R2000 UHF RFID Module(4-Port)

Model: RRU2881M

Size: 69 x 43 x 10.5mm

Weight: 52g

GENERAL DESCRIPTION

RRU2881M is a high performance UHF RFID Module. It is designed upon fully self-intellectual property. Based on proprietary efficient digital signal processing algorithm, it supports fast tag read/write operation with high identification rate. It can be widely applied in many RFID application systems such as logistics, access control, anti-counterfeit and industrial production process control system.

FEATURES

- Self-intellectual property;

- Support ISO18000-6C(EPC C1G2) , ISO18000-6B protocol tag;

- 865~868MHz/902~928MHz frequency band(frequency customization optional);

- FHSS or Fix Frequency transmission;

- RF output power up to 30dbm(adjustable);

- Effective distance up to 9m* (with external 6dbiL antenna and tag E41);

- Support RSSI;

- Maximum inventory speed over 500pcs/s;

- Tag buffer size up to 600PCS (Max. 128bits EPC length) or 180PCS (Max.496bits EPC length);

- Support answer and real-time-inventory work mode;

- 4 MMCX-J antenna port with antenna auto-tuning and failure-detection;

- Low power dissipation with single +5 DC power supply;

- Support 3 GPIOs (1 input and 2 outputs);

- Support RS232 (3.3V TTL level) and full speed USB;

- High reliability design;

- Support on-the-site firmware upgrading.

    * Effective distance depends on antenna, tag and environment.

CHARACTERISTICS

- **Absolute Maximum Rating**

ITEM	SYMBOL	VALUE	UNIT
Power Supply	VCC	6	V
Operating Temp.	T_{OPR}	-20 ~ +65	℃
Storage Temp.	T_{STR}	-40 ~ +85	℃

● Electrical and Mechanical Specification

Under T_A＝25℃，VCC＝+5V unless specified

ITEM	SYMBOL	MIN	TYP	MAX	UNIT
Power Supply	VCC	4.75	5	5.25	V
Current Dissipation	IC			1500	mA
Frequency	F_{REQ}	860		960	MHz
RF Output Power	P_{RF}	0		30	dBm
RF Power Accuracy	AP_{RF}		+/-1		dBm
RF Power Flatness	FP_{RF}		+/-0.2		dBm
Receive Sensitivity	SR		-85		dBm

INTERFACE

1. Host connector   2. Antenna socket

PIN 1 ←   → ANT 4

      → ANT 3

      → ANT 2

PIN 15 ←   → ANT1

1. Host Interface

No.	Symbol	Comment
1	VCC	+5VDC
2	VCC	
3	GND	Ground
4	GND	
5	EN（USB_5VSENSE）	Enable (USB Present Detection) High level effective with internal 1Mohm resistor pulled-up to +3.3V
6	nRST	Low level effective external reset input with internal 10Kohm pulled-up to +3.3V
7	ANT1	Antenna Indicator
8	ANT0	00-ANT1 01-ANT2 02-ANT3 03-ANT4
9	USB-DM	USB Data Minus
10	USB-DP	USB Data Positive
11	GPO2	General Output (3.3VTTL level)
12	GPO1	
13	GPI1	General Input (3.3VTTL level)
14	TXD	Serial Data Output
15	RXD	Serial Data Input

2. Antenna Interface
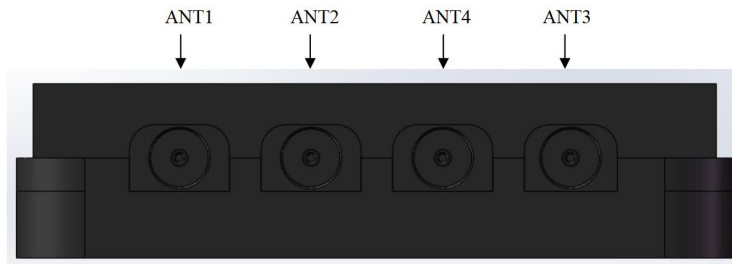
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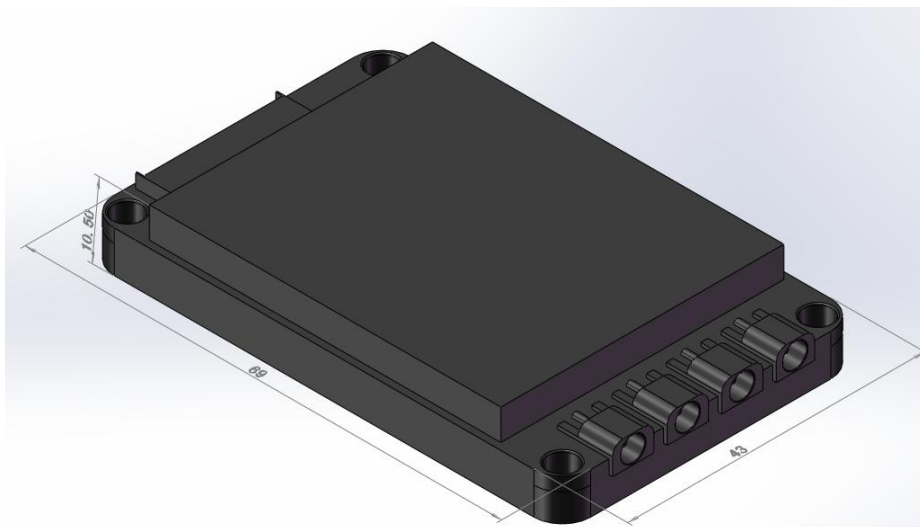
Application Information

1. When designing fixed reader with RRU2881M, please take care of heat sinking and remember to make sure the heat sinker of the module is closely and stably attached to the reader's bottom plate;
2. ANT1 is the default antenna port. Please pay attention to antenna port's definition.
3. Please refer to RRU2881M user's manual for detailed protocol description.

Remark:

1. Specifications are subject to change, please pay attention to our latest version.

2. Shenzhen RoyalRay Science and Technology Co., Ltd. reserves the right to the final interpretation of the above terms.