LTE FDD B2201H-201 Product Description

Issue   Draft A

Date   2014-02-25

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Contents

1 About This Document

1.1 Summary

This document provides information for product features, main functions and services, technical specifications and technical references.

This document includes:

Chapter	Details
2 Product Overview	Describes the appearance and main services of product
3 Features	Describes the product features
4 Technical Specifications	Describes the specifications of product hardware, software and user interface
5 Services and Applications	Describes the main functions and applications
6 System Structure	Describes the product system structure
7 Technical References	Describes Standards and Communication Protocols of the Products

> **NOTE**
>
> The document is an invitation to offer but not an offer. It is intended to describe the general features and functions of products. The features and functions of certain products vary with requirements of customers.

1.2 History

Issue	Details	Date
Draft A	Initial formal release	2014-02-25

2 Product Overview

The HUAWEI LTE CPE B2201H-201 (hereinafter referred to as B2201H-201) is a LTE wireless gateway for multiple users in factory and small office environments. You can access the Internet through the wired or wireless network.

B2201H-201 supports LTE (Long Term Evolution) 3GPP Release 8.

B2201H-201 supports wired and wireless network access, and provides data service such as router and switch functionality. The supported service functions are as follows:

- Data service
- VoIP service
- Security Service
- WiFi Service
- L2 VPN Service
- Local maintenance management function

3 Features

The main features of B2201H-201 are listed as follows:

- **Multiple LTE band connectivity**

  Support LTE FDD Band 3(1805-1880MHz) & Band 7(2620-2690MHz) & Band 20(791-821MHz).

- **High speed experience**

  Support LTE FDD maximum throughput of 100 Mbps in the downlink and 50 Mbps in the uplink.

- **Two ports Mega Ethernet switch**

  For wired LAN connectivity with rate auto-negotiation and MDIX auto-detection support.

- **Wireless LAN Access Point**

  For wireless LAN connectivity with integrated 802.11b/g/n access point. Wireless security features including standard WLAN WEP, WPA, WPA2

- **Voice over IP**

  High quality voice services with SIP protocol via the telephony interface. Support one line voice and can connect to another IAD to get more voice ports. Support Two APN and can provide one APN for VOIP

- **Flexible networking capabilities**

  Provide high-speed routing capability. Comprehensive set of networking and IP protocols such as bridging, routing, DNS, DHCP server, and NAT.

- **Flexible security services**

  Support packet filtering firewall. Provide instant protection to block potential security risks and intrusion attempts.

- **Web-based Configuration**

  Built-in web based configuration supports local and remote administration and management with User-friendly Web interface.

- **TR069&SNMP-Based Device management**

  Support the CPE WAN Management Protocol (CWMP) as specified in Broadband Forum TR-069&SNMP Amendment II. Support remote software image installation, a set of configuration and status parameters.

- **VPN**

  Support VPN Pass-through for L2TP/PPTP/IPSec.

- **Antenna and interface**

  Built-in LTE and WLAN high gain antenna with high performance.

- **Others**

  User-friendly design of LED indicator in IDU and ODU shows the status of equipment.

  Supports Windows XP, Windows Vista, Windows 7, Linux, MAC. Compatible with Browser include Internet Explorer, Firefox, Chrome, Safari.

4 Technical Specifications

4.1 Hardware Specifications

Table 4-1 describes technical specifications of the B2201H-201.

Table 4-1 Technical specifications of the B2201H-201

Item	Description	
Technical standard	WAN: LTE 3GPP Release 8 (Cat. 3)	
	LAN: IEEE 802.3/802.3u	
	WLAN: IEEE 802.11b/g/n	
Working frequency band	LTE FDD	Band 3(1805-1880MHz) & Band 7(2620-2690MHz) & Band 20(791-821MHz)
	WLAN	2.401 GHz ~ 2.483 GHz
Frequency channel bandwidth	LTE FDD	5MHz, 10MHz, 15MHz, 20MHz
External interface	Indoor Unit: 2 Ethernet interface (RJ45): 10/100 Base-TX 1 PoE port (RJ45) 1 POTS interface (RJ11) 1 USB 2.0 port 1 Power button 1 Reset button 1 WPS/WiFi button Outdoor Unit: 1 PoE port (RJ45) 1 USIM card slot	

Item	Description	
LED indicator	One Power/System indicator	
	One LINK indicator for WAN connection	
	Three indicators for LTE signal strength	
	One WLAN/WPS indicator	
	One Phone indicator	
	One LINK/ACTIVE indicator for each Ethernet Interface	
Maximum transmit power	LTE	23dBm(±2dB)
	WLAN	802.11n: SISO: 12dBm(+2/-2), MIMO: 15dBm(+2/-2)
		802.11g: 12dBm(+2/-2)
		802.11b: 15dBm(+2/-2)
Receiving sensitivity	LTE	Band 7： -98dBm/5MHz; -95dBm/10MHz; -93.2dBm/15MHz；-92dBm/20MHz;
		Band 3：-97dBm/5MHz; -94dBm/10MHz; -92.2dBm/15MHz；-91dBm/20MHz;
		Band 20：-97dBm/5MHz; -94dBm/10MHz; -91.2dBm/15MHz；-90dBm/20MHz;
	WLAN	-64 dBm@65Mbit/s, typical for 802.11n
		-65 dBm@54Mbit/s, typical for 802.11g
		-76 dBm@11Mbit/s, typical for 802.11b
Power consumption	Average power consumption at peak: <24 W	
	Average power consumption while Wi-Fi disable: <22W	
AC/DC power supply	AC: 100 V–270 V, 50/60 Hz	
	DC: 56V	
Dimensions (W×D×H)	ODU:250*250*80 mm	
	IDU:200 x150x 50 mm	
Weight	Outdoor Unit: < 1200g	
	Indoor Unit: < 500g	
Temperature	ODU:	
	Working temperature: -40℃~ +55℃	
	Storage temperature: -40℃~ +70℃	
	IDU:	
	Working temperature: 0℃~ +40℃	
	Storage temperature: -20℃~ +60℃	
Humidity	5% ~ 95%	
Installation	The pole-mounting kits for the outdoor unit	
Environmental	IP67 for ODU	

Item	Description
Certification/ Compliance	Will complete CE in 2014
	2002/95/EC (RoHS) Restriction of Hazardous Substances Directive
	2002/96/EC (WEEE) (WEEE) Waste Electrical and Electronic Equipment Directive
	European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste

4.2 Antenna Specifications

4.2.1 Build-in LTE Antenna

Table 4-2 describes LTE antenna specifications

Table 4-2 LTE antenna specifications

Item	Description
Frequency	Band 3(1805-1880MHz)
	Band 7(2620-2690MHz)
	Band 20(791-821MHz)
Input impedance	50 Ω
Standing wave ratio	< 3.0 (after being matched, All frequency points)
efficiency	≥ 60%
Gain	B7&B3：11dBi
	B20：7dBi
Polarization	Linear, cross polarization

4.2.2 Build-in WiFi Antenna

Table 4-3 describes WLAN antenna specifications

Table 4-3 WLAN antenna specifications

Item	Description
Frequency	2400MHz ~ 2483MHz
Input impedance	50 Ω

Standing wave ratio	< 3
efficiency	≥50%
Gain	2dBi
Polarization	Linear, vertical polarization

4.3 Software Specifications

Table 4-2 describes the software specifications

Table 4-4 Software specifications

Item	Description
Gateways	Router: Supports configure static routing table entry (at least 6 entries) Supports the general route, disable NAT Supports manually configuring the LAN IP address
	Supports ARP
	Supports DNS
	Supports IPv4
	NAT: Supports NAT and NAPT
	DHCP Server: The default DHCP lease is 24 hours. The DHCP Server can be enabled or disabled. The address pool of the DHCP server can be configured. When DHCP Server is enabled, the IP address status can be displayed, such as the host name, MAC address, and IP address. Supports static IP allocation.
Data service	LTE FDD : DL 100Mbit/s, UL 50Mbit/s
	WLAN:802.11b/g/n
	Support Dual APN (one for VOIP; one for Data)
VoIP	Supports G.729 a/b, G.711
	Supports SIP (RFC3261) Protocol
	Supports SDP (RFC2327)

Item	Description
	RTP/RTCP (RFC 1889/ RFC 1890)
	Supports Fax Option G711 Fax send and receive T38 Fax send and receive
	Outgoing caller ID block
	Call Waiting Indication (tone)
	Supports G.168 (Echo Cancellation)
	E911
	MWI and VMWI
	Supports the following phone features: Caller ID Generation Call Waiting Call Transfer Call Forward (Unconditional, Busy and No Answer Forward) Call Hold Three-way Conference Do not Disturb Anonymous Incoming Call Rejection
Security	Firewall MAC Filter
LAN	10/100 Mbps auto-negotiation
	MDI/MDIX auto-sensing
	IEEE802.3/802.3u is compatible
WLAN	SSID broadcast
	WPS: Connecting a Device using the WPS button
	Authentication: No Security, WEP-OPEN、WEP-SHARED、WPA-PSK(TKIP)、WPA-PSK(AES)、WPA2-PSK(TKIP)、WPA2-PSK(AES)
	Supports limit of access users (up to 32 users) Supports 16 users simultaneously
Upgrade	TR069 or SNMP upgrade and local upgrade
USIM	PIN Management, USIM card Authentication

Item	Description
NTP	User can check system time
Maintenance	Export current diagnosis results and operation logs

5 Services and Applications

5.1 Data Services

The B2201H-201 supports the high-speed data service. It is used for LTE wireless broadband network access. You can send and receive emails, surf the Internet.

5.1.1 Small-Size LAN

You can connect the B2201H-201 with a terminal device through the WLAN or one Ethernet interface in the Small Office Home Office (SOHO) to provide data services.

To form a LAN with multiple PCs, you can extend the Ethernet interfaces through the concentrator or Ethernet switch.

5.1.2 Data Service

After the parameters are correctly configured on the Web management interface, the B2201H-201 creates normal data service automatically if the network and the USIM card are available.

5.2 Voice service

B2201H-201 supports high quality voice services with SIP protocol via the built-in telephony interface. Once SIP profile is registered and correctly configured, B2201H-201 sends the calls to the VoIP service provider's SIP server which forwards calls to either VoIP or PSTN phones.

B2201H-201 also supports supplementary services such as call hold, call waiting, call transfer and so on which are generally available from VoIP service provider.

5.3 Security Service

The B2201H-201 supports comprehensive and robust security services: Firewall function and PIN protection mechanisms. These features together allow users to connect their computers to the Internet and simultaneously protect their computers from the security threats of the Internet.

5.3.1 Firewall Service

The B2201H-201 supports to enable or disable the firewall on the network connection that protects the device and network from attacks by hackers on the Internet and control access to it.

5.3.2 MAC Filter

B2201H-201 supports to specify the Media Access Control (MAC) address to restrict network access.

5.3.3 User Authentication

The gateway supports the following user authentication protocols for wireless LAN:

- No Encryption
- WEP-OPEN、WEP-SHARED、WPA-PSK(TKIP)、WPA-PSK(AES)、WPA2-PSK(TKIP)、WPA2-PSK(AES) .
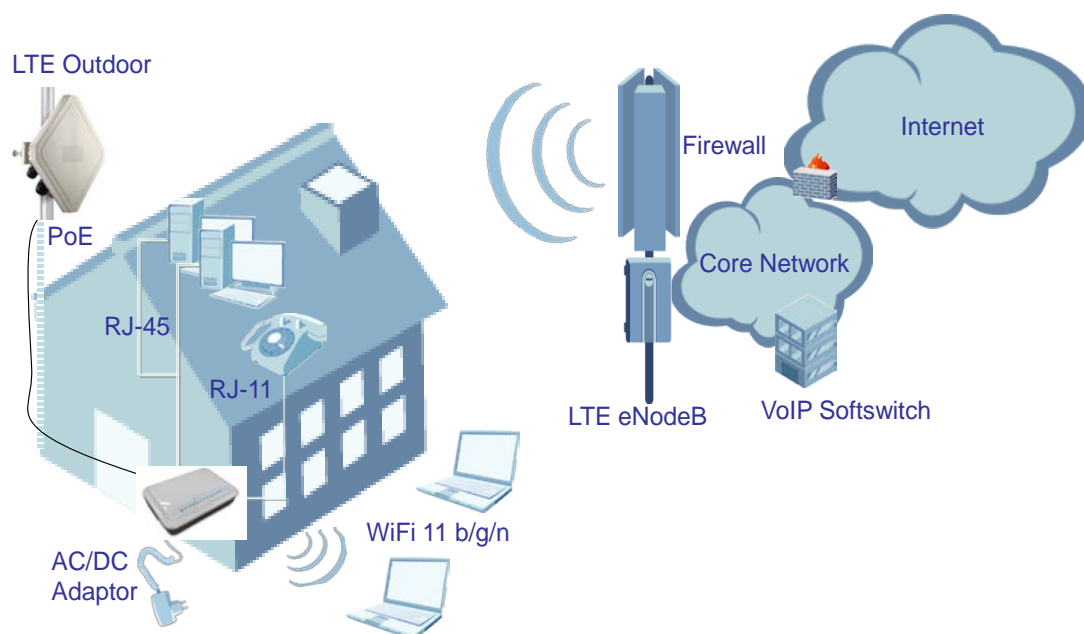
5.4 Local management and maintenance

The B2201H-201 supports local configuration to accomplish device management, network configuration and ensure normal and stable performance.

6 System Structure

Figure 6-1 shows the overview of Interfaces for Huawei B2201H-201.

Figure 6-1 System Structure

The following describes modules shown in Figure 6-1.

- LTE access function: The B2201H-201 adopts the LTE access technology at the WAN side.

- LAN access function: One 10/100Mbps high-speed Ethernet interfaces are provided at the LAN side. The B2201H-201 provides the switching function for local networking and sharing of broadband network when it is connected to terminal devices.

- AP function: An 802.11 b/g/n-compliant WLAN AP interface is provided, used for wireless networking at home. The interface is compliant with the IEEE802.11 b/g/n standard and the WEP-OPEN、WEP-SHARED、WPA-PSK(TKIP)、WPA-PSK(AES)、WPA2-PSK(TKIP)、WPA2-PSK(AES) security authentication.

- DHCP/DNS: The DHCP server dynamically allocates IP addresses to PCs.

- WEB management: You can configure, modify and query the configuration information of the B2201H-201.

- IP route protocol and NAT: High-speed routing capability. With the built-in NAT, the B2201H-201, together with LTE terminals, can provide flexible broadband access solutions and networking schemes.

- VoIP function: Voice over IP.

7 Technical References

7.1 Standards and Communication Protocols

7.1.1 Standards and Communication Protocols of the Products

Table 7-1 Standards and communication protocols of the DATACOM products

Item	Description
Physical layer	RFC894
ARP	RFC826
IP	RFC791, RFC1122, RFC1071, RFC1141, RFC1624, RFC792, RFC950, RFC1256
ICMP	RFC792, RFC950, RFC1256
TCP	RFC793
UDP	RFC768
DHCP	RFC1531, RFC1533
NAT	RFC1631

7.1.2 Standards and Communication Protocols of the Wireless Uu Interface

B2201H-201 supports LTE (Long Term Evolution) Release 8, Category 3.

8 Packing List

Table 8-1 shows the devices and accessories of the B2201H-201.

Table 8-1 Packing list

Description	Quantity	Unit	Remarks
LTE Outdoor Unit	1	PCS	Standard
LTE Indoor Unit	1	PCS	Standard
Power Adaptor	1	PCS	Standard
Mounting Kit	1	SET	Standard
Wall Mount Kit	1	SET	Standard
Quick Start Guide	1	PCS	Standard

9   Acronyms and Abbreviations

Abbreviation	Full Spelling
ARP	Address Resolution Protocol
AP	Access Point
APN	Access Point Name
CPE	Customer Premises Equipment
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
DL	Down Link, Downlink
IP	Internet Protocol
ICMP	Internet Control Message Protocol
LAN	Local Area Network
LED	Light Emitting Diode
LTE	The Fourth Generation
NAT	Network Address Translation
SOHO	Small Office Home Office
SCP	Service Control Point
SDRAM	Synchronous Dynamic Random Access Memory
UMTS	Universal Mobile Telecommunications System
UL	Up Link, Uplink
WAN	Wide Area Network
Wi-Fi	Wireless Fidelity
WPS	Wi-Fi Protected Setup

Valor del equipo	$274,21