Raspberry Pi Radio Module 2

RMC20452T

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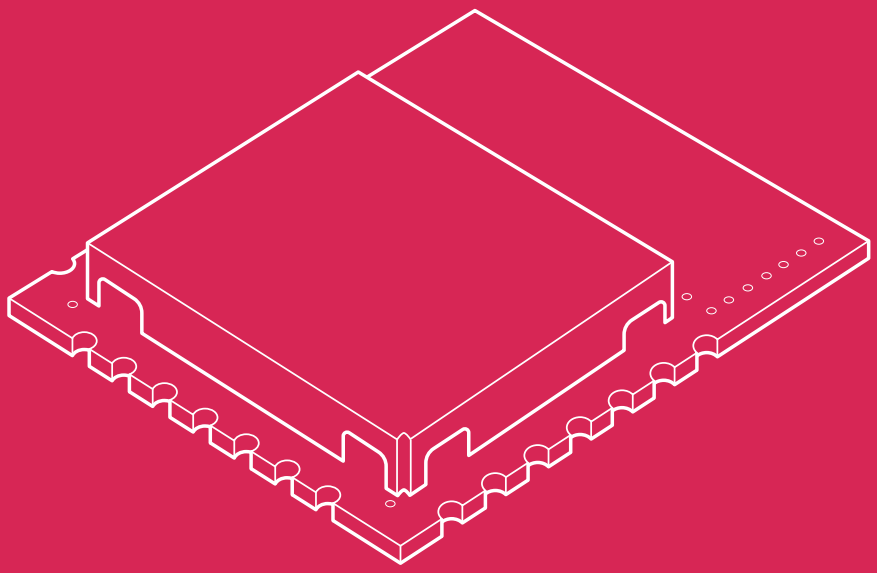
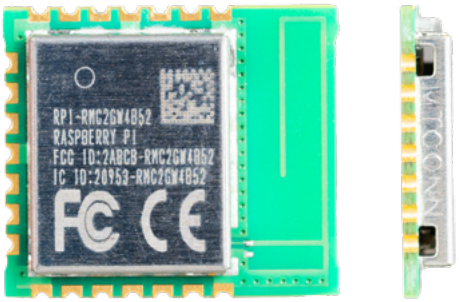


Raspberry Pi Ltd

Overview



Raspberry Pi Radio Module 2 is a radio module designed for use with Raspberry Pi's low-cost, high-performance microcontrollers. It uses Infineon's CYW43439, a single-chip combo device featuring 1×1 single-band 2.4GHz Wi-Fi® 4 (802.11n) and Bluetooth® 5.2 for low-cost applications. It is a small form-factor solution with minimal external components for reduced mass production costs.

The radio module has castellated edge pads to allow for a variety of mounting options, and features an on-board single 2.4GHz antenna for ease of design. It has full modular certification, making integration straightforward with regard to regulatory compliance.

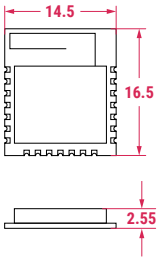
Specification

Wi-Fi® support:	Wi-Fi 4 (802.11n), single-band (2.4 GHz)
Bluetooth® support:	Bluetooth 5.2 Bluetooth Classic and Bluetooth Low Energy (LE)
Compatibility:	Full software compatibility with Pico W and Pico 2 W SDK
Simple GPIO expander:	Three host-controlled GPIOs for added I/O capabilities
Minimal I/O overhead:	Low-pin-count gSPI host interface allows for simplified integration with minimal I/O requirements
Single-antenna design:	SISO[1] configuration supports efficient single-antenna wireless performance Wi-Fi and Bluetooth can coexist with a shared antenna
Connectivity:	Integrated internal PA and LNA for signal range and reliability
Speed:	Supports 20 MHz channels with data rates up to 96 Mbps (PHY rate)
Bluetooth range:	Supports up to 100 m (Class 1) and 10 m (Class 2)
Operating temperature:	−30°C to +70°C
Low power consumption:	IEEE Power Save PM1 DTIM1 average rate 1: 1.19 mA Receive active rate MCS7 (at −50 dBm): 43 mA Transmit active rate MCS7 (at 16 dBm): 271 mA

[1] Single Input, Single Output

Mechanical characteristics:	21-pad castellated package 16.5 mm × 14.5 mm
Datasheet:	For full product specifications, including footprint and reference schematics, please visit rpltd.co/rm2-datasheet
Part number:	RMC20452T
Production lifetime:	Raspberry Pi Radio Module 2 will remain in production until at least January 2036
Compliance:	For a full list of local and regional product approvals, please visit pip.raspberrypi.com
List price:	**$4**

Physical specification



Note:

All dimensions in mm

All dimensions are approximate and for reference purposes only. The dimensions shown should not be used for producing production data

The dimensions are subject to part and manufacturing tolerances

Dimensions may be subject to change

SAFETY INSTRUCTIONS

To avoid malfunction or damage to this product, please observe the following:

- Do not expose to water or moisture.
- Take care while handling to avoid mechanical or electrical damage.