

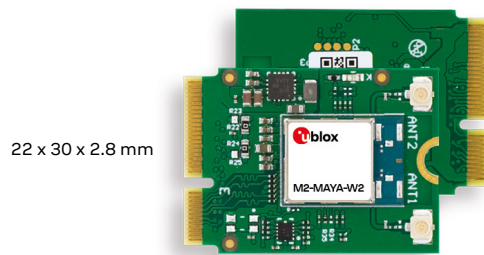
M2-MAYA-W2 module



M.2 card with MAYA-W2 Wi-Fi 6, Bluetooth 5.4, 802.15.4 module

Module supporting IEEE 802.11ax, Bluetooth/Bluetooth Low Energy 5.4 and Thread

- M.2 type 2230 Key E form factor
- Dual band Wi-Fi 2.4 GHz and 5 GHz 802.11ax
- Dual-mode Bluetooth 5 (Bluetooth BR/EDR/Low Energy)
- 802.15.4 radio supporting Thread
- Operation modes: Access point, Station, Wi-Fi Direct, and combinations
- Compatible with NXP i.MX evaluation and development boards



Product description

The M2-MAYA-W2 card combines the maximum performance of the MAYA-W2 Wi-Fi 6, Bluetooth 5.4 and 802.15.4 connectivity module with the flexibility and ease of use of an M.2 card. The card supports all features of the MAYA-W271 module and is based on the multiradio NXP IW612 chipset.

M2-MAYA-W2 supports Wi-Fi 6 (802.11ax) – designed for up to 600 Mbit/s data throughput and operation in dense Wi-Fi environments. It also supports single-stream MU-MIMO operation. With dual-band 2.4/5 GHz and 80 MHz channel-width, the card can operate as access point, station, in P2P communication mode, or in any combination of these.

M2-MAYA-W2 supports the full feature set of Bluetooth Low Energy 5.4, including support for isochronous channels for Low Energy Audio. The M2-MAYA-W2 card also supports the 802.15.4 protocol, as used by Thread.

The MAYA-W271 module featured on the card, like all u-blox modules, undergoes extensive qualification tests to ensure reliability over its lifetime, and each module is fully tested before leaving the assembly line.

Key features

- M.2 type 2230 Key E form factor
- Wi-Fi 6, dual-band, single stream, supporting MU-MIMO
- 20, 40, and 80 MHz Wi-Fi channels
- Supports 802.11a/b/g/n/ac/ax
- Bluetooth 5.4 supports all features including audio
- Wi-Fi security: WPA3, WPA2, WAPI, AES
- 802.15.4 radio
- High-Power Bluetooth: up to +20 dBm
- Secure boot

M2-MAYA-W271

Grade	
Automotive	
Professional	
Standard	•
Radio	
Chip inside	NXP IW612
Bluetooth qualification	v5.4
Bluetooth profiles	HCI
Bluetooth BR/EDR	•
Bluetooth Low Energy	•
Wi-Fi IEEE 802.11 standards	ax
Wi-Fi frequency band [GHz]	2.4 and 5
Bluetooth output power conducted [dBm]	Up to 20
Wi-Fi output power [dBm]	18
802.15.4 radio	•
Antenna type	2 U.FL connectors
OS support	
Android / Linux drivers (from u-blox)	•
RTOS (via NXP i.MX RT MCUs)	•
Interfaces	
High-speed UART (Bluetooth)	1
PCM, I2S (Bluetooth audio)	1
SDIO (Wi-Fi) [version]	3.0
SPI (802.15.4)	1
Features	
Micro access point [max connects]	16
Wi-Fi direct	•
WPA3	•
RF calibration in OTP	•
Programmed MAC address	•
Secure boot	•

M2-MAYA-W2 module



Features

Wi-Fi standards	Wi-Fi 6 IEEE 802.11a/b/g/n/ac/ax IEEE 802.11d/e/h/i/k/r/u/v/w/az
Wi-Fi channels	2.4 GHz: 1-14 5 GHz: 36-193
Bluetooth	v5.4, class 1 and 2 transmission Bluetooth low energy and Bluetooth BR/EDR
802.15.4	IEEE 802.15.4 - 2015 compliant 2.45 GHz, up to 250 kbps
Antennas	2 U.FL connectors
Output power	TBD
Security	128-bit AES hardware encryption Secure boot

Software features

RF calibration	Available in on-board OTP memory
MAC addresses	Available in on-board OTP memory
Security	WPA2 (CCMP, AES) WPA3 WAPI
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 RTOS (with NXP MCUXpresso)

Interfaces

Wi-Fi	SDIO 3.0 (4-bit, up to 208 MHz clock)
Bluetooth	4-wire high-speed UART PCM and I2S for Bluetooth classic audio
802.15.4	SPI
Other	GPIOs

Package

Dimensions	22 x 30 x 2.8 mm
Mounting	M.2 Key-E connector 2199230-4 on host platform

Environmental data, quality, and reliability

Operating temperature	-40 °C to +85 °C
Standard qualification	

Electrical data

Power supply	3.3V (from M.2 card voltage pin), 1.8V (generated by on-card DCDC)
VIO power supply	1.8/3.3V (default: 1.8V)

Certifications and approvals

Type approvals	Europe (RED); US (FCC); Canada (ISED) Other certifications will be considered upon request
Bluetooth qualification	TBD

Product variants

M2-MAYA-W271-00C	M.2 Type E 2230 Key E card with MAYA-W271 Wi-Fi 6, Bluetooth 5.4, and 802.15.4 radio module. Includes two separate antenna U.FL connectors for Wi-Fi and Bluetooth/802.15.4
M2-MAYA-W271-10C (EVK)	M2-MAYA-W271 module delivered as an evaluation kit together in a box with 2 patch antennas

Further information

For contact information, see www.u-blox.com/contact-u-blox.

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

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