

**HUAWEI B612s-25d LTE CPE
V100R001
Product Description**

Issue 02
Date 2017-07-20

Copyright © Huawei Technologies Co., Ltd. 2017. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: <http://consumer.huawei.com/en/>

Email: mobile@huawei.com

About This Document

Summary

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

This document includes:

Chapter	Details
1 Product Overview	Describes the appearance and main services of product
2 Features	Describes the product features
3 Technical Specifications	Describes the specifications of product hardware, software and user interface
4 Services and Applications	Describes the main functions and applications
5 System Structure	Describes the product system structure
6 Packing List	Describes the devices and accessories of the product



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.

History

Issue	Date	Details
01	2017-04-12	Initial official release.
02	2017-07-20	<ul style="list-style-type: none">Updated the OS informationUpdated the indicatorUpdated the weight

Contents

About This Document	ii
1 Product Overview	1
2 Features	3
3 Technical Specifications	4
3.1 Hardware Specifications	4
3.2 Antenna and Radio Frequency Specifications	6
3.3 Software Specifications	8
4 Services and Applications	11
4.1 Data Services	11
4.1.1 Accessing the Internet Through a Mobile Network (LTE/UMTS/GSM).....	11
4.1.2 Accessing the Internet Through an Ethernet Network	12
4.2 Voice Services.....	12
4.3 SMS	13
4.4 Security Service	13
4.5 Local management and maintenance	13
5 System Structure	14
5.1 System Architecture Diagram.....	14
5.2 Functional Modules	14
6 Packing List	15
A Acronyms and Abbreviations	16

1 Product Overview

The HUAWEI B612s-25d LTE CPE (B612s-25d for short) is a wireless gateway that integrates LTE and high-speed Ethernet uplink access, which provides users with flexible and diversified data access and voice services.



NOTE

The frequency bands of the product are as follows.

B612s-25d support:

- LTE: B1/B3/B7/B8/B20/B38/B40/B41(2545~2655MHz)/B42/B43
- DC-HSPA+/HSPA+/HSPA/WCDMA: B1/B8
- EDGE/GPRS/GSM: B2/B3/B5/B8
- 4*4 MIMO: B3/B7/B20/B38/B40/B41/B42/B43

The B612s-25d supports the following standards:

- LTE (Long Term Evolution)
- DC-HSPA+ (Dual Carrier High Speed Packet Access Plus)
- HSPA+ (High Speed Packet Access Plus)
- HSUPA (High Speed Uplink Packet Access)
- HSDPA (High Speed Downlink Packet Access)
- UMTS (Universal Mobile Telecommunications System)
- EDGE (Enhanced Data Rates for Global Evolution)
- GPRS (General Packet Radio Service)
- GSM (Global System for Mobile Communications)

The B612s-25d supports wired and wireless network access, and provides data routing service.

The B612s-25d provides the following services:

- Data service
- Voice service
- SMS
- Security service
- Local maintenance management function

Figure 1-1 B612s-25d appearance



2 Features

The B612s-25d mainly supports the following features:

- Access to LTE wireless networks
- Access to Gigabit Ethernet networks
- High-speed data access
 - LTE FDD: DL 300 Mbit/s, UL 50 Mbit/s
 - LTE TDD: DL 210 Mbit/s, UL 10 Mbit/s
 - DC-HSPA+: DL 42 Mbit/s, UL 5.76 Mbit/s
 - HSPA+: DL 21 Mbit/s (64QAM) / 28 Mbit/s (MIMO), UL 5.76 Mbit/s
 - HSPA: DL 14.4 Mbit/s, UL 5.76 Mbit/s
 - WCDMA PS: 384 kbit/s
 - EDGE: DL 296 kbit/s, UL 236.8 kbit/s
 - GPRS: 85.6 kbit/s
- Complies with wireless 802.11b/g/n standards with data rates up to 300 Mbit/s
- SMS
- IPv4 /IPv6 dual stack
- Compatibility with RJ11 telephone ports; support VoLTE voice(customizable function), can be set to Voice over Internet Protocol (VoIP) voice mode or Circuit Switch (CS) voice mode
- External LTE antenna port
- Support for Huawei HiLink App
- WPS 2.0
- HOTA updates
- Built-in DHCP Server, DNS RELAY and NAT
- Security services. Provides instant protection to block potential security risks and intrusion attempts
- Windows 7, Windows 8, Windows 8.1, Windows 10 (does not support Windows RT), MAC OS X 10.9, 10.10, 10.11 and 10.12 with latest upgrades
- User-friendly design of LED indicator. Easy to observe the status of equipment.

3 Technical Specifications

3.1 Hardware Specifications

Table 3-1 Technical specifications of the B612s-25d main unit

Item	Description	
Technical standard	WAN	3GPP Release 11
	LAN	IEEE 802.3/802.3u
	WLAN	IEEE 802.11b/g/n
Working frequency band	LTE	B1/B3/B7/B8/B20/B38/B40/B41(2545~2655MHz)/B42/B43
	DC-HSPA+/HSPA+/HSPA/UMTS	B1/B8
	EDGE/GPRS/GSM	B2/B3/B5/B8
	4*4 MIMO	B3/B7/B20/B38/B40/B41/B42/B43
	WLAN	2.4GHz 2.422 GHz~2.472GHz
External port	<ul style="list-style-type: none"> • One power adapter port • Three LAN port (RJ45) • One LAN/WAN port (RJ45) • One phone port (RJ11) • Two external LTE antenna ports (SMA) • One micro-SIM card slot 	
Antenna	<ul style="list-style-type: none"> • Built-in LTE/UMTS/GSM primary antenna • Built-in LTE /UMTS secondary antenna • Built-in WLAN 2.4G antenna 	

Item	Description		
Indicator	<ul style="list-style-type: none"> • One Power indicator • One Internet status indicator • One Wi-Fi/WPS indicator • One LAN/WAN indicator • One group of signal strength indicators 		
Button	<ul style="list-style-type: none"> • One Power button • One WPS button • One Reset button 		
Maximum transmit power	LTE	Conform to 3GPP Power Class 3 Definition	
	WLAN	2.4G	802.11b 16 dBm
			802.11g 16 dBm
			802.11n 16 dBm
Receiving sensitivity	LTE	Conform to 3GPP Definition	
	UMTS	Conform to 3GPP Definition	
	GSM	-104 dBm	
	WLAN	802.11b: -83 dBm (11 Mbit/s)	
		802.11g: -69 dBm (54 Mbit/s)	
	802.11n: -67 dBm (65 Mbit/s)		
Power consumption	< 12W		
AC/DC power supply	<ul style="list-style-type: none"> • AC: 100 V - 240 V • DC: 12 V/1 A 		
Dimensions (Maximum)	240mm × 155mm × 78mm		
Weight	About 430g (excluding the power adapter)		
Temperature	<ul style="list-style-type: none"> • Working temperature: 0°C to 40°C • Storage temperature: -20°C to +70°C 		
Humidity	5% - 95% (Non-condensing)		

3.2 Antenna and Radio Frequency Specifications

Table 3-2 LTE main diversity antenna specifications

Item	Description
Frequency	<ul style="list-style-type: none"> • 703 MHz~960 MHz • 1452 MHz~1496 MHz • 1710 MHz~2690 MHz • 3400 MHz~3800 MHz
Input impedance	50 Ω
Standing wave ratio	< 3
Efficiency	≥ -4 dB@703 MHz~960 MHz ≥ -3.5 dB@1452 MHz~1496 MHz ≥ -3.5 dB@1710 MHz~2690 MHz ≥ -3.5 dB@3400 MHz~3800 MHz
Gain	Band 42/43: 4-5 dBi Band 1/3/7/38/40/41: 3-4 dBi Band 8/20: 1-2 dBi
Polarization	Linear polarization

Table 3-3 WLAN 2.4 GHz antenna specifications

Item	Description
Frequency	2.401 GHz~2.495 GHz
Input impedance	50 Ω
Standing wave ratio	< 2
Efficiency	≥ -3 dB
Gain	3 dBi
Polarization	Linear polarization

Table 3-4 External antenna specifications



NOTE

- The external antenna is an optional accessory. Signals may be weak in some areas; thus, you can choose whether to use the external antenna.
- The external antenna can be used indoor only. Put it near the window when using to get better signal.
- Avoid thunderstorms when using.

Item	Description
Frequency	<ul style="list-style-type: none">• 2300 MHz~2690 MHz• 3400 MHz~3800 MHz
Input impedance	50 Ω
Standing wave ratio	< 3
H side gain	Band 42/43: 7-8 dBi Band 7/38/40/41: 6-7 dBi
Polarization	Linear polarization
Interface standard	SMA

3.3 Software Specifications

Table 3-5 Software specifications

Item	Description		
Gateway	Supports the default route: 0.0.0.0.		
	Supports the default gateway address: 192.168.8.1.		
	Supports the Address Resolution Protocol (ARP).		
	Supports the Internet Control Message Protocol (ICMP).		
	Supports the domain name service (DNS).		
	NAT	Supports NAT and Network Address and Port Translation (NAPT), which complies with RFC2663, RFC3022, and RFC3027.	
		Supports CONE NAT.	
		Supports fragmented message identification during common NAT.	
	DHCP server	Enables and disables the DHCP server.	
		Configures DHCP server address pools.	
Sets the lease time.			
VPN client	Support L2TP VPN client (When L2TP VPN client function is enabled, the throughput performance will slow down, the maximum speed can up to 50Mbps (dependent on network environment).)		
SMS	Writing/Sending/Receiving		
	Writing/Sending/Receiving extra-long messages		
Voice	VoIP	Supports the Session Initiation Protocol (SIP).	
		Supports G.711a/G.711u/G.726 (-24/-32)/G.722/G.729 for encoding and decoding.	
	CS voice	Supports CS voice communication over UMTS and GSM networks.	
		Supports the circuit switched fallback (CSFB).	
	VoLTE	Customizable function	
Security	Enables and disables the firewall.		
	Filters LAN MAC addresses.		

Item	Description	
	Filters LAN IP addresses.	
	Filters URLs.	
	Supports demilitarized zone (DMZ).	
	Supports Universal Plug and Play (UPnP).	
	Supports Application Level Gateway (ALG).	
WLAN	Broadcasts and hides service set identifiers (SSIDs).	
	Supports WPS	
	Authentication	Supports Open System authentication.
		Supports encryption using wired equivalent privacy (WEP), Wi-Fi protected access preshared key (WPA /WPA2-PSK), and WPA2-PSK authentication.
		Supports the Advanced Encryption Standard (AES) encryption algorithm.
		Supports the TKIP and AES hybrid encryption algorithm.
	MAC address authentication	Supports the MAC address authentication whitelist.
		Supports the MAC address authentication blacklist.
		Supports a maximum of 10 MAC address entries.
	Supports automatic transmission rate adjustment.	
Station management	Supports station status queries.	
	Supports a maximum of 32 connected stations.	
IPv6/IPv4 dual stack	DHCPv6/v4 server and client	
	DNSv6/v4 server and client	
	Display IPv6/v4 WAN address	
HUAWEI HiLink App	View the data traffic usage and SMS.	
	Manage the connected devices.	
	Change CPE's SSID and password.	
System requirements	Operating system: Windows 7, Windows 8, Windows 8.1, Windows 10 (does not support Windows RT), MAC OS X 10.9, 10.10, 10.11 and 10.12 with latest upgrades.	

Item	Description
	Hardware configuration: meets the configuration requirements of the operating system.

4 Services and Applications

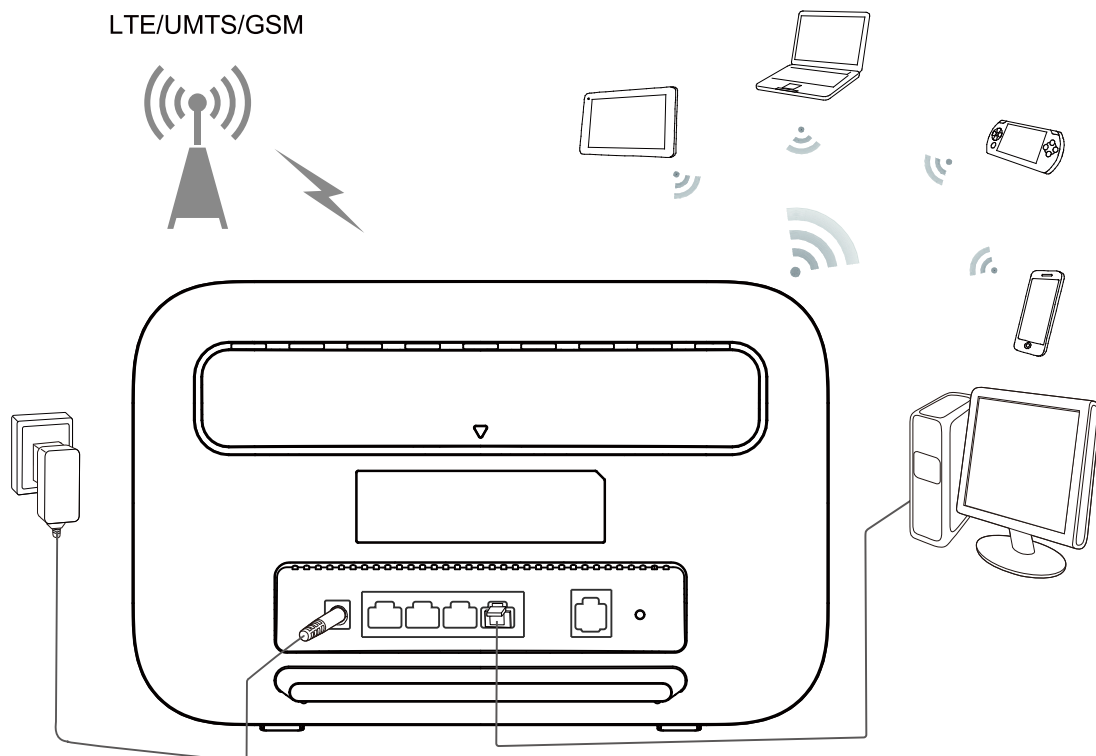
4.1 Data Services

The B612s-25d can access the Internet through mobile networks, and Ethernet networks. By connecting to the B612s-25d using Wi-Fi or a network cable, users can get access to high-speed Internet services and establish a local area network (LAN).

4.1.1 Accessing the Internet Through a Mobile Network (LTE/UMTS/GSM)

The B612s-25d can access the Internet through mobile networks.

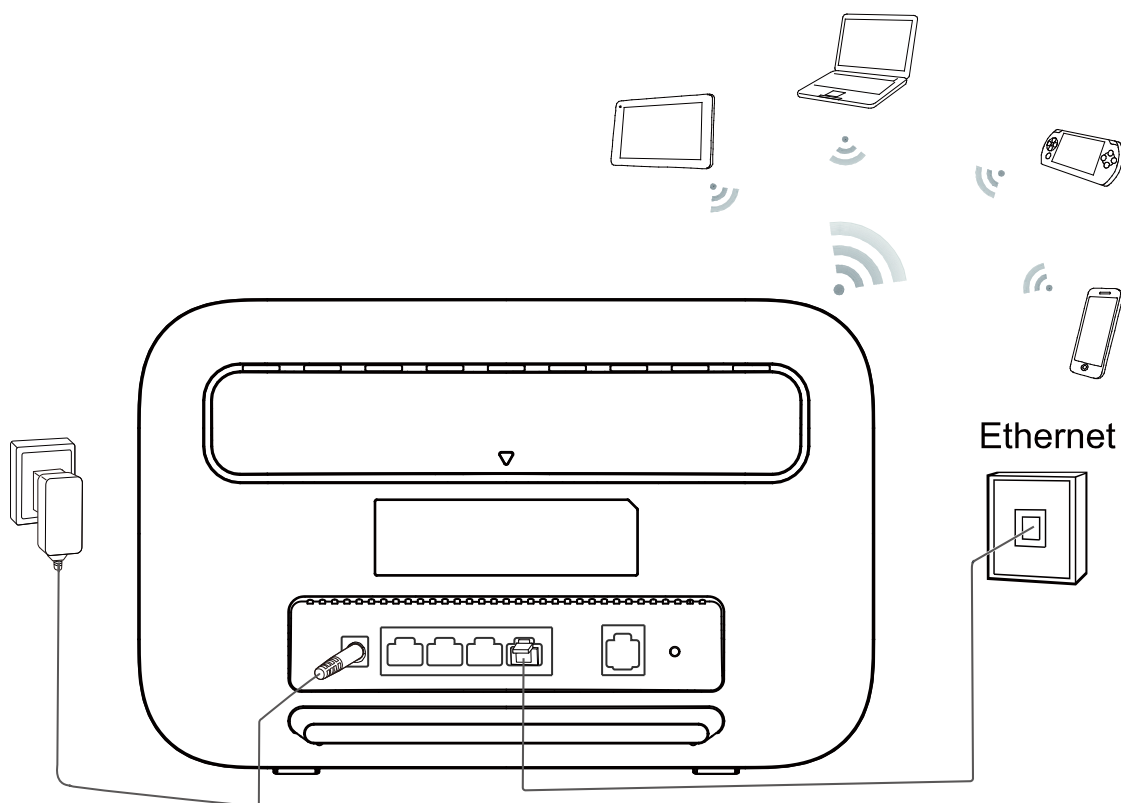
Figure 4-1 Accessing the Internet through a mobile network



4.1.2 Accessing the Internet Through an Ethernet Network

Connect the B612s-25d's LAN/WAN port to a wall-mounted Ethernet port using a network cable.

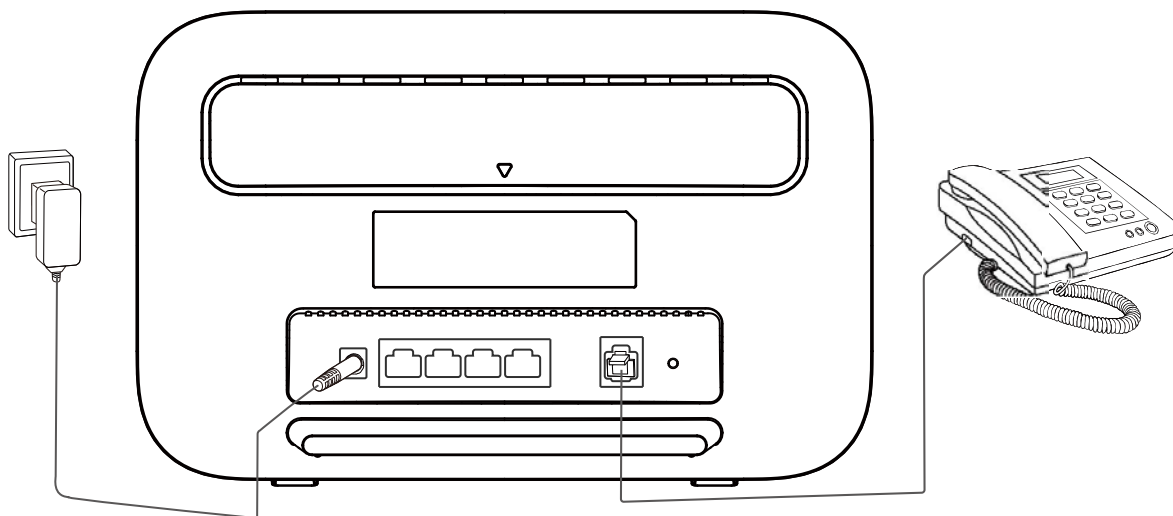
Figure 4-2 Accessing the Internet through an Ethernet network



4.2 Voice Services

The B612s-25d provides one telephone port that can be connected to telephones for calling.

Figure 4-3 Connecting telephones to the B612s-25d



4.3 SMS

The B612s-25d supports message writing/sending/receiving and group sending (up to 50 contacts at a time). You can manage messages through the Web page, such as inbox, outbox, draft.

4.4 Security Service

The B612s-25d supports various security features, such as the firewall, user authentication, and PIN protection, protect users against security threats from the Internet when users are using network services.

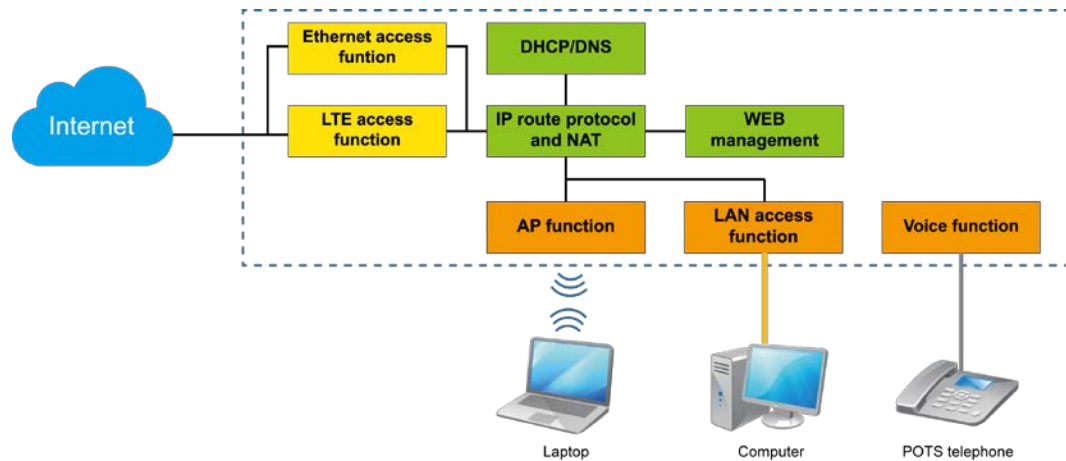
4.5 Local management and maintenance

The B612s-25d supports local configuration through the Web page. You can accomplish device management, network configuration and ensure normal and stable performance.

5 System Structure

5.1 System Architecture Diagram

Figure 5-1 System architecture



5.2 Functional Modules

- Mobile network access: The B612s-25d adopts the LTE/UMTS/GSM access technology at the WAN side, can access the wireless broadband packet-based.
- WLAN AP function: 802.11b/g/n compliant WLAN AP interface is provided, used for wireless networking at home. The interface is compliant with the IEEE 802.11b/g/n standard and the WPA/WPA2-PSK/WPA2-PSK/WEP security authentication.
- DHCP/DNS: The DHCP server dynamically allocates IP addresses to PCs. The DNS parses domain names.
- Web management: You can configure, modify and query the configuration information of the B612s-25d.
- Routing and NAT: High-speed routing capability. With the built-in NAT, the B612s-25d, together with wireless broadband packet-based network devices, can provide flexible broadband access solutions and networking schemes.

6 Packing List

Table 6-1 Packing list

Description	Quantity	Remarks
Wireless Gateway	1	Standard
Power supply adapter	1	Standard
Quick Start	1	Standard
Ethernet cable	1	Standard
Warranty card	1	Optional
Phone cable	1	Optional

HUAWEI B612s-25d wireless gateway also provide external antenna as optional for you to choose.

A Acronyms and Abbreviations

A	
AC	Alternating Current
ARP	Address Resolution Protocol
AP	Access Point
APN	Access Point Name
C	
CPE	Customer Premises Equipment
CS	Circuit Switch
CSFB	Circuit Switched Fallback
D	
DHCP	Dynamic Host Configuration Protocol
DL	Downlink
DNS	Domain Name Server
G	
GE	Gigabit Ethernet
H	
HOTA	Huawei Over The Air
HSPA	High Speed Packet Access
HSPA+	High Speed Packet Access Plus
HSDPA	High Speed Downlink Packet Access
HSUPA	High Speed Uplink Packet Access
I	
IP	Internet Protocol

A	
ICMP	Internet Control Message Protocol
L	
LAN	Local Area Network
LED	Light Emitting Diode
LTE	Long Term Evolution
M	
MCS	Modulation and Coding Scheme
N	
NAT	Network Address Translation
P	
POTS	Plain Old Telephone Service
T	
TKIP	Temporal Key Integrity Protocol
U	
UMTS	Universal Mobile Telecommunications System
UL	Uplink
V	
VoIP	Voice over Internet Protocol
W	
WAN	Wide Area Network
WLAN	Wireless Local Area Network
WCDMA	Wideband Code Division Multiple Access
Wi-Fi	Wireless Fidelity