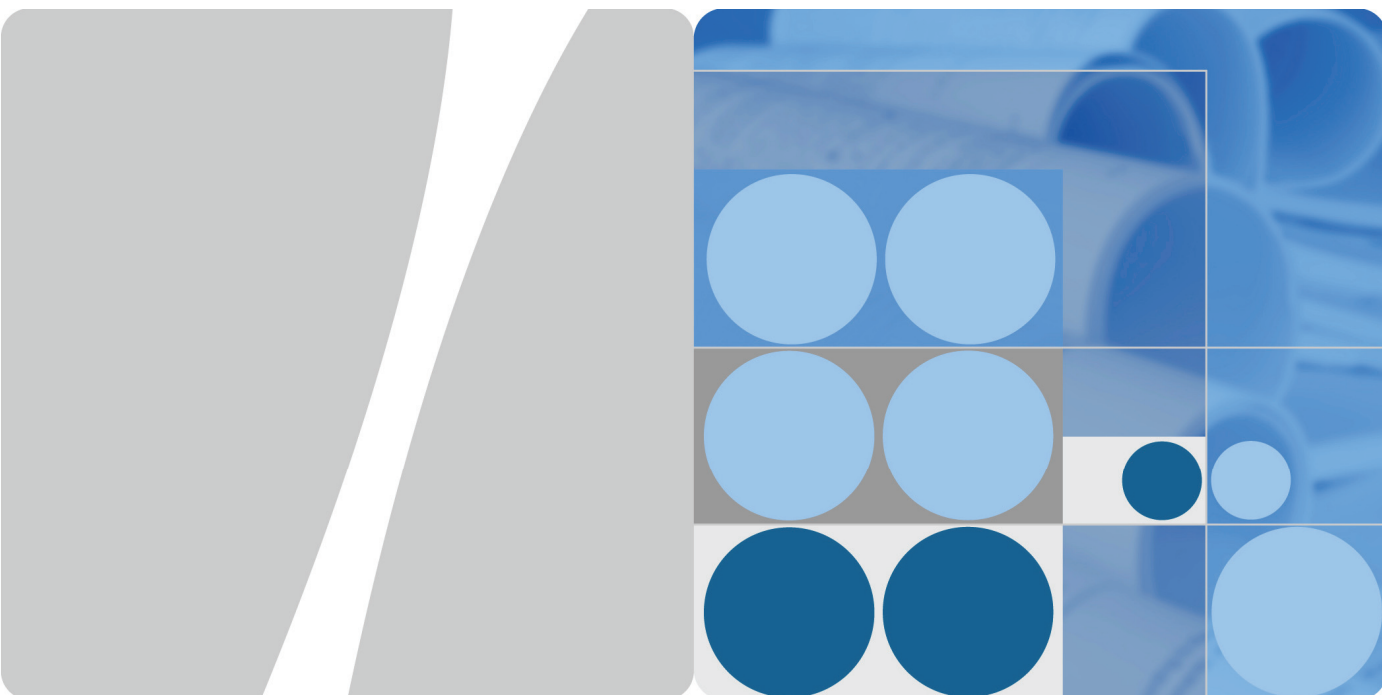


Product Description



HUAWEI E5776s-32 Mobile WiFi
V100R001

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About This Document

Summary

This document provides information about the major functions, supported services and system architecture.

The following table lists the contents of this document.

Chapter	Details
1 Overview	The supported network modes, basic services and functions, and the appearance of the product.
2 Features	The supported features and technical specifications of the product.
3 Services and Applications	The services and applications of the product.
4 System Architecture	The architecture of the product.
5 Packing List	The items contained in the package of the product.

History

Issue	Details	Date
01	First release.	2012-07-25

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1 Overview

HUAWEI E5776s-32 Mobile WiFi (hereinafter referred to as the E5776s-32) 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 supports:

- LTE: FDD 2600/2100/1800/900/800 MHz
- DC-HSPA+/HSPA+/HSPA/UMTS: 2100/1900/900/850 MHz
- EDGE/GPRS/GSM: 1900/1800/900/850 MHz

The E5776s-32 supports the following standards:

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

The E5776s-32 provides the following services:

- High-speed LTE packet data service of up to 150 Mbit/s
- High-speed DC-HSPA+ packet data service of up to 43.2 Mbit/s
- High-speed HSPA+ packet data service of up to 21.6 Mbit/s
- High-speed HSPA (HSUPA/HSDPA)/UMTS packet data service of up to 14.4 Mbit/s
- EDGE/GPRS packet data service of up to 236.8 kbit/s
- Short Message Service (SMS)

You can connect the E5776s-32 with the Wi-Fi, or connect the E5776s-32 with the USB interface of a computer. In the service area of the LTE/DC-HSPA+/HSPA+/HSPA/UMTS or EDGE/GPRS/GSM network, you can surf the Internet and send/receive messages/emails cordlessly. The E5776s-32 is fast, reliable, and easy to operate. Thus, mobile users can experience many new features and services with the E5776s-32. These features and services will enable a large number

of users to use the E5776s-32 and the average revenue per user (ARPU) of operators will increase substantially.

Figure 1-1 shows the profile of the E5776s-32.

Figure 1-1 E5776s-32 profile



2 Features

2.1 Main Features

The E5776s-32 mainly supports the following features:

- LTE (DL) data service of up to 150 Mbit/s
- LTE (UL) data service of up to 50 Mbit/s
- DC-HSPA+ (DL) data service of up to 43.2 Mbit/s
- DC-HSPA+ (UL) data service of up to 5.76 Mbit/s
- HSPA+ (DL) data service of up to 21.6 Mbit/s
- HSPA+ (UL) data service of up to 5.76 Mbit/s
- HSDPA (DL) data service of up to 14.4 Mbit/s
- HSUPA (UL) data service of up to 5.76 Mbit/s
- UMTS data service of up to 384 kbit/s
- EDGE data service of up to 236.8 kbit/s
- GPRS data service of up to 85.6 kbit/s
- PS domain data service based on LTE and UMTS
- SMS
- Sharing Data Stored on the microSD card
- Wi-Fi
- WPS
- Fast boot
- Plug and Play (PnP)
- IPv6 /IPv4 dual stack
- Display current SSID and Wi-Fi key on the screen
- Built-in DHCP Server, DNS RELAY and NAT
- Online software upgrade
- Traffic statistic
- Standard Micro USB interface
- TFT-LCD screen
- Windows XP, Windows Vista, Windows 7, MAC OS X 10.5, 10.6 and 10.7

2.2 Optional Features

Optional features refer to features that are not supported by the standard version or are disabled by default. These features can be customized according to operator or customer requirements. The E5776s-32's optional features is as follows:

LTE/3G/Wi-Fi auto offload

2.3 Technical Specifications

2.3.1 Hardware

Table 2-1 lists the hardware specifications.

Table 2-1 Hardware specifications

Item	Specifications	
Technical standard	WAN: LTE/DC-HSPA+/HSPA+/HSPA/UMTS/EDGE/GPRS/GSM	
	WLAN: IEEE 802.11b/g/n	
Operating frequency	LTE: FDD 2600/2100/1800/900/800 MHz	
	DC-HSPA+/HSPA+/HSPA/UMTS: 2100/1900/900/850 MHz	
	EDGE/GPRS/GSM: 1900/1800/900/850 MHz	
	WLAN: 2400–2452 MHz	
Internal memory	256 MB flash and 128 MB Memory	
Maximum transmitter power	LTE: Conform to Power Class 3 Definition	
	UMTS: Conform to Power Class 3 Definition	
	WLAN	802.11b: 11 dBm
		802.11g: 10 dBm
		802.11n: 8 dBm
Receiver sensitivity	LTE: Confirm to 3GPP Requirements	
	UMTS: Confirm to 3GPP Requirements	
	WLAN 802.11b: -76 dBm@11 Mbit/s	
	WLAN 802.11g: -65 dBm@54 Mbit/s	
	WLAN 802.11n: -64 dBm@65 Mbit/s	
WLAN speed	802.11b: Up to 11 Mbit/s	
	802.11g: Up to 54 Mbit/s	

Item	Specifications	
	802.11n	HT20: Support MCS0–MCS7; Up to 72.2 Mbit/s. Support MCS8–MCS15; Up to 144.4 Mbit/s. HT40: Support MCS0–MCS7; Up to 150 Mbit/s. Support MCS8–MCS15; Up to 300 Mbit/s.
Maximum power consumption	5 W	
Power supply	• AC: 100–240 V • DC: 5 V, 2 A	
Battery	• Type: Li (rechargeable and non-removable) • Capacity: 3.7 V, 3000 mAh • Maximum working time: 10 hours (depending on the network) • Maximum standby time: 500 hours (depending on the network)	
External interfaces	USB interface: Micro USB	
	Standard microSD card interface	
	SIM card: standard 6-pin SIM card interface	
	External main diversity antenna interface	
Screen	TFT-LCD	
key-press	Power switch, WPS switch, Reset switch	
Antenna	Built-in LTE/UMTS/GSM main diversity antenna	
	Built-in LTE/UMTS diversity antenna	
	Built-in WLAN antenna	
Dimensions (D × W × H)	106.4 mm×66.0 mm×15.5 mm	
Weight	< 150 g (including the battery)	
Temperature	Operating: 0°C to +35°C	
	Storage: -20°C to +60°C	
Humidity	5% to 95% (non-condensing)	

2.3.2 Software

Table 2-2 lists the software specifications.

Table 2-2 software specifications

Item	Description
SMS	• Writing/Sending/Receiving • Sending/Receiving extra-long messages • Storage: Up to 500 messages can be saved in the internal memory of the E5776s-32. • New message prompt
Network connection setup	• APN management: create, delete and edit. • Set up network connection
WLAN setup	• SSID broadcasting and hiding • Open system and shared key authentication • ASCII and HEX keys • 64/128-bit WEP encryption • 256-bit WPA-PSK and WPA2-PSK encryption • TKIP and AES encryption algorithm • TKIP and AES integrated encryption algorithm • Automatic adjustment of ratios • Display STA status • Turn off Wi-Fi automatically • WLAN MAC filter
Firewall setup	• Firewall Switch • LAN IP Filter • Virtual Server • DMZ Service • UPnP Service • WAN Ping block
NAT setup	• CONE NAT • Symmetric NAT • VPN passthrough
DHCP setup	• DHCP server enabling and disabling • Address pool of the DHCP server setup • DHCP lease time setup
Software installation	Automatic installation (PnP)
LTE/3G/Wi-Fi auto offload (optional)	• Accessing to WAN via LTE/3G or Wi-Fi • Automatic offload between LTE/3G and Wi-Fi
IPv6/IPv4 dual stack	• DHCPv6/v4 server and client • DNSv6/v4 server and client • Display IPv6/v4 WAN address

Item	Description
Other	Network connection settings: • Automatic network selection and registration • Manual network selection and registration
	Network status display: signal, operator name, system mode, and so on.
	Selection of network connection types, for example: • LTE Only • 3G Only • Auto
	PIN management: activate/deactivate PIN, PIN lock, changing PIN, unblocking by using the PUK.
System requirement	• Windows XP, Windows Vista, Windows 7 • Mac OS X 10.5, 10.6 and 10.7 • Your computer's hardware system should meet or exceed the recommended system requirements for the installed version of OS

3

Services and Applications

3.1 Data Service

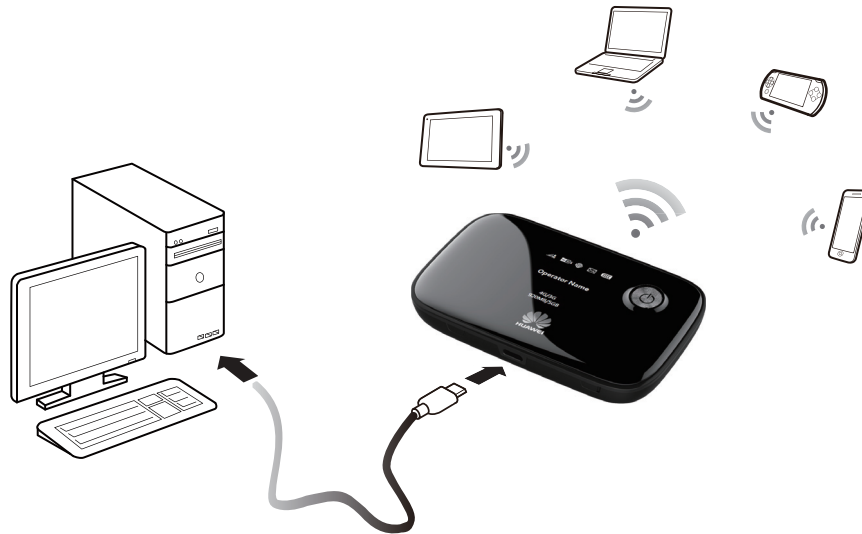
3.1.1 Wireless Modem

The E5776s-32 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 E5776s-32 WEB page) and set up a wireless network connection. Then you can access the Internet.

A maximum of ten wireless users can access the E5776s-32 at the same time. You can set up the WLAN with the access point (AP) function.

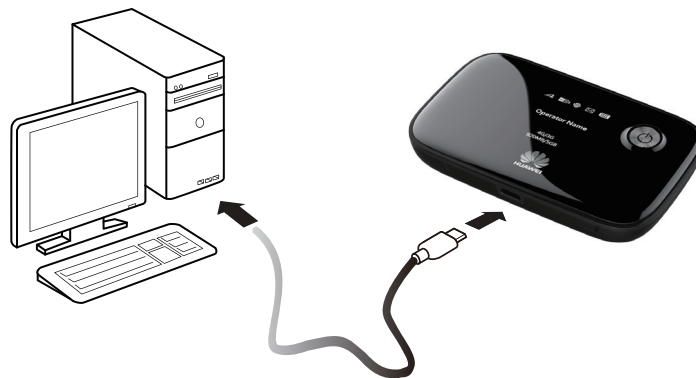
Figure 3-1 Multi-device access via Wi-Fi



Figure 3-2 Multi-device access via Wi-Fi and USB at the same time

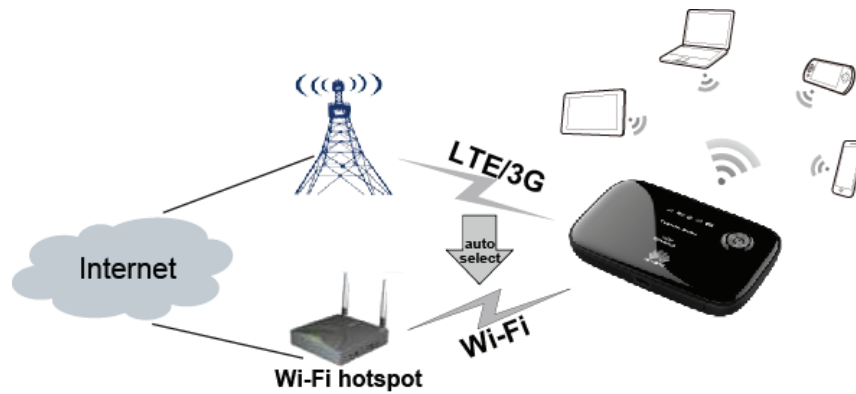
3.1.2 USB Modem

After you connect the E5776s-32 and PC with a USB data cable, the E5776s-32 driver is installed on the PC automatically and the shortcut of the web page is displayed on the PC desktops. You can directly use the default settings (or configure APN on the E5776s-32 WEB page) and set up a network connection. Then you can send or receive E-mail, access the network through wireless connection, and download files through wireless data channels.

Figure 3-3 One-device access via USB

3.1.3 LTE/3G/Wi-Fi Auto Offload (Optional)

The E5776S-32 allows you to access the Internet via LTE/3G or Wi-Fi. When you are using the E5776S-32 in areas with a Wi-Fi hotspot, for example, an airport, a cafe, a hotel, or your home, the E5776S-32 switches to Wi-Fi connection automatically, saving your LTE/3G network traffic fees.

Figure 3-4 LTE/3G/Wi-Fi auto offload

3.2 SMS

The E5776s-32 supports message writing/sending/receiving. You can manage messages through the WEB page, such as an inbox, an outbox and a draft.

3.3 Sharing Data Stored on the microSD card

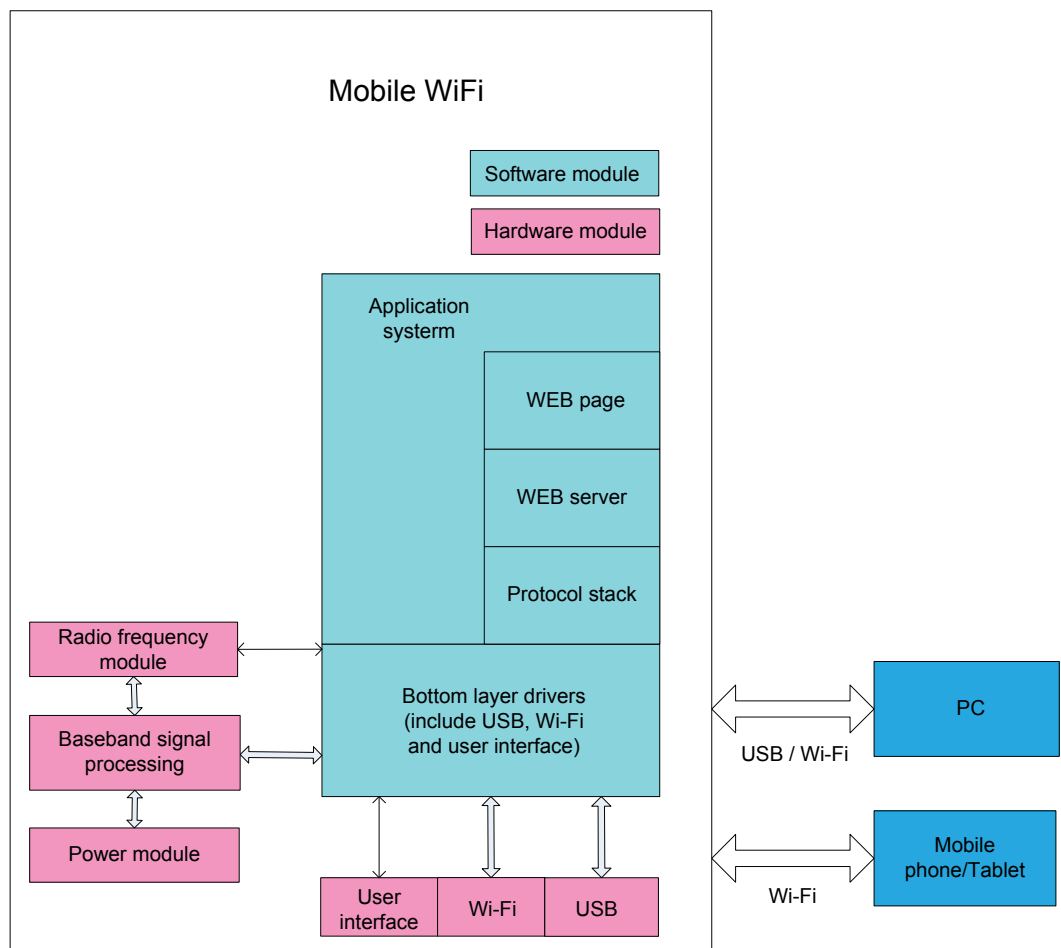
After the microSD card is inserted, you can store data on the card or use the web management page to share data stored on the card.

4 System Architecture

4.1 System Architecture

Figure 4-1 shows the system architecture.

Figure 4-1 System architecture



4.2 Functional Modules

1. **Radio frequency module:** It sends/receives radio signals and modulates/demodulates the radio frequency (RF) signals and baseband signals
2. **Baseband signal processing:** It processes LTE/DC-HSPA+/HSPA+/UMTS/EDGE/GPRS/GSM baseband digital signals, including:
 - Modulating/Demodulating LTE/DC-HSPA+/HSPA+/UMTS/EDGE/GPRS/GSM baseband signals
 - Encoding/Decoding LTE/DC-HSPA+/HSPA+/UMTS/EDGE/GPRS/GSM channel
3. **Bottom layer driver:** It drives peripherals, including a USB device, Wi-Fi devices, a screen, buttons, a SIM card and a microSD card.
4. **Protocol stack system:** It processes protocols of LTE/DC-HSPA+/HSPA+/UMTS/EDGE/GPRS/GSM and TCP/IP.
5. **Application system:** It provides management system, including SMS, PS domain service, Wi-Fi configuration, network service, WEB service and WEB page. The user can set management parameters by WEB page.
6. **User interface:** It provides human-computer interaction, including a screen and buttons.

5 Packing List

This chapter describes the items contained in the package of the E5776s-32.

Table 5-1 lists the items contained in the package of the E5776s-32.

Table 5-1 Packing list of the E5776s-32

Item	Quantity	Remarks
Mobile WiFi	1	Standard
Rechargeable Battery (irremovable, 3000 mAh)	1	Standard
USB Cable	1	Standard
Quick Start	1	Standard
Safety Information	1	Standard
Power Adapter	1	Standard
Warranty Card	1	Optional

A

Acronyms and Abbreviations

3G	The Third Generation
AES	Advanced Encryption Standard
APN	access point name
ARPU	average revenue per user
ASCII	American Standard Code for Information Interchange
DC-HSPA+	Dual Carrier High Speed Packet Access Plus
DHCP	Dynamic Host Configuration Protocol
DMZ	demilitarized zone
DNS	Domain Name Server
EDGE	Enhanced Data Rates for GSM Evolution
FDD	frequency division duplex
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
HSPA+	High Speed Packet Access Plus
HSUPA	High Speed Uplink Packet Access
HSDPA	High Speed Downlink Packet Access
IEEE	Institute of Electrical and Electronics Engineers
IP	Internet Protocol
LCD	Liquid Crystal Display
LTE	Long Term Evolution
MAC	Medium Access Control
Modem	Modulator Demodulator
NAT	Network Address Translation

OS	Operating System
PC	personal computer
PIN	personal identification number
PnP	Plug and Play
PS	packet switched
PUK	PIN unblocking key
SIM	subscriber identity module
SMS	short messaging service
SOHO	small office home office
SSID	Service Set Identifier
TFT	Thin Film Transistor
TKIP	Temporal Key Integrity Protocol
UMTS	Universal Mobile Telecommunications System
UPnP	Universal Plug and Play
USB	Universal Serial Bus
WAN	wireless area network
WEP	wired equivalent privacy
Wi-Fi	Wireless Fidelity
WLAN	wireless local area network
WPA	Wi-Fi Protected Access