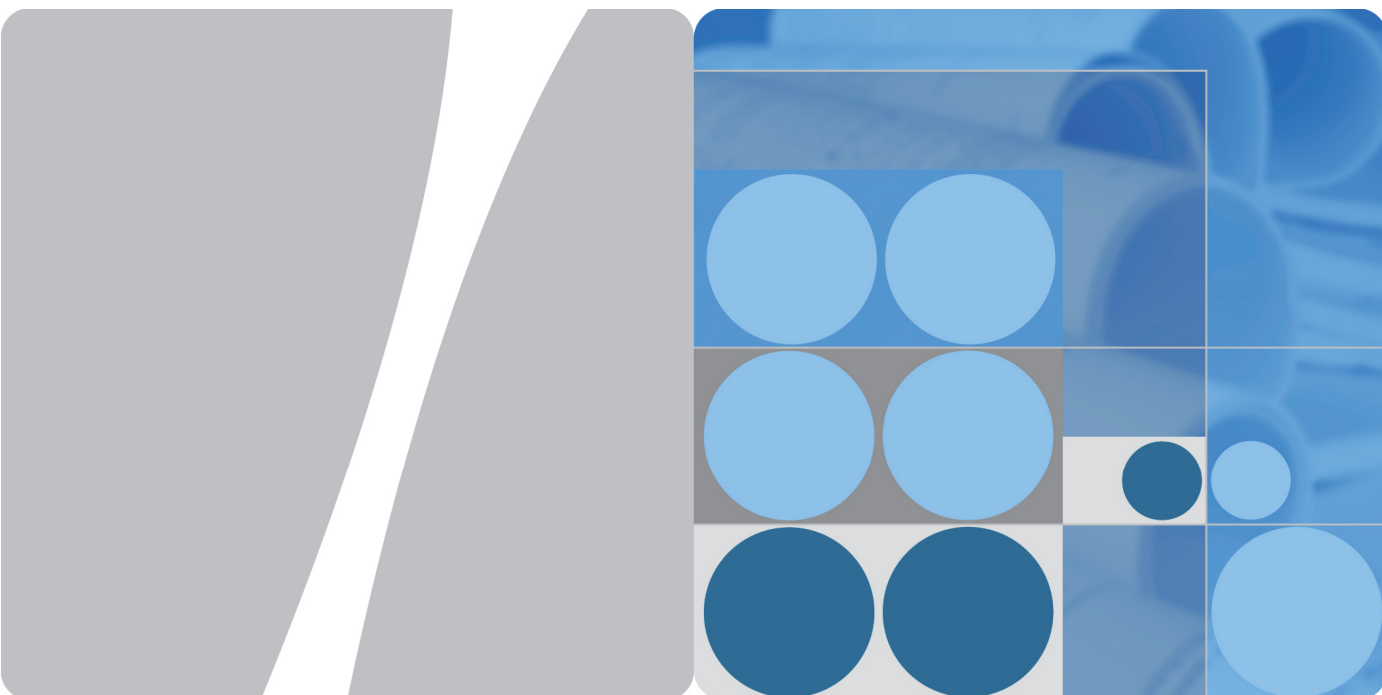


# Product Description



HUAWEI E3372h-320 LTE USB Stick

**Issue** 02  
**Date** 2019-12-20

HUAWEI TECHNOLOGIES CO., LTD.



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# About This Document

## Summary

This document provides information about the major functions, supported services, system architecture, and technical references of HUAWEI E3372h-320 LTE USB Stick

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 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 Technical Reference	The technical references of the product.
6 Packing List	The items contained in the package of the product.



### NOTE

The document is an invitation to offer but not an offer. It is intended to describe the general features and functions of a product. The features and functions of certain products may vary with the requirements of customers.

## History

Issue	Date	Details
01	2019-12-10	Initial official release.
02	2019-12-20	Second official release.

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# 1 Overview

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HUAWEI E3372h-320 LTE USB Stick as a high speed network access terminal product. 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 supported frequency bands as below:

The E3372h-320 supports the following frequency bands:

- LTE: B1/B3/B7/B8/B20/B28
- DC-HSPA+/HSPA+/HSPA/UMTS: B1/B8
- EDGE/GPRS/GSM: B2/B3/B5/B8

The E3372h-320 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)

The E3372h-320 provides the following services:

- LTE FDD packet data service
- DC-HSPA+ packet data service
- HSPA+ packet data service
- HSDPA packet data service
- HSUPA packet data service
- UMTS packet data service
- EDGE/GPRS packet data service
- LTE Short Message Service (SMS) over SGs

You can connect the E3372h-320 with the USB interface of a computer.

In the service area of the LTE/DC-HSPA+/HSPA+/UMTS/EDGE/GPRS/GSM network, you can surf the Internet and send/receive messages/emails cordlessly. The E3372h-320 is fast, reliable, and easy to operate. Thus, mobile users can experience many new features and services with the E3372h-320. These features and services will enable a large number of users to use the E3372h-320 and the average revenue per user (ARPU) of operators will increase substantially.

**Figure 1-1** E3372h-320 appearance



# 2 Features

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## 2.1 Main Features

The E3372h-320 mainly supports the following features:

- LTE FDD data service of up to DL150Mbit/s/UL50Mbit/s
- DC-HSPA+ data service of up to 42Mbit/s
- HSPA+ data service of up to 21Mbit/s (64QAM)
- HSDPA data service of up to 14.4Mbit/s
- HSUPA data service of up to 5.76Mbit/s
- WCDMA data service of up to 384kbit/s
- EDGE packet data service of up to 236.8kbit/s
- GPRS packet data service of up to 85.6kbit/s
- LTE/UMTS/GSM SMS over SGs service
- Support PnP, Plug and Play
- Windows 7, Windows 8, Windows 8.1(Does not support Windows RT), Win10, Mac OS x 10.9~10.15 with latest upgrades

## 2.2 Technical Specifications

### 2.2.1 Hardware

**Table 2-1** Hardware specifications

Item	Specifications	
Technical standard	LTE/WCDMA/HSDPA/HSUPA/HSPA+/DC-HSPA+/GSM/GPRS/EDGE	
Operating frequency	LTE: B1/B3/B7/B8/B20/B28 DC-HSPA+/HSPA+/HSPA/UMTS: B1/B8 EDGE/GPRS/GSM: B2/B3/B5/B8	
External interfaces	One USB 2.0 High Speed (Type A)	
	One mini-SIM card interface	
	Five TS-5 External antenna interface	
LED	Indicating the status of the 2G/3G/4G	
Maximum transmitter power	LTE	+23dBm (Power Class 3)
	WCDMA/HSPA/HSPA+/DC-HSPA+	+24dBm (Power Class 3)
	GSM/GPRS	B5/B8 +33dBm (Power Class 4)
		B2/B3 +30dBm (Power Class 1)
	EDGE	B5/B8 +27dBm (Power Class E2)
		B2/B3 +26dBm (Power Class E2)
Static receiver sensitivity	LTE FDD: Accorded with 3GPP TS 36.101(R9)	
	WCDMA/HSPA/HSPA+/DC-HSPA+: Compliant with 3GPP TS 25.101(R9)	
	GSM/GPRS/EDGE: Compliant with 3GPP TS 05.05 (R6)	
Maximum power consumption	<3.5W	
Dimensions (D × W × H)	88mm x 28mm x 11.5mm	
Weight	< 35g	
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 Specification

**Table 2-2** HiLink version software specifications

Item	Description
Basic specifications	<ul style="list-style-type: none"> <li>• WebUI</li> <li>• Auto connect, auto reconnect</li> <li>• Display the device information by website</li> </ul>
PIN management	PIN unlock
SMS	Support SMS read and send
Device information display	<ul style="list-style-type: none"> <li>• Connection status</li> <li>• Signal</li> <li>• Operator name</li> <li>• Network mode</li> <li>• Roam status</li> </ul>
System requirement	<ul style="list-style-type: none"> <li>• Windows 7, Windows 8, Windows 8.1 (Does not support Windows RT), Win10, Mac OS x 10.9~10.15 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>
<p><b>Notes:</b>            PIN = personal identification number            PUK = PIN unblocking key</p>	

# 3 Services and Applications

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## 3.1 Packet Data Service

The E3372h-320 supports the PS domain data service based on LTE/DC-HSPA+/HSPA+/UMTS/EDGE/GPRS. After you connect the E3372 to a PC with the USB interface, the E3372h-320 will connect the network automatically, the users can send or receive E-mail, access the network through wireless connection, and download files through wireless data channels.

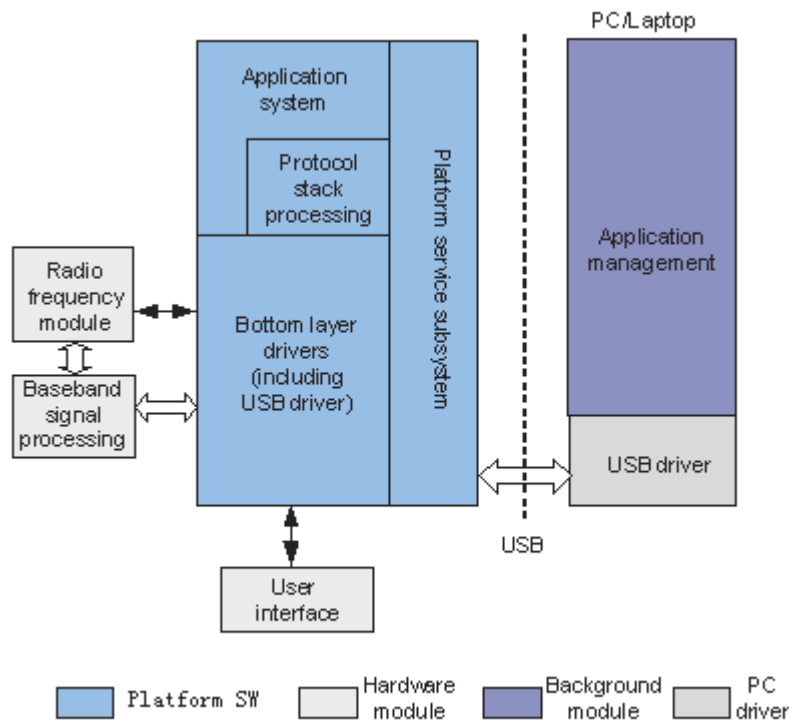
## 3.2 SMS

The E3372h-320 supports message writing/sending/receiving and group sending on GSM/EGDE/UMTS network. In LTE network supporting SMS over SGs, you can also send/receive messages on LTE. You can manage messages through the WEBUI management page.

# 4 System Architecture

## 4.1 System Architecture

Figure 4-1 System architecture



## 4.2 Functional Modules

### Radio Frequency Module

It sends/receives radio signals and modulates/demodulates the radio frequency (RF) signals and baseband signals.

### **Baseband Signal Processing**

It processes LTE/ DC-HSPA+/HSPA+/UMTS/EDGE/GPRS/GSM baseband digital signals, including:

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

### **Bottom Layer Driver**

It drives peripherals, including USB, LED and SIM/USIM.

### **Platform Service Subsystem**

It initializes programs, diagnoses the running of the system, downloads data and serves as a watchdog.

### **Protocol Stack System**

It processes protocols of LTE/ DC-HSPA+/HSPA+/UMTS/EDGE/GPRS/GSM.

### **Application System**

It sends laptop commands to the bottom layer protocol for processing and returns the value to the laptop.

Existing applications include the following:

- Call management
- Message management
- CS/PS domain service management

### **User Interface**

It provides interfaces to connect peripherals. Interfaces are for LED indicator and SIM/USIM.

### **Application Management**

Through the application window, you can set the parameters of the E3372h-320 and operate the E3372h-320.



# 5 Technical Reference

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## 5.1 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

## 5.2 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

## 5.3 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

## 5.4 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

## 5.5 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

## 5.6 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

## 5.7 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

## 5.8 Performance/Test Specifications

- User Equipment (UE) Conformance Specification; Radio transmission and reception TS 36.521
- User Equipment (UE) conformance specification; Part 1: Protocol conformance specification TS 36.523-1
- 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

## 5.9 SIM Specifications

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

3<sup>rd</sup> Generation Partnership Project .Technical Specification Group Core Network and Terminals ; Characteristics of the Universal Subscriber Identity Module (USIM) application TS 31.102

## 5.10 Safety & Health Specifications

- Safety Standards: EN 60950-1:2006+A11:2009
- Health Standards: EN 62311:2008 / EN 62209-2:2010
- RF spectrum Standards: EN 301 511,v9.0.2 / EN 301 908-1,v4.2.1 / EN 301 908-2,v4.2.1 / EN 301 908-13,v4.2.1

# 6 Packing List

Table 6-1 lists the items contained in the package of the E3372h-320.

**Table 6-1** Packing list of the E3372h-320

Item	Quantity	Remarks
HUAWEI E3372 LTE USB Stick	1	Standard
HUAWEI E3372 LTE USB Stick Quick Start	1	Standard
USB cable	1	Optional
Strap	1	Optional

# 7 Appendix

**Table 7-1** Shows the LTE bandwidths supported by the E3372h-320.

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

# A Acronyms and Abbreviations

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<b>3GPP</b>	3rd Generation Partnership Project
<b>APN</b>	Access Point Name
<b>ARPU</b>	Average Revenue Per User
<b>BSS</b>	Base Station Subsystem
<b>CM</b>	Connection Management
<b>CS domain</b>	Circuit Switched domain
<b>EDGE</b>	Enhanced Data Rates for GSM Evolution
<b>EGPRS</b>	Enhanced GPRS
<b>FDD</b>	Frequency Division Duplex
<b>GERAN</b>	GSM/EDGE Radio Access Network
<b>GPRS</b>	General Packet Radio Service
<b>GSM</b>	Global System for Mobile Communications
<b>HSPA+</b>	High-Speed Packet Access
<b>HSUPA</b>	High-Speed Uplink Packet Access
<b>HSDPA</b>	High-Speed Downlink Packet Access
<b>LED</b>	Light Emitting Diode
<b>LTE</b>	Long Term Evolution
<b>MAC</b>	Medium Access Control
<b>MexE</b>	Mobile Execution Environment
<b>MM</b>	Mobility Management
<b>Modem</b>	Modulator Demodulator
<b>MS</b>	Mobile Station
<b>MSC</b>	Mobile Switching Center
<b>NAS</b>	Non-Access Stratum

<b>OS</b>	Operating System
<b>PC/SC</b>	Personal Computer/Smart Card
<b>PIN</b>	Personal Identification Number
<b>PnP</b>	Plug and Play
<b>PP</b>	Point-to-Point
<b>PS domain</b>	Packet Switched domain
<b>PUK</b>	PIN Unblocking Key
<b>RF</b>	Radio Frequency
<b>RLC</b>	Radio Link Control
<b>RRC</b>	Radio Resource Control
<b>SGSN</b>	Serving GPRS Support Node
<b>SIM</b>	Subscriber Identity Module
<b>SMS</b>	Short Messaging Service
<b>SNDCP</b>	Subnetwork Dependent Convergence Protocol
<b>TR</b>	Technical Report
<b>TS</b>	Technical Specification
<b>UE</b>	User Equipment
<b>UMTS</b>	Universal Mobile Telecommunications System
<b>USAT</b>	USIM Application Toolkit
<b>USB</b>	Universal Serial Bus
<b>USIM</b>	UMTS Subscriber Identity Module
<b>UTRAN</b>	UMTS Terrestrial Radio Access Network
<b>WCDMA</b>	Wideband Code Division Multiple Access