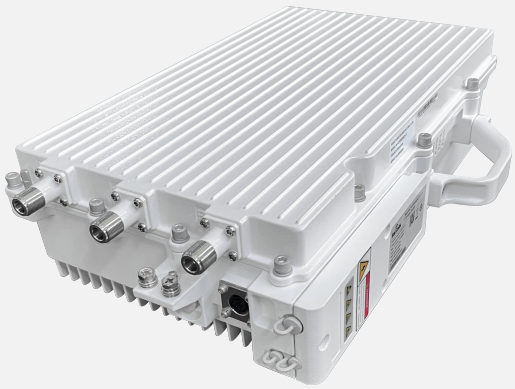
Nova249

Outdoor Base Station Datasheet



INTRODUCTION

This Baicells Nova249 eNodeB (eNB) is an outdoor Long-Term Evolution (LTE) product that operates in Frequency Division Duplexing (FDD) mode. This eNB provides users with high-speed broadband wireless access to the Internet using 2x40 watts output power (2x2 MIMO with 40 watts output each channel). This unit is compact, lightweight, and easy to deploy.

The Nova249 eNB offers excellent performance, helping operators to provide better coverage and higher capacity.

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

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Standard LTE FDD Bands 1/3/5/7/8/20/28
- Complies with 3GPP Release 10 standards
- Excellent Non-Line-of-Sight (NLOS) coverage performance
- Any IP based backhaul can be used, including public transmission protected by Internet Protocol Security (IPsec)
- Peak rate: Up to DL 195Mbps and UL 75Mbps with 20MHz bandwidth.
- 512 RRC connected users
- Supports TR069 network management protocol
- External high-gain antenna
- Higher transmission power for extended coverage
- Supports RET function AISG 2.0.
- Inter operation with all standard LTE Evolved Packet Core (EPC)
- GUI-based local and remote Web management
- Lower power consumption to reduce OPEX

Nova249

Outdoor Base Station Datasheet

TECHNOLOGY

Standard	LTE FDD RAN (3GPP R10 compliant)
Frequency Band	Band1 (UL: 1920MHz-1980MHz, DL: 2110MHz-2170MHz) Band3 (UL: 1710MHz-1785MHz, DL: 1805MHz-1880MHz) Band5 (UL: 824MHz-849MHz, DL: 869MHz-894MHz) Band7 (UL: 2500MHz-2570MHz, DL: 2620MHz-2690MHz) Band8 (UL: 880MHz-915MHz, DL: 925MHz-960MHz) Band20(UL: 832MHz-862MHz, DL: 791MHz-821MHz) Band28 (UL: 703MHz-748MHz, DL: 758MHz-803MHz)
Channel Bandwidth	Band1/3/7/20/28: 5/10/15/20MHz Band5/8: 5/10MHz
Multiplexing	MIMO: 2x2 (DL)
Security	Radio: SNOW 3G/AES-128/ZUC Backhaul: IPsec (X.509 AES-128, AES-256, SHA-128, SHA-256)
Voice	VoLTE, Circuit Switched Fallback (CSFB) to GSM and UTRAN
Inter-RAT Mobility	To GSM, UTRAN and 5G NSA/SA
Daisy Chain	2 level cascading
SON	Self-Organizing Network • Automatic setup • Automatic Neighbor Relation (ANR) • PCI confliction detection
VSWR	Supported
RET support	Yes
Traffic Offload	Local breakout
Maintenance	• Local/Remote Web maintenance • Online status management • Performance statistics • Fault management • Local/Remote software upgrade • Logging • Connectivity diagnosis

	• Automatic start and configuration • Alarm reporting • User information tracing • Signaling trace
Network Management	IPv4, HTTP/HTTPs, TR-069, SSH
VLAN	802.IQ
Power Control	UL Open/Close-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)
Quality of Service	Nine-level priority indicated by QoS Class Identifiers (QCI)
ARQ/HARQ	Supported
Synchronization	GPS/ 1588 V2

PERFORMANCE

Peak Data Rate	20MHz: DL 195Mbps, UL 75Mbps 10MHz: DL 97.5Mbps, UL 31Mbps
User Capacity	512 RRC connected users
Maximum Deployment Range	14 kilometers
Latency	30 milliseconds
Receive Sensitivity	-105 dBm (per channel)
EVM	QPSK<5%; 16QAM<5%; 64QAM<5%, 256QAM<3.5%
Modulation	MCS0 (QPSK) to MCS27 (256QAM) DL: QPSK, 16QAM, 64QAM, 256QAM UL: QPSK, 16QAM, 64QAM
Transmit Power Range	36 to 46 dBm per channel (combined +49dBm, configurable with 1 dB interval)

MODULATION LEVELS (ADAPTIVE)

MCS	Modulation Scheme	RSRP (dBm)
0 - 4	QPSK	-120<= RSRP < -110
5 - 10	16QAM	-110<= RSRP < -100
11 - 19	64QAM	-100<= RSRP < -85
20 - 27	256QAM	RSRP >= -85

NOTE: The information provided is for reference only as the environment can impact modulation levels.

Scenario: Base Station height is 30 meters; Customer User Equipment (CPE) height is two meters.

INTERFACE

Ethernet Interface	1 RJ-45 Ethernet interface (1 GE) and 1 optical (SFP) interface
Powering Method	-40VDC to -57VDC, nominal -48VDC (The AC/DC adaptor is optional.)
LED Indicators	4 x status LED PWR/ALM/RUN/ACT
Antenna connection	Mini-DIN or N type connector for external high gain antenna
GPS Antenna	External GPS antenna, N Type connector

PHYSICAL SPECIFICATIONS

Spurious Emissions	9kHz-150kHz/1kHz <= -36dBm 150kHz-30MHz/10kHz <= -36dBm 30MHz-1GHz/100kHz <= -36dBm 1GHz-12.75GHz/1MHz <= -30dBm
Frequency Exactitude	±(0.05PPM+12Hz)
Adjacent Channel Selectivity	3GPP TS36.104
ACLR	3GPP TS36.104
Surge Suppression	Supported
Power Interface Lightning Protection	Differential mode: ±10 KA Common mode: ±20 KA
MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Ingress Protection Rating	IP66
Operating Temperature	-40°F to 131°F / -40°C to 55°C
Storage Temperature	-49°F to 158°F / -45°C to 70°C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa
Power Consumption	Typical < 200W, maximum < 300W
Weight	With pre-installed bracket: About 26.0lbs / 11.80kg Without pre-installed bracket: About 25.2lbs / 11.45kg

		Band1/3/7	Band5/8/20/28
Dimensions (HxWxD)	With joint	18.0 x 10.9 x 4.8 inches/ 457 x 276 x 123 millimeters	18.0 x 10.9 x 5.0 inches/ 457 x 276 x 127 millimeters
	Without joint and handle	16.9 x 9.8 x 4.8 inches/ 430 x 250 x 123 millimeters	16.9 x 9.8 x 5.0 inches/ 430 x 250 x 127 millimeters
Installation	Pole or wall mount		

MODEL NUMBERS

sBS32010	Nova249 outdoor FDD eNB - LTE Release 10, 2x40W (46 dBm), 2 port, UL1920MHz-1980MHz / DL2110MHz-2170MHz, B1, 48VDC, external antenna/GPS
sBS32000	Nova249 outdoor FDD eNB - LTE Release 10, 2x40W (46 dBm), 2 port, UL1710MHz-1785MHz / DL1805MHz-1880MHz, B3, 48VDC, external antenna/GPS
sBS32030	Nova249 outdoor FDD eNB - LTE Release 10, 2x40W (46 dBm), 2 port, UL824MHz-849MHz / DL869MHz-894MHz, B5, 48VDC, external antenna/GPS
sBS32020	Nova249 outdoor FDD eNB - LTE Release 10, 2x40W (46 dBm), 2 port, UL2500MHz-2570MHz / DL2620MHz-2690MHz, B7, 48VDC, external antenna/GPS
sBS32101	Nova249 outdoor FDD eNB - LTE Release 10, 2x40W (46 dBm), 2 port, UL880MHz-915MHz / DL925MHz-960MHz, B8, 48VDC, external antenna/GPS
sBS32120	Nova249 outdoor FDD eNB - LTE Release 10, 2x40W (46 dBm), 2 port, UL832MHz-862MHz / DL791MHz-821MHz, B20, 48VDC, external antenna/GPS
sBS32070	Nova249 outdoor FDD eNB - LTE Release 10, 2x40W (46 dBm), 2 port, UL703MHz-748MHz / DL758MHz-803MHz, B28, 48VDC, external antenna/GPS

NOTE: Customized versions can be requested.