

# Model: C9016-Q5

(Product Name: **5G & WiFi-6 Smart Router System (CPE)**)

## Datasheet

## 1. Overview

5G & WiFi-6 Smart Router System (CPE), is based on brand-new embed platform, it can be satisfied with growing-up mobile connections requirements and provides the fast speed beyond your imagination.

The CPE is compatible with NSA/SA dual-mode, suits to all network types all over the world, it means you just plug and play it and enjoy the ultra-fast broadband connection at any places.

The CPE brings the new way to enable you experience VR/AR/4K/8K streaming freely and easily. With 802.11ax (Wi-Fi 6) technology built-in, the single CPE has wider wireless coverage and more bandwidth. Meanwhile the CPE brings higher security, better network efficiency and longer battery life.

## 2. Key Features

### ● 5G Cellular

Built-in Qualcomm™ SDX55 modem, it has best 5G mobile network performance and works with integrated world-wide 5G to 2G multi-mode.

### ● Wi-Fi 6 (802.11ax)

The revolutionary Wi-Fi technology with OFDMA and DL MU-MUMI, faster wireless line, more client connection, lower latency, best network efficiency.

### ● Higher Wireless Capacity

Dual-band 4 spatial streams, the CPE outputs 1800Mbps wireless bandwidth (600 + 1200), makes you peace of mine while enjoy UHD videos, online games at the home rush hours. It's the future-proof investment absolutely.

### ● Hybrid MESH+ Networking

The CPE inherits the mesh technology and supports “wired / wireless” hybrid networking. It's so convenient to cover all corners and dead-zones by adding one more MESH+ node (another series of router). it improves the deployments of wireless network and optimized the seamless feature.

### ● 5G Datasheet

#### 5G Cellular

1) 5G Baseband: Qualcomm® Snapdragon™ X55 Modem-RF System

2) 5G Network Modes: SA (standalone), NSA (non-standalone)

3) 5G NSA Bands: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48\*/n66/n71/n77/n78/n79

4) 5G SA Bands: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48\*/n66/n71/n77/n78/n79

- 5) 5G Standards:3GPP Release 15
- 6) 5G SA Transmission Speed:2.1Gbps/900Mbps (up to ISPs)
- 7) 5G NSA Transmission Speed:2.5Gbps/650Mbps (up to ISPs)

## ● 4G Datasheet

### 4G Cellular

- 1) LTE Category: Down Cat 16/ UP Cat 18
- 2) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71
- 3) LTE-TDD: B34/B38/B39/B40/B41/B42/B43/B48
- 4) LTE Down 4 × 4 MIMO: B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/B39/B40/B41/B42/B43/B48/B66
- 5) WCDMA: B1/B2/B3/B4/B5/B8/B19
- 6) LTE : Down 1.0 Gbps; UP 200 Mbps

## ● WiFi6 Datasheet

### WiFi 6 (802.11ax)

- 1) Working Radio: #1: 600Mbps @ 2.4GHz; #2: 1200Mbps @ 5.1-5.8GHz
- 2) Coding Technology:1024-QAM / OFDMA
- 3) Peak Connections:>100+ Clients
- 4) Wi-Fi Standard Conformance:WiFi6 and 802.11ac / 802.11n backward
- 5) Antenna: external 4 pcs high performance antennas with 4 pcs FEM components.

### Date Switching

- 1) Mobile 4G/5G Connection (Support APN)
- 2) Giga Ethernet Connection
- 3) MESH:MESH+ hybrid
- 4) 2.4G/5Ghz WiFi
- 5) Advanced Firewall
- 6) MAC Filter
- 7) WiFi Security
- 8) VPN Passthrough and VPN Client (L2TP PPTP)
- 9) IPV4/IPV6
- 10) WEB / APP Mangement

11) Firmware upgrade

### 3. Hardware Specifications

#### *Hardware Specification*

1) CPU: MT7621AT

2) Memory:16MB Flash + 256MB DDR3

3) Ethernet:1\*1Gbps WAN,2\*LAN 1Gbps

4) 1\* SIM Slot (Nano-SIM)

5) Reset button

6) MESH+ Button

7) MESH+ LED Switch

8) LED Indicator

- MESH+ Working Status (breathing light)
- 4G Status
- 5G Status
- WiFi Status
- Power Status

9) General

- Power Consumption:<20W
- DC Power Supply: 12V/2A
- Working temperature:0°C ~40°C, Storage temperature: -20°C ~+70°C
- Humidity:5%~95%
- Weight: TBD

## 4. Technical Specifications

Model	C9016-Q5
CPU	MT7621AT+X55
Flash	16MB
RAM	2Gb
WiFi Frequency	2.4G&5G
WiFi Standard	2.4G:802.11b/g/n /ax 2T2R MIMO, 5.8GHz : 802.11a/n/ac/ax 2T2R MIMO
WiFi	2.4GHz :600Mbps ,5GHz :1200Mbps
5G Standard	<b>3GPP Release 15 NSA/SA operation, Sub-6 GHz</b>
5G Network Mode	NSA/SA
5G/4G Data Rate	5G SA Transmission Speed:2.1Gbps/900Mbps (up to ISPs) 5G NSA Transmission Speed:2.5Gbps/650Mbps (up to ISPs) LTE : Down 1.0 Gbps ; UP 200 Mbps
5G Frequency Bands	<b>5G NR NSA</b> n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 <b>5G NR SA</b> n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 <b>MIMO</b> Downlink: 4 × 4 MIMO on n1/n2/n3/n7/n25/n38/n40/n41/n48/n66/n77/n78/n79 Uplink: 2 × 2 MIMO on n41
4G&3G Frequency Bands	<b>LTE Category</b> Downlink <b>Cat 16</b> / Uplink <b>Cat 18</b> <b>LTE-FDD</b> B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 <b>LTE-TDD</b> B34/B38/B39/B40/B41/B42/B43/B48 <b>LAA</b> B46 (Support 2 × 2 MIMO) Downlink <b>4 × 4 MIMO</b> B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/39/B40/B41/B42/B43/B48/B66 <b>WCDMA</b> B1/B2/B3/B4/B5/B6/B8/B19
Modulation Mode	<b>5G:</b> GMSK/8PSK/BPSK/QPSK/16QAM/64QAM/256QAM <b>WIFI:</b> 1024-QAM / OFDMA

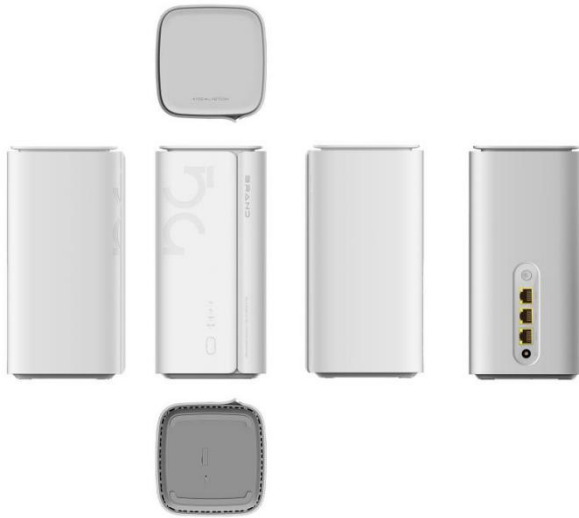
WiFi Output Power	2.4G	Formats and channels		Ant0(DB)	Ant1(DB)		
		80.211B		20	20		
		80.211G		19	19		
		80.211N20		19	19		
		80.211N40		18	18		
		80.211AX20		18	18		
		80.211AX40		18	18		
	5G	Formats and channels		Ant0(DB)	Ant1(DB)	Ant2(DB)	Ant3(DB)
		11a54M		20	20		
		11n20MCS0		20	20		
		11n20MCS7		20	20		
		11n40MCS0		20	20		
		11n40MCS7		19	19		
		11ac20MCS0		20	20		
		11ac20MCS8		19	19		
		11ac40MCS0		19	19		
		11ac40MCS9		18	18		
		11ac80MCS0		19	19		
		11ac80MCS9		18	18		
		11ax20MCS0		19	19		
11ax20MCS11		17.5	17.5				
11ax40MCS0		19	19				
11ax40MCS11		18	18				
11ax80MCS0		19	19				
11ax80MCS11		17	17				
WiFi Receive Sensitivity	<p>2.4G: 11X HE20: -70dBm@MCS11, -80dBm@MCS0.          11X HE40: -70dBm@MCS11, -80dBm@MCS0.          11n HT20: -70dBm@MCS7, -80dBm@MCS0.          11n HT40: -70dBm@MCS7, -78dBm@MCS0.          11g: -68dBm@54Mbps, -82dBm@6Mbps.          11b: -70dBm@11Mbps, -85dBm@1Mbps.</p> <p>5.8G: 11a: -72dBm@54Mbps, -85dBm@6Mbps.          11nHT20: -75dBm@MCS7,-85dBm@MCS0.          11nHT40: -75dBm@MCS7,-88dBm@MCS0          11ac HT80: -65dBm@MCS9          11aX HT80: -65dBm@MCS11</p>						

EVM	<p>802.11n@MCS7: ≤ -30dB</p> <p>802.11g@54M: ≤ -30dB</p> <p>802.11b@11M: ≤ -15dB</p> <p>802.11a@54M: ≤ -28dB</p> <p>802.11ac @MCS9: ≤ -33dB</p> <p>802.11aX @MCS11: ≤ -33dB</p>
Frequency Deviation	±20ppm
Dimension	108X108X216MM
Interface	<p>2*10/100M/1000 LAN</p> <p>1*10/100M/1000 WAN</p> <p>1*12V 2A DC Power Input</p> <p>1 Reset Button</p> <p>1 Breathing Light Button</p> <p>1 SIM card slot</p> <p>1 MESH Networking Button</p>
Network Extension	MESH
Reset	Reset ( Long press 10 seconds to restore the factory settings )
MESH	Networking: short press (blue networking light flashes)
LED Indicator	Power, Breathing Light, 4G Signal, 5G Signal, WiFi Signal
Power Consumption	< 24W
Environment	<p>Operating Temperature : -20°C ~ +50°C</p> <p>Storage Temperature: : -40°C ~ +70°C</p> <p>Humidity : 5% ~ 95% ( No condensation )</p>
Weight	1.35KG ( Includes color box accessories )
<b>Software Function</b>	
IPV4	Support
IPV6	Support
Intelligent QOS	Support QOS network optimization
Parental control	Supports the use of network control for end devices
UPNP	Support

VPN	Supports L2TP VPN client Supports PPTP VPN client
APN	Support
DDNS	Support
MESH	Support private MESH
APP	Support APP management
TR069	Support TR069 remote management
WiFi Encryption	Open WEP WPA2-PSK WPA3-SAE WPA/WPA2-PSK WPA2-PSK/WPA3-SAE
WiFi Band Aggregation	Support
Other	5G connection information display Manual frequency lock Traffic Statistics

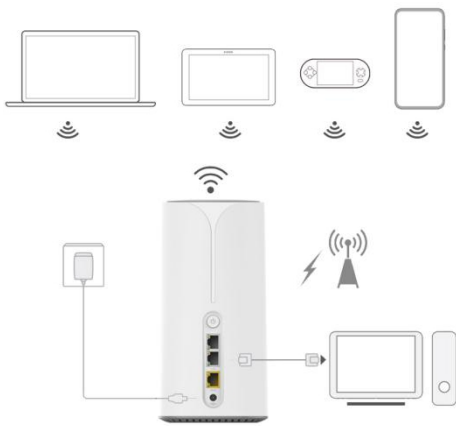
## 5. Product View (Appearance)



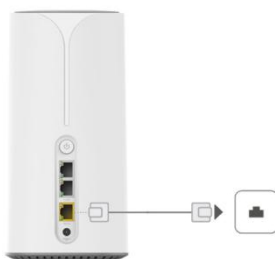


## 6. Network Connection Diagram

1. Internet access via mobile network (5G/LTE), plug in your carrier's SIM card and power up to enjoy a blazing fast Internet experience



2. Internet access via Ethernet, (via ONT or other WAN connected to the device)



## 7.Packing list

- C9016-Q5 product: 1pc (standard configuration)
  - Power adapter: 1 (standard configuration)
  - User manual: 1 (standard)
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- Parameter descriptions are based on the IEEE standard 802.11 specification. Actual data throughput and signal coverage capabilities may vary. Network conditions and environmental factors, including network congestion, building materials, and environmental electromagnetic influences may affect the wireless network, resulting in low throughput and limited coverage.
  - The product is only supported for indoor use, the whole machine provides a limited warranty service, man-made damage is not covered by the warranty. If you have any questions about the product, please contact us for technical support.