



LTE TDD

RRU3278 Description

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1 Overview

The RRU3278 is a remote radio unit (RRU). One or more RRU3278 modules constitute the radio frequency (RF) part of a distributed E-UTRAN NodeB (eNodeB). The RRU3278 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. RRUs modulate and demodulate baseband and RF signals, process data, amplify power, and detect standing waves.

1.1 Exterior

1.2 Ports

1.1 Exterior

Figure 1-1 shows the exterior of the RRU3278.

Figure 1-1 RRU3278



1.2 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 RRU3278.

Table 1-1 Ports on the RRU3278

Port	Connector	Quantity	Description
Common public radio interface (CPRI) port	DLC	2	Connects to the baseband unit (BBU).
RF port	Type N, female	8	Connects to an antenna
Calibration port	Type N, female	1	Calibration port, supporting OOK signal transmission.
EXT_ALM port	DB15	1	Connects to external alarm devices.
Ground port	OT	2	Ground protection
Power supply socket	Tool-less male connector (pressfit type)	1	Provides –48 V DC power input.
RET port	DB9	1	Connects to the remote control unit (RCU) of remote electrical tilt (RET) antennas.

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 RRU3278

Frequency Band	Frequency Range(MHz)	Carrier Bandwidth(MHz)	Maximum IBW(MHz)	Maximum OBW(MHz)
3.5 GHz (Band 42)	3400 to 3600	10, 15 or 20	160	80
3.7 GHz (Band 43)	3600 to 3800	10, 15 or 20	160	100
3.65 GHz (Band 42, Band 43)	3475 to 3650	10, 15 or 20	175	100
3.65 GHz (Band 42, Band 43)	3550 to 3700	10, 15 or 20	150	100

2.2 Capacity

- RRU3278(3500 MHz): Four carriers (The bandwidth per carrier is 10, 15,

- or 20 MHz.)
- RRU3278(3700 MHz): Five carriers (The bandwidth per carrier is 10, 15, or 20 MHz.)
- RRU3278(3650 MHz): Five carriers (The bandwidth per carrier is 10, 15, or 20 MHz.)

2.3 Output Power

Table 2-2 lists the output power of the RRU3278.

Table 2-2 Maximum output power of the RRU3278

Frequency Band	Transmit Power of Each RF Channel	Total Transmit Power of the Eight RF Channels
3.5 GHz	16W (IBW = 160MHz)	128 W
3.7 GHz	16W (IBW = 160MHz)	128 W
3.65 GHz	16W (IBW = 160MHz)	128 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)
3.5	8*5W	287	328	357	419
3.5	8*10W	334	412	430	548
3.5	8*15W	361	465	477	645
3.5	8*16W	379	489	501	678
3.7	8*5W	291	329	359	410
3.7	8*10W	335	405	430	535
3.7	8*15W	375	464	476	640
3.7	8*16W	381	486	499	660
3.65	TBD	TBD	TBD	TBD	TBD
3.65	TBD	TBD	TBD	TBD	TBD
3.65	TBD	TBD	TBD	TBD	TBD

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)
3.65	TBD	TBD	TBD	TBD	TBD

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)
The RRU3278 does not support cascading.	The maximum distance between an RRU3278 module and the BBU is 10 km.

2.7 Physical Specifications

Table 2-6 Physical specifications

Item	Specifications
Dimensions (height x width x depth)	480 mm x 356 mm x 140 mm (18.90 in. x 14.02 in. x 5.51 in.) (24 L without the cover)
Weight	≤ 25kg (55.11 lb)(without the cover)

2.8 Environmental Specifications

Table 2-7 Environmental Specifications

Item	Specifications
Working temperature	<ul style="list-style-type: none"> • -40°C to $+50^{\circ}\text{C}$ (-40°F to $+113^{\circ}\text{F}$) (with solar radiation of 1120 W/m^2) • -40°C to $+55^{\circ}\text{C}$ (-40°F to $+122^{\circ}\text{F}$) (without solar radiation)
Relative humidity	5% RH to 100% RH
Atmospheric pressure	70 kPa to 106 kPa
Operating environment	The RRU3278 complies with the following standards: <ul style="list-style-type: none"> • 3GPP TS36.141 • 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

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

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