XINYE RFID

XY-0088

8-Port UHF RFID

Reader

INDY
R2000
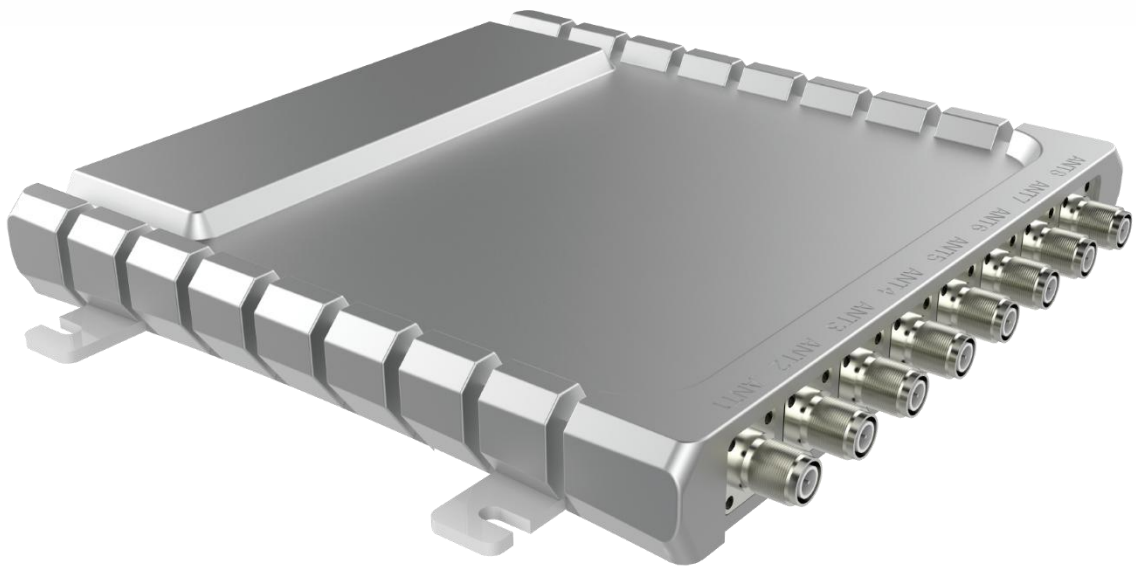
1. Key Features

	Feature	Descriptions
1	Impinj R2000 Built-in	• Impinj Indy R2000 chip as RF transceiver.
2	Anti-collision Algorithm	• Unique I - Search multi-tag identification algorithm providing the highest efficiency.
3	Optimized Algorithm for Tags with Small Volume	• Optimized applications for small volume with better tags respond time.
4	Dual CPU Architecture	• Main CPU: tag inventory; Assistant CPU: data management. • Tag inventory and data transfer are parallel and simultaneous.
5	Fast 8-Antenna Switch Inventory	• Every antenna's inventory duration is configurable(Minimum Duration: 30 ms). • Polling from ANT 1 to ANT 4.
6	Two Modes for Inventory	• Buffer mode and Real-time mode. • Tags will be stored as buffer under buffer mode. • Tags will send data under real-time mode. This mode allows user to get tag data instantly.
7	Hardware System Halt Detection	• Hardware CPU status surveillance. • Run for 24hours X 365 days without system halt.
8	PA Health Surveillance	• PA status surveillance. • Make sure PA never works under saturated state. Protected it for long term operation.
9	18000-6B/6C Full Compatible	• It can be switched rapidly between 18000-6B and 18000-6C tag.
10	18000-6B Large Data Read/Write	• Read 216 bytes in one time taking less than 500ms. • Write 216 bytes in one time taking less than 3.5 seconds. • It can read/write data with different lengths.
11	Antenna Connection Detection	• Detect antenna connection. • Protective for RF receiver. • It can be canceled with command.
12	Temperature Sensor	• Multi-point surveillance for accurate operating system temperature.
13	Power Output Correction	• Dual modules making sure output power can be fine adjusted. • Dual modules working and keeping correction unless they are both damaged.
14	Excellent Cooling Design	• Heat dissipation and large cooling surface design. • Thermal coupling interfaces using high-thermal conductivity solid materials which ensure stable performance under high temperature.

2. Product View

Figure 2-1: XY-0088 rear view

Figure 2-2: XY-0088 front view

Figure 2-3: XY-0088 top view

3. Electrical Characteristics

| Electrical Characteristics	
Dimension	198mm(L) x 198mm(W) x 26mm(H)
Weight	1.3 Kg
Body Material	Die-cast aluminum
Input Voltage	DC 12V ~ 18V
Standby Mode Current	<80mA
Sleep Mode Current	<100uA
Max Operating Current	700mA +/-5% @ DC 12V Input
Operating Temperature	- 20 ℃ ~ + 85 ℃
Storage Temperature	- 40 ℃ ~ + 85 ℃
Humidity	5%RH - 95%RH (non -condensing)
Interface Protocol	EPC global UHF Class 1 Gen 2 / ISO 18000-6C / ISO 18000-6B
Spectrum Range	902MHz – 928MHz , 865MHz – 868MHz Optional✔
Supported Regions	US, Canada and other regions following U.S. FCC Europe and other regions following ETSI EN 302 208 Mainland China, Taiwan, Korea, Malaysia
Output Power	0 – 33dBm
RF Connector	TNC/RP-TNC
Output Power Precision	+/- 1dB
Output Power Flatness	+/- 0.2dB
Receive Sensitivity	< -85 dBm
Peak Inventory Speed	>700 tags/sec
Tag Buffer Capacity	1000 tags @ 96 bit EPC
Tag RSSI	Supported
Antenna Detector	Supported
Ambient Temp Monitor	Supported
Working Mode	Single/DRM
Host Communication	RS-232 or TCP/IP
GPIO	2 input optical coupling & 2 output coupling
Max Baud Rate	115200 bps
Heat Dissipation	Air cooling

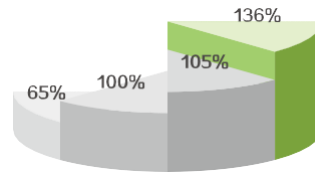# 4. Anti-Collision Algorithm Comparison
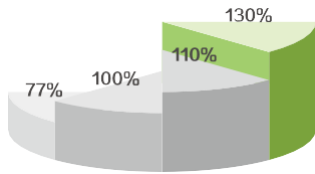
Figure4-1：100 Tags

Figure4-2：200 Tags

Notes: 1.) The test is on same hardware platform in real applications (Taking Impinj dynamic Q algorithm as

the reference which is marked with 100%).

2.) The chart shows the comparison for the first round inventory

Algorithm	Description
Standard fixed Q algorithm	• Standard 18000-6C
	• The performance is reduced significantly when tag quantity gets
	• The efficiency is not high when tag quantity is
Impinj dynamic Q algorithm	• The algorithm of
	• It has a good efficiency for various tag
	• It sacrifices some performance for the sake of
I–Search dynamic Q algorithm V1.0	• Based on Impinj dynamic Q
	• The performance is
	• It's the algorithm for firmware version 6.6 or
I–Search dynamic Q algorithm V2.0	• Based on Impinj dynamic Q
	• It's a brand new data structure, the performance of which is improved for firmware version 6.7 or
	• The improvement of performance can be easily sensed after the round of inventory especially when the tag volume

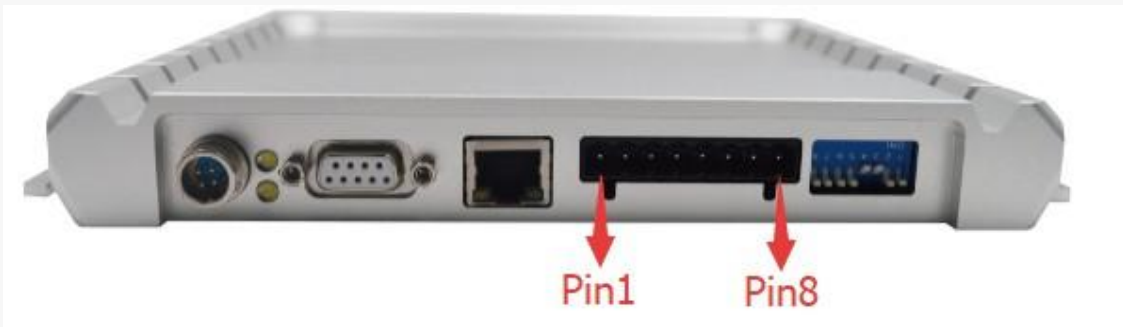# 5. PIN Assignments

Table 5-1 : PIN Assignments

Figure 5-1

PIN ID	Function	Equivalent Circuit	Instructions
PIN 1	GPIO 1 Input +		• Voltage between PIN 1,2 (PIN 3,4)
PIN 2	GPIO 1 Input -		• Hetero
PIN 3	GPIO 2 Input +		• LED equivalent resistance
PIN 4	GPIO 2 Input -		• Response time<=
PIN 5	GPIO 4 Output		• Voltage between PIN 5,6 (PIN
PIN 6	GPIO 4 Output		• Non-
PIN 7	GPIO 3 Output		• On
PIN 8	GPIO 3 Output		• Response time <=

6. Product Dimensions (unit：MM)

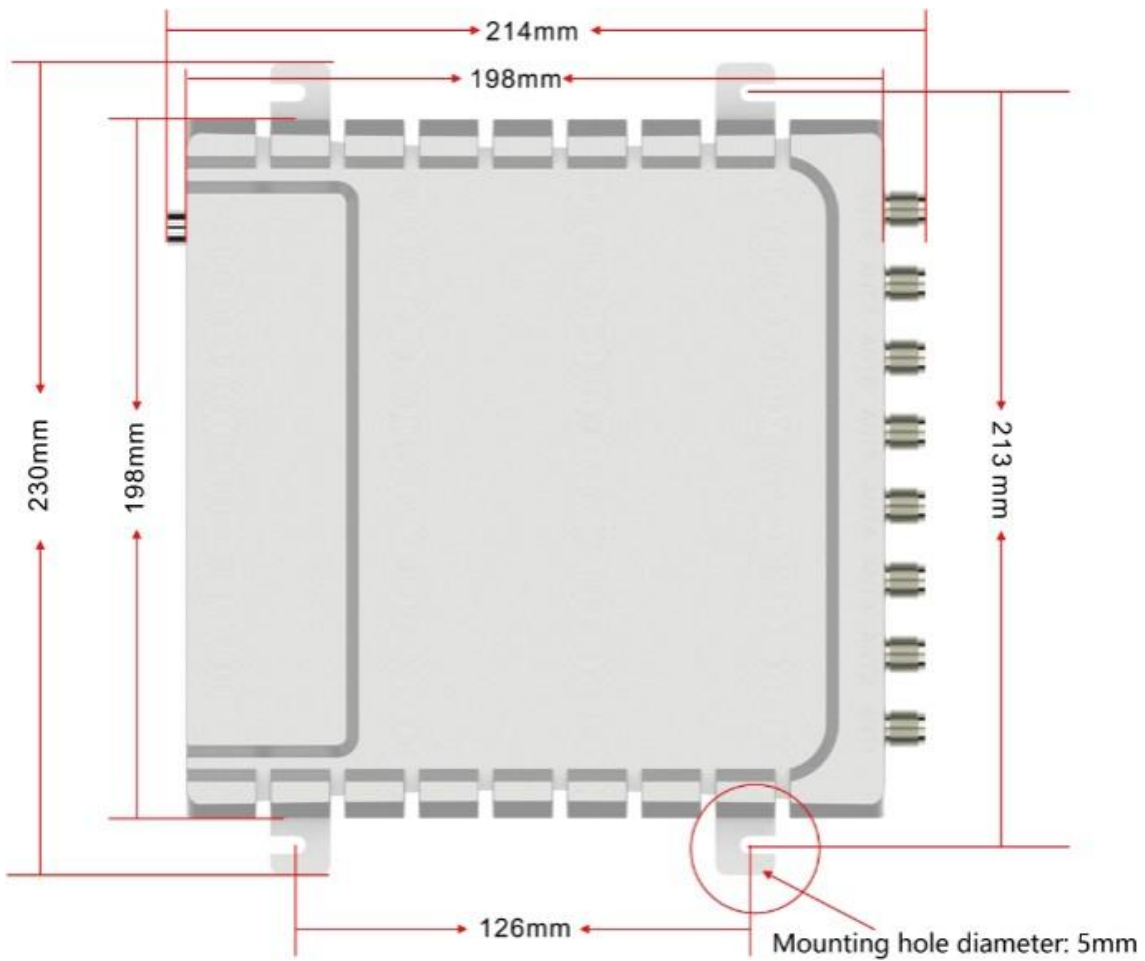Any discrepancy, please defer to the real product

Figure6-1：XY-0088 Side view

Figure6-2：XY-0088 Contour and hole location