

Qualcomm Incorporated

Qualcomm · (NSDQ: QCOM) · U.S. Technology · Communication
 Equipment · Price: \$52.78 · Recommendation: BUY
 1/14/18 Target: \$76.03 · Discount [Price + Yield]: 48.31%

Archetypal Graham/ Buffett Value Check for QCOM

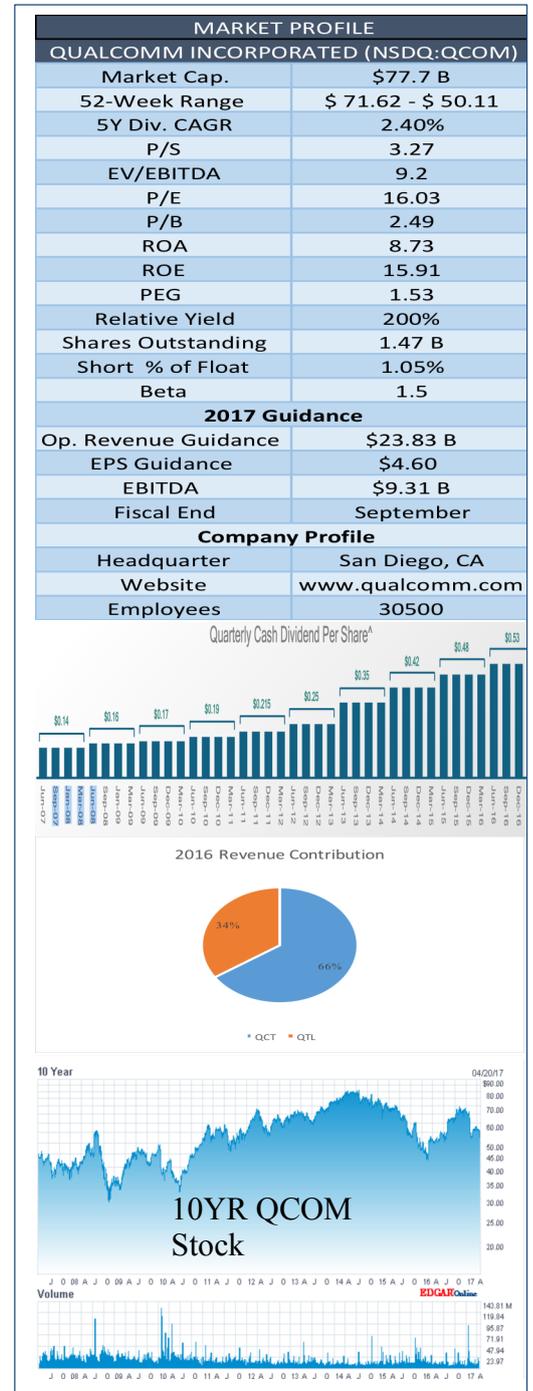
QCOM is the largest communication equipment company in the world with 3,000+ patents and a pioneer of 3G/4G/5G technologies. The company's stock pays a dividend (4.31% yield) and is currently selling at an astonishingly cheap multiple of 10.8X (one year forward P/E). Street's overreaction over multiple lawsuits filed by its biggest customer Apple and over some antitrust litigation has led to the recent decline in the price of QCOM shares. However, QCOM's brand, product pipeline, market position and recent acquisition of NXP semiconductors equate to an unparalleled moat for the company. The firm's balance sheet, with every information already sync'd in, is still very strong even in the midst of all the controversies over its Pandora's box full of lawsuits. QCOM's share value not only will see the light of the day but also will go only up from here with an anticipated explosive growth rate in smartphones and Internet-of-things (IoT) of CAGR 20% and 13.2% respectively.

Growth Catalysts to "POWER-Up" Shares in 2017

- ◆ **"Hyper-trending" & "glaring" Valuation prospects:** QCOM is cheaper than it has ever been on a Forward P/E basis of 10.8X Vs 10YR Average of 31X. It is cheaper than all of its major rivals. The stock's forward P/E is also well below the industry average (26.9x for Semiconductor). It is currently selling at a discount of 9.4% per the DCF valuation and It is not possible to find a value like this in the technology sector that will also afford investors this much growth potential yet providing it with the margin of safety.
- ◆ **Competitive Advantage - "Only Game in town":** QCOM benefits from their high revenue (relative to competitors), allowing them to out-spend every peer on R&D and once QCOM develops a new technology, they take action to develop multiple variances of this technology and provide additional functionality which allows their chipsets to be integrated with multiple types of technology. QCOM has 65-75% of market share in the smartphone chipset industry. They are protected by high switching costs, as developers creating newer models prefer to work with system architectures with which they are familiar and as discussed above, its technology integrates with many additional communications components; technologies which would have to be developed on a product-by-product basis depending on which components are used.
- ◆ **Margin of Safety - "Murphy's Law turned-up":** QCOM is a legend and a pioneer in the technology space of semiconductor-communication equipment space with \$77.7B+ in market cap. It pays a dividend and also has an enormous amount of cash (\$6B) and cash equivalents (\$23B) on its balance sheet. The company's fundamentals are superb (excellent track record, competent management, and the firm were debt free up until its decision to acquire NXP. QCOM is known for its dividend increment plan and for beating the street's estimates on a regular basis. These attributes provide investors with plenty of safety, while also affording management the latitude necessary to maximize shareholder value.
- ◆ **Recommendation - Field Research Confirms "BUY":** QCOM is rated as a strong buy by over 80% of Analysts covering for QCOM. Though the firm's growth rate will take a hit in short term because of pending litigations and because of margins decline due to new players coming to take market share from QCOM, such as Intel. However, for Value Investors who buy the stock now will be awarded a premium on future prospects of the company deriving from QCOM's vision for IoT and automotive space. A fair multiple on the stock based on a blended relative value, comparative value, PEG and DCF valuation is 18.95x one-year forward earnings, which equates to a dollar price of \$76.03. Expected return on QCOM based on this forecast is 48.31% (including dividend yield).

BUSINESS DESCRIPTION: "Qualcomm's Business Overview," Thinking Forward"

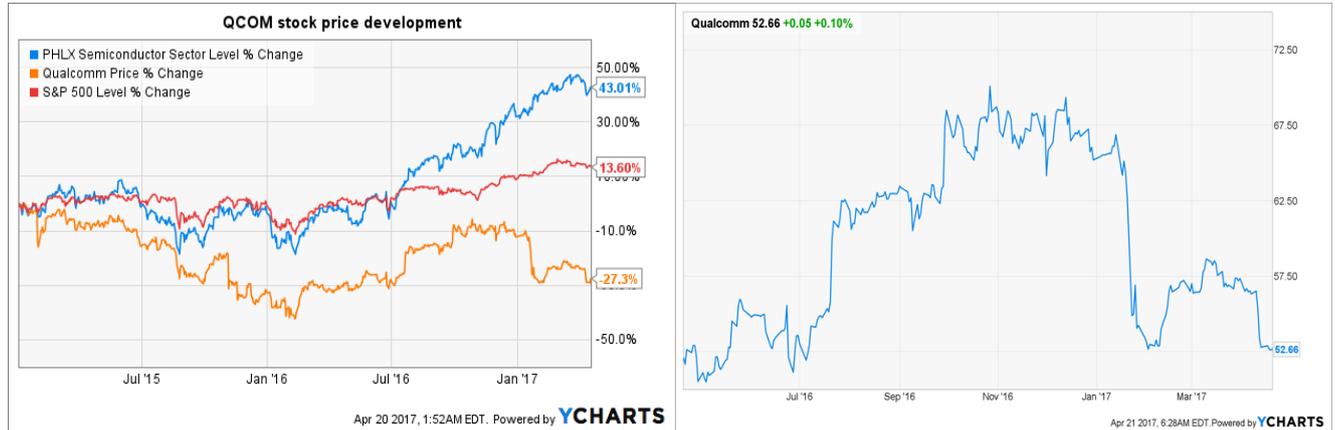
QUALCOMM incorporated on August 15, 1991, is engaged in the development and commercialization of a digital communication technology called code division multiple access (CDMA). The Company is engaged in the development and commercialization of the orthogonal frequency division multiple access (OFDMA) family of technologies, including long-term evolution (LTE), which is an Orthogonal Frequency Division Multiplexing (OFDM)-based standard that uses OFDMA and single-carrier Frequency Division Multiple Access (FDMA), for cellular wireless communication applications. The Company's segments include QCT (Qualcomm CDMA Technologies), QTL (Qualcomm Technology Licensing) and QSI (Qualcomm Strategic Initiatives). The Company also develops and commercializes a range of other technologies used in handsets and tablets that contribute to end user demand, such as certain audio and video codecs, the wireless local area networks (WLAN) 802.11 functionality and volatile and non-volatile memory controllers. Other technologies used by wireless devices that it has developed include operating systems, user interfaces, graphics and camera processing functionality, integrated circuit packaging techniques, sensors and sensor fusion algorithms and application processor architectures.



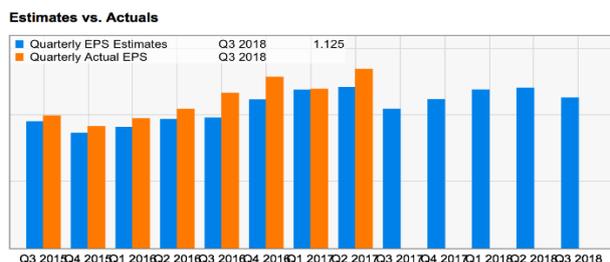
DISSECTING QUALCOMM'S BUSINESS: "Valuation potential"

The Company's products principally consist of integrated circuits (chips or chipsets) and system software used in mobile devices and in wireless networks. The Company also sells other products and services, which include integrated circuits for use in wired devices, broadband gateway equipment, desktop computers and streaming media players; software products and content and push-to-talk enablement services for wireless operators, and products designed for the implementation of small cells. Please see the Appendix for a list of references.

Negative Headlines in the Past (Loss of iPhone 7, NDRC Anti-Monopoly Ruling, Apple Dispute, Blackberry ruling) Present a Strong Buying Opportunity with share price close to its 52- week Low.



- ◆ As Figure 1 demonstrates, QCOM has dropped 27.3% in the past 3-year period to its current price of \$52.78, while the S&P 500 has returned 13.60% in the same time span.
- ◆ QCOM rallied in July 2016 after the market reacted positively to its acquisition decision of NXP, but a number of headline risks have pushed the stock to such a low level that it presents a strong buying opportunity.
- ◆ In Q2 2015, the China National Development Reform Commission (NDRC) fined QCOM \$975mm for violating China’s Anti-Monopoly Law and stipulated that QCOM charge running royalty rates of 5% for 3G CDMA1 or WCDMA devices and 3.5% for 4G devices which led to market concerns about royalty rates moving forward, but QTL segment actually beat expectations in Q1 2016 due to strong 3G/4G device volumes and strong ASPs
- ◆ In Q1 2016, QCOM deferred \$100mm in revenue because Korean smartphone maker LG took QCOM to arbitration over previous royalty overpayments and future royalty rates. While QCOM President Derek Aberle said on a conference call, “I believe LG’s claims are without merit,” QCOM’s stock dropped 8.3% the day after the news broke. I think that this was an overreaction – however, I assume that QCOM never recovers the lost \$100mm from LG, still substantial upside potential exists.
- ◆ Apple’s launch of the iPhone 7 in Fall 2016 has seen Intel take share from Qualcomm. If Qualcomm loses 40% share, JP Morgan predicts \$1.7bn in lost revenue in 2017. I model in this \$1.7bn loss in Core Mobile revenues in 2017, but EPS in 2017 still grows yoy due to lower restructuring charges for the Strategic Realignment Plan in addition to \$815mm loss to blackberry that pushed down EPS. I believe share loss to Intel could actually be a net positive in the long-run as it pushes QCOM to diversify away from Core Mobile and take opportunities in Automotive and IoT space, which is evidenced from its recent Acquisition of NXP.
- ◆ In Q1 2017, QCOM reported quarterly revenue and profit that beat analysts' estimates, however there was much uncertainties over apple litigation of close to \$1billion with respect to QCOM’s ties with its biggest customer, Apple.



- ◆ In Q2 2017, QCOM reported quarterly revenue and profit that beat analysts' estimates back to back for 2 quarters, helping ease concerns surrounding the company's dispute with Apple Inc. In addition, the most important information that QCOM presented during its fiscal 2017 Q2 earnings conference call that the acquisition of NXP Semiconductors had passed the HSR review process.

Business Segments performance:

Qualcomm operate principally through two segments that contribute towards its revenue stream as displayed below.

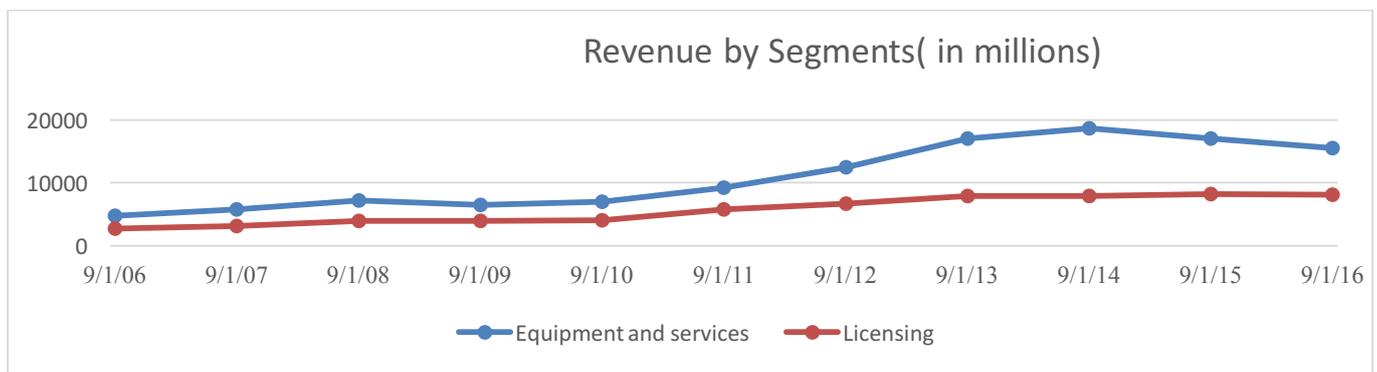
Licensing i.e. Qualcomm Technology Licensing (QTL): QCOM's licensing arm, which licenses their intellectual property to nearly every smartphone manufacturer. QTL's patent portfolio includes many "mission critical" solutions which are required for smartphones to meet international 3G / 4G / LTE standards, so they earn licensing revenue from effectively every smartphone that is sold.

QCOM receives approximately 3% of each device's sales price. These licensing revenues are a function of both total smartphones sold and the device price; smartphone purchases are expected to increase at over 20% per annum through 2018, however, much of this growth will come from emerging markets, which have lower device prices. QCOM's management believes they will continue net gains in licensing revenue, as the increase in global device sales will continue to outweigh decreases in price. Qualcomm's replacement value is less than 50% of their earnings power value, implying they have a substantial competitive advantage too.

QTL is the "crown jewel" which drives the significant value for the firm up until now. Licensing revenue is stable and growing. An 18.5% CAGR over the prior 15 years. Grown every year, with the exception of 2009. During the worst economic recession in modern history, revenue declined by under 0.5%. Over the prior 15 years, EBT margins have remained remarkably consistent at an average of 88%. Even during the great recession, profit margins for this segment dropped by only 1.5%, rebounding to average levels within two years

Equipment and services i.e. Qualcomm CDMA Technologies (QCL): A 'true' semiconductor firm, largely comparable to other large fabless semiconductor manufacturers. They manufacture integrated circuits and chipsets with principal applications in smartphones, in which they have an implied market share of ~70%. QCOM receives approximately \$20 per chip that they sell.

The often regarded "Ugly Sister" which provides some value to the firm, but principally exists to drive licensing revenue: Much like "Best Buy", whose retail sales drive their true profit engine (warranties), QCT's R&D activities create the opportunity for QLT to exist. However, as a standalone entity, QCT's profile is less than ideal. Prior to FY16, QCT had grown nearly every year, at a 21.4% CAGR. However, margins for this segment have steadily declined over that period. Overall, EBT has grown, as the rate of growth exceeded the decline in margins. However, due to the loss of major customer share (Apple since iPhone 7) and mid-term headwinds in the Chipset business (OEMs pushing back release of new products), management has reduced guidance for this segment. They are now projecting a 6% YoY revenue decline and a decline in EBT margins to 15.5% - The First YoY decline since 2009, and the lowest EBT margin of all time.



Synergies across QCT and QLT Segments:

- ◆ **Development:** QCT, which develops new technology through R&D activities, concurrently patenting this intellectual property, which QLT then licenses out to customers.
- ◆ **Integration:** QCOM owns nearly the entire smartphone chipset platform, allowing them to integrate innovations into multiple variants across market segments.
- ◆ **Integration (again):** QCOM owns (and has created) the foundational technology for CDMA and 3G / 4G technology. This first-mover advantage has blossomed into a broad competitive advantage, and their technology is generally superior, but also significantly more versatile – for example, custom (or in-house) chipsets are generally produced with the intention of integrating with specific technologies or components – QCOM's technologies are consistently refreshed to integrate with multiple types of related technology, making them more competitive and preferable to customers – with the added benefit of creating additional IP to license.

- ◆ **Collection:** Qualcomm's status as both a chipset and IP vendor provides them with unparalleled leverage to collect licensing fees at a lower cost, simply by denying physical delivery of the chipsets until all fees are paid. This allows their licensing segment to operate at much higher margins than companies which solely license IP or which provide products un-related to their IP.

CORPORATE GOVERNANCE: "Unmatched management performance"

QCOM's share ownership guidelines for executives during their tenure help to align shareholder and management interest by requiring the executives to hold a number of shares while active at the firm. The Company's stock ownership guidelines for its executive officers are determined as a multiple of the executive's base salary, with the size of the multiple based on the individual's position. The guideline for the Company's Chief Executive Officer is set at six times annual base salary. The guideline for the Company's President is set at three times annual base salary. The guideline for the other persons who are designated as executive officers for purposes of Section 16 of the Securities Exchange Act is set at two times annual base salary. Shareholder interest is further aligned with management through long-term incentives utilizing restricted stock, as well as performance grants derived from QCOM's total return vs peers and return on invested capital (ROIC). I found 2016 ROIC of 12.3%, exceeding QCOM's combined financing costs. The mean of QCOM's ROIC for the past 3 years is 13.1%. I believe QCOM's management is acting in the best interest of shareholders through its capital allocation and dividend distribution methods, which has a history of ever increasing for shareholders. I believe an important measure of capital allocation for management is the impact of retained earnings on QCOM's total market capitalization. Since inception, QCOM has returned cumulative of \$55.3 Billion to Stockholders till Dec 25, 2016 almost two-third of its market cap already. This dividend payout test shows that QCOM's management rationally deploys capital. "I am bullish on QCOM, mostly because of its sound management team, which has shown and continues to prove its ability to outperform domestic competitors and best position itself for growth within the dynamic and value-added semiconductor industry. Also with QCOM's acquisition of NXP at 15x EV/EBITDA implied by the QCOM offer is looking mighty stingy considering Intel is willing to pay over 100x EBITDA for another automotive ADAS leader – Mobileye, which shows the effectiveness of the QCOM's solid management. I was pleased to see the board's goal extended beyond shareholders but also to "employees, customers and the communities in which Qualcomm operates."

INDUSTRY OVERVIEW & COMPETITIVE POSITIONING: "Where the Industry derives its Value"

Porter 5-Forces

This is an analysis of the attractiveness of the semiconductor industry for QCOM based on Porter's model of five forces of competition. The analysis is mainly based on the U.S. market.

- ◆ **Suppliers' bargaining power: between low and medium**

In terms of large semiconductor companies, QCOM has inherent advantages when choosing suppliers from thousands of them. Diversified companies such as QCOM usually use enough number of suppliers to minimize the power of each. However, in the specialized semiconductor industry, in which the "fabless manufacturing" model is used by most of the companies. As a result, fabless companies play an important role in this specialized sector. Besides, not every sub-contractor has the capability to satisfy the needs of the specialized companies, so suppliers are much powerful than those in the large generic semiconductor sector. There are several supplier groups present to the semiconductor industry. A few of those groups are; capital equipment makers, suppliers of silicon, chemicals, gases, water, energy, metals and other materials are used in manufacturing semiconductor products.

- ◆ **Customers' bargaining power: medium-high**

The buyers of the semiconductor industry are endless. There is a buyer at literally every corner. The switching costs of the buyers in the commodity semiconductor market is small as they can purchase from any semiconductor industry player who is representing the lowest cost available as long as the technology is compatible. The strong role of the industry giants like Intel and QCOM limits the bargaining power of buyers. Computers, smartphones and electric vehicles are definitely the largest piece of demand presented by the buyers in 2016, although it is declining due to the rising sales of smart phones and media tablets. Buyers in the semiconductor tend to be very price sensitive as the industry is constantly producing products at a lower cost to push the demand of their product.

Within the buyers, there are several buyer groups that should be mentioned. The computer industry takes of the bulk of buyer demand, mobile devices and tabloids, and the medical industry to mention a few. These buyers make purchases from the semiconductor industry to continue in daily operations as they are a large part of ongoing business.

- ◆ **Threat of substitutes: Low**

The industry has the ability to change in a very short time. This takes away opportunities from substitutes to enter the market segment. It would not take the semiconductor industry very long to respond to a successful substitute as they would find a way to produce the product themselves. The problem that would be present is the money constraint. It can be done but at a cost. The industry players can find themselves spending a lot of money to research and develop new products just to find that their competition beat them to it by a few months. This keeps the business environment volatile and competitive.

- ◆ **Threat of new entrants: between low and medium**

Traditionally, because of the huge capital expenditures for startup, it is very difficult for those new entries to be successfully invading the semiconductor industry. Obviously, it is great news for those large companies who can control the market in their favor by using their economies of scale. Besides, the pointed end research and development are other two indispensable barriers for new entries.

However, recently, with the evolution of the industry, smaller players could move their attention from manufacturing to research and development. Benefit from the subcontracting of manufacturing, smaller companies have more resources and capital to invest into research of new technologies. The cooperation of subcontracting eased the financial burden of the smaller players and reduced the barrier of

semiconductor industry to them. This is extremely significant for those smaller entrepreneurial corporations even for the whole structure of the semiconductor industry. Moreover, except the high technology requirement for new entry, another significant barrier to entry the semiconductor market is the software compatibility. As a powerful semiconductor player, they are required to not only create physical technology, but also need to design convenient and compatible software which could collaborate with their processors well so customers could enjoy their product.

Another formidable barrier to entry is the huge initial investment required to enter the car markets in general. Large amounts of capital are required to set up manufacturing facilities and invest in R&D, among other large expenses. This also generates large sunk costs and makes it hard to achieve economies of scale for a new entrant. A positive factor for new entrants is that the switching costs of customers are not prohibitively high.

◆ Competition between established firms: high

The semiconductor industry is very highly competitive. The firms within this industry compete on a daily basis to produce or manufacture a product that is smaller, faster and cheaper. The industry changes rapidly as technology changes rapidly. This keeps it competitive as each competitor can seek and opportunity to create something great before the others do. Within this competitive industry there is a constant pressure to come up with better products.

The products of this industry are much undifferentiated as the products they are trying to create are essentially improvements to similar products that already exist. The accomplishments of the products change very little. The methods of production is where can see differentiation. The players are trying to come up with innovative ways to do the same things only in a smaller, faster, and cheaper manner (Investopedia, 2010).. For example, ARM has gained very much competitive advantage with its mobile chip technology, similarly Intel has been the number one in the laptop microprocessors because of superior product performance

The result of an industry that is this competitive is emerging technology that is cutting-edge. The technology is constantly changing into something better so for competition it makes it hard to remain at the top. What tends to happen in this type of an industry is that there are several industry players with similar size rise as the larger players. This is because no one player can keep excelling with the newest, fastest, and cheapest product available.

The four main products of the semiconductor industry are memory chips, microprocessors, commodity integrated circuit, and complex SOC (system on a chip) which is a combination of a system of semiconductors compacted into one small product. The following are the top ten ranked semiconductor industry leaders as of 2010: Intel, Samsung Electronics, Toshiba Semiconductors, Texas Instruments, Renesas Electronics, Hynix, STMicroelectronics, Micron Technology, Qualcomm, and Elpida Memory (Ford, 2010). The graph below shows how these competitors are doing against each other in terms of revenue. It gives a basic understanding how they sit against each other and who are the major players.

Overall, the industry is not very attractive for new entrant to come in this space. On similar note QCOM is expected to benefit from having greatest market cap in its industry of communication equipment while having relatively less likelihood of being challenged by the new players.

SWOT Analysis

◆ Strength

First mover advantage enables the company to sustain market position

Qualcomm having pioneered the CDMA wireless communications technology has a first mover advantage and is a leading player in the market. The company started promoting CDMA technology for wireless communication applications in 1989. The company is a major developer and supplier of CDMA-based integrated circuits (ICs) and system software for wireless voice and data communications, multimedia functions and global positioning system (GPS) products. Qualcomm's IC products and system software are used in wireless devices, particularly mobile phones, laptops, data modules, handheld wireless computers, data cards, and infrastructure equipment. Qualcomm leads the development and commercialization of all versions of CDMA technology, and as a result, owns a significant intellectual property, including patents, patent applications, and trade secrets, portions of which it licenses to other companies besides implementing them in its own products. In the wireless communications industry, a company generally seeking to develop, manufacture and sell products that use CDMA technology would require a patent license from Qualcomm. CDMA platform is one of the main technologies for digital wireless communications networks. First mover advantage in one of the most prominent wireless technologies enables the company to sustain the market position.

Strong focus on research and development (R&D)

Qualcomm has robust R&D capabilities. The company has R&D centers in various locations throughout the world. In addition, Qualcomm has significant engineering resources, including engineers with substantial expertise in CDMA, OFDMA and a broad range of other technologies.

The company's R&D focuses on innovation in voice and data communication technologies and application processor technology, among others. The company incurred R&D expenditures of \$5.5 billion, \$5.5 billion and \$5 billion, in FY2015, FY2014 and FY2013, respectively. The company's R&D is primarily focused on extending the demand for its products and services, including developing new versions of CDMA, OFDMA, and other technologies, and developing alternative technologies for certain specialized applications. Further, the company continues to develop, commercialize and actively support third generation (3G) CDMA-based technologies, including CDMA2000 1X, 1xEV-DO, EV-DO Revision A, EV-DO Revision B, 1x Advanced, wideband CDMA (WCDMA), high-speed downlink packet access (HSDPA), high-speed uplink packet access (HSUPA) and evolved high-speed packet access (HSPA+), as well as OFDMA-based long term evolution (LTE) technologies, products and network operations. Moreover, the company has been investing significantly to enter new markets, including display technologies and technologies to address the growth of mobile data traffic including products and software designed for the implementation of small cells, which can be used by carriers to extend the capacity of licensed and unlicensed wireless spectrum; increasing demand for data; the connected home and the Internet of Everything (IoE); data centers; automotive; very high speed connectivity; mobile health; wireless charging; and machine learning, including robotics.

The company's strong R&D has enabled it to win a number of patents. According to the company, it has the most widely and extensively licensed portfolio in the industry with over 285 licensees of all commercially deployed forms of CDMA and their derivatives require the use of Qualcomm patents. The company has an extensive portfolio of the US and foreign patents. The Majority of these patent and patent applications are related to digital wireless communications technologies, including patents essential for the commercial implementation of CDMA2000, WCDMA (UMTS), TD-SCDMA, TD-CDMA (Time Division CDMA) and OFDMA products. In addition, Qualcomm has patent portfolio related to key technologies used in communications and other devices and/or related services, including H.264 video codec technology, the next generation video codec technology (H.265 or high-efficiency video codec), advanced WLAN (802.11ac), volatile (LP-DDR2, 3, 4) and non-volatile (eMMC) memory controllers, operating systems, user interfaces, graphics and camera processing, packaging techniques, sensor and sensor fusion algorithms and application processor architectures.

The company's robust R&D capabilities that enabled it to develop a strong patents portfolio offer technological leadership to Qualcomm over its peers. It will enable it to introduce new products in a timely manner and enhance its existing products. This would enhance the appeal of its products thus enabling it to effectively retain and gain new customers.

Strong market position

The company holds strong share in a number of markets in which it serves. Qualcomm is one of the leading providers of smartphone chipsets. According to industry estimates, the company leads the smartphone applications processor market with a 42% market share and is the dominant player in the cellular baseband chip market with a market share of 59%. The company's Snapdragon 800 series quad-core chipset is extensively used in premium-tier smartphones and tablets with its superior processing and graphics performance and multimedia experience. In addition, Qualcomm's other Snapdragon models, including 200, 400 and 600 are widely used in mid-range smartphones. The strong market position of the company provides it a competitive edge over its peers. It also provides strong brand recognition enabling Qualcomm to add new clients from existing and new geographies.

◆ Weakness

Concentrated customer base

Qualcomm derives a significant portion of its total revenues from a limited number of customers and geographies. Revenues from few customers have historically constituted a significant portion of the company's total revenues. Qualcomm CDMA Technologies (QCT) and Qualcomm Technology Licensing (QTL) segment revenues related to the products of Samsung Electronics and Hon Hai Precision Industry/Foxconn, its affiliates and other suppliers to Apple comprised 45%, 49% and 43% in FY2015, FY2014 and FY2013, respectively. The loss of any one of its significant customers or the delay, even if only temporary, or cancellation of significant orders from any of these customers impacts the company's revenues in the period of the deferral or cancellation and will harm its ability to achieve or sustain expected levels of operating results. Further, concentration of device share among a few companies, and the corresponding purchasing power of these companies, may result in lower prices for the company's products which, if not accompanied by a sufficient increase in the volume of purchases of the company's products, could have an adverse effect on Qualcomm's revenues and margins.

High dependence on third party suppliers

The company depends on a limited number of third-party suppliers for the procurement, manufacture, and testing of its products. The company's QCT segment purchases wafers, die and fully-assembled and tested ICs from third-party semiconductor manufacturing foundries. Qualcomm also contracts with third-party suppliers for assembly, test and other services related to the manufacture of its products. A reduction, interruption, delay or limitation in product supply source, a failure by its suppliers to procure raw materials or to provide or allocate adequate manufacturing or test capacity for its products could have an adverse effect on the company's ability to meet customer demands affecting business and profitability. Moreover, the company relies on the sole or limited-source suppliers for some products, subjecting it to significant risks, including possible shortages of raw materials or manufacturing capacity; poor product performance; and reduced control over delivery schedules.

Although Qualcomm has long-term contracts with its suppliers, many of these contracts do not provide for long-term capacity commitments. Qualcomm's suppliers may allocate and in the past have allocated capacity to the production and testing of products for their other customers while reducing or limiting capacity to manufacture or test the company's products. Additionally, one or more of its suppliers or potential alternate suppliers may manufacture CDMA- or OFDMA-based ICs that compete with Qualcomm products. If the company fails to execute supply strategies that provide supply assurance, technology, leadership, and low cost, then its operating results and business may be harmed.

◆ **Opportunities**

Strong growth in smartphones market

The worldwide smartphone market is forecasted to record robust growth in the coming years due to strong consumer demand and increased commercial buying. According to industry estimates, global smartphone shipments are expected to grow from 1.5 billion unit shipments in 2015 to almost 2.1 billion unit shipments in 2020, growing at a CAGR of 6% during 2016-20 periods.

Qualcomm is well positioned to drive growth from the increasing demand for smartphones. The company's Snapdragon processors are employed in many of the smart devices, including Apple, HTC, LG, Samsung, Blackberry, and Sony, among others. Further, in 2015, QTI introduced four new Qualcomm Snapdragon processors, including Snapdragon 620, and Snapdragon 618, the 600 tier processors and Snapdragon 425 and Snapdragon 415, 400 tier processors for high-performance and high-volume mobile devices. The increasing usage of smartphones and the changing technology would drive the demand for the company's products and enable strong growth in sales. This would enable Qualcomm to drive strong revenue growth in the coming periods.

Poised to benefit from the growing IoT market

With increasing adoption of cloud services and the big data services, the Internet of Things (IoT) market is growing rapidly. According to industry estimates, the IoT market is expected to reach \$662 billion in 2021 from \$157 billion in 2016, growing at a CAGR of over 33% during 2016-21 periods. Further, it is estimated that over 20.8 million devices will be connected by 2020, compared to 6.4 billion devices in 2016. According to the company, embedded market, which includes IoT, provides a market opportunity of \$30 billion by 2020.

The company is well positioned to benefit from the robust outlook of the end market. The company offers a portfolio of intelligence-based products for the IoT market. Qualcomm's MDM9207-1, a flexible and scalable chipset with Cat 1 LTE technology is primarily designed for the IoT. Its key features include support for Cat 1 with power save mode (PSM) and up to 10 years of battery life; integrated ARM Cortex A7 AP and GNSS for location services; support for Linux OS-based platforms; 3G/4G LTE multimode/multiband support; and flexibility to add voice. The company's 2net platform is a cloud-based system that securely gathers health information from various medical devices and health applications into one easily accessible spot. The Qualcomm AllPlay smart media platform makes it possible for music devices of different brands to work together for a high-quality, whole-home audio experience.

In addition, the company's IoT Development Platform offers hardware and software for designing and building IoT/machine-to-machine (M2M) devices with built-in cellular connectivity. The platform runs Java Embedded ME SDK and includes components used to build, test and prove cellular-enabled IoT/M2M applications. With onboard sensors, indicators, and relays, the IoT Development Platform is extensively used by developers to test a range of applications including automotive, transportation and logistics; smart energy and security; industrial automation and enterprise; consumer and other M2M; and the digital home.

The company's growing presence in the IoT market will enable it to drive strong revenues and enhance its market share in the future.

Growing LTE adoption

The outlook for the LTE adoption is robust primarily due to the increased demand for faster data rates and better spectral efficiency in the wake of heavy data usage, increased penetration of smart devices and the demand for quality services on the move. The growth in the market is further enhanced by the planned large-scale adoption of LTE by operators in the Asia Pacific regions, primarily China. According to industry estimates, the worldwide LTE subscriber base reached nearly 1 billion in the last quarter of 2015. Furthermore, the global market is expected to reach 3.8 billion by 2020. Moreover, LTE is expected to account for more than 45% of the global mobile subscription market by 2020.

Qualcomm offers a range of components for the 4G devices, including RF transceivers, baseband processors and power management chips. The company's robust LTE portfolio coupled with strong growth in the end market would provide incremental growth opportunities to enhance its revenues and market share in the coming years.

◆ **Threats**

Intense competition

The company faces intense competition in the communications industry. The company faces competition across all its business segments. The company's QCT segment competes worldwide with a number of the US and international designers and manufacturers of semiconductors. It also competes in both single- and dual-mode environments against alternative communications technologies including but not limited to, global system for mobile communications (GSM)/general packet radio service (GPRS)/ enhanced data rates for GSM evolution (EDGE), time division multiple access (TDMA), time division synchronous code division multiple access (TDSCDMA) and worldwide interoperability for microwave access (WiMAX). The company competes on the basis of performance, the level of integration, quality, compliance with industry standards, price, time-to-market, system cost, design and engineering capabilities, new product innovation and customer support. QCT primarily competes with major companies including Broadcom, Ericsson, HiSilicon Technologies (a subsidiary of Huawei Technologies), Intel,

Lantiq, Marvell Technology, Maxim Integrated Products, MediaTek, Nvidia, Realtek Semiconductor, Samsung Electronics and Spreadtrum Communications. QCT also faces competition from internally developed products by its customers and from some early-stage companies.

The QTL division faces competition in the development of intellectual property for future generations of digital wireless communications technology and services. This segment competes primarily with the GSM/GPRS/EDGE digital wireless communications technologies on a global basis.

Intense competition across the company's segments may result in declining average selling prices for its products which may affect its top line growth and margins.

Rapid technological changes

Qualcomm operates in the telecommunications industry which is characterized by rapid technological changes. These changes will broaden the range and reduce costs of telecom products and services. Future changes in network technology will create a need for the company to upgrade its products and technologies. These up-gradation will also require the company to dedicate significant resources. New products or services that use new or evolving technologies may reduce demand for the company's existing offerings or cause prices for those services to decline. In addition, the company needs to upgrade its technology innovations to compete better with the emerging technologies. There can be no assurance that Qualcomm will succeed in developing, implementing and marketing new technologies, products, services or enhancements in a reasonable time, or that they will gain market acceptance. Inability to upgrade to the new technologies may affect the company's competitiveness and the results of operations. The company may employ a number of strategies to reduce technological risk, but the rapid rate at which new technologies are emerging, exposes the company to inventory obsolescence risks.

Investigation related to alleged anti-monopoly practices

The company is subject to the investigation related to alleged anti-monopoly practices. In 2015, Qualcomm agreed to pay a fine of \$975 million as part of a 14-month government investigation into anti-competitive practices. As per the deal, the company may also lower its royalty rates by around a third on patents used in China. The National Development and Reform Commission (NDRC) probe disrupted the company's business in China and fostered disputes with existing licensees and caused other firms to delay signing new licenses. Similarly, in 2015, Genitop, which develops Chinese character information processing software and semiconductor chips, sued Qualcomm for infringing its China-registered trademarks. The company is seeking a penalty of \$100 billion in administrative penalty and \$16 million for using Genitop's trademark.

The company's involvement in monopoly offenses and other lawsuits would negatively impact the company's business and its growth prospects in China. It would also have an adverse effect on the brand image of Qualcomm.

Margin of safety: "Where is the value/Moat"- "Devil is in the details"

The pendulum always swings from irrational exuberance to unjustifiable pessimism and right now Mr. market is unjustifiably pessimistic about the QCOM's price. Graham suggests "The Intelligent Investor dreads a bull market and welcomes a bear market" and hence in my opinion QCOM is at the right purchasing price of \$52.78 since Mr. Market's wild pricing inconsistencies has wildly undervalued QCOM stock. Also since Graham shuns upon using only past performance as a major decision-making tool for the Investor, I tried to look at the prospective ability of QCOM to whether past this storms before choosing it for value investments. Furthermore, Graham in his example of Emhart Corp. and ELTRA's talks about its attractively priced stocks relative to P/E and book value and because of both having stable earnings brings similarity to what QCOM is offering to its potential investors today. His take of buying relatively large companies that are currently unpopular to make large returns or by buying bargain issues to make outsized returns fits well with QCOM current scenario. Hence in my humble opinion, QCOM is definitely an investment buy at this point that is it presents upside through Quantitative analysis and promises safety of principal with an adequate return. Also as a value Investor Investing on the basis of projection is often considered as a fool's errand; Investing on the basis of protection is the best solution" and that brings to my next thesis i.e. QCOM's future prospects and its effectiveness.

5G Economy: "A yet new diaspora for the communication equipment's technologies"

The recent focus for Qualcomm has been in 5G technologies which give it enough advantage over any player in the market that are still lacking the technical skills to outperform QCOM in even 3G and 4G space. It is estimated that 5G economy will growth to \$12 trillion by 2035 and with QCOM having the first mover advantage with grab the biggest pie from this technology.



Source: 2017 Annual Shareholder Meeting Presentation

Acquisition: “A marriage made in heaven”

Per the recent update in Q2 2017 earning call, it is almost confirmed that the acquisition will take place as it has passed the HSR approval Process. With this, the anticipated synergies between the two come in to play (of the order of 835million) in addition to the extra revenue growth potential from the NXP business in automotive and IoT space.



Source: 2017 Annual Shareholder Meeting Presentation

Snapdragon & Qualcomm Centriq 2400: “Future is bright”

Qualcomm unveiled a new 835 Snapdragon processor, the first ever under 10-nanometers, earlier this year. The Snapdragon 820 and 821 are found in high-end Android smartphones like the Google Pixel, Samsung Galaxy S7 Edge, LGV20, HTC 10, and BlackBerry’s Android device. Executives told analysts that demand for 10 nanometer chips is exceeding supply.



Source: 2017 Annual Shareholder Meeting Presentation

QCOM- “what’s the management vision”

With the clear direction from the management as to where the company is headed in the years to come confirms the management expertise and vision for the future.

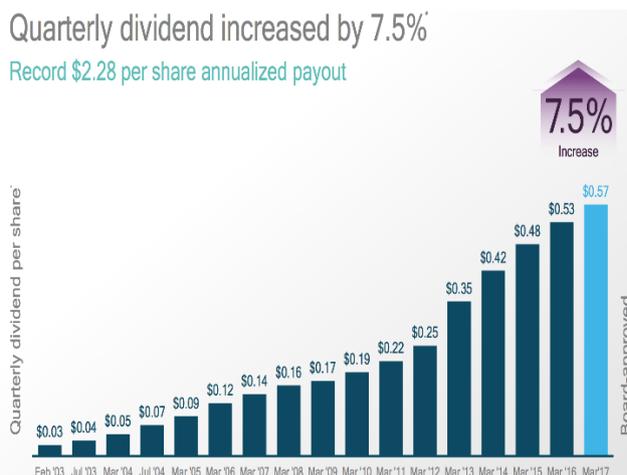
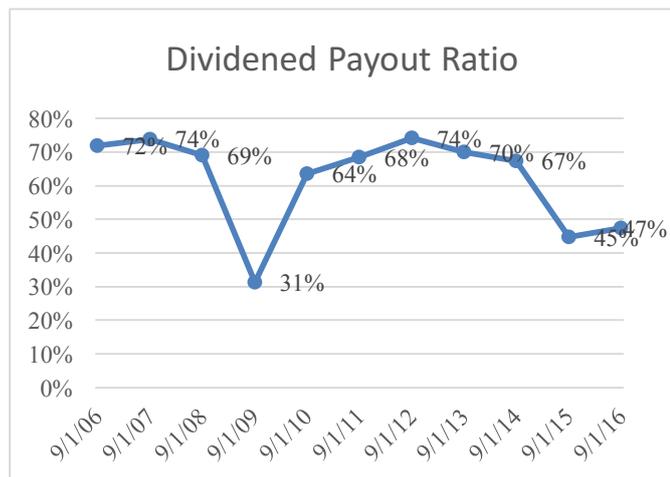


Source: 2017 Annual Shareholder Meeting Presentation

Investment Summary

Forecast Assumptions

I estimate going forward and for F2017 revenue will grow at 11% each year (by being very conservation on the side of caution). This increase in revenue is justified by QCOM's chipset and licensing business, where quality assurance is the theme of the day and QCOM having had enough clout and innovation going in favor of its products lends solid reasoning to its increased revenue growth. For dividends, I assumed growth at 8%, which is a key management goal for QCOM and usually confers with the trend. I am also expecting, QCOM to achieve its goal of spending an average of \$2.5-3.5 billion a year on growth CapEx and \$ 5.2 – 8 Billion on R&D.



Valuation using Comparable

My P/E Comparable model resulted in a target price of **\$99.02** per share. For this estimate, we used an estimated industry average P/E multiple of 26 x and Earnings of \$5,705 for QCOM for diluted shares outstanding of 1.98 billion, which returned QCOM's projected price. The peer group has been taken from Morningstar and those that have been cited by management as useful in performance comparisons since each company in the group operates in a technology sector we selected the P/E for the semiconductor industry. I conducted a P/E sensitivity analysis which shows discount at even the current level.

P/E	Analysis at Various Prices - Trading Comps - Earning										
	16.00x	18.00x	20.00x	22.00x	24.00x	26.00x	28.00x	30.00x	32.00x	34.00x	36.00x
QCOM LTM earnings	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705
Equity Value	\$91,280	\$102,690	\$114,100	\$125,510	\$136,920	\$148,330	\$159,740	\$171,150	\$182,560	\$193,970	\$205,380
FD Shs Out	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498
Value per share	\$60.93	\$68.55	\$76.17	\$83.79	\$91.40	\$99.02	\$106.64	\$114.25	\$121.87	\$129.49	\$137.10

PEG Valuation

My evaluation of QCOM on a PEG basis reveals an implied discount of 33%. This equates to a potential share price of \$69.93 and a multiple of 10.8X one year forward earnings.

QCOM PEG Ratio	1.53
10 Year Average Growth Rate (Model)	16.00%
1 Year Forward P/E (04/14/17)	10.8
PEG Calculation:	0.675
Implied Discount=	33%
Current Share Price (04/14/17)	\$52.78
PEG Implied Price	\$69.93

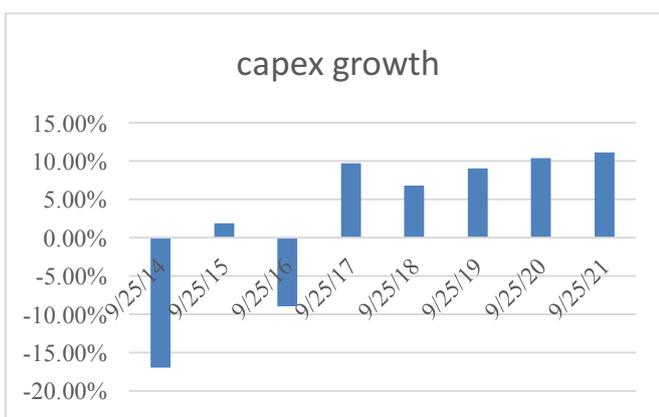
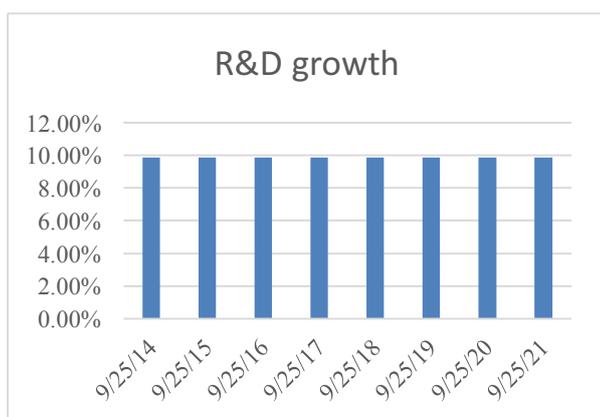
Unlevered Free Cash Flow (UFCF) Model

The Unlevered Free Cash Flow (UFCF) Model resulted in a target Price of **\$58.34**, which suggests that QCOM is selling at a discount of 9.4% with respect to its current price \$52.78. The analysis is done by considering the perpetual growth of 1% per the Aswath Damodaran site while the rate of debt at 3%, calculated as sum product of all the available debts and rate of equity calculated using a market premium of 3.74% and a beta of 1.5.

Unlevered FCFs			\$6,156	\$3,503	\$3,813	\$4,172	\$4,583	
Terminal Value								
Growth rate		1.00%						
Discount rate (WACC)		6.05%						
Terminal Value		\$91,654						
Discounting model			Today	Year End	Diff	Year	Timing Factor	
Mid-year convention	YES		4/14/17	9/25/17	164	365.25	0.449	
Year count			0.225	1.225	2.225	3.225	4.225	
Discount denominator			0.987	0.931	0.878	0.827	0.780	
PV of Free Cash Flow			\$6,076	\$3,260	\$3,346	\$3,452	\$3,576	
PV of FCFs	\$19,708							
PV of Terminal Value	71,512							
TEV (Total Enterprise Value)	\$91,221							
Short-term debt	\$1,749							
Long-term debt	9,935							
Total debt	\$11,684							
Required Cash	\$7,849							
Excess Cash	0							
Total Cash	\$7,849							
Convertible / Preferred	0							
Minority Interests	(10)							
Equity Value	\$87,396							
Diluted Shares Outstanding	1,498							
Value per share	\$58.34							
Current Price (3/15/17)	\$52.78							
Premium / (Discount) to Intrinsic Value	(9.5%)							
Rating	BUY							

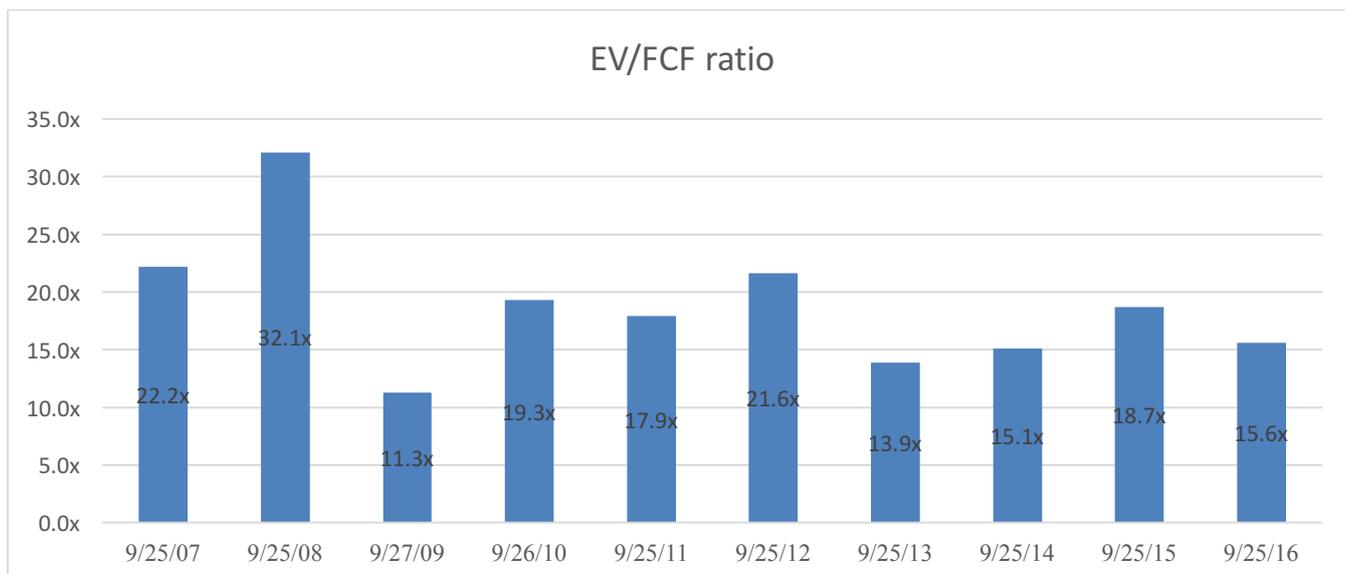
CapEx & Research and development

CapEx and research & development has become a greater expense for QCOM since its inception and continues to increase at a high rate. However, with an increase in revenue at a much faster rate the capital intensity is still reduced as a net result. From 2006–16, CapEx intensity is reduced significantly because of better operational efficiencies as well as with low investment in required for operational business. On the other hand, research & development spending increased at a rough rate of 10% p.a and is expected to increase even further with management’s vision to pivot its business to better position itself in IoT and Automotive space. Through 2018, QCOM plans to spend on its latest 5G technology advancement and hence, as a result, I have assumed CapEx to increase on an average of 9% on going forward basis.



Free Cash Flow Analysis

QCOM possessed positive FCF almost all the years since inception excluding the years 2008 and 2009 and I expect the same in 2017; However, the FCF per the modelling will decline in the years to come due to its recent debt financing for its NXP acquisition and since the operating working capital almost unchanged for the next five years and business generating enough cash to manage its debt load and available anticipated synergies in the NXP deal. The valuation stands better than it is right now. Over the last decade this is how their EV/FCF multiples have looked at the end of the financial year:



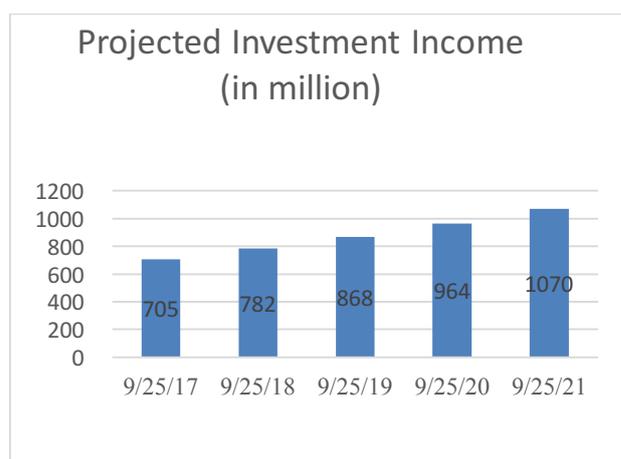
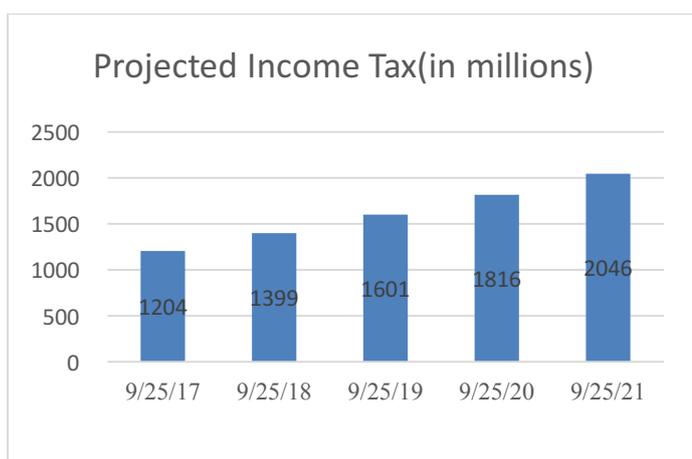
The basic average sits at 18.8. However, again adjusting for outliers out for 2008 and 2009 leaves us with an adjusted average of 18 exactly. Using the financial model, I emerge with FCF estimates of \$6.95 billion and \$6.15 billion for this year and the next. Averaging these (giving \$6.55 billion), feeding this back into the EV/FCF calculation. The FCF fair value results in the share price of \$79.1. At the current share price of \$52.78, QCOM could advance about 70% or more before even hitting its FCF fair value.

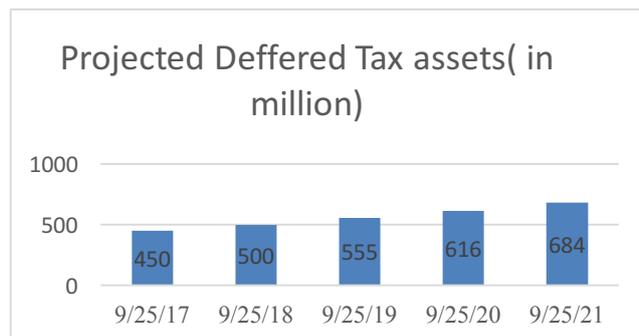
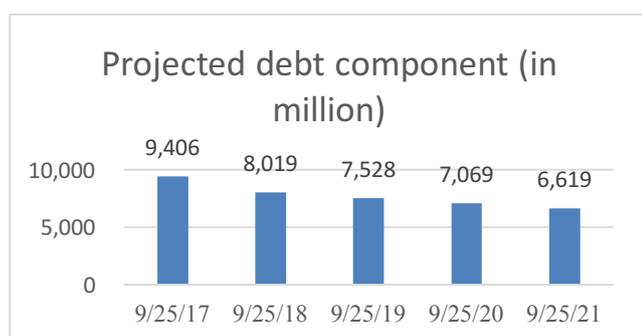
Interest Expense, Taxes and Investment Income: Recent Leverage, Deferred Tax Assets, and Investment Performance

QCOM’s emphasis on its strong balance sheet and commitment to an investment grade rating make it unlikely that the company will issue further debt in the next six years. Furthermore, the company raised \$10bn in debt in 2015 and \$11bn 2016 and has stated goals of preserving strategic flexibility and a commitment to return a minimum of 75% of FCF to stockholders, making any early debt retirements unlikely. I applied the weighted average interest rate of 3% to QCOM’s remaining long-term debt balance based on its debt schedule to project interest expense through 2021.

QCOM had 17% tax rate in 2016 on its 10-k annual report /earnings call, and given the historical reliability of its projections, I projected a 17% tax rate for 2016, close to its five-year historical average rate of 17%.

QCOM has federal net operating loss carry forwards of \$366mm as of September 27, 2015, expiring from 2021-2033, unused state net operating loss carry forwards of \$696mm expiring from 2016-2035, and unused foreign net operating loss carry forwards of \$413mm expiring from 2019-2024. In the company’s 10-K, it states that it “does not expect its federal net operating loss carry forwards to expire unused,” which I interpret as the company is only expecting to utilize its federal NOL carry forwards in the foreseeable future. Therefore, I assume that the federal NOLs will be utilized evenly in every year from 2017-2033, when they expire, amounting to \$21.5mm annually in tax savings. I assumed that tax provisions from 2017-2021 will equal 17% * EBT.I projected investment income equal to 3% of revenues from 2016-2021, slightly below the five-year historical average of 4.17%, as the company expects to generate lower interest and dividend income as well as lowered realized gains in 2017 due to rebalancing, a trend I conservatively estimate will persist. I project depreciation and amortization will remain at a historical average as a percentage of PPE and Intangibles respectively because I do not foresee the capital intensity of the business shifting dramatically over the next five years.





Blended Weighted Valuation

QCOM's growth profile is unique and warranted a blended approach to implied P/E and forecasted price. Weightings were assigned to each valuation methodology in order to average out the abnormalities in the implied result. Equal weights were assigned to PEG, FCF valuation, and Comparative P/E approaches. A lesser weight was assigned to the DCF valuation as the model tends to underestimate estimate companies with negative recent growth. Based on this analysis, I believe a fair multiple for QCOM is 18.95x one year forward earnings. This multiple would result in a market price of \$76.03, which is a 44% increase from the current share price of \$52.78. At current levels, the stock is so attractive; Buffet and Graham, if he was alive, would break from their stance on investing in the technology sector and delve into it for this incredible buying opportunity.

Valuation approach	Implied Multiple	Price Forecast	Weighings	Component
DCF	13	58.34	15%	8.75
FCFF	18	79.1	21%	16.81
P/E Relative	26	99.02	21%	21.04
P/E Comparative	18	68.55	21%	14.57
PEG	18	69.93	21%	14.86
Total	18.95x			\$76.03

DuPont ROE Assessment

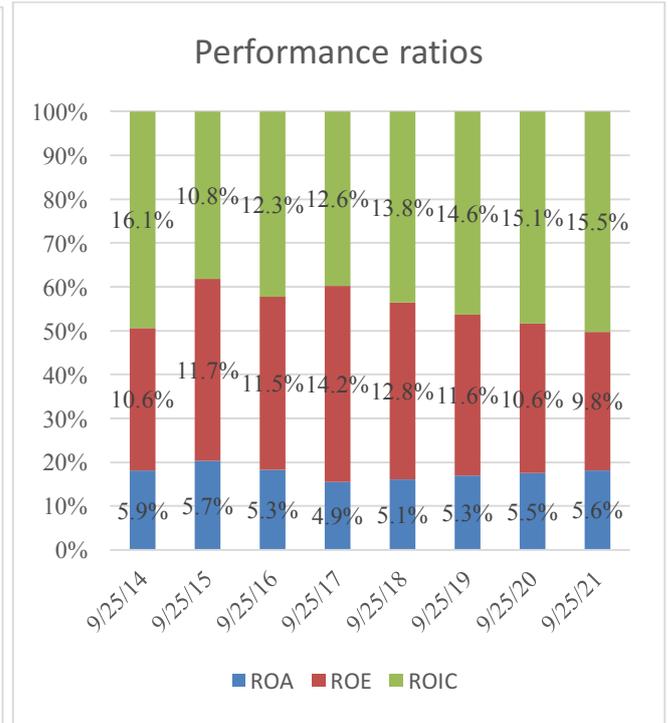
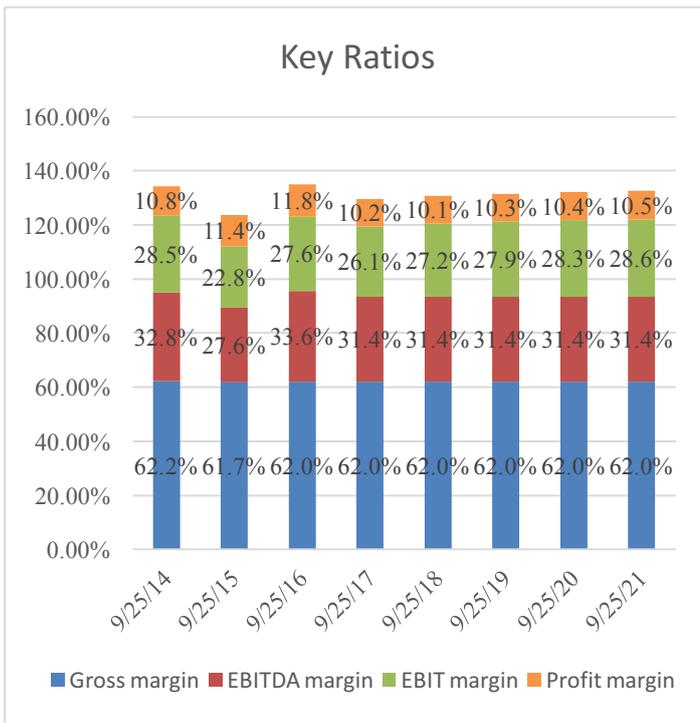
ROE is an extended portion of the ROA ratio. The only addition to this ratio is the leverage (debt). Leverage can magnify both gains and losses. Too much leverage in poor economic environments can prove to be lethal. Similarly, it is important to note the medium of debt for the actual analysis of management's take on the future of the company. If there is too much of short-term debt wrt to long-term debt it again sends the wrong signal about the future sustainability of the firm. The Leverage Ratio of QCOM is very consistent up until 2014 and has recently taken debt in my opinion to leverage the already conducive environment of low-interest rate. One could suggest that QCOM's management knows its own business cycle and as such has taken out debt so that it can magnify the current economic upward trend into its profitability and also invest in the future direction of IoT and Automotive space, which is evident from its acquisition of NXP.

Payout Ratio

QCOM's payout ratio decreased between 2014 and 2016, due to an increase in EPS, while the dividend grew at a secure rate. In Q2 2017, QCOM's payout ratio of 47% was one of the highest among its peers. Over the next twelve months, I forecast that QCOM will possess a payout ratio of roughly 50-55% as approved by the Board.

Key Ratios

In assessing profitability, QCOM has performed very well and is first in its peer group for gross margin, profit margin, EBIT margin, and ROE. Within our forecasts, I still expect QCOM to hold this lead among its competitors. Since QCOM's revenues have suffered from negative growth in the last two years, these measures imply that QCOM has above-average proficiency in cost-control. For long-term solvency, QCOM stands solidly with close to \$30 billion in cash, cash equivalents, and marketable securities. QCOM has begun to take debt to finance its NXP acquisition but even then only stands at 12% of total capital which is slightly higher for the technology industry on an average and its peer group in general. I am optimistic management will use QCOM to strategize its business from smartphones to additional segments such as automotive and IoT and pivot its vision to greater profitability.



KEY INVESTMENT RISKS

Firm-Specific Risks

QCOM is heavily invested and currently committing itself into future technologies (5G, IoT, connected cars). In a sense, it's positive as it diversifies the product landscape for QCOM however if it doesn't bear fruit it will be a downhill road for QCOM. In addition, the competition is getting more intense in QCT space with Intel and NVIDIA vying for more market share everyday and upgrading their product quality to match QCOM's. In a recent test of processor performance of QCOM and Intel based Iphone7 reveals QCOM processor is still far better than the intel's.

Legal Risks:

QCOM faces numerous lawsuits, multiple lawsuits filed by Apple and antitrust litigation. BBRY announced it won an arbitration over an existing cap clause on royalties. As BBRY does no longer sell smartphones, it was in their interest to pursue the argument. The amount awarded to BBRY is USD 815mln. Although the headlines look scary, this is actually a very immaterial event for QCOM. The USD 815mln is actually less than 1% of its EV and really is a one-off event revolving around a single issue in a specific contract for subscriber units between 2010 and 2015. QCOM restated that each license agreement is unique. This brings us to the AAPL lawsuits, the real danger of the lawsuits is their possible disruption of the royalty model for essential patents based upon the value of the entire device rather than a royalty based upon the incremental value of the use of the patents that is brought to the device.

It is my opinion that QCOM will defend this model at all costs and rather agree on a formula that lowers the rate of the royalty. This is what QCOM did when the Chinese regulators challenged them. In a way, this adds to the price pressure and competitive dynamics of the fragmented and high-tech smartphone and smartphone components market and hence QCOM is doing the one thing that really helps them, i.e. diversifying towards other end markets (automotive) and positioning for future technologies (5G, IoT, connected cars).

RECOMMENDATION SUMMARY

I believe off late technology sector is gone out of favor from the Investors partly because the valuation is not that well understood for technology stocks and partly because technology is so ever changing that you can't invest based only on the current fundamentals as it can be misleading representation for the future. However, in my opinion as an investor this common belief has presented a unique scenario to invest in QCOM, a value stock in this sector while it is still cheap and out of sight from the major investors. Also if history is any indication of future then with reduced tax and deregulation, the Technology sector is expected to do better than the most which can be seen from the index for this measure that has been but increasing, reflecting its increasing growth potential.

For QCOM, the company does not need to grow earnings anywhere near the estimated 9-11% to provide investors with a healthy total return over the next couple of years. Shareholder's total return is driven by dividend yield + earnings growth +/- P/E multiple contractions. For QCOM, the current forward yield of 3.7% and the significant share buybacks (assuming a conservative 2.5% for 2017) provide a solid base return of 6.2% p.a., the rapidly growing addressable market should allow QCOM to grow even in adverse business conditions at least at a modest rate of 4%. The trailing P/E of 16.4 (fwd. P/E 10.8) is below the 10-year median of 19.0 and far below the industry average (27x) as well as the S&P 500 (21.1x). With the P/E multiple at these levels, I don't expect a contraction, which sets up investors for a very healthy double-digit return or at the minimum at least a high single digit.

The equity case for Qualcomm offers asymmetric risk. The very attractive valuation and strong cash flow on the back of its strong market position in a still expanding 3G/4G market limit the downside whilst the upside can be huge, propelled by the NXP takeover and opportunities from exponential growth technologies such as autonomous cars. Shareholders willing to invest in a value stock and sit through the short-term uncertainty stand can expect a double-digit total return which is rare in the current expensive markets. According to Graham, "Since the profits that a company can earn are finite, the price that investors should be willing to pay for stocks must also be finite" and hence I recommend any price less than 52.78 is a buy opportunity. Also, QCOM fits the Graham's criteria of a "large, prominent, and conservatively financed" company with a market cap exceeding \$77 billion. And as he says Never just "Buy what you know", unless you have done your homework and understand why it is worth owning this company and therefore I believe with respect to the homework that I have done in this report "It is safe to say go long with QCOM with an upside potential of 48%.

Appendix:

1. "The Intelligent Investor, The Definitive Book on Value Investing"; Benjamin Graham; Harper; First Collins Business Essentials Edition, 2006
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Glossary

- RFFE – Radio Frequency Front End Products, which consist of all components in the receiver of a radio receiver circuit that process the signal at the original incoming radio frequency before it is converted to a lower intermediate frequency
- IoT – Internet of Things, network of physical objects embedded with electronics, software, sensors and network connectivity that enables these objects to collect and exchange data
- CDMA – Code Division Multiple Access, a channel access method used by various radio communication techniques
- WCDMA – Wideband Code Division Multiple Access, based on CDMA technology but is a 3G technology that increases data transmission rates in GSM systems by using CDMA air interface instead of TDMA
- QTL – Qualcomm Technology Licensing, refers to Qualcomm’s operating segment that grants licenses or otherwise provides rights to use portions of our intellectual property portfolio
- QCT – Qualcomm CDMA Technologies, refers to Qualcomm’s operating segment that is a leading developer and supplier of integrated circuits and system software based on CDMA, OFDMA and other technologies for use in voice and data communications, networking, application processing, multimedia and global positioning system products
- TDK – Japanese multinational electronics company that manufactures electronic materials, electronic components, and recording and data-storage media
- RF360 Holdings – Joint Venture in the Radio Frequency Front End space between TDK Corp. and Qualcomm
- SAM – Serviceable Addressable Market, market opportunity that exists within a firm’s existing core competencies and/or past performance
- ASP – Average Selling Price

Financial Model:

Qualcomm Income Statement								
<i>(USD in millions, except per share data)</i>								
	Historical			Projected				
	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
Revenues:								
Equipment and services	18625	17079	15467					
Licensing	7862	8202	8087					
* Total Revenues	26487	25281	23554	26145	29021	32213	35757	39690
Clean Cost of Revenues	10020	9686	8944	9945	11039	12253	13601	15097
* Gross Profit	16467	15595	14610	16200	17982	19960	22155	24593
Clean Research and Development	5136	5124	4725	5205	5777	6413	7118	7901
Clean Selling, general and administrative	2147	2188	2188	2270	2520	2797	3105	3446
Other expenses	484	1293	(226)	521	579	642	713	791
* EBITDA	8700	6990	7923	8204	9106	10108	11220	12454
Depreciation & Amortization	1150	1214	1428	1367	1220	1132	1091	1086
* EBIT	7550	5776	6495	6836	7886	8975	10129	11367
Interest Expense, net	(5)	(104)	(297)	(247)	(193)	(144)	(93)	(43)
Investment Income, net	1233	815	635	705	782	868	964	1070
* Income from continuing operations before income taxes	8778	6487	6833	7294	8475	9700	11000	12394
Income tax expense	1244	1219	1131	1204	1399	1601	1816	2046
* Income from continuing operations	7534	5268	5702	6090	7076	8099	9184	10349
Discontinued operations, net of Income tax	430	0	0	0	0	0	0	0
* Net Income	7964	5268	5702	6090	7076	8099	9184	10349
Net Loss attributable to non controlling interests	3	3	3	3	3	4	4	5
* Net Income attributable to Qualcomm	7967	5271	5705	6093	7080	8103	9189	10353
Basic earnings per share attributable to qualcomm								
Continuing operations	4.48	3.26	3.84					
Discontinued Operations	0.25	0	0					
Net Income	4.73	3.26	3.84	4.11	4.77	5.46	6.19	6.98
Diluted earnings per share attributable to qualcomm								
Continuing operations	4.4	3.22	3.81					
Discontinued Operations	0.25	0	0					
Net Income	4.65	3.22	3.81	4.07	4.73	5.41	6.13	6.91
Shares used in per share calculations								
Basic	1683	1618	1484	1484	1484	1484	1484	1484
Diluted	1714	1639	1498	1498	1498	1498	1498	1498
Dividends per share announced	1.54	1.8	2.02	1.94	2.26	2.58	2.93	3.30

Qualcomm BalanceSheet											
<i>(USD in millions, except per share data)</i>											
	9/25/06	9/27/07	9/28/08	9/27/09	9/26/10	9/25/11	9/25/12	9/25/13	9/25/14	9/25/15	9/25/16
Assets:											
Cash and cash equivalents	1607	2411	1840	2717	3547	5462	3807	6142	7907	7560	5946
Marketable securities	4114	4170	4571	8352	6732	6190	8567	8824	9658	9761	12702
Accounts receivable, net	700	715	4187	700	730	993	1459	2142	2412	1964	2219
Inventories	250	469	521	453	528	765	1030	1302	1458	1492	1556
Deffered tax assets	235	435	289	149	321	537	309	573	577	635	0
Collateral held under securities lending	0	421	0	0	0	0	0	0	0	0	0
Other current assets	143	200	464	199	275	346	473	572	401	687	558
Total current assets	7049	8821	11872	12570	12133	14293	15645	19555	22413	22099	22981
Marketable securities	4228	5234	4858	6673	8123	9261	14463	14440	14457	13626	13702
Deffered tax assets	512	318	830	843	1922	1703	1412	1059	1174	1453	2030
Assets held for sale	0	0	0	0	0	746	1109	72	0	0	0
Property, Plant and equipment, net	1482	1788	2162	2387	2373	2414	2851	2995	2487	2534	2306
Goodwill	1230	1325	1517	1492	1488	3432	3917	3976	4488	5479	5679
Other intangible assets, net	0	664	3104	3065	3022	3099	2938	2553	2580	3742	3500
Other assets	707	345	369	415	1511	1474	677	866	975	1863	2161
Total assets	15208	18495	24712	27445	30572	36422	43012	45516	48574	50796	52359
Liabilities And Shareholders' Equity											
Trade accounts payable	420	635	570	636	764	969	1298	1554	2183	1300	1858
Payroll and other benefits related liabilities	273	311	406	480	467	644	664	839	802	861	934
Unearned revenues	197	218	394	441	623	610	545	501	785	583	509
NEW REVOLVER											
Short-term debt	0	0	0	0	1086	994	1072	0	0	1000	1749
Income Taxes Payable	137	119	227	29	1443	0	0	0	0	0	0
Obligation under securities Lending	0	421	0	0	0	0	0	0	0	0	0
Liabilities held for sale	0	0	0	0	0	0	0	0	0	0	0
Other current liabilities	395	554	1070	1227	1085	2072	1723	2319	2243	2356	2261
Total current Liabilities	1422	2258	2667	2813	5468	5289	5302	5213	6013	6100	7311
Unearned revenues	141	142	3768	3464	3485	3541	3739	3666	2967	2496	2377
Long-term debt	0	0	0	0	0	0	0	0	0	9969	10008
Other liabilities	239	260	333	852	761	620	426	550	428	817	895
Total Liabilities	1802	2660	6768	7129	9714	9450	9467	9429	9408	19382	20591
Shareholders' Equity											
Common Stock	0	0	0	0	0	0	0	9874	7736	0	414
Paid in Capital	7242	7057	7511	8493	6856	10394	11956	0	0	0	0
Retained earnings	6100	8541	10717	11235	13305	16204	20701	25461	30799	31226	30936
Accumulated other comprehensive income	64	237	-284	588	697	353	866	753	634	195	428
Total Qualcomm stockholders' equity	13406	15835	17944	20316	20858	26951	33523	36088	39169	31421	31778
Noncontrolling interests	0	0	0	0	0	21	22	-1	-3	-7	-10
Total stockholders' equity	13406	15835	17944	20316	20858	26972	33545	36087	39166	31414	31768
Total liabilities and stockholders' equity	15208	18495	24712	27445	30572	36422	43012	45516	48574	50796	52359
Check	0	0	0	0	0	0	0	0	0	0	0

Qualcomm Calculations									
<i>(USD in millions, except per share data)</i>									
	Historical			Projected					
	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21	
Retained Earnings									
Beginning balance (previous ending)	25461	30799	31226	30936	34288	38016	42283	47122	
Net Income	7967	5271	5705	6093	7080	8103	9189	10353	
Dividends(from CFS)	2629	2932	3046	2885	3351	3836	4350	4901	
Cumulative effect of adopting FIN 48				-143					
Share Repurchase		1912	2949						
Ending Balance	30799	31226	30936	34288	38016	42283	47122	52574	
<i>Check</i>	30799	31226	30936						
	0	0	0						
Intangibles									
Beginning Intangibles	2553	2580	3742	3500	2736	2138	1671	1307	
New Purchases of Intangibles	568	1751	562	0	0	0	0	0	
Amortization	541	589	804	764	597	467	365	285	
Ending Balance (Actual from Statement)	2580	3742	3500	2736	2138	1671	1307	1021	
PP&E									
Beginning PP&E	2995	2487	2534	2449	2530	2702	2947	3253	
Capital Expenditures(Actual From CFS)	1185	994	539	684	795	910	1032	1163	
Depreciation (Calculated Below)	609	625	624	603	623	665	726	801	
Ending Balance	2487	2534	2449	2530	2702	2947	3253	3615	
<i>Check</i>	2487	2534	2306						
	0	0	143						
Depreciation & Amortization (in CFS)	1150	1214	1428						
Depreciation	609	625	624						
Amortization of definite-lived intangible assets(D&A - D)	541	589	804						
Cost of Products Sold (ACTUAL from statement)	10686	10378	9749						
Research and Development	5477	5490	5151						
Selling, General & Administrative (ACTUAL from statement)	2290	2344	2385						
Total	18453	18212	17285						
%COGS	58%	57%	56%						
%R&D	30%	30%	30%						
%SG&A	12%	13%	14%						
Depreciation & Amortization in COGS	666	692	805						
Depreciation & Amortization in R&D	341	366	426						
Depreciation & Amortization in SG&A	143	156	197						
Total Depreciation & Amortization	1150	1214	1428						
Clean COGS	10020	9686	8944						
Clean R&D	5136	5124	4725						
Clean SG&A	2147	2188	2188						

Qualcomm BalanceSheet								
<i>(USD in millions, except per share data)</i>								
	Historical			Projected				
	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
Assets:								
Cash and cash equivalents(Required)	7907	7560	5946	7014	7786	8642	9593	10648
Excess Cash				835	0	0	0	0
Marketable securities	9658	9761	12702	11242	12479	13852	15375	17067
Accounts receivable, net	2412	1964	2219	2292	2544	2824	3134	3479
Inventories	1458	1492	1556	1570	1742	1934	2147	2383
Deffered tax assets	577	635	0	450	500	555	616	684
Collateral held under securities lending	0	0	0	0	0	0	0	0
Other current assets	401	687	558	575	639	709	787	873
Total current assets	22413	22099	22981	23978	25689	28515	31652	35133
Marketable securities	14457	13626	13702	15706	17434	19351	21480	23843
Deffered tax assets	1174	1453	2030	1638	1818	2019	2241	2487
Assets held for sale	0	0	0	0	0	0	0	0
Property , Plant and equipment, net	2487	2534	2306	2530	2702	2947	3253	3615
Goodwill	4488	5479	5679	5679	5679	5679	5679	5679
Other intangible assets, net	2580	3742	3500	2736	2138	1671	1307	1021
Other assets	975	1863	2161	1763	1956	2172	2411	2676
Total assets	48574	50796	52359	54030	57417	62354	68021	74454
Liabilities And Sharehlders' Equity								
Trade accounts payable	2183	1300	1858	1856	2060	2287	2538	2817
Payroll and other benefits related liabilities	802	861	934	902	1001	1111	1233	1369
Unearned revenues	785	583	509	643	714	792	879	976
NEW REVOLVER				0	965	2826	4717	6619
Short-term debt	0	1000	1749	1399	1049	700	350	0
Income Taxes Payable	0	0	0	0	0	0	0	0
Obligation under securities Lending	0	0	0	0	0	0	0	0
Liabilities held for sale	0	0	0	0	0	0	0	0
Other current liabilities	2243	2356	2261	2387	2649	2941	3264	3623
Total current Liabilities	6013	6100	7311	7186	8439	10656	12982	15405
Unearned revenues	2967	2496	2377	2716	3015	3347	3715	4123
Long-term debt	0	9969	10008	8006	6005	4003	2002	0
Other liabilities	428	817	895	1001	1111	1233	1369	1519
Total Liabilities	9408	19382	20591	18910	18569	19239	20067	21048
Shareholders' Equity								
Common Stock	7736	0	414	414	414	414	414	414
Paid in Capital	0	0	0	0	0	0	0	0
Retained earnings	30799	31226	30936	34288	38016	42283	47122	52574
Accumulated other comprehensive income	634	195	428	428	428	428	428	428
Total Qualcomm stockholders' equity	39169	31421	31778	35130	38858	43125	47964	53416
Noncontrolling interests	-3	-7	-10	-10	-10	-10	-10	-10
Total stockholders' equity	39166	31414	31768	35120	38848	43115	47954	53406
Total liabilities and stockholders' equity	48574	50796	52359	54030	57417	62354	68021	74454
Check	0	0	0	0	0	0	0	0
% of debt	0%	35%	37%					
	24%							

Assumptions -Qualcomm									
<i>(USD in millions, except per share data)</i>									
	Historical			Driver	Projected				
	9/25/14	9/25/15	9/25/16		9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
Income Statement(non debt items)									
Net Sales(growth in sales)	7%	-5%	-7%	11%	11%	11%	11%	11%	11%
Cost of Revenues(as % of sales)	38%	38%	38%	38%	38%	38%	38%	38%	38%
Research and Development(as % of sales)	19%	20%	20%	20%	20%	20%	20%	20%	20%
Clean Selling, general and administrative(as % of sales)	8%	9%	9%	9%	9%	9%	9%	9%	9%
Other expenses(as % of sales)	2%	5%	-1%	2%	2%	2%	2%	2%	2%
Investment Income ,net(as % of sales)	5%	3%	3%	3%	3%	3%	3%	3%	3%
Income tax expense(IT/PBT)	14%	19%	17%	17%	17%	17%	17%	17%	17%
Discontinued operations, net of Income tax(as % of sales)	2%	0%	0%	0%					
Net Loss attributable to non controlling interests(as % of sales)	0%	0%	0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross profit margin	62%	62%	62%						
EBITDA margin	33%	28%	34%						
Income from operations (EBIT) margin	29%	23%	28%						
Net income margin	30%	21%	24%						
Shareholder Info									
Basic Shares Out	1683	1618	1484	1484	1484	1484	1484	1484	1484
Diluted Shares Out	1714	1639	1498	1498	1498	1498	1498	1498	1498
Dividend Payout Ratio (Dividends / Net Income)	33%	56%	53%	47%	47%	47%	47%	47%	47%
Balance Sheet (current assets):									
Cash and equivalents (REQUIRED)as a % of sales	30%	30%	25%	27%	27%	27%	27%	27%	27%
Marketable securities(as a % of sales)	36%	39%	54%	43%	43%	43%	43%	43%	43%
Accounts receivable, net(as a % of sales)	9%	8%	9%	9%	9%	9%	9%	9%	9%
Inventories(as a % of COGS)	15%	15%	17%	16%	16%	16%	16%	16%	16%
Deferred tax assets(as a % of sales)	2%	3%	0%	2%	2%	2%	2%	2%	2%
Collateral held under securities lending(as a % of sales)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other current assets(as a % of sales)	2%	3%	2%	2%	2%	2%	2%	2%	2%
Balance Sheet (non-current assets):									
Ammortization(as % of Previous Intangibles)	21%	23%	21%	22%	22%	22%	22%	22%	22%
Depreciation (as % of Previous PP&E)	20%	25%	25%	25%	25%	25%	25%	25%	25%
Marketable securities(as a % of sales)	55%	54%	58%	60%	60%	60%	60%	60%	60%
Deferred tax assets(as a % of sales)	4%	6%	9%	6%	6.3%	6.3%	6.3%	6.3%	6.3%
Assets held for sale(as a % of sales)	0%	0%	0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%
Capital Expenditures (as a % of sales)	9%	10%	10%	11%	11.2%	11.2%	11.2%	11.2%	11.2%
Goodwill (ACTUAL)	4488	5479	5679	5679	5679	5679	5679	5679	5679
New Purchases of Intangibles	568	1751	562	0	0	0	0	0	0
Other assets(as a % of sales)	4%	7%	9%	7%	6.7%	6.7%	6.7%	6.7%	6.7%
Balance Sheet (current liabilities):									
Trade accounts payable(as a % of COGS)	22%	13%	21%	19%	19%	19%	19%	19%	19%
Payroll and other benefits related liabilities(as a % of Sales)	3%	3%	4%	3%	3%	3%	3%	3%	3%
Unearned revenues(as a % of Sales)	3%	2%	2%	2%	2%	2%	2%	2%	2%
Short-term debt(as a % of Sales)	0%	4%	7%	7%	7%	7%	7%	7%	7%
Income Taxes Payable(as a % of Sales)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Obligation under securities Lending(as a % of Sales)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Liabilities held for sale(as a % of Sales)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other current liabilities(as a % of Sales)	8%	9%	10%	9%	9%	9%	9%	9%	9%
Balance Sheet (non-current liabilities):									
Unearned revenues(as a % of Sales)	11%	10%	10%	10%	10%	10%	10%	10%	10%
Long-term debt(as a % of Sales)	0%	39%	42%	27%	27%	27%	27%	27%	27%
Other liabilities(as a % of Sales)	2%	3%	4%	4%	4%	4%	4%	4%	4%
Balance Sheet (equity):									
Common Stock (ACTUAL)	7736	0	414	414	414	414	414	414	414
Additional paid-in capital (ACTUAL)	0	0	0	0	0	0	0	0	0
Retained earnings	30799	31226	30936	30936					
Accumulated other comprehensive loss (ACTUAL)	634	195	428	428	428	428	428	428	428
Noncontrolling interests(ACTUAL)	-3	-7	-10	-10	-10	-10	-10	-10	-10
Interest									
Revolver				0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Current Portion of Long Term Debt (Short Term Debt)				0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Long Term Debt				3%	3%	3%	3%	3%	3%
CASH				0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Long Term Debt									
Floating-rate notes due May 20, 2020									
Fixed-rate 1.40% notes due May 18, 2018									
Fixed-rate 2.25% notes due May 20, 2020									
Fixed-rate 3.00% notes due May 20, 2022									
Fixed-rate 3.45% notes due May 20, 2025									
Fixed-rate 4.65% notes due May 20, 2035									
Fixed-rate 4.80% notes due May 20, 2045									
Total Premium									

Qualcomm Calculations								
<i>(USD in millions, except per share data)</i>								
	Historical			Projected				
Retained Earnings	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
Operating Working Capital ((CA-CASH)-(CL-ST DEBT))								
Marketable securities			12702	11242	12479	13852	15375	17067
Accounts receivable, net			2219	2292	2544	2824	3134	3479
Inventories			1556	1570	1742	1934	2147	2383
Deffered tax assets			0	450	500	555	616	684
Collateral held under securities lending			0	0	0	0	0	0
Other current assets			558	575	639	709	787	873
Total Operating Assets			17035	16129	17903	19873	22059	24485
Trade accounts payable			1858	1856	2060	2287	2538	2817
Payroll and other benefits related liabilities			934	902	1001	1111	1233	1369
Unearned revenues			509	643	714	792	879	976
Income Taxes Payable			0	0	0	0	0	0
Obligation under securities Lending			0	0	0	0	0	0
Liabilities held for sale			0	0	0	0	0	0
Other current liabilities			2261	2387	2649	2941	3264	3623
Total Operating Liabilities			5562	5787	6424	7131	7915	8786
Operating Working Capital			11473	10342	11480	12742	14144	15700
Δ Operating Asset (Cash Flow)				906	(1774)	(1969)	(2186)	(2426)
Δ Operating Liabilities (Cash Flow)				225	637	707	784	871
Δ Operating Working Capital (Cash Flow)				1131	(1138)	(1263)	(1402)	(1556)

Qualcomm Debt								
	Historical			Projected				
	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
SHORT-TERM DEBT								
Short-term debt balance				1749	1399	1049	700	350
Paydown				350	350	350	350	350
Short-term debt (Ending)	0	1000	1749	1399	1049	700	350	0
Interest Rate				0.5%	0.5%	0.5%	0.5%	0.5%
Average Balance				1574	1224	875	525	175
Interest Expense				8	6	5	3	1
NEW REVOLVER	0	0	0	0	965	2826	4717	6619
Interest Rate				0.5%	0.5%	0.5%	0.5%	0.5%
Average Balance								
Interest Expense				0	5	15	25	34
LONG-TERM DEBT								
Long-term debt (Beginning)				10008	8006	6005	4003	2002
Paydown				2002	2002	2002	2002	2002
Long-term debt (Ending)			10008	8006	6005	4003	2002	0
Interest Rate				3%	3%	3%	3%	3%
Average Balance				9007	7006	5004	3002	1001
Interest Expense				252	196	140	84	28
Summary								
ST Debt				1399	2015	3525	5067	6619
LT Debt				8006	6005	4003	2002	0
Total Debt								
Interest Expense Summary								
ST Debt Interest				8	11	19	27	35
LT Debt Interest				252	196	140	84	28
Total Interest Expense				260	207	159	111	63
CASH								
Required CASH	7907	7560	5946	7014	7786	8642	9593	10648
EXCESS CASH				835	0	0	0	0
Total Cash	7907	7560	5946	7849	7786	8642	9593	10648
Interest Rate				0.2%	0.2%	0.2%	0.2%	0.2%
Average Balance				6897	7817	8214	9117	10120
Interest Income				13	15	16	17	19
Interest Expense, net				247	193	144	94	44

Qualcomm Cash Flow Statement								
(USD in millions except per share data)								
	Historical			Projected				
	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
Cash Flow from Operations								
Net Income				\$6,093	\$7,080	\$8,103	\$9,189	\$10,353
Depreciation				603	623	665	726	801
Amortization				764	597	467	365	285
Δ in Operating Working Capital				1,131	(1,138)	(1,263)	(1,402)	(1,556)
Total Cash Flow from Operations				\$8,592	\$7,163	\$7,972	\$8,878	\$9,884
Cash Flow from Investing								
Capital Expenditures				(\$684)	(\$795)	(\$910)	(\$1,032)	(\$1,163)
Δ in Other non-current assets				(1,214)	(2,102)	(2,333)	(2,590)	(2,874)
Δ in Other non-current liabilities				445	409	454	504	559
Total Cash Flow from Investing				(\$1,453)	(\$2,488)	(\$2,789)	(\$3,118)	(\$3,478)
Cash Flow from Financing								
Short-term debt balance				(\$350)	(\$350)	(\$350)	(\$350)	(\$350)
Long-term debt				(2,002)	(2,002)	(2,002)	(2,002)	(2,002)
Common Stock				0	0	0	0	0
Additional paid-in capital				0	0	0	0	0
Accumulated other comprehensive loss				0	0	0	0	0
Non controlling Interests				0	0	0	0	0
Dividends Paid				(2,885)	(3,351)	(3,836)	(4,350)	(4,901)
Total Cash Flow from Financing				(\$5,236)	(\$5,703)	(\$6,187)	(\$6,701)	(\$7,253)
Net Cash Flow				\$1,903	(\$1,028)	(\$1,004)	(\$941)	(\$847)
Cash Analysis								
Beginning Cash				\$5,946	\$7,849	\$6,820	\$5,817	\$4,875
Change in Cash from CFS				1,903	(1,028)	(1,004)	(941)	(847)
Net Cash Available at end of year			\$5,946	\$7,849	\$6,820	\$5,817	\$4,875	\$4,029
Required CASH				\$7,014	\$7,786	\$8,642	\$9,593	\$10,648
Excess CASH / (REVOLVER)				\$835	(\$965)	(\$2,826)	(\$4,717)	(\$6,619)

WACC - Qualcomm									
WACC = $[(kd*(1-T)*(D/D+E))+(ke*(E/D+E))]$									3/15/17
WACC = $[(kd*(1-T)*(D/D+E))+((Rf+B*(Rm-Rf))*(E/D+E))]$									QCOM Price \$52.78
									FD Shs Out 1,498.0
									Equity Value 79,064.4
kd	Tax Rate	Debt	Equity	Total Cap	10 yr T-bill	Beta	MRP	Debt as of 12/31	Balance
3.00%	16.51%	11,684.0	79,064.4	90,748.4	2.28%	1.5	3.74%	Short term	\$1,749
								Long term	9,935
								Total	\$11,684
Actual Capital Structure			12.9%	87.1%					
Target Capital Structure			35.0%	65.0%					
WACC	6.05%								

Qualcomm Cash Flow Statement								
(USD in millions except per share data)								
	Historical			Projected				
	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
DCF Valuation								
EBIT				\$6,836	\$7,886	\$8,975	\$10,129	\$11,367
Other income (expense), net				521	579	642	713	791
Provision for income taxes				1,204	1,399	1,601	1,816	2,046
EBIAT (NOPAT)				\$5,111	\$5,908	\$6,732	\$7,600	\$8,530
EBIAT (NOPAT)				\$5,111	\$5,908	\$6,732	\$7,600	\$8,530
Depreciation				603	623	665	726	801
Amortization				764	597	467	365	285
Δ in Operating Working Capital				1,131	(1,138)	(1,263)	(1,402)	(1,556)
Capital Expenditures				(684)	(795)	(910)	(1,032)	(1,163)
Δ in Other non-current assets				(1,214)	(2,102)	(2,333)	(2,590)	(2,874)
Δ in Other non-current liabilities				445	409	454	504	559
Unlevered FCFs				\$6,156	\$3,503	\$3,813	\$4,172	\$4,583
Terminal Value								
Growth rate			1.00%					
Discount rate (WACC)			6.05%					
Terminal Value			\$91,654					
					Today	Year End	Diff	Year
					4/14/17	9/25/17	164	365.25
Discounting model								0.449
Mid-year convention	YES							
Year count				0.225	1.225	2.225	3.225	4.225
Discount denominator				0.987	0.931	0.878	0.827	0.780
PV of Free Cash Flow				\$6,076	\$3,260	\$3,346	\$3,452	\$3,576
PV of FCFs	\$19,708							
PV of Terminal Value	71,512							
TEV (Total Enterprise Value)	\$91,221							
Short-term debt	\$1,749							
Long-term debt	9,935							
Total debt	\$11,684							
Required Cash	\$7,849							
Excess Cash	0							
Total Cash	\$7,849							
Convertible / Preferred	0							
Minority Interests	(10)							
Equity Value	\$87,396							
Diluted Shares Outstanding	1,498							
Value per share	\$58.34							
Current Price (3/15/17)	\$52.78							
Premium / (Discount) to Intrinsic Value	(9.5%)							
Rating	BUY							

Qualcomm Trading Comparables		
(USD in millions, except per share data)		
Ticker	QCOM	
Company	Qualcomm	
Price (as of 4/14/17)	\$52.78	
Shares Out	1,498	
Options Ex.	0	
FD Shs Out	1,498	
FD Equity Value	\$79,064	
Total Debt	\$11,684	
Cash	7,849	
Net Debt	\$28,996	
Preferreds/Convertibles	0	
Minority Interests	(10)	
TEV	\$108,050	
Sales (P/S)	Metric	Mulitple
Forward	\$26,145	3.0x
LTM	23,554	3.4x
EBITDA (TEV/EBITDA)		
Forward	\$8,204	13.2x
LTM	7,923	13.6x
Earnings (P/E)		
Forward	\$6,093	13.0x
LTM	5,705	13.9x
FCF (P/FCF)		
Forward	\$6,156	12.8x
LTM	7,384	10.7x
Note: Prices as of market close 4/14/17. FCF = EBITDA - Capex.		
Source: SEC Filings, Yahoo! Finance and Mergent Online.		

Qualcomm - Analysis at Various Prices											
Qualcomm Price	\$52.78										
Analysis at Various Prices - Trading Comps - Sales											
P/S	2.9x	3.0x	3.1x	3.2x	3.3x	3.4x	3.5x	3.6x	3.7x	3.8x	3.9x
QCOM LTM Sales	\$23,554	\$23,554	\$23,554	\$23,554	\$23,554	\$23,554	\$23,554	\$23,554	\$23,554	\$23,554	\$23,554
Equity Value	\$68,307	\$70,662	\$73,017	\$75,373	\$77,728	\$80,084	\$82,439	\$84,794	\$87,150	\$89,505	\$91,861
FD Shs Out	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498
Value per share	\$45.60	\$47.17	\$48.74	\$50.32	\$51.89	\$53.46	\$55.03	\$56.61	\$58.18	\$59.75	\$61.32
Analysis at Various Prices - Trading Comps - EBITDA											
TEV/EBITDA	10.0x	10.5x	11.0x	11.5x	12.0x	12.5x	13.0x	13.5x	14.0x	14.5x	15.0x
QCOM LTM EBITDA	\$7,923	\$7,923	\$7,923	\$7,923	\$7,923	\$7,923	\$7,923	\$7,923	\$7,923	\$7,923	\$7,923
TEV	\$79,230	\$83,192	\$87,153	\$91,115	\$95,076	\$99,038	\$102,999	\$106,961	\$110,922	\$114,884	\$118,845
Net Debt	\$11,684	\$11,684	\$11,684	\$11,684	\$11,684	\$11,684	\$11,684	\$11,684	\$11,684	\$11,684	\$11,684
Equity Value	\$67,546	\$71,508	\$75,469	\$79,431	\$83,392	\$87,354	\$91,315	\$95,277	\$99,238	\$103,200	\$107,161
FD Shs Out	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498
Value per share	\$45.09	\$47.74	\$50.38	\$53.02	\$55.67	\$58.31	\$60.96	\$63.60	\$66.25	\$68.89	\$71.54
Analysis at Various Prices - Trading Comps - Earning											
P/E	16.00x	18.00x	20.00x	22.00x	24.00x	26.00x	28.00x	30.00x	32.00x	34.00x	36.00x
QCOM LTM earnings	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705	\$5,705
Equity Value	\$91,280	\$102,690	\$114,100	\$125,510	\$136,920	\$148,330	\$159,740	\$171,150	\$182,560	\$193,970	\$205,380
FD Shs Out	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498
Value per share	\$60.93	\$68.55	\$76.17	\$83.79	\$91.40	\$99.02	\$106.64	\$114.25	\$121.87	\$129.49	\$137.10
Analysis at Various Prices - Trading Comps - FCF											
P/FCF	10.00x	11.50x	13.00x	14.50x	16.00x	17.50x	19.00x	20.50x	22.00x	23.50x	25.00x
QCOM LTM FCF	\$7,384	\$7,384	\$7,384	\$7,384	\$7,384	\$7,384	\$7,384	\$7,384	\$7,384	\$7,384	\$7,384
Equity Value	\$73,840	\$84,916	\$95,992	\$107,068	\$118,144	\$129,220	\$140,296	\$151,372	\$162,448	\$173,524	\$184,600
FD Shs Out	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498	1,498
Value per share	\$49.29	\$56.69	\$64.08	\$71.47	\$78.87	\$86.26	\$93.66	\$101.05	\$108.44	\$115.84	\$123.23

Qualcomm- Summary								
(\$ in millions)								
	Historical			Projected				
	9/25/14	9/25/15	9/25/16	9/25/17	9/25/18	9/25/19	9/25/20	9/25/21
Size								
Sales	\$26,487	\$25,281	\$23,554	\$26,145	\$29,021	\$32,213	\$35,757	\$39,690
Gross Profit	16,467	15,595	14,610	16,200	17,982	19,960	22,155	24,593
EBITDA	8,700	6,990	7,923	8,204	9,106	10,108	11,220	12,454
EBIT	7,550	5,776	6,495	6,836	7,886	8,975	10,129	11,367
OCF				6,156	3,503	3,813	4,172	4,583
Capex	1,185	994	539	684	795	910	1,032	1,163
Net Income	7,967	5,271	5,705	6,093	7,080	8,103	9,189	10,353
Debt	0	10,969	11,757	9,406	8,019	7,528	7,069	6,619
Equity	39,166	31,414	31,768	35,120	38,848	43,115	47,954	53,406
Profitability								
Sales growth		(4.6%)	(6.8%)	11.0%	11.0%	11.0%	11.0%	11.0%
Gross margin	62.2%	61.7%	62.0%	62.0%	62.0%	62.0%	62.0%	62.0%
EBITDA margin	32.8%	27.6%	33.6%	31.4%	31.4%	31.4%	31.4%	31.4%
EBIT margin	28.5%	22.8%	27.6%	26.1%	27.2%	27.9%	28.3%	28.6%
Profit margin	10.8%	11.4%	11.8%	10.2%	10.1%	10.3%	10.4%	10.5%
ROA	5.9%	5.7%	5.3%	4.9%	5.1%	5.3%	5.5%	5.6%
ROE	10.6%	11.7%	11.5%	14.2%	12.8%	11.6%	10.6%	9.8%
ROIC	16.1%	10.8%	12.3%	12.6%	13.8%	14.6%	15.1%	15.5%
Payout ratio	33.0%	55.6%	53.4%	47.3%	47.3%	47.3%	47.3%	47.3%
Leverage								
Debt to Total Capital	0.0%	25.9%	27.0%	21.1%	17.1%	14.9%	12.8%	11.0%
Debt to EBITDA	0.0x	1.6x	1.5x	1.1x	0.9x	0.7x	0.6x	0.5x
FCF / Interest	10.8x	6.0x	6.1x	1.7x	1.8x	2.3x	3.1x	4.4x
Working Capital								
Capex Intensity	4.5%	3.9%	2.3%	2.6%	2.7%	2.8%	2.9%	2.9%
Days Sales Outstanding	33.2	28.4	34.4	32.0	32.0	32.0	32.0	32.0
Days Inventory Outstanding	53.1	56.2	63.5	57.6	57.6	57.6	57.6	57.6
Days Payables Out	79.5	49.0	75.8	68.1	68.1	68.1	68.1	68.1
Cash Conversion	6.8	35.6	22.1	21.5	21.5	21.5	21.5	21.5
Expenses								
R&D growth	10%	10%	10%	10%	10%	10%	10%	10%
SGA growth	-9%	-9%	-9%	-9%	-9%	-9%	-9%	-9%
capex growth	-17%	2%	-9%	10%	7%	9%	10%	11%
Performance ratios								
ROA	5.9%	5.7%	5.3%	4.9%	5.1%	5.3%	5.5%	5.6%
ROE	10.6%	11.7%	11.5%	14.2%	12.8%	11.6%	10.6%	9.8%
ROIC	16.1%	10.8%	12.3%	12.6%	13.8%	14.6%	15.1%	15.5%