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Checked	AE/EBA1-AU BW	06/02/2019	
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Operation and integration instructions

General Description

Radio frequency module encompassing two variants. This module operates as a frequency hopping system in the 915MHz band. The variants have identical RF sections and only differ in non-radio frequency parts loading with connectors and a USB to UART section.

Parts Affected

Model Number	Part Number	Interface
6LP SN	F005V19473	Serial
6LP GW	F005V19474	Mini PCI-E USB

Features

- Operating band: 902 to 928MHz
- Channels used: 917 to 927.6MHz
- Number of channels: 50

MCSS RF Module

- Nominal power (radiated or conducted): 24.5dBm conducted
- Modulation(s): 2GFSK 50KHz deviation
- Nominal bandwidth: 100KHz
- Frequency hopping transmitter
- OEM installation only

Regulatory Information

The finished product is required to comply with all applicable FCC equipment authorisations, regulations, requirements and equipment. We will provide guidance to the host manufacturer for compliance with the FCC part 15B requirements.

The OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove or install module.

The module is limited to installation in mobile or fixed application.

Labelling and user information requirements

The end device must be labelled with the FCC ID. If the FCC identification number of the module 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:

<p><i>Contains Transmitter Module FCC ID: LXP-6LPRF</i></p> <p>or</p> <p><i>Contains FCC ID: LXP-6LPRF</i></p>
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Any similar wording that expresses the same meaning may be used.

The user's manual must include the following text:

<p><i>Warning: Any changes or modifications not expressly approved by (company name) could void the user's authority to operate this equipment</i></p> <p><i>THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION</i></p> <p><i>IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST</i></p> <p><i>ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.</i></p>

RF Antennas

The transmitter can only be used with the following antennas:

- Pulse W5012 2dBi half wave dipole connected by a 200mm Amphenol u.fl to RP-SMA cable 336314-14-0200

MCSS RF Module

Any connection used in the host system must use a unique antenna connection on the outside of the device. Recommended connection is an RP-SMA type and that is included in the module kit.

Antenna location must be selected to provide at least 20 cm between itself and nearby persons.

RF Exposure

Calculated using MPE as the unit is designed for mobile or fixed location transmitters no SAR has been calculated/measured. The unit is designed for >20cm distance to any person when in use. The unit is designed for general population/uncontrolled exposure of $S < 1 \text{mW/cm}^2$.

$$S = \frac{P * G}{4\pi d^2}$$

S=Power density in mW/cm^2

D=distance in cm

P=power in mW

G=numeric antenna gain = 2dB = 1.258

EUT output power = 310mW

$S = 0.077584 \text{mW/cm}^2$ which complies with the FCC requirements.

Helpful Websites

- [Federal Communications Commission \(FCC\)](#)