

# Marvell® 88W8987xA

Wi-Fi, Bluetooth 5 and 802.11p Combo Solutions for Vehicle-to-Everything (V2X) and In-Vehicle Infotainment (IVI)

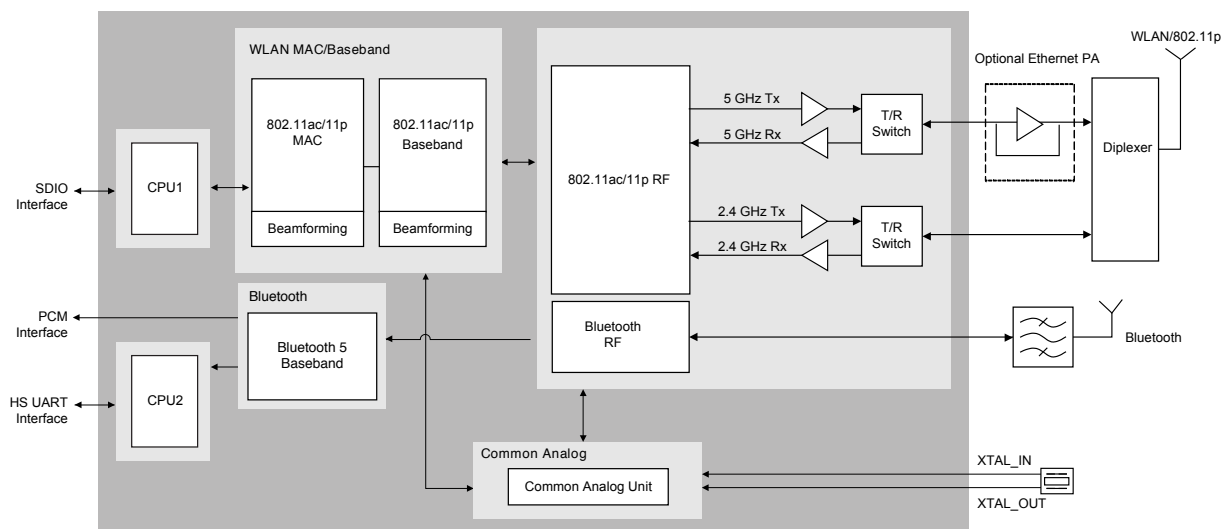
## PRODUCT OVERVIEW

The Marvell® 88W8987xA family of automotive wireless SoCs is a highly integrated IEEE 802.11ac(wave2)/ IEEE 802.11p transceiver and Bluetooth 5 single-chip footprint compatible combo solution, specifically designed to support the speed, reliability, and quality requirements of 1609.x/ Wireless Access in Vehicular Environments (WAVE)/Dedicated Short Range Communications (DSRC) systems, In-vehicle Infotainment systems and secure wireless Gateway systems.

Key features of the family of SoCs include:

- IEEE 802.11ac (wave2) / IEEE 802.11p WAVE
- Bluetooth 5
- 2-antenna configuration for best in class Wi-Fi/Bluetooth coexistence
- AEC-Q100 Grade 2 Qualification (-40°C to +105°C)
- 68-pin 8x8 mm QFN with wettable flanks

## BLOCK DIAGRAM



88W8987xA Automotive

## KEY FEATURES AND BENEFITS

FEATURES	BENEFITS
General Features	<ul style="list-style-type: none"> <li>• Virtual Dual MAC feature for simultaneous and power efficient operation in 2.4 GHz and 5 GHz to support applications</li> <li>• Independent download &amp; reset of IEEE 802.11ac/ IEEE 802.11p and Bluetooth firmware &amp; functions</li> <li>• Digital audio interfaces (PCM) for voice applications</li> </ul>
Wi-Fi	<ul style="list-style-type: none"> <li>• IEEE 802.11ac (Wave 2) with data rates up to 433 Mbps</li> <li>• 20/40/80 MHz channel bandwidth</li> <li>• 256 QAM (MCS 8, 9) support using LDPC</li> <li>• Dual band internal PA's &amp; integrated T/R switches</li> <li>• IEEE 802.11mc for distance and range finding</li> </ul>
802.11p	<ul style="list-style-type: none"> <li>• 10 MHz channel bandwidth</li> <li>• Integrated direct-conversion architecture eliminates need for external SAW filter</li> <li>• Enhanced channel &amp; pilot tracking for best in class receive performance under Doppler and Fading conditions</li> <li>• Internal PA with power control (external PA also supported)</li> </ul>
Bluetooth	<ul style="list-style-type: none"> <li>• Bluetooth Class 1/ Class 2 operation</li> <li>• Full master &amp; slave piconet and Scatternet support</li> </ul>
Bluetooth 5	<ul style="list-style-type: none"> <li>• LE Privacy 1.2 &amp; Secure Connection</li> <li>• LE Data Length &amp; Advertising Length Extension</li> <li>• 2 Mbps LE</li> <li>• Direction Finding—Connectionless Angle of Departure (AoD)</li> <li>• Direction Finding—Connection-oriented Angle of Arrival (AoA)</li> </ul>
Host Interfaces	<ul style="list-style-type: none"> <li>• SDIO 3.0 interface (4-bit SDIO and 1-bit SDIO) transfer modes at full clock range up to 208 MHz</li> <li>• High-Speed UART interface (for Bluetooth only)</li> </ul>

## TARGET APPLICATIONS

- In-vehicle Infotainment
- Telematics
- Vehicle-to-everything (V2X) communication
- Secure Connected Gateway

**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, network infrastructure, and wireless connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell's semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. For more information, visit [www.marvell.com](http://www.marvell.com).

**CONTACT US:** For additional information, please visit our website at [www.marvell.com](http://www.marvell.com) for a Marvell sales office or representative in your area.

