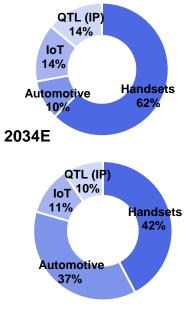
# Qualcomm Incorporated

DATE
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RECOMMENDATI

April 22, 2025 QCOM NASDAQ COMMUNICATIONS SEMICONDUCTOR EQUIPMENT \$138.70 \$231.36 66.81% BUY

#### **SNAPSHOT** 52 Week High \$230.63 52 Week Low \$120.8 1.29 Beta WACC 9.43% \$242.68 DCF/EP 12.4x **PE/25 PE/26** 11.9x \$152.7B Market Cap Shares Outs. 1.13B **Revenue FY24** \$38.96B EPS FY24 \$9.09 **Current Ratio** 2.40 0.68x D/E ROA 19.04%

## Revenue by Segment 2025E



## **Company Overview**

Qualcomm Inc., founded in 1985 and headquartered in San Diego, is a leading fabless semiconductor firm specializing in wireless technologies and intellectual property licensing. Its two core businesses are Qualcomm CDMA Technologies (QCT), which designs chipsets for smartphones, RF front-end modules, and data-center accelerators; and Qualcomm Technology Licensing (QTL), which collects royalties on every 3G/4G/5G device shipped globally. This unique mix of hardware and annuity-like licensing, positions Qualcomm for durable cash flows.

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## **Investment Thesis**

We recommend a **BUY** rating for Qualcomm Inc. (QCOM) as of April 22, 2025. Our model predicts a **66.81%** increase in share value. Qualcomm's leadership in 5G chipset technology and rapid diversification to capitalize on two of the largest secular growth markets in tech.

### Thesis Drivers

<u>5G Leadership</u>: As carriers roll out mid- and millimeter-wave 5G across ever more markets, smartphone upgrade cycles remain healthy. Qualcomm's Snapdragon modems and RF-front-end solutions continue to be the de facto choice for every major OEM, driving steady QCT chipset volumes. At the same time, high-margin QTL royalties on billions of 5G-enabled devices provide annuity-like cash flows that fund R&D and shareholder returns.

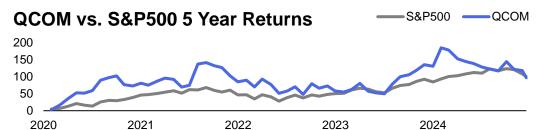
<u>Diversification into New Markets:</u> Qualcomm is leveraging its core connectivity and processing IP to penetrate rapidly growing adjacencies. Its Snapdragon Digital Chassis and telematics platforms have already secured over \$30 billion in automotive design commitments, tapping into the booming EV and ADAS markets. Concurrently, its IoT and private-5G solutions are gaining traction in smart factories, enterprise edge deployments, and industrial automation, offering higher-margin hardware and software bundles beyond the handset business.

### Thesis Risks

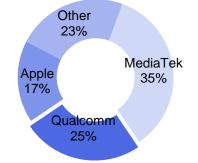
<u>Consumer Concentration & In House Silicon Trends:</u> Roughly 60% of revenue comes from a handful of top handset OEMs. If partners accelerate moves to in-house modems or SoCs (as Apple has begun), Qualcomm could lose both QCT volumes and QTL royalties..

### Tariff Uncertainty & Export Restrictions:

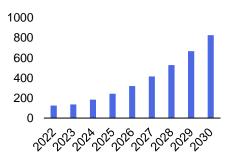
Qualcomm's fabless model and global supply chain depend on cross-border trade for both finished chipsets and IP licensing. New or heightened U.S.–China tariffs on telecom equipment or semiconductors could raise component costs, squeeze hardware ASPs, and complicate licensing negotiations. Similarly, retaliatory duties in key end-markets (e.g., India, Southeast Asia) risk delaying product launches, disrupting inventory flows, and pressuring near-term revenue growth.



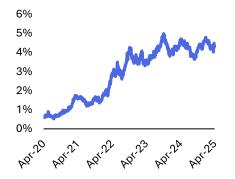




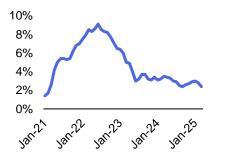
### Global Al Market Size In \$Billions



### 10-Year Treasury Yield 5 Years



Yearly CPI Change 5 Years



## **Executive Summary**

Qualcomm is positioned at a pivotal intersection of two significant trends in technology global 5G deployment and the rapid growth of AI computing. The company has established itself as a key partner for major smartphone manufacturers and network operators due to its expertise in modem and RF front-end chipsets. As carriers continue to introduce mid-band and millimeter-wave 5G in more areas, device upgrades should remain strong, leading to stable volume growth and consistent revenue from Qualcomm's licensing business.

At the same time, Qualcomm has been developing an AI-accelerator strategy, using its Snapdragon X processors and custom technology to address the increasing demand for edge and data center AI workloads. This development ranges from AI processing in smartphones and IoT devices to larger inference engines, positioning Qualcomm to potentially capture a portion of the projected \$200 billion AI infrastructure market by 2027.

This combination of involvement in both the ongoing 5G upgrade cycle and the expanding AI computing market creates a solid path for earnings and cash flow. High-margin licensing revenue helps maintain a strong balance sheet and supports significant research and development, while the scale of its hardware operations enhances profitability. Together, these factors reinforce confidence in Qualcomm's ability to grow faster than the overall semiconductor industry and attract a higher valuation.

## **Economic Analysis**

### Al Spending<sup>12</sup>

The global artificial intelligence (AI) market is projected to grow at a compound annual growth rate (CAGR) of 27.7% from 2025 to 2030. The market is expected to increase from approximately \$244 billion in 2025 to an estimated \$826.7 billion by 2030. This growth is fueled by rapid advancements in machine learning, natural language processing, computer vision, and generative AI, which are enabling new applications, such as real-time language translation and autonomous systems, that were previously impractical. Corporations across various industries are responding by significantly increasing their AI budgets.

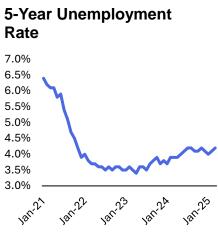
Enterprises are deploying AI platforms and services to automate routine tasks, enhance customer engagement, optimize supply chains, and accelerate research and development. These investments are seen as essential for maintaining productivity gains and securing a lasting competitive edge in an increasingly data-driven economy.

### **10-Year Treasury Yield**<sup>8</sup>

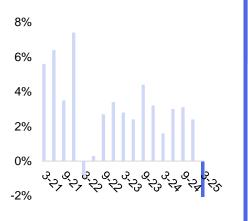
Currently, the 10-year Treasury yield is around 4.35%. This increase is largely driven by a term premium that has reached its highest level since 2014, indicating that investors are seeking greater compensation for holding long-term debt. As a result, corporate borrowing costs are rising throughout the economy. These higher yields have a significant impact on the technology sector, where companies often rely on debt to finance capital expenditures and research and development. Early-stage firms, in particular, are experiencing greater challenges in securing financing.

### Inflation<sup>7</sup>

Inflation has eased somewhat but remains above the Federal Reserve's target of 2%. In March 2025, the headline Consumer Price Index (CPI) rose by 2.4% year-over-year, a decrease from 2.8% in February. Meanwhile, the core CPI, which excludes food and energy prices, decreased to 2.8%, marking its smallest annual increase since March 2021. On a monthly basis, CPI fell by 0.1% in March, marking the first decline since 2020, primarily due to a 2.4% drop in energy prices. However, food costs increased by 3% over the same period. Within these overall figures, shelter inflation remains persistent, with an annual increase of 4%. Additionally, medical care and transportation services continue to put upward pressure on core services prices. As a result of these ongoing inflationary trends, the Fed's March dot plot indicates only two anticipated 25-basis-point rate cuts in 2025, a decrease from the four cuts projected a year earlier. Policymakers are trying to balance the risk of reigniting inflation with the need to support economic growth.



Real GDP 4 Years Changes & Prediction



### NASDAQ 1-Year Returns



### Real GDP<sup>3</sup>

U.S. real GDP growth is showing signs of slowing down in early 2025, affected by a mix of trade policy uncertainties, inflationary pressures, and changes in consumer behavior. The Atlanta Fed's GDPNow model estimates a contraction of 2.2% in Q1 2025<sup>2</sup>, while an alternative model predicts only a slight decline of 0.1%. This indicates a potential for negative growth in the first quarter. This slowdown follows a 2.4% annualized growth rate in Q4 2024, which was mainly driven by consumer and government spending. However, recent data show a shift in consumer spending patterns, with a notable 1.4% increase in March 2025 due to preemptive purchases ahead of new tariffs. Economists warn that this surge may be temporary, as underlying factors such as declining consumer sentiment and mass layoffs in the public sector could dampen future spending.

Looking ahead, forecasts for full-year 2025 GDP growth vary. The Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters anticipates a 2.4% increase, while Deloitte projects a more optimistic 2.9% growth. In contrast, Vanguard has revised its forecast downward, predicting growth below 1% due to ongoing policy uncertainties and economic challenges. In summary, although the U.S. economy demonstrated resilience in late 2024, current indicators suggest a potential slowdown in early 2025. The future trajectory of GDP growth will largely depend on the resolution of trade disputes, inflation trends, and the strength of consumer spending in the coming months.

### Capital Markets Forecast<sup>1</sup>

In recent months, the technology sector has faced significant challenges, with NASDAQ-100 valuations dropping nearly 20% year-to-date due to broader market sell-offs and increasing fears of a recession. Investor sentiment has worsened as rising interest rates, concerns about inflation, and geopolitical uncertainties have led to a decline in investment in tech stocks, resulting in historically low trading multiples. However, this market pullback creates a strategic opportunity for long-term investors.

Many leading technology companies, despite their strong fundamentals, are now trading at considerable discounts compared to historical averages. For instance, valuation metrics like forward P/E ratios have significantly compressed, and even high-growth companies in the sector now offer attractive entry points as the market adjusts its expectations amid uncertainty. Additionally, the recent market volatility has led to oversold conditions, with institutional investors rebalancing their portfolios, and a noticeable increase in retail investor buying activity as cash flows into the sector—indicating that the market may be gearing up for a rebound.

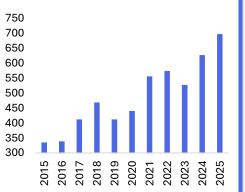
In this challenging environment, the gap between long-term growth drivers and short-term investor sentiment is creating a strong buying opportunity. The technology sector remains supported by powerful long-term trends such as 5G, cloud computing, and artificial intelligence. Despite the recent decline, companies leading in these areas are well-positioned to benefit from a future recovery as economic conditions improve. As market sentiment shifts and risk appetite returns, we anticipate a revaluation of these fundamentals, which should lead to significant upward momentum in stock prices.

## **Industry Analysis**

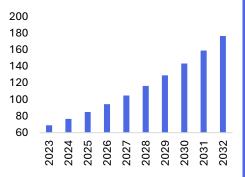
The semiconductor and semiconductor equipment industry is one of the most dynamic and cyclical segments of the broader technology sector. Key players in this industry include NVIDIA, Broadcom, AMD, Texas Instruments, and notably, Qualcomm. Recent market data shows that Qualcomm ranks among the top ten semiconductor vendors by revenue, with a market capitalization of approximately \$147.5 billion.<sup>6</sup>

While companies like NVIDIA and Broadcom excel in terms of scale and innovation in AI chip architectures, Qualcomm has established a competitive niche with its strong portfolio in 5G modem technology and its licensing business. As both a technology innovator and a crucial supplier of chipsets for mobile devices, Qualcomm's diversified revenue streams, along with its ongoing investments in research and development, help maintain its competitive edge in an industry where rapid innovation is essential.

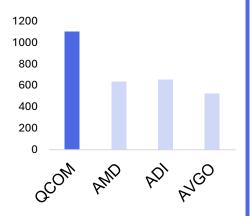
## Semiconductor Market<sup>10</sup> in \$Billions



Automotive Semiconductor Market<sup>11</sup> in \$Billions



### FY 24 CapEx in \$Billions



## **Industry Developments and Trends**

### Generative AI Investments<sup>6</sup>

The semiconductor industry is undergoing a transformational shift driven by the increasing adoption of artificial intelligence. Recent surveys indicate that the accelerator market, primarily GPUs, ASICs, and FPGAs designed for AI workloads, has more than doubled in recent years and is forecast to grow at an annual rate of at least 40% through 2028. This development is spurred by heightened investments from major cloud providers and tech giants, such as NVIDIA's rollout of next-generation GPU platforms and the aggressive expansion of AI capabilities by companies including AMD and Intel. For Qualcomm, while its core strength lies in 5G, the push for AI solutions represents an opportunity to enhance its chipset offerings with specialized processing capabilities for mobile and edge AI applications.

### Advancing Memory Technology<sup>6</sup>

Another noteworthy trend is the tightening balance in the memory segment, particularly within the DRAM and NAND markets. Demand for high-bandwidth memory (HBM) is increasing as data centers seek faster and more efficient memory solutions to support AI and cloud computing. Industry analysts expect memory manufacturers like Samsung and Micron to increase their investments in HBM technology, which typically requires three times the wafer supply compared to conventional DDR5. This trend ensures that revenue from memory components will remain strong, providing stability against cyclicality in other market segments for both semiconductor equipment vendors and chipmakers. Qualcomm is likely to benefit indirectly from these advancements, as improvements in chip efficiency and integration often lead to increased licensing and design innovation.

### Automotive Semiconductor Growth<sup>6</sup>

The automotive industry is undergoing significant changes as it transitions to electric vehicles (EVs) and autonomous driving technologies. The growing adoption of advanced driver-assistance systems (ADAS) and an increase in semiconductor components per vehicle are contributing to long-term growth in this sector. Key trends include the rising integration of sensors, connectivity modules, and powertrain controllers, all of which are increasing the silicon content in vehicles. Forecasts indicate that automotive semiconductor revenue could reach \$180 billion by 2032. Chipmakers with strong presence in this market, such as Qualcomm, which has been broadening its automotive connectivity and communication solutions, are well-positioned to seize opportunities in this evolving landscape.

### Porter's Five Forces<sup>6</sup>

### Threat of New Entrants: Low

The semiconductor industry is known for high capital expenditures, advanced technological demands, and established economies of scale. New entrants encounter significant barriers, especially in microprocessor and advanced chip manufacturing, where certain established companies have already integrated deeply with global supply chains. This makes the barrier to entry for new manufacturers very high.

### Threat of Substitutes: Low

There are no true substitutes for semiconductor chips, as these components are integral to virtually all electronic devices and systems. The unique performance and efficiency provided by silicon-based solutions, especially in high-performance computing and mobile communications, make substitution a nonissue.



### **Bargaining Power of Customers: High**

Major customers in the semiconductor industry, including OEMs and system integrators, wield substantial bargaining power due to their scale. They purchase semiconductors in large quantities for various applications, allowing them to influence pricing, delivery schedules, and specifications. The partial standardization of chip types, especially in mature markets, enables buyers to easily compare suppliers and negotiate better terms. In differentiated areas like wireless modems and processors, loyalty often depends on cost and supply chain reliability. As tech companies develop in-house chip design teams or form joint ventures, they further increase their influence over traditional suppliers. This trend, alongside the need for a reliable chip supply, enhances customer power in shaping semiconductor pricing and innovation, compelling companies like Qualcomm to be highly responsive to market demands for long-term contracts and strategic relationships.

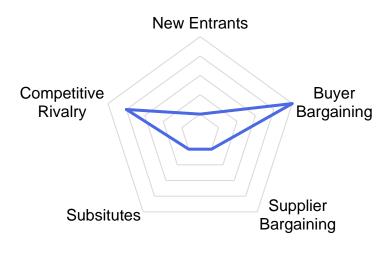
### **Bargaining Power of Suppliers: Low**

Supplier power in the semiconductor industry is typically low due to a fragmented and competitive supplier base. Companies like Qualcomm rely on a diverse range of suppliers for raw materials, equipment, and components, limiting any single vendor's pricing power. Large chipmakers often secure high-volume, long-term contracts, giving them leverage in negotiations and encouraging suppliers to make concessions to remain competitive. Even when certain inputs are concentrated among few providers, the purchasing power of top chipmakers allows them to influence terms and create supply chain redundancy. Many semiconductor firms also adopt second-source and multi-vendor procurement strategies to reduce dependency on individual suppliers. Overall, while advanced manufacturing is capital-intensive, competitive pressure keeps supplier power relatively low in the industry.

### Intensity of Competitive Rivalry: Medium/High

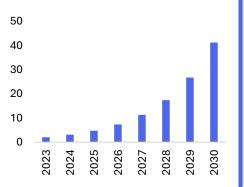
Competition among established players in the semiconductor industry is intense, driven by rapid technological advancements, product commoditization, and cyclical changes in demand. Companies face constant pressure to push the limits of performance, striving to deliver faster processing speeds, lower power consumption, enhanced energy efficiency, and smaller chip sizes. These factors directly affect the total cost of ownership for endusers, making them central to procurement decisions across various industries, including consumer electronics, automotive, and cloud infrastructure. In areas such as Al acceleration, wireless connectivity, and system-on-chip (SoC) integration, firms like NVIDIA, AMD, Qualcomm, and Intel compete not only on technical specifications but also on ecosystem support, design flexibility, and time to market. While some companies may enjoy temporary advantages through proprietary architectures or leadership in advanced manufacturing nodes, these benefits can diminish quickly without ongoing investments in research and development (R&D) and process innovation. This continual drive to outperform rivals has made the semiconductor sector one of the most research and development-intensive industries in the global economy.



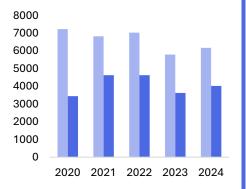


Qualconn

### Private 5G Market<sup>13</sup> in \$Billions



QTL Royalties & Pre-Tax Income in \$Billions



## **Growth Catalysts**

### Advancing Memory Technologies<sup>6</sup>

The impending shift to high-bandwidth memory technologies, driven by the need for faster data transfer and greater energy efficiency, will underpin a significant portion of semiconductor revenue growth. With memory sales forecasted to continue on an upward trajectory due to tighter supply-demand dynamics, associated chip innovations will encourage a broader industry upcycle. Improvements in memory technology directly impact system performance and are a critical component of next-generation computing platforms.

### Automotive Semiconductor Penetration<sup>6</sup>

The automotive industry is undergoing a significant transformation due to the rise of electric vehicles and the implementation of Advanced Driver Assistance Systems (ADAS). This shift is expected to result in a substantial increase in the amount of semiconductor content per vehicle. With enhanced safety, connectivity, and autonomous driving features, there will be a greater demand for advanced microcontrollers, sensors, and connectivity solutions. As the semiconductor content evolves from basic systems to highly automated vehicles, companies with diverse product portfolios, such as Qualcomm, are well-positioned to capture value in this growing market.

### Expansion of Private 5G Networks<sup>6</sup>

One of the most significant growth drivers for 5G technology is the rapid deployment of private 5G networks in industrial, enterprise, and government sectors. As more organizations seek to digitize their operations, improve security, and minimize latency in mission-critical environments, private 5G is becoming the preferred connectivity solution. It offers superior speed, ultra-low latency, and greater control compared to Wi-Fi and public cellular networks. Recent industry forecasts indicate that the global private 5G market is expected to grow at a compound annual growth rate (CAGR) of over 54%, reaching a valuation exceeding \$40 billion by 2030. The applications for private 5G networks are diverse, ranging from enabling real-time machine communication in smart factories, to powering autonomous logistics in warehouses, and enhancing patient monitoring in connected healthcare facilities. Governments are also expediting spectrum allocation and simplifying regulatory frameworks to facilitate private deployments, particularly in North America, Europe, and parts of Asia. Qualcomm is particularly wellpositioned to benefit from this trend, thanks to its advanced 5G modem-to-antenna solutions and partnerships with infrastructure providers. As enterprises increasingly seek edge-to-cloud 5G capabilities, Qualcomm's product offerings are poised to capture demand across both devices and network endpoints, strengthening its role in this next wave of 5G monetization.

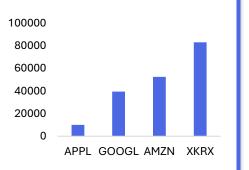
## **Qualcomm Analysis**

### **Strengths**

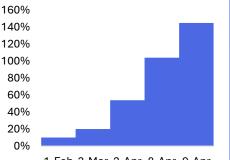
Qualcomm is the clear leader in the 5G technology market, supplying modem and RF front-end chipsets to nearly every major smartphone OEM and carrier globally, according to Yahoo Finance. Its Qualcomm Technology Licensing (QTL) segment generates high-margin royalties—often exceeding a 50% gross margin—on over 1,000 device models, creating a stable revenue stream that helps to smooth out fluctuations in its chipset sales. The company possesses an extensive patent portfolio, with over 12,600 U.S. patents and applications, which provides it with strong bargaining power and deters potential new competitors. Qualcomm also enjoys significant free cash flow, exceeding \$8 billion annually. This cash flow supports aggressive research and development, strategic acquisitions, and shareholder returns through buybacks and dividends. Finally, Qualcomm's early investments in 5G private networks position it well to take advantage of the projected \$25 billion private 5G market, leveraging solutions such as its RAN Automation Platform and Edgewise Suite.<sup>5</sup>



### "In House" Threats CapEx FY 24 in \$Billions

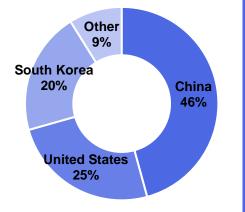


### 2025 Tariffs Levels on China<sup>9</sup>



1-Feb 3-Mar 2-Apr 8-Apr 9-Apr

### **Revenue by Geography**



### <u>Weaknesses</u>

Qualcomm has a wide-reaching presence, but approximately 60% of its revenue comes from a small number of major smartphone manufacturers, primarily Apple, Samsung, and a few Chinese companies. This concentration makes Qualcomm vulnerable to customer risks if any of these partners decide to pursue in-house solutions. Additionally, Qualcomm's reliance on patent licensing has attracted regulatory scrutiny and legal challenges, such as the global antitrust campaign against Arm. This scrutiny could lead to unfavorable legal rulings or changes in royalty rates. Although Qualcomm has expanded into the PC and IoT markets, its late entry into AI accelerators and data-center chips means it is at a disadvantage compared to established players like NVIDIA and AMD in these rapidly growing sectors. Furthermore, Qualcomm's supply chain is susceptible to geopolitical tensions, especially related to U.S.-China trade restrictions, which may disrupt access to advanced manufacturing facilities and essential components.

### **Opportunities**

The global demand for private 5G networks in manufacturing, logistics, and enterprise environments is a high-margin growth market. Analysts predict this segment will grow over 40% annually through 2030, and Qualcomm's end-to-end private 5G solutions are well-positioned to capture a significant share of this market. The AI accelerator market, which includes GPUs, ASICs, and FPGAs, is expected to expand at a 40% compound annual growth rate (CAGR) through 2028. This growth is driven by investments in hyperscale data centers. Qualcomm can leverage its Snapdragon AI Engine to address edge AI use cases in smartphones, IoT devices, and the automotive sector. Additionally, automotive semiconductors are experiencing significant growth, with the content for electric vehicles (EVs) and advanced driver-assistance systems (ADAS) projected to increase by 7–9% annually. Qualcomm's telematics and vehicle-to-everything (V2X) connectivity products position the company to benefit from this megatrend. There are also additional opportunities in augmented reality and virtual reality (AR/VR) devices, industrial automation, and network-as-a-service offerings. Qualcomm's cross-industry partnerships, such as its collaboration with NTT for AI-edge 5G, can further drive adoption in these areas.6

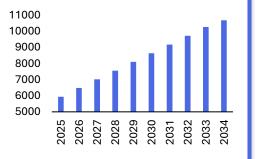
### <u>Threats</u>

Competition in the AI and data center chip markets is intensifying. NVIDIA's nextgeneration Blackwell GPUs and AMD's custom Instinct accelerators pose a threat to Qualcomm's emerging AI products and profit margins. Additionally, the ongoing legal dispute with Arm regarding licensing terms and antitrust complaints introduces significant uncertainty. An unfavorable ruling could require Qualcomm to renegotiate essential licensing agreements or even suspend certain product lines. Geopolitical pressures, including U.S. export controls on advanced technology and potential Chinese retaliation, threaten to disrupt the global supply chain. These factors could lead to increased costs for critical intellectual property and manufacturing services, as noted by onwish.ai. Furthermore, a delay in smartphone upgrades or a downturn in macroeconomic conditions may reduce QCT chipset volumes and royalty growth, negatively impacting Qualcomm's near-term financial performance.

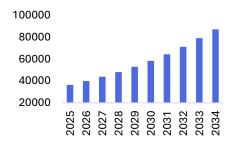
### **Revenue Decomposition**

Qualcomm's revenue is split between two primary operating segments: Qualcomm CDMA Technologies (QCT) and Qualcomm Technology Licensing (QTL). QCT, which accounted for over 80% of total revenue in FY 2024, includes three subsegments: Handsets, Automotive, and Internet of Things (IoT). Each segment represents a distinct growth vertical tied to Qualcomm's semiconductor design and sales. The remaining revenue comes from QTL, the company's high-margin licensing business that monetizes its extensive patent portfolio.





### QCT Total Revenues in \$Millions



Handsets remain the core of Qualcomm's semiconductor business and are its largest revenue contributor. This segment includes the design and sale of Snapdragon application processors, modems, and RF front-end components for smartphones and other mobile devices. Qualcomm's dominance in 5G modem technology allows it to supply nearly every major Android OEM, and despite Apple's gradual move toward inhouse silicon, Qualcomm still benefits from existing agreements with top-tier customers. In FY 2024, QCT Handsets generated an estimated **\$25 billion**, making up the bulk of QCT revenue. While growth here has matured, demand for premium-tier mobile SoCs and 5G upgrades continues to anchor consistent cash flows.

The Automotive segment is Qualcomm's fastest-growing vertical, supported by long-term design wins with leading EV and autonomous vehicle OEMs. Products in this category include Snapdragon Digital Chassis solutions, which covers telematics, connectivity (V2X), driver assistance systems (ADAS), and in-car infotainment. As vehicles become increasingly software-defined and connected, semiconductor content per car is rising sharply. In FY 2024, Qualcomm's automotive revenues surpassed **\$2.5 billion**, up more than 25% year-over-year, with a robust pipeline of \$30 billion+ in future design commitments. This segment not only diversifies Qualcomm's end-market exposure but also positions it at the forefront of the mobility tech transformation.

Qualcomm's IoT segment is a catch-all for its chips used across smart cities, industrial automation, consumer electronics, and enterprise edge applications. This includes Wi-Fi/Bluetooth SoCs, power-efficient processors for smart home devices, and connectivity platforms for robotics, healthcare, and retail infrastructure. While still facing some post-COVID inventory headwinds in consumer devices, Qualcomm's IoT segment remains a key strategic bet for long-term embedded and edge-Al growth. FY 2024 revenue for QCT IoT was approximately **\$5 billion**, showing a slight decline year-over-year but expected to rebound in 2025 as industrial and enterprise demand stabilizes.

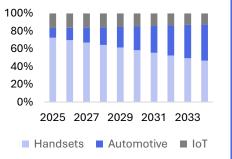
QTL is Qualcomm's legacy IP licensing segment and one of its highest-margin revenue streams. This division collects royalties on the use of Qualcomm's extensive portfolio of standard-essential patents, particularly in 3G, 4G, and 5G cellular technology. With more than 150 licensing agreements worldwide, including with virtually every major handset manufacturer, QTL provides steady, annuity-like cash flow that supports Qualcomm's R&D and capital return initiatives. In FY 2024, QTL revenue reached approximately **\$5.5 billion**, with operating margins exceeding 70%. Despite occasional legal disputes or regulatory challenges, the resilience of this segment is a cornerstone of Qualcomm's financial stability.

### **Revenue Projections**

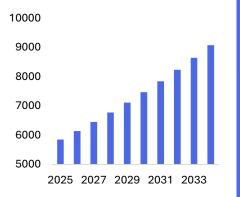
Global smartphone volumes have largely stabilized following the post-pandemic rebound, now growing in the low single digits. However, Qualcomm continues to enhance its content per device by providing premium 5G system-on-chips (SoCs), RF front-ends, and AI-enabled visual processors for flagship models. We expect an increase in average selling price (ASP), driven by richer feature sets in mid- and high-end Android devices, to boost handset segment revenues at a compound annual growth rate (CAGR) of 4–6%, in line with CFRA's forecast for wireless communications hardware.

The automotive semiconductor market is experiencing rapid growth due to the convergence of electrification, advanced driver-assistance systems (ADAS), and in-car connectivity. Qualcomm's Digital Chassis and telematics platforms have achieved design wins that represent over \$30 billion in future revenue. With an anticipated growth of over 10% in semiconductor content per vehicle and Qualcomm's significant share of new electric vehicle (EV) and Level 3/4 ADAS programs, we project annual growth in the automotive segment to reach 30-40%. This growth rate surpasses that of the broader automotive chip market, which is expected to grow at approximately 10% CAGR, largely due to Qualcomm's early leadership in vehicle-to-everything (V2X) and cockpit solutions.

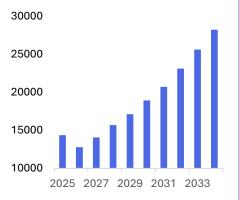




### QTL Revenues in \$Millions



### NOPLAT Projections in \$Millions



The Internet of Things (IoT) encompasses a wide range of technologies, from smart home devices to industrial edge computing. After a slight downturn in the consumer IoT market in 2024, we anticipate that industrial automation, smart factory implementations, and enterprise edge AI will contribute to a recovery. Qualcomm's cross-industry IoT platforms, which include Wi-Fi and Bluetooth system-on-chip (SoC) products and edge AI modules, are expected to benefit from a compound annual growth rate (CAGR) of 6–8% in unit growth, along with improved average selling prices (ASPs) for higher-function products. This aligns with CFRA's forecasts of a 6–7% growth for consumer IoT and 7% for industrial electronics.

As 5G technology becomes more widespread and private 5G networks gain initial traction, we expect royalty revenues to grow modestly faster than device shipments. We project that Qualcomm Technology Licensing (QTL) revenues will increase at a compound annual growth rate (CAGR) of 5%. This growth will be driven by ongoing royalty agreements for new device launches, additional licensing fees from premium IoT and automotive modules, and the gradual stabilization of rates following previous regulatory challenges.

### **Cost of Revenues Forecast**

Qualcomm commands a strong gross margin of nearly 60% due to a favorable revenue mix, supported by ultra-high margin licensing revenues. Additionally, as Qualcomm continues to expand into the higher margin automotive and IoT segments, we forecast cost of revenues as a percentage of revenue to decline by roughly 20 basis annually. This reflects not only the mix shift toward these higher-margin segments but also ongoing manufacturing yield improvements, more favorable supplier agreements, and tighter integration of software-defined functions that reduce component count in certain products. Taken together, these factors should allow Qualcomm's blended gross margin to expand from ~59.5% in FY 2024 to over 60.5% by FY 2027, providing both a durable buffer against cyclical headwinds and an attractive lever for operating-margin growth

### **Operating Expenses Forecast**

We predict Qualcomm will continue investing aggressively in R&D to support 5G-Advanced, AI-edge, and Digital Chassis innovation, along with go-to-market activities. That said, we forecast total operating expenses to remain just under 30% of revenue, a figure Qualcomm has been able to maintain over the past decade. Additionally, Even as Qualcomm enters new verticals like private 5G networks and edge AI, the company's ability to leverage its existing sales infrastructure and partner ecosystem keeps incremental SG&A growth roughly in line with top-line gains. Qualcomm's discipline in maintaining steady operating expenses, despite aggressive investment towards innovation, is the foundation of its margin resilience.

### Capital Expenditures Forecast

Qualcomm has historically maintained modest capital expenditures of less than 4% of revenue. This is made possible because Qualcomm outsources chip fabrication to leading third-party foundries such as TSMC, avoiding the capital burden of owning and maintaining its own fabrication facilities. Instead, the bulk of Qualcomm's growth-related investments are channeled into R&D, where the company can maximize return on invested capital by focusing on chip design, IP development, and software integration, which are areas that drive differentiation and margin expansion. We forecast continued modest capital expenditures.

### **Cost of Capital**

To determine Qualcomm's cost of capital, we used the **Weighted Average Cost of Capital (WACC)** formula. WACC represents the average cost of capital used to finance Qualcomm's assets and is a key component of our DCF valuation models.

Cost of Equity was calculated using the most recent 10-Year treasury yield of 4.35%, 5year monthly raw beta of 1.29, and market risk premium of 4.35% to yield an **implied cost of equity of 9.96%.** 

After tax cost of debt was calculated using the 10-Year treasury yield of 4.35%, A-rating default spread of 0.85%, and marginal tax rate of 13%, to yield an **implied after-tax cost of debt of 4.52%**.





Qualcomm has historically maintained modest debt levels and has not provided guidance on a target capital structure. Therefore, we used the most recent weights of debt and equity in the WACC formula.

The weights of debt and equity were calculated using the market values of equity and interest-bearing liabilities, which includes long term debt, short term debt, and leases. The **implied weight of equity is 89.86% and the implied weight of total debt is 10.14%**. This results in a heavy weighting towards equity in the WACC formula, with an **implied WACC of 9.41%**.

## **Company Valuation**

### **Discounted Cash Flow and Economic Profit Models**

### Estimated share price: \$242.68

We provided the DCF and EP models with the highest weighting in our final valuation of Qualcomm. We believe these models showcase the full value capture from Qualcomm's diversification into high-growth segments. Our projection period of 10 years provides sufficient time for Qualcomm to fully penetrate new segments. This extended period lets us fully reflect the payoff from both R&D investments and capital-light manufacturing, as well as the outsized margins generated by QTL royalties. Additionally, an intrinsic valuation provides for an accurate representation of Qualcomm's efficient capital allocation and ultra high margin revenues from it's royalty licensing segment. With this in mind, we assigned the DCF and EP models a weighting of 65% in our final valuation.

### **Relative Peer Valuation**

### Estimated Share Price: \$220.70

Based on forward looking price to earnings (P/E) ratios

We provided the relative price to earnings (P/E) valuation with the second highest weighting in our valuation, as we believe it is an accurate check of market sentiment. This approach emphasizes how the market currently evaluates Qualcomm's growth potential, profitability, and capital allocation strategy. It also assists in identifying possible entry or exit points in relation to sector trends. While relative multiples may not capture the detail of a DCF analysis, they offer essential context for valuation in a changing market, warranting a significant, but secondary, role in our overall assessment. With this in mind, we assigned the relative valuation a 25% overall weight, with 25E and 26E multiples being weighed equally within.

### **Dividend Discount Model**

### Estimated Share Price: \$184.42

We provided the dividend discount model (DDM) with the lowest weighting in our final valuation. While the company's dividend yield is modest, approximately 2%, and its payout policy is flexible, favoring share buybacks over consistently increasing dividends, the DDM provides a straightforward valuation method based on shareholder distributions. This model is particularly helpful in stressed market situations where cash distributions significantly impact investor returns. However, due to the speculative nature of long-term dividend forecasts and Qualcomm's preference for share repurchases, the DDM serves a supportive role, enhancing our overall valuation without distorting the final outcome. With this in mind, we assigned the DDM a 10% overall weight in our final valuation

### Estimated Share Price

Combining the outputs from our three valuation methods with the assigned weights **yields an estimated share price of \$231.36.** This provides an implied upside of 66.81% and is why we chose issue a BUY rating for Qualcomm.

### Sensitivity Analysis

### Automotive Growth Rate vs. COGS as % of Revenue

	Automotive Revenue Growth 2025E													
	243.13	34.0%	36.0%	38.0%	40.0%	42.0%	44.0%	46.0%						
	37.5%	241.71	245.48	249.46	253.67	258.11	262.79	267.73						
of 5E	38.0%	238.40	242.11	246.02	250.16	254.52	259.13	263.98						
s % 202	38.5%	235.09	238.73	242.58	246.65	250.94	255.46	260.24						
	39.0%	231.78	235.36	239.14	243.13	247.35	251.80	256.49						
COGS a revenue	39.5%	228.47	231.99	235.70	239.62	243.76	248.13	252.74						
O S	40.0%	225.17	228.62	232.26	236.11	240.18	244.47	248.99						
	40.5%	221.86	225.24	228.82	232.60	236.59	240.80	245.24						

We anticipate that revenue growth in the automotive segment will be a key driver of Qualcomm's future value. However, a significant factor affecting profitability in Qualcomm's automotive expansion is the cost of sales, which could be impacted by supply chain issues or trade-related pressures. The table below illustrates the relationship between these two variables, showing that robust growth in the automotive sector may offset potential margin pressures.

.....

### WACC vs. CV NOPLAT Growth

					WACC			
	243.13	7.91%	8.41%	8.91%	9.41%	9.91%	10.41%	10.91%
rowth	1.00%	275.65	253.73	234.70	218.04	203.35	190.30	178.66
Gro	1.50%	288.63	264.39	243.55	225.44	209.59	195.61	183.19
-	2.00%	303.80	276.72	253.67	233.85	216.63	201.54	188.22
LAT	2.50%	321.78	291.13	265.38	243.47	224.61	208.22	193.86
NOP	3.00%	343.42	308.20	279.06	254.59	233.75	215.80	200.21
	3.50%	369.96	328.75	295.28	267.59	244.31	224.49	207.42
S	4.00%	403.29	353.96	314.80	282.99	256.66	234.52	215.66

This table analyzes the impact of changes in our cost of capital and the perpetual growth rate of NOPLAT. It's important to note that fluctuations in WACC have a greater effect on the overall valuation than changes in the perpetual growth rate. This indicates that our valuation is significantly influenced by the strong growth anticipated during the 10-year projection period.

#### Risk Free Rate vs. Beta

				Ris	k Free Ra	te		
	243.13	3.60%	3.85%	4.10%	4.35%	4.60%	4.85%	5.10%
	0.99	348.47	330.48	314.13	299.21	285.56	273.00	261.43
	1.09	320.70	305.22	291.06	278.07	266.11	255.06	244.83
æ	1.19	296.76	283.31	270.93	259.52	248.97	239.17	230.06
Beta	1.29	275.93	264.13	253.23	243.13	233.75	225.01	216.86
ш	1.39	257.64	247.22	237.55	228.56	220.17	212.32	204.98
	1.49	241.46	232.20	223.57	215.51	207.96	200.89	194.25
	1.59	227.06	218.77	211.03	203.76	196.95	190.54	184.51

In this analysis, we explore how the risk-free rate and beta affect Qualcomm's cost of equity. The risk-free rate reflects the current yield on the 10-year Treasury, which we consider a risk-free asset and the foundation for determining our cost of equity. Beta measures Qualcomm's risk in relation to the overall market. This table indicates that broader macroeconomic factors have a greater impact on Qualcomm's cost of equity than fluctuations in the company's share price.



#### Equity Risk Premium vs. Marginal Tax Rate

				Equity	Risk Pre	mium		
	243.13	3.60%	3.85%	4.10%	4.35%	4.60%	4.85%	5.10%
ਭ	7.0%	308.04	292.62	278.58	265.75	253.98	243.15	233.14
Rate	9.0%	299.58	284.50	270.78	258.23	246.73	236.14	226.37
Тах	11.0%	291.08	276.35	262.95	250.70	239.46	229.12	219.58
	13.0%	282.56	268.18	255.09	243.13	232.17	222.08	212.77
Marginal	15.0%	274.01	259.98	247.22	235.55	224.86	215.02	205.94
arç	17.0%	265.44	251.76	239.31	227.95	217.53	207.94	199.10
Σ	19.0%	256.83	243.51	231.39	220.32	210.17	200.84	192.24

This table outlines the effects of both the equity risk premium (ERP) and the marginal tax rate on Qualcomm's valuation. The ERP represents the additional risk associated with the overall market compared to the risk-free rate. The marginal tax rate influences both the discount rate, through the interest tax shield, and the calculations of Net Operating Profit Less Adjusted Taxes (NOPLAT). Although the marginal tax rate does have an impact, the ERP has a greater effect on valuation, emphasizing the company's sensitivity to overall market sentiment.

				% Lo	ng Term l	Debt		
	243.13	33%	35%	37%	39%	41%	43%	45%
-	3.7%	244.94	246.12	247.30	248.47	249.65	250.82	252.00
Tax Cost of Debt	4.2%	243.42	244.51	245.60	246.69	247.78	248.86	249.95
t is	4.7%	241.92	242.92	243.93	244.93	245.93	246.93	247.93
ax Co Debt	5.2%	240.43	241.35	242.28	243.20	244.11	245.03	245.94
	5.7%	238.96	239.80	240.64	241.48	242.32	243.15	243.98
Pre	6.2%	237.50	238.27	239.03	239.79	240.55	241.30	242.05
-	6.7%	236.06	236.75	237.44	238.12	238.80	239.48	240.15

### % Long Term Debt vs. Pre Tax Cost of Debt

This table examines how leverage affects Qualcomm's capital structure by comparing the percentage of long-term debt relative to total assets and the pre-tax cost of debt, which indicates the interest rate on that debt. It approaches a point where taking on additional debt no longer adds value, emphasizing the significance of Qualcomm's debt-light capital structure, especially in a high or volatile interest rate environment.

#### Handset Revenue Growth vs. IoT Revenue Growth

	Handset Revenue Growth 2025E													
	243.13	4.5%	5.0%	5.5%	6.0%	6.5%	7.0%	7.5%						
	8.5%	235.62	237.58	239.58 241.62		243.70	245.82	247.98						
ar 5E	9.0%	236.11	238.07	240.08	242.12	244.19	246.31	248.48						
Revenue vth 2025E	9.5%	236.62	238.58	240.58	242.62	244.70	246.82	248.98						
	10.0%	237.13	239.09	241.09	243.13	245.21	247.33	249.50						
loT Re Growth	10.5%	237.65	239.62	241.62	243.66	245.74	247.86	250.02						
ခ ဦ	11.0%	238.19	240.15	242.15	244.19	246.27	248.39	250.56						
	11.5%	238.73	240.69	242.70	244.74	246.82	248.94	251.10						

This table illustrates the impact of a 50-basis point change in revenue growth for Handset and Internet of Things (IoT), which are Qualcomm's two slower-growing QCT segments. The analysis reveals that fluctuations in Handset revenue for 2025 significantly affect the company's valuation, more so than changes in IoT revenue. This highlights the importance of maintaining a strong position in Qualcomm's core segment, Handset.

### **Important Disclaimer**

This report was created by students enrolled in the Security Analysis (6F:112) class at the University of Iowa. The report was originally created to offer an internal investment recommendation for the University of Iowa Krause Fund and its advisory board. The report also provides potential employers and other interested parties an example of the students' skills, knowledge and abilities. Members of the Krause Fund are not registered investment advisors, brokers or officially licensed financial professionals. The investment advice contained in this report does not represent an offer or solicitation to buy or sell any of the securities mentioned. Unless otherwise noted, facts and figures included in this report are from publicly available sources. This report is not a complete compilation of data, and its accuracy is not guaranteed. From time to time, the University of Iowa, its faculty, staff, students, or the Krause Fund may hold a financial interest in the companies mentioned in this report.

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Revenue Decomposition

Fiscal Years Ending Sep. 29	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Segments:													
QCT (Hardware)	37,677	30,382	33,196	36394	39901	43771	48066	52859	58238	64312	71209	79084	87004
Handsets	28,815	22,600	24,900	26394	27898	29418	30956	32517	34106	35728	37386	39085	40648
Automotive	1,509	1,900	2,900	4060	5522	7333	9550	12242	15493	19404	24099	29727	35673
IoT	7,353	5,900	5,400	5940	6481	7021	7560	8099	8639	9180	9724	10272	10683
QTL (IP)	6,358	5,306	5,572	5851	6143	6450	6773	7111	7467	7840	8232	8644	9076
QSI	31	28	18	0	0	0	0	0	0	0	0	0	0
Reconciling Items	134	104	176	0	0	0	0	0	0	0	0	0	0
Total Revenue	44,200	35,820	38,962	42245	46044	50221	54839	59970	65705	72152	79441	87728	96080
Revenue Growth % YoY:	31.68%	-18.96%	8.77%	8.43%	8.99%	9.07%	9.19%	9.36%	9.56%	9.81%	10.10%	10.43%	9.52%
QCT (Hardware)	39.45%	-19.36%	9.26%	9.63%	9.64%	9.70%	9.81%	9.97%	10.18%	10.43%	10.72%	11.06%	10.01%
Handsets	71.52%	-21.57%	10.18%	6.00%	5.70%	5.45%	5.23%	5.04%	4.89%	4.75%	4.64%	4.54%	4.00%
Automotive	54.77%	25.91%	52.63%	40.00%	36.00%	32.80%	30.24%	28.19%	26.55%	25.24%	24.19%	23.36%	20.00%
IoT	44.18%	-19.76%	-8.47%	10.00%	9.10%	8.34%	7.68%	7.13%	6.66%	6.26%	5.92%	5.63%	4.00%
QTL (IP)	0.60%	-16.55%	5.01%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
QSI	-31.11%	-9.68%	-35.71%	-100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Reconciling Items	-26.37%	-22.39%	69.23%	-100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
QCT (Hardware)	85.24%	84.82%	85.20%	86.15%	86.66%	87.16%	87.65%	88.14%	88.64%	89.13%	89.64%	90.15%	90.55%
Handsets (As % of total QCT)	76.48%	74.39%	75.01%	72.52%	69.92%	67.21%	64.40%	61.52%	58.56%	55.55%	52.50%	49.42%	46.72%
Automotive (As % of total QCT)	4.01%	6.25%	8.74%	11.16%	13.84%	16.75%	19.87%	23.16%	26.60%	30.17%	33.84%	37.59%	41.00%
IoT (As % of total QCT)	19.52%	19.42%	16.27%	16.32%	16.24%	16.04%	15.73%	15.32%	14.83%	14.27%	13.66%	12.99%	12.28%
QTL (IP)	14.38%	14.81%	14.30%	13.85%	13.34%	12.84%	12.35%	11.86%	11.36%	10.87%	10.36%	9.85%	9.45%
QSI	0.07%	0.08%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Reconciling Items	0.30%	0.29%	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Revenue Check	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Geography Breakdown:													
China	28,119	13,386	17,826	20663	20265	23215	25436	27311	30257	33184	36432	40326	44139
United States	1,482	10,503	9,686	8102	11259	11466	12149	13881	14922	16357	18146	19950	21859
South Korea	3,164	8,075	7,995	7072	9179	9575	10189	11510	12449	13641	15106	16630	18216
Other	11,435	3,856	3,455	6408	5341	5966	7064	7269	8078	8970	9757	10822	11866
Total Revenue	44,200	35,820	38,962	42245	46044	50221	54839	59970	65705	72152	79441	87728	96080

Balance Sheet

Fiscal Years Ending Sep. 29	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Assets													
Current assets:													
Cash and cash equivalents	2,773	8,450	7,849	13,483	18,629	24,059	30,537	38,893	48,569	60,031	73,696	89,637	107,997
Marketable securities	3,609	2,874	5,451	5,688	5,936	6,194	6,463	6,744	7,038	7,344	7,663	7,997	8,345
Accounts receivable, net	5,643	3,183	3,929	4,469	4,535	5,108	5,594	6,041	6,668	7,317	8,040	8,893	9,735
Inventories	6,341	6,422	6,423	5,915	6,739	7,241	7,960	8,809	9,661	10,679	11,835	13,132	14,451
Other current assets	2,358	1,535	1,579	1,925	1,979	2,161	2,405	2,596	2,851	3,140	3,448	3,811	4,175
Total current assets	20,724	22,464	25,231	31,481	37,818	44,762	52,959	63,083	74,787	88,511	104,682	123,469	144,703
Deferred tax assets	1,803	3,310	5,162	3,172	3,237	3,687	4,070	4,427	4,893	5,448	6,013	6,680	7,347
Property, plant and equipment, net	5,168	5,042	4,665	4,904	5,140	5,376	5,616	5,861	6,112	6,371	6,638	6,916	7,203
Goodwill	10,508	10,642	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
Other intangible assets, net	1,882	1,408	1,244	954	680	493	337	208	-				
Operating Lease Right of Use Assets	631	612	719	756	792	829	866	903	942	982	1,023	1,066	1,110
Other assets	8,298	7,562	7,334	8,267	9,133	9,748	10,751	11,764	12,841	14,133	15,556	17,169	18,813
Total assets	49,014	51,040	55,154	60,332	67,598	75,694	85,398	97,045	110,374	126,243	144,712	166,099	189,976
Liabilities													
Current liabilities:													
Trade accounts payable	3,796	1,912	2,584	2,895	2,889	3,308	3,603	3,884	4,300	4,712	5,178	5,730	6,271
Payroll and other benefits related liabilities	1,486	1,685	1,834	1,799	2,098	2,264	2,435	2,699	2,946	3,229	3,564	3,931	4,305
Unearned revenues	369	293	297	340	366	395	436	475	520	573	630	696	762
Short-term debt	1,945	914	1,364	1,113	1,198	1,312	1,443	1,577	1,734	1,911	2,109	2,336	2,564
Other current liabilities	4,270	4,824	4,425	4856	5574	5852	6444	7099	7719	8499	9364	10327	11317
Total current liabilities	11,866	9,628	10,504	11,003	12,126	13,131	14,362	15,735	17,219	18,923	20,845	23,019	25,220
Unearned revenues	144	99	88	0	0	0	0	0	0	0	0	0	0
Income taxes payable	1,472	1,080	-	0	0	0	0	0	0	0	0	0	0
Notes	15,432	14,484	13,270	14,765	15,468	16,229	17,229	18,260	19,385	20,763	22,286	24,014	25,764
Other liabilities	2,087	4,168	5,018	4117	5258	5699	5943	6718	7313	7978	8841	9742	10662
Total liabilities	31,001	29,459	28,880	29,885	32,852	35,059	37,535	40,713	43,916	47,664	51,972	56,776	61,646
Common stock & paid-in capital	195	490	0										
Retained earnings (accumulated deficit)	17,840	20,733	25,687	29,860	34,160	40,048	47,276	55,744	65,870	77,993	92,153	108,737	127,743
Accumulated other comprehensive income (loss)	(22)	358	587	587	587	587	587	587	587	587	587	587	587
Total stockholders' equity	18,013	21,581	26,274	30,447	34,747	40,635	47,863	56,331	66,457	78,580	92,740	109,324	128,330
Total liabilities and stockholders' equity	49,014	51,040	55,154	60,332	67,598	75,694	85,398	97,045	110,374	126,243	144,712	166,099	189,976
Balance Check	YES YE	S YES	S YE	ES YI	ES YI	ES YI	ES YE	S YI	ES YI	S Y	ES Y	ES Y	ES

Income Statement

Fiscal Years Ending Sep. 29	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Equipment & services revenues	37,171	30,028	32,791	36394	39901	43771	48066	52859	58238	64312	71209	79084	87004
Licensing revenues	7,029	5,792	6,171	5851	6143	6450	6773	7111	7467	7840	8232	8644	9076
Total revenues	44,200	35,820	38,962	42245	46044	50221	54839	59970	65705	72152	79441	87728	96080
Cost of revenues (Excluding D&A)	16,873	14,060	15,354	14194	15473	16876	18425	20145	22066	24224	26664	29437	32191
Depreciation Expense	1,280	1,391	1,395	1261	1326	1390	1454	1518	1585	1652	1722	1795	1870
Amortization Expense	482	418	311	290	274	187	156	129	208	0	0	0	0
Research & development expenses	8,194	8,818	8,893	9294	10658	11379	12394	13675	14907	16376	18056	19918	21820
Selling, general & administrative expenses	2,570	2,483	2,759	2792	3165	3443	3718	4100	4483	4916	5421	5983	6552
Other expenses	(1,059)	862	179	66	464	272	312	423	398	452	513	549	608
Total costs & expenses	28,340	28,032	28,891	27897	31359	33546	36459	39990	43646	47621	52376	57682	63041
Operating income (loss)	15,860	7,788	10,071	14348	14684	16675	18380	19980	22059	24532	27065	30046	33039
Interest expense	490	694	697	761	826	867	912	971	1032	1098	1179	1269	1370
Investment and Other Income (Expense)	(372)	349	962	237	247	258	269	281	293	306	319	333	348
Income tax expense (benefit)	2,012	104	226	1797	1834	2089	2306	2508	2772	3086	3407	3784	4162
Income (loss) from continuing operations	12,986	7,339	10,110	12027	12272	13978	15431	16783	18549	20653	22799	25327	27855
Discontinued operations, net of income taxes	(50)	(107)	-										
Net income (loss)	12,936	7,232	10,142	12027	12272	13978	15431	16783	18549	20653	22799	25327	27855
Weighted Average Shares Outstanding - Basic	1,123	1,117	1,116	1,116	1,088	1,062	1,038	1,015	994	975	956	940	924
Total Shares Outstanding	1,137	1,126	1,130	1101	1074	1049	1026	1004	984	965	948	931	916
EPS - Basic	11.52	6.47	9.09	10.78	11.28	13.17	14.87	16.53	18.66	21.19	23.84	26.96	30.15
Dividends Per Share	2.86	3.10	3.30	\$ 3.50 \$	3.70 \$	3.90	\$ 4.10 \$	4.30	\$ 4.50 \$	6 4.70 s	\$ 4.90 \$	5.10	\$ 5.30

Historical Cash Flow Statement

Fiscal Years Ending Sep. 29	2016	2017	2018	2019	2020	2021	2022	2023	2024
Net income (loss)	5,702	2,465	(4,864)	4,386	5,198	9,043	12,986	7,339	10,110
Depreciation & amortization expense	1,428	1,461	1,561	1,401	1,393	1,582	1,762	1,809	1,706
Indefinite & long-lived asset impairment charges	107	76	273	203 -		5 -		182	7
Income tax provision in excess of (less than) income tax payments	(200)	(400)	4,502	1,976	(309)	(245)	(138)	(1,269)	(3,064)
Loss (gain) on sale of wireless spectrum	(380) -	-	-	-	-	-	-	-	
Share-based compensation expense	943	914	883	1,037	1,212	1,663	2,031	2,484	2,648
Incremental tax benefit from share-based compensation	(8)	(40) -	-	-	-	-	-	-	
Net losses (gains) on marketable securities & other investments	(288)	(530)	(124)	(356)	(336)	(1,002)	432	(152)	(349)
Impairment losses on marketable securities & other investments	172	177	75	135	405	33	47	132	79
Other items, net	77	146	129	(272)	(142)	(82)	(54)	25	(67)
Accounts receivable, net	(232)	(1,104)	734	1,373	(1,529)	426	(2,066)	2,472	(768)
Inventories	(49)	(200)	337	273	(1,157)	(622)	(3,137)	8	13
Other assets	246	169	30	78	(110)	(1,649)	(2,266)	603	230
Trade accounts payable	541	(45)	(94)	(443)	907	495	1,036	(1,880)	682
Payroll, benefits & other liabilities	(352)	1,835	687	(2,376)	528	1,091	(1,043)	1 -	
Unearned revenues	(307)	(231)	(234)	(129)	(246)	(202)	(324)	(56)	20
Net cash used by operating activities from discontinued operations		-	-	-	-		(170)	(399)	(91)
Payroll, benefits and other liabilities		-	-	-	-	-	-		1,046
Net cash flows from operating activities	7,400	4,693	3,895	7,286	5,814	10,536	9,096	11,299	12,202
Capital expenditures	(539)	(690)	(784)	(887)	(1,407)	(1,888)	(2,262)	(1,450)	(1,041)
Purchases of debt & equity marketable securities		-	-		(6,213)	(5,907)	(1,414) -	-	
Purchases of available-for-sale securities	(18,015)	(19,062)	(5,936) -	-	-	-	-	-	
Proceeds from sales & maturities of available-for-sale securities	14,386	41,715	9,188 -	-	-	-	-	-	
Purchases of trading securities	(177)	(710)	(49) -	-	-	-		(668)	(5,069)
Proceeds from sales & maturities of trading securities	779 -	-		139	2,399	5,555	2,622	1,566	2,677
Proceeds from sales of other marketable securities	450	706	50 -	-	-	-	-	-	
Release (deposits) of investments designated as collateral	-	(2,000)	2,000 -	-	-	-	-	-	
Acquisitions & other investments, net of cash acquired	(812)	(1,544)	(326)	(252)	(185)	(1,377)	(4,912)	(235) -	
Proceeds from sale of wireless spectrum	232 -	-	-	-	-	-	-	-	
Proceeds from sales of property, plant & equipment	16	28 -	-	-	-	-		127	10
Proceeds from other investments			222	68	100	320	132	20	88
Other items, net	192	20	16	126	43	(59)	30	19	(36)
Net cash provided (used) by investing activities from discontinued operations		-	-	-	-	-		1,383	2
Acquisitions and other investments, net of cash acquired		-	-	-	-	-	-		(254)

Net cash flows from investing activities	(3,488)	18,463	4,381	(806)	(5,263)	(3,356)	(5,804)	762	(3,623)
Proceeds from short-term debt	8,949	8,558	11,131	5,989	2,848	2,886	7,000	5,068	799
Repayment of short-term debt	(8,200)	(9,309)	(11,127)	(6,492)	(2,846)	(2,885)	(7,003)	(5,566)	(799)
Repayment of debt of acquired company -		-	-	-	-		(349) -	-	ſ
Proceeds from long-term debt -	*	10,953 -	-		1,988 -		1,477	1,880 -	ſ
Repayment of long-term debt -	-		(5,500) -		(2,219) -		(1,540)	(1,446)	(914)
Proceeds from issuance of common stock	668	497	603	414	329	347	356	434	383
Repurchases & retirements of common stock	(3,923)	(1,342)	(22,580)	(1,793)	(2,450)	(3,366)	(3,129)	(2,973)	(4,121)
Dividends paid	(2,990)	(3,252)	(3,466)	(2,968)	(2,882)	(3,008)	(3,212)	(3,462)	(3,687)
Payments of tax withholdings related to vesting of share-based awards			(280)	(266)	(344)	(737)	(766)	(521) -	Ţ
Payment of purchase consideration related to RF360 Holdings Singapore Pte., Ltd.			(157)	(1,163)	(55)	(16) -	-	-	Ţ
Incremental tax benefit from share-based compensation	8	40 -	-	-	-	-	-	-	ľ
Other items, net	(34)	(266)	(111)	(107)	(76)	(19)	(30)	(19)	(17)
Net cash (used) provided by financing activities from discontinued operations -		-	-	-	-	-		(58) -	
Payments of tax withholdings related to vesting of share-based awards -		-	-	-	-	-	-		(932)
Net cash provided (used) by financing activities from discontinued operations -		-	-	-	-	-	-		19
Net cash flows from financing activities	(5,522)	5,879	(31,487)	(6,386)	(5,707)	(6,798)	(7,196)	(6,663)	(9,269)
Effect of exchange rate changes on cash & cash equivalents	(4)	48	(41)	(32)	24	27	(113)	30	12
Net increase (decrease) in total cash & cash equivalents	(1,614)	29,083	(23,252)	62	(5,132)	409	(4,017)	5,428	(678)
Total cash & cash equivalents at beginning of period	7,560	5,946	35,029	11,777	11,839	6,707	7,116	3,099	8,527
Total cash & cash equivalents at end of period	5,946	35,029	11,777	11,839	6,707	7,116	3,099	8,527	7,849
Cash amounts paid for income taxes, net of refunds received	1,300	1,000	877 -	-	-	-	-	-	

Forecasted Cash Flow Statement

2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
12027	12272	13978	15431	16783	18549	20653	22799	25327	27855
1551	1600	1577	1610	1647	1793	1652	1722	1795	1870
-540	-66	-573	-486	-448	-627	-649	-723	-853	-843
508	-824	-502	-720	-848	-853	-1018	-1156	-1297	-1319
-346	-54	-182	-244	-191	-255	-289	-308	-363	-364
1990	-65	-450	-383	-356	-466	-555	-566	-667	-667
311	-6	419	296	281	416	412	465	552	541
-35	299	166	172	264	246	283	335	367	374
-45	26	29	41	39	45	52	57	66	66
431	718	278	592	654	620	780	866	962	991
15851	13901	14740	16308	17826	19468	21323	23492	25890	28503
-1500	-1562	-1626	-1693	-1763	-1836	-1911	-1990	-2072	-2158
-237	-247	-258	-269	-281	-293	-306	-319	-333	-348
-933	-866	-615	-1003	-1013	-1077	-1292	-1423	-1613	-1644
-2670	-2675	-2499	-2966	-3057	-3206	-3510	-3733	-4018	-4149
-251	85	114	131	134	157	177	198	227	228
1495	703	761	1000	1031	1125	1378	1523	1728	1750
-901	1141	441	244	775	595	665	864	901	920
-3854	-3975	-4092	-4206	-4318	-4428	-4536	-4644	-4750	-4856
-37	-36	-36	-37	-38	-39	-40	-41	-43	-44
-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
-7547	-6082	-6813	-6868	-6416	-6590	-6357	-6100	-5937	-6003
5633	5145	5428	6475	8353	9672	11457	13659	15934	18352
7849	13482	18627	24055	30530	38883	48554	60011	73670	89604
13482	18627	24055	30530	38883	48554	60011	73670	89604	107956
	12027 1551 -540 508 -346 1990 311 -35 -45 431 15851 -1500 -237 -933 -2670 -251 1495 -901 -3854 -37 -3854 -37 -4000 -7547	12027 12272   1551 1600   -540 -66   508 -824   -346 -54   1990 -65   311 -6   -35 299   -45 26   431 718   15851 13901   -1500 -1562   -237 -247   -933 -866   -2670 -2675   -1500 -1562   -237 -247   -933 -866   -2670 -2675   -851 85   1495 703   -901 1141   -3854 -3975   -37 -36   -4000 -4000   -7547 -6082   5633 5145	120271227213978155116001577-540-66-573508-824-502-346-54-1821990-65-450311-6419-35299166-452629431718278158511390114740-1500-1562-1626-237-247-258-933-866-615-2670-2675-2499-251851141495703761-9011141441-3854-3975-4092-37-36-36-4000-4000-4000-7547-6082-681356335145542878491348218627	120271227213978154311551160015771610-540-66-573-486508-824-502-720-346-54-182-2441990-65-450-383311-6419296-35299166172-4526294143171827859215851139011474016308-1500-1562-1626-1693-237-247-258-269-933-866-615-1003-2670-2675-2499-2966-2518511413114957037611000-9011141441244-3854-3975-4092-4206-37-36-36-37-4000-4000-4000-4000-7547-6082-6813-686856335145542864757849134821862724055	120271227213978154311678315511600157716101647-540-66-573-486-448508-824-502-720-848-346-54-182-244-1911990-65-450-383-356311-6419296281-35299166172264-45262941394317182785926541585113901147401630817826-1500-1562-1626-1693-1763-237-247-258-269-281-933-866-615-1003-1013-2670-2675-2499-2966-3057-25185114131134149570376110001031-9011141441244775-3854-3975-4092-4206-4318-37-36-36-37-38-4000-4000-4000-4000-4000-7547-6082-6813-6868-641656335145542864758353784913482186272405530530	120271227213978154311678318549155116001577161016471793-540-66-573-486-448-627508-824-502-720-848853-346-54-182-244-191-2551990-65-450-383-356-466311-6419296281416-35299166172264246-452629413945431718278592654620158511390114740163081782619468-1500-1562-1626-1693-1763-1836-237-247-258-269-281-293-933-866-615-1003-1013-1077-2670-2675-2499-2966-3057-3206-251851141311341571495703761100010311125-9011141441244775595-3854-3975-4092-4206-4318-4428-37-36-36-37-38-39-4000-4000-4000-4000-4000-4000-4000-7547-6082-6813-6868-6416-6590563351455428647583539672784913482	120271227213978154311678318549206531551160015771610164717931652-540-66-573-486-448-627-649508-824-502-720-848-853-1018-346-54-182-244-191-255-2891990-65-450-383-356-466-555311-6419296281416412-35299166172264246283-4526294139455243171827859265462078015851139011474016308178261946821323-1500-1562-1626-1693-1763-1836-1911-237-247-258-269-281-293-306-933-866-615-1003-10131077-1292-2670-2675-2499-2966-3057-3206-3510-2518511413113415717714957037611000103111251378-9011141441244775595665-3854-3975-4092-4206-4318-4428-4536-37-36-36-37-38-39-400-4000-4000-4000-4000 <td>120271227213978154311678318549206532279915511600157716101647179316521722<math>-540</math><math>-66</math><math>-573</math><math>-486</math><math>-448</math><math>-627</math><math>-649</math><math>-723</math><math>508</math><math>-824</math><math>-502</math><math>-720</math><math>-848</math><math>-853</math><math>-1018</math><math>-1156</math><math>-346</math><math>-54</math><math>-182</math><math>-244</math><math>-191</math><math>-255</math><math>-289</math><math>-308</math><math>1990</math><math>-65</math><math>-450</math><math>-383</math><math>-356</math><math>-466</math><math>-555</math><math>-566</math><math>311</math><math>-6</math><math>419</math><math>296</math><math>281</math><math>416</math><math>412</math><math>465</math><math>-35</math><math>299</math><math>166</math><math>172</math><math>264</math><math>246</math><math>283</math><math>335</math><math>-45</math><math>26</math><math>29</math><math>41</math><math>39</math><math>45</math><math>52</math><math>57</math><math>431</math><math>718</math><math>278</math><math>592</math><math>654</math><math>620</math><math>780</math><math>866</math><math>15851</math><math>13901</math><math>14740</math><math>16308</math><math>17826</math><math>19468</math><math>21323</math><math>23492</math><math>-1500</math><math>-1562</math><math>-1626</math><math>-1693</math><math>-1763</math><math>-1836</math><math>-1911</math><math>-1990</math><math>-237</math><math>-247</math><math>-258</math><math>-269</math><math>-281</math><math>-293</math><math>-306</math><math>-319</math><math>-933</math><math>-866</math><math>-615</math><math>-1003</math><math>-1013</math><math>-1077</math><math>-1292</math><math>-1423</math><math>-2570</math><math>-2675</math><math>-2499</math><math>-2966</math><math>-3057</math><math>-3206</math><math>-3510</math><math>-3733</math><math>-931</math><math>1411</math><math>441</math><math>244</math><math>775</math><math>595</math><math>665</math><math>864</math><math>-3854</math>&lt;</td> <td>120271227213978154311678318549206532279925327155116001577161016471793165217221795-540-66-573-486-448-627-649-723-853508-824-502-720-848-853-1018-1156-1297-346-54-182-244-191-255-289-308-3631990-65-450-383-356-466-555-566-667311-6419296281416412465552-35299166172264246283335367-452629413945525766431718278592654620780866962158511390114740163081782619468213232349225890-1500-1562-1665-1693-1763-1836-1911-1990-2072-237-247-258-269-281-293-306-319-333-933-866-615-1003-1013-1077-1292-1423-1613-257-2479-2499-2966-3057-3206-3510-3733-4018-251851141311341571177198227-355766-3</td>	120271227213978154311678318549206532279915511600157716101647179316521722 $-540$ $-66$ $-573$ $-486$ $-448$ $-627$ $-649$ $-723$ $508$ $-824$ $-502$ $-720$ $-848$ $-853$ $-1018$ $-1156$ $-346$ $-54$ $-182$ $-244$ $-191$ $-255$ $-289$ $-308$ $1990$ $-65$ $-450$ $-383$ $-356$ $-466$ $-555$ $-566$ $311$ $-6$ $419$ $296$ $281$ $416$ $412$ $465$ $-35$ $299$ $166$ $172$ $264$ $246$ $283$ $335$ $-45$ $26$ $29$ $41$ $39$ $45$ $52$ $57$ $431$ $718$ $278$ $592$ $654$ $620$ $780$ $866$ $15851$ $13901$ $14740$ $16308$ $17826$ $19468$ $21323$ $23492$ $-1500$ $-1562$ $-1626$ $-1693$ $-1763$ $-1836$ $-1911$ $-1990$ $-237$ $-247$ $-258$ $-269$ $-281$ $-293$ $-306$ $-319$ $-933$ $-866$ $-615$ $-1003$ $-1013$ $-1077$ $-1292$ $-1423$ $-2570$ $-2675$ $-2499$ $-2966$ $-3057$ $-3206$ $-3510$ $-3733$ $-931$ $1411$ $441$ $244$ $775$ $595$ $665$ $864$ $-3854$ <	120271227213978154311678318549206532279925327155116001577161016471793165217221795-540-66-573-486-448-627-649-723-853508-824-502-720-848-853-1018-1156-1297-346-54-182-244-191-255-289-308-3631990-65-450-383-356-466-555-566-667311-6419296281416412465552-35299166172264246283335367-452629413945525766431718278592654620780866962158511390114740163081782619468213232349225890-1500-1562-1665-1693-1763-1836-1911-1990-2072-237-247-258-269-281-293-306-319-333-933-866-615-1003-1013-1077-1292-1423-1613-257-2479-2499-2966-3057-3206-3510-3733-4018-251851141311341571177198227-355766-3

Common Size Income Statement

Fiscal Years Ending Sep. 29	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Equipment & services revenues	84.10%	83.83%	84.16%	86.15%	86.66%	87.16%	87.65%	88.14%	88.64%	89.13%	89.64%	90.15%	90.55%
Licensing revenues	15.90%	16.17%	15.84%	13.85%	13.34%	12.84%	12.35%	11.86%	11.36%	10.87%	10.36%	9.85%	9.45%
Total revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of revenues (Excluding D&A)	38.17%	39.25%	39.41%	39.00%	38.78%	38.56%	38.33%	38.11%	37.89%	37.67%	37.44%	37.22%	37.00%
Depreciation & Amortization	2.90%	3.88%	3.58%	2.99%	2.88%	2.77%	2.65%	2.53%	2.41%	2.29%	2.17%	2.05%	1.95%
Amortization Expense													
Research & development expenses	18.54%	24.62%	22.82%	22.00%	23.15%	22.66%	22.60%	22.80%	22.69%	22.70%	22.73%	22.70%	22.71%
Selling, general & administrative expenses	5.81%	6.93%	7.08%	6.61%	6.87%	6.85%	6.78%	6.84%	6.82%	6.81%	6.82%	6.82%	6.82%
Other expenses	-2.40%	2.41%	0.46%	0.16%	1.01%	0.54%	0.57%	0.71%	0.61%	0.63%	0.65%	0.63%	0.63%
Total costs & expenses	64.12%	78.26%	74.15%	66.04%	68.11%	66.80%	66.48%	66.68%	66.43%	66.00%	65.93%	65.75%	65.61%
Operating income (loss)	35.88%	21.74%	25.85%	33.96%	31.89%	33.20%	33.52%	33.32%	33.57%	34.00%	34.07%	34.25%	34.39%
Interest expense	1.11%	1.94%	1.79%	1.80%	1.79%	1.73%	1.66%	1.62%	1.57%	1.52%	1.48%	1.45%	1.43%
Investment and Other Income (Expense)	-0.84%	0.97%	2.47%	0.56%	0.54%	0.51%	0.49%	0.47%	0.45%	0.42%	0.40%	0.38%	0.36%
Income tax expense (benefit)	4.55%	0.29%	0.58%	4.25%	3.98%	4.16%	4.20%	4.18%	4.22%	4.28%	4.29%	4.31%	4.33%
Income (loss) from continuing operations	29.38%	20.49%	25.95%	28.47%	26.65%	27.83%	28.14%	27.99%	28.23%	28.62%	28.70%	28.87%	28.99%
Discontinued operations, net of income taxes	-0.11%	-0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net income (loss)	29.27%	20.19%	26.03%	28.47%	26.65%	27.83%	28.14%	27.99%	28.23%	28.62%	28.70%	28.87%	28.99%

Common Size Balance Sheet

Fiscal Years Ending Sep. 29	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Assets													
Current assets:													
Cash and cash equivalents	6.27%	23.59%	20.15%	31.91%	40.45%	47.90%	55.67%	64.83%	73.89%	83.17%	92.73%	102.13%	112.36%
Marketable securities	8.17%	8.02%	13.99%	13.46%	12.89%	12.33%	11.79%	11.25%	10.71%	10.18%	9.65%	9.12%	8.68%
Accounts receivable, net	12.77%	8.89%	10.08%	10.58%	9.85%	10.17%	10.20%	10.07%	10.15%	10.14%	10.12%	10.14%	10.13%
Inventories	14.35%	17.93%	16.49%	16.25%	16.89%	16.54%	16.56%	16.66%	16.59%	16.61%	16.62%	16.60%	16.61%
Other current assets	5.33%	4.29%	4.05%	4.56%	4.30%	4.30%	4.39%	4.33%	4.34%	4.35%	4.34%	4.34%	4.35%
Total current assets	46.89%	62.71%	64.76%	74.52%	82.13%	89.12%	96.56%	105.17%	113.80%	122.64%	131.74%	140.70%	150.56%
Deferred tax assets	4.08%	9.24%	13.25%	7.51%	7.03%	7.34%	7.42%	7.38%	7.45%	7.55%	7.57%	7.61%	7.65%
Property, plant and equipment, ne	11.69%	14.08%	11.97%	11.61%	11.16%	10.71%	10.24%	9.77%	9.30%	8.83%	8.36%	7.88%	7.50%
Goodwill	23.77%	29.71%	27.72%	25.56%	23.45%	21.50%	19.69%	18.01%	16.44%	14.97%	13.59%	12.31%	11.24%
Other intangible assets, net	4.26%	3.93%	3.19%	2.26%	1.48%	0.98%	0.61%	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%
Other assets	18.77%	21.11%	18.82%	19.57%	19.83%	19.41%	19.60%	19.62%	19.54%	19.59%	19.58%	19.57%	19.58%
Total Assets	110.89%	142.49%	141.56%	142.82%	146.81%	150.71%	155.71%	161.80%	167.96%	174.94%	182.13%	189.29%	197.68%
Liabilities													
Current liabilities:													
Trade accounts payable	8.59%	5.34%	6.63%	6.85%	6.27%	6.59%	6.57%	6.48%	6.54%	6.53%	6.52%	6.53%	6.53%
Payroll and other benefits relate	3.36%	4.70%	4.71%	4.26%	4.56%	4.51%	4.44%	4.50%	4.48%	4.47%	4.49%	4.48%	4.48%
Unearned revenues	0.83%	0.82%	0.76%	0.81%	0.80%	0.79%	0.80%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%
Short-term debt	4.40%	2.55%	3.50%	2.63%	2.60%	2.61%	2.63%	2.63%	2.64%	2.65%	2.65%	2.66%	2.67%
Other current liabilities	9.66%	13.47%	11.36%	11.50%	12.11%	11.65%	11.75%	11.84%	11.75%	11.78%	11.79%	11.77%	11.78%
Total current liabilities	26.85%	26.88%	26.96%	26.05%	26.33%	26.15%	26.19%	26.24%	26.21%	26.23%	26.24%	26.24%	26.25%
Unearned revenues	0.33%	0.28%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Income taxes payable	3.33%	3.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Notes	34.91%	40.44%	34.06%	34.95%	33.59%	32.31%	31.42%	30.45%	29.50%	28.78%	28.05%	27.37%	26.81%
Other liabilities	4.72%	11.64%	12.88%	9.75%	11.42%	11.35%	10.84%	11.20%	11.13%	11.06%	11.13%	11.11%	11.10%
Total Liabilities	70.14%	82.24%	74.12%	70.74%	71.35%	69.81%	68.45%	67.89%	66.84%	66.06%	65.42%	64.72%	64.16%
Common stock & paid-in capital	0.44%	1.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Retained earnings (accumulated d	40.36%	57.88%	65.93%	70.68%	74.18%	79.73%	86.20%	92.93%	100.23%	108.06%	115.97%	123.90%	132.91%
Accumulated other comprehensive	-0.05%	1.00%	1.51%	1.39%	1.27%	1.17%	1.07%	0.98%	0.89%	0.81%	0.74%	0.67%	0.61%
Total Shareholders Equity	40.75%	60.25%	67.43%	72.07%	75.46%	80.90%	87.27%	93.91%	101.12%	108.88%	116.70%	124.57%	133.52%

Value Driver Estimation

Fiscal Years Ending Sep. 29	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
NOPLAT:													
Revenues	44,200	35,820	38,962	42,245	46,044	50,221	54,839	59,970	65,705	72,152	79,441	87,728	96,080
Operating Expenses:													
(-) Cost of Revenues	16,873	14,060	15,354	14,194	15,473	16,876	18,425	20,145	22,066	24,224	26,664	29,437	32,191
(-) Research and Development	8,194	8,818	8,893	9,294	10,658	11,379	12,394	13,675	14,907	16,376	18,056	19,918	21,820
(-) Selling, General & Admin.	2,570	2,483	2,759	2,792	3,165	3,443	3,718	4,100	4,483	4,916	5,421	5,983	6,552
(-) Depreciation & Amortization	1,582	1,762	1,809	1,706	1,551	1,600	1,577	1,610	1,647	1,793	1,652	1,722	1,795
(-) Other Expenses	(1,059)	862	179	66	464	272	312	423	398	452	513	549	608
(+) Implied Interest on Operating Lease Assets	27	33	32	37	39	41	43	45	47	49	51	53	55
EBITA	16,067	7,868	10,000	14,230	14,772	16,693	18,456	20,063	22,252	24,441	27,186	30,172	33,170
Less: Adjusted Tax													
Income Tax Provision	2,012	104	226	1,797	1,834	2,089	2,306	2,508	2,772	3,086	3,407	3,784	4,162
(+) Tax shield on Interest Expense	64	90	91	99	107	113	119	126	134	143	153	165	178
(-) Tax shield on Interest Income	(48)	45	125	31	32	34	35	37	38	40	42	43	45
(+) Tax Shield on Operating Leases	3	4	4	5	5	5	6	6	6	6	7	7	7
Adjusted Tax	2,128	153	196	1,870	1,914	2,173	2,395	2,603	2,874	3,195	3,525	3,913	4,302
EBITA	16,067	7,868	10,000	14,230	14,772	16,693	18,456	20,063	22,252	24,441	27,186	30,172	33,170
Less adjusted taxes	2,128	153	196	1,870	1,914	2,173	2,395	2,603	2,874	3,195	3,525	3,913	4,302
change in deferred taxes	(138)	(1,269)	(3,064)	1,990	(65)	(450)	(383)	(356)	(466)	(555)	(566)	(667)	(667)
NOPLAT	13,801	6,446	6,740	14,350	12,793	14,070	15,678	17,103	18,912	20,690	23,095	25,592	28,201
Invested Capital (IC):													
Operating current assets													
Normal cash	4,420	3,582	3,896	4,224	4,604	5,022	5,484	5,997	6,571	7,215	7,944	8,773	9,608
Accounts receivable, net	5,643	3,183	3,929	4,469	4,535	5,108	5,594	6,041	6,668	7,317	8,040	8,893	9,735
inventory	6,341	6,422	6,423	5,915	6,739	7,241	7,960	8,809	9,661	10,679	11,835	13,132	14,451
Other current assets	2,358	1,535	1,579	1,925	1,979	2,161	2,405	2,596	2,851	3,140	3,448	3,811	4,175
Total operating current assets	18,762	14,722	15,827	16,534	17,858	19,532	21,443	23,443	25,751	28,351	31,267	34,608	37,970

Operating current liabilities													
Trade accounts payable	3,796	1,912	2,584	2,895	2,889	3,308	3,603	3,884	4,300	4,712	5,178	5,730	6,271
Payroll and other benefits related liabilities	1,486	1,685	1,834	1,799	2,098	2,264	2,435	2,699	2,946	3,229	3,564	3,931	4,305
Unearned revenues	369	293	297	340	366	395	436	475	520	573	630	696	762
Income taxes payable	-	-	-	-	-	-	-	-	-	-	-	-	-
Total operating current liabilities	5,651	3,890	4,715	5,034	5,353	5,967	6,475	7,059	7,766	8,514	9,372	10,357	11,338
Total operating working capital	13,111	10,832	11,112	11,500	12,505	13,565	14,968	16,384	17,985	19,837	21,895	24,251	26,632
(+) Net property, plant & equipment	5,168	5,042	4,665	4,904	5,140	5,376	5,616	5,861	6,112	6,371	6,638	6,916	7,203
(+) Net other operating assets													
Other intangible assets, net	1,882	1,408	1,244	954	680	493	337	208	-	-	-	-	-
Other assets	8,298	7,562	7,334	8,267	9,133	9,748	10,751	11,764	12,841	14,133	15,556	17,169	18,813
(-) Other operating liabilities													
Unearned revenues, non-current	144	99	88	-	-	-	-	-	-	-	-	-	-
Income taxes payable, non-current	1,472	1,080	-	-	-	-	-	-	-	-	-	-	-
Invested capital (IC)	26,843	23,665	24,267	25,625	27,457	29,182	31,672	34,216	36,938	40,341	44,090	48,336	52,648
Free Cash Flow (FCF):													
NOPLAT	13,801	6,446	6,740	14,350	12,793	14,070	15,678	17,103	18,912	20,690	23,095	25,592	28,201
Change in IC	10,980	(3,178)	602	1,358	1,832	1,725	2,490	2,544	2,721	3,403	3,749	4,246	4,312
FCF	2,821	9,624	6,138	12,992	10,962	12,345	13,188	14,559	16,190	17,287	19,346	21,346	23,889
Return on Invested Capital (ROIC):													
NOPLAT	13,801	6,446	6,740	14,350	12,793	14,070	15,678	17,103	18,912	20,690	23,095	25,592	28,201
Beginning IC	15,863	26,843	23,665	24,267	25,625	27,457	29,182	31,672	34,216	36,938	40,341	44,090	48,336
ROIC	87.00%	24.01%	28.48%	59.13%	49.92%	51.24%	53.72%	54.00%	55.27%	56.01%	57.25%	58.05%	58.34%
Economic Profit (EP):													
Beginning IC	15863	26843	23665	24,267	25,625	27,457	29,182	31,672	34,216	36,938	40,341	44,090	48,336
x (ROIC - WACC)	77.58%	14.59%	19.05%	49.71%	40.50%	41.82%	44.30%	44.57%	45.84%	46.59%	47.82%	48.62%	48.92%
EP	12306	3915	4509	12062	10378	11482	12927	14118	15686	17208	19292	21436	23644

Weighted Average Cost of Capital (WACC) Estimation

Cost of Equity:	
Risk-Free Rate	4.35%
Beta	1.29
Equity Risk Premium	4.35%
Cost of Equity	9.96%
Cost of Debt:	
Risk-Free Rate	4.35%
Implied Default Premium	0.85%
Pre-Tax Cost of Debt	5.20%
Marginal Tax Rate	13%

After-Tax Cost of Debt

ASSUMPTIONS: 10-Year U.S. Treasury Yield 5-Year Monthly Raw Beta Domodaran March Estimate

10-Year U.S. Treasury Yield

PV of Operating Leases	755,792797	
DV = 6 October 1 and and	700 700 700 700 700 700 700 700 700 700	
Long-Term Debt	14765.1858	
Short-Term Debt	1113.04294	
Market Value of Debt:		
MV of Equity	152,493.70	90.16%
Current Stock Price	\$138.49	
Market Value of Common Equity: Total Shares Outstanding	1101	MV Weights

4.52%

Discounted Cash Flow (DCF) and Economic Profit (EP) Valuation Models

### Key Inputs:

CV Growth of NOPLAT	2.50%
CV Year ROIC	58.34 <mark>%</mark>
WACC	9.43%
Cost of Equity	9.96%

Fiscal Years Ending Sep. 29	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
DCF Model:										
Free Cash Flow (FCF)	12992	10962	12345	13188	14559	16190	17287	19346	21345.7	23889.0
Continuing Value (CV)										389683.2
PV of FCF	11873	9154	9422	9198	9279	9430	9201	9410	9488.5	173221.4
Value of Operating Assets:	259678									
Non-Operating Adjustments										
Excess Cash	9258									
Short Term Debt	-1113									
Long Term Debt	-14765									
Operating Leases	756									
Marketable Securities	5688									
Value of Equity	259501									
Shares Outstanding	1101									
Intrinsic Value of Last FYE	235.67									
Implied Price as of Today	\$ 242.72									

Dividend Discount Model (DDM) or Fundamental P/E Valuation Model

Fiscal Years Ending		2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E		20346
EPS	\$	10.78	\$ 11.28	\$ 13.17	\$ 14.87	\$ 16.53	\$ 18.66	\$ 21.19	\$ 23.83	\$ 26.95	\$	30.15
Key Assumptions												
CV growth of EPS		2.50%										
CV Year ROE		25.49%										
Cost of Equity		9.96%										
Future Cash Flows												
P/E Multiple (CV Year)												12.09
EPS (CV Year)											\$	30.15
Future Stock Price											\$	364.41
Dividends Per Share	\$	3.50	\$ 3.70	\$ 3.90	\$ 4.10	\$ 4.30	\$ 4.50	\$ 4.70	\$ 4.90	\$ 5.10		
Discounted Cash Flows	\$	3.18	\$ 3.06	\$ 2.93	\$ 2.80	\$ 2.67	\$ 2.55	\$ 2.42	\$ 2.29	\$ 2.17	\$	155.04
Intrinsic Value as of Last FYE	\$	179.12										
Implied Price as of Today	· ·	18/ //7										

Implied Price as of Today \$ 184.47

### **Relative Valuation Models**

			EPS	EPS		
Ticker	Company	Price	2025E	2026E	P/E 25	P/E 26
🛍 INTEL	Intel	\$ 19.66	\$0.49	\$1.16	40.11	16.94
🛱 BROAD	Broadcom	\$169.43	\$6.63	\$7.88	25.56	21.50
🛍 ADVAN	AMD	\$ 86.67	\$4.68	\$6.21	18.52	13.96
🛍 NXP	NXP Semiconducters	\$174.73	\$11.90	\$14.24	14.68	12.27
🛍 MARVE	Marvel Technology	\$ 50.88	\$2.82	\$3.69	18.04	13.79
🛱 ANALO	Analog Devices	\$178.52	\$7.16	\$8.76	24.93	20.38
盦 ARM-	ARM Holdings	<del>\$ 101.19</del>	<del>\$1.62</del>	- <del>\$2.04</del> -	<del>- 62.46</del> -	49.60
🛱 <del>Taiwan</del>	Taiwan Semiconductors	<del>\$151.99</del>	<del>\$60.04</del>	- <del>\$71.37</del>		2.13
				Average	23.64	16.47
<b>窟 QUALC</b>	Qualcomm	\$138.49	\$10.78	\$11.28	12.8	12.3
Implied Re	lative Value:			Weight	Weighted	
P/E (EPS2	!5)		\$ 254.87	0.50	127.4	
P/E (EPS2	:6)		\$ 185.87	0.50	92.9	
				Average:	\$ 220.37	

Sensitivity Tables

		Automotive Revenue Growth 2025E												
	242.68	34.0%	36.0%	38.0%	40.0%	42.0%	44.0%	46.0%						
	37.5%	241.27	245.03	249.00	253.20	257.63	262.30	267.23						
o of 25E	38.0%	237.96	241.66	245.57	249.69	254.05	258.64	263.49						
as % e 202	38.5%	234.66	238.30	242.13	246.19	250.47	254.98	259.75						
s a ue	39.0%	231.36	234.93	238.70	242.68	246.89	251.33	256.01						
COGS a revenue	39.5%	228.06	231.56	235.27	239.18	243.31	247.67	252.26						
ŭ ē	40.0%	224.75	228.19	231.83	235.67	239.73	244.01	248.52						
	40.5%	221.45	224.83	228.40	232.17	236.15	240.35	244.78						

Equity Risk Premium

% Long Term Debt

43%

250.22

248.30

246.41

244.55

242.71

240.89

239.10

45%

251.37

249.36

247.39

245.44

243.52

241.63

239.76

		Equily rubit Formati					
242.68	3.60%	3.85%	4.10%	4.35%	4.60%	4.85%	5.10%
7.0%	307.54	292.13	278.11	265.29	253.53	242.71	232.71
9.0%	299.08	284.02	270.31	257.78	246.28	235.71	225.94
11.0%	290.59	275.87	262.48	250.24	239.02	228.69	219.16
13.0%	282.07	267.70	254.63	242.68	231.73	221.65	212.35
15.0%	273.52	259.51	246.75	235.10	224.42	214.60	205.53
17.0%	264.95	251.29	238.86	227.50	217.10	207.53	198.70
19.0%	256.35	243.04	230.94	219.88	209.75	200.43	191.84
	7.0% 9.0% 11.0% 13.0% 15.0% 17.0%	7.0%307.549.0%299.0811.0%290.5913.0%282.0715.0%273.5217.0%264.95	7.0%307.54292.139.0%299.08284.0211.0%290.59275.8713.0%282.07267.7015.0%273.52259.5117.0%264.95251.29	7.0%307.54292.13278.119.0%299.08284.02270.3111.0%290.59275.87262.4813.0%282.07267.70254.6315.0%273.52259.51246.7517.0%264.95251.29238.86	7.0%307.54292.13278.11265.299.0%299.08284.02270.31257.7811.0%290.59275.87262.48250.2413.0%282.07267.70254.63242.6815.0%273.52259.51246.75235.1017.0%264.95251.29238.86227.50	7.0%307.54292.13278.11265.29253.539.0%299.08284.02270.31257.78246.2811.0%290.59275.87262.48250.24239.0213.0%282.07267.70254.63242.68231.7315.0%273.52259.51246.75235.10224.4217.0%264.95251.29238.86227.50217.10	7.0%307.54292.13278.11265.29253.53242.719.0%299.08284.02270.31257.78246.28235.7111.0%290.59275.87262.48250.24239.02228.6913.0%282.07267.70254.63242.68231.73221.6515.0%273.52259.51246.75235.10224.42214.6017.0%264.95251.29238.86227.50217.10207.53

WACC

	WACC							
242.68	7.91%	8.41%	8.91%	9.41%	9.91%	10.41%	10.91%	
1.00%	275.57	253.65	234.63	217.97	203.28	190.24	178.60	
1.50%	288.54	264.31	243.47	225.37	209.53	195.54	183.13	
2.00%	303.71	276.63	253.59	233.77	216.56	201.47	188.16	
2.50%	321.68	291.03	265.29	243.39	224.54	208.15	193.80	
3.00%	343.31	308.10	278.98	254.50	233.67	215.74	200.15	
3.50%	369.84	328.65	295.19	267.50	244.23	224.41	207.35	
4.00%	403.17	353.85	314.70	282.90	256.58	234.45	215.59	

242.68	33%	35%	37%	39%	41%
3.7%	244.45	245.60	246.76	247.91	249.06
4.2%	242.96	244.03	245.10	246.17	247.23
4.7%	241.48	242.47	243.46	244.44	245.43
5.2%	240.03	240.93	241.84	242.74	243.65
5.7%	238.58	239.41	240.24	241.06	241.89
6.2%	237.16	237.91	238.66	239.41	240.15

236.42

Risk Free Rate							
	3.60%	3.85%	4.10%	4.35%	4.60%	4.85%	5.10%
	347.83	329.88	313.58	298.70	285.08	272.56	261.02
	320.09	304.65	290.53	277.58	265.65	254.63	244.42
	296.18	282.77	270.43	259.05	248.52	238.76	229.67
	275.38	263.62	252.75	242.68	233.33	224.61	216.48
	257.11	246.73	237.09	228.12	219.76	211.94	204.61
	240.96	231.73	223.12	215.09	207.57	200.52	193.89
	226.59	218.33	210.60	203.36	196.57	190.18	184.16

Pre Tax Cost of

Debt

6.7%

235.75

### Handset Revenue Growth 2025E

237.77

238.44

	242.68	4.5%	5.0%	5.5%	6.0%	6.5%	7.0%	7.5%
	8.5%	235.18	237.14	239.14	241.17	243.25	245.36	247.52
	9.0%	235.68	237.64	239.63	241.67	243.74	245.86	248.01
Зщ	9.5%	236.18	238.14	240.13	242.17	244.25	246.36	248.52
2025E	10.0%	236.69	238.65	240.65	242.68	244.76	246.87	249.03
2	10.5%	237.22	239.17	241.17	243.21	245.28	247.40	249.55
	11.0%	237.75	239.71	241.70	243.74	245.81	247.93	250.09
2	11.5%	238.29	240.25	242.25	244.28	246.36	248.47	250.63

237.10

Beta

242.68 0.99 1.09 1.19

> 1.29 1.39 1.49 1.59