Product summary
M2-JODY-W2 module

M.2 card with JODY-W2 Wi-Fi 5 and Bluetooth 5.2 module

S

Standard

Professional

Automotive

Module supporting IEEE 802.11ac and Bluetooth/Bluetooth Low Energy 5.2

- M.2 Type 2230 Key E form factor
- Dual-band Wi-Fi 2.4 GHz and 5 GHz, 802.11a/b/g/n/ac
- Dual-mode Bluetooth 5.2 (Bluetooth BDR/EDR/Low Energy)
- Simultaneous access point (AP), station (STA), or Wi-Fi Direct (P2P)
- Optimized for parallel operation of Wi-Fi and Bluetooth
- Compatible with NXP i.MX evaluation and development boards

22.0 × 30.0 × 4.2 mm
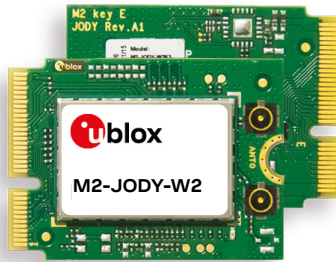
Product description

The M2-JODY-W2 card combines the maximum performance of the JODY-W2 Wi-Fi 5 and Bluetooth 5.2 connectivity module with the flexibility and ease of use of a M.2 card. The card supports all features of the JODY-W2 series modules and is based on the NXP 88W8987 chipset. M2-JODY-W2 supports 1x1 single-antenna 802.11ac Wi-Fi operation, with data rates up to 433 Mbit/s. A second antenna is dedicated for Bluetooth operation.

M2-JODY-W2 is a host-based module that requires a host processor running a Linux or Android operating system. It connects to a host processor through SDIO (for Wi-Fi), or high-speed UART (for Bluetooth) interfaces. Support for other operating systems such as QNX will also be available. Radio type approvals are pending for the US, Europe, and Canada.

Key features

- M.2 Type 2230 Key E form factor
- Wi-Fi 1x1 SISO IEEE 802.11ac data rates up to 433 Mbit/s (PHY, MCS9), beamforming
- Supports 802.11d/e/h (DFS)/i/k/r/u/v/w/ai
- Wi-Fi 20, 40, and 80 MHz channels
- Bluetooth BR/EDR and Bluetooth low energy v5.2 supporting 2 Mbit/s
- Chipset is compliant with AEC-Q100
- SDIO host interface
- PCM interface for Bluetooth audio
- Access point mode for up to 8 stations
- Hardware encryption engines: AES and TKIP
- Security: WPA, WAPI, WPA2, WPA3, WPS, and Easy Connect

	M2-JODY-W263
Grade	
Automotive	
Professional	
Standard	•
Radio	
Chip inside	NXP 88W8987
Bluetooth qualification	v5.2
Bluetooth profiles	HCI
Bluetooth BR/EDR	•
Bluetooth Low Energy	•
Wi-Fi IEEE 802.11 standards	a/b/g/n/ac
Wi-Fi 2.4 / 5 [GHz]	2.4 and 5
Max output power at antenna pin [dBm]	18
Antenna type	2 U.FL connectors
OS support	
Android / Linux drivers (from u-blox)	•
Interfaces	
UART [B]	1
SDIO [version] [W]	v3
PCM (Bluetooth audio)	1
Features	
Micro Access Point [max connects]	8
AES hardware support	•
RF parameters in OTP memory	•
MAC addresses in OTP memory	•

B = For Bluetooth only   DRCS = Dynamic Rapid Channel Switching
W = For Wi-Fi only

M2-JODY-W2 module

Features

Wi-Fi standards	IEEE 802.11a/b/g/n/ac IEEE 802.11d/e/h/i/k/r/u/v/w/ai
Wi-Fi channels	2.4 GHz: 1-13 5 GHz: 36-165
Bluetooth	v5.2 (Bluetooth Low Energy and Bluetooth with EDR) Class 1 and 2 transmission
Antenna connectors	U.FL 1: 2.4 GHz and 5 GHz Wi-Fi U.FL 2: Bluetooth
Output power	Wi-Fi IEEE 802.11b: 18 dBm Wi-Fi IEEE 802.11a/g/n/ac: 16.5 dBm Bluetooth BDR: 13 dBm (w/o LTE filter) Bluetooth EDR: 10 dBm (w/o LTE filter)
Security	Hardware encryption engine: AES-CCMP, AES-GCMP, TKIP WPA/WPA2/WPA3 128-bit AES hardware support

Software features

RF parameters	Available in on-board OTP memory
MAC addresses	Available in on-board OTP memory
Security	WEP WPA2 (CCMP, AES), WAPI WPA3 (OWE, SAE, CSNA, DPP)
Wi-Fi modes	Station (STA): Infrastructure and direct mode AP: Supports up to 8 stations Wi-Fi direct
Driver support	Linux drivers in source code

Interfaces

Wi-Fi	SDIO v3.0 (4-bit, 208 MHz)
Bluetooth	High-speed UART, 4-wire (default) SDIO v3.0 [1]
Bluetooth audio	High-speed UART, 4-wire, up to 4 Mbit/s PCM audio, 8, 16 KHz sampling
Other interfaces	GPIOs

1 = Upon request; requires minor hardware modification

Package

Dimensions	22.0 × 30.0 × 4.2 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	3.3 V (from M.2 card voltage pin) 1.8 V (generated by on-card DCDC)
I/O power supply	3.3 V or 1.8 V (default: 1.8 V)

Certifications and approvals

Type approvals	TBD
Bluetooth qualification	TBD

Product variants

M2-JODY-W263	Standard grade M.2 card module with two antenna connectors (one for 2.4 GHz and 5 GHz 802.11ac, and one for Bluetooth/Bluetooth Low Energy 5.2). NXP chipset 88W8987

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.