Qualcomm Incorporated (QCOM)

$114.50 (As of 09/25/20)

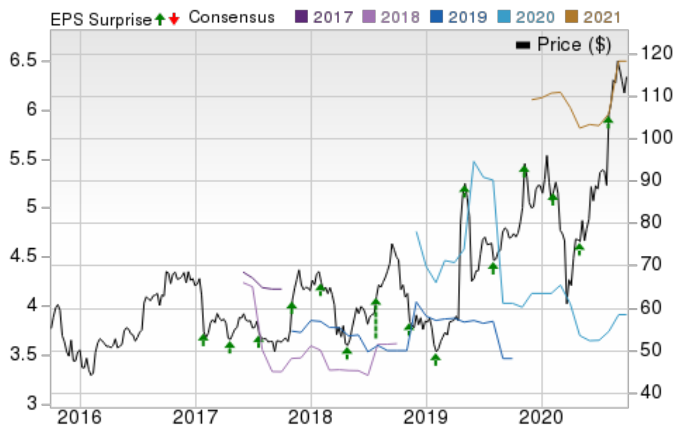
Price Target (6-12 Months): **$122.00**

Long Term: 6-12 Months	**Zacks Recommendation:** (Since: 05/04/20) Prior Recommendation: Outperform	**Neutral**
Short Term: 1-3 Months	**Zacks Rank:** (1-5)	**2-Buy**
	Zacks Style Scores:	VGM:D
	Value: D | Growth: B	Momentum: F

Summary

Qualcomm introduced the Snapdragon 732G Mobile Platform, which comes as an upgrade to the Snapdragon 730G. The company resolved a dispute with Huawei and inked a new long-term patent license agreement. With the rollout of 5G, it is benefiting from the investments made to build a licensing program in mobile. Qualcomm launched low-priced 5G chips for the masses and is helping customers experience a seamless transition to 5G networks while delivering low-power resilient multi-gigabit connectivity. However, it is facing a challenging economic environment with lower handset shipments due to COVID-19. Qualcomm is expected to face softness in demand from China. Over the past years, the company's margins have declined due to high R&D expenses. Competition from low-cost chip manufacturers like MediaTek is another concern.

Price, Consensus & Surprise

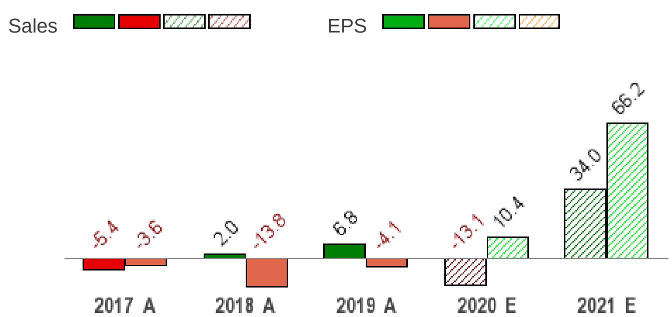


Source: Zacks Investment Research

Data Overview

52-Week High-Low	**$123.93 - $58.00**
20-Day Average Volume (Shares)	**8,180,716**
Market Cap	**$129.2 B**
Year-To-Date Price Change	**29.8%**
Beta	**1.36**
Dividend / Dividend Yield	**$2.60 / 2.3%**
Industry	**Wireless Equipment**
Zacks Industry Rank	**Bottom 24% (189 out of 250)**
Last EPS Surprise	**19.4%**
Last Sales Surprise	**1.7%**
EPS F1 Estimate 4-Week Change	**0.0%**
Expected Report Date	**11/04/2020**
Earnings ESP	**0.0%**
P/E TTM	**32.6**
P/E F1	**29.3**
PEG F1	**1.5**
P/S TTM	**6.5**

Sales and EPS Growth Rates (Y/Y %)



Sales Estimates (millions of $)

	Q1	Q2	Q3	Q4	Annual*
2021	7,155 E	6,646 E	6,794 E	7,938 E	28,270 E
2020	5,077 A	5,216 A	4,893 A	5,935 E	21,091 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	$1.64 E	$1.41 E	$1.50 E	$1.91 E	$6.50 E
2020	$0.99 A	$0.88 A	$0.86 A	$1.17 E	$3.91 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 09/25/2020. The reports text is as of 09/28/2020.

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

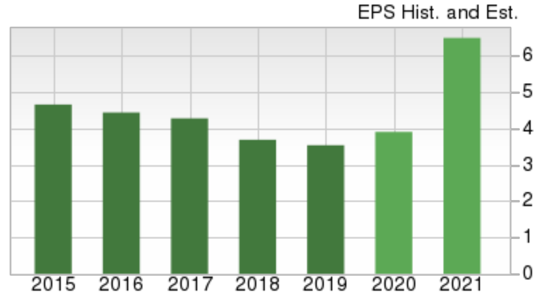
© 2020 Zacks Investment Research, All Rights Reserved 10 S. Riverside Plaza Suite 1600 • Chicago, IL 60606

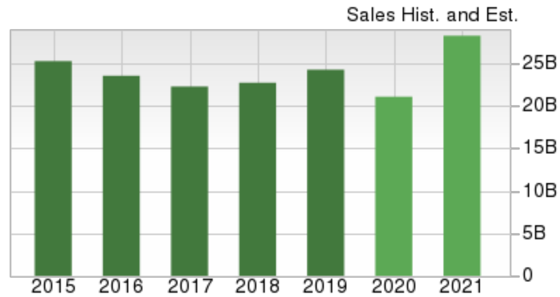
Overview

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





Source: Zacks Investment Research

Reasons To Buy:

- With the rollout of 5G, Qualcomm is benefiting from the investments toward building a licensing program in mobile. The company's patent settlement with Apple 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 likely to license the chips directly from Qualcomm instead of relying on OEMs to do it on its behalf. The company 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 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 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.

- Qualcomm 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.

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

Reasons To Sell:

> 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.

- Over the past years, Qualcomm's margins have declined 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. 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 expected to face softness in demand from China. 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 $10,600 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. The company has suspended its 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 0.83 compared with 0.35 of the industry. The times interest earned (TIE) ratio has declined from the last quarter to 6.2 at present relative to 8.7 of the industry. This shows that the company is less likely to meet its debt obligations. It is to be seen whether Qualcomm can turn the tales in the coming days amid disruptions stemming from the COVID-19 crisis.

Last Earnings Report

Qualcomm Beats Q3 Earnings Estimates on 5G Forte

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

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.

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

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

Recent News

On Aug 31, 2020, Qualcomm unveiled the Snapdragon 732G Mobile Platform, which is an upgrade to the Snapdragon 730G. Featuring Elite Gaming and 4th-generation AI Engine, the latest SoC offers intuitive interactions and predictive user experiences. The Snapdragon 732G is designed to deliver immersive gameplay powered by an upgraded GPU and CPU compared with the preceding generation. Qualcomm stated that the SoC will first show up in a POCO smartphone. It has an X15 LTE modem, which offers outstanding LTE download and upload speeds in addition to Wi-Fi performance. The SoC features the same Qualcomm Kryo 470 CPU present in the Snapdragon 730G but with a bit higher clock speed.

On Aug 5, Qualcomm announced that its latest premium tier Snapdragon 865 Plus 5G Mobile Platform is powering Samsung Electronics Co., Ltd.'s lineup of flagship devices. This includes the Samsung Galaxy Note20 Ultra and Note20 in select regions, and the Samsung Galaxy Z Fold2 and Samsung Galaxy Tab S7/S7+ internationally.

On Jul 27, Qualcomm announced the fastest commercial charging technology for Android devices, Quick Charge 5. It delivers unprecedented mobile phone charging speed and efficiency improvements compared with previous versions while enabling new battery technology, accessories and safety features.

On Jun 30, 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.

Valuation

Qualcomm shares are up 50.1% over the trailing 12-month period. Stocks in the Zacks sub-industry are up 16.6% over the past year, and stocks in the Zacks Computer and Technology sector are up 33.5% in the same period.

The S&P 500 Index is up 11.1% in the past year.

The stock is currently trading at 25.6X trailing 12-month EV/EBITDA, which compares to 26.73X for the Zacks sub-industry, 14.27X for the Zacks sector and 14.28X for the S&P 500 Index.

Over the past five years, the stock has traded as high as 27.47X and as low as 4.71X, with a 5-year median of 10.33X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our $122 price target reflects 6.9X forward 12-month earnings.

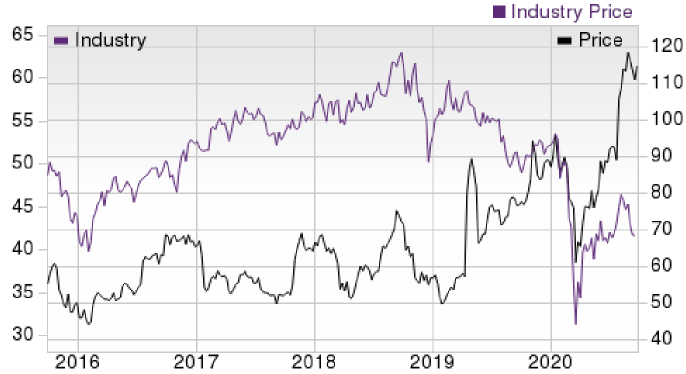
The table below shows summary valuation data for QCOM

Valuation Multiples - QCOM

		Stock	Sub-Industry	Sector	S&P 500
EV/EBITDA TTM	Current	25.6	26.73	14.27	14.28
	5-Year High	27.47	29.46	15.84	15.65
	5-Year Low	4.71	9.84	8.27	9.53
	5-Year Median	10.33	17.14	11.85	13.06
P/E F12M	Current	17.67	18.07	25.58	21.61
	5-Year High	26.69	30.47	27.98	23.46
	5-Year Low	11.29	13.61	16.72	15.26
	5-Year Median	16.52	18.64	19.93	17.63
P/S F12M	Current	4.58	3.51	4.17	4.02
	5-Year High	5.15	3.84	4.49	4.3
	5-Year Low	2.82	2.07	2.7	3.11
	5-Year Median	3.81	2.8	3.43	3.66

As of 09/25/2020 *Source: Zacks Investment Research*

Industry Analysis **Zacks Industry Rank:** Bottom 24% (189 out of 250)



Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
Ericsson **(ERIC)**	Neutral	3
Intel Corporation **(INTC)**	Neutral	3
Juniper Networks, Inc. **(JNPR)**	Neutral	3
Motorola Solutions, Inc. **(MSI)**	Neutral	2
Nokia Corporation **(NOK)**	Neutral	3
Ubiquiti Inc. **(UI)**	Neutral	4
Viasat Inc. **(VSAT)**	Neutral	3
Zte Corp. **(ZTCOY)**	Neutral	4

The positions listed should not be deemed a recommendation to buy, hold or sell.

Industry Comparison Industry: Wireless Equipment

	QCOM	X Industry	S&P 500	ERIC	NOK	ZTCOY
				Industry Peers		
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	2	-	-	3	3	4
VGM Score	D	-	-	A	A	B
Market Cap	129.19 B	343.75 M	23.02 B	34.94 B	21.21 B	9.50 B
# of Analysts	10	3	14	4	5	1
Dividend Yield	2.27%	0.00%	1.69%	0.45%	1.20%	0.99%
Value Score	D	-	-	B	B	B
Cash/Price	0.08	0.21	0.07	0.14	0.37	0.55
EV/EBITDA	13.80	8.67	12.89	17.38	7.97	6.16
PEG F1	1.48	1.73	2.88	0.71	0.87	NA
P/B	39.08	1.55	3.15	4.31	1.26	1.51
P/CF	27.43	12.17	12.43	26.24	6.63	12.88
P/E F1	29.28	19.61	21.02	18.63	13.60	20.59
P/S TTM	6.46	1.24	2.38	1.47	0.85	0.73
Earnings Yield	3.41%	4.84%	4.52%	5.34%	7.41%	4.86%
Debt/Equity	4.67	0.12	0.70	0.38	0.39	0.39
Cash Flow ($/share)	4.17	0.49	6.93	0.40	0.57	0.35
Growth Score	B	-	-	A	B	B
Historical EPS Growth (3-5 Years)	-8.64%	-6.20%	10.41%	-37.70%	-5.34%	-13.28%
Projected EPS Growth (F1/F0)	10.37%	10.81%	-4.56%	411.36%	11.20%	-37.14%
Current Cash Flow Growth	-22.34%	-8.77%	5.26%	33.18%	-0.59%	-169.88%
Historical Cash Flow Growth (3-5 Years)	-10.62%	5.53%	8.49%	-16.79%	14.32%	16.90%
Current Ratio	1.97	1.93	1.35	1.22	1.50	1.37
Debt/Capital	82.35%	19.24%	42.92%	27.64%	27.84%	27.80%
Net Margin	13.72%	2.76%	10.25%	1.21%	2.76%	5.66%
Return on Equity	78.39%	4.86%	14.59%	5.81%	9.26%	13.30%
Sales/Assets	0.61	0.73	0.50	0.80	0.57	0.63
Projected Sales Growth (F1/F0)	-13.11%	0.00%	-1.44%	5.00%	-1.80%	8.14%
Momentum Score	F	-	-	C	A	C
Daily Price Change	2.06%	0.00%	1.35%	-0.10%	-1.56%	-1.09%
1-Week Price Change	-2.41%	0.43%	0.79%	2.29%	-0.24%	-1.64%
4-Week Price Change	-1.31%	-10.39%	-4.19%	-11.56%	-24.55%	-21.76%
12-Week Price Change	24.63%	-5.10%	3.17%	12.57%	-14.87%	-24.94%
52-Week Price Change	48.03%	-10.66%	-1.37%	30.84%	-24.25%	-14.26%
20-Day Average Volume (Shares)	8,180,716	139,701	2,095,310	8,330,968	30,890,196	12,861
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EPS F1 Estimate 4-Week Change	0.00%	0.00%	0.00%	-0.44%	2.21%	NA
EPS F1 Estimate 12-Week Change	3.85%	2.58%	4.08%	10.84%	13.47%	-15.39%
EPS Q1 Estimate Monthly Change	0.00%	0.00%	0.00%	0.00%	0.00%	NA

Source: Zacks Investment Research

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 maintain a 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	D
Growth Score	B
Momentum Score	F
VGM Score	D

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.

Additional Disclosure

This material represents an assessment of the market and economic environment at a specific point in time and is not intended to be a forecast of future events, or a guarantee of future results. Forward-looking statements are subject to certain risks and uncertainties. Any statements that refer to expectations, projections or characterizations of future events or circumstances, including any underlying assumptions, are forwardlooking statements. Actual results, performance, or achievements may differ materially from those expressed or implied.

Returns quoted represent past performance which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

Glossary of Terms and Definitions

52-Week High-Low: The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

20-Day Average Volume (Shares): The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

Daily Price Change: This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

1-Week Price Change: This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

4-Week Price Change: This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a mediumterm price change metric and an indication of the stock gaining momentum.

12-Week Price Change: This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4-week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

52-Week Price Change: This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This long-term price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

Market Cap: The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

Year-To-Date Price Change: Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

# of Analysts: Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

Beta: A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

Dividend: The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

Dividend Yield: The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the mostrecent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

S&P 500 Index: The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

Industry: One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

Zacks Industry Rank: The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

Last EPS Surprise: The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

Last Sales Surprise: The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

Expected Report Date: This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

Earnings ESP: The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

Periods:

TTM: Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

F1: Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

F2: Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

F12M: Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

P/E Ratio: The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

PEG Ratio: The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

P/S Ratio: The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

Cash/Price Ratio: The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every $1 investment.

EV/EBITDA Ratio: The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

EV/Sales Ratio: The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

EV/CF Ratio: The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

EV/FCF Ratio: The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

P/EBITDA Ratio: The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

P/B Ratio: The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

P/TB Ratio: The price-to-tangible-book value ratio is calculated as a the per share market value of a company divided by the value of its tangible assets (total assets – liabilities – preferred stocks – intangible assets) per share. Tangible book value is the same thing as book value except it excludes the value of intangible assets to get a step closer to the baseline value of the company.

P/CF Ratio: The price-to-cash flow ratio measures a company's per share market price relative to its trailing-12-month (TTM) operating cash flow per share. This metric is used to determine whether a company is undervalued or overvalued relative to another stock, industry or sector. And like the P/E ratio, a lower number is typically considered better from the value perspective.

One of the reasons why P/CF ratio is often preferred over P/E ratio is the fact that operating cash flow adds back non-cash expenses such as depreciation and amortization to net income. This feature helps valuing stocks that have positive cash flow but are not profitable because of large noncash charges.

P/FCF Ratio: The price-to-free cash flow ratio is an extension of P/CF ratio, which uses trailing-12-month (TTM) free cash flow per share instead of operating cash flow per share. This metric is considered a more exact measure than P/CF ratio, as free cash flow subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding activities that generate additional revenues.

Earnings Yield: The earnings yield is calculated as current fiscal year (F1) EPS estimate divided by the company's current share price. The ratio, which is the inverse of the P/E ratio, measures the anticipated yield (or return) from earnings for each dollar invested in a stock today.

For example, earnings yield for a stock, which is trading at $35 and expected to earn $3 per share in the current fiscal year (F1), would be 0.0857 (3/35 = 0.0857) or 8.57%. In other words, for $1 invested in the stock today, the yield from earnings is anticipated to be 8.57 cents.

Investors most commonly compare the earnings yield of a stock to that of a broad market index (such as the S&P 500) and prevailing interest rates, such as the current 10-year Treasury yield. Since bonds and stocks compete for investors' dollars, stock investors typically demand a higher yield for the extra risk they assume compared to investors of U.S. Treasury-backed securities that offer virtually risk-free returns. This additional return is referred to as the risk premium.

Debt/Equity Ratio: The debt-to-equity ratio is calculated as a company's total liabilities divided by its shareholder equity. This metric is used to gauge a company's financial leverage. In other words, it is a measure of the degree to which a company is financing its operations through debt versus its own funds. The higher the ratio, the higher the risk for shareholders.

However, this ratio is difficult to compare across industry groups where ideal amounts of debt vary. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-equity ratio should be compared with other companies in the same industry.

Cash Flow ($/share): Cash flow per share is calculated as operating cash flow (after-tax earnings + depreciation + other non-cash charges) divided by common shares outstanding. It is used by many investors as a measure of a company's financial strength. Since cash flow per share takes into consideration a company's ability to generate cash by adding back non-cash expenses, it is regarded by some as a more accurate measure of a company's financial situation than earnings per share, which could be artificially deflated.

Current Ratio: The current ratio or liquidity ratio is a company's current assets divided by its current liabilities. It measures a company's ability to pay short-term obligations. A current ratio that is in line with the industry average or slightly higher is generally considered acceptable. A current ratio that is lower than the industry average would indicate a higher risk of distress or default. A higher number is usually better. However, a very high current ratio compared to the industry average could be an indication of inefficient use of assets by management.

Debt/Capital Ratio: Debt-to-capital ratio is a company's total debt (interest-bearing debt + both short- and long-term liabilities) divided its total capital (interest-bearing debt + shareholders' equity). It is a measure of a company's financial leverage. All else being equal, the higher the debt-to-capital ratio, the riskier the stock.

However, this ratio can vary widely from industry to industry, the ideal amount of required debt being different. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-capital ratio should be compared with the same for its industry.

Net Margin: Net margin is calculated as net income divided by sales. It shows how much of each dollar in sales generated by a company translates into profit. For example, if a company's net margin is 15%, its net income is 15 cents for every $1 of sales it makes.

A change in margin can reflect either a change in business conditions, or a company's cost controls, or both. If a company's expenses are growing faster than sales, its net margin will decline. However, different net margin rates are considered good for different industries, so it's better to compare net margin rates of companies in the same industry group.

Return on Equity: Return on equity (ROE) is calculated as trailing-12-month net income divided by trailing-12-month average shareholder equity (including reinvested earnings). This metric is considered a measure of how effectively management is using a company's assets to generate profits. For example, if a company's ROE is 10%, it creates 10 cents profits for every $1 shareholder equity, which is basically the company's assets minus debt. A company's ROE deemed good or bad depends on what's normal for its peers or industry group.

Sales/Assets Ratio: The sales-to-assets ratio or asset utilization ratio or asset turnover ratio is calculated as a company's annual sales divided by average assets (average of assets at the beginning of the year and at the year's end). This metric helps investors understand how effectively a company is using its assets to generate sales. For example, a sales-to-assets ratio of 2.5 indicates that the company generated $2.50 in sales for every $1 of assets on its books.

The higher the sales-to-assets ratio, the better the company is performing. However, similar to many other ratios, the asset turnover ratio tends to be higher for companies in certain industries/sectors than in others. So, a company's sales-to-assets ratio should be compared with the same for its industry/sector.

Historical EPS Growth (3-5 Years): This is the average annual (trailing-12-month) EPS growth rate over the last 3-5 years. This metric helps investors see how a company's EPS has grown from a long-term perspective.

Note: There are many factors that can influence short-term numbers — a recession will reduce this number, while a recovery will inflate it. The longterm perspective helps smooth out short-term events.

Projected EPS Growth (F1/F0): This is the estimated EPS growth rate for the current financial year. It is calculated as the consensus estimate for the current fiscal year (F1) divided by the reported EPS for the last completed fiscal year (F0).

Current Cash Flow Growth: It measures the latest year-over-year change in operating cash flow. Cash flow growth tells an investor how quickly a company is generating inflows of cash from operations. A positive change in the cash flow is desired and shows that more 'cash' is coming in than going out.

Historical Cash Flow Growth (3-5 Years): This is the annualized change in cash flow over the last 3-5 years. The change in a longer period helps put the current reading into proper perspective. By looking at the rate, rather than the actual dollar value, the comparison across the industry and peers becomes easier.

Projected Sales Growth (F1/F0): This metric looks at the estimated sales growth for the current year. It is calculated as sales estimate for the current fiscal year (F1) divided by the reported sales for the last completed fiscal year (F0).

Like EPS growth, a higher rate is better for sales growth. A look at a company's projected sales growth instantly tells you what the outlook is for their products and services. However, different sales growth rates are considered good for different industries, so it's better to compare sales growth rates of companies in the same industry group.

EPS F1 Estimate 1-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past week. The change in a company's consensus EPS estimate (or earnings estimate revision) has proven to be strongly correlated with the near-term price movement of its shares. It is an integral part of the Zacks Rank.

If a stock's consensus EPS estimate is $1.10 now versus $1.00 a week ago, that will be reflected as a 10% upward revision. If, on the other hand, it went from $1.00 to 90 cents, that would be a 10% downward revision.

EPS F1 Estimate 4-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past four weeks.

A stock's earnings estimate revision in a 1-week period is important. But it's more meaningful to look at the longer-term revision. And, of course, the 4-week change helps put the 1-week change into proper perspective.

EPS F1 Estimate 12-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past 12 weeks.

This metric essentially shows how the consensus EPS estimate has changed over a period longer than 1 week or 4 weeks.

EPS Q1 Estimate Monthly Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal quarter over the past four weeks.

While the revision in consensus EPS estimate for the current fiscal year is strongly correlated with the near-term price movement of its shares, the estimate revision for the current fiscal quarter is an important metric as well, especially over the short term, and particularly as a stock approaches its earnings date. If a stock's Q1 EPS estimate decreases ahead of its earnings release, it's usually a negative sign, whereas an increase is a positive sign.