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Marvell Launches Industry's Smallest, Most Power Efficient, MU-MIMO Wireless Connectivity Combo for Enterprise and Consumer Markets

Marvell's advanced Avastar 88W8997 is the industry's first 28nm 2x2 802.11ac Wave-2 combo with full featured indoor location capabilities

SANTA CLARA, Calif. and TAIPEI, Taiwan, June 1, 2015 /PRNewswire/ -- Marvell (NASDAQ:MRVL) - a worldwide leader in providing complete silicon solutions from mobile communications to storage, Internet of Things (IoT), cloud infrastructure, digital entertainment, in-home content delivery and [Kinoma](#)® software enabling the "Smart Life and Smart Lifestyle" – today announced Avastar® 88W8997, the industry's smallest, most power efficient, MU-MIMO wireless connectivity combo for enterprise and consumer markets. The 88W8997 is the industry's first 28nm 2x2 802.11ac Wave-2 combo with full support for Bluetooth 4.2, as well as additional features anticipated to be in the future Bluetooth 5.0 release.

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"Today's consumers expect and demand high-performance, robust, secure and seamless connectivity between all their connected devices at all times. Marvell has a proven track record as a leading Wi-Fi SoC provider for the mass enterprise and consumer markets," said Philip Poulidis, Vice President and General Manager, Wireless and Internet of Things Business Units at Marvell. "Our industry-leading 28nm 2x2 802.11ac Wave-2 combo SoC significantly increases bandwidth available over the Wi-Fi link and network capacity for densely populated environments, extending wireless capabilities to a variety of new use cases such as real-time video streaming, peer-to-peer gaming and media sharing."

The new industry-leading solution achieves 867-Mbps peak data rate over a robust 2x2 MU-MIMO (Multi User – Multiple Input Multiple Output) link, targeting flagship smartphones, tablets, mobile computing, gaming, TV, and set-top box applications. The 88W8997 features one of the highest levels of integration in the market, including dual band power amplifiers (PAs), low noise amplifiers (LNAs) and switches reducing board-level BOM (Bill of Materials) to the bare minimum, enabling easy chip-on-board and module designs for broad markets. Low-power 28nm process technology and enhanced transmit path efficiency significantly reduce power consumption by up to 40% over existing solutions, benefiting battery-powered mobile and computing products that need to deliver both uninterrupted wireless performance and long battery life. The 88W8997 supports advanced signal processing that further enhances link robustness with LDPC, STBC, and transmit beamforming for both transmit and receive use cases.

The 88W8997 also extends beyond the existing Bluetooth 4.2 feature set and supports advanced and future-proof features such as Bluetooth Low Energy (BLE) Direction Finding, 2Mbps LE, and LTE Coex – part of the upcoming Bluetooth 5.0 Shanghai release being planned for 2016 launch. In addition, 88W8997 supports Marvell's BLE Snooze mode, enabling ultra-low power BLE connectivity.

Key Features of Marvell's Avastar 88W8997 SoC include:

- **Versatile device addressing the needs of broad market segments and applications:**
 - Multiple high-speed host interfaces – SDIO3.0, low power PCIe, USB3.0 host interfaces
 - Module options including M.2 1216 and 2230, SIP module as well chip-on-board design
 - Supports Android, Chrome, Windows, and Linux operating systems
- **802.11ac Wave-2 with MU-MIMO:** This significantly increases bandwidth available over the Wi-Fi link and network capacity for densely populated environments, extending wireless capabilities to a variety of new use cases such as real-time video streaming, peer-to-peer gaming and media sharing. MU-MIMO allows simultaneous transmissions from an access point to multiple client devices, thereby recovering the peak throughput performance compromised due to time-sharing in the existing network. When connected to the recently announced 88W8964 chipset (4x4, 11ac Wave-2 MU-MIMO), the users see optimal performance of MU-MIMO.
- **Precise Indoor Location Solution:** The 88W8997 supports a full suite of precise indoor location and navigation technologies. It has support for the new IEEE 802.11mc standard for sub-1m location accuracy and ranging applications. At the same time, it has full support for BLE Direction Finding Angle of Arrival (AoA) and Angle of Departure (AoD) technologies, which will be part of future Bluetooth 5.0 release. BLE Direction Finding combined with 802.11mc can provide accurate indoor positioning for mobile and consumer electronics devices as well as for wireless infrastructure, enabling applications like location-based services, indoor navigation, friend finder, social gaming, asset and inventory tracking, targeted advertisements and capacity planning for venues.
- **Concurrent Applications Support:** Provides the ability for the device to have two independent radio links thereby enabling a single device to operate in Station and Access Point or Station and Peer-to-Peer mode, without compromising the 2x2 MIMO link for robust connectivity and range.
- **Spectrum Intelligence:** The 88W8997 includes an advanced spectrum intelligence feature, which can be used to detect radio frequency activity, identify interfering sources and help undertake mitigating actions.

Marvell will be demonstrating its connectivity solutions during Computex June 2–5, 2015 as part of its award-winning, diverse product portfolio advancing the delivery of cloud services throughout the ecosystem and powering today's revolutionary Smart devices.

About Marvell

Marvell (NASDAQ: MRVL) is a global leader in providing complete silicon solutions and Kinoma software enabling the "Smart Life and Smart Lifestyle." From mobile communications to storage, Internet of Things (IoT), cloud infrastructure, digital entertainment and in-home content delivery, Marvell's diverse product portfolio aligns complete platform designs with industry-leading performance, security, reliability and efficiency. At the core of the world's most powerful consumer, network and enterprise

systems, Marvell empowers partners and their customers to always stand at the forefront of innovation, performance and mass appeal. By providing people around the world with mobility and ease of access to services adding value to their social, private and work lives, Marvell is committed to enhancing the human experience.

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