

MRF24G32 specification

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CR PHOTOELECTRIC TECHNOLOGY CO.LTD

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ChinaTel:0752-3166801 FCC ID: 2AL9S-MRF24G32

Revision History

Rev. No	History	Issue Date	Remark
V1.0		May 2024	initial

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1.General Description

The MRF24G32 module is a wireless remote control LED lantern designed for the 2.4 GHz ISM band wireless application designed by CH32X035G8U6 + CC2500 and the ISM band wireless 433 MHz RF receiver designed. The module has a high-gain antenna, and the RF transceiver is integrated with a highly configurable baseband modem. The modulator supports a variety of modulation formats, with configurable data rates up to 2.4G 500 k and 433MHz 5K baud.

2. Electrical specification

Item	Specification	Remark
Supply voltage	+5V	
Current consumption	<1.3A@TX Mode + LED ON <100mA@ TX Mode + LED OFF <1.2A @TX mode + LED ON <80mA@RX Mode + LED OFF	
Frequency	2403-2480MHz 433.92MHz	
Rx sensitivity	2.4G@-90dBm at 2.4KBaud 1% packet error rate 433MHz@-96dbm at 1kBaud	
Modulation	OOK/2-fsk/GFSK/MSK	
Interface	Two TYPEC interfaces	
Mechanical Dimensions	Φ 49mm	
Operating temperature	(Depend on crystal Spec., example: Fork type_ -10°C ~ 60°C)	

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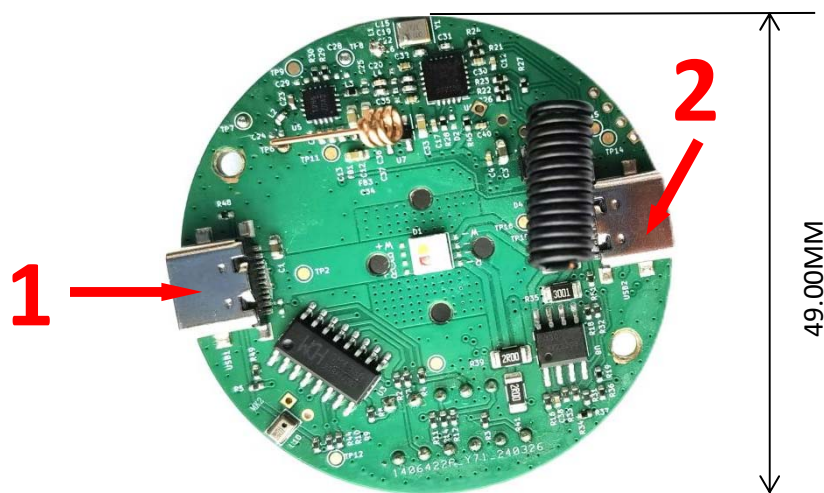
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3.Interface

Pin No.	Interface name	Comment	Note
1	TYPE-C	+5V IN	
2	TYPE-C	+5V IN/UP Date	

4. Module packaging information



TOP View



Bottom View

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

This device 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 device 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 device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and receiver.
- Connect the device 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

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

Please notice that 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 FCC ID: 2AL9S-MRF24G32" any similar wording that expresses the same meaning may be used.

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

Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01r01**2.2 List of applicable FCC rules**

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

2.4 Limited module procedures

Not applicable

2.5 Trace antenna designs

Not applicable

2.6 RF exposure considerations

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

2.7 Antennas

This radio transmitter FCC ID: 2AL9S-MRF24G32 has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Type	Model	Gain	Frequency Range
Integral Antena	HX-B456D	-0.16dBi Max.	2400-2450MHz

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains FCC ID: 2AL9S-MRF24G32".

2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.

2.11 Note EMI Considerations

Host manufacture is recommended to use D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.

2.12 How to make changes

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system. According to the KDB 996369 D02 Q&A Q12, that a host manufacture only needs to do an evaluation (i.e., no C2PC required when no emission exceeds the limit of any individual device (including unintentional radiators) as a composite. The host manufacturer must fix any failure.