



# Wi-Fi® 6 1x1 Concurrent Dual Wi-Fi (CDW) and Bluetooth® 5.3 Combo SoC

## AW690

Last Updated: Dec 15, 2023

The AW690 is a highly integrated Wi-Fi 6 device enabling concurrent dual Wi-Fi (CDW) and Bluetooth 5.3 operation. Supporting a 1x1 CDW configuration in both the 2.4 GHz and 5 GHz bands, and 2x2 MIMO single-band operation, the system-on-chip (SoC) provides a peak data rate of 1.2#Gbit/s and implements advanced features including MU-MIMO, OFDMA and target wake time (TWT).

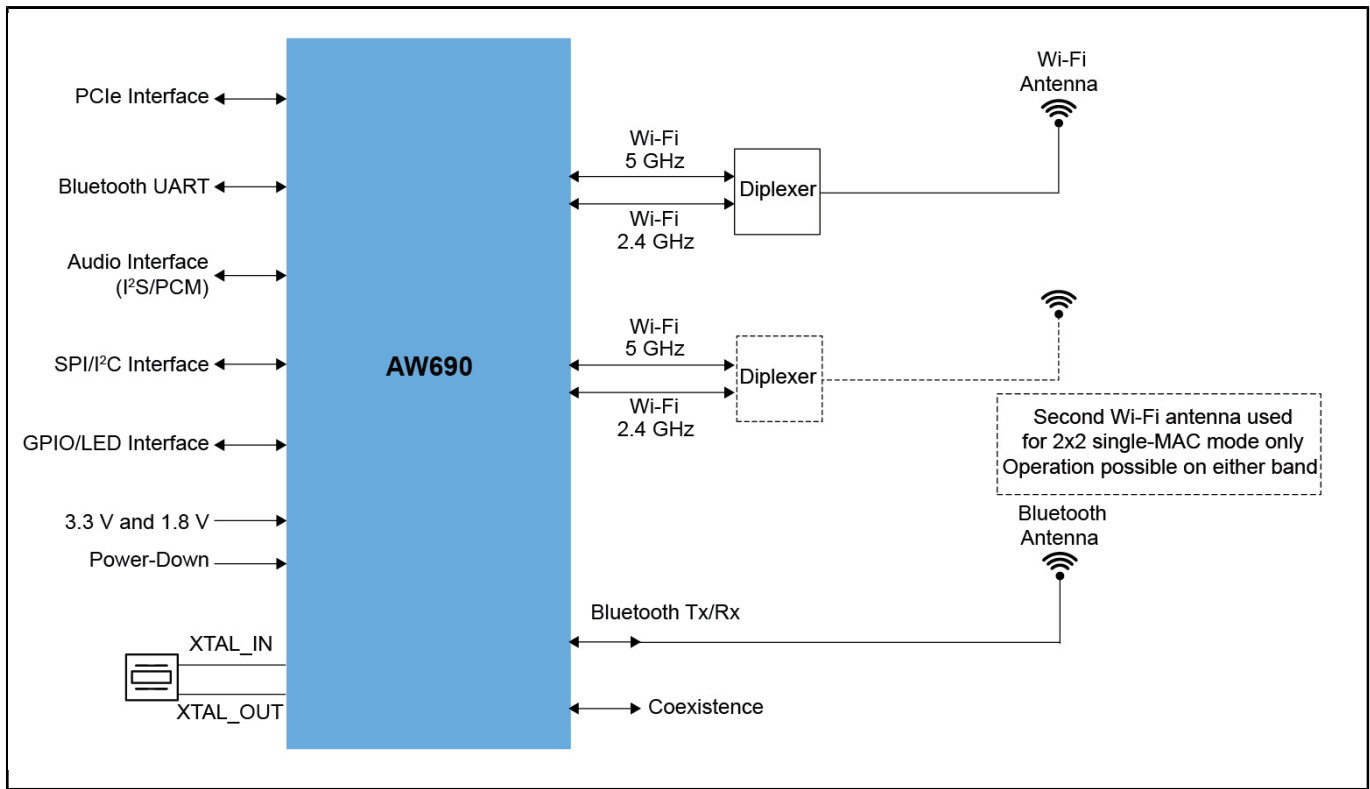
With integrated 2.4#GHz and 5#GHz TX power amplifiers (PA), RX low noise amplifiers (LNA) and Tx/Rx switches (T/R SW) as well as a full Bluetooth radio, the AW690 simplifies the design and minimizes the PCB area.

The AW690 implements advanced Wi-Fi and Bluetooth coexistence hardware with algorithms to optimize collaborative performance. In addition, support for external radio coexistence (for example, cellular) is provided through an external interface.

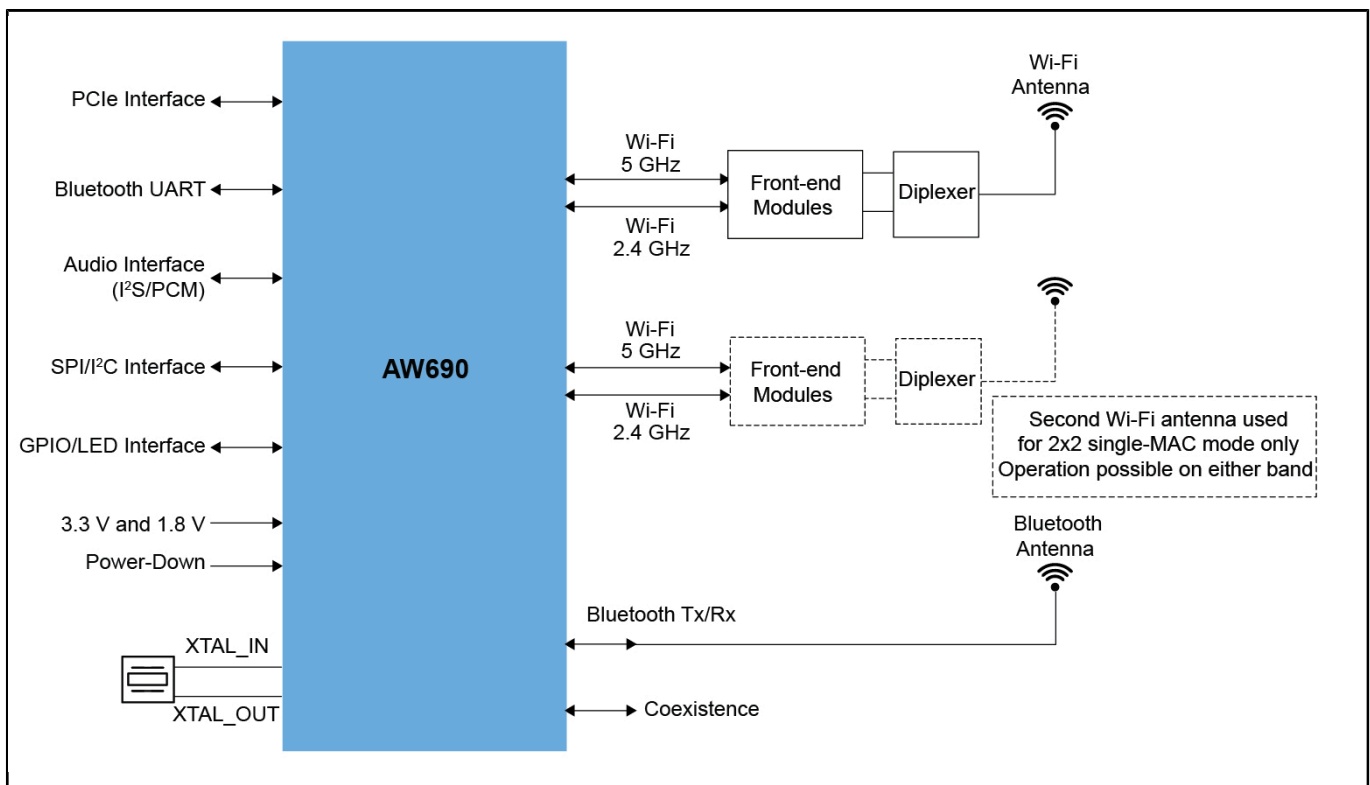
With AEC-Q100 Grade 3- compliant options, the AW690 provides multiple host interface options for the Wi-Fi radios (PCIe) and Bluetooth radio (UART) to provide a flexible design for easy integration into demanding automotive applications.

Wireless modules based on the NXP AW690 are offered by leading [module manufacturers](#).

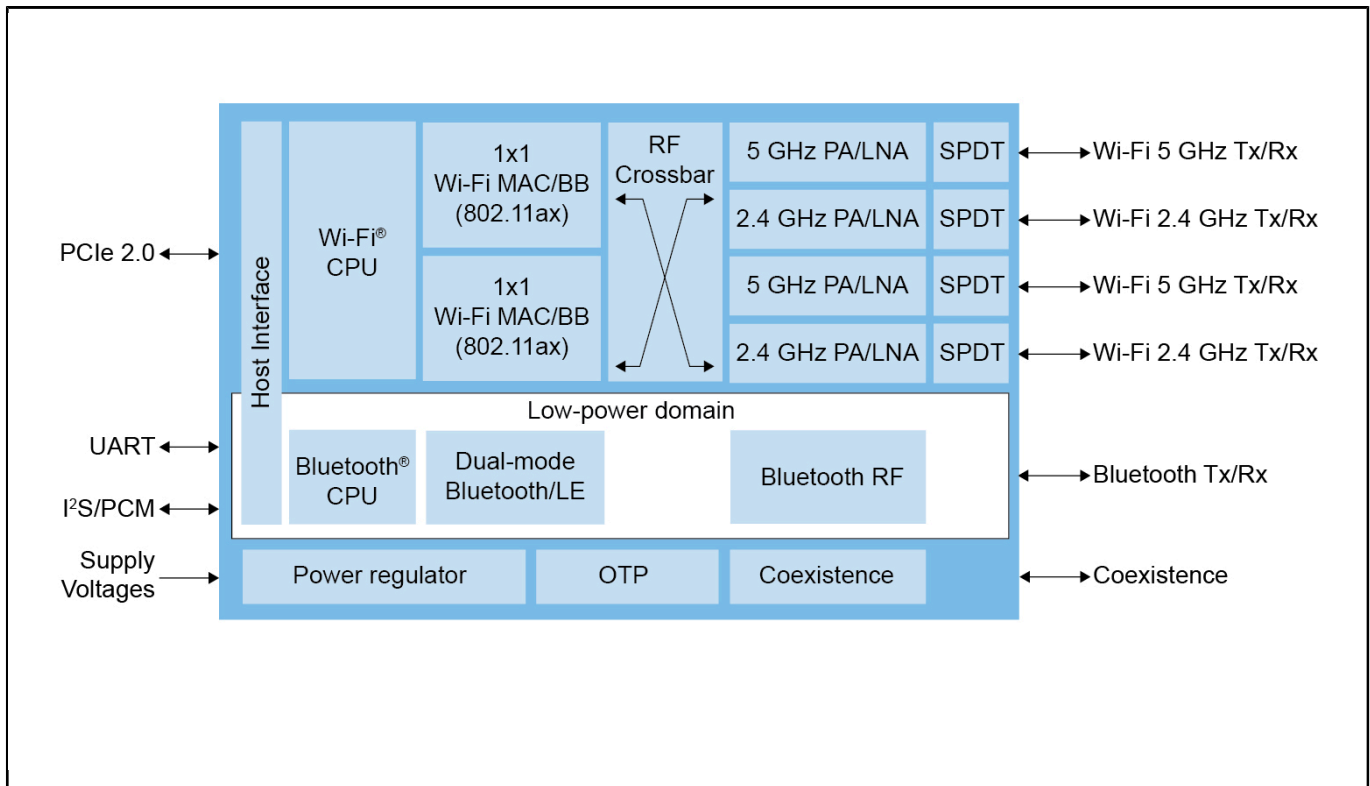
## Application block diagram (internal PA/LNA/SW) Block Diagram



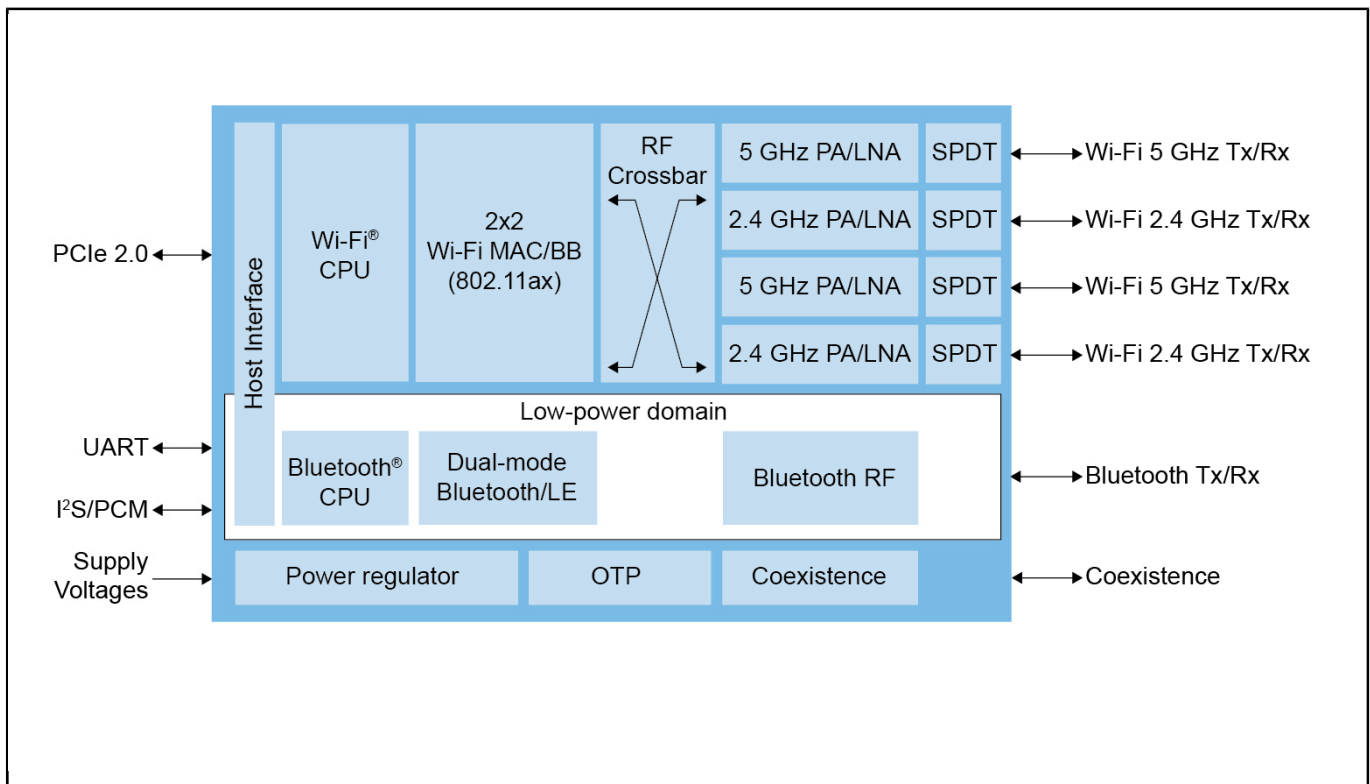
## Application block diagram (FEM) Block Diagram



## Internal Block Diagram - 1x1 Concurrent Dual-Wireless Mode Block Diagram



## Internal Block Diagram - 2x2 Single-MAC Mode Block Diagram



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

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