



2 x 2 MIMO Wi-Fi®
Combination
Radio Chip with
802.11ac, Bluetooth®
and Wireless

NXP® 88W8897 2 x 2 Wi-Fi 802.11ac + Bluetooth SoC

The NXP 88W8897 802.11ac mobile MIMO combo wireless solution is a dual-band (2.4/5 GHz) IEEE® 802.11a/b/g/n/ac 2 x 2 System-on-Chip (SoC), specifically designed to support the reliability and quality requirements of next-generation, very high throughput (VHT) WLAN products.

PRODUCT OVERVIEW

Built to vastly improve mobile computing and high-definition multimedia applications, The 88W8897 2 x 2 combination low-power radio chip delivers the seamless wireless connectivity that gives consumers that “Always On, Always Connected”(AOAC) experience wherever they go. This SoC creates that experience by pairing today’s most cutting-edge wireless technology — Bluetooth 5.0 — with mobile multiple input multiple output (MIMO), transmit beamforming and support for WI-FI CERTIFIED Miracast™ specification for point-to-point HD video streaming.

This 88W8897 SoC includes advanced power management features and is designed specifically for ultrabooks, gaming consoles and smart TVs. Additionally, this SoC offers one of the highest levels of integration available and enables a footprint reduction of 40-to-50 of 75 percent compared to previous wireless solutions.

The 88W8897 single-chip WLAN/Bluetooth® solution provides both simultaneous and independent operation of the following:

- ▶ IEEE 802.11ac (draft) compliant, 2 x 2 MIMO spatial stream multiplexing with data rates up to MCS9 (866.7 Mbit/s)
- ▶ Bluetooth 5.0 + EDR/BDR/high-speed/low-energy dual-mode controller

In addition, internal coexistence arbitration and a mobile wireless systems (MWS) serial transport interface provide the functionality for connecting an external long-term evolution (LTE) device. For security, the 802.11i security standard is supported through several protocols. For video, voice, and multimedia applications, 802.11e Quality of Service (QoS) is supported. Dynamic rapid channel switching (DRCS) is also available, enabling concurrent STA, AP and Wi-Fi Direct GO operating modes in separate channels. The device supports 802.11h dynamic frequency selection (DFS) for detecting radar pulses when operating in the 5 GHz range. Generic interfaces include high-speed inter-chip (HSIC), USB 2.0, SDIO 3.0, low-power PCI Express®, high-speed UART and PCM interfaces for connecting WLAN and Bluetooth to the host processor. The device is available in QFN and CSP flip chip package options.



APPLICATIONS

A number of electronic devices will significantly benefit from the 88W8897 chip, especially ultrabooks, gaming consoles and smart TVs. For example, the chip is capable of performing at data rates up to 867 Mbit/s, which allows consumers to transmit multiple HD videos in tandem. Wireless chips with capabilities transform mobile devices into electronic wallets, enabling e-commerce from consumer electronic platforms. Mobile MIMO extends the range of Wi-Fi connectivity and 11ac increases the performance of wireless devices by nearly 3x as compared to 11n, therefore enabling reliable video streaming, live gaming and improving overall connectivity in the home and on the go.

By leveraging WI-FI CERTIFIED Miracast™ and DRCS, consumers can stream video on an ultrabook while simultaneously surfing the Internet, but without losing the connection. In addition, when paired with ultrabooks, the 88W8897 chip enables constant connectivity, keeping e-mail, social media and digital content up-to-date even when a device is in standby mode — a capability lacking in today's personal computing products. By coupling the NXP full Wi-Fi offload solution with Windows® 8 features such as Wake On Wireless functionality and connected standby, the 88W8897 chip meets the demands of today's consumer and delivers the AOAC computing experience.