

1.1 List of applicable FCC rules/RSS:

The module complies with FCC Part 15.249 / RSS-210 Issue 10

1.2 Summarize the specific operational use conditions:

The module has been certified for Portable applications. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter

The manual provides guidance to the host manufacturer will be included in the documentation that will be provided to the OEM.

The OEM integrators, host manufacturers are responsible for ensuring that the end-user has no manual or instructions to remove or install module.

Important notes to third party user, host manufacturer for transceiver module:

The transceiver Module complies with Part15 of the FCC rules and regulations. Compliance with the labeling requirements, FCC notices and antenna usage guidelines is required. To fulfill FCC Certification, the third-party user must comply with the following regulations:

1. The third-party user must ensure that the text on the external label provided with this device is placed on the outside of the final product. Contains FCC ID: SQ9RTX7310 / IC: 5768B- RTX7310. The enclosed 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 may cause undesired operation.
2. The transceiver Module may only be used with the onboard PCB antenna (internal, integral antenna) that have been tested and approved for use with this module.
3. The transmitter is certified as a module, it may be integrated or used inside another device (host). No further approval is required when the module is used in accordance with the FCC grant conditions, and any limitations or usage conditions required by the manufacturer's instructions. Modifications not approved by grantee could void the user's authority to operate the equipment.
4. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
5. Third party users, host manufacturer must test final product to comply with unintentional radiators before declaring compliance of their final product to Part 15 of the FCC Rules.

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 may cause undesired operation.

FCC Statement

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:

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

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1.3 Limited module procedures

The module is limited to OEM installation ONLY.

Module grantee (the party responsible for the module grant) responsible for approving the host environment that the limited module is used with.

The module has not its own RF shielding, which belong to Limited module Standard requires:

Clear and specific instructions describing the conditions, limitations and procedures for third-parties to use and/or integrate the module into a host device.

Grantee will retain control over the final installation of the device, such that compliance of the end-product is assured. The RF portions of the module will be completely contained within a metal shielding inside the host. In such cases, an operating condition on the LMA for the module must be only approved for use when installed in devices produced by a specific host manufacturer.

RF exposure considerations: This equipment complies with FCC's RF radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

For additional hosts other than the specific host originally granted with a limited module, a C2PC (Class II Permissive Changes) application is required on the module grant to register the additional host as a specific host also approved with the module.

The host manufacturer is responsible for additional testing to verify compliance as a composite system. When testing the host device for compliance with the Part 15 Subpart B requirements, the host manufacturer is required to show compliance with the Part 15 Subpart B while the transmitter module(s) are installed and operating. The modules should be transmitting and the evaluation should confirm that the module's intentional emissions are compliant (i.e. fundamental and out of band emissions) with the Radio essential requirements. The host manufacturer must verify that there are no additional unintentional emissions other than what is permitted in the Part 15 Subpart B or emissions are compliant with the Radio aspects.

1.4 Trace Antenna Designs:

Not Applicable.

1.5 RF exposure considerations:

The module has been certified for Portable applications.

End-user product Manual shall contain below RF exposure statements.

This equipment complies with FCC's RF radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

If RF exposure statements and use conditions are not provided, then the host product manufacturer is required to take responsibility of the module through a change in FCC ID (new application).

1.6 Antennas:

Type: Fixed PCB trace type antenna

Gain: 0dBi

The antenna is permanently attached, can't be replaced

1.7 Label and compliance information:

Product Description: 2.4GHz Module

Model / HVIN: RTX7310

The module device FCC ID: SQ9RTX7310 / IC: 5768B- RTX7310

FCC/IC Label: The FCC ID/IC certification number is on the back of the device. It is easily visible.

The host product Labeling Requirements:

NOTICE: The OEM system integrator, host manufacturer must make sure that FCC labeling requirements are met. This includes a clearly visible exterior label on the outside of the final product housing that displays the contents shown in below:

This device contains FCC ID: SQ9RTX7310

This device contains IC: 5768B-RTX7310

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 may cause undesired operation.

1.8 Information on test modes and additional testing requirements:

When testing host product, the host manufacture should follow FCC KDB Publication 996369 D04 Module Integration Guide for testing the host products. The host manufacturer may operate their product during the measurements. In setting up the configurations, if the pairing and communication for testing does not work, then the host product manufacturer should coordinate with the module manufacturer for access to test mode software.

1.9 Additional testing, Part 15 Subpart B disclaimer:

The modular transmitter is only FCC authorized for the specific rule parts (FCC Part 15.249) list on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed when contains digital circuitry.

1.10 FCC/IC statement in final product manual:

Below FCC/IC statement shall be included in final product manual

CAUTION: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

FCC Regulations

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 may cause undesired operation.

This device 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:

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

English

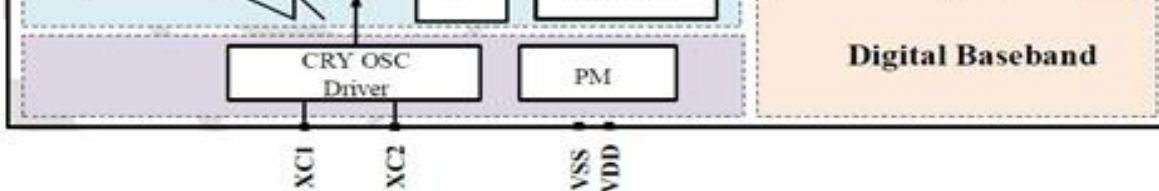
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

French

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

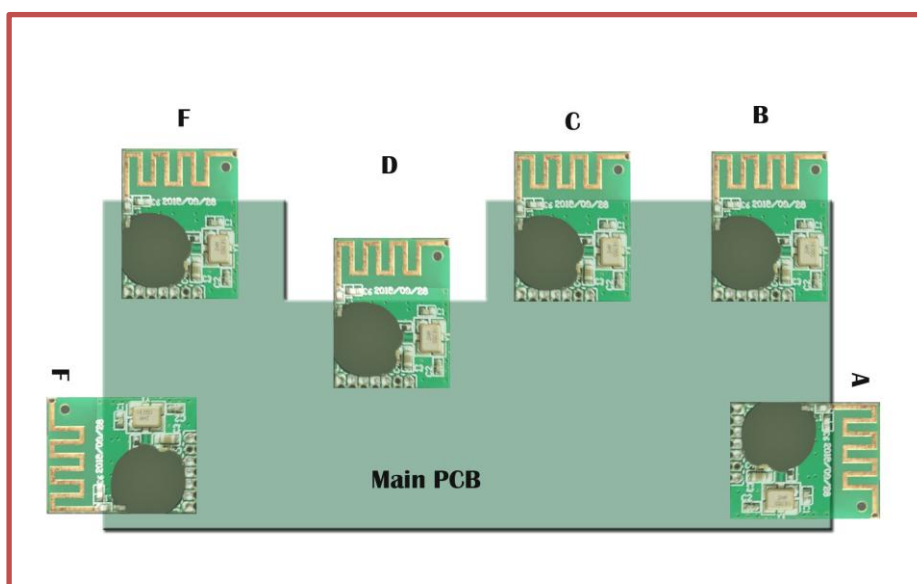


RTX7310 2.4GHz module User Manual

How to place the module on main PCB

If the product uses modules on-board design, the location of modules should be considered, to reduce the effect on module antenna performance from the main PCB.

It is suggested to extend the module antenna area out of the main PCB and make the module as close to the edge of main PCB as possible.



Module location diagram on main PCB

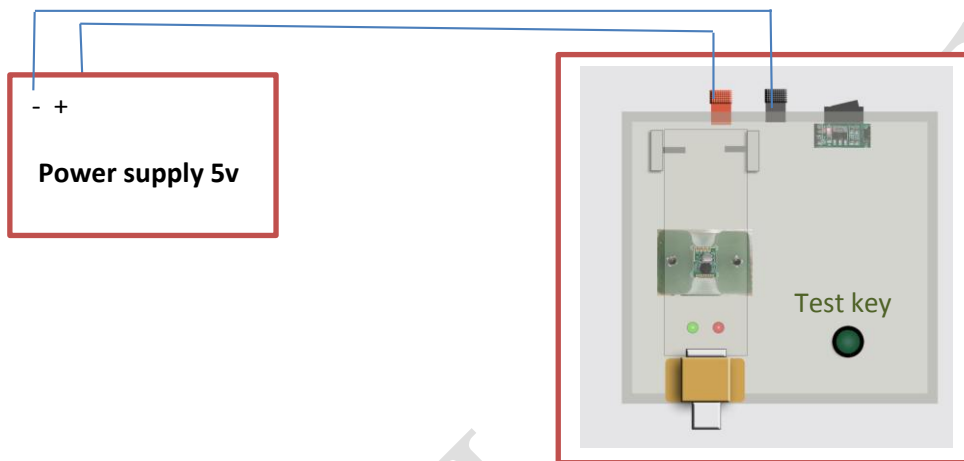
- A、B : Strongly recommended
- C、D、E : Acceptable but not recommended
- F: If there is not enough space for main PCB, keep the clearance between module and main PCB 15mm.

As shown above, module should be on the PCB side and Modules should be away from noise sources such as CPU、 motor、 USB cable and keys etc.

It is better to connect a 100 ohm resistor in series between the SPI communication PIN and the module, which can reduce the interference between the MCU and the module.

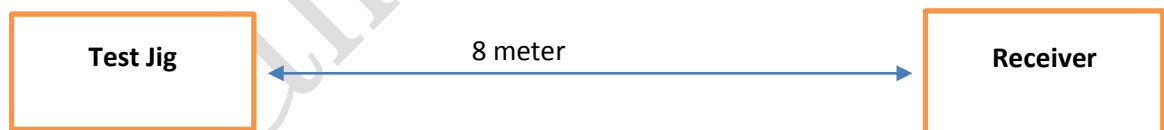
How to test the module

Set the output voltage of power supply to 5v, and connect the output plug to the test jig power input terminal.



Schematic diagram of power supply and test Jig

Set the distance between the test Jig and the receiver. During the test, the transmitting power is 5dBm, usually the distance is about 8m.



Test process:

Press test key on test jig, the tested module will send a set of signals, the receiver at 9 meters away picks up this set of signals, will send back the a new set of signals to tested module, After the tested module receive related reply signals, communication test passed.

Note:

As 2.4g belongs to ISM band, the Bluetooth and Wifi devices near the test environment may interfere with the test process and cause the test to fail sometimes. If the test fails, retest the module again.