

DDLmesh Wireless MESH/Data Link  
Abundant OEM/ODM Module Series

# Technical Specification



0.25Watts×2



0.5Watts×2/1Watts×2



1Watts×2



2Watts×2



4Watts×2/5Watts×2



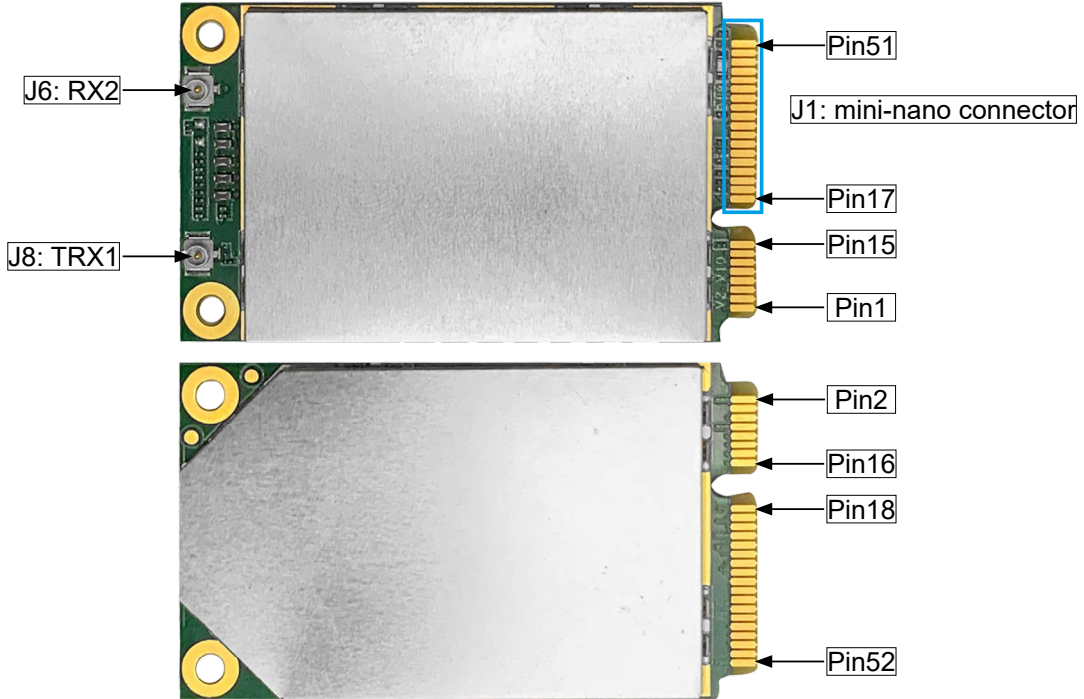
10Watts×2/20Watts×2

# 1. Specifications

General			
SDR Platform, Waveform	9363 or 9361+7Z020, Mobile Network MANET		
MIMO Technology	Space-time coding, Receive Diversity, TX /RX beamforming, Spatial multiplexing		
Receive Sensitivity	-103dBm@5MHz BW, -117dBm@250KHz		
Channel Bandwidth	1.25/2.5/5/10/20MHz Broadband, 250k/500k/1MHz Narrowband Setting		
Data Rate	1-70Mbps(20MHz BW) Broadband, 50-1000kbps narrowband Adaptive, QoS		
Modulation Mode	TD-COFDM, BPSK/QPSK/16QAM/64QAM Adaptive(Fixed setting optional)		
RF Output Power (Support TPC, transmission power control, 1dBm adjustable)	0.25Watts*2; 0.5Watts*2; 1Watts*2; 2Watts*2; 4Watts*2; 5Watts*2; 10Watts*2; 20Watts*2		
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 6ms (Unidirectional, 20MHz BW)		
Encryption	DES, AES128/256 (SM4/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 selecting(spectrum awareness)/Full band adaptive frequency hopping FHSS/Roaming mode, Multi-level anti-interference		
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, BD/GPS(GNSS) positioning electronic map, temperature/voltage/jamming Monitoring, software upgrade (remote silence and wake-up optional)		
Others	The boot time is less than 28 seconds, and the network access/update/switching time is less than 1 second; The network size is less than 8 nodes, and the total bandwidth loss over three hops is less than 70%; Automatic carrier tracking, adapting to Doppler frequency shift of $\pm 6$ kHz frequency deviation, supporting mobile communications at speeds above 7200 kilometers per hour (Mach 6, 2000 meters per second)		
<b>Bands (70M-6GHz/Uper C-X-Ku customizable. Same frequency or different frequency of TDD, 2T2R at single band or 1T2R at dual-band)</b>			
BAND	Frequency range	BAND	Frequency range
VHF/UHF (MHz)	360-450/450-550/570-700/800-950, 225-400/225-678/320-470*	S Band (GHz)	2.0-2.2/2.2-2.4/2.3-2.5/2.5-2.7/2.7-2.9/3.2-3.4/3.4-3.6/3.6-3.8, 1.9-2.7/2.0-2.7/2.1-2.7/2.7-3.6*
L Band (GHz)	1.0-1.2/1.1-1.3/1.3-1.5/1.5-1.7/1.6-1.8, 1.0-1.5/1.1-1.6/1.2-1.7/1.3-1.8/1.6-2.3/1.7-2.4/1.8-2.5*	C Band (GHz)	4.4-5.0/5.25-5.85, 4.2-5.2/5.5-6.0/6.4-7.2*
<small>(Note: RF power, Dimensions, Weight is different)</small>			
MIIT (MHz)	336-344/512-592/566-626/606-678/1420-1520/1430-1444		
Environmental			
Operation Temperature	-40°C ~+80°C	Protection Level	IP66 (IP67/IP68 Customized)
Mechanical		Interface	
Size/Weight	5.1x3.0x0.6cm/11g, 0.25Watts*2 5.8x4.8x1.0cm/27g, 0.5Watts*2/1Watts*2 8.7x5.4x1.0cm/40g, 1Watts*2 8.7x5.4x1.0cm/43g, 2Watts*2 11.5x5.4x1.3cm/56g, 4Watts*2/5Watts*2 12.7x11.0x3.4cm/524g, 10Watts*2/20Watts*2	Basic interface	2xIPEX/2xMMCX/2xSMP/2xSMA RF, 1-2xRJ45 Ethernet 100/1000BaseT, RS232, DC input. TTL (UART), SBUS, and Bluetooth 1.2-230.4Kbps, Wi-Fi access point, and BD/GPS (GNSS) are available. Supports transparent transmission over Ethernet and serial ports, and all communication protocols, including MAVLink. Selectable service priority
Installation	4 Mounting Holes	Network Extension Optional	Public Network Routing/4G LTE, WB-NB integration, Fiber, Satellite
Power		Video Extension Optional	Low Delay HDMI/SDI/CVBS, 4K/2K/1080P/720P/D1
		Power Indicator	Steady green - Powered on
Supply Voltage	3.5-5V DC, 0.25Watts*2 9-39V DC, 0.5Watts*2/1Watts*2 12-36V DC, 2Watts*2/4Watts*2/5Watts*2 18-32V DC, 10Watts*2/20Watts*2	LINK Indicator	Steady red - The network is not connected Blinking red - Starting/not connected to the network Steady green - The network is connected
Power consumption	Operation 1-2A/Standby 0.5-1A@3.5-5V, 0.25Watts*2 Operation 0.3-0.5A/Standby 0.2-0.3A@12V, 0.5Watts*2 Operation 1-2A/Standby 0.5-0.7A@12V, 1Watts*2/2Watts*2 Operation 2-4A/Standby 0.5-0.7A@12V, 4Watts*2/5Watts*2 Operation 3-6A/Standby 0.7-0.9A@18V, 10Watts*2 Operation 6-10A/Standby 0.7-0.9A@20V, 20Watts*2	RSSI 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 Off - The link is interrupted
Power Selection	Power Supply by Main Cable	Management Interface/Control Interface	Web-based network management/GUI, API for secondary development interface/SNMP

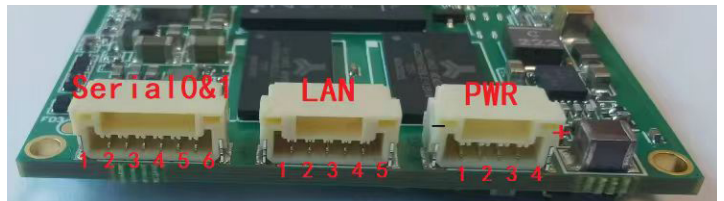
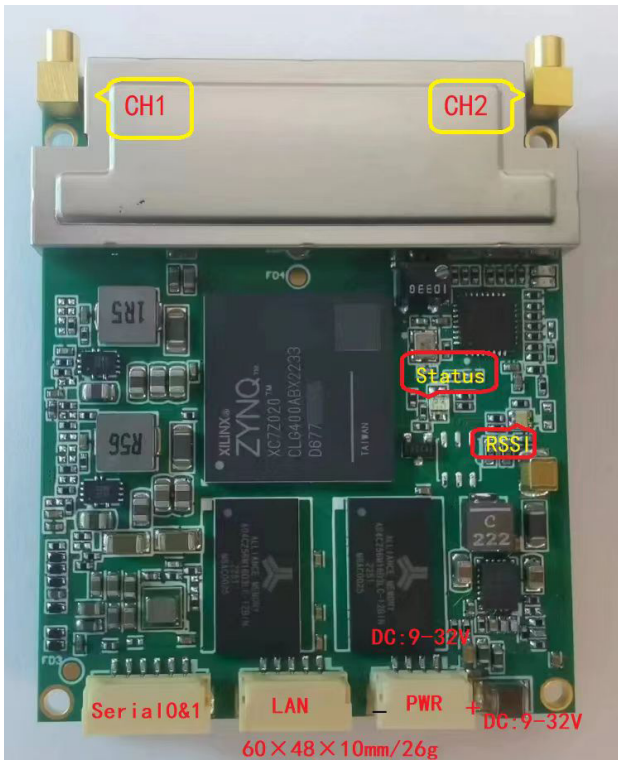
## 2. Hardware Interfaces

### 2.1 0.25Watts×2



Interface name	Interface function	Connector specification
J1: mini-pcie interface	USB, serial port, LED indication and power supply interface	mini-pcie interface
J6: RF port RX2	RF receiving channel 2	IPEX MHF II
J8: RF port TRX1	RF transmitting and receiving channel 1	IPEX MHF II

### 2.2 0.5Watts×2/1Watts×2



Mavlink/Serial 0&1  
(SM06B-GHS)

- Pin1: RS232(Default)/TTL(UART)\_GND0&1
- Pin2: RS232(Default)/TTL(UART)\_RXD0
- Pin3: RS232(Default)/TTL(UART)\_TXD0
- Pin4: RS232(Default)/TTL(UART)\_RXD1
- Pin5: RS232(Default)/TTL(UART)\_TXD1
- Pin6: 5V OUT

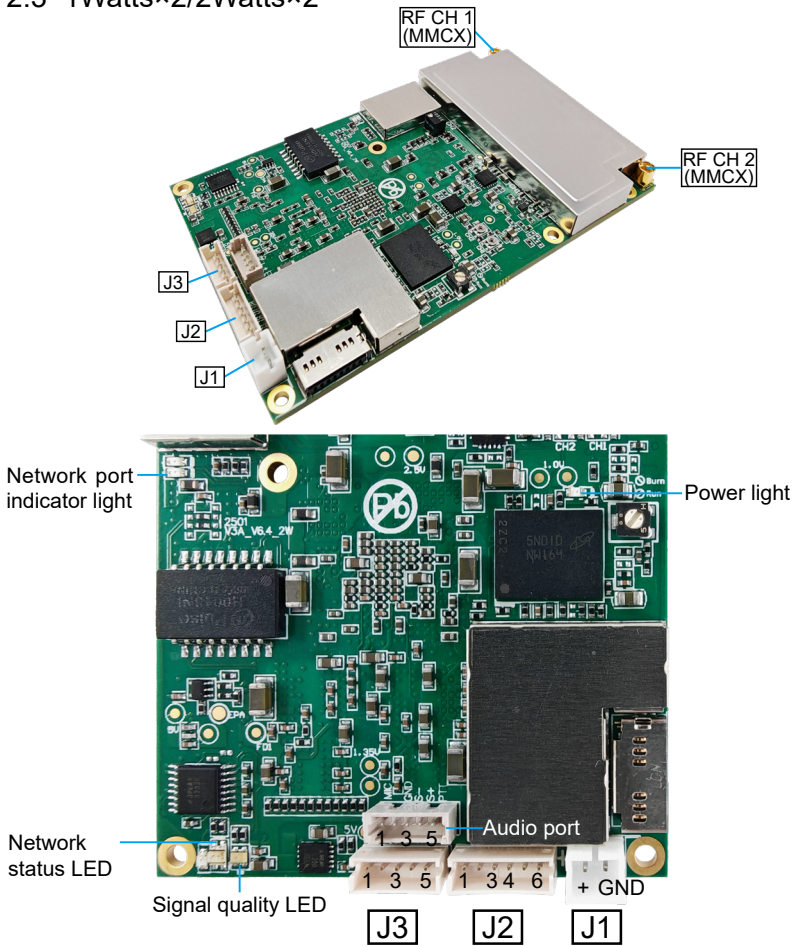
LAN  
(SM05B-GHS)

- Pin1: GND
- Pin2: ETH\_RX+
- Pin3: ETH\_RX-
- Pin4: ETH\_TX+
- Pin5: ETH\_TX-

PWR  
(SM04B-GHS)

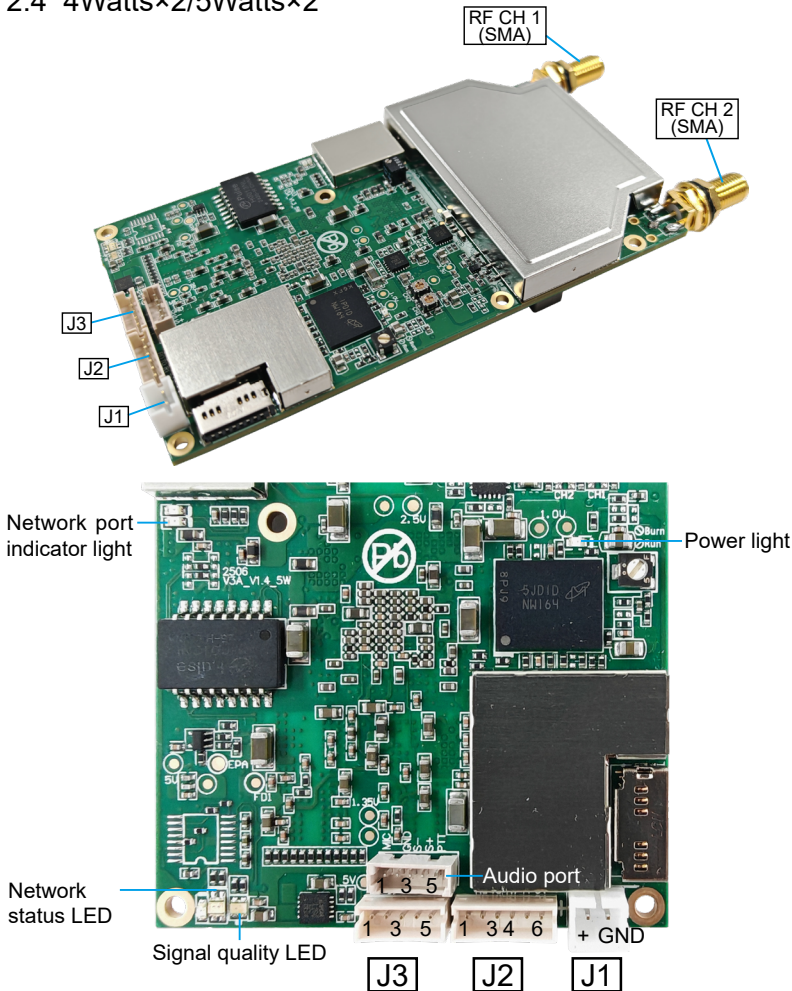
- Pin1: GND (-)
- Pin2: GND (-)
- Pin3: VCC (+)
- Pin4: VCC (+)

### 2.3 1Watts×2/2Watts×2



Connector	Pin	Function
J1 Power Supply Port Connector Model: HC-PH-2A	1	GND (-)
	2	12-36V DC(+)
J2 Serial Port	1	RS232/TTL_GND0&1
	2	RS232/TTL_RXD0
	3	RS232/TTL_TXD0
	4	RS232/TTL_RXD1
	5	RS232/TTL_TXD1
	6	5V OUT
J3 Ethernet Port Connector Model: HC-ZH1.5-4A	1	GND
	2	ETH_RX+
	3	ETH_RX-
	4	ETH_TX+
	5	ETH_TX-
Audio Port	1	MIC
	2	AUDIO_GND
	3	SPK+
	4	SPK-
	5	PTT

### 2.4 4Watts×2/5Watts×2



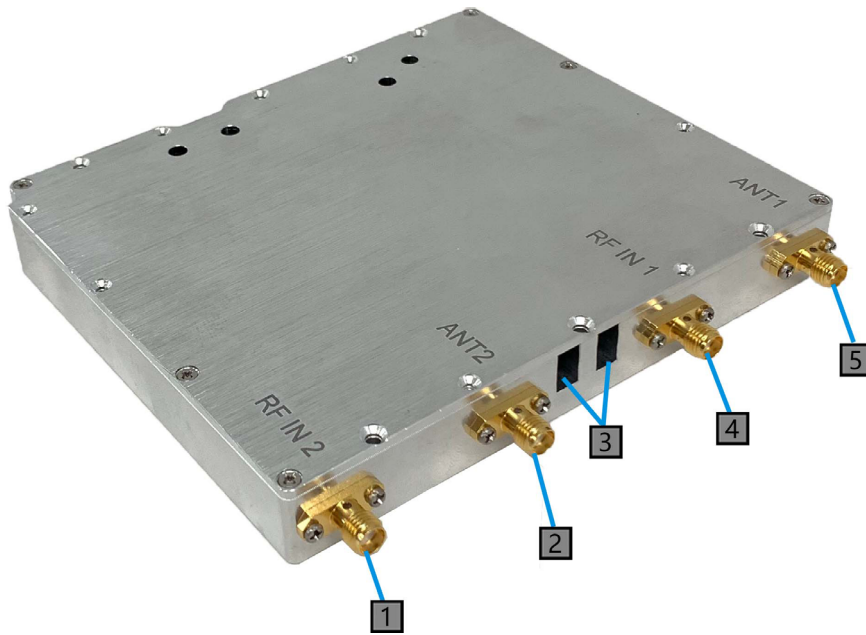
Connector	Pin	Function
J1 Power Supply Port Connector Model: HC-PH-2A	1	GND (-)
	2	12-36V DC (+)
J2 Serial Port	1	RS232/TTL_GND0&1
	2	RS232/TTL_RXD0
	3	RS232/TTL_TXD0
	4	RS232/TTL_RXD1
	5	RS232/TTL_TXD1
	6	5V OUT
J3 Ethernet Port Connector Model: HC-ZH1.5-4A	1	GND
	2	ETH_RX+
	3	ETH_RX-
	4	ETH_TX+
	5	ETH_TX-
Audio Port	1	MIC
	2	AUDIO_GND
	3	SPK+
	4	SPK-
	5	PTT

2.5 10Watts×2/20Watts×2



Connector	Pin	Function
J1 Power Supply Port Connector Model: HC-PH-2A	1	GND (-)
	2	18-32V DC (+)
J2 Serial Port	1	RS232/TTL_GND0&1
	2	RS232/TTL_RXD0
	3	RS232/TTL_TXD0
	4	RS232/TTL_RXD1
	5	RS232/TTL_TXD1
	6	5V OUT
J3 Ethernet Port Connector Model: HC-ZH1.5-4A	1	GND
	2	ETH_RX+
	3	ETH_RX-
	4	ETH_TX+
	5	ETH_TX-

2.6 10Watts×2/20Watts×2



**1** A1 IN

**2** A1 OUT

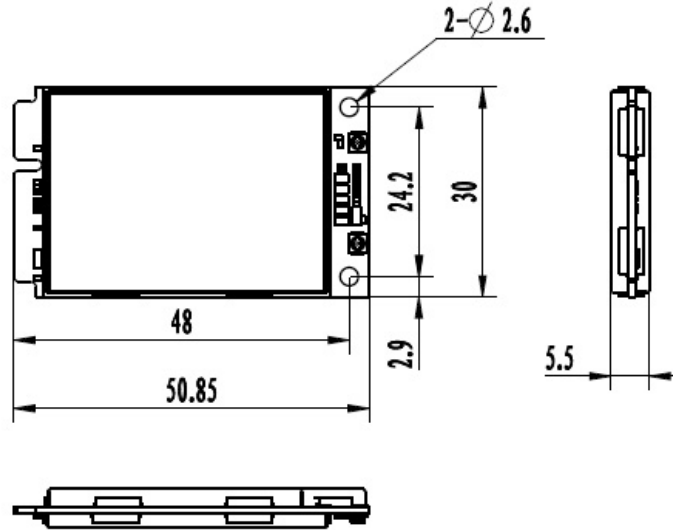
**3** Powered

**4** A2 IN

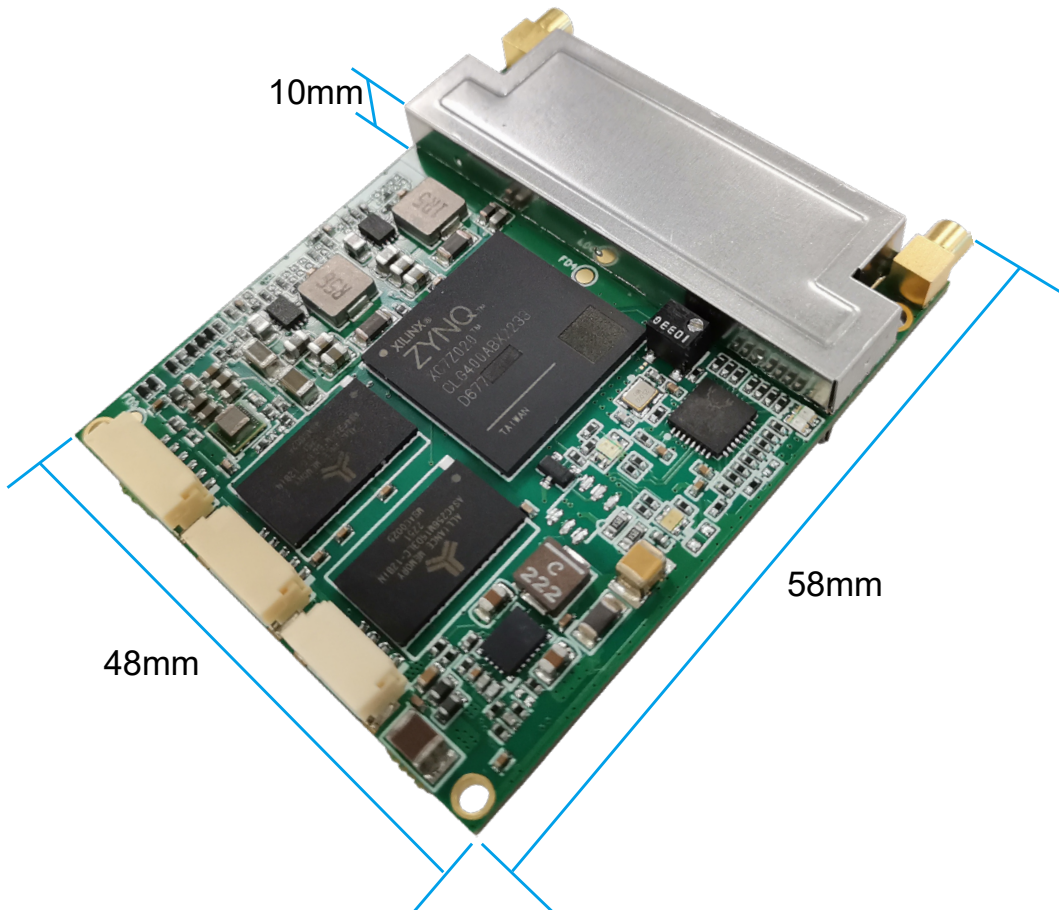
**5** A2 OUT

### 3. Dimension Figure

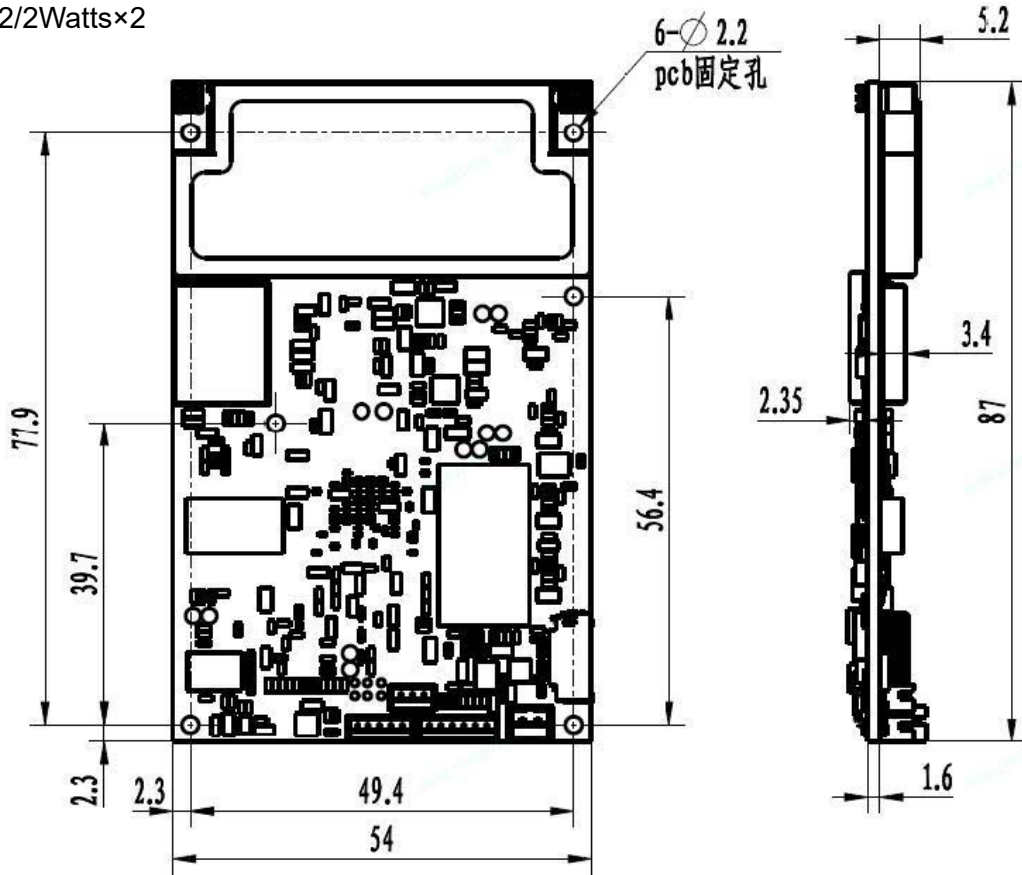
#### 3.1 0.25Watts×2



#### 3.2 0.5Watts×2/1Watts×2



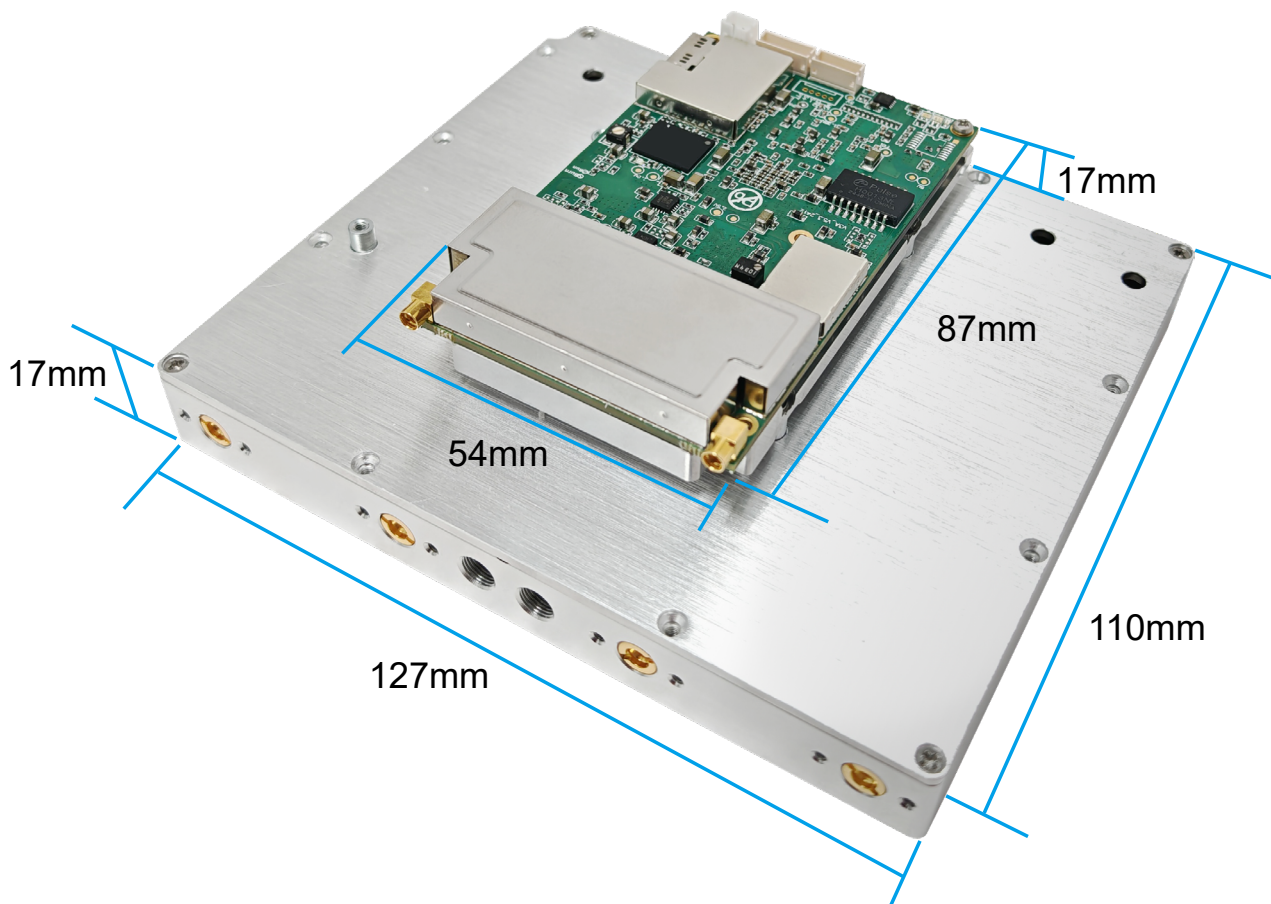
3.3 1Watts×2/2Watts×2



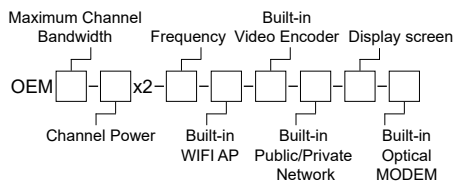
3.4 4Watts×2/5Watts×2



### 3.7 10Watts×2/20Watts×2



## 4. Model Name



Maximum Channel Bandwidth	Channel Power (W)	Frequency (MHz)	Built-in WIFI AP	Built-in Video Encoder	Built-in Public/Private Network	Display Screen	Built-in Optical MODEM
20	2	600, U	0(N)	0(N)	0(N)	0(N)	0(N)
40	4, 5	1400, L	1(Y)	HDMI	4G/5G	2(2")	1(Y)
80	10	2300, S		SDI/AV	4G LTE CPE	3(3.2")	
	20, 40	4500, C				4(4")	

OEM20-2x2-1400-1-HDMI-4G/5G-0 Express: Maximum channel bandwidth 20MHz, 2Watts×2, 1400MHz, With WIFI AP, Built-in HDMI Coding, Built-in 4G/5G Public Network Module, Without display screen and without optical MODEM Module.