

Spider 8000

8-Port UHF RFID Reader



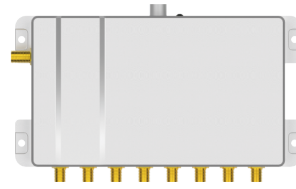
1. Advantages

Feature	Description
Impinj R2000 Built-in	Based on RodinBell R2000 module, which is stable and mature.
Based on Freescale Platform	IMX6DL(Dual) Vehicle grade CPU.
Powerful OS Based	Linux 4.9.11
RAM+ROM	1G+8G 2G+16G Optional✓
Online Upgrade	The OS kernel and APP can be updated online remotely.
Wide Voltage	Wide voltage input range from DC9V to DC24V.
HDMI Output Supported	HDMI D Type interface , peak transmission speed 5GB/s. 1080P, 720P supported.
Micro USB OTG Interface	USB 2.0 OTG , Micro USB interface. Compatible with USB 2.0 Peripherals.
Dual-Band WIFI Supported	SMA interface for external 2.4G/ 5G antenna.
Bluetooth	Support Bluetooth 4
High-speed Internet Interface	450M/ 100M/ 10M adaptive Ethernet.
GPIO	4 inputs, 4 outputs. Up to 8kV isolation voltage.
Compact Size	133(L) * 84(W) * 22mm(H)
Classy Industrial Design	Compact and artistic design with CNC aluminum material.

2. Product view



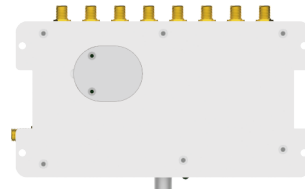
2-1 : Isometric view (front)



2-3 : Top view

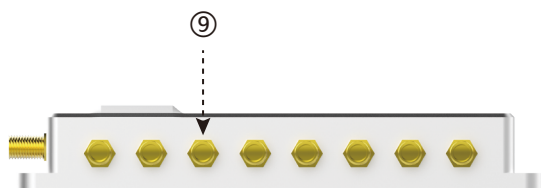
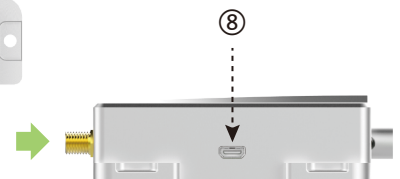
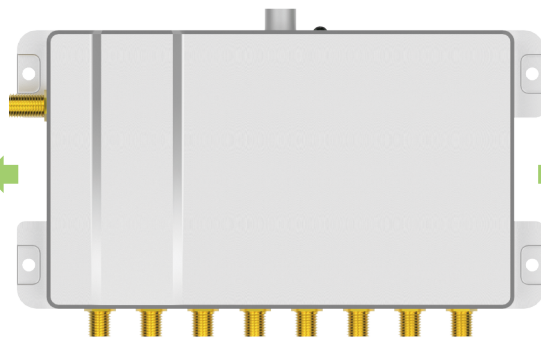
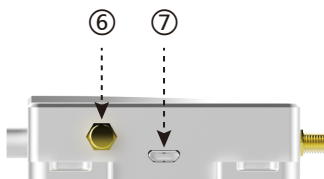
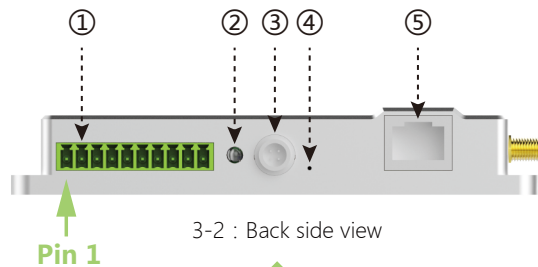


2-2 : Isometric view (back)



2-4 : Bottom view

3. PIN Assignments



PIN Assignment

PIN ID	Function	Descriptions	
①	GPIO	PIN 1. Vcc (Need External Access 12V)	PIN 6. GPIO Out 4
		PIN 2. GND (External access to ground wire is required)	PIN 7. GPIO In 1
		PIN 3. GPIO Out 1	PIN 8. GPIO In 2
		PIN 4. GPIO Out 2	PIN 9. GPIO In 3
		PIN 5. GPIO Out 3	PIN 10. GPIO In 4
②	Power Light	Power indicator lamp	
③	POWER	DC 9V ~ 24V	
④	Reset	Reset	
⑤	Ethernet	450M/ 100M/ 10M adaptive Ethernet. POE supported, 25W max, IEEE 802.3 supported.	
⑥	WIFI	SMA interface for external 2.4G/ 5G antenna.	
⑦	Micro USB	USB 2.0 OTG	
⑧	HDMI	HDMI D Type interface	
⑨	RF connector	SMA Antenna interface	

4. Anti-Collision Algorithm Comparison

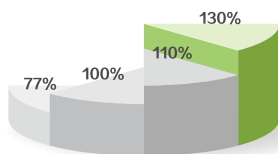


Figure4-1 : 100 Tags

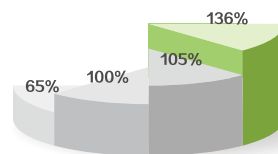


Figure4-2 : 200 Tags

- 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 performance.
 - 3.) It is tested on the same hardware platform.

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

3. Electrical Parameters

Mechanical parameters	
Material	CNC Aluminum
Dimensions	133(L)*86(W)*22mm(H)
Weight	0.3kg
System Characteristics	
Operating System	Linux 4.9.11
CPU	Freescale IMX6DL(Dual)
RAM+ROM	1G+8G 2G+16G Optional ✓
USB Interface	USB 2.0 , Micro 5PIN USB Support OTG function
Input Voltage	DC 9V~24V
Operating Current	1.5A+/-5%@DC 12V Input
Ambient Temp Monitor	Supported
GPIO	4 inputs , 4 outputs
HDMI	HDMI D Type interface peak transmission speed 5GB/s; 1080P/720P supported
Online Upgrade	Supported
Wireless Communications	
WIFI	SMA interface for external 2.4G / 5G antenna
Bluetooth	Bluetooth 4.0
Ethernet	450M/100M/10M adaptive ethernet
Application Environment	
Operating Temp	-20°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Humidity	5%RH~95%RH (non-condensing)
Protection Grade	IP53
Heat Dissipation	Air cooling

Data Collections

UHF RFID

Engine	Based on Impinj Indy R2000 chip
Buzzer	12*9.5mm / 2300±300Hz
Protocol	EPC Global UHF Class 1 Gen 2/ISO 18000-6C/ISO 18000-6B
Frequency	902~928MHz, 865~868MHz Optional ✓
Output Power	0~30.5dBm
Peak Inventory Speed	>700 tags/s
Output Power Precision	+/- 1dB
Output Power Flatness	+/- 0.2dB
Sensitivity	< -85dBm
Tag RSSI	Supported
Antenna Detector	Supported
Supported Regions	US, Canada and other regions following U.S. FCC Europe and other regions following ETSI EN 302 208 China Korea Malaysia

Dimensions (mm)

