

5G indoor CPE

ST-WG516A



Product Overview

5G Indoor CPE is a high-performance 5G indoor wireless router based on Quectel RM500U-CN or Unisoc IVY510 5G modem, which supports 5G NR (SA&NSA) and TDD/FDD-LTE.

It converts cellular network data into WIFI and wired network port data, supporting 3 Gigabit LAN ports, 2.4GHz & 5GHz dual-band WIFI.

It is suitable for home or commercial scenarios that require rapid deployment of WIFI hotspots and wired broadband networks.

ST-WG516A is an ideal wireless broadband access solution in home and SMB for 5G/LTE cellular network

Main features: 5G internet, 11AC protocol, firewall, weekly traffic report, IPV6,eSIMNAS

Features

- 5G/4G Standards: 3GPP Release 15 / Cat12
- SA,NSA 5GNRFDD,5GNRTDD
- 5G DL MIMO 4x4, 5G UL MIMO 2x2, LTE MIMO 2x2
- 3xGigaEthernetforLANand WAN 1xUSB 2.0
- Support2.4G & 5G Wi-Fi Up to 32 Client
- 4x5GNR ,2x4G, WIFI2x2.4GHz and 2x5GHz built-in antennas
- Type-AUSB3.0 Port and 3FF SIM Slot, RJ11 support VoLTE optional
- QoS service flow and Dynamic Host Configuration Protocol
- Support VPN Pass-through PPTP/L2TP/SSL VPN/GRE/IP SEC



Technical Specifications

Item	Description	
Hardware		
Master	5G chip	Quectel RM500U & UNISOC IVY510
	Chip Solution	MT7621A+MT7612EN (5.8G 2T2R)+MT7603EN (2.4G 2T2R)
	FLASH / Memory	16MB Flash/128MB DDR3
	Antenna	2.4G:2T2R 5.8G:2T2R 5G/LTE: 4T4R
	Storage	Reserved SSD position, M.2 interface, compatible with 2280, 2242;
	Interfaces	3 * 10/100 / 1000Mbps RJ45 (support blind plug in network port);
	Buttons	RESET
	Power Supply	DC 12V/2A
	Indicator lights	5G networking indicator, WiFi indicator, network port (comes with RJ45 connecto
Wireless	Frequency Range	2.4~2.4835GHz 5.150GHz ~ 5.850GHz
	Wireless rate	11b: 1/2 / 5.5 / 11Mbps 11g: 6/9/12/18/24/36/48 / 54Mbps 11n: up to 300Mbps 11ac: up to 1200Mbps
	Working channel	2.4G:1~13 5.8G:36,40,44,48,52,56,60,64,149,153,157,161,165
	Spread Spectrum Technology	DSSS (Direct Sequence Spread Spectrum)
	Data modulation method	802.11a: OFDM (BPSK,QPSK,16-QAM,64-QAM) 802.11b: DSSS (DQPSK, DBPSK, CCK) 802.11g: OFDM (BPSK, QPSK,16-QAM, 64-QAM) 802.11n: OFDM (BPSK, QPSK,16-QAM, 64-QAM) 802.11ac: OFDM (BPSK, QPSK,16-QAM, 64-QAM, 256-QAM)
	Medium Access Protocol	CSMA/CA with ACK
	data encryption	WPA-PSK/WPA2-PSK,WPA/WPA2
	Power (standard power)	2.4G: 11b: 20dBm ± 1dBm@11Mbps 11g: 18dBm ± 1dBm@54Mbps 11n: 18dBm ± 1dBm@MCS7 5.8G: 11ac (VHT80): 16dBm ± 1dBm
	Receiving sensitivity	2.4G: 11b: <-87dbm@11Mbps; 11g: <-71dbm@ 54Mbps; 11n (HT20): ≤ -68dBm@MCS7 11n (HT40): ≤ -65dBm@MCS7 5.8G: 11ac (HT20): ≤ -69dBm@MCS7 11ac (HT40): ≤ -65dBm@MCS7 11ac (VHT80): ≤ -55dBm@MCS9

Technical Specifications

Item	Description	
5G module	5G NR NSA	n41/n78/n79
	5G NR SA	n1/n28/n41/n77/n78/n79
	LTE-FDD (supports diversity reception)	B1/B/2B3/B5/B7/B8/B20/B28
	TD-LTE (supports diversity reception)	B38/B40/B41
	WCDMA (supports diversity reception)	B1/B2/B5/B8
	ENDC:LTE+NR dual Connection	ENDC_3A_n41A; ENDC_39A_n41A; ENDC_1A_n78A; ENDC_3A_n78A; ENDC_5A_n78A; END_8A_n78A; ENDC_3A_n79A; ENDC_39A_n78A; END_40A_n78A;
	MIMO	DL:4*4 MIMO, UL:2*2 MIMO
	5G SA Sub-6	Downlink: Up to 2Gbps, Uplink:1Gbps
	4G	Downlink: Up to 600Mbps, Uplink:150Mbps
Button	Reset button	1 reset button, long press for 5 seconds to restore factory settings
LED lights	POWER	Power indicator, green indicator is always on when power is connected
	WAN	The WAN is connected to the network cable, and the network cable is normal, and the blue is always on. When there is data transmission, the WAN indicator flashes blue.
	LAN1	LAN1 is connected to the network cable, and the network cable is normal, and the blue light is always on; when data is being transmitted, the wan indicator flashes green
	LAN2	LAN2 is connected to the network cable, and the network cable is normal, and the blue is always on; when data is being transmitted, the wan indicator flashes green
	WiFi	Wireless indicator light (always on, data transmission flashes)
	5G networking indicator	5G network is always on blue, 4G / 3G / 2G network is always on in green, and network failure is off.
PCBA	Size requirements	Designing from DXF documents
interface	WAN / LAN RJ45 interface	3*10/100/1000Mbps Rj45
	SIM Card	Micro-SIM
	Power interface	DC 12V/2A

Technical Specifications

Item	Description	
Software		
The main function	5G networking	
	11AC wireless access	
status	Router status	
	WiFi user connection status	
	4G network status	
Language Requirements	English	(Other languages are available in customization)
The internet	Network settings	Dynamic IP mode, broadband dial-up mode, static IP mode, default dynamic IP
	Mobile connection	Data roaming, search operator, traffic settings
	local area network	DHCP setting, default LAN address is 192.168.1.1/24
Wireless	WiFi settings	WiFi switch, name, password, protocol, bandwidth, channel, hidden
	Black and white list	Add (can be imported from user list), delete, move black and white lists
	WPS	PIN code access, PBC access
Advanced network settings	IPv6	Four IPv6 networking modes: relay mode, static IP, dynamic IP, and broadband connection. IPv6 is disabled by default
	APN	APN related information will be automatically adapted according to the inserted SIM card
	Guest network	Off by default
	Parental control	Display the time period when the terminal's MAC address is used to access the external network. You can configure the switch, device name, MAC address, access time, description, status, etc.
	VPN Client	There are two types of VPN client configurations: PPTP and L2TP
Firewall	SMS	Plug in a usable SIM card, you can send SMS, receive SMS, etc.
	ALG	Enable FTP / PPTP passthrough / L2TP passthrough
	Port Mapping	
	DMZ settings	
	MAC filtering	
	IP filtering	

Technical Specifications

Item	Description	
Firewall	NAT settings	Completely conical, symmetrical, address restricted cone, port restricted cone
	DDOS	Enable the network attack prevention function. When this function is enabled, the router will start the network attack prevention function. When a host is detected to attack the router, it will automatically limit its bandwidth
Management	SNTP	
	PIN management	Fill in the PIN code of the SIM card. If you enter the wrong PIN code 3 times, the SIM card will be locked. You need to enter the PUK to unlock it.
	Traffic Statistics	Traffic statistics are used to visually show the use of broadband resources by intranet PCs
	Tr069	The management server in the network management model defined by the TR069 protocol is called the automatic configuration server (ACS), and is responsible for managing the user terminal equipment (CPE). The ACS server can complete restart, reset, and upgrade of CPE according to the TR069 protocol, which can implement the function of managing multiple routers
	change Password	
	Backup, upgrade	Download the backed up configuration and upload the backed up configuration
	Restart, reset	Includes immediate restart and scheduled restart
	Modem	For technical personnel only
Mobile page requirements	Support APP management(customized)	
Remote management	Support remote viewing, login and upgrade management device	



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