

# Epoke Radio module RX001

## USER/SERVICE MANUAL

Rev 0.2

### Specifications:

Size: 35mm \* 41mm

Connectors: 2 pc 2\*10 pins, 2x2mm pitch.

Supply voltage: 3.3V (3.0V.3.5V)

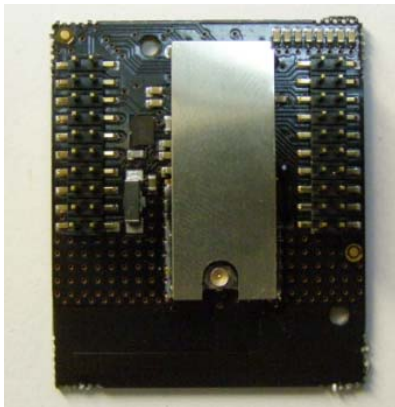
Radio and microcontroller IC: MC13212 (Freescale)

RF standard: IEEE 802.15.4

Frequency range: 2405MHz to 2480MHz

Output power: configurable depending on antenna/accomodating equipment to obtain up to 15.70mW.

I/O: two full duplex RX/TX serial ports (LV-TTL)  
29 I/O (including 8 configurable analog inputs)



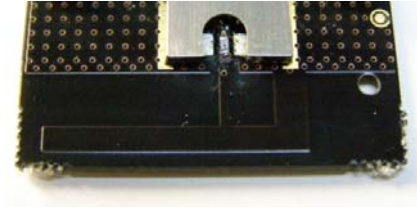
RX001 component side



RX001 back side (visible when mounted)

### Certified antennas:

- 1) built-in F-antenna on circuit board (0 ohms mounted as R1, no UFL connector).
- 2) UFL connector mounted and connected to shortened vertical dipole via 150mm UFL to RPSMA-bulk cable.
- 3) UFL connector mounted and connected to full-length vertical dipole with 130mm integrated coax cable.



1) F-antenna (No UFL connector)



2) Antenna with RPSMA connector and cable



3) Antenna with fixed UFL connector

#### Mounting:

- 1) Connect the antenna cable to the radio module using the UFL connector (antenna 2 or 3 only).
- 2) Insert the module components down in the two mating 2\*10 pole connectors while observing correct orientation. The module firmware will recognize the equipment in which it is inserted and adjust transmit power and protocol mode accordingly.

#### Operation:

The operation of the radiolink established by two or more modules is entirely embedded into the Epoke Epomaster control system and requires no user interaction.

#### Warning:

*To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter*

## Statements related to FCC certification:

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.

Changes or modifications to the equipment not expressly approved by the Epoke will void the user's authority to operate the equipment.

NOTE: 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.

## Statements related to Industry Canada certification:

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.

This device has been designed to operate with an antenna having a maximum gain of 3dB . Antenna having a higher gain is strictly prohibited per regulations of industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p) is not more than that permitted for successful communication.

## Revision control

Rev 0.1/090114/JB First issue

Rev 0.2/090313/JB Corrections to max power frequency range and photo(label).

E.i.r.p. limitation added to IC related statements

Proximity warning added.