

## Trilliant Networks 100mw Radio Module Installation Instructions



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The Trilliant Networks 100mw Radio Module is a 2.4GHz 802.15.4 data transceiver module. The module contains a trace antenna or optional MMCX connector. Power is supplied by a host module with a nominal operating voltage of 3.3 volts.

Specification of the radio includes:

IEEE Standard:	802.15.4
Power Output:	100 mw (+20 dBm)
Radio Sensitivity:	-92 dBm minimum
RF Data Rate:	250kbps
Operating Frequency:	2.4-2.485 GHz
Bit Error Rate:	$7 \times 10^{-7}$ @92dBm
Network Topology:	Mesh, Point to Point
Spread Spectrum:	Direct Sequence
Modulation:	O-QPSK
Radio Dimensions:	1.6" x 1.5"
Antenna Options:	Directional trace antenna or MMCX external

### **Compliance Statement (Part 15.19)**

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.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

### **Warning (Part 15.21)**

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

### **RF Exposure (OET Bulletin 65)**

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20cm separation distance between the antenna and all persons.

### **FCC Interference Statement (Part 15.105 (b))**

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 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.

To comply with FCC's RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

### **OEM Responsibility to the FCC Rules and Regulations**

The 100mW Module has been certified per FCC Part 15 rules for integration into products without further testing or certification. To fulfill the FCC certification requirements the OEM of the "100mW" Module must ensure that the information provided on the "100mW" Label is placed on the outside of the final product.

The "100mW" Module is labeled with its own FCC ID Number. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:

**"Contains Transmitter Module FCC ID: TMB-EM000018"**

or

**"Contains FCC ID: TMB-EM000018"**

The OEM of the "100mW" Module must only use the approved antenna, which has been certified with this module.

The OEM of the "100mW" Module must test their final product configuration to comply with Unintentional Radiator Limits before declaring FCC compliance per Part 15 of the FCC rules.

### **Industry Canada Statement**

The term "IC" before the certification/registration number only signifies that the Industry Canada technical specifications were met.