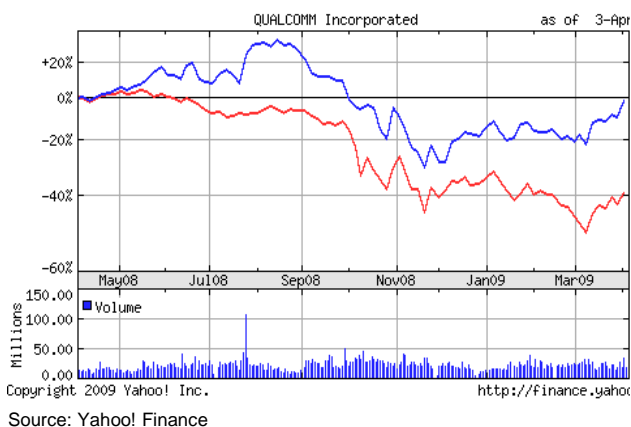



**Henry Fund Research**


## Qualcomm, Inc. (QCOM)

**Investment Recommendation BUY**
**Carl Schumacher**

carl-schumacher@uiowa.edu

**Current Price \$40.80**
**Target Price Range \$50.99**


### INVESTMENT THESIS

- Increasing wireless penetration rates in emerging markets such as China and India will drive demand for wireless devices and technologies as we move forward. The demand from emerging markets will allow Qualcomm to continue to increase its licensing and royalty fee revenues, even in the face of a global recession. We anticipate that the company's technology licensing segment, QTL, will see double digit revenue growth in FY09.
- Consumer demand for enhanced data services and other technological advances will drive wireless industry participants to continue to spend on technological upgrades as a way to maintain/grow market share. As a result, we believe that any pullback in industry spending on technology advances related to the global recession will be temporary in nature. This continued emphasis on creating enhanced services and features for wireless consumers will benefit Qualcomm's revenues.
- We expect Qualcomm's strong commitment to research and development spending to continue, allowing Qualcomm significant opportunity to strengthen its portfolio of intellectual property and make technological advances that will provide future sources of revenue for the company.
- The global recession has taken a toll on the demand for Mobile Station Modem (MSM) chipsets. In 1Q09, Qualcomm saw MSM circuit/chipset sales decline by approximately 20% from 1Q08, and we expect that consolidated operating revenue will decline by 12% in FY09 as the economy continues to weaken before making a recovery in late 2009 or early 2010.
- A loss of either LG or Samsung as customers, which account for a combined 30% of consolidated revenues could result in an adverse material effect on company revenues.

### Key Stock Statistics

52-Week Price Range	\$28.16-\$56.88
Market Capitalization (B)	\$67.32
Shares Outstanding (M)	1,650
Institutional Ownership	82.70%
60-Month Beta	1.02
Dividend Yield	1.5%
Price/Earnings (ttm)	25.02
Price/Book	3.98
Price/Sales	6.07
ROA (ttm)	11.16%
ROE(ttm)	16.70%
Projected 5-Year Growth	11.75%

### EPS (\$)

Year	2007	2008	2009E	2010E	2011E	2012E
EPS	1.99	1.94	1.73	2.16	2.52	2.84

All earnings represent earnings from operations and have been filtered from net nonrecurring gains.

### Valuation Models

Discounted Cash Flow	\$51.00
Economic Profit	\$51.00
Relative Valuation	\$53.65

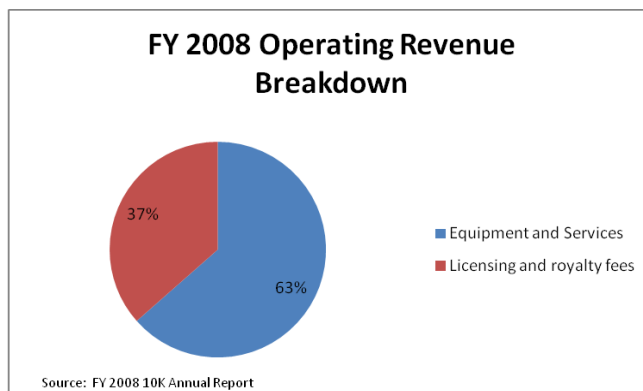
**EXECUTIVE SUMMARY**

Qualcomm's performance in the first quarter of its 2009 fiscal year (October to December 2008) reflected the tenuous macroeconomic situation of the period. Company operating revenues for the period were stagnant, as the company saw its revenues from equipment and services drop nearly 16.5% from 1Q08, offset by an increase in licensing and royalty fee revenue of approximately 48%. These numbers reflect a general pullback in spending in the wireless industry as a result of the economic recession, and an increasing demand for wireless services in the emerging markets of Asia.

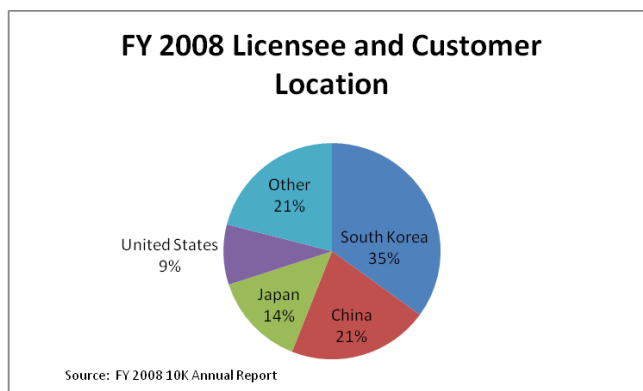
Despite the pressure that the industry is under as a result of the slowing economy, we feel that because of its business model, which makes the company both a supplier of chips/circuits and of technologies, Qualcomm possesses the ability to not only survive the recession but to emerge from it in a position of strength. The recent macroeconomic environment has put downward pressure on Qualcomm stock and provided a potential buying opportunity.

**COMPANY DESCRIPTION<sup>1</sup>**

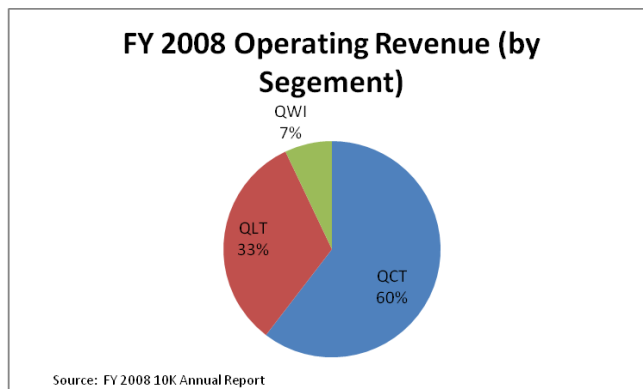
Qualcomm, Inc., originally incorporated in 1985, develops and delivers wireless communications products and services based on the company's code division multiple access (CDMA) technology, one of the primary digital technologies used to transmit a wireless device user's voice over radio waves using the wireless network. CDMA-based integrated circuits and system software are utilized in wireless voice and data communications, multimedia functions and global positioning systems. Qualcomm generates operating revenue not only from providing equipment and services, but also by licensing portions of the company's intellectual property to manufacturers of wireless products, including third party patent rights. The company receives licensing fees and royalties on products sold by its licensees that incorporate their patented technologies. In FY 2008, 63% of Qualcomm operating revenues came from equipment and services and 37% were derived from licensing and royalty fees.



Qualcomm's customer base is diversified among a small number of countries; however, it is largely concentrated in the Asian market. In FY 2008, domestic customers and licensees made up only 9% of Qualcomm revenues, compared with the countries of South Korea, China and Japan, which accounted for 35%, 21% and 14%, respectively, of Qualcomm revenues.



Qualcomm operations consist of four primary business segments: Qualcomm CDMA Technologies, Qualcomm Technology Licensing Segment, Qualcomm Wireless & Internet Segment and Qualcomm Strategic Initiatives Segment.



**Qualcomm CDMA Technologies Segment (QCT)**

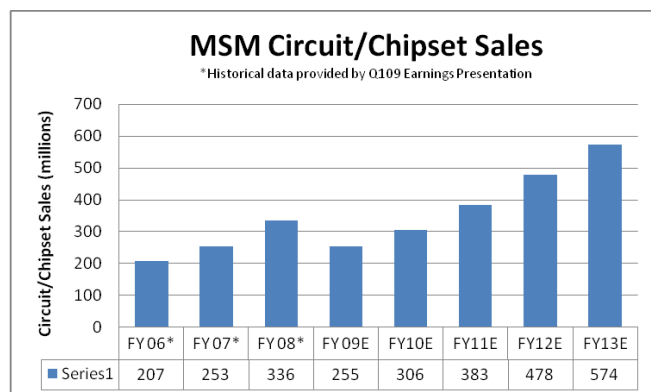
QCT is a leading developer and supplier for CDMA-based integrated circuits and system software for wireless voice and data communications, multimedia functions and global positioning system products. QCT's integrated circuit products and system software are used in wireless devices, particularly mobile phones, data cards and infrastructure equipment. These products provide customers with advanced wireless technology, enhanced component integration and interoperability and reduced time-to-market. QCT markets and sells products in the United States through a sales force based in San Diego, California and internationally through a direct sales force based in China, Germany, India, Italy, Japan, South Korea, Taiwan and the United Kingdom. In FY 2008, QCT revenues comprised 60% of total consolidated revenues. QCT utilizes a fables production business model, with Qualcomm neither owns nor operates foundries for the production of silicon wafers from which the company's integrated circuits are made.

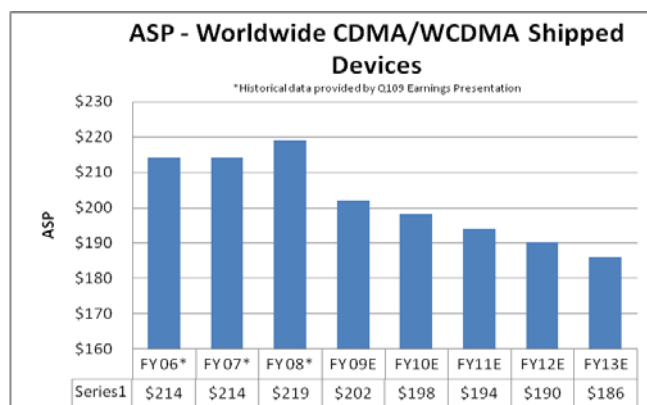
Moving forward, we expect that the average sales price (ASP) received by QCT for each unit sold will continue to decrease by approximately 1% per year in the near future as wireless penetration rates in Asia continue to increase. We expect consumer growth in emerging markets such as China to drive QCT sales growth. In the emerging markets, wireless device growth is driven by lower end products, which contain relatively lower priced circuitry, driving down ASP. Our valuation model reflects both this declining ASP trend, and also our expectation that the current economic recession will take a toll on the QCT segment. In both FY 2009 and FY 2010, we expect segment operating revenues to remain below FY 2008 levels. We expect that QCT operating revenues will decline by nearly 25% in FY 2009, to just over \$5 billion, before recovering and showing growth of around 18% in FY 2010 and continuing steady growth into the future, driven by an eventual global economic recovery and demand from emerging markets.

**Qualcomm Technology Licensing Segment (QTL)**

QTL grants licenses to use portions of the company's intellectual property portfolio, which includes certain patent rights essential to and/or useful in the manufacture and sale of certain wireless products, including, without limitation, products implementing cdmaOne, CDMA2000, WCDMA, CDMA TDD and/or OFDMA (including WiMax) and their derivatives. QTL receives revenues from license fees as well as ongoing royalties based on worldwide sales by licensees of products incorporating or using the company's intellectual property. License fees are fixed amounts paid in one or more ininstallments. Ongoing royalties are generally based upon a percentage of the wholesale selling price of licensed products, net of certain permissible deductions and/or a fixed per unit amount. Revenues generated from royalties are subject to annual and quarterly fluctuations. QTL revenues comprised 33% of consolidated revenues in FY 2008.

As wireless platforms continue to move from 2G to 3G technology, we expect worldwide CDMA/WCDMA shipments by Qualcomm licensees to continue their rapid increases, driving QTL revenue growth. Because QTL revenues are derived from royalty fees and license revenues, based largely on the final sales price of devices to consumers, we expect that the growing device sales in emerging markets, which will largely be comprised of devices towards the lower-end of the product mix, will force a downward trend in ASP per device. We expect an ASP on worldwide CDMA/WCDMA shipped devices to be \$202 in FY 09, and for the ASP to decrease by 2% annually in the near future. The declining ASP will be more than offset by an increase in global shipments of CDMA/WCDMA devices as the wireless penetration rate in emerging markets continues to increase and 3G technology becomes more prevalent. We expect the global recession to slow operating revenue in the QTL segment to a YOY increase of 10% in FY 09, before resuming more rapid revenue growth as the global economy begins its recovery during the company's 2010 fiscal year.





### Qualcomm Wireless and Internet Segment (QWI)

QWI, with revenues that comprised 7% of total consolidated revenues in FY 2008, is aggregated into four divisions, consisting of:

**Qualcomm Internet Services (QIS):** The QIS division provides technology to support and accelerate the growth of the wireless data market. The BREW products and services facilitate the delivery of data services. The BREW platform is part of a complete package of products for wireless applications and development, device configuration, application distribution and billing and payment. In addition, QIS expects to provide Plaza, which enables wireless operators to increase the use of the Internet from mobile devices through the use of applications called widgets, during FY 2009. The QIS division develops and sells business-to-business products and services to companies worldwide. The QIS sales and marketing strategy is to enter into agreements with companies in target markets by providing comprehensive technology and services that combine wireless Internet, data and voice capabilities.

### Qualcomm Enterprise Services (QES)

The QES division provides equipment, software and services to enable companies to wirelessly connect with their assets, products and workforce. QES offers satellite and terrestrial based two-way wireless connectivity and position location services to transportation and logistics fleets, construction contractors, original equipment manufacturers and other enterprise companies that permit customers to track the location and monitor performance of their assets, communicate with their personnel and collect data. QES also sells products that operate in the Globalstar low-Earth-orbit satellite-based telecommunications systems and provides related services. The QES division markets and sells products through a sales force, partnerships and distributors based around the globe. QES revenues are generated

from license fees, sales of network products and terminals and information and location-based service fees.

### Qualcomm Government Technologies (QGOV)

The QGOV division provides development, hardware and analytical expertise involving wireless communications technologies to United States government (USG) agencies. In FY 2008, QGOV adapted, integrated and shipped CDMA2000 1X and EV-DO deployable base stations to the USG. The company has also continued to ship 2G DCMA secure wireless terrestrial phones for the USG that operate in enhanced security modes and incorporate end to end encryption. Additionally, OmniTRACS products and services are used for USG worldwide applications and were sold to the USG during FY 2008.

### Firethorn

Firethorn provides a single, secure, certified application embedded on select wireless devices that enables financial institutions and merchants to deliver branded services to consumers through the mobile devices. The application enables wireless operators to deliver consumer-convenient, mass-market applications to subscribers a, and mobile device users and add multiple financial relationships with one password.

In FY 08, QWI operating revenues fell by approximately 5%, led downward by a decrease in the QES segment revenues. We expect to see an overall decline in QWI revenues again in FY 09 of at least 10%, as a result of weak corporate and government technology spending during the global recession. We expect the global recession to subside in 2010, leading corporate and government entities to ramp technology spending back up. It is expected that the increase in technology spending at that time will be reflected in increased QWI operating revenues.

### Qualcomm Strategic Initiatives Segment (QSI)

Qualcomm makes strategic investments to promote the worldwide adoption of DDMA-based products and services for wireless voice and internet data communications, including CDMA operators, licensed device manufacturers and companies that support the design and introduction of new CDMA-based products or possess unique capabilities or technology. The company makes strategic investments in early stage companies and, from time to time, venture funds to support the adoption of CDMA and the use of wireless Internet.

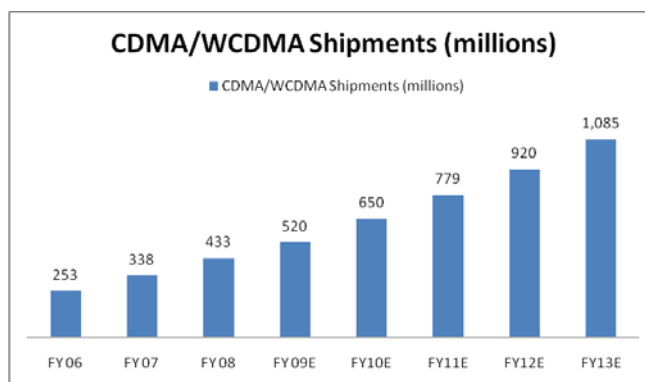


## RECENT DEVELOPMENTS

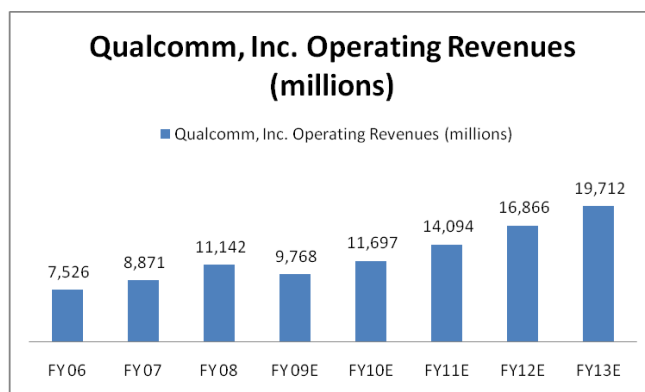
Qualcomm's FY 2008, which ended in September, saw top line operating revenues increase by 25.6%, or approximately \$2.3 billion from FY 2007. The increase in revenue was driven by a 33% (83 million units) increase in MSM circuits shipped by Qualcomm and a 28% increase in (95 million units) in CDMA-based device shipments. This increase in demand for CDMA-based units was largely a result of a 21% increase in global wireless subscribers during Qualcomm's 2008 fiscal year.<sup>1</sup> Despite the increase in revenues, Qualcomm saw its FY 2008 net income decrease by 4.3%, or \$143 million compared to FY 2007. The decrease in net income can be largely attributed to a decrease in Qualcomm's net investment income, which fell by 87%, or \$647 million. Included in this figure is \$373 million worth of write downs that the company took on its investment portfolio, as a result of the global financial crisis.

1Q09 results, released in January, revealed a 56% decrease in net income from 1Q08, which was led by further losses in the company's investment portfolio, including \$392 million of write downs in the company's investment portfolio, which is comprised of various securities, including corporate bonds, mortgage and asset backed securities, equity securities and mutual funds. Although operating revenues were up, operating income fell by approximately 3%, led by a decrease in operating margins, resulting from a lower-margin product mix and increased research and development spending.<sup>2</sup>

Looking forward, we expect the global recession to continue to have a negative effect on Qualcomm's earnings, which will be led downward in FY09 by QCT, evidenced by a significant drop in Mobile Station Modem (MSM) circuit/chipset sales and a shift towards lower-end CDMA/WCDMA-based devices being sold by the company's licensees, which will result in a lower ASP per device received by Qualcomm, resulting in lower royalty fees being generated per device for the company. The decrease in ASP will be offset by significant expected increases in global usage of CDMA/WCDMA-based devices. Our expectations for CDMA/WCDMA shipments are reflected in the following chart.



Based upon guidance provided by Qualcomm management in the company's Q109 earnings call and our own expectations of the global economy moving forward, it is our expectation that operating revenues will decline approximately 12% in FY09 before bouncing back, along with the global economy, in FY10, with revenue growth being driven by increasing adoption of CDMA/WCDMA in emerging markets and 3G launches in China.<sup>3</sup>



An item that we feel is worth noting is the exposure that Qualcomm's net income has to its investment portfolio. Although the company has written off significant amounts of value from its investment portfolio in FY08 and 1Q09, the company still has approximately \$1.2 billion of unrealized net losses on its books. Management has indicated that they have not written off these investment losses because the company's strong cash position will allow them to hold the various investments long enough to regain full value.<sup>3</sup> However, future sustained downturns or corporate bankruptcies could force further portfolio write downs, eroding capital and impairing future earnings for the company. Because of uncertainty within the company's investment portfolio, management is currently declining to provide future EPS guidance.

## Nokia Agreement

In July 2008, Qualcomm and Nokia reached a new 15 year patent agreement, which settled a long running legal feud between the two companies. Before the settlement, investors had feared that Qualcomm's inability to reach an agreement with Nokia after an earlier contract had expired might hurt its ability to negotiate licensing agreements with other phone companies.<sup>4</sup> As part of the agreement, Qualcomm received an upfront payment of \$2.5 billion, paid in October 2008, and will receive ongoing royalties from Nokia. In addition to the contract's financial benefits for Qualcomm, the company has seen a decline in legal fees that were directly related to the ongoing Nokia case.

## Broadcom Litigation

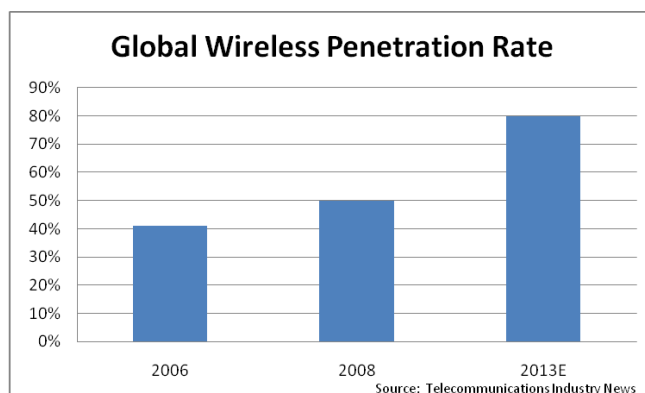
Qualcomm is currently involved in numerous ongoing legal battles with Broadcom, Inc., a competitor in the wireless communications equipment industry, regarding patent and anti-trust issues. Last September, a U.S. appeals court affirmed that Qualcomm infringed upon two patents and upheld an injunction in favor of Broadcom. However, the appeals court ruled in Qualcomm's favor in one of the three patents at issue. More recently, last month, a Broadcom lawsuit alleging that Qualcomm was receiving royalties on exhausted patents was dismissed by a federal court. In addition to these lawsuits, there are numerous other cases ongoing between Qualcomm and Broadcom. It is expected that any potential monetary judgments resulting from any of the ongoing cases would be in the range of \$25 million, which is unlikely to be materially significant to either company. However, observers see the actions as negotiating tactics by both sides seeking an advantage in licensing agreements.<sup>5</sup>

## INDUSTRY TRENDS

The wireless communications equipment industry is seeing a bit of a pullback from recent growth numbers as customers scale back product purchases and wireless carriers more carefully watch their capital expenditures. Both Verizon and AT&T, the two largest domestic wireless carriers, have indicated that they will be attempting to hold steady or reduce capital expenditures in 2009. We believe that a reduction in capital expenditures by carriers could lead to slower adoption of next generation technologies and slower revenue growth opportunities for wireless communications equipment industry participants. We believe that any pullback in spending on the part of wireless carriers is likely to be only temporary, however, as the survival and future success of the wireless carriers is dependent upon their ability to adapt

increasingly advanced technologies which will enable them to provide advanced services to subscribers.

We expect future industry revenues to be driven in a large part by growth in emerging markets and continually evolving technologies. While the wireless penetration rate in the United States has currently reached the mid-80% range, the global penetration rate has only recently reached 50%. Portio Research expects that by 2013, global wireless penetration will reach 80%.<sup>6</sup> Although greater expansion into emerging markets will be positive for industry sales growth, margins are likely to be pressured as a result of the lower end product mix that is supplied to emerging markets.



Wireless consumers are increasingly demanding higher network speeds to support their thirst for the advanced data applications that are available on their wireless devices. This increased desire for data revenues will continue to drive the migration to wireless devices that utilize 3G technology and will eventually be the driving force behind the adoption of 4G technology, the next evolution for wireless systems.

Fourth generation (4G) networks will be able to provide an all-IP platform that can better handle the transport of multimedia-intensive applications. 4G technology promises data rate speeds in excess of 100 Mbps downstream, with superior quality of services metrics. The primary technologies being developed to deploy 4G are Long Term Evolution (LTE) and Ultra Mobile Broadband (UMB), derived from the Qualcomm's CDMA standard.<sup>7</sup> Early returns show LTE gaining an advantage over UMB technology. In late 2007, Verizon Wireless, the world's largest CDMA carrier announced that it would utilize LTE technology in developing its 4G network, as opposed to the UMB technology developed by Qualcomm. While this was seen as a small blow to Qualcomm, the company will still profit from LTE by complimenting its CDMA portfolio with patents relating to LTE.<sup>8</sup>



**MARKETS AND COMPETITION**

Due to the diversification of products that make up the Qualcomm portfolio, the company faces a number of competitors within the wireless communications industry. Because of the nature of the company's business model, Qualcomm's QCT segment often finds itself in direct competition with clients of the QTL segment. Some of the company's closest competitors include: Broadcom, Texas Instruments and Nokia.

Source: Yahoo! Finance

	Direct Competitor Comparison			
	QCOM	BRCM	NOK	TXN
Market Cap	67.94B	10.79B	48.66B	21.65B
Employees	15,400	7,402	125,829	29,537
Qtrly Rev. Growth (yoy)	3.20%	9.70%	(19.40%)	(29.90%)
Revenue (ttm)	11.22B	4.66B	71.49B	12.5B
Gross Margin (ttm)	69.82%	52.49%	35.05%	49.96%
EBITDA (ttm)	4.23B	480.32M	7.20B	3.75B
Oper. Margins (ttm)	33.27%	8.22%	9.79%	21.53%
Net Income (ttm)	2.73B	214.79M	5.62B	1.92B
P/E Ratio	25.02	53.80	9.9	11.70

**Broadcom (BRCM)<sup>9</sup>**

Broadcom, probably Qualcomm's closest competitor in terms of similar business model, engages in the design, development and supply of semiconductors for wired and wireless communications equipment manufacturers. Broadcom's products enable the delivery of voice, video, data, and multimedia to and throughout the home, office, and mobile environment. It provides a portfolio of system-on-a-chip and software solutions to manufacturers of computing and networking equipment, digital entertainment and broadband access products, and mobile devices. The company offers solutions for digital cables, satellite and Internet protocol set-top boxes, and media servers; high definition televisions; high definition DVD players and personal video recording devices; cable and digital subscriber line modems and residential gateways; high-speed transmission and switching for local, metropolitan, wide area, and storage networking; and server solutions. It also provides its solutions for broadband network and security processors; wireless and personal area networking; cellular communications; global positioning system applications; mobile multimedia and applications processors; mobile power management; and voice over Internet protocol gateway and telephony systems.

**Texas Instruments, Inc. (TXN)<sup>9</sup>**

Texas Instruments engages in the design and sale of semiconductors to electronics designers and manufacturers worldwide. It operates in four segments: Analog, Embedded Processing, Wireless, and Other. The Analog segment offers high-performance analog products comprising standard analog semiconductors, such as amplifiers, data converters, low-power radio frequency devices, and interface and power management semiconductors; and high-volume analog, and standard linear and logic products. The Embedded Processing segment includes DSPs that perform mathematical computations instantaneously to process and improve digital data; and microcontrollers, which are designed to control a set of specific tasks for electronic equipment. The Wireless segment primarily focuses on applications processors. The Other segment offers smaller semiconductor products, which include DLP products that are used to create high-definition images for business and home theater projectors, televisions, and movie projectors; reduced-instruction set computing microprocessors; and application-specific integrated circuits. This segment also provides handheld graphing and scientific calculators, as well as licenses technologies to other electronics companies.

**Nokia Corporation (NOK)<sup>9</sup>**

Nokia manufactures mobile devices, and provides Internet services and digital map information worldwide. The company's Devices & Services segment designs, develops, and manages its mobile device portfolio, including the sourcing of components. It also offers consumer Internet services in music, maps, media, messaging, and games and working areas. Its NAVTEQ segment provides digital map information and related location based content and services for automotive navigation systems, mobile navigation devices, Internet-based mapping applications, and government and business solutions. Its map database enables its customers to offer dynamic navigation, route planning, location-based services, and other geographic information-based products and services to consumer and commercial users. This segment also provides its database to mobile device and handset manufacturers, automobile manufacturers and dealers, navigation systems manufacturers, software developers, Internet portals, parcel and overnight delivery services companies, and governmental and quasi-governmental entities. The company's Nokia Siemens Networks segment provides wireless and fixed network infrastructure, communications, and networks service platforms, as well as professional services to operators and service providers. It develops GSM, EDGE, and 3G/WCDMA/HSPA radio access networks and cellular transmission; develops network solutions



for mobile and fixed network operators; focuses on transport networks, and provides a portfolio for the wire line connectivity area; and provides network and service management software and charging and billing software. This segment also offers operators a range of professional services, from consultancy to outsourced operations; systems integration to hosting; and network design to network care, including network implementation and turnkey solutions, as well as markets mobile WiMAX solutions.

The competitor profiles above demonstrate how interrelated the wireless communications industry is, with both Texas Instruments and Nokia being competitors of Qualcomm in one segment and clients of the company in another segment.

Despite the wide variety of competition that Qualcomm is faced with, we feel that the company is well-positioned within the industry due to its strong financial positions (particularly margins), as shown in the chart above, relative to its competitors and its strong presence in the industry as a technology and intellectual property leader. In looking more closely and comparing Qualcomm with Broadcom, its closest competitor, Qualcomm is more favorably positioned in a number of the key metrics as shown on the comparison chart. As mentioned, Qualcomm has better margins and higher revenue and income. Additionally, Qualcomm is currently trading at only 25 times earnings versus 53 times earnings for Broadcom, an indication that Qualcomm may be undervalued in comparison to Broadcom.

As wireless carriers continue to move to 3G technology, the demand for wireless devices with CDMA-based technology continues to steadily increase and with China beginning to roll out 3G technology, Qualcomm, already a dominant player in Asia, stands to continue to see strong revenue growth for the foreseeable future.

**ECONOMIC OUTLOOK**

As a supplier to the wireless telecommunications manufacturers and wireless carriers, the fortunes of Qualcomm are inextricably tied to the global growth and demand for current and increasingly advanced wireless services, which drives spending for the Qualcomm customer base, and in turn, drives revenue for Qualcomm.

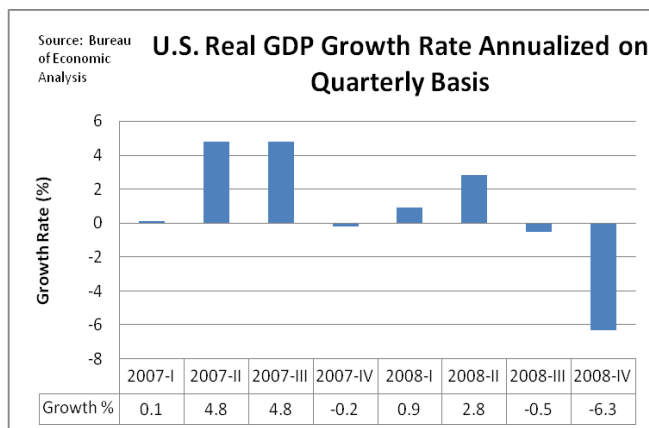
In the face of the current economic recession, we feel that it is reasonable to believe that there may be a temporary pullback in telecommunications spending and even next-generation equipment purchases. Based upon 1Q09 results and management guidance, we expect Qualcomm’s QCT segment to see a drop of

off in MSM circuit/chipset sales of about 24% in FY09, which we expect to lead operating revenue down by around 12%, a demonstration that even Qualcomm’s diversified business model cannot escape the pull of the global recession.

With that being said, we expect any spending pullbacks, especially on next generation technologies, by wireless industry players to be temporary, as the need to provide innovative technological advances in order to capture consumers is key for wireless providers.

**Gross Domestic Product (GDP)**

The US GDP is the market value of all goods and services produced by the labor and property located in the United States, making it the broadest measure of economic activity within an economy. In the third and fourth quarters of 2008, the GDP dropped by 0.5% and 6.3%, respectively, marking the first consecutive quarter drop in GDP since the recession of 1990-1991<sup>10</sup>.



As one would expect, the wireless telecommunications industry is affected by the overall health of the economy. Changes in GDP growth rates have an effect on corporate and consumer budgets for wireless services, which influences the scope of wireless service expansion.<sup>7</sup>

As previously mentioned Qualcomm has begun to feel the effects from the global downturn, as the company’s equipment and services revenue decreased in 1Q09 by approximately 16.5% from the same time period a year earlier, as sales channels contracted as a result of decreased demand.

Near-term forecasts expect the real GDP growth rate in the US to continue to fall over the course of at least the next couple of quarters before flattening out and

perhaps beginning to move in a positive direction towards the latter half of 2009.

At the global level, the World Bank recently released its revised 2009 global GDP forecast, which indicates an expectation that global GDP will contract by 1.7% in 2009. If this projection holds, it would be the first decline in global output since World War II. The World Bank is forecasting a mild uptick in 2010, with global GDP growth turning weakly positive at some point next year<sup>11</sup>.

We feel that because of how interconnected the global economy has become, as the US economy improves, the global economy as a whole will also begin to see signs of improvement. We expect the US economy to begin to show signs of improvement in late 2009, followed by the global economy in 2010. In the interim, we expect the continued weakening in the global economy to slow near-term revenues and have a negative effect on Qualcomm's operating revenues, which is reflected in our model.

**Wireless Penetration Rates**

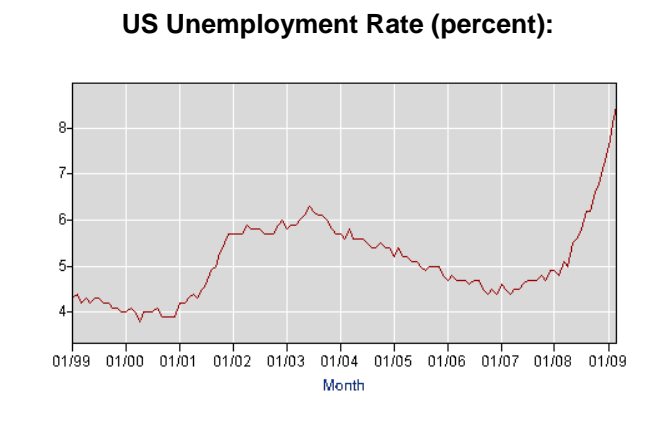
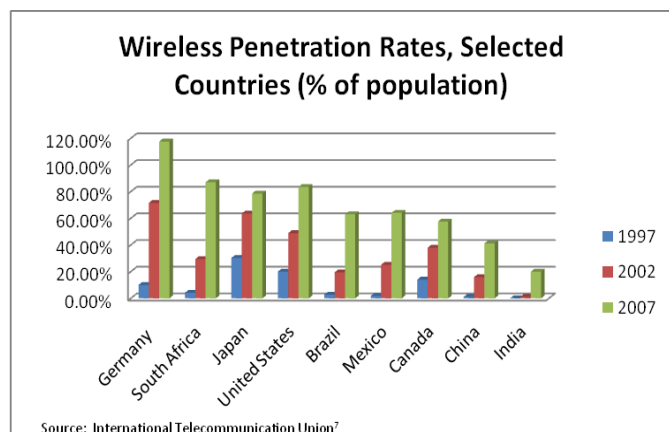
The wireless penetration rate, which measures the percentage of a given population that uses wireless services, indicates the portion of the potential market for wireless infrastructure equipment and handsets that is not yet served in a given area, making penetration rates a good indicator for overall wireless growth potential.<sup>7</sup>

In 2007, the global wireless penetration rate was 49.3%, a sharp increase from just under 42% in the previous year. There are many developed markets which have either reached, or are approaching, penetration rates of above 80%. However, emerging markets with high populations such as China and India have very low penetration rates when compared to many other parts of the world, making these countries prime areas for potential growth.<sup>7</sup>

An increase in the penetration rates in emerging markets, particularly in Asia, has driven revenue in the QTL segment, even in the face of the ongoing global recession. In 1Q09, Qualcomm's licensing and royalty fees increased by over 48% from the same time period a year earlier, driven by an uptick in worldwide CDMA/WCDMA shipments. We expect this trend to continue as emerging markets increase penetration rates and wireless carriers continue making the switch to from 2G networks to 3G networks. While we expect Qualcomm to see increased revenues from licensing and royalty fees moving forward, as penetration rates increase in emerging markets, we expect that ASP for mobile devices will be pressured by consumers in these markets utilizing lower end product. This will pressure licensing margins for Qualcomm, as royalty fees are based on a percentage of the prices of the devices which are sold that utilizes the company's technology.

**Unemployment Rate**

The unemployment rate, which measures the number of unemployed as a percentage of the labor force, is also an important indicator for the telecommunications industry. Although telecommunication services are considered to be core consumer services, as the economy weakens and unemployment rises, customers will be more likely to discontinue telecom services, including voice and internet services, or default on their accounts. Some customers that do not disconnect services will likely have trouble paying for services if they find themselves out of work. Additionally, as unemployment rises and fewer workers are at the workplace, the amount of telecom traffic that is generated by enterprise users is likely to decrease as fewer telephones are used and less networking and data services are needed. According to the Bureau of Labor Statistics, as of March 2009, the unemployment rate in the United States is 8.5%, which is the highest level that the US has seen since November of 1983<sup>12</sup>.



Although the US government's economic stimulus package is expected to give the domestic economy a boost by, among other things, creating a significant number of jobs, we believe that the unemployment rate will continue to rise into the latter half of 2009 and perhaps into the early part of 2010, with a strong possibility that the 10% level will be tested. This increase in unemployment will continue to pressure the entire economy, including the telecommunications industry. It is our belief, however, that despite the possibility of further deteriorating employment conditions, the telecom industry will hold up relatively well in comparison to the economy as a whole.

As previously mentioned, despite what we expect to be a very rough FY09, we feel that in the longer term, Qualcomm is well-positioned to not only ride out the current economic crisis, but to emerge with strong long-term growth prospects. We view believe that a large majority of the global population sees telecommunication services as a core need, and that consumers, especially in emerging markets, will continue to view wireless services as the method of choice to fulfill this need.

## **CATALYSTS FOR GROWTH**

### **Next Generation Technologies**

With its CDMA-based patented technology, Qualcomm stands to benefit more than any other chipset manufacturer in the industry from the ongoing transition from 2G to 3G wireless technology. We find Qualcomm's business model and strong patent portfolio to be a major source of strength for the company, allowing for revenue opportunities whether the company is the primary supplier of chips and circuits to a manufacturer, or even if they are not, as the company is able to derive revenue from licensing their technologies to companies that would compete with Qualcomm as primary suppliers.

Looking even further into the future, as wireless carriers eventually rollout 4G technologies, Qualcomm must be able to generate revenues from the technology shift. Verizon dealt a blow to Qualcomm in November of 2007 when it announced that it would utilize an LTE platform for developing its 4G technology as opposed to the UMB standard, which was developed by Qualcomm. Despite this setback, Qualcomm will still profit from LTE platform utilization, as the company holds licenses in its portfolio for technologies that will be beneficial for companies wishing to make and sell products implementing LTE standards.<sup>1</sup>

### **Emerging Market Growth**

According to the International Telecommunications Union, at the end of 2007, wireless penetration in the emerging markets of China and India stood at approximately 41% and 20%, respectfully. Despite the economic recession and decline in Qualcomm's MSM chipset sales in 1Q09, the company saw revenues from licensing and royalty fees increase by 48% compared to the same period one year earlier, driven in part by emerging market growth. Due to the expected growth in emerging markets, we expect that QTL revenue growth will increase by 10% in FY09, despite an expected decline in the company's consolidated revenues of 12%. While the increased sales in emerging markets are expected to put downward pressure on the ASP of CDMA/WCDMA based devices, we feel that the additional unit sales gained from these markets will more than offset the lower end product mix and lower margins on products sold in these markets.

### **Continued Innovation**

Qualcomm's continued success will largely depend on the company's ability to churn out new technologies and enhance its intellectual property portfolio. The company has shown a strong commitment to research and development, with R&D spending equaling over 20% of annual revenues for the past few years, a trend that we expect to hold up in the future.

For instance, the company will soon be rolling out its Snapdragon platform of chipset products, which are designed to enable computing centric devices that also offer a full range of wireless connectivity capabilities and will expand the company's reach beyond its traditional wireless market into the computing and consumer electronics market.<sup>1</sup> Continued innovation will be required for Qualcomm to maintain its considerable clout moving forward. It is our expectation that because of the company's commitment to research and development, its track record of innovation will continue to remain strong.

## **INVESTMENT POSITIVES**

- Even in the face of a deepening economic recession, Qualcomm was able to increase revenues from licensing and royalty fees by nearly 48.5% in 1Q09 from the same time period a year earlier. As the wireless industry continues to make the shift to 3G technology, we expect strong continued growth in licensing and royalty fee revenues.
- Wireless penetration rates in emerging markets such as China and India are extremely low in comparison with traditional wireless markets across North America and Europe. This will provide considerable



revenue opportunity for Qualcomm moving forward as devices and platforms that utilize the company's technologies are adopted in these fast-growing emerging markets.

- ▶ Consumer demand for increasingly sophisticated wireless communication capabilities will require wireless carriers to aggressively invest in spending to upgrade technology in order to maintain and grow their customer bases. This phenomenon will cause any potential pullback spending related to the current recession to be temporary in nature.
- ▶ Qualcomm's strong cash position and relatively clean balance sheet will allow the company to continue to maintain its strong track record of research and development spending, which will allow the company to maintain its strong intellectual property portfolio and generate future revenue generating technologies.
- ▶ Now that Qualcomm has reached a patent and licensing agreement with Nokia, with the exception of one license extension that will need to be completed before the end of 2011, all of the company's major equipment vendors are under contract until at least 2017, which will provide for steady expected future revenue growth resulting from licensing and royalty revenue fees.

## INVESTMENT NEGATIVES

- ▶ Together, LG and Samsung account for approximately 30% of Qualcomm's consolidated revenues. Because of the high concentration of revenues that are derived from Qualcomm's top two customers, if the company were to lose either LG or Samsung as a customer, there would likely suffer an adverse material impact on revenue.
- ▶ The global recession has taken a toll on the demand for MSM chipsets. 1Q09, Qualcomm saw MSM circuit/chipset sales decline by approximately 20% from 1Q08, and we expect that consolidated operating revenue will decline by 12% in FY09 as the economy continues to weaken before making a recovery in late 2009 or early 2010.
- ▶ Despite the strength of Qualcomm's CDMA portfolio, the company's future revenues still face the threat of other technologies, namely GSM, being adopted as a substitute for CDMA. Additionally, with the introduction of 4G technology, the company will be susceptible to competition from competing platforms and technologies that may have the capability of challenging Qualcomm's strong market position.

## VALUATION

Our attached DCF and EP models forecast a decline in top-line revenues in FY 09 of approximately 12%, in line with management's guidance, as Qualcomm faces a challenging macroeconomic environment for the remainder of the year. It is our expectation that the decrease in FY 09 revenue will be led by a sharp reduction in MSM Circuit/Chipset sales by the company due to a general spending pullback in the industry, offset by QTL revenues, which reflect an increase in worldwide CDMA/WCDMA device shipments. Moving forward, as a greater percentage of revenues are derived from emerging markets, the company will likely see smaller margins, resulting from lower-end a lower-end product mix being sold in the emerging markets.

As the global economy begins to recover in 2010, we expect revenues to follow suit, and continue the strong growth demonstrated over the past few years, buoyed by increased wireless penetration in emerging markets and continued technological advances in the wireless industry. Based on our near-term revenue forecasts, a continuing value growth estimate of 3% and a weighted average cost of capita of 8.51%, our modeled target price for Qualcomm, Inc. is \$50.99. Currently, the stock is trading at \$40.80, which represents an opportunity for approximately 25% of upside from current price levels. Taking into account the potential upside of the stock from current value levels, along with the company's strategic and financial strength within its industry, we feel that Qualcomm represents a good long term investment, which is reflected in our BUY recommendation.

## Trading Discipline

Because our future revenue projections are dependent on strong wireless growth in emerging markets such as China and India, should future penetration rates fail to meet growth expectations, we would be forced to reevaluate our valuation estimate. Additionally, should the current global economic recession settle in further and lead to a long-shift in our technology spending expectations in the wireless market, it would also become necessary to reevaluate our valuation. Finally, at its current price level, Qualcomm has upside potential of approximately 25% before reaching our valuation estimate. Should the price of the stock increase causing the potential upside be reduced to only 10%-15%, we would recommend revising our BUY recommendation.



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## Relative P/E Analysis

Ticker	Company	Price	EPS 2009E	EPS 2010E	P/E 09	P/E 10	Est. 5yr Gr.	PEG 09	PEG 10
BRCM	Broadcom	\$ 22.66	\$0.30	\$0.74	75.5	30.6	14	5.40	2.19
TXN	Texas Instruments	\$ 17.33	\$0.28	\$0.71	61.9	24.4	9.29	6.66	2.63
NOK	Nokia Corp.	\$ 13.80	\$0.85	\$1.18	16.2	11.7	13.5	1.20	0.87
ERIC	LM Ericsson	\$ 9.33	\$0.50	\$0.66	18.7	14.1	9.33	2.00	1.52
GLW	Corning	\$ 14.59	\$0.72	\$1.08	20.3	13.5	13.5	1.50	1.00

Average	<b>38.5</b>	<b>18.9</b>	<b>3.4</b>	<b>1.6</b>
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QCOM	Qualcomm	\$ 38.91	\$ 1.73	\$ 2.16	22.5	18.0	12.09	1.9	1.5
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### Implied Value:

Relative P/E (EPS09)                      \$ 66.56      PEG Ratio (EPS09)                      \$ 70.02

Relative P/E (EPS10)                      \$ 40.75      PEG Ratio (EPS10)                      \$ 42.78

**Fair Value (Average)                      \$ 53.65**

(average PEG ratio \* growth \* EPS)