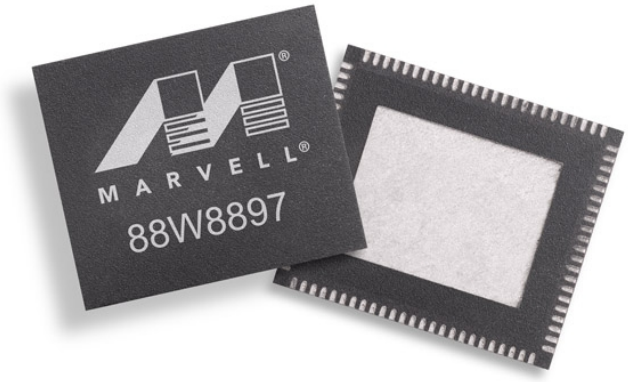
Low Power, 802.11ac Combination Radio Chip Improves Multimedia Experience



The Marvell Avastar 88W8897 is a low power, 802.11ac combination radio chip engineered to vastly improve the mobile computing and high-definition multimedia experience for consumers and deliver the Always On, Always Connected (AOAC) wireless experience wherever they go. It is a dual-band (2.4/5 GHz) IEEE 802.11a/b/g/n/ac 2x2 System-on-Chip (SoC), specifically designed to support the reliability and quality requirements of next-generation, Very High Throughput (VHT) WLAN products.

This is achieved by pairing today's most cutting edge wireless technologies – near field communications (NFC) and Bluetooth 4.0 – with mobile multiple input multiple output (MIMO), transmit beamforming and support for the upcoming WI-FI CERTIFIED Miracast™ specification for point to point HD video streaming. This latest addition to the Avastar family of solutions includes advanced power management features and is designed specifically for ultrabooks, tablets, gaming consoles and smart TVs.

Additionally, the 88W8897 system on-a-chip (SoC) offers the highest level of integration available, which enables a footprint reduction of 40-to-50 percent and a rest of bill of materials (RBOM) cost reduction of 75 percent compared to previous wireless solutions.

Key features of Marvell's Avastar 88W8897 chip include:

- IEEE 802.11ac (draft) compliant, 2x2 MIMO spatial stream multiplexing with data rates up to MCS9 (866.7 Mbps)– This standard significantly increases bandwidth available over the Wi-Fi link, extending wireless capabilities to a variety of new use cases such as reliable high-definition (HD) video via Wireless Display, TDLS and high speed wireless backup and sync for mobile devices. By leveraging 802.11ac, Marvell's 88W8897 chip is ideal for home digital applications including video and is capable of performing at 1 Gbps of raw data rates – allowing consumers to transmit

three HD videos in tandem.

- Near field communication (NFC) connectivity technology, per NFC Forum specification, for short-range, contactless communication – As a pivotal component of Marvell's 88W8897 combination radio chip, NFC will be used as an out of band authentication channel for other radios, for cashless payments and point of sale (e-wallet) applications. This technology simplifies the pairing of two wireless-enabled devices when used as an authentication channel and replaces a credit card when deployed in smartphones, enabling a one tap e-commerce experience.
- Bluetooth 4.0 + EDR/BDR/High-speed/Low Energy Dual Mode Controller

Additional 88W8897 solution advantages include:

- Includes two spatial streams and an 867 Mbps maximum bitrate
- Delivers connectivity speeds three times faster than 802.11n 2x2 legacy chips and six times faster than LTE
- Provides dual support in the 2.4 and 5 GHz bands
- Delivers complete FE integration (including PA) and power management
- Reduces RBOM cost by 75 percent and solution footprint by 40 percent
- Includes an integrated location engine
- Delivers accurate indoor positioning using Wi-Fi 11v ToA
- Delivers more than two times the efficiency in high-speed mode compared to 802.11n devices
- Includes SDIO3.0 with 208Mhz and a low-power PCIe, USB / HSIC

www.marvell.com [1]

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