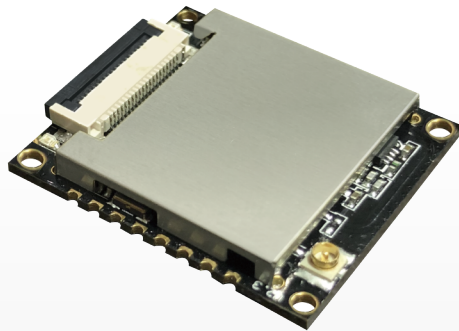


M-500

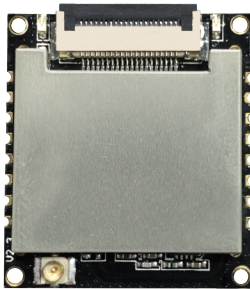
Micro UHF RFID Module



1. Advantages

- > PHY Chips PR9200 inside with outstanding performance and cost-effective.
- > Read distance with 3m above. (Tested with Impinj E41b inlay and 2dbi Antenna)
- > Stable performance with less affected by rising temperature.
- > Super low power consumption; no additional cooling devices required.
- > Good consistency in terms of RF parameters.
- > Simple peripheral circuit design(refer to 4-1: circuit design reference)
- > Full compatible with different communication interfaces of RodinBell INDY R2000 series products.

2. Product View

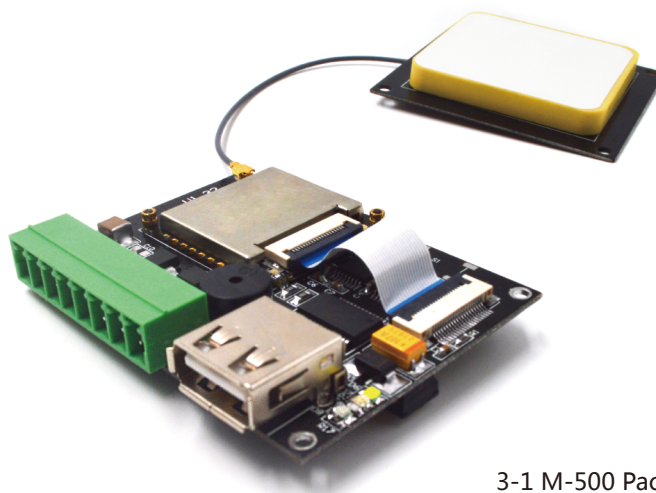


2-1 Front



2-2 Back

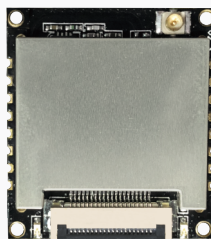
3. Product suite



3-1 M-500 Package Diagram

4. PIN Assignments

4-1 : Connector Mode



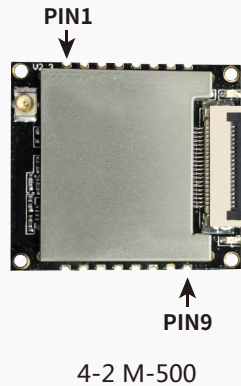
4-1 M-500

↑
PIN1

FPC Connector (20Pin , spaces between PINs: 0.5mm)

PIN	Interface	Description
1	VCC	Power Supply DC 3.6V-5.5V
2	VCC	
3	GND	Grounding
4	GND	
5	EN	High level enable
6	Reserved	Reserved
7	Reserved	Reserved
8	GND	Grounding
9	GND	
10	GPIO1	Input IO1
11	GPIO2	Input IO2
12	GND	Grounding
13	GND	
14	485 Direction	485 Data direction control
15	Reserved	Reserved
16	RXD	UART RXD
17	TXD	UART TXD
18	Beeper	Buzzer control, need external buffer
19	GPIO3	Output IO3
20	GPIO4	Output IO4

4-2 : SMT Mode



PIN	Interface	Description
1	Blank	M-500
	Antenna	M-500E (Note: SMT Mode is applied exclusively to M-500E)
2	GND	Grounding
3	GND	
4	GND	
5	GND	
6	GND	
7	Reserved	
8	GPIO 1	Input IO1
9	VCC	Power Supply DC 3.6-5.5V
10	GND	Grounding
11	EN	High level enable
12	RXD	UART RXD
13	TXD	UART TXD
14	Beeper	Buzzer
15	GPIO3	Output GPIO3
16	GPIO4	Output GPIO4

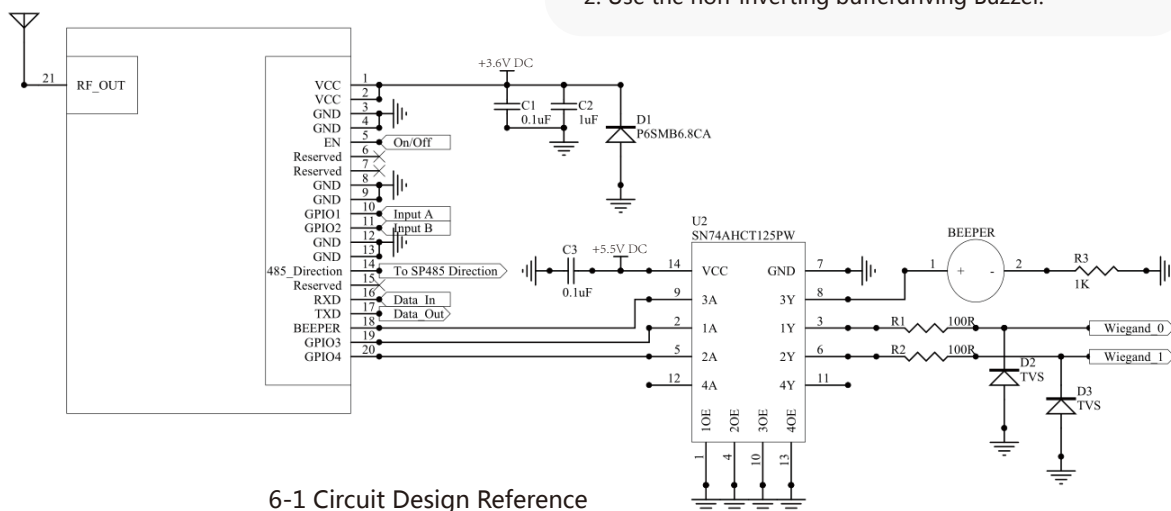
5. Electrical Parameters

Electrical Parameters				
Input Voltage	DC 3.6V ~ 5.5V			
Standby Mode Current	< 50mA (EN High Level)			
Sleep Mode Current	< 100μA (EN High Level)			
Operating Current	Conditions	Min	Type	Max
	@5V(26dBm Output , 25°C)		180mA	400mA
Operating Temperature	-20°C~+70°C			
Storage Temperature	-20°C~+85°C			
Operating Humidity	< 95% (+25°C)			
Air Interface Protocol	EPCglobal UHF Class 1 Gen 2 / ISO 18000-6C			
Spectrum Range	902 ~ 928MHz, 865 ~ 868MHz Optional✓			
Supported Regions	US, Canada and other regions following U.S. FCC			
	Europe and other regions following ETSI EN 302 208			
	China, Korea,Malaysia			
Output Power	18 ~ 26dBm			
Output Power Precision	+/- 1dB			
Output Power Flatness	+/- 0.2dB			
RF Connector	I-PEX			
Receive Sensitivity	< -70 dBm			
Peak Inventory Speed	> 50 tags/ sec			
Tag Buffer Size	200 tags @ 96 bit EPC			
Tag RSSI	supported			
communication interface	Uart 3.3V			
GPIO	2 input 2 output (3.3V TTL Level)			
Baud Rate	115200 bps(default and recommended), 38400bps			
size	28 * 25 * 3.5mm			
Cooling	Air cooling			

6. Circuit Design Reference

Note :

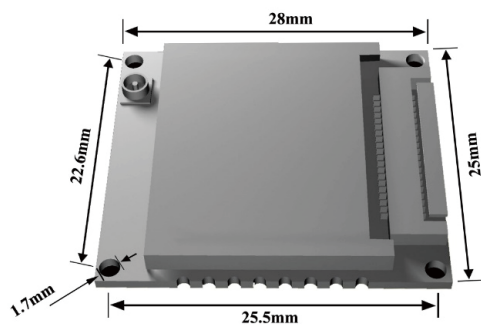
1. Use the non-inverting bufferdriving Wiegandinterface.
2. Use the non-inverting bufferdriving Buzzer.



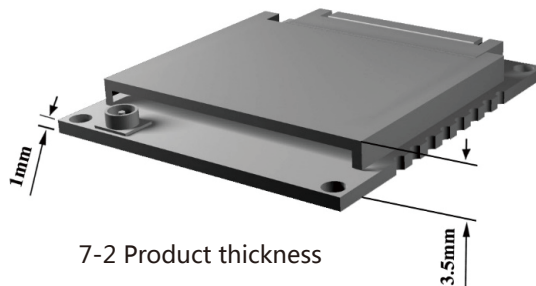
6-1 Circuit Design Reference

7. Dimensions (unit : mm)

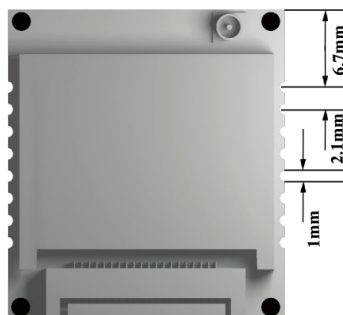
Any discrepancy, please defer to the real product instead.



7-1 Product dimensions



7-2 Product thickness



7-3 Dimensions of solder joints