Model: UT-9166-Q6

(Product Name: 5G & WiFi-6 Intelligent Wireless Access Router（CPE）)

Datasheet

1.Overview

5G & WiFi-6 Intelligent Wireless Access Router (CPE), developed on a brand new hardware platform to meet the increasing demand for mobile terminals and IoT nodes, greatly improving users' wireless internet experience.

The CPE is fully compatible with NSA/SA dual-mode and complies with the telecommunications product access standards of the Ministry of Industry and Information Technology. It provides up to gigabit-level air fiber access capabilities to meet the transmission bandwidth requirements of VR/AR/4GK/8K online video streaming.

Thanks to the latest 802.1ax WiFi6 technology platform, a single CPE can cover 200 square meters and provide better wireless signals and network bandwidth. It provides future-proof secure technologies, higher network efficiency, faster Wi-Fi speed, wider coverage, and better network experiences for users.

2. Major Functions & Features

- **5G cellular network access**
  Integrated with the Qualcomm Snapdragon SDX62 baseband, providing excellent 5G network access capabilities. It supports true 5G standards for full network coverage and access to gigabit internet with just a SIM card

- **WiFi6 (802.11ax) Enhanced Technology**
  OFDMA and DL MU-MIMO technology provide a more stable and faster wireless transmission channel, synchronously scheduling multiple users to transmit and receive data in parallel, reducing network latency and improving network utilization efficiency.

- **More spatial streams and greater capacity**
  Four spatial streams on dual frequencies, with a bandwidth of up to 1800Mbps (600+1200), allowing you to enjoy worry-free UHD streaming videos and real-time online gaming. It also provides more access capabilities for mobile terminals, meeting the full-scene access requirements of the future rich nodes of smart homes

- Seamless roaming in a hybrid backhaul
  You can freely choose the MESH networking mode through wired and wireless backhaul to meet the simple deployment requirements in a variety of indoor scenarios. At the same time, the seamless roaming function ensures that you get a more stable wireless connection while on the move.

- **5G Network**
  5G Module: Qualcomm® Snapdragon™ X62 Modem-RF System
  5G Network Modes: SA (standalone), NSA (non-standalone)
  5G NSA Bands: n38/n41/n77/n78/n79
  5G SA Bands: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79
  5G Protocol: 3GPP Release 16
  5G SA Speed: 2.1Gbps/900Mbps (up to ISPs)
  5G NSA Speed: 2.5Gbps/650Mbps (up to ISPs)
  Antenna Type: External 5G/4G main diversity antennas

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

- **WiFi**

Wireless RF: #1: 600Mbps @ 2.4GHz; #2: 1200Mbps @ 5.0-5.8GHz

Modulation and Coding Scheme Technology: 1024-QAM / OFDMA

Peak Connection Performance: Not less than 100 terminals

Wi-Fi Standards: WiFi6 backward compatible with WiFi5

Antenna Type: External 4 high-performance Wi-Fi antennas.

- **Router Switching**

Mobile Network (5G/4G) Access (Supports Private Network)

Gigabit Ethernet Access

Cascading Technology: MESH+Hybrid Networking

2.4G/5Ghz WiFi Adaptive

Advanced Firewall

MAC Address Filtering

WiFi Encryption Authentication

VPN Tunnel/VPN Passthrough

IPV4/IPV6

Webpage/App Management

Firmware Upgrade

TR069

3. Hardware specification

Product Model	UT-9166-Q6
CPU	MT7621AT+X62
Flash	16MB
RAM	2Gb
WiFi Frequency Bands	2.4G&5G
WiFi Standards	2.4G:802.11b/g/n /ax 2T2R MIMO, 5.8GHz：802.11a/n/ac/ax 2T2R MIMO
WiFi Speed	2.4GHz :600Mbps ,5GHz :1200Mbps
5G Standards	3GPP Release 16 NSA/SA operation, Sub-6 GHz
5GNetwork modes	NSA/SA
5G/4G Data rates	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 Supported frequency bands	5G NR NSA n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 5G NR SA n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 MIMO 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 Supported frequency bands	LTE Category Downlink Cat 16/ Uplink Cat 18 LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 LTE-TDD B34/B38/B39/B40/B41/B42/B43/B48 LAA B46（Support 2 × 2 MIMO） Downlink 4 × 4 MIMO B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/39/B40/B41/B42/B43/B48/B66 WCDMA B1/B2/B3/B4/B5/B6/B8/B19
5G/WiFi Standards	5G: GMSK/8PSK/BPSK/QPSK/16QAM/64QAM/256QAM WIFI: 1024-QAM / OFDMA

WiFi Video Metrics	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 Receiver Sensitivity

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.

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

EVM	802.11n@MCS7: ≤-30dB 802.11g@54M: ≤-30dB 802.11b@11M: ≤-15dB 802.11a@54M: ≤-28dB 802.11ac @MCS9: ≤-33dB 802.11aX @MCS11: ≤-33dB
Frequency deviation	±20ppm
Dimensions	108X108X216MM
Interfaces	2*10/100M/1000 LAN 1*10/100M/1000 WAN 1*12V 2A DC Power Input 1 Reset button 1 Indicator light switch button 1 SIM Interface 1 MESH Pairing button
Supported networking methods	MESH
Reset	Reset (Press and hold for 10 seconds while the device is in operation to reset it)
MESH	Pairing: Short press (blue network indicator light flashing)
LED indicators	Power, breathing light, 4G signal, 5G signal, WiFi signal
Power	＜24W
Environment	Operating temperature: -20°C to +50°C Storage temperature: -40°C to +70°C Humidity: 5% to 95% (non-condensing)
Weight	1.35KG（including color box accessories）

4. Software features

Software features

IPV4	Support for IPV4 network addresses
IPV6	Support for IPV6 network addresses
Intelligent QOS	Support for QOS network optimization
Parental control	Support for network control of terminal devices
UPNP	Support
VPN	Supports L2TP VPN client Supports PPTP VPN client
APN	Support for manual APN settings
DDNS	Support for DDNS dynamic domain name setting
MESH	Support for company WiFi products to self-network
APP	Support for app management
TR069	Support for TR069 remote management
WiFi Encryption method	Open WEP WPA2-PSK WPA3-SAE WPA/WPA2-PSK WPA2-PSK/WPA3-SAE
WiFi Dual-band integration	Support dual-band integration settings
Others	5G network information display Data usage statistics Manual screen lock

5. Appearance

6. Installation

1. Access the Internet via mobile network (5G/LTE), simply insert a carrier SIM card and power it on to enjoy high-speed internet access.

2. Access the Internet via Ethernet (through an ONT or other WAN-connected device).

7. Package contents

1. UT-9166-Q6 Product: 1 (standard configuration)
2. Power Adapter: 1 (standard configuration)
3. Quick Start Guide: 1 (standard configuration)

According to the IEEE standard 802.11 specification, there may be differences between actual data throughput and signal coverage capabilities. Network conditions and environmental factors, including network congestion, building materials, and electromagnetic environment, can affect wireless networks, resulting in low throughput and limited coverage range.

The product is only suitable for indoor use and provides a limited warranty service for the entire machine. Man-made damage is not covered by the warranty. If you have any product issues, please contact our company for technical support.