Nova230i

Outdoor eNodeB Datasheet

INTRODUCTION

The Nova230i is a lower power outdoor 2x500 mW microcell eNodeB (eNB) explicitly designed for tightly clustered pockets of customers, coverage holes, network edge, or opportunistic micro-targeting, like RV parks, marinas, and high-density dwellings such as townhomes and apartments. In addition, the Nova230i supports Long-Term Evolution (LTE) technology and operates in Time Division Duplexing (TDD) mode.

When paired with self-install indoor Customer Premise Equipment (CPE), such customer sets can be captured quickly and with immediate ROI. As a result, this microcell is perfect for clusters of cameras, such as those used at traffic intersections, and other devices for private network operators.

The product has a standard one-year warranty; an extended warranty is available.

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Standard LTE TDD Band 48
  - Customization can be requested:
    - Email sales_na@baicells.com for North America.
    - Email contact@baicells.com for all other regions.
- GUI-based local and remote Web management
- Suitable for private and public deployments; any IP-based backhaul can be used, including public transmission protected by Internet Protocol Security (IPsec)
- Excellent Non-Line-of-Sight (NLOS) coverage
- Peak rate: Up to DL 110 Mbps and UL 35 Mbps with 20 MHz bandwidth
- 32 RRC connected users
- PoE++ power supply; only one Ethernet cable is required for data transmission and power supply
- Cloud/Local/Embedded EPC (HaloB) is supported for convenient and economical deployment
- Plug-and-play with Self-Organizing Network (SON) capabilities
- Interoperable with standard LTE Evolved Packet Core (EPC)
- Supports TR-069 network management interface
- Supports Citizens Broadband Radio Service (CBRS)
- Supports Transparent Bridge Mode
- Lower power consumption, which reduces OPEX

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TECHNOLOGY

Standard	LTE TDD RAN (3GPP Release 15 compliant)
TDD UL/DL Configuration	1, 2, 6 (with Special Subframe Configuration 7)
Frequency Band	B48 (3550 MHz–3700 MHz)
Channel Bandwidth	5/10/15/20 MHz
Multiplexing	MIMO: 2x2 (DL)
Security	Radio: SNOW 3G/AES-128/ZUC Backhaul: IPsec (X.509 AES-128, AES-256, SHA-128)

* Planned for future release

INTERFACE

Ethernet Interface	1 RJ-45 Ethernet interface (1 GE)
Power Supply	PoE++, complies with IEEE 802.3bt standard
Protocols Used	IPv4/IPv6 (Dual Stack), UDP, TCP, ICMP, NTP, SSH, IPsec, TR-069, HTTP/HTTPs, 1588v2, DHCP
Network Management	IPv4/IPv6, HTTP/HTTPs, TR-069, SSH, Embedded EPC
VLAN/VxLAN	802.IQ/VxLAN
LED Indicators	4 x status LED PWR/ACT/RUN/ALM

PERFORMANCE

Peak Data Rate	**20 MHz**	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	80	28
	UL/DL Config 2	110	14
	UL/DL Config 6	65	35
	10 MHz	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	38	14
	UL/DL Config 2	52	7
	UL/DL Config 6	31	17
User Capacity	Up to 32 RRC connected users per cell (4 users per TTI)		
Maximum Deployment Range	7 kilometers		
Latency	30 milliseconds		
Receive Sensitivity	-99.5 dBm (per channel)		
Modulation	MCS0 (QPSK) to MCS28 (64 QAM) DL: QPSK, 16 QAM, 64 QAM UL: QPSK, 16 QAM, 64 QAM		
Transmit Power Range	0 to 27 dBm (combined, with 1 dB interval)		

Quality of Service	Nine-level priority indicated by QoS Class Identifiers (QCI)
ARQ/HARQ	Supported
Synchronization	GPS (built-in), 1588v2

MODULATION LEVELS (TDD2:7)

MCS	Modulation Scheme	RSRP (dBm)	Coverage Distance (km)
0–9	QPSK	-120 <= RSRP < -110	5 < D <= 7
10–16	16 QAM	-100 <= RSRP < -90	3 < D <= 5
17–28	64 QAM	RSRP >= -90	D <= 3

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.

FEATURES

Voice	VoLTE, Circuit Switched Fallback (CSFB) to GSM
NSA	Supported
SON	Self-Organizing Network • Automatic setup • Automatic Neighbor Relation (ANR) • PCI confliction detection
EPC	HaloB (Embedded EPC)
RET support	Yes
Traffic Offload	Local breakout
Layer 2 Support	Transparent Bridge Mode
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

LINK BUDGET

Antenna Type	Built-in high-gain antenna • Horizontal Beamwidth 65°±5 • Vertical Beamwidth ≥21° • Polarization: ±45°
Electrical Downtilt	6° at Band 48
RF Antenna Gain	13.5 dBi
Maximum EIRP	43.5 dBm
Power Control	UL Open-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)

PHYSICAL

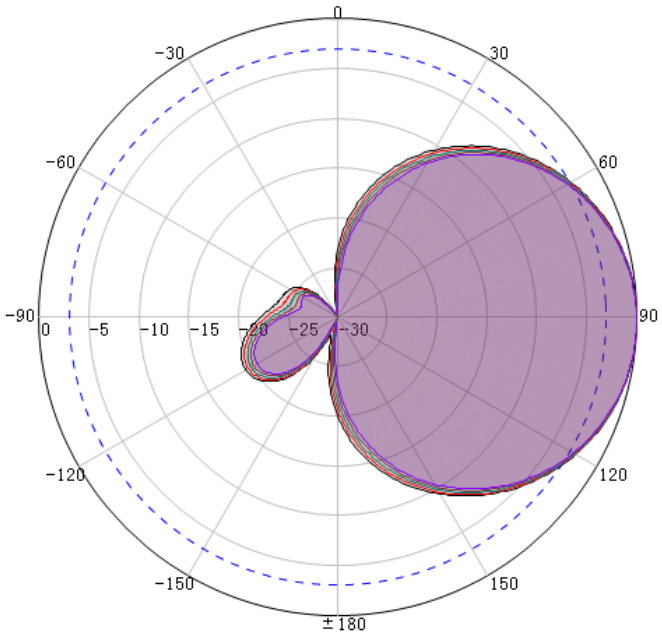
Power Interface Lightning Protection	Differential mode: ±3 KA Common mode: ±5 KA
MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Ingress Protection Rating	IP65
Operating Temperature	-40°F to 131°F / -40°C to 55°C
Storage Temperature	-49°F to 158°F / -45°C to 70°C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa
Power Consumption	Typical 22.5 W, maximum 25 W
Weight	3.11 lb/1.41 kg
Dimensions (HxWxD)	8.7 x 5.9 x 2.05 inches 221 x 150 x 52 millimeters
Installation	Pole or wall mount

MODEL NUMBER

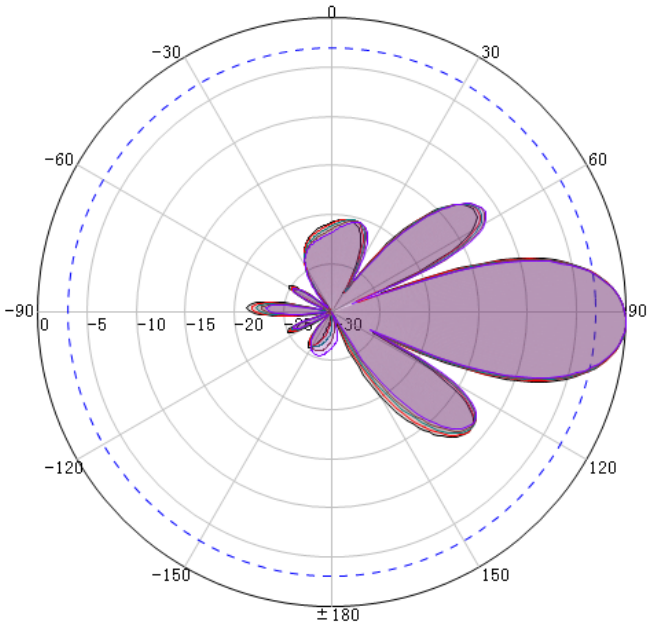
pBS41010	Nova230i Outdoor TDD eNodeB – LTE Release 15, 2x500 mW (27 dBm), 2 ports, built-in antenna, 3.5 GHz (3550 MHz–3700 MHz), PoE++, B48 • FCC Certification: 2AG32PBS41010 • IC Certification: TBD

NOTE: Customized versions can be requested.

ANTENNA PATTERN



H-Pattern



V-Pattern