

Broadcom Inc. (AVGO)

\$324.00 (As of 01/24/20)

Price Target (6-12 Months): **\$343.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 12/06/18)

Prior Recommendation: Underperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:B

Value: C

Growth: B

Momentum: A

Summary

Broadcom is benefiting from strong demand of its wireless solutions and expanding product portfolio, which makes it well-positioned to address the needs of rapidly growing technologies like IoT and 5G. Further, strong ties with leading OEMs across multiple target markets are expected to help the company to gain key insights into the requirements of customers. Recent multi-year agreements with Apple estimated to be worth \$15 billion, hold promise. Moreover, the company intends to strengthen presence in the infrastructure software vertical particularly. In this regard, acquisition of CA remains extremely significant. Nonetheless, the company faces intensifying competition and integration risks due to frequent acquisitions. Further, the company's leveraged balance sheet remains a major concern.

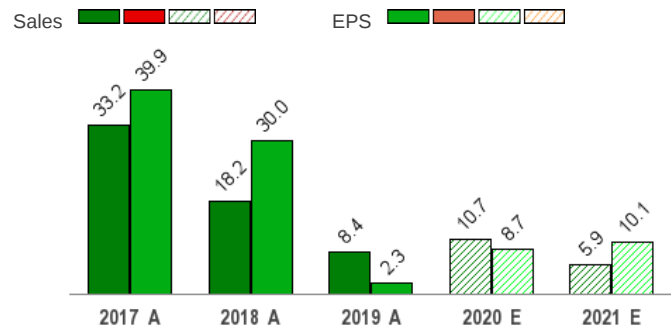
Price, Consensus & Surprise



Data Overview

52 Week High-Low	\$331.58 - \$250.09
20 Day Average Volume (sh)	2,204,495
Market Cap	\$128.9 B
YTD Price Change	2.5%
Beta	0.90
Dividend / Div Yld	\$13.00 / 4.0%
Industry	Electronics - Semiconductors
Zacks Industry Rank	Top 7% (19 out of 255)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	0.6%
Last Sales Surprise	0.4%
EPS F1 Est- 4 week change	0.4%
Expected Report Date	03/12/2020
Earnings ESP	7.7%

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	6,402 E	6,327 E	6,621 E	6,999 E	26,491 E
2020	5,925 E	5,979 E	6,343 E	6,772 E	25,019 E
2019	5,789 A	5,517 A	5,515 A	5,776 A	22,597 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$6.12 E	\$6.04 E	\$6.46 E	\$7.01 E	\$25.47 E
2020	\$5.22 E	\$5.39 E	\$5.97 E	\$6.55 E	\$23.14 E
2019	\$5.55 A	\$5.21 A	\$5.16 A	\$5.39 A	\$21.29 A

*Quarterly figures may not add up to annual.

P/E TTM	15.2
P/E F1	14.0
PEG F1	1.2
P/S TTM	5.7

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 01/24/2020. The reports text is as of 01/27/2020.

Overview

Broadcom Limited (AVGO) is a premier designer, developer and global supplier of a broad range of semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor (CMOS) based devices and analog III-V based products. The company was formed following the completion of the merger of Avago and Broadcom Corporation on Feb 1, 2016. Headquarters are located in San Jose, CA.

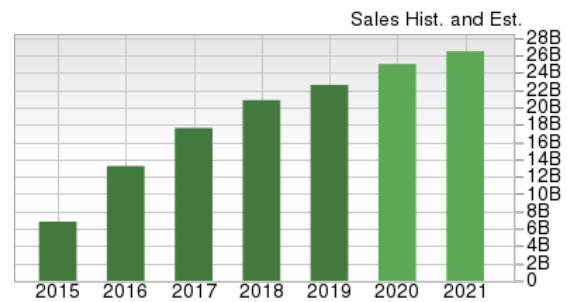
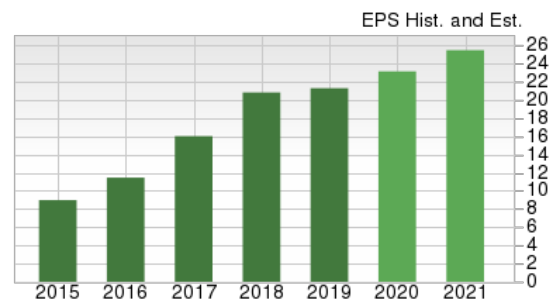
Broadcom reported revenues of \$22.597 billion in fiscal 2019, up 8% over fiscal 2018 tally. The company primarily serves two broad target markets: Semiconductor solutions and Infrastructure Software.

Semiconductor solutions manage the data transfer to and from the enterprise, telecom, data center, and embedded networking applications. The company's solutions serve the smartphone market with products that include a broad variety of RF semiconductor devices, connectivity solutions and custom touch controllers. RF semiconductor solutions include film bulk acoustic resonator (FBAR) filters that allow smartphones to function more efficiently in congested RF spectrum. Moreover, the company offers system-on-chip (SoC) platform solutions for Set-Top-Box. Broadband access solutions offer SoC platform solutions. The company's broad set of Ethernet switching and routing products are optimized for data center implementations, service provider networks, enterprise, and small-and-medium business/Remote-Office-Branch-Office(SMB/ROBO) markets. Broadcom provides a diverse range of products for the general industrial and automotive markets.

Infrastructure software solutions involve enterprise, mainframe, and storage area networking solutions, to aid customers to utilize the benefits of automation, resiliency, insights, and security capabilities in to manage business processes.

The company faces stiff competition from Intel, Marvell Technology, NVIDIA post Mellanox Technologies buyout, ON Semiconductor post Quantenna Communications buyout, Qorvo, Inc., Qualcomm and Skyworks Solutions to name few.

From first-quarter of fiscal 2020, the company will club reporting of revenues from Intellectual property licensing with Semiconductor solutions segment. This will result in two reporting segments: Semiconductor solutions and Infrastructure software.



Reasons To Buy:

- ▲ The Semiconductor Industry serves as a driver, enabler and indicator of technological progress. The Internet of Things (IoT) is creating newer avenues and is largely believed to be the next semiconductor growth opportunity with the potential for billions of connected devices. Broadcom's strong relationships with leading OEMs across multiple target markets have helped it to gain key insights into the requirements of customers. This insight has helped the company to be more efficient and productive in better-serving the target markets and customers. In addition, the company maintains an efficient global supply chain with a variable, low-cost operating model. The company outsources a majority of its manufacturing operations, assembly and test capabilities, as well as some of its corporate infrastructure functions. Broadcom also aims to minimize capital expenditures by focusing on internal manufacturing capacities, leveraging innovative materials and processes to protect intellectual property rights while outsourcing standard CMOS processes. These enable the company to maintain sustainable revenue growth and expand margins.
- ▲ Moreover, Broadcom's focus on multiple target markets mitigates operating risks and lessens the exposure to volatility in any single market. Based on its expanding product portfolio, the company is well-positioned to address the needs of rapidly growing technologies like IoT and 5G. We believe that Broadcom's extensive product portfolio, which serves multiple applications within four primary end markets, will help it to gain significant market share going ahead.
- ▲ Avago's merger with Broadcom for a total consideration of \$37 billion is arguably the largest of its kind in the semiconductor chip industry and created a behemoth with one of the most diversified communications platforms at combined annual revenues of approximately \$15 billion. Synergistic benefits from the merger is likely to increase profitability through economies of scale and mutual sharing of manufacturing expertise, research and development costs and adjustment of staffing expenses.
- ▲ Acquisitions, over time, have been Broadcom's most favored mode for penetrating unexplored markets. We believe that the company is well positioned to benefit from synergies from the CA buyout. In fact, CA's strength in enterprise software offerings and substantial customer base is anticipated to enable Broadcom to explore the infrastructure software market and expand its TAM. Further, the acquisition of LSI Corporation helped the company to diversify its existing business line from wired infrastructure, wireless and industrial businesses into the storage chip market. The strategic move was aimed at augmenting its revenues, as the industry braces for more consolidation amid a challenging macroeconomic environment. Leveraging on economies of scale, Broadcom is expected to benefit from rapid increases in data center IP (Internet protocol) and mobile data traffic, to emerge as the undisputed leader in the enterprise storage market. In addition to cost synergies from a combined resource pool as the cost of designing and building semiconductors rises, the acquisition is likely to improve the operating margin of the combined company, creating greater scale to further drive innovation into the datacenter. The addition of Brocade enables the company to further penetrate the FC SAN market and garner competitive prowess in the long run.
- ▲ Broadcom generates significant cash flow that enables it to pay consistent dividend. The company paid aggregate cash dividends of \$4.2 billion, \$2.92 billion, \$1.65 billion and \$716 million, during fiscal years 2019, 2018, 2017 and 2016, respectively. During the fiscal fourth-quarter, the company repurchased approximately 1.5 million shares for \$433 million. Additionally, Broadcom returned \$1.054 billion in forms of dividends to shareholders during the fiscal fourth quarter. The company also approved a quarterly cash dividend of \$3.25 per ordinary share. Due to strong and relatively stable cash flow, we believe that the dividend payout appears sustainable and makes the stock quite attractive.

Broadcom is a leading player in the semiconductor market based on its expanding product portfolio, multiple target markets, accretive acquisitions and strong cash flow.

Reasons To Sell:

- ▼ A significant portion of Broadcom's revenue comes from a handful of customers including Foxconn, which accounted for 9% of net revenues in fiscal 2018. Top five direct customers accounted for 40% of the company's top-line in both fiscal 2018 and fiscal 2017, each. Loss of any of these top five customers can significantly hurt top-line growth. Apple (including sales to the contract manufacturer) contributed more than 25% of revenues in fiscal 2018. The exposure has increased considerably from the past year (20% in fiscal 2017) and it has not been enough to boost pricing power that continues to hurt margins. Moreover, due to the significant exposure, Broadcom's share price movement depends heavily on Apple's results (primarily on iPhone's performance), which doesn't bode well for the investors.
- ▼ Broadcom operates in a highly competitive market. The company faces significant competition in most of its operating markets that negatively impacts top-line growth. Pricing pressure also keeps margin under pressure. In the FBAR technology market, the company faces significant competition from Skyworks surface acoustic wave (SAW) filters. Well-established companies like Cavium, Intel are its competitors in the wired infrastructure market. The acquisition of Brocade makes it a direct competitor of Cisco, a well-known name in the FC SAN market. We expect intensifying competition to keep profitability under pressure at least in the near-term.
- ▼ Broadcom's frequent acquisitions have escalated integration risks. Moreover, we note that the large acquisitions negatively impacted the company's balance sheet in the form of high level of goodwill and intangible assets, which totaled \$54.27 billion or almost 80.4% of total assets as of Nov 3, 2019.
- ▼ Acquisitions have also negatively impacted Broadcom's balance sheet, as high indebtedness adds to the risk of investing in the company. As of Nov 3, 2019, the company had total debt of \$32.798 billion compared with \$37.565 billion in the prior quarter.

Customer concentration, intensifying competition, integration risks due to frequent acquisitions and leverage balance sheet are key headwinds.

Last Earnings Report

Broadcom Q4 Earnings & Revenues Surpass Estimates

Broadcom reported fourth-quarter fiscal 2019 non-GAAP earnings of \$5.39 per share outpacing the Zacks Consensus Estimate by 0.56%. However, the figure declined 7.9% from the year-ago reported quarter.

Non-GAAP revenues from continuing operations were \$5.776 billion, up 6.1% from the year-ago quarter. The figure surpassed the Zacks Consensus Estimate of \$5.755 billion.

On Nov 4, 2019, Broadcom concluded the acquisition of Symantec's enterprise security business. The buyout is expected to aid the company in expanding presence in infrastructure software space.

Management notes that there has been no contribution from Symantec's enterprise security business in the fiscal fourth quarter, which ended on Nov 3, 2019.

Segmental Revenues

Semiconductor solutions' revenues (79% of total net revenues) totaled \$4.553 billion, down 7% from the year-ago quarter owing to soft demand in broadband vertical on shift to Wi-Fi 6 platforms. Nonetheless, robust demand for high capacity drives, and seasonal uptick in wireless vertical, limited the decline.

Infrastructure software revenues (21%) soared 134% year over year to \$1.20 billion. The company is benefiting from synergies from CA acquisition. However, the company noted soft demand in SAN switching vertical.

Revenues for Intellectual property licensing were \$23 million during the reported quarter, down 60% from the year-ago period.

Operating Details

Non-GAAP gross margin expanded 150 bps on a year-over-year basis to 69.9%. The increase can be attributed to improving mix of semiconductor sales and synergies from CA acquisition in infrastructure software vertical.

Non-GAAP operating expenses increased 17.8% year over year to \$1.017 billion. As a percentage of net revenues on a non-GAAP basis, the figure expanded 180 bps to 17.6%.

Consequently, non-GAAP operating margin contracted 20 bps from the year-ago quarter to 52.3%.

Balance Sheet & Cash Flow

As of Nov 3, 2019, cash & cash equivalents were \$5.055 billion, compared with \$5.462 billion reported at the end of the previous quarter.

Long-term debt (including current portion) was \$32.798 billion at the end of the fiscal fourth quarter compared with \$37.565 billion in the prior quarter. Excess cash flow and contribution from preferred stock offering aided in debt reduction.

Broadcom generated cash flow from operations of \$2.479 billion compared with \$2.419 billion in the previous quarter. Capital expenditure totaled \$96 million, down from the last reported quarter's \$112 million. Free cash flow during the quarter was \$2.383 billion, up from \$2.307 billion reported in fiscal third quarter.

During the reported quarter, the company repurchased approximately 1.5 million shares for \$433 million. Additionally, Broadcom returned \$1.054 billion in form of dividends to shareholders during the fiscal fourth quarter.

The company declared a quarterly dividend of \$3.25 per share, up 22.6% from the prior dividend payment of \$2.65. The quarterly dividend is payable on Dec 31, 2019, to shareholders as on Dec 23, 2019.

Guidance

Broadcom anticipates non-GAAP revenues of \$25 billion (+/- \$500 million). Semiconductor solutions and infrastructure software are anticipated to contribute \$18 billion and \$7 billion, respectively, to total revenues.

Non-GAAP operating margin is anticipated to be flat on a year-over-year basis. The company expects to pay down \$4 billion of debt in fiscal 2020. Cash dividend pay outs are anticipated at a little more than \$5 billion.

From first-quarter of fiscal 2020, the company will club reporting of revenues from Intellectual property licensing with Semiconductor solutions segment. This will result in two reporting segments: Semiconductor solutions and Infrastructure software.

Quarter Ending **10/2019**

Report Date	Dec 12, 2019
Sales Surprise	0.38%
EPS Surprise	0.56%
Quarterly EPS	5.39
Annual EPS (TTM)	21.31

Recent News

On **Jan 23, 2020**, Broadcom inked two separate multi-year agreements with iPhone maker, Apple. Per the 8K filed with the SEC, the deal is expected to generate \$15 billion for Broadcom.

On **Jan 7, 2020**, it was announced that Broadcom will sell Symantec's Cyber Security Services business to Accenture. The financial terms have been kept under wraps.

On **Jan 7, 2020**, Broadcom introduced latest enterprise and residential suite of Wi-Fi 6E-compliant solutions.

On **Dec 12, 2019**, Broadcom declared a quarterly dividend of \$3.25 per share, up 22.6% from the prior dividend payment of \$2.65. The quarterly dividend is payable on Dec 31, 2019, to shareholders as on Dec 23, 2019.

On **Dec 10, 2019**, Broadcom launched Automation.ai, an AI-based software platform for supporting decision making processes across different industries.

On **Nov 5, 2019** Broadcom announced that it has formed an alliance with Infosys, to aid SAP customers mitigate risks and costs associated with the upgrade to SAP's next generation application — S/4HANA.

On **Nov 4, 2019**, Broadcom announced that it has completed its acquisition of Symantec's enterprise security business, with an aim to expand its presence in infrastructure software market.

On **Oct 15, 2019**, Broadcom launched BCM65450 family of G.fast modem devices, to aid telecom operators with enhanced wireline broadband infrastructure and roll out ultrafast broadband services.

On **Oct 10, 2019**, Broadcom rolled out BCM6710, 3x3 Wi-Fi 6 chip, to facilitate advanced high-performance WLAN applications.

On **Sep 10, 2019**, Broadcom extended collaboration with RDK Management and joined the RDK Video Accelerator program. The company also launched pre-integrated RDK based portfolio of chipset solutions.

Valuation

Broadcom shares are up 9.5% in the past six-month period and up 25.8% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 21.7% and 14.4% in the past six-month period, respectively. Over the past year, the Zacks sub-industry and the sector are up 48.2% and 34.7%, respectively.

The S&P 500 index is up 10.6% in the past six-month period and 26.6% in the past year.

The stock is currently trading at 13.67X forward 12-month earnings, which compares to 13.68X for the Zacks sub-industry, 22.92X for the Zacks sector and 18.93X for the S&P 500 index.

Over the past five years, the stock has traded as high as 19.16X and as low as 11.35X, with a 5-year median of 15.07X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$343 price target reflects 14.47X forward 12-month earnings.

The table below shows summary valuation data for AVGO

Valuation Multiples - AVGO					
		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	13.67	13.68	22.92	18.93
	5-Year High	19.16	27.50	22.92	19.34
	5-Year Low	11.35	5.74	16.87	15.17
	5-Year Median	15.07	11.42	19.24	17.44
P/S F12M	Current	5.08	7.16	3.73	3.52
	5-Year High	6.01	7.16	3.73	3.52
	5-Year Low	2.27	2.58	2.30	2.54
	5-Year Median	4.68	5.84	3.01	3
EV/EBITDA TTM	Current	12.78	25.56	12.71	12.38
	5-Year High	30.24	26.06	12.71	12.86
	5-Year Low	8.77	11.50	7.68	8.48
	5-Year Median	11.2	18.02	10.52	10.69

As of 01/24/2020

Industry Analysis Zacks Industry Rank: Top 7% (19 out of 255)



Top Peers

NVIDIA Corporation (NVDA)	Outperform
Advanced Micro Devices, Inc. (AMD)	Neutral
Cisco Systems, Inc. (CSCO)	Neutral
Intel Corporation (INTC)	Neutral
Microchip Technology Incorporated (MCHP)	Neutral
Marvell Technology Group Ltd. (MRVL)	Neutral
Texas Instruments Incorporated (TXN)	Neutral
Analog Devices, Inc. (ADI)	Underperform

Industry Comparison Industry: Electronics - Semiconductors				Industry Peers		
	AVGO Neutral	X Industry	S&P 500	ADI Underperform	AMD Neutral	CSCO Neutral
VGM Score	B	-	-	D	B	C
Market Cap	128.88 B	790.05 M	24.13 B	43.30 B	56.07 B	207.23 B
# of Analysts	13	2	13	12	12	12
Dividend Yield	4.01%	0.00%	1.78%	1.84%	0.00%	2.87%
Value Score	C	-	-	F	F	C
Cash/Price	0.04	0.17	0.04	0.01	0.02	0.13
EV/EBITDA	18.88	9.77	14.02	18.94	84.57	11.18
PEG Ratio	1.15	1.89	2.03	1.99	1.89	2.57
Price/Book (P/B)	NA	2.83	3.30	3.70	25.77	6.02
Price/Cash Flow (P/CF)	9.54	12.59	13.52	15.84	86.02	14.20
P/E (F1)	14.00	23.10	18.92	24.62	45.70	15.03
Price/Sales (P/S)	5.70	3.31	2.65	7.23	9.31	3.99
Earnings Yield	7.14%	2.80%	5.28%	4.07%	2.18%	6.65%
Debt/Equity	-214.36	0.08	0.72	0.44	0.40	0.42
Cash Flow (\$/share)	33.97	0.73	6.94	7.42	0.59	3.44
Growth Score	B	-	-	C	A	B
Hist. EPS Growth (3-5 yrs)	28.58%	3.58%	10.60%	21.84%	NA	8.00%
Proj. EPS Growth (F1/F0)	8.70%	21.57%	7.59%	-7.27%	77.93%	4.86%
Curr. Cash Flow Growth	8.07%	0.75%	13.90%	-9.88%	123.28%	6.95%
Hist. Cash Flow Growth (3-5 yrs)	48.32%	12.15%	9.00%	24.75%	30.77%	3.53%
Current Ratio	1.44	2.94	1.22	1.32	2.10	1.70
Debt/Capital	54.64%	9.10%	42.99%	30.72%	28.61%	29.63%
Net Margin	12.06%	1.09%	11.35%	22.75%	3.47%	21.15%
Return on Equity	46.16%	2.76%	17.10%	16.39%	16.54%	35.01%
Sales/Assets	0.32	0.69	0.55	0.28	1.21	0.53
Proj. Sales Growth (F1/F0)	10.72%	8.24%	4.03%	-5.46%	27.58%	-1.62%
Momentum Score	A	-	-	A	A	D
Daily Price Chg	1.36%	-0.81%	-1.01%	-2.72%	-2.63%	-0.31%
1 Week Price Chg	3.20%	2.93%	2.29%	0.76%	5.74%	4.01%
4 Week Price Chg	1.89%	4.77%	1.02%	-1.80%	7.98%	2.09%
12 Week Price Chg	10.64%	13.32%	6.85%	10.26%	48.39%	2.82%
52 Week Price Chg	22.94%	30.06%	20.39%	24.08%	141.49%	7.10%
20 Day Average Volume	2,204,495	193,013	1,536,379	1,486,057	45,319,048	15,975,184
(F1) EPS Est 1 week change	0.43%	0.00%	0.00%	0.00%	1.07%	0.00%
(F1) EPS Est 4 week change	0.43%	0.00%	0.00%	0.00%	1.07%	0.00%
(F1) EPS Est 12 week change	-1.41%	0.00%	-0.23%	-9.58%	-0.21%	-3.29%
(Q1) EPS Est Mthly Chg	0.46%	0.00%	0.00%	0.00%	-3.50%	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.

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

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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