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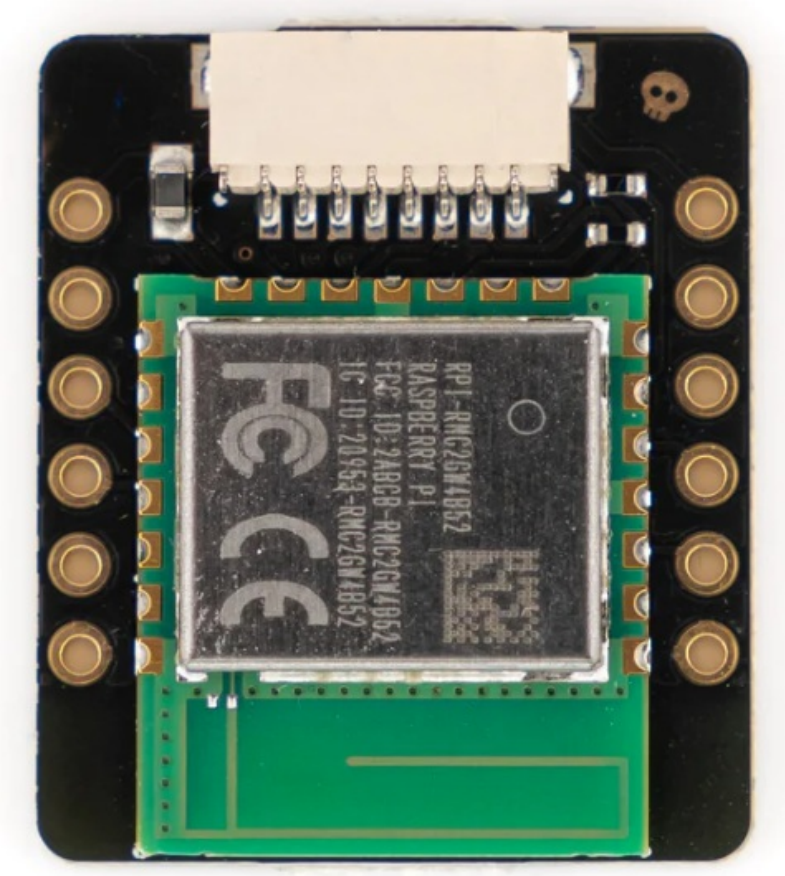
Raspberry Pi RMC2GW4B52 Wireless and Bluetooth Breakout



Specifications

- Product name: Raspberry Pi RMC2GW4B52
- Power Supply: 5v DC, minimum rated current of 1a

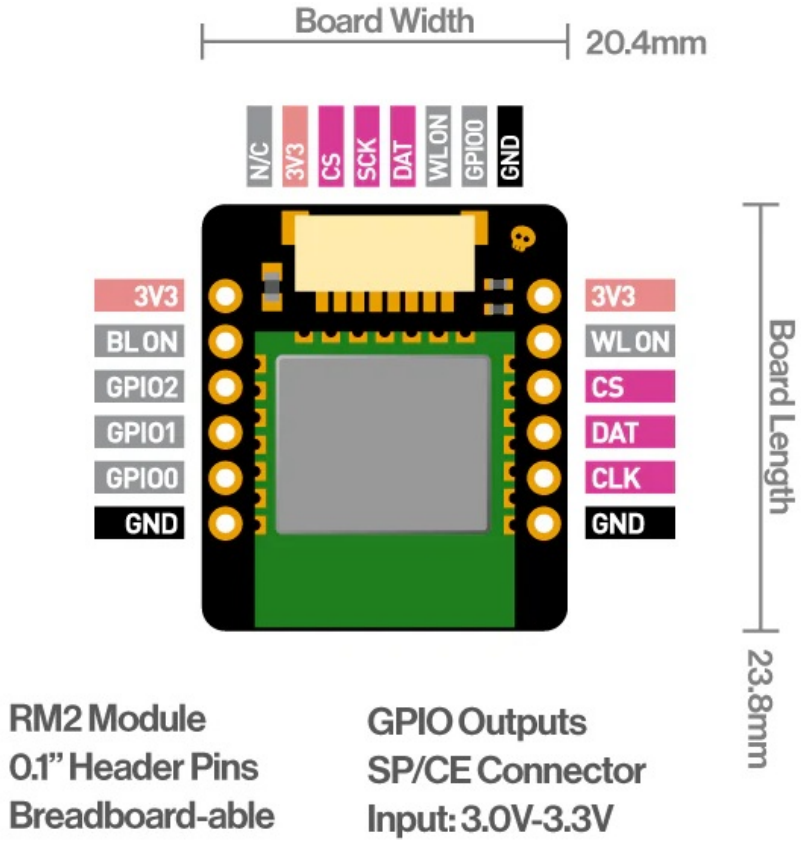
Add 2.4GHz wireless and Bluetooth functionality to an existing project with this handy breakout featuring Raspberry Pi's RM2 module. RM2 uses the same two-in-one wireless and Bluetooth module that's found on Raspberry Pi Pico W, making it easy to use directly with any RP2040 or RP2350 board. This breakout has a SP/CE connector on board so you can connect it easily to any SP/CE compatible microcontroller (like Pimoroni Pico Plus 2) or add-on using a handy cable (of course, there are also pads if you'd prefer to solder wires to it). Click here to view all things SP/CE!

Features

- Raspberry Pi RM2 module (CYW43439), supporting IEEE 802.11 b/g/n wireless LAN, and Bluetooth
- SP/CE connector (8-pin JST-SH)
- 0.1″ headers (breadboard compatible)
- Compatible with Raspberry Pi Pico / Pico 2 / RP2040 / RP2350

- Input voltage: 3.0 – 3.3v
- Dimensions: 23.8 x 20.4 x 4.7 mm (L x W x H)

RM2 Breakout Pins and Dims



Getting Started

You can use RM2 Breakout with Raspberry Pi Pico (or other RP2040 or RP2350 based microcontrollers) using our custom MicroPython build that allows for pin re-assignment.

- Download the pirate brand MicroPython for RP2350 boards (with experimental wireless support)
- Builds for Pico / RP2040 are coming soon!
- MicroPython example

You'll need to set the pins that the module is connected to before you do anything with the network. On a Pimoroni Pico Plus 2 (with an RM2 breakout connected via SP/CE cable), that would look like this:

- wlan = network.WLAN(network.STA_IF, pin_on=32, pin_out=35, pin_in=35,

pin_wake=35, pin_clock=34, pin_cs=33)

Alternatively, if you haveana RP2040 or RP2350 board that exposes GP23, GP24, GP25, and GP29 (such as PGA2040 or PGA235,0) you can wire the module up to the default Pico W p,ins and you won’t need to do any pin configuration. The pins are:

- WL_ON -> GP23
- DAT -> GP24
- CS -> GP25
- CLK -> GP29

Notes

- By def,ault the BL_ON pin is wired to the WL_ON pin. There is a cuttable trace on the rear of the board, if your project needs these to be disconnected.

Raspberry Pi

- Regulatory compliance and safety information
- Product name: Raspberry Pi RMC2GW4B52

IMPORTANT: PLEASE RETAIN THIS INFORMATION FOR FUTURE REFERENCE

Warnings

- Any external power supply used with the Raspberry Pi shall comply with the relevant regulations and standards applicable in the country of intended use.
- The power Supply should provide 5v DC and a minimum rated current of 1a.

Instructions for safe use

- This product should not be overclocked.
- Do not expose this product to water or moisture, and do not place it on a conductive surface whilst in operation.
- Do not expose this product to heat from any source; it is designed for reliable operation at normal room temperatures.

- Do not expose the board to high-intensity light sources (e.g. xenon flash or laser)
- Operate this product in a well-lit, ventilated environment, and do not cover it during use.
- Place this product on a stable, flat, non conductive surface while in use, and doDo not let it contact conductive items.
- Take care while handling this product to avoid mechanical or electrical damage to the printed circuit board and connectors.
- Avoid handling this product while it is powered. Only handle by the edges to minimise the risk of electrostatic discharge damage.
- Any peripheral or equipment used with the Raspberry Pi should comply with the relevant standards for the country of use and be marked accordingly to ensure safety and performance requirements are met.
- Such equipment includes, but is not limited to keyboards, monitors, and mice. For all compliance certificates and numbers, please visit www.raspberrypi.com/compliance.

Product Information

Raspberry Pi RMC2GW4B52 is a versatile single-board computer that complies with rthe elevant regulations and standards applicable in The country of intended use. It requires a power supply providing 5v DC and a minimum rated current of 1a for proper operation. For More compliance certificates and numbers, visit www.raspberrypi.com/compliance.

Power Supply

Ensure that the power supply you use provides a stable 5v DC output and has a minimum rated current of 1a to power the Raspberry Pi RMC2GW4B52.

Regulatory Compliance

Before using the Raspberry Pi RMC2GW4B52, make sure it meets the relevant standards for your country of use and is appropriately marked to ensure safety and performance compliance.

Installation

Install the Raspberry Pi RMC2GW4B52 in a well-ventilated area and ensure a separation distance of at least 20cm from all persons due to the integral antenna

contained in the device.

Additional Information

For more detailed instructions, refer to the official user Manual available on the Raspberry Pi website.

EU Radio Equipment Directive (2014/53/EU)

Declaration of Conformity (Doc)

We, Raspberry Pi Limited, Maurice Wilkes Building, Cowley Road, Cambridge, CB4 0ds, United Kingdom, declare under our sole Responsibility that the product: Raspberry Pi RMC2GW4B52, to which this declaration relate,s iconformswith the essential requirements and other relevant requirements of the Radio Equipment Directive (2014/53/EU).

The production conforms to the following standards and/or other normative documents: SAFETY (art 3.1.a): IEC 60950-1: 2005 (2nd Edition) and EN 62311: 2008 EMC (art 3.1.b): EN 301 489-1/ EN 301 489-17 Ver. 3.1.1 (assessed in conjunction with ITE standards EN 55032 and EN 55024 as Class B equipment) SPECTRUM (art 3. 2): EN 300 328 Ver 2.1.1, EN 301 893 V2.1.0

By Article 10.8 of the Radio

Equipment Directive: The device ‘Raspberry Pi RMC2GW4B52 ’ operates in compliance with harmonised standard EN 300 328 v2.1.1 and transceives within the frequency band 2,400 MHz to 2,483.5 MHz and, as per Clause 4.3.2.2 for wideband modulation type equipment, operates at a maximum E.I.R.P. of 20 dBm. The device ‘Raspberry Pi RMC2GW4B52 also operates in compliance with the harmonised standard EN 301 893 V2.1. By Article 10.10 of the Radio Equipment Directive, and as per below list of colisthe t below, the operating bands 5150- 5350 MHz are strictly for indoor usage only.

The Raspberry Pi complies with the relevant provisions of the Rohs Directive for the European Union.

WEEE Directive Statement for the European

BE	BG		CZ	DK
DE	EE		IE	EL
ES	FR	HR	IT	CY
LV	LT	LU	HU	MT
NL	AT	PL	PT	RO
SI	SK	FI	SE	UK

Union

This marking indicates that this product should not be disposed of with other household waste throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

Note: A full online copy of this Declaration can be found at www.raspberrypi.com/compliance/

WARNING: Cancer and Reproductive **Harm** – www.P65Warnings.ca.gov.

FCC

Raspberry Pi RMC2GW4B52 FCC ID: 2abcbrmc2gw4b52 This device complies with Part 15 of the FCC Rules.

Operation is Subject to the following two conditions

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that causes undesired operation.

Caution

Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation
- Connect the equipment to an outlet between the equipment and thereceiverA different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For products available on the USA/Canada market, Only channels 1 to 11 are available for 2.4GHz

WLAN

This device and its antenna(s) must not be colocated or operate in conjunction with any other antenna or transmitter except by the FCC's multi-transmitter procedures.

IMPORTANT NOTE

FCC Radiation Exposure Statement: Co-location of this module with other transmitters that operate simultaneously are required to be evaluated using the FCC multitransmitter procedures.

This device complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. The device contains an integral antenna, hence, the device must be installed so that a separation distance of at least 20cm from all persons.

ISED

- Raspberry Pi RMC2GW4B52 IC: 20953- RMC2GW4B52

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation. For products available on the USA/Canada market, only channels 1 to 11 are available for 2.4GHz WLAN. Selection of other channels is not possible.

IMPORTANT NOTE: IC Radiation Exposure Statement:
This equipment complies with IC RSS102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum separation distance of 20cm between the device and all persons.

INTEGRATION INFORMATION FOR THE OEM
It is the responsibility of the OEM / Host product manufacturer to ensure continued compliance with FCC and ISED Canada certification requirements once the module is integrated into the Host product. Please refer to FCC KDB 996369 D04 for additional information. The module is subject to the following FCC rule parts: 15.207, 15.209, 15.247, 15.401And 15.40.7 Host Product User Guide Text.

FCC Compliance
This device complies with Part 15 of the CC Rules, Operation is Subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that causes undesired operation.

Caution: Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could voithe d user’s authority to operate the equipment. This equipment has been tested and found to comply within the limits for a Class B digital device, under part 15 of the FCC Rules. These limitsThey are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to an outlet on a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For products available in the USA/Canada market, Only channels 1 to 11 are available for 2.4GHz WLAN. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except inbyith the FCC's multi-transmitter procedures.

ISED Canada Compliance

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

For products available in the USA/Canada market, only channels 1 to 11 are available for 2.4GHz WLA.N. Selection of other channels is not possible. This device and its antenna(s) must not be co-located with any other transmitters except by the IC multi-transmitter product procedures.

IMPORTANT NOTE

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum separation distance of 20cm between the device and all persons.

Host Product Labelling

The host product must be labelled with the following information:

“Contains TX FCC ID: 2abcb-RMC2GW4B52

Contains IC: 20953-RMC2GW4B52

This device complies with Part 15 of the FCC Rules.

Operation is Subject to the following two conditions

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that causes undesired operation.”

Important Notice TOEMSMS

The FCC Part 15 text must go on the Host product unless the product is too small to support a label With the text on it. It is not acceptable just to place The text in the user guide.

E-Labelling

The Host product can use e-labelliprovidedding the Host product supports the requirements of FCC KDB 784748 D02 e-labelling and ISED Canada RSS-Gen, section 4.4.

E-labelling would be applicable for the FCC ID

ISED Canada certification number and the FCC Part 15 text. Changes in Usage Conditions of this Module. This device has been approved as a mobile device by the FCC and ISED Canada requirements.

This means that there must be a minimum separation distance of 20cm between the Module’s antenna and any person. A change in Use that involves a separation distance ≤20cm (Portable usage) between the Module’s antenna and any person is a change in the RF exposure of the module and, hence, is subject to an FCC Class 2 Permissive Change andanaan ISED Canada Class 4 Permissive Change policy by the FCC KDB 996396 D01 and ISED Canada RSP-100. As noted above, this device and its antenna(s)

must not be co-located with any other transmitters except by the IC multi-transmitter product procedures.

If the device is co-located with multiple antennas, the module could be subject to an FCC Class 2 Permissive Change and an ISED Canada Class 4 Permissive Change policy by the FCC KDB 996396 D01 and ISED Canada RSP-100. By FCC KDB 996369 D03, section 2.9, test mode configuration information is available from the Module manufacturer for the Host (OEM) product manufacturer. Australia and New Zealand Class B Emissions Compliance Statement Warning: This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FAQs

Q: What power supply specifications are recommended for the Raspberry Pi RMC2GW4B52?
A: The Raspberry Pi RMC2GW4B52 requires a 5v DC power supply with a minimum rated current of 1a for proper operation.

Q: Where can I find compliance certificates and numbers for the Raspberry Pi RMC2GW4B52?
A: For all compliance certificates and numbers, please visit www.raspberrypi.com/compliance.

Documents / Resources

	Raspberry Pi RMC2GW4B52 Wireless and Bluetooth Breakout [pdf] User Guide RMC2GW4B52, RMC2GW4B52 Wireless and Bluetooth Breakout, Wireless and Bluetooth Breakout, Bluetooth Breakout

References

- Raspberry Pi
- P65Warnings.ca.gov

- Documents - Product Information Portal - Raspberry Pi
- Teach, learn, and make with the Raspberry Pi Foundation
- Documents - Product Information Portal - Raspberry Pi
- Documents - Product Information Portal - Raspberry Pi
- User Manual

Raspberry Pi

Bluetooth Breakout, Raspberry Pi, RMC2GW4B52, RMC2GW4B52 Wireless and Bluetooth Breakout, Wireless and Bluetooth Breakout

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