



ZXSDR R8882 L268

LTE Remote Radio Frequency Unit

User Manual

Version: V2.00

ZTE CORPORATION
No. 55, Hi-tech Road South, ShenZhen, P.R.China
Postcode: 518057
Tel: +86-755-26771900
Fax: +86-755-26770801
URL: <http://ensupport.zte.com.cn>
E-mail: support@zte.com.cn

LEGAL INFORMATION

Copyright © 2013 ZTE CORPORATION.

The contents of this document are protected by copyright laws and international treaties. Any reproduction or distribution of this document or any portion of this document, in any form by any means, without the prior written consent of ZTE CORPORATION is prohibited. Additionally, the contents of this document are protected by contractual confidentiality obligations.

All company, brand and product names are trade or service marks, or registered trade or service marks, of ZTE CORPORATION or of their respective owners.

This document is provided “as is”, and all express, implied, or statutory warranties, representations or conditions are disclaimed, including without limitation any implied warranty of merchantability, fitness for a particular purpose, title or non-infringement. ZTE CORPORATION and its licensors shall not be liable for damages resulting from the use of or reliance on the information contained herein.

ZTE CORPORATION or its licensors may have current or pending intellectual property rights or applications covering the subject matter of this document. Except as expressly provided in any written license between ZTE CORPORATION and its licensee, the user of this document shall not acquire any license to the subject matter herein.

ZTE CORPORATION reserves the right to upgrade or make technical change to this product without further notice. Users may visit ZTE technical support website <http://ensupport.zte.com.cn> to inquire related information.

The ultimate right to interpret this product resides in ZTE CORPORATION.

Revision History

Revision No.	Revision Date	Revision Reason
R1.0	2011-01-19	First Edition

Serial Number: SJ-20110104194923-001

Publishing Date: 2011-01-19(R1.0)

Contents

About This Manual	I
Chapter 1 FCC Statement	1-1
Chapter 2 Product Overview	2-1
2.1 Distributed eNodeB Solution	2-1
2.2 Product Position in Network	2-3
2.3 Product Features.....	2-4
2.4 Product Functions	2-4
2.5 Product Appearance.....	2-5
2.6 Installation Scenario	2-5
2.7 Product Networking	2-5
2.8 Operation and Maintenance Introduction.....	2-6
2.9 Product External Interfaces.....	2-7
2.10 Product Indicators	2-9
Chapter 3 Product Technical Indices	3-1
3.1 Physical Indices	3-1
3.2 Working Environment	3-1
3.3 Bandwidth.....	3-1
3.4 Power Requirements	3-2
3.5 Power Consumption	3-2
3.6 Transmission Index	3-2
3.7 Performance Indices.....	3-2
3.8 Electromagnetic Compatibility	3-3
3.9 Reliability.....	3-6
Chapter 4 Product Installation	4-1
4.1 Safety Description	4-1
4.1.1 Safety Guide.....	4-1
4.1.2 Symbol Description	4-1
4.1.3 Safety Instructions.....	4-3
4.1.4 Hoisting Operation Instructions.....	4-5
4.2 Preparation Before Installation	4-6
4.2.1 Personnel Preparation	4-6
4.2.2 Container of ZXSDR R8882 L268.....	4-6
4.2.3 Unpacking and Checking Flow	4-7

4.2.4 Installation Accessories	4-8
4.2.5 Installation Flow	4-9
4.3 Mounting On Wall.....	4-10
4.4 Mounting On Pole	4-14
4.4.1 One-To-One Mounting	4-14
4.4.2 One-To-Two Mounting	4-16
4.4.3 One-To-Three Mounting.....	4-18
4.5 Mounting On Gantry	4-21
4.6 Connecting Cables	4-25
4.6.1 Connection of External Cables	4-25
4.6.2 External Cable Installation Flow	4-26
4.6.3 Installing Power Cable	4-27
4.6.4 Installing Grounding Cable.....	4-29
4.6.5 Installing Fiber Between eBBU and eRRU	4-29
4.6.6 Installing Fibers Between eRRUs	4-31
4.6.7 Installing Environment Monitor Cable.....	4-32
4.6.8 Installing AISG Control Cable.....	4-33
4.6.9 Installing Antenna Feeder Jumper	4-34
Figures.....	I
Tables	III
Glossary	V

About This Manual

Purpose

This manual gives introduction on the product description, technical indices, and product installation.

Intended Audience

- Hardware Installation Engineer
- Operation and Maintenance Engineer

Prerequisite Skill and Knowledge

To use this document effectively, users should have a general understanding of wireless telecommunications technology. Familiarity with LTE wireless network and its related components is helpful.

What is in This Manual

Chapter	Summary
Chapter 1, FCC Statement	Introduces the FCC statements that this device complies with
Chapter 2, Product Overview	Describes product characteristic, interfaces, indicators
Chapter 3, Product Technical Indices	Describes the technical indices of the product
Chapter 4, Product Installation	Describes installation and cable connection of the product

Chapter 1

FCC Statement

FCC & IC Statement

This device complies with Part 15 of the [FCC Rules](#). Operation is subject to the following two conditions:

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



Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Caution!

Changes or modifications to this unit not expressly approved by the party responsible for compliance will void the user's authority to operate the equipment. Any change to the equipment will void FCC and IC grant.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 4 m between the radiator & your body.

This page intentionally left blank.

Chapter 2

Product Overview

Table of Contents

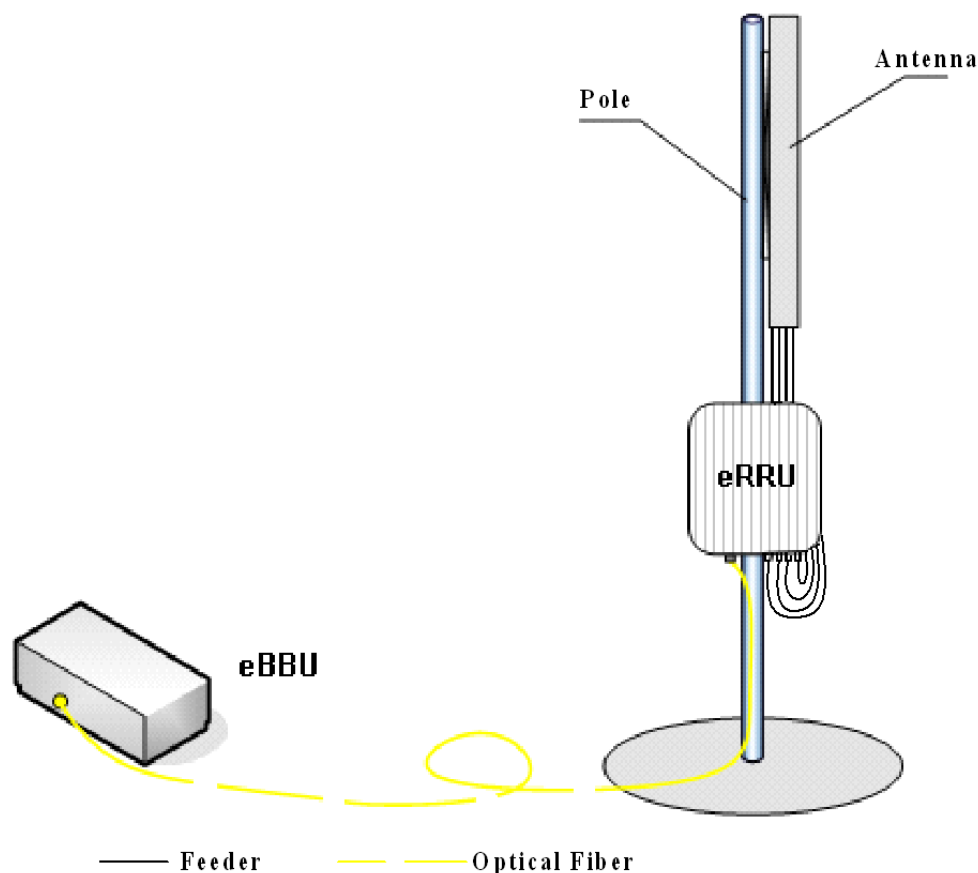
Distributed eNodeB Solution.....	2-1
Product Position in Network.....	2-3
Product Features.....	2-4
Product Functions.....	2-4
Product Appearance.....	2-5
Installation Scenario.....	2-5
Product Networking.....	2-5
Operation and Maintenance Introduction.....	2-6
Product External Interfaces.....	2-7
Product Indicators.....	2-9

2.1 Distributed eNodeB Solution

To supply customers with more competitive communication equipment and solution in the market, ZTE develops and promotes ZTE [SDR](#) eBBU (baseband unit) and [eRRU](#) (remote radio unit) distributed eNodeB solution timely, which jointly perform LTE eNodeB service.

ZTE distributed eNodeB solution is shown in [Figure 2-1](#).

Figure 2-1 ZTE Distributed eNodeB Solution



ZTE's LTE eBBU+eRRU distributed eNodeB solution has the following predominance:

1. Saving labor cost and engineering cost for networking.

eBBU+eRRU distributed eNodeB equipment is small in size, light in weight, and easy for transportation and engineering construction.

2. Fast networking, also saving the fees of renting equipment room.

eBBU+eRRU distributed eNodeB is applicable to various sites, such as mounted on steel tower, on building top, or on wall, etc. It's more flexible in selecting installation site, and not restricted by the space of equipment room. It can help operators to deploy network rapidly. It can also save the fees of renting equipment room, and the network operation cost.

3. Convenient in upgrade and capacity expansion; saving the initial stage cost of the network.

eRRU can be mounted as close to antenna as possible, to save the cost of feed cable and decrease the loss of feed cable. It also can enhance the output power of eRRU and increase the coverage.

4. Low power consumption, power-saving.

Compared with traditional eNodeB, eBBU+eRRU distributed eNodeB has lower power consumption, which can greatly reduce the investment and cost on electric power, and thus save the network operation cost.

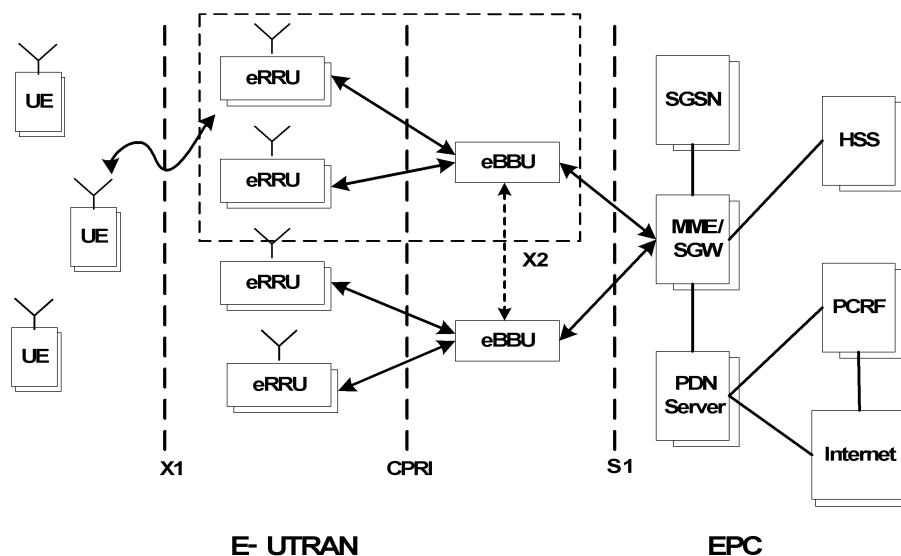
5. Distributed networking, making good use of operators' network resources supporting eBBU+eRRU distributed networking; supporting star networking mode between eBBU and eRRU.
6. Adopting a more perspective and generalized eNodeB platform.

eBBU adopts the platform designed for the future B3G and 4G. One hardware platform can realize different standard modes, and several standard modes can coexist in one eNodeB. In this way, operators' management can be simplified, and several eNodeBs to be invested can be integrated into one eNodeB (multimode eNodeB). The operators can select the evolution direction of the future network more flexibly.

2.2 Product Position in Network

ZXSDR R8882 L268 is a remote radio unit (eRRU) of distributed eNodeB. The signal is transmitted or received through ZXSDR R8882 L268 to and from base band processing unit for further processing through CPRI interface. By applying the distributed system, the feeder loss will be reduced when the remote radio unit is positioned close to the antenna. The coverage is enlarged with this solution.

Figure 2-2 Product Location



Note:

ZXSDR R8882 L268 covers R8882 L188, R8882 L708, R8882 L808, and R8882 L268.

2.3 Product Features

Multi-Mode eRRU

ZXSDR R8882 L268 is fully software defined device. It supports multi-mode at the same frequency band simultaneously. Therefore, it fully satisfies operators' requirements of hybrid network deployment and long term evolution with the lowest cost.

MIMO Supported, Better Performance

R8882 L268 supports 2T4R (license needed), R8882 L188, R8882 L708, and R8882 L808 support 2T2R, which can optimize spectrum efficiency greatly and improve network uplink performance. As a result, it brings better customer experience.

Higher Efficiency, Lower TCO

- ZXSDR R8882 L268's PA efficiency can reach up to 30% thanks to the most advanced Doherty PA, DPD linear technology.
- It supports dynamic adaptive PA power supply due to the output power, which reduces power consumption.

2.4 Product Functions

ZXSDR R8882 L268 is the remote radio unit of distributed base station. The signal is transmitted or received through ZXSDR R8882 L268 to/from base band processing unit for further processing via standard CPRI interface.

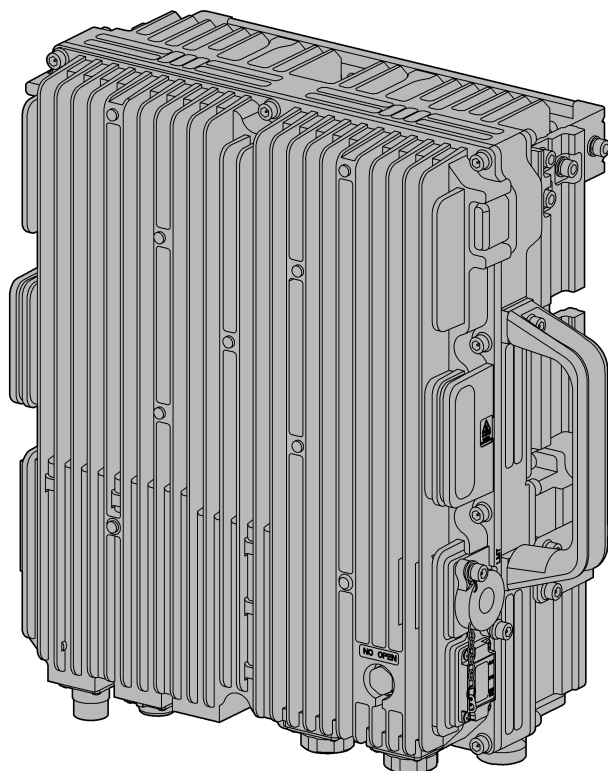
The product basic functions are listed below:

- Supports the configuration of 5 MHz, 10 MHz, 15 MHz and 20 MHz scalable bandwidth.
- R8882 L188 supports 1710 MHz~1785 MHz(uplink)/1805 MHz~1880 MHz(downlink).
- R8882 L708 supports 698 MHz~716 MHz(uplink)/728 MHz~746 MHz(downlink).
- R8882 L808 supports 832 MHz~862 MHz(uplink)/791 MHz~821 MHz(downlink).
- R8882 L268 supports 2500 MHz~2570 MHz(uplink)/2620 MHz~2690 MHz(downlink).
- Supports 2x2 MIMO on downlink.
- Supports QPSK, 16-QAM, 64-QAM on downlink, QPSK and 16-QAM on uplink.
- Supports transmission and receive power detection.
- Supports overload power protection for power amplifier.
- Supports power amplifier switching on/off function.
- ZXSDR R8882 L268 software failure will not affect the running of eBBU and other ZXSDR R8882 L268s which are connected to it.
- Supports field strength scanning, temperature query, VSWR query, dry contact, hardware/software resetting.

2.5 Product Appearance

The appearance of ZXSDR R8882 L268 is as shown in [Figure 2-3](#).

Figure 2-3 Product Overall Appearance



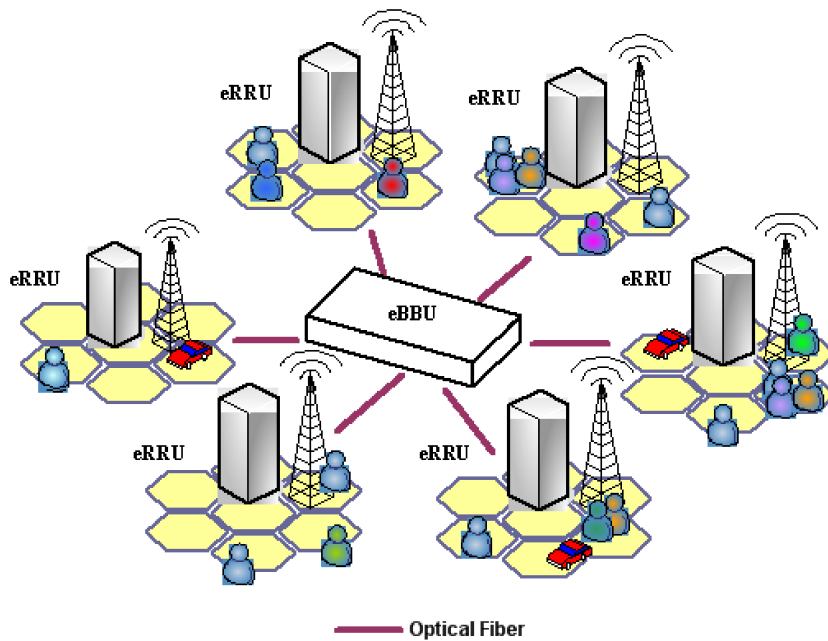
2.6 Installation Scenario

The ZXSDR R8882 L268 usually installed on wall or on pole or on gantry.

2.7 Product Networking

ZXSDR R8882 L268 supports star networking mode with eBBU, as shown in [Figure 2-4](#).

Figure 2-4 Star Networking Mode



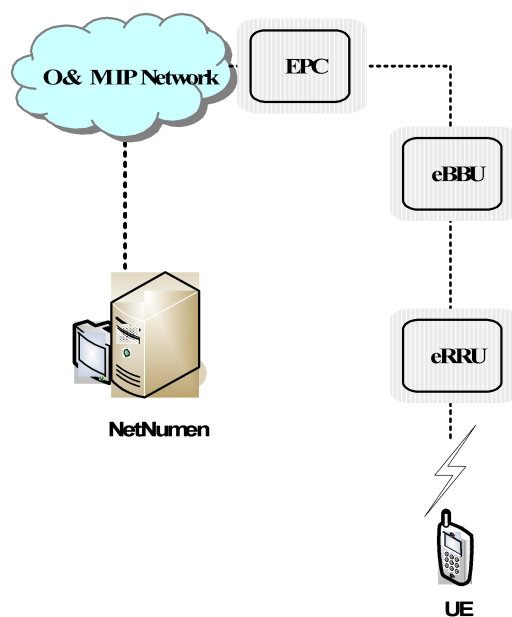
2.8 Operation and Maintenance Introduction

ZXSDR R8882 L268 supports system operation and maintenance remotely or locally.

Operate and Maintain System Remotely

Remotely operates and maintains system by using NetNumen management system, as shown in Figure 2-5.

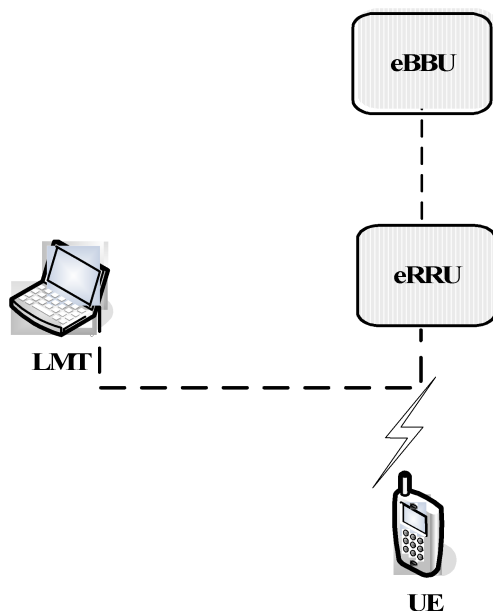
Figure 2-5 Operate and Maintain System Remotely



Operate and Maintain System Locally

locally operates and maintains system by using ZTE's Local Maintenance Terminal (LMT) software kit, as shown in Figure 2-6.

Figure 2-6 Operate and Maintain System Locally



2.9 Product External Interfaces

The ZXSDR R8882 L268 external interfaces are shown in Figure 2-7 and Figure 2-8.

Figure 2-7 Product External Interfaces and Grounding Terminal

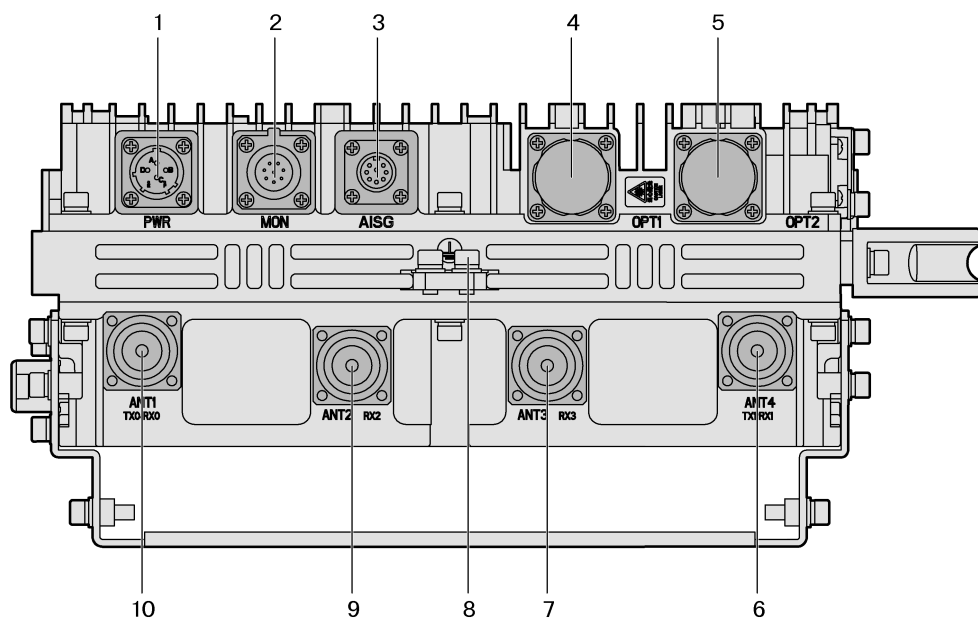


Figure 2-8 LMT Interface

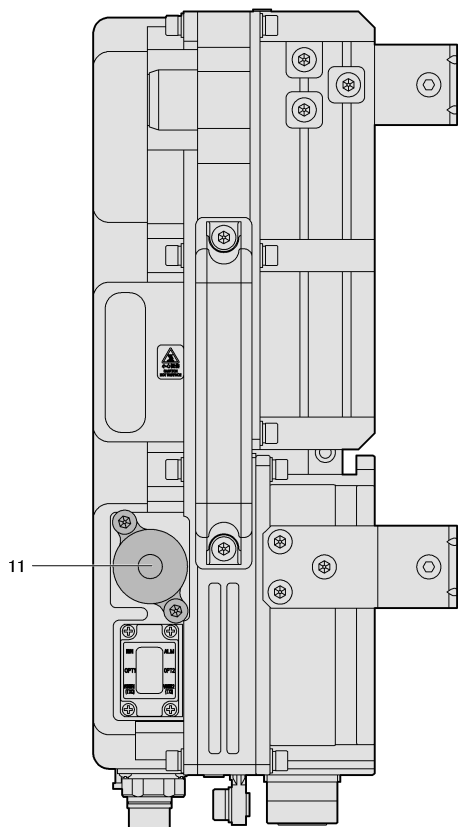



Table 2-1 shows the detailed description of all the external interfaces.

Table 2-1 Product External Interfaces Description

No.	Label	Interface/Terminal	Interface type/connector
1	PWR	Power interface/1 dry contact	DC interface: Connector XCG18T4K1P1-01+XC18FJJP1-10.5 Section area of cable is 1.5 mm ²
2	MON	485 Serial /2 dry contacts	8-cores socket (IEC 60130-9-ED)
3	AISG	AISG device interface	8-cores aviation socket
4	OPT1	eBBU Interface	LC type optical interface
5	OPT2	Reserved	LC type optical interface
6	ANT4(TX1/RX1)	Antenna TX/RX interface on channel 1	50 Ohm DIN-7/16 Connector
7	ANT3(RX3)	Antenna RX interface on channel 3	50 Ohm DIN-7/16 Connector
8		Grounding Terminal	-
9	ANT2(RX2)	Antenna RX interface on channel 2	50 Ohm DIN-7/16 Connector
10	ANT1(TX0/RX0)	Antenna TX/RX interface on channel 0	50 Ohm DIN-7/16 Connector
11	LMT	Operation and Maintenance Interface	8P8C Ethernet interface

**Note:**

There are no ANT2 and ANT3 interfaces for L708 and L808.

2.10 Product Indicators

ZXSDR R8882 L268 provides six LED indicators, which are located at the right bottom side of the device. The LED indicators are used to show product working status and alarm status, as shown in Figure 2-9.

Figure 2-9 Product Indicators

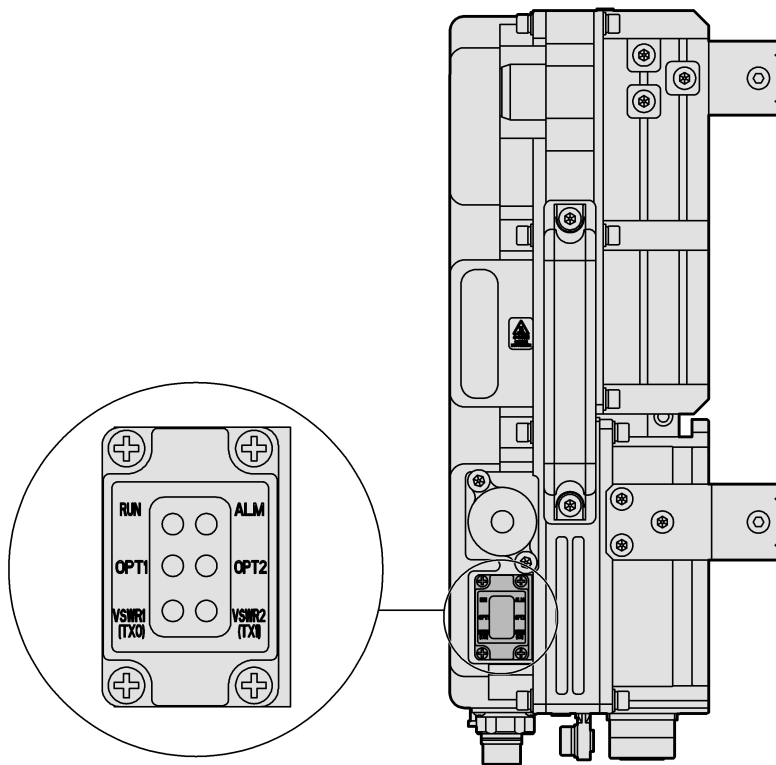


Table 2-2 shows the detailed information of the indicators.

Table 2-2 Product Indicator Description

Name	Color	Meaning	Working Mode
RUN	Green	Running status	<ul style="list-style-type: none"> Blinking every 1.5 second: physical link in the process of initialization Blinking every 0.07 second: the link between eBBU and eRRU is in the process of establishment, or the link is broken Blinking every 0.3 second: device is in good state

Name	Color	Meaning	Working Mode
ALM	Red	Alarm indicator	<ul style="list-style-type: none"> ● Solid ON: there is alarm ● OFF: there is no alarm
OPT1	Green	Optical interface running indicator	<ul style="list-style-type: none"> ● Solid ON: physical link is good, logical link is abnormal ● OFF: physical link is abnormal ● Blinking every 0.3 second: interface is in good state
OPT2	Green	Optical interface running indicator	<ul style="list-style-type: none"> ● Solid ON: physical link is good, logical link is abnormal ● OFF: physical link is abnormal ● Blinking every 0.3 second: interface is in good state
VSWR1	Red	Transmission channel 1 VSWR indicator	<ul style="list-style-type: none"> ● Solid ON: there are VSWR alarms ● OFF: there is no VSWR alarm
VSWR2	Red	Transmission channel 4 VSWR indicator	<ul style="list-style-type: none"> ● Solid ON: there are VSWR alarms ● OFF: there is no VSWR alarm

Chapter 3

Prouduct Technical Indices

Table of Contents

Physical Indices	3-1
Working Environment	3-1
Bandwidth	3-1
Power Requirements.....	3-2
Power Consumption	3-2
Transmission Index	3-2
Performance Indices	3-2
Electromagnetic Compatibility	3-3
Reliability.....	3-6

3.1 Physical Indices

Item	Index
Dimension	380 mm x 320 mm x 140 mm (HxWxD)
Weight	20 kg

3.2 Working Environment

Item		Index
Working	Temperature	-40°C~55°C
	Relative Humidity	5%~100%
Storage	Temperature	-55°C~70°C
	Relative Humidity	10%~100%
Ground		Less than 0.1Ω between grounding terminal and device terminal
Waterproof/Dustproof		IP65

3.3 Bandwidth

ZXSDR R8882 L268 supports 5 MHz, 10 MHz, 15 MHz and 20 MHz.

**Note:**

L708 does not support 20 MHz.

3.4 Power Requirements

The power supply of the ZXSDR R8882 L268 is -48 VDC (range: -37 VDC ~-57 VDC).

3.5 Power Consumption

The maximum power consumption of ZXSDR R8882 L268 is 330 W.

3.6 Transmission Index

ZXSDR R8882 L268 connects to eBBU through CPRI interfaces. The detailed information of the CPRI interface is shown in [Table 3-1](#).

Table 3-1 CPRI Interface Index

Item	Quantity	Interface type	Speed	Standard
CPRI interface	2	SFP (LC)	2x3.072 Gbps or 2x2.4576 Gbps	CPRI V4.1

3.7 Performance Indices

Operation Frequency Band

The operation radio frequency band of ZXSDR R8882 L268 is 2500 MHz~2570 MHz(uplink) / 2620 MHz ~2690 MHz(downlink)

Output Power

The TOC output power of ZXSDR R8882 L268 is 2x30 W.

Receiver Sensitivity

The receiver sensitivity of ZXSDR R8882 L268 is shown in [Table 3-2](#).

Table 3-2 Receiver Sensitivity

Channel bandwidth (MHz)	Reference measurement channel	Reference sensitivity power level (dBm)
5/10/15/20	FRC A1-3 in Table 3-3	-104

Table 3-3 FRC Parameters for Reference Sensitivity and In-channel Selectivity

Reference channel	A1-3
Allocated resource blocks	25
DFT-OFDM Symbols per sub-frame	12
Modulation	QPSK
Code rate	1/3
Payload size (bits)	2216
Transport block CRC (bits)	24
Code block CRC size (bits)	0
Number of code blocks	1
Coded block size including 12-bits trellis termination (bits)	6732
Total number of bits per sub-frame	7200
Total symbols per sub-frame	3600

3.8 Electromagnetic Compatibility

The decision rule used in this section is describes as follows:

1. Rule A
 - A communication channel is set up for the test, and it is always available during the test.
 - FER of the forward channel and reverse channel are less than or equal to 1 during the test.
 - When the test task accomplished, equipment under test (EUT) works normally under pre-scheduled method, there is no information loss of user control function and the saved data, and the communication channel is still available.
 - If the EUT is a transmitter only, test should be done under idle-mode, and there is no unintentional radiation during the test.
2. Rule B
 - A communication channel is set up for the test, and it is always available during test.
 - EUT works normally under pre-scheduled method, there is no information loss of user control function and the saved data, and the communication channel is still available.
 - If the EUT is a transmitter only, test should be done under idle-mode, and there is no unintentional radiation during the test.
3. Rule R

There is no device damage or interference (such as software malfunction or protection device mis-operation) during the test. The EUT works normally under the defined boundary after transient electromagnetic incident.

Electronic Static Discharge Immunity

Item	Contact discharge	Air discharge	Decision Rule
Basic testing	6 kV	8 kV	Rule B
Enhanced testing	8 kV	15 kV	Rule R

RF Electromagnetic Field Radiation Immunity

Range	Feature	Field Strength	Decision Rule
80 MHz~800MHz	80%AM(1kHz)	10 V/m	Rule A
800 MHz~960 MHz	80%AM(1kHz)	10 V/m	Rule A
960 MHz~1400MHz	80%AM(1kHz)	10 V/m	Rule A
1400 MHz~2700 MHz	80%AM(1kHz)	10 V/m	Rule A
2700 MHz~6000 MHz	80%AM(1kHz)	10 V/m	Rule A

Electrical Fast Transient Burst Immunity

Item	Voltage	Repetition Frequency	Decision Rule
Basic test	±1 kV	5 kHz	Rule B
Enhanced test	±2 kV	5 kHz	Rule B

signal generator waveform 5/50ns

Lightning Tolerance

Signal Type	Nominal Required
Antenna feeder port	10 kA ± 5 times The 10 KA protection is guaranteed by the duplex of the RF module. An external lightning protection unit is needed for the higher protection other than 10 KA
DC power port (external SPD)	20 kA ± 5 times, Residual Voltage is less than 250 V. Shielded cable is used for the R8882 remote power supply
Signal port—dry contact	3KA
Signal port—RS485 signal	3KA
AISG power	5KA
Signal port—AISG 485 port	3KA

Radiation Transmission

Frequency range (MHz)	Quasi-peak limit (dBuV/m)	Distance (m)
30~230	30	10

Frequency range (MHz)	Quasi-peak limit (dBuV/m)	Distance (m)
230~1000	37	10
1G~3G	50	10
3G~6G	54	10

Power Conducted Transmission

Frequency range (MHz)	Sum limit(dBuV)	
	Quasi-peak	Average value
0.15~0.50	56~66	46~56
0.50~5	56	46
5~30	60	50

Signal Conducted Transmission

Frequency range	Sum limit	
	Quasi-peak	Average value
0.15 MHz~0.5 MHz	84 dBuV~74 dBuV (Voltage) or 40 dBuV~30 dBuA (Current)	74 dBuV~64dBuV (Voltage) or 30 dBuV~20 dBuA (Current)
0.5 MHz~30 MHz	74 dBuV (Voltage) or 30dBuA (Current)	64dBuV (Voltage) or 20dBuA (Current)

RF Electromagnetic Field Conducted Immunity

Frequency range	Voltage	Feature	Decision Rule
0.15 MHz~80 MHz	10 V	80%AM (1kHz)	Rule A

Surge Immunity

Site	Open circuit Voltage		
	Type	Wire—Wire	Wire—Ground
Indoor	DC power	0.5	1
	Long distance wire (wire length longer than 10 meters)	1	1
	Short distance wire (wire length less than 10 meters)	-	-

3.9 Reliability

Item	Characteristics
MTBF	≥34,0000 hours
MTTR	1 hour
Availability	≥99.999842%

Chapter 4

Product Installation

Table of Contents

Safety Description	4-1
Preparation Before Installation	4-6
Mounting On Wall	4-10
Mounting On Pole	4-14
Mounting On Gantry	4-21
Connecting Cables	4-25

4.1 Safety Description

4.1.1 Safety Guide

Only the professional personnel who have passed the training related to ZXSDR R8882 L268 can operate and maintain the equipment.

Basic requirements on ZXSDR R8882 L268 maintenance personnel include:

- Be familiar with ZXSDR R8882 L268 equipment principle and networking;
- Hold certain network optimization skill.



During the operation and maintenance of the equipment, all the safety rules and related operation procedures on the site must be strictly abided by, to avoid body injuries or equipment damages. The safety precautions introduced in this manual are only supplementary to the local safety specifications.





ZTE should in no way be liable for any losses or damages caused by violation of the universal safety operation requirements or the safety standards for designing, manufacturing and using the equipment.

4.1.2 Symbol Description

Table 4-1 shows safety symbols and its meanings.

Table 4-1 Safety Symbols and Their Descriptions

Safety Symbols	Meaning
	Beware!
	Beware of electrostatic discharge

Safety Symbols	Meaning
	Warn against electric shock
	Caution against scald
	Beware of laser
	Be careful of microwave

Four types of safety levels are available: danger, warning, caution and note. To the right of a safety symbol is the text description of its safety level. Under the symbol is the detailed description about its contents. The formats are as follows.

 **Danger!**

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

 **Warning!**

This sign means that there may be a major or serious accident, equipment damage or interruption of key services if you ignore this safety warning.

 **Caution!**

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

 **Note:**

A Note statement is used to notify people of installation, operation, or maintenance information that is important, but not hazard-related.

4.1.3 Safety Instructions

Electrical Safety

**Danger!**

Never connect or disconnect any hot power cables. At the instant when power cables touch conductors, electric sparks or arcs may occur, which may cause fire or eye injury.

Turn off the power supply before installing or removing a power cable.

Make sure the cables and the cable labels match the practical installation conditions before connecting them.

**Warning!**

Do not drill any holes on the cabinet on your own. Improper drilling may damage the wiring and cables inside the cabinet and the metal scraps produced during the drilling will cause short circuits in the circuit boards if they enter the cabinet.

Static Electricity

**Caution!**

The static electricity generated by human body can damage the electrostatic-sensitive components on the circuit board, such as the large scale integrated circuit (IC).

Accumulated electrostatic charges (ESC) derive from friction created by human body movements. In a dry environment, the static voltage carried by a human body can be up to 30 kV, and can remain in the human body for a long time. When an operator who carries static electricity touches a component, he will discharge electricity through the component, thus damaging the component.

Before touching any equipment or holding the board, circuit board, and IC chip, wear the antistatic wrist strap and make the other end of it be well grounded. This helps avoid damaging electrostatic-sensitive components by the static electricity of human body.

Laser



Warning!

Do not gaze at the laser beam from the optical transceiver or inside the optical fiber; otherwise, your eyes may be damaged.

High Temperature



Danger!


The surface temperature of some devices is quite high, so do not touch them to avoid a scald injury.

Hot Surface



No-Touching!

Temperatures exceeding the limits are permitted provided that the following conditions are met:

- unintentional contact with such a part is unlikely, and
 - the part has a marking indicating that this part is hot. It is permitted to use the  symbol (IEC60417-5041 (DB:2002-10)) to provide this information.
-

Hoisting Heavy Objects



Warning!

Do not walk about right under the boom and the hoisted objects when they are being hoisted.

- When disassembling heavy equipment, or moving and replacing equipment, make sure facilities with proper hoisting capability are in place.
- The personnel that hoist the equipment should have received necessary training and acquired the corresponding qualification, and the hoisting tools should have been checked and be complete.

-
- Make sure that the hoisting tools are fixed firmly to a fixture or a wall that can bear the weight for the hoisting.
 - Use brief commands to prevent misoperation.

Plugging/Unplugging a Module

Here, modules include boards and subracks.



Caution!

- Operators must wear the antistatic wrist strap.
 - Do not plug a module with great force lest that the pins on the backplane be bent.
 - Plug the module right into the slot and avoid contact between the module and the circuit face lest that any short circuit occur.
 - Do not touch the module circuits, components, connectors and wiring slots when holding a module.
 - RF module is very hot during operation, so you should be careful on plugging/unplugging.
-

Personnel



Caution!

Non-professionals should not maintain or debug the interior of any equipment unless instructed by professionals on site.

Replacing the parts or modifying the equipment may give rise to extra danger. Therefore, never replace any parts or modify the equipment by any means unless otherwise authorized. To ensure your safety, please contact ZTE Corporation if you have any problem.

4.1.4 Hoisting Operation Instructions

If it is required to hoist eRRU to the tower, refer to the following instructions.

- Natural conditions for hoisting operation are satisfied, such as no fog and high visibility. The hoisting operation is prohibited in windy, snowy, or rainy days.
- Tools for hoisting operation are available, such as the hoisting rope (with a bearing capacity of 100 kg) and the crown block, and the crown block is firmly installed in appropriate position on the tower.
- Open the package to check if the cabinet is in good condition. Hoist the cabinet to the tower after the inspection.

Perform the following steps for hoisting operation.

- eRRU handle cannot be used to bind the hoisting rope.
- Prior to hoisting, carefully check it again, including if the bound is firm and the bracket mounting screws are tightened.
- It is strictly prohibited to use steel wire rope as the hoisting rope.
- During the hoisting procedure, irrelevant person is prohibited to stand surrounding the tower, especially under the eRRU, to avoid unexpected injury.

4.2 Preparation Before Installation

4.2.1 Personnel Preparation

The field engineering supervisor is in charge of the training and management of installation personnel, to make sure the installation is performed correctly and control installation quality. The installation personnel perform the installation.

Requirements on Engineering Supervisor

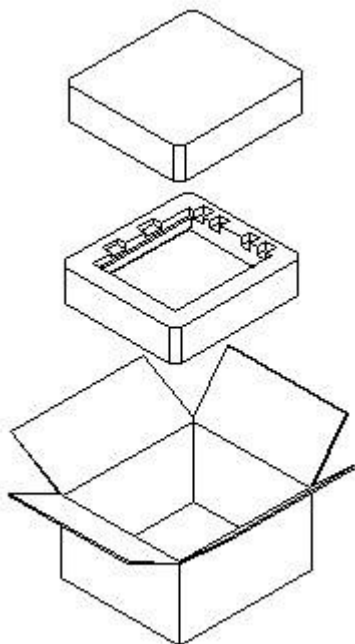
- The engineering supervisor should have quality control ability.
- The engineering supervisor should have received corresponding ZTE training and obtained certification.
- The engineering supervisor should be familiar with the materials, tools and operation methods used in the installation.
- The engineering supervisor should be familiar with the installation flow and installation methods of each component.
- The engineering supervisor should follow the “Safety First” principle, to ensure the smooth completion of installation.

Requirements on Installation Personnel

- The installation personnel should have received corresponding ZTE training and obtained certification.
- The installation personnel should be healthy, have not drunk alcohol.
- The installation personnel should follow the safety instructions of tools, and use safety belts.
- Take care of the operation machinery and tools to prevent them from falling.
- The installation personnel should not wear loose clothes and slippery shoes.

4.2.2 Container of ZXSDR R8882 L268

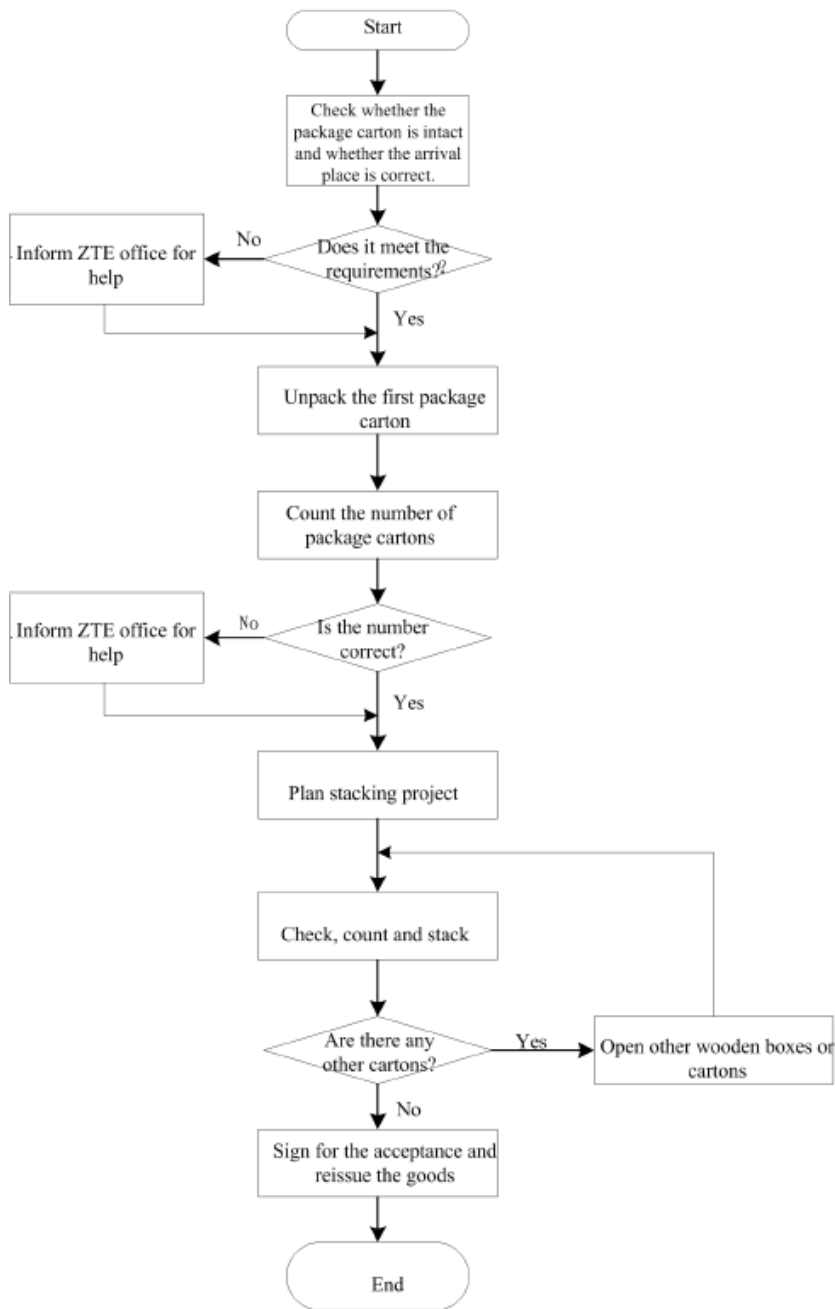
ZXSDR R8882 L268 uses cartons for packing. The ZXSDR R8882 L268 cabinet is wrapped by EPE polyfoam and then put into the carton, as shown in [Figure 4-1](#).

Figure 4-1 Packing of ZXSDR R8882 L268

4.2.3 Unpacking and Checking Flow

Figure 4-2 shows the flow of unpacking and checking. Refer to *Unpacking and Checking Manual* in the ZXSDR R8882 L268 engineering materials for detailed steps and precautions.

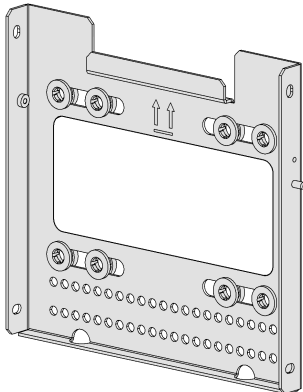
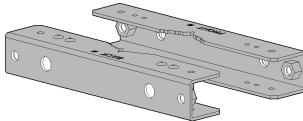
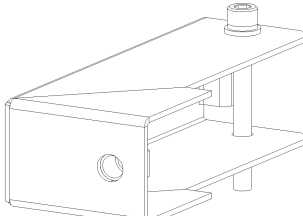
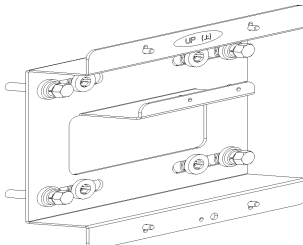
Figure 4-2 Unpacking and Inspection Flow



4.2.4 Installation Accessories

All the related installation accessories are shown in [Table 4-2](#).

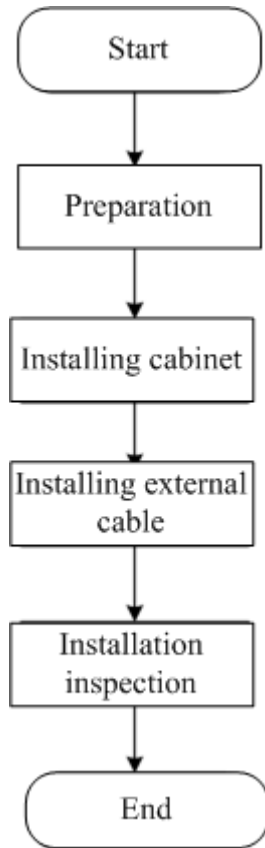
Table 4-2 Installation Accessories Description

Name	Appearance	Description
Wall-mounting components		It is used to mount ZXSDR R8882 L268 on the wall
Pole Mounting Clips		It is used to mount wall mounting components on the pole, and the ZXSDR R8882 L268 is mounted on wall mounting components
Expansion mounting components		It is used to mount the third ZXSDR R8882 L268 on the wall mounting components
LPU mounting components		It is used to mount LPU on the pole

4.2.5 Installation Flow

Figure 4-3 shows the installation flow.

Figure 4-3 Installation Flow



4.3 Mounting On Wall

Prerequisite

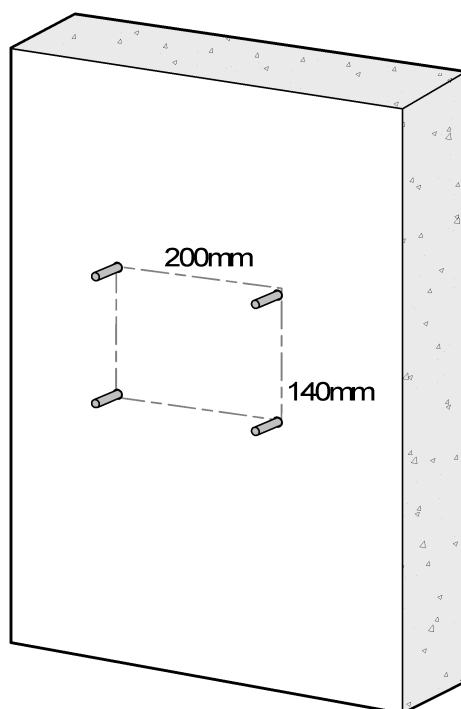
Before installing ZXSDR R8882 L268, you should at least leave the following space for product future maintenance.

- Front side: 600 mm
- Back side: 40 mm
- left and right side: 100 mm
- UP and down side: 250 mm

Steps

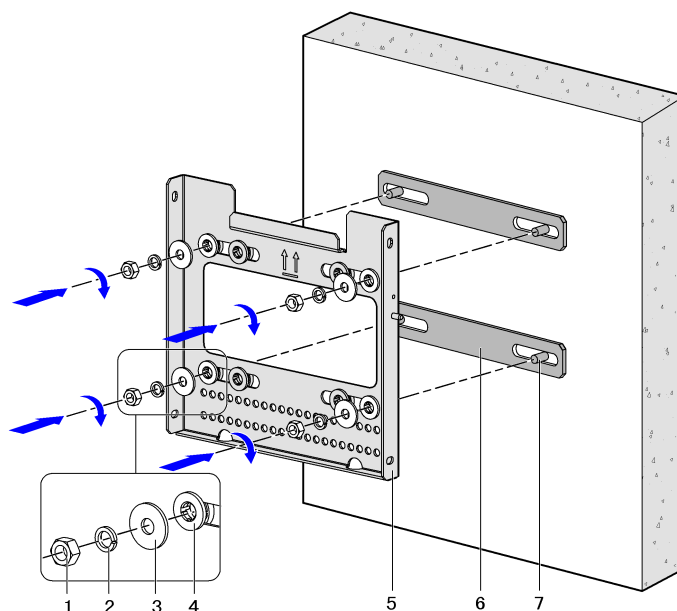
1. Mark on installation positions based on layout marking template on wall, as shown in [Figure 4-4](#), and then drilling holes.

Figure 4-4 Template Hole Position



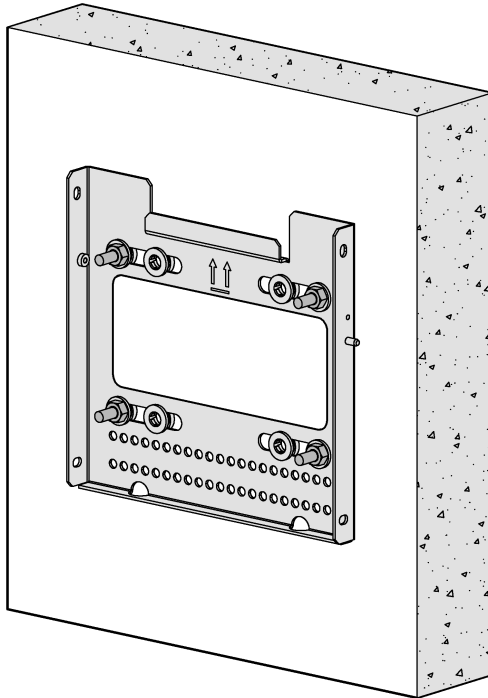
2. Fix the wall-mounting components onto the wall firmly with the bolts, as shown in Figure 4-5.

Figure 4-5 Installing Wall-mounting Components

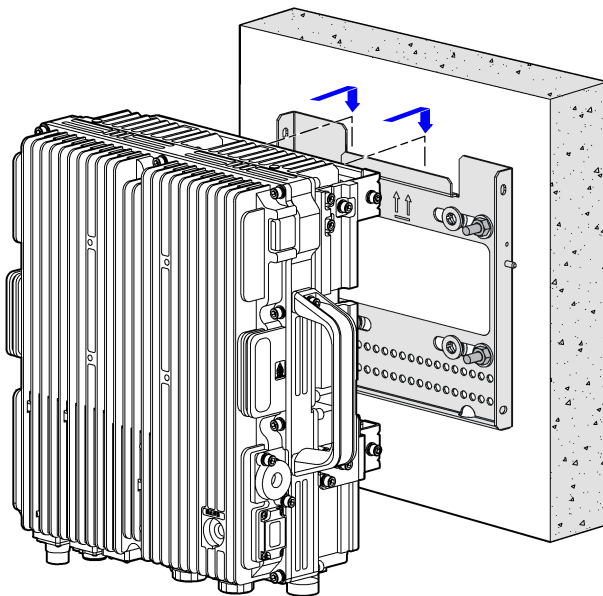


- | | | |
|------------------|-----------------------------|---------------------|
| 1. Hex Bolt | 4. Insulation Washer | 6. Insulation Plate |
| 2. Spring Washer | 5. Wall-Mounting components | 7. Expansion Bolt |
| 3. Flat Washer | | |

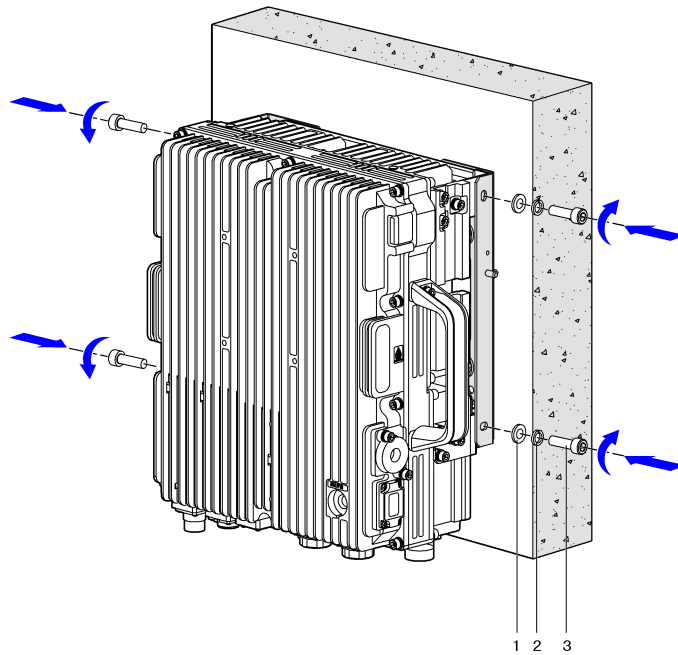
The wall-mounting components is installed on the wall, as shown in Figure 4-6.

Figure 4-6 Wall-mounting Components On Wall

3. Hung the device on the wall-mounting components on the notch department, as shown in [Figure 4-7](#).

Figure 4-7 Hung Device On The Wall-mounting Components

4. Mount the ZXSDR R8882 L268 onto the wall-mounting components, and then fasten it with the M6 bolts, as shown in [Figure 4-8](#).

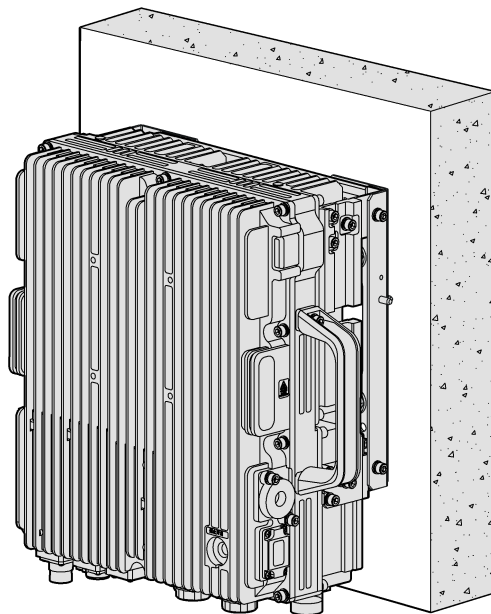
Figure 4-8 Fastening ZXSDR R8882 L268

1. Insulation washer

2. Spring washer

3. Bolt

The ZXSDR R8882 L268 is installed on wall, as shown in [Figure 4-9](#).

Figure 4-9 ZXSDR R8882 L268 Is Installed On Wall

– End of Steps –

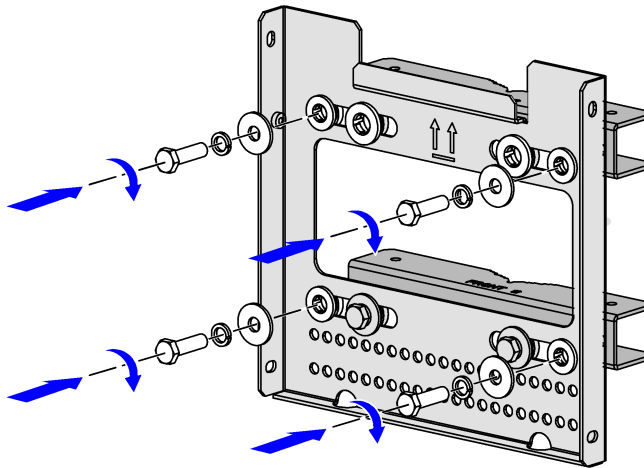
4.4 Mounting On Pole

4.4.1 One-To-One Mounting

Steps

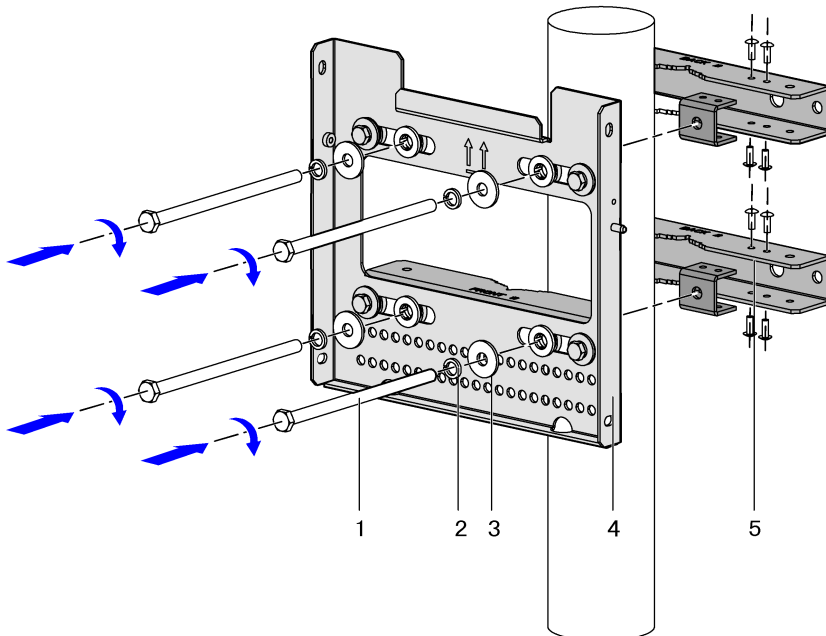
1. Fixing the wall-mounting components and pole clip together, as shown in [Figure 4-10](#).

Figure 4-10 Fixing Wall-mounting components and Pole Clips



2. Fixing the wall-mounting components and pole clips on the pole, as shown in [Figure 4-11](#).

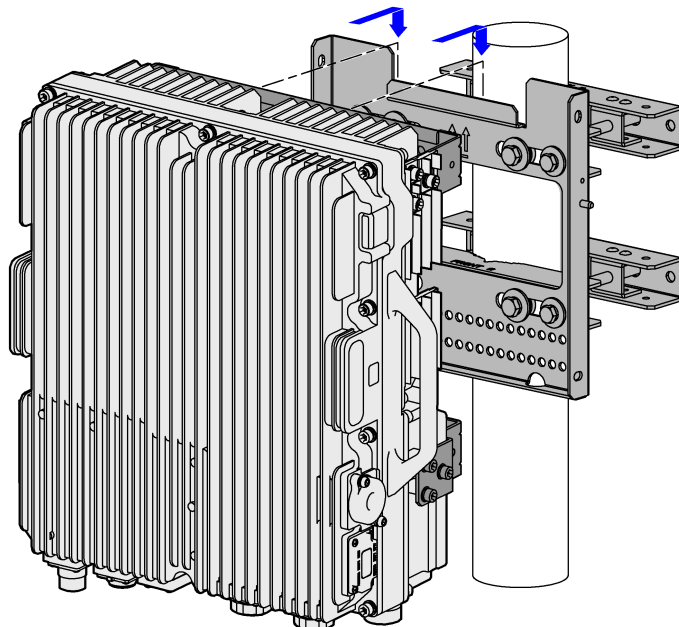
Figure 4-11 Fixing Wall-mounting Components and Pole Clips On Pole



- | | |
|------------------|-----------------------------|
| 1. Bolt | 4. Wall-mounting components |
| 2. Spring washer | 5. Pole Clips |
| 3. Flat washer | |

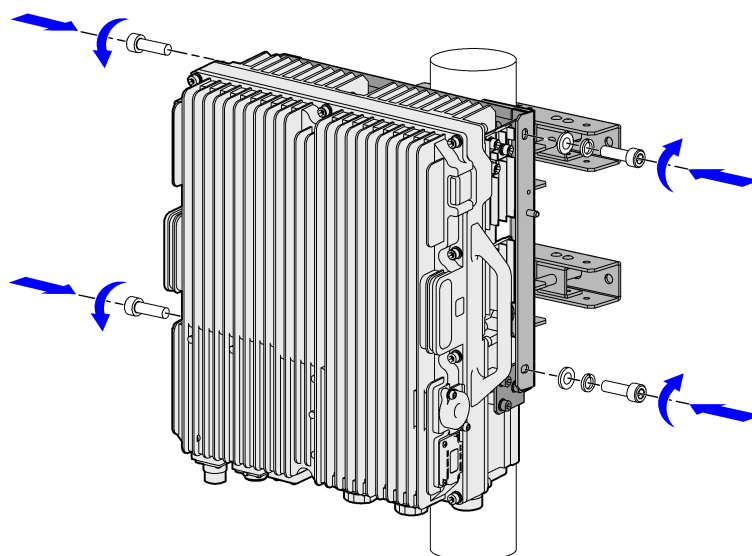
3. Hung the device on the notch part of the wall-mounting components, as shown in Figure 4-12.

Figure 4-12 Hung the Device On the Wall-mounting Components

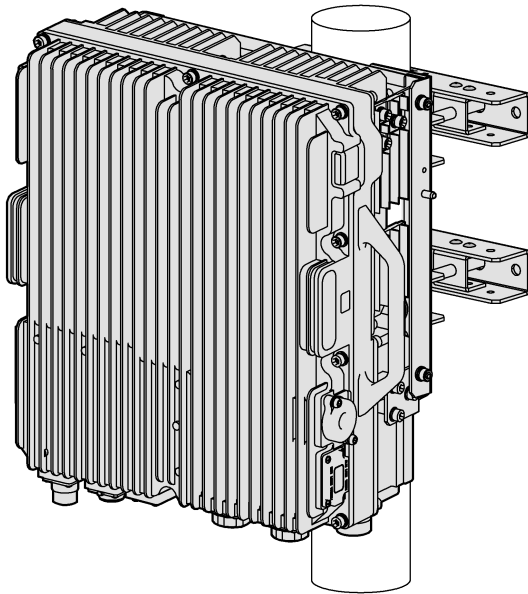


4. Fixing the device on the wall-mounting components, as shown in Figure 4-13.

Figure 4-13 Fixing The Device On The Wall-mounting Components



ZXSDR R8882 L268 is installed firmly on the pole, as shown in Figure 4-14.

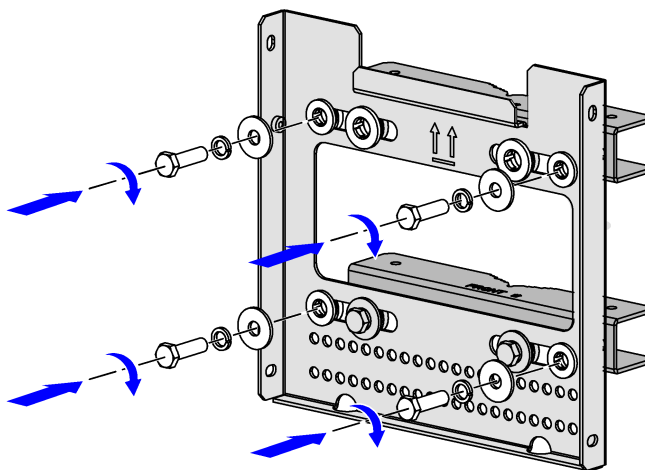
Figure 4-14 ZXSDR R8882 L268 Is Installed On Pole

– End of Steps –

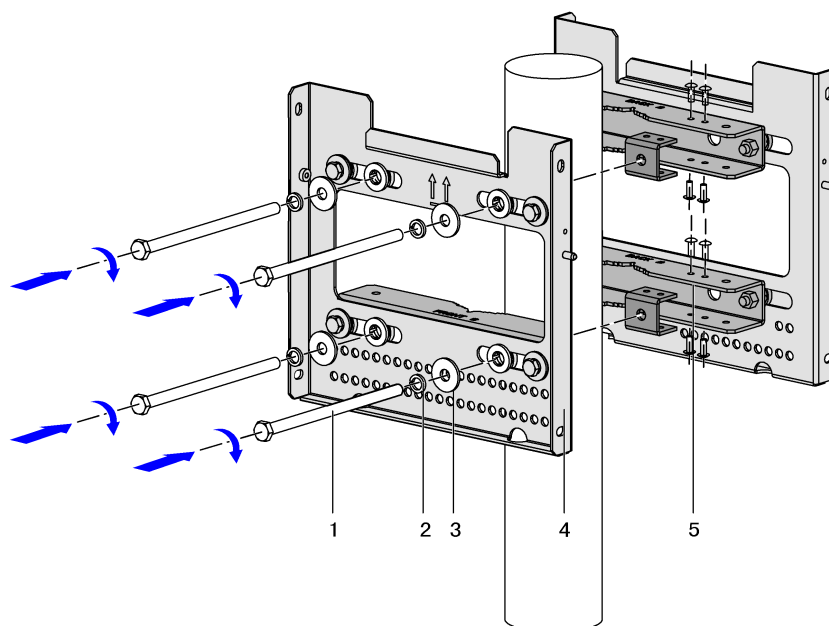
4.4.2 One-To-Two Mounting

Steps

1. Fixing the wall-mounting components and pole clip together, as shown in [Figure 4-15](#).

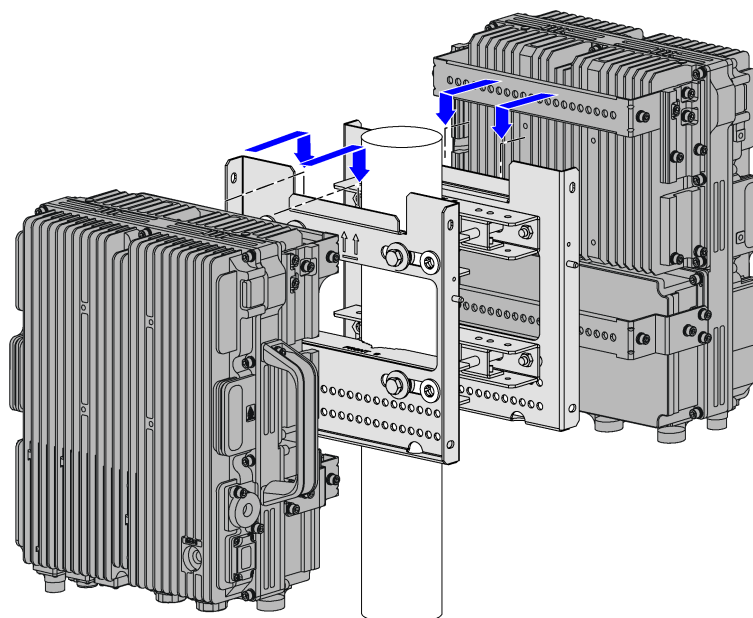
Figure 4-15 Fixing Wall-mounting components and Pole Clips

2. Fixing the wall-mounting components and pole clips on the pole, as shown in [Figure 4-16](#).

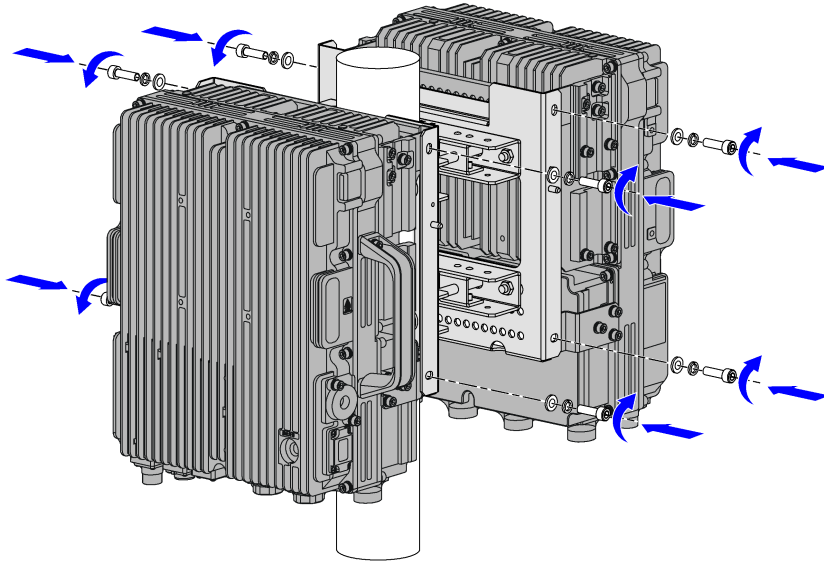
Figure 4-16 Fixing Wall-mounting Components and Pole Clips On Pole

- | | |
|------------------|-----------------------------|
| 1. Bolt | 4. Wall-mounting components |
| 2. Spring washer | 5. Pole Clips |
| 3. Flat washer | |

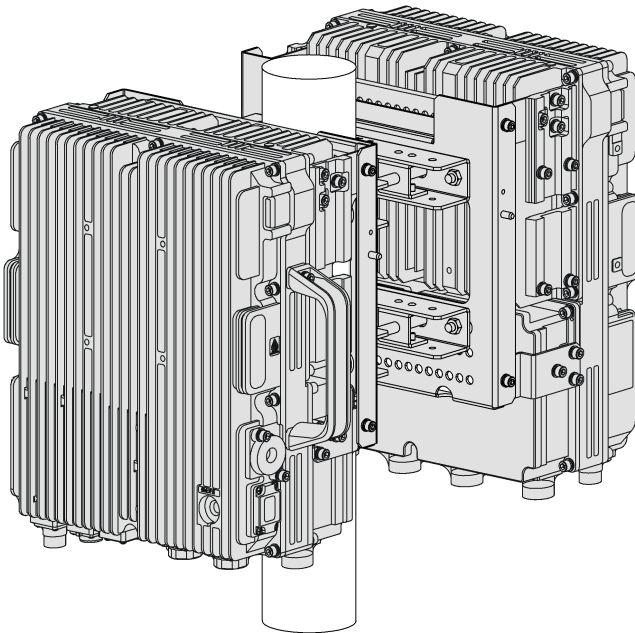
3. Hung the devices on the notch part of the wall-mounting components respectively, as shown in [Figure 4-17](#).

Figure 4-17 Hung the Devices On the Wall-mounting Components

4. Fixing the devices on the wall-mounting components, as shown in [Figure 4-18](#).

Figure 4-18 Fixing The Devices On The Wall-mounting Components

ZXSDR R8882 L268 are installed firmly on the pole, as shown in [Figure 4-19](#).

Figure 4-19 ZXSDR R8882 L268 are Installed On Pole

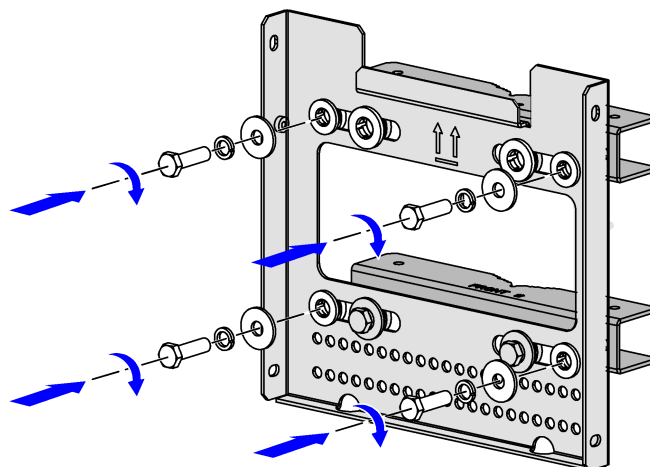
– End of Steps –

4.4.3 One-To-Three Mounting

Steps

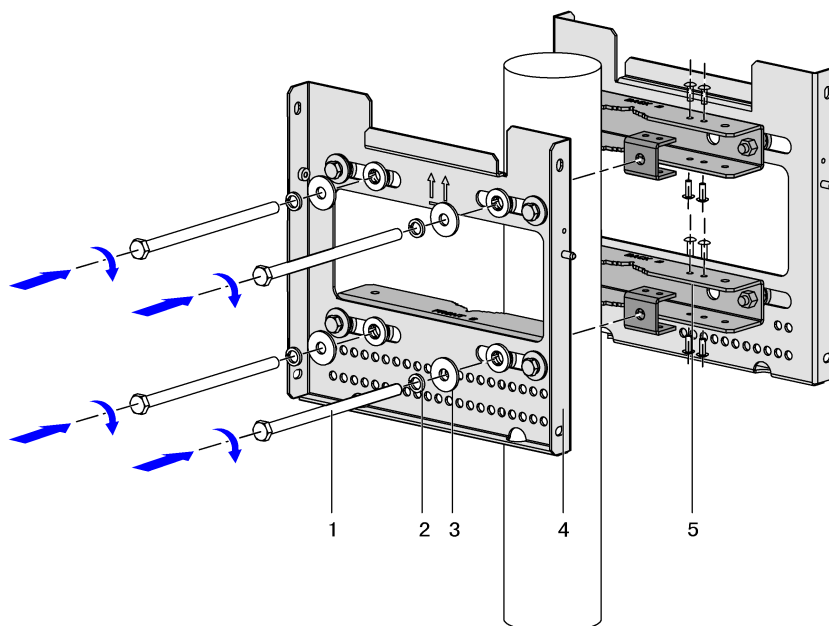
1. Fixing the wall-mounting components and pole clip together, as shown in [Figure 4-20](#).

Figure 4-20 Fixing Wall-mounting components and Pole Clips



2. Fixing the wall-mounting components and pole clips on the pole, as shown in Figure 4-21.

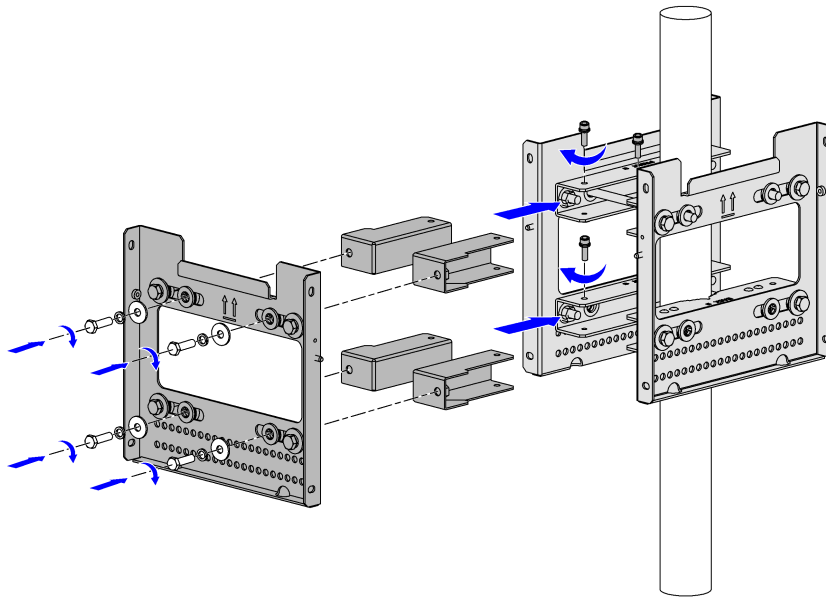
Figure 4-21 Fixing Wall-mounting Components and Pole Clips On Pole



- | | |
|------------------|-----------------------------|
| 1. Bolt | 4. Wall-mounting components |
| 2. Spring washer | 5. Pole Clips |
| 3. Flat washer | |

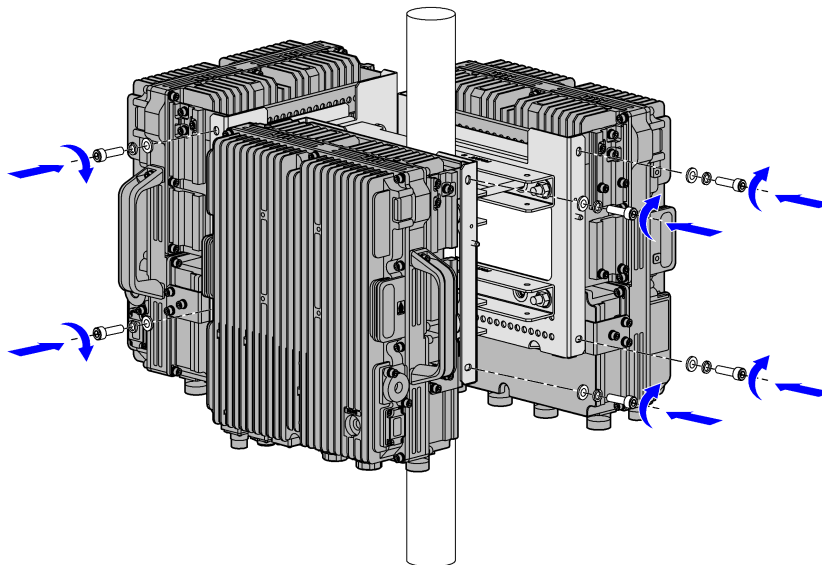
3. Fixing the third wall-mounting components by using the expansion components to the other two ones, as shown in Figure 4-22.

Figure 4-22 Fixing The Third Wall-mounting Components

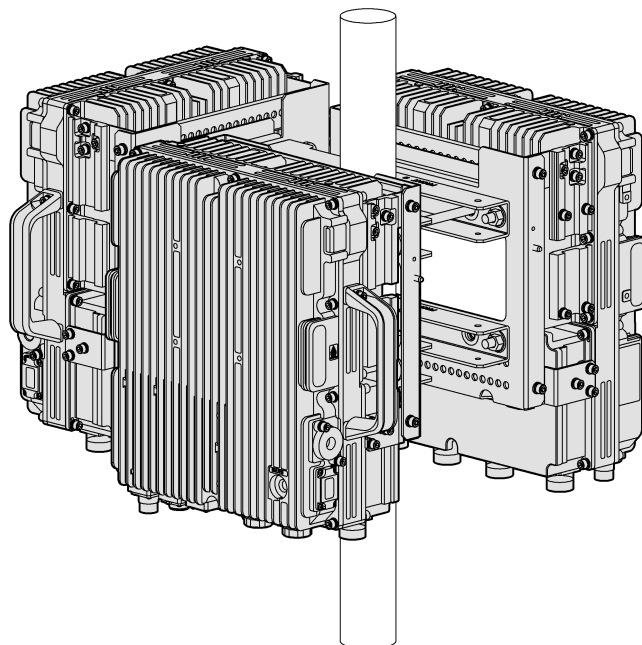


4. Hung devices on the notch part of the wall-mounting components respectively, as shown in Figure 4-23.

Figure 4-23 Hung the Devices On the Wall-mounting Components



ZXSDR R8882 L268 are installed firmly on the pole, as shown in Figure 4-24.

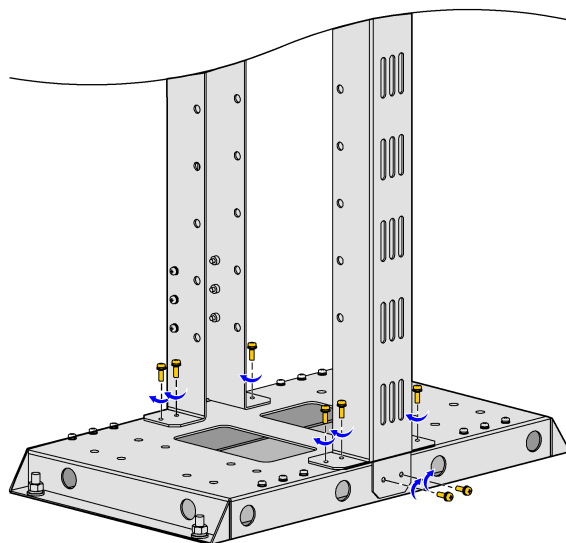
Figure 4-24 ZXSDR R8882 L268 Are Installed On Pole

– End of Steps –

4.5 Mounting On Gantry

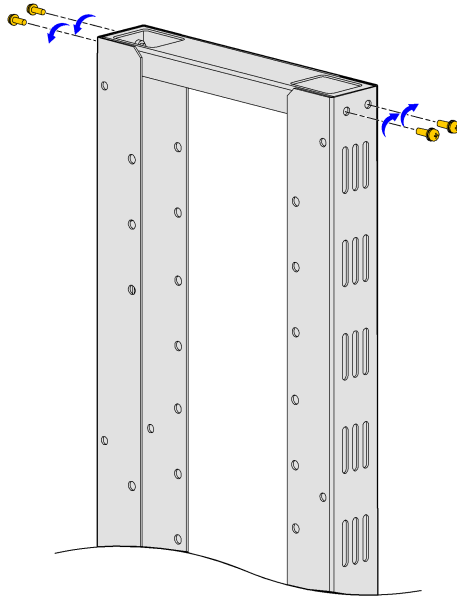
Steps

1. Assemble the gantry.
 - a. Install the vertical shaft and the bottom plate by using the M5 x 16 screw, as shown in [Figure 4-25](#).

Figure 4-25 Installing The Vertical Shaft And The Bottom Plate

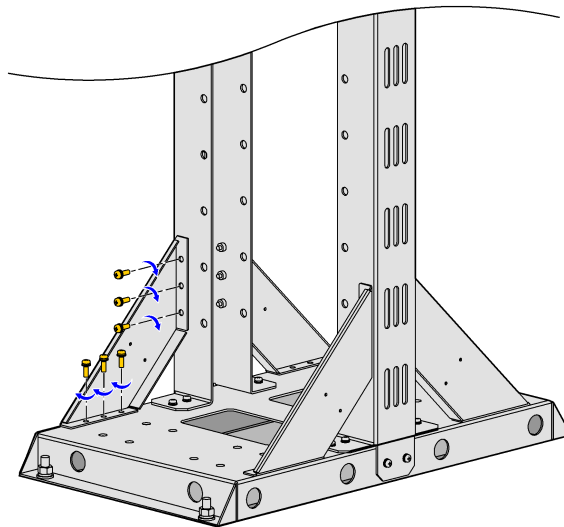
- b. Fasten the vertical shaft and the cover plate by using the M5 x 16 screw, as shown in Figure 4-26.

Figure 4-26 Fasten The Vertical Shaft And The Cover Plate



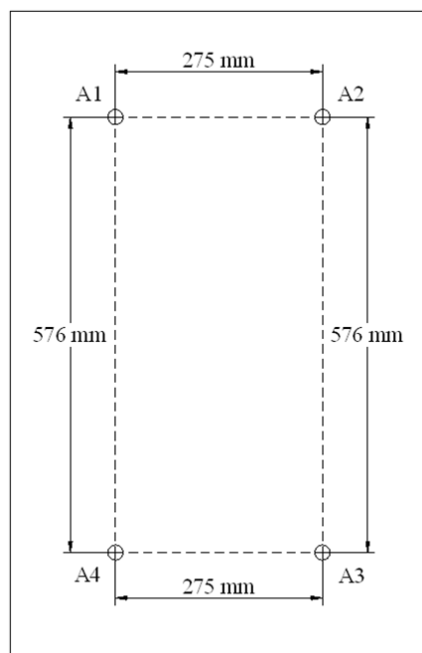
- c. Install the slanted rack by using the M5 x 16 screw, as shown in Figure 4-27.

Figure 4-27 Installing The Slanted Rack

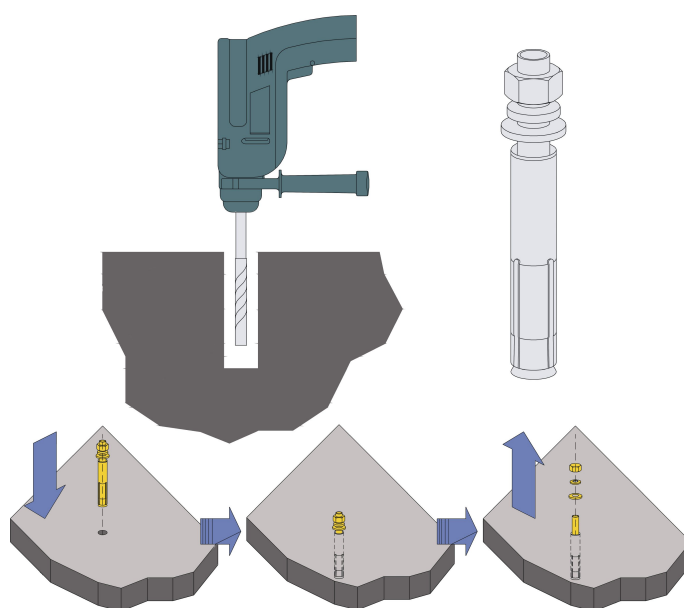


2. Drill holes

- a. According to the engineering design drawing, determine the installation position of the gantry and mark installation holes by using the marking pen. Figure 4-28 shows the installation holes of the gantry.

Figure 4-28 Marking The Drilling Holes Posiotion

- b. Drill holes by using the electric percussion drill (drill bit: $\phi 12$) at the places where installation holes are marked. At the same time, use the vacuum cleaner to remove the dust generated during the drilling of holes.
- c. Put the expansion sleeve onto the metal cone of the expansion bolt, fasten the nut slightly, strike the expansion bolt into the installation hole by using the rubber hammer, fasten the nut tightly to make the bolt fully expanded, and then remove the nut, as shown in [Figure 4-29](#).

Figure 4-29 Installing The Expansion Bolt

3. Install the gantry.

If the gantry is installed on the concrete floor, use the M10 x 100 expansion bolt, as shown in [Figure 4-30](#); if the gantry is installed on the wooden floor, use the M10 x 40 tapping screw, as shown in [Figure 4-31](#).

Figure 4-30 Installing The Gantry On The Concrete Floor

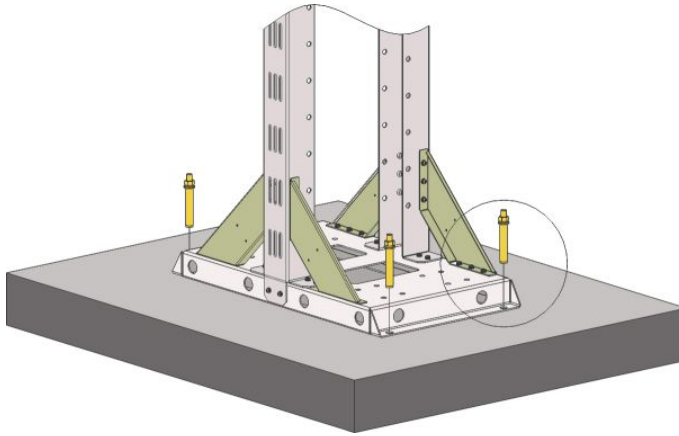
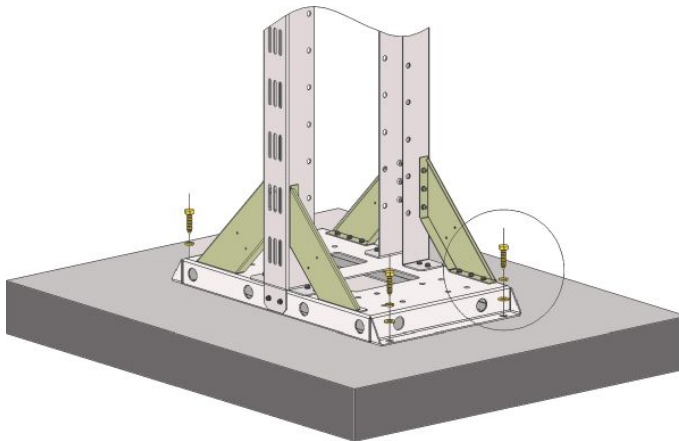
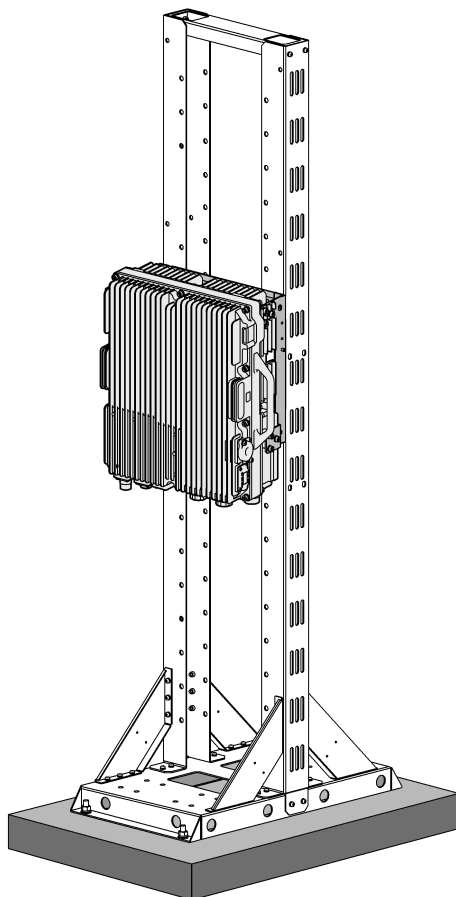


Figure 4-31 Installing The Gantry On The Wooden Floor



4. Install the wall-mounting components on the gantry.
5. Install the ZXSDR R8882 L268 on the wall-mounting components. The device is installed firmly on the gantry, as shown in [Figure 4-32](#).

Figure 4-32 ZXSDR R8882 L268 Is Installed On Gantry



– End of Steps –

4.6 Connecting Cables

4.6.1 Connection of External Cables

Table 4-3 describes the connection of ZXSDR R8882 L268 external cables.

Table 4-3 Connection of ZXSDR R8882 L268 External Cables

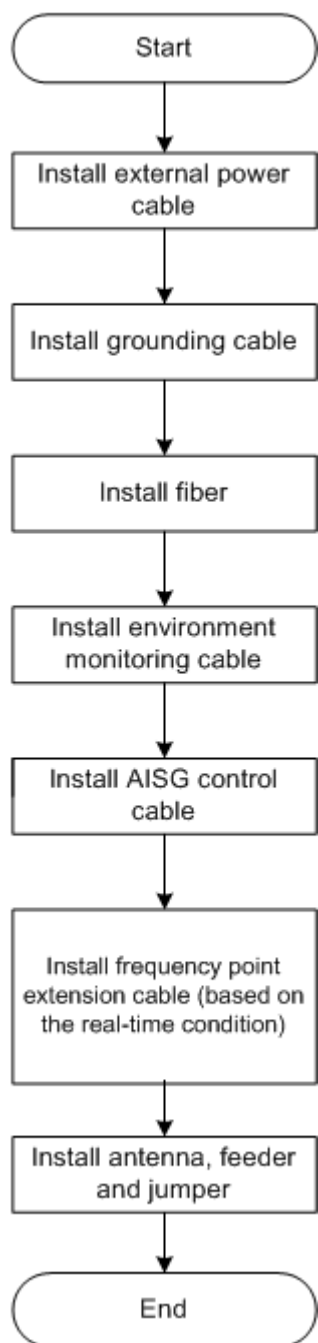
Cable type	Connection relation	Description
Power cable	Connects the ZXSDR R8882 L268 power interface to the power supply equipment interface	One end is circular 6-core cable connector (hole) with plastic cover, the other end is reserved for power cable. The length of cable is based on the engineering survey.

Grounding cable	Connects one ZXSDR R8882 L268 ground bolt to the copper bar	The grounding cable is made up of strands of flame-retardant wire. The cross sectional area of ZXSDR R8882 L268 grounding cable is 25 mm ² . Copper lugs are crimped at both ends of the grounding cable.
Fiber	Connects to eBBU and for ZXSDR R8882 L268 cascading too.	Device supports single mode / multi-mode optical fiber cable.
Environment monitor cable	Connects the ZXSDR R8882 L268 environment monitor interface to the external monitor components or the dry contact.	For the environment monitor cable, end A is PIN header. End B, with 3m length in total, is made depending on the field engineering conditions.
AISG cable	Connects the ZXSDR R8882 L268 debugging interface (AISG)	AISG is used to provide the RS485 signal and the DC voltage output.
Antenna jumper	Connects ZXSDR R8882 L268 to main feeder	The RF jumper usually uses the finished 1/2" jumper with 2m length. The jumper can be customized depending on actual conditions. One end of the jumper is N connector (male) and the other end is DIN connector (female).

4.6.2 External Cable Installation Flow

Figure 4-33 lists the installation flow of external cable. This flow can be adjusted based on actual conditions.

Figure 4-33 External Cable Installation Flow



4.6.3 Installing Power Cable

Context

-48 V DC is used for ZXSDR R8882 L268 cabinet. A power cable is provided for the equipment. One end is circular 6-core cable connector (hole) with plastic cover, the other end is reserved for power cable. The length of cable is based on the engineering survey.

Figure 4-34 shows the structure of ZXSDR R8882 L268 power cable.

Figure 4-34 Structure of Power Cable

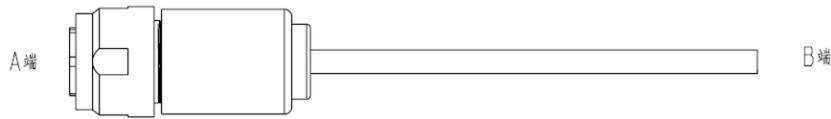


Table 4-4 describes the color and definition of inner core of the power cable.

Table 4-4 Color and Definition of Inner Core of the Power Cable

Core color	Definition	Signal Description
Blue	-48V	-48V GND
Blue	-48V	-48V GND
Black	-48 V GND	-48V ground
Black	-48 V GND	-48V ground
White	NODE_IN+	Dry contact
Brown	NODE_IN-	Dry contact



Note:

1. If the two-core cable is adopted, the blue core cable stands for -48 V and the black core cable stands for -48 V GND.
2. If the four-core cable is adopted, the two blue core cables connected in parallel stand for -48 V and the black core cables connected in parallel stand for -48 V GND.

Steps

1. Connect end A of power cable with DC IN interface located at the bottom of ZXSDR R8882 L268.
2. Strip the protective coat of end B and connect it to lightning protection unit according to color of the inner core cable.
3. Make waterproof protection of end B.
4. Attach labels at both ends of the power cable.
5. Fix the power cable.

– End of Steps –

4.6.4 Installing Grounding Cable

Context

The grounding cable of ZXSDR R8882 L268 is made up of strands of flame-retardant wire. The cross sectional area of grounding cable is 25 mm^2 . Copper lugs are crimped at both ends of the grounding cable, as shown in Figure 4-35.

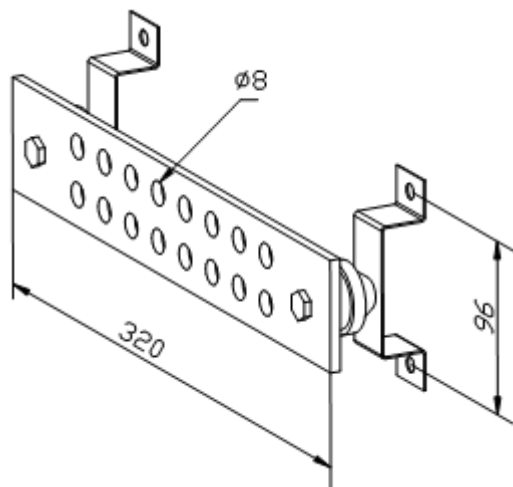
Figure 4-35 Structure of Grounding Cable



Steps

1. Cover and fix a copper lug on the a grounding bolt of the ZXSDR R8882 L268 cabinet.
2. Connect the other copper lug to the earth-networking copper bar and fix it with bolts, as shown in Figure 4-36.

Figure 4-36 Grounding Copper Bar



3. Attach the label on the grounding cable.
4. Measure the grounding resistance and make sure it is less than 5 ohms.

– End of Steps –

4.6.5 Installing Fiber Between eBBU and eRRU

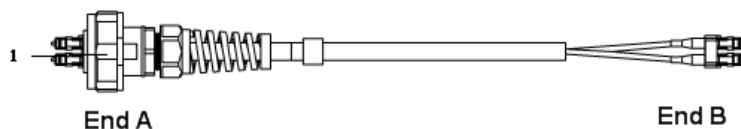
Prerequisite

The ZXSDR R8882 L268 unit has been installed and securely fastened.

Context

Figure 4-37 shows fiber connection between ZXSDR R8882 L268 and eBBU.

Figure 4-37 Fiber that connects ZXSDR R8882 L268 and eBBU



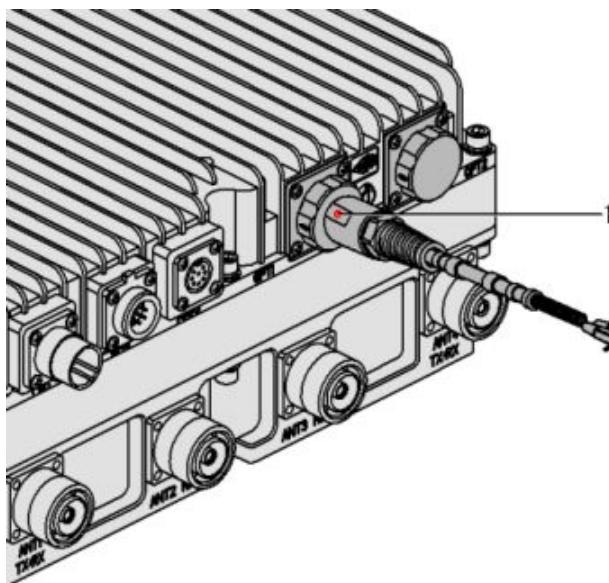
1. Outdoor sealing component

While connecting a eBBU to ZXSDR R8882 L268, make sure that the baseband RF fiber interface (LC1/2) of ZXSDR R8882 L268 is connected to the optical interface connector of eBBU.

Steps

1. Attach labels at both ends of the fiber.
2. Adjust the side of end A with the color mark and insert fiber interface, and screw down the nuts, as shown in Figure 4-38.

Figure 4-38 Installing Fibers



1. Color mark
3. Connect end A of the fiber to the baseband-RF fiber interface (LC1/2) of ZXSDR R8882 L268. Connect end B of the fiber, which is a DLC connector, to the eBBU optical connector.
4. Screw down the outdoor seal component at end A for waterproof.

– End of Steps –

4.6.6 Installing Fibers Between eRRUs

Prerequisite

The ZXSDR R8882 L268 cabinet for cascade has been installed and securely fastened.

Context

Figure 4-39 shows the structure of cascade fibers between ZXSDR R8882 L268s.

Figure 4-39 Cascade fiber between ZXSDR R8882 L268s



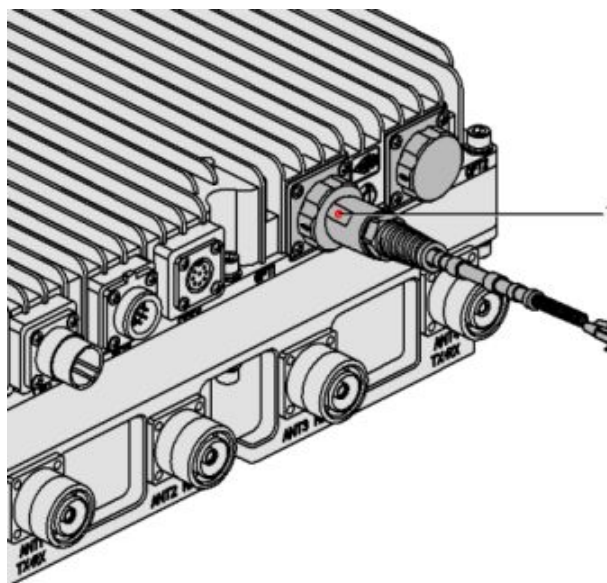
1. Outdoor sealing component

On interconnection between ZXSDR R8882 L268s, connect two baseband-RF fiber interfaces (OPT1/2) for two ZXSDR R8882 L268s by using a fiber.

Steps

1. Attach labels at both ends of the fiber.
2. Make the equipment and the side with color mark face to you. Insert the fiber connector into optical interface and screw down the nuts, as shown in Figure 4-40.

Figure 4-40 Installing Fibers



1. Color mark

3. Connect end A of the fiber to baseband-RF fiber interface (OPT1/2) of ZXSDR R8882 L268. Connect end B of the fiber to baseband-RF interface (OPT1/2) of the other ZXSDR R8882 L268.
4. Screw down the outdoor seal component for waterproof.

– End of Steps –

4.6.7 Installing Environment Monitor Cable

Prerequisite

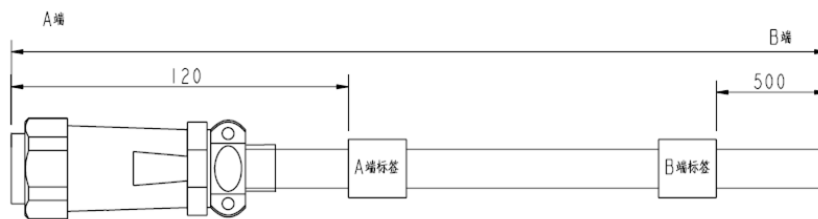
The ZXSDR R8882 L268 cabinet has been installed and securely fastened.

Context

The environment monitor cable provides a 485 interface, used for ZXSDR R8882 L268 environment monitor. It also provides four extension accesses for external dry contact monitor.

End A is circular 8-core plug and end B is made depending on actual conditions. The total length is 3m. [Figure 4-41](#) shows the structure of environment monitor cable.

Figure 4-41 Environment Monitor Cable



The connector, connecting the environment monitoring cable to ZXSDR R8882 L268, is 8-core straight welded connector (pin) mounted on panel. The connector appearance is shown in [Figure 4-42](#).

Figure 4-42 Appearance of Environment Monitor Cable



The cable connector pins and connection are shown in [Table 4-5](#).

Table 4-5 Cable Pin Description

Pin	Core color	Signal Description
PIN1	Brown	Dry contact input, positive polarity

Pin	Core color	Signal Description
PIN2	Yellow	Dry contact input, negative polarity
PIN3	Blue	Dry contact input, positive polarity
PIN4	White	Dry contact input, negative polarity
PIN5	Green	Positive RS485 bus signal
PIN6	Grey	Negative RS485 bus signal
PIN7	Red	Positive RS485 bus signal
PIN8	Black	Negative RS485 bus signal

**Note:**

Connect the first dry contact of eRRU to outdoor DC lightning protection box.

Steps

1. Connect end A of environment monitor cable to environment monitor interface of ZXSDR R8882 L268 cabinet.
2. Connect end B of environment monitor cable to external monitor part or dry contact.
3. Attach the labels on end B.

– End of Steps –

4.6.8 Installing AISG Control Cable

Context

AISG is used to control the electrical-adjustment antenna.

Figure 4-43 shows the structure of AISG control cable.

Figure 4-43 Structure of AISG Control Cable

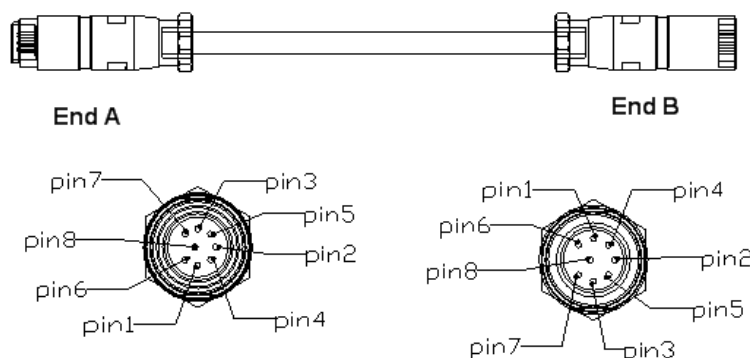


Table 4-6 describes the meaning of sequence number of AISG control cable.

Table 4-6 Meaning of Sequence Number of AISG Control Cable

Pins at end A	Pins at End B	Name	Meaning
PIN3	PIN1	RS485B	RS485-
PIN5	PIN2	RS485A	RS485+
PIN6	PIN3, PIN4	DC	DC output
PIN7	PIN5, PIN6	DC RTN	DC RTN
PIN1, PIN2, PIN4, PIN8		NC	Null

Steps

1. Connect end A to ZXSDR R8882 L268 debugging interface (AISG) and screw down the bolt.
2. Connect end B to the control interface of electrical adjustment antenna and screw down the bolt.

– End of Steps –

4.6.9 Installing Antenna Feeder Jumper

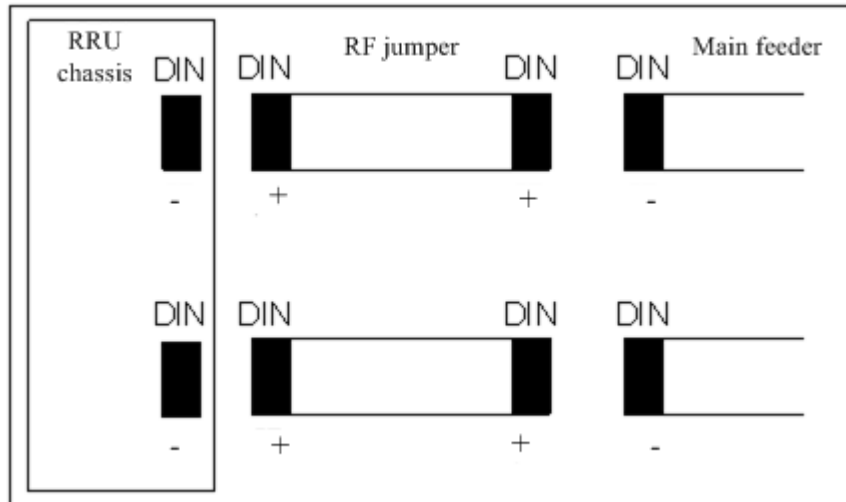
Context

RF jumper is a cable segment that connects main feeder and antenna feeder interface of ZXSDR R8882 L268 cabinet. The RF jumper is installed after the main feeder is installed completely.

The RF jumper usually uses the finished 1/2" jumper with 2m length. The jumper can be customized depending on actual conditions.

Figure 4-44 shows installation positions of RF jumper.

Figure 4-44 Installation Position of RF Jumper



Steps

1. Connect DIN connector (male) of RF jumper with DIN connector (female) of main feeder.
2. Connect DIN connector (male) of RF jumper with RF antenna interface of cabinet.
3. Seal the connectors to make them waterproof.

– End of Steps –

This page intentionally left blank.

Figures

Figure 2-1	ZTE Distributed eNodeB Solution.....	2-2
Figure 2-2	Product Location.....	2-3
Figure 2-3	Product Overall Appearance	2-5
Figure 2-4	Star Networking Mode	2-6
Figure 2-5	Operate and Maintain System Remotely	2-6
Figure 2-6	Operate and Maintain System Locally.....	2-7
Figure 2-7	Product External Interfaces and Grounding Terminal.....	2-7
Figure 2-8	LMT Interface	2-8
Figure 2-9	Product Indicators.....	2-9
Figure 4-1	Packing of ZXSDR R8882 L268.....	4-7
Figure 4-2	Unpacking and Inspection Flow	4-8
Figure 4-3	Installation Flow.....	4-10
Figure 4-4	Template Hole Position	4-11
Figure 4-5	Installing Wall-mounting Components	4-11
Figure 4-6	Wall-mounting Components On Wall.....	4-12
Figure 4-7	Hung Device On The Wall-mounting Components	4-12
Figure 4-8	Fastening ZXSDR R8882 L268.....	4-13
Figure 4-9	ZXSDR R8882 L268 Is Installed On Wall	4-13
Figure 4-10	Fixing Wall-mounting components and Pole Clips.....	4-14
Figure 4-11	Fixing Wall-mounting Components and Pole Clips On Pole.....	4-14
Figure 4-12	Hung the Device On the Wall-mounting Components.....	4-15
Figure 4-13	Fixing The Device On The Wall-mounting Components	4-15
Figure 4-14	ZXSDR R8882 L268 Is Installed On Pole.....	4-16
Figure 4-15	Fixing Wall-mounting components and Pole Clips.....	4-16
Figure 4-16	Fixing Wall-mounting Components and Pole Clips On Pole.....	4-17
Figure 4-17	Hung the Devices On the Wall-mounting Components.....	4-17
Figure 4-18	Fixing The Devices On The Wall-mounting Components.....	4-18
Figure 4-19	ZXSDR R8882 L268 are Installed On Pole.....	4-18
Figure 4-20	Fixing Wall-mounting components and Pole Clips	4-19
Figure 4-21	Fixing Wall-mounting Components and Pole Clips On Pole.....	4-19
Figure 4-22	Fixing The Third Wall-mounting Components.....	4-20
Figure 4-23	Hung the Devices On the Wall-mounting Components.....	4-20

Figure 4-24	ZXSDR R8882 L268 Are Installed On Pole	4-21
Figure 4-25	Installing The Vertical Shaft And The Bottom Plate.....	4-21
Figure 4-26	Fasten The Vertical Shaft And The Cover Plate	4-22
Figure 4-27	Installing The Slanted Rack.....	4-22
Figure 4-28	Marking The Drilling Holes Posiotion.....	4-23
Figure 4-29	Installing The Expansion Bolt	4-23
Figure 4-30	Installing The Gantry On The Concrete Floor	4-24
Figure 4-31	Installing The Gantry On The Wooden Floor	4-24
Figure 4-32	ZXSDR R8882 L268 Is Installed On Gantry	4-25
Figure 4-33	External Cable Installation Flow	4-27
Figure 4-34	Structure of Power Cable	4-28
Figure 4-35	Structure of Grounding Cable.....	4-29
Figure 4-36	Grounding Copper Bar	4-29
Figure 4-37	Fiber that connects ZXSDR R8882 L268 and eBBU.....	4-30
Figure 4-38	Installing Fibers.....	4-30
Figure 4-39	Cascade fiber between ZXSDR R8882 L268s.....	4-31
Figure 4-40	Installing Fibers.....	4-31
Figure 4-41	Environment Monitor Cable.....	4-32
Figure 4-42	Appearance of Environment Monitor Cable	4-32
Figure 4-43	Structure of AISG Control Cable	4-34
Figure 4-44	Installation Position of RF Jumper.....	4-35

Tables

Table 2-1	Product External Interfaces Description	2-8
Table 2-2	Product Indicator Description.....	2-9
Table 3-1	CPRI Interface Index	3-2
Table 3-2	Receiver Sensitivity	3-2
Table 3-3	FRC Parameters for Reference Sensitivity and In-channel Selectivity	3-3
Table 4-1	Safety Symbols and Their Descriptions	4-1
Table 4-2	Installation Accessories Description.....	4-9
Table 4-3	Connection of ZXSDR R8882 L268 External Cables	4-25
Table 4-4	Color and Definition of Inner Core of the Power Cable.....	4-28
Table 4-5	Cable Pin Description	4-32
Table 4-6	Meaning of Sequence Number of AISG Control Cable.....	4-34

This page intentionally left blank.

Glossary

AISG

- Antenna Interface Standards Group

CPRI

- Common Public Radio Interface

CRC

- Cyclic Redundancy Check

LTE

- Long Term Evolution

MTBF

- Mean Time Between Failures

MTTR

- Mean Time To Repair

QAM

- Quadrature Amplitude Modulation

QPSK

- Quadrature Phase Shift Keying

RF

- Radio Frequency

SDR

- Software Defined Radio

eBBU

- evolved Base Band Unit

eNodeB

- Evolved NodeB

eRRU

- evolved Remote Radio Unit