

M-2900 UHF



The M-2900 is a high performance 8-channel reader module to which can be connected up to 8 antennas. This module developed with INDY R2000 chip, is provided with a powerful anti-collision algorithm for a better tag response time. Simple, convenient and effective for easy integration.

Key features

- 700 tags
- 8 antennas
- RS232, TCP/IP, 8pins

General specifications

Air Interface protocol	EPC Global UHF Class 1 Gen 2 / ISO18000-6C	ISO 18000-6B
Spectrum range	EU: 865MHz-868MHz or US: 902-928MHz	
RF transceiver	Impinj Indy R2000	
RF channel	8 channels	
RF connector	SMA	
Interface connector	Molex 53261-1571	
Working mode	Single/DRM	
Output Power	0 - 33dBm	
Output Power precision	+/- 1dBm	
Output power flatness	+/- 0.2 dBm	
Receive Sensitivity	<-85dBm	
Peak Inventory Speed	>700 tags/sec	
Tag buffer capacity	1000 tags at 96 bit EPC	
Host communication	TTL Uart port	
GPIO	2 inputs optical coupling 2 output optical coupling	
Input Voltage	DC 12V - 18V	
Standby Mode Current	< 30mA	
Sleep mode Current	< 100mA	
Max operating current	Conditions : @5V (33dbm Output, Multi-tag, 25°C) Min : 300 mA Typ : 1.3A +/-10% Max : 2.5 A	
Max Baud rate	115200 bps	
Heat Dissipation	Air cooling	
Tag RSSI	Supported	
Antenna detector	Supported	
Ambient Temp monitor	Supported	

V1.2

Non-contractual datasheet

M-2900 UHF

Physical specifications

Dimensions	70,2 x 51 x 8.2mm
Body material	Gold-plated brass
Shield Material	Aluminum
PCB	Rogers FR4 gold-plated

User environment

Operating Temp.	-20°C~+55°C
Storage Temp.	-20°C~+55°C
Humidity	<95% (+25°C)

Software Development Kit

SDK available with or without internet port.



V1.2
Non-contractual datasheet

Anti-collision Algorithm Comparison



PIN ID	Fonction	Descriptions
	Standard fixed Q algorithm	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

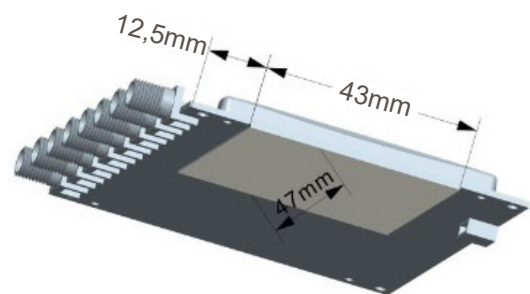
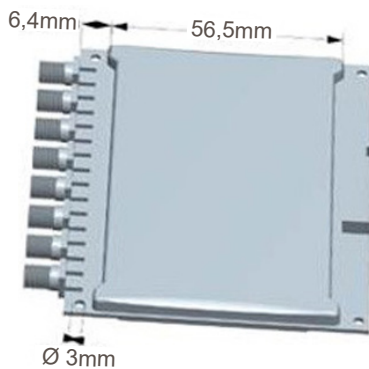
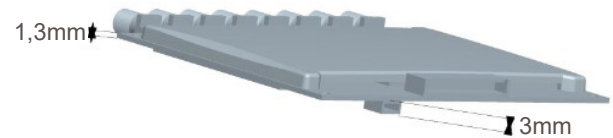
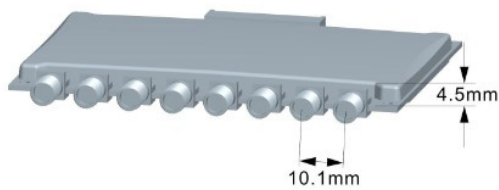
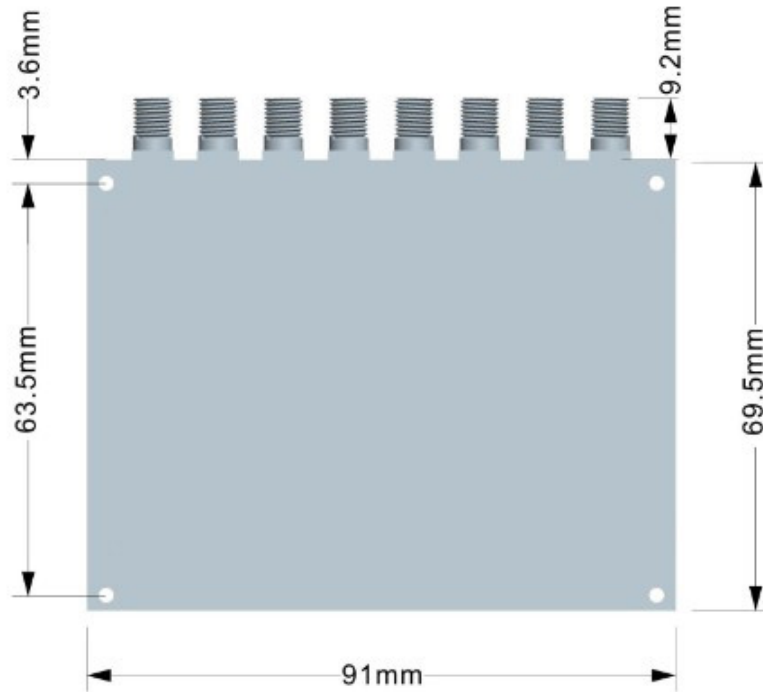
Notes:

- Figure 1 is tested in real applications (takes Impinj dynamic Q algorithm as the reference which is marked with 100%).
- The chart shows the comparison for the first round inventory performance.

V1:2 It is tested on the same hardware platform.

Non-contractual datasheet

M-2900 UHF



V1.2
Non-contractual datasheet