

Qualcomm Incorporated (QCOM)

\$91.21 (As of 06/30/20)

Price Target (6-12 Months): **\$96.00**

Long Term: 6-12 Months

Zacks Recommendation:
Neutral

(Since: 05/04/20)

Prior Recommendation: Outperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:A

Value: B

Growth: B

Momentum: C

Summary

Qualcomm is focused on retaining its position in the chipset market and mobile connectivity with several technological feats and innovative product launches. The company is helping customers experience a seamless transition to super-fast 5G networks, delivering low-power resilient multi-gigabit connectivity with best-in-class security. Qualcomm raised the bar for driverless cars with the launch of a first-of-its-kind automotive platform, Snapdragon Ride, which enables automakers to transform vehicles into self-driving cars using AI. However, the company 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.

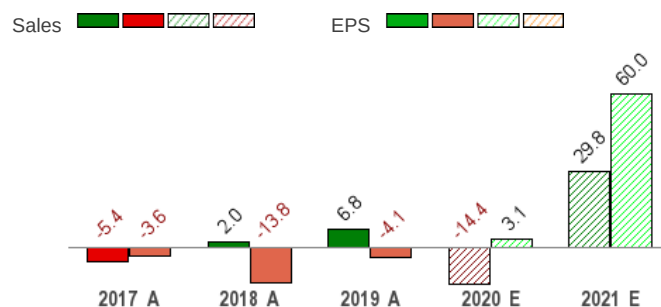
Price, Consensus & Surprise



Data Overview

52 Week High-Low	\$96.17 - \$58.00
20 Day Average Volume (sh)	10,151,415
Market Cap	\$102.6 B
YTD Price Change	3.4%
Beta	1.34
Dividend / Div Yld	\$2.60 / 2.9%
Industry	Wireless Equipment
Zacks Industry Rank	Top 30% (76 out of 253)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	11.4%
Last Sales Surprise	2.4%
EPS F1 Est- 4 week change	0.0%
Expected Report Date	07/29/2020
Earnings ESP	-6.5%
P/E TTM	26.4
P/E F1	25.1
PEG F1	1.4
P/S TTM	4.2

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	6,817 E	6,479 E	6,641 E	7,384 E	26,974 E
2020	5,077 A	5,216 A	4,792 E	5,735 E	20,781 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	\$1.52 E	\$1.35 E	\$1.37 E	\$1.63 E	\$5.84 E
2020	\$0.99 A	\$0.88 A	\$0.71 E	\$1.08 E	\$3.65 E
2019	\$1.20 A	\$0.77 A	\$0.80 A	\$0.78 A	\$3.54 A

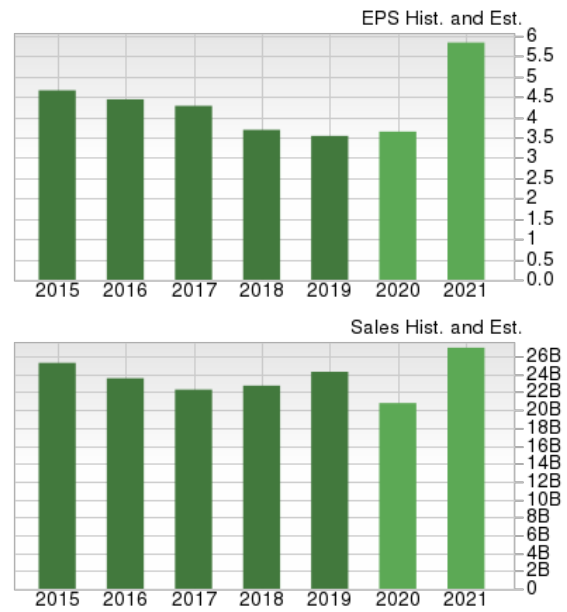
*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 06/30/2020. The reports text is as of 07/01/2020.

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)** (78.6% of GAAP revenues in second-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)** (20.6%): 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 on global sales by licensees of products incorporating or using Qualcomm's intellectual property.



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. This will likely involve recurring payments to the mobile chip manufacturer.
- ▲ 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 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. 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.
- ▲ As of Mar 31, 2020, the company had \$9,946 million in cash and equivalents and \$13,449 million of long-term debt compared with the respective tallies of \$11,423 million and \$13,437 million at the end of the previous quarter. This shows that although debt has remained more or less stable, cash and cash equivalents has decreased 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 improved steadily over the past few quarters to 13.7 at present relative to 6.5 of the sub-industry. This shows that the company is more 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.

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

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.
- ▼ 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.
- ▼ 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 third quarter of fiscal 2020, Qualcomm expects revenues of \$4.4-\$5.2 billion as the adverse impact from the virus outbreak is likely to result in a 30% reduction in handset shipments compared to prior expectations. Non-GAAP earnings are projected to be 60-80 cents per share, while GAAP earnings are likely to be 29-49 cents. The quarterly earnings are likely to take a hit to the tune of 30 cents per share from the coronavirus.
- ▼ 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.

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.

Last Earnings Report

Qualcomm Q2 Earnings Beat Estimates on 5G Strength

Despite a challenging macroeconomic environment triggered by the coronavirus pandemic, Qualcomm reported solid second-quarter fiscal 2020 results, with healthy year-over-year top-line growth, primarily driven by the ramp-up in 5G-enabled chips. In addition, both top and bottom-line figures beat the Zacks Consensus Estimate, backed by the strength of the business model and the ability to respond pro-actively to the evolving market scenario.

Quarter Ending 03/2020

Report Date	Apr 29, 2020
Sales Surprise	2.40%
EPS Surprise	11.39%
Quarterly EPS	0.88
Annual EPS (TTM)	3.45

Net Income

On a GAAP basis, net income for the March quarter was \$468 million or 41 cents per share compared with \$663 million or 55 cents in the prior-year quarter. The decline in GAAP earnings was primarily attributable to costs related to the virus outbreak.

Quarterly non-GAAP net income came in at \$1,015 million or 88 cents per share compared with \$932 million or 77 cents in the year-ago quarter. The significant improvement in non-GAAP earnings was primarily attributable to the diligent execution of operational plans and resilient business culture. The bottom line was at the midpoint of management's guidance and beat the Zacks Consensus Estimate by 9 cents.

Revenues

On a GAAP basis, total revenues in the fiscal second quarter were \$5,216 million compared with \$4,982 million in the prior-year quarter. The figure surpassed the consensus mark of \$5,094 million and was near 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 10% year over year to \$4,100 million on strength across 5G, RF front-end and adjacent platforms, partially offset by lower Mobile Station Modem (MSM) chip shipments due to adverse coronavirus impacts. MSM shipments in the quarter were 129 million, down from 155 million a year ago due to reduced demand for 3G/4G/5G handsets owing to lower orders from China and other global markets. EBT margin increased to 16% from 15% in the year-ago quarter.

Qualcomm Technology Licensing (QTL) revenues were \$1,072 million, which declined 4% year over year and was at the midpoint of management's guided range, driven by lower royalty revenues from Huawei due to the expiration of the interim agreement and transition to new 5G multimode licensing agreement. EBT margin was 63% compared with 60% in the year-ago quarter on lower operating expenses and was at the midpoint of the company's guidance. Despite the adversities, Qualcomm signed two new global patent licensing agreements with China-based smartphone manufacturers — OPPO and Vivo — to cover 5G multi-mode mobile devices. The company signed more than 85 5G license agreements, up from 80 license agreements in the previous quarter.

Cash Flow & Liquidity

Qualcomm generated \$1,083 million of net cash from operating activities during the quarter compared with \$794 million in the year-ago quarter. At quarter-end, the company had \$8,403 million in cash and equivalents and \$13,449 million of long-term debt.

During the reported quarter, Qualcomm paid out cash dividends totaling \$705 million or 62 cents per share and repurchased 20 million shares for \$1.6 billion. At quarter-end, the company had \$4.7 billion available for repurchase under its \$30-billion stock buyback program, although it suspended the program for the near term in order to maintain financial liquidity position and flexibility amid the pandemic.

Guidance

For the third quarter of fiscal 2020, Qualcomm expects revenues of \$4.4-\$5.2 billion as the adverse impact from the virus outbreak is likely to result in a 30% reduction in handset shipments compared to prior expectations. Non-GAAP earnings are projected to be 60-80 cents per share, while GAAP earnings are likely to be 29-49 cents. The quarterly earnings are likely to take a hit to the tune of 30 cents per share from the coronavirus. Revenues at QTL are expected between \$750 million and \$950 million. For QCT, the company anticipates revenues between \$3.6 billion and \$4.2 billion on MSM shipments of 125-145 million units.

For calendar year 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 18.5% over the trailing 12-month period. Stocks in the Zacks sub-industry are down 2.2% over the past year, but stocks in the Zacks Computer and Technology sector are up 23% in the same time period.

The S&P 500 Index is up 3.3% in the past year.

The stock is currently trading at 12.45X trailing 12-month EV/EBITDA, which compares to 20.45X for the Zacks sub-industry, 12.42X for the Zacks sector and 11.31X for the S&P 500 Index.

Over the past five years, the stock has traded as high as 20.12X and as low as 4.71X, with a 5-year median of 10.16X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$96 price target reflects 5.57X forward 12-month earnings.

The table below shows summary valuation data for QCOM

Valuation Multiples - QCOM					
		Stock	Sub-Industry	Sector	S&P 500
EV/EBITDA TTM	Current	12.45	20.45	12.42	11.31
	5-Year High	20.12	25.88	12.72	12.86
	5-Year Low	4.71	9.84	7.57	8.25
	5-Year Median	10.16	16.44	10.79	10.86
P/E F12M	Current	17.24	18.4	25.08	21.87
	5-Year High	26.69	30.47	25.08	22.14
	5-Year Low	11.29	13.61	16.72	15.25
	5-Year Median	16.14	18.32	19.31	17.52
P/S F12M	Current	4.04	3.2	3.83	3.42
	5-Year High	5.15	3.52	3.83	3.44
	5-Year Low	2.82	2.07	2.32	2.53
	5-Year Median	3.75	2.79	3.13	3.02

As of 06/30/2020

Industry Analysis Zacks Industry Rank: Top 30% (76 out of 253)



Top Peers

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

Industry Comparison Industry: Wireless Equipment				Industry Peers		
	QCOM	X Industry	S&P 500	ERIC	INTC	NOK
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	2	3	2
VGM Score	A	-	-	B	A	B
Market Cap	102.60 B	371.91 M	21.75 B	31.01 B	253.32 B	24.69 B
# of Analysts	10	2.5	14	4	14	3
Dividend Yield	2.85%	0.00%	1.93%	0.51%	2.21%	1.03%
Value Score	B	-	-	A	B	B
Cash/Price	0.10	0.16	0.07	0.19	0.09	0.30
EV/EBITDA	10.93	10.50	12.71	15.09	7.71	9.44
PEG Ratio	1.36	2.00	2.86	0.70	1.66	1.16
Price/Book (P/B)	33.70	1.72	2.97	3.78	3.32	1.40
Price/Cash Flow (P/CF)	21.85	13.70	11.71	23.29	7.87	7.72
P/E (F1)	25.06	22.50	21.23	18.33	12.44	18.14
Price/Sales (P/S)	4.15	1.36	2.30	1.30	3.34	0.96
Earnings Yield	3.99%	3.99%	4.48%	5.48%	8.04%	5.45%
Debt/Equity	4.42	0.16	0.76	0.39	0.48	0.30
Cash Flow (\$/share)	4.17	0.49	7.01	0.40	7.60	0.57
Growth Score	B	-	-	B	B	C
Hist. EPS Growth (3-5 yrs)	-8.67%	-4.77%	10.93%	-39.79%	21.32%	-6.46%
Proj. EPS Growth (F1/F0)	2.97%	0.00%	-9.77%	361.36%	-1.20%	-3.00%
Curr. Cash Flow Growth	-22.34%	-14.66%	5.51%	33.18%	6.53%	-0.59%
Hist. Cash Flow Growth (3-5 yrs)	-10.62%	3.63%	8.62%	-16.79%	9.99%	14.32%
Current Ratio	1.57	1.62	1.30	1.22	1.74	1.37
Debt/Capital	81.54%	19.55%	44.41%	28.21%	32.32%	23.37%
Net Margin	16.36%	1.65%	10.62%	0.90%	30.02%	1.43%
Return on Equity	69.92%	3.67%	15.75%	4.33%	31.64%	9.14%
Sales/Assets	0.75	0.78	0.55	0.80	0.55	0.59
Proj. Sales Growth (F1/F0)	-14.39%	0.00%	-2.43%	3.01%	2.75%	-3.95%
Momentum Score	C	-	-	D	A	D
Daily Price Chg	2.47%	0.65%	1.41%	0.65%	2.68%	1.15%
1 Week Price Chg	-0.89%	0.00%	-3.90%	2.32%	-3.56%	0.23%
4 Week Price Chg	7.78%	0.30%	-1.62%	-2.52%	-3.69%	2.09%
12 Week Price Chg	25.41%	19.23%	15.67%	19.23%	2.45%	39.24%
52 Week Price Chg	18.44%	-12.70%	-8.07%	-2.31%	24.33%	-13.04%
20 Day Average Volume	10,151,415	175,535	2,699,706	10,595,032	26,775,120	33,506,362
(F1) EPS Est 1 week change	0.00%	0.00%	0.00%	-1.93%	0.00%	0.00%
(F1) EPS Est 4 week change	0.00%	0.00%	0.00%	0.50%	0.09%	-0.61%
(F1) EPS Est 12 week change	-16.30%	-7.44%	-10.28%	-3.33%	-0.43%	-7.44%
(Q1) EPS Est Mthly Chg	0.00%	0.00%	0.00%	-8.70%	0.00%	9.09%

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.

Value Score	B
Growth Score	B
Momentum Score	C
VGM Score	A

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.

Disclosures

This report contains independent commentary to be used for informational purposes only. The analysts contributing to this report do not hold any shares of this stock. The analysts contributing to this report do not serve on the board of the company that issued this stock. The EPS and revenue forecasts are the Zacks Consensus estimates, unless indicated otherwise on the reports first page. Additionally, the analysts contributing to this report certify that the views expressed herein accurately reflect the analysts personal views as to the subject securities and issuers. ZIR certifies that no part of the analysts compensation was, is, or will be, directly or indirectly, related to the specific recommendation or views expressed by the analyst in the report.

Additional information on the securities mentioned in this report is available upon request. This report is based on data obtained from sources we believe to be reliable, but is not guaranteed as to accuracy and does not purport to be complete. Any opinions expressed herein are subject to change.

ZIR is not an investment advisor and the report should not be construed as advice designed to meet the particular investment needs of any investor. Prior to making any investment decision, you are advised to consult with your broker, investment advisor, or other appropriate tax or financial professional to determine the suitability of any investment. This report and others like it are published regularly and not in response to episodic market activity or events affecting the securities industry.

This report is not to be construed as an offer or the solicitation of an offer to buy or sell the securities herein mentioned. ZIR or its officers, employees or customers may have a position long or short in the securities mentioned and buy or sell the securities from time to time. ZIR is not a broker-dealer. ZIR may enter into arms-length agreements with broker-dealers to provide this research to their clients. Zacks and its staff are not involved in investment banking activities for the stock issuer covered in this report.

ZIR uses the following rating system for the securities it covers. **Outperform-** ZIR expects that the subject company will outperform the broader U.S. equities markets over the next six to twelve months. **Neutral-** ZIR expects that the company will perform in line with the broader U.S. equities markets over the next six to twelve months. **Underperform-** ZIR expects the company will underperform the broader U.S. equities markets over the next six to twelve months.

No part of this report can be reprinted, republished or transmitted electronically without the prior written authorization of ZIR.