



VAP11AC Product Specification

VAP11AC is a professional dual band WiFi bridge and repeater product carefully developed by HouTian network, can work in 5G and 2.4G band at the same time, adopt temperature compensated auto frequency control technology (TAFC), WiFi signal is more stable and not easy to drop, its main features as below:

- WiFi intelligent bridge & repeater, which can realize wireless to wired, wired to wireless function;
- Support wide voltage DC5-15V power supply, two-stage automatic overvoltage protection (Protection voltage upper limit 15.5V);
- Support both 2.4G and 5G WiFi band;
- Support 802.11ac, 802a, 802.11n WiFi transmission protocol;
- WiFi transmission rate: 300Mbps (2.4G) + 900Mbps (5G);
- RF transmit power: 2.4G is 14.5dBm, 5G is 19dBm/23dBm adjustable;
- Point to point no-barrier transmission distance: 300 meters (802.11A);
- WiFi hotspots automatically reconnected, and two hotspot matching methods (full match authentication mode, SSID and password authentication mode);
- WiFi hotspot memory, maximum memory 100 hotspots;
- Support connecting more than 20pcs WiFi terminal at the same time;
- Support SSA signal strength detection and reporting function to realize WiFi mobile positioning;
- Support manually close SSID broadcast, manually close WiFi hardware;
- Hotspot connection parameter import and export function;
- Original creation VDNS virtual domain configuration technology to solve the user's trouble of configuration;
- Support WEB management, Chinese and English configuration interface;
- Adopt temperature compensated auto frequency control technology (TAFC), WiFi signal is more stable and not easy to drop;
- Built-in heat sink with convection cooling holes on both sides of the housing for more efficient heat dissipation;
- Work environment temperature: -40°C to 55°C;
- Support IP layer transparent transmission and MAC layer transparent transmission two bridge modes to meet various bridge applications:
IP layer transparent transmission (factory default), transparent transmission of IP layer data, can meet most of the bridge applications;
MAC layer transparently transmits all data above the MAC layer (link layer) and the MAC layer, including IP layer data;
MAC transparent transmission can solve some special applications for MAC layer encryption, such as GoPro camera, Cisco AP, Hikvision monitoring

system, etc.

One: Hardware Spec

Protocol Standards	IEEE 802.11ac, IEEE 802.11a; IEEE 802.11n, IEEE 802.11g, IEEE 802.11b;
Transmission rate	2.4GHz band: 300Mbps 5GHz band: 900Mbps
External interface	A USB/DC power cable; A set of 10/100m adaptive Ethernet cable
Button	Reset button (long press 5 seconds, then release, the device will automatically restore the factory)
LED	Status instruction: Ethernet port status light (Yellow); 2.4G WiFi connection status light (Blue); 5G WiFi connection status light (Green);
Antenna	Built-in 2pcs Smart omnidirectional 2.4G Antennas, 1.5dbi; Built-in 2pcs Smart omnidirectional 5G Antennas, 1.5dbi;
Product size	94mm x 45mm x 15mm (L x W x H)
Item weight	72g

Two: WiFi Related

Basic Function	<ol style="list-style-type: none">1) Intelligent WiFi bridge(IP layer transparent transmission, MAC layer transparent transmission);2) WiFi hotspot switch;3) WiFi hardware switch;4) 2.4G WiFi mode optional: 11B/G/N, 11B/G, 11N, 11G, 11B; 5G WiFi mode optional: 11AC/AN/A, 11AC/AN, 11A/N, 11A, 11N;5) WiFi hotspots automatically reconnected, and two hotspot matching methods (full match authentication mode, SSID and password authentication mode);6) WiFi hotspot memory, maximum memory 100 hotspots;7) Support SSA signal strength detection and reporting function ;
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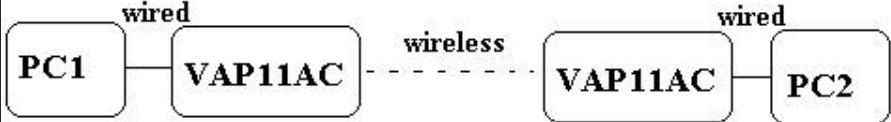
	8) Hotspot connection parameter import and export function;
Supported band	2.4G band channel: 1-14; 5G band channel: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153,157,161, 165
WiFi transmit power	2.4G: 14.5dBm; 5G: Normal power: 21dBm; Enhanced power: 23dBm
Compliance acceptance sensitivity	-69dbm (2.4G) -75dbm (5G)
Application Method	WiFi Repeater (WiFi signal repeater), can extend WiFi transmission distance; WiFi Bridge: IP layer transparent transmission, MAC layer transparent transmission WiFi access point (AP);
WiFi Security	64/128/WEP encryption; WPA-PSK/WPA2-PSK、WPA/WPA2 security mechanism;
System Function	Firmware Upgrade Reboot device Reset factory Account and password revise

Three: Electrical performance parameters

1.Power supply parameters				
Supply Voltage Range		Input Power		Typical Power Supply
DC5-15V		≥10W		5V/2A
2. Working Electrical Performance Parameter Measurement Form (Environment Temperature: 26℃)				
Work Band	Supply Voltage	Work Stage	Work Current (mA)	Main chip temperature (℃)
2.4G	5V	Booting Up	160-360	27-33
		Standby	270-300	50
		Transfer Data	300-500	73

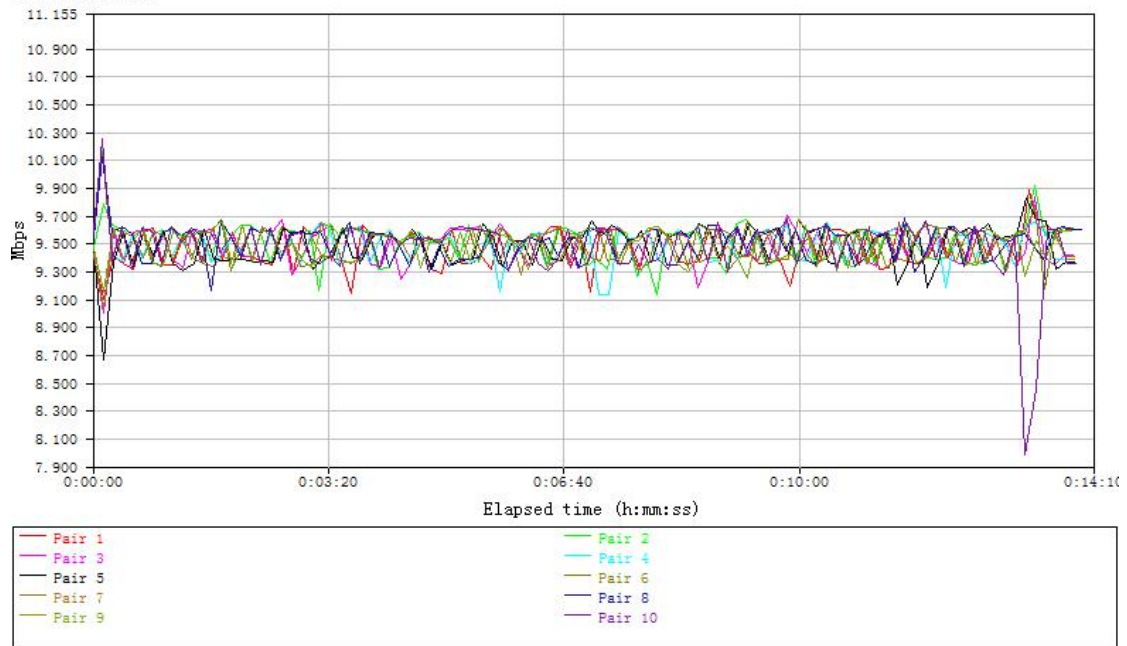
5G	5V	Booting Up	160-400	27-35
		Standby	330-350	60
		Transfer Data	350-750	83
Dual Band	5V	Booting Up	160-500	27-34
		Standby	420-460	70
		Transfer Data (2.4G)	600-650	80
		Transfer Data (5G)	700-750	85
		Transfer Data (Dual Band)	750-850	86

Four: Network Throughput Test Report

Device	2pcs VAP11AC, 2pcs Computers	
Test Tool	IxChariot Software	
Top relationship	 <pre> graph LR PC1[PC1] --- wired VAP11AC1[VAP11AC] VAP11AC1 -.- wireless VAP11AC2[VAP11AC] VAP11AC2 --- wired PC2[PC2] </pre>	
Test Result:		
Band	WiFi Protocol	Throughput (Mbps)
2.4G	B/G/N	94
5G	AC/A/N	94
	A/N	93
	A	30

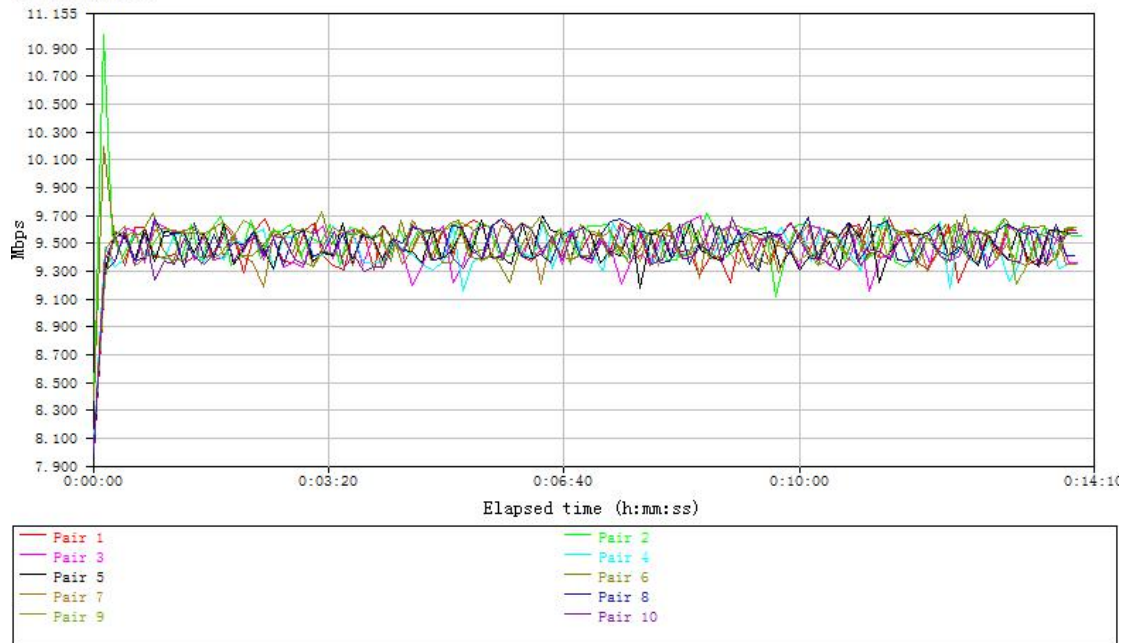
2.4G (B/G/N) Throughput Test Fluctuation Chart:

Throughput



5G (AC/A/N) Throughput Test Fluctuation Chart:

Throughput



Five: RF Test Report

2.4G RF Parameters Form (Hardware Version: 5.0)

Channel(Band)	1 (2412M)	3 (2422M)	6 (2437M)	7 (2442M)	9 (2452M)	11 (2462M)	13 (2472M)
Transmit power	14.4	14.3	14.7	14.5	14.6	14.5	14.4
EVM	-33	-32	-32	-32	-32	-31	-31

5G RF Parameters Form (Hardware Version: 5.0)

Channel(Band)	36 (5180M)	52 (5260M)	64 (5320M)	100 (5500M)	128 (5640M)	149 (5745M)	157 (5785M)	165 (5825M)
Transmit Power 1	20.3	20.3	19	20.5	20.6	20.5	20.6	20.5
EVM1	-33	-34	-33	-32	-30	-30.3	-31.3	-31
Transmit Power 2	23.6	23.6	23.6	23.4	23.6	23.7	24.2	24.2
EVM2	-31	-31	-31	-28	-28	-28	-28	-28

Sixth: Antenna Matching Test Report:

Standing Wave Ratio Parameters Form (Hardware Version: 5.0)					
Band	2.412GHz	2.432GHz	2.452GHz	2.462GHz	2.477GHz
Antenna Channel					
ANT1	1.04	1.15	1.27	1.33	1.43
ANT2	1.47	1.42	1.36	1.34	1.31
Band	5.180GHz	5.350GHz	5.550GHz	5.700GHz	5.825GHz
Antenna Channel					
ANT1	1.1	2	1.8	1.5	2.3
ANT2	1.46	1.88	2.1	1.75	1.8

Product Picture as below:

Product Specification

Product Name	VAP11AC
WiFi Function	Repeater/Bridge
WiFi Band	2.4GHz/5.8GHz
WiFi Protocol	802.11ac/a/b/g/n
transmission rate	300Mbps+900Mbps
Work Voltage	5V-15V(Typical 5V/2A)
Color	White
Device size	94X45X15mm
Package	140X95X25mm
Weight	72g



- Green Light, 5G WiFi connection status light
- Blue Light, 2.4G WiFi connection status light
- Yellow Light, Ethernet cable connection light

