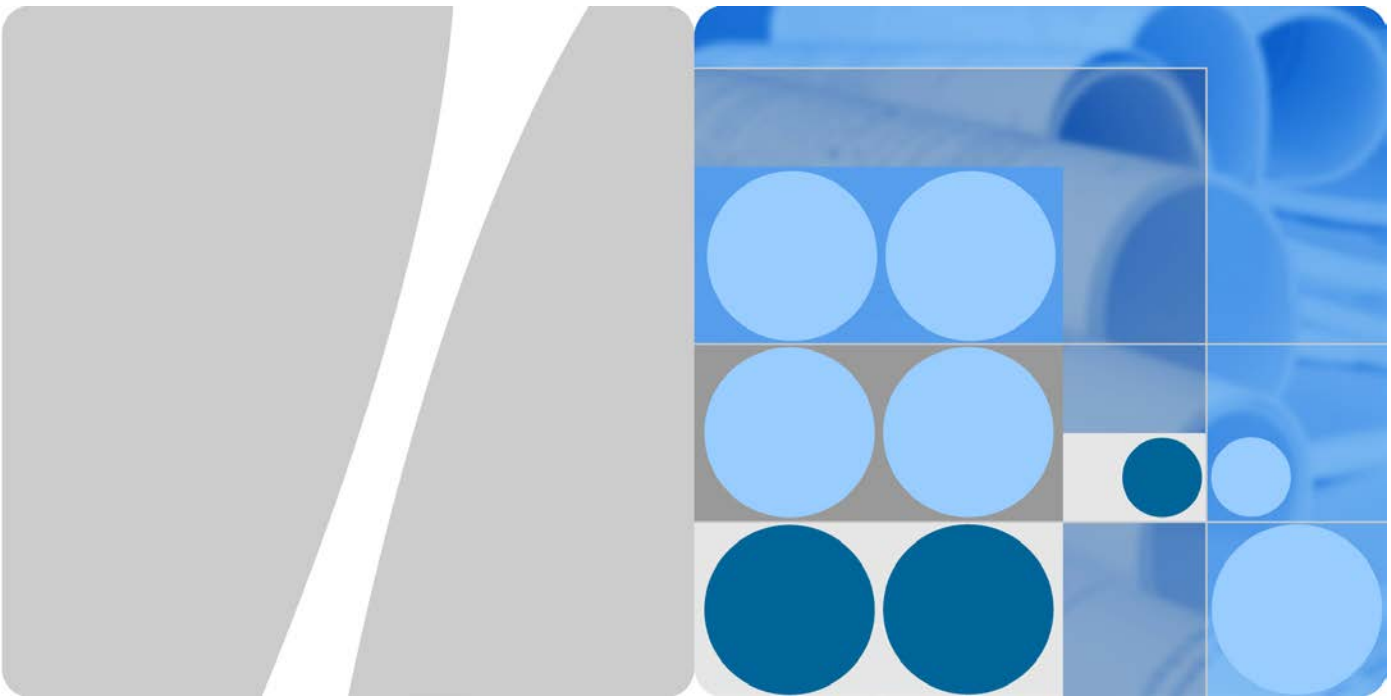

eRRU3232 Description

Issue 01

Date 2012-07-30

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Contents

About This Document

Overview

This document describes the network position, product architecture and characteristics, and related technical specifications of the eRRU3232, helps users learn the basic information about the eRRU3232.

Intended Audience

This document is intended for:

- Huawei technical support
- System engineers
- Network planning engineers

Change History

Updates between document issues are cumulative. Therefore, the latest document issue contains all updates made in previous issues.

Issue 01 (2012-07-30)

This is the first commercial release.

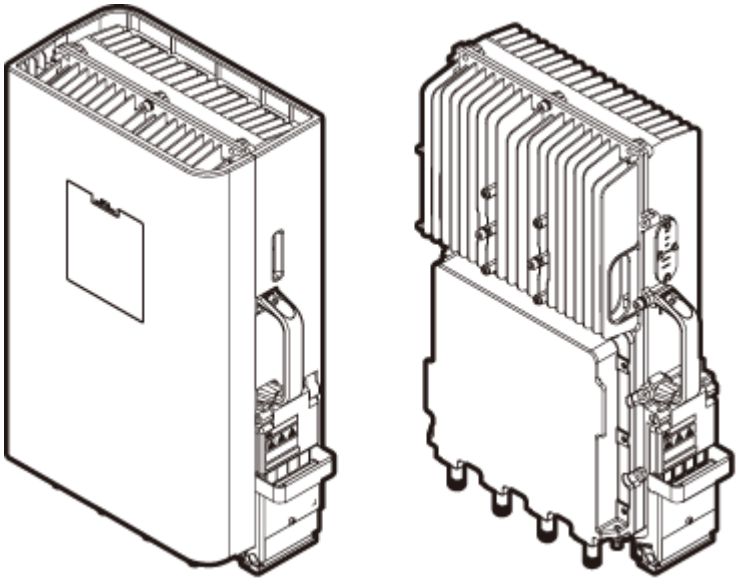
1 Overview

The eRRU3232 is a remote radio unit. One or more eRRU3232s constitute the radio frequency (RF) part of a distributed E-UTRAN NodeB (eNodeB). The eRRU3232 can be mounted onto a pole, stand, or concrete wall. It also can be installed close to antennas to shorten the feeder length, reduce feeder loss, and improve system coverage. eRRU3232s modulate and demodulate baseband and RF signals, process data, amplify power, and detect standing waves. RRU is short for remote radio unit, and E-UTRAN is short for evolved universal terrestrial radio access network.

Exterior

Figure 1-1 shows the exterior of the eRRU3232.

Figure 1-1 eRRU3232



Ports

Each RRU has a modular structure. Its external ports are located at the bottom of the unit or in the cabling cavity. Table 1-1 describes the ports on the eRRU3232.

Table 1-1 Ports on the eRRU3232(AC)

Port	Connector	Quantity	Description
Common public radio interface (CPRI) port	DLC	2	Connects to the baseband unit (BBU) or to another RRU for cascading of RRUs. The RRU3232 supports four levels of cascading, and the maximum distance between the last RRU3232 and the BBU is 20 km.
RF port	Type N, female	4	Connects to an antenna
Power supply socket	Round 3-pin connector	1	Provides 220 V AC power input.
Remote electrical tilt (RET) port	DB9	1	Connects to the remote control unit (RCU)
Ground port	OT	2	Ground protection

Table 1-2 Ports on the eRRU3232(DC)

Port	Connector	Quantity	Description
Common public radio interface (CPRI) port	DLC	2	Connects to the baseband unit (BBU) or to another RRU for cascading of RRUs. The RRU3232 supports four levels of cascading, and the maximum distance between the last RRU3232 and the BBU is 20 km.
RF port	Type N, female	4	Connects to an antenna
Power supply socket	Tool-less male connector (pressfit type)	1	-48 V DC power input
Remote electrical tilt (RET) port	DB9	1	Connects to the remote control unit (RCU)
Ground port	OT	2	Ground protection

2 Technical Specifications

2.1 Frequency Band

Table 2-1 Frequency band supported by the eRRU3232

Frequency Band	Frequency Range	Carrier Bandwidth	IBW	OBW
1.8 GHz	（1785MHz～1805MHz、1785MHz～1800MHz）	1.4MHz or 5 MHz or 10 MHz or 20 MHz	20MHz	20MHz

2.2 Capacity

When functioning as a 4T4R RRU, the RRU3232 supports two carriers at most.

When the RRU3232 functions as two 2T2R RRUs, each 2T2R RRU supports two carriers at most.

2.3 Output Power

eRRU3232 is a 4T4R RRU, Table 2-2 lists the transimt power of eRRU3232.

Table 2-2 Transmit power of eRRU3232

Frequency Band	Transmit Power of an RF Channel	Total Transmit Power
1.8 GHz	20 W	80 W

2.4 Power Consumption

Table 2-3 Power Consumption

Frequency Band (GHz)	Output Power	Typical Power Consumption (W) (2:2)	Maximum Power Consumption (W) (2:2)	Typical Power Consumption (W) (3:1)	Maximum Power Consumption (W) (3:1)
1.8	2*10W	97	108	122	144
1.8	4*10W or 2*20W	144	163	187	222
1.8	4*20W	177	215	237	315

2.5 Input Power

Table 2-4 Input power

Item	Specifications
Input power	-48 V DC (voltage range: -36 V DC to -57 V DC) 220 V AC (voltage range: 90V AC～290V AC)

2.6 Cascading Capability and Distance

Table 2-5 Cascading capability and distance

Cascading Capability	Maximum Distance from the BBU (km)
1	the maximum distance between an RRU and a BBU is 10 km.

2.7 Physical Specifications

Table 2-6 Physical specifications

Item	Specifications
Dimensions (height x width x depth)	480 mm x 270 mm x 140 mm (18.90 in. x 10.63 in. x 5.51 in.) (18 L without the housing) 485 mm x 300 mm x 170 mm (19.09 in. x 11.81 in. x 6.69 in.) (24.7 L with the housing)
Weight	≤ 19.5 kg (43.00 lb) (without the housing) ≤ 21 kg (46.31 lb) (with the housing)

2.8 Environmental Specifications

Table 2-7 Environmental Specifications

Item	Specifications
Working temperature	-40°C to +50°C (-40°F to +122°F) (with solar radiation of 1120 W/m^2) -40°C to +55°C (-40°F to +131°F) (without solar radiation)
Relative humidity	5% RH to 100% RH
Absolute humidity	0.26 g/m^3 to 25 g/m^3
Atmospheric pressure	70 kPa to 106 kPa
Operating environment	The eRRU3232 complies with the following standards: • 3GPP TS25.141 V3.0.0 • ETSI EN 300019-1-4 V2.1.2 (2003-04) Class 4.1: "Non-weatherprotected locations"
Anti-seismic protection	NEBS GR63 zone4
Ingress Protection (IP) rating	IP65

3 Acronyms and Abbreviations

Table 3-1 List of acronyms and abbreviations

Acronym/Abbreviation	Full Name
BBU	BaseBand control Unit
CPRI	Common Public Radio Interface
DBS	Distribution Base Station
FAN	Fan Unit
FE	Fast Ethernet
GE	Gigabit Ethernet
GPS	Global Positioning System
LMT	Local Maintenance Terminal
LTE	Long Term Evolution
RGPS	Remote Global Positioning System
RCU	Remote Control Unit
RET	Remote Electrical Ttilt
RRU	Remote Radio Unit
UPEU	Universal Power and Environment Interface Unit
USB	Universal Serial Bus