

GSRMI24-2 Specification

GSRMI24-2
2.4 GHz Digital RF Module
Specification

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* This wireless device is designed to receive only the constant voltage power supply in the finished product.

GSRMI24-2 Specification

1. Description :

GSRMI24-2 is a 2.4 GHz ISM band RF Module consists of an ARF2498 transceiver, a 16MHz crystal and Inverted F Antenna in a small board size. This module has high transmission data rate, low current consumption and simple control interface is easy to apply to the wireless products.

2. Specification :

- Frequency : 2 402 MHz ~ 2 480 MHz
- Channel Spacing : 1 MHz
- Channel Switching Speed : <125 uS
- Modulation Type : GFSK
- Operation Voltage : (1.9 ~ 3.6) VDC
- Output Power : +0 dBm
- Sensitivity : -93 dBm / -82 dBm @0.1 % BER 250 kbps / 2.0 Mbps(w/o ant.)
- Data Rate : 250 kbps / 2.0 Mbps
- Operating Temperature : -40 ~ +85 degree C
- Built-in Antenna : -4.44 dBi
- TDD full-duplex, including decoder, encoder and 64 byte FIFO data buffer.
- Supports Auto ACK and & Retransmit
- Supports Star-Network with 6 channels
- Supports CRC
- 4-wire digital interface (SPI)
- Small footprint size : (20.5 * 18.0 * 3.8) mm.

3. Application :

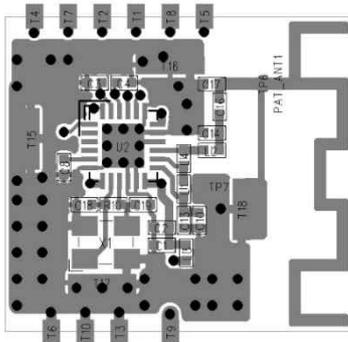
- Wireless mouse, keyboard, joystick
- Keyless entry
- Alarm and security system
- Home automation
- Surveillance
- Automotive
- Telemetry
- Industrial sensors
- Wireless data communication
- Toys

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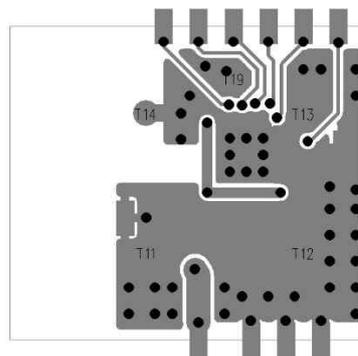
4. Pins Assignment :

Pin	Name	Description
T1	SPI_MOSI	a. Master output / slave input in SPI mode.
		b. Data input in buffer mode.
T2	SPI_CLK	SPI input clock.
T3	GND	Ground connection
T4	SPI_MISO	a. Master input / slave output in SPI mode.
		b. Data output in buffer mode.
T5	CSn	SPI selection / programming enable.
T6	GND	Ground connection
T7	DR_IRQ	a. Interrupt signal in buffer mode.
		b. Data input / data output in direct mode.
T8	CE	Chip enable, enable voltagr regulator.
T9	VDD	Power supply voltage +3.3V
T10	GND	Ground connection
T11, T12, T13, T14, T19 : GND		

5. PCB Dimension :

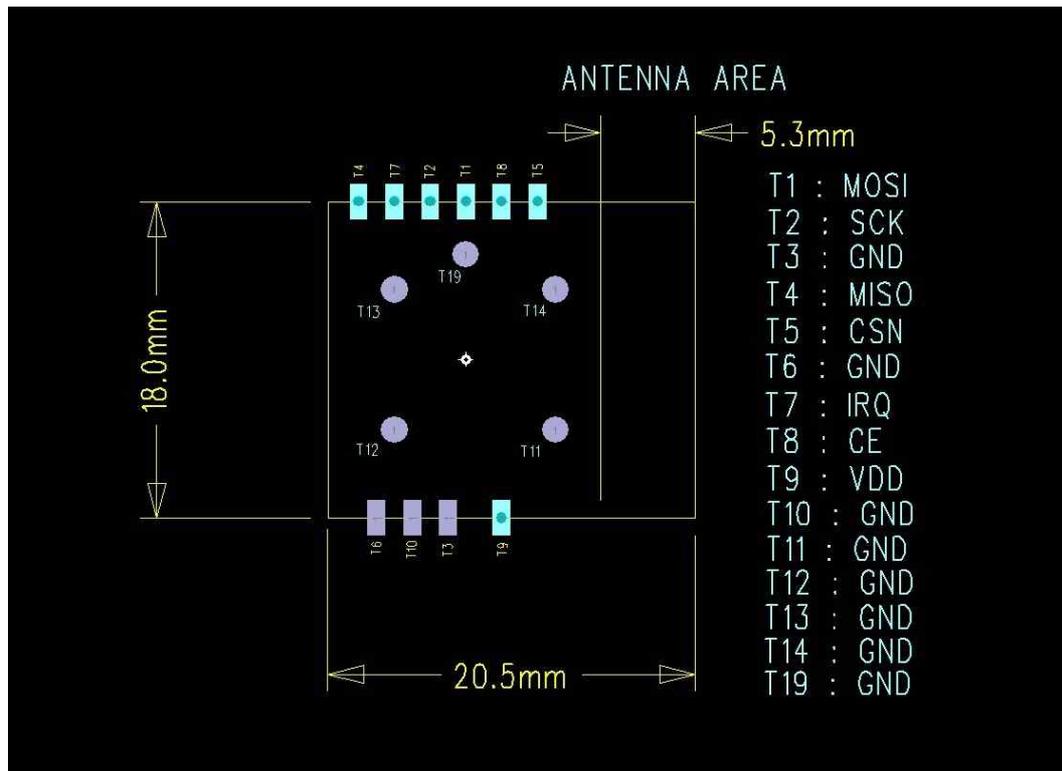


Top view



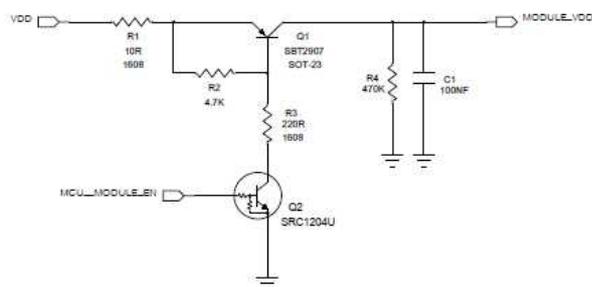
Bottom view

6. Mechanical specification



- DR_IRQ a. Interrupt signal in buffer mode.
 b. Data input / data output in direct mode.

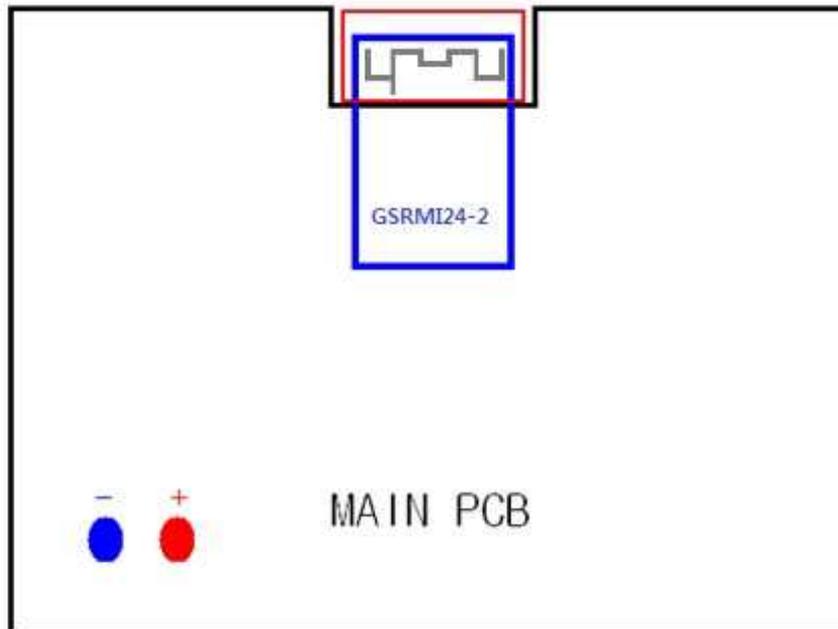
7. Application circuit (For Reference)



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8. Layout Considerations

The antenna keep-out area which is 5 mm around the parameter of the module region is shown in the red box. PCB material and signal traces should not be placed within the antenna keep-out area to assure optimum antenna performance.



FCC Information

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.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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 correct the interference by one or more of the following measures:

- 1.1. Reorient or relocate the receiving antenna.
- 1.2. Increase the separation between the equipment and receiver.
- 1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
- 1.4. Consult the dealer or experienced radio/TV technician for help.

WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Information for OEM Integrator

This device is intended only for OEM integrators under the following conditions:

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

End product labelling

The label for end product must include "Contains FCC ID: R6G-GSRMI24-2"

"CAUTION : Exposure to Radio Frequency Radiation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with minimum distance of 20cm between the radiator and your body. This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users."