

深圳市森茂微科技有限公司

<http://www.sunmore-etc.com>

深圳市龙华区东环一路天汇大厦D栋810

Tel: 0755-23498381

Fax: 0755- 23498380

CC2500 module specification

MRF24G25

Important Notice:

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Revision History

Rev. No.	History	Issue Date	Remark
1.0	Initial issue	Dec-2019	Preliminary

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1.General Description

The MRF24G25 module is designed for 2.4GHz ISM band wireless applications using TI CC2500 FSK transceiver. This module has a high gain ceramic antenna ,and The RF transceiver is integrated with a highly configurable baseband modem. The modem supports various modulation formats and has a configurable data rate up to 500 kBaud.

2. Electrical specification

Item	Specification	Remark
Supply voltage	+3.3V	
Current consumption	<10uA@SLEEP MODE 30mA@ RX mode (500KBaud,MDMCFG2,DEM_DCFILT_OFF=0) 130mA @TX mode	
Frequency	2433-2480.99MHz	ISM band
Rx sensitivity	-104dBm at 2.4KBaud 1% packet error rate	
Modulation	GFSK	
Interface	7 pin 2mm header, 6 pin 2mm header	
Mechanical Dimensions	28mm(L) x 13mm(W) x 4.3mm(H)	
Operating temperature	(Depend on crystal Spec. ,example: Fork type_-10°C ~ 60°C)	

3.Interface

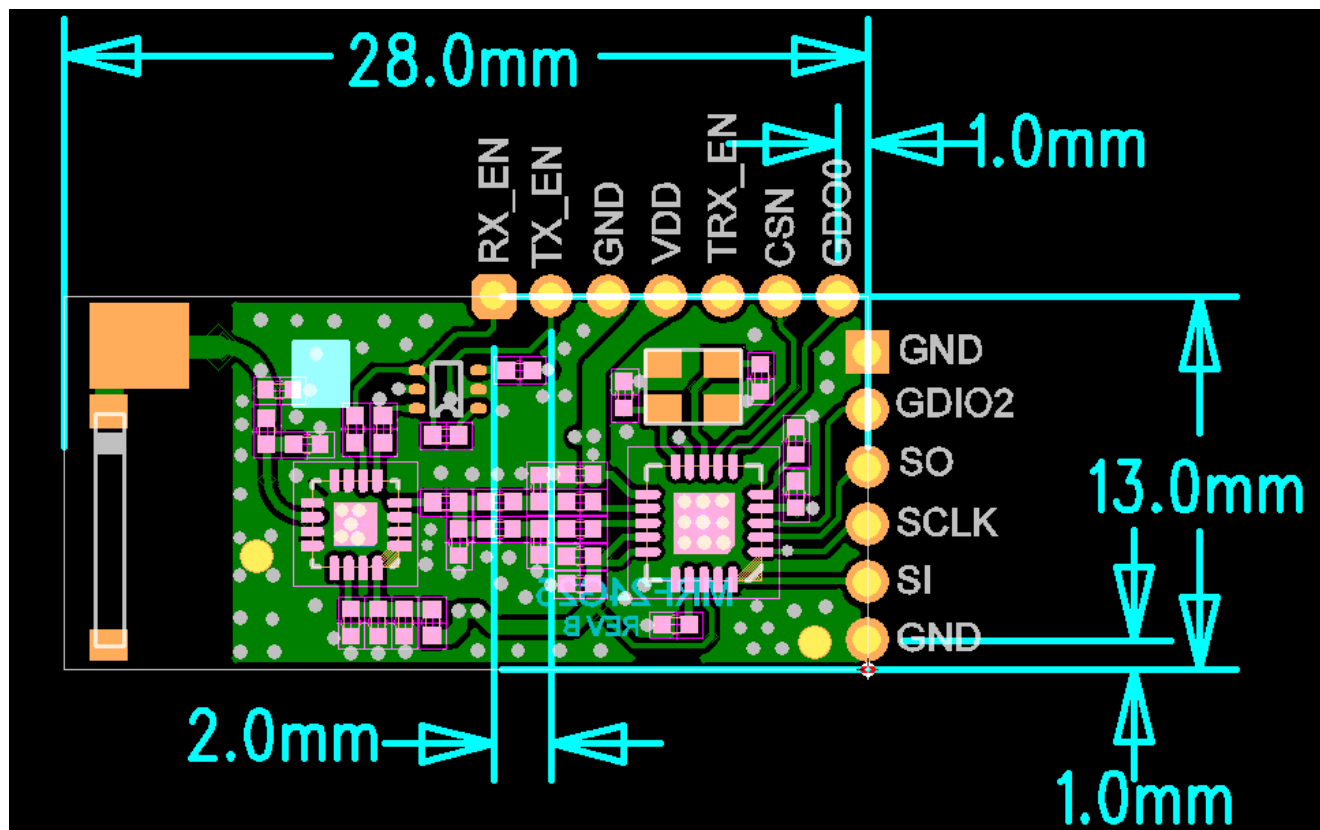
Pin No.	Pin name	Comment	Note
1	RX_EN	LNA ON/OFF	
2	TX_EN	PA ON/OFF	
3	GND	Ground	
4	VIN	RF Module Supply Voltage Input	+3.3V
5	NC	NO CONNECT	
6	CSN	SPI Chip Selection	
7	GDO0	General Purpose I/O 0	
8	GND	Ground	
9	GDO2	Digital output pin for general use	
10	SO(GDO1)	SPI Data out	
11	SCLK	SPI Clock	
12	SI	SPI Data IN	
13	GND	Ground	

note : RX_EN =1 LNA ON ,RX_EN=0 LNA OFF

TX_EN=1 PA ON, TX_EN=0 PA OFF

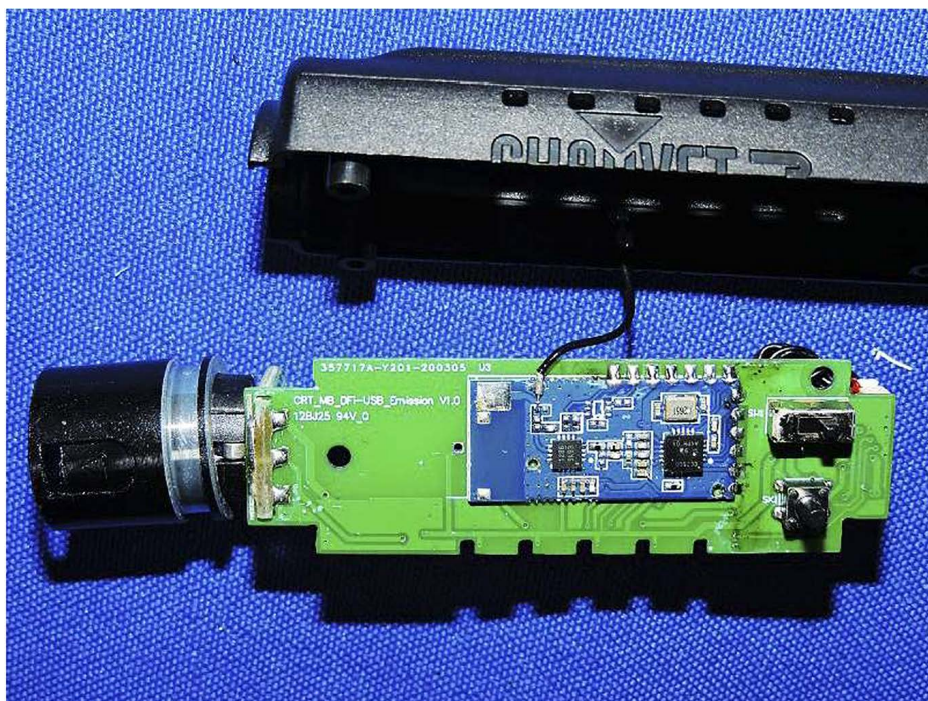
RX_EN=0 TX_EN=0 For Standby

4. Module packaging information



TOP View

Host and EUT



FCC Statement

FCC standards: FCC CFR Title 47 Part 15 Subpart C Section 15.249

Integral antenna with antenna gain 3.0dBi

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could 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.

We will retain control over the final installation of the modular such that compliance of the end product is assured. In such cases, an operating condition on the limit modular approval for the module must be only approved for use when installed in devices produced by a specific manufacturer. If any hardware modify or RF control software modify will be made by host manufacturer, C2PC or new certificate should be apply to get approval, if those change and modification made by host manufacturer not expressly approved by the party responsible for compliance, then it is illegal.

FCC Radiation Exposure Statement

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device.

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

If the FCC identification number 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:XAO-DFI Or Contains FCC ID: XAO-DFI "

When the module is installed inside another device, the user manual of the host must contain below warning statements;

1. 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.

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.

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

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

Any company of the host device which install this modular with limit modular approval should perform the test of radiated & conducted emission and spurious emission, etc. according to FCC part 15C : 15.249 and 15.209 & 15.207 , 15B Class B requirement, Only if the test result comply with FCC part 15C : 15.249 and 15.209 & 15.207 , 15B Class B requirement, then the host can be sold legally.