

M2-JODY-W5 module



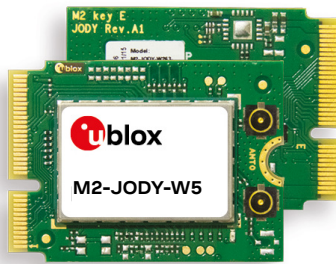
M.2 card with JODY-W5 Wi-Fi 6 and Bluetooth 5.4 module

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

- M.2 Type 2230 Key E form factor
- Wi-Fi 6 (802.11ax) 2.4 and 5 GHz, 1x1 SISO
- Up to 480 Mbit/s throughput via SDIO 3.0
- Wi-Fi security: WPA3, WPA2, WAPI, AES
- LE Audio with Isochronous channels
- 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-W5 card combines the maximum performance of the JODY-W5 Wi-Fi 6 and Bluetooth 5.4 connectivity module with the flexibility and ease of use of a M.2 card. The card supports all features of the JODY-W5 series modules and is based on the NXP AW611 chipset. M2-JODY-W5 supports Wi-Fi 6 dual-band single-stream at up to 600 Mbit/s data rate and dual-mode Bluetooth 5.4 Classic and LE including isochronous channels for LE Audio at up to 3 Mbit/s (LE 2 Mbit/s). A second antenna is dedicated for Bluetooth operation. M2-JODY-W5 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 3.0 (for Wi-Fi), or high-speed UART (for Bluetooth) interfaces. Radio type approvals are pending for the US, Europe, and Canada.

Key features

- M.2 Type 2230 Key E form factor
- Wi-Fi 6 (802.11ax) 2.4 and 5 GHz, 1x1 SISO
- Up to 480 Mbit/s throughput via SDIO 3.0
- Supporting MU-MIMO
- Wi-Fi 802.11d/e/h/i/k/r/u/v/w/mc/az
- Wi-Fi security: WPA3, WPA2, WAPI, AES
- Dual mode BT & BLE – Bluetooth 5.4
- BR/EDR 3Mbit/s; LE 2Mbit/s via High-Speed UART
- LE Long Range and LE Power Control
- Isochronous channels for LE Audio
- Coexistence management – internal (Wi-Fi / BT) and external via WCI-2 and PTA interfaces
- Secure boot and secure OTP

M2-JODY-W562

Grade	
Automotive	
Professional	
Standard	•
Radio	
Chip inside	NXP AW611
Bluetooth qualification	v5.4
Bluetooth profiles	HCI
Bluetooth BR/EDR	•
Bluetooth Low Energy	•
Bluetooth output power conducted [dBm]	12
Wi-Fi output power conducted, 2 GHz [dBm]	20
Wi-Fi output power conducted, 5 GHz [dBm]	18
Wi-Fi 2.4 / 5 [GHz]	2.4 and 5
Wi-Fi IEEE 802.11 standards	Wi-Fi 6
W-fi channel width [MHz]	20, 40, 80
Antenna type	2 U.FL connectors
OS support	
Android / Linux drivers (from u-blox)	•
Interfaces	
UART (for Bluetooth only)	1
SDIO 3.0 (for Wi-Fi only)	1
PCM (Bluetooth audio)	1
Features	
Micro Access Point [max connects]	16
Wi-Fi direct	•
WPA3	•
RF calibration in OTP	•
Programmed MAC addresses	•

M2-JODY-W5 module



Features

Wi-Fi standards	Wi-Fi 6 (802.11a/b/g/n/ac/ax) IEEE 802.11d/e/h/i/k/r/u/v/w/mc/az
Wi-Fi channels	2.4 GHz: 1-13 5 GHz: 36-177
Bluetooth	v5.4 (Bluetooth Low Energy and Bluetooth BR/EDR) Class 1 and 2 transmission Bluetooth Low Energy long range Bluetooth Low Energy Audio
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	128-bit AES hardware encryption Secure boot

Software features

RF parameters	Available in on-board OTP memory
MAC addresses	Available in on-board OTP memory
Security	WPA2 (CCMP, AES) WPA3 WAPI
Wi-Fi modes	Station (STA) Access Point (AP) Wi-Fi Direct P2P Combinations of STA, AP, P2P
Driver support	Free of charge drivers for Linux and Android RTOS (with NXP MCUXpresso)
Wi-Fi / Bluetooth coexistence	Internal co-existence mechanism Central hardware packet traffic arbitration for external radio

Interfaces

Wi-Fi	SDIO 3.0 (4-bit, up to 208 MHz clock)
Bluetooth	High-speed UART 4-wire PCM / I2S for Bluetooth audio
Coexistence	WCI-2 interface for external radio coexistence
Other interfaces	GPIOs

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

Support products

EVK-JODY-W562-00C	Evaluation kit for M2-JODY-W562 and JODY-W562
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Product variants

M2-JODY-W562-00C	M.2 Type 2230 Key E card with JODY-W562 Wi-Fi 6 and Bluetooth 5.4 module. SDIO interface for Wi-Fi, UART interface for Bluetooth; NXP chipset AW611
M2-JODY-W562-10C (EVK)	M2-JODY-W562 Wi-Fi 6 and Bluetooth 5.4 module delivered as an evaluation kit in a box together with 2 patch antennas (Molex 146153-0100 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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