

Ex10 UHF RFID Module(1-Port)



Model: RRU7180MG

RRU5180MG

RRU3180MG

Size: 57.5mmx36.8mmx6.1mm

Weight: 23g

GENERAL DESCRIPTION

Based on the E710/E510/E310 chip design, Gen2 Extension Ready, maximizing chip potential with outstanding multi-tag anti-collision capability and advanced thermal balance design ensuring consistently high performance over time make these modules the best choice for high-performance handheld RFID devices. They are also suitable for various mainstream RFID applications, including logistics and apparel.

FEATURES

- Self-intellectual property;
- Designed with IMPINJ E710/E510/E310 and support ISO18000-6C(EPC C1G2) protocol tag, featuring excellent multi-tag anti-collision functionality;
- 865~868MHz/902~928MHz frequency band(frequency customization optional) with FCC and CE certificate compliant;
- FHSS or Fix Frequency transmission;
- RF output power up to 33dbm(adjustable);
- MMCX socket for external antenna;;
- Effective distance up to 12m*(with external 8dbi antenna and tag E41);
- Maximum inventory speed* up to 1000pcs/s (using E710) or 600pcs/s (using E510) or 350pcs/s (using E310);
- Tag buffer size up to 1000PCS@96bits EPC;
- Low power dissipation with +3.8~5.5VDC power supply;
- Support RSSI;
- Support RS232 serial communication interface (3.3V TTL level);
- High stability with air cooling and no extra heat sinking;
- Support on-the-site firmware upgrading.

**Effective reading distance and tag interrogation speed are directly related to the antenna, tags, and the working environment.*

CHARACTERISTICS

● Absolute Maximum Ratings

ITEM	SYMBOL	VALUE	UNIT
Power Supply	VCC	6	V
Operating Temp	T _{OPR}	-20 ~ +65	°C
Storage Temp	T _{STR}	-40 ~ +85	°C

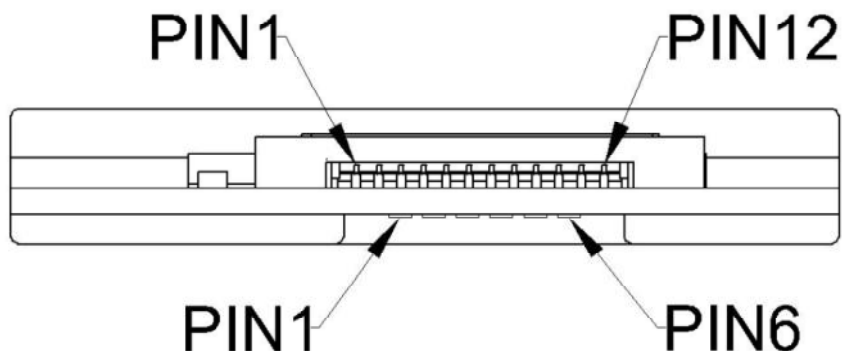
● Electrical and Mechanical Specification

Under $T_A=25^{\circ}\text{C}$, $V_{CC}=+5.0\text{V}$ unless specified

ITEM	SYMBOL	MIN	TYP	MAX	UNIT
Power Supply	VCC	3.6	5	5.5	V
Current Dissipation	I_C	410(5dBm)	100 (standby)	1000 [†] (30dBm) 1350 [†] (33dBm)	mA
Frequency	F_{REQ}	-	865~868(ETSI) 902~928(FCC)	-	MHz
RF Output Power	P_{RF}	5		33	dBm
Receive Sensitivity	SR		-74(using E310) -81(using E510) -87(using E710)		dBm

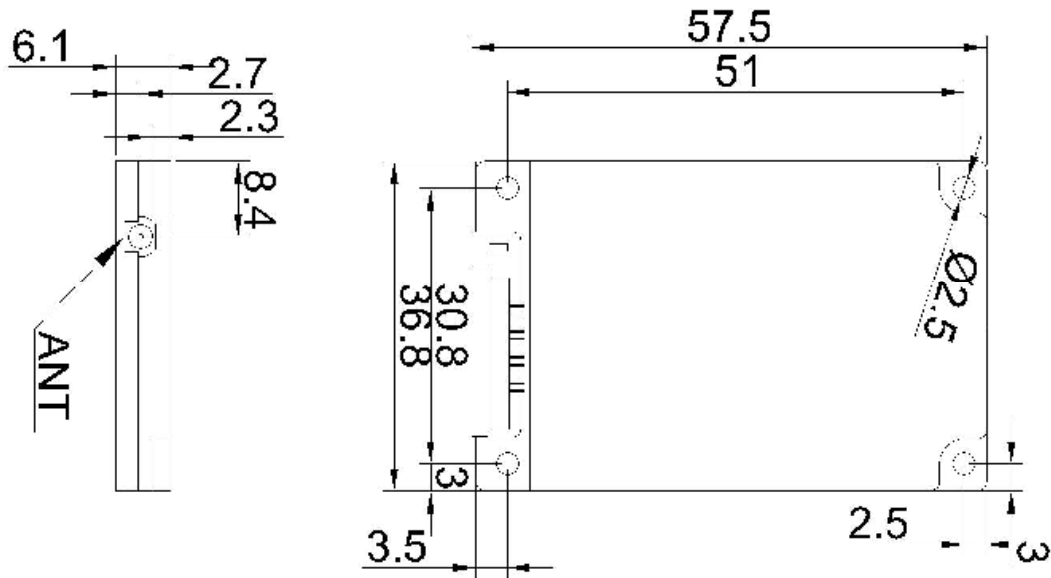
[†] 10% fluctuation

INTERFACE



No.	Pad No.	Symbol	Comment
1	1	VCC	Power Supply
2	1	VCC	Power Supply
3	2	GND	Ground
4	2	GND	Ground
5	3	EN	Enable. High level effective with internal 10kOhm resistor pulled up to VCC
6		NC	Reserved
7		NC	Reserved
8	4	NC	Reserved
9	5	RXD	Serial data input
10	6	TXD	Serial data output
11		NC	Reserved
12		NC	Reserved

MECHANICAL DATA (UNIT: mm)



Application Information

1. When designing fixed reader, 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. Please refer to 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.