

# MAYA-W4 series

## Host-based Wi-Fi 6 multiradio modules for the IoT



Standard



Professional

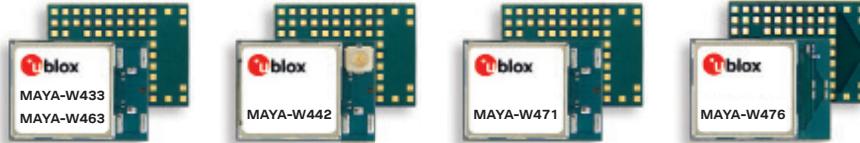


Automotive

### Cost-efficient, small, secure modules for IoT applications

- Single- and dual-band Wi-Fi 6 1x1, 20 MHz channels
- Bluetooth Low Energy 5.4
- 802.15.4 radio supporting Thread
- Matter over Wi-Fi and Thread
- Variants with PCB-antenna, U.FL connector(s), and antenna pin(s)
- Secure boot, firmware, OTP memory, NXP Edgelock®

10.4 x 14.3 x 1.9 mm



### Product description

The MAYA-W4 series host-based modules are designed, built, and tested to meet the high reliability and quality requirements of industrial and commercial applications, such as building automation, professional appliances, energy management, smart homes, healthcare, and more.

MAYA-W4 modules provide SISO Wi-Fi 6 operation with 20 MHz channel width and improved network availability in dense Wi-Fi environments. The modules can work as access point, station, in P2P connections, or combinations of these.

MAYA-W4 supports Bluetooth Low Energy 5.4, including the use of isochronous channels for LE Audio. W44x and W47x variants support IEEE 802.15.4 radio for Thread mesh network support. The Matter application protocol is supported over Thread and Wi-Fi allowing interoperability with various products in a growing ecosystem.

At 10.4 x 14.3 mm, MAYA-W4 are among the most compact Wi-Fi 6 SMD modules with integrated antenna or U.FL connectors.

All u-blox modules undergo extensive qualification tests to ensure reliability over their life-time, and each module is fully tested before leaving the assembly line.

The MAYA-W4 series is based on the NXP IW610 chipsets.

### Key features

- Variants with antenna pins, U.FL connectors, and embedded PCB antenna
- Wi-Fi 6, single- and dual-band, single stream, supporting MU-MIMO, 20 MHz channels
- Wi-Fi 802.11a/b/g/n/ac/ax/-e/i/k/r/v/w
- Wi-Fi security: WPA3, WPA2, AES
- Bluetooth 5.4 supporting LE Audio
- 802.15.4 radio for Thread
- Secure operation (Edgelock™), secure boot
- Industrial temperature range -40 °C to +85 °C

	MAYA-W433	MAYA-W442	MAYA-W463	MAYA-W471	MAYA-W476
<b>Grade</b>	Automotive				
Professional	•	•	•	•	•
Standard					
<b>Radio</b>					
Chip inside					NXP IW610
Bluetooth qualification					v5.4 (Low Energy)
Bluetooth profiles					HCI
Bluetooth Low Energy	•	•	•	•	•
Bluetooth output power [dBm]					up to 15
Wi-Fi IEEE 802.11 standards					Wi-Fi 6 (802.11a/b/g/n/ac/ax)
Wi-Fi frequency band [GHz]	2.4	2.4	2.4 / 5	2.4 / 5	2.4 / 5
802.15.4 radio			•	•	•
Wi-Fi output power [dBm]	18	18	18	18	18
Antenna type	pin	U.FL	pin	pin	pcb
Number of antennas	1	1	1	2	1
<b>OS support</b>					
Android / Linux drivers (from NXP)	•	•	•	•	•
RTOS (via NXP i.MX RT MCUs)	•	•	•	•	•
<b>Interfaces</b>					
High-speed UART (Bluetooth)	1	1	1	1	1
USB (Wi-Fi)	2.0	2.0	2.0	2.0	2.0
SDIO (Wi-Fi) [version]	3.0	3.0	3.0	3.0	3.0
SPI (802.15.4)			1	1	1
<b>Features</b>					
Micro access point [max connects]	8	8	8	8	8
Wi-Fi direct	•	•	•	•	•
WPA3	•	•	•	•	•
RF calibration in OTP	•	•	•	•	•
Programmed MAC address	•	•	•	•	•
Secure boot	•	•	•	•	•

pin = antenna pin

pcb = internal PCB antenna

U.FL = U.FL antenna connector

**Features**

Wi-Fi standards	Wi-Fi 6 IEEE 802.11a/b/g/n/ac/ax IEEE 802.11d/e/i/k/r/v/w
Wi-Fi channels	2.4 GHz: 1-13 5 GHz: 36-177
Bluetooth	v5.4 LE long range, power management, LE Audio
802.15.4	IEEE 802.15.4 - 2015 compliant 2.45 GHz, up to 250 kbps
Antennas	MAYA-W433: 1 antenna pin MAYA-W442: 1 U.FL connector MAYA-W463: 1 antenna pin MAYA-W471: 2 antenna pins MAYA-W476: 1 antenna embedded in PCB
Wi-Fi output Tx-power	18 dBm (Wi-Fi 6, 5 GHz, 20 MHz channel)
RX sensitivity	Wi-Fi 6 2.4 GHz: -95 dBm (indicative) Wi-Fi 6 5 GHz: -94 dBm (indicative) Bluetooth LE: -100.5 dBm (@ 1 Mbps, indicative) 802.15.4: -103 dBm (indicative)
Security	128-bit AES hardware encryption Secure boot EdgeLock™

**Software features**

RF calibration	Available in on-board OTP memory
MAC addresses	Available in on-board OTP memory
Security	WPA2 (CCMP, AES) WPA3
Wi-Fi operational modes	Station, access point, Wi-Fi direct, or any combination of these
Driver support	Free of charge drivers for Linux and Android
Wi-Fi/Bluetooth / 802.15.4 coexistence	Internal coexistence between Wi-Fi and Bluetooth LE or 802.15.4 WCI-2 and PTA interface for external radio coexistence

**Interfaces**

Wi-Fi	SDIO 3.0 (4-bit, up to 208 MHz clock) USB 2.0
Bluetooth	4-wire high-speed UART
802.15.4	SPI
Coexistence	WCI-2 (2-wire) PTA
Other	GPIOs

**Package**

Dimensions	10.4 x 14.3 x 1.9 mm
Mounting	Soldering, 90 pins (LGA)

**Environmental data, quality, and reliability**

Operating temperature	-40 °C to +85 °C
Moisture sensitivity level	4
RoHS and REACH compliance	

**Electrical data**

RF power supply	3.13 – 3.46 VDC
I/O power supply	3.3 VDC or 1.8 VDC

**Certifications and approvals**

Type approvals	Europe (RED); US (FCC); Canada (ISED); Japan (Giteki) Other certifications will be considered upon request
Bluetooth qualification	v5.4 (Bluetooth Low Energy)

**Support products**

EVK-MAYA-W476	Evaluation kit for MAYA-W476
M2-MAYA-W473-10C	M2-MAYA-W473 module delivered as an evaluation kit together in a box with 1 patch antenna

**Product variants**

MAYA-W433-00B	Professional grade module with one antenna pin for single-band Wi-Fi and Bluetooth (under development)
MAYA-W442-00B	Professional grade module with one U.FL connector for single-band Wi-Fi, Bluetooth, and 802.15.4 (under development)
MAYA-W463-00B	Professional grade module with one antenna pin for dual-band Wi-Fi and Bluetooth (under development)
MAYA-W471-00B	Professional grade module with two separate antenna pins for dual-band Wi-Fi, Bluetooth, and 802.15.4 (under development)
MAYA-W476-00B	Professional grade module with embedded PCB antenna for dual-band Wi-Fi, Bluetooth, and 802.15.4 (under development)

**Further information**

For contact information, see [www.u-blox.com/contact-u-blox](http://www.u-blox.com/contact-u-blox).

For more product details and ordering information, see the product data sheet.

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