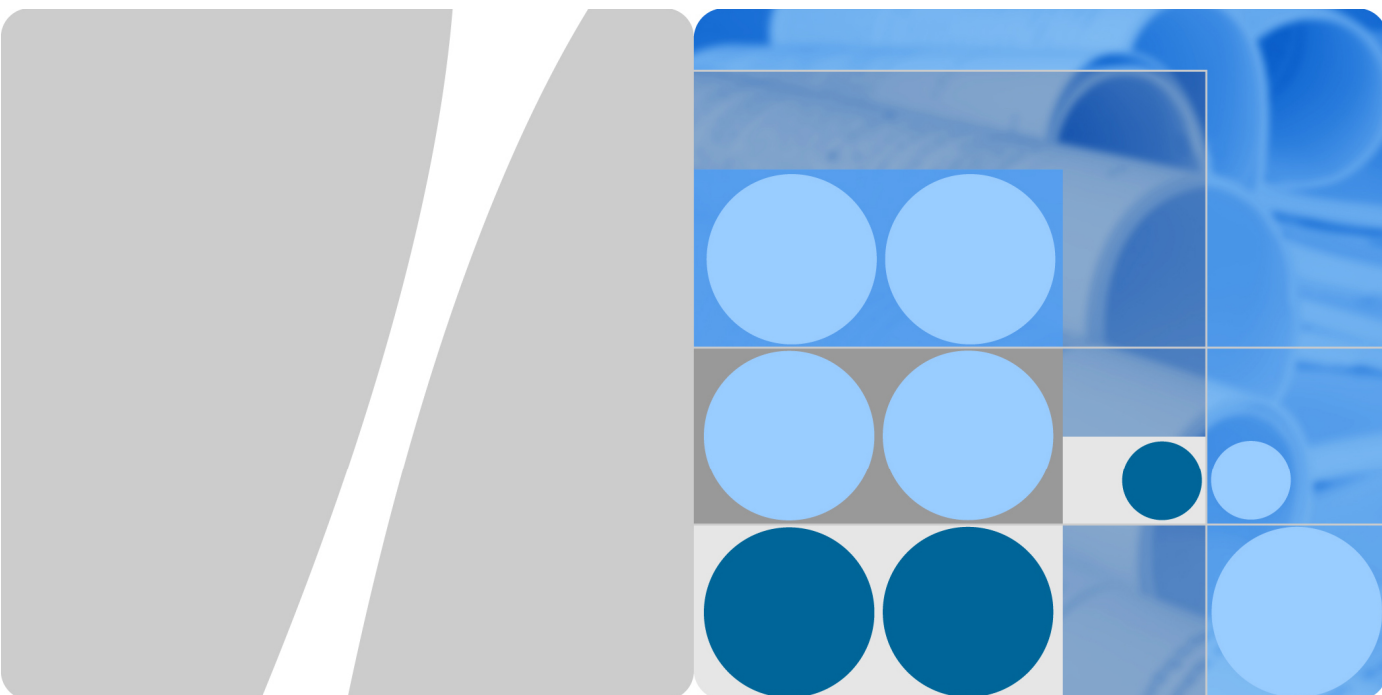# Product Description

HUAWEI E5783B-230 Mobile WiFi
V100R001

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About This Document

Summary

This document introduces the major functions, supported services, and system architecture of the HUAWEI E5783B-230 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 product box
6 Appendix	Supported LTE bandwidths

History

Version	Details	Date
01	First release	2018-08-30

Contents

1 Overview

1.1 Introduction

HUAWEI E5783B-230 Mobile WiFi (hereinafter referred to as the E5783B-230) 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 E5783B-230 to a computer using a micro USB data cable, or connect multiple devices to the E5783B-230 over Wi-Fi. In the service area of the network, the E5783B-230 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 E5783B-230.

Figure 1-1 E5783B-230 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 E5783B-230's optional features include the following:

- SIM lock

2 Features

2.1 Main Features

The E5783B-230 features:

- LTE FDD Cat4 (DL) packet data service of up to 150 Mbps
- LTE FDD Cat6 (DL) packet data service of up to 300 Mbps
- LTE FDD Cat4 (UL) packet data service of up to 50 Mbps
- LTE FDD Cat6 (UL) packet data service of up to 100 Mbps
- LTE TDD Cat4 (DL) packet data service of up to 112 Mbps
- LTE TDD Cat6 (DL) packet data service of up to 224 Mbps
- LTE TDD (UL) packet data service of up to 10 Mbps
- DC-HSPA+ (DL) packet data service of up to 42 Mbps
- DC-HSPA+ (UL) packet data service of up to 5.76 Mbps
- HSPA+ (DL) packet data service of up to 21 Mbps
- HSPA+ (UL) packet data service of up to 5.76 Mbps
- HSDPA (DL) packet data service of up to 14.4 Mbps
- UMTS (UL/DL) packet data service of up to 384 Kbps
- SMS based on LTE/UMTS
- Built-in LTE/UMTS and Wi-Fi antenna
- 2.4 GHz and 5 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 802.11a/b/g/n/ac	
Operating frequency	LTE FDD: B1/B3/B7/B8/B20/B28/B32 LTE TDD: B38/B40(2300~2395MHz) LTE CA： UL CA：Intra-Band continuous：B3+B3,B7+B7 DL CA: Intra-Band continuous： B1+B1, B3+B3, B7+B7, B38+B38, B40+B40 Intra-Band non-continuous：B3+B3, B7+B7 Intra-Band： B1+B8(B1 as PCC), B1+B20, B1+B28(B1 as PCC), B3+B7, B3+B8, B3+B20, B3+B28(B3 as PCC), B7+B8, B7+B20, B7+B28(B7 as PCC), B20+B32(B20 as PCC), B20+B38(B20 as PCC), B1+B3 See the **Appendix** for the supported LTE channel bandwidths.	
	DC-HSPA+/HSPA+/HSPA/UMTS: Band1(2100MHz)/Band8(900MHz)	
	Wi-Fi/WLAN: 2.4 GHz	
	Wi-Fi/WLAN: 5 GHz	
Memory	RAM: 256 MB DDR	
	ROM: 256 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: 12.5 dBm
		802.11g: 12 dBm
		802.11n: 11(20MHz)/11(40MHz) dBm
	Wi-Fi/WLAN 5 GHz	802.11a: 11 dBm
		802.11ac: 10(20MHz)/9(40MHz)/9(80MHz) dBm
		802.11n: 10 dBm

Item	Specifications		
	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: -76dBm@11Mbps/-82dBm@1Mbps	
		802.11g: -65dBm@54Mbps	
		802.11n: -64dBm@65Mbps	
	Wi-Fi/WLAN 5 GHz	802.11a: -65dBm@54Mbps	
		802.11ac: -64dBm@65Mbps	
		802.11n: -64dBm@65Mbps	
Wi-Fi/WLAN speed	802.11a: Up to 54Mbps		
	802.11b: Up to 11 Mbps		
	802.11g: Up to 54 Mbps		
	802.11n	HT20: Supports MCS0–MCS7; Up to 72.2 Mbps. Supports MCS8–MCS15; Up to 144.4 Mbps. HT40: Supports MCS0–MCS7; Up to 150 Mbps. Supports MCS8–MCS15; Up to 300 Mbps.	
	802.11ac: Up to 867 Mbps		
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		
	micro-SIM card slot (3FF)		
Indicators	LED signal, battery, and SMS indicators		
Buttons	Power button, RESET button		

Item	Specifications	
Antenna	Built-in LTE/UMTS main antenna	
	Built-in LTE/UMTS diversity antenna	
	Built-in Wi-Fi/WLAN antenna	
Dimensions (W × D × H)	Mobile WiFi	108mm x 62mm x 16mm
	With package	151mm x 94 mm x 66 mm
Weight	Mobile WiFi	Approximately 87 g (including the battery)
	With package	Approximately 151g
Temperature	Operating temperature: 0℃ to 35℃	
	Storage temperature: -20℃ to +70℃	
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 E5783B-230.
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 (WiFi Extender)	• Access WAN via LTE/3G or 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 requirement	• 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's hardware system should meet the recommended system requirements for the installed version of OS

3   Services and Applications

3.1 Data Service

3.1.1 Wireless Modem

The E5783B-230 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 E5783B-230's web-based management page) to set up a wireless network, after which you will be able to access the Internet.

When only the 2.4 GHZ or 5 GHz Wi-Fi network is enabled, the E5783B-230 supports the connection of up to 16 wireless devices at the same time. When both the 2.4 GHz and 5 GHz networks are enabled, up to 8 devices can connect to the 2.4 GHz Wi-Fi network and another 8 devices can connect to the 5 GHz Wi-Fi network.

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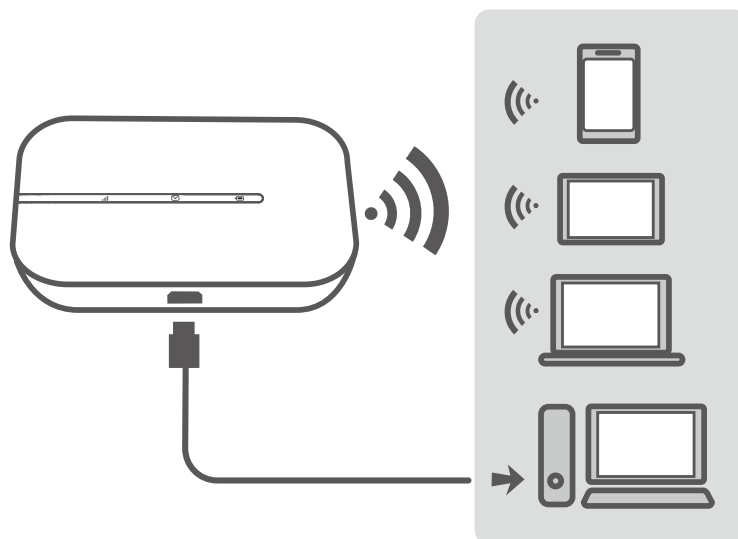
3.1.2 USB Modem

After you connect the E5783B-230 and a PC with a USB data cable, the E5783B-230'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
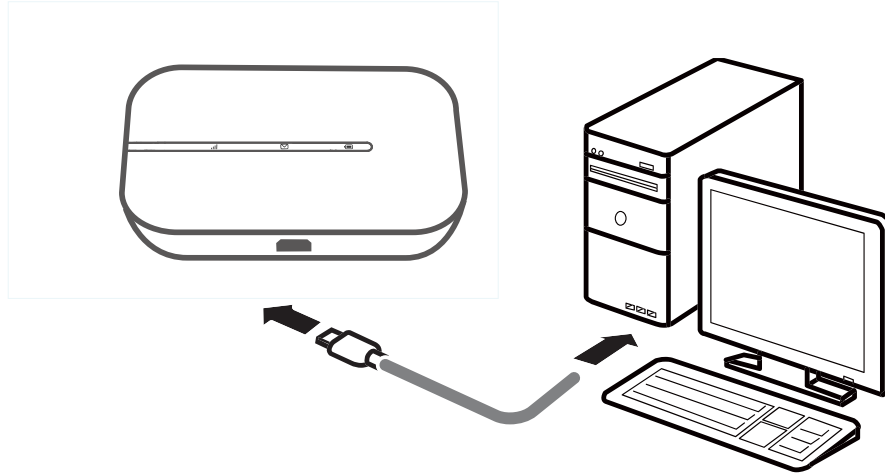
3.1.3 LTE/3G/Wi-Fi Auto Offload

The E5783B-230 allows you to access the Internet via LTE, 3G or Wi-Fi. When you are using the E5783B-230 in areas with a Wi-Fi hotspot, for example, an airport, a cafe, a hotel, or your home, the E5783B-230 switches to the Wi-Fi network automatically to save your LTE/3G network data usage.

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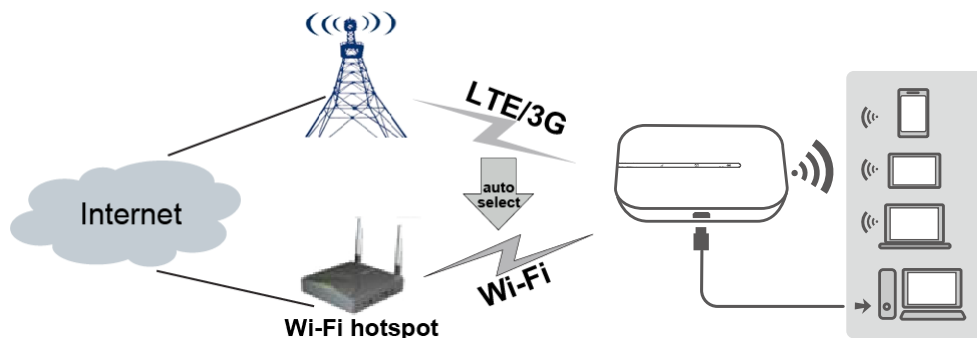
3.2 SMS

The E5783B-230 supports message writing/sending/receiving. You can manage messages in the Inbox, Outbox, and Drafts on the E5783B-230's web-based management page.

4 System Architecture
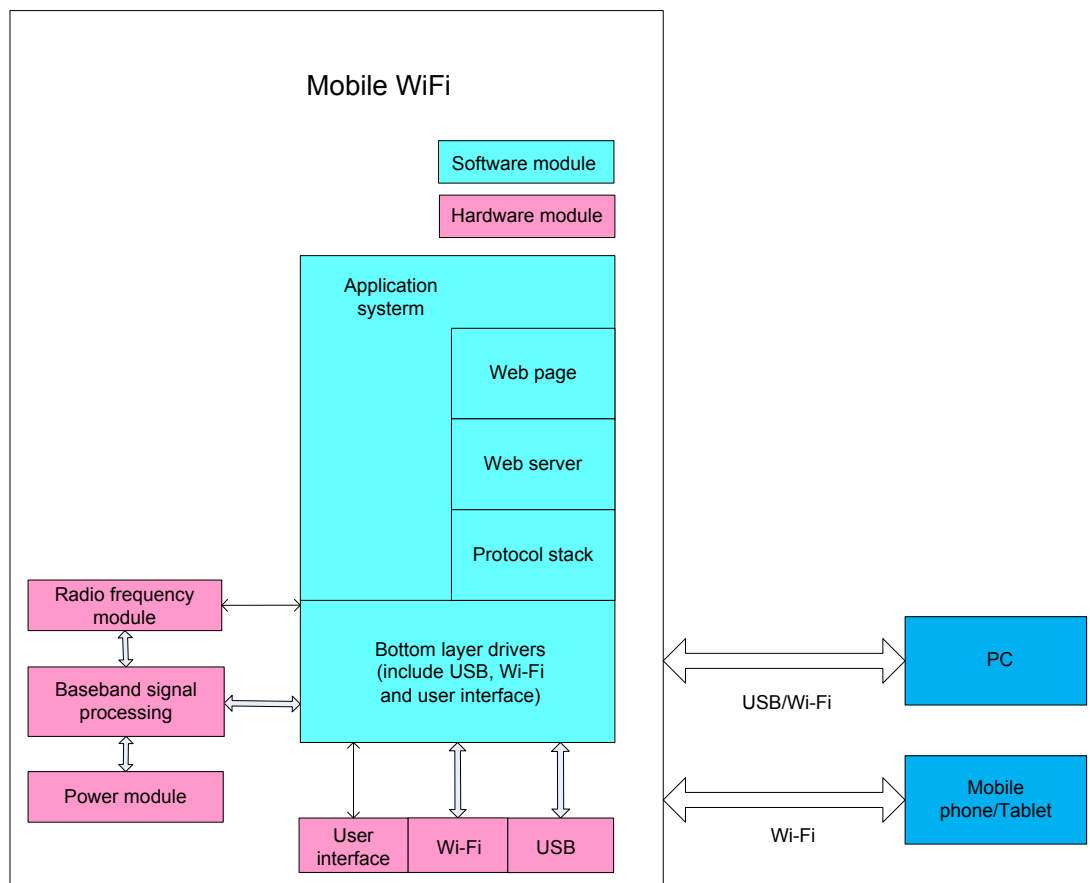
4.1 System Architecture

Figure 4-1 shows the system architecture of the E5783B-230.

Figure 4-1   ystem architecture of the E5783B-230

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 package of the E5783B-230.

Table 5-1 lists the items contained in the packaging box of the E5783B-230.

Table 5-1 Packaging Box Items of the E5783B-230

Item	Quantity	Remarks
Mobile WiFi	1	Standard
Rechargeable Battery (Movable)	1	Standard
17cm USB Cable	1	Standard
Quick Start Guide (Including safety information)	1	Standard
Charger	1	Optional
Warranty Card	1	Optional

6 Appendix

Table 6-1 Shows the LTE bandwidths supported by E5783B-230

Band	Bandwidth					
	1.4 MHz	**3 MHz**	**5 MHz**	**10 MHz**	**15 MHz**	**20 MHz**
1			√	√	√	√
3	√	√	√	√	√	√
7			√	√	√	√
8	√	√	√	√		
20			√	√	√	√
28		√	√	√	√	√
38			√	√	√	√
40			√	√	√	√

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

E

EDGE   Enhanced Data Rates for GSM Evolution

F

FDD   Frequency Division Duplex

G

GPRS   General Packet Radio Service

GSM   Global System for Mobile Communications

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