

Apple plans to drop key Broadcom chip to use in-house design

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Apple Inc.'s push to replace the chips inside its devices with homegrown components will include dropping a key Broadcom Inc. part in 2025, according to people familiar with the situation, dealing a blow to one of

its biggest suppliers.

As part of the shift, Apple also aims to ready its first cellular [modem chip](#) by the end of 2024 or early 2025, letting it swap out electronics from Qualcomm Inc., said the people, who asked not to be identified because the plans are private. Apple had been previously expected to replace the Qualcomm part as soon as this year, but development snags have pushed back the timeline.

Apple is Broadcom's largest customer and accounted for about 20% of the chipmaker's revenue in the last fiscal year, amounting to almost \$7 billion. Qualcomm got 22% of its annual sales from the iPhone maker, representing nearly \$10 billion, though that [company](#) has warned for years that its Apple reliance will wane.

Shares of Broadcom fell as much as 4.7% on the news before paring their decline. The shares closed at \$576.89, down 2%. Qualcomm slid as much as 1.6% before closing at \$114.61, down 0.6%. Apple rose 0.4% to \$130.15.

The moves will further upend a chip industry that makes billions of dollars supplying Apple components. Already, the world's most valuable tech company has removed most Intel Corp. processors from its Mac computers, opting instead to use in-house chips known as Apple Silicon. Now the changes are hitting the biggest makers of wireless electronics.

The iPhone is Apple's top moneymaker, generating more than half of its \$394.3 billion in revenue last year. The phone also has helped fuel growth at Broadcom, which refers to Apple as its "large North American customer" during earnings calls. The chipmaker makes a combined component that handles both Wi-Fi and Bluetooth functions on Apple devices.

Apple is developing an in-house replacement for that chip and is aiming to start using it in its devices in 2025, the people said. In addition, it's already working on a follow-up version that will combine cellular modem, Wi-Fi and Bluetooth capabilities into a single component.

A representative for Cupertino, California-based Apple declined to comment. Broadcom and Qualcomm didn't have an immediate comment.

Broadcom still supplies Apple with other components—including radio-frequency chips and ones that handle wireless charging—though the iPhone maker has been working on customizing those parts as well.

During a conference call last month, Broadcom Chief Executive Officer Hock Tan expressed confidence that his company will maintain its foothold at Apple.

"We believe we have the best technology and delivering value to our customers," he said. "There's no reason to find something else where you're not the best."

With the shift away from Qualcomm modems, Apple plans to initially just use its homegrown component in one new product, such as a high-end iPhone model. It will then gradually move away from Qualcomm modems during a period it anticipates will take about three years—similar to how it handled past transitions.

But the swap hasn't been easy so far. After aiming to launch its own cellular modem by this year, the company faced problems with overheating, battery life and getting the component validated. The iPhone currently works with more than 100 wireless carriers in over 175 countries, which necessitates a lengthy and cumbersome testing process.

A cellular modem is what allows iPhones to handle [phone calls](#) and connect to the internet while away from Wi-Fi, making it the most critical part of the device for most people. If Apple's offering is inferior to Qualcomm's component, it could put the company's flagship product at a significant disadvantage.

The long transition also could put Apple in a tricky position. The company will still need to rely on Qualcomm for several years as it replaces the [component](#) in various devices.

Apple first started work on its modem around 2018, opening an office in San Diego near Qualcomm's headquarters. To speed up development, the company acquired Intel's modem unit in 2019 for \$1 billion and opened additional offices in key areas known for wireless technology development.

The Wi-Fi and Bluetooth chip effort is newer, and a release will take longer. But Apple has already made some wireless chips in the past, including the H2 processor found in AirPods and the W3 chip found in Apple Watches.

Apple and Qualcomm were embroiled in a legal war over royalties and patents related to modems until a settlement in 2019. At the time, Apple deemed the truce necessary to bring 5G support to the iPhone in 2020. The companies agreed that Qualcomm would supply parts to Apple through 2024.

Apple also has had a strained relationship with Broadcom. Tan, the chipmaker's CEO, has a reputation for tough negotiations and forced some customers to commit to noncancelable orders during the pandemic-fueled supply crunch.

In 2020, Apple said it was spending a total of \$15 billion on purchases of

Broadcom chips in an arrangement running through the middle of 2023. But despite Apple being Broadcom's top customer, Tan's commitment to the market has occasionally wavered. Prior to the 2020 agreement, Tan indicated that Broadcom might divest the business that supplies chips to Apple.

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