CC2500 19dBm Module Specification

Model: MRF24G29
FCC ID: 2BVTZ-MRF24G29

Important Notice

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Revision History

Rev.No	History	Issue Date	Remark
1.0	Initial Release	Sep 2022	

1. General Description

The MRF24G29 is designed for 2.4GHz ISM band wireless applications using TI CC2500 FSK transceiver. This module has an integrated Spring Antenna, and the RF transceiver is integrated with a highly configurable baseband modem. The modem supports 802.11b/g/n 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) 130mA @ TX mode +19dBm output power	
Frequency	2400-2483MHz	ISM band
TX Power	+19dBm / +1dBm / -2dBm	
Rx Sensitivity	-104dBm at 2.4KBaud 1% packet error rate	
Modulation	802.11b: DSSS(CCK, DQPSK, DBPSK); 802.11g: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n(HT20 and HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM)	
Interface	10 pin 1.5mm header	
Mechanical Dimensions	40mm(L) x 25mm(W) x 6.4mm(H)	
Operating Temperature	-10℃ ~ 60℃	

3. Interface

Pin No.	Pin Name	Comment	Note
1	VIN	RF Module Supply Voltage Input	+3.3V
2	GND	Ground	
3	SI	SPI Data IN	

4	CSN	SPI Chip Selection
5	SO(GDO1)	SPI Data out
6	SCLK	SPI Clock
7	GDO0	General Purpose I/O 0
8	TX_EN	PA ON/OFF
9	RX_EN	LNA ON/OF
10	PWR_EN	POWER ON/OF

Operating Logic 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: Standby Mode
• PWR_EN = 0: POWER ON; PWR_EN = 1: POWER OFF

4. Application Scenarios

- Smart LED lamps / Decorative lighting products
- Wireless dimming systems / RGB/RGBW lighting controllers
- Stage, entertainment, and commercial lighting control systems
- Smart home lighting equipment and wireless industrial lighting

5. Control Panel Description

Button	Function
<MENU>	Exits from the current menu or function
<UP>	Navigates upwards through the menu list and increases the numeric value
<DOWN>	Navigates downwards through the menu list and decreases the numeric value

<ENTER>	Enables the currently displayed menu or sets the currently selected value

6. Module Packaging Information

Mechanical Outline Dimensions: 40mm(L) x 25mm(W) x 6.4mm(H)

FCC Statement:

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.

Warning:

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

NOTE:

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.

The equipment complies with FCC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.