



**R5089**

## 5G NR CPE with Wifi 6

R5089 is the latest 5G NR CPE to provide revolutionary 5G technology for your demand. It's a full-featured 5G CPE that can support up to 3.3Gbps Downlink, with WIFI 6, PLC, NAS supported. It supports both 5G NR and 4G LTE – up to Cat 20. With the 5G NR network and support the latest 802.11ax WIFI 6 network, you will be able to enjoy the powerful and revolutionary high-speed. It can support both the Sub-6G and mmWave networks.

## THE POWERFUL 5G CPE

R5089 is the latest Ultra-Gigabyte 5G CPE router. Powered with Qualcomm's Networking Pro 1200 and Snapdragon X55 5G Chipset., it can support both 5G and WIFI 6 technology. R5089 can support up to 3.3Gbps downlink speed on 5G and a maximum 4.8Gbps downlink on WIFI 6 (802.11AX). Both 5G and WIFI 6 technologies provides powerful features designed to improve the performance for latency-sensitive applications such as voice and video.

## SMART HOME AND EDGE COMPUTING SOLUTION

As a WIFI 6 Router, the R5089 5G CPE has a reserved SSD hard disk interface and supports PLC connection, which can be used as a NAS device or an edge computing device. R5089 is indeed the most functional 5G CPE device in the world today.

## ALL-TIME AND WORLD-WIDE CONNECTION

R5089 5G CPE Pro supports both 2G/3G/4G / 5G networks and fix-line networks. It can support the world-wide bands, which make the most suitable CPE for different telecom operators.

## Features

- 5G Modem: Qualcomm X55
- Main Chipset: Qualcomm IPQ8072A+QCN5054+QCN5024+PMP8074
- Sub-6 GHz or mmWave frequency compatible
- Built-in 5G NR NSA and SA module, 5G NR and LTE-A Cat 20+ Dual-mode module
- Support both NSA and SA modes
- 3 Gigabyte Ethernet RJ45 Ports
- 802.11n and 802.11ac Dual-Band Wi-Fi with MU-MIMO, 802.11ax WIFI 6 with MU-MIMO
- 4 external antennas for LTE/5G NR
- FOTA and TR069
- Supports VoLTE and VoIP

# Specification

Master	Chip solution	Qualcomm IPQ8072a+QCN5054+QCN5024+PMP8074
	FLASH/Memory	256MB Nand /1GB DDR4
	Antenna	2.4G: 4T4R 5.8G: 4T4R 5G LTE: 4T4R
	Hard disk	Reserve SSD position, M.2 interface, compatible with 2280, 2242
	Port	3*10/100/1000Mbps RJ45 (support blind insertion of network port)
	Voice port	1*RJ11
	USB	USB3.0*1
	Button	POWER/RESET
	Power supply	DC 12V 3A (TBD)
	Indicator light	POWER indicator (blue), WiFi indicator (blue), 5G networking indicator (tricolor), voice indicator (blue), Zigbee indicator (blue), USB indicator (blue), Network port (included with RJ45 connector)
Smart device	Zigbee	Zigbee 3.0, Ti chip
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 600Mbps 11ac: up to 2700Mbps 11ax: up to 3600Mbps
	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	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) 802.11ax: OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM)
	Medium access protocol	CSMA/CA with ACK
	Data encryption	WPA-PSK/WPA2-PSK, WPA/WPA2
	Power (standard power)	2.4G: 11b: 27dBm dBm 11g: 25dBm ± 2dBm 11n: 25dBm ± 2dBm 11ax: 18dBm ± 2dBm (TBD) 5.8G: 11ac (VHT80): 21dBm ± 2dBm 11ax: 15dBm ± 1dBm (TBD)
	Receive sensitivity	2.4G: 11b: <-87dbm@11Mbps 11g: <-71dbm@ 54Mbps 11n (HT20): ≤ -68dBm@MCS7 11n (HT40): ≤ -65dBm@MCS7 5.8G: 11an (HT20): ≤ -69dBm@MCS7 11an (HT40): ≤ -65dBm@MCS7 11ac (VHT80): ≤ -55dBm@MCS9 11ax: (VHT160):-60dBm@MCS9
	Heat sink	The heat sink covers the whole PCBA
5G module	5G module model	M.2 package moves away from RM500Q
	5G NR	n1/n2/n3/n5/n7/n8/n12/n20/n28/n41/n66/ n71/n77/n78/n79
	LTE-FDD (supports diversity reception)	support B1/2/3/4/5/7/8/9/12/13/14/17/18/19/20/25 /26/28/29/30/32/66/71
	LTE-TDD (supports diversity reception)	support B34/B38/39/40/41/42/48
	LAA	B46
	WCDMA	support BC1/2/3/4/5/6/8/19
	GNSS	GPS/GLONASS/BeiDou/Galileo
	5G SA sub-6 transmission rate	Downlink: up to 3.3Gbps, Uplink: 250Mbps
	LTE transmission rate	Downlink: up to 2.0Gbps, Uplink: 150Mbps
Button	Reset button	1 reset button, press and hold for 5 seconds

		to restore factory settings
	POWER	Short press 3 seconds to turn on, then short press 3 seconds to turn off
LED lights (the order is from the bottom to the top of the product)	POWER	Power indicator light, the blue indicator light is always on
	WiFi	Wireless indicator light (it is always on and flashes when data is transmitted)
	5G network indicator	5G network is always on in blue, 4G network is always on in green, 3G/2G network is always on in red, and network failure fails red flashing
	Voice indicator	Voice indicator (the blue light is always on after registration is successful, flashes during the call, and does not light up if not connected)
	Zigbee	Smart device indicator light (the blue light is on when the smart device is connected, the smart device is joining and blinking, no smart device is connected or the function is disabled, the indicator is turned off)
	USB	Steady USB connection, flashing data
	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 is always on; when there is data transmission, the wan indicator flashes blue
	LAN2	LAN2 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
PCBA	Size requirements	Design based on DXF files
Interface	WAN/LAN RJ45 interface	3*10/100/1000Mbps RJ45
	Voice	RJ11*1
	SIM card	NANO-SIM

	USB	USB3.0*1
	Power interface	DC 12V 3A (TBD)
Software requirements:		
Software development	R & D Center	
The main function	5G networking	
	11AX wireless access	
Status	Router status	
	WiFi user connection status	
	Zigbee smart device access status	
	5G network status	
Language Requirements	Chinese and English bilingual	
Internet	Network settings	Dynamic IP mode, broadband dialing mode, static IP mode, default dynamic IP
	Mobile connection	Data roaming, search operator, traffic settings
	Local area network	DHCP settings, the 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 list
	WPS	PIN code access, PBC access
Advanced network settings	IPv6	Four IPv6 networking methods: relay mode, static IP, dynamic IP, broadband connection. By default, IPv6 is turned off
	APN	The relevant information of APN will be automatically adapted according to the inserted SIM card
	Guest network	Off by default
	Parental Controls	Display the time period of the terminal's MAC address to access the external network, you can configure the start switch, device name, MAC address, access time, description, status, etc.
	VPN client	There are two main types of VPN client

		configuration: PPTP and L2TP
Voice	Voice support	Support
SMS		Plug in a usable SIM card, you can realize the functions of sending short messages and receiving short messages
Firewall	ALG	FTP/PPTP penetration/L2TP penetration can be enabled
	Port Mapping	
	DMZ settings	
	MAC filtering	
	IP filtering	
	NAT settings	Fully conical, symmetrical, address-restricted cone, port-restricted cone
	DDOS	Enable the anti-network attack function. When this function is enabled, the router will start the anti-network attack function. When it is detected that a host launches an attack on the router, it will automatically limit its bandwidth
Management	SNTP	
	PIN management	Fill in the PIN code of the SIM card, enter the wrong PIN code 3 times in succession, the SIM card will be locked, you need to enter PUK to unlock
	Traffic Statistics	Traffic statistics are used to visually display the use of broadband resources by intranet PCs
	TR069	The management server in the network management model defined by the TR069 protocol is called an automatic configuration server (ACS), and is responsible for the management of user terminal equipment (CPE). The ACS server can restart, reset, and upgrade CPE according to the TR069 protocol, which can realize the function of managing multiple routers
	Change Password	
	Backup, upgrade	Download the backed up configuration, upload the backed up configuration
	Restart, reset	Contains immediate restart and scheduled

		restart functions
	Modem	Only for technical operation and maintenance
Mobile page requirements	Support APP management	
Remote management	Support remote viewing, login to upgrade management equipment	

Specifications are subject to change without notice.



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