IP Radio FDD Transmission radio
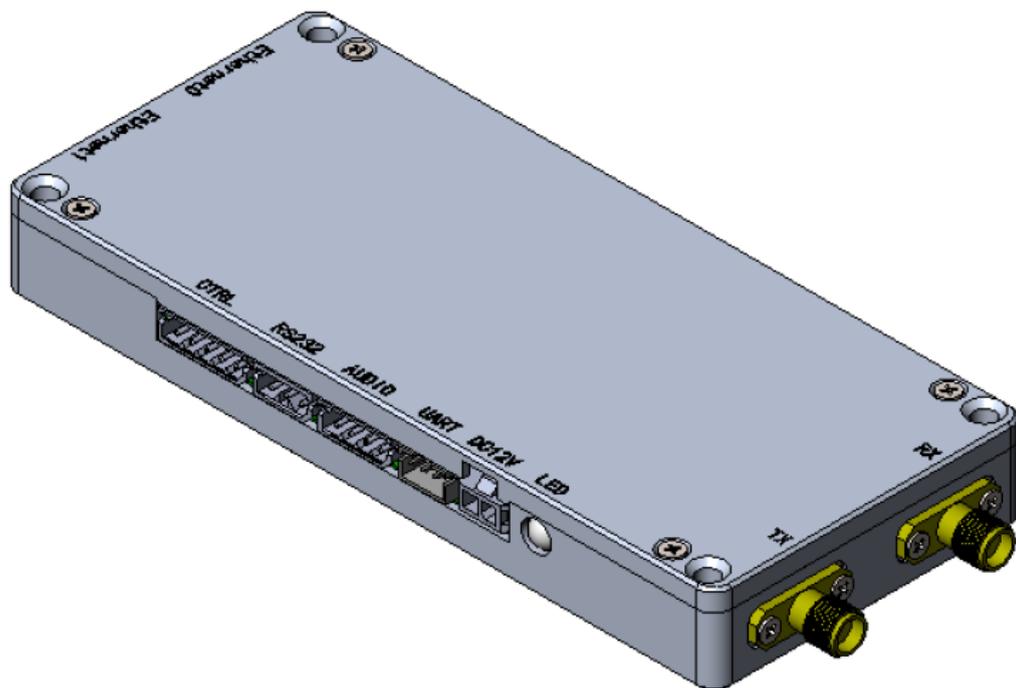# User manual

Version：20230612V1.0

Version history

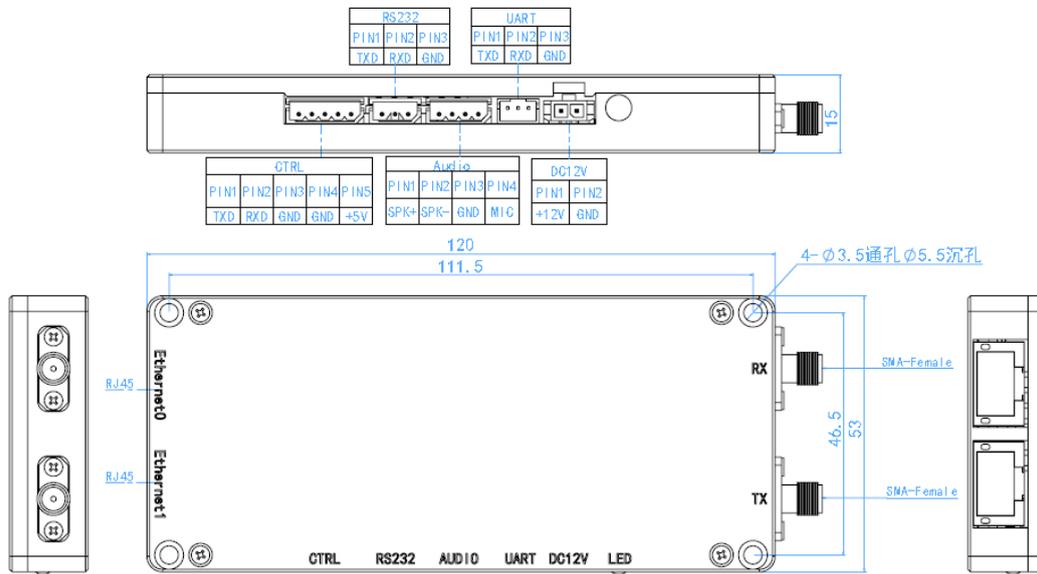| Date	Version	Modification description
20230612	V1.0	Initial version

Catalogue

1. Product overview

IP Radio is an FDD wireless video transmission equipment independently developed by our company. Using COFDM multi-carrier modulation technology, it has good anti-multipath and anti-interference . This product uses dual network port, double serial port and two-way voice and other multi-interface design. To a greater extent, it can meet the diversified needs of customers in the fields of UAV, fire protection, inspection, monitoring and many other application scenarios. At the same time, this product also supports wide band working range and supports external large power amplifier. It is used to meet customers' requirements on frequency band and distance.

2. Product index

Table 1: IP Radio Technical index	
System parameter	Technical index
Equipment type	IP Radio
Equipment name	FDD Transmission radio
Working frequency	300~900MHz /1.0G~1.4GHz
Radio frequency channel	1T&1R
Transmission power	-20dBm~0dBm
Channel bandwidth	0.5/1/2/4/8MHz
Constellation modulation	QPSK/16QAM/64QAM
Receiving sensitivity	≤-96dBm@8MHz
Speed	Up to 29Mbps@64QAM
Radio frequency interface	SMAX2
Equipment interface	Ethernet RJ45 X2
	TTL X1
	RS232 X1
	Audio interfaceX1
	Configure serial portX1
	Power interfaceX1
Communication encryption	AES128
Overall power consumption	≤10W
Dimension(L*W*H)	120mm*53mm*15mm
Weight	About 114g
Working voltage	DC 9~15V, Typical value +12V@1A
Working temperature	-40~+85℃

3. Product Dimension & Weight
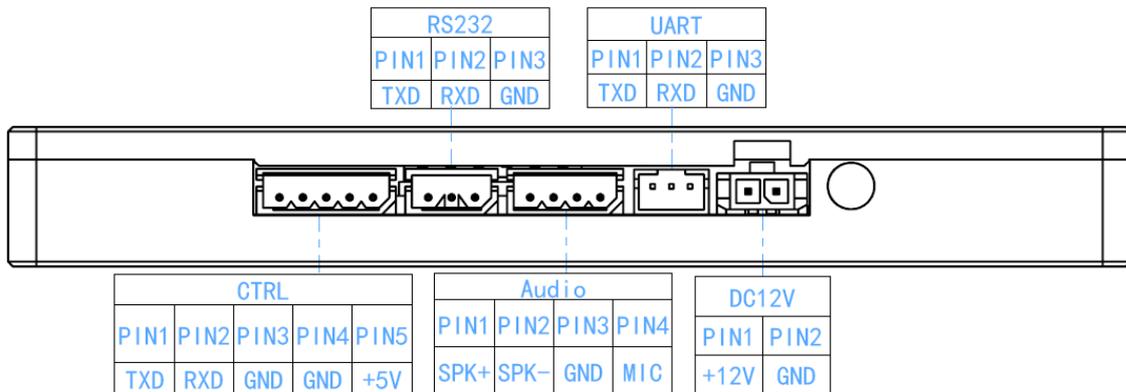
3.1   Dimension diagram

3.2   Dimension & Weight

◆ Dimension (L*W*H): 120mm*53mm*15mm（Exclusive of SMA 10mm）

◆ Weight: about 114g

4. Product interface definition

4.1 Interface diagram

The IP Radio device uses the Molex interface. There are 6 types of interfaces, including 1 power supply, 1 TTL serial port, 1 RS232 serial port, 1 audio interface, 1 configuration serial port, and 2 100 Mbit/s network ports at the bottom.

4.2 Interface definition

No	Pin name	Interface definition	Interface description	Signal direction
1	LED	LED	Indicator light	O
2	PWR	Supply voltage	Power positive	I
3	GND	DC 9~15V	Power negative	I
4	TXD		Serial transmission	O
5	RXD	UART Serial port	Serial reception	I
6	GND	TTL	GND	O
7	SPK+		Headset talk +	O
8	SPK-	Audio interface	Headset talk -	I
9	GND	Audio	GND	O
10	MIC		Microphone play	I
11	TXD		Serial transmission	O
12	RXD	Data serial port	Serial reception	I
13	GND	RS232	GND	O
14	TXD_C		Serial transmission	O
15	RXD_C		Serial reception	I
16	GND	Control serial port for setting	GND	O
17	GND	device parameters	GND	O
18	+5V		+5V output	O
19	Ethernet1	RJ45	100 M network port 1	IO
20	Ethernet2	RJ45	100 M network port 2	IO