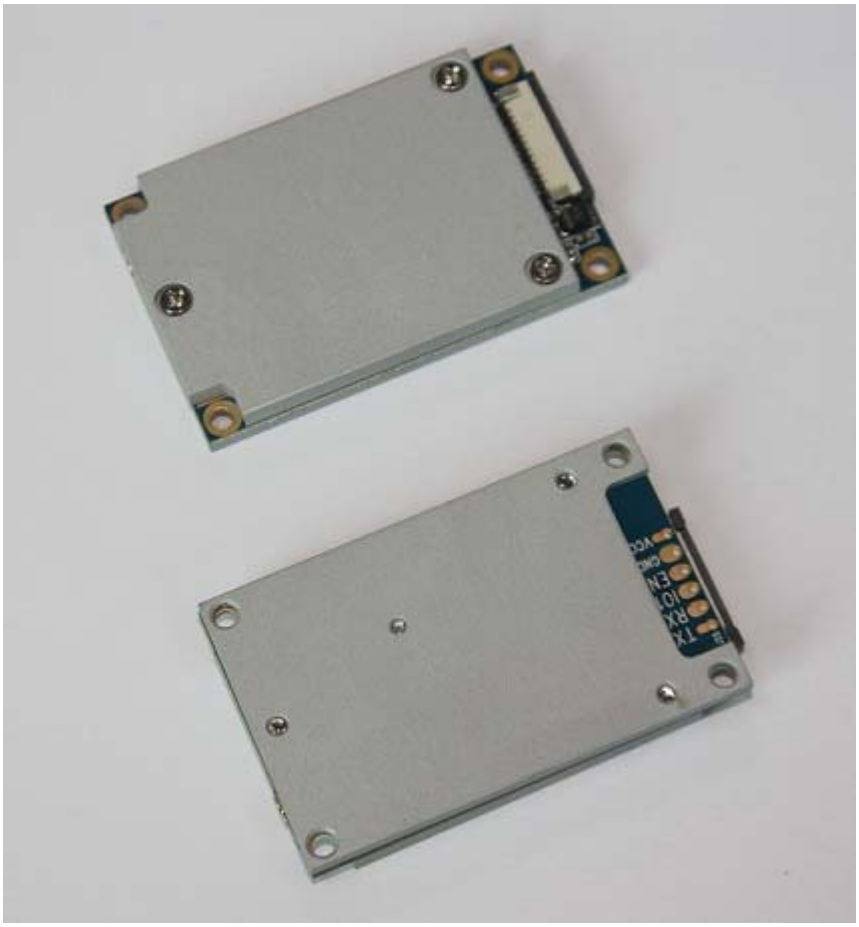
UHF RFID Reader Module

CJM730

(V2.0)



Joinsmart IOT Technology Corporation

Brief Introduction

M730 UHF RFID reader module uses R500 chip, which complies with EPC C1G2 protocol, its working frequency is 840~960MHz，with LBT function. It supports dense reader working mode（DRM）。With standard 8dBi antenna，the reading distance can reach 7 meters, maximum identifying speed can reach 200/S. With simple power supply and interface circuit, a high-performance RFID system can be established. It is suitable for logistics, costume, medical industry, and complex assets management, etc.

Technical Data

No	Item	Technical data	Unit	Remark
1	Fixed current	1.5	A	Max power output
2	Standby current	≤1	mA	EN pin low level
3	Frequency range	840～960	MHz	
4	Default working frequency	Frequency hopping	MHz	Frequency interval 250KHz
5	Channel bandwidth	≤250	KHz	
6	Frequency hopping speed	≤2	s	
7	Fixed power	30	dBm	
8	Stepping interval	1	dB	5~30dBm， adjustable by software
9	Label protocol	EPC C1G2 /ISO18000-6C		
10	Communication protocol	Asynchronous serial ports protocol		
11	Starting time	≤50	ms	
12	Radio-frequency power rising time	≤500	μs	
13	Radio-frequency power dropping time	≤500	μs	
14	Adjacent channel power leaking ratio	≤-40	dB	±1CH
		≤-60	dB	±2CH
15	Frequency stabilizing ratio	±10	ppm	-25℃～+40℃
		±20	ppm	-40℃～+60℃
16	Max reading range	7	m	8dBi antenna

Characteristics of DC

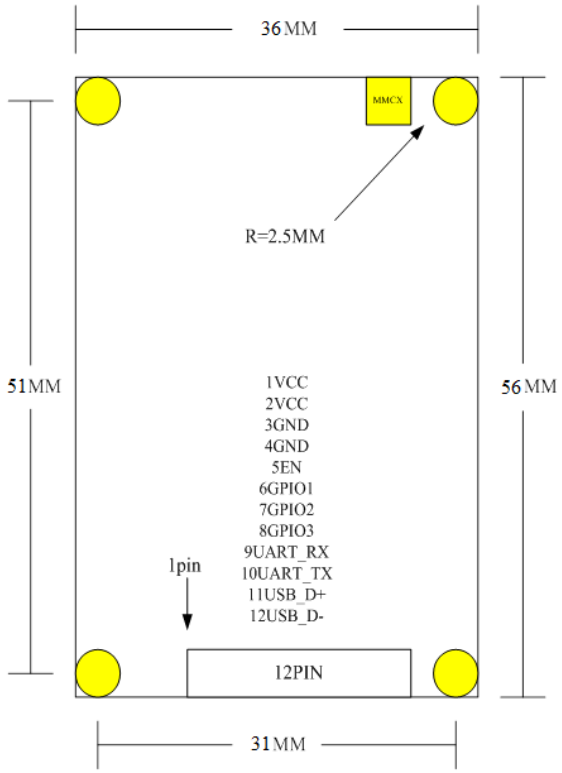
Data	Mini value	Typical value	Max value	Unit	Remark
Voltage of power	3.6	-	5	V	Direct current
Input high level	2	3.3	3.5	V	GPIO
	2	-	5	V	EN
Input low level	-0.5	0	0.5	V	GPIO
	-	-	0.18	V	EN
Output high level	2.3	-	3.3	V	GPIO
Output low level	-	0	1	V	GPIO
Enable current	2	5	25	uA	V_{EN}≥2V

Requirement on Antenna

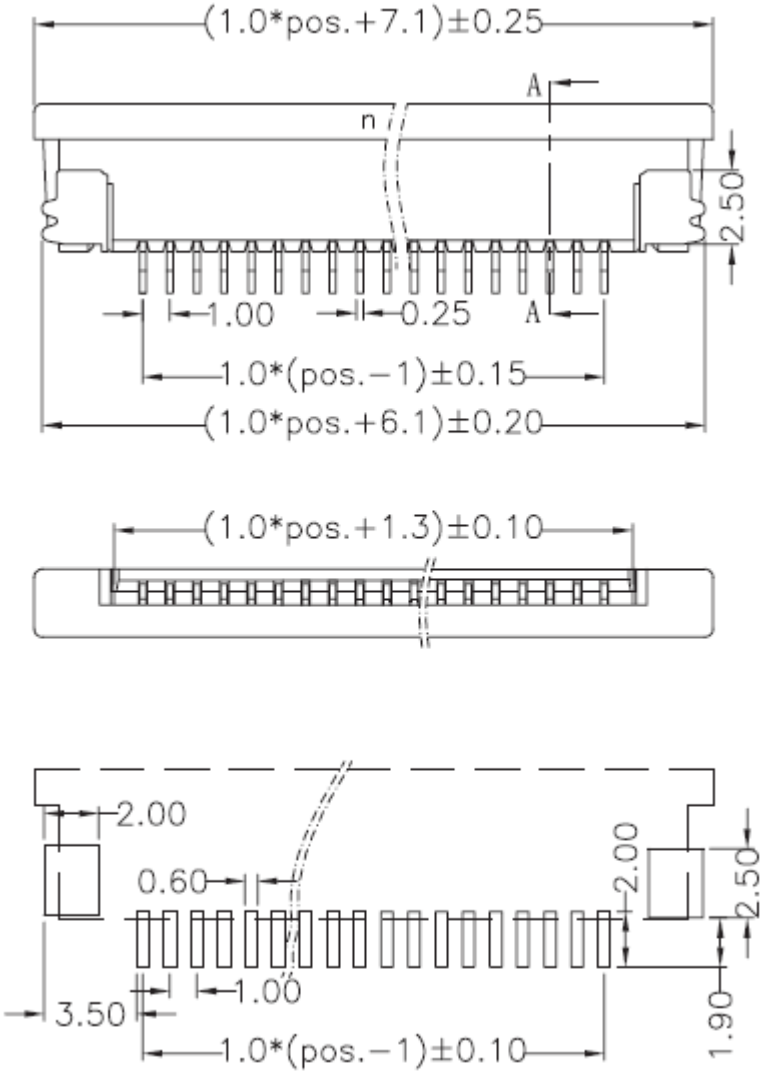
No	Item	Technical data	Unit	Remark
1	S11	≤-10dB		

Appearance and Structure

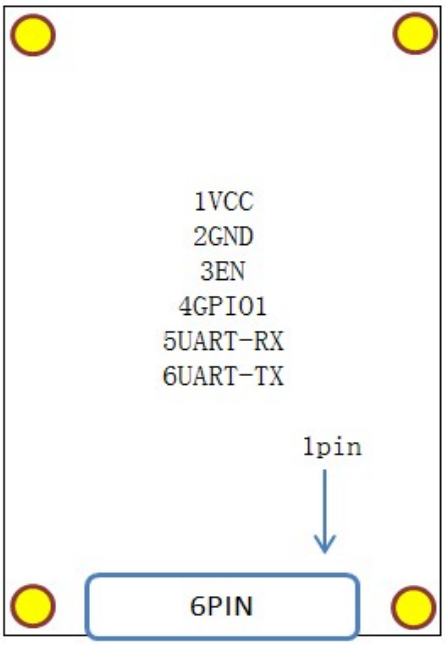
- Dimensions:56×36×7.4mm
- Weight：40g



Drawing 1 Front view of the reader module



Drawing2 12Pin Connector Drawing



Drawing3 Back view of the reader module

Interface Definition

- **Front Interface:**

Pin	Signal name	Signal direction	Function/compatibility description
1	VCC	Input	Module supplying power
2	VCC	Input	Module supplying power
3	GND	-	Module connecting ground
4	GND	-	Module connecting ground
5	EN	Input	Module enabling，highly effective
6	GPIO	Bidirection	Generic port
7	GPIO	Bidirection	Generic port
8	GPIO	Bidirection	Generic port
9	UART_RX	Input	Asynchronous serial interface receiving
10	UART_TX	Output	Asynchronous serial interface sending
11	DBG_RX	-	Test port
12	DBG_TX	-	Test port

- **Back Interface:**

Pin	Signal name	Signal direction	Function/compatibility description
1	VCC	Input	Module supplying power
4	GND	-	Module connecting ground
5	EN	Input	Module enabling，highly effective
6	GPIO	Bidirection	Generic port
9	UART_RX	Input	Asynchronous serial interface receiving
10	UART_TX	Output	Asynchronous serial interface sending

Environment Requirement

No	Item	Technical data	Unit	Remark
1	Working temperature	-25～+75	℃	
2	Storage temperature	-40～+85	℃	
3	Relative humidity	10%～90%	RH	