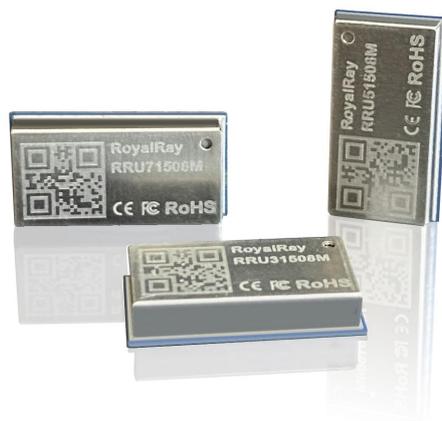# Ex10 UHF RFID Module(1-Port)

Model: RRU71508M

RRU51508M

RRU31508M

Size: 15 x 8 x 2.9mm

GENERAL DESCRIPTION

Based on the E310 chip design, Gen2 Extension Ready, ultimate small size, low power consumption, low cost, SMD form factor, maximum RF output of 27dBm,making it the best choice for various small desktop and mobile devices.Additionally, sub-versions based on the E710 and E510 are available.

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);

- FHSS or Fix Frequency transmission;

- RF output power up to 27dbm(adjustable);

- Effective distance up to 6m*(with external 8dbi antenna and tag E41);

- Maximum inventory speed up to 1000pcs/s (using E710) or 600pcs/s (using E510) or 350 pcs/s (using E310);

- Tag buffer size up to 1000PCS@96bits EPC;

- Low power dissipation with single +3.6~5.5VDC power supply;

- Support RSSI;

- Capable of continuous operation for 24 hours×365 days;

- 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	℃
Storage Temp	T_{STR}	-40 ~ +85	℃

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● **Electrical and Mechanical Specification**

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

ITEM	SYMBOL	MIN	TYP	MAX	UNIT
Power Supply	VCC	3.6	5	5.5	V
Current Dissipation	I_C(active) I_C(standby)	360	67(standby)	600(27dBm)	mA
Frequency	F_{REQ}	-	865~868(ETSI) 902~928(FCC)	-	MHz
RF Output Power	P_{RF}	5		27	dBm
Receive Sensitivity	SR		-74(using E310) -81(using E510) -87(using E710)		dBm

INTERFACE

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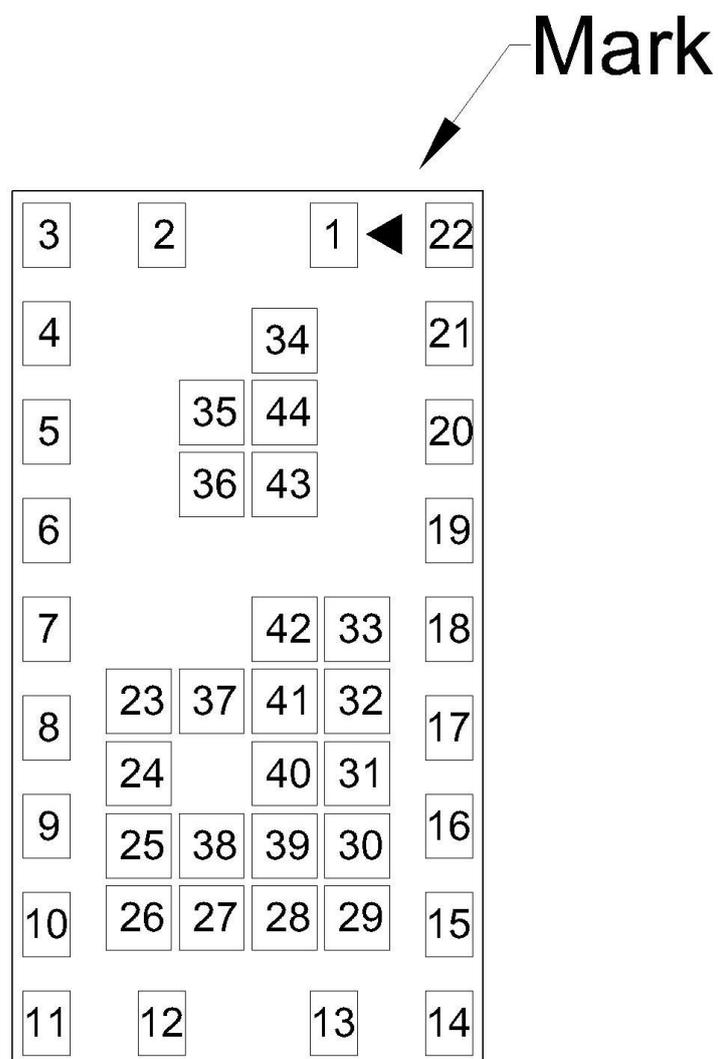
NO.	SYMBOL	COMMENT
1	NC	Reserved
2	GND	Ground
3	GND	Ground
4	GND	Ground
5	GPI2	General Input 2 (3.3V TTL level compatible)
6	GPI1	General Input 1 (3.3V TTL level compatible)
7	VCC	Power Supply
8	EN	Enable, active high
9	GND	Ground
10	ANT	Antenna
11	GND	Ground
12	NC	Reserved
13	GND	Ground
14	GND	Ground
15	GND	Ground
16	GND	Ground
17	GND	Ground
18	RXD	Serial data Input (3.3V TTL level compatible)
19	NC	Reserved
20	TXD	Serial data Output (3.3V TTL level compatible)
21	GPO2	General Output 2 (3.0V TTL level)
22	GPO1	General Output 1 (3.0V TTL level)
23-44	GND	Ground

RoyalRay Ex10 UHF RFID Module(1-Port)

MECHANICAL DATA (UNIT: mm)
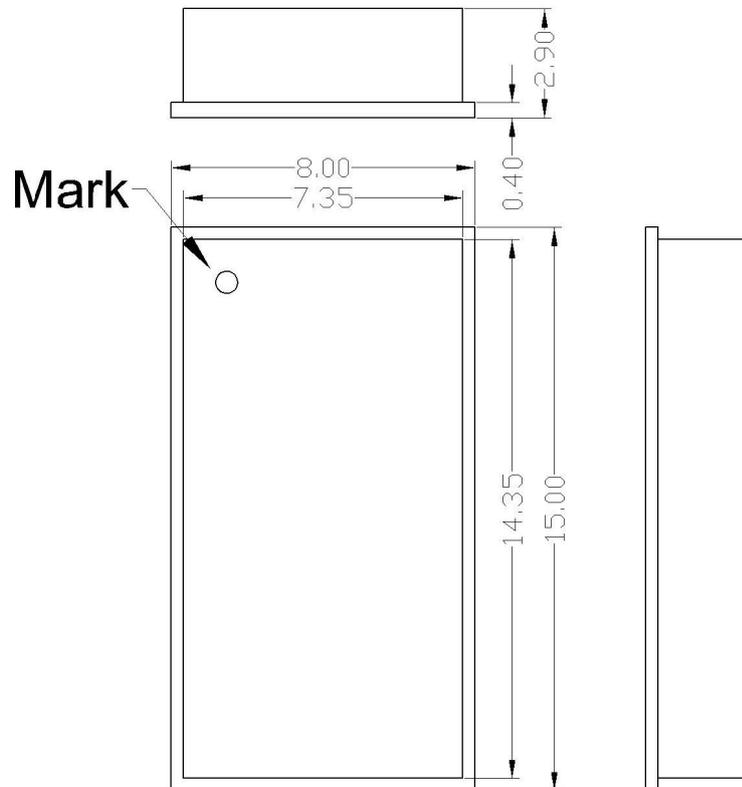
Application Information

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.

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