoT

Our SoC solutions enabling new forms of media consumption paradigms integrate video processing, far-field voice and linguistics processing products are sold into market segments that offer significant potential growth, ranging from home automation applications, smart assistant platforms, surveillance cameras, to STB/OTT platforms and VR/AR solutions. The markets for STB/OTT products, surveillance cameras, home automation, and smart assistant solutions require strong technology innovation and deep systems and systems engineering expertise. Our principal competition in these markets include Broadcom, MediaTek, AmLogic, and Ambarella, among others.

We provide voice processing silicon and software solutions for voice-enabled devices, consumer and commercial imaging, and next-generation audio applications. In addition to our voice solutions, we support the audio headphone and virtual reality/mixed reality head mounted display industry with USB-C audio codec solutions for next generation wireless audio devices and wearables. Our competitors in the sale of audio products include Cirrus Logic, DSP Group, BES Technic, and Realtek.

Our wireless products for use in IoT application markets include our technologies such as Wi-Fi, Bluetooth, Wi-Fi-Bluetooth combinations, and GPS/GNSS support our customers' need to develop products which can wirelessly communicate to networks, remote control of edge-devices, machine-to-machine communication, among other purposes. Our principal competition includes Infineon, Qualcomm, MediaTek, NXP, and Silicon Labs, among others.

Our automotive products include touch, display driver, and TDDI solutions for major automotive OEMs. Our principal competitors for these products include Focaltech, Himax, and Microchip. Our IoT video interface products are sold into PC and smartphone docks and wireless adapter market applications. Our principal competitors in the sale of IoT interface products are Parade, Megachips, and Realtek. We provide fax, modem and print silicon and software solutions for printers, fax machines, point of sale terminals, and medical applications. Our principal competitors in these markets are Marvell and Qbit.

PC and Mobile

Our touch, display and fingerprint-based semiconductor products are sold into markets for mobile product applications, PC product applications, and other electronic devices. The markets for touchscreen products are characterized by rapidly changing technology and intense competition. Our principal competition in the sale of touchscreen products includes Samsung LSI, Broadcom, Goodix and various other companies involved in human interface semiconductor product solutions. Our principal competitors in the sale of notebook touch pads are Cirque Corporation, Elan Microelectronics and Goodix. Our principal competitors in the sale of display driver products for the mobile and PC product applications markets include Focaltech, Novatek Microelectronics, Samsung LSI and SiliconWorks. Our principal competitors in the sale of fingerprint authentication solutions for PC product applications markets are Egis Technology, Elan Microelectronics, and Goodix.

General

We believe our solutions-based systems and engineering experience, coupled with our technologies, offer benefits in terms of size, power consumption, durability, ease of use, cost effectiveness, and reliability when compared to our competitors and other technologies. While our markets continue to evolve, we believe we are well positioned to compete aggressively for this business based on our proven track record, our technological expertise, our marquee global customer base, our technology roadmap, and our reputation for design innovation. Our competitive position could be adversely affected if one or more of our current OEMs reduce their orders or if we are unable to develop new customers for our human interface semiconductor product solutions.

Employees

As of the end of fiscal 2020, we employed a total of 1,387 persons, including 203 in operations, finance, and administration; 172 in sales and marketing; and 1,012 in research and development. Of these employees, 483 were located in North America and 904 in Asia/Pacific and the rest of the world. We consider our relationship with our employees to be good, and none of our employees are represented by a union in collective bargaining with us.

Competition for qualified personnel in our industry is extremely intense, particularly for engineering and other technical personnel. Our success depends on our continued ability to attract, hire, and retain qualified personnel.

Information about our Executive Officers

The following table sets forth certain information regarding our executive officers as of August 17, 2020:

Name	Age	Position
Michael Hurlston	53	President and Chief Executive Officer
Dean Butler	38	Chief Financial Officer
Saleel Awsare	55	Senior Vice President and General Manager, PC & Peripherals Division
Philip Kumin	55	Senior Vice President, Worldwide Sales
John McFarland	53	Senior Vice President, General Counsel and Secretary
Kermit Nolan	60	Chief Accounting Officer

Michael Hurlston has been the President and Chief Executive Officer of our Company since August 19, 2019. Prior to joining our company, Mr. Hurlston served as the Chief Executive Officer and a member of the Board of Directors of Finisar Corporation from January 2018 to August 2019. Prior to joining Finisar, he served as Senior Vice President and General Manager of the Mobile Connectivity Products/Wireless Communications and Connectivity Division and held senior leadership positions in sales, marketing and general management at Broadcom Limited and its predecessor corporation from November 2001 through October 2017. Prior to joining Broadcom in 2001, Mr. Hurlston held senior marketing and engineering positions at Oren Semiconductor, Inc., Avasem, Integrated Circuit Systems, Micro Power Systems, Exar and IC Works from 1991 until 2001. Mr. Hurlston is a member of the board of directors of Ubiquiti Networks, Inc. and Vilynx Inc. Mr. Hurlston holds a Bachelor of Science and a Master of Science degree in Electrical Engineering and a Master's degree in Business Administration from the University of California, Davis.

Dean Butler has been the Chief Financial Officer of our Company since October 21, 2019. Prior to joining our company, Mr. Butler served as Vice President of Finance at Marvell Technology Group Ltd. from July 2016 to October 2019. Prior to joining Marvell, he served as Controller of the Ethernet Switching Division at Broadcom Limited from January 2015 through July 2016. Prior to joining Broadcom, Mr. Butler held senior finance positions at Maxim Integrated from May 2007 to December 2014. Mr. Butler received his Bachelor's degree in Finance from the University of Minnesota Duluth.

Saleel Awsare became the Senior Vice President and General Manager of our PC & Peripherals Division in July 2020 and had been the Senior Vice President and General Manager of our IoT Division since April 2019 and the Senior Vice President of Corporate Marketing & Investor Relations since December 2018. Before joining our company as Corporate Vice President and General Manager of Audio & Imaging Products, he was President of Conexant Systems, LLC ("Conexant") from March 2016 to July 2017, and Senior Vice President & General Manager of Audio & Imaging from April 2012 to March 2016. Synaptics acquired Conexant in July 2017. Mr. Awsare served as President of Nuvoton Technology Corporation's U.S. operations and General Manager of Nuvoton's audio and voice divisions from December 2008 to March 2012. Prior to Nuvoton, Mr. Awsare was the Executive Vice President and General Manager of mixed signal products for Winbond Electronics Corporation America. Before Winbond, Mr. Awsare was a director of engineering for Information Storage Devices. Mr. Awsare is a member of the Board of Directors, Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee of Sigma Designs, Inc. and a member of the Board of Trustees of Stevens Institute of Technology. Mr. Awsare holds a Bachelor of Science in Electrical Engineering from Stevens Institute of Technology and a Master of Science in Engineering Management from Santa Clara University.

Philip Kumin has been the Senior Vice President, Sales of our Company since March 30, 2020. Prior to joining our company, Mr. Kumin was the founder and managing partner of Paragon Technical from July 1997 to March 2020. Mr. Kumin has more than 30 years of industry experience with more than 20 semiconductor companies, including leadership roles at Brooktree (acquired by Rockwell) and Texas Instruments. Mr. Kumin received a Bachelor of Science degree in Electrical Engineering from the University of Massachusetts Lowell.

John McFarland has been the Senior Vice President, General Counsel and Secretary of our company since November 2013. Prior to joining our company, Mr. McFarland served for nine years as the Executive Vice President, General Counsel and Secretary of MagnaChip Semiconductor. Mr. McFarland spent his early career at law firms in Palo Alto, California, and Seoul, Korea. Mr. McFarland holds a Bachelor of Arts degree in Asian Studies, conferred with highest distinction from the University of Michigan, and a Juris Doctor degree from the University of California, Los Angeles, School of Law.

Kermit Nolan has been the Chief Accounting Officer since February 2019 and was Interim Chief Financial Officer of our company from February 2019 to October 2019. Mr. Nolan joined the company in March 2004 and has served in various accounting, tax and finance roles including most recently as Vice President of Finance and Corporate Controller. Prior to joining our company, Mr. Nolan worked in various tax and accounting positions at two public companies including Hello Direct (acquired by GN Netcom in November 2000), and Inmac (acquired by MicroWarehouse in January 1996). Mr. Nolan began his career in accounting with KPMG, formerly, Peat, Marwick, Mitchell and Co. Mr. Nolan holds a Bachelor of Science degree in Accounting from San Jose State University.

There are no arrangements, understandings, or family relationships pursuant to which our executive officers were selected. There are no related party transactions between us and our executive officers. We have entered into indemnification agreements with our officers and directors.

ITEM 1A. RISK FACTORS

You should carefully consider the following factors, together with all the other information included in this report, in evaluating our company and our business.

We currently depend on our solutions for the mobile product applications market and the PC product applications market for a substantial portion of our revenue, and any downturn in sales of these products would adversely affect our business, revenue, operating results, and financial condition.

We currently depend on our solutions for the mobile product applications market and the PC product applications market for a substantial portion of our revenue. Any downturn in sales of these products would adversely affect our business, revenue, operating results, and financial condition. Similarly, a softening of demand in the smartphone market, the tablet market, or the notebook portion of the PC product applications market, or a slowdown of growth in the mobile product applications market because of consumer preferences, the emergence of applications not including our solutions, or other factors would cause our business, operating results, and financial position to suffer.

Net revenue from our solutions for mobile product applications has been volatile in the past and may not increase or be less volatile in the future.

Net revenue from our solutions for mobile product applications, particularly smartphones, has been volatile in the past, and may not increase or be less volatile in the future. Net revenue from our solutions for mobile product applications was $698.9 million for fiscal 2020, $900.1 million for fiscal 2019, and $1,021.0 million for fiscal 2018. Our business for mobile product applications faces many uncertainties, including our success in enhancing our position in evolving markets dominated by a limited number of OEMs, and market acceptance of our products over competitive or lower-cost solutions. Our inability to address these uncertainties successfully would negatively affect our business.

A significant portion of our sales comes from one or more large customers, the loss of which could harm our business, financial condition, and operating results.

Historically, we have relied on a limited number of customers for a substantial portion of our total revenue. If we lost key customers, or if key customers reduced or stopped placing orders for our high-volume products, our financial results could be adversely affected. Sales to Sharp Corporation and Fuhrmeister Electronics Co., Ltd. accounted for 10% or more of our net revenue in fiscal 2020. During fiscal 2020, we had two OEM customers that integrated our products into their mobile products representing approximately 30% and 12% of our revenue and one OEM customer that integrated our products into their PC products that represented approximately 15% of our revenue; we sold to these customers primarily indirectly through multiple distributors. Significant reductions in sales to our largest customers, the loss of other major customers, or a general decrease in demand for our products within a short period of time could adversely affect our revenue, financial condition and business.

We sell to contract manufacturers that serve our OEM customers. Any material delay, cancellation, or reduction of orders from any one or more of these contract manufacturers or the OEMs they serve could harm our business, financial condition, and operating results. The adverse effect could be more substantial if our other customers do not increase their orders or if we are unsuccessful in generating orders for our solutions with new customers. Many of these contract manufacturers sell to the same OEMs, and therefore our concentration with certain OEMs may be higher than with any individual contract manufacturer. Concentration in our customer base may make fluctuations in revenue and earnings more severe and make business planning more difficult.

Our business, results of operations and financial condition (including liquidity) and prospects may be materially and adversely affected by health epidemics, including the recent COVID-19 pandemic.

Public health threats, such as COVID-19, influenza and other highly communicable diseases or viruses, outbreaks of which have from time to time occurred in various parts of the world in which we operate could adversely impact our operations, as well as the operations of our suppliers and customers. Any of these public health threats and related consequences could adversely affect our financial results.

COVID-19, a potentially deadly respiratory tract infection caused by the SARS-CoV-2 virus, has spread rapidly and enveloped most of the world, causing a global public health crisis. On March 11, 2020, the World Health Organization characterized the COVID-19 outbreak as a pandemic. Governments in affected countries are imposing travel bans, quarantines and other emergency public health measures. In response to the virus, national and local governments in numerous countries around the world have implemented substantial lockdown measures, and other countries and local governments may enact similar policies. The United States has temporarily restricted travel by foreign nationals into the country from a number of areas. In addition, the federal government and all of the states in the U.S., have declared a state of emergency or similar disaster declaration, and many states, including California where we are headquartered, have enacted shelter-in-place or similar restrictive orders. Companies are also taking precautions, such as requiring employees to work remotely, imposing travel restrictions and temporarily closing businesses. These restrictions, and future prevention and mitigation measures, have had an adverse impact on global economic conditions, which could materially adversely affect our future operations. Uncertainties regarding the economic impact of the COVID-19 outbreak have resulted in market turmoil, which could also negatively impact our business, financial condition and cash flows.

These measures have impacted and may further impact our workforce and operations, the operations of our customers, and those of our respective vendors, suppliers, and partners. The disruptions to our operations caused by the COVID-19 outbreak may result in inefficiencies, delays and additional costs in our product development, sales, marketing, and customer service efforts that we cannot fully mitigate through remote or other alternative work arrangements. Also, some suppliers of materials used in the production of our products may be located in areas more severely impacted by COVID-19, which could limit our ability to obtain sufficient materials for our products. In addition, the severe global economic disruption caused by COVID-19 may cause our customers and end-users of our products to suffer significant economic hardship, which could result in decreased demand for our products in the future and materially adversely affect our business, results of operations, financial condition (including liquidity) and prospects.

The impact of the COVID-19 pandemic continues to evolve and its duration and ultimate disruption on our customers, end-users, overall demand for our products, supply chain, and the related financial impact to us, cannot be estimated at this time. Should such disruption continue for an extended period of time, the impact could have a more severe adverse effect on our business, results of operations and financial condition (including liquidity). Additionally, weaker economic conditions generally could result in impairment in value of our tangible or intangible assets, or our ability to raise additional capital, if needed.

We are exposed to industry downturns and cyclicality in our target markets that may result in fluctuations in our operating results.

The consumer electronics industry has experienced significant economic downturns at various times. These downturns are characterized by diminished product demand, accelerated erosion of average selling prices, and production overcapacity. In addition, the consumer electronics industry is cyclical in nature. We seek to reduce our exposure to industry downturns and cyclicality by providing design and production services for leading companies in rapidly expanding industry segments. We may, however, experience substantial period-to-period fluctuations in future operating results because of general industry conditions or events occurring in the general economy.

We cannot assure you that our product solutions for new markets will be successful or that we will be able to continue to generate significant revenue from these markets.

Our product solutions may not be successful in new markets despite the fact that these product solutions are capable of enabling people to interact more easily and intuitively with a wide variety of personal computer, mobile computing, communications, entertainment, automotive, electronic and smart devices.

Various target markets for our product solutions, such as automotive touchscreens and IoT, may develop slower than anticipated or could utilize competing technologies. The markets for certain of these products depend in part upon the continued development and deployment of wireless and other technologies, which may or may not address the needs of the users of these products.

Our ability to generate significant revenue from new markets will depend on various factors, including the following:

- the development and growth of these markets;
- the ability of our technologies and product solutions to address the needs of these markets, the price and performance requirements of OEMs, and the preferences of end users; and

- our ability to provide OEMs with solutions that provide advantages in terms of size, power consumption, reliability, durability, performance, and value-added features compared with alternative solutions.

Many manufacturers of these products have well-established relationships with competitive suppliers. Our ongoing success in these markets will require us to offer better performance alternatives to other solutions at competitive costs. The failure of any of these target markets to develop as we expect, or our failure to serve these markets to a significant extent, will impede our sales growth and could result in substantially reduced earnings and a restructuring of our operations. We cannot predict the size or growth rate of these markets or the market share we will achieve or maintain in these markets in the future.

If we fail to maintain and build relationships with our customers, or our customers’ products which utilize our solutions do not gain widespread market acceptance, our revenue may stagnate or decline.

We do not sell any products to end users and we do not control or influence the manufacture, promotion, distribution, or pricing of the products that incorporate our solutions. Instead, we design various solutions that our OEM customers incorporate into their products, and we depend on such OEM customers to successfully manufacture and distribute products incorporating our solutions and to generate consumer demand through marketing and promotional activities. As a result of this, our success depends almost entirely upon the widespread market acceptance of our OEM customers’ products that incorporate our solutions. Even if our technologies successfully meet our customers' price and performance goals, our sales could decline or fail to develop if our customers do not achieve commercial success in selling their products that incorporate our solutions.

We must maintain our relationships with our existing customers, particularly with leading notebook computer, smartphone and tablet OEMs, and expand our relationships with IoT OEMs. Our customers generally do not provide us with firm, long-term volume purchase commitments, opting instead to issue purchase orders that they can cancel, reduce, or delay, subject to certain limitations. In order to meet the expectations of our customers, we must provide innovative solutions on a timely and cost-effective basis. This requires us to match our design and production capacity with customer demand, maintain satisfactory delivery schedules, and meet performance goals. If we are unable to achieve these goals for any reason, our sales may decline or fail to develop, which would result in decreasing revenue.

In addition to maintaining and expanding our customer relationships, we must also identify areas of significant growth potential in other markets, establish relationships with OEMs in those markets, and assist those OEMs in developing products that incorporate our solutions. Our failure to identify potential growth opportunities, particularly in the smartphone and the tablet market, the PC product applications market, or the IoT market, or our failure to establish and maintain relationships with OEMs in those markets, would prevent our business from growing in those markets.

We depend on third parties to maintain satisfactory manufacturing yields and delivery schedules, and their inability to do so could increase our costs, disrupt our supply chain, and result in our inability to deliver our products, which would adversely affect our operating results.

We depend on our contract manufacturers and semiconductor fabricators to maintain high levels of productivity and satisfactory delivery schedules at manufacturing and assembly facilities located primarily in Asia. We provide our contract manufacturers with six-month rolling forecasts of our production requirements. We generally do not, however, have long-term agreements with our contract manufacturers that guarantee production capacity, prices, lead times, or delivery schedules. On occasion, customers require rapid increases in production, which can strain our resources and reduce our margins. Although we have been able to obtain increased production capacity from our third-party contract manufacturers in the past, there is no guarantee that our contract manufacturers will be able to increase production capacity to meet customer demands in the future. Our contract manufacturers also serve other customers, a number of which have greater production requirements than we do. As a result, our contract manufacturers could determine to prioritize production capacity for other customers or reduce or eliminate deliveries to us on short notice. Qualifying new contract manufacturers, and specifically semiconductor foundries, is time consuming and might result in unforeseen manufacturing and operations problems. We may also encounter lower manufacturing yields and longer delivery schedules in commencing volume production of new products that we introduce, which could increase our costs or disrupt our supply of such products. The loss of relationships with our contract manufacturers or assemblers, or their inability to conduct their manufacturing and assembly services for us as anticipated in terms of capacity, cost, quality, and timeliness could adversely affect our ability to fill customer orders in accordance with required delivery, quality, and performance requirements, and adversely affect our operating results.

Shortages of components and materials may delay or reduce our sales and increase our costs, thereby harming our operating results.

The inability to obtain sufficient quantities of components and other materials necessary for the production of our products could result in reduced or delayed sales or lost orders. Many of the materials used in the production of our products are available only from a limited number of foreign suppliers, particularly suppliers located in Asia. In most cases, neither we nor our contract manufacturers have long-term supply contracts with these suppliers. As a result, we are subject to increased costs, supply interruptions, and difficulties in obtaining materials. Our customers also may encounter difficulties or increased costs in obtaining the materials necessary to produce their products into which our product solutions are incorporated. Future shortages of materials and components, including potential supply constraints of silicon, could cause delayed shipments and customer dissatisfaction, which may result in lower revenue.

We are subject to lengthy development periods and product acceptance cycles, which can result in development and engineering costs without any future revenue.

We provide solutions that are incorporated by OEMs into the products they sell. OEMs make the determination during their product development programs whether to incorporate our solutions or pursue other alternatives. This process requires us to make significant investments of time and resources in the design of solutions for our OEMs' products well before our customers introduce their products incorporating our interface solutions into the market, and before we can be sure that we will generate any significant sales to our customers or even recover our investment. During a customer's entire product development process, we face the risk that our interfaces will fail to meet our customer's technical, performance, or cost requirements, or that our products will be replaced by competitive products or alternative technological solutions. Even if we complete our design process in a manner satisfactory to our customer, the customer may delay or terminate its product development efforts. The occurrence of any of these events could cause sales to not materialize, be deferred, or be cancelled, which could adversely affect our operating results.

We face intense competition that could result in our losing or failing to gain market share and suffering reduced revenue.

We serve intensely competitive markets that are characterized by price erosion, rapid technological change, and competition from major domestic and international companies. This intense competition could result in pricing pressures, lower sales, reduced margins, and lower market share. Depressed economic conditions, a slowdown in the PC, mobile or IoT product applications markets, the emergence of new products not including our product solutions, rapid changes in the smartphone or IoT markets and competitive pressures may result in lower demand for our product solutions and reduced unit margins.

Some of our competitors, particularly in the markets for mobile product applications and other electronic devices, have greater market recognition, larger customer bases, and substantially greater financial, technical, marketing, distribution, and other resources than we possess and that afford them greater competitive advantages. As a result, they may be able to devote greater resources to the promotion and sale of products, negotiate lower prices for raw materials and components, deliver competitive products at lower prices, and introduce new product solutions and respond to customer requirements more quickly than we can. Our competitive position could suffer if one or more of our customers determine not to utilize our custom engineered, total solutions approach and instead, decide to design and manufacture their own interfaces, contract with our competitors, or use alternative technologies.

Our ability to compete successfully depends on a number of factors, both within and outside our control. These factors include the following:

- our success in designing and introducing new solutions, including those implementing new technologies;
- our ability to predict the evolving needs of our customers and to assist them in incorporating our technologies into their new and existing products;
- our ability to meet our customers' requirements for low power consumption, ease of use, reliability, durability, and small form factor;
- our ability to meet our customers' price and performance requirements;
- the quality of our customer service and support;
- the rate at which customers incorporate our solutions into their own products;

- product or technology introductions by our competitors; and
- foreign currency fluctuations, which may cause a foreign competitor's products to be priced significantly lower than our product solutions.

If we do not keep pace with technological innovations, our products may not remain competitive and our revenue and operating results may suffer.

We operate in rapidly changing, highly competitive markets. Technological advances, the introduction of new products and new design techniques could adversely affect our business unless we are able to adapt to changing conditions. Technological advances could render our solutions less competitive or obsolete, and we may not be able to respond effectively to the technological requirements of evolving markets. Therefore, we will be required to expend substantial funds for and commit significant resources to enhancing and developing new technology, which may include purchasing advanced design tools and test equipment, hiring additional highly qualified engineering and other technical personnel, and continuing and expanding research and development activities on existing and potential solutions.

Our research and development efforts with respect to new technologies may not result in customer or market acceptance. Some or all of those technologies may not successfully make the transition from the research and development stage to cost-effective production as a result of technology problems, competitive cost issues, yield problems, and other factors. Even if we successfully complete a research and development effort with respect to a particular technology, our customers may decide not to introduce or may terminate products utilizing the technology for a variety of reasons, including difficulties with other suppliers of components for the products, superior technologies developed by our competitors and unfavorable comparisons of our solutions with these technologies, price considerations and lack of anticipated or actual market demand for the products.

Our business could be harmed if we are unable to develop and utilize new technologies that address the needs of our customers, or our competitors or customers develop and utilize new technologies more effectively or more quickly than we can. Any investments made to enhance or develop new technologies that are not successful could have an adverse effect on our net revenue and operating results.

We may not be able to enhance our existing product solutions and develop new product solutions in a timely manner.

Our future operating results will depend to a significant extent on our ability to continue to provide new solutions that compare favorably with alternative solutions on the basis of time to introduction, cost, performance, and end user preferences. Our success in maintaining existing customers, attracting new customers, and developing new business depends on various factors, including the following:

- innovative development of new solutions for customer products;
- utilization of advances in technology;
- maintenance of quality standards;
- performance advantages;
- efficient and cost-effective solutions; and
- timely completion of the design and introduction of new solutions.

Our inability to enhance our existing product solutions and develop new product solutions on a timely basis could harm our operating results and impede our growth.

Additionally, our human interface solutions are designed to integrate touch, handwriting, vision and voice capabilities. New computing and communications devices could be developed that call for a different interface solution. Existing devices could also be modified to allow for a different interface solution. Our business could be harmed if our products become noncompetitive as a result of a technological breakthrough that allows a new interface solution to displace our solutions and achieve significant market acceptance.

Changes to import, export and economic sanction laws may expose us to liability, increase our costs and adversely affect our operating results.

As a global company headquartered in the U.S., we are subject to U.S. laws and regulations, including import, export and economic sanction laws. These laws may include prohibitions on the sale or supply of certain products to embargoed or sanctioned countries, regions, governments, persons and entities, may require an export license prior to the export of the controlled item, or may otherwise limit and restrict the export of certain products and technologies. Many of our customers, suppliers and contract manufacturers are foreign companies or have significant foreign operations. The imposition of new or additional economic and trade sanctions against our major customers, suppliers or contract manufacturers could result in our inability to sell to, and generate revenue from such customer, supplier or contract manufacturer. As a result of restrictive export laws, our customers may also develop their own solutions to replace our products or seek to obtain a greater supply of similar or substitute products from our competitors that are not subject to these restrictions, which could material and adversely affect our business and results of operations.

In addition, compliance with additional export regulations may result in increased costs to the company. Although we have an export compliance program, maintaining and adapting our export controls program to new and shifting regulations is expensive, time-consuming and requires significant management attention. Failure to comply with trade or economic sanctions could subject the company to legal liabilities and fines from the U.S. government. We must also comply with export restrictions and laws imposed by other countries affecting trade and investments. Although these restrictions and laws have not materially restricted our operations in the recent past, there is a significant risk that they could do so in the future, which would materially and adversely affect our business and results of operations.

Changes to international trade policy and rising concerns of international tariffs, including tariffs applied to goods traded between the United States and China, could materially and adversely affect our business and results of operations.

Many of the materials used in the production of our products are available only from a limited number of foreign suppliers, particularly suppliers located in Asia. The imposition of tariffs against foreign imports of certain materials could make it more difficult or expensive for us or our OEMs to obtain sufficient quantities of components and other materials necessary for the production of our products or products which incorporate our product solutions. Any interruptions to supply could result in delay or cancellation of our products, which could adversely affect our business and operating results.

In addition, the institution of trade tariffs both globally and between the U.S. and China carry the risk that China's overall economic condition may be negatively affected, which could affect our China operations, including the manufacturing operations on which we rely in China. Further, imposition of tariffs could cause a decrease in the sales of our products to customers located in China or to our OEMs selling to customers in China, which could impact our business, revenue and operating results.

International sales and manufacturing risks could adversely affect our operating results.

Our manufacturing and assembly operations are primarily conducted in China, Taiwan, and Thailand by contract manufacturers and semiconductor fabricators. We have sales and logistics operations in Hong Kong, and sales and engineering design support operations in China, Denmark, India, Japan, Korea, Poland, Switzerland, Taiwan, and the U.K. These international operations expose us to various economic, political, regulatory, and other risks that could adversely affect our operations and operating results, including the following:

- difficulties and costs of staffing and managing a multinational organization;
- unexpected changes in regulatory requirements;
- differing labor regulations;
- differing environmental laws and regulations, including in response to climate change;
- potentially adverse tax consequences;
- possible employee turnover or labor unrest;
- greater difficulty in collecting accounts receivable;
- the burdens and costs of compliance with a variety of foreign laws;

- the volatility of currency exchange rates;
- potentially reduced protection for intellectual property rights;
- political or economic instability in certain parts of the world; and
- natural disasters, including earthquakes or tsunamis.

If any of these risks associated with international operations materialize, our operations could significantly increase in cost or be disrupted, which would negatively affect our revenue and operating results.

Our operating results could be adversely affected by fluctuations in the value of the U.S. dollar against foreign currencies.

We transact business predominantly in U.S. dollars, and we invoice and collect our sales in U.S. dollars. A weakening of the U.S. dollar could cause our overseas vendors to require renegotiation of either the prices or currency we pay for their goods and services. In the future, customers may negotiate pricing and make payments in non-U.S. currencies. For fiscal 2020, approximately 12% of our costs were denominated in non-U.S. currencies, including Armenian dram, Canadian dollars, European Union euro, Hong Kong dollars, Indian rupee, New Taiwan dollars, Japanese yen, Korean won, Chinese yuan, and Swiss francs.

If our overseas vendors or customers require us to transact business in non-U.S. currencies, fluctuations in foreign currency exchange rates could affect our cost of goods, operating expenses, and operating margins, and could result in exchange losses. In addition, currency devaluation could result in a loss to us if we hold deposits of that currency. Hedging foreign currencies can be difficult, especially if the currency is not freely traded. We cannot predict the impact of future exchange rate fluctuations on our operating results.

If we fail to manage our growth effectively, our infrastructure, management, and resources could be strained, our ability to effectively manage our business could be diminished, and our operating results could suffer.

The failure to manage our planned growth effectively could strain our resources, which would impede our ability to increase revenue. We have increased the number of our solutions in the past and may plan to further expand the number and diversity of our solutions and their use in the future. Our ability to manage our planned diversification and growth effectively will require us to:

- successfully hire, train, retain, and motivate additional employees, including employees outside the United States;
- efficiently plan, expand or cost-effectively reduce our facilities to meet headcount requirements;
- enhance our global operational, financial, and management infrastructure; and
- expand our development and production capacity.

In connection with the expansion and diversification of our product and customer base, we may increase our personnel and make other expenditures to meet demand for our expanding product offerings, including offerings in the mobile product applications market, the PC applications market, and the IoT market. Any increase in expenses or investments in infrastructure and facilities in anticipation of future orders that do not materialize would adversely affect our profitability. Our customers also may require rapid increases in design and production services that place an excessive short-term burden on our resources and the resources of our contract manufacturers. An inability to quickly expand our development, design or production capacity or an inability of our third-party manufacturers to quickly expand development, design or production capacity to meet this customer demand could result in a decrease to our revenue or operating results. If we cannot manage our growth effectively, our business and operating results could suffer.

We depend on key personnel who would be difficult to replace, and our business will likely be harmed if we lose their services or cannot hire additional qualified personnel.

Our success depends substantially on the efforts and abilities of our senior management and other key personnel. The competition for qualified management and key personnel, especially engineers, is intense. Although we maintain nondisclosure covenants with most of our key personnel, and our key executives have change of control severance agreements, we do not have employment agreements with many of them. The loss of services of one or more of our key employees or the inability to hire, train, and retain key personnel, especially engineers and technical support personnel, and capable sales and customer-support employees outside the United States, could delay the development and sale of our products, disrupt our business, and interfere with our ability to execute our business plan.

If we are unable to obtain stockholder approval of share-based compensation award programs or additional shares for such programs, we could be at a competitive disadvantage in the marketplace for qualified personnel or may be required to increase the cash element of our compensation program.

Competition for qualified personnel in our industry is extremely intense, particularly for engineering and other technical personnel. Our compensation program, which includes cash and share-based compensation award components, has been instrumental in attracting, hiring, motivating, and retaining qualified personnel. Our success depends on our continued ability to use our share-based compensation programs to effectively compete for engineering and other technical personnel and professional talent without significantly increasing cash compensation costs. In the future, if we are unable to obtain stockholder approval of our share-based compensation programs or additional shares for such programs, we could be at a competitive disadvantage in the marketplace for qualified personnel or we may be required to increase the cash elements of our compensation program to account for this disadvantage.

Our ability to compete successfully and continue growing as a company depends on our ability to adequately protect our proprietary technology and confidential information.

We protect our proprietary technology and confidential information through the use of patents, trade secrets, trademarks, confidentiality agreements and other contractual provisions. The process of seeking patent protection is lengthy and expensive. Further, there can be no assurance that even if a patent is issued, that it will not be challenged, invalidated or circumvented, or that the rights granted under the patents will provide us with meaningful protection or any commercial advantage.

We have not applied for, and do not have, any copyright registration on our technologies or products. We have applied to register certain of our trademarks in the United States and other countries. There can be no assurance that we will obtain registrations of principal or other trademarks in key markets. Failure to obtain registrations could compromise our ability to fully protect our trademarks and brands, and could increase the risk of challenge from third parties to our use of our trademarks and brands. Effective intellectual property protection may be unavailable or limited in some foreign countries in which we operate. In particular, the validity, enforceability and scope of protection of intellectual property in China, where we derive a significant portion of our net sales, and certain other countries where we derive net sales, are still evolving and historically, have not protected and may not protect in the future, intellectual property rights to the same extent as laws developed in the United States.

We do not consistently rely on written agreements with our customers, suppliers, manufacturers, and other recipients of our technologies and products and therefore, some trade secret protection may be lost and our ability to enforce our intellectual property rights may be limited. Confidentiality and non-disclosure agreements which are in place may not be adequate to protect our proprietary technologies or may be breached by other parties. Additionally, our customers, suppliers, manufacturers, and other recipients of our technologies and products may seek to use our technologies and products without appropriate limitations. In the past, we did not consistently require our employees and consultants to enter into confidentiality, employment, or proprietary information and invention assignment agreements. Therefore, our former employees and consultants may try to claim some ownership interest in our technologies and products or may use our technologies and products competitively and without appropriate limitations. Unauthorized parties may attempt to copy or otherwise use aspects of our technologies and products that we regard as proprietary. Other companies, including our competitors, may independently develop technologies that are similar or superior to our technologies, duplicate our technologies, or design around our patents. If our intellectual property protection is insufficient to protect our intellectual property rights, we could face increased competition in the markets for our technologies and products.

We may pursue, and from time to time defend litigation to enforce our intellectual property rights, to protect our trade secrets, and to determine the validity and scope of the proprietary rights of others. These litigations, whether successful or unsuccessful, could result in substantial costs and diversion of resources, which could have a material adverse effect on our business, financial condition, and operating results.

Any claims that our technologies infringe the intellectual property rights of third parties could result in significant costs and have a material adverse effect on our business.

We cannot be certain that our technologies and products do not and will not infringe issued patents or other third party proprietary rights. Any claims, with or without merit, could result in significant litigation costs and diversion of resources, including the attention of management, and could require us to enter into royalty or licensing agreements, any of which could have a material adverse effect on our business. There can be no assurance that such licenses could be obtained on commercially reasonable terms, if at all, or that the terms of any offered licenses would be acceptable to us. We may also have to pay substantial damages to third parties or indemnify customers or licensees for damages they suffer if the products they purchase from us or the technology they license from us violates any third party intellectual property rights. An adverse determination in a judicial or administrative proceeding, or a failure to obtain necessary licenses to use such third-party technology could prevent us from manufacturing, using, or selling certain of our products, and there is no guarantee that we will be able to develop or acquire alternate non-infringing technology.

In addition, we license certain technology used in and for our products from third parties. These third-party licenses are granted with restrictions, and there can be no assurances that such third-party technology will remain available to us on commercially acceptable terms.

If third-party technology currently utilized in our products is no longer available to us on commercially acceptable terms, or if any third party initiates litigation against us for alleged infringement of their proprietary rights, we may not be able to sell certain of our products and we could incur significant costs in defending against litigation or attempting to develop or acquire alternate non-infringing products, which would have an adverse effect on our operating results.

If we become subject to product returns or claims resulting from defects in our products, we may incur significant costs resulting in a decrease in revenue.

We develop complex products in an evolving marketplace and generally warrant our products for a period of 12 months from the date of delivery. Despite testing by us and our customers, defects may be found in existing or new products. Manufacturing errors or product defects could result in a delay in recognition or loss of revenue, loss of market share, or failure to achieve market acceptance. Additionally, defects could result in financial or other damages to our customers, causing us to incur significant warranty, support, and repair costs, and diverting the attention of our engineering personnel from key product development efforts.

Any acquisitions that we undertake could be difficult to integrate, disrupt our business, dilute stockholder value, and harm our operating results.

We expect to continue to pursue opportunities to acquire other businesses and technologies in order to complement our current solutions, expand the breadth of our markets, enhance our technical capabilities, or otherwise create growth opportunities. We cannot accurately predict the timing, size, and success of any currently planned or future acquisitions. We may be unable to identify suitable acquisition candidates or to complete the acquisitions of candidates that we identify. Increased competition for acquisition candidates or increased asking prices by acquisition candidates may increase purchase prices for acquisitions to levels beyond our financial capability or to levels that would not result in the returns required by our acquisition criteria. Acquisitions may also become more difficult in the future as we or others acquire the most attractive candidates. Unforeseen expenses, difficulties, and delays frequently encountered in connection with rapid expansion through acquisitions could inhibit our growth and negatively impact our operating results. If we make any future acquisitions, we could issue stock that would dilute existing stockholders' percentage ownership, incur substantial debt, assume contingent liabilities, or experience higher operating expenses.

We may be unable to effectively complete an integration of the management, operations, facilities, and accounting and information systems of acquired businesses with our own; efficiently manage, combine or restructure the operations of the acquired businesses with our operations; achieve our operating, growth, and performance goals for acquired businesses; achieve additional revenue as a result of our expanded operations; or achieve operating efficiencies or otherwise realize cost savings as a result of anticipated acquisition synergies. The integration of acquired businesses involves numerous risks, including the following:

- the potential disruption of our core business;
- the potential strain on our financial and managerial controls, reporting systems and procedures;
- potential unknown liabilities associated with the acquired business;
- costs relating to liabilities which we agree to assume;
- unanticipated costs associated with the acquisition;
- diversion of management’s attention from our core business;
- problems assimilating the purchased operations, technologies, or products;
- risks associated with entering markets and businesses in which we have little or no prior experience;
- failure of acquired businesses to achieve expected results;
- adverse effects on existing business relationships with suppliers and customers;
- failure to retain key customers, suppliers, or personnel of acquired businesses;
- the risk of impairment charges related to potential write-downs of acquired assets; and
- the potential inability to create uniform standards, controls, procedures, policies, and information systems.

We cannot assure you that we would be successful in overcoming problems encountered in connection with any acquisitions, and our inability to do so could disrupt our operations, result in goodwill or intangible asset impairment charges, and adversely affect our business.

Potential strategic alliances may not achieve their objectives, and the failure to do so could impede our growth.

We have entered, and we anticipate that we will continue to enter, into strategic alliances. We continually explore strategic alliances designed to enhance or complement our technology or to work in conjunction with our technology; to provide necessary know-how, components, or supplies; and to develop, introduce, and distribute products utilizing our technology. Certain strategic alliances may not achieve their intended objectives, and parties to our strategic alliances may not perform as contemplated. The failure of these alliances to achieve their objectives may impede our ability to introduce new products and enter new markets.

We must finance the growth of our business and the development of new products, which could have an adverse effect on our operating results.

To remain competitive, we must continue to make significant investments in research and development, marketing, and business development. Our failure to sufficiently increase our net revenue to offset these increased costs would adversely affect our operating results.

From time to time, we may seek additional equity or debt financing to provide for funds required to expand our business, including through acquisitions. We cannot predict the timing or amount of any such requirements at this time. If such financing is not available to us on satisfactory terms, we may be unable to expand our business or to develop new business at the rate desired and our operating results may suffer. If obtained, the financing itself carries risks including the following: (i) debt financing increases expenses and must be repaid regardless of operating results; and (ii) equity financing, including the issuance of convertible notes or additional shares in connection with acquisitions, could result in dilution to existing stockholders and could adversely affect the price of our common stock.

Transactions relating to our Convertible Notes may dilute the ownership interest of our stockholders or may otherwise depress the price of our common stock.

The conversion of some or all of our outstanding 0.50% Convertible Senior Notes due 2022 (the “Notes”) would dilute the ownership interests of existing stockholders to the extent we deliver shares upon conversion of any such notes. If the Notes become convertible under the terms of the indenture, and if holders subsequently elect to convert their notes, we could be required to deliver to them a significant number of shares of our common stock. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the Notes may encourage short selling by market participants because the conversion of such notes could be used to satisfy short positions. Additionally, anticipated conversion of such notes into shares of our common stock could depress the price of our common stock. Please see Note 6 Debt to the consolidated financial statements contained elsewhere in this report for more information about our Notes.

Our indebtedness could adversely affect our financial condition or operating flexibility and prevent us from fulfilling our obligations outstanding under our credit agreement, the Notes, and other indebtedness we may incur from time to time.

On June 26, 2017, we completed the offering of the Notes in the aggregate principal amount of $525.0 million, of which $220.0 million of the net proceeds were used to repay the amounts outstanding under our credit agreement (which we refer to herein, as amended and supplemented, as the “Credit Agreement”) with the lenders party thereto, or the Lenders, and Wells Fargo Bank, National Association, or the Administrative Agent, as administrative agent for the Lenders, with a corresponding reduction of revolver commitments under the Credit Agreement to $250.0 million, $100.0 million of which was outstanding as of June 27, 2020. We are permitted under the indenture governing our Notes and the Credit Agreement to incur additional debt under certain conditions, including additional secured debt. If new debt were to be incurred in the future, the related risks that we now face could intensify.

Our level of indebtedness could have important consequences on our future operations, including:

- making it more difficult for us to satisfy our payment and other obligations under the Notes, the Credit Agreement or our other outstanding debt from time to time;
- risking an event of default if we fail to comply with the financial and other covenants contained in the Notes indenture or the Credit Agreement, which could result in the Notes or any outstanding bank debt becoming immediately due and payable and could permit the lenders under the Credit Agreement to foreclose on the assets securing such bank debt;
- subjecting us to the risk of increased sensitivity to interest rate increases on our debt with variable interest rates, including the debt that we may incur under the Credit Agreement;
- the LIBOR index is expected to be discontinued at the end of 2021 and the replacement rate could be more volatile or more costly, resulting in a higher cost of borrowing under our Credit Agreement;
- reducing the availability of our cash flows to fund working capital, capital expenditures, acquisitions and other general corporate purposes, and limiting our ability to obtain additional financing for these purposes;
- limiting our flexibility in planning for, or reacting to, and increasing our vulnerability to, changes in our business, the industry in which we operate and the general economy; and
- placing us at a competitive disadvantage compared to our competitors that have less debt or are less leveraged.

Our business may not generate sufficient cash flow from operations and future borrowings may not be available to us under the Credit Agreement, the indenture governing the Notes or otherwise in an amount sufficient to enable us to pay our debt or to fund our other liquidity needs.

The accounting method for convertible debt securities that may be settled in cash, such as the Notes, could have a material effect on our reported financial results.

In May 2008, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Codification, or ASC, 470-20, Debt with Conversion and Other Options. Under ASC 470-20, companies are required to separately account for the liability and equity components of convertible debt instruments that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's effective interest. The equity component of our Notes is required to be included in the additional paid-in capital section of stockholders' equity on our consolidated balance sheet, and the value of the equity component is treated as an original issue discount for purposes of accounting for the debt component of the Notes. As a result, we are required to record a greater amount of non-cash interest expense in current periods presented as a result of the amortization of the discounted carrying value of the Notes to their face amount over the term of the Notes. ASC 470-20 requires interest to include both the current period's amortization of the debt discount and the instrument's coupon interest, which could adversely affect our reported or future financial results, the trading price of our common stock and the trading price of the Notes. In addition, under certain circumstances, the convertible debt instruments that may be settled entirely or partially in cash will be accounted for utilizing the treasury stock method beginning in the first quarter of fiscal 2018, the effect of which is that the shares issuable upon conversion of the Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Notes exceeds their principal amount. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued. In August 2020, the FASB issued ASU No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40), which simplifies the accounting for convertible instruments. The guidance removes certain accounting models which separate the embedded conversion features from the host contract for convertible instruments, requiring bifurcation only if the convertible debt feature qualifies as a derivative under ASC 815 or for convertible debt issued at a substantial premium. The ASU removes certain settlement conditions required for equity contracts to qualify for the derivative scope exception, permitting more contracts to qualify for it. In addition, the guidance eliminates the treasury stock method to calculate diluted earnings per share for convertible instruments and requires the use of the if-converted method. The ASU is effective for annual reporting periods beginning after December 15, 2021, including interim reporting periods within those annual periods, with early adoption permitted no earlier than the fiscal year beginning after December 15, 2020. We are currently evaluating the impact of the new guidance on our consolidated financial statements.

The covenants in the Credit Agreement impose restrictions that may limit our operating and financial flexibility.

The Credit Agreement includes certain covenants that limit (subject to certain exceptions) our ability to, among other things: (i) incur or guarantee additional indebtedness; (ii) incur or suffer to exist liens securing indebtedness; (iii) make investments; (iv) consolidate, merge or transfer all or substantially all of our assets; (v) sell assets; (vi) pay dividends or other distributions on, redeem or repurchase capital stock; (vii) enter into transactions with affiliates; (viii) amend, modify, prepay or redeem subordinated indebtedness; (ix) enter into certain restrictive agreements; (x) engage in a new line of business; and (xi) enter into sale leaseback transactions. In addition, the Credit Agreement contains financial covenants that (i) restrict the amount of capital expenditures that may be made in any fiscal year, (ii) require the ratio of the amount of our consolidated total indebtedness to consolidated EBITDA to be less than certain maximum ratio levels, and (iii) require the ratio of the amount of our consolidated EBITDA to consolidated interest expense to be greater than a certain minimum ratio level.

If we violate these covenants and are unable to obtain waivers, our debt under the Credit Agreement would be in default and could be accelerated, and could permit, in the case of secured debt, the lenders to foreclose on our assets securing the Credit Agreement. If the indebtedness is accelerated, we may not be able to repay our debt or borrow sufficient funds to refinance it. Even if we are able to obtain new financing, it may not be on commercially reasonable terms or on terms that are acceptable to us. If our debt is in default for any reason, our cash flows, results of operations or financial condition could be materially and adversely affected. In addition, complying with these covenants may also cause us to take actions that may make it more difficult for us to successfully execute our business strategy and compete against companies that are not subject to such restrictions.

If we are unable to maintain effective internal control over our financial reporting, we may incur significant expenses to remediate internal control deficiencies, lose investor confidence and our share price may decline.

We are subject to rules adopted by the SEC, pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or SOX, which requires us to include in our quarterly and annual reports on Forms 10-Q and 10-K, our management's report on, and assessment of the effectiveness of, our internal control over financial reporting. We have concluded that our internal control over financial reporting is effective, however, we need to maintain our existing processes and systems and incorporate and adapt to new or improved processes and systems as our business grows and changes, including in connection with planned acquisitions. This continuous process of maintaining and adapting our internal controls and complying with SOX is expensive, time-consuming and requires significant management attention. We cannot be certain that we will be able to maintain adequate and effective internal controls over our, and our acquired companies' financial processes and reporting and ensure compliance with SOX and SEC rules. Further, as we grow our company, including through acquisitions, our internal controls may become more complex and may require significantly more resources to ensure they remain effective. Failure to comply with SOX and SEC rules, including a delay in or failure to successfully integrate new businesses into our internal control over financial reporting, a failure to implement required new or improved controls, or difficulties encountered in the implementation of such new or improved controls, could harm our operating results or cause us to not meet our reporting obligations. If we or our auditors identify material weaknesses in our internal controls, the disclosure of that fact, even if quickly remedied, may cause investors to lose confidence in our consolidated financial statements and the trading price of our common stock may decline. Remediation of a material weakness could require us to incur significant expense and expend significant management attention. Failure to remedy any material weakness could result in inaccurate financial statements, an inability for the company to report our financial results on a timely and accurate basis, a loss in investor confidence, decline in the trading price of our common stock, restriction on access to worldwide capital markets, and sanctions or investigation by regulatory authorities, including the SEC or the Nasdaq Global Select Market.

If tax laws change in the jurisdictions in which we do business or if we receive a material tax assessment in connection with an examination of our income tax returns, our consolidated financial position, results of operations and cash flows could be adversely affected.

We are subject to U.S. federal, state, and foreign income taxes in the various jurisdictions in which we do business. In addition, we are required to pay U.S. federal taxes on the operating earnings of certain of our foreign subsidiaries. Our future effective tax rates and the value of our deferred tax assets could be adversely affected by changes in tax laws in the U.S. or in the foreign jurisdictions in which we operate. In addition, we are subject to the examination of our income tax returns by the tax authorities in the jurisdictions in which we do business. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of highly complex tax laws. Our results have in the past, and could in the future, include favorable and unfavorable adjustments to our estimated tax liabilities in the period a determination of such estimated tax liability is made or resolved, upon the filing of an amended return, upon a change in facts, circumstances, or interpretation, or upon the expiration of a statute of limitation. While we believe we have adequately provided for reasonably foreseeable outcomes in connection with the resolution of income tax uncertainties, the resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our consolidated financial position, result of operations, or cash flows.

We may incur material environmental liabilities as a result of prior operations at an acquired company.

In connection with our acquisition in July 2017 of Conexant, we agreed to assume certain environmental liabilities, including remediation of environmental impacts at a property formerly owned and operated by Conexant (the "Conexant Site") and for potential future claims alleging personal injury or property damage related to the environmental impacts at and about the Conexant Site. We continue to incur costs to investigate and remediate the Conexant Site's environmental impacts, and we are at risk for future personal injury and property damage claims related to the Conexant Site. Various federal, state and local authorities regulate the release of hazardous substances into the environment and can impose substantial fines if our remediation efforts at or about the Conexant Site fail or are deemed inadequate. In addition, changes in laws, regulations and enforcement policies, the discovery of previously unknown contamination at the Conexant Site, the implementation of new technology at the Conexant Site, or the establishment or imposition of stricter federal, state, or local cleanup standards or requirements with respect to the Conexant Site could require us to incur additional costs in the future that could have a negative effect on our financial condition or results of operations.

We face risks associated with security breaches or cyberattacks.

We face risks associated with security breaches or cyber-attacks of our computer systems or those of our third-party representatives, vendors, and service providers. Although we have implemented security procedures and controls to address these threats, our systems may still be vulnerable to data theft, computer viruses, programming errors, attacks by third parties, or similar disruptive problems. If our systems, or systems owned by third parties affiliated with our company, were breached or attacked, the proprietary and confidential information of our company, our employees and our customers could be disclosed and we may be required to incur substantial costs and liabilities, including the following: liability for stolen assets or information; fines imposed on us by governmental authorities for failure to comply with privacy laws or for disclosure of any personally identifiable information as a part of such attack; costs of repairing damage to our systems; lost revenue and income resulting from any system downtime caused by such breach or attack; loss of competitive advantage if our proprietary information is obtained by competitors as a result of such breach or attack; increased costs of cyber security protection; costs of incentives we may be required to offer to our customers or business partners to retain their business; damage to our reputation; and expenses to rectify the consequences of the security breach or cyberattack. In addition, any compromise of security from a security breach or cyberattack could deter customers or business partners from entering into transactions that involve providing confidential information to us. As a result, any compromise to the security of our systems could have a material adverse effect on our business, reputation, financial condition, and operating results.

The accounting requirements for income taxes on certain of our share-based compensation awards may subject our future quarterly and annual effective tax rates to volatility.

We recognize a tax benefit upon expensing nonqualified stock options and restricted stock units, or RSUs, issued under our share-based compensation plans. However, under current accounting standards, we cannot recognize that tax benefit concurrent with expensing incentive stock options and employee stock purchase plan shares (qualified stock options) issued under our share-based compensation plans. For qualified stock options that vested after our adoption of the applicable accounting standards, we recognize the tax benefit only in the period when disqualifying dispositions of the underlying stock occur and, for qualified stock options that vested prior to our adoption of the applicable accounting standards, the tax benefit is recorded directly to additional paid-in capital. Accordingly, because we cannot recognize the tax benefit for share-based compensation expense associated with qualified stock options until the occurrence of future disqualifying dispositions of the underlying stock, such disqualified dispositions may happen in periods when our stock price substantially increases, and because a portion of that tax benefit may be directly recorded to additional paid-in capital, our future quarterly and annual effective tax rates may be subject to volatility.

Our charter documents and Delaware law could make it more difficult for a third party to acquire us and discourage a takeover.

Our certificate of incorporation and the Delaware General Corporation Law contain provisions that may have the effect of making more difficult or delaying attempts by others to obtain control of our company, even when such attempts may be in the best interests of our stockholders. Our certificate of incorporation also authorizes our Board of Directors, without stockholder approval, to issue one or more series of preferred stock, which could have voting and conversion rights that adversely affect or dilute the voting power of the holders of our common stock. Delaware law also imposes conditions on certain business combination transactions with “interested stockholders.” Our certificate of incorporation divides our Board of Directors into three classes, with one class to stand for election each year for a three-year term after the election. The classification of directors tends to discourage a third party from initiating a proxy solicitation or otherwise attempting to obtain control of our company and may maintain the incumbency of our Board of Directors, as this structure generally increases the difficulty of, or may delay, replacing a majority of directors. Our certificate of incorporation authorizes our Board of Directors to fill vacancies or newly created directorships. A majority of the directors then in office may elect a successor to fill any vacancies or newly created directorships, thereby increasing the difficulty of, or delaying a third party’s efforts in, replacing a majority of directors.

The market price of our common stock has been and may continue to be volatile.

The trading price of our common stock has been and may continue to be subject to wide fluctuations in response to various factors, including the following:

- variations in our quarterly results;
- the financial guidance we may provide to the public, any changes in such guidance, or our failure to meet such guidance;
- changes in financial estimates by industry or securities analysts or our failure to meet such estimates;

- various market factors or perceived market factors, including rumors, whether or not correct, involving us, our customers, our suppliers, our competitors, or a potential acquisition of our company;
- announcements of technological innovations by us, our competitors, or our customers;
- introductions of new products or new pricing policies by us, our competitors, or our customers;
- acquisitions or strategic alliances by us, our competitors, or our customers;
- recruitment or departure of key personnel;
- the gain or loss of significant orders;
- the gain or loss of significant customers;
- market conditions in our industry, the industries of our customers, and the economy as a whole;
- short positions held by investors;
- new federal and state laws and regulations affecting our industry; and
- general financial market conditions or occurrences, including market volatility resulting from geopolitical risks, and rivalries, acts of war, terrorist attacks, cybersecurity attacks, financial market technological glitches and interruptions of trading activity.

In addition, stocks of technology companies have experienced extreme price and volume fluctuations that often have been unrelated or disproportionate to these companies' operating performance. Public announcements by technology companies concerning, among other things, their performance, accounting practices, or legal problems could cause the market price of our common stock to decline regardless of our actual operating performance.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our principal executive offices, as well as our principal research and development, sales, marketing, and administrative functions, are located in San Jose, California, where we own and utilize approximately 161,000 square feet of facilities. We also have research and development functions in leased offices in California, Georgia, Massachusetts and Texas. Our two Asia/Pacific principal offices are located in leased offices in Hong Kong and Japan, where we have sales, operations, and research and development functions. We have leased facilities with logistics operations in Hong Kong and Japan, leased facilities with sales and support operations in China, Denmark, Hong Kong, Japan, Korea, Switzerland and Taiwan, and leased facilities with engineering design support operations in China, England, India, Japan, Korea, Poland, Switzerland, Taiwan, the U.K. and California, U.S.

ITEM 3. LEGAL PROCEEDINGS

We are party to various litigation matters and claims arising from time to time in the ordinary course of business. While the results of such matters cannot be predicted with certainty, we believe that the final outcome of such matters will not have a material adverse effect on our business, financial condition, results of operations or cash flows.

For further information regarding current legal proceedings, see Note 7 Leases, Commitments and Contingencies to the consolidated financial statements contained elsewhere in this report.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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

Market Information on Common Stock

Our common stock has been listed on the Nasdaq Global Select Market (formerly the Nasdaq National Market) under the symbol "SYNA" since January 29, 2002. Prior to that time, there was no public market for our common stock.

Stockholders

As of August 17, 2020, there were approximately 126 holders of record of our common stock. The closing price of our common stock as quoted on the Nasdaq Global Select Market as of August 17, 2020 was $84.95.

Dividends

We have never declared or paid cash dividends on our common stock. We currently plan to retain all earnings to finance the growth of our business, make our debt payments, or purchase shares under our common stock repurchase program. Payments of any cash dividends in the future will depend on our financial condition, operating results, and capital requirements, as well as other factors deemed relevant by our Board of Directors.

Our Credit Agreement also places restrictions on the payment of any dividends. For a further description of the terms of the Credit Agreement, see Note 6 Debt to the consolidated financial statements contained elsewhere in this report.

Stock-Based Compensation

For information on securities authorized for issuance under our equity compensation plans, see Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

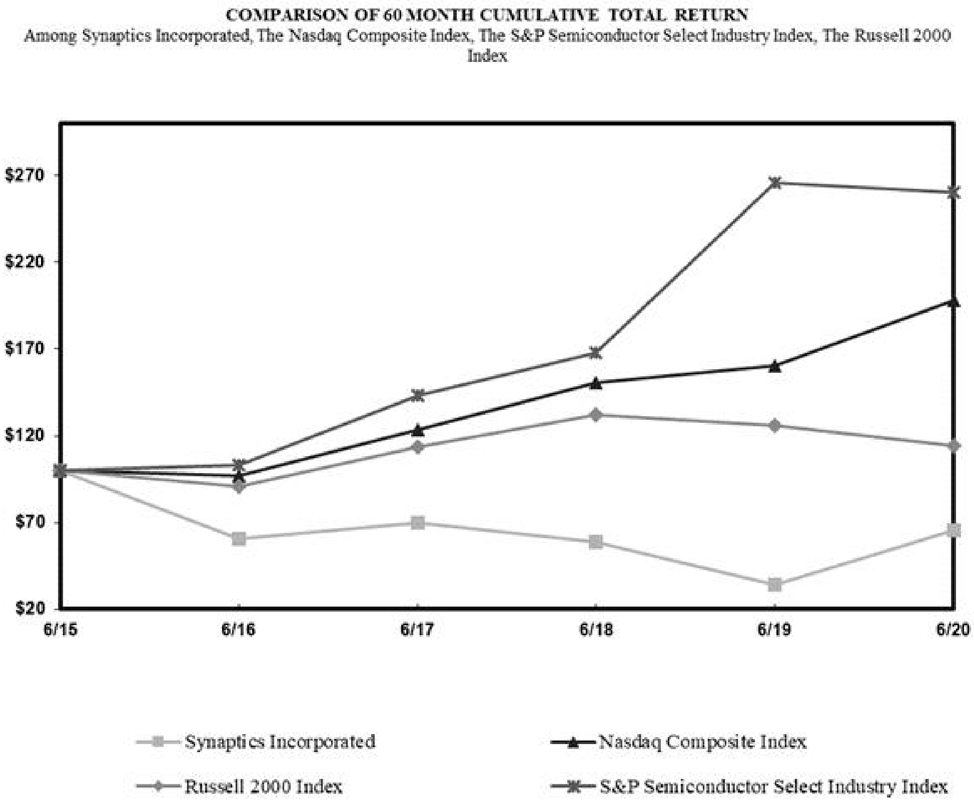
Issuer Purchases of Equity Securities

From April 2005 through June 2020, our Board of Directors cumulatively authorized the repurchase of $1.4 billion for our common stock in our stock repurchase program, which expires in July 2021. The remaining amount authorized for repurchase under our stock repurchase program was $177.4 million as of June 27, 2020. During the three-month period ended June 27, 2020, repurchases under the stock repurchase program were as follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Program
March 29, 2020 - April 25, 2020	1,900	$ 54.31	1,900	$ 177,350,939
April 26, 2020 - May 23, 2020	—		—	$ 177,350,939
May 24, 2020 - June 27, 2020	—		—	$ 177,350,939
Total	1,900			

Performance Graph

The following line graph compares cumulative total stockholder returns for the five years ended June 27, 2020 for (i) our common stock, (ii) the Nasdaq Composite Index (iii) S&P Semiconductor Select Industry Index and (iv) the Russell 2000 Index. The graph assumes an investment of $100 on June 30, 2015. The calculations of cumulative stockholder return on the Nasdaq Composite Index, the S&P Semiconductor Select Industry Index, and the Russell 2000 Index include reinvestment of dividends. The calculation of cumulative stockholder return on our common stock does not include reinvestment of dividends because we did not pay any dividends during the measurement period. The historical performance shown is not necessarily indicative of future performance.



The performance graph above shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section. The performance graph above will not be deemed incorporated by reference into any filing of our company under the Exchange Act or the Securities Act.

ITEM 6. SELECTED FINANCIAL DATA

The following table presents selected financial data for each fiscal year in the five-year period ended June 27, 2020. Our fiscal year is the 52- or 53-week period ending on the last Saturday in June. Fiscal 2018 was a 53-week period and all other fiscal years presented were 52-week periods. Our past results of operations are not necessarily indicative of our future results of operations. You should read the selected financial data below in conjunction with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes contained elsewhere in this report.

	2020	2019	2018	2017	2016
	(in millions, except per share amounts)				
Consolidated Statements of Operations Data:					
Net revenue	$ 1,333.9	$ 1,472.2	$ 1,630.3	$ 1,718.2	$ 1,666.9
Cost of revenue	790.8	975.1	1,150.2	1,194.6	1,085.4
Gross margin	543.1	497.1	480.1	523.6	581.5
Operating expenses:					
Research and development	302.5	342.7	363.2	292.3	311.2
Selling, general, and administrative	127.0	131.3	154.0	137.6	161.7
Acquired intangibles amortization	11.7	11.7	12.8	11.7	18.6
Impairment of acquired intangibles	—	—	—	—	6.7
Change in contingent consideration	—	—	—	—	(0.5)
Restructuring costs	33.0	17.7	12.0	7.3	8.6
Litigation settlement charge	—	—	—	10.0	—
Total operating expenses	474.2	503.4	542.0	458.9	506.3
Operating income/(loss)	68.9	(6.3)	(61.9)	64.7	75.2
Interest income	7.9	3.9	2.3	0.7	3.1
Interest expense	(22.5)	(21.2)	(22.2)	(6.0)	(4.8)
Gain on sale of assets	105.1	—	—	—	—
Impairment recovery on investments, net	—	2.8	—	1.9	2.1
Income/(loss) before provision for income taxes and equity investment loss	159.4	(20.8)	(81.8)	61.3	75.6
Provision for income taxes	38.6	0.3	40.5	12.2	3.4
Equity investment loss	(2.0)	(1.8)	(1.8)	(0.3)	—
Net income/(loss)	$ 118.8	$ (22.9)	$ (124.1)	$ 48.8	$ 72.2
Net income/(loss) per share:					
Basic	$ 3.54	$ (0.66)	$ (3.63)	$ 1.40	$ 1.97
Diluted	$ 3.41	$ (0.66)	$ (3.63)	$ 1.37	$ 1.91
Shares used in computing net income/(loss) per share:					
Basic	33.6	34.6	34.2	34.8	36.6
Diluted	34.8	34.6	34.2	35.6	37.9
Consolidated Balance Sheets Data:					
Cash, cash equivalents, and short-term investments	$ 763.4	$ 327.8	$ 301.0	$ 367.8	$ 352.2
Working capital	833.5	477.2	455.7	481.6	429.3
Total assets	1,693.8	1,409.8	1,499.8	1,266.7	1,300.2
Long-term debt	100.0	—	—	202.0	216.7
Convertible notes, net	486.6	468.3	450.7	—	—
Treasury shares, at cost	1,222.6	1,192.4	1,073.9	980.3	892.3
Total stockholders' equity	819.1	657.3	729.3	740.2	705.0

Our basic net income/(loss) per share amounts for each period presented have been computed using the weighted average number of shares of common stock outstanding. Our diluted net income/(loss) per share amounts for each period presented include the weighted average effect of potentially dilutive shares. We used the "treasury stock" method to determine the dilutive effect of our stock options, RSUs, Performance Stock Units, or PSUs, Market Stock Units, or MSUs, and our Notes.

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

Forward-Looking Statements and Factors That May Affect Results

You should read the following discussion and analysis in conjunction with our financial statements and related notes contained elsewhere in this report. This discussion contains forward-looking statements that involve risks, uncertainties, and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of a variety of factors, including those set forth elsewhere in this report and under Item 1A. Risk Factors.

Impact of COVID-19

On March 11, 2020, the World Health Organization declared the COVID-19 outbreak a pandemic, which continues to spread in the U.S. and globally. Governmental authorities have implemented numerous containment measures, including travel bans and restrictions, quarantines, shelter-in-place orders, and business restrictions and shutdowns, resulting in rapidly changing market and economic conditions.

The health and wellbeing of our workforce is our highest priority. Many of our employees are able to work from home to minimize the potential risk of spread of COVID-19 in our office environment. For those employees that are comfortable returning to an office work environment, we have introduced various return to work protocols, based on guidance from local and global health organizations, to monitor and assess the health of our employees, including temperature checks and risk assessments, and further require all employees that do work in the office to wear face coverings in public locations.

While the severity and duration of business disruption to our customers and suppliers due to the COVID-19 pandemic is still uncertain, we expect that it will continue to weigh on our business and consolidated results of operations in the near term and may further impact our financial condition (including liquidity) in the future. The full extent of the impact of the COVID-19 pandemic to our business, operations and financial results will depend on numerous evolving factors that we may not be able to predict. While we have not incurred significant disruptions thus far from the COVID-19 outbreak, we are unable to accurately predict the full impact COVID-19 will have on our future results due to numerous uncertainties, including the severity of the disease, the duration of the outbreak, a potential future recurrence of the outbreak, further containment actions that may be taken by governmental authorities, the impact to the businesses of our customers and suppliers and other factors.

We will continue to evaluate the nature and scope of the impact to our business, consolidated results of operations, and financial condition, and may take further actions altering our business operations and managing our costs and liquidity that we deem necessary or appropriate to respond to this fast moving and uncertain global health crisis and the resulting global economic consequences.

Overview

We are a leading worldwide developer and supplier of custom-designed human interface semiconductor product solutions that enable people to interact more easily and intuitively with a wide variety of mobile computing, communications, entertainment, and other electronic devices. We believe our results to date reflect the combination of our customer focus and the strength of our intellectual property and our engineering know-how, which allow us to develop or engineer products that meet the demanding design specifications of our OEMs.

We recognize revenue when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to receive in exchange for those goods or services. All of our revenue, except an inconsequential amount, is recognized at a point in time, either on shipment or delivery of the product, depending on customer terms and conditions. Our net revenue decreased from $1,666.9 million for fiscal 2016 to $1,333.9 million for fiscal 2020. For fiscal 2016, we derived 12.4% of our net revenue from the PC product applications market, 83.9% of our net revenue from the mobile product applications market and 3.7% from the IoT product applications market. For fiscal 2020, revenue from the PC product applications market accounted for 23.8% of our net revenue, revenue from the mobile product applications market accounted for 52.4% of our net revenue, and revenue from the IoT product applications market accounted for 23.8% of our net revenue.

Many of our customers have manufacturing operations in China, and many of our OEM customers have established design centers in Asia. With our global presence, including offices in China, Hong Kong, India, Japan, South Korea, Poland, Switzerland, Taiwan, the U.K., and the United States, we are well positioned to provide local sales, operational, and engineering support services to our existing customers, as well as potential new customers, on a global basis.

Our manufacturing operations are based on a variable cost model in which we outsource all of our production requirements and generally drop ship our products directly to our customers from our contract manufacturers' facilities, eliminating the need for significant capital expenditures and allowing us to minimize our investment in inventories. This approach requires us to work closely with our contract manufacturers and semiconductor fabricators to ensure adequate production capacity to meet our forecasted volume requirements. We provide our contract manufacturers with six-month rolling forecasts and issue purchase orders based on our anticipated requirements for the next 90 days. However, we do not have long-term supply contracts with most of our contract manufacturers. We use third-party wafer manufacturers to supply wafers and third-party packaging manufacturers to package our proprietary ASICs. In certain cases, we rely on a single source or a limited number of suppliers to provide other key components of our products. Our cost of revenue includes all costs associated with the production of our products, including materials, logistics, amortization of intangibles related to acquired developed technology, backlog, and supplier arrangements, manufacturing, assembly, and test costs paid to third-party manufacturers, and related overhead costs associated with our indirect manufacturing operations personnel. Additionally, we charge all warranty costs, losses on inventory purchase obligations, and write-downs to reduce the carrying value of obsolete, slow moving, and non-usable inventory to net realizable value to cost of revenue.

Our gross margin generally reflects the combination of the added value we bring to our OEM customers' products by meeting their custom design requirements and the impact of our ongoing cost-improvement programs. These cost-improvement programs include reducing materials and component costs and implementing design and process improvements. Our newly introduced products may have lower margins than our more mature products, which have realized greater benefits associated with our ongoing cost-improvement programs. As a result, new product introductions may initially negatively impact our gross margin.

Our research and development expenses include costs for supplies and materials related to product development as well as the engineering costs incurred to design ASICs and human interface solutions for OEM customers prior to and after their commitment to incorporate those solutions into their products. We continue to commit to the technological and design innovation required to maintain our position in our existing markets, and to adapt our existing technologies or develop new technologies for new markets.

Selling, general, and administrative expenses include expenses related to sales, marketing, and administrative personnel; internal sales and outside sales representatives' commissions; market and usability research; outside legal, accounting, and consulting costs; and other marketing and sales activities.

Acquired intangibles amortization is the amortization of the cost of our acquired intangible assets related to customer relationships and tradenames which are amortized over their estimated useful lives ranging from 3 to 7 years.

Restructuring costs primarily reflect severance and facilities consolidation costs related to restructuring of our operations to reduce operating costs. These headcount- and facilities-related costs were in cost of revenue, research and development, and selling, general and administrative. See Note 13 Restructuring Activities to the consolidated financial statements contained elsewhere in this report.

Gain on sale of assets includes the sale of our TDDI product line for LCD mobile displays. See below under "Divestiture".

Equity investment loss includes amortization of intangible assets reflected under the equity method of accounting in connection with our investment in OXi Technology Ltd. See Note 1 Organization and Summary of Significant Accounting Policies to the consolidated financial statements contained elsewhere in this report.

Divestiture

In December 2019, we entered into an asset purchase agreement with a third party to sell the assets of our TDDI product line for LCD mobile displays. We retained our automotive TDDI product line and our discrete touch and discrete display driver product lines supporting LCD and OLED for the mobile market. The assets sold under the asset purchase agreement had a carrying value of approximately $33.6 million as of the closing date of the transaction in April 2020 for cash consideration of $138.7 million. The gain on sale of this business component was $105.1.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles, or GAAP, requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, allowance for doubtful accounts, cost of revenue, inventories, product warranty, share-based compensation costs, provision for income taxes, deferred income tax asset valuation allowances, uncertain tax positions, tax contingencies, goodwill, intangible assets, investments, and contingencies. We base our estimates on historical experience, applicable laws and regulations, and various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The methods, estimates, interpretations, and judgments we use in applying our most critical accounting policies can have a significant impact on the results that we report in our consolidated financial statements. The SEC considers an entity's most critical accounting policies to be those policies that are both most important to the portrayal of the entity's financial condition and results of operations and those that require the entity's most difficult, subjective, or complex judgments, often as a result of the need to make assumptions and estimates about matters that are inherently uncertain. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

Our revenue is primarily generated from the sale of ASIC chips, either directly to a customer or to a distributor. Revenues are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to receive in exchange for those goods or services. All of our revenue, except an inconsequential amount, is recognized at a point in time, either on shipment or delivery of the product, depending on customer terms and conditions. We generally warrant our products for a period of 12 months from the date of sale and estimate probable product warranty costs at the time we recognize revenue as the warranty is considered an assurance warranty and not a performance obligation. Non-product revenue is recognized over the same period of time such performance obligations are satisfied. We then select an appropriate method for measuring satisfaction of the performance obligations.

Revenue from sales to distributors is recognized upon shipment of the product to the distributors (sell-in basis). Master sales agreements are in place with certain customers, and these agreements typically contain terms and conditions with respect to payment, delivery, warranty and supply. In the absence of a master sales agreement, we consider a customer's purchase order or our standard terms and conditions to be the contract with the customer.

Our pricing terms are negotiated independently, on a stand-alone basis. In determining the transaction price, we evaluate whether the price is subject to refund or adjustment to determine the net consideration which we expect to receive for the sale of such products. In limited situations, we make sales to certain customers under arrangements where we grant stock rotation rights, price protection and price allowances; variable consideration associated with these rights is expected to be inconsequential. These adjustments and incentives are accounted for as variable consideration, classified as other current liabilities under the new revenue standard and are shown as customer obligations within Other Accrued Liabilities as disclosed in Note 1 Organization and Summary of Significant Accounting Policies to the consolidated financial statements contained elsewhere in this report. We estimate the amount of variable consideration for such arrangements based on the expected value to be provided to customers, and we do not believe that there will be significant changes to our estimates of variable consideration. When incentives, stock rotation rights, price protection, volume discounts, or price allowances are applicable, they are estimated and recorded in the period the related revenue is recognized. Stock rotation reserves are based on historical return rates and recorded as a reduction to revenue with a corresponding reduction to cost of goods sold for the estimated cost of inventory that is expected to be returned and recorded as prepaid expenses and other current assets. In limited circumstances, we enter into volume based tiered pricing arrangements and we estimate total unit volumes under such arrangement to determine the expected transaction price for the units expected to be transferred. Such arrangements are accounted for as contract liabilities within other accrued liabilities. Sales returns liabilities are recorded as refund liabilities within other accrued liabilities.

Our accounts receivable balance is from contracts with customers and represents our unconditional right to receive consideration from customers. Payments are generally due within three months of completion of the performance obligation and subsequent invoicing and, therefore, do not include significant financing components. To date, there have been no material impairment losses on accounts receivable.

We invoice customers and recognize all of our revenue, except an inconsequential amount, at a point in time, either on shipment or delivery of the product, depending on customer terms and conditions. We account for shipping and handling costs as fulfillment costs before the customer obtains control of the goods. We classify shipping and handling costs as fulfillment costs before the customer obtains control of the goods. We continue to account for collection of all taxes on a net basis.

We incur commission expense that is incremental to obtaining contracts with customers. Sales commissions (which are recorded in the selling, general and administrative expense line item in the consolidated statements of operations) are expensed when the product is shipped because such commissions are owed after shipment.

Inventory

We state our inventories at the lower of cost or net realizable value. We base our assessment of the ultimate realization of inventories on our projections of future demand and market conditions. Sudden declines in demand, rapid product improvements, or technological changes, or any combination of these factors can cause us to have excess or obsolete inventories. On an ongoing basis, we review for estimated excess, obsolete or unmarketable inventories and write down our inventories to their net realizable value based on our forecasts of future demand and market conditions. If actual market conditions are less favorable than our forecasts, additional inventory write-downs may be required. The following factors influence our estimates: changes to or cancellations of customer orders, unexpected or sudden decline in demand, rapid product improvements, technological advances, and termination or changes by our OEM customers of any product offerings incorporating our product solutions.

Periodically, we purchase inventory from our contract manufacturers when a customer delays its delivery schedule or cancels its order. In those circumstances, we record a write-down, if necessary, to reduce the carrying value of the inventory purchased to its net realizable value. The effect of these write-downs is to establish a new cost basis in the related inventory, which we do not subsequently write up. We also record a liability and charge to cost of revenue for estimated losses on inventory we are obligated to purchase from our contract manufacturers when such losses become probable from customer delays, order cancellations, or other factors.

Results of Operations

The following sets forth certain of our consolidated statements of income data for fiscal 2020 and 2019 along with comparative information regarding the absolute and percentage changes in these amounts (in millions, except percentages):

	2020	2019	$ Change	% Change
Mobile product applications	$ 698.9	$ 900.1	$ (201.2)	(22.4%)
PC product applications	317.4	258.9	58.5	22.6%
IoT product applications	317.6	313.2	4.4	1.4%
Net revenue	1,333.9	1,472.2	(138.3)	(9.4%)
Gross margin	543.1	497.1	46.0	9.3%
Operating expenses:				
Research and development	302.5	342.7	(40.2)	(11.7%)
Selling, general, and administrative	127.0	131.3	(4.3)	(3.3%)
Acquired intangibles amortization	11.7	11.7	—	0.0%
Restructuring costs	33.0	17.7	15.3	86.4%
Operating income/(loss)	68.9	(6.3)	75.2	(1193.7%)
Interest and other income, net	7.9	3.9	4.0	102.6%
Interest expense	(22.5)	(21.2)	(1.3)	6.1%
Gain on sale of assets	105.1	—	105.1	nm
Impairment recovery on investments, net	—	2.8	(2.8)	(100.0%)
Income/(loss) before provision for income taxes	159.4	(20.8)	180.2	(866.3%)
Provision for income taxes	38.6	0.3	38.3	12766.7%
Equity investment loss	(2.0)	(1.8)	(0.2)	11.1%
Net income/(loss)	$ 118.8	$ (22.9)	$ 141.7	(618.8%)

nm – not meaningful

The following sets forth certain of our consolidated statements of operations data as a percentage of net revenues for fiscal 2020 and 2019:

	2020	2019	Percentage Point Increase (Decrease)
Mobile product applications	52.4%	61.1%	(8.7%)
PC product applications	23.8%	17.6%	6.2%
IoT product applications	23.8%	21.3%	2.5%
Net revenue	100.0%	100.0%	
Gross margin	40.7%	33.8%	6.9%
Operating expenses:			
Research and development	22.7%	23.3%	(0.6%)
Selling, general, and administrative	9.5%	8.9%	0.6%
Acquired intangibles amortization	0.9%	0.8%	0.1%
Restructuring costs	2.5%	1.2%	1.3%
Operating income/(loss)	5.2%	(0.4%)	5.6%
Interest and other income, net	0.6%	0.3%	0.3%
Interest expense	(1.7%)	(1.4%)	(0.3%)
Gain on sale of assets	7.9%	0.0%	7.9%
Impairment recovery on investments, net	0.0%	0.2%	(0.2%)
Income/(loss) before provision for income taxes	11.9%	(1.4%)	13.3%
Provision for income taxes	2.9%	0.0%	2.9%
Equity investment loss	(0.1%)	(0.1%)	0.0%
Net income/(loss)	8.9%	(1.6%)	10.5%

Fiscal 2020 Compared with Fiscal 2019

Net Revenue.

Net revenue was $1,333.9 million for fiscal 2020 compared with $1,472.2 million for fiscal 2019, a decrease of $138.3 million, or 9.4%. Of our fiscal 2020 net revenue, $698.9 million, or 52.4%, of net revenue was from the mobile product applications market, $317.4 million, or 23.8%, of net revenue was from the PC product applications market, and $317.6 million, or 23.8%, of net revenue was from the IoT product applications market. The overall decrease in net revenue for fiscal 2020 was attributable to a $201.2 million, or 22.4%, decrease in net revenue from mobile product applications, partially offset by an increase of $58.5 million, or 22.6%, in net revenue from PC product applications and an increase of $4.4 million, or 1.4%, in net revenue from IoT product applications. The decrease in mobile product applications was driven by a decrease in the units sold (23.5% less units), including the divestment of our TDDI business during the fourth quarter of fiscal 2020. The increase in net revenue from PC product applications was driven by an increase in the units sold (11.8% increase in units) and an increase in average selling prices (which increased 9.7%). The increase in net revenue from IoT product applications was primarily driven by an increase in the units sold (4.0% increase in units), partially offset by a decrease in average selling prices (decreased 2.5%).

Gross Margin.

Gross margin as a percentage of net revenue was 40.7%, or $543.1 million, for fiscal 2020 compared with 33.8%, or $497.1 million, for fiscal 2019. The 690 basis point increase in gross margin was primarily due to a $23.0 million decrease in acquired intangibles amortization that was charged to cost of revenue during the year, and a favorable mix due primarily to our mobile and PC business products which have improved gross margins in fiscal 2020.

We continuously introduce new product solutions, that may have life cycles of less than one year. Further, because we sell our technology solutions in designs that are generally unique or specific to an OEM customer's application, gross margin varies on a product-by-product basis, making our cumulative gross margin a blend of our product specific designs. As a fabless manufacturer, our gross margin percentage is generally not materially impacted by our shipment volume. We charge losses on inventory purchase obligations and write-downs to reduce the carrying value of obsolete, slow moving, and non-usable inventory to net realizable value (including warranty costs) to cost of revenue.

Operating Expenses.

Research and Development Expenses. Research and development expenses decreased $40.2 million, to $302.5 million, for fiscal 2020 compared with fiscal 2019. The decrease in research and development expenses primarily reflected (i) a $16.3 million decrease in employee compensation and employment-related costs, resulting from a 15.7% decrease in research and development headcount due to restructuring actions initiated in both fiscal 2019 and 2020 to reduce costs; (ii) a $8.3 million decrease in non-employee services; (iii) a $7.7 million decrease in infrastructure costs related to facilities; (iv) a $4.3 million decrease in travel and entertainment related costs as a result of reduced headcount as well as travel restrictions related to the COVID-19 pandemic; and (v) a $4.1 million decrease in supplies and project related costs; which was partially offset by a $2.4 million in-process research and development charge in fiscal 2020 related to an acquisition in August 2019.

Selling, General, and Administrative Expenses. Selling, general, and administrative expenses decreased $4.3 million, to $127.0 million, for fiscal 2020 compared with fiscal 2019. The decrease in selling, general, and administrative expenses primarily reflected (i) a $2.0 million decrease in employee compensation and employment-related costs, resulting from a 14.6% decrease in selling, general, and administrative headcount due to restructuring actions initiated in both fiscal 2019 and 2020 to reduce costs; (ii) a $4.8 million decrease in non-employee services; (iii) a $3.8 million decrease in travel and entertainment related costs as a result of travel restrictions related to the COVID-19 pandemic; partially offset by (i) a $3.7 million increase in legal fees ; (ii) and a $2.7 million increase in bad debt expense.

Acquired Intangibles Amortization. Acquired intangibles amortization reflects the amortization of intangibles acquired through recent acquisitions. See Note 5 Acquired Intangibles to the consolidated financial statements contained elsewhere in this report.

Restructuring Costs. Restructuring costs primarily reflect employee severance costs and facilities consolidation costs related to the restructuring of operations to reduce operating costs. These headcount-related costs included personnel in operations, research and development, and selling, general and administrative functions. Restructuring costs incurred in fiscal 2020 were $33.0 million, which were due to restructuring plans implemented in the second and fourth quarters of fiscal 2020 as well as the completion of the fiscal 2019 activities initiated in the fourth quarter of fiscal 2019. The second quarter restructuring activities were completed in fiscal 2020 and the restructuring activities initiated in the fourth quarter of fiscal 2020 are expected to be completed in the first half of fiscal 2021. Restructuring costs incurred in fiscal 2019 were $17.7 million, which were due to restructuring plans implemented in the first and fourth quarters of fiscal 2019. The first quarter restructuring activities were completed in fiscal 2019. The fourth quarter restructuring activities were completed in the first half of fiscal 2020. See Note 13 Restructuring Activities to the consolidated financial statements contained elsewhere in this report.

Non-Operating Income.

Interest and Other Income, Net. Interest and other income, net was $7.9 million for fiscal 2020 compared with $3.9 million for fiscal 2019. The increase in interest and other income, net was due to the increase in cash and cash equivalent balances in fiscal 2020, partially offset by lower interest rates late in fiscal 2020.

Interest Expense. Interest expense was $22.5 million and $21.2 million, in fiscal 2020 and 2019, respectively, which represents interest and amortization of debt issuance costs and discount on the $525.0 million aggregate principal amount of the Notes issued on June 26, 2017. See Note 6 Debt to the consolidated financial statements contained elsewhere in this report.

Gain on Sale of Assets. Gain on sale of assets includes the sale of our TDDI product line for LCD mobile displays. See Note 1 Organization and Summary of Significant Accounting Policies, under *Divestiture,* to the consolidated financial statements contained elsewhere in this report.

Provision for Income Taxes.

As a result of the decrease in the U.S. tax rate from the comprehensive tax legislation enacted in December 2017 by the United States government, commonly known as the Tax Cuts and Jobs Act, our U.S. statutory tax rate is lower than tax rates in many foreign jurisdictions in which we operate. This resulted in an increase to our effective tax rate relating to foreign tax rate differential for our fiscal 2019. However, this was largely offset by the remeasurement and release of various uncertain tax positions. See Note 11 Income Taxes to the consolidated financial statements contained elsewhere in this report for the table reconciling the provision for income taxes from the federal statutory rate for fiscal 2020, 2019 and 2018.

It is reasonably possible that the amount of liability for unrecognized tax benefits may change within the next 12 months; an estimate of the range of possible changes could result in a decrease of $1.7 million to an increase of $2.3 million.

Fiscal 2019 Compared with Fiscal 2018.

For discussion related to the results of operations and changes in financial condition for fiscal 2019 compared to fiscal 2018, please refer to “Part II, Item 7. Management’s Discussion and Analysis of Financial Conditions and Results of Operations” in our fiscal 2019 Form 10-K, which was filed with the SEC on August 23, 2019.

Quarterly Results of Operations

The following table sets forth our unaudited quarterly results of operations for the eight quarters in the two-year period ended June 27, 2020. The following table should be read in conjunction with the financial statements and related notes contained elsewhere in this report. We have prepared this unaudited information on the same basis as our audited financial statements. This table includes all adjustments, which are of a normal and recurring nature that we consider necessary for a fair presentation of our financial position and results of operations for the quarters presented. Past results of operations are not necessarily indicative of future operating performance; accordingly, you should not draw any conclusions about our future results from the results of operations for any quarter presented.

	Three Months Ended							
(in millions, except per share amounts) (unaudited)	June 2020	March 2020	December 2019	September 2019	June 2019	March 2019	December 2018	September 2018
Net revenue	$ 277.6	$ 328.1	$ 388.3	$ 339.9	$ 295.1	$ 334.0	$ 425.5	$ 417.6
Cost of revenue	155.6	192.5	229.0	213.7	204.7	218.0	275.7	276.7
Gross margin	122.0	135.6	159.3	126.2	90.4	116.0	149.8	140.9
Operating expenses:								
Research and development	63.7	75.8	77.0	86.0	85.9	82.6	84.2	90.0
Selling, general, and administrative	36.4	31.6	31.5	27.5	27.6	34.2	35.6	33.9
Acquired intangibles amortization	2.9	2.9	3.0	2.9	2.9	3.0	2.9	2.9
Restructuring costs	6.8	6.3	13.3	6.6	7.3	—	2.1	8.3
Total operating expenses	109.8	116.6	124.8	123.0	123.7	119.8	124.8	135.1
Operating income/(loss)	12.2	19.0	34.5	3.2	(33.3)	(3.8)	25.0	5.8
Interest and other income, net	0.8	2.3	3.1	1.7	1.3	1.0	1.0	0.6
Interest expense	(6.3)	(5.5)	(5.4)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)
Gain on sale of assets	105.1	—	—	—	—	—	—	—
Impairment recovery on investments, net	—	—	—	—	—	—	—	2.8
Income/(loss) before income taxes	111.8	15.8	32.2	(0.4)	(37.3)	(8.1)	20.7	3.9
Provision/(benefit) for income taxes	21.3	10.2	12.0	(4.9)	8.4	(15.3)	7.5	(0.3)
Equity investment loss	(0.5)	(0.6)	(0.4)	(0.5)	(0.5)	(0.5)	(0.4)	(0.4)
Net income/(loss)	90.0	5.0	19.8	4.0	$ (46.2)	6.7	12.8	3.8
Net income/(loss) per share:								
Basic	$ 2.64	$ 0.15	$ 0.59	$ 0.12	$ (1.35)	$ 0.19	$ 0.37	$ 0.11
Diluted	$ 2.55	$ 0.14	$ 0.58	$ 0.12	$ (1.35)	$ 0.19	$ 0.36	$ 0.11
Shares used in computing net income/(loss) per share:								
Basic	34.1	34.0	33.5	33.0	34.3	34.4	34.5	35.1
Diluted	35.3	35.0	34.4	33.6	34.3	35.0	35.1	36.1

Liquidity and Capital Resources

Our cash and cash equivalents were $763.4 million as of the end of fiscal 2020 compared with $327.8 million as of the end of fiscal 2019, an increase of $435.6 million. This increase reflected cash flows provided by operating activities of $221.8 million, $119.9 million of cash provided by investing activities and $93.9 million of cash provided by financing activities.

We consider earnings of our foreign subsidiaries indefinitely invested overseas and have made no provision for income or withholding taxes, other than the one-time transition tax incurred as part of the Tax Cuts and Jobs Act, that may result from a future repatriation of those earnings. As of June 27, 2020, $213.6 million of cash and cash equivalents was held by our foreign subsidiaries. If these funds are needed for our operations in the United States, we would be required to accrue and pay foreign withholding taxes to repatriate certain of these funds.

Cash Flows from Operating Activities. For fiscal 2020, the $221.8 million in net cash provided by operating activities was primarily attributable to net income of $118.8 million plus adjustments for non-cash charges, including acquired intangibles amortization of $51.4 million, share-based compensation costs of $49.3 million, depreciation and amortization of $26.7 million, and a reduction of $105.1 million for gain on sale of assets, as well as other non-cash adjustments of $28.9 million, and a net change in operating assets and liabilities of $51.8 million. The net change in operating assets and liabilities related primarily to a $43.0 million decrease in inventories, a $31.0 million decrease in accounts receivable, a $29.1 million increase in accrued compensation, and a $13.8 million increase in income taxes payable; partially offset by a $36.2 million decrease in accounts payable and a $29.9 million decrease in other accrued liabilities. Our days sales outstanding decreased from 70 days to 63 days from fiscal 2019 to fiscal 2020. Our inventory turns increased to six in fiscal 2020 from five in 2019.

For fiscal 2019, the $154.2 million in net cash provided by operating activities was primarily attributable to net loss of $22.9 million plus adjustments for non-cash charges, including acquired intangibles amortization of $74.4 million, share-based compensation costs of $59.0 million, and depreciation and amortization of $35.6 million, as well as other non-cash adjustments of $0.1 million, and a net change in operating assets and liabilities of $8.0 million. The net change in operating assets and liabilities related primarily to a $64.3 million decrease in accounts receivable, a $20.5 million increase in other accrued liabilities, a $4.9 million increase in accrued compensation, a $3.9 million decrease in other assets and a $3.6 million decrease in prepaid expenses and other current assets; partially offset by a $55.8 million decrease in accounts payable, a $27.5 million increase in inventories and a $6.8 million decrease in acquisition related liabilities. Our days sales outstanding increased from 67 days to 70 days from fiscal 2018 to fiscal 2019. Our inventory turns decreased to five in fiscal 2019 from seven in 2018.

Cash Flows from Investing Activities. Net cash provided by investing activities for fiscal 2020 was $119.9 million and net cash used in investing activities in 2019 was $20.9 million. Net cash provided by investing activities for fiscal 2020 consisted primarily of $138.7 million of proceeds from sale of assets, partially offset by $16.3 million used for the purchases of capital assets. Net cash used in investing activities for fiscal 2019 consisted primarily of $23.7 million used for the purchases of capital assets.

Cash Flows from Financing Activities. Net cash provided by financing activities for fiscal 2020 was $93.9 million and net cash used in financing activities for fiscal 2019 was $106.6 million. Our net cash provided by financing activities for fiscal 2020 was primarily attributable to $100.0 million proceeds from borrowing under the line-of-credit and $34.5 million of proceeds from issuance of shares, partially offset by $30.2 million used to repurchase shares of our common stock in the open market and $9.7 million used for payroll taxes for RSUs, MSUs and PSUs. Our net cash used in financing activities for fiscal 2019 was primarily attributable to $118.5 million used to repurchase shares of our common stock in the open market and $9.4 million used for payroll taxes for RSUs; partially offset by $21.3 million of proceeds from issuance of shares.

For discussion related to the statement of cash flows for fiscal 2018, please refer to “Part II, Item 7. Management’s Discussion and Analysis of Financial Conditions and Results of Operations” in our fiscal 2018 Form 10-K, which was filed with the SEC on August 24, 2018.

Common Stock Repurchase Program. As of June 27, 2020, our Board of Directors has authorized the purchase of up to an aggregate of $1.4 billion of our common stock pursuant to our common stock repurchase program, which expires in July 2021. The program authorizes us to purchase our common stock in the open market or in privately negotiated transactions, depending upon market conditions and other factors. The number of shares purchased, and the timing of purchases is based on the level of our cash balances, general business and market conditions, and other factors, including alternative investment opportunities. Common stock purchased under this program is held as treasury stock. From April 2005 through the end of fiscal 2020, we purchased 31,749,195 shares of our common stock in the open market for an aggregate cost of $1.2 billion. As of June 27, 2020, we had $177.4 million unpurchased common stock remaining under our common stock repurchase program.

Convertible Debt. On June 20, 2017, we entered into a purchase agreement, or the Purchase Agreement, with Wells Fargo Securities, LLC, as representative of the initial purchasers named therein, or collectively, the Initial Purchasers, pursuant to which we issued and sold, and the Initial Purchasers purchased, $500 million aggregate principal amount of our 0.50% convertible senior notes due in 2022, or the Notes, in a private placement transaction. Pursuant to the Purchase Agreement, we also granted the Initial Purchasers a 30-day option to purchase up to an additional $25 million aggregate principal amount of Notes, which was exercised in full on June 21, 2017. The net proceeds, after deducting the Initial Purchasers’ discounts, were $514.5 million, which included proceeds from the Initial Purchasers’ exercise of their option to purchase additional Notes. We received the net proceeds on June 26, 2017, which we used to repurchase shares of our common stock, to retire our outstanding bank debt, and to provide additional cash resources to fund the Conexant and Marvell Business Acquisitions.

The Notes bear interest at a rate of 0.50% per year. Interest accrued from June 26, 2017 and is payable semi-annually in arrears, on June 15 and December 15 of each year, beginning on December 15, 2017. The Notes are senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment to any our liabilities that are not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries.

The Notes will mature on June 15, 2022, or the Maturity Date, unless earlier repurchased, redeemed or converted.

Holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at their option at any time prior to the close of business on the business day immediately preceding March 15, 2022 under certain defined circumstances.

On or after March 15, 2022 until the close of business on the business day immediately preceding the Maturity Date, holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at the option of the holder. Upon conversion, we will pay or deliver, at our election, shares of common stock, cash, or a combination of cash and shares of common stock.

The conversion rate for the Notes is initially 13.6947 shares of common stock per $1,000 principal amount of Notes (equivalent to an initial conversion price of approximately $73.02 per share of common stock). The conversion rate is subject to adjustment in certain circumstances.

Upon the occurrence of a fundamental change (as defined in the Notes indenture), holders of the Notes may require us to repurchase for cash all or a portion of their Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest up to, but excluding, the fundamental change repurchase date.

Commencing June 20, 2020, we may redeem for cash all or any portion of the Notes, at our option, if the last reported sale price of our common stock, as determined by us, has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide notice of redemption at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest up to, but excluding, the redemption date. Our policy is to settle the principal amount of our Notes with cash upon conversion or redemption.

Bank Credit Facility.

In February 2020, we entered into the First Amendment to Amended and Restated Credit Agreement, or the Amendment, with the lenders that are party thereto, or the Lenders, and Wells Fargo Bank, National Association, as administrative agent for the Lenders, related to that certain Amended and Restated Credit Agreement, dated September 27, 2017, or the Credit Agreement. Pursuant to the Amendment, the Credit Agreement was amended to, among other things, (i) modify the definition of Consolidated EBITDA (as defined in the Credit Agreement) to increase the maximum limit on the add back of certain restructuring and integration costs and expenses to 30% from 15% of Consolidated EBITDA, (ii) modify the negative covenant for Consolidated Total Leverage Ratio (as defined in the Credit Agreement) at the end of any fiscal quarter to 4.75:1.00 from 3.50:1.00, and for any four quarter period following a Material Acquisition (as defined in the Credit Agreement) to 5:00:1.00 from 3.75:1.00, (iii) modify the circumstances under which the maturity date of the Credit Agreement would be accelerated in advance of the maturity date of the Notes to eliminate the acceleration of the maturity date of the Credit Agreement if we meet certain specified leverage and liquidity covenants, (iv) add a minimum liquidity covenant for each two-week period beginning on the date that is 120 days prior to the maturity date of the Notes, (v) add certain technical amendments to address LIBOR transition matters, and (vi) include or revise certain definitions and certain customary representations, warranties and acknowledgments.

The Credit Agreement provides for a revolving credit facility in a principal amount of up to $200 million, which includes a $20 million sublimit for letters of credit and a $20 million sublimit for swingline loans. Under the terms of the Credit Agreement, we may, subject to the satisfaction of certain conditions, request increases in the revolving credit facility commitments in an aggregate principal amount of up to $100 million to the extent existing or new lenders agree to provide such increased or additional commitments, as applicable. Future proceeds under the revolving credit facility are available for working capital and general corporate purposes. As of June 27, 2020, there was a $100.0 million balance outstanding under the revolving credit facility.

The revolving credit facility is required to be repaid in full on the earlier of (i) September 27, 2022, and (ii) the date 91 days prior to the Maturity Date of the Notes if the Notes have not been refinanced in full by such date, subject to certain exceptions. Debt issuance costs of $2.3 million relating to the revolving credit facility will be amortized over 60 months.

Our obligations under the Credit Agreement are guaranteed by the material domestic subsidiaries of our company, subject to certain exceptions (such material subsidiaries, together with our Company, collectively, the Credit Parties). The obligations of the Credit Parties under the Credit Agreement and the other loan documents delivered in connection therewith are secured by a first priority security interest in substantially all of the existing and future personal property of the Credit Parties, including, without limitation, 65% of the voting capital stock of certain of the Credit Parties' direct foreign subsidiaries, subject to certain exceptions.

The revolving credit facility bears interest at our election of a Base Rate plus an Applicable Margin or LIBOR plus an Applicable Margin. Swingline loans bear interest at a Base Rate plus an Applicable Margin. The Base Rate is a floating rate that is the greater of the Prime Rate, the Federal Funds Rate plus 50 basis points, or LIBOR plus 100 basis points. The Applicable Margin is based on a sliding scale which ranges from 0.25 to 100 basis points for Base Rate loans and 100 basis points to 175 basis points for LIBOR loans. We are required to pay a commitment fee on any unused commitments under the Credit Agreement, which is determined on a leverage-based sliding scale ranging from 0.175% to 0.25% per annum. Interest and fees are payable on a quarterly basis. The LIBOR index is expected to be discontinued at the end of 2021. Under our credit facility, when the LIBOR index is discontinued, we will switch to a comparable or successor rate as selected by us and the Administrative Agent, which may include the Secured Overnight Financing Rate, or SOFR.

Under the Credit Agreement, there are various restrictive covenants, including three financial covenants which limit the consolidated total leverage ratio, or leverage ratio, the consolidated interest coverage ratio, or interest coverage ratio, a restriction which places a limit on the amount of capital expenditures that may be made in any fiscal year, a restriction that permits up to $50 million per fiscal quarter of accounts receivable financings, and sets the Specified Leverage Ratio. The leverage ratio is the ratio of debt as of the measurement date to earnings before interest, taxes, depreciation and amortization, or EBITDA, for the four consecutive quarters ending with the quarter of measurement. The current leverage ratio shall not exceed 4.75 to 1.00 provided that for the four fiscal quarters ending after the date of a material acquisition, such maximum leverage ratio shall be adjusted to 5.0 to 1.00, and thereafter 4.75 to 1.0. The interest coverage ratio is EBITDA to interest expense for the four consecutive quarters ending with the quarter of measurement. The interest coverage ratio must not be less than 3.50 to 1.0 during the term of the Credit Agreement. The Specified Leverage Ratio is the ratio used in determining, among other things, whether we are permitted to make dividends and/or prepay certain indebtedness, at a fixed ratio of 2.25 to 1.00.

$100 Million Shelf Registration. We have registered an aggregate of $100.0 million of common stock and preferred stock for issuance in connection with acquisitions, which shares generally will be freely tradeable after their issuance under Rule 145 of the Securities Act unless held by an affiliate of the acquired company, in which case such shares will be subject to the volume and manner of sale restrictions of Rule 144 of the Securities Act.

Liquidity and Capital Resources. Although consequences of the COVID-19 pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future, we believe our existing cash and cash equivalents, anticipated cash flows from operating activities, and available credit under the Credit Agreement will be sufficient to meet our working capital and other cash requirements for at least the next 12 months, including our debt service obligations. Our future capital requirements will depend on many factors, including our revenue, the length, duration and severity of the COVID-19 pandemic, the timing and extent of spending to support product development efforts, costs associated with restructuring activities net of projected savings from those activities, costs related to protecting our intellectual property, the expansion of sales and marketing activities, timing of introductions of new products and enhancements to existing products, the costs to ensure access to adequate manufacturing, the costs of maintaining sufficient space for our workforce, the continuing market acceptance of our product solutions, our common stock repurchase program, and the amount and timing of our investments in, or acquisitions of, other technologies or companies. Further equity or debt financing may not be available to us on acceptable terms or at all. If sufficient funds are not available or are not available on acceptable terms, our ability to fund our future long-term working capital needs, take advantage of business opportunities or to respond to competitive pressures could be limited or severely constrained.

Contractual Obligations and Commercial Commitments

The following table sets forth a summary of our material contractual obligations and commercial commitments as of the end of fiscal 2020 (in millions):

	Payments due by period				
Contractual Obligations	Total	Less than 1 year	1-3 Years	3-5 Years	Thereafter
Long-term debt (1)	$ 633.0	$ 5.4	$ 627.6	$ —	$ —
Leases	22.8	7.2	10.3	3.2	2.1
Purchase obligations and other commitments (2)	49.9	43.9	6.0	—	—
Transition tax payable (3)	8.1	—	2.7	5.4	—
Total	$ 713.8	$ 56.5	$ 646.6	$ 8.6	$ 2.1

(1) Represents the principal and interest payable through the maturity date of the underlying contractual obligation.
(2) Purchase obligations and other commitments include payments due for inventory purchase obligations with contract manufacturers, long-term software tool licenses, and other licenses.
(3) Represents the tax amount for the transition tax liability associated with our deemed repatriation of accumulated foreign earnings as a result of the Tax Cuts and Jobs Act, enacted into law on December 22, 2017.

The amounts in the table above exclude unrecognized tax benefits related to uncertain tax positions of $20.1 million. As of June 27, 2020, we were unable to make a reasonably reliable estimate of when settlement with a taxing authority may occur in connection with our gross unrecognized tax benefit.

Off-Balance Sheet Arrangements

We do not have any transactions, arrangements, or other relationships with unconsolidated entities that are reasonably likely to materially affect our financial condition, revenues or expenses, results of operations, liquidity, or capital resources. We have no special purpose or limited purpose entities that provide off-balance sheet financing, liquidity, or market or credit risk support; engage in leasing, hedging, or research and development services; or have other relationships that expose us to liability that is not reflected in our financial statements.

Recently Issued Accounting Pronouncements Not Yet Effective

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments, or ASU 2016-13. This ASU requires measurement and recognition of expected credit losses for financial assets. ASU 2016-13 also requires new disclosures for financial assets measured at amortized cost, loans and available-for-sale debt securities. ASU 2016-13 is effective for us beginning in the first quarter of fiscal 2021. Entities will apply the standard's provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is adopted. We do not expect this standard to have a material impact on our financial statements.

In August 2020, the FASB issued ASU No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40), which simplifies the accounting for convertible instruments. The guidance removes certain accounting models which separate the embedded conversion features from the host contract for convertible instruments, requiring bifurcation only if the convertible debt feature qualifies as a derivative under ASC 815 or for convertible debt issued at a substantial premium. The ASU removes certain settlement conditions required for equity contracts to qualify for the derivative scope exception, permitting more contracts to qualify for it. In addition, the guidance eliminates the treasury stock method to calculate diluted earnings per share for convertible instruments and requires the use of the if-converted method. The ASU is effective for annual reporting periods beginning after December 15, 2021, including interim reporting periods within those annual periods, with early adoption permitted no earlier than the fiscal year beginning after December 15, 2020. We are currently evaluating the impact of the new guidance on our consolidated financial statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Exchange Risk

Our total net revenue for fiscal 2020, 2019, and 2018 was denominated in U.S. dollars. Costs denominated in foreign currencies were approximately 12%, 11%, and 10% of our total costs for fiscal 2020, 2019, and 2018, respectively.

We face the risk that our accounts payable and acquisition-related liabilities denominated in foreign currencies will increase if such foreign currencies strengthen quickly and significantly against the U.S. dollar. Approximately 3% and 7% of our accounts payable were denominated in foreign currencies at June 27, 2020 and June 29, 2019, respectively.

To provide an assessment of the foreign currency exchange risk associated with our foreign currency exposures within revenue, cost and operating expenses, we performed a sensitivity analysis to determine the impact that an adverse change in exchange rates would have on our financial statements. A hypothetical weighted-average change of 10% in currency exchange rates would have changed our operating income before taxes by approximately $15.1 million and our net income by approximately $17.6 million for fiscal 2020, assuming no offsetting hedge positions. However, this quantitative measure has inherent limitations. The sensitivity analysis disregards the possibility that U.S. dollar and other exchange rates can move in opposite directions and that gains from one currency may or may not be offset by losses from another currency.

Interest Rate Risk on Cash, Cash Equivalents

Our exposure to market risk for changes in interest rates relates primarily to our cash and cash equivalents. We do not use our investment portfolio for trading or other speculative purposes.

There have been no significant changes in the maturity dates and average interest rates for our cash equivalents subsequent to fiscal 2020.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Reference is made to the financial statements, the report of our independent registered public accounting firm, and the notes thereto commencing at page F-1 of this report, which financial statements, report, and notes are incorporated herein by reference. Reference is also made to the quarterly results of operations included elsewhere in this report, which are incorporated herein by reference.

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Conclusions Regarding Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Based on this evaluation, our Chief Executive Officer and Chief Financial Officer, as of June 27, 2020, concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) were effective to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) for our Company. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in the *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO 2013 framework).

Based on our evaluation under the COSO 2013 framework, our management concluded that our internal control over financial reporting was effective, at the reasonable assurance level, as of June 27, 2020. The effectiveness of our internal control over financial reporting as of June 27, 2020 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report included herein on page F-2.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal controls over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, misstatements, errors, and instances of fraud, if any, within our company have been or will be prevented or detected. Further, internal controls may become inadequate as a result of changes in conditions, or through the deterioration of the degree of compliance with policies or procedures.

ITEM 9B. OTHER INFORMATION

There were no items requiring reporting on Form 8-K that were not reported on Form 8-K during the fourth quarter of the year covered by this Form 10-K.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item relating to directors of our company and corporate governance is incorporated herein by reference to the definitive Proxy Statement to be filed pursuant to Regulation 14A of the Exchange Act for our 2020 Annual Meeting of Stockholders. The information required by this Item relating to our executive officers is included in Item 1. Business – Information about our Executive Officers.

We have adopted a code of ethics that applies to our chief executive officer, chief financial officer, chief accounting officer, and other senior accounting personnel. The "Code of Ethics for the CEO and Senior Financial Officers" is located on our website at www.synaptics.com in the Investor Relations section under Corporate Governance.

We intend to satisfy the disclosure requirement under Item 5.05(c) of Form 8-K regarding any amendment to, or waiver from, a provision of this code of ethics by posting such information on our website, at the address and location specified above.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the caption "Executive Compensation") to be filed pursuant to Regulation 14A of the Exchange Act for our 2020 Annual Meeting of Stockholders.

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

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the captions "Security Ownership of Principal Stockholders, Directors, and Officers" and "Executive Compensation—Stock-Based Compensation Plan Information") to be filed pursuant to Regulation 14A of the Exchange Act for our 2020 Annual Meeting of Stockholders.

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

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the caption "Certain Relationships and Related Transactions") to be filed pursuant to Regulation 14A of the Exchange Act for our 2020 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the caption "Ratification of Appointment of Independent Auditor") to be filed pursuant to Regulation 14A of the Exchange Act for our 2020 Annual Meeting of Stockholders.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Financial Statements and Financial Statement Schedules

(1) Financial Statements are listed in the Index to Financial Statements on page F-1 of this report.

(b) Exhibits

Exhibit Number	Exhibit
2.1#	Securities Purchase Agreement, dated June 11, 2017, by and among Synaptics Incorporated, Lakestar Semi, Inc., CNXT Holdings, Inc. and Conexant Systems, LLC (1)
2.2(a)	Asset Purchase Agreement, dated December 18, 2019, by and among Synaptics Incorporated and Creative Legend Investments Ltd. (2)
2.2(b)	First Amendment to Asset Purchase Agreement, dated March 3, 2020, by and among Synaptics Incorporated and Creative Legend Investments Ltd. (3)
2.2(c)	Second Amendment to Asset Purchase Agreement, dated April 15, 2020, by and among Synaptics Incorporated and Beijing OmniVision Technologies Co. Ltd.
3.1	Certificate of Incorporation (4)
3.2	Certificate of Designation of Series A Junior Participating Preferred Stock (5)
3.3	Third Amended and Restated Bylaws (amended and restated as of July 27, 2010) (6)
3.4	Certificate of Amendment of Certificate of Incorporation of the registrant (7)
3.5	Certificate of Amendment of Certificate of Incorporation of the registrant (8)
4.1	Form of Common Stock Certificate (9)
4.2	Indenture, dated as of June 26, 2017, by and between the Company and Wells Fargo, National Association, as trustee (10)
4.3	Form of 0.50% Convertible Senior Note due 2022 (11)
4.4	Description of Registrant's Securities (21)
10.1(a)	Amendment and Restatement Agreement, dated September 27, 2017, by and among Synaptics, as borrower, certain material domestic subsidiaries of Synaptics, as subsidiary guarantors, the Lenders, as lenders, and Wells Fargo, as administrative agent for the Lenders (12)
10.1(b)	Amended and Restated Credit Agreement, dated September 27, 2017, by and among Synaptics, as borrower, the Lenders, as lenders, Wells Fargo, as administrative Agent, Wells Fargo Securities, LLC as joint lead arranger and joint bookrunner, MUFG Union Bank, N.A. and BMO Capital Markets Corp. as joint lead arrangers, joint book runners and co-syndication agents (12)
10.1(c)	First Amendment to Amended and Restated Credit Agreement, dated as of February 14, 2020, by and among Synaptics Incorporated, as borrower, the Lenders that are a party thereto, and Wells Fargo Bank, National Association, as administrative agent (3)
10.2(a)*	Synaptics Incorporated 2019 Inducement Equity Plan (13)
10.2(b)*	Form of Restricted Stock Unit Inducement Award Agreement for 2019 Inducement Equity Plan (13)
10.2(c)*	Form of Market Stock Unit Inducement Award Agreement for 2019 Inducement Equity Plan (13)
10.2(d)*	Form of Performance Stock Unit Inducement Award Agreement for 2019 Inducement Equity Plan (13)
10.3(a)*	2019 Equity and Incentive Compensation Plan (14)
10.3(b)*	Form of Restricted Stock Unit Award Agreement under the 2019 Equity and Incentive Compensation Plan (14)

Exhibit Number	Exhibit
10.3(c)*	Form of Performance Stock Unit Award Agreement under the 2019 Equity and Incentive Compensation Plan (14)
10.3(d)*	Form of Market Stock Unit Award Agreement under the 2019 Equity and Incentive Compensation Plan (14)
10.4*	2019 Employee Stock Purchase Plan (14)
10.5(a)*	Amended and Restated 2010 Incentive Compensation Plan, as amended effective on October 30, 2018 (15)
10.5(b)*	Form of Non-Qualified Stock Option Agreement for 2010 Incentive Compensation Plan (11)
10.5(c)*	Form of Incentive Stock Option Agreement for 2010 Incentive Compensation Plan (16)
10.5(d)*	Form of Deferred Stock Award Agreement for 2010 Incentive Compensation Plan (11)
10.5(e)*	Form of Deferred Stock Award Agreement for Market Stock Units for Amended and Restated 2010 Incentive Compensation Plan (17)
10.5(f)*	Form of Deferred Stock Award Agreement for Performance Stock Units for Amended and Restated 2010 Incentive Compensation Plan (17)
10.6*	Change of Control Severance Policy for Principal Executive Officers (21)
10.7*	Severance Policy for Principal Executive Officers (21)
10.8*	Form of Director and Officer Indemnification Agreement (18)
10.9*	Employment Offer Letter, dated February 7, 2019 between the registrant and Kermit Nolan (19)
10.10*	Written Description of the Synaptics Incorporated Retention Program Adopted May 6, 2019 (21)
10.11*	Employment Offer Letter, dated August 1, 2019 between the registrant and Michael Hurlston (20)
10.12*	Employment Offer Letter, dated October 7, 2019 between the registrant and Dean Butler (2)
10.13*	Employment Offer Letter, dated February 26, 2020 between the registrant and Phil Kumin
10.14*	Employment Offer Letter, dated December 4, 2018 between the registrant and Saleel Awsare
10.15*	Separation Agreement and Release, executed on March 3, 2020, by and between Hing Chung (Alex) Wong and Synaptics Incorporated (3)
21	List of Subsidiaries
23.1	Consent of Independent Registered Public Accounting Firm
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a)
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a)
32.1##	Section 1350 Certification of Chief Executive Officer
32.2##	Section 1350 Certification of Chief Financial Officer
101.INS Inline	XBRL Instance Document
101.SCH Inline	XBRL Taxonomy Extension Schema Document
101.CAL Inline	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF Inline	XBRL Taxonomy Extension Definition Linkbase Document

Exhibit Number	Exhibit
101.LAB Inline	XBRL Taxonomy Extension Label Linkbase Document
101.PRE Inline	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File – The cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document

(1) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on June 12, 2017.
(2) Incorporated by reference to the registrant’s Form 10-Q as filed with the SEC on February 6, 2020.
(3) Incorporated by reference to the registrant’s Form 10-Q as filed with the SEC on May 7, 2020.
(4) Incorporated by reference to the registrant's Form 10-Q as filed with the SEC on February 21, 2002.
(5) Incorporated by reference to the registrant’s Form 8-A as filed with the SEC on August 16, 2002.
(6) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on August 2, 2010.
(7) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on December 7, 2004.
(8) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 22, 2010.
(9) Incorporated by reference to the registrant’s Form 10-K as filed with the SEC on September 12, 2002.
(10) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on June 26, 2017.
(11) Incorporated by reference to the registrant’s Annual Report on Form 10-K as filed with the SEC on August 18, 2017.
(12) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 2, 2017.
(13) Incorporated by reference to the registrant’s Form S-8 as filed with the SEC on August 16, 2019.
(14) Incorporated by reference to the registrant’s Form S-8 as filed with the SEC on November 1, 2019.
(15) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on November 1, 2018.
(16) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 22, 2010.
(17) Incorporated by reference to the registrant's Form 10-Q as filed with the SEC on February 8, 2018.
(18) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on May 17, 2016.
(19) Incorporated by reference to the registrant’s Form 10-Q as filed with the SEC on May 9, 2019.
(20) Incorporated by reference to the registrant’s Form 10-Q as filed with the SEC on November 7, 2019.
(21) Incorporated by reference to the registrant’s Form 10-K as filed with the SEC on August 23, 2019.

* Indicates a contract with management or compensatory plan or arrangement.
\# Certain schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule will be furnished as a supplement to the Securities and Exchange Commission upon request.
\## This certification is being furnished solely pursuant to 18 U.S.C. § 1350 and shall not be deemed filed by the Company for purposes of Section 18 of the Exchange Act or incorporated by reference in any registration statement of the Company filed under the Securities Act.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

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.

SYNAPTICS INCORPORATED

Date: August 21, 2020

By: /s/ Michael E. Hurlston
Michael E. Hurlston
President and Chief Executive Officer

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

Signature	Title	Date
/s/ Michael E. Hurlston Michael E. Hurlston	President and Chief Executive Officer, and Director	August 21, 2020
/s/ *Dean Butler* Dean Butler	Senior Vice President and Chief Financial Officer	August 21, 2020
/s/ Kermit Nolan Kermit Nolan	Corporate Vice President and Chief Accounting Officer	August 21, 2020
/s/ Nelson C. Chan Nelson C. Chan	Chairman of the Board	August 21, 2020
/s/ Kiva A. Allgood Kiva A. Allgood	Director	August 21, 2020
/s/ Jeffrey D. Buchanan Jeffrey D. Buchanan	Director	August 21, 2020
/s/ Keith B. Geeslin Keith B. Geeslin	Director	August 21, 2020
/s/ Susan Hardman Susan Hardman	Director	August 21, 2020
/s/ Richard L. Sanquini Richard L. Sanquini	Director	August 21, 2020
/s/ James L. Whims James L. Whims	Director	August 21, 2020

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SYNAPTICS INCORPORATED AND SUBSIDIARIES

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Synaptics Incorporated:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Synaptics Incorporated and subsidiaries (the Company) as of June 27, 2020 and June 29, 2019, the related consolidated statements of operations, comprehensive income/(loss), stockholders' equity, and cash flows for each of the fiscal years in the three fiscal year period ended June 27, 2020, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of June 27, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of June 27, 2020 and June 29, 2019, and the results of its operations and its cash flows for each of the fiscal years in the three fiscal year period ended June 27, 2020, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of June 27, 2020 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

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

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

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

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (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.

Critical Audit Matter

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

Evaluation of net realizable value of inventories and losses on inventory purchase obligations

As discussed in Note 1 to the consolidated financial statements, inventories are stated at the lower of cost or net realizable value. As of June 27, 2020, the Company held inventories of $102.0 million. The Company records a write-down for excess, obsolete or unmarketable inventories based on forecasts of future demand and market conditions. Additionally, a liability and a charge is recorded to cost of sales for estimated losses on inventory the Company is obligated to purchase from contract manufacturers when a customer delays its delivery schedule, cancels its order, or for other factors.

We identified the evaluation of net realizable value of inventories associated with excess, obsolete or unmarketable inventories and losses on inventory purchase obligations as a critical audit matter. A higher degree of auditor judgment was required to evaluate the Company's estimate of net realizable value for these inventories and losses on inventory purchase obligations. Specifically, there is a high degree of subjectivity in evaluating the effect of any unexpected or sudden declines in market demand which may result from changes to or cancellations of customer orders, rapid product or technological advances, due to the nature of the evidence available related to these factors.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's process to develop the estimated net realizable value of inventory and recognition of losses related to outstanding inventory purchase obligations. We assessed the Company's assumptions by comparing them to historical activity and demand forecasts. We also considered customer communications, as well as end user and third-party publications. We performed an analysis to recalculate the required write-downs and losses and we compared this to the recorded amounts. We inspected reporting from significant vendors regarding outstanding purchase obligations of the Company. Additionally, we tested returns which resulted from quality related issues of the Company's products during the year and subsequent to period-end to evaluate if additional write-downs or losses were warranted.

/s/ KPMG LLP

We have served as the Company's auditor since 2003.

Santa Clara, California
August 21, 2020

SYNAPTICS INCORPORATED AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in millions, except par value and share amounts)

	June 2020	June 2019
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 763.4	$ 327.8
Accounts receivable, net of allowances of $5.8 and $2.1 at June 2020 and 2019, respectively	195.3	230.0
Inventories	102.0	158.7
Prepaid expenses and other current assets	16.9	14.6
Total current assets	1,077.6	731.1
Property and equipment, net	84.3	103.0
Goodwill	360.8	372.8
Acquired intangibles, net	93.4	144.8
Non-current other assets	77.7	58.1
	$ 1,693.8	$ 1,409.8
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 60.6	$ 98.3
Accrued compensation	59.5	30.4
Income taxes payable	33.0	19.1
Other accrued liabilities	91.0	106.1
Total current liabilities	244.1	253.9
Long-term debt	100.0	—
Convertible notes, net	486.6	468.3
Other long-term liabilities	44.0	30.3
Total liabilities	874.7	752.5
Commitments and contingencies		
Stockholders' Equity:		
Preferred stock:		
$0.001 par value; 10,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock:		
$0.001 par value; 120,000,000 shares authorized, 65,871,648 and 64,283,948 shares issued, and 34,122,453 and 33,349,735 shares outstanding, at June 2020 and 2019, respectively	0.1	0.1
Additional paid-in capital	1,340.2	1,266.1
Treasury stock: 31,749,195 and 30,934,213 common shares at June 2020 and 2019, respectively, at cost	(1,222.6)	(1,192.4)
Retained earnings	701.4	583.5
Total stockholders' equity	819.1	657.3
	$ 1,693.8	$ 1,409.8

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in millions, except per share amounts)

	Fiscal Year		
	2020	**2019**	**2018**
Net revenue	$ 1,333.9	$ 1,472.2	$ 1,630.3
Cost of revenue	790.8	975.1	1,150.2
Gross margin	543.1	497.1	480.1
Operating expenses:			
Research and development	302.5	342.7	363.2
Selling, general, and administrative	127.0	131.3	154.0
Acquired intangibles amortization	11.7	11.7	12.8
Restructuring costs	33.0	17.7	12.0
Total operating expenses	474.2	503.4	542.0
Operating income/(loss)	68.9	(6.3)	(61.9)
Interest and other income	7.9	3.9	2.3
Interest expense	(22.5)	(21.2)	(22.2)
Gain on sale of assets	105.1	—	—
Impairment recovery on investments, net	—	2.8	—
Income/(loss) before provision for income taxes and equity investment loss	159.4	(20.8)	(81.8)
Provision for income taxes	38.6	0.3	40.5
Equity investment loss	(2.0)	(1.8)	(1.8)
Net income/(loss)	$ 118.8	$ (22.9)	$ (124.1)
Net income/(loss) per share:			
Basic	$ 3.54	$ (0.66)	$ (3.63)
Diluted	$ 3.41	$ (0.66)	$ (3.63)
Shares used in computing net income/(loss) per share:			
Basic	33.6	34.6	34.2
Diluted	34.8	34.6	34.2

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME/(LOSS)
(in millions)

	Fiscal Year		
	2020	2019	2018
Net income/(loss)	$ 118.8	$ (22.9)	$ (124.1)
Other comprehensive loss:			
Change in unrealized net loss on investments	—	(1.5)	—
Comprehensive income/(loss)	$ 118.8	$ (24.4)	$ (124.1)

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions, except share amounts)

	Common Stock		Additional Paid-in Capital	Treasury Stock	Accumulated Other Comprehensive Income	Retained Earnings	Total Stockholders' Equity
	Shares	Amount					
Balance at June 2017, as reported	60,579,911	$ 0.1	$ 1,004.8	$ (980.3)	$ 1.5	$ 714.1	$ 740.2
Cumulative effect of changes in accounting principles for share-based compensation	—	—	1.0	—	—	24.7	25.7
Cumulative effect of changes in accounting principles for income taxes: intra-entity transfers of assets other than inventory	—	—	—	—	—	(8.3)	(8.3)
Balance at June 2017, as adjusted	60,579,911	0.1	1,005.8	(980.3)	1.5	730.5	757.6
Net loss	—	—	—	—	—	(124.1)	(124.1)
Issuance of common stock for share-based award compensation plans	1,583,102	—	32.3	—	—	—	32.3
Issuance of common stock for acquisition	726,666	—	39.1	—	—	—	39.1
Payroll taxes for deferred stock units	—	—	(5.4)	—	—	—	(5.4)
Purchases of treasury stock	—	—	—	(93.6)	—	—	(93.6)
Share-based compensation	—	—	71.3	—	—	—	71.3
Issuance of convertible debt	—	—	52.1	—	—	—	52.1
Balance at June 2018	62,889,679	0.1	1,195.2	(1,073.9)	1.5	606.4	729.3
Net loss	—	—	—	—	—	(22.9)	(22.9)
Other comprehensive income	—	—	—	—	(1.5)	—	(1.5)
Issuance of common stock for share-based award compensation plans	1,394,269	—	21.3	—	—	—	21.3
Payroll taxes for deferred stock units	—	—	(9.4)	—	—	—	(9.4)
Purchases of treasury stock	—	—	—	(118.5)	—	—	(118.5)
Share-based compensation	—	—	59.0	—	—	—	59.0
Balance at June 2019, as reported	64,283,948	0.1	1,266.1	(1,192.4)	—	583.5	657.3
Cumulative effect of changes in accounting principles for leases	—	—	—	—	—	(0.9)	(0.9)
Balance at June 2019, as adjusted	64,283,948	0.1	1,266.1	(1,192.4)	—	582.6	656.4
Net income	—	—	—	—	—	118.8	118.8
Issuance of common stock for share-based award compensation plans	1,587,700	—	34.5	—	—	—	34.5
Payroll taxes for deferred stock units	—	—	(9.7)	—	—	—	(9.7)
Purchases of treasury stock	—	—	—	(30.2)	—	—	(30.2)
Share-based compensation	—	—	49.3	—	—	—	49.3
Balance at June 2020	65,871,648	$ 0.1	$ 1,340.2	$ (1,222.6)	$ —	$ 701.4	$ 819.1

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Fiscal Year		
	2020	2019	2018
Cash flows from operating activities			
Net income/(loss)	$ 118.8	$ (22.9)	$ (124.1)
Adjustments to reconcile net income/(loss) to net cash provided by operating activities:			
Share-based compensation costs	49.3	59.0	71.3
Depreciation and amortization	26.7	35.6	38.9
Acquired intangibles amortization	51.4	74.4	83.9
Gain on sale of assets	(105.1)	—	—
Gain on sale of property and equipment	(1.2)	—	—
Deferred taxes	2.7	(15.2)	4.9
Amortization of convertible debt discount and issuance costs	18.3	17.6	16.9
Amortization of debt issuance costs	0.6	0.5	1.6
Impairment recovery on investments, net	—	(2.8)	—
Acquired in-process research and development	2.4	—	—
Arbitration settlement	—	(1.9)	—
Equity investment loss	2.0	1.8	1.8
Provision for bad debt reserves	3.7	—	—
Foreign currency remeasurement (gain)/loss	0.4	0.1	—
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable, net	31.0	64.3	(22.7)
Inventories	43.0	(27.5)	79.5
Prepaid expenses and other current assets	(2.9)	3.6	18.8
Other assets	3.9	3.9	(7.2)
Accounts payable	(36.2)	(55.8)	6.2
Accrued compensation	29.1	4.9	(8.1)
Acquisition related liabilities	—	(6.8)	—
Income taxes payable	13.8	0.9	5.4
Other accrued liabilities	(29.9)	20.5	(22.1)
Net cash provided by operating activities	221.8	154.2	145.0
Cash flows from investing activities			
Proceeds from sale of assets	138.7	—	—
Purchase of in-process research and development	(2.5)	—	—
Acquisition of businesses, net of cash and cash equivalents acquired	—	—	(396.7)
Proceeds from sales of investments	—	2.8	—
Purchases of property and equipment	(16.3)	(23.7)	(34.1)
Purchase of intangible assets	—	—	(7.7)
Net cash provided by/(used in) investing activities	119.9	(20.9)	(438.5)
Cash flows from financing activities			
Proceeds from issuance of convertible debt, net of issuance costs	—	—	514.5
Proceeds from borrowings under line-of-credit	100.0	—	—
Payment of debt	—	—	(220.0)
Purchases of treasury stock	(30.2)	(118.5)	(93.6)
Proceeds from issuance of shares	34.5	21.3	32.3
Payment of debt issuance costs	(0.7)	—	(1.1)
Payroll taxes for deferred stock and market stock units	(9.7)	(9.4)	(5.4)
Net cash provided by/(used in) financing activities	93.9	(106.6)	226.7
Effect of exchange rate changes on cash and cash equivalents	—	0.1	—
Net increase/(decrease) in cash and cash equivalents	435.6	26.8	(66.8)
Cash and cash equivalents at beginning of year	327.8	301.0	367.8
Cash and cash equivalents at end of year	$ 763.4	$ 327.8	$ 301.0
Supplemental disclosures of cash flow information			
Cash paid for interest	$ 3.7	$ 3.6	$ 3.8
Cash paid for taxes	$ 18.9	$ 16.4	$ 26.4
Cash refund on taxes	$ 1.3	$ 6.4	$ 1.7
Non-cash investing and financing activities:			
Property and equipment received but unpaid	$ 1.2	$ 3.8	$ 6.6
Common stock issued pursuant to acquisition	—	—	$ 39.1

See accompanying notes to consolidated financial statement

1. Organization and Summary of Significant Accounting Policies

Organization and Basis of Presentation

We are a leading worldwide developer and supplier of custom-designed semiconductor solutions that enable people to interact more easily and intuitively with a wide variety of mobile computing, communications, entertainment, and other electronic devices. We currently generate revenue from the markets for Internet of Things, or IoT, products, which include smart devices with voice, speech, video, wireless connectivity, smartphones, tablets, personal computer, or PC, products, and other select electronic devices, including devices in automobiles. We deliver semiconductor solutions including connectivity products, audio input and output System-On-Chips, or SoCs, high-definition video and vision SoCs, touch controllers, display drivers, fingerprint sensors, and touchpads, which comprise our semiconductor chip, firmware, and software as a complete customer solution.

The consolidated financial statements are presented in accordance with U.S. generally accepted accounting principles, or U.S. GAAP, and include our financial statements and those of our wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated upon consolidation.

Our fiscal year is the 52- or 53-week period ending on the last Saturday in June. The fiscal years presented in this report were 52-week periods ended June 27, 2020 and June 29, 2019 and a 53-week period ended June 30, 2018.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue, allowance for doubtful accounts, cost of revenue, inventories, loss on purchase commitments, product warranty, accrued liabilities, share-based compensation costs, provision for income taxes, deferred income tax asset valuation allowances, uncertain tax positions, goodwill, intangible assets, investments, contingent consideration liability and loss contingencies. We base our estimates on historical experience, applicable laws and regulations, and various other assumptions that we believe to be reasonable under the circumstances, including our expectations regarding the potential impacts on our business of the COVID-19 pandemic, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Cash Equivalents and Investments

Cash equivalents consist of highly liquid investments with original maturities of three months or less.

Our cash equivalents as of the end of fiscal 2020 and 2019 are money market accounts with a fair value of $521.1 million and $313.7 million, respectively.

Fair Value

We measure certain financial assets and liabilities at fair value. When we measure fair value on either a recurring or nonrecurring basis, inputs used in valuation techniques are assigned a hierarchical level as follows:

- Level 1 inputs are observable inputs that reflect quoted prices for identical assets or liabilities in active markets.
- Level 2 inputs reflect quoted prices for identical assets or liabilities in markets that are not active; quoted prices for similar assets or liabilities in active markets; inputs other than quoted prices that are observable for the assets or liabilities; or inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- Level 3 inputs are unobservable inputs reflecting our assumptions, which are incorporated into valuation techniques and models used to determine fair value. The assumptions are consistent with market participant assumptions that are reasonably available.

Our financial assets measured at fair value are money markets, are included on a recurring basis, and are level 1 within the fair value hierarchy. As of the end of fiscal 2020 and 2019 our money market balances were $521.1 million and $313.7 million, respectively.

There were no transfers in or out of our Level 1, 2 or 3 assets during fiscal 2020 or 2019.

The fair values of our accounts receivable and accounts payable approximate their carrying values because of the short-term nature of those instruments. Intangible assets, property and equipment, and goodwill are measured at fair value on a non-recurring basis if impairment is indicated. The interest rate on our bank debt is variable, which is subject to change from time to time to reflect a market interest rate; accordingly, the carrying value of our bank debt approximates fair value.

The fair value of our $525.0 million principal amount of 0.50% convertible notes due 2022 is measured at fair value for disclosure purposes. The fair value of the convertible notes as of June 27, 2020 was approximately $542.5 million, based on the last trading price of the convertible notes for the period.

Concentration of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash equivalents, investments, and accounts receivable. Our investment policy, which is predicated on capital preservation and liquidity, limits investments to U.S. government treasuries and agency issues, taxable securities, and municipal issued securities with a minimum rating of A1 (Moody's) or P1 (Standard and Poor's) or their equivalent.

We sell our products to contract manufacturers that provide manufacturing services for OEMs, to some OEMs directly, and to distributors. We extend credit based on an evaluation of a customer's financial condition, and we generally do not require collateral.

The following customers accounted for more than 10% of our accounts receivable balance as of the end of fiscal 2020 and 2019:

	2020	2019
Customer A	21%	*
Customer B	18%	*
Customer C	*	25%
Customer D	*	16%

* Less than 10%

Other Concentrations

Our products include certain components that are currently single sourced. We believe other vendors would be able to provide similar components, however, the qualification of such vendors may require additional lead time. In order to mitigate any potential adverse impact from a supply disruption, we strive to maintain an adequate supply of critical single-sourced components.

Revenue Recognition

In May 2014, the Financial Accounting Standards Board, or FASB, issued an Accounting Standards Update, or ASU, on revenue from contracts with customers, ASU No. 2014-09, Revenue from Contracts with Customers, or the new revenue standard. The new revenue standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers.

We adopted the new revenue standard at the beginning of our fiscal 2019, using the modified retrospective method applied to all contracts not completed as of the adoption date. Results for reporting periods ending after our fiscal 2018 are presented under the new revenue standard, while prior reporting periods are not adjusted and continue to be reported in accordance with the previous revenue standard. Recognition of revenue has remained substantially unchanged under the new revenue standard as compared to the previous revenue standard. Accordingly, there was no adjustment to the fiscal 2019 opening retained earnings.

Our revenue is primarily generated from the sale of ASIC chips, either directly to a customer or to a distributor. Revenues are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to receive in exchange for those goods or services. All of our revenue, except an inconsequential amount, is recognized at a point in time, either on shipment or delivery of the product, depending on customer terms and conditions. We generally warrant our products for a period of 12 months from the date of sale and estimate probable product warranty costs at the time we recognize revenue as the warranty is considered an assurance warranty and not a performance obligation. Non-product revenue is recognized over the same period of time such performance obligations are satisfied. We then select an appropriate method for measuring satisfaction of the performance obligations.

Revenue from sales to distributors is recognized upon shipment of the product to the distributors (sell-in basis). Master sales agreements are in place with certain customers, and these agreements typically contain terms and conditions with respect to payment, delivery, warranty and supply. In the absence of a master sales agreement, we consider a customer's purchase order or our standard terms and conditions to be the contract with the customer.

Our pricing terms are negotiated independently, on a stand-alone basis. In determining the transaction price, we evaluate whether the price is subject to refund or adjustment to determine the net consideration which we expect to receive for the sale of such products. In limited situations, we make sales to certain customers under arrangements where we grant stock rotation rights, price protection and price allowances; variable consideration associated with these rights is expected to be inconsequential. These adjustments and incentives are accounted for as variable consideration, classified as other current liabilities under the new revenue standard and are shown as customer obligations in other accrued liabilities on our consolidated balance sheets. We estimate the amount of variable consideration for such arrangements based on the expected value to be provided to customers, and we do not believe that there will be significant changes to our estimates of variable consideration. When incentives, stock rotation rights, price protection, volume discounts, or price allowances are applicable, they are estimated and recorded in the period the related revenue is recognized. Stock rotation reserves are based on historical return rates and recorded as a reduction to revenue with a corresponding reduction to cost of goods sold for the estimated cost of inventory that is expected to be returned and recorded as prepaid expenses and other current assets. In limited circumstances, we enter into volume-based tiered pricing arrangements and we estimate total unit volumes under such arrangement to determine the expected transaction price for the units expected to be transferred. Such arrangements are accounted for as contract liabilities within other accrued liabilities. Sales returns liabilities are recorded as refund liabilities within other accrued liabilities.

Our accounts receivable balance is from contracts with customers and represents our unconditional right to receive consideration from customers. Payments are generally due within three months of completion of the performance obligation and subsequent invoicing and, therefore, do not include significant financing components. In fiscal 2020, there was no material bad debt charge recorded on accounts receivable. There was $0.4 million of contract assets (i.e., unbilled accounts receivable, deferred commissions) recorded on the consolidated balance sheets as of June 27, 2020, and $0.9 million as of June 29, 2019. Contract assets are presented as part of prepaid expenses and other current assets. Contract liabilities and refund liabilities were $3.2 million and $25.8 million, respectively, as of June 27, 2020, and $4.5 million and $47.5 million, respectively, as of June 29, 2019. Both contract liabilities and refund liabilities are presented as part of customer obligations in other accrued liabilities on our consolidated balance sheets. During fiscal 2020 and 2019, we recognized $2.0 million and $0.3 million, respectively, in revenue related to contract liabilities outstanding as of the beginning of each such fiscal year.

We invoice customers for each delivery upon shipment and recognize revenue in accordance with delivery terms. As of June 27, 2020, we did not have any remaining unsatisfied performance obligations with an original duration greater than one year. Accordingly, under the optional exception provided by the ASC, we do not disclose revenues allocated to future performance obligations of partially completed contracts. We have elected to account for shipping and handling costs as fulfillment costs before the customer obtains control of the goods. We continue to classify shipping and handling costs as a cost of revenue. We have elected to continue to account for collection of all taxes on a net basis.

We incur commission expense that is incremental to obtaining contracts with customers. Sales commissions (which are recorded in the selling, general and administrative expense line item in the consolidated statements of operations) are expensed when the product is shipped because such commissions are incurred after the product has been shipped.

Revenue from contracts with customers disaggregated by geographic area based on customer location and groups of similar products is presented in Note 12 Segment, Customers, and Geographical Information.

Advertising Costs

Advertising costs, if any, are expensed when incurred.

Allowance for Doubtful Accounts

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of customers to meet their financial obligations. On an ongoing basis, we evaluate the collectability of accounts receivable based on a combination of factors. In circumstances in which we are aware of a specific customer's potential inability to meet its financial obligation, we record a specific reserve of the bad debt against amounts due. In addition, we make judgments and estimates on the collectability of accounts receivable based on our historical bad debt experience, customers' creditworthiness, current economic trends, recent changes in customers' payment trends, and deterioration in customers' operating results or financial position. If circumstances change adversely, additional bad debt allowances may be required. For the fiscal year ended June 27, 2020, credit losses on our accounts receivable were $3.7 million and were insignificant in prior periods presented, and we believe that an adequate allowance for doubtful accounts has been provided.

Cost of Revenue

Our cost of revenue includes the cost of products shipped to our customers, which primarily includes the cost of products built to our specifications by our contract manufacturers, the cost of silicon wafers supplied by independent semiconductor wafer manufacturers, and the related assembly, package, and test costs of our products. Also included in our cost of revenue are personnel and related costs, including share-based compensation for quality assurance and manufacturing support personnel; logistics costs; depreciation of equipment supporting manufacturing; acquired intangibles amortization; fair value adjustments associated with acquired businesses; inventory write-downs and losses on purchase obligations; and warranty costs.

Inventories

Inventories are stated at the lower of cost (first-in, first-out method) or net realizable value as of the end of fiscal 2020 and 2019, and consisted of the following (in millions):

	2020	2019
Raw materials and work-in-progress	$ 53.6	$ 110.7
Finished goods	48.4	48.0
	$ 102.0	$ 158.7

We record a write-down, if necessary, to reduce the carrying value of inventory to its net realizable value. The effect of these write-downs is to establish a new cost basis in the related inventory, which we do not subsequently write-up. We also record a liability and charge to cost of revenue for estimated losses on inventory we are obligated to purchase from our contract manufacturers when such losses become probable from customer delays, order cancellations, or other factors. The following factors influence our estimates: changes to or cancellations of customer orders, unexpected or sudden decline in demand, rapid product improvements, technological advances, and termination or changes by our OEM customers of any product offerings incorporating our product solutions.

Property and Equipment

We state property and equipment at cost less accumulated depreciation and amortization. We compute depreciation using the straight-line method over the estimated useful lives of the assets. We amortize leasehold improvements over the shorter of the lease term or the useful life of the asset.

Other Assets

In April 2017, we paid $18.4 million for a 14.4% interest in OXi Technology Ltd., or OXi. In April 2019, our investment ownership was reduced to 13.8% as a result of new investment in OXi. Our investment in OXi is included in non-current other assets on our consolidated balance sheets. We determined the equity method of accounting applies to our investment as we have significant influence over OXi's operating and financial policies. We record our portion of OXi's net income/(loss) on a one quarter lag due to the timing of the availability of OXi's financial records. In addition, we amortize intangible assets that we recorded under the equity method of accounting, and such amortization as well as our portion of Oxi's net income/(loss) is included in equity investment loss on our consolidated statements of operations. As of June 27, 2020, we did not have any material related party transactions with OXi. As our investment in OXi is not material in relation to our financial position or results of operations, we have not summarized information as to the assets, liabilities and results of operations of OXi.

Foreign Currency

The U.S. dollar is our functional and reporting currency. We remeasure our monetary assets and liabilities not denominated in the functional currency into U.S. dollar equivalents at the rate of exchange in effect on the balance sheet date. We measure and record non-monetary balance sheet accounts at the historical rate in effect at the date of transaction. We remeasure foreign currency expenses at the weighted average exchange rate in the month that the transaction occurred. These foreign currency transactions and remeasurement gains and losses, resulted in a net gain of $0.2 million in fiscal 2020 and a net loss of $1.1 million in each of fiscal 2019 and 2018. Gains and losses resulting from foreign currency transactions are included in selling, general, and administrative expenses in the consolidated statements of operations.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of net tangible and identifiable intangible assets acquired. Changes in our goodwill balance for fiscal 2020 and 2019 were as follows (in millions):

	2020	2019
Beginning balance	$ 372.8	$ 372.8
Goodwill allocated to sale of product line	(12.0)	—
Ending balance	$ 360.8	$ 372.8

We have allocated our goodwill to two reporting units. We perform a qualitative assessment of the goodwill in the fourth quarter of each fiscal year, or earlier if a triggering event occurs. In assessing the qualitative factors, we considered the impact of key factors including change in industry and competitive environment, potential impacts on our business of the COVID-19 pandemic, market capitalization, stock price, gross margin and cash flow from operating activities. During fiscal 2020, the sale of TDDI was a triggering event which required us to allocate goodwill to TDDI which was included in the gain on sale of the product line. During our qualitative assessment in fiscal 2020, we determined there were no additional triggering events which led us to performing a step 1 quantitative assessment. We concluded that the fair value of each reporting unit exceeded its carrying amount by a significant amount, therefore, there was no need for impairment. No goodwill impairment was recognized for fiscal 2020, 2019, and 2018.

Impairment of Long-Lived Assets

We evaluate long-lived assets, such as property and equipment and intangible assets subject to amortization, for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. We measure recoverability of assets to be held and used by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. We review the carrying value of indefinite-lived intangible assets for impairment at least annually during the last quarter of our fiscal year, or more frequently if we believe indicators of impairment exist. If the carrying amount of the asset exceeds its estimated undiscounted future cash flows, we recognize an impairment charge in an amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of would be separately presented in the consolidated balance sheets and reported at the lower of the carrying amount or fair value less costs to sell and would no longer be depreciated. The assets and liabilities of a disposed group classified as held for sale would be presented separately in the appropriate asset and liability sections of the consolidated balance sheets. No impairment of long-lived assets was recognized for fiscal 2020, 2019 and 2018.

Leases

We determine if a contract is a lease or contains a lease at the inception of the contract and reassess that conclusion if the contract is modified. All leases are assessed for classification as an operating lease or a finance lease. Operating lease right-of-use, or ROU, assets are included in non-current other assets on our consolidated balance sheet. Operating lease liabilities are separated into a current portion, included within other accrued liabilities on our consolidated balance sheet, and a non-current portion, included within other long-term liabilities on our consolidated balance sheet. We do not have any finance lease ROU assets or liabilities. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. We do not obtain and control the right to use the identified asset until the lease commencement date.

Our lease liabilities are recognized at the applicable lease commencement date based on the present value of the lease payments required to be paid over the lease term. Because the interest rate implicit in the lease is not readily determinable, we generally use our incremental borrowing rate to discount the lease payments to present value. The estimated incremental borrowing rate is derived from information available at the lease commencement date. We factor in publicly available data for instruments with similar characteristics when calculating our incremental borrowing rates. Our ROU assets are also recognized at the applicable lease commencement date. The ROU asset equals the carrying amount of the related lease liability, adjusted for any lease payments made prior to lease commencement and lease incentives provided by the lessor. Variable lease payments are expensed as incurred and do not factor into the measurement of the applicable ROU asset or lease liability.

The term of our leases equals the non-cancellable period of the lease, including any rent-free periods provided by the lessor, and also include options to renew or extend the lease (including by not terminating the lease) that we are reasonably certain to exercise. We establish the term of each lease at lease commencement and reassess that term in subsequent periods if a triggering event occurs. Operating lease cost for lease payments is recognized on a straight-line basis over the lease term.

Our lease contracts often include lease and non-lease components. For our leases, we have elected the practical expedient offered by the standard to not separate lease from non-lease components and account for them as a single lease component.

We have elected, for all classes of underlying assets, not to recognize ROU assets and lease liabilities for leases with a term of twelve months or less. Lease cost for short-term leases is recognized on a straight-line basis over the lease term.

Other Accrued Liabilities and Other Long-Term Liabilities

As of the end of fiscal 2020 and 2019, other accrued liabilities consisted of the following (in millions):

	2020	2019
Customer obligations	$ 29.0	$ 52.0
Inventory obligations	27.9	26.7
Warranty	3.9	4.0
Other	30.2	23.4
	$ 91.0	$ 106.1

As of the end of fiscal 2020 and 2019, other long-term accrued liabilities consisted of the following (in millions):

	2020	2019
Income taxes payable, long-term	$ 16.4	$ 16.2
Operating lease liabilities, long-term	14.6	—
Other	13.0	14.1
	$ 44.0	$ 30.3

Retention Costs

Retention costs reflect the cost associated with retention agreements entered into with key employees designed to ensure their continued commitment to the support and management of the operations of the company during the transition to new executive leadership. The retention period for employees covered under the retention program continues through November 2020. For the year ended June 27, 2020, retention costs were recorded in the following areas: cost of revenue $0.5 million, research and development $8.4 million and selling, general and administrative $5.0 million. For the year ended June 29, 2019, retention costs were previously reported as one separate line in operating expenses and were reclassified in this report to be consistent with the current year presentation and were recorded in the following areas: research and development $1.5 million and selling, general and administrative $0.9 million. There were no retention costs in the year ended June 30, 2018.

Segment Information

We operate in one segment: the development, marketing, and sale of human interface semiconductor solutions for electronic devices and products. The chief operating decision maker, or CODM, at the beginning of our fiscal year ended June 27, 2020 was our Board of Directors collectively, on a temporary basis until our new chief executive officer, or CEO, was hired in August 2019, whereupon our CEO became the CODM. Our CODM evaluates financial performance and allocates resources using financial information reported on a company-wide basis.

Share-Based Compensation

We charge the estimated fair value less actual forfeitures to earnings on a straight-line basis over the vesting period of the entire underlying award, which is generally three to four years for our restricted stock units, or RSU, awards and stock options, three years for our market stock units, or MSU, awards, three years for our performance stock units, or PSU, awards, up to two years for shares purchased under our 2010 employee stock purchase plan and up to one year for shares purchased under our 2019 employee stock purchase plan .

We estimate the fair value of market-based MSUs at the date of grant using a Monte Carlo simulation model and amortize those fair values over the requisite service period, which is generally three years. The Monte Carlo simulation model that we use to estimate the fair value of market-based MSUs at the date of grant incorporates into the valuation the possibility that the market condition may not be satisfied. Provided that the requisite service is rendered, the total fair value of the market-based MSUs at the date of grant must be recognized as compensation expense even if the market condition is not achieved. However, the number of shares that ultimately vest can vary significantly with the performance of the specified market criteria.

We value PSUs using the aggregate intrinsic value on the date of grant and amortize the compensation expense over the three-year service period on a ratable basis, dependent upon the probability of meeting the performance measures.

We recognize compensation expense for phantom stock units on a straight-line basis for each tranche of each award based on the average closing price of our common stock over the thirty calendar days ended prior to each balance sheet date.

We utilize the Black-Scholes option pricing model to estimate the grant date fair value of stock options granted to employees, which requires the input of highly subjective assumptions, including expected volatility and expected life. Historical and implied volatilities were used in estimating the fair value of our stock option awards. The contractual life of our outstanding options is seven years. No options were granted in fiscal 2020 or 2019.

Income Taxes

We account for income taxes under the asset and liability method. We recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and operating loss and tax credit carryforwards. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. We recognize the effect of a change in tax rates in income on deferred tax assets and liabilities in the period that includes the enactment date. We establish valuation allowances when necessary to reduce deferred tax assets to the amounts that are more likely than not to be realized.

We use a two-step approach to recognizing and measuring uncertain tax positions. The first step is to determine whether it is more-likely-than-not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement with a taxing authority. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of highly complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our consolidated financial position, results of operations, and cash flows. We believe we have adequately provided for reasonably foreseeable outcomes in connection with the resolution of income tax uncertainties. However, our results have in the past, and could in the future, include favorable and unfavorable adjustments to our estimated tax liabilities in the period a determination of such estimated tax liability is made or resolved, upon the filing of an amended return, upon a change in facts, circumstances, or interpretation, or upon the expiration of a statute of limitation. Accordingly, our effective tax rate could fluctuate materially from period to period.

Research and Development

Research and development costs are expensed as incurred.

2. Net Income/(Loss) Per Share

The computation of basic and diluted net income/(loss) per share for fiscal 2020, 2019, and 2018 was as follows (in millions, except per share amounts):

	2020	2019	2018
Numerator:			
Net income/(loss)	$ 118.8	$ (22.9)	$ (124.1)
Denominator:			
Shares, basic	33.6	34.6	34.2
Effect of dilutive share-based awards	1.2	—	—
Shares, diluted	34.8	34.6	34.2
Net income/(loss) per share:			
Basic	$ 3.54	$ (0.66)	$ (3.63)
Diluted	$ 3.41	$ (0.66)	$ (3.63)

Diluted net income per share does not include the effect of potential common shares related to certain share-based awards for fiscal 2020, 2019, and 2018 as follows (in millions):

	2020	2019	2018
Share-based awards	0.7	2.2	2.3

These share-based awards were not included in the computation of diluted net income per share because the proceeds received, if any, from such share-based awards combined with the average unamortized compensation costs, were greater than the average market price of our common stock, and therefore, their effect would have been antidilutive.

Our basic net income per share amounts for each period presented have been computed using the weighted average number of shares of common stock outstanding. Our diluted net income per share amounts for each period presented include the weighted average effect of potentially dilutive shares. We used the “treasury stock” method to determine the dilutive effect of our stock options, RSUs, MSUs, PSUs and our convertible notes.

3. Property and Equipment

Property and equipment as of the end of fiscal 2020 and 2019 consisted of the following (in millions):

	Life	2020	2019
Land	—	$ 13.3	$ 13.3
Building and building improvements	Up to 35 years	52.7	52.7
Computer equipment	3 - 5 years	41.6	48.2
Manufacturing equipment	1 - 5 years	51.9	63.0
Furniture, fixtures, and leasehold improvements	3 - 10 years	25.2	25.1
Capitalized software	3 - 7 years	30.8	33.8
		215.5	236.1
Accumulated depreciation and amortization		(131.2)	(133.1)
Property and equipment, net		$ 84.3	$ 103.0

In fiscal 2020 and 2019, there was $16.6 million and $16.8 million, respectively, of property and equipment retired which was fully amortized.

4. Divestiture

In April 2020, we completed the sale of the assets of our LCD Touch Controller and Display Driver Integration product line, or TDDI, for LCD mobile displays. We retained our automotive TDDI product line and our discrete touch and discrete display driver product lines supporting LCD and OLED for the mobile market. The assets sold under the asset purchase agreement had a carrying value of approximately $33.6 million as of the closing date of the transaction for cash consideration of $138.7 million. The gain on sale of the assets was $105.1 million.

5. Acquired Intangibles

The following table summarizes the life, the gross carrying value of our acquired intangible assets, and the related accumulated amortization as of the end of fiscal 2020 and 2019 (in millions):

		2020			2019		
	Weighted Average Life in Years	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Display driver technology	5.3	$ 164.0	$ (158.2)	$ 5.8	$ 164.0	$ (148.1)	$ 15.9
Audio and video technology	5.4	138.6	(76.5)	62.1	138.6	(49.4)	89.2
Customer relationships	4.1	81.8	(61.4)	20.4	81.8	(49.9)	31.9
Fingerprint authentication technology	Not applicable	—	—	—	47.2	(47.2)	—
Licensed technology and other	4.2	7.7	(5.5)	2.2	7.7	(3.6)	4.1
Patents	8.0	4.4	(2.6)	1.8	4.4	(2.0)	2.4
Tradename	7.0	1.8	(0.7)	1.1	1.8	(0.5)	1.3
Acquired intangibles, gross	5.1	$ 398.3	$ (304.9)	$ 93.4	$ 445.5	$ (300.7)	$ 144.8

In fiscal 2020, there was $47.2 million of fingerprint authentication technology retired which was fully amortized. In fiscal 2019, there was $8.5 million of fingerprint developed technology, $1.3 million of licensed technology and other, $0.5 million of backlog and $0.2 million of patents retired which were fully amortized.

Amortization expense is calculated using the straight-line method over the estimated useful lives of the acquired intangibles. The total amortization expense for the acquired intangible assets was $51.4 million in fiscal 2020, $74.4 million in fiscal 2019, and $83.9 million in fiscal 2018. This amortization expense was included in our consolidated statements of operations as acquired intangibles amortization and cost of revenue.

The following table presents expected annual aggregate amortization expense in future fiscal years (in millions):

2021	$	37.5
2022		32.9
2023		20.4
2024		2.5
2025		0.1
Future amortization	$	93.4

6. Debt

Convertible Debt

On June 20, 2017, we entered into a purchase agreement, or the Purchase Agreement, with Wells Fargo Securities, LLC, as representative of the initial purchasers named therein, or collectively, the Initial Purchasers, pursuant to which we issued and sold, and the Initial Purchasers purchased, $500 million aggregate principal amount of our 0.50% convertible senior notes due 2022, or the Notes, in a private placement transaction. Pursuant to the Purchase Agreement, we also granted the Initial Purchasers a 30-day option to purchase up to an additional $25 million aggregate principal amount of Notes, which was exercised in full on June 21, 2017. The net proceeds, after deducting the Initial Purchasers' discounts, were $514.5 million, which included proceeds from the Initial Purchasers' exercise of their option to purchase additional Notes. We received the net proceeds on June 26, 2017, which we used to repurchase 1,698,400 shares of our common stock, to retire our outstanding bank debt, and to provide additional cash resources to fund the Conexant and Marvell Business Acquisitions.

The Notes bear interest at a rate of 0.50% per year. Interest accrued from June 26, 2017, and is payable semi-annually in arrears, on June 15 and December 15 of each year, beginning on December 15, 2017. The Notes are senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment to any our liabilities that are not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries.

The Notes will mature on June 15, 2022, or the Maturity Date, unless earlier repurchased, redeemed or converted.

Holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at their option at any time prior to the close of business on the business day immediately preceding March 15, 2022 under certain defined circumstances.

On or after March 15, 2022 until the close of business on the business day immediately preceding the Maturity Date, holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at the option of the holder. Upon conversion, we will pay or deliver, at our election, shares of common stock, cash, or a combination of cash and shares of common stock.

The conversion rate for the Notes is initially 13.6947 shares of common stock per $1,000 principal amount of Notes (equivalent to an initial conversion price of approximately $73.02 per share of common stock). The conversion rate is subject to adjustment in certain circumstances.

Upon the occurrence of a fundamental change (as defined in the Notes indenture), holders of the Notes may require us to repurchase for cash all or a portion of their Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest up to, but excluding, the fundamental change repurchase date.

Commencing June 20, 2020, we may redeem for cash all or any portion of the Notes, at our option, if the last reported sale price of our common stock, as determined by us, has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide notice of redemption at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest up to, but excluding, the redemption date. This criteria has not been met as of June 27, 2020. Our policy is to settle the principal amount of our Notes with cash upon conversion or redemption.

As of the issuance date of the Notes, we recorded $82.1 million of the principal amount to equity, representing the debt discount for the difference between our estimated nonconvertible debt borrowing rate of 4.39% and the coupon rate of the Notes of 0.50% using a five-year life, which coincides with the term of the Notes. In addition, we allocated the total of $11.1 million of debt issuance costs, consisting of the Initial Purchaser's discount of $10.5 million and legal, accounting, and printing costs of $579,000, pro rata, to the equity and debt components of the Notes, or $1.9 million and $9.2 million, respectively. The debt discount and the debt issuance costs allocated to the debt component are amortized as interest expense using the effective interest method over five years.

The contractual interest expense and amortization of discount on the Notes for fiscal 2020, were as follows (in millions):

	Fiscal 2020
Interest expense	$ 2.6
Amortization of discount and debt issuance costs	18.3
Total interest	$ 20.9

The unamortized amounts of the debt issuance cost and discount associated with the Notes as of June 27, 2020, were $3.8 million and $34.5 million, respectively.

Revolving Credit Facility

In February 2020, we entered into the First Amendment to Amended and Restated Credit Agreement, or the Amendment, with the lenders that are party thereto, or the Lenders, and Wells Fargo Bank, National Association, as administrative agent for the Lenders, related to that certain Amended and Restated Credit Agreement, dated September 27, 2017, or the Credit Agreement. Pursuant to the Amendment, the Credit Agreement was amended to, among other things, (i) modify the definition of Consolidated EBITDA (as defined in the Credit Agreement) to increase the maximum limit on the add back of certain restructuring and integration cost and expenses to 30% from 15% of Consolidated EBITDA, (ii) modify the negative covenant for Consolidated Total Leverage Ratio (as defined in the Credit Agreement) at the end of any fiscal quarter to 4.75:1.00 from 3.50:1.00, and for any four quarter period following a Material Acquisition (as defined in the Credit Agreement) to 5:00:1.00 from 3.75:1.00, (iii) modify the circumstances under which the maturity date of the Credit Agreement would be accelerated in advance of the maturity date of the Notes to eliminate the acceleration of the maturity date of the Credit Agreement if we meet certain specified leverage and liquidity covenants, (iv) add a minimum liquidity covenant for each two-week period beginning on the date that is 120 days prior to the maturity date of the Notes, (v) add certain technical amendments to address LIBOR transition matters, and (vi) include or revise certain definitions and certain customary representation, warranties and acknowledgments.

The Credit Agreement provides for a revolving credit facility in a principal amount of up to $200 million, which includes a $20 million sublimit for letters of credit and a $20 million sublimit for swingline loans. Under the terms of the Credit Agreement, we may, subject to the satisfaction of certain conditions, request increases in the revolving credit facility commitments in an aggregate principal amount of up to $100 million to the extent existing or new lenders agree to provide such increased or additional commitments, as applicable. Future proceeds under the revolving credit facility are available for working capital and general corporate purposes. As of June 27, 2020, there was a $100.0 million balance outstanding under the revolving credit facility. The weighted average annualized interest rate on these borrowings for the year ended June 27, 2020 was 2.75%.

The revolving credit facility is required to be repaid in full on the earlier of (i) September 27, 2022, and (ii) the date 91 days prior to the Maturity Date of the Notes if the Notes have not been refinanced in full by such date, subject to certain exceptions. Debt issuance costs relating to the revolving credit facility of $2.3 million, included in non-current other assets on our consolidated balance sheet, are being amortized over 60 months.

Our obligations under the Credit Agreement are guaranteed by the material domestic subsidiaries of our company, subject to certain exceptions (such material subsidiaries, together with our company, collectively, the Credit Parties). The obligations of the Credit Parties under the Credit Agreement and the other loan documents delivered in connection therewith are secured by a first priority security interest in substantially all of the existing and future personal property of the Credit Parties, including, without limitation, 65% of the voting capital stock of certain of the Credit Parties' direct foreign subsidiaries, subject to certain exceptions.

The revolving credit facility bears interest at our election of a Base Rate plus an Applicable Margin or LIBOR plus an Applicable Margin. Swingline loans bear interest at a Base Rate plus an Applicable Margin. The Base Rate is a floating rate that is the greater of the Prime Rate, the Federal Funds Rate plus 50 basis points, or LIBOR plus 100 basis points. The Applicable Margin is based on a sliding scale which ranges from 0.25 to 100 basis points for Base Rate loans and 100 basis points to 175 basis points for LIBOR loans. We are required to pay a commitment fee on any unused commitments under the Credit Agreement which is determined on a leverage-based sliding scale ranging from 0.175% to 0.25% per annum. Interest and fees are payable on a quarterly basis. The LIBOR index is expected to be discontinued at the end of 2021. Under our credit facility, when the LIBOR index is discontinued, we will switch to a comparable or successor rate as selected by us and the Administrative Agent, which may include the Secured Overnight Financing Rate, or SOFR.

Under the Credit Agreement, there are various restrictive covenants, including three financial covenants which limit the consolidated total leverage ratio, or leverage ratio, the consolidated interest coverage ratio, or interest coverage ratio, a restriction which places a limit on the amount of capital expenditures that may be made in any fiscal year, a restriction that permits up to $50 million per fiscal quarter of accounts receivable financings, and sets the Specified Leverage Ratio. The leverage ratio is the ratio of debt as of the measurement date to earnings before interest, taxes, depreciation and amortization, or EBITDA, for the four consecutive quarters ending with the quarter of measurement. The current leverage ratio shall not exceed 4.75 to 1.00 provided that for the four fiscal quarters ending after the date of a material acquisition, such maximum leverage ratio shall be adjusted to 5.0 to 1.00, and thereafter 4.75 to 1.0. The interest coverage ratio is EBITDA to interest expense for the four consecutive quarters ending with the quarter of measurement. The interest coverage ratio must not be less than 3.50 to 1.0 during the term of the Credit Agreement. The Specified Leverage Ratio is the ratio used in determining, among other things, whether we are permitted to make dividends and/or prepay certain indebtedness, at a fixed ratio of 2.25 to 1.00 As of June 27, 2020, we were in compliance with the restrictive covenants.

7. Leases, Commitments and Contingencies

Leases

On June 29, 2019, we adopted Accounting Standards Codification Topic 842, or ASC 842, Leases, which requires recognition of ROU assets and lease liabilities for most leases on our consolidated balance sheet. We adopted ASC 842 using a modified retrospective transition approach as of the effective date as permitted. As a result, we were not required to adjust our comparative period financial information for effects of the standard or make the new required lease disclosures for the periods before the date of adoption. We elected the package of practical expedients which allows us not to reassess (1) whether existing or expired contracts, as of the adoption date, contain leases, (2) the lease classification for existing leases, and (3) whether existing initial direct costs meet the new definition. We also elected the practical expedient to not separate lease and non-lease components for our leases, and to not recognize ROU assets and liabilities for short-term leases.

The most significant impact of the adoption of the standard was the recognition of ROU assets and lease liabilities for operating leases on our consolidated balance sheet. Adoption of the standard did not have a material impact on our consolidated statements of operations or cash flows.

The adoption of this new standard at June 29, 2019, resulted in the following changes:

- assets increased by $27.8 million, primarily representing the recognition of ROU assets for operating leases; and
- liabilities increased by $28.4 million, primarily representing the recognition of lease liabilities for operating leases.

Our leases mainly include our worldwide office and research and development facilities which are all classified as operating leases. Certain leases include renewal options that are under our discretion. The leases expire at various dates through fiscal year 2028, some of which include options to extend the lease for up to 5 years. For the fiscal year ended June 27, 2020, we recorded approximately $8.8 million of operating leases expense. Our short-term leases are immaterial and we do not have finance leases.

As of June 27, 2020, the components of leases are as follows (in millions):

	June 2020
Operating lease right-of-use assets	$ 21.0
Operating lease liabilities	$ 6.5
Operating lease liabilities, long-term	14.6
Total operating lease liabilities	$ 21.1

Supplemental cash flow information related to leases is as follows (in millions):

	Fiscal 2020
Cash paid for operating leases included in operating cash flows	$ 8.4
Supplemental non-cash information related to lease liabilities arising from obtaining right-of-use assets	2.9

As of June 27, 2020, the weighted average remaining lease term was 4.09 years, and the weighted average discount rate was 4.01%.

Future minimum lease payments for the operating lease liabilities are as follows (in millions):

Fiscal Year	Operating Lease Payments
2021	$ 7.2
2022	6.7
2023	3.6
2024	2.1
2025	1.1
Thereafter	2.1
Total future minimum operating lease payments	22.8
Less: interest	(1.7)
Total lease liabilities	$ 21.1

We recognized rent expense on a straight-line basis of $10.3 million, and $12.0 million for fiscal 2019 and 2018, respectively.

As of June 29, 2019, prior to the adoption of ASC 842, future minimum lease payments under non-cancelable operating leases were as follows (in millions):

Fiscal Year	Operating Lease Payments
2020	$ 7.4
2021	3.2
2022	0.9
2023	0.3
2024	0.1
Total future minimum operating lease payments	$ 11.9

Contingencies

We have in the past and may in the future receive notices from third parties that claim our products infringe their intellectual property rights. We cannot be certain that our technologies and products do not and will not infringe issued patents or other proprietary rights of third parties.

Any infringement claims, with or without merit, could result in significant litigation costs and diversion of management and financial resources, including the payment of damages, which could have a material adverse effect on our business, financial condition, and results of operations.

Indemnifications

In connection with certain agreements, we are obligated to indemnify the counterparty against third party claims alleging infringement of certain intellectual property rights by us. We have also entered into indemnification agreements with our officers and directors. Maximum potential future payments under these agreements cannot be estimated because these agreements do not have a maximum stated liability. However, historical costs related to these indemnification provisions have not been significant. We have not recorded any liability in our consolidated financial statements for such indemnification obligations.

8. Stockholders' Equity

Preferred Stock

We are authorized, subject to limitations imposed by Delaware law, to issue up to a total of 10,000,000 shares of preferred stock in one or more series without stockholder approval. Our Board of Directors has the power to establish, from time to time, the number of shares to be included in each series and to fix the rights, preferences, and privileges of the shares of each wholly unissued series and any of its qualifications, limitations, or restrictions. Our Board of Directors can also increase or decrease the number of shares of a series, but not below the number of shares of that series then outstanding, without any further vote or action by the stockholders.

Our Board of Directors may authorize the issuance of preferred stock with voting or conversion rights that could harm the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, or preventing a change in control of our company and might harm the market price of our common stock and the voting power and other rights of the holders of our common stock. As of the end of fiscal 2020, there were no shares of preferred stock outstanding.

Shares Reserved for Future Issuance

Shares of common stock reserved for future issuance as of the end of fiscal 2020 were as follows:

Stock options outstanding	329,786
Restricted stock units outstanding	1,360,324
Market stock units outstanding	391,532
Performance stock units outstanding	333,848
Awards available for grant under all share-based compensation plans	3,190,152
Reserved for future issuance	5,605,642

Treasury Stock

Our cumulative authorization of repurchases under our common stock repurchase program as of the end of fiscal 2020 was $1.4 billion, which is set to expire in July 2021. The program authorizes us to repurchase our common stock in the open market or in privately negotiated transactions depending upon market conditions and other factors. The number of shares repurchased and the timing of repurchases is based on the level of our cash balances, general business and market conditions, and other factors, including alternative investment opportunities. Common stock repurchased under this program is held as treasury stock. As of the end of fiscal 2020, we had $177.4 million of common stock remaining to be repurchased under our common stock repurchase program.

9. Share-Based Compensation

The purpose of our various share-based compensation plans is to attract, motivate, retain, and reward high-quality employees, directors, and consultants by enabling such persons to acquire or increase their proprietary interest in our common stock in order to strengthen the mutuality of interests between such persons and our stockholders and to provide such persons with annual and long-term performance incentives to focus their best efforts on the creation of stockholder value. Consequently, we determine whether to grant share-based compensatory awards subsequent to the initial award for our employees and consultants primarily on individual performance.

New Share-Based Compensation Plans

On October 29, 2019, our stockholders approved: (i) our 2019 Equity and Incentive Compensation Plan, or the 2019 Incentive Plan, to replace our Amended and Restated 2010 Incentive Compensation Plan, or the 2010 Incentive Plan, and (ii) our 2019 Employee Stock Purchase Plan, or the 2019 ESPP, to replace our Amended and Restated 2010 Employee Stock Purchase Plan, or our 2010 ESPP. Upon approval of the 2019 Incentive Plan, new awards are no longer issued under the 2010 Incentive Plan. Awards outstanding at October 29, 2019 under our prior share-based compensation plans were not impacted by the approval of the 2019 Incentive Plan and continue to remain outstanding and vest by their terms under the applicable share-based compensation plan.

The 2019 Incentive Plan authorizes our Board of Directors to provide equity-based compensation in the form of stock options, stock appreciation rights, restricted stock, cash incentive awards, performance shares, performance stock units, and other stock-based awards. The number of shares approved by stockholders under the 2019 Incentive Plan was 1,230,000. The 2019 ESPP authorizes the Company to provide eligible employees with an opportunity to acquire an equity interest in the Company through the purchase of stock at a discount, with an initial authorization of 1,500,000 shares.

Effective August 19, 2019, we adopted the 2019 Inducement Equity Plan. 650,000 shares of our common stock have been reserved for issuance under the 2019 Inducement Equity Plan, subject to adjustment for stock dividends, stock splits, or other changes in our common stock or capital structure. The 2019 Inducement Equity Plan is intended to comply with Rule 5635(c)(4) of the Nasdaq Stock Market Listing Rules, which provide an exception to the Nasdaq Stock Market Listing Rules' on the shareholder approval requirement for the issuance of securities with regards to grants to employees of the Company or its subsidiaries as an inducement material to such individuals entering into employment with the Company or its subsidiaries. An individual is eligible to receive an award under the 2019 Inducement Equity Plan only if he or she was not previously an employee or director of our Company (or is returning to work after a bona-fide period of non-employment), and an award under the 2019 Inducement Equity Plan is a material inducement for him or her to accept employment with our Company.

Our share-based compensation plans with outstanding awards consist of our 2010 Incentive Plan, our 2019 Incentive Plan, our 2019 Inducement Equity Plan, and our 2019 ESPP.

Share-based compensation awards available for grant or issuance for each plan as of the beginning of the fiscal year, including changes in the balance of awards available for grant for fiscal 2020, were as follows:

	Awards Available Under All Share-Based Award Plans	2019 Incentive Compensation Plan	2019 Employee Inducement Equity Plan	2019 Employee Stock Purchase Plan	2010 Incentive Compensation Plan	2010 Employee Stock Purchase Plan
Balance at June 2019	2,891,466	—	—	—	2,743,563	147,903
Additional shares authorized	3,508,175	1,230,000	650,000	1,500,000	—	128,175
Transferred between plans	—	705,452	—	—	(705,452)	—
Stock options granted	—	—	—	—	—	—
Restricted stock units granted	(742,586)	(320,032)	(92,813)	—	(329,741)	—
Market stock units granted	(359,336)	(140,381)	(187,958)	—	(30,997)	—
Performance stock units granted	(335,966)	(130,110)	(20,449)	—	(185,407)	—
Performance stock units performance adjustment	10,242	—	—	—	10,242	—
Market stock units performance adjustment	58,707	—	—	—	58,707	—
Purchases under employee stock purchase plan	(346,502)	—	—	(71,029)	—	(275,473)
Forfeited	1,186,383	67,472	—	—	1,118,911	—
Fungible share ratio adjustment	(308,424)	—	—	—	(308,424)	—
Plan shares no longer available for grant	(2,371,402)	—	—	—	(2,371,402)	—
Plan shares cancelled	(605)	—	—	—	—	(605)
Balance at June 2020	3,190,152	1,412,401	348,780	1,428,971	—	—

Share-based compensation and the related tax benefit recognized in our consolidated statements of income for fiscal 2020, 2019, and 2018 were as follows (in millions):

	2020	2019	2018
Cost of revenue	$ 2.1	$ 3.1	$ 3.2
Research and development	32.3	33.7	38.6
Selling, general, and administrative	26.0	22.2	29.5
Total	$ 60.4	$ 59.0	$ 71.3
Income tax benefit on share-based compensation	$ 6.3	$ 4.3	$ 11.1

Included in the preceding table is share-based compensation for our cash-settled phantom stock units, which we granted in October 2019 (see *Phantom Stock Units* below) (in millions):

		2020
Cost of revenue	$	0.2
Research and development		9.1
Selling, general, and administrative		1.8
Total	$	11.1

We recognize a tax benefit upon expensing certain share-based awards associated with our share-based compensation plans, including nonqualified stock options, RSUs, market stock units, or MSUs, and PSUs, but we cannot recognize a tax benefit concurrent with the recognition of share-based compensation expenses associated with incentive stock options and employee stock purchase plan shares (qualified stock awards). For qualified stock awards we recognize a tax benefit only in the period when disqualifying dispositions of the underlying stock occur, which historically has been up to several years after vesting and in a period when our stock price substantially increases.

We determine excess tax benefit using the long-haul method in which we compare the actual tax benefit associated with the tax deduction from share-based award activity to the hypothetical tax benefit based on the grant date fair values of the corresponding share-based awards. Tax benefit associated with excess tax deduction creditable to income tax provision is recognized when incurred. Tax deficiency associated with a tax shortfall is debited to income tax provision when incurred.

Historically, we have issued new shares in connection with our share-based compensation plans, however, treasury shares are also available for issuance. Any additional shares repurchased under our common stock repurchase program will be available for issuance under our share-based compensation plans.

Stock Options

Our share-based compensation plans with outstanding stock option awards include our 2010 Incentive Plan. Under our 2010 Incentive Plan, we were able to grant incentive stock options or nonqualified stock options to purchase shares of our common stock at not less than 100% of the fair market value, or FMV, on the date of grant. Option granting ceased in fiscal 2018.

Options granted under our 2010 Incentive Plan generally vest three to four years from the vesting commencement date and expire seven years after the date of grant if not exercised.

Certain stock option activity for fiscal 2020 and balances as of the end of fiscal 2020 were as follows:

	Stock Option Awards Outstanding		Weighted Average Exercise Price		Intrinsic Value (In millions)
Balance at June 2019	1,191,929	$	59.07		
Exercised	(542,776)		44.03		
Forfeited	(8,117)		50.70		
Expired	(311,250)		74.16		
Balance at June 2020	329,786		69.78	$	0.4
Exercisable at June 2020	329,057		69.83	$	0.4

The aggregate intrinsic value was determined using the closing price of our common stock on the last trading day of fiscal 2020, or June 26, 2020, of $56.26 and excludes the impact of options that were not in-the-money. Approximately 23% of the stock option awards outstanding were vested and in-the-money as of the end of fiscal 2020.

At the end of fiscal 2020, we estimated that we have 0.3 million fully vested options with an aggregate intrinsic value of $0.4 million, having a weighted average exercise price of $69.83 and a weighted average remaining contractual term of 1.7 years.

Cash received and the aggregate intrinsic value of stock options exercised for fiscal 2020, 2019, and 2018 were as follows (in millions):

	2020	2019	2018
Cash received	$ 23.9	$ 5.2	$ 16.7
Aggregate intrinsic value	$ 10.8	$ 2.4	$ 15.2

There were no stock options granted in fiscal 2020 or 2019. The fair value of each award granted under our share-based compensation plans for fiscal 2018 was estimated at the date of grant using the Black-Scholes option pricing model, assuming no expected dividends and the following range of assumptions:

	2018
Expected volatility	46.2%
Expected life in years	4.4
Risk-free interest rate	1.8%
Fair value per award	$ 18.04

The unrecognized share-based compensation costs for stock options granted under our various plans was less than $0.1 million as of the end of fiscal 2020, to be recognized over a weighted average period of approximately 0.11 years.

Restricted Stock Units

Our 2019 Incentive Plan and our 2019 Inducement Equity Plan provide for the grant of RSUs to our employees, consultants, and directors, and previously our 2010 Incentive Plan provided for the grant of deferred stock units, or DSUs, to our employees, consultants, and directors. An RSU and a DSU are each a promise to deliver shares of our common stock at a future date in accordance with the terms of the grant agreement and the words can be used interchangeably. We began granting DSUs in January 2006 and RSUs in 2019. The use of RSUs will cover the meaning of both RSUs and DSUs.

RSUs granted generally vest ratably over three to four years from the vesting commencement date. Delivery of shares under the plans take place on the quarterly vesting dates. At the delivery date, we withhold shares to cover applicable statutory minimum tax withholding for grantees subject to withholding and deliver a net quantity of shares to the grantee after such withholding. Until delivery of shares, the grantee has no rights as a stockholder with respect to any shares underlying the RSU award.

RSU activity, including RSUs granted, delivered, and forfeited in fiscal 2020, and the balance and aggregate intrinsic value of RSUs as of the end of fiscal 2020 was as follows:

	RSU Awards Outstanding	Aggregate Intrinsic Value (in millions)	Weighted Average Grant Date Fair Value
Balance at June 2019	1,878,853		$ 40.90
Granted	742,586		46.26
Delivered	(845,550)		43.75
Forfeited	(415,565)		39.77
Balance at June 2020	1,360,324	$ 76.5	42.40

Of the shares delivered, 200,587 shares valued at $8.4 million were withheld to meet statutory tax withholding requirements. The aggregate intrinsic value was determined using the closing price of our common stock on the last trading day of fiscal 2020, or June 26, 2020, of $56.26.

The unrecognized share-based compensation cost for RSUs granted under our 2019 Incentive Plan, our 2019 Inducement Equity Plan and our 2010 Incentive Plan was approximately $41.5 million as of the end of fiscal 2020, which will be recognized over a weighted average period of approximately 2.04 years. The aggregate market value of RSUs delivered in fiscal 2020, 2019, and 2018 was $36.0 million, $35.7 million, and $21.4 million, respectively.

Market Stock Units

Our 2019 Incentive Plan and our 2019 Inducement Equity Plan provide for the grant of MSU awards, to our employees, consultants, and directors. An MSU is a promise to deliver shares of our common stock at a future date based on the achievement of market-based performance requirements in accordance with the terms of the MSU grant agreement.

We have granted MSUs to our executive officers and other management members, which are designed to vest in three tranches with the target quantity for each tranche equal to one-third of the total MSU grant. The first tranche vests based on a one-year performance period; the second tranche vests based on a two-year performance period; and the third tranche vests based on a three-year performance period. Performance is measured based on the achievement of a specified level of total stockholder return, or TSR, relative to the TSR of the S&P Semiconductor Select Industry Index, or Index, for grants made beginning in fiscal 2018. The potential payout ranges from 0% to 200% of the grant target quantity and is adjusted on a two-to-one ratio based on our TSR performance relative to the Index TSR using the following formula:

(100% + ([Synaptics TSR—{Index TSR}] x 2))

The payout for tranche one and two will not exceed 100% and the payout for tranche three will be calculated based on the total target quantity for the entire grant multiplied by the payout factor, based on performance for the three-year performance period, less shares issued for the first tranche and the second tranche. In the event the performance for the three-year performance period results in a payout that is less than the combined payout of tranche one and two, we do not claw-back shares delivered in the earlier performance periods.

Delivery of shares earned, if any, will take place on the dates provided in the applicable MSU grant agreement, assuming the grantee is still an employee, consultant, or director of our company at the end of the applicable performance period. On the delivery date, we withhold shares to cover applicable statutory tax withholding for grantees subject to withholding and deliver a net quantity of shares to the grantee after such withholding. Until delivery of shares, the grantee has no rights as a stockholder with respect to any shares underlying the MSU award.

MSU activity, including MSUs granted, delivered, and forfeited in fiscal 2020, and the balance and aggregate intrinsic value of MSUs as of the end of fiscal 2020 were as follows:

	MSU Awards Outstanding	Aggregate Intrinsic Value (in millions)	Weighted Average Grant Date Fair Value
Balance at June 2019	210,732		$ 52.15
Granted	359,336		57.51
Performance adjustment	(58,707)		—
Delivered	(23,018)		52.39
Forfeited	(96,811)		52.46
Balance at June 2020	391,532	$ 22.0	56.93

As a result of the Synaptics TSR underperforming the SOX Index TSR by 136 percentage points for the payout period ended in fiscal 2020, we did not deliver any of the targeted shares underlying the fiscal 2017 MSU grants. As a result of the Synaptics TSR underperforming the Index TSR by 34.2 percentage points for the payout period ended in fiscal 2020, we delivered 31.6% of the targeted shares underlying the fiscal 2018 MSU grants. As a result of the Synaptics TSR underperforming the Index TSR by 34.3 percentage points for the payout period ended in fiscal 2020, we delivered 31.5% of the targeted shares underlying the fiscal 2019 MSU grants.

Of the shares delivered, 8,706 shares valued at $0.4 million were withheld to meet statutory minimum tax withholding requirements. The aggregate intrinsic value assumes a 100% payout factor and was determined using the closing price of our common stock on the last trading day of fiscal 2020, or June 26, 2020, of $56.26.

The fair value of each MSU granted from our plans for fiscal 2020, 2019, and 2018 was estimated at the date of grant using the Monte Carlo simulation model, assuming no expected dividends and the following assumptions:

	2020	2019	2018
Expected volatility of company	45.46% - 52.55%	50.58%	49.16% - 50.60%
Expected volatility of Index	24.64% - 33.44%	23.40%	22.37% - 22.52%
Correlation coefficient	0.53 - 0.58	0.51	0.52 - 0.53
Expected life in years	2.50 - 4.00	2.88	2.80 - 2.92
Risk-free interest rate	0.26% - 1.52%	2.92%	1.72% - 1.88%
Fair value per award	$55.52 - $100.38	$27.70 - $85.52	$48.22 - $59.19

We amortize the compensation expense over the three-year performance and service period. The unrecognized share-based compensation cost of our outstanding MSUs was approximately $16.6 million as of the end of fiscal 2020, which will be recognized over a weighted average period of approximately 1.35 years.

Performance Stock Units

Our 2019 Incentive Plan and our 2010 Incentive Plan provide for the grant of PSU awards to our employees, consultants, and directors. A PSU is a promise to deliver shares of our common stock at a future date based on the achievement of performance-based requirements in accordance with the terms of the PSU grant agreement.

We have granted PSUs to our executive officers and other management members, which are designed to vest in three tranches with the target quantity for each tranche equal to one-third of the total PSU grant. The grants have a specific one-year performance period and vesting occurs over three service periods with the final service period ending approximately three years from the grant date. Performance is measured based on the achievement of a specified level of non-GAAP earnings per share. The potential payout ranges from 0% to 200% of the grant target quantity and is adjusted on a linear basis with a payout triggering if our non-GAAP earnings per share equals greater than 65% of the target with a maximum payout achieved at 135% of target.

Delivery of shares earned, if any, will take place on the dates provided in the applicable PSU grant agreement, assuming the grantee is still an employee, consultant, or director of our company at the end of the applicable service period. On the delivery date, we withhold shares to cover applicable statutory tax withholding for grantees subject to withholding and deliver a net quantity of shares to the grantee after such withholding. Until delivery of shares, the grantee has no rights as a stockholder with respect to any shares underlying the PSU award.

During the fiscal year ended June 27, 2020, PSU activity, including PSUs granted, delivered, and forfeited, and the balance and aggregate intrinsic value of PSUs as of June 27, 2020 was as follows:

	PSU Awards Outstanding	Aggregate Intrinsic Value (in millions)	Weighted Average Grant Date Fair Value
Balance at June 2019	192,618		$ 38.35
Granted	335,966		41.90
Performance adjustment	604		—
Delivered	(61,668)		39.63
Forfeited	(133,672)		38.56
Balance at June 2020	333,848	$ 18.8	41.61

We value PSUs using the aggregate intrinsic value on the date of grant and amortize the compensation expense over the three-year service period on a ratable basis, dependent upon the probability of meeting the performance measures. Of the shares delivered, 22,521 shares valued at $0.9 million were withheld to meet statutory minimum tax withholding requirements. The unrecognized share-based compensation cost of our outstanding PSUs was approximately $14.6 million as of June 27, 2020, which will be recognized over a weighted average period of approximately 1.22 years.

Phantom Stock Units

The 2019 Incentive Plan authorizes the grant of phantom stock units to non-employee directors, officers and employees. We initially granted phantom stock units in October 2019. Phantom stock units are cash-settled and entitle the recipient to receive a cash payment equal to the value of a single share for each unit based on the average closing share price of our stock over the thirty calendar days prior to the vesting date. Grants of phantom stock units vest over three years, with an annual vesting date of October 31 each year subsequent to the grant date. We recognize compensation expense for phantom stock units on a straight-line basis for each tranche of each award based on the average closing price of our common stock over the thirty calendar days ended prior to each balance sheet date. The outstanding phantom stock units had a fair value of $64.18 per unit at June 27, 2020 and our accrued liability for such units was $11.1 million.

Phantom stock activity was as follows:

	Phantom Stock Units Outstanding	Aggregate Intrinsic Value (in millions)
Granted	953,305	
Forfeited	(164,192)	
Balance as of June 2020	789,113	$ 44.4

Employee Stock Purchase Plan

Our 2019 ESPP became effective October 29, 2019 which replaced our 2010 ESPP. The 2019 ESPP, and previously the 2010 ESPP, allows employees to designate up to 15% of their base compensation, subject to legal restrictions and limitations, to purchase shares of common stock at 85% of the lesser of the FMV at the beginning of the offering period or the exercise date. Under the 2019 ESPP, the offering period extends for up to one year and includes two exercise dates occurring at six-month intervals. Under the 2010 ESPP, the offering period extended for up to two years and included four exercise dates occurring at six-month intervals. Under the terms of our 2019 ESPP, and previously under our 2010 ESPP, if the FMV at an exercise date is less than the FMV at the beginning of the offering period, the current offering period will terminate and a new offering period will commence.

Shares purchased, weighted average purchase price, cash received, and the aggregate intrinsic value for employee stock purchase plan purchases in fiscal 2020, 2019, and 2018 were as follows (in millions, except shares purchased and weighted average purchase price):

	2020	2019	2018
Shares purchased	346,502	544,886	486,263
Weighted average purchase price	$ 30.50	$ 29.48	$ 32.07
Cash received	$ 10.6	$ 16.1	$ 15.6
Aggregate intrinsic value	$ 10.1	$ 2.8	$ 3.9

The fair value of each award granted under our 2019 ESPP and our 2010 ESPP for fiscal 2020, 2019, and 2018 was estimated using the Black-Scholes option pricing model, assuming no expected dividends and the following range of assumptions:

	2020	2019	2018
Expected volatility	43.8%-45.4%	43.8%-44.2%	43.7% - 49.8%
Expected life in years	0.25 - .75	0.5 - 1.5	0.5 - 2.0
Risk-free interest rate	1.62% - 2.43%	2.43%-2.68%	1.42% - 2.45%
Fair value per award	$ 15.48	$ 15.63	$ 13.54

The expected volatility is based on either implied volatility for the expected lives of 0.5 years or a weighting of implied and historical volatility for expected lives greater than 0.5 years. The expected life is the period starting at the enrollment date until each purchase date remaining in the offering period at the date of enrollment in the plan. The risk-free interest rate is based on U.S. Treasury yields or yield curve in effect for each expected life.

Unrecognized share-based compensation costs for awards granted under our 2019 ESPP at the end of fiscal 2020 were approximately $0.6 million that will be amortized over the next 2 months.

10. Employee Benefit Plans

401(k) Plan

We have a 401(k) Retirement Savings Plan for full-time employees in the United States. Under the plan, eligible employees may contribute a portion of their net compensation up to the annual limit of $19,500, or $26,000 for employees who are 50 years or older. In fiscal 2020, we provided matching funds of 25% of our employees' contributions, excluding catch-up contributions. The employer matching funds vest immediately. We made matching contributions of $2.1 million, $2.4 million, and $2.8 million in fiscal 2020, 2019, and 2018, respectively.

11. Income Taxes

On March 27, 2020, the Coronavirus Aid, Relief and Economic Security, or CARES, Act was enacted and signed into law. The CARES Act did not have a material impact on the income tax provision for the fiscal year ended June 27, 2020.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation, commonly known as the Tax Cuts and Jobs Act of 2017, or the Act, which significantly revised the Internal Revenue Code of 1986, as amended. The Act contains broad and complex changes to corporate taxation, including, in part, reduction of the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously considered indefinitely reinvested overseas, and creates new taxes on certain foreign sourced earnings. As our accounting and tax year is the fiscal period ending on the last Saturday in June, U.S. federal tax law requires that taxpayers with a fiscal year that spans the effective date of a rate change to calculate a blended tax rate based on the pro rata number of days in the fiscal year before and after the effective date. As a result, our U.S. federal tax rate for fiscal 2018 was a days-weighted blended tax rate of 28.17%. For fiscal 2019 and subsequent tax years, including fiscal 2020, our U.S. federal tax rate is 21%.

Staff Accounting Bulletin 118 allows companies to record provisional amounts and recognize the effect of the tax law during a measurement period. The measurement period ended in the second quarter of our fiscal 2019. As of June 29, 2019, we finalized our accounting for the tax impact of the Act. However, further technical guidance related to the Act, including final regulations on a broad range of topics, is expected to be issued and, as such, if our interpretation and final accounting are inconsistent with future regulations and guidance, we will recognize the impact as a discrete item in the period such guidance is issued.

The Global Intangible Low-Tax Income, or GILTI, which is a provision under the Act, imposes a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. GILTI requires an accounting policy election of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current period expense when incurred, or (2) factoring such amounts into the measurement of deferred taxes. We elected to treat GILTI as a period cost and recognize the impact in the period when it is incurred.

Income/(loss) before provision for income taxes for fiscal 2020, 2019, and 2018 consisted of the following (in millions):

	2020	2019	2018
United States	$ (13.5)	$ (40.6)	$ (51.1)
Foreign	172.9	19.8	(30.7)
Income/(loss) before provision for income taxes	$ 159.4	$ (20.8)	$ (81.8)

The provision for income taxes for fiscal 2020, 2019, and 2018 consisted of the following (in millions):

	2020	2019	2018
Current tax expense/(benefit)			
Federal	$ 0.8	$ (4.9)	$ 21.5
Foreign	35.4	20.4	14.1
	36.2	15.5	35.6
Deferred tax expense/(benefit)			
Federal	(5.8)	(8.5)	14.4
State	0.1	—	—
Foreign	8.1	(6.7)	(9.5)
	2.4	(15.2)	4.9
Provision for income taxes	$ 38.6	$ 0.3	$ 40.5

The provision for income taxes differs from the federal statutory rate for fiscal 2020, 2019, and 2018 as follows (in millions):

	2020	2019	2018
Provision at U.S. federal statutory tax rate	$ 33.5	$ (4.4)	$ (22.9)
Non-deductible share-based compensation	3.0	4.0	4.9
Shortfall related to share-based compensation	2.1	3.3	4.1
Non-deductible officer compensation	1.9	1.1	—
Business credits	(6.1)	(6.1)	(4.9)
Foreign tax differential	4.9	1.0	16.5
Nondeductible amortization	—	0.7	1.2
Taxes associated with one-time transition tax	—	—	44.1
Impact of corporate tax rate change on deferred taxes	—	—	(2.7)
Other differences	(0.7)	0.7	0.2
Provision for income taxes	$ 38.6	$ 0.3	$ 40.5

Net deferred tax assets of $28.7 million and $31.1 million were non-current as of the end of fiscal 2020 and 2019, respectively, and were included in other assets in the accompanying consolidated balance sheets.

Significant components of our deferred tax assets (liabilities) as of the end of fiscal 2020 and 2019 consisted of the following (in millions):

	2020	2019
Deferred tax assets:		
Inventory write downs	$ 4.0	$ 12.1
Property and equipment	1.2	1.5
Accrued compensation	3.4	0.8
Deferred compensation	0.6	0.5
Share-based compensation	6.8	9.5
Business credit carryforward	41.3	37.3
Acquisition intangibles	6.6	7.0
Other accruals	5.2	3.3
	69.1	72.0
Valuation allowance	(33.3)	(30.4)
	35.8	41.6
Deferred tax liabilities:		
Interest	(7.1)	(10.5)
	(7.1)	(10.5)
Net deferred tax assets	$ 28.7	$ 31.1

Realization of deferred tax assets depends on our generating sufficient U.S. and certain foreign taxable income in future years to obtain a benefit from the utilization of those deferred tax assets on our tax returns. Accordingly, the amount of deferred tax assets considered realizable may increase or decrease when we reevaluate the underlying basis for our estimates of future U.S. and foreign taxable income. As of the end of fiscal 2020, a valuation allowance of $33.3 million was maintained to reduce deferred tax assets to levels we believe are more likely than not to be realized through future taxable income. The net change in the valuation allowance during fiscal 2020 was an increase of $2.9 million.

Undistributed earnings of our foreign subsidiaries were approximately $1.0 billion as of the end of fiscal 2020 and are considered to be indefinitely reinvested overseas.

As of the end of fiscal 2020, we had federal and California net operating loss carryforwards of approximately $1.5 million and $46.2 million, respectively. The California net operating loss will begin to expire in fiscal 2021, if not utilized. Under current tax law, net operating loss and tax credit carryforwards available to offset future income or income taxes may be limited by statute or upon the occurrence of certain events, including significant changes in ownership.

We had $14.0 million and $38.5 million of federal and state research tax credit carryforwards, respectively, as of the end of fiscal 2020. The federal research tax credit carryforward will begin to expire in 2026 and the state research tax credit can be carried forward indefinitely.

The total liability for gross unrecognized tax benefits related to uncertain tax positions, included in other liabilities in our consolidated balance sheets, increased by $1.2 million from $18.9 million in fiscal 2019 to $20.1 million in fiscal 2020. Of this amount, $12.6 million will reduce the effective tax rate on income from continuing operations, if recognized. A reconciliation of the beginning and ending balance of gross unrecognized tax benefits for fiscal 2020, 2019, and 2018 consisted of the following (in millions):

	2020	2019	2018
Beginning balance	$ 18.9	$ 24.8	$ 15.2
Increase in unrecognized tax benefits related to current year tax positions	3.2	4.2	10.5
Increase in unrecognized tax benefits related to prior year tax positions	0.1	—	—
Decrease due to effective settlement with tax authorities	—	(6.2)	—
Remeasurement of unrecognized tax benefits	—	(2.0)	—
Decrease due to statute expiration	(2.1)	(1.9)	(0.9)
Ending Balance	$ 20.1	$ 18.9	$ 24.8

Accrued interest and penalties remained flat in fiscal 2020 and 2019 and increased by $0.7 million representing income tax expense in fiscal 2018 as compared to fiscal 2017. Accrued interest and penalties were $1.9 million as of June 27, 2020 and June 29, 2019. Our policy is to classify interest and penalties, if any, as components of income tax expense.

It is reasonably possible that the amount of liability for unrecognized tax benefits may change within the next 12 months; an estimate of the range of possible changes could result in a decrease of $1.7 million to an increase of $2.3 million.

In February 2020, Altera Corporation filed a petition for a writ of certiorari asking the Supreme Court to review the Ninth Circuit Court of Appeals' decision that reversed the 2015 decision of the U.S. Tax Court in *Altera Corp. v. Commissioner*, which found that Treasury regulations addressing the treatment of stock-based compensation in a cost sharing agreement with a related party were invalid. In June 2020, the U.S. Supreme Court declined the writ of certiorari in the case of Altera Corp vs Commissioner. As our tax filing position and consolidated financials are consistent with the treasury regulations and the findings of the Ninth Circuit Court of Appeals decision, no adjustment to our financial statements is required.

Our major tax jurisdictions are the United States, Hong Kong SAR, and Japan. From fiscal 2014 onward, we remain subject to examination by one or more of these jurisdictions. In August 2018, we received the revenue agent's report resolving the fiscal 2014 and fiscal 2015 examination by the Internal Revenue Service with no material impact on our consolidated financial statements. Our case was reviewed by the Joint Committee on Taxation, which concluded in September 2019 with no further impact to our consolidated financial statements. Any prospective adjustments to our unrecognized tax benefits will be recorded as an increase or decrease to income tax expense and cause a corresponding change to our effective tax rate. Accordingly, our effective tax rate could fluctuate materially from period to period.

12. Segment, Customers, and Geographic Information

We operate in one segment: the development, marketing, and sale of semiconductor products used in electronic devices and products. We generate our revenue from three broad product categories: the mobile product applications market, the personal computing, or PC, product applications market, and the Internet of Things, or IoT, product market.

Net revenue within geographic areas based on our customers' locations for fiscal 2020, 2019, and 2018, consisted of the following (in millions):

	2020	2019	2018
China	$ 540.6	$ 844.8	$ 803.2
Japan	446.5	234.6	358.6
Taiwan	204.5	239.8	235.2
Other	77.3	64.9	74.9
South Korea	58.3	63.5	67.5
United States	6.7	24.6	90.9
	$ 1,333.9	$ 1,472.2	$ 1,630.3

Net revenue from external customers for each group of similar products for fiscal 2020, 2019, and 2018 consisted of the following (in millions):

	2020	2019	2018
Mobile product applications	$ 698.9	$ 900.1	$ 1,021.0
PC product applications	317.4	258.9	257.8
IoT product applications	317.6	313.2	351.5
	$ 1,333.9	$ 1,472.2	$ 1,630.3

Long-lived assets within geographic areas as of the end of fiscal 2020 and 2019 consisted of the following (in millions):

	2020	2019
United States	$ 137.1	$ 149.8
Asia/Pacific	223.5	257.0
Europe	177.9	213.8
	$ 538.5	$ 620.6

Our goodwill of $360.8 million has been allocated to two reporting units which include IoT and Mobile/PC.

Major customers' revenue as a percentage of total net revenue for fiscal 2020, 2019, and 2018 were as follows:

	2020	2019	2018
Customer A	18%	*	*
Customer B	12%	*	12%
Customer C	*	15%	15%
Customer D	*	14%	*
Customer E	*	10%	*

* Less than 10%

13. Restructuring Activities

During fiscal 2020 we initiated restructuring activities, some of which included severance costs which were for activities intended to further improve efficiencies in our operational activities to align our cost structure consistent with our revenue levels and one was severance costs related to employees who transitioned with the sale of our assets of our TDDI product line for LCD mobile displays (See Note 4. Divestiture included in the consolidated financial statements contained elsewhere in this Report). The restructuring costs related to these activities were recorded to the restructuring costs line item within our consolidated statements of operation. Some of the activities relating to these restructurings are complete as of June 27, 2020. The remaining activities are expected to be complete in the third quarter of fiscal 2021.

The restructuring liability activity for these restructuring activities during fiscal 2020 was as follows (in millions):

	Employee Severance and Benefits
Accruals	$ 25.1
Cash payments	(19.0)
Balance as of June 2020	$ 6.1

In August 2018, we committed to and initiated a restructuring of our mobile fingerprint optical business. The costs for this restructuring activity primarily related to severance costs for a reduction in headcount and related costs. These activities were complete as of June 29, 2019. In June 2019, we committed to and initiated a restructuring action intended to reduce our operating cost structure further. The costs for this restructuring action primarily related to severance costs for a reduction in headcount. Restructuring costs related to these fiscal 2019 restructuring activities were recorded to the restructuring costs line item within our consolidated statements of operations. The activities relating to the June 2019 restructuring action are complete as of June 27, 2020.

The restructuring liability activities during fiscal 2019 and 2020 for restructurings initiated in fiscal 2019 were as follows (in millions):

	Employee Severance and Benefits
Accruals	$ 17.7
Cash payments	(12.5)
Balance as of June 2019	5.2
Accruals	7.9
Cash payments	(13.1)
Balance as of June 2020	$ —

In November 2017, we committed to and initiated a restructuring action intended to streamline and reduce our operating cost structure and capitalize on acquisition synergies. The costs relating to this restructuring primarily related to severance costs for a reduction in headcount, facility consolidation and related costs. In April 2018, we committed to and initiated a restructuring to close a research and development facility. The costs relating to this restructuring include employee severance and related benefits and facility closure charges. Restructuring costs related to both the November 2017 and April 2018 restructuring activities were recorded to the restructuring costs line item within our consolidated statements of operations and were complete as of June 30, 2018.

The restructuring liability activities during fiscal years 2018 and 2019 for restructurings initiated in fiscal 2018 were as follows (in millions):

	Employee Severance and Benefits	Facility Consolidation and Related Charges	Total
Accruals	$ 11.0	$ 1.0	$ 12.0
Cash payments	(8.8)	(0.2)	(9.0)
Non-cash settlements	—	(0.7)	(0.7)
Balance as of June 2018	2.2	0.1	2.3
Additional accruals	$ 0.2	—	$ 0.2
Cash payments	(2.4)	(0.1)	(2.5)
Balance as of June 2019	$ —	$ —	$ —

14. Subsequent Events

Acquisitions

On July 2, 2020, we entered into definitive agreements with Broadcom to acquire certain assets and assume certain liabilities of, and obtain non-exclusive licenses relating to, Broadcom's existing Wi-Fi, Bluetooth and GPS/GNSS products and business in the IoT market, for aggregate consideration of $250 million in cash which closed on July 23, 2020. We also entered into certain transition agreements with Broadcom for a period of three years. We acquired these assets and assumed certain liabilities from Broadcom in order to obtain wireless connectivity technology which will enhance our current IoT business. This acquisition will be accounted for using the purchase method of accounting in accordance with the business acquisition guidance.

On July 17, 2020, we entered into a definitive agreement to acquire DisplayLink Corporation, a leader in high-performance video compression technology, for $305 million in cash. The acquisition closed on July 31, 2020. The intent of this acquisition is to obtain performance video compression technology which will further enhance our current IoT business. This acquisition will be accounted for using the purchase method of accounting in accordance with the business acquisition guidance.

Export Administration Regulation

On August 17, 2020, the Bureau of Industry and Security of the U.S. Department of Commerce issued final rules that further restrict access by Huawei Technologies (Huawei) and its non-U.S. affiliates on the Entity List to items produced domestically and abroad from U.S. technology and software. The final rules may prevent us from selling products to Huawei entities without a license issued subject to the Export Administration Regulation (EAR). We anticipate applying for an EAR export license, but it is unclear if an EAR export license will be granted. Further, even if we are unaffected by the rule or are able to obtain an export license, Huawei may not be able to source other components from U.S. suppliers, which could indirectly negatively impact Huawei's demand for our products. At this time, we believe the new rules will not materially impact revenue in our September 2020 quarter, while the longer-term revenue impact remains unclear. During our most recently completed fiscal quarter, June 2020, our direct and indirect sales to Huawei represented less than 10% of our revenue. See Item 1A. Risk Factors for further discussion of the potential for changes to import, export and economic sanction laws that may adversely affect our operating results.

SECOND AMENDMENT TO ASSET PURCHASE AGREEMENT

This SECOND AMENDMENT TO ASSET PURCHASE AGREEMENT (this "Amendment") is entered into as of April 15, 2020 by and between Synaptics Incorporated, a company organized and existing under the laws of Delaware ("Seller"), and Beijing OmniVision Technologies Co. Ltd., a limited liability company organized and existing under the laws of the People's Republic of China (the "Replacement Purchaser") and amends that certain Asset Purchase Agreement entered into by and among Seller and Creative Legend Investments Ltd., a company organized and existing under the laws of the British Virgin Islands (the "Original Purchaser"), dated as of December 18, 2019, as amended on March 3, 2020 (the "Asset Purchase Agreement"), and as assigned to the Replacement Purchaser by the Original Purchaser pursuant to that certain Assignment and Assumption Agreement of even date herewith by and among Seller, the Replacement Purchaser and the Original Purchaser. Seller and the Replacement Purchaser are referred to herein collectively as the "Parties" and, individually, as a "Party." Capitalized terms used but not otherwise defined herein shall have the meanings given to them in the Asset Purchase Agreement.

RECITALS

WHEREAS, pursuant to Section 12.04 of the Asset Purchase Agreement, the Parties may amend the Asset Purchase Agreement on the terms set forth herein;

WHEREAS, concurrent with the execution of this Amendment, Parent Guarantor is executing a joinder agreement to the Asset Purchase Agreement; and

WHEREAS, the Parties desire to amend the Asset Purchase Agreement in order to (i) add the Parent Guarantor as a party to the Asset Purchase Agreement, (ii) add a new Section 12.15 to the Asset Purchase Agreement to provide that the Parent Guarantor shall guarantee the Replacement Purchaser's obligations under the Asset Purchase Agreement in all respects as contemplated by Section 12.01(a) of the Asset Purchase Agreement, (iii) update the definition of "Purchaser Group" in Section 1.01 of the Asset Purchase Agreement by updating Schedule III to the Asset Purchase Agreement as contemplated by Section 4.04(b) of the Asset Purchase Agreement; (iv) revise Section 3.02(a) of the Asset Purchase Agreement; (v) revise Section 12.01 of the Asset Purchase Agreement to clarify that the Replacement Purchaser will not execute a joinder to the Asset Purchase Agreement; (vi) update Section 12.06(b) of the Asset Purchase Agreement; (vii) amend Section 2.05 of the Asset Purchase Agreement to account for a delayed transfer of certain assets; (viii) amend the definitions of "Closing Business Product Inventory" and "Closing Inventory Consideration" in Section 1.01 of the Asset Purchase Agreement; (ix) add the definition of "Excluded Inventory" to Section 1.01 of the Asset Purchase Agreement; and (x) amend Section 8.10(a) of the Asset Purchase Agreement to clarify that the sale of Excluded Inventory would not be subject to the non-competition restrictions set forth therein.

NOW, THEREFORE, in consideration of the promises herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. **Preamble**. The preamble to the Asset Purchase Agreement is hereby amended to add the following clause after ("**Purchaser**"): ", and Will Semiconductor (Shanghai) Co. Ltd. (上

海韦尔半导体股份有限公司), a company limited by shares organized and existing under the laws of the People's Republic of China, solely with respect to Section 12.15 (the "**Parent Guarantor**")."

2. **Section 1.01**. The definition of "**Closing Business Product Inventory**" in Section 1.01 of the Asset Purchase Agreement is hereby amended and restated to read in its entirety as follows:

> "**Closing Business Product Inventory**" means all Business Product Inventory as of the Closing that is useable and saleable in the Ordinary Course of Business; provided, however, that Excluded Inventory will not be included as Closing Business Product Inventory."

3. **Section 1.01**. The definition of "**Closing Inventory Consideration**" in Section 1.01 of the Asset Purchase Agreement is hereby amended and restated to read in its entirety as follows:

> "**Closing Inventory Consideration**" shall mean the dollar value of the Closing Business Product Inventory calculated in accordance with the valuation methodology set forth on Section 3.01(b) of the Disclosure Letter, provided, however, that the dollar value for certain Closing Product Inventory specified on the Inventory Statement delivered to Purchaser by Seller shall be as set forth on the Inventory Statement."

4. **Section 1.01**. Section 1.01 of the Asset Purchase Agreement is hereby amended to add the following definition:

> "**Excluded Inventory**" means Business Product Inventory that is identified on the Inventory Statement as Excluded Inventory.

5. **Section 2.05**. Section 2.05 of the Asset Purchase Agreement is hereby amended to add the following sentence to the end of such Section:

> "Notwithstanding anything else to the contrary in this Agreement, the Parties agree that the Equipment and Fixed Assets located at the Seller's Nakano, Japan office will not be required to be shipped to Purchaser until May 11, 2020 and that Seller will use commercially reasonable efforts to ship such Equipment and Fixed Assets to Purchaser on or promptly after such date."

6. **Section 3.02(a)**. Section 3.02(a) of the Asset Purchase Agreement is hereby amended and restated to read in its entirety as follows:

> "Subject to the terms and conditions of this Agreement, including Section 3.02(c), at the Closing, Purchaser shall pay, or cause to be paid by a member of the Purchaser Group or by the Parent Guarantor, to Seller a cash payment in an amount equal to (i) the Base Consideration, plus (ii) the Estimated Closing Inventory

Consideration as set forth in the Inventory Statement, by wire transfer in immediately available funds to the Seller Bank Account(s).”

7. **Section 8.10(a)**. Section 8.10(a) of the Asset Purchase Agreement is hereby amended and restated to read in its entirety as follows:

“Non-Competition. For a period of five (5) years from the Closing Date, neither Seller nor any of its controlled Affiliates shall, either directly or indirectly, as a stockholder, investor, partner, advisor, consultant or otherwise, anywhere in the Restricted Territory, engage in the Restricted Business. The “Restricted Territory” shall mean anywhere in the world where the Business operates as of the Signing Date. The “Restricted Business” shall mean the design, manufacture, development, procurement, marketing, distribution, licensing, support, maintenance, offers to sale, or sale of single-chip LCD TDDI products and applications for LCD mobile displays, including any products that are the same as, or substantially similar in function to, the Business Products. Notwithstanding anything in this Agreement to the contrary, the foregoing covenant will not in any way prevent or restrict Seller or any of its controlled Affiliates from (w), solely until such time as Seller has sold off all Excluded Inventory, marketing, distributing, licensing, supporting, maintaining, using, importing, exporting, offering to sell and selling Excluded Inventory, (x) marketing or offering to sell products that are the same as, or substantially similar in function to, the Business Products in the Restricted Territory solely to the Persons set forth on Schedule 8.10(a), (y) participating in the Restricted Business in the Restricted Territory solely with respect to the Persons set forth on Schedule 8.10(a), and (z) owning securities having no more than 5% of the outstanding voting power of any Person and such ownership will not be deemed to be a violation of this Section 8.10(a). For the avoidance of doubt, Seller and its controlled Affiliates shall be permitted to, directly or indirectly, engage in any business anywhere in the world that develops, manufactures, produces, markets, sells or distributes any products with respect to the automotive market, Multichip TDDI and Large TDDI.”

8. **Section 12.01**. The second sentence of Section 12.01 of the Asset Purchase Agreement is hereby amended and restated to read in its entirety as follows:

“No Party may assign any of its rights or obligations hereunder without the prior written approval of the other Party (which shall not be unreasonably withheld); *provided*, *however*, that Purchaser may assign all of its rights hereunder to the Person set forth on Schedule 12.01 (the “**Designated Assignee**”) or one of the Designated Assignee’s wholly-owned Subsidiaries (such assignee, the “**Replacement Purchaser**”) pursuant to an assignment and assumption agreement in form and substance reasonably acceptable to Seller (the “**Assignment**”), if, and only if, concurrent with the Assignment, Seller and the Replacement Purchaser amend this Agreement pursuant to an amendment agreement in form and substance reasonably acceptable to Seller to provide that (a) the Person set forth on Schedule 12.01(a) (the “**Parent Guarantor**”) shall act as a parent guarantor of the Replacement Purchaser’s obligations hereunder in all respects and (b) if the

Replacement Purchaser is not the Designated Assignee, the Person set forth on Schedule 12.01(b) (the "**Additional Guarantor**"), shall act as an additional guarantor of the Replacement Purchaser's obligations hereunder in all respects, and the Parent Guarantor and, if applicable, the Additional Guarantor will execute joinders to this Agreement, as amended, in form and substance reasonably acceptable to Seller."

9. **Section 12.06(b)**. Section 12.06(b) of the Asset Purchase Agreement is hereby amended to add the notice information with respect to Parent Guarantor as follows:

"if to Parent Guarantor, to:

Will Semiconductor (Shanghai) Co. Ltd.
Address: 7F, Building 4
No. 3000 Longdong Ave.
Pudong, Shanghai, China
Attention: Jianqiu Ma
Email: will_inve@corp.ovt.com

with a copy to (which will not constitute notice):
Beijing Dacheng Law Offices, LLP(Shanghai)
Address: 15th/16th Floor, Shanghai Tower
501 Yincheng Road (M)
Pudong New Area, Shanghai, China
Attention: XU Wanhui
Email: wanhui.xu@dentons.cn"

10. **Section 12.15**. The Asset Purchase Agreement is hereby amended by adding the following as Section 12.15:

"Section 12.15. *Parent Guarantor Guarantee*. The Parent Guarantor unconditionally, absolutely and irrevocably guarantees the timely performance of each and every agreement, covenant and obligation of the Purchaser under the provisions of this Agreement. The Parent Guarantor acknowledges and agrees that this guarantee is full and unconditional, and no release or extinguishment of the Purchaser's liabilities (other than in accordance with the terms of this Agreement), whether by decree in any bankruptcy proceeding or otherwise, will affect the continuing validity and enforceability of this guarantee. The Parent Guarantor hereby waives, for the benefit of Seller, (a) any right to require Seller as a condition of payment or performance of the Parent Guarantor to proceed against the Purchaser or pursue any other remedies whatsoever and (b) to the fullest extent permitted by applicable Law, any defenses or benefits that may be derived from or afforded by applicable Law that limit the Liability of or exonerate guarantors or sureties, except to the extent that any such defense is available to the Purchaser. This Section 12.15 may not be amended without the prior written consent of the Parent Guarantor."

11. **Schedule III**. Schedule III of the Asset Purchase Agreement is hereby amended and restated in its entirety to be in the form attached to this Amendment as Exhibit A.

12. **Transferred Contract**. The Parties hereby agree that, as contemplated by Section 2.01(d)(ii) of the Asset Purchase Agreement, that certain Technology Exclusivity Agreement, effective January 16, 2020, between Huawei Device Co., Ltd. and Synaptics Hong Kong Limited, is hereby deemed a Transferred Contract under the Asset Purchase Agreement.

13. **Effect of this Amendment**. Except as expressly provided in this Amendment, the Asset Purchase Agreement shall not be amended or otherwise modified. In the event there is a conflict between the terms of the Asset Purchase Agreement and the terms of this Amendment, the terms provided in this Amendment shall control. On and after the date hereof, each reference in the Asset Purchase Agreement to "this Agreement," "hereunder," "hereof," "hereto," "herein," or words of like import referring to the Asset Purchase Agreement shall mean and be a reference to the Asset Purchase Agreement as amended by this Amendment.

14. **Full Force and Effect**. This Amendment is expressly made subject to the terms and conditions of the Asset Purchase Agreement as modified herein, and, except as expressly modified herein, the Asset Purchase Agreement shall continue in full force and effect without change.

15. **Governing Law**. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware.

16. **Counterparts**. This Amendment may be executed in one or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the Parties have duly executed this Amendment as of the date first written above.

SYNAPTICS INCORPORATED

By: /s/ John McFarland
Name: John McFarland
Title: Senior Vice President, General Counsel and Secretary

[Signature page to Second Amendment to Asset Purchase Agreement]

IN WITNESS WHEREOF, the Parties have duly executed this Amendment as of the date first written above.

Beijing OmniVision Technologies Co. Ltd.

By: /s/ Hongli Yang
Name: Hongli Yang
Title: President & Director

[Signature page to Second Amendment to Asset Purchase Agreement]

<u>Exhibit A</u>

SCHEDULE III

Creative Legend Semiconductor (Hong Kong) Limited

Creative Legend Semiconductor (ShaoXing) Co., Ltd.

Beijing OmniVision Technologies Co. Ltd.

Fannsee LLC, Taiwan Branch

Creative Legend Investments Ltd.

Synaptics®

Exhibit 10.13

February 13, 2020

Phil Kumin

Dear Phil,

I am pleased to offer you the position of Senior Vice President, Worldwide Sales of Synaptics Incorporated ("Synaptics"), reporting to the President and Chief Executive Officer of Synaptics. Your expected start date for the position is March 30, 2020. You will receive a monthly salary of $31,250.00 that will be paid on the 15th and last day of each month (corresponding to an annual salary of $375,000).

You are eligible to receive an annual incentive target of 75% of your base salary for each Synaptics fiscal year. Payment of the incentive will be based first on company-wide performance, followed by department and individual goals annually. Payment of any incentive amount is ultimately at the discretion of Synaptics and is not guaranteed. Any annual incentive payable in Synaptics' fiscal year 2020 will be prorated.

Your performance and base salary will be reviewed at the end of each fiscal year as part of the Synaptics' normal focal review process. Your first review is expected to occur in July 2021, and any merit increase will be awarded after that time.

You will be eligible to participate in Synaptics' management equity incentive program. For Synaptics' 2020 fiscal year, subject to the approval of the Board of Directors of Synaptics (the "Board"), you will receive an amount of Deferred Stock Units ("RSUs") corresponding to a $750,000.00 equity value and an amount of Deferred Stock Award for Market Stock Units ("MSUs") corresponding to a $750,000.00 equity value.

Your RSUs will vest as follows: 1/4 of the RSU grant will vest on the date that is one year from your employment start date, and 1/4 will vest each year thereafter on the anniversary of your employment start date such that your award will be fully vested on the fourth anniversary of your employment start date. Your MSUs will vest as follows: 1/3 of the MSU grant will vest on October 31, 2020, and 1/3 will vest each year thereafter on October 31 such that this award will be fully vested on October 31, 2022.

The foregoing equity grants will be granted under the Synaptics Incorporated 2019 Inducement Equity Plan. MSU achievement will be based on the Synaptics total shareholder return performance as determined by the Board. The terms, including share calculations, vesting schedules and performance periods, of the RSU and MSU awards are as determined by the Board and are contingent on your execution of grant notices and agreements in forms previously approved by the Board. Vesting of the RSUs and MSUs is contingent on your continued employment with Synaptics.

Upon approval of the Board, you will be designated an "Executive" under the Synaptics Incorporated Change of Control Severance Policy for Principal Executive Officers and a"Covered Executive" under the Synaptics Incorporated Severance Policy for Principal Executive Officers. You agree to resign your position as a director of Synaptics and any subsidiary or affiliate of Synaptics as a pre-condition for receiving any severance or other payments or benefits under either Severance Policy.

Your employment with Synaptics is for no specified period and constitutes "at will" employment. As a result, you are free to resign at any time, for any reason, or for no reason. Similarly, Synaptics is free to conclude its employment relationship with you at any time, with or without cause. This offer is contingent upon successful completion of your background and references screening.

For purposes of federal immigration law, you will be required to provide to the Company documentary evidence of your identity and eligibility for employment in the United States. Such documentation must be provided to us within three (3) business days of your hire date, or our employment relationship with you may be terminated.

You will receive our standard Proprietary Information and Invention Assignment Agreement regarding protection of confidential information and assignment of inventions. If you accept this offer, it is required as a condition of your employment that you return a signed copy of that agreement.

In order to accept Synaptics' offer, please sign and date this letter in the space provided below. We would appreciate a response no later than February 28, 2020. This letter, along with the agreement relating to proprietary rights between you and Synaptics, sets forth the terms of your employment with Synaptics, and supersedes any prior representations or agreements, whether written or oral. This letter may not be modified or amended except by a written agreement signed by Synaptics and by you.

Phil, we are really looking forward to your continued contributions to Synaptics and adding your experience and energy to our growing company.

Sincerely,

/s/ Michael Hurlston

Michael Hurlston
President and Chief Executive Officer

ACCEPTED AND AGREED TO
this 26 day of February, 2020

Signature: /s/ Phil Kumin
Phil Kumin

Synaptics Incorporated • 1251 McKay • San Jose, CA 95131 USA
Ph: 408.904.1100 • Fax: 408. 904.1110
www.synaptics.com

February 18, 2020

Phil Kumin

Dear Phil,

We refer to the offer letter that Synaptics Incorporated (including its successors, "Synaptics") provided to you as of February 26, 2020 in which Synaptics offered you the position of Senior Vice President, Worldwide Sales (the "Offer Letter"). We provide this supplemental letter to address a potential situation that may occur during your first year of employment.

Should Synaptics terminate you for without "Good Cause" (with such capitalized term as defined in the Synaptics Incorporated Severance Policy for Principal Executive Officers), on or prior to March 31, 2021, Synaptics will provide a cash payment of $2,156,250 minus:

1. all salary paid to you on or prior to March 31, 2021;
2. all cash incentives paid to you on or prior to March 31, 2021; and
3. the aggregate value of all equity grants that have vested on or prior to March 31, 2021, with such value on a particular vesting date determined as follows: the number of actual shares delivered on such vesting date times the Synaptics closing share price on that date.

The amount payable to you under this supplemental letter is subject to approval of the Board of Directors of Synaptics and will be offset by (i) all amounts payable to you, including the value of any equity vesting acceleration, under the Synaptics Incorporated Severance Policy for Principal Executive Officers or the Synaptics Incorporated Change of Control Severance Policy for Principal Executive Officers (the "Severance Policies"), and (ii) any other cash compensation or vested equity received from Synaptics on or prior to March 31, 2021. In the event the foregoing offset amounts are equal or greater to the amount payable under this supplemental letter, you will receive no benefits or other payments under this supplemental letter. The amount hereunder will be payable within sixty (60) days of the date of your termination without Good Cause.

The amount payable to you under this supplemental letter is contingent upon your execution of (and not revoking during any applicable revocation period) a valid, enforceable, full and unconditional release of all claims you may have against Synaptics (whether known or unknown) as of the date of termination without Good Cause in such form as provided by Synaptics. You further agree to resign your position as a director of Synaptics and any subsidiary or affiliate of Synaptics as a pre-condition for receiving any severance or other payments or benefits under this supplemental letter and/or either Severance Policy. All Synaptics equity incentives cease vesting as of the date of your termination without Good Cause.

Nothing in this supplemental letter changes your status as an "at will" employee of Synaptics. You are free to resign at any time, for any reason, or for no reason, and Synaptics is free to conclude its employment relationship with you at any time, with or without cause.

If you agree to the terms set forth in this supplemental letter, please sign and date this letter in the space provided below. This letter, along with the Offer Letter and the agreement relating to proprietary rights between you and Synaptics, sets forth the terms of your employment with Synaptics, and supersedes any prior representations or agreements, whether written or oral. This supplemental letter expires on March 31, 2021, and may not be modified or amended except by a written agreement signed by Synaptics and by you.

Sincerely,

/s/ Michael Hurlston

Michael Hurlston
President and Chief Executive Officer

ACCEPTED AND AGREED TO
this 26 day of February, 2020

Signature: /s/ Phil Kumin
Phil Kumin

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Ph: 408.904.1100 • Fax: 408. 904.1110
www.synaptics.com

EXHIBIT 10.14

December 4, 2018 Saleel Awsare

Dear Saleel,

I am pleased to offer you the position of Senior Vice President, Corporate Marketing, Synaptics Incorporated, reporting directly to me. Your expected start date for the position is December 10, 2018. You will receive a monthly salary of **$29,166.67** that will be paid on the 15th and last day of each month (corresponding to an annual salary of **$350,000).**

In return for your acceptance of this agreement, Synaptics will offer you a sign-on bonus of **$100,000,** subject to applicable withholding taxes. If you should voluntarily terminate your employment with Synaptics or should Synaptics terminate you for cause less than twelve months after your start date for the position, the entire **$100,000** must be reimbursed in full to Synaptics on or prior to your last day of employment. This sign-on bonus will be paid out on the next feasible payroll of your start date.

For Synaptics' fiscal year 2019, you are eligible to receive an annual incentive target of **60%** of your base salary for each Synaptics Incorporated fiscal year. Payment of the incentive will be based first on company-wide performance, followed by department and individual goals annually. Payment of any incentive amount is ultimately at the discretion of Synaptics, is not guaranteed and is subject to Synaptics' Incentive Plan Policy.

Your performance will be reviewed at the end of each fiscal year as part of the company's normal focal review process.

Subject to the approval of the Compensation Committee of the Board of Directors of the Company, you will receive **10,000** Deferred Stock Units ("RSUs") and **5,000** Deferred Stock Award for Market Stock Units ("MSUs") . Your RSUs shall vest as follows: 1/3 of the RSUs shall vest on the delivery date (January 31, April 30, July 31, October 31) occurring in the calendar quarter one year from the grant date and 1/3 of the RSUs will vest each year thereafter on the anniversary of the delivery date such that your entire award will be fully vested in the calendar quarter of the third anniversary of the grant date. The MSUs will be based on the Company's total shareholder return performance in the three year fiscal period from October 2018 to September 2021 as determined by the Company's Board of Directors. Vesting of your RSUs and MSUs is contingent on your continued employment with the Company.

Upon approval of the Company's Board of Directors, you will be designated an "Executive" under the Company's Change of Control Policy for Principal Executive Officers and a "Covered Executive" under the Company's Severance Policy for Principal Executive Officers.

You should be aware that your employment with the Company is for no specified period and constitutes "at will" employment. As a result, you are free to resign at any time, for any reason, or for no reason. Similarly, the Company is free to conclude its employment relationship with you at any time, with or without cause.

In order to accept the Company's offer, please sign and date this letter in the space provided below. We would appreciate a response no later than December 5, 2018. This letter, along with the agreement relating to proprietary rights between you and the Company, sets forth the terms of your employment with the Company and supersedes any prior representations or agreements, whether written or oral. This letter may not be modified or amended except by a written agreement, signed by the Company and by you.

Saleel, we are really looking forward to your continued contributions to Synaptics and adding your experience and energy to our growing company.

Sincerely,

/s/ Rick Bergman

Rick Bergman
President and CEO

ACCEPTED AND AGREED TO
this 5th day of December, 2018

Start Date: ______________________

Signature: /s/ Saleel Awsare

Full Legal Name: Saleel Awsare

Synaptics Incorporated • 1251 McKay • San Jose, CA 95131 USA
Ph: 408.904.1100 • Fax: 408. 904.1110
www.synaptics.com

Exhibit 21

List of Subsidiaries

NAME	STATE OR JURISDICTION OF ORGANIZATION
DisplayLink (UK) Limited	United Kingdom
Synaptics Japan GK	Japan
Synaptics Holding GmbH	Switzerland
Synaptics Hong Kong Limited	Hong Kong
Synaptics LLC	Delaware

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Synaptics Incorporated:

We consent to the incorporation by reference in the registration statements (Nos. 333-170401, 333-193470, 333-221585, 333-228118, 333-233338, and 333-234437) on Form S-8, (Nos. 333-193469 and 333-219713) on Form S-3, and (No. 333-115274) on Form S-4 of Synaptics Incorporated (the Company) of our report dated August 21, 2020, with respect to the consolidated balance sheets of Synaptics Incorporated as of June 27, 2020 and June 29, 2019, and the related consolidated statements of operations, comprehensive income/(loss), stockholders' equity, and cash flows for each of the fiscal years in the three fiscal year period ended June 27, 2020, and the related notes, and the effectiveness of internal control over financial reporting as of June 27, 2020, which report appears in the June 27, 2020 annual report on Form 10-K of Synaptics Incorporated.

/S/ KPMG LLP

Santa Clara, California
August 21, 2020

Exhibit 31.1

Certification of Chief Executive Officer Pursuant to
Rule 13a-14(a)/15d-14(a)

I, Michael E. Hurlston, certify that:

1. I have reviewed this annual report on Form 10-K of Synaptics Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 21, 2020

/s/ *Michael E. Hurlston*
Michael E. Hurlston
Chief Executive Officer

Exhibit 31.2

**Certification of Chief Financial Officer Pursuant to
Rule 13a-14(a)/15d-14(a)**

I, Dean Butler, certify that:

1. I have reviewed this annual report on Form 10-K of Synaptics Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 21, 2020

/s/ *Dean Butler*
Dean Butler
Chief Financial Officer

Exhibit 32.1

Section 1350 Certification of Chief Executive Officer

In connection with the Annual Report on Form 10-K of Synaptics Incorporated (the “Company”) for the year ended June 27, 2020 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Michael E. Hurlston, President and Chief Executive Officer of the Company, certify, to the best of my knowledge and belief, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ *Michael E. Hurlston*
Michael E. Hurlston
Chief Executive Officer
August 21, 2020

Exhibit 32.2

Section 1350 Certification of Chief Financial Officer

In connection with the Annual Report on Form 10-K of Synaptics Incorporated (the "Company") for the year ended June 27, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Dean Butler, Chief Financial Officer of the Company, certify, to the best of my knowledge and belief, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ *Dean Butler*
Dean Butler
Chief Financial Officer
August 21, 2020