

# **Qualcomm Incorporated (QCOM)**

\$107.19 (As of 07/30/20)

Price Target (6-12 Months): \$113.00

Long Term: 6-12 Months	Zacks Recommendation:	Neutral		
	(Since: 05/04/20)			
	Prior Recommendation: Outperfor	m		
Short Term: 1-3 Months	Zacks Rank: (1-5)	3-Hold		
	Zacks Style Scores:	VGM:B		
	Value: B Growth: B M	/lomentum: C		

### **Summary**

Qualcomm reported solid third-quarter fiscal 2020 results, primarily driven by the ramp-up in 5G-enabled chips. The company has entered into a new long-term, global patent license agreement, including cross-license rights to certain Huawei's patents, thus ensuring recurring revenues. The company has launched a low-cost 5G chip for affordable smartphone for masses and is helping customers experience a seamless transition to super-fast 5G networks, delivering low-power resilient multi-gigabit connectivity with best-in-class security. However, Qualcomm is likely to face softness in demand from China with Huawei gaining prominence in the local market and coronavirus impacting sales. It expects macroeconomic uncertainty to make a radical impact on device shipment. Competition from low-cost chip manufacturers like MediaTek is another concern.

## **Data Overview**

52 Week High-Low	\$107.69 - \$58.00
20 Day Average Volume (sh)	8,403,357
Market Cap	\$120.9 B
YTD Price Change	21.5%
Beta	1.34
Dividend / Div Yld	\$2.60 / 2.4%
Industry	Wireless Equipment
Zacks Industry Rank	Bottom 33% (169 out of 253)

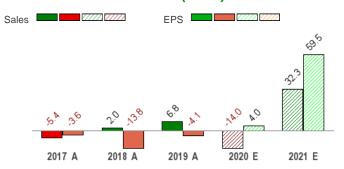
Last EPS Surprise	19.4%
Last Sales Surprise	1.7%
EPS F1 Est- 4 week change	0.0%
Expected Report Date	11/04/2020
Earnings ESP	3.7%

P/E TTM	30.5
P/E F1	29.1
PEG F1	1.6
P/S TTM	6.1

# Price, Consensus & Surprise



# Sales and EPS Growth Rates (Y/Y %)



# Sales Estimates (millions of \$)

\*Quarterly figures may not add up to annual.

	Q1	Q2	Q3	Q4	Annual*
2021	6,852 E	6,504 E	6,667 E	7,413 E	27,630 E
2020	5,077 A	5,216 A	4,893 A	5,890 E	20,881 E
2019	4,842 A	4,982 A	9,635 A	4,814 A	24,273 A

# **EPS Estimates**

	Q1	Q2	Q3	Q4	Annual*
2021	\$1.53 E	\$1.35 E	\$1.37 E	\$1.64 E	\$5.87 E
2020	\$0.99 A	\$0.88 A	\$0.86 A	\$1.11 E	\$3.68 E
2019	\$1.20 A	\$0.77 A	\$0.80 A	\$0.78 A	\$3.54 A

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 07/30/2020. The reports text is as of 07/31/2020.

#### Overview

Qualcomm Incorporated designs, manufactures and markets digital wireless telecom products and services based on the Code Division Multiple Access (CDMA) technology. The products include CDMA-based integrated circuits (ICs) and system software for wireless voice and data communications as well as global positioning system (GPS) products. Qualcomm's business is organized into two reporting segments as follows:

- Qualcomm CDMA Technologies (QCT) (77.8% of GAAP revenues in third-quarter fiscal 2020): This segment reports operating results for sales of CDMA-based integrated circuit devices (chips) and system software for wireless voice and data communications, as well as GPS products. QCT's integrated circuit (IC) products are used mainly in mobile phones, wireless data access cards and infrastructure equipment. QCT offers a broad portfolio of products that support CDMA2000 1X, 1xEV-DO, EV-DO Revision A, EV-DO Revision B and UMB. Qualcomm also develops IC that supports GSM/GPRS, WCDMA, HSDPA and HSUPA technologies.
- Qualcomm Technology Licensing (QTL) (21.3%): This segment reports revenues received from licenses to the intellectual property portfolio, which includes CDMAOne, CDMA2000 1X EV-DO/1xEV-DV, TD-SCDMA, and WCDMA technology solutions. QTL generates revenues from license fees as well as royalties based

22B 20B 18B 16B 14B 12B 10B 8B 6B 4B 2B

2019

EPS Hist, and Est.

Sales Hist, and Est.

6 -5.5

4.5

3.5

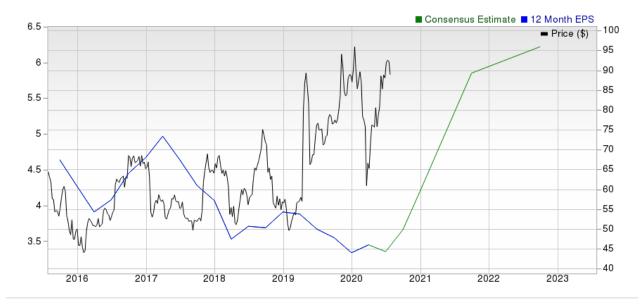
-2.5 -2 -1.5

0.5

0.0

-5

on global sales by licensees of products incorporating or using Qualcomm's intellectual property.



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### **Reasons To Buy:**

▲ Qualcomm's patent settlement with Apple has ensured a steady revenue stream as the agreement include a six-year license agreement effective Apr 1, 2019 along with a two-year extension option and a multi-year chipset supply agreement. Apple is expected to license the chips directly from Qualcomm instead of relying on OEMs to do it on its behalf. The company has inked a settlement agreement with Huawei to resolve earlier disputes related to its license agreement that expired on Dec 31, 2019. The company also entered into a new long-term, global patent license agreement, including cross-license rights to certain Huawei's patents, covering sales beginning Jan 1, 2020. Per the agreement, Qualcomm currently expects to generate revenues of approximately \$1.8 billion in fourth-quarter fiscal 2020, with additional payments made in installments in the later quarters. This will likely involve recurring payments to the mobile chip manufacturer.

Qualcomm anticipates witnessing two inflection points in fiscal 2020 backed by new product launches including devices with 5G chipsets and growth in adjacent businesses.

- ▲ For calendar year 2020, Qualcomm estimates sales of 175 million to 225 million 5G handset units. The company anticipates witnessing two inflection points in fiscal 2020. The first inflection point realized during the fiscal first quarter is likely to continue in the first half of fiscal 2020 with continued strength and acceleration of 5G demand. The next inflection point is anticipated to be realized in the fiscal fourth quarter with the launch of additional 5G flagship handsets and is likely to extend into fiscal 2021.
- ▲ Qualcomm has raised the bar for driverless cars as it unveiled the first-of-its-kind automotive platform Snapdragon Ride which enables automakers to transform their vehicles into self-driving cars using Al. Snapdragon's scalable platform comprises the Snapdragon Ride Safety system-on-a-chip, Accelerator and the Snapdragon Ride Autonomous Stack. The combination of these self-driving algorithms facilitates a robust architecture of hardware and software that supports advanced driver assistance systems like automatic emergency braking, traffic sign recognition, lane keeping, self-parking and automated highway driving technology, commonly known as Level 1 and Level 2 systems. This augurs well for its long-term growth proposition.
- ▲ Qualcomm is one of the largest manufacturers of wireless chipset based on baseband technology. The company is focusing to retain its leadership in 5G, chipset market and mobile connectivity with several technological achievements and innovative product launches. Qualcomm has redefined the computing and mobile ecosystem across the globe with the launch of QCA6390 Connectivity SoC product. This game-changing and arguably the most advanced integrated offering from Qualcomm is likely to deliver path-breaking performance in the 5G era and provide it a competitive advantage against rivals. Built on indigenous technologies, the QCA6390 is designed to meet the growing need for faster connectivity options and data speed. Supporting all the feature suites of both Wi-Fi 6 and Bluetooth 5.1, it offers faster, more secure and robust Wi-Fi experiences and enhanced Bluetooth capabilities. These include ultra-high-definition voice and low-latency gaming over wireless headphones, earbuds and speakers. The QCA6390 sets a new industry standard with the world's first announced 14nm integrated SoC that boasts extended features and cutting-edge design. It is likely to help users experience seamless transition to super-fast 5G networks, delivering low-power resilient multi-gigabit connectivity with unprecedented range and Qualcomm's best-in-class security. This, in turn, would further offer the flexibility and scalability needed for broad and fast 5G adoption through accelerated commercialization by OEMs. With more than 150 5G design wins, Qualcomm is reportedly the only chipset vendor with 5G system level solutions spanning both sub-6, gigahertz and millimeter wave bands.
- ▲ Qualcomm has set a new benchmark for itself as it unveiled a game-changing 5G chipset for low-cost smartphones for the masses. The Snapdragon 690 5G chipset is the first SoC (System-on-Chip) in the 600 series to support 5G services at accessible price points. This is likely to usher in more affordable 5G Android mobile handsets, with a plethora of unique features in its category, by the second half of the year. Compared to its predecessor Snapdragon 675, the new chip is billed to offer up to 20% better CPU and up to 60% faster graphics performance. The chip has an integrated Snapdragon X51 5G modem that supports global 5G standards with multi-SIM functionality and dynamic spectrum sharing. It supports a download speed of up to 2.5Gbps and upload speed of up to 660Mbps. In addition, the chipset has a new AI engine called ARCSOFT that features a Hexagon Tensor Accelerator for enhanced performance in real-time Snapchat filters and smooth transition when switching between ultrawide, wide and telephoto cameras. The chipset also significantly improves multimedia performance with the ability to record in HDR10 format for FHD+ displays with a 120Hz refresh rate and support for 4K video recording at 30fps and stills up to 192MP. Furthermore, the chip boasts a new enhancement for video encoding and supports faster charging with Quick Charge 4+. Leveraging the FastConnect 6200 system that brings Wi-Fi 6, Bluetooth 5.1 and 2x2 MU-MIMO configurations, the Snapdragon 690 is arguably the most powerful SoC yet in the lower mid-range segment. This augurs well for its long-term growth proposition.

# **Reasons To Sell:**

▼ Over the past few years, Qualcomm's margins have decreased sharply due to high operating expenses and R&D costs. The company expects softness in the handset market and weaker overall mix of devices to remain in the near future. In addition, Qualcomm faces huge concentration risks as bulk of its revenues is generated from a handful of customers — a trend that is expected to continue in the ensuing quarters. Moreover, majority of these customers include Chinese manufacturers, which further cloud the revenue-generating potential owing to strained bilateral trade relationship with the United States.

Aggressive competition in the mobile phone chipset market continues to bother Qualcomm. In addition, margins have decreased sharply over the years due to high operating expenses and R&D costs.

- ▼ Shift in the share among OEMs (original equipment manufacturers) at the premium tier has reduced Qualcomm's near-term opportunity to sell integrated chipsets from the Snapdragon platform. Aggressive competition in the mobile phone chipset market is also likely to hurt Qualcomm's profits in the future. The company is facing severe competitive threat from its closest rival Intel, which has been redesigning its chipsets for the mobile computing market. Competition is also likely to come from formidable rivals like Broadcom and Nvidia. Moreover, Qualcomm has been facing challenges from low-cost chip manufacturers like MediaTek and Rockchip as well as handset manufacturers' SoC projects such as Exynos by Samsung. Although the global smartphone market is expected to maintain its momentum over the next three to four years, major portion of this growth is likely to come from the low-cost emerging markets, which may weigh on Qualcomm's margins. In addition, adverse court rulings relating to its licensing business could impair its growth potential to some extent.
- ▼ Qualcomm is anticipated to face continued softness in demand from China with Huawei gaining prominence in the local market and OEMs managing their inventory ahead of 5G deployment. Due to latent Sino-U.S. trade tensions, there has been a marked shift in OEM share towards Huawei, as the leading Chinese smartphone manufacturer increases its focus on domestic sales. In addition, Chinese OEMs are pulling back on new 4G device orders and managing their inventory in advance of the transition to 5G in 2020. Consequently, Qualcomm expects a significant impact on device shipment as sell-in and sell-through growth rates realign and channel inventory levels are drawn down in China. Global 3G, 4G, 5G device shipments in 2020 are anticipated to be affected by lengthening of handset replacement rates due to adverse economic impact from the coronavirus pandemic, likely impacting unit volumes. For the fourth quarter of fiscal 2020, Qualcomm expects a 15% reduction in handset shipments compared to prior expectations. The quarterly earnings are likely to take a hit to the tune of 25 cents per share from the coronavirus.
- ▼ As of Jun 30, 2020, the company had \$6,120 million in cash and equivalents and \$15,425 million of long-term debt compared with the respective tallies of \$9,946 million and \$13,449 million at the end of the previous quarter. This shows that cash position has decreased while its debt has increased sequentially as it continued to repurchase shares and pay dividends. The company has, however, suspended the stock buyback program for the near term to maintain financial liquidity position and flexibility amid the pandemic. Qualcomm currently has a debt-to-capital ratio of 0.84 compared with 0.35 of the sub-industry. The times interest earned has declined over the past quarter to 6.2 at present relative to 6.5 of the sub-industry. This shows that the company is less likely to clear its debt. It has a dividend payout rate of 93.6%. Barring the second quarter of fiscal 2020 quarter, the rate has increased steadily over the past few quarters, indicating that the company is sharing more of its earnings with stockholders. It is to be seen whether Qualcomm can maintain the momentum in the coming days amid disruptions caused by the COVID-19 pandemic.

## **Last Earnings Report**

#### Qualcomm Q3 Earnings Beat on 5G Forte

Despite a challenging macroeconomic environment triggered by the coronavirus pandemic, Qualcomm reported solid third-quarter fiscal 2020 results, primarily driven by the ramp-up in 5G-enabled chips. Both top and bottom-line figures beat the Zacks Consensus Estimates, backed by the strength of the business model and the ability to respond pro-actively to the evolving market scenario. A long-term settlement deal with Huawei further propelled the stock toward a record high, with shares up 11.6% to \$103.83 per share in the aftermarket trading post the earnings release.

Quarter Ending	06/2020
Report Date	Jul 29, 2020
Sales Surprise	1.70%
EPS Surprise	19.44%
Quarterly EPS	0.86
Annual EPS (TTM)	3.51

#### **Net Income**

On a GAAP basis, net income for the June quarter was \$845 million or 74 cents per share compared with \$2,149 million or \$1.75 in the prior-year quarter. The decline in GAAP earnings was primarily attributable to an accretive patent settlement agreement with Apple Inc. (AAPL) inked in third-quarter fiscal 2019.

Quarterly non-GAAP net income came in at \$982 million or 86 cents per share compared with \$982 million or 80 cents in the year-ago quarter. Undeterred by the adverse impact of the virus outbreak, non-GAAP earnings remained steady owing to the diligent execution of operational plans and resilient business culture. The bottom line exceeded management's guidance and beat the Zacks Consensus Estimate by 14 cents.

#### Revenues

On a GAAP basis, total revenues in the fiscal third quarter were \$4,893 million compared with \$9,635 million in the prior-year quarter. The year-over-year decline was driven by \$4.7 billion of revenues generated in third-quarter fiscal 2019 from the patent settlement deal with Apple.

Non-GAAP revenues for the reported quarter were \$4,890 million compared with \$4,894 million in the year-earlier quarter. The figure surpassed the consensus mark of \$4,811 million and was above the midpoint of the company-guided range, driven by 5G strength, high-performing core chipsets and new RF front-end content.

#### **Segment Results**

Quarterly GAAP revenues from Qualcomm CDMA Technologies (QCT) improved 7% year over year to \$3,807 million on strength across 5G and higher demand in adjacent platforms beyond mobile, partially offset by lower Mobile Station Modem (MSM) chip shipments due to adverse coronavirus impacts. MSM shipments in the quarter were 130 million, down from 156 million a year ago due to reduced demand for 3G/4G/5G handsets stemming from lower orders from China and other global markets. EBT margin increased to 16% from 14% in the year-ago quarter.

Qualcomm Technology Licensing (QTL) revenues totaled \$1,044 million, down 19% year over year, driven by lower royalty revenues from Huawei due to the expiration of the interim agreement and lower sales triggered by the coronavirus-induced turmoil. EBT margin was 62% compared with 70% in the year-ago quarter on lower revenues and higher R&D expenses.

Subsequent to the end of the quarter, Qualcomm inked a settlement agreement with Huawei to resolve earlier disputes related to its license agreement that expired on Dec 31, 2019. The company also entered into a new long-term, global patent license agreement, including cross-license rights to certain Huawei's patents, covering sales beginning Jan 1, 2020. Per the agreement, Qualcomm currently expects to generate revenues of approximately \$1.8 billion in fourth-quarter fiscal 2020, with additional payments made in installments in the later quarters.

### **Cash Flow & Liquidity**

Qualcomm generated \$1,872 million of net cash from operating activities during the quarter compared with \$4,909 million in the year-ago quarter. At quarter-end, the company had \$6,120 million in cash and equivalents and \$15,425 million of long-term debt.

During the reported quarter, Qualcomm paid out cash dividends totaling \$733 million or 65 cents per share and repurchased 1.6 million shares for \$110 million. At quarter-end, the company had \$4.6 billion available for repurchase under its \$30-billion stock buyback program.

#### Guidance

For the fourth quarter of fiscal 2020, Qualcomm expects GAAP revenues of \$7.3-\$8.1 billion and non- GAAP revenues of \$5.5-\$6.3 billion as the adverse impact of the virus outbreak is likely to result in a 15% reduction in handset shipments compared to prior expectations. Non-GAAP earnings are projected to be \$1.05-\$1.25 per share, while GAAP earnings are likely to be \$2.12-\$2.32 per share, buoyed by the Huawei settlement. The quarterly earnings are likely to take a hit to the tune of 25 cents per share due to the coronavirus. Revenues at QTL are expected between \$1.2 billion and \$1.4 billion. For QCT, the company anticipates revenues between \$4.3 billion and \$4.9 billion on MSM shipments of 145-165 million units.

For calendar 2020, Qualcomm continues to expect 175-225 million 5G handset unit shipments.

#### **Recent News**

On Jun 30, 2020, Qualcomm announced the launch of the Snapdragon Wear 4100 platforms — Wear 4100+ and Wear 4100. Designed for next-generation connected smartwatches, the product is based on ultra-low power hybrid architecture to deliver super-fast performance and connectivity. The new System-on-Chip has been designed to deliver 85% higher performance compared with the Snapdragon Wear 3100 platform for faster app launches, more responsive user experience as well as richer photo and video experiences.

On Jun 8, Qualcomm announced that it has collaborated with JLC Infrastructure and IGNITE Cities to leverage smart city technology for the development of education and construction industries. The program is an undertaking of the company's Advantage Network. The partnership is reckoned to be the call of the hour as companies strive to initiate vital construction projects as various states begin to reopen their economies. Qualcomm's Advantage Network offers a wide range of programs, which have been designed to cater to the requirements of companies with best-in-class hardware, software and cloud capabilities.

On Feb 18, Qualcomm unveiled Snapdragon-backed third-generation 5G modem — X60. Upping its 5G chip dominance in the global market, the much-awaited launch is likely to boost network performance and provide flexibility to operators with optimized spectrum resources, in the face of universal migration from 4G to full-fledged 5G ecosystem. The innovation in the Snapdragon 8 Series is specifically designed for top-notch 5G services with the help of sub-6 GHz spectrum and millimeter wave technology. The company has primarily been focused on developing premium category chipsets that reportedly delivered speeds of up to 7 gigabits per second with a more powerful X55 5G modem. These chips are mostly found in high-end smartphone devices.

On Jan 6, Qualcomm unveiled the first-of-its-kind automotive platform, Snapdragon Ride, which enables automakers to transform their vehicles into self-driving cars using AI. Snapdragon's scalable platform comprises the Snapdragon Ride Safety system-on-a-chip, Accelerator and the Snapdragon Ride Autonomous Stack. The combination of these self-driving algorithms facilitates a robust architecture of hardware and software that supports advanced driver assistance systems like automatic emergency braking, traffic sign recognition, lane keeping, self-parking and automated highway driving technology, commonly known as Level 1 and Level 2 systems.

#### **Valuation**

Qualcomm shares are up 50.6% over the trailing 12-month period. Stocks in the Zacks sub-industry are up 9.3% over the past year, while stocks in the Zacks Computer and Technology sector are up 27.3% in the same time period.

The S&P 500 Index is up 10.7% in the past year.

The stock is currently trading at 22.93X trailing 12-month EV/EBITDA, which compares to 21.89X for the Zacks sub-industry, 13.16X for the Zacks sector and 12.11X for the S&P 500 Index.

Over the past five years, the stock has traded as high as 22.93X and as low as 4.71X, with a 5-year median of 10.2X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$113 price target reflects 5.78X forward 12-month earnings.

The table below shows summary valuation data for QCOM

Valuation Multiples - QCOM						
		Stock	Sub-Industry	Sector	S&P 500	
	Current	22.93	21.89	13.16	12.11	
EV/EBITDA TTM	5-Year High	22.93	25.88	13.33	12.85	
	5-Year Low	4.71	9.84	7.59	8.25	
	5-Year Median	10.2	16.5	10.88	10.89	
	Current	19.55	19.2	25.94	22.69	
P/E F12M	5-Year High	26.69	30.47	25.94	22.69	
	5-Year Low	11.29	13.61	16.72	15.25	
	5-Year Median	16.26	18.61	19.32	17.52	
	Current	4.64	3.38	3.96	3.59	
P/S F12M	5-Year High	5.15	3.52	3.96	3.59	
	5-Year Low	2.82	2.07	2.32	2.53	
	5-Year Median	3.75	2.8	3.14	3.02	

As of 07/30/2020

# Industry Analysis Zacks Industry Rank: Bottom 33% (169 out of 253)

#### ■ Industry Price Industry Price -60 -55 -50

# **Top Peers**

Company (Ticker)	Rec R	ank
Advanced Micro Devices, Inc. (AMD)	Outperform	3
Ericsson (ERIC)	Neutral	3
Intel Corporation (INTC)	Neutral	3
Juniper Networks, Inc. (JNPR)	Neutral	3
Nokia Corporation (NOK)	Neutral	2
NVIDIA Corporation (NVDA)	Neutral	3
Motorola Solutions, Inc. (MSI)	Underperform	4
Viasat Inc. (VSAT)	Underperform	5

Industry Comparison Industry: Wireless Equipment				Industry Peers			
	QCOM	X Industry	S&P 500	ERIC	INTC	NOM	
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutra	
Zacks Rank (Short Term)	3	-	-	3	3	2	
VGM Score	В	-	-	А	Α	С	
Market Cap	120.94 B	497.45 M	22.57 B	38.47 B	204.10 B	24.97 E	
# of Analysts	10	3	14	4	14	4	
Dividend Yield	2.43%	0.00%	1.83%	0.41%	2.75%	1.02%	
Value Score	В	-	-	Α	Α	В	
Cash/Price	0.10	0.14	0.07	0.14	0.12	0.30	
EV/EBITDA	13.02	10.96	12.96	19.26	6.15	9.55	
PEG Ratio	1.58	2.07	3.04	0.79	1.32	1.16	
Price/Book (P/B)	36.58	1.85	3.13	4.74	2.49	1.41	
Price/Cash Flow (P/CF)	25.68	14.56	12.61	28.90	6.31	7.80	
P/E (F1)	29.13	22.35	22.06	20.70	9.90	18.16	
Price/Sales (P/S)	6.05	1.56	2.42	1.62	2.59	0.97	
Earnings Yield	3.43%	3.47%	4.31%	4.85%	10.11%	5.62%	
Debt/Equity	4.67	0.19	0.75	0.38	0.44	0.30	
Cash Flow (\$/share)	4.17	0.49	6.94	0.40	7.60	0.57	
Growth Score	В	-	-	Α	A	С	
Hist. EPS Growth (3-5 yrs)	-8.67%	-4.65%	10.85%	-37.70%	22.01%	-6.46%	
Proj. EPS Growth (F1/F0)	3.87%	14.85%	-7.75%	406.82%	-0.45%	-2.00%	
Curr. Cash Flow Growth	-22.34%	-14.66%	5.39%	33.18%	6.53%	-0.59%	
Hist. Cash Flow Growth (3-5 yrs)	-10.62%	5.53%	8.55%	-16.79%	9.99%	14.32%	
Current Ratio	1.97	1.67	1.31	1.22	1.97	1.37	
Debt/Capital	82.35%	22.60%	44.32%	27.64%	30.56%	23.37%	
Net Margin	13.72%	1.65%	10.44%	1.21%	29.97%	1.43%	
Return on Equity	78.39%	3.74%	14.73%	5.81%	31.55%	9.14%	
Sales/Assets	0.61	0.78	0.52	0.80	0.55	0.59	
Proj. Sales Growth (F1/F0)	-13.98%	0.00%	-1.95%	4.63%	4.34%	-5.04%	
Momentum Score	C	-	-	Α	В	C	
Daily Price Chg	15.22%	0.00%	-0.92%	-0.35%	-0.17%	2.53%	
1 Week Price Chg	-3.62%	0.50%	0.37%	4.59%	-15.68%	-2.05%	
4 Week Price Chg	16.68%	5.17%	4.14%	23.95%	-18.84%	0.23%	
12 Week Price Chg	35.98%	20.37%	12.21%	38.70%	-18.90%	25.35%	
52 Week Price Chg	50.55%	-3.10%	-1.73%	30.84%	-3.05%	-17.13%	
20 Day Average Volume	8,403,357	143,821	1,887,986	13,787,072	36,590,264	33,382,268	
(F1) EPS Est 1 week change	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	
(F1) EPS Est 4 week change	0.00%	0.00%	0.38%	9.85%	0.88%	0.00%	
(F1) EPS Est 12 week change	0.00%	0.00%	-0.07%	10.40%	0.75%	-2.00%	
(Q1) EPS Est Mthly Chg	0.00%	0.00%	0.16%	25.64%	-4.76%	0.00%	

## **Zacks Stock Rating System**

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

#### **Zacks Recommendation**

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we have an excellent balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

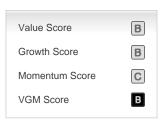
#### **Zacks Rank**

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

## **Zacks Style Scores**

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.



As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

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