

# Marvell® 88W8987xA

Wi-Fi, Bluetooth 5.1 and 802.11p Combo Solutions for Vehicle-to-Everything (V2X) and In-Vehicle Infotainment (IVI)

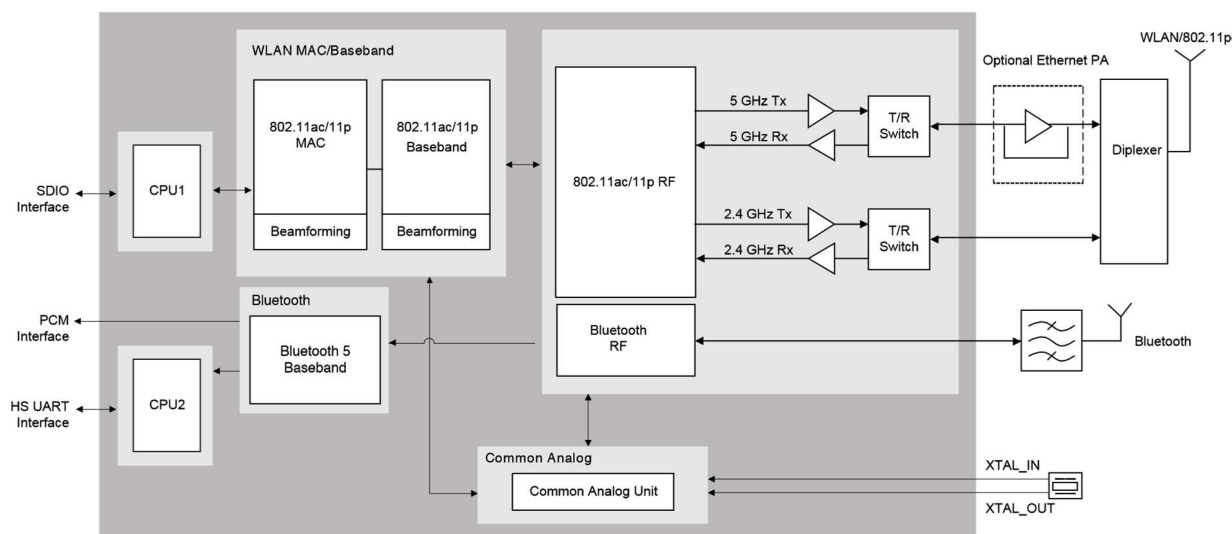
## PRODUCT OVERVIEW

The Marvell® 88W8987xA family of automotive wireless SoCs is a highly integrated IEEE 802.11ac(wave2) /IEEE 802.11p transceiver and Bluetooth 5.1 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, Invehicle Infotainment systems and secure wireless Gateway systems.

Key features of the family of SoCs include:

- IEEE 802.11ac (wave2) / IEEE 802.11p WAVE
- Bluetooth 5.1
- 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 Arrival (AoA)</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

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