PM5G
Product
Specification

Shenzhen Houtian Network Communication Technology Co.,Ltd

PM5G Product Specification

Product overview

PM5G is a professional dual band WiFi repeater that is elaborately developed by HouTian Network, can work both for 5G and 2.4G, the transmission distance of 5G is up to 1000 meters, the original creation D/A temperature compensated auto frequency control technology （TAFC）, it solved the common failing of the traditional WiFi signal or WiFi products that easily drop the network, make sure the lasting stability that the WiFi signal is not dropped. Its main features as below:

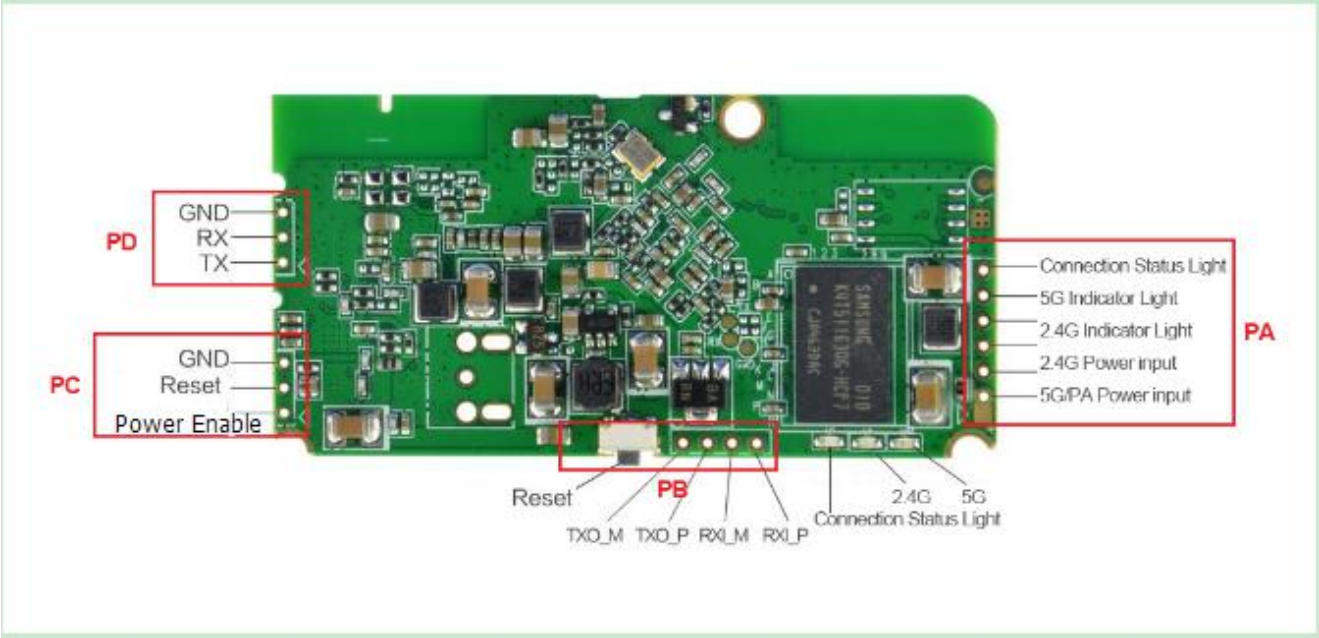
- Support both 2.4G and 5G band;
- Adopt the original creation D/A temperature compensated auto frequency control technology, make sure the lasting stability that the WiFi signal is not dropped;
- Original creation VDNS virtual domain configuration technology to solve the user's trouble of configuration;
- Support WEB management, Chinese, English configuration page;
- supports WiFi hot spots scan automatically and WiFi hot spot memory function;
- Support 802.11ac, 802.11n WiFi transmission protocol;
- Support disable 2.4G and 5G WiFi network;
- 5G WiFi transmission speed: 450Mbps, no barrier point to point transmission distance is 800 meters;
  2.4G WiFi transmission speed: 300Mbps, no barrier point to point transmission distance is 50 meters;
- Good compatibility, almost compatible with all smart phones, tablet PCs, laptops, Internet and other WiFi devices;
- Scope of application: UAV map transmission, WiFi remote coverage, network engineering, etc.
- WiFi 2.4G 2T2R, built-in 1.5dbi Omnidirectional antenna;
- WiFi 5G 1T1R, there is a 5G antenna interface in the board, 4.5dbi soft antenna is included in the module, (If the longer transmission distance is needed, higher gain 5G antenna can be chosen, and then do antenna match debugging);
- Applications: UAV map, WiFi long-distance coverage, network engineering

Module Features

1. Module power supply is divided into two parts, 2.4G power input and 5G/PA power input;
2. 2.4G power input is 5V-15V, the output power of the power supply is not less than 5W, the ripple is less than 200mV, the best performance is 5V power supply;
3. 5V/PA power input 5V-15V, the output power of the power supply is not less than 10W, the ripple is less than 200mV, the best performance is 5V power supply.
4. Two power supply may be combined using the same power supply, the requirement is the power output is not less than 15W, the ripple is less than 200mV;
5. The average power consumption is less than 5W, the peak power is less than 10W;
6. Due to small size and high power, it is necessary to do a good job of module cooling, so that the main chip temperature is less than 70℃.

Interface definition

1. PIN definition, see the drawing below



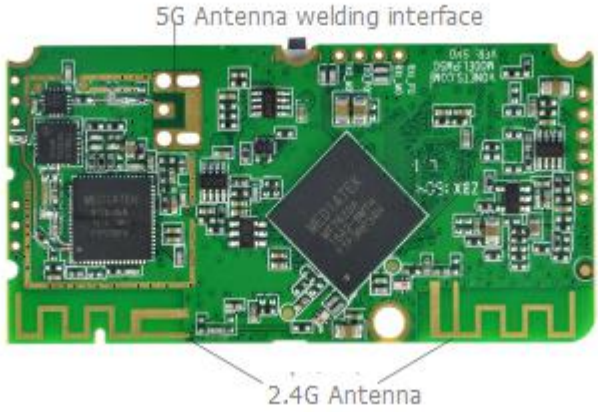


Diagram 1

2.Interface definition table

UART（PD）	GND	Module power GND
	UART_RX	Can be used for transmission, control the serial port, set aside for the depth of development
	UART_TX	
（PC）	GND	Module power GND
	Reset to factory setting	Low level effective <0.8V
	Power supply enable	High level effective 1.6V-VCC
LAN（PB）	TXO_M TXO_P RXI_M RXI_P	1. Connect the Ethernet port of another board, need connect external network transformer, for details, please see **Diagram 3**: Schematic and principle of switching network port; 2. Non network transformer connection, please contact VONETS.
Reset button	Reset to factory setting	The low level effective <0.8V
（PA）	Connect Status Light	The high level bright 3.3V
	5G indicator Light	The low level bright <0.8V
	2.4G indicator Light	The low level bright <0.8V
	GND	Module power GND
	2.4G Power input	The power supply input voltage is 5V-3A, the input power consumption 15W
	5G/PA Power input	

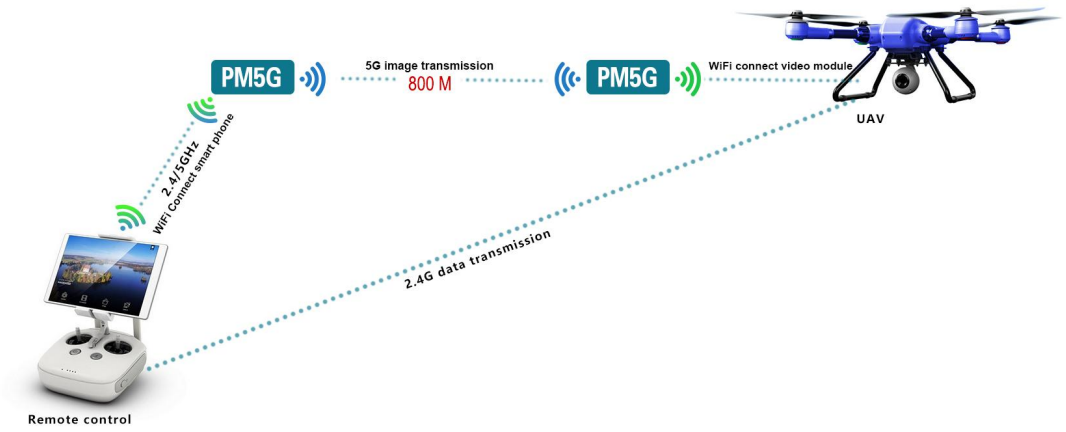
Function Feature Form

Performance parameters form			
Basic Function	1）WiFi enable switch; 2）WiFi hot spot switch; 2）SSID broadcast switch; 3）2.4G band channel option: 1-14; the best channel: 7; 5G band channel option: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149、161、165; the best channel: 149; 4）2.4G WiFi mode option: 11n only, 11 bgn mixed, 11 bg mixed, 11g only, 11b only; 5G WiFi mode option: 11vht AC/AN/A、11vht AC/AN、11a/n mixed、11a only; 5）WiFi hot spot scan automaticaly; 6）WiFi hot spot memory.		
Protocol Standard	IEEE 802.11ac、 IEEE 802.11g、 IEEE 802.11b、 IEEE 802.11n;		
WiFi Security	64/128/WEP encryption; WPA-PSK/WPA2-PSK、WPA/WPA2 Security Mechanism.		
Work Mode	WiFi Repeater Mode: 1）Support AP Server（WiFi hot spot）mode; 2）Support AP Client（WiFi client）mode.		
Work Voltage	DC5V-15V, input power consumption ≥15W	Standby work current	600mA/5V
Work current	1.2A/5V		
Band	5G	2.4G	
Transmission distance	No barrier point to point transmission: 800 meters	No barrier point to point transmission: 50 meters	
Antenna	1pc External antenna, gain 5dBi	2pcs External antenna, gain 1.5dBi	
Transmit power/EVM	26--27dBm EVM:-29 to －26	12.8--13.5dBm EVM: -34.9 to －32	
Transmission	450Mbps	300Mbps	

rate		
VSWR curve	1.4--2.0	1.2--1.7
Button	Reset button (Long press 3 seconds until the LED flash, then quick press twice, LED battery will flash), it is used to reset the factory parameters).	
LED	Status indicator: 5G WiFi Status Light (Blue Light); 2.4G WiFi Status Light (Blue Light); Hot Spot connect status Light (Green Light).	
Size	60mm x 30mm x 1.6 mm（L x W x H）	
System function	1）Firmware Upgrade 2）Device reboot 3）Reset	

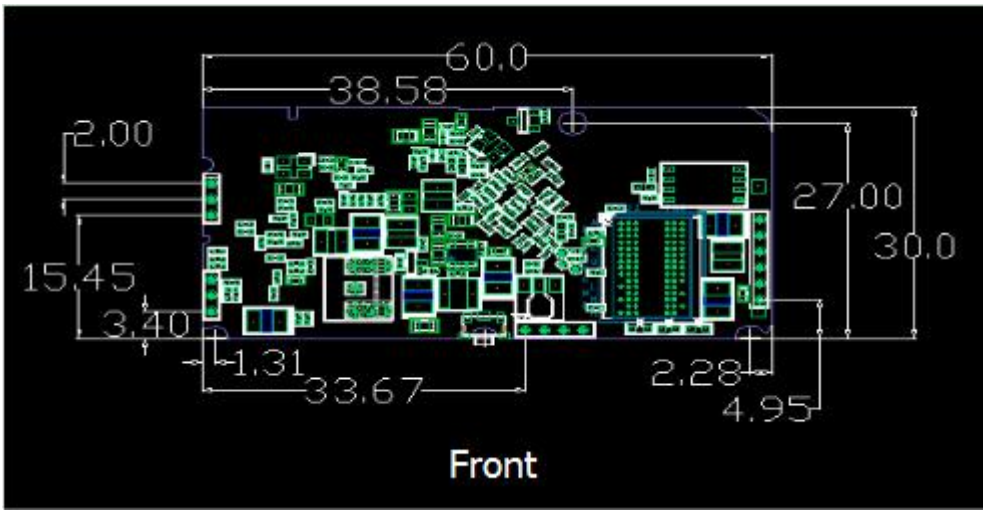
Application Reference

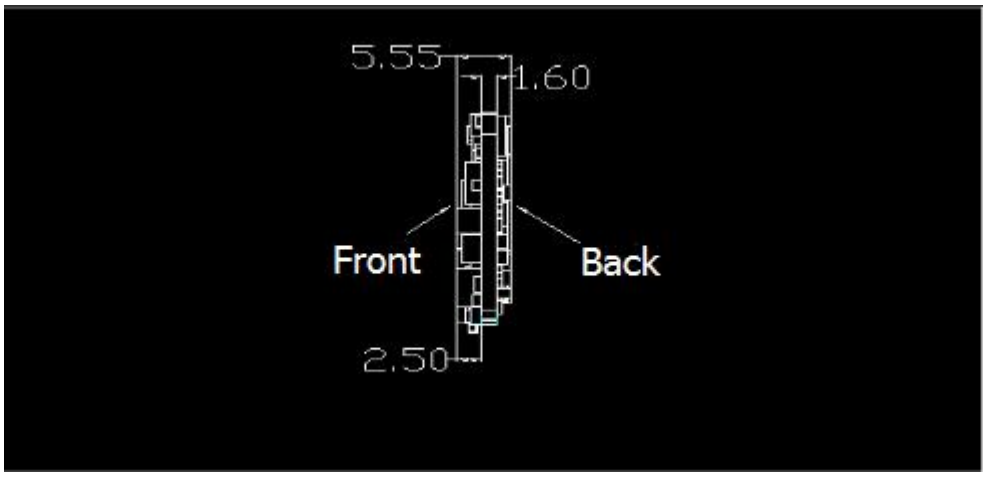
(The ground station PM5G in the figure below, also can choose our special VGA1000 ground station)



Structure Definition, see Diagram 2 below:

(Specific size specifications, please refer to the CAD documents provided in official website)


60.0
38.58
2.00
27.00
30.0
15.45
3.40
1.31
33.67
2.28
4.95
Front


5.55
1.60
Front
Back
2.50

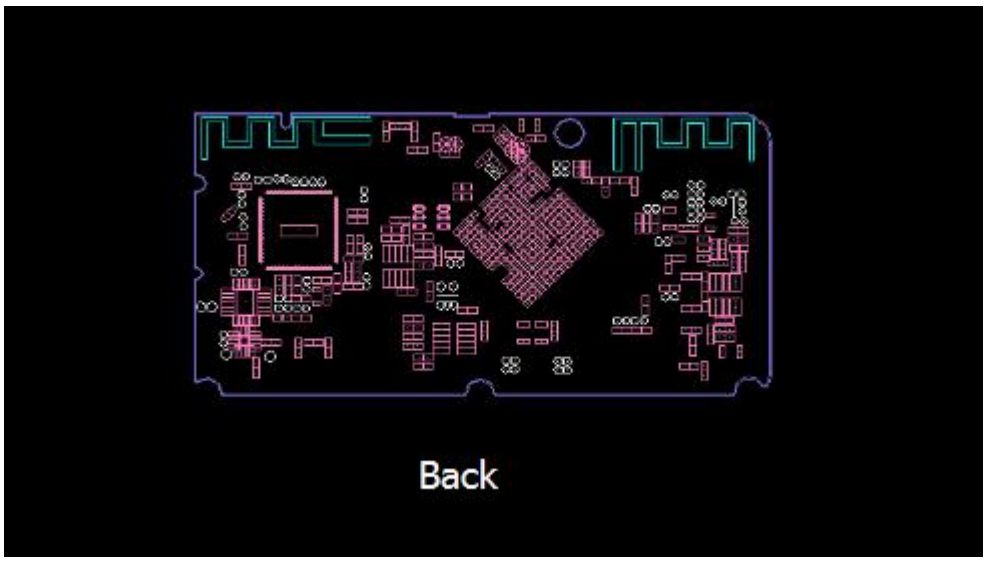

Back

Diagram 2

Schematic and principle of switching network port, see Diagram 3 below:

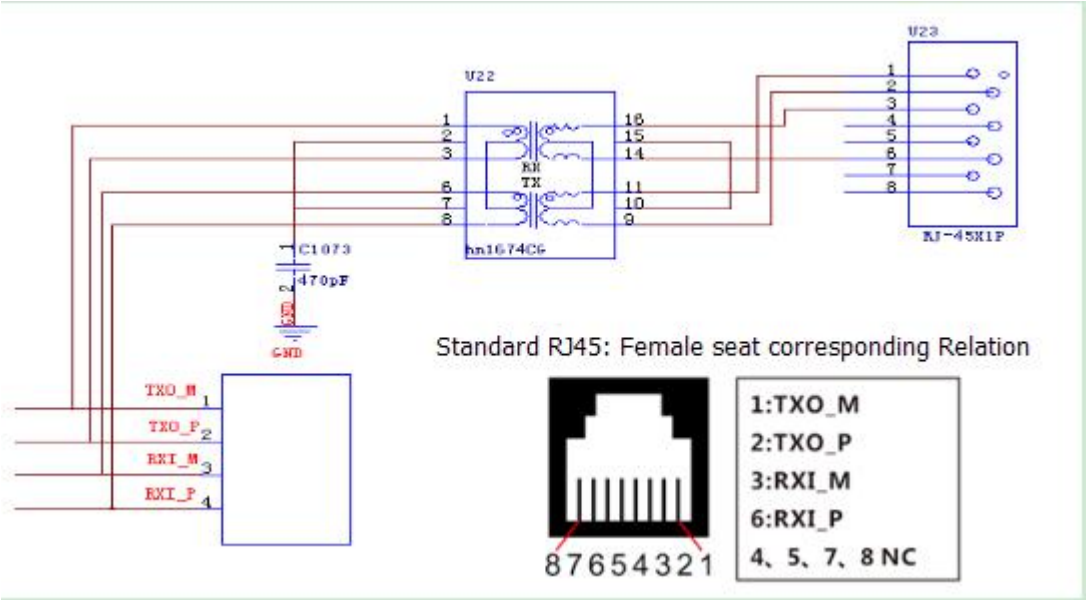
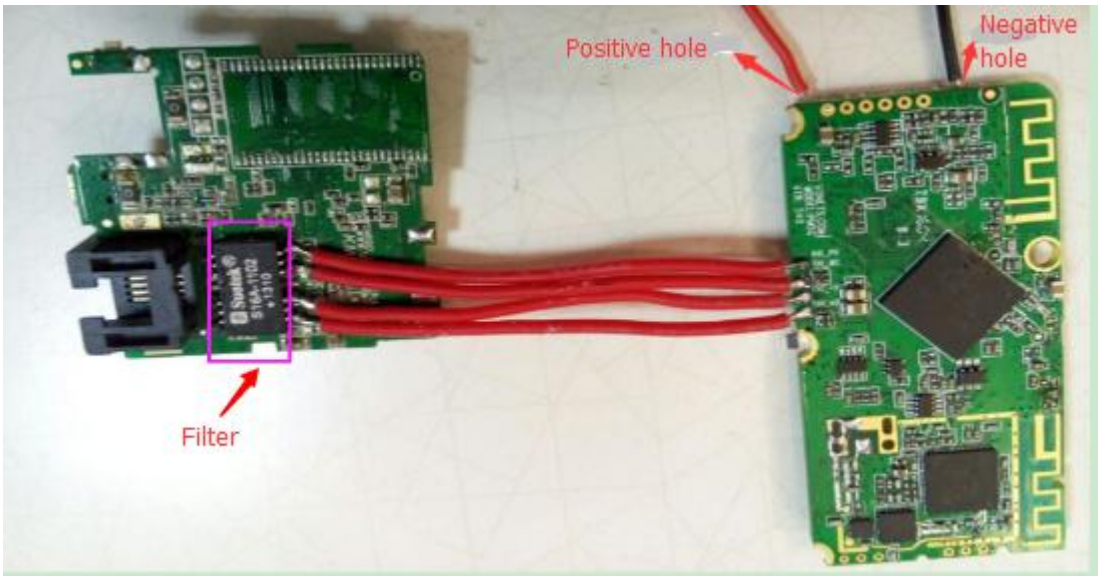



Diagram 3