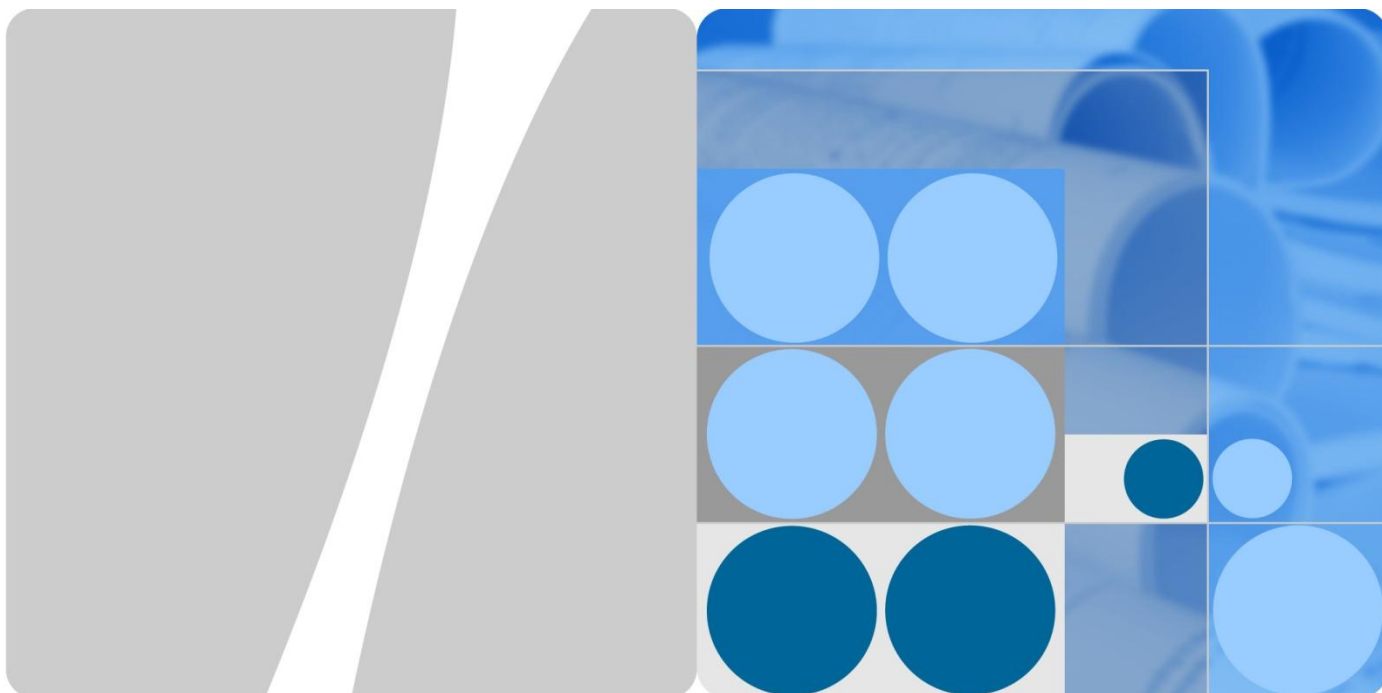


# Product Description



HUAWEI E8372 LTE Wingle  
V100R001

**Issue** 02  
**Date** 2015-03-17

HUAWEI TECHNOLOGIES CO., LTD.



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## Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base  
Bantian, Longgang  
Shenzhen 518129  
People's Republic of China

Website: <http://consumer.huawei.com/en/>

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## About This Document

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### Summary

This document provides information about the major functions, supported services, and technical references of HUAWEI E8372 LTE Wingle (hereinafter referred to as the E8372).

The following table lists the contents of this document.

Chapter	Describes
1 Overview	The supported network modes, basic services and functions, and the appearance of the E8372.
2 Features	The supported features and technical specifications of the E8372.
3 Services and Applications	The services and applications of the E8372.
4 Technical Reference	The technical references of the E8372.
5 Packing List	The items contained in the package of the E8372.
6 Acronyms and Abbreviations	The acronyms and abbreviations mentioned in this document.

## History

Issue	Details	Date
01	Initial draft completed.	2014-11-05
02	Add 700 MHz (B17) Operating frequency	2015-01-04

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# 1 Overview

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HUAWEI E8372 LTE Wingle (hereinafter referred to as the E8372) is a high-speed packet access product. E8372 supports 10 Wi-Fi users to connect to the wireless network at the same time. It is a multi-mode wireless terminal for SOHO (Small Office and Home Office) and business professionals, in order to meet the requirement from different operators, the sub-products E8372h-927, E8372h-510 and E8372h-511 are included, which support different frequency bands, the detailed as below:

E8372h-927 support:

- LTE FDD: Band1(2100 MHz)/Band3(1800 MHz)/Band8(900 MHz)
- LTE TDD Band40(2300 MHz)
- DC-HSPA+/HSPA+/UMTS: Band1(2100 MHz)/Band8(900 MHz)
- EDGE/GPRS/GSM: Band2(1900 MHz)/Band3(1800 MHz)/Band5(850 MHz)/Band8(900 MHz)

E8372h-510 support:

- LTE FDD: Band1(2100 MHz)/Band2(1900 MHz)/Band4(AWS)/Band5(850 MHz)/Band7(2600 MHz)/Band28(700 MHz)
- DC-HSPA+/HSPA+/HSPA/UMTS: Band1(2100 MHz)/Band2(1900 MHz)/Band4(AWS)/Band5(850 MHz)
- EDGE/GPRS/GSM: Band2(1900 MHz)/Band3(1800 MHz)/Band5(850 MHz)/Band8(900 MHz)

E8372h-511 support:

- LTE FDD: Band1(2100 MHz)/Band2(1900 MHz)/Band4(AWS)/Band5(850 MHz)/Band17(700 MHz),
- DC-HSPA+/HSPA+/HSPA/UMTS: Band1(2100 MHz)/Band2(1900 MHz)/Band4(AWS)/Band5(850 MHz)
- EDGE/GPRS/GSM: Band2(1900 MHz)/Band3(1800 MHz)/Band5(850 MHz)/Band8(900 MHz)

The E8372 supports the following standards:

- Long Term Evolution (LTE)
- Dual Cell 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)
- Wireless Local Area Network as WiFi AP(WLAN)

The E8372 provides the following services:

- LTE packet data service;
- DC-HSPA+ packet data service;
- HSPA+ packet data service;
- HSPA (HSUPA/HSDPA)/UMTS packet data service ;
- EDGE/GPRS packet data service;
- LTE/UMTS/GSM Short Message Service (SMS).

You can connect the E8372 with the USB interface of a computer, or with the power adapter/in-car charger also by USB interface.

In the service area of the LTE/DC-HSPA+/HSPA+/HSPA/UMTS/EDGE/GPRS/GSM network, you can surf the Internet and send/receive messages/emails cordlessly. The E8372 is fast, reliable, and easy to operate. Thus, mobile users can experience many new features and services with the E8372. These features and services will enable a large number of users to use the E8372.

Figure 1-1 shows the profile of the E8372.

**Figure 1-1** E8372 profile



# 2 Features

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## 2.1 Main Features

The E8372 mainly supports the following features:

- LTE FDD cat.4, data service of up to DL 150 Mbit/s/UL 50 Mbit/s
- DC-HSPA+ downlink data service of up to 43.2 Mbit/s
- HSPA+ downlink data service of up to 21.6 Mbit/s
- HSDPA data service of up to 14.4 Mbit/s
- HSUPA data service of up to 5.76 Mbit/s
- WCDMA data service of up to 384 kbit/s
- EDGE packet data service of up to DL 296 kbit/s, UL 236.8 kbit/s
- GPRS packet data service of up to 85.6 kbit/s
- LTE/UMTS/GSM Short Message Service (SMS).
- LTE: DL 2\*2 MIMO
- RNDIS
- Wi-Fi AP, supports up to 10 Wi-Fi users
- microSD Card
- Support Firewall, UPnP, ALG and NAT function;
- Plug and Play
- Receive diversity
- Inner antenna
- manage and settings your E8372 via WebUI
- Windows XP SP3, Windows Vista SP1/SP2, Windows 7, Windows 8, Windows 8.1(Note: Does not support windows RT), Mac OS X10.7, 10.8 and 10.9 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	LTE Rel 9 WCDMA Rel '99 plus Rel 5 HSDPA, Rel 6 HSUPA, Rel 7 HSPA+(cat 14), Rel 8 DC-HSPA+(cat 24) GSM/GPRS/EDGE Rel 99 Wi-Fi: 802.11 b/g/n
Operating frequency	LTE FDD 2600 MHz: 2500 MHz~2570 MHz(Uplink)/2620 MHz~2690 MHz(Downlink) LTE FDD 1800 MHz: 1710MHz~1785 MHz(Uplink)/1805 MHz~1880 MHz(Downlink) LTE FDD 700 MHz (B17) 704 MHz~716 MHz(Uplink)/ 734 MHz~746 MHz(Downlink) LTE FDD 700 MHz (B28) 703 MHz~748 MHz(Uplink)/758 MHz~803 MHz(Downlink) LTE FDD/DC-HSPA+/HSPA+/HSPA/UMTS 1900 MHz: 1850 MHz~1910 MHz(Uplink)/1930 MHz~1990 MHz(Downlink) LTE FDD/DC-HSPA+/HSPA+/HSPA/UMTS 2100 MHz: 1920 MHz~1980 MHz(Uplink)/2110 MHz~2170 MHz(Downlink) LTE FDD/DC-HSPA+/HSPA+/HSPA/UMTS 900 MHz: 880~915 MHz(Uplink)/925~960 MHz(Downlink) LTE FDD/DC-HSPA+/HSPA+/HSPA/UMTS 850 MHz: 824 MHz~849 MHz(Uplink)/869 MHz~894 MHz(Downlink) LTE FDD/DC-HSPA+/HSPA+/HSPA/UMTS AWS 1710MHz~1755MHz(Uplink)/2110MHz~2155MHz(Downlink) LTE TDD 2300 MHz: 2300MHz~2400MHz(Uplink/Downlink) GSM/GPRS/EDGE 850 MHz: 824 MHz~849 MHz(Uplink)/869 MHz~894 MHz(Downlink) GSM/GPRS/EDGE 900 MHz: 880 MHz~915 MHz(Uplink)/925 MHz~960 MHz(Downlink) GSM/GPRS/EDGE 1800 MHz: 1710 MHz~1785 MHz(Uplink)/1805 MHz~1880 MHz (Downlink) GSM/GPRS/EDGE 1900 MHz: 1850 MHz~1910 MHz(Uplink)/1930 MHz~1990 MHz(Downlink)

Item	Specifications
	WLAN: 2.4 GHz
Memory capability	128MB Flash, 128MB RAM
Maximum transmitter power	LTE: +23 dBm (Power Class 3)
	WCDMA/HSPA/HSPA+/DC-HSPA+: +24 dBm (Power Class 3)
	GSM/GPRS 850/900MHz: +33 dBm (Power Class 4)
	GSM/GPRS 1800/1900MHz: +30dBm (Power Class 1)
	EDGE 850/900MHz: +27dBm (Power Class E2)
	EDGE 1800/1900MHz: +26dBm (Power Class E2)
	WLAN:
Static receiver sensitivity	LTE: Compliant with 3GPP TS 36.101(R8)
	WCDMA/HSPA/HSPA+/DC-HSPA+: Compliant with 3GPP TS 25.101(R7)
	GSM/GPRS/EDGE: Compliant with 3GPP TS 05.05 (R99)
WLAN speed	802.11b: Up to 11 Mbit/s
	802.11g: Up to 54 Mbit/s
	802.11n
Power supply	5V/750mA
External interfaces	USB 2.0 High Speed
	microSD Card Slot
	standard USIM/SIM card interface
	External antenna interface
Key	Reset key
LED	Indicates the status of the E8372
Size	94 mm x 30 mm x 14 mm

Item	Specifications
Weight	< 50g
Temperature	<ul style="list-style-type: none"> <li>• Operating: -10°C to +40°C</li> <li>• Storage: -20°C to +70°C</li> </ul>
Humidity	5% to 95%

## 2.2.2 Software Specifications

Table 2-2 lists the dashboard specifications.

**Table 2-2** Software specifications

Item	Description
SMS	<ul style="list-style-type: none"> <li>• Writing/Sending/Receiving</li> <li>• Sending/Receiving extra-long messages</li> <li>• Group sending</li> <li>• Storage</li> <li>• Sorting</li> </ul>
Network connection setup	<ul style="list-style-type: none"> <li>• Profile management (Create/Delete/Edit)</li> <li>• Set up network connection</li> </ul>
WLAN setup	<ul style="list-style-type: none"> <li>• SSID broadcast and conceal</li> <li>• Open System</li> <li>• Support ASCII or HEX password</li> <li>• 64/128bits WEP Encryption</li> <li>• WPA2-PSK, AES Encryption</li> <li>• WPA/WPA2, TKIP/AES mixed Encryption Algorithm</li> <li>• auto speed adjustment</li> <li>• STA management</li> <li>• MAC Filter</li> </ul>
Firewall setup	<ul style="list-style-type: none"> <li>• supporting firewall activation and deactivation</li> <li>• supporting LAN IP address filtering</li> <li>• supporting DMZ</li> <li>• supporting UPnP</li> <li>• supporting WAN Ping block</li> </ul>
DHCP setup	<ul style="list-style-type: none"> <li>• supporting DHCP Server deactivation and activation</li> <li>• supporting DHCP Server address configuration</li> <li>• supporting DHCP lease configuration</li> </ul>
Software installation	Automatic installation for Plug and Play

Item	Description
Other	Network connection settings
	Network status display: signal, operator name, system mode, and so on.
	Selection of network connection types
	PIN management: activate/deactivate PIN, PIN lock, changing PIN, unblocking by using the PUK.
System requirement	<ul style="list-style-type: none"><li>• Windows XP SP3, Windows Vista SP1/SP2, Windows 7, Windows 8, Windows 8.1 (Note: Does not support windows RT), Mac OS X10.7, 10.8 and 10.9 with latest upgrades.</li><li>• Your computer's hardware system should meet or exceed the recommended system requirements for the installed version of OS</li><li>• Display resolution: 800 × 600 or above</li></ul>
<b>Notes:</b> PIN = personal identification number PUK = PIN unblocking key	

# 3 Services and Applications

## 3.1 Packet Data Service

### 3.1.1 USB Modem

After you connect the E8372 to a PC with the USB interface, you can send or receive E-mail, access the network through wireless connection, and download files through wireless data channels.

Figure 3-1 shows the device connecting to the network by USB.



### 3.1.2 Wireless Router (Wi-Fi AP)

As Wi-Fi AP, after the device accesses the LTE network, user can enjoy the wireless network through the connection between Wi-Fi and E8372.

E8372 supports up to 10 users to connect to the wireless network at the same time so as to achieve the wireless LAN establishment.

**Figure 3-2** shows multi-devices access the wireless work through Wi-Fi and USB.



**Figure 3-3** shows multi-devices access the wireless work through power adapter



**Figure 3-4** shows multi-devices access the wireless work through in-car charge



# 4 Technical Reference

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## 4.1 Layer 1 Specifications (Physical)

- Examples of Channel Coding and Multiplexing TR 25.944
- Physical Layer–General Description TS 25.201
- Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD) TS 25.211
- Multiplexing and Channel Coding (FDD) TS 25.212
- Spreading and Modulation (FDD) TS 25.213
- Physical Layer–Procedures (FDD) TS 25.214
- Physical Layer–Measurements (FDD) TS 25.215
- 3GPP HSDPA overall description 25.308
- 3GPP UE radio access capabilities 25.306
- LTE Physical Layer - General Description 36.201
- E-UTRAN Physical Channels and Modulation 36.211
- E-UTRAN Multiplexing and channel coding 36.212
- E-UTRAN Physical layer procedures 36.213
- E-UTRAN Physical layer – Measurements 36.214
- E-UTRAN Services provided by the physical layer 36.302

## 4.2 Layer 2 Specifications (MAC/RLC)

- MAC Protocol Specification TS 25.321
- RLC Protocol Specification TS 25.322
- E-UTRAN Layer 2 – Measurements 36.314
- E-UTRAN Medium Access Control (MAC) protocol specification 36.321
- E-UTRAN Radio Link Control (RLC) protocol specification 36.322
- E-UTRAN Packet Data Convergence Protocol (PDCP) specification 36.323

## 4.3 Layer 3 Specifications (RRC)

- UE Interlayer Procedures in Connected Mode TS 25.303
- UE Procedures in Idle Mode TS 25.304
- RRC Protocol Specification TS 25.331
- E-UTRAN Radio Resource Control (RRC) Protocol specification 36.331
- E-UTRAN User Equipment (UE) procedures in idle mode 36.304

## 4.4 Layer 3 NAS/Core Network (MM/CM)

- Architectural Requirements for Release 1999 TS 23.121
- NAS Functions Related to Mobile Station (MS) in Idle Mode TS 23.122
- Mobile Radio Interface Signaling Layer 3 – General Aspects TS 24.007
- Mobile Radio Interface Layer 3 Specification – Core Network TS 24.008
- PP SMS Support on Mobile Radio Interface TS24.011
- Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS) 24.301

## 4.5 GSM Protocol Specifications

- Mobile Radio Interface Layer 3 Specification, Radio Resource Control Protocol TS 04.18
- Mobile Station–Base Station System (MS–BSS) interface; Data Link (DL) Layer Specification TS 04.06
- Digital Cellular Telecommunications System (Phase 2+); Multiplexing and Multiple Access on the Radio Path TS 05.02
- Technical Specification Group GERAN; Channel coding TS 05.03
- Digital Cellular Telecommunications System (Phase 2+); Radio Subsystem Link Control TS 05.08
- Digital Cellular Telecommunications System (Phase 2+); Radio Subsystem Synchronization TS 05.10

## 4.6 GPRS Protocol Specifications

- Overall Description of the GPRS Radio Interface; stage 2 TS 3.64
- Mobile Radio Interface Layer 3 Specification TS 04.08
- Mobile Radio Interface Layer 3 Specification: Radio Resource Control Protocol TS 04.18
- General Packet Radio Service (GPRS): Mobile Station (MS)–Base Station System (BSS) interface; Radio Link Control/Medium Access Control (RLC/MAC) protocol TS 04.60
- Mobile Station–Serving GPRS Support Node (MS–SGSN) Logical Link Control (LLC) Layer Specification TS 04.64



- Mobile Station–Serving GPRS Support Node (MS–SGSN); Subnetwork Dependent Convergence Protocol (SNDCCP) TS 04.65
- Multiplexing and Multiple Access on the Radio Path TS 05.02
- Channel Coding TS 05.03
- Modulation TS 05.04
- Radio Transmission and Reception TS 05.05
- General Packet Radio Service (GPRS); Stage 1 TS 22.060
- Mobile Execution Environment (MexE) TS 23.057
- General Packet Radio Service (GPRS) Service description; stage 2 TS 23.060

## 4.7 General Specifications

- UE Capability Requirements TR 21.904
- UE Radio Access Capabilities TR 25.926
- Vocabulary TR 25.990
- Radio Interface Protocol Architecture TS 25.301
- Services Provided by the Physical Layer TS 25.302
- Synchronization in UTRAN Stage 2 TS 25.402

## 4.8 Performance/Test Specifications

- UE Radio Transmission and Reception (FDD) TS 25.101
- Common Test Environments for User Equipment (UE) TS 34.108
- Special Conformance Testing Functions TS 34.109
- Terminal Conformance Specification TS 34.121
- User Equipment (UE) Conformance Specification; Part 1: Protocol Conformance TS 34.123-1
- User Equipment (UE) Conformance Specification; Part 2: Protocol Conformance TS 34.123-2
- Terminal Conformance Specification, Radio Transmission and Reception (FDD) TS 34.121
- User Equipment (UE) Conformance Specification; Part 1: Protocol Conformance TS 34.123-1
- S48 User Equipment (UE) Conformance Specification; Part 2: Implementation Conformance Statement (ICS) Specification TS 34.123-2

## 4.9 USIM Specifications

- SIM and IC Card Requirements TS 21.111
- 3rd Gen. Partnership Proj Tech. Spec. Group Terminals; SIM App. Toolkit (USAT) TS 31.111

# 5 Packing List

This chapter describes the items contained in the package of the E8372.

Table 5-1 lists the items contained in the package of the E8372.

**Table 5-1** Packing list of the E8372

Item	Quantity	Remarks
HUAWEI E8372 LTE Wingle	1	Standard
Quick start	1	Standard
Safety Information	1	Standard
App Advertising Card	1	Standard
microSD card	1	Optional
USB cable	1	Optional
Power adapter	1	Optional
In-car charge	1	Optional

# 6 Acronyms and Abbreviations

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## Numerics

<b>3G</b>	The Third Generation
3GPP	3rd Generation Partnership Project

## A

APN	Access Point Name
ARPU	Average Revenue Per User

## B

BSS	Base Station Subsystem
-----	------------------------

## C

CM	Connection Management
CS domain	Circuit Switched Domain

## E

EDGE	Enhanced Data Rates for GSM Evolution
EGPRS	Enhanced GPRS

## F

FDD	Frequency Division Duplex
-----	---------------------------

## G

GERAN	GSM/EDGE Radio Access Network
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications

## H

HSUPA	High Speed Uplink Packet Access
HSDPA	High Speed Downlink Packet Access

## I

<b>IC</b>	Integrated Circuit
-----------	--------------------

## L

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LED	Light Emitting Diode
LTE	Long Term Evolution
<b>M</b>	
MAC	Medium Access Control
MexE	Mobile Execution Environment
MM	Mobility Management
Modem	Modulator Demodulator
MS	Mobile Station
MSC	Mobile Switching Center
<b>N</b>	
NAS	Non-Access Stratum
<b>O</b>	
OS	Operating System
<b>P</b>	
PIN	Personal Identification Number
PnP	Plug and Play
PP	Point-to-Point
PS domain	Packet Switched Domain
PUK	PIN Unblocking Key
<b>R</b>	
RF	Radio Frequency
RLC	Radio Link Control
RRC	Radio Resource Control
<b>S</b>	
SGSN	Serving GPRS Support Node
SIM	Subscriber Identity Module
SMS	Short Message Service
SNDCP	Subnetwork Dependent Convergence Protocol
SOHO	Small Office and Home Office
<b>T</b>	
TDD	Time Division Duplexing
TR	Technical Report
TS	Technical Specification

**U**

UE	User Equipment
UMTS	Universal Mobile Telecommunications System
USAT	USIM Application Toolkit
USB	Universal Serial Bus
USIM	UMTS Subscriber Identity Module
USSD	Unstructured Supplementary Service Data
UTRAN	UMTS Terrestrial Radio Access Network

**W**

WCDMA	Wideband Code Division Multiple Access
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