

**LTE TDD**

# **RRU3276 Product Description**

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# 1 Overview

The RRU3276 is a remote radio unit. One or more RRU3276 modules constitute the radio frequency (RF) part of a distributed E-UTRAN NodeB (eNodeB). The RRU3276 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. Remote radio units (RRUs) modulate and demodulate baseband and RF signals, process data, amplify power, and detect standing waves.

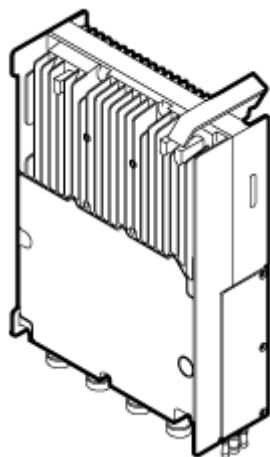
## 1.1 Exterior

### 1.2 Ports on the RRU3276

## 1.1 Exterior

Figure 1-1 shows the exterior of the RRU3276.

**Figure 1-1** RRU3276



## 1.2 Ports on the RRU3276

Each RRU has a modular structure. Its external ports are located at the bottom of the module or in the cabling cavity. Table 1-1 describes the ports on the RRU3276.

**Table 1-1** Ports on the RRU3276

Port	Connector	Quantity	Description
Power supply socket	Tool-less male connector (pressfit type)	1	Provides -48 V DC power input.
CPRI port	DLC	2	Transmission port connected to the baseband unit (BBU) or to another RRU for RRU cascading.
RET port	DB9 connector	1	Connects to the remote control unit (RCU) of remote electrical tilt (RET) antennas.
RF port	Type N female connector	4	Connects to an antenna.
Alarm port	DB15 connector	1	Provides eight dry contact alarm signals.
Ground port	OT	2	Connects to the protection ground.

# 2 Technical Specifications

- 2.1 Frequency Band
- 2.2 Capacity
- 2.3 Output Power
- 2.4 Power Consumption
- 2.5 Input Power
- 2.6 Cascading Capability and Distance
- 2.7 Physical Specifications
- 2.8 Environmental Specifications

## 2.1 Frequency Band

**Table 2-1** Frequency band supported by the RRU3276

Frequency Band	Frequency Range(MHz)	Carrier Bandwidth(MHz)	IBW(MHz)	OBW(MHz)
Band 40 (2.3 GHz)	2300 to 2400	5, 10, 15 or 20	100	80
Band 41 (2.6 GHz)	2496 to 2690	5, 10, 15 or 20	150	80
Band 41 (2.6 GHz)	2520 to 2620	5, 10, 15 or 20	100	80
Band 38 (2.6 GHz)	2575 to 2615	5, 10, 15 or 20	40	40

## 2.2 Capacity

The maximum carriers supported by the RRU3276 vary with the frequency band:

- Band 40 (2.3 GHz): four carriers
- Band 41 (2.6 GHz): four carriers

- Band 38 (2.6 GHz): two carriers

## 2.3 Output Power

Table 2-2 lists the maximum output power of the RRU3276.

**Table 2-2** Maximum output power of RRU3276

Frequency Band	Transmit Power of Each RF Channel	Total Transmit Power of the Four RF Channels
Band 40 (2300 MHz to 2400MHz)	40 W	160 W
Band 41 (2496 MHz to 2690MHz)	40 W	160 W
Band 41 (2520 MHz to 2620MHz)	40 W	160 W
Band 38 (2575 MHz to 2615MHz)	40 W	160 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)
2.3	4*10W	201	229	251	292
2.3	4*20W	234	293	296	381
2.3	4*30W	256	335	333	456
2.3	4*40W	287	389	377	531
2.6	4*10W	199	230	248	290
2.6	4*20W	231	302	296	394
2.6	4*30W	263	368	348	498
2.6	4*40W	292	441	394	604

## 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)

## 2.6 Cascading Capability and Distance

Table 2-5 Cascading capability and distance

Cascading Capability	Maximum Distance from the BBU (km)
4	If only one level of RRUs is configured, the maximum distance between an RRU and a BBU is 10 km. If multiple levels of RRUs are configured, the maximum distance between an RRU in the lowest level and a BBU is 20 km.

## 2.7 Physical Specifications

Table 2-6 Physical specifications

Item	Specifications
Dimensions (H x W x D)	400 mm x 300 mm x 150 mm (15.75 in. x 11.81 in. x 5.91 in.) (18 L without the cover)
Weight	≤ 20 kg (44.09 lb)(without the cover)

## 2.8 Environmental Specifications

Table 2-7 Environmental specifications

Item	Specifications
Operating temperature	<ul style="list-style-type: none"> <li>-40°C to +50°C (-40°F to +113°F) (with solar radiation of 1120 W/m<sup>2</sup>)</li> <li>-40°C to +55°C (-40°F to +122°F) (without solar radiation)</li> </ul>



Item	Specifications
Relative humidity	5% RH to 100% RH
Atmospheric pressure	70 kPa to 106 kPa
Operating environment	The operating environment of the RRU3276 must comply with the following standards: <ul style="list-style-type: none"><li data-bbox="746 488 970 521">• 3GPP TS36.141</li><li data-bbox="746 533 1353 589">• ETSI EN 300019-1-4 V2.1.2 (2003-04) Class 4.1: "Non-weather protected locations"</li></ul>
Anti-seismic performance	NEBS GR63 zone4
Protection rating	IP65

# 3 Acronyms and Abbreviations

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## Numerics

**3GPP** 3rd Generation Partnership Project

## B

**BBU** baseband unit

## C

**CPRI** common public radio interface

## D

**DC** direct current

## E

**E-UTRAN** evolved universal terrestrial radio access network

**eNodeB** E-UTRAN NodeB

**ETSI** European Telecommunications Standards Institute

## N

**NEBS** Network Equipment Building System

## I

**IBW** instantaneous bandwidth

## O

<b>OBW</b>	occupied bandwidth
<b>R</b>	
<b>RET</b>	remote electrical tilt
<b>RF</b>	radio frequency
<b>RGPS</b>	Remote Global Positioning System
<b>RRU</b>	remote radio unit