Saankhya Labs

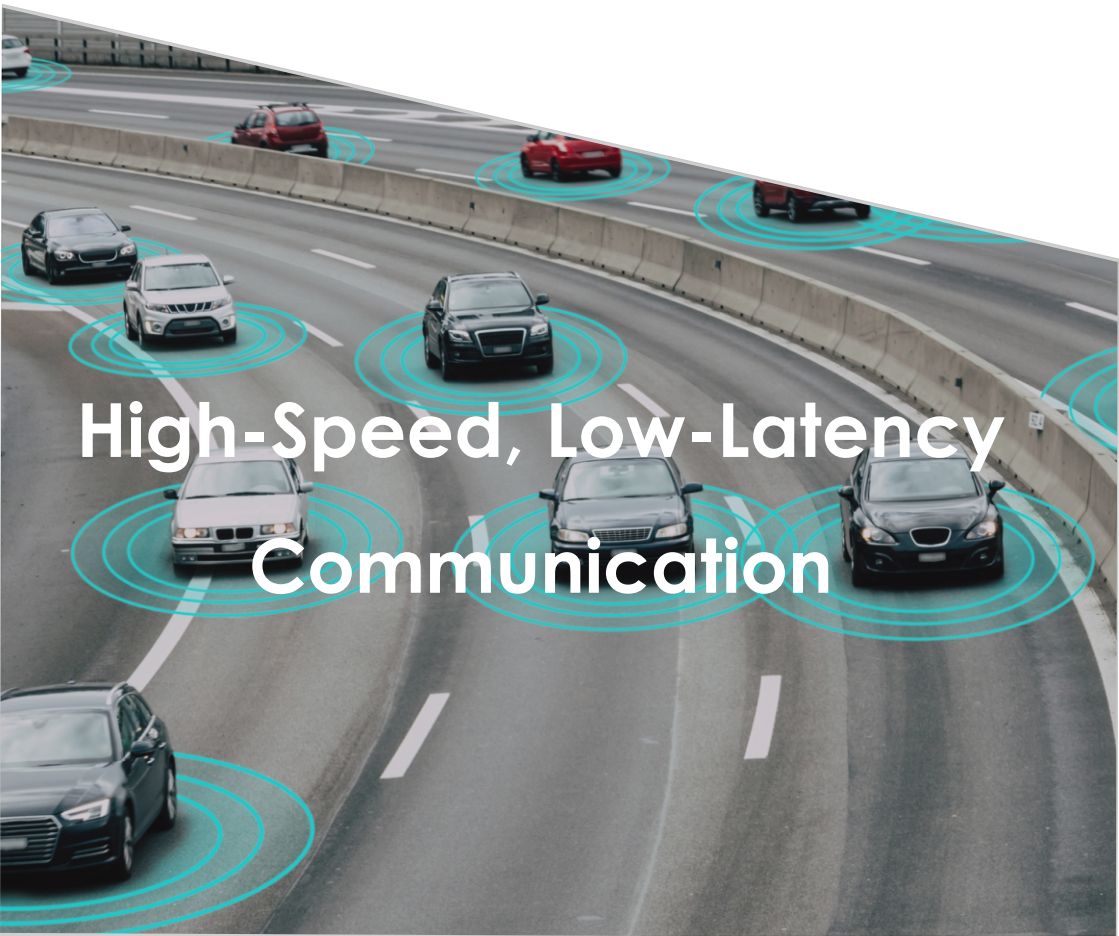
5G Remote Radio Units

ORAN 7.2x Compliant 5G RU

Transforming the Communication Landscape

Saankhya Labs is disrupting the wireless communication landscape with next-gen 5G solutions comprising of 5G Radio Access Network products and chipsets.

Saankhya's multi-carrier, macro cell ORAN 7.2x 4G/5G Remote Radio Units (RU) enable mobile network operators to service wider areas and provide high-speed, low-latency communication. This increases network efficiency and reduces Capex and Opex, thus reducing total cost of ownership of the network.



5G NR Macrocell FR1 RU Family

Saankhya Labs Next Generation Carrier-Grade multi-technology (LTE, 5G), multi-carrier Macrocell /Wide Area ORAN 7.2x Compliant Remote Radio Units (RUs) are 3GPP Rel. 15 Compliant (upgradable to Rel. 16), sub 6-GHz (FR1) RUs.

Saankhya's ORAN Radios support bandwidth up to 100MHz with both FDD/TDD configurations and can operate in Standalone (SA) or Non-Standalone (NSA) mode.

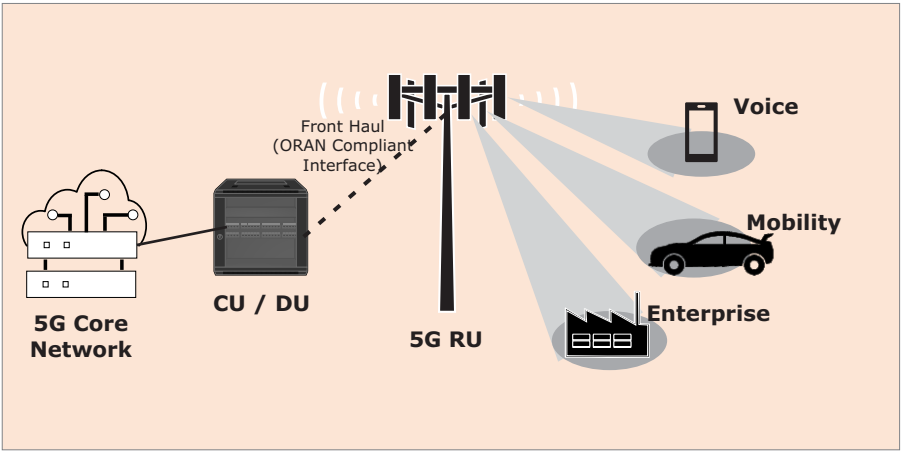
The open fronthaul interface (eCPRI), Control & Management Software is designed as per ORAN standard providing plug and play interoperability with 3rd party Distributed Units (DUs).

The units can be easily mounted, quickly deployed and remotely maintained. The Radio Units can be easily modified/upgraded in the factory to the operator specified frequency bands.

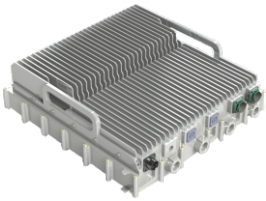
Features

- Support for wide portfolio of bands and multiple antenna configurations
- Interoperable RU (ORAN 7.2x) eliminating vendor lock-in
- Small footprint design to meet local regulations on weight and volume
- Multi RAT technology - LTE/5G
- High power efficiency to reduce operational costs
- Remote automation and maintenance capability
- Higher throughput and coverage via hybrid beamforming
- Radio Unit compliant with Part 27 of FCC rules
- IP 65 compliant radios for outdoor installation
- Network synchronization via SyncE, IEEE v1588 PTP or in-built GPS module

Use Cases



SL-B1/N1 - 4T4R

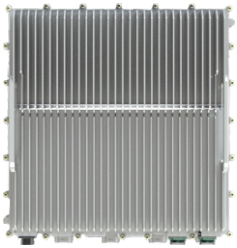


The radio is preferably located near the antenna and can be connected to any of the ORAN 7.2x compliant DU via Ethernet (eCPRI F/H). It provides support for AISG 3.0 RET.

LTE/5G FDD mode is supported with up to 20 MHz LTE and 60 MHz single/dual 5G carriers. Four duplex (Tx/Rx) branches provide in-built support for MIMO (2 sector 2T2R or 1 sector 4T4R) and Tx diversity as well as Rx diversity.

HW Capacity	
LTE	Up to 20 MHz
5G NR	Up to 60 MHZ
IBW	Up to 60 MHZ
MIMO	Yes, 1 Sector 4T4R or 2 sector 2T2R
Output Power	Up to 4 x 40 W
Interface	
Antenna Ports	4 x 4.3 - 10(f)
eCPRI	2 x 2.5/4.9/9.8 Gbps (exchangeable SFP Modules)
Ext Antenna Line Device	AISG RET 3.0 Support
Optical Indicators	4
Field Ground	Dual lug
Mechanical	
Mounting	Tower, Wall and Pole Mount
Electrical	
Power Supply	-48 V DC (2 wires)
Environmental	
Normal Operating Temp	-20ºC to 55ºC
Environment	Outdoor class with IP 65

SL- N78 - 8T8R



The radio is preferably located near the antenna and can be connected to any of the ORAN 7.2x compliant DU via Ethernet (eCPRI F/H). It provides support for AISG 3.0 RET.

LTE/5G TDD mode is supported with up to 100 MHz single/dual 5G carriers. Eight duplex (Tx/Rx) branches provide in-built support for MIMO (2 sector 4T4R or 1 sector 8T8R) and Tx diversity as well as Rx diversity with full beamforming capability.

HW Capacity	
5G NR	Up to 400 MHZ
IBW	Up to 100 MHZ
MIMO	Yes, 2 Sector 4T4R or 1 sector 8T8R
Output Power	Up to 8 x 40 W
Interface	
Antenna Ports	8 x 4.3 - 10(f)
eCPRI	2 x 10/25 Gbps (exchangeable SFP Modules)
Ext Antenna Line Device	AISG RET 3.0 Support
Optical Indicators	4
Field Ground	Dual lug
Mechanical	
Mounting	Tower, Wall and Pole Mount
Electrical	
Power Supply	-48 V DC (2 wires)
Environmental	
Normal Operating Temp	-20ºC to 55ºC
Environment	Outdoor class with IP 65

SL- N78 - 32T32R

The radio is integrated with the antenna and can be connected to any of the ORAN 7.2x compliant DU via Ethernet (eCPRI F/H). It provides support for AISG 3.0 RET.

LTE/5G TDD mode is supported with up to 100 MHz single/dual 5G carriers. The radio supports a massive MIMO Antenna Array consisting of 192 elements that interface with 32 Transmit and 32 Receive paths for a single N78 band.

HW Capacity	
5G NR	Up to 400 MHZ
IBW	Up to 100 MHZ
MaMIMO	Yes, 1 sector 32T32R
Output Power	Up to 200 W
Antenna	
Antenna Elements	8H x 2V x 2 Pol x (6x1) sub-array (192 AE)
Horizontal/Vertical Steering Range	+/- 60º/4º
Horizontal/Vertical Beamwidth	13º/6º
Interface	
eCPRI	2 x 25/40/100 Gbps (exchangeable SFP Modules)
Ext Antenna Line Device	AISG RET 3.0 Support
Optical Indicators	4
Field Ground	Dual lug
Electrical	
Power Supply	-48 V DC (2 wires)
Environmental	
Normal Operating Temp	-20ºC to 55ºC
Environment	Outdoor class with IP 65

Saankhya Labs

www.saankhyalabs.com info@saankhyalabs.com +91 80 6117 1000