



INTRODUCTION

The Baicells Aurora249 FDD is an advanced outdoor 5G Sub-6G integrated base station (gNB) based on ARM SoC solution, which is designed and developed based on 5G SoC solution. This 2x40 watts gNB is low power consumption, subminiature and easy to maintenance.

This product helps operators to enhance the coverage performance of 5G networks effectively, improve the capacity of 5G networks and eliminate the blind district, meanwhile it also can help to reduce the system power consumption.

This product comes with a standard one-year warranty; an extended warranty is also available.

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Standard NR FR1 Bands n1/n28
- Comply with 3GPP Release 16
- GUI-based local and remote Web management
- Supports 40MHz bandwidth
- Peak rate: Up to DL 320Mbps and UL 150Mbps
- Supports up to 1200 users
- Supports Stand Alone (SA) mode
- Supports F1 setting*
- Supports SCTP control (IKE SCTP)
- Supports embedded 5G core (HaloB)
- Integrated small cell form factor for quick and easy installation
- Supports flexible xHaul
- Highly secured with equipment certification against potential intrusion risk
- Supports TR-069 network management interface
- Lower power consumption, which reduces OPEX, can be powered easily by Baicells compact outdoor smart UPS

* Planned for future release

TECHNOLOGY

Standard	5G NR FR1 SA (3GPP R16)
Mode	FDD
Frequency Band	n1 (UL1920MHz – 1975MHz, DL2110 MHz – 2165MHz) n28 (UL703MHz – 748MHz, DL758 MHz – 803MHz)
Channel Bandwidth	n1: 20MHz/40 MHz n28: 30 MHz
Multiplexing	2x4 MIMO (DL:2L, UL:4L) (support 2x4 MIMO by software upgrade)
Security	Radio: SNOW 3G/AES-128 Backhaul: IPsec (X.509 AES-128, AES-256, SHA-128, SHA-256)

* Planned for future release

INTERFACE

Ethernet Interface	1 x 10GE/2.5GE/1GE RJ-45 interface 1 x 10GE optical interface
Power Supply	90VAC ~ 264VAC, 47Hz~63Hz or -40VDC ~ -57VDC, nominal -48VDC
Protocols Used	IPv4/IPv6, UDP, TCP, ICMP, NTP, SSH, IPsec, TR-069, HTTP/HTTPs, DHCP
Network Management	IPv4/IPv6, HTTP/HTTPs, TR-069, SSH, Embedded 5GC*
VLAN/VxLAN	802.IQ/VxLAN
LED Indicators	4 x status LED RUN/ALM/SYNC/VSWR
RF Antenna	2T4R external high gain antenna with N-Type connectors (support 2T4R by software upgrade)
GPS Antenna	External GPS antenna, N-Type connector

* Planned for future release

PERFORMANCE

Peak Data Rate	20 MHz: DL215Mbps, UL110Mbps (single flow) 30 MHz: DL320Mbps, UL150Mbps (single flow)
User Capacity	Up to 1200 users
Maximum Deployment Range	5km
Latency	Round-trip delay (RTD) less than 10 milliseconds
Receive Sensitivity	-95 dBm (per channel)

Modulation	UL: MCS0 (QPSK) to MCS27 (256QAM) DL: MCS0 (QPSK) to MCS27 (256QAM)
Transmit Power Range	37dBm to 46 dBm per channel (combined +49dBm, configurable) (1 dB interval)
Quality of Service	Complied with 3GPP standard 5G QoS Identifier (5QI)
ARQ/HARQ	Supported
Synchronization	GPS

* Planned for future release

FEATURES

Voice	VoNR
SON*	Self-Organizing Network <ul style="list-style-type: none"> • Automatic Neighbor Relation (ANR) • PCI confliction detection
Traffic Offload	Local breakout
Maintenance	<ul style="list-style-type: none"> • Local/Remote Web maintenance • Online status management • Performance statistics • Fault management • Local/Remote software upgrade • Logging • Connectivity diagnosis • Auto startup

LINK BUDGET

VSWR	≤ 1.5
EIRP	Antenna gain = G EIRP = (49+G)dBm/100MHz
Power Control	UL Open-loop/Closed-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)

PHYSICAL

Surge Suppression	Power interface: Differential mode: 2 KV; Common mode: 4 KV Ethernet interface: 1 KV
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Lightning Protection	Power interface: Differential mode: ± 10 KA; Common mode: ± 20 KA
MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Ingress Protection Rating	IP65
Operating Temperature	-40°F to 131°F / -40°C to 55°C
Storage Temperature	-40°F to 149°F / -40°C to 65°C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa
Power Consumption	Maximum 400W
Weight	37.5lbs/17kg
Dimensions (HxWxD)	15.7 x 12.2 x 5.3 inches/400 X 310 X 135 millimeters
Installation	Pole or wall mount

MODEL NUMBERS

BSP7001A249	Aurora249 outdoor 5G NR integrated FDD gNB –n1(UL1920MHz – 1975MHz/DL2110 MHz – 2165MHz), 2T2R,2*40W, -48VDC/90VAC ~ 264VAC, external antenna, 1*(GE)RJ45+1*(SFP+, 10GE)OPT)
BSP7028A249	Aurora249 outdoor 5G NR integrated FDD gNB –n28(UL703MHz – 748MHz/DL758 MHz – 803MHz), 2T2R,2*40W, -48VDC/90VAC ~ 264VAC, external antenna, 1*(GE)RJ45+2*(SFP+, 10GE)OPT)

NOTE: Customized versions can be requested. (AC version will be ready in the future)