

User Manual

CRM-24B BLE module

1. Overview

CRM-24B is a general purpose BLE module

It is compact size and uses A8107(2.4GHz FSK/GFSK SiP wireless transceiver) of AMICOMM.

2. Operation

The product using this module(CRM-24B provides the door open operation to the authenticated user through the application of the smartphone.

3. Features

Items	Specification	Remark
Operation Voltage	DC 3.3V(±10%)	
Power consumption (MCU only, RF in sleep mode)	0.8uA @Deep Sleep mode 3.0uA @Sleep(WOR/TWOR off) 5.0uA @Sleep (WOR /TWOR wake) 2.5mA @Normal	
Power consumption (RF with MCU in normal mode)	3mA @Stand-by mode 12.5mA @PLL mode 19.5mA @Rx mode 23mA @Tx mode (Pout = 3dBm)	
Frequency	2402 – 2480 MHz	ISM band
Transmit Power [dBm]	3 dBm @ room temperature	
Receiver Sensitivity [dBm]	-92 dBm (typical) @ 1Mbps mode	BER≤1E-3
Modulation Techniques	GFSK	
Connection	8 pin 2.00mm header X 3	
Dimensions	30mm(L) x 18mm(W) mm with Antenna (PCB thickness is 0.8mm)	
Operating Temperature	-40 ~ 85 °C	

4. Operation

The product using this module(CRM-24B) provides the door open operation to the authenticated user through the application of the smartphone.

5. Pin Description

- CN1

Pin number	Description	Remark
1	GND	
2	POWER	DC 3.3V
3	SPI_SCS	
4	SPI_MISO	
5	SPI_MOSI	
6	SPI_SCLK	
7	I2C_SDA	
8	I2C_SDA	

- CN2

Pin number	Description	Remark
1	GND	
2	SWCLKTCK	
3	SWDIOTMS	
4	ICE_MODE	
5	RESETN	
6	GPIO1	
7	GPIO2	
8	GPIO3	

- CN3

Pin number	Description	Remark
1	UART0_RX	
2	UART0_TX	
3	UART1_RX	
4	UART1_TX	
5	UART2_RX	
6	UART2_TX	
7	POWER	DC 3.3V
8	GND	

Regulatory Compliance

This product complies with standards established by the following regulatory bodies:

- Federal Communications Commission (FCC)
- Industry Canada

FCC

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 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

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

FCC Radiation Exposure Statement

The equipment complies with FCC Radiation exposure limits set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 5 mm

Industry Canada

This device complies with Industry Canada licence exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets the ISED radio frequency (RF) Exposure Guidelines. It is desirable that it should be installed and operated keeping the radiator at least 5 mm or more away from person's body.

Canada, avis d'Industrie Canada (IC)

Cet appareil est conforme aux normes RSS exemptes de licence d'Industrie Canada.

Son utilisation est soumise aux deux conditions.

suivantes : (1) cet appareil n'engendre pas d'interférences, et (2) cet appareil doit tolérer tout type d'interférences, notamment les interférences pouvant provoquer une utilisation non désirée de l'appareil.

Cet équipement est conforme aux limites établies par Industrie Canada en matière d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 50 mm entre le radiateur et votre corps.between the radiator and your body