

3.5G/4.9G 8T8R RRU

Introduction

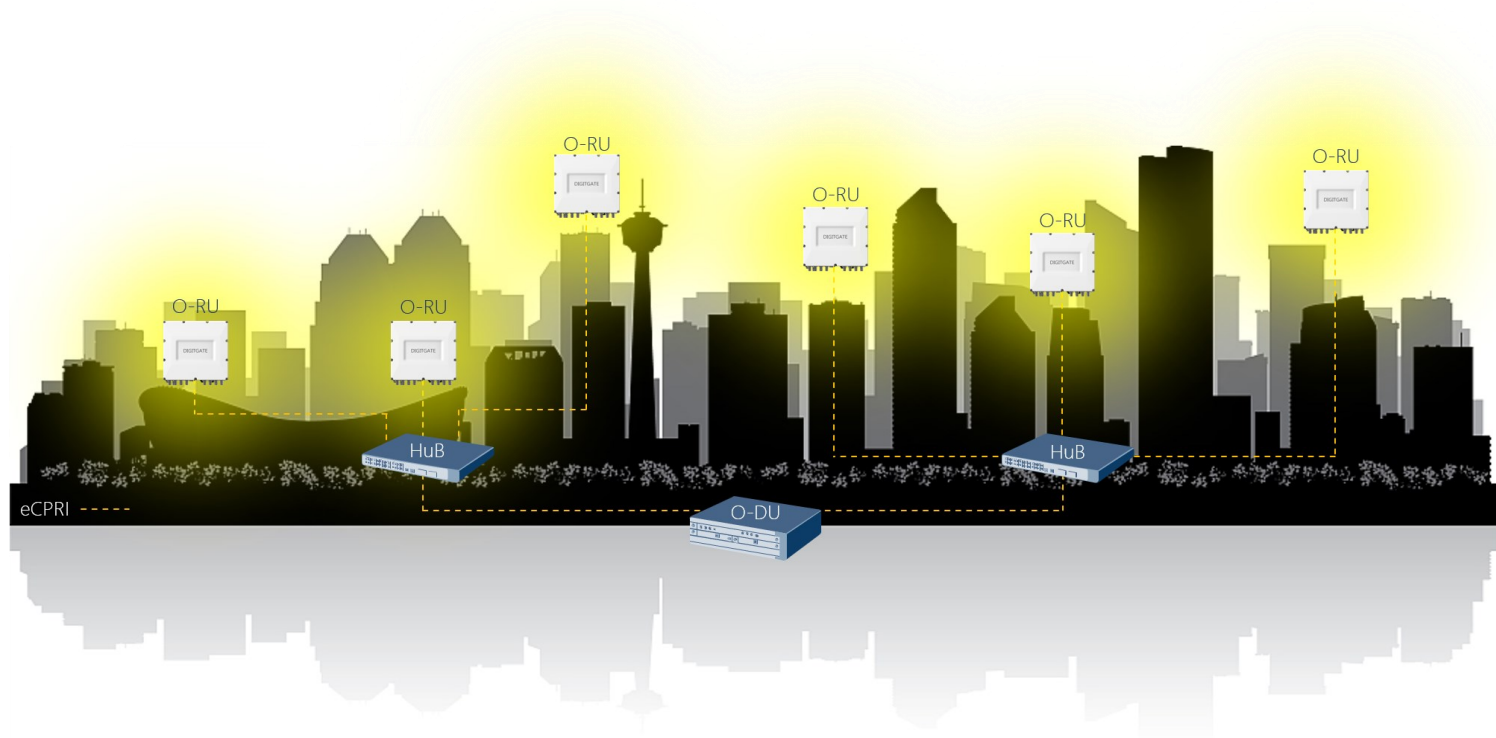
In the future, with the development of 5G network construction to hierarchical and refined development, a large number of flexible and open construction methods need to be used to enhance 5G network coverage. Based on this demand, Denge Communications independently designed and developed a 5G 8T8R RRU.

The RRU conforms to the 3GPP Release 15 standard protocol development and follows the open networking architecture defined by the ORAN organization.

The RRU is a multi-channel, high-power, high-performance product for outdoor environments to enhance 5G network coverage in outdoor scenarios.



Architecture

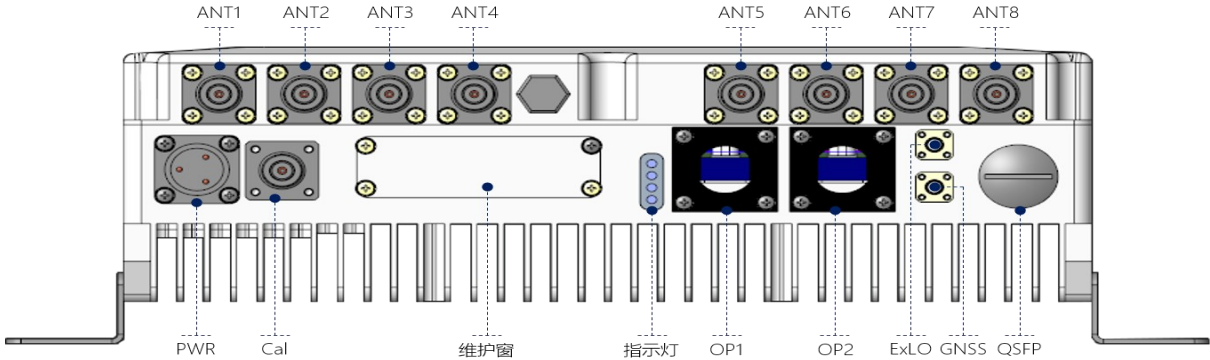


SYSTEM SPECIFICATION

RF

Frequency Band	3400MHz~3600MHz@n78 4800MHz~5000MHz@n79	Channel BW	100MHz
Number of channels	8	Duplex mode	TDD
MIMO	UL: 2×2、4×4 DL: 2×2、4×4、8×8	Maxi throughput	DL: 3Gbps UL: 1.5Gbps
Rx Sensitivity	< -100dBm/Rx	Tx Power	3.5W/Tx
EVM	≤2%	Tx Power Control Step	0.5dB/step
Power Error	±2dB	Subcarrier spacing	30kHz
Frequency accuracy	< 50ppb	Delay error	< 50ns
AGC	> 30dB	Noise Figure	3.5dB
Image suppression	> 60dB	ACS	30dB

INTERFACE

Device interface diagram			
OPT	SFP+ × 2 * [OP1, OP2] QSFP × 1 * [QSFP]		
ANT	N type-Female × 8 * [ANT1~ANT8]		
ANT Calibration	N type-Female × 1 * [CAL]		
Power supply	3 PIN 48V × 1 * [PWR]		
External local oscillator	SMA type-Female × 1 * [EXLO]		
GPS/GNSS ANT	SMA type-Female × 1 * [GNSS]		
Maintenance	RJ-45 × 1 * [Debug] USB × 1个 * [Debug USB] TF Card × 1个 * [Mirco-SD] SMA type-Female × 1个 * [10MHz]	Light	SYS × 1 ALM × 1 OPT1 × 1 OPT2 × 1

Features

Mode	- Support 5G TDD time division duplex
Working frequency	- Support N78 : 3400MHz~3600MHz - Support N79 : 4800MHz~5000MHz
Working bandwidth	- Support 100MHz
Beamforming	- Support digital beamforming
CA	- Support
Fronthaul interface	- Support SFP28 ports ×2 - Support eCPRI compression, the interface rate is greater than 20Gbps - Support eCPRI fronthaul interface to extend 10 kilometers
RRU Processing delay	- DL < 50μs - UL < 50μs
RRU Split option	- Support L1/Low (Split option 7-2) data processing
Alarm detection	- Support
Power and standing wave indication	- Support
Calibration accuracy	- Amplitude error < 0.5dB - Phase error < 5°
Spectrum radiation template	- Meet 3GPP radiation template

PHYSICAL SPECIFICATION

Equipment size	< 15L * [330×310×108mm]
Equipment weight	< 13kg
Power supply	DC 48V * [Meet special industry vehicle requirements , +24V或+48V]
Power consumption	< 155W
Protection level	IP65
Environmental	Temperature: -40°C~55°C Humidity : 2%~100%
MTBF	> 100,000H