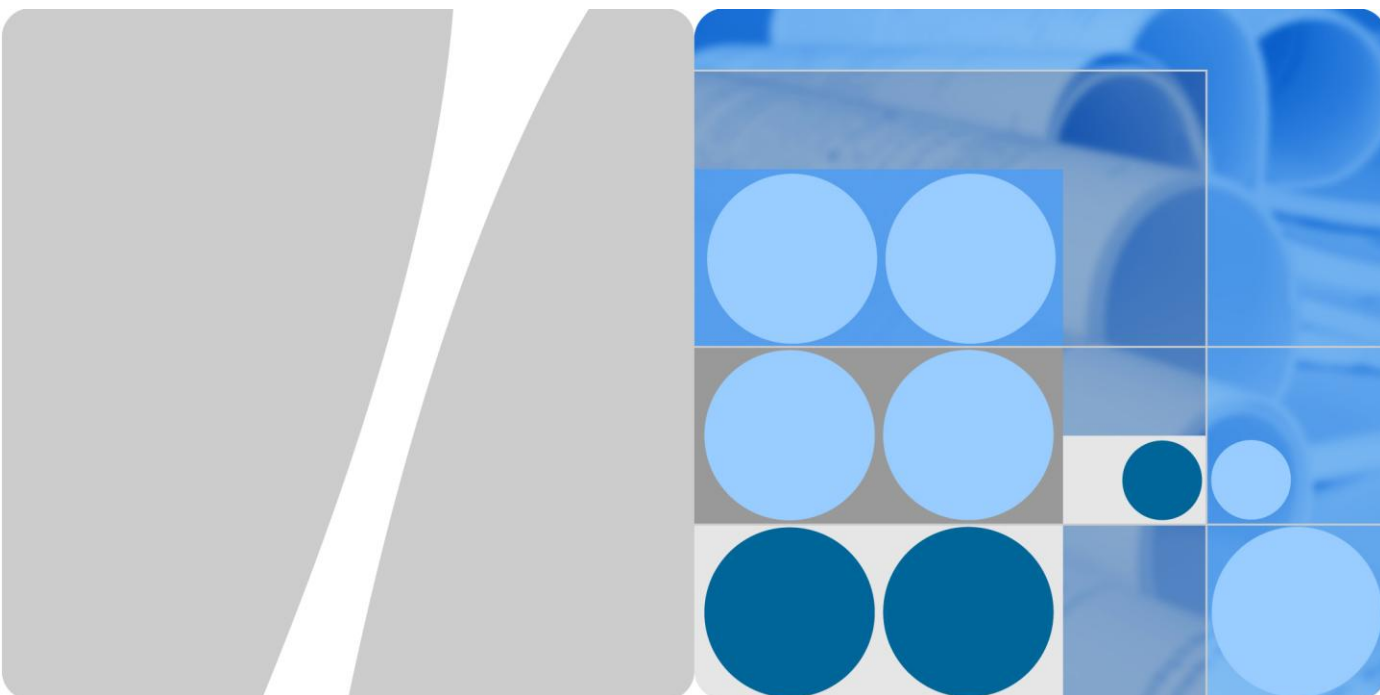# Product Description

HUAWEI E5332 Mobile WiFi
V100R001

Issue   01

Date   2012-06-18

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Technologies Co., Ltd. provides customers with comprehensive technical support and service. Please feel free to contact our local office or company headquarters.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base

Bantian, Longgang

Shenzhen 518129

People's Republic of China

Website: http://www.huawei.com

Email: mobile@huawei.com

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	2012-06-18

Contents

1 Overview

HUAWEI E5332 Mobile WiFi (hereinafter referred to as the E5332) 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. The E5332 has a branch type, E5332s-2, within Huawei. It supports:

- HSPA+/HSPA/UMTS 2100/900 MHz
- EDGE/GPRS/GSM 1900/1800/900/850 MHz

The E5332 supports the following standards:

- 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 E5332 provides the following services:

- HSPA+ packet data service of up to 21.6 Mbit/s
- 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
- UMTS/GSM Short Message Service (SMS)

You can connect the E5332 with the USB interface of a computer, or connect the E5332 with the Wi-Fi. In the service area of the HSPA+/HSPA/UMTS/EDGE/GPRS/GSM network, you can surf the Internet and send/receive messages/emails cordlessly. The E5332 is fast, reliable, and easy to operate. Thus, mobile users can experience many new features and services with the E5332. These features and services will enable a large number of users to use the E5332 and the average revenue per user (ARPU) of operators will increase substantially.

Figure 1-1 shows the profile of the E5332.

Figure 1-1 E5332 profile

2 Features

2.1 Main Features

The E5332 mainly supports the following features:

- 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 UMTS and GSM
- SMS based on CS/PS domain of GSM and UMTS
- Wi-Fi
- Built-in DHCP Server, DNS RELAY and NAT
- Plug and Play (PnP)
- Standard Micro USB interface
- LED indicators
- Built-in UMTS and WLAN high gain antenna
- Windows XP, Windows Vista, Windows 7, MAC OS X 10.5, 10.6 and 10.7

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: HSPA+/HSPA/UMTS/EDGE/GPRS/GSM	
	WLAN: IEEE 802.11b/g/n	
Operating frequency	HSPA+/HSPA/UMTS: 2100/900 MHz	
	EDGE/GPRS/GSM: 1900/1800/900/850 MHz	
	WLAN: 2400–2483.5 MHz	
Internal memory	128 MB Flash, 64 MB Memory	
Maximum transmitter power	UMTS: 24 (+1/-3) dBm	
	WLAN	802.11b: 14 (+/-3) dBm
		802.11g: 12 (+/-3) dBm
		802.11n: 7 (+/-3) dBm
Receiver sensitivity	UMTS: -106 dBm	
	WLAN 802.11b	-76 dBm@11 Mbit/s
		-82 dBm@1 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	
	802.11n: Support MCS0–MCS7; Up to 72.2 Mbit/s	
Maximum power consumption	3.5 W	
Power supply	AC: 100–240 V	
	DC: 5 V, 1 A	

Item	Specifications
Battery	Type: Li (Rechargeable)
	Capacity: 3.7 V, 1500 mAh
	Maximum working time: 5 hours
	Maximum standby time: 280 hours while Wi-Fi is off; 30 hours while Wi-Fi is often on
External interfaces	USB interface: Micro USB
	SIM card: standard 6-pin SIM card interface
	External primary antenna interface
Indicators	LED indicators: Signal, Wi-Fi, Battery, SMS
key-press	Power switch, Reset switch
Antenna	Built-in GSM/UMTS main diversity antenna
	Built-in UMTS diversity antenna
	Built-in WLAN antenna
Dimensions (D × W × H)	92.8 mm×60.0 mm×13.8 mm
Weight	about 91 g (including the battery)
Temperature	Operating: 0℃ to +35℃
	Storage: -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	• Writing/Sending/Receiving messages. • Sending/Receiving extra-long messages. • Storage: Up to 500 messages can be saved in the internal memory of the E5332. • New message prompt.
Network connection setup	• APN management: create, delete and edit. • Setting up network connection.

Item	Description
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 • STA management • Wi-Fi automatically closes
Firewall setup	• Firewall Switch • LAN IP Filter • Virtual Server • DMZ Service • UPnP Service • WAN Ping block
DHCP setup	• DHCP server enabling and disabling • Address pool of the DHCP server setup • DHCP lease time setup
Software installation	Automatic installation (PnP)
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: • 3G Only • 2G 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 E5332 can be used as a wireless modem when the Wi-Fi is enabled. You can access the Internet service through setting up the wireless network connection with the E5332.

A maximum of eight wireless users can access the E5332 at the same time. You can set up the WLAN with the access point (AP) function.

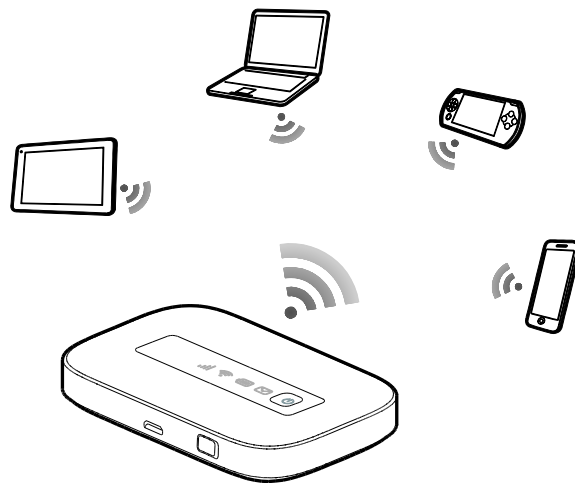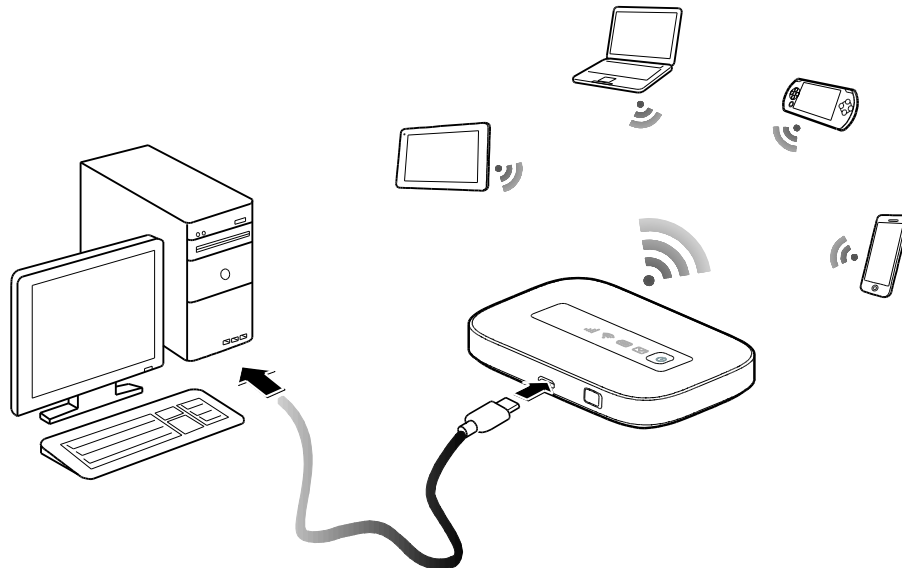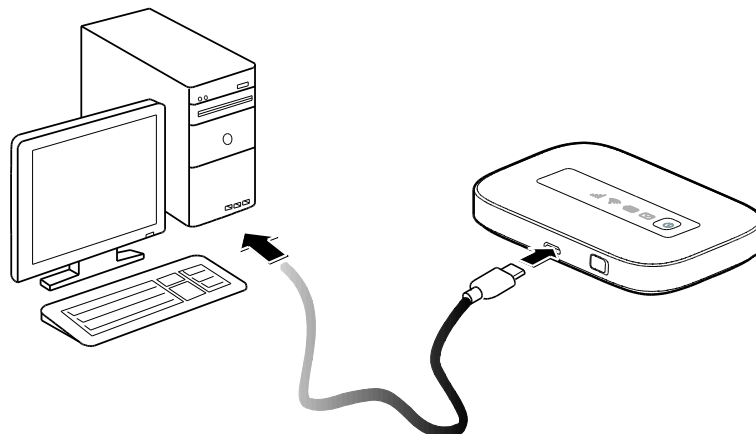**Figure 3-1** Multi-device access via Wi-Fi

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

3.1.2 USB Modem

After you connect the E5332 and PC with a USB data cable, the E5332 driver is installed on the PC automatically and the shortcut of the web page is displayed on the PC desktops. You can configure APN on the E5332 WEB page (or directly use the default settings) 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.

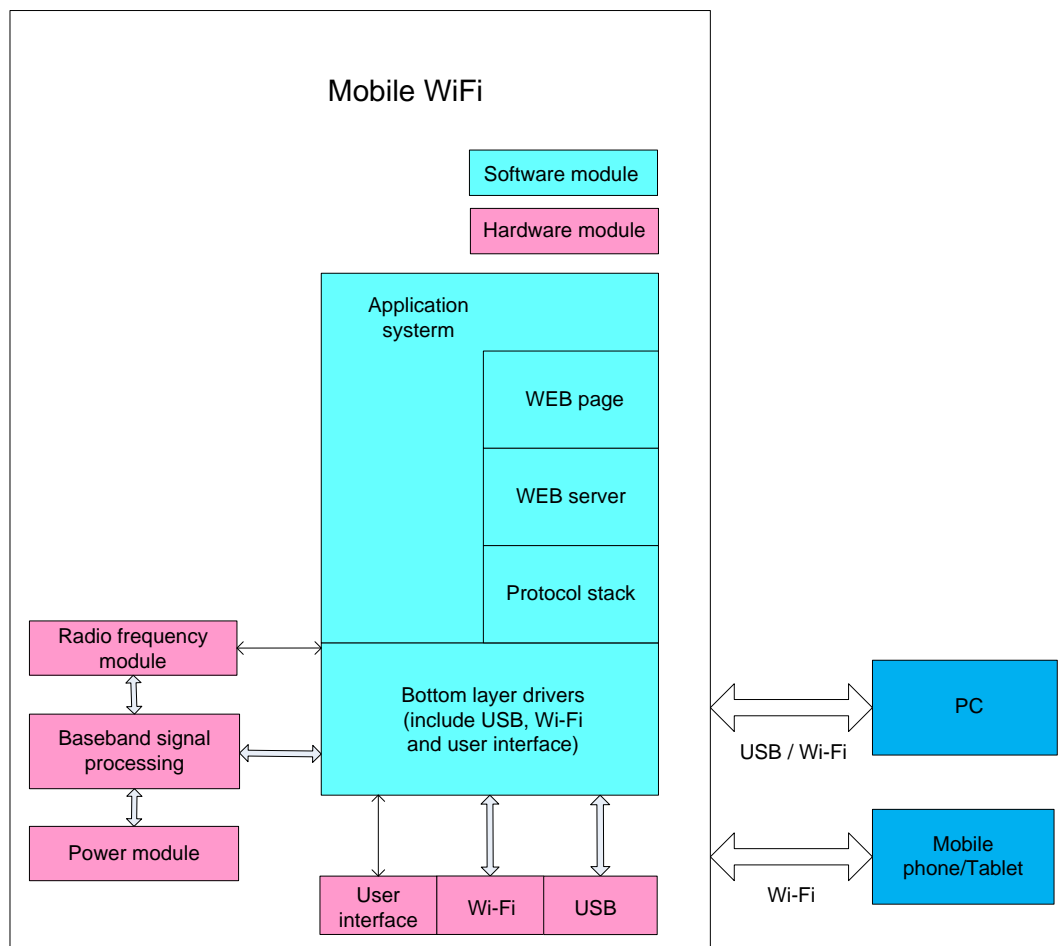**Figure 3-3** One-device access via USB

3.2 SMS

The E5332 supports message writing/sending/receiving. You can manage messages through the WEB page, such as an inbox, an outbox and a draft.

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 HSPA+/HSPA/UMTS/EDGE/GPRS/GSM baseband digital signals, including:

   - Modulating/Demodulating HSPA+/HSPA/UMTS baseband signals
   - Modulating/Demodulating EDGE/GPRS/GSM baseband signals
   - Encoding/Decoding HSPA+/HSPA/UMTS channel
   - Encoding/Decoding EDGE/GPRS/GSM channel

3. **Bottom layer driver**: It drives peripherals, including USB device, Wi-Fi device, indicator, button and SIM card.

4. **Protocol stack system**: It processes protocols of 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 indicators and button.

5 Packing List

This chapter describes the items contained in the package of the E5332.

Table 5-1 lists the items contained in the package of the E5332.

Table 5-1 Packing list of the E5332

Item	Quantity	Remarks
Mobile WiFi	1	Standard
Rechargeable Battery (1500 mAh)	1	Standard
USB Cable	1	Standard
Quick Start	1	Standard
Safety Information	1	Standard
Power Adapter	1	Optional
Warranty Card	1	Optional
External primary antenna(TS-9)	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
CS	circuit switched
DHCP	Dynamic Host Configuration Protocol
DMZ	demilitarized zone
DNS	Domain Name Server
EDGE	Enhanced Data Rates for GSM Evolution
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
LED	light emitting diode
MAC	Medium Access Control
Modem	Modulator Demodulator
OS	Operating System
PC	personal computer
PIN	personal identification number

PS   packet switched

PUK   PIN unblocking key

SIM   subscriber identity module

SMS   short messaging service

SOHO   small office home office

SSID   Service Set Identifier

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