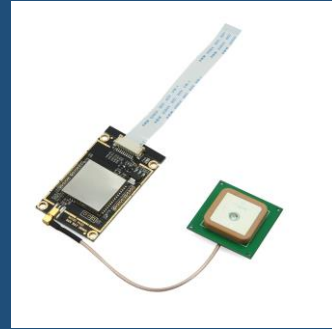# UHF RFID MODULE M2100

M2100 is an ultra-high frequency single channel read-write module designed based on PHYCHIPS PR9200. The maximum output power of the module can reach+25 dBm, and with an 8dBi gain antenna module, the reading distance can reach 6m. It can achieve a tag recognition rate of over 200tags/s, and has stable multi tag reading and anti-interference capabilities.

In response to customer needs, the label can be encrypted, and other readers will read it with garbled characters, increasing confidentiality. The M2100 has undergone extensive testing and long-term uninterrupted operation (180 consecutive days), and its stability and reliability can fully meet the development needs. It adopts a compact structural design and a small volume (56.5 * 36.0 * 4.8mm)。

Product advantages

The receiving sensitivity of M2100 can reach -62dBm, which is more suitable for harsh application environments than traditional readers;

Provide comprehensive software development kits (SDKs) and interfaces (APIs) that are easy to integrate with software;

By adopting integrated RF chips, the module performance is more stable and more suitable for harsh and demanding application environments;

By using carrier cancellation technology, the accuracy and range of tag reading are better;

The module has the smallest volume in the industry and is designed with a wide voltage range;

Enhanced noise suppression function for reliable data capture;

Has high-precision return signal strength (RSSI).

Comparison Testing

Module Type	Antenna type	Tag	Read distance
M2100	8DBI	White	6m
PHYCHIPS	8DBI	White	5m

Product Technical Parameters

Name	Parameters
M2100	Version V3.0
Air interface protocol	EPC global UHF Class 1 Gen 2/ISO 18000-6C
working frequency	840 ~ 960MHz
Support area	China, Europe, America, Korea, Japan, Taiwan ......
Operating Voltage	DC 5V
Maximum operating current	< 350mA
Standby Current	< 15mA
Sleep Current	< 0.5mA
Maximum RF output power port	28dBm
Tag maximum read distance	> 2.5 m (2dBi ceramic antenna + normal white card)
Operating temperature	-25℃ ~ +65℃
Working humidity	≤95% （+25℃)
Storage temperature	-40℃ ~ +80℃
Maximum receiver sensitivity	-60dBm
Antenna Impedance	50Ω
Serial communication parameters	Baud rate adjustable (default 115200bps), Parity: None Data bits: 8, stop bits: 1
Antenna Interface	IPEX
Module Interface	Pick + 20PIN 2.0MM pitch stamp holes 10PIN FPC
Dimension	30.0×25.0×4.0MM (Including shield)

FPC PIN Definition

Pin	Name	Description
1	UART TX0	Serial interface to send, TTL level
2	UART RX0	Serial interface reception, TTL level
3	P03	GPIO PORT
4	P10	GPIO PORT
5	P15	GPIO PORT
6	P_EN	Power enable pin, set low (0V) when the module enters Sleep mode
7、8	GND	GND
9、10	VCC	Power supply pin, the input voltage is 3.7V ~ 5.5V

Product size