

MARVELL® 88W9064 Family 802.11ax Wireless LAN SoC

Providing capacity and coverage needed for High Efficiency Wireless Platforms

PRODUCT OVERVIEW

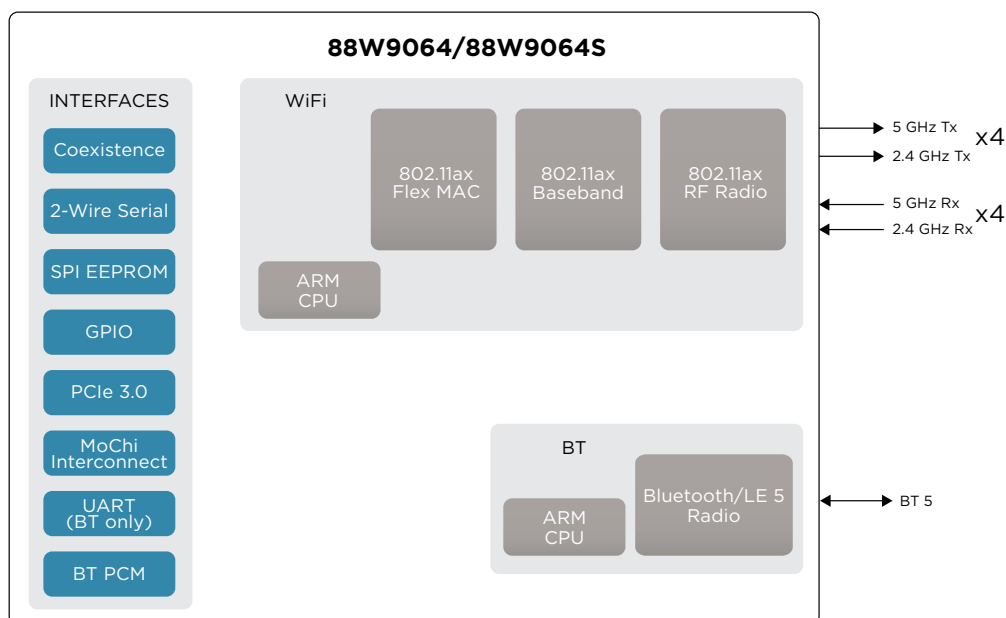
The 88W9064 family is part of the next evolution of our industry-leading Wi-Fi access solutions that have enabled generations of award-winning platforms. This device family provides the most advanced 802.11ax feature set. Drawing on the strength of our proven beamforming technologies, our MU-MIMO and OFDMA solutions help increase capacity not only for downlink traffic but also for uplink traffic. This allows for overall improved network utilization while meeting the growing demands of user applications.

The 88W9064 has a 4x4 configuration that supports a peak data rate of 2.4Gbps making it an integral part of next generation access points, broadband gateways and fixed wireless. The flexible architecture of this dual-band device enables advanced scheduling capabilities and guarantees 802.11ax standard compliance.

The dual-band 88W9064S has a 2x4 configuration that supports a peak data rate of 1.2Gbps (Tx) and 2.4Gbps (Rx) making it great option for next generation service provider and over-the-top set-top boxes. As with the 88W9064, 802.11ax standard compliance is guaranteed through the device's flexible architecture.

Other attributes of the 88W9064 family includes integrated Bluetooth®5 and precision device location provides accurate positioning within 1 meter and 10 degrees. BT5 supports classic Bluetooth and Bluetooth low energy with features like long range and direction finding using angle of arrival (AoA) and angle of departure (AoD). The added Bluetooth capability can be leveraged to provide a more cost-effective and complete solution for users' connectivity needs.

BLOCK DIAGRAM



KEY FEATURES AND BENEFITS

| FEATURES | 88W9064 | 88W9064S |
|---------------------------------|---|---|
| Wi-Fi | <ul style="list-style-type: none"> • IEEE 802.11ax, 802.11ac Wave 2, 802.11a/b/g/n • 20/40/80/160 (80+80) MHz channel bandwidths • 2.4Gbps peak data rate • Implicit and explicit beamforming | <ul style="list-style-type: none"> • IEEE 802.11ax, 802.11ac Wave 2, 802.11a/b/g/n • 20/40/80/160 (80+80) MHz channel bandwidths • 1.2Gbps peak data rate • Implicit and explicit beamforming |
| 802.11ax | <ul style="list-style-type: none"> • Downlink OFDMA and MU-MIMO • Uplink OFDMA and MU-MIMO • 1024 QAM • Spatial re-use • Range extension • DCM | <ul style="list-style-type: none"> • Uplink and Downlink OFDMA and MU-MIMO • 1024 QAM • Spatial re-use • Range extension • DCM |
| Flex MAC | <ul style="list-style-type: none"> • Adaptable architecture for standards evolution • Management of high number of traffic queues • Advanced scheduling | <ul style="list-style-type: none"> • Adaptable architecture for standards evolution |
| Bluetooth | <ul style="list-style-type: none"> • Support for 5 • Direction finding • Long range • Co-existence arbitration | <ul style="list-style-type: none"> • Support for 5 • Direction finding • Long range • Co-existence arbitration |
| Dedicated In-Service Monitoring | <ul style="list-style-type: none"> • Concurrent spectrum scanning • Zero wait DFS | |
| Precision Location | <ul style="list-style-type: none"> • Distance: within 1 meter • Angle: within 10 degrees | <ul style="list-style-type: none"> • Distance: within 1 meter • Angle: within 10 degrees |
| Host Interfaces | <ul style="list-style-type: none"> • MCI (2-Lane) • PCIe 3.0 (2-Lane) • High-Speed UART (for Bluetooth only) | <ul style="list-style-type: none"> • MCI (2-Lane) • PCIe 3.0 (2-Lane) • High-Speed UART (for Bluetooth only) |

TARGET APPLICATIONS

88W9064

- Enterprise & retail access points
- Broadband gateway
- Fixed wireless

88W9064S

- Service provider set-top box
- Over-the-top set-top box



ABOUT MARVELL: Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, networking and connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. For more information, visit www.marvell.com.