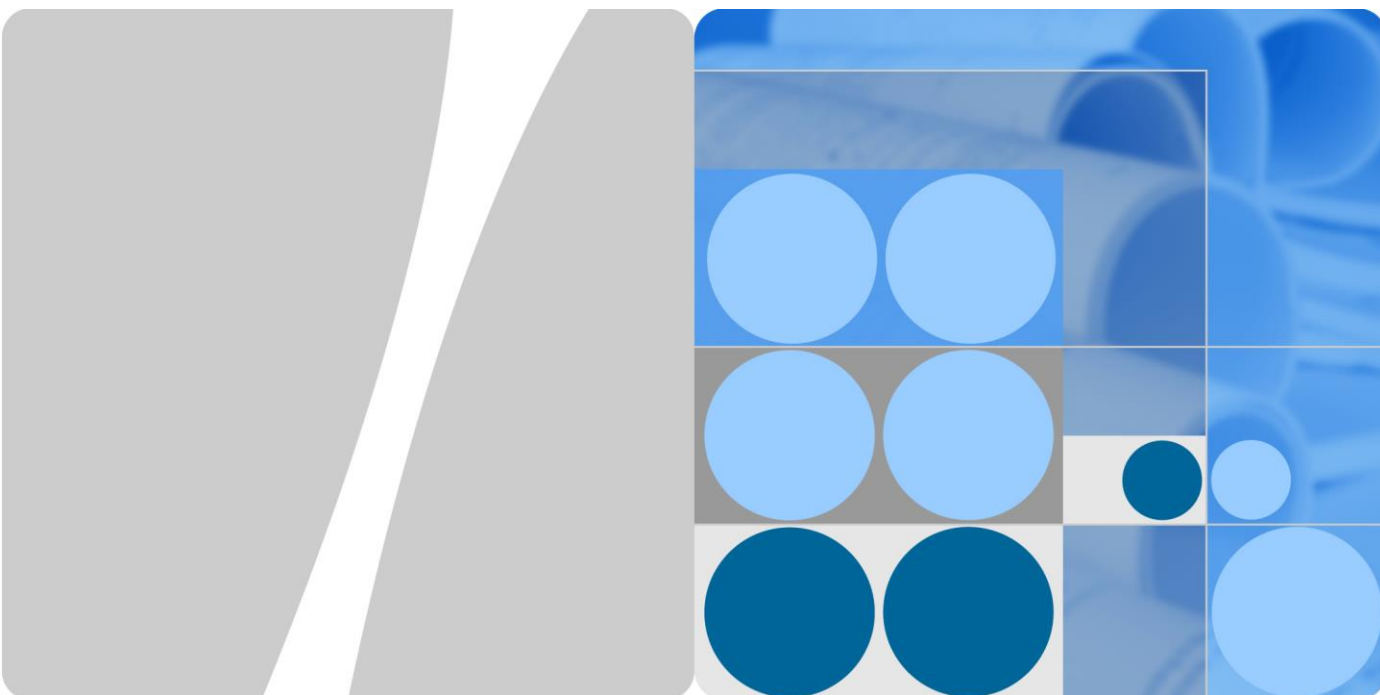# Product Description

HUAWEI E5576-320 Mobile WiFi
V100R001

Version 01

Date 2019-05-30

HUAWEI TECHNOLOGIES CO., LTD.

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About This Document

Summary

This document introduces the major functions, supported services, and system architecture of the HUAWEI E5576-320 Mobile WiFi.

The following table lists the contents of this document.

Chapter	Details
1 Overview	Supported network modes, basic services and functions, and the appearance of the product
2 Features	Major features and technical specifications
3 Services and Applications	Supported services
4 System Architecture	System architecture
5 Packaging Box Items	Items contained in the packaging box
6 Appendix	Supported LTE bandwidths

History

| Version	Details	Date
01	Draft	2019-05-30

Contents

1 Overview

1.1 Introduction

HUAWEI E5576-320 Mobile WiFi (hereinafter referred to as the E5576-320) is a high-speed packet access mobile hotspot. It is a multi-mode wireless terminal for SOHO (Small Office and Home Office) and business professionals.

It provides users with packet data services and SMS through multiple network modes. You can connect the micro USB port on the E5576-320 to a computer using a micro USB data cable, or connect multiple devices to the E5576-320 over Wi-Fi. In the service area of the network, the E5576-320 allows you to surf the Internet and send/receive messages/emails, providing you with a fast, reliable, and convenient user experience. It also helps carriers improve their average revenue per user (ARPU).

Figure 1-1 shows the appearance of the E5576-320.

Figure 1-1 E5576-320 appearance
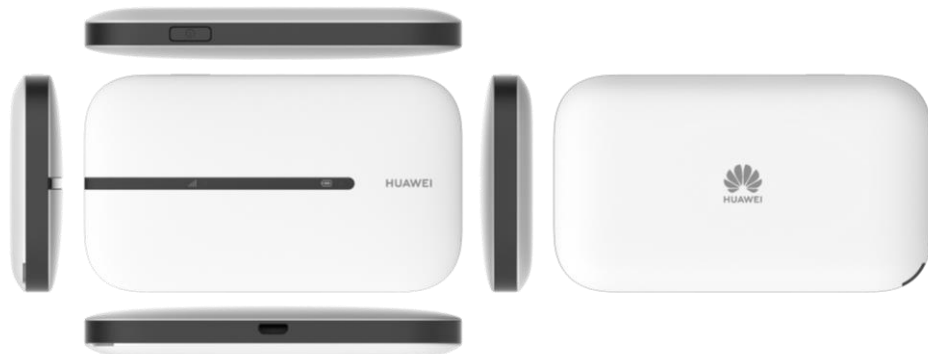
1.2 Optional Features

Optional features refer to features that are not supported on the standard version. These features can be customized according to carrier or customer requirements. The E5576-320's optional features include the following:

- SIM lock

2 Features

2.1 Main Features

The E5576-320 features:

- LTE FDD (DL) packet data service of up to 150 Mbps
- LTE FDD (UL) packet data service of up to 50 Mbps
- LTE TDD (DL) packet data service of up to 112 Mbps
- LTE TDD (UL) packet data service of up to 10 Mbps
- DC-HSPA+ (DL) packet data service of up to 42 Mbps
- HSPA+ (DL) packet data service of up to 21 Mbps
- HSDPA (DL) packet data service of up to 14.4 Mbps
- HSUPA (UL) packet data service of up to 5.76 Mbps
- UMTS (UL/DL) packet data service of up to 384 Kbps
- SMS based on LTE/WCDMA
- Built-in LTE/WCDMA and Wi-Fi antenna
- 2.4 GHz Wi-Fi
- LTE/3G/Wi-Fi auto offload
- Compatible with HUAWEI SmartHome app
- Plug and Play
- IPv4v6 dual stack
- Built-in DHCP Server, DNS RELAY, and NAT
- Online software upgrade
- Traffic statistics
- WPS
- Standard Micro USB port
- Compatible with Windows 7, Windows 8, Windows 8.1, Windows 10 (excluding Windows RT), MAC OS X 10.9, 10.10, 10.11 and 10.12 with latest upgrades

2.2 Technical Specifications

2.2.1 Hardware

Table 2-1 lists the hardware specifications.

Table 2-1 Hardware specifications

Item	Specifications	
Technical standard	WAN: LTE FDD/LTE TDD/DC-HSPA+/HSPA+/HSPA/UMTS	
	Wi-Fi/WLAN: IEEE 802.11b/g/n	
Operating frequency	LTE FDD: B1/B3/B7/B8/B20/B28 LTE TDD: B38 See **Appendix** for supported LTE channel bandwidths	
	DC-HSPA+/HSPA+/HSPA/UMTS: Band1 (2100 MHz) /Band 8 (900 MHz)	
	Wi-Fi/WLAN: 2.4 GHz	
Memory	RAM: 128 MB DDR	
	ROM: 128 MB NAND Flash	
Transmit power	LTE: Conforms to Power Class 3 Definition	
	WCDMA/HSPA/HSPA+: Conforms to Power Class 3 Definition	
	Wi-Fi/WLAN 2.4 GHz	802.11b: 14 dBm(TBD)
		802.11g: 11 dBm(TBD)
		802.11n: 10 dBm(TBD)
	Note: The value above represents a typical transmit power in Wi-Fi/WLAN mode, and may vary slightly by device.	
Receiver sensitivity	LTE: Conforms to 3GPP	
	WCDMA/HSPA/HSPA+: Conforms to 3GPP	
	Wi-Fi/WLAN 2.4 GHz	802.11b: -76 dBm@11 Mbps/-82 dBm@1 Mbps
		802.11g: -65 dBm@54 Mbps
		802.11n: -64 dBm@65 Mbps
Wi-Fi/WLAN speed	802.11b: Up to 11 Mbps	
	802.11g: Up to 54 Mbps	
	802.11n	HT20: Supports MCS0–MCS7; Up to 72.2 Mbps. HT40: Supports MCS0–MCS7; Up to 150 Mbps.

Item	Specifications	
Power consumption	<3.5 W	
Charger (Optional)	AC: 100–240 V	
	DC: 5 V, 1 A	
Battery	Type: Rechargeable lithium battery (removable)	
	Capacity: 3.8 V, 1500 mAh	
	Maximum working hours: 6 (depending on the network)	
	Maximum standby hours: 350 (depending on the network)	
External ports	Micro USB port	
	Mini-SIM card slot (2FF)	
Indicators	LED signal, battery indicators	
Buttons	Power button, Reset button	
Antenna	Built-in LTE/UMTS main antenna	
	Built-in LTE/UMTS diversity antenna	
	Built-in WLAN/Wi-Fi antenna	
Dimensions (W × D × H)	Mobile WiFi	100mm x 58mm x 14mm
	With package	112mm x 74mm x 38mm
Weight	Mobile WiFi	Approximately 72 g (including the battery)
	With package	Approximately 117 g
Temperature	Operating temperature: 0°C to 35°C	
	Storage temperature: –20°C to +60°C	
Humidity	5% to 95% (non-condensing)	

2.2.2 Software

Table 2-2 lists the software specifications.

Table 2-2 software specifications

Item	Description
SMS	• Write/send/receive short messages • Send/receive extra-long messages • Storage: Up to 500 messages can be saved in the internal memory of the E5576-320
Network connection setup	• Create, delete, or edit APN • Set up network connection
WLAN/Wi-Fi setup	• SSID broadcasting and hiding • None (Open), WEP, WPA2-PSK, and WPA/WPA2-PSK encryption • Automatic adjustment of Wi-Fi speed • Display STA status • Turn off Wi-Fi automatically • MAC address filtering • Guest SSID
Firewall setup	• Enable and disable firewall • LAN IP Filtering • Virtual Server • DMZ • UPnP
NAT setup	• CONE NAT • Symmetric NAT • ALG
DHCP setup	• Enable and disable DHCP server • Configure DHCP server address pool • Set DHCP lease time
LTE/3G/Wi-Fi auto offload (Wi-Fi Extender)	• Access WAN via LTE/3G/Wi-Fi
IPv4v6 dual stack	• DHCPv4v6 server and client • DNSv4v6 server and client • Display IPv4v6 WAN address
Others	Network connection settings: Automatic/manual network selection and registration

Item	Description
	Display network status including signal strength, carrier name, system mode, and so on
	Select network mode
	PIN management: activate/deactivate PIN, verify PIN/PUK, and modify PIN
System requirements	• Windows 7, Windows 8, Windows 8.1, Windows 10 (excluding Windows RT). Mac OS X 10.9, 10.10, 10.11 and 10.12 with latest updates • Your computer should also meet the recommended hardware requirements for the operating system installed

3 Services and Applications

3.1 Data Service

3.1.1 Wireless Modem

The E5576-320 can be used as a wireless modem when the Wi-Fi is enabled. You can directly use the default settings (or configure APN on the E5576-320's web-based management page) to set up a wireless network, after which you will be able to access the Internet.

A maximum of 16 wireless devices can access the E5576-320's 2.4 GHz Wi-Fi network at the same time.

Figure 3-1 Multi-device access via Wi-Fi and micro USB port at the same time
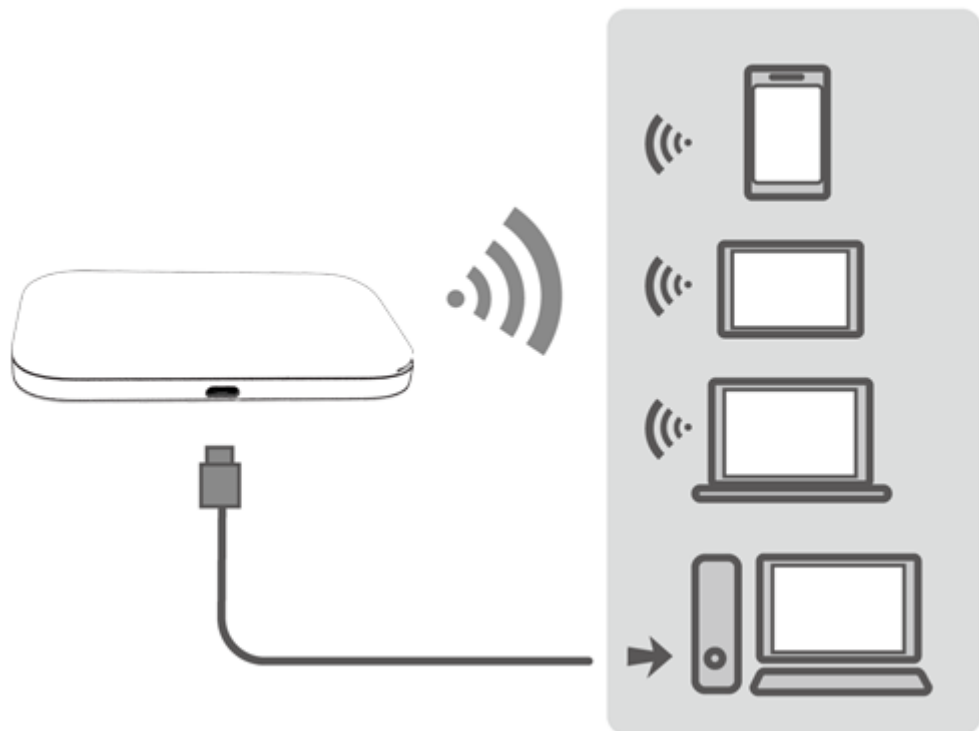
3.1.2 USB Modem

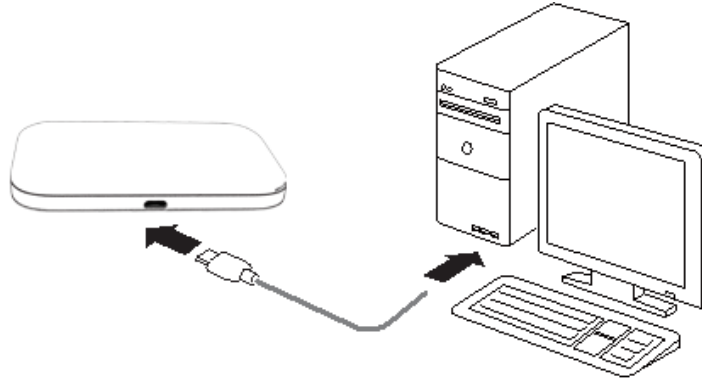After you connect the E5576-320 and a PC with a USB data cable, the E5576-320's web-based management page will display on the PC desktop automatically. You can directly use the default APN settings (or configure the APN on the page) to set up a network connection, after which you can access the Internet.

Figure 3-2 One-device access via micro USB port

3.1.3 LTE/3G/Wi-Fi Auto Offload

The E5576-320 allows you to access the Internet via LTE, 3G or Wi-Fi. When you are using the E5576-320 in areas with a Wi-Fi hotspot, for example, an airport, a cafe, a hotel, or your home, the E5576-320 switches to the Wi-Fi network to save your LTE/3G network data usage.

Figure 3-3 LTE/3G/Wi-Fi auto offload
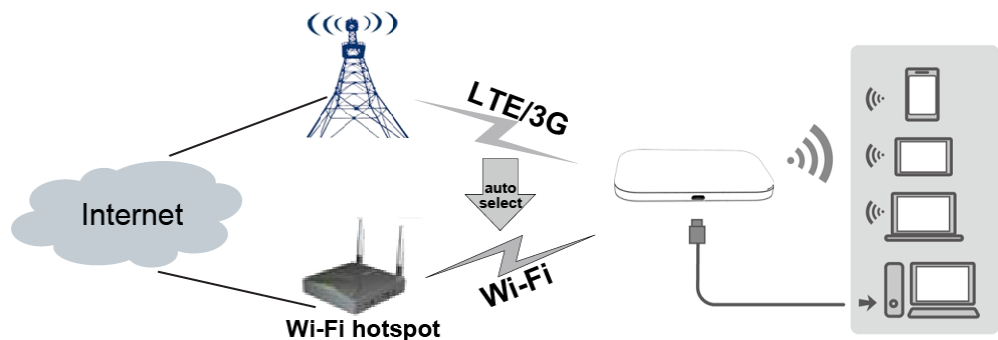
3.2 SMS

The E5576-320 supports message writing/sending/receiving. You can manage messages in the Inbox, Outbox, and Drafts on the E5576-320's web-based management page.

4 System Architecture

4.1 System Architecture

Figure 4-1 shows the system architecture of the E5576-320.

Figure 4-1 System architecture of the E5576-320
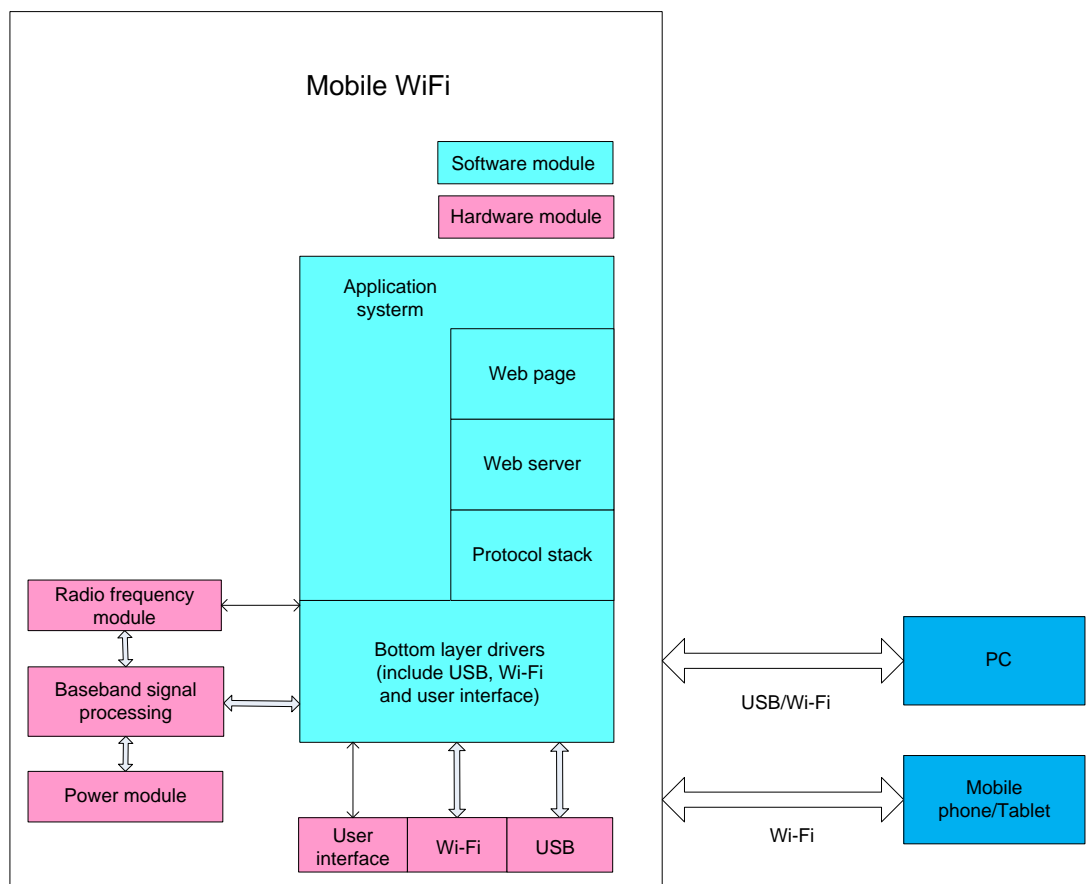
4.2 Functional Modules

1. **Radio frequency module**: Sends/receives radio signals and modulates/demodulates radio signals and baseband signals.

2. **Baseband signal processing module**: Processes LTE FDD/LTE TDD/DC-HSPA+/HSPA+/UMTS baseband signals, including:

- Modulating/demodulating LTE FDD/LTE TDD/DC-HSPA+/HSPA+/UMTS baseband signals

- Encoding/decoding LTE FDD/LTE TDD/DC-HSPA+/HSPA+/UMTS channels

3. **Bottom layer driver**: Drives peripherals, including USB devices, Wi-Fi devices, indicators, buttons and SIM cards.

4. **Protocol stack system**: Processes protocols of LTE FDD/LTE TDD/DC-HSPA+/HSPA+/UMTS and TCP/IP.

5. **Application system:** Provides SMS, PS domain service, Wi-Fi configuration, network service, web service and web-based management page. Users can configure system settings on the web-based management page.

6. **User interface:** Provides man-machine interaction, including indicators and buttons.

5 Packaging Box Items

This chapter describes the items contained in the packaging box of the E5576-320.

Table 5-1 lists the items contained in the packaging box of the E5576-320.

Table 5-1 Packaging box items of the E5576-320

Item	Quantity	Remarks
Mobile WiFi	1	Standard
Rechargeable battery (removable)	1	Standard
0.17 meter USB Cable	1	Standard
Quick Start Guide (Including safety information)	1	Standard
Charger	1	Optional
Warranty Card	1	Optional
1 meter USB Cable	1	Optional

6 Appendix

Table 6-1 Shows the LTE bandwidths supported by the E5576-320.

Band	Bandwidth					
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
1			√	√	√	√
3	√	√	√	√	√	√
7			√	√	√	√
8	√	√	√	√		
20			√	√	√	√
28		√	√	√	√	√
38			√	√	√	√

A Acronyms and Abbreviations

Numerics

3G   The Third Generation

A

AES   Advanced Encryption Standard

ALG   Application Level Gateway

APN   Access Point Name

ARPU   Average Revenue Per User

ASCII   American Standard Code for Information Interchange

D

DHCP   Dynamic Host Configuration Protocol

DMZ   Demilitarized Zone

DNS   Domain Name Server

F

FDD   Frequency Division Duplex

H

HSPA+   High Speed Packet Access Plus

HSUPA   High Speed Uplink Packet Access

HSDPA   High Speed Downlink Packet Access

I

IEEE   Institute of Electrical and Electronics Engineers

IP   Internet Protocol

L

LCD   Liquid Crystal Display

LTE   Long Term Evolution

M

MAC	Medium Access Control
Modem	Modulator Demodulator
N	
NAT	Network Address Translation
O	
OS	Operating System
P	
PC	Personal Computer
PIN	Personal Identification Number
PnP	Plug and Play
PS	Packet Switched
PUK	PIN unblocking key
S	
SIM	Subscriber Identity Module
SMS	Short Messaging Service
SOHO	Small Office Home Office
SSID	Service Set Identifier
T	
TDD	Time Division Duplex
TFT	Thin Film Transistor
U	
UMTS	Universal Mobile Telecommunications System
UPnP	Universal Plug and Play
USB	Universal Serial Bus
V	
VPN	Virtual Private Network
W	
WAN	Wireless Area Network
WEP	Wired Equivalent Privacy
Wi-Fi	Wireless Fidelity
WLAN	Wireless Local Area Network
WPA	Wi-Fi Protected Access