# Qualcomm's Patent-Powered Business

## Idea In Short

Qualcomm makes money in a way most chip companies do not: it collects a royalty on the large majority of the world's smartphones whether or not those phones use a Qualcomm-made chip. That licensing business, built on patents covering the CDMA and 5G standards Qualcomm helped develop, sits alongside a separate chipmaking business that supplies Snapdragon processors to Samsung, Xiaomi and other Android manufacturers. The combination survived a $117 billion hostile takeover attempt by Broadcom that the US government blocked on national security grounds in 2018 and a bruising patent fight with Apple that ended in a 2019 settlement. Apple is now building its own modems to replace Qualcomm's chips inside iPhones, a transition Qualcomm has been preparing for by pushing into automotive, industrial and AI data center chips well beyond the smartphone market it built its name on.

## From Satellite Trucking to Cellular Standard

Irwin Jacobs, Andrew Viterbi and five colleagues founded Qualcomm in San Diego on July 1, 1985, naming the company for "quality communications" after leaving their previous venture, Linkabit.1 The company's first commercial success, launched in 1989, was OmniTRACS, a satellite system that let trucking companies track and communicate with their fleets, an unglamorous business that generated the cash Qualcomm needed to pursue a much larger bet. That bet was Code Division Multiple Access, a technology originally used for secure military communications that Jacobs believed could let far more phone calls share the same wireless spectrum and Qualcomm spent the 1990s turning CDMA into the foundation for the world's 3G and 4G networks.

## The Licensing Machine

Qualcomm's patents on CDMA and the wireless standards that followed became the basis for Qualcomm Technology Licensing, a division that collects a royalty from phone

manufacturers on nearly every smartphone sold, regardless of whether that phone uses a Qualcomm chip. This arrangement means Qualcomm earns revenue from Apple's iPhones, Samsung's Galaxy line and budget Android phones alike, since all of them rely on wireless standards built on Qualcomm-held patents.

> A company doesn't need to sell you a chip to profit from your phone. It only needs a patent the chip has to use

That structure gave Qualcomm a business with far higher margins than chip manufacturing alone, but it also made the company a frequent target of antitrust complaints and licensing disputes from customers who argued the royalty rates amounted to a tax on the industry.

## Blocking a Hostile Takeover

Broadcom launched a hostile bid to acquire Qualcomm in November 2017, eventually valuing the offer at $117 billion, which would have been the largest technology acquisition in history at the time. President Trump blocked the deal by executive order on March 12, 2018, acting on a recommendation from the Committee on Foreign Investment in the United States, which cited national security concerns tied to Broadcom's relationships in China and the risk of ceding 5G leadership.2 The blocked deal left Qualcomm independent but exposed to continued activist pressure over its licensing rates, a debate that would soon escalate into open litigation with its largest customer.

## The Apple Fight and Settlement

Apple sued Qualcomm in January 2017, alleging the company charged excessive licensing fees and withheld promised rebates, a dispute that expanded into parallel cases involving Apple's contract manufacturers and regulators worldwide. By the time the case neared trial, Apple and its manufacturers claimed billions in overpaid royalties while Qualcomm counterclaimed billions in unpaid fees. The two companies settled abruptly in April 2019, dropping all litigation worldwide and signing a six-year patent license agreement alongside a multiyear chip supply deal.3

## Snapdragon and the Smartphone Chip Business

Qualcomm's chip division, Qualcomm CDMA Technologies, sells the Snapdragon line of processors that power a large share of the world's Android smartphones, from flagship devices made by Samsung to budget phones sold by regional manufacturers. Snapdragon chips combine a processor, modem and graphics capability into a single package, letting phone makers avoid sourcing and integrating those components separately. This chip business generates far more total revenue than licensing but carries lower margins, since it competes directly against MediaTek in budget and mid-range segments and against Apple's own silicon at the high end.

## Losing Apple's Modem Business

Apple began shipping its own in-house modem, the C1, inside the iPhone 16e in 2025, followed by the more advanced C1X in later devices, a transition that directly reduces Qualcomm's chip revenue from what had been its most closely watched customer relationship. Qualcomm's existing supply agreement with Apple runs through 2027, but the company has told investors that Apple's modem revenue will decline faster than originally expected as Apple's in-house chips reach more of its device lineup.4 Qualcomm executives have downplayed the impact publicly, arguing that growth elsewhere in the business offsets the loss of a customer that once represented roughly a fifth of chip division revenue.

## Betting Beyond the Smartphone

Qualcomm has pushed automotive and Internet of Things revenue as its answer to smartphone market maturity, reporting automotive revenue growth above 20% in recent quarters on the strength of new vehicle design wins with automakers including BMW and IoT revenue growth driven partly by AI-enabled devices such as Meta's smart glasses.5 The company has set a target of $40 billion in combined non-handset chip revenue by fiscal 2029 and is separately pursuing AI data center chips, an area where it faces established competitors but sees an opening as cloud providers look to diversify beyond Nvidia for inference workloads. Whether that diversification scales fast enough to offset a shrinking smartphone chip business, particularly the Apple relationship, remains the central question for Qualcomm's next several years.

## Key Partners

Qualcomm's chip business depends on smartphone manufacturers such as Samsung, Xiaomi and Motorola integrating Snapdragon processors into their devices, while its licensing business depends on virtually every phone maker as a royalty-paying counterparty. Wireless carriers partner with Qualcomm on network equipment and bundled device offerings and automakers including BMW have become increasingly important partners as the automotive chip business grows. Universities and research institutions collaborate with Qualcomm on wireless and AI research, while foundries such as TSMC manufacture the chips Qualcomm designs but does not produce itself.

## Key Activities

Research and development sits at the center of Qualcomm's business, since both its licensing revenue and its chip sales depend on maintaining a technical edge in wireless and computing patents. Chip design and product engineering for the Snapdragon line, along with the intellectual property management needed to license patents and enforce them when necessary, represent major ongoing activities. Sales and marketing efforts span two very different customer relationships, one built around technical integration with device makers and another built around licensing negotiations with those same companies. Legal activities, including patent litigation and licensing dispute resolution, have historically consumed significant company resources given Qualcomm's history of high-profile legal battles.

## Key Resources

Qualcomm's patent portfolio, covering CDMA, 5G and a wide range of other wireless and computing technologies, is its single most valuable resource and the direct source of its licensing revenue. Its research and development capability, including deep expertise in modem and radio-frequency engineering, underpins both the licensing business and the Snapdragon chip line. A highly skilled workforce concentrated in wireless engineering and semiconductor design gives Qualcomm technical capacity that is difficult for newer entrants to replicate quickly. Brand recognition among device makers and carriers, built over decades as the default supplier for premium Android smartphones, rounds out its core resources.

## Value Propositions

For smartphone manufacturers, Qualcomm offers integrated processors, modems and

connectivity solutions that reduce the complexity of sourcing components separately, along with access to the latest 5G and AI features. For wireless carriers, Qualcomm provides network equipment and software that improve performance while offering licensing arrangements that generate revenue independent of hardware sales. For automotive and IoT manufacturers, Qualcomm offers energy-efficient connectivity and processing solutions suited to vehicles, wearables and industrial devices. Across nearly every segment, Qualcomm's underlying value proposition rests on patented technology that customers cannot easily source elsewhere without licensing it directly.

## Customer Relationships

Qualcomm maintains technical, engineering-driven relationships with device manufacturers, often collaborating years ahead of a product launch on chip and modem specifications tied to a customer's roadmap. Licensing relationships operate on a different track, built around long-term contracts, royalty negotiations and, at times, adversarial litigation when customers dispute rates, as Apple did before its 2019 settlement. Wireless carriers and automotive partners engage Qualcomm through joint development programs, particularly in automotive where design wins require multiyear engineering commitments before a vehicle reaches production. Customer support and technical consulting services supplement these relationships, helping customers integrate Qualcomm's chipsets and technologies into finished products.

## Channels

Qualcomm sells chips primarily through direct sales relationships with major device manufacturers rather than through retail or consumer-facing channels. Distributors handle smaller-volume sales to regional device makers and industrial customers who need smaller quantities than Qualcomm's largest accounts. Wireless carriers function as a channel in their own right, bundling Qualcomm-powered devices and services for end customers. Online channels, including Qualcomm's website and investor relations platform, support technical documentation, licensing inquiries and direct engagement with smaller customers and developers.

## Customer Segments

Mobile device manufacturers, ranging from Samsung and Xiaomi to smaller regional Android

brands, represent Qualcomm's largest customer segment for both chips and licensing. Wireless carriers form a distinct segment, purchasing network infrastructure and software while also benefiting from Qualcomm's licensing arrangements with device makers. Automotive, industrial and IoT manufacturers make up a fast-growing segment as Qualcomm pushes connectivity and processing solutions into vehicles, wearables and industrial equipment. Cloud and data center operators represent an emerging segment as Qualcomm pursues AI inference chips beyond its traditional mobile focus.

## Cost Structure

Research and development spending represents Qualcomm's largest recurring cost, reflecting the technical intensity required to stay ahead in wireless standards, chip design and now AI computing. Product design and manufacturing costs, largely outsourced to foundry partners such as TSMC, scale with chip sales volume rather than remaining fixed. Legal expenses tied to patent enforcement and licensing disputes have historically represented a meaningful cost given Qualcomm's litigation history with customers including Apple and its involvement in antitrust proceedings in multiple countries. Sales, marketing and administrative costs support Qualcomm's dual relationships with both licensing counterparties and chip customers.

## Revenue Streams

Licensing revenue, collected through Qualcomm Technology Licensing as a royalty on patented wireless technology, remains one of Qualcomm's highest-margin revenue streams despite representing a smaller share of total revenue than chip sales. Chipset sales through Qualcomm CDMA Technologies, covering Snapdragon processors and modems for smartphones, automotive and IoT devices, generate the larger share of total revenue. Services revenue, including software development support and technical consulting for customers building on Qualcomm's platforms, contributes a smaller but growing stream. Automotive and IoT chip revenue, now reported with meaningful growth rates, increasingly functions as a distinct stream separate from the traditional smartphone chip business.

- 1Qualcomm's founding and early leadership
- 2Trump's order blocking Broadcom's Qualcomm bid
- 3Qualcomm and Apple's 2019 settlement
- 4Apple's accelerated in-house modem transition

- 5Qualcomm's automotive and IoT diversification results

## Summary

Qualcomm's business still rests on two pillars that operate almost independently: a licensing arm collecting royalties on patented wireless technology and a chip business selling Snapdragon processors into a market it no longer controls uncontested. Apple's move to in-house modems removes a customer that once represented a meaningful share of chip revenue, but Qualcomm has spent the past several years building automotive, Internet of Things and AI data center businesses specifically to reduce that dependence. Automotive revenue grew more than 20% in recent quarters on the strength of new vehicle design wins and IoT revenue benefited from demand for AI-enabled devices like smart glasses. Whether Qualcomm's diversification outpaces the decline in its most exposed smartphone relationship will determine if the company's next decade looks more like a chip supplier or a broader connectivity and computing licensor.