DATA SHEET

Dual Band (n7 and n30) ORU

ORU-N7N30-Z04-2

- Dual Band ORU supports Band A (n7) up to 4T4R and Band B (n30) up to 2T4R
- 4 Mid-Band Antenna ports shared between Bands n7 and n30
- Radio supports both LTE and 5G NR, with a maximum output power of 100 watts per port
- Two 10G eCPRI ports for Distributed Unit (DU) communication
- 3GPP Release 15
- AISG 2.0 RET control
- High reliability of >150K Hours MTBF

Overview

CCI's Dual Band, n7 and n3, 4G and 5G enabled ORAN Radio Unit (ORU) is compliant with the ORAN interface specifications supporting the 7.2x split network configuration and supports Open Radio Access Network (ORAN) interface. The RU comes equipped with two 10G eCPRI optical interface port to communicate with the Distributed Unit (DU) for fronthaul network interfacing. This compact, multi-band, multi-technology ORU provides a standard open interface to other ORAN compliant vendor CU/DU, EMS, 5GC, and OSS products. Furthermore, it also supports the specifications set out in 3GPP Release 15.

SPECIFICATIONS

Dual Band (n7 and n30) ORU

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Electrical Specification

RF Parameters	Band A	Band B
3GPP Band	n7	n30
Uplink (UL)	2500-2570 MHz	2305-2315 MHz
Downlink (DL)	2620-2690 MHz	2350-2360 MHz
DL/UL Branches	4T4R	4T4R
Antenna Ports	4 available	4 available
Carrier Bandwidth 5G NR	10, 20, 30, or 40 MHz	5 or 10 MHz
Carrier Bandwidth LTE	10 or 20 MHz	5 or 10 MHz
Output Power	4 x 100 W	4 x 100 W
Number of Carriers	3CC	1CC

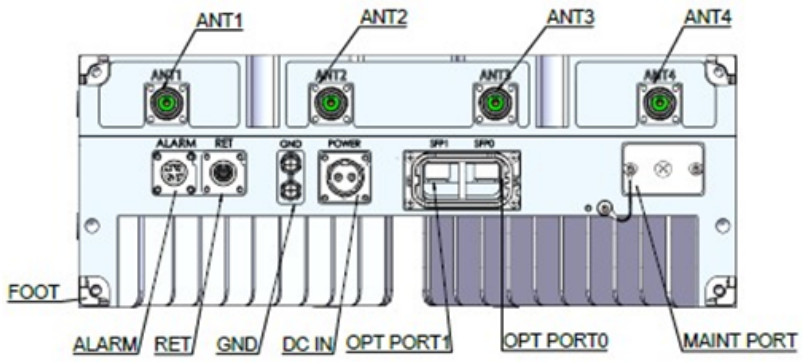
General Characteristics	
Voltage Range	-40.5 VDC to -57.0 VDC
RAT	LTE/5G NR
Duplex	FDD
SCS	15 KHz / 30 KHz
RET	AISG 2.0 with RS485 option only
External Alarm	2 pairs
Front-haul interface	Split Option 7.2
SFP+ line rate	10.3125 Gbps

Environmental Specification

Operating Temperature	-40˚C to +55˚C
Ingress Protection	IP65
MTBF	150,000 hours

Mechanical Specification

Model	ODU-N7N30-Z04-2
Color	RAL7047
Dimensions w/o handler	530 x 400 x 138.5 mm
Weight w/ handler	28 kg ±5%

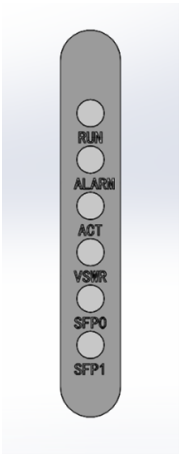


ORU Interface Panel

Front Panel & Logical Port Mapping

Front Panel & Logical Port Mapping	Description	Logical	TX	RX
ANT1	n7 DL/UL	T0/R0	B7 T0	B7 R0
ANT2	n7 DL/UL	T1/R1	B7 T1	B7 R1
ANT3	n7 DL/UL	T2/R2	B7 T2	B7 R2
ANT4	n7 DL/UL	T3/R3	B7 T3	B7 R3
ANT1	n30 DL/UL	T4/R4	B30 T0	B30 R0
ANT2	n30 DL/UL	T5/R5	B30 T1	B30 R1
ANT3	n30 DL/UL	T6/R6	B30 T2	B30 R2
ANT4	n30 DL/UL	T7/R7	B30 T3	B30 R3
ALARM	External alarm ports can be connected to 2 pairs of alarm inputs			
RET	Control signal and DC port connected to RET etc.			
SFP0 & SFP2	Optical Ports			
DC IN	Power Supply DC Input			
GND	Radio Grounding Port			

LED Overlay



LED Overlay

- "Run" LED stands for power supply status, turns green if radio power is on.
- "Alarm" LED turns red if radio alarm is generated.
- "ACT" LED turns green if down link channel is enabled.
- "VSWR" LED turns red if mismatch alarm is generated.
- "SFP0/SFP1" turns green if optical signal link is up, turns red if signal link is down.

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Specification	Detail	Value
Power Consumption	25 degree with 100% Load	1360 W
	25 degree with 50% Load	900 W
	25 degree with 30% Load	700 W
	25 degree with 10% Load	360 W
	100% load with operating temperature	1480 W
DL Performance	Per port Output Power	50 dBm max
	Power Accuracy in Normal Test Environment	-1.2 dB to 0.5 dB
	Power Accuracy in Extreme Test Environment	-2.5 dB to 0.5 dB
	EVM: QPSK	17.5% max
	EVM: 16QAM	12.5% max
	EVM:64QAM	8.0% max
	EVM: 256QAM	3.5% max
UL Performance, Reference Sensitivity Level	N7/B7 in normal environment	-105.6 dBm typical
	N30/B30 in normal environment	-105.6 dBm typical
Main Function Features	Remote Electrical Tilt	Based on AISG 2.0 protocol and o-ran-ald.yang model to communication with the external RET equipment
	Voltage Standing Wave Ratio Detection	Support VSWR detection for each RF port to check antenna connectivity, there are two types of VSWR alarms: Minor VSWR alarm, RU will keep radiating, the service would be degraded. Critical VSWR alarm, RU would shut off corresponding RF branch.
	External Alarm	Support external device supervision, RU would monitor external alarm port state and send notification to O-RU controller based on o-ran-externalio.yang model when input port state is changed (circuit from open to closed or circuit from closed to open). RU can also report external alarm to O-RU controller once input port circuit from open to closed via customized fault.
	Cascading	Not Supported
	Security	Support TPM2.0
	PAP	Support PA protection functions, including the scenario: SFP port abnormal disconnect External Power supply abnormal Abnormal signal generated

STANDARDS & CERTIFICATIONS

Dual Band (n7 and n30) ORU

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Parts & Accessories

ORU-N7N30-Z04-2	Dual Band ORU supports Band A (n7) up to 4T4R and Band B (n30) up to 4T4R

Standards & Compliance

RF Performance, BS TX & RX	3GPP TS 38.104 V15.16.0, 3GPP TS 37.104 V15.16.0, ETSI TS 138 104 V15.16.0, ETSI TS 137 104 V15.16.0
RF Performance, Conformance Testing	3GPP TS 38.141-1 V15.16.0, 3GPP TS 37.141-1 V15.16.0, ETSI TS 138 141-1 V15.16.0, ETSI TS 137 141-1 V15.16.0
RF Performance, IC Radio Equipment standards	IC RSS-139 Issue 3, IC RSS-133 Issue 3
EMC	ETSI EN 301 489-1 V2.2.3:2019*, ETSI EN 301 489-50 V2.3.1:2021*, 3GPP TS 37.113 V15.7.0:2019*, 3GPP TS 38.113 V15.7.0:2019*, CISPR 32, IEC 61000-4-3, IEC 61000-4-6, IEC 61000-4-4, IEC 61000-4-5
Environmental, Storage	EN 300 019-2-1
Environmental, Climatic and Mechanical Tests	EN 300 019-2-4
Environmental, Ingress Protection	JIS C0920 IPX5, JIS C0920 IP6X, IEC 60529 IPX5, IEC 60529 IP6X
Environmental, Earthquake	Telcordia GR-63-CORE, Zone 4
Environmental, Transportation	EN 300 019-2-2, IEC 60721-3-2, JIS Z0200:2003
Environmental, Altitude	JIS C 60068-2-13
Environmental	Telcordia GR-487-CORE
ORAN Interface	ORAN WG4.CUS, ORAN WG4.MP
RoHS	Directive 2011/65/EU and amendment 2015/863/EU
Safety	IEC 60950-1, IEC 60950 -22, IEC 60825-1 , EN 50383/4/5
AISG	AISG 2.0
RoHS	Directive 2011/65/EU and amendment 2015/863/EU
ORAN Interface	CUS plane ORAN.WG4.CUS, M plane ORAN.WG4.MP

Certifications

Antenna Interface Standards Group (AISG), ISO 9001