Product summary

MAYA-W1 series

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Host-based multiradio modules with Wi-Fi 4 and Bluetooth 5.2

Standard

Professional

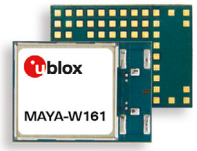
Automotive

Small, flexible, dual-band Wi-Fi 4 and full-featured Bluetooth Low Energy 5.2 modules

- Wi-Fi 4 (802.11a/b/g/n) dual-band 2.4 and 5 GHz
- Operation modes: Access-point, Station, Wi-Fi direct (combinations)
- Dual-mode Bluetooth classic and Bluetooth Low Energy 5.2
- Support for long range Bluetooth Low Energy and rate up to 2 Mbit/s
- Variants with PCB-antenna, U.FL connectors, and antenna pins

10.4 x 14.3 x 1.8 mm







Product description

The MAYA-W1 series are host-based Wi-Fi 4 and Bluetooth 5.2 multiradio modules designed for a wide range of industrial applications, such as industrial automation and smart manufacturing, EV charging infrastructures, professional appliances, tracking and telematics, point-of-sale and ticketing machines, building automation, and healthcare. The modules are designed and built to meet the high reliability and quality requirements of such applications.

MAYA-W1 modules support the Wi-Fi 4 (802.11a/b/g/n) standard and deliver up to 150 Mbit/s data throughput. With dual-band 2.4 / 5 GHz and 40 MHz channel-width, the modules can work as a station with different types of access points, such as a simple access point, in P2P communication, or a combination of these. MAYA-W1 supports both Bluetooth classic and Bluetooth Low Energy 5.2.

At 10.4 x 14.3 mm, MAYA-W1 are among the most compact Wi-Fi dual-band SMD modules available in the market.

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.

MAYA-W1 is based on the multiradio chip IW416 from NXP.

Key features

- Variants with antenna pins, U.FL connectors and embedded PCB antenna
- Wi-Fi 4, dual-band, single stream, data rate up to 150 Mbit/s
- 20 and 40 MHz Wi-Fi channels
- Wi-Fi 802.11d/e/h/i/k/r/u/v/w
- Dual-mode Bluetooth version 5, supporting all features
- Temperature range –40 °C to +85 °C
- Security: WPA3, WPA2, TKIP/WPA, WEP (64/128 bit), WAPI, AES
- Supports up to 8 Stations in AP-mode
- Supports up to 16 Bluetooth Low Energy connections

	MAYA-W160	MAYA-W161	MAYA-W166
Grade			
Automotive			
Professional	•	•	•
Standard			
Radio			
Chip inside	NXP IW416		
Bluetooth qualification	v5.2		
Bluetooth profiles	HCI		
Bluetooth BR/EDR	•	•	•
Bluetooth Low Energy	•	•	•
Wi-Fi 4 IEEE 802.11 standards	a/b/g/n		
Wi-Fi frequency band [GHz]	2.4 and 5		
Bluetooth output power conducted [dBm]	10	10	10
Wi-Fi output power conducted [dBm]	18	18	18
Antenna type	U.FL	pin	pcb /pin
Number of antennas	2	2	1
OS support			
Android / Linux drivers (from u-blox)	•	•	•
RTOS (via NXP i.MX RT MCUs)	•	•	•
Interfaces			
High-speed UART (Bluetooth)	1	1	1
PCM, I2S (Bluetooth audio)	1	1	1
SDIO (Wi-Fi) [version]	3.0	3.0	3.0
Features			
Micro Access Point [max connects]	8	8	8
Wi-Fi direct	•	•	•
WPA3	•	•	•
RF calibration in OTP	•	•	•
Programmed MAC address	•	•	•

pin = antenna pin
pcb = internal PCB antenna

U.FL = U.FL antenna connector

MAYA-W1 series

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Features

Wi-Fi standards	Wi-Fi 4 IEEE 802.11a/b/g/n IEEE 802.11d/e/h/i/k/r/u/v/w
Wi-Fi channels	2.4 GHz: 1-13 5 GHz: 36-165
Bluetooth	v5.2, class 1 and 2 transmission Bluetooth low energy and Bluetooth BR / EDR
Antennas	MAYA-W160: 2 U.FL connectors MAYA-W161: 2 antenna pins MAYA-W166: 1 embedded PCB antenna or pin
Output Tx-power	TBD
Security	128-bit AES hardware encryption

Software features

RF calibration	Available in on-board OTP memory
MAC addresses	Available in on-board OTP memory
Security	WEP 64 / 128 bit WPA (TKIP, AES) 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 certain types of NXP MCUs)
Wi-Fi / Bluetooth coexistence	Internal TDM mechanism

Interfaces

Wi-Fi	SDIO 3.0 (4-bit, up to 150 MHz clock)
Bluetooth	4-wire high-speed UART PCM and I2S for audio
Other	GPIOs

Package

Dimensions	10.4 × 14.3 × 1.8 mm
Mounting	Soldering, 76 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	3.0 – 3.6 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); South Korea (KC) Other certifications will be considered upon request
Bluetooth qualification	v5.2 (Bluetooth BR/EDR and Bluetooth Low Energy)

Support products

EVK-MAYA-W161	Evaluation kit for MAYA-W161
EVK-MAYA-W166	Evaluation kit for MAYA-W166

Product variants

MAYA-W160-00B	Professional grade module with two separate U.FL connectors for Wi-Fi and Bluetooth
MAYA-W161-00B	Professional grade module with two separate antenna pins for Wi-Fi and Bluetooth
MAYA-W166-00B	Professional grade module with embedded PCB antenna for Wi-Fi and Bluetooth
MAYA-W166-01B	Professional grade module with single antenna pin for Wi-Fi and Bluetooth

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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