

LSD4RF-25410N15 2.4G
Module
User Manual

FCC STATEMENT

This device complies with part 15 of the FCC rules and Industry Canada Licence-exempt RSS standard(s). Operation is subject to the following 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.

DÉCLARATION DE LA FCC

Cet appareil est conforme à la section 15 des réglementations de la FCC. Le fonctionnement de l'appareil est sujet aux deux conditions suivantes :

- 1) cet appareil ne doit pas provoquer d'interférences néfastes, et
- 2) cet appareil doit tolérer les interférences reçues, y compris celles qui risquent de provoquer un fonctionnement indésirable.

Caution:

This device complies with Part 15 of the FCC Rules / Industry Canada licence-exempt RSS standard(s). 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.

Le présent appareil est conforme aux CNR d'Industrie 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. 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 necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

MPE Reminding

To satisfy FCC / IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l'antenne.

La FCC des États-Unis stipule que cet appareil doit être en tout temps éloigné d'au moins 20 cm des personnes pendant son fonctionnement.

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

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The antenna of the module has been printed on it.

The frequency of the is 2400~2483.5MHz.

And the required impedance is 50 ohm.

Introduction

LSD4RF-25410N15 Wireless Module is designed based on TI Transceiver CC2500 and CC2590. It is a high performance 10mW SMD IOT wireless Transceiver that can be used in a wide range of short distance IOT communication. It has low power consumption, high resistance to disturbance, small in size and low cost. The module adopts SMD wireless PCB antenna, providing a compact size.

Functions

Operating Voltage: 3.3VDC

I/O interface level: 0~ 3.3VDC

Operating Frequency: 2438.99 ~ 2458.98MHz

2-FSK modulation, enhance anti disturbance power

lower power consumption: Tx 45mA Rx 25mA Sleep 3uA

Rapid Channel Hopping: <90uS Hopping

SPI Comm. interface: Programmable

Programmable comm. rate: Max. 500Kbps

Transmission range: 60m

SMD interface

High performance, compact size

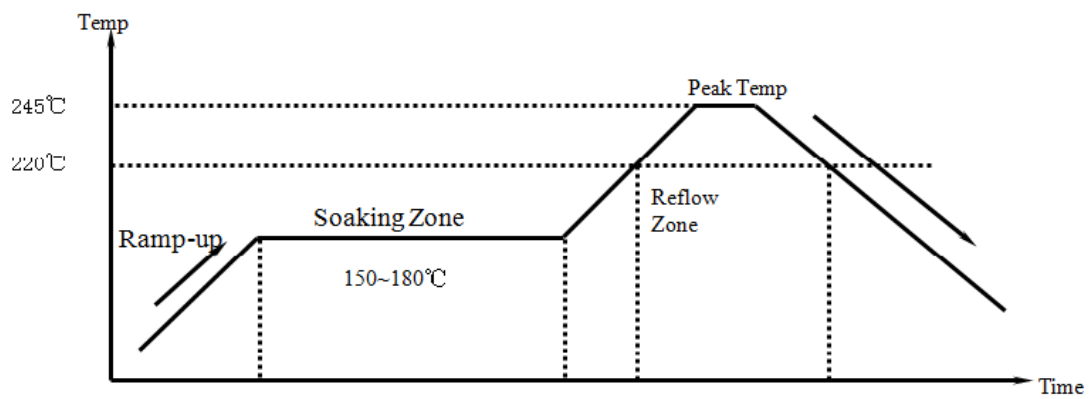
Antenna: PCB 2400~2483.5MHz 0dBi 50 ohm.

Manufacture Guidance

The label contained the FCC ID will be installed on the module as below method.



And the module will be installed on the control panel as the method below.
The Figure shows the temperature graph when manufacture by reflow soldering method.



The final view:



The Information of Antenna

Electrical Specification

The antenna is printed on the module.

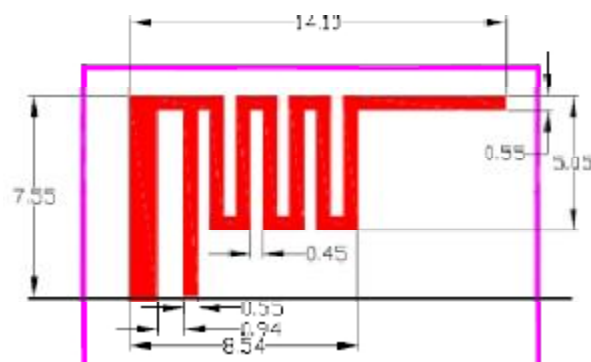
The antenna is installed inside the host unit and the final user can not install the antenna themselves. The module and antenna are installed with a distance over 20cm from the user during use.

Test the VSWR of the antenna with the Network Analyzer E5071C. The yellow waveform in the figure below is the test result of this antenna.



Frequency(MHz)	Gain(dBi)	VSWR
2433	-3 ~ 0	<2

Mechanical Size



The Information of FCC ID

The FCC ID of the module will be contented in the host unit.



Robotic Housekeeper (3G+Wi-Fi)

Model: F588

Input: 14.5V DC 0.75A

Charging Dock: CH1205B

Battery: 12VDC, 2500mAh, Ni-MH

Producing date: 11/2012

User Name: ××××××0001



Contains FCC ID:2AAL3-LSD4RF.

Contains IC:12253A- LSD4RF

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