QUALCOMM INC/DE
Form 10-K
November 02, 2016

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K
(Mark one)

þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended September 25, 2016
OR

o 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 0-19528
QUALCOMM Incorporated
(Exact name of registrant as specified in its charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)	95-3685934 (I.R.S. Employer Identification No.)
5775 Morehouse Dr. San Diego, California (Address of Principal Executive Offices)	92121-1714 (Zip Code)

(858) 587-1121
(Registrant's telephone number, including area code)
Securities registered pursuant to section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common stock, $0.0001 par value	NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act:
None
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No o
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 o No x
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 xNo o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

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

Large accelerated filer x		Accelerated filer	o
Non-accelerated filer	o (Do not check if a smaller reporting company)	Smaller reporting company	o

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant at March 27, 2016 (the last business day of the registrant's most recently completed second fiscal quarter) was $74,547,554,964, based upon the closing price of the registrant's common stock on that date as reported on the NASDAQ Global Select Market.

The number of shares outstanding of the registrant's common stock was 1,476,886,684 at October 31, 2016.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Definitive Proxy Statement in connection with the registrant's 2017 Annual Meeting of Stockholders, to be filed with the Commission subsequent to the date hereof pursuant to Regulation 14A, are incorporated by reference into Part III of this Report.

QUALCOMM
INCORPORATED
Form 10-K
For the Fiscal Year
Ended September
25, 2016
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TRADEMARKS

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In this document, the words “Qualcomm,” “we,” “our,” “ours” and “us” refer only to QUALCOMM Incorporated and its subsidiaries and not any other person or entity. This Annual Report (including, but not limited to, the section regarding Management’s Discussion and Analysis of Financial Condition and Results of Operations) contains forward-looking statements regarding our business, investments, financial condition, results of operations and prospects. Words such as “expects,” “anticipates,” “intends,” “plans,” “believes,” “seeks,” “estimates” and similar expressions variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements in this Annual Report. Additionally, statements concerning future matters such as the development of new products, enhancements or technologies, industry and market trends, sales levels, expense levels and other statements regarding matters that are not historical are forward-looking statements, but are not the exclusive means of identifying forward-looking statements in this Annual Report.

Although forward-looking statements in this Annual Report reflect our good faith judgment, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include without limitation those discussed under the heading “Risk Factors” below, as well as those discussed elsewhere in this Annual Report. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report. We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this Annual Report. Readers are urged to carefully review and consider the various disclosures made in this Annual Report, which attempt to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

PART I

Item 1. Business

We incorporated in 1985 under the laws of the state of California. In 1991, we reincorporated in the state of Delaware. We operate and report using a 52-53 week fiscal year ending on the last Sunday in September. Our 52-week fiscal years consist of four equal fiscal quarters of 13 weeks each, and our 53-week fiscal years consist of three 13-week fiscal quarters and one 14-week fiscal quarter. The financial results for our 53-week fiscal years and our 14-week fiscal quarters will not be exactly comparable to our 52-week fiscal years and our 13-week fiscal quarters. The fiscal years ended September 25, 2016, September 27, 2015 and September 28, 2014 included 52 weeks.

Overview

We led the development and continue to be a leader in the commercialization of a digital communication technology called CDMA (Code Division Multiple Access), and we also continue as a leader in the development and commercialization of the OFDMA (Orthogonal Frequency Division Multiple Access) family of technologies, including LTE (Long Term Evolution), an OFDM (Orthogonal Frequency Division Multiplexing) -based standard that uses OFDMA and single-carrier FDMA (Frequency Division Multiple Access), for cellular wireless communication applications. We own significant intellectual property applicable to products that implement any version of CDMA and OFDMA, including patents, patent applications and trade secrets. The mobile communications industry generally recognizes that a company seeking to develop, manufacture and/or sell products that use CDMA- and/or LTE-based standards will require a patent license from us. CDMA and OFDMA are two of the main technologies currently used in digital wireless communications networks (also known as wireless networks). Based on wireless connections, CDMA, OFDMA and TDMA (Time Division Multiple Access, of which GSM (Global System for Mobile Communications) is the primary commercial form) are the primary digital technologies currently used to transmit a wireless device user’s voice or data over radio waves using a public cellular wireless network.

We also develop and commercialize numerous other key technologies used in handsets and tablets that contribute to end-user demand, and we own substantial intellectual property related to these technologies. Some of these were contributed to and are being commercialized as industry standards, such as certain video codec, audio codec, wireless LAN (local area network), memory interfaces, wireless power, GPS (global positioning system) and positioning, broadcast and streaming protocols, and short range communication functionalities, including NFC (near field communication) and Bluetooth. Other technologies widely used by wireless devices that we have developed are not related to any industry standards, such as operating systems, user interfaces, graphics and camera processing

functionality, integrated circuit packaging techniques, RF (radio frequency) and antenna design, sensors and sensor fusion algorithms, power and thermal management techniques and application processor architectures. Our patents cover a wide range of technologies across the entire wireless system, including the device (such as handsets and tablets) and not just what is embodied in the chipsets.

In addition to licensing portions of our intellectual property portfolio, which includes certain patent rights essential to and/or useful in the manufacture and sale of certain wireless products, we design, manufacture, have manufactured on our

behalf and market products and services based on CDMA, OFDMA and other digital communications technologies. Our products principally consist of integrated circuits (also known as chips or chipsets) and system software used in mobile devices, wireless networks, broadband gateway equipment and consumer electronic devices. We also sell other products and services, which include, among others: wireless medical devices and software products and services designed for health care companies; engineering services; and products designed for the implementation of small cells. In addition, we continue to invest in new and expanded product areas, such as radio frequency front-end (RFFE), and in adjacent industry segments, such as automotive, Internet of Things (IoT), data center, networking, mobile computing, the connected home, smart cities, mobile health, machine learning, including robotics and wearables, among others.

Industry Trends

The mobile industry has experienced tremendous growth over the past 20 plus years, growing from less than 60 million global connections in 1994 (WCIS+, October 2016) to approximately 7.4 billion global connections in September 2016 (GSMA Intelligence, October 2016). As the largest technology platform in the world, mobile has made peoples' lives more connected, transforming the way we interact with one another and with the world. The scale and pace of innovation in mobile, especially around connectivity and computing capabilities, is also impacting industries beyond wireless.

Extending connectivity. 3G/4G (third generation/fourth generation) multimode mobile broadband technology has been a key driver of the growth of mobile, providing users with fast, reliable, always-on connectivity. As of September 2016, there were approximately 4.0 billion 3G/4G connections globally (CDMA-based, OFDMA-based and CDMA/OFDMA multimode) representing nearly 54% of total mobile connections. By 2020, global 3G/4G connections are projected to reach 6.4 billion, with more than 80% of these connections coming from emerging regions (GSMA Intelligence, October 2016).

3G/4G multimode mobile broadband has also emerged as an important platform for extending the reach and potential of the Internet. In 2010, the number of broadband connections using mobile technology surpassed those using fixed technologies, making mobile networks the primary method of access to the Internet for many people around the world. The impact is further amplified in emerging regions, where 3G/4G connections are approximately six times the number of fixed Internet connections (GSMA Intelligence and WBIS, October 2016). In China, 3G/4G LTE multimode services have experienced strong adoption since being launched in the fourth quarter of calendar 2013, with more than 655 million connections reported as of September 2016 (GSMA Intelligence, October 2016). In India, mobile operators are rolling out 3G/4G LTE multimode services, providing consumers with the benefits of advanced mobile broadband connectivity while creating new opportunities for device manufacturers and other members of the mobile ecosystem. 3G/4G mobile broadband may be the first and, in many cases, the only way that people in these regions access the Internet.

Looking ahead, the wireless industry is actively developing and standardizing 5G (fifth generation) technology, which is the next generation of wireless technology expected to be commercially deployed starting in 2019. While the 5G standard is still being defined, it is expected to provide a unified connectivity network for all spectrum and service types based on OFDM technology. 5G is expected to support faster data rates and wider bandwidths of spectrum. Incorporating many of the innovations developed for 4G, 5G is also expected to be scalable and adaptable across a variety of use cases, which include, among others: enabling new industries and services, such as autonomous vehicles and remote medical procedures, through ultra-reliable, ultra-low latency communication links; and connecting a significant number of "things" (also known as the Internet of Things or IoT), such as consumer electronics, including wearables, appliances, sensors and medical devices, with connectivity designed to meet ultra-low power, complexity and cost requirements. 5G is also expected to enhance mobile broadband services, including ultra-high definition (4K) video streaming and virtual reality, with multi-gigabit speeds.

Most 5G devices are expected to include multimode support for 3G, 4G and Wi-Fi, enabling service continuity where 5G has yet to be deployed and simultaneous connectivity across 4G and Wi-Fi technologies, while also allowing mobile operators to utilize current network deployments. At the same time, 4G will continue to evolve in parallel with the development of 5G and is expected to pioneer many of the key 5G technologies, such as support for unlicensed spectrum and gigabit LTE user data rates. The first phase of 5G networks are expected to support mobile broadband services both in lower spectrum bands below 6 Ghz as well as higher bands above 6 GHz, including millimeter wave

(mmWave).

Growth in smartphones. Smartphone adoption continues to expand globally, fueled by 3G/4G LTE multimode connectivity, powerful application processors and advanced multimedia and location awareness capabilities, among others. In 2015, more than 1.4 billion smartphones shipped globally, representing a year-over-year increase of approximately 14%, and cumulative shipments of smartphones between 2016 and 2020 are projected to reach approximately 8.3 billion (Gartner, September 2016). Most of this growth is happening in emerging regions, where smartphones accounted for approximately 70% of handset shipments in 2015 and are expected to reach approximately 92% in 2020 (Gartner, September 2016). Growth in smartphones has not only been driven by the success of premium-tier devices, but also by the number of affordable

handsets that are fueling shipments in emerging regions and the variety of flexible and affordable data plans being offered by mobile operators.

Consumer demand for new types of experiences enabled by 3G/4G LTE connectivity, combined with the needs of mobile operators and device manufacturers to provide differentiated features and services, is driving continued innovation within the smartphone. This innovation is happening across multiple technology dimensions, including connectivity, computing, camera, audio, video, display, location, sensors and security. As a result, the smartphone has, in many ways, become the go-to device for social networking, music, gaming, email and web browsing, among others. It is also replacing many traditional consumer electronics devices due to advanced capabilities, including digital cameras, video cameras, Global Positioning System (GPS) units and music players, combined with an always on and connected mobile platform.

Expansion into new adjacent opportunities. A number of industries beyond mobile are leveraging technology innovations found in smartphones to bring advanced connectivity and computing capabilities to a broad array of end-devices and access points, which make up the “edge” of the network. With billions of connected devices projected to be added to the Internet over the coming years, enhancing the capabilities and performance at the edge of the network will be vital to improving its scalability as it enters this new phase of growth. These enhancements are helping to transform industry segments, including networking, automotive, mobile computing and the IoT, and enabling companies to create new products and services.

The proliferation of intelligently connected things is also enabling new types of user experiences, as smartphones are able to interact with and control more of the things around us. Through the addition of embedded sensors, connected things are able to collect and send data about their environment, providing users with contextually relevant information and further increasing their utility and value.

Wireless Technologies

The growth in the use of wireless devices worldwide, such as smartphones and tablets, and the demand for data services and applications requires continuous innovation to further improve the user experience, enable new services, increase network capacity, make use of different frequency bands and enable dense network deployments. To meet these requirements, different wireless communications technologies continue to evolve. For nearly three decades, we have invested and continue to invest heavily in research and development of cellular wireless communication technologies, including CDMA and OFDMA. As a result, we have developed and acquired (and continue to develop and acquire) significant related intellectual property. This intellectual property has been incorporated into the most widely accepted and deployed cellular wireless communications technology standards, and we have licensed it to more than 330 licensees, including leading wireless device and infrastructure manufacturers. Relevant cellular wireless technologies can be grouped into the following categories.

TDMA-based. TDMA-based technologies are characterized by their access method allowing several users to share the same frequency channel by dividing the signal into different time slots. Most of these systems are classified as 2G (second generation) technology. The main examples of TDMA-based technologies are GSM (deployed worldwide), IS-136 (deployed in the Americas) and Personal Digital Cellular (PDC) (deployed in Japan).

To date, GSM has been more widely adopted than CDMA-based standards; however, CDMA technologies are the basis for all 3G wireless systems. According to GSMA Intelligence estimates as of September 30, 2016, there were approximately 3.4 billion GSM connections worldwide, representing approximately 46% of total cellular connections. The transition of wireless devices from 2G to 3G/4G continued around the world with 3G/4G connections up 18% year-over-year (GSMA Intelligence, October 2016).

CDMA-based. CDMA-based technologies are characterized by their access method allowing several users to share the same frequency and time by allocating different orthogonal codes to individual users. Most of the CDMA-based technologies are classified as 3G technology.

There are a number of variants of CDMA-based technologies deployed around the world, in particular CDMA2000, EV-DO (Evolution Data Optimized), WCDMA (Wideband CDMA) and TD-SCDMA (Time Division-Synchronous CDMA) (deployed exclusively in China). CDMA-based technologies provide vastly improved capacity for voice and low-rate data services as compared to analog technologies and significant improvements over TDMA-based technologies such as GSM. To date, these technologies have seen many revisions, and they continue to evolve. New features continue to be defined in the 3rd Generation Partnership Project (3GPP). The following are the CDMA-based

technologies and their standards revisions:

- CDMA2000 revisions A through E
- 1xEV-DO revisions A through C

- WCDMA/HSPA releases 4 through 13
- TD-SCDMA releases 4 through 12

CDMA technologies ushered in a significant increase in broadband data services that continue to grow globally. According to GSMA Intelligence estimates as of October 2016, there were approximately 2.5 billion CDMA-based connections worldwide, representing approximately 33% of total cellular connections.

OFDMA-based. OFDMA-based technologies are characterized by their access method allowing several users to share the same frequency band and time by allocating different subcarriers to individual users. Most of the OFDMA-based technologies to be deployed through 2016 are classified as 4G technology. It is expected that 5G will heavily leverage OFDM-based technologies. We continue to play a significant role in the development of LTE and LTE Advanced, which are the predominant 4G technologies currently in use, and their evolution to LTE Advanced Pro.

LTE is incorporated in 3GPP specifications starting from release 8 and uses OFDMA in the downlink and single carrier FDMA (SC-FDMA) in the uplink. LTE has two modes, FDD (frequency division duplex) and TDD (time division duplex), to support paired and unpaired spectrum, respectively, and is being developed by 3GPP. The principal benefit of LTE is its ability to leverage a wide range of spectrum (bandwidths of 10 MHz or more). LTE is designed to seamlessly interwork with 3G through 3G/4G multimode devices. Most LTE devices rely on 3G for voice services across the network, as well as for ubiquitous data services outside the LTE coverage area and on 4G for data services inside the LTE coverage area. LTE's voice solution, VoLTE (voice over LTE), is being commercially deployed in a growing number of networks.

Carrier aggregation, one of the significant improvements of LTE Advanced, was commercially launched in June 2013 and continues to evolve to aggregate additional carriers in the uplink as well as the downlink. Along with carrier aggregation, LTE Advanced brings many more enhancements, including advanced antenna techniques and optimization for small cells. Apart from improving the performance of existing networks, these releases also bring new enhancements under the umbrella of LTE Advanced Pro, such as LTE Direct for proximity-based device-to-device discovery, improved LTE broadcast, optimizations of narrowband communications designed for IoT (known as NB-IoT) and the ability to use LTE Advanced in unlicensed spectrum (LTE Unlicensed). There will be multiple options for deploying LTE Unlicensed for different deployment scenarios.

- LTE-U, which relies on an LTE control carrier based on 3GPP Release 12, uses carrier aggregation to combine unlicensed and licensed spectrum and will be used in early mobile operator deployments in countries such as the United States, Korea and India.
- Licensed Assisted Access (LAA), introduced as part of 3GPP Release 13, also aggregates unlicensed and licensed spectrum.
- MulteFire operates solely in unlicensed spectrum without a licensed anchor control channel.

There also have been ongoing efforts to make the interworking between LTE and Wi-Fi more seamless and completely transparent to the users. The seamless interworking is also intended to enable the device to use the best possible link or links depending on conditions of the LTE and Wi-Fi links as the applications run on devices. Further integration is achieved with LTE+Wi-Fi link Aggregation (LWA), which will utilize existing and new carrier Wi-Fi deployments.

LTE releases are often combined and given "marketing" or "trade" names that also indicate their benefits. The name LTE covers releases 8 and 9. Releases 10 and beyond are referred to as LTE Advanced. According to GSMA Intelligence estimates as of September 30, 2016, there were approximately 1.5 billion global 3G/4G multimode connections worldwide, representing approximately 21% of total cellular connections.

According to the Global mobile Suppliers Association (GSA), as of October 2016, more than 770 wireless operators have commercially deployed or started testing LTE. In addition, LTE Advanced standards featuring carrier aggregation have begun to be deployed. As of October 2016, 212 operators were investing in LTE Advanced carrier aggregation across 88 countries, and 166 operators have launched commercially in 76 countries (GSA, October 2016).

As we look forward, the wireless industry is actively building the next generation of cellular technologies under the name 5G in 3GPP. While 5G is still being defined, it is expected that 5G will transform the role of wireless technologies and incorporate advancements on 3G/4G features available today, including further enhanced mobile broadband services, device-to-device capabilities and use of both licensed and unlicensed spectrum and connectivity of a significant number of things. 5G is also expected to include operation in emerging higher frequency bands such as

those in the millimeter wave range to significantly increase the data rate offered to users. Furthermore, 5G is expected to offer techniques that will enable the expansion of cellular networks into new vertical product segments and define a radio link with much higher levels of reliability for control of vehicles and machines. This development, which builds on the various 3G and 4G features

addressing IoT, will further sustain the trend of enabling cellular connectivity to non-handset categories of devices. We continue to play a significant role in driving 5G from standardization to commercialization, including contributing to 3GPP standardization activities to define the 5G standard and collaborating with industry participants on 5G demonstrations and trials to prepare for commercial network launches.

Other (non-cellular) wireless technologies. There are other, non-cellular wireless technologies that have also been broadly adopted.

Wireless Local Area Networks. Wireless local area networks (WLAN), such as Wi-Fi, link two or more nearby devices wirelessly and usually provide connectivity through an access point. Wi-Fi systems are based on standards developed by the Institute of Electrical and Electronics Engineers (IEEE) in the 802.11 family of standards. 802.11ac, which includes advanced features such as multiple user multiple in/multiple out (MU MIMO) and support for large bandwidths and higher order modulation, primarily targets broadband connectivity for mobile devices, laptops and consumer electronics devices using 5 GHz spectrum. 802.11ad provides multi-gigabit data rates for short range communication using 60 GHz spectrum. 802.11ah, which is still under development and targets sub-1 GHz spectrum, is envisioned to be a solution for “connected home” applications that require long battery life. We played a leading role in the development of 802.11ac, 802.11ad and 802.11ah, and we are actively involved in the development of 802.11ax, which is an evolution from 802.11ac and will cover both the 2.4GHz and 5GHz unlicensed bands.

Bluetooth. Bluetooth is a wireless personal area network that provides wireless connectivity between devices over short distances ranging from a few centimeters to a few meters. Bluetooth technology provides wireless connectivity to a wide range of fixed or mobile consumer electronics devices. Bluetooth functionalities are standardized by the Bluetooth Special Interest Group in various versions of the specification (from 1.0 to 4.0), which include different functionalities, such as enhanced data rate or low energy (known as Bluetooth Smart). In August 2015, we acquired CSR plc, a leading contributor to Bluetooth evolution in the areas of mobile devices, HID (human interface device), A/V (audio/video) and Smart Mesh technologies.

Location Positioning Technologies. Location positioning technologies have evolved rapidly in the industry over the past few years in order to deliver an enhanced location experience. In the past, satellite navigation systems were predominantly used to provide the accurate location of mobile devices. We were a key developer of the Assisted-GPS (A-GPS) positioning technology used in most cellular handsets today. For uses requiring the best accuracy for E911 services and navigational based services, A-GPS provided a leading-edge solution.

The industry has now evolved to support additional inputs for improving the location experience. We now support multiple constellations, including GPS, GLONASS (Global Navigation Satellite System) and BeiDou; terrestrial-based positioning using WWAN (Wireless Wide Area Network) and Wi-Fi-based inputs; Wi-Fi RSSI (received signal strength indication) and RTT (round-trip time) signals for indoor location; and third-party sensors combined with GNSS (Global Navigation Satellite System) measurements to provide interim support for location-based services in rural areas and indoors, where other signal inputs may not be available.

Other Significant Technologies used in Cellular and Certain Consumer Electronic Devices and Networks

We have played a leading role in developing many of the other technologies used in cellular and certain consumer electronic devices and networks, including:

- graphics and display processing functionality;
- video coding based on HEVC (High Efficiency Video Codec) standard, which will be deployed to support 4K video content;
- audio coding, including EVS (Enhanced Voice Services);
- the latest version of 3GPP’s codec for multimedia use and for voice/speech use, which is being deployed commercially;
- camera and camcorder functions;
- system user and interface features;
- security and content protection systems;
- volatile (LP-DDR2, 3, 4) and non-volatile (eMMC) memory and related controllers; and
- power management systems.

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Operating Segments

We conduct business primarily through two reportable segments, QCT (Qualcomm CDMA Technologies) and QTL (Qualcomm Technology Licensing), and our QSI (Qualcomm Strategic Initiatives) reportable segment makes strategic investments. Revenues in fiscal 2016, 2015 and 2014 for our reportable segments were as follows (in millions, except percentage data):

	QCT	QTL	QSI
2016	$15,409	$7,664	$47
As a percent of total	65 %	33 %	—
2015	$17,154	$7,947	$4
As a percent of total	68 %	31 %	—
2014	$18,665	$7,569	$—
As a percent of total	70 %	29 %	—

QCT Segment. QCT is a leading developer and supplier of integrated circuits and system software based on CDMA, OFDMA and other technologies for use in wireless voice and data communications, networking, application processing, multimedia and global positioning system products. QCT's integrated circuit products are sold, and its system software is licensed, to manufacturers that use our products in mobile phones, tablets, laptops, data modules, handheld wireless computers and gaming devices, access points and routers, data cards and infrastructure equipment, broadband gateway equipment and other consumer electronics. Our Mobile Station Modem (MSM) integrated circuits, which include the Mobile Data Modem, Qualcomm Single Chip and Qualcomm Snapdragon processors and LTE modems, perform the core baseband modem functionality in wireless devices providing voice and data communications, as well as multimedia applications and global positioning functions. In addition, our Snapdragon processors provide advanced application and graphics processing capabilities. Because of our experience in designing and developing CDMA- and OFDMA-based products, we design both the baseband integrated circuit and the supporting system as well, including the RF (Radio Frequency), PM (Power Management) and wireless connectivity integrated circuits. This approach enables us to optimize the performance of the wireless device with improved product features and integration with the network system. Our portfolio of RF products includes QFE (Qualcomm Front End) radio frequency front-end components that are designed to simplify the RF design for LTE multimode, multiband mobile devices, reduce power consumption and improve radio performance. QCT's system software enables the other device components to interface with the integrated circuit products and is the foundation software enabling manufacturers to develop devices utilizing the functionality within the integrated circuits. We also provide support, including reference designs and tools, to assist our customers in reducing the time required to design their products and bring their products to market. We plan to add additional features and capabilities to our integrated circuit products to help our customers reduce the cost and size of their products, to simplify our customers' design processes and to support more wireless devices and services.

QCT offers a broad portfolio of products, including both wireless device and infrastructure integrated circuits, in support of CDMA2000 1X and 1xEV-DO, as well as the EV-DO Revision A/B evolutions of CDMA 2000 technology. Leveraging our expertise in CDMA, we also develop and offer integrated circuits supporting the WCDMA version of 3G for manufacturers of wireless devices. More than 80 device manufacturers have selected our WCDMA products that support GSM/GPRS, WCDMA, HSDPA (High-Speed Downlink Packet Access), HSUPA (High-Speed Uplink Packet Access) and HSPA+ for their devices. QCT also sells multimode products for the LTE standard, which are designed to support seamless backward compatibility to existing 3G technologies. Our integrated circuit products are included in a broad range of devices, from low-tier, entry-level devices for emerging regions, which may use our Qualcomm Reference Design (QRD) products, to premium-tier devices. In fiscal 2016, QCT shipped approximately 842 million MSM integrated