

SINOSUN-MM2×2/4×2/10×2/20×2

Airborne Radio

# Technical Specification



**2Watts×2/4Watts×2  
IP/RS232**



**2Watts×2/4Watts×2  
IP&WiFi&HDMI(or SDI)/RS232&Sbus**



**10Watts×2/20Watts×2  
IP/RS232**

# 1.Airborne Radio Specifications

## General

Waveform	Mobile Network MIMO (MN-MIMO)
MIMO Technology	Space-time coding、Space Diversity、TX /RX beamforming、Spatial multiplexing
Receive Sensitivity	-103dBm@5MHz BW
Channel Bandwidth	2.5/5/10/20MHz, 40MHz optional; FDD by dual-antennas with two-frequencies transceiver (Carrier Aggregation) optional
Data Rate	1-100Mbps(20MHz BW)/180Mbps (40MHz BW) Adaptive,QoS
Modulation Mode	TD-COFDM,BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM Adaptive (Fixed setting optional)
RF Output Power (Support TPC, transmission power control)	2Watts×2/4Watts×2 10Watts×2 , 20Watts×2 (Power adaptive optional)
Single Hop Communication Distance	100-300 KM (visible), 1-30 KM (urban area)
Mode	Distributed centerless Point-to-point/Point-to-multipoint/Multipoint-to-multipoint, Layer 2 or 3 of Dynamic routing、Multi-hop relay、Star/Line/Network/Hybrid
Single Hop Delay	Average 7ms (20MHz BW)
Encryption	DES, AES128/256, SNOW3G/ZUC optional, Chip/TF card encryption customized or external encryption machine
Anti-jamming Mode	Manual spectrum scanning channel selection, Full band enhanced intelligent frequency selectting(spectrum awareness)/Full band adaptive frequency hopping/ Roaming mode optional
Local/Remote Management	Operating frequency, channel bandwidth, network ID, transmit power and other parameter settings, spectrum scanning, real-time display and statistical records of network topology, link field strength signal-to-noise ratio, upload and download traffic,node distance, GPS/Beidou electronic map, temperature/voltage/jamming Monitoring, software upgrade. Remote silence and wake-up optional
Others	The startup time is less than 28 seconds, and the network access/update/switchover time is less than 1 second. There is no limit on the user capacity of a single system (256 nodes or more) and the number of hops in Mesh networks (Data 15+ hops, voice 10+ hops, video 8+ hops). The total bandwidth loss of multiple hops is less than 70%. Automatic carrier tracking, adapted to a Doppler frequency deviation of ± 6kHz frequency offset, supports mobile communication at speeds above 7200 kilometers per hour (6 Mach, 2000 meters per second).

## Bands(70M-6GHz. 2T2R at single band, or 1T2R at dual band selectable/smart change\*)

BAND	Frequency range (MHz)	BAND	Frequency range (GHz)
UHF	430-550/570-700/ 800-950,225-400/320-470*	S Band	1.6-1.8/1.8-2.0/2.0-2.2/2.2-2.5/ 2.5-2.7/2.7-2.9, 1.6-2.3/1.9-2.7*
L Band	1000-1200/1300-1500, 1200-1700*	C Band (The Airborne Radio size of C Band is different from other Band)	4.4-5.0/5.25-5.85, 4.2-5.2/5.5-6.0*
MIIT	336-344/512-582/566-626/606-678/1420-1520/1430-1444		

## Environmental

Operation Temperature	-40°C ~+80°C
Protection Level	IP66, IP67/IP68 Customized

## Mechanical

Size/Weight	11.7x6.2x3.2cm/0.279kg(2watts×2/4watts×2 Airborne Radio-Lron Gray) 11.7x6.2x3.8cm/0.347kg(2watts×2/4watts×2 Airborne Multi-interface Radio-Black) 11.7x6.2x4.2cm/0.364kg(2watts×2/4watts×2 Airborne Multi-interface Radio-Black) 12.7x11.0x3.3cm/0.635kg(10watts×2/20watts×2 Airborne Radio-Lron Gray)
Color	Black, Lron Gray, Army Green Optional
Installation	4 Mounting Holes

## Power

Supply Voltage	9-28VDC (2Watts×2/4Watts×2) 14.8-36VDC (10Watts×2 ) 18-36VDC (20Watts×2 )
Power consumption	Operation 1-2A/Standby 0.4-0.6A@12V (2Watts×2) Operation 2-4A/Standby 0.5-0.7A@12V (4Watts×2) Operation 3-6A/Standby 0.7-0.9A@16.8V (10Watts×2) Operation 6-7A/Standby 0.7-0.9A@20V (20Watts×2)
Power Selection	Main Cable

## Interface

Basic interface	2xTNC RF, 1-3xRJ45 Ethernet 100/1000BaseT, WiFi AP,GPS/BD,RS232/ TTL(UART), Sbus/Bluetooth, 1.2-230.4Kbps, DC Input
Video Extension Optional	Low Delay HDMI/SDI/CVBS, 4K/2K/1080P/720P/D1
Link Status Indicator	Steady red - The network is not connected Blinking red - Starting/not connected to the network Steady green - The network is connected Blinking green - Voice PTT is down
RSSI Link Indicator	Steady green - The link quality is excellent Steady Blue - The link quality is good Steady yellow - The link quality is medium Steady purple - The link quality is slightly worse Steady red - The link quality is poor or link is down
Management Interface/Control Interface	Web-based network management/GUI, API for secondary development interface/ SNMP

## OEM

Size/Weight	10.1x5.4x1.9cm/123.5g
RF	SMP

## 2. Airborne Radio Hardware Interfaces

### 2.1 Airborne Radio (Lron Gray)



- 1** RF Channels 1-2 Connectors [SMA Female]
- 2** Power/Communication Ports

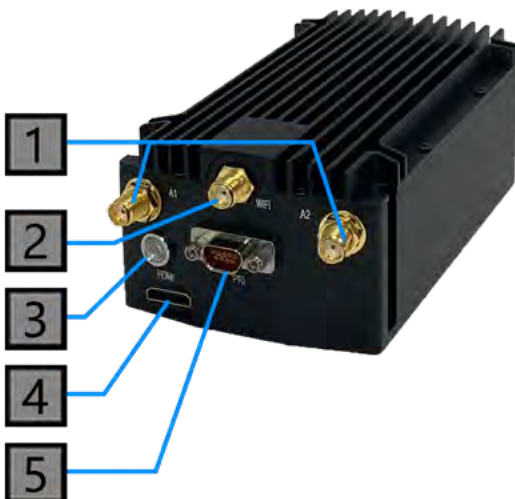


- 3** Link Status Indicator
  - Steady red: The network is not connected
  - Blinking red: Starting/not connected to the network
  - Steady green: The network is connected

### 2.2 Airborne Radio (Black)

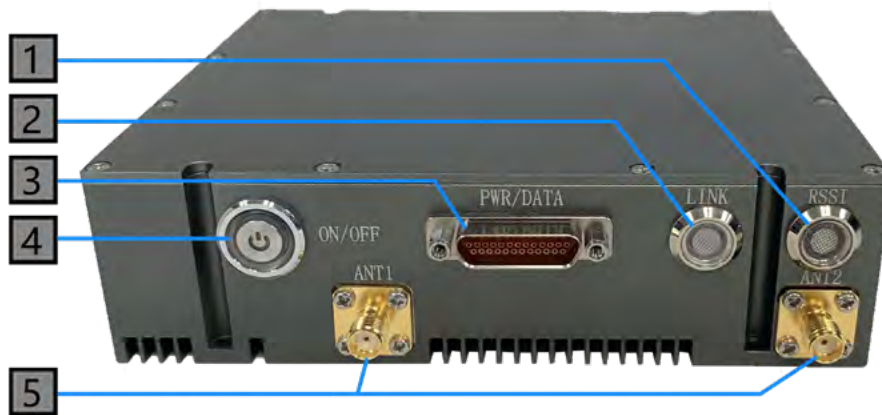
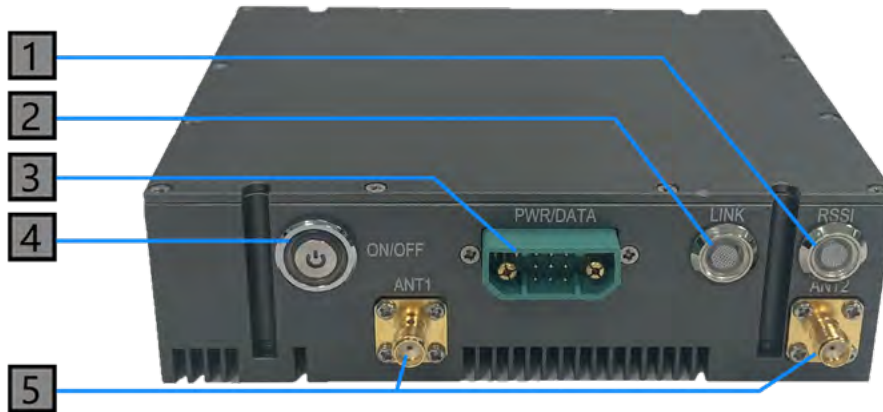


- 1** RF Channels 1-2 Connectors [SMA Female]
- 2** WiFi Antenna
- 3** Power/Communication Ports
- 4** Link Status Indicator
  - Steady red: The network is not connected
  - Blinking red: Starting/not connected to the network
  - Steady green: The network is connected
  - Blinking green: Voice PTT is down



- 1** RF Channels 1-2 Connectors [SMA Female]
- 2** WiFi Antenna
- 3** Link Status Indicator
  - Steady red: The network is not connected
  - Blinking red: Starting/not connected to the network
  - Steady green: The network is connected
  - Blinking green: Voice PTT is down
- 4** HDMI Port
- 5** Power/Communication Ports

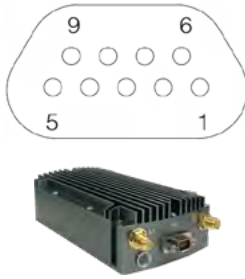
### 2.3 High-power Airborne Radio (Lron Gray)



- |  |  |
|--|--|
| <p><b>1</b> RSSI Link Indicator</p> <ul style="list-style-type: none"> <li>• Steady green: The link quality is excellent</li> <li>• Blue Steady: The link quality is good</li> <li>• Steady yellow: The link quality is medium</li> <li>• Steady purple: The link quality is slightly worse</li> <li>• Steady red: The link quality is poor or link is down</li> <li>• Off: The link is interrupted</li> </ul> | <p><b>3</b> Power (14.8-24V), Ethernet, and Serial Port Connector</p>                |
| <p><b>2</b> Link Status Indicator</p> <ul style="list-style-type: none"> <li>• Steady red: The network is not connected</li> <li>• Blinking red: Starting/not connected to the network</li> <li>• Steady green: The network is connected</li> <li>• Blinking green: Voice PTT is down</li> </ul>   | <p><b>4</b> Radio switch</p> <p><b>5</b> RF Channels 1-2 Connectors [SMA Female]</p> |

### 3. Airborne Radio Connection Port Pin Definition

#### 3.1 Airborne Radio (Lron Gray/Black-J30J-9)

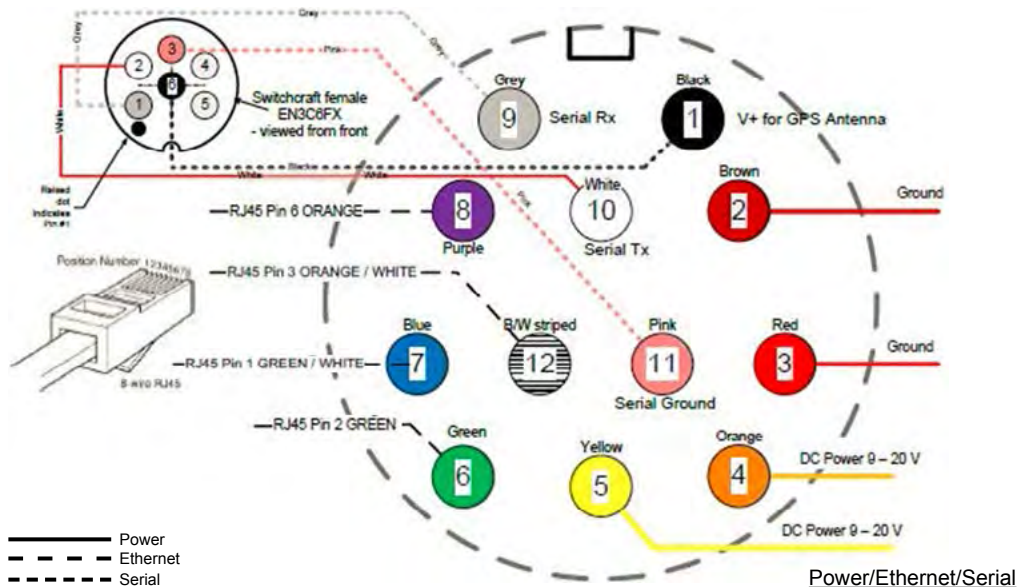


Power/Ethernet/Serial Connector Pinout	
J30J-9ZKNP5-J	Signal
1	RS232_RXD
2	ETH_RX-
3	ETH_RX+
4	ETH_TX-
5	ETH_TX+
6	RS232_TXD
7	RS232_GND
8	GND IN
9	VCC IN

#### 3.2 Airborne Radio (Lron Gray/Black-Aviation Connector)

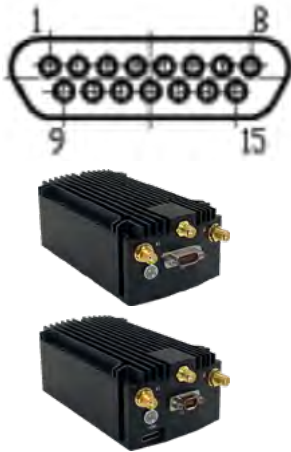


Power/Ethernet/Serial Connector Pinout	
LF10WBRB-12PD	Signal
1	5V OUT (For External GPS Puck)
2	GND IN
3	GND IN
4	VCC IN
5	VCC IN
6	100-Base T ETH0 M2N
7	100-Base T ETH0 M2P
8	100-Base T ETH0 M1P
9	RS232_RXD
10	RS232_TXD
11	RS232_GND
12	100-Base T ETH0 M1N





### 3.3 Airborne Radio (Black-J30J-15ZKP)



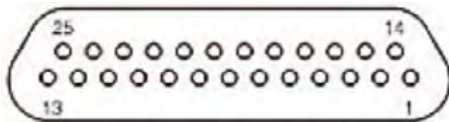
Power/Ethernet/Serial Connector Pinout	
J30J-15ZKP	Signal
1	RS232_RXD
2	RS232_TXD
3	RS232_GND
4	5V Output
5	100-Base T ETHO M1P
6	100-Base T ETHO M1N
7	100-Base T ETHO M2P
8	100-Base T ETHO M2N
9	Sbus
10	Sbus_VCC
11	Sbus_GND
12	GND IN
13	GND IN
14	VCC IN
15	VCC IN

### 3.4 High-power Airborne Radio (Lron Gray-9+2)



Power/Ethernet/Serial Connector Pinout	
9+2	Signal
1	ETH_RX-
2	ETH_RX+
3	ETH_TX-
4	ETH_TX+
5	-
6	5V OUT
7	RS232_TXD
8	RS232_RXD
9	RS232_GND
+	VCC IN
-	GND IN

### 3.5 High-power Airborne Radio (Lron Gray-J30J-25)



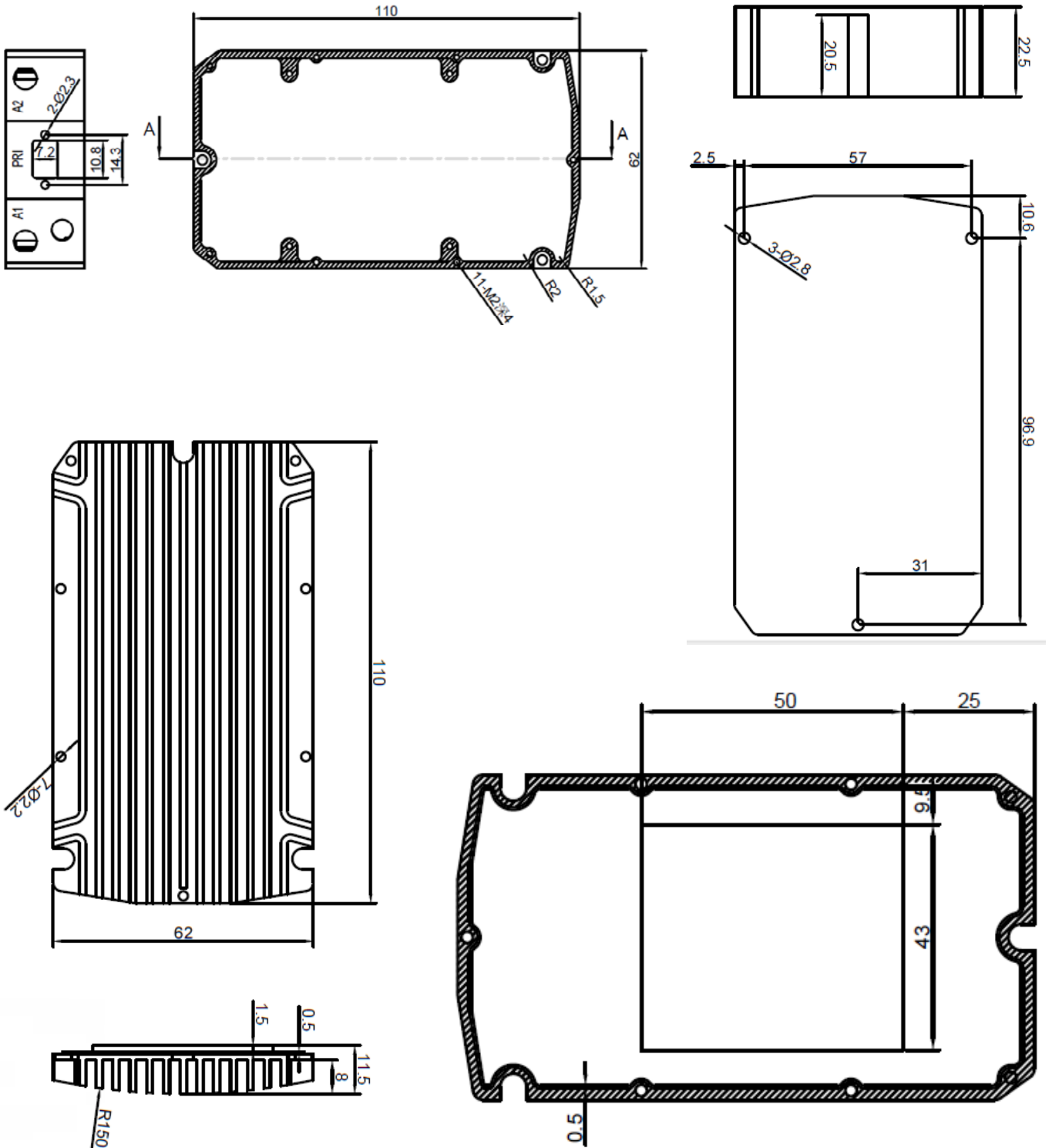
J30J-25 芯



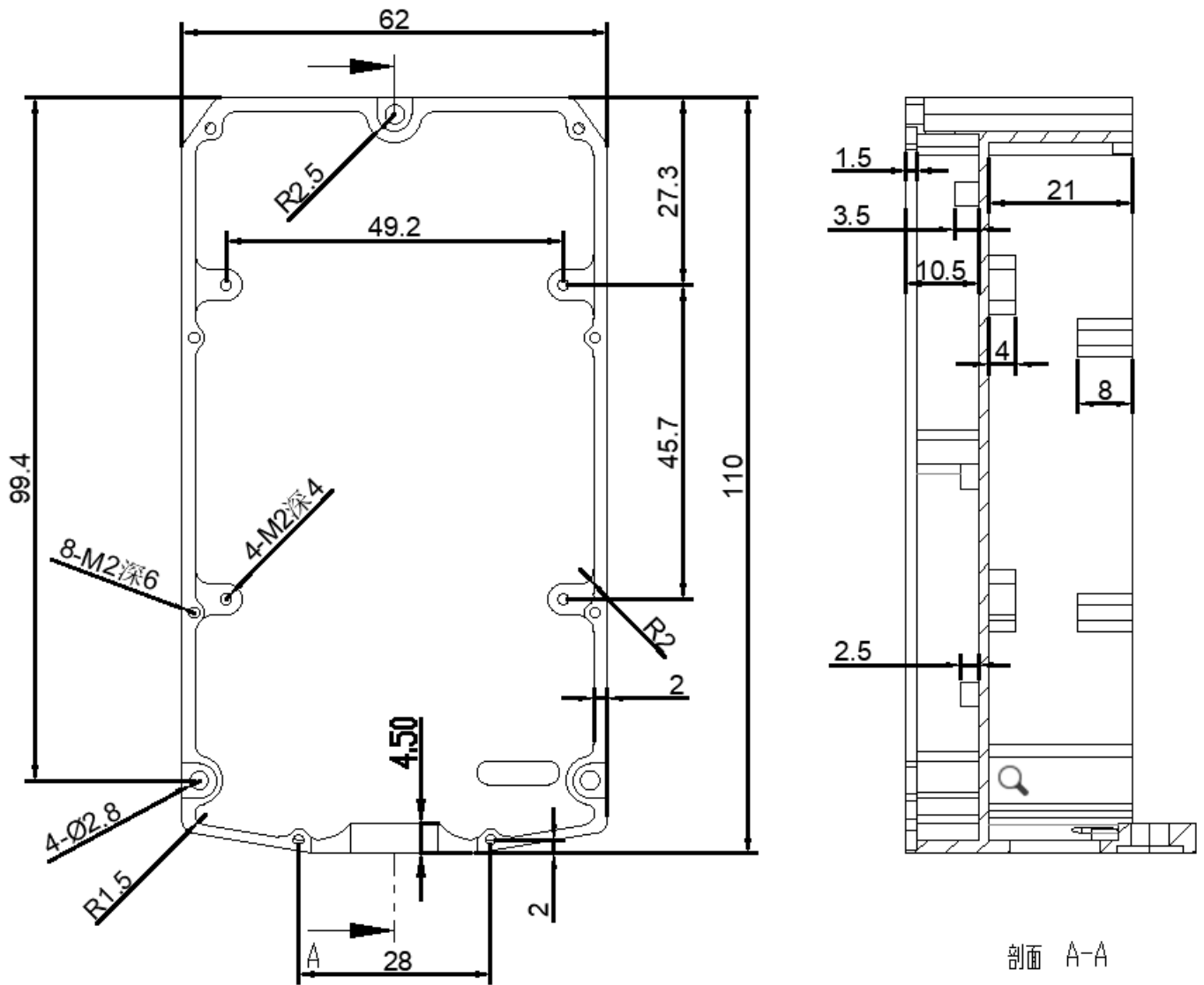
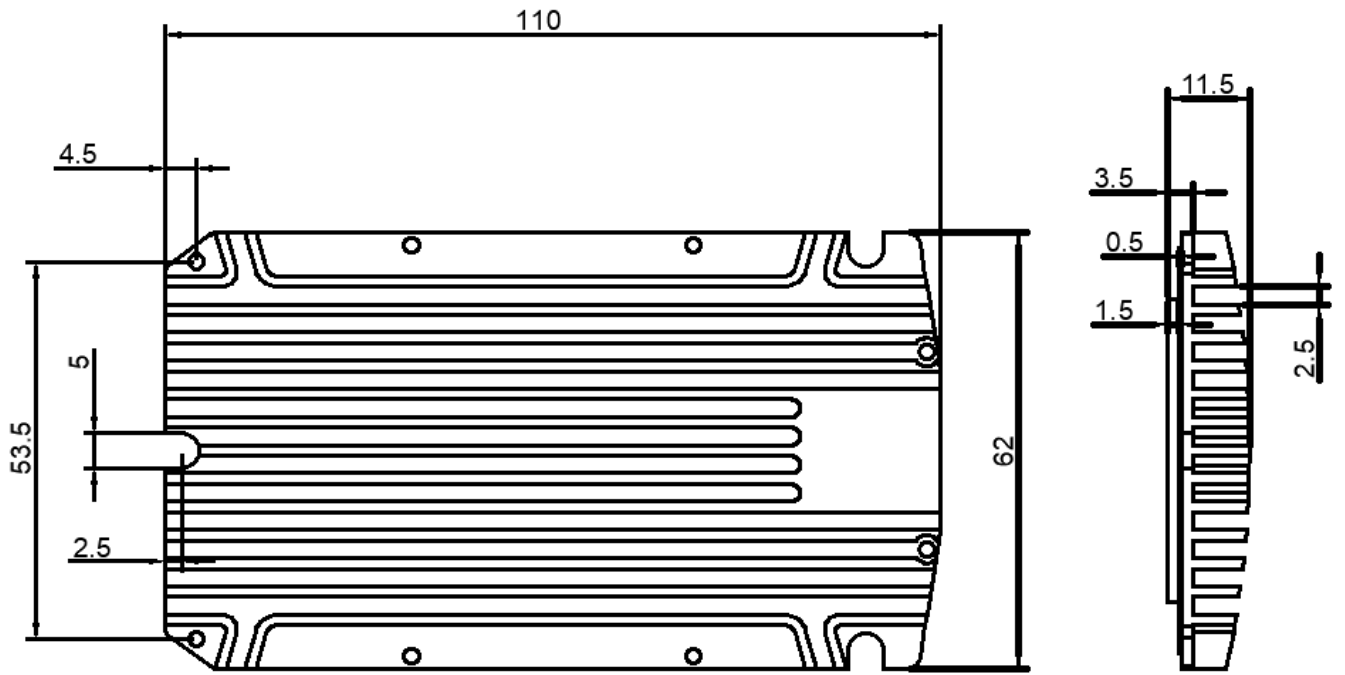
Power/Ethernet/Serial Connector Pinout	
J30J-25ZKP	Signal
1	ETH_RX-
2	ETH_RX+
3	ETH_TX-
4	ETH_TX+
5	VCC IN
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	RS232_RXD
16	RS232_GND
17	5V OUT
18	GND IN
19	
20	
21	
22	
23	
24	
25	

## 4. Airborne Radio Dimension Figure

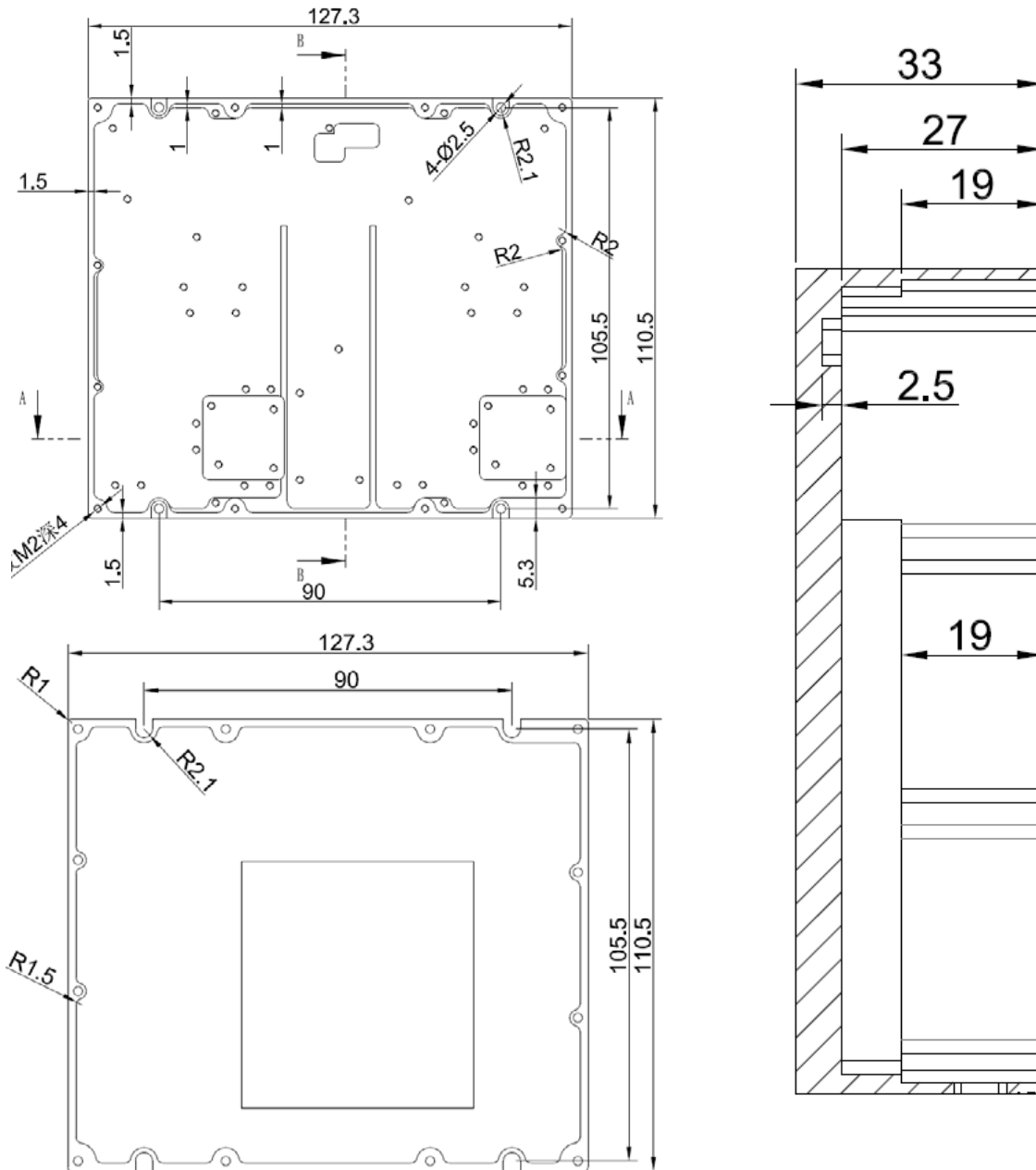
### 4.1 Airborne Radio (Lron Gray)





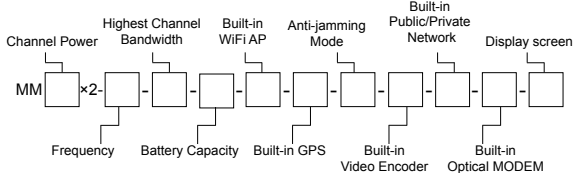
**4.2 Airborne Radio (Black)**


### 4.3 High-power Airborne Radio (Lron Gray)



## 5. Airborne Radio Model Name

### Model Name:



Channel Power (W)	Frequency (MHz)	Highest Channel Bandwidth(MHz)	Battery Capacity (Wh)	Built-in WiFi AP	Built-in GPS	Anti-jamming Mode	Built-in Video Encoder	Built-in Public/Private Network	Built-in Optical MODEM	Display Screen
2	600,U	20	0(N)	0(N)	0(N)	0(Single Frequency)	0(N)	0(N)	0(N)	0(N)
4	1400,L	40	76,114	1(Y)	1(Y)	1(Intelligent Channel Selection)	HDMI	4G/5G	1(Y)	2(2")
10	2300,S		214,427			2(Autonomous Frequency Hopping)	SDI/AV	4G LTE CPE		3(3.2")
20	4500,C									4(4")

MM2×2-1400-40-0-1-1-0-HDMI-4G/5G-0-0, Express: 2W×2, L Band, Maximum Channel Bandwidth 40MHz, With WiFi AP, With Positioning Module, With Intelligent Channel Selection, Built-in HDMI Coding, Built-in 4G Public Network Module Airborne Radio.

## 6.DJ Series UAV Supporting With HD Video Data Transmission/ Data Link, And Mesh Ad Hoc Networking

Broadband Ad Hoc network Radio, providing network ports, video ports, multiple serial ports, for drones and ground command centers, to achieve long-distance flight control data link, high-definition video channel, while automatically providing a wide range of communication relays for emergency communication networks.

Radio provides network port, HDMI/SDI/AV video interface, and 232/485/422/TTL or S bus asynchronous data interface.



2Wattsx2 Customized Airborne Radio  
(7.5x6.5x6.5cm/695g,built-in 8 hours for battery life)  
IP&WiFi AP&HDMI/SDI,RS232&S bus



2Wattsx2 Airborne Radio  
(External power supply 9-28V/2A)  
IP&WiFi AP&HDMI/SDI,RS232&S bus



2Wattsx2 Handheld Radio  
IP&WiFi AP&HDMI/SDI,RS232&S bus

