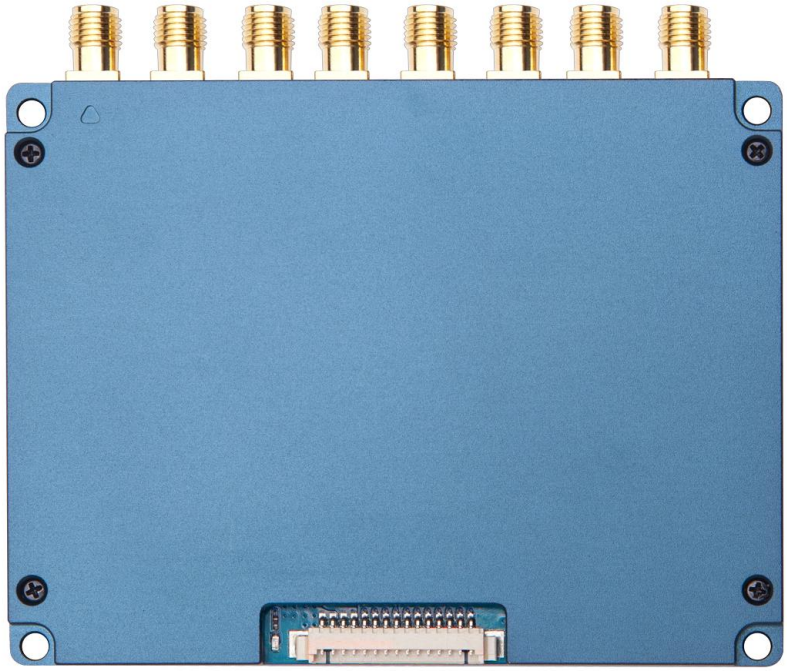
Ex10 UHF RFID Module(8-Port)



Model: RRU7189M
RRU5189M
RRU3189M
Size: 91mmx79mmx7.8mm
Weight: 119g

GENERAL DESCRIPTION

RoyalRay UHF E-Series Eight-Port Module is designed based on the latest Impinj E710 chip, fully supporting the Gen2X functionality to maximize the potential of the chip. It demonstrates exceptional anti-collision capabilities, outstanding multi-port throughput rates, and comprehensive thermal balance characteristics, ensuring consistently outstanding performance. This module can fully meet the high-performance RFID application requirements in fields such as warehousing, logistics, apparel, production lines, and retail. The series also offers sub-version options based on the E510 and E310 chips.

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 33dbm(adjustable);
- SMA sockets for 8 external antennae;
- 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 350 pcs/s (using E310);
- Tag buffer size up to 1000PCS@96bits EPC;
- Low power dissipation with +4.5~5.5VDC power supply;
- Support RSSI;
- Support 4 GPIOs (2 inputs and 2 outputs);
- 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	℃
Storage Temp	T_{STR}	-40 ~ +85	℃

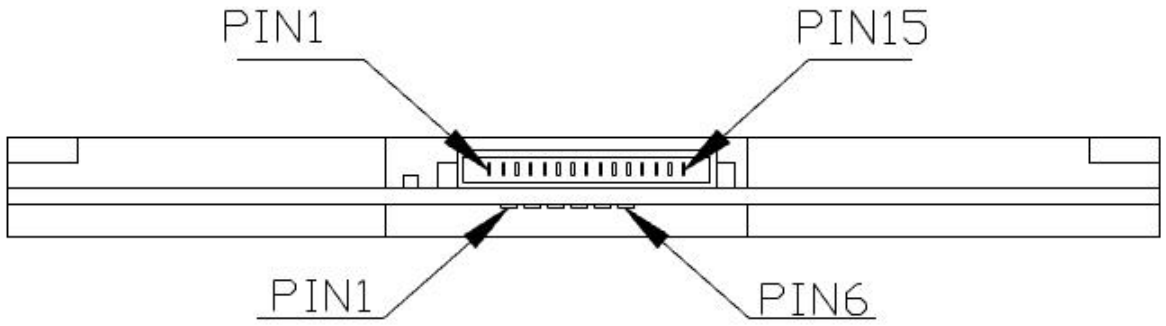
- **Electrical and Mechanical Specification**

Under T_A=25℃,VCC=+5.0V unless specified

ITEM	SYMBOL	MIN	TYP	MAX	UNIT
Power Supply	VCC	4.5	5	5.5	V
Current Dissipation	I_C	410	100（standby） 1150(30dBm) 1500(33dBm)	1650*	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

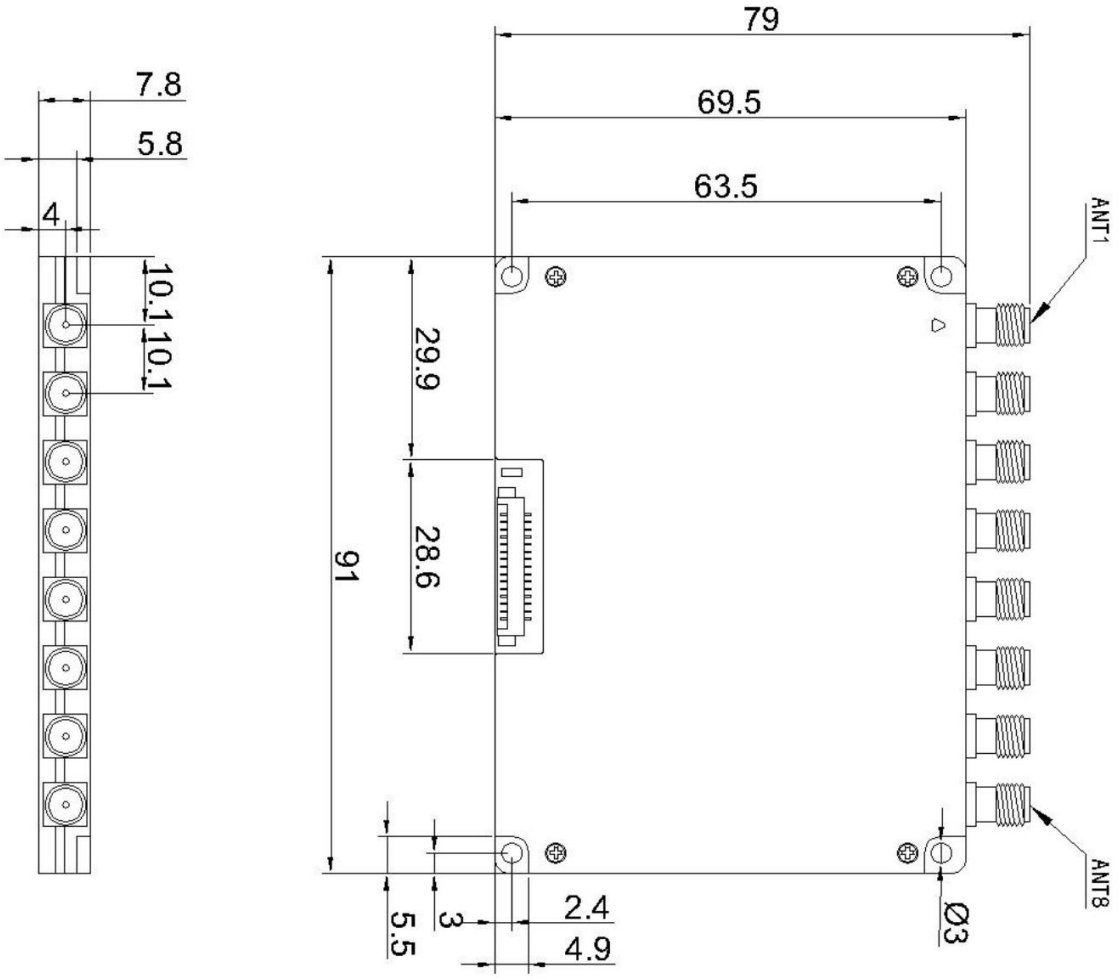
**The module's power consumption may fluctuate within ±10% depending on the antenna matching conditions.*

INTERFACE



No.	Pad No.	Symbol	Comment
1	2	GND	Ground
2	2	GND	Ground
3	1	VCC	Power Supply
4	1	VCC	Power Supply
5	3	EN	Enable. High level effective with internal 10kOhm resistor pulled up to VCC
6	4	NC	Reserved
7		NC	Reserved
8		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.

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