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Raspberry Pi Trading Zero 2 RPIZ2 Radio Module Installation Guide

**Installation Guide for Raspberry Pi Zero 2
Module Integration**

Contents

Purpose

The purpose of this document is to provide information on how to use a Raspberry Pi Zero 2 as a radio module when integrating into a host product.
Incorrect integration or use may infringe compliance rules meaning recertification may be required.

Module Description

The Raspberry Pi Zero 2 module has an IEEE 802.11b/g/n 1×1 WLAN, Bluetooth 5, and Bluetooth LE module based on the Cypress 43439 chip. The module is designed to be mounted, with appropriate screws, into a host product. The module must be placed in a suitable location to ensure WLAN performance is not compromised.

Integration into Products

Module & Antenna Placement
A separation distance greater than 20cm will always be maintained between the antenna and any other radio transmitter if installed in the same product.
The module is physically attached and held in place by screws

In order to connect the module to the system micro USB power cable is connected to J1 on the board. The supply should be 5V DC minimum 2A. Power can also be supplied on the 40 Pin GPIO header (J8); Pins 1 + 3 connected to 5V and pin 5 to GND.
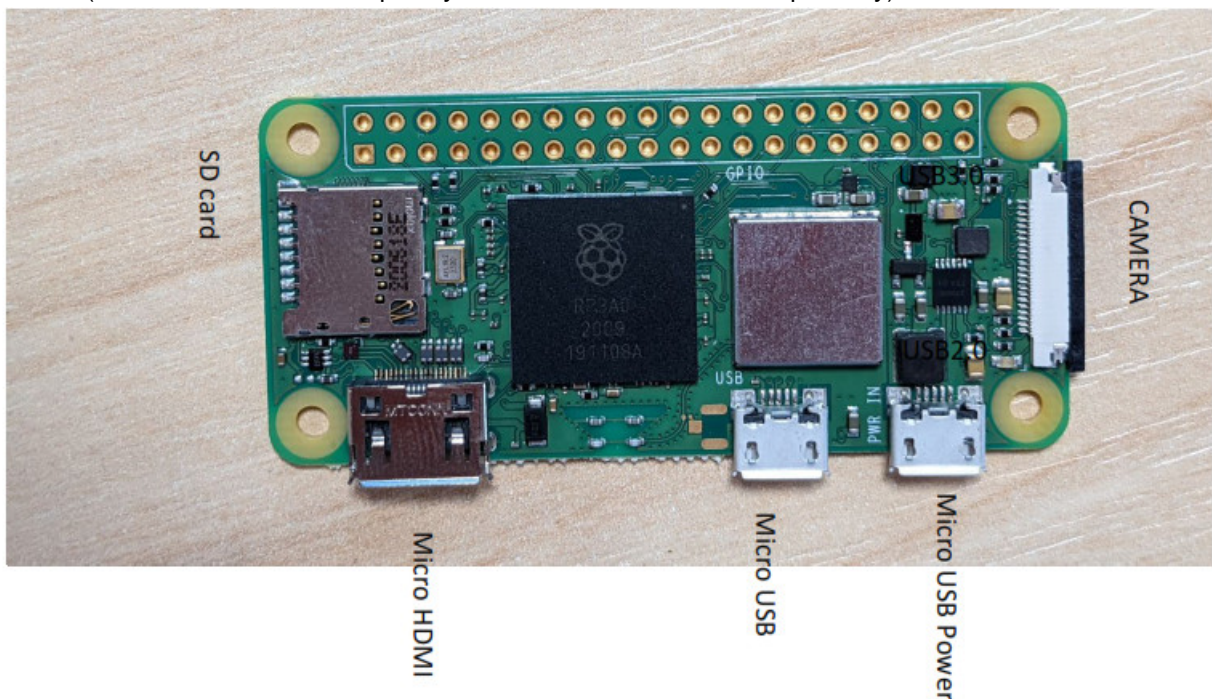

40 Pin GPIO header
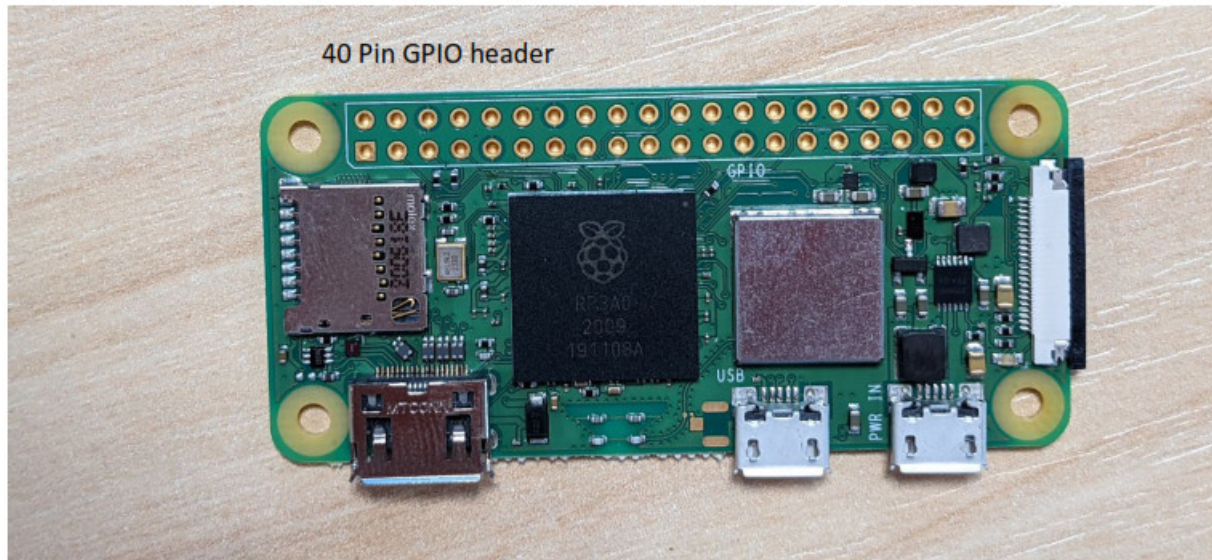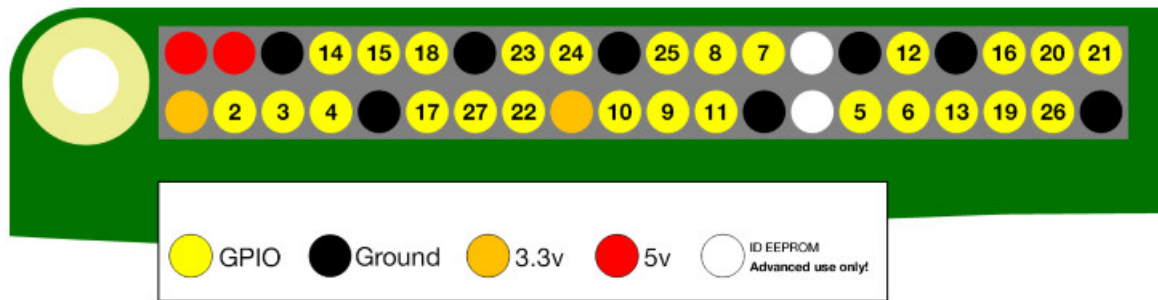
5V DC IN

Dependent on intended usage the following ports can / should be connected;
Mini HDMI
USB2.0 ports
CSI Camera (for use with Official Raspberry Pi Camera Module, sold separately)

Any external power supply used with the Raspberry Pi shall comply with relevant regulations and standards applicable in the country of intended use.
At no point should any part of the board be altered as this will invalidate any existing compliance work? Always

consult professional compliance experts about integrating this module into a product to ensure that all certifications are retained.

Antenna Information

The antenna onboard is a 2.4GHz PCB niche antenna design licensed from Proant with Peak Gain: 2.4GHz 2.5dBi. It is important that the antenna is placed in a suitable place inside the product to ensure optimal operation. Do not place it close to the metal casing.

End Product Labelling

A label is to be fitted to the exterior of all products containing the Raspberry Pi Zero 2 module. The label must contain the words "Contains FCC ID: 2ABCB-RPIZ2" (for FCC) and "Contains IC: 20953RPIZ2" (for ISED).

FCC
Raspberry Pi Zero 2 variants FCC ID: 2ABCB-RPIZ2
This device complies with Part 15 of 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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 in accordance with 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:

- Re-orient or relocate the receiving antenna

- Increase the separation between the equipment and receiver

- Connect the equipment into 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 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 co-located or operation in conjunction with any other antenna or transmitter except in accordance with FCC's multi-transmitter procedures.
IMPORTANT NOTE: FCC Radiation Exposure Statement; Co-location of this module with another transmitter that operates simultaneously are required to be evaluated using the FCC multi-transmitter procedures.
This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The device contains an integral antenna hence, the device must be installed to so that a separation distance of at least 20cm from all persons.

ISED
Raspberry Pi Zero 2 IC: 20953-RPIZ2
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 on the USA/Canada market, only channels 1 to 11 are available for 2.4GHz WLAN Selection of other channels is not possible.
This device and its antenna(s) must not be co-located with any other transmitters except in accordance with 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 a 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 to 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
Host Product User Guide Text
FCC Compliance
This device complies with Part 15 of 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.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 in accordance with 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:

- Re-orient or relocate the receiving antenna

- Increase the separation between the equipment and receiver
- Connect the equipment into 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 operation in conjunction with any other antenna or transmitter except in accordance with FCC's multi-transmitter procedures.

IMPORTANT NOTE: FCC Radiation Exposure Statement; Co-location of this module with other a transmitter that operates simultaneously are required to be evaluated using the FCC multi-transmitter procedures. This device complies with 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 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 WLAN Selection of other channels is not possible.
This device and its antenna(s) must not be co-located with any other transmitters except in accordance with 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 a minimum separation distance of 20cm between the device and all persons.
Host Product Labelling
The host product must be labeled with the following information:
"Contains TX FCC ID: 2ABCB-RPIZ2"
"Contains IC: 20953-RPIZ2"
"This device complies with Part 15 of FCC Rules, Operation is Subject to 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 to OEMs:
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
It is possible for the Host product to use e-labeling providing the Host product supports the requirements of FCC KDB 784748 D02 e labeling 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 in accordance with FCC and ISED Canada requirements. This means that there must be a minimum separation distance of 20cm between the Module's antenna and any persons
A change in the separation distance to one that is less than 20cm between the user and the antenna requires the host product manufacturer to re-assess the RF exposure compliance of the module when placed in the host product. This needs to be done as the module could be subject to an FCC Class 2 Permissive Change and an ISED Canada Class 4 Permissive Change in accordance with 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 in accordance with 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 in accordance with FCC KDB 996396 D01 and ISED Canada RSP-100.

In accordance with FCC KDB 996369 D03, section 2.9, test mode configuration information is available from the Module manufacturer for the Host (OEM) product manufacturer.

Documents / Resources

(document thumbnail)	**Raspberry Pi Trading Zero 2 RPIZ2 Radio Module** [pdf] Installation Guide RPIZ2, 2ABCB-RPIZ2, 2ABCBRPIZ2, Zero 2 RPIZ2 Radio Module, RPIZ2 Radio Module, Radio Module, Module