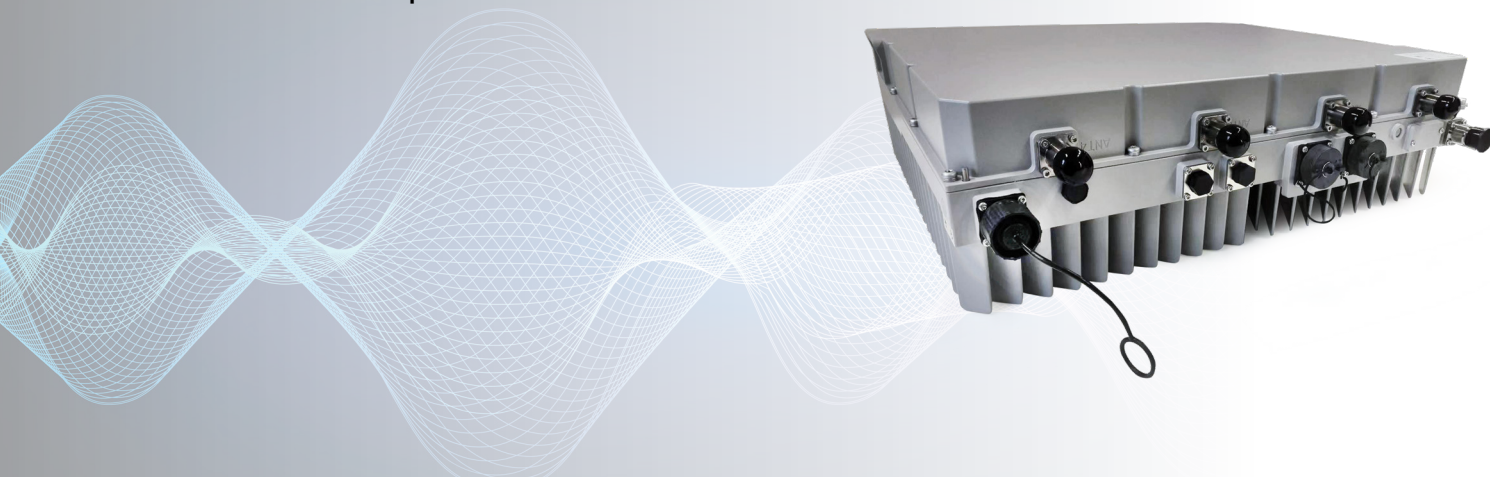


B8+B20b+B28 2T4R Tri-Band Radio

Qonnex Series of Open RAN Radios



Open RAN Technology

Open Radio Access Network (Open RAN) is a non-proprietary version of the Radio Access Network (RAN) system that allows interoperation between cellular network equipment provided by different vendors. It offers higher interoperability through open hardware, software, and interfaces for cellular wireless networks.

Benefits Include:

- Flexibility to choose the best-of-breed solutions from a diverse supplier pool
- Drive performance, reliability and operational efficiencies
- Accelerate development of new use cases and revenue opportunities
- Lower total cost of ownership (TCO)

Key Benefits:

- Globally deployable
- Cost competitive
- Enabling connectivity in all geographies
- Lower total cost of ownership (TCO)
- Diversified SW ecosystem

Key Features:

O-RAN Compliant RU

- Split 7.2 Fronthaul
- 2 x 25GBPS eCPRI

Multi-Band Support

- B8: 35 MHz iBW
- B20b: 30 MHz iBW
- B28: 30 MHz iBW

Multi-Standard Support

- LTE, 5G NR, GSM, NB-IOT

B8+B20b+B28 2T4R Tri-Band Radio

Technical Specification-Provisional	
Attribute	Description Emissions Compliance
Radio Identifier	ES-RU-MB-02-0103-04x080-0002
Technology	LTE 5/10/15/20 MHz, NR 5/10/15/20 MHz, NB-IoT, Guard Band or In-Band to LTE, GSM (B8 only see note 1)
Frame Structure	FDD
Frequency Band	B8: RX: 880-915 MHz, TX: 925-960 MHz, B20: RX: 832-862 MHz, TX: 791-821 MHz, B28b: RX: 703-733 MHz, TX: 758-788 MHz
Transmit/Receive Paths	2T4R
Transmit Power	40W or 120W maximum per antenna port (see note 5), Ant1: B8 (80W) + B20 (40W), Ant2: B28b (40W), Ant3: B8 (80W) + B20 (40W), Ant4: B28b (40W)
Total RF Power	320W maximum
Antenna Ports	4.3-10+ type
Number of Carriers	B8: 2 LTE and 2 NR. 2 NB-IoT, Guard Band or In-Band to LTE, 4 GSM B20: 2 LTE and 2 NR. 2 NB-IoT, Guard Band or In-Band to LTE B28b: 2 LTE and 2 NR. 2 NB-IoT, Guard Band or In-Band to LTE
Occupied Bandwidth (OBW)	B8: 35 MHz maximum, B20: 30 MHz maximum, B28b: 30 MHz maximum
Instantaneous Bandwidth (iBW)	B8: 35 MHz maximum, B20: 30 MHz maximum, B28b: 30 MHz maximum
Supported Modulation	QPSK, 16QAM, 64QAM, 256QAM
EVM	QPSK <12 % E-TM3.3, 16QAM <9 % E-TM3.2, 64QAM <7 % E-TM3.1, 256QAM <3.5 % ETM3.1a
Reference Sensitivity	For B8 or B20 or B28b band : -106 dBm typical (see note 2)
VSWR	VSWR monitoring is supported for the purpose of antenna fault detection and reporting
Emissions Compliance	3GPP: TS36.104 (LTE) and TS38.104 (NR). The RU shall be considered a Category B Wide Area BS
Radio Standards Compliance and Conformance Testing	3GPP: TS36.141 and TS38.141 provide the procedures for testing these requirements. Applicable CE requirements are referenced as noted
Fronthaul Ports	Two (SFP+/SFP28) fronthaul ports capable of 10 or 25 Gigabit Ethernet (GE) operation
Fronthaul Protocol	O-RAN Control/User/Management Planes (v6.0), eCPRI transport layer
Frequency/Time Reference	PTP/SyncE, compliant to ITU-T G.8275.1 and G.8275.2
Power Supply Nominal	-48 VDC, Operating range -36 to -57.0 V DC (see note 3) DC port connector: To Be Finalized IP67 3-pin DC power size 14 circular connector
Maximum Power Consumption	TBD W
AISG Support	Interface: RS-485 DC power: 24V x 2A (see note 4)
Maintenance Interface	Ethernet PHY, USB and JTAG via external interface board

Operating Temperature	-40°C to +55°C
Environmental	EN 300 019-1-4, EN300 019-1-2 class 2.2, IP65
Safety and Electromagnetic Compliance	IEC 61000-4-2 for ESD immunity, IEC 61000-4-4 for EFT immunity, EN 55032 for immunity to EMI, IEC 61000-4-5 class 2 for surge of the DC power, AISG and alarm ports, IEC 61643-11 for surge protection device, electrical and thermal safety requirements of IEC 62368-1 and IEC 62305-4 class II
Installation	Wall or Pole mount
Equipment Dimensions (with connector)	414.5mm/514mm/149.5mm (W/H/D), <34kg
Volume	<32L (calculated by shrinkwrap method)

Accessories

Item
Mounting brackets and handle for wall or pole mount
Grounding lead, fitted with terminals
Various screws, nuts and bolts used for mounting of unit
SFP+ modules, one pair
Power lead
Maintenance board
Maintenance cable

Ordering Information

Assembly Code	Description
To Be Finalized	Dual band B1/B3 4T4R 80W radio unit

Note 1: GSM support HW ready.

Note 2: 5MHz carrier is used.

Note 3: -36V is supported during operation. For cold start the minimum voltage is -40.5V.

Note 4: AISG power (up to 48W) is not included in the max power consumption which represents the power consumption within the RU. Customer can choose to add AISG power and RU max power consumption in sizing DC power feed to RU based on actual ASIC power usage. If AISG power is used for antenna tilt type of device, AISG power is consumed while RU is not in operation to consume max RU power. If AISG power is used for TMA type of device, AISG power is consumed while RU in operation with up to max RU power.

Note 5: B8 supports 80W per antenna with 40W allocated for LTE/NR carriers and 40W allocated for GSM carriers. With 2 antenna and 40W allocated for GSM, each antenna can support 2 GSM carriers with 20W TX/carrier. GSM carrier only requires 1 TX.

Arrow Electronics – Your Road to Open RAN Success

Leveraging an extensive technology partner ecosystem, products and services portfolio, expertise, and scale, Arrow Intelligent Solutions (AIS) orchestrates solutions that simplify your technology lifecycle experience, enabling you to bring your products to market faster and grow your business. Services offered by Arrow include:

- System design and engineering services
- Integration and manufacturing services
- Fulfillment services
- Professional services
- Support services
- Financial services