CPE eA360 Series

User Guide

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Technologies Co., Ltd.

About This Document

Overview

This document describes the hardware, functions, installation, configuration, operation and maintenance (OM) of the eA360 series customer premises equipment (CPE).

Product Version

Product Name	Product Version
eA360 Series CPE	V100R001

Intended Audience

This document is intended for:

- System engineers
- Product engineers
- Technical support engineers

Issue 01 (2014-07-30)

This is the first commercial release.

Contents

1 Overview

About This Chapter

This chapter describes the functions, applications, and specifications of the product.

1.1 Product Introduction

HUAWEI eA360 is a piece of customer premises equipment (CPE) that functions as the long term evolution (LTE) wireless gateway. It implements the conversion between LTE wireless data and wired Ethernet data and supports data backhaul. The eA360 series can be used independently and deployed outdoors.

The eA360 supports the LTE R8 standards and provides the following services:

- Data services

  The eA360 series uses LTE broadband technologies to support high-speed broadband network access, data backhaul, and video surveillance.

- Small-scale local area network (LAN)

  The eA360 series can connect to external concentrators and Ethernet switches or routers to set up a LAN with multiple computers. When terminal devices on the LAN connect to the eA360 using network cables, the terminal devices can provide data services.

- Security services

  The eA360 series supports the firewall and PIN password, which protects your computers when you access the Internet.

- Firewall services

  The eA360 series supports the following firewall services:

  - Firewall enabling or disabling: enables or disables firewalls.

  - Media access control (MAC) address filtering: prevents certain MAC addresses from accessing the computers on a LAN.

  - IP address filtering: blocks certain IP addresses from accessing the local computers.

  - URL filtering: prevents computers from accessing certain URLs.

- Local and remote management and maintenance

  The eA360 series can be locally configured in the local city to implement device management and network configuration, thereby ensuring stable operation of the device.

1.2 Application Scenarios

The eA360 provides wireless broadband and wired Ethernet data services.

The eA360 is intended to be deployed in wISP network. They can also be deployed in industrial, public security and enterprise network if the performance is acceptable to the network operator.

Figure 1-1 The eA360 deployed deployed in wISP network
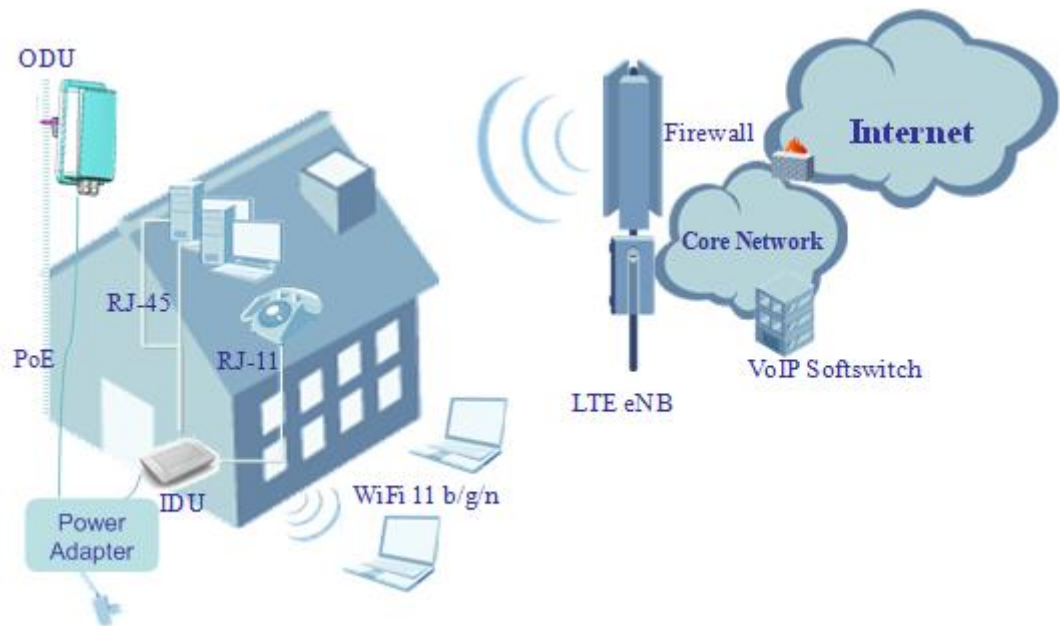
The eA360 provides a variety of data services, such as LTE-TDD wireless routing and converting LTE wireless data into wired Ethernet data, and vice versa. Figure 1-2 shows an application scenario in which the eA360 is used in private industrial networks.

Figure 1-2 The eA360 deployed in industrial private networks
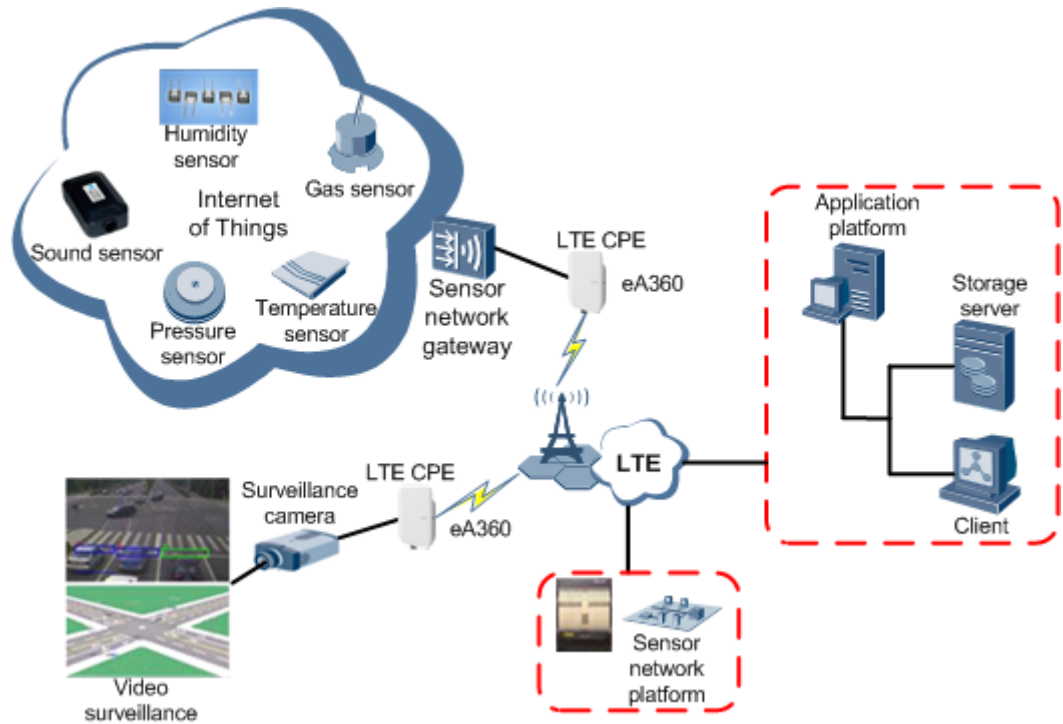
The following example describes how to use the eA360 for video monitoring.

1. Use a power adapter to supply power for the eA360 or video camera, as shown in Figure 1-3.

Figure 1-3 The eA360 connected to a video camera.
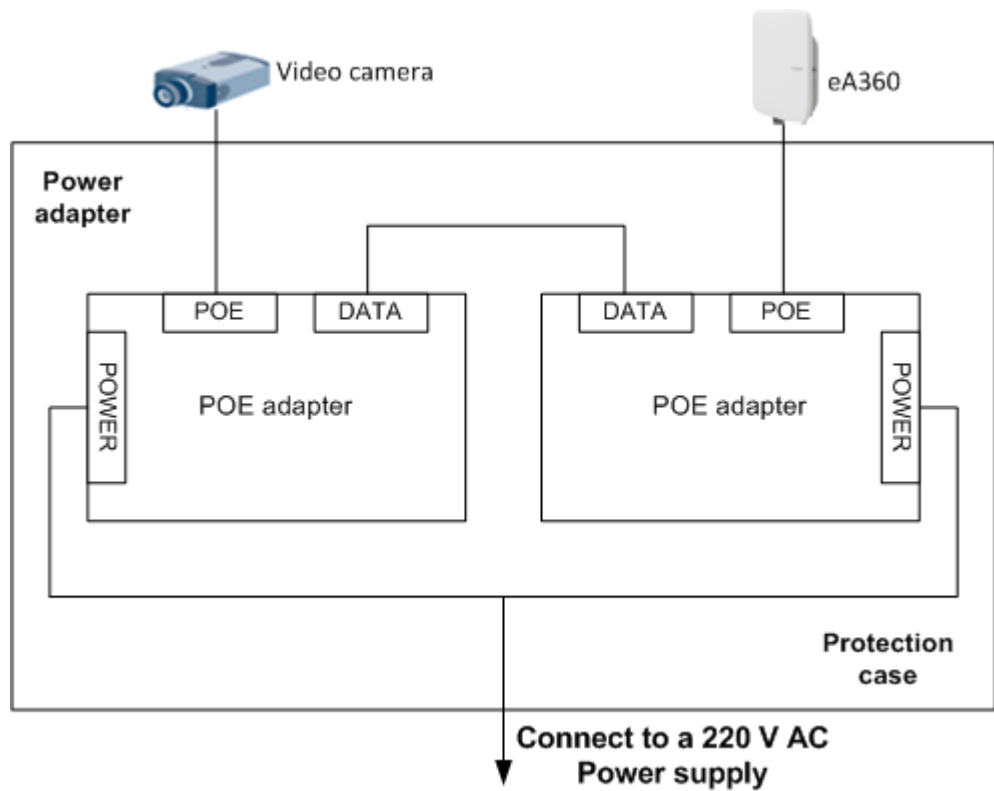
2. Use a network cable to connect the eA360 to an external device. If the eA360 connects to a single device, connect the power adapter directly to the eA360. If the eA360 connects to multiple devices, connect the power adapter to a Hub or switch and then to the eA360, as shown in Figure 1-4.

Figure 1-4 The eA360 connected to multiple devices
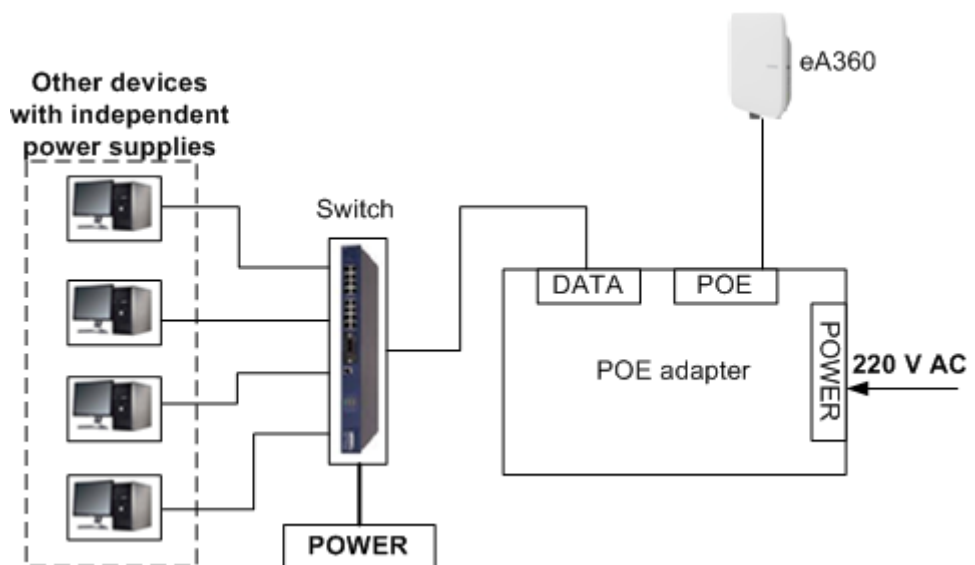
1.3 Hardware Specifications

Table 1-1 describes the technical specifications of eA360.

Table 1-1 Technical specifications of eA360

| Category	eA360s		
Technical standards	WAN: LTE 3GPP Release 9 LAN: IEEE 802.3/802.3u		
Working band	LTE	eA360-118	LTE TDD (1785 MHz to 1805 MHz)
			LTE TDD (1880 MHz to 1920 MHz)
		eA360-123	LTE TDD (2300 MHz to 2400 MHz)
			LTE TDD (2570 MHz to 2620 MHz)
		eA360-135	LTE TDD (3400 MHz to 3600 MHz)
			LTE TDD (3600 MHz to 3800 MHz)
External ports	• 1 Ethernet and voice interface (RJ45): 10/100Base-TX Ethernet, POTS and POE combined • 1 USB interface (for local maintenance only) • 1 SIM card slot		
LED indicator	• One POWER indicator • One LAN indicator • Three LTE signal strength indicators		
Transmit power	LTE	19dBm ($\pm$2) for North America of eA360-135 23dBm ($\pm$2) for other	
Receiving sensitivity	LTE	• < -100 dBm/5 MHz (eA360-160 only) • < -97 dBm/10 MHz • < -94 dBm/20 MHz	
Power consumption	• <25W when heater works • <8W when heater off		
Power supply	PoE (should be powered by CAT-5 cable line pair [1,2] and [3,6])		
Dimensions (H x W x D)	255mm $\times$220mm $\times$66mm		
Waterproof and dustproof grade	IP65		
Weight	About 1 kg (without power adapter)		

Category	eA360s
Working temperature	-40 ℃ to 60 ℃
Storage temperature	-40 ℃ to 70 ℃
Relative humidity	5% RH to 95% RH
Installation method	Mounted on utility poles or walls
Utility pole diameter	60 mm to 114 mm

Notes:

The hardware of the eA360 supports the Wlan function, but the software close the WLAN function,It doesn't display to the user ,at the same time,the user can't open the Wlan function;

The transmit power is 19+/-2dBm to the America area to meet the FCC,IC authentication.

1.4 Antenna Specifications

Table 1-2 lists the eA360 antenna's specifications.

Table 1-2 eA360s LTE antenna specifications

Item	eA360-118	eA360-123	eA360–135
Band	1785 MHz to 1805 MHz (Band 62)	2300 MHz to 2400 MHz (Band 40)	3400 MHz to 3600 MHz (Band 42)
	1880 MHz to 1920 MHz (Band 39)	2570 MHz to 2620 MHz (Band 38)	3600 MHz to 3800 MHz (Band 43)
Input impedance	50 ohm		
SWR	< 2		
Gain	12±1 dBi	13±1dBi	16±1dBi
Polarization	cross Dual polarization		
Radiation pattern	Directional antenna		

2 Hardware

About This Chapter

This chapter describes the hardware and cables of the eA360s.

2.1 eA360 Hardware

This section describes the appearance, ports, and indicators of the eA360.

Appearance

Figure 2-1 shows the appearance of the eA360.

Figure 2-1 eA360 appearance

Panel

The panel of the eA360 provides the Power over Ethernet (PoE) port, SIM card maintenance window, and indicator.

Figure 2-2 shows the panel of the eA360.

Figure 2-2 Panel of the eA360
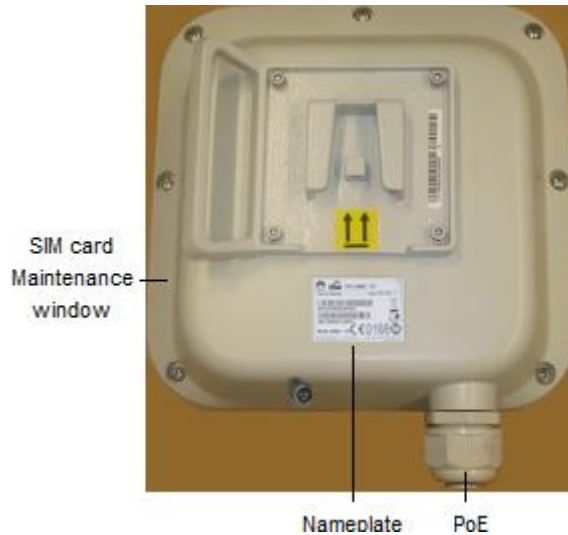
Table 2-1 lists the ports of the eA360.

Table 2-1 Ports on the eA360

Name	Description
PoE	PoE port
SIM card maintenance window	Consists of the SIM card slot and USB port. • A SIM card is inserted into the SIM card slot. • The USB port is used for internal commissioning.
Nameplate	Displays the identifier information of a vendor

2.2 eA360 Cables

2.2.1 PoE Network Cable

The power over ethernet (PoE) network cable is an unshielded network cable that is used to connect the PoE port of the eA360. The PoE network cable connects to an RJ45 connector at both ends.

Background Information

The PoE network cable transmits data signals to the eA360 and provides DC power for the equipment.

Technical Specifications

Table 2-2 lists the technical specifications of the PoE network cable.

Table 2-2 Technical specifications of the PoE network cable

Name	Description
Color	Black
Outer diameter	6.8 mm
Working temperature range	–40°C to 75°C

3 Installation

About This Chapter

This section describes how to install the eA360s.

3.1 Installation Preparation

Before you install the eA360, unpack and inspect the equipment delivered to the site and prepare the related tools. The product must be installed by professional, and the distance should keep at least 20 meters to the roadways or in locations where it can be shown that the ground power level of -44 dBm in the A or B blocks or -55 dBm in the C or D blocks in part 27 will not be exceeded at the nearest road location.

Prerequisites

Perform the following operations to inspect the goods delivered to the site:

1. Unpack the equipment, count the total number of items based on the packing list attached to each packing case, and check whether each packing case is intact.
2. Check whether the models and quantities are consistent with those specified on the **Packing List**.
3. Record the serial number of the CPE.
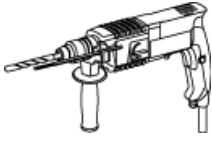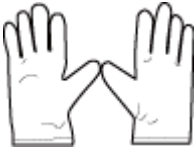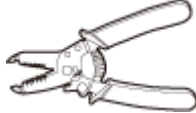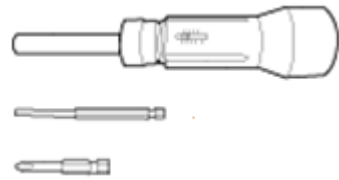
Precautions

- Power on an CPE within 24 hours after unpacking it. If you power off an CPE for maintenance, restore power to the CPE within 24 hours.
- To avoid direct lightning, CPE must be installed in the protection angle of 45 degrees below a separate lightning rod, or protection angle of 45 degrees below a surrounding high-rise building.

Installation Tools

Table 3-1 lists the tools used for installing the eA360.

Table 3-1 Installation tools

Hammer drill	ESD gloves	Vacuum cleaner
Heat gun	Phillips screwdriver (M3–M6)	Flat-head screwdriver (M3–M6)
Claw hammer	Utility knife	Wire stripper
Power cable crimping tool	Cable cutter	Adjustable wrench (open end ≥32 mm)
Vise	Hex key (M5,M6)	Phillips torque screwdriver
Measuring tape	Multimeter	Marker (diameter ≤ 10 mm)

3.2 Installation Procedure

3.2.1 Mounting on a Utility Pole

Prerequisites

The eA360 and mounting components are ready, as shown in Figure 3-1 and Table 3-2.

Figure 3-1 eA360 and mounting components

Table 3-2 Mounting components

No.	Name
1	Mounting frame
2	Hose clamp
3	CPE

Context

Figure 3-2 shows the flowchart for mounting the eA360 on a utility pole without an angle adjusting component.
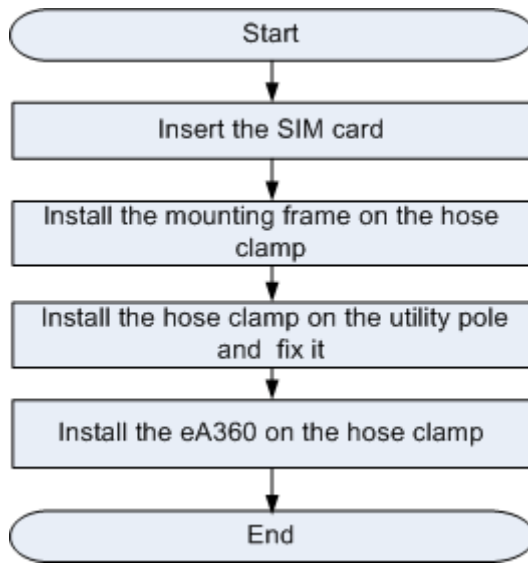
Procedure

Step 1 Open the SIM card maintenance window of the eA360 and insert the SIM card, as shown in
Figure 3-3.

Figure 3-3 Installing the SIM card
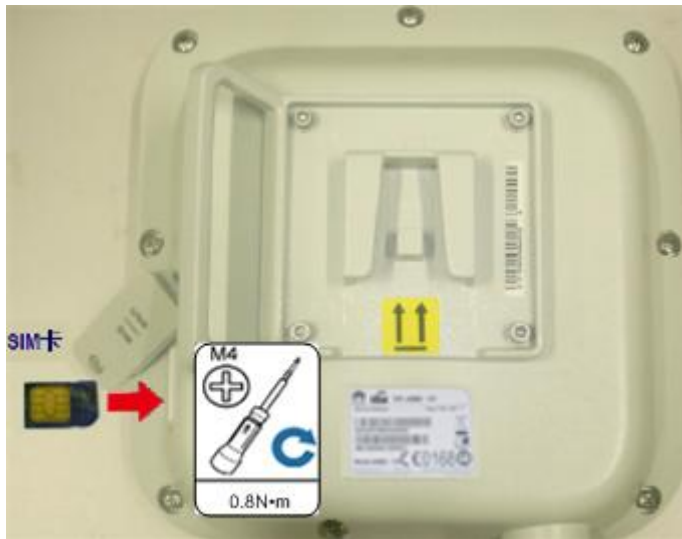
Step 2 Insert the hose clamp to the wall-mounting frame, as shown in Figure 3-4.

Figure 3-4 Inserting the hose clamp to the wall-mounting frame
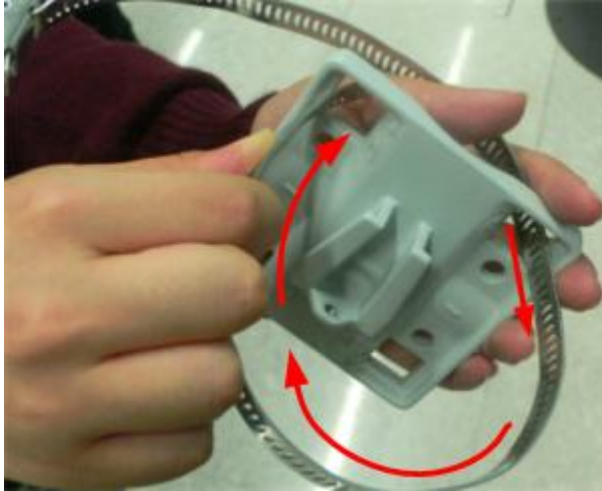
🕮 **NOTE**

Insert the end of the hose clamp that does not contain a screw into the square hole on top of the wall-mounting frame on the back of the unit. When half of the hose clamp passes through the square hole, slightly kink the protruding part and insert it into the other square hole on the front of the unit.

Step 3 Install the hose clamp with the wall-mounting frame on the utility pole, and use a M6 hex key to rotate the screw on the hose clamp to adjust the length of the hose clamp until it is correctly connected, as shown in Figure 3-5.

⚠️ **NOTICE**

If the hose clamp is too long, cut off the extra part. Apply anti-rust oil to the cut in case it gets rusty.

Figure 3-5 Adjusting the length of the hose clamp
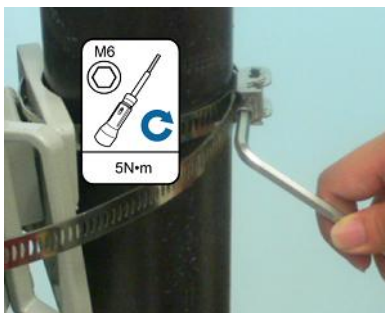
Step 4 Fix the eA360 on the wall-mounting frame through the dovetail groove, as shown in Figure 3-6.

Figure 3-6 Installing the eA360 on the wall-mounting frame

Step 5 Tighten the wall-mounting frame's screw, as shown in Figure 3-7.

Figure 3-7 Tightening the screw

----End

3.2.2 Mounting on the Wall

Prerequisites

The eA360 and mounting components are ready, as shown in Figure 3-8 and Table 3-3.

**Figure 3-8** eA360 and wall-mounting components

Table 3-3 Wall-mounting components

No.	Name
1	Wall-mounting screw
2	Mounting frame
3	CPE

Context

Figure 3-9 shows the flowchart for mounting the CPE on the wall.

Figure 3-9 Wall-mounting flowchart
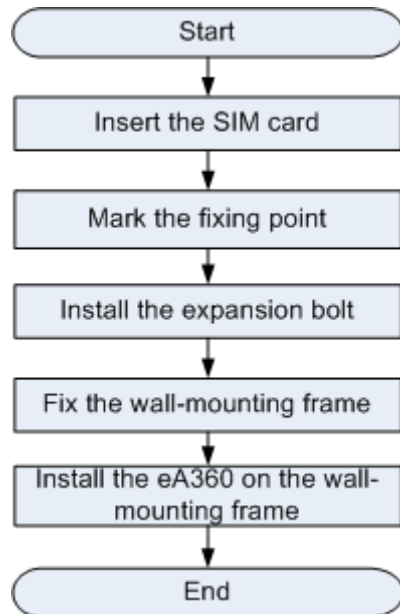
Procedure

Step 1 Open the SIM card maintenance window of the eA360 and insert the SIM card, as shown in Figure 3-10.

Figure 3-10 Installing the SIM card
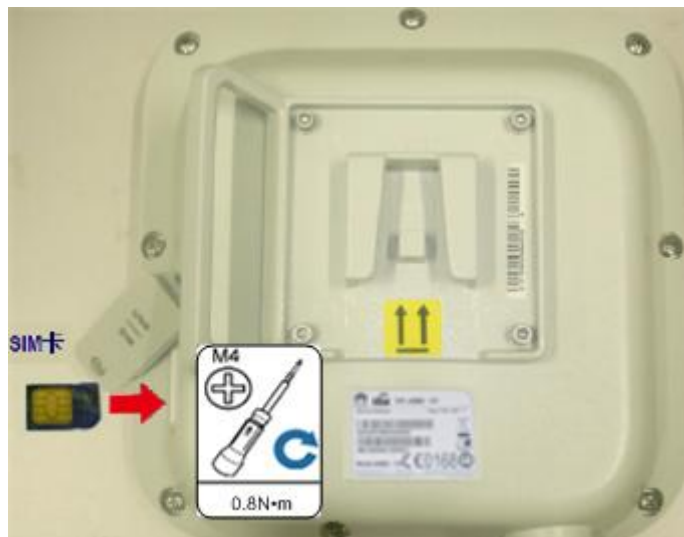
Step 2 Hold the wall-mounting frame tightly against the wall, use a level to adjust the horizontal position, and mark the fixing points with a marker, as shown in Figure 3-11

Figure 3-11 Marking the fixing points
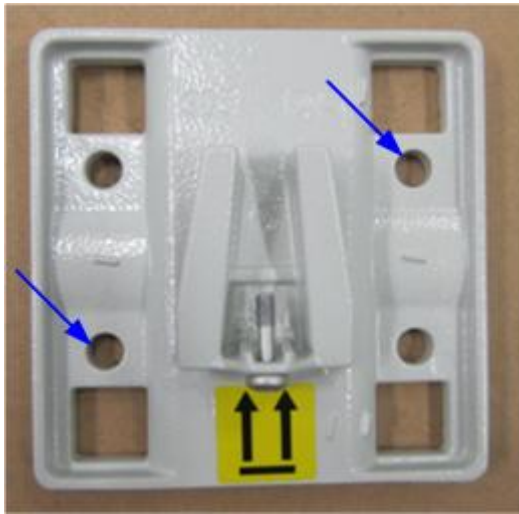
Step 3 Use a drill with 8 mm drill bit to drill holes in the fixing points. Then remove the dust from the holes and install the expansion bolts, as shown in Figure 3-12.

Figure 3-12 Installing the expansion bolt
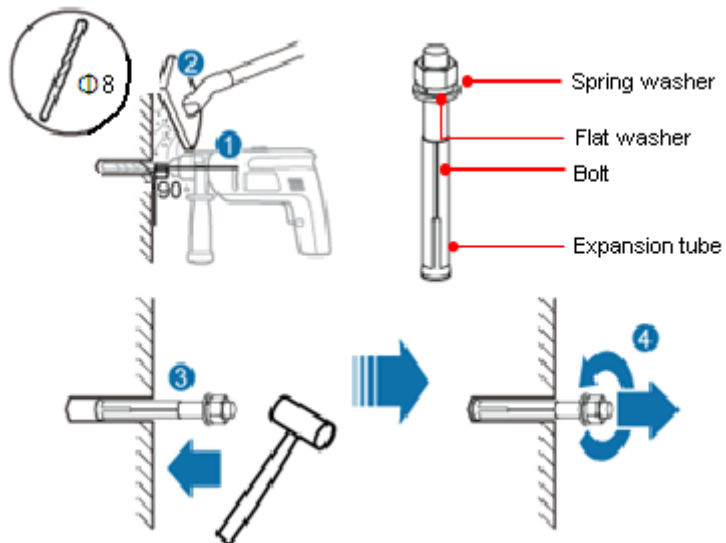
Step 4 Align the two fixing points with the bolts on the wall and tighten the expansion bolt's screw nut to fix the wall-mounting frame, as shown in Figure 3-13.

Figure 3-13 Fixing the wall-mounting frame

Step 5 Fix eA360 to the wall-mount frame using the dovetail groove, as shown in Figure 3-14.

Figure 3-14 Fixing the CPE

Step 6 Tighten the wall-mounting frame's screw, as shown in Figure 3-15.

Figure 3-15 Tightening the screw

----End

3.2.3 Cable Connection

This section describes the procedure for connecting the eA360 cables.

Procedure

Step 1 Install the crystal connector to PoE network cable, as shown in Figure 3-16.

Figure 3-16 Install crystal connector

1. Strip the outer jacket (about 22mm). Do not hurt the inner jacket.

2. Strip the inner jacket (leave a length of about 11mm).

3. Strip the PET

4. Cut the unnecessary rip-cord.

5. Distribute the wires.

6. Assemble the ferrules and cut the surplus cables.

7. Insert the network cable into the crystal connector. Use the crimping tool to press the crystal connector
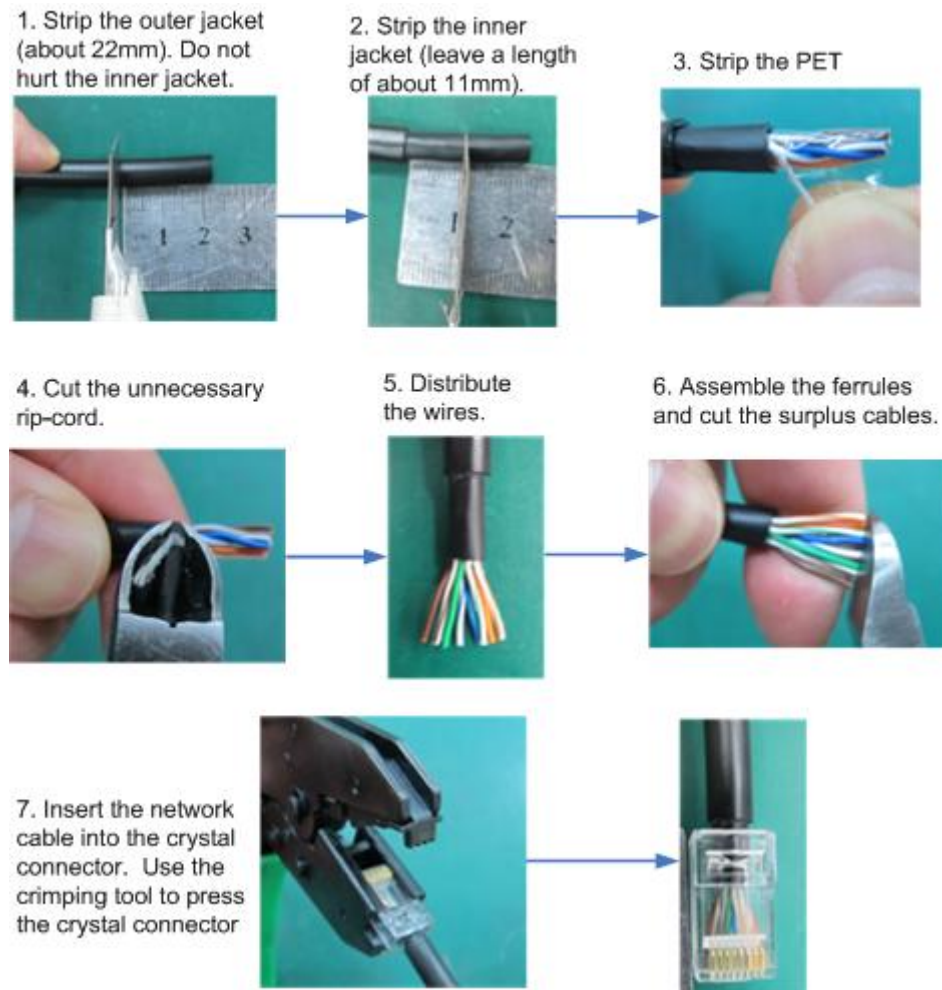
☐ NOTE

When making PoE network cables, follow the international standard EIA/TIA568A or EIA/TIA568A to arrange the cables. Make sure that the two ends of each network cable use the same standard.

Step 2 Connect the PoE network cable.

1.   Diassemble the PG-head screw cap and air-proof block on the PoE port, and pass the network cable through them, as shown in Figure 3-17.

Figure 3-17 Passing the network cable through the PG-head screw cap and air-proof block

2. Connect the network cable to the network adapter, and manually rotate the screw cap to ensure that the lock block adheres to the network cable, as shown in Figure 3-18.

Figure 3-18 Installing the PG-head screw cap and air-proof block

Step 3 Connect the PoE adapter.

Connect one end of the PoE network cable to the adapter, as shown in Figure 3-19.

Figure 3-19 Connecting the PoE adapter

1. DATA port: connects to the compuer network cable.	2. PoE port: connects to the PoE network cable.

----End

3.3 Installation Check

After you install the eA360, perform a hardware installation check and a power-on check.

Prerequisites

The eA360 hardware has been installed.

Procedure

Step 1 Check whether the eA360 hardware is correctly installed.

When performing the hardware check for the eA360, check the items listed in Table 3-4 in order.

Table 3-4 Hardware installation check of the eA360

No.	Check Item
1	The installation position must strictly comply with the design drawings, meet the installation space requirements, and reserve space for maintenance.

No.	Check Item
2	When the eA360 is mounted on a metal utility pole, the fixture must be firmly installed, and the CPE must be attached.
3	When the eA360 is mounted on the wall, the installation hole on the fixture must be aligned with the one on the expansion bolt. In addition, the fixture must be tightly and firmly attached to the wall and must not wobble when you shake it.

When checking the cable connections of the eA360, check the items listed in Table 3-5 in order.

Table 3-5 Cable connection check of the eA360

No.	Check Item
1	No cable is short-circuited or inversely connected.
2	The connector of the PoE network cable must be appropriately connected. The waterproof connector of PoE must be tightened.

Step 2 Perform the power-on check, as shown in Figure 3-20.

Figure 3-20 Power-on check of the eA360
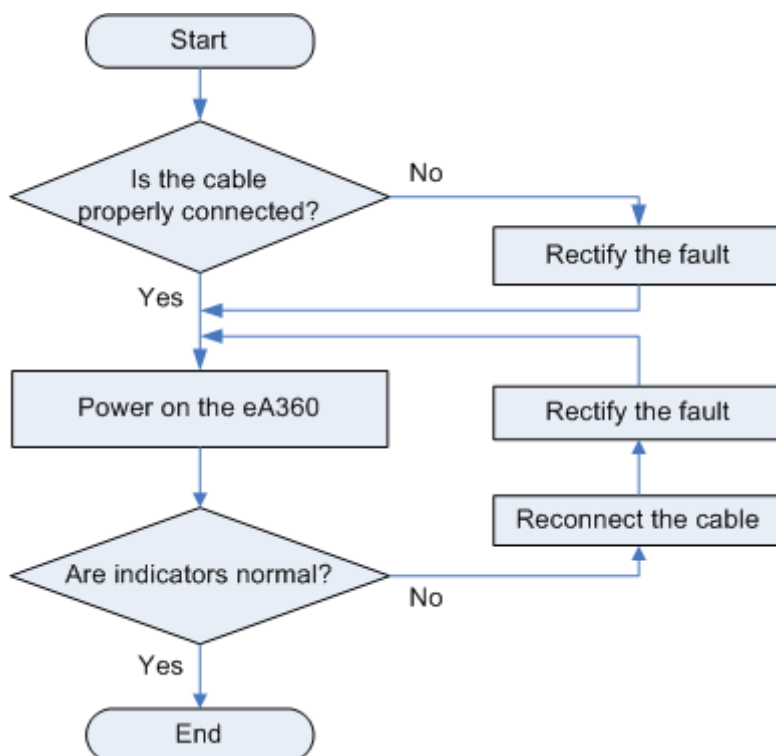
The items listed in Table 3-6 must be checked during eA360 indicator check.

Table 3-6 Indicator check

No.	Check Item
1	When the eA360 powers on, the POWER indicator is on.
2	When the eA360 powers on, the RSSI indicator is steady on or blinks.

📖 **NOTE**

If the RSSI indicator is off when the eA360 powers on, the signal strength is too weak. Check the power supply.

----End

4 Configuring the eA360

The Web management page of the eA360 is based on the network browser. It allows you to use the browser to easily set, configure, and manage devices.

Prerequisites

- The deployment on the network side is complete.The computer has been connected to the eA360.
- The installation of the eA360 is complete.
- The eA360 starts correctly based on default parameters during power-on.

Procedure

Step 1 Start the IE browser, enter **http://192.168.1.1** in the address bar, and press **Enter**. Connect the eA360 from the near end using the Web management page.

> 📖 **NOTE**
>
> Use Internet Explorer 7 (IE7) or later versions.

Step 2 Log in to the web management page with **User name** set to default value **admin** and **Password** set to default value **4GCPE@hw**.

Step 3 Choose **System** > **Password Modification** to modify the **New Password**.

> 📖 **NOTE**
>
> Use the default values of other parameters. To change the default settings, contact technical support engineers for help.

----End

5 Maintenance

About This Chapter

This chapter describes the maintenance preparation and fault diagnosis methods for the eA360.

5.1 Maintenance Preparation

Before performing site maintenance for the eA360, learn about the sit information, select required maintenance items, and prepare related tools.

Learning About the Site Information

Gather the following site information before going to the eA360 site to perform maintenance.

- Persisting faults and alarms
- Hardware configuration
- Natural environment

Selecting Maintenance Items

Select suitable maintenance items based on the eA360 site conditions.

Maintenance items must include the following aspects:

- Natural environment of the eA360 site
- Power of the eA360
- eA360

5.2 Fault Diagnosis

When the CPE does not run properly, use the tools on the Web management page to perform initial diagnosis.

Prerequisites

- The network deployment is complete.
- The installation of the eA360 is complete.
- The eA360 starts appropriately based on default parameters after power-on.

Procedure

- When the CPE fails to access the Internet, run the **Ping** functions to quickly check the network connection status.

1. Start the IE browser, enter **http://192.168.1.1** in the address bar, and press **Enter**. Log in to the Web management page, and enter **User name** and **Password**.

☐ **NOTE**

Use Internet Explorer 7 (IE7) or later versions.

2. Choose **System** > **Diagnosis**to display the **Diagnosis** page.

3. Set **Method** to **Ping**.

4. Enter the domain name in the **Destination IP address or domain** box.

5. Set **Packet size** and **Timeout** and select the **Enable** check box behind **Do not Fragment**.

6. Click **Ping**.

7. Wait until the operation is performed. The command output is displayed in the **Result** box.

☐ **NOTE**

Packet Length indicates the bytes of a sent packet, and ranges from 1 to 9,000 bytes.

Timeout indicates the timeout period of each reply, and ranges from 1 to 10 seconds.

- When the CPE does not run properly, the **System Check** can be used to preliminarily identify the problem.

1. Start the IE browser, enter **http://192.168.1.1** in the address bar, and press **Enter**. Then enter the correct password and click **Log In**.

☐ **NOTE**

Use Internet Explorer 7 (IE7) or later versions.

2. Click **System** > **Diagnosis** to display the **Diagnose** page.

3. Set **Method** to **System Check**.

4. Click **Check**.

5. Wait until the system check is performed. The possible causes will be displayed on the page.

6. Click **Export** to export the detailed information to the computer. If necessary, send the detailed information to maintenance personnel.

**----End**

6 Legal Notice

6.1 Privacy Policy

To better understand how we protect your personal information, please see the privacy policy at http://consumer.huawei.com/privacy-policy.

7 Acronyms and Abbreviations

This section lists the acronyms and abbreviations related to the eA360.

Table 7-1 List of acronyms and abbreviations

Acronym/Abbreviation	Full Name
3GPP	3rd Generation Partnership Project
CPE	Customer Premises Equipment
LTE	Long Term Evolution
MAC	Media Access Control
PoE	Power over Ethernet
SIM	Subscriber Identity Module
URL	Uniform Resource Location
WAN	Wide Area Network
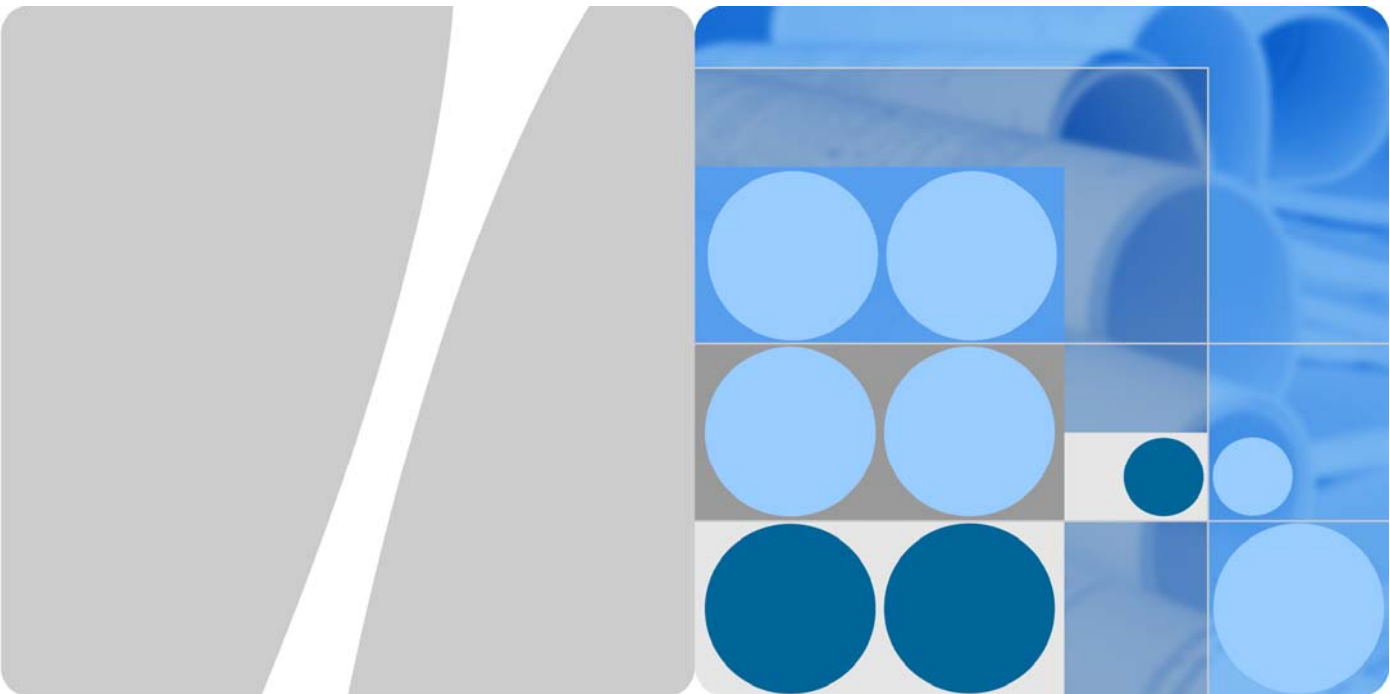
Regulatory Compliance Statement
eA360-135

Issue : 01

Date: 2014-8-14

HUAWEI TECHNOLOGIES CO., LTD.

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1 Regulatory Compliance Statement

About This Chapter

1.1 Declaration of Conformity to European Directives

Figure 1-1 Declaration of Conformity to European Directives

Doc NO.: CE-01371870

Declaration of Conformity

For EU Directives and Regulations

For the following equipment

Product	:	**LTE CPE**
Model/Trademark	:	eA360-135 / HUAWEI
Manufacturer's Name	:	Huawei Technologies Co., Ltd.
Manufacturer's Address	:	Administration Building, Headquarters of
		Huawei Technologies Co., Ltd., Bantian,
		Longgang District, Shenzhen, 518129, P.R.C

is herewith confirmed to comply with the requirements which are set out in 1999/5/EC(R&TTE Directive), 2002/95/EC & 2011/65/EU (RoHS Directive), 2002/96/EC&2012/19/EU (WEEE Directive) and 2006/1907/EC(REACH Regulation). For the evaluation of the compliance with these Directives and Regulations, the following standards/requirements were applied:

Safety	EN 60950-1:2006+A11:2009+A1:2010+A12:2011 EN 60950-22:2006+A11:2008
EMC	EN 301 489-1 V1.9.2 EN 55022:2010 CISPR 22:2008 EN 301 489-24 V1.5.1 EN 55024:2010 CISPR 24:2010
Radio & Health	ETSI EN 301 908-1 V6.2.1 ETSI EN 301 908-13 V6.2.1 Council Recommendation 1999/519/EC EN 62311:2008 EN 50385:2002
RoHS	2002/95/EC, 2011/65/EU, EN 50581: 2012
REACH	EC NO. 1907/2006
WEEE	2002/96/EC, 2012/19/EU

Responsible for making this declaration is the:

☑ Manufacturer   ☐ Authorised representative established within the EU

Person responsible for making this declaration

Name/Title: *ZhangXingWei*

                              Regulation Compliance Manager

Place/Date	Shenzhen, China	Jul 2, 2014

2 Regulatory Compliance Information

About This Chapter

2.1 Regulatory Compliance Standards

This product complies with the standards listed in Table 2-1.

Table 2-1 Regulatory compliance standards

Discipline	Standards
EMC	- CISPR22 Class B - CISPR24 - EN55022 Class B - EN50024 - ETSI EN 301 489 Class B - CFR 47 FCC Part 15 Class B - FCC Part 90z - ICES 003 Class B - AS/NZS CISPR22 Class B - GB9254 Class B - CNS 13438 Class B - IEC61000-3-2 - IEC61000-3-3 - EN61000-6-1 - EN61000-6-3
Safety	- IEC 60950-1 - IEC60950-22 - IEC/EN41003 - EN 60950-1 - UL 60950-1 - CSA C22.2 No 60950-1 - AS/NZS 60950.1 - BS EN 60950-1 - IS 13252 - GB4943
RF	ETSI EN 301 908
Health	- ICNIRP Guideline 1999-519-EC - EN 50385 - EN 62311 - OET Bulletin 65 - IEEE Std C95.1
Environmental protection	2011/65/EU (RoHS) - EC NO. 1907/2006 (REACH) 2002/96/EC (WEEE)
Grounding	- ITU-T K.27 - ETSI EN 300 253

Discipline	Standards
NOTE EMC: electromagnetic compatibility NEBS: Network Equipment Build Standard RF: radio frequency CISPR: International Special Committee on Radio Interference EN: European Standard ETSI: European Telecommunications Standards Institute CFR: Code of Federal Regulations FCC: Federal Communication Commission IEC: International Electrotechnical Commission AS/NZS: Australian/New Zealand Standard VCCI: Voluntary Control Council for Interference CNS: Chinese National Standard UL: Underwriters Laboratories CSA: Canadian Standards Association BS: British Standard IS: Indian Standard GR: General Requirement FDA: Food and Drug Administration BTS: Base Transceiver Station GSM: Global System for Mobile communications WLAN: wireless local area network ICNIRP: International Commission on Non-Ionizing Radiation Protection OET: Office of Engineering Technology IEEE: Institute of Electrical and Electronics Engineers RoHS: restriction of the use of certain hazardous substances	

2.2 European Regulatory Compliance

This product complies with the following European directives and regulations.

- 2004/108/EC (EMC)
- 2006/95/EC (low voltage)
- 1999/5/EC (R&TTE)
- 2011/65/EU (RoHS)
- EC NO. 1907/2006 (REACH)
- 2002/96/EC (WEEE)

Product complies with Directive 2002/95/EC, 2011/65/EU and other similar regulations from the countries outside the European Union, on the RoHS in electrical and electronic equipment. The device does not contain lead, mercury, cadmium, and hexavalent chromium and brominated flame retardants (Polybrominated Biphenyls (PBB) or Polybrominated Diphenyl Ethers (PBDE)) except for those exempted applications allowed by RoHS directive for technical reasons.

Product complies with Regulation EC NO. 1907/2006 (REACH) and other similar regulations from the countries outside the European Union. Huawei will notify to the European Chemical Agency (ECHA) or the customer when necessary and regulation requires.

Product complies with Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Huawei is responsible for recycling its end-of-life devices, and please contact Huawei local service center when recycling is required. Huawei strictly complies with the EU Waste Electrical and Electronic Equipment Directive (WEEE Directive) and electronic waste management regulations enacted by different countries worldwide. In addition, Huawei has established a system for recycling and reuse of electronic wastes, and it can provide service of dismantling and recycling for WEEE. By Huawei recycling system, the waste can be handled environmentally and the resource can be recycled and reused fully, which is also Huawei WEEE stratagem in the word. Most of the materials in product are recyclable, and our packaging is designed to be recycled and should be handled in accordance with your local recycling policies.

In accordance with Article 11(2) in Directive 2002/96/EC (WEEE), products were marked with the following symbol: a cross-out wheeled waste bin with a bar beneath as below:
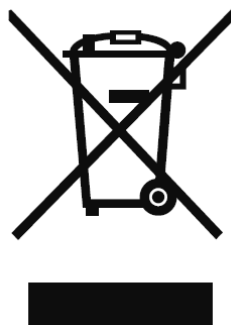
2.3 U.S.A Regulatory Compliance

2.3.1 FCC Part 15

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device does not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

If this device is modified without authorization from Huawei, the device may no longer comply with FCC requirements for Class B digital devices. In that a case, your right to use the device may be limited by FCC regulations. Moreover, you may be required to correct any interference to radio or television communications at your own expense.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This device generates, uses and radiates radio frequency energy. If it is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user may take one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Reinforce the separation between the device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or TV technician for assistance.

2.3.2 FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an controlled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

2.4 Canada Regulatory Compliance

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by Industrial Canada and meets the requirements for radiation exposure limits set forth for an controlled environment.

Cet appareil est conçu et fabriqué pour ne pas dépasser les limites d'émission pour l'exposition à la fréquence radio (RF) de l'énergie fixé par l'Industrielle Canada et répond aux exigences en matière de limites d'exposition aux rayonnements définies pour un environnement non contrôlé.

In order to avoid the possibility of exceeding the Industrial Canada radio frequency exposure limits, human proximity to the device antenna shall not be less than 20 cm during normal operation;

Afin d'éviter la possibilité de dépasser les limites d'exposition aux fréquences radio industrielle du Canada, la proximité humaine pour l'appareil antenne ne doit pas être inférieure à 20 cm au cours fonctionnement normal.;

2.5 CISPR 22 Compliance

This product complies with CISPR 22 for Class B by the ITE.

Class A ITE is a category of all other ITE that satisfies only the Class A ITE regulations, and not the Class B ITE regulations. Such equipment should not be restricted in its sale but the following warning shall be included in the instructions for use:

2.6 China RoHS hazardous substance table

This products described in this guide complies with "the Administration on the Control of Pollution Caused by Electronic Information Products" which is also called China RoHS

部件名称	产品中有害物质或元素的名称及含量					
	镉	铅	汞	六价铬	多溴联苯	多溴联苯醚
Frame	○	✕	○	○	○	○
Alloy Parts	○	✕	○	○	○	○
Power Adapter	○	✕	○	○	○	○
Metal Fittings	○	○	○	○	○	○
PCBA	○	✕	○	○	○	○
Capacitor	○	✕	○	○	○	○
Other electronics	○	✕	○	○	○	○
Screen	○	○	○	○	○	○
Solder	○	✕	○	○	○	○
Cable	✕	✕	○	○	○	○
Plastic and Polymer	○	✕	○	○	○	✕
Label	○	○	○	○	○	○
Battery	○	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。
✕：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。

2.7 India RoHS hazardous substance table

This products described in this guide complies with the "e-waste (Management and Handling) Rules, 2011"of India which is also called India RoHS.

Part Descriptions	Restricted Substances in Product					
	Cd	Pb	Hg	Cr(VI)	PBBs	PBDEs
Frame	○	✕	○	○	○	○
Alloy Parts	○	✕	○	○	○	○
Power Adapter	○	✕	○	○	○	○
Metal Fittings	○	○	○	○	○	○
PCBA	○	✕	○	○	○	○
Capacitor	○	✕	○	○	○	○
Other electronics	○	✕	○	○	○	○
Screen	○	○	○	○	○	○
Solder	○	✕	○	○	○	○
Cable	✕	✕	○	○	○	○
Plastic and Polymer	○	✕	○	○	○	✕
Label	○	○	○	○	○	○
Battery	○	○	○	○	○	○

○: indicates that the content of the toxic and hazardous substance in all the Homogeneous Materials of the part is below the concentration limit requirement as described in the e-waste (Management and Handling) Rules, 2011.
✕: indicates that the content of the toxic and hazardous substance in at least one Homogeneous Material of the part exceeds the concentration limit requirement as described in S in the e-waste (Management and Handling) Rules, 2011.

2.8 Other Markets

For relevant compliance information/documentation for markets not mentioned above,

Please contact Huawei representative