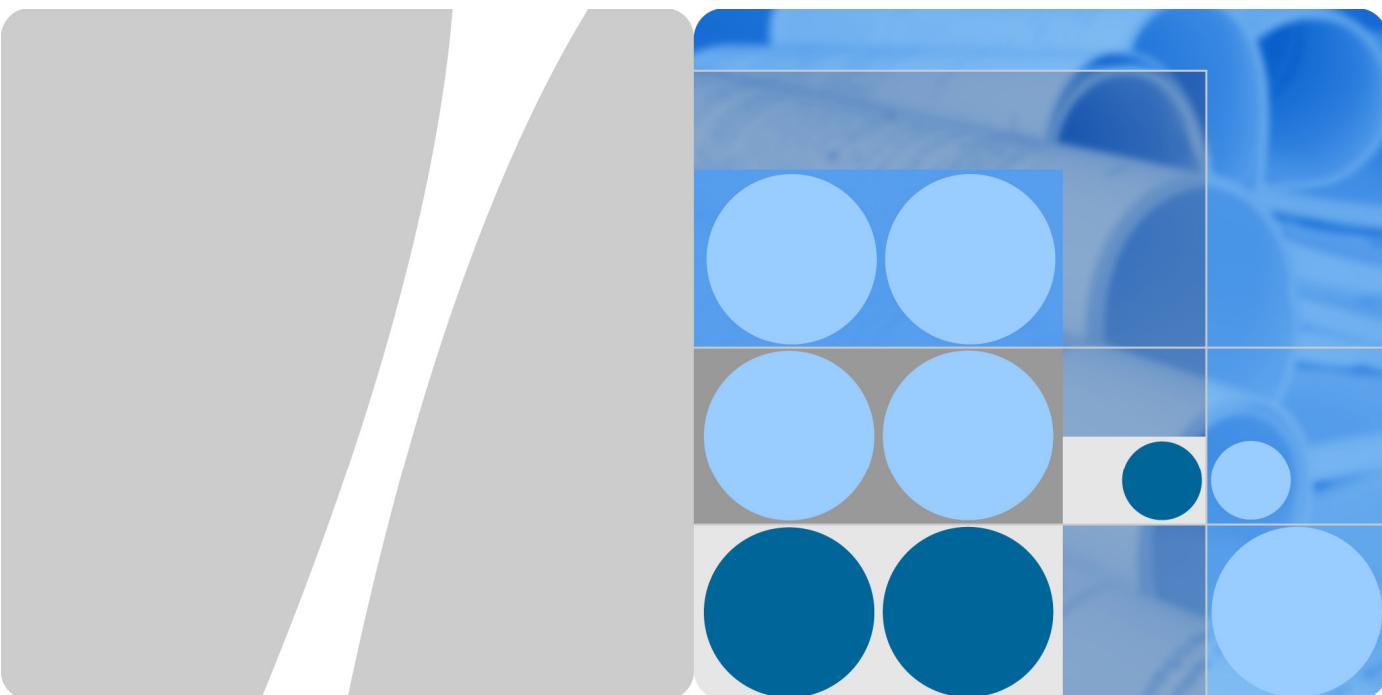# Product Description

HUAWEI E5336s-2 Mobile WiFi
V200R001

Issue 01

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HUAWEI TECHNOLOGIES CO., LTD.

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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.	2013-09-14

Contents

1 Overview

1.1 Brief Introduction

HUAWEI E5336s-2 Mobile WiFi (hereinafter referred to as the E5336s-2) 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 E5336s-2 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 E5336s-2 provides the following services:

- HSPA+ packet data service
- HSPA/UMTS packet data service
- EDGE/GPRS packet data service
- Short Message Service (SMS)

You can connect the E5336s-2 with the USB interface of a computer, or connect the E5336s-2 with the Wi-Fi. In the service area of the HSPA+/HSPA/UMTS or EDGE/GPRS/GSM network, you can surf the Internet and send/receive messages/emails cordlessly. The E5336s-2 is fast, reliable, and easy to operate. Thus, mobile users can experience many new features and services with the E5336s-2. These features and services will enable a large number of users to use the E5336s-2 and the average revenue per user (ARPU) of operators will increase substantially.

Figure 1-1 shows the profile of the E5336s-2.

Figure 1-1 E5336s-2 profile

1.2 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 E5336s-2's optional feature is as follows:

IPv6/IPv4 dual stack (optional)

2 Features

2.1 Main Features

The E5336s-2 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/GSM
- SMS based on UMTS and GSM
- Built-in UMTS and WLAN high gain antenna
- Micro Secure Digital Memory (microSD) Card
- SIM lock
- Wi-Fi
- Menu-style LCD UI
- Five-second fast boot
- 3G/Wi-Fi auto offload
- Support for HUAWEI Mobile WiFi App
- Press and Play
- IPv6/IPv4 dual stack (optional)
- Built-in DHCP Server, DNS RELAY and NAT
- Online software upgrade
- Traffic statistic
- WPS
- Standard Micro USB interface
- HiLink features (Driverless, Zero installation)
- TFT-LCD screen
- 2D Barcode easy connection

- Windows XP SP3, Windows Vista SP1/SP2, Windows 7, Windows 8 (does not support Windows RT), MAC OS X 10.6, 10.7 and 10.8 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: 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: 2400MHz～2483.5MHz	
Internal memory	128 MB Flash, 64 MB DDR SDRAM	
Maximum transmitter power	UMTS: 24 (+1/-3) dBm	
	WLAN	802.11b: 14 (+/-3) dBm
		802.11g: 11 (+/-3) dBm
		802.11n: 9 (+/-3) dBm
Receiver sensitivity	UMTS: Confirm to 3GPP Requirements	
	WLAN	802.11b: -76 dBm@11 Mbit/s
		802.11g: -65 dBm@54 Mbit/s
		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	
Battery	Type: Li (rechargeable)	
	Capacity: 3.7 V, 1500 mAh	

Item	Specifications
	Maximum working time: 5–6 hours (depending on the network)
	Maximum standby time: 300 hours (depending on the network)
External interfaces	Micro USB interface
	Standard microSD card interface
	Standard 6-pin SIM card interface
Screen	TFT-LCD
Key-press	Power switch, MENU switch, Reset switch
Antenna	Built-in UMTS/GSM main antenna
	Built-in UMTS diversity antenna
	Built-in WLAN antenna
Dimensions (H × W × D)	14.5 mm×93.2 mm×60.0 mm
Weight	about 90 g (including the battery)
Temperature	Operating: 0℃ to +35℃
	Storage: -20℃ to +60℃
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 • Sending/Receiving extra-long messages • Storage: Up to 500 messages can be saved in the internal memory of the E5336s-2. • 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 • 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 • ACL Service • DMZ Service • UPnP Service
NAT setup	• CONE NAT • Symmetric NAT • ALG • 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)

| Item	Description
3G/Wi-Fi auto offload	• Accessing to WAN via 3G or Wi-Fi • Automatic offload between 3G and Wi-Fi
IPv6/IPv4 dual stack (optional)	• DHCPv6/v4 server and client • DNSv6/v4 server and client • Display IPv6/v4 WAN address
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 • Auto
	PIN management: activate/deactivate PIN, PIN lock, changing PIN, unblocking by using the PUK.
System requirement	• Windows XP SP3, Windows Vista SP1/SP2, Windows 7, Windows 8 (does not support Windows RT) • Mac OS X 10.6, 10.7 and 10.8 with latest upgrades • 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 E5336s-2 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 E5336s-2 Web page) and set up a wireless network connection. Then you can access the Internet.

A maximum of ten wireless users can access the E5336s-2 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 and USB at the same time
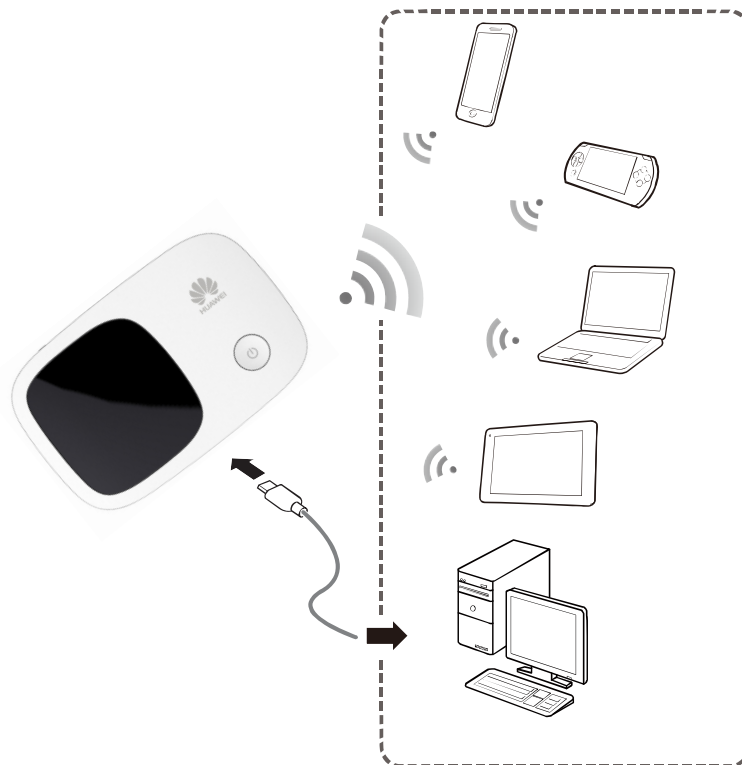
3.1.2 USB Modem

After you connect the E5336s-2 and PC with a USB data cable, the Web page is displayed on the PC desktops automatically. You can directly use the default settings (or configure APN on the E5336s-2 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 3-2 One-device access via USB
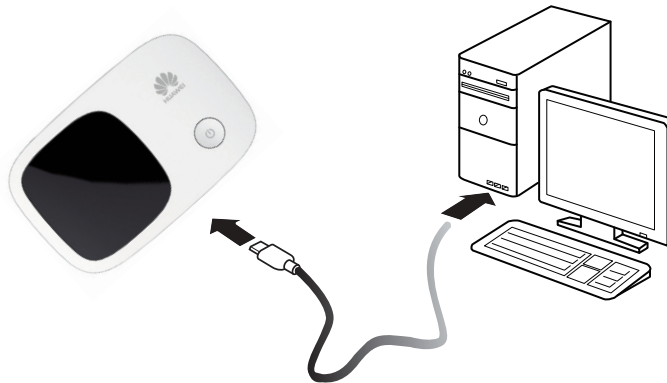
3.1.3 3G/Wi-Fi Auto Offload

The E5336s-2 allows you to access the Internet via 3G or Wi-Fi. When you are using the E5336s-2 in areas with a Wi-Fi hotspot, for example, an airport, a cafe, a hotel, or your home, the E5336s-2 switches to Wi-Fi connection automatically, saving your 3G network traffic fees.

After the function is enabled, a maximum of five wireless users can access the E5336s-2 at the same time.

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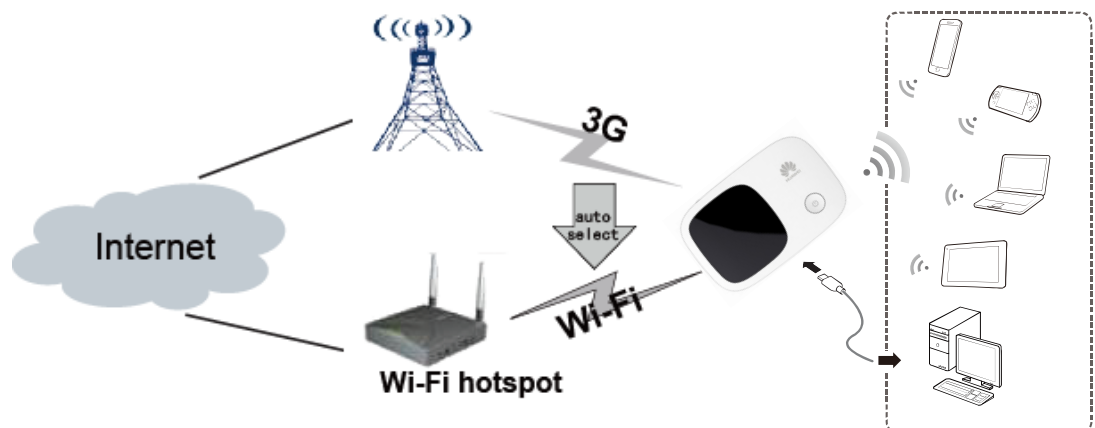
3.2 SMS

The E5336s-2 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.

3.4 Menu-Style LCD UI

The E5336s-2 provides a menu-style LCD UI. Press the menu button to display the menus, and then use the menu and power buttons to select or confirm an option. You can browse the information on the LCD or configure settings. For example, you can scan a 2D barcode on the E5336s-2's LCD to connect your device to the Internet or another 2D barcode to download the HUAWEI Mobile WiFi App, turn on or off the automatic switchover between 3G and Wi-Fi Internet access modes, and turn on or off the WPS function.

Figure 3-4 shows the menu-style LCD UI. This figure is for your reference only. The actual UI may vary.

Figure 3-4 Menu-style LCD UI
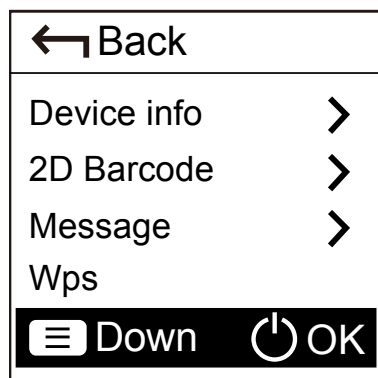
3.4.1 Scanning a 2D Barcode to Connect to the Internet

If you are using an Android device and has the HUAWEI Mobile WiFi App installed, you can quickly connect your device to the E5336s-2 to access the Internet by scanning a 2D barcode on the E5336s-2's LCD.

3.4.2 Scanning a 2D Barcode to Download the HUAWEI Mobile WiFi App
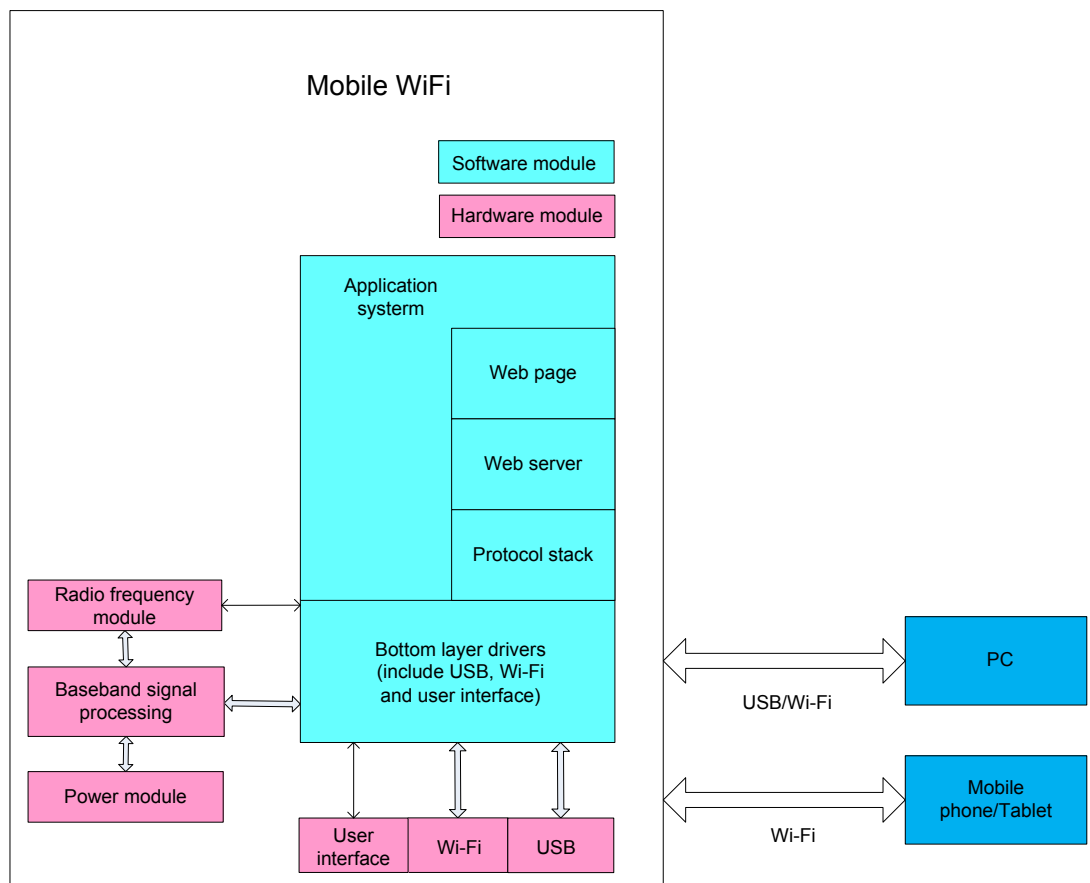
You can scan a 2D barcode on the E5336s-2's LCD to download the HUAWEI Mobile WiFi App to your Android devices.

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

    *   Modulating/Demodulating HSPA+/UMTS/EDGE/GPRS/GSM baseband signals

    *   Encoding/Decoding 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 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 E5336s-2.

Table 5-1 lists the items contained in the package of the E5336s-2.

Table 5-1 Packing list of the E5336s-2

Item	Quantity	Remarks
Mobile WiFi	1	Standard
Rechargeable Battery (1500 mAh)	1	Standard
USB Cable (17 cm)	1	Standard
Quick Start	1	Standard
Safety Information	1	Standard
Power Adapter	1	Optional
Warranty Card	1	Optional

A Acronyms and Abbreviations

3G	The Third Generation
ACL	access control list
AES	Advanced Encryption Standard
ALG	application level gateway
APN	access point name
ARPU	average revenue per user
ASCII	American Standard Code for Information Interchange
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
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