



2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 Automotive Solution

AW611

Last Updated: Dec 23, 2025

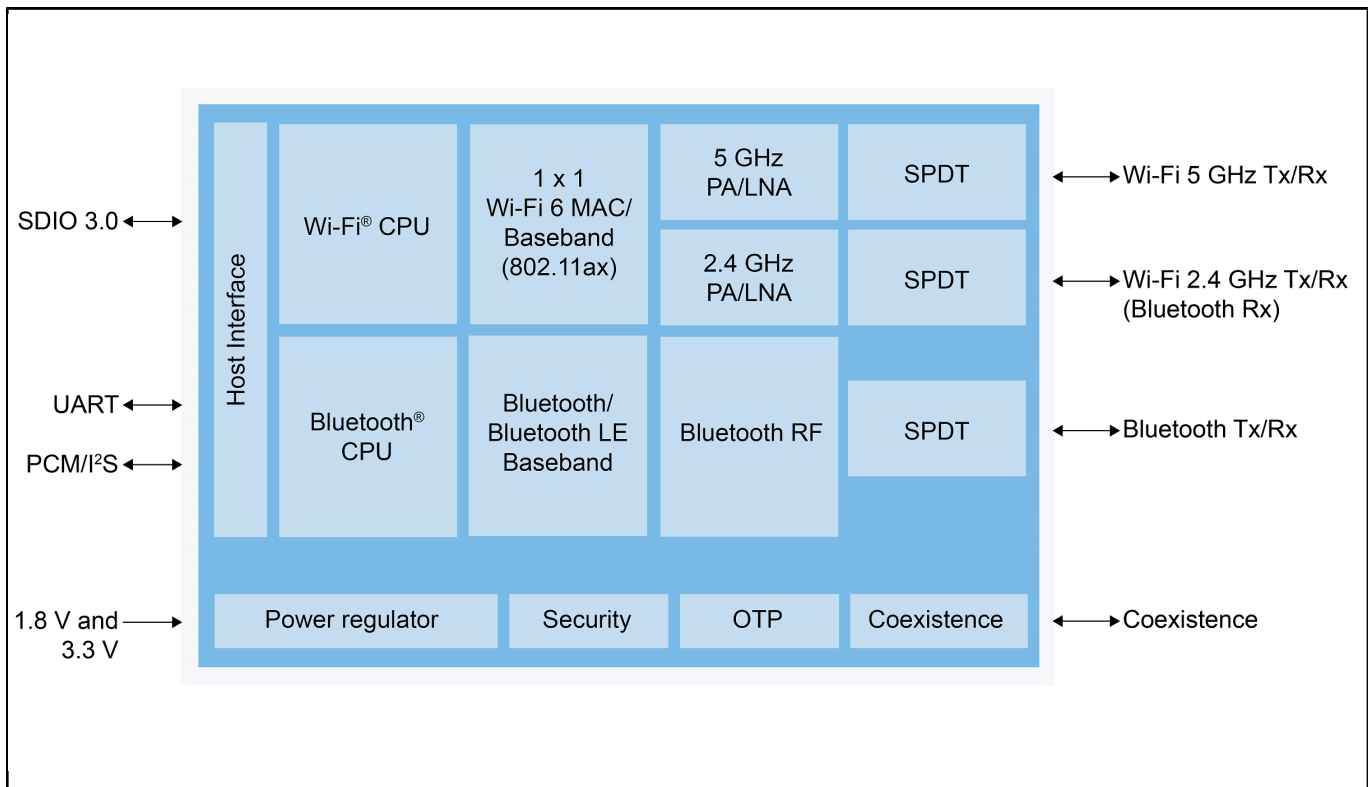
The AW611 is a highly integrated 2.4/5 GHz dual-band 1x1 Wi-Fi® 6 (802.11ax) and Bluetooth®/Bluetooth Low Energy 5.4 single-chip solution optimized for the automotive market with Automotive qualification. This high degree of integration contributes to very low system costs and a minimum external BOM while achieving efficient coexistence between all internal radios as well as external radios, such as LTE.

AW611 includes a full-feature Wi-Fi subsystem powered by NXP's 802.11ax (Wi-Fi 6) technology bringing higher throughput, better network efficiency, lower latency and improved range over previous generation Wi-Fi standards. The Wi-Fi subsystem integrates a Wi-Fi MAC, baseband, and direct-conversion radio with integrated PA, LNA and transmit/receive switch removing the need for an RF front-end module (FEMs) saving cost and reducing system complexity.

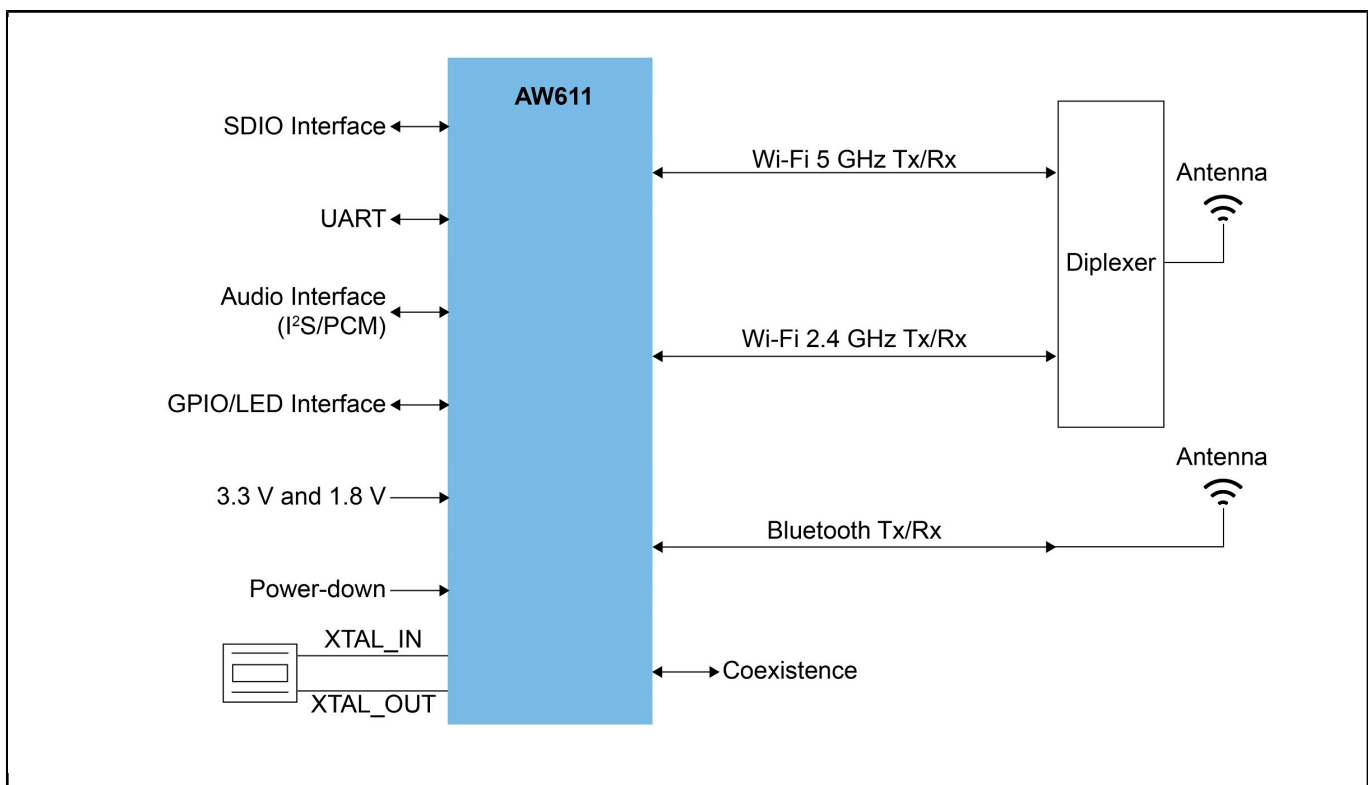
In addition to a Wi-Fi 6 radio, the AW611 integrates an independent Bluetooth 5.4 subsystem that supports both Bluetooth and Bluetooth Low Energy (LE). The device supports Bluetooth Profiles such as hands free (HFP), advanced audio distribution profile (A2DP) for audio streaming as well as additional profiles like dual wideband speech (WBS). For Bluetooth Low Energy, the AW611 supports 2 Mbit/s high-speed data rate, long range and extended advertising. In addition, LE Audio is supported using Isochronous channels for a better overall audio experience.

The AW611 integrates dedicated CPUs and memories for both the Wi-Fi and Bluetooth subsystems, which enables real time, independent protocol processing. SDIO and UART interfaces are supported for connection to external Host processors.

AW611 Block Diagram



AW611 - Dual Antenna Block Diagram



View additional information for [2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 \(802.11ax\) + Bluetooth® 5.4 Automotive Solution](#).

Note: The information on this document is subject to change without notice.

www.nxp.com

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2025 NXP B.V.