Nova230i

Outdoor Base Station Datasheet

Baicells
Connect More with Less

INTRODUCTION

The Nova230i is a lower power outdoor 2x500mW microcell eNodeB (eNB) specifically for tightly clustered pockets of customers, coverage holes, edges of your network, or simply opportunistic micro targeting, like RV parks, marinas, and high-density dwellings such as townhomes and apartments. As with all Baicells products, the Nova230i supports Long-Term Evolution (LTE) technology, and it operates in Frequency Division Duplexing (FDD) mode.

When paired with self-install indoor user equipment (UE), such customer sets can be captured quickly and with a near immediate ROI. For private network operators, this microcell is perfect for clusters of cameras, such as those used at traffic intersections, and other devices.

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

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Standard LTE FDD Band 3
- 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 150 Mbps and UL 50 Mbps with 20 MHz bandwidth
- 32 RRC connected users
- PoE++ power supply; only one Ethernet cable required for data transmission and power supply
- Cloud /Local/Embedded EPC (HaloB) is supported for more convenient and economical deployment
- Plug-and-play with Self-Organizing Network (SON) capabilities
- Inter operation with all standard LTE Evolved Packet Core (EPC)
- Supports TR-069 network management interface
- Lower power consumption, which reduces OPEX, can be powered easily by Baicells compact outdoor smart UPS

Nova230i

Outdoor Base Station Datasheet

Baicells
Connect More with Less

TECHNOLOGY

Standard	LTE FDD RAN (3GPP R10 compliant)
Frequency Band	B3 (UL: 1710MHz-1785MHz, DL: 1805MHz-1880MHz)
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)

INTERFACE

Ethernet Interface	1 RJ-45 Ethernet interface (1 GE)
Power Supply	PoE++, comply 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	20MHz: DL 150Mbps, UL 50Mbps 10MHz: DL 75Mbps, UL 25Mbps
User Capacity	32 RRC connected users
Maximum Deployment Range	5 kilometers
Latency	30 milliseconds
Receive Sensitivity	-101 dBm
Modulation	MCS0 (QPSK) to MCS28 (64QAM) DL: QPSK, 16QAM, 64QAM UL: QPSK, 16QAM
Transmit Power Range	0 to 30 dBm (combined, with 1 dB interval)
Quality of Service	Nine-level priority indicated by QoS Class Identifiers (QCI)
ARQ/HARQ	Yes

Synchronization	GPS (built-in), 1588v2

MODULATION LEVELS (ADAPTIVE)

MCS	Modulation Scheme	RSRP (dBm)	Coverage Distance (km)
0 - 9	QPSK	-120<= RSRP < -110	3.5 < D <= 5
10 - 16	16QAM	-110<= RSRP < -100	1.2 < D < 3.5
17 - 28	64QAM	RSRP >= -100	D <= 1.2

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 and UTRAN
Inter-RAT Mobility	To GSM, UTRAN and 5G NSA/SA
SON	Self-Organizing Network • Automatic setup • Automatic Neighbor Relation (ANR) • PCI confliction detection
EPC	HaloB (Embedded EPC)
Traffic Offload	Local breakout
UL Interference Detection	Supported
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 60°±10 • Vertical Beamwidth 40°±5

	• Polarization: ±45°
RF Antenna Gain	10.5dBi
Maximum EIRP	40.5 dBm
Power Control	UL Open-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)

PHYSICAL

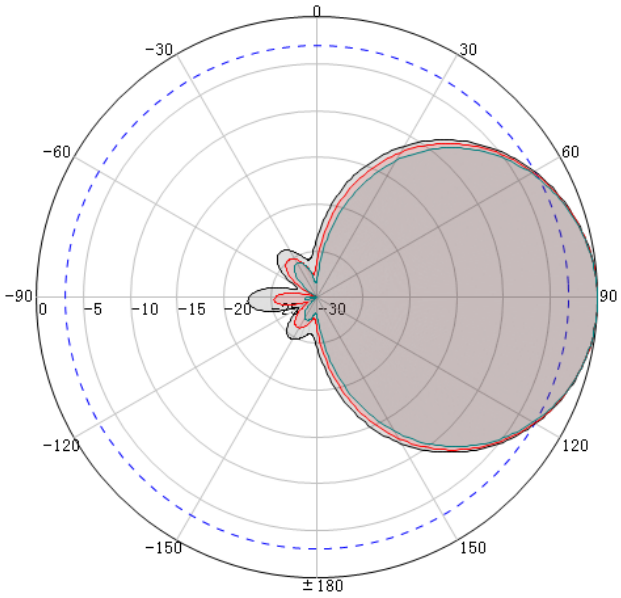
Power Interface Lightning Protection	Differential mode: ±10 KA Common mode: ±20 KA
MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Ingress Protection Rating	IP66
Operating Temperature	-40°F to 131°F / -40°C to 55°C
Storage Temperature	-49°F to 158°F / -45°C to 70°C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa
Power Consumption	Typical 22.5W, maximum 30W
Weight	6.0 lbs / 2.7kg
Dimensions (HxWxD)	9.8 x 9.8 x 3.2 inches 248 x 248 x 80.5 millimeters
Installation	Pole or wall mount

GLOBAL PART NUMBERS

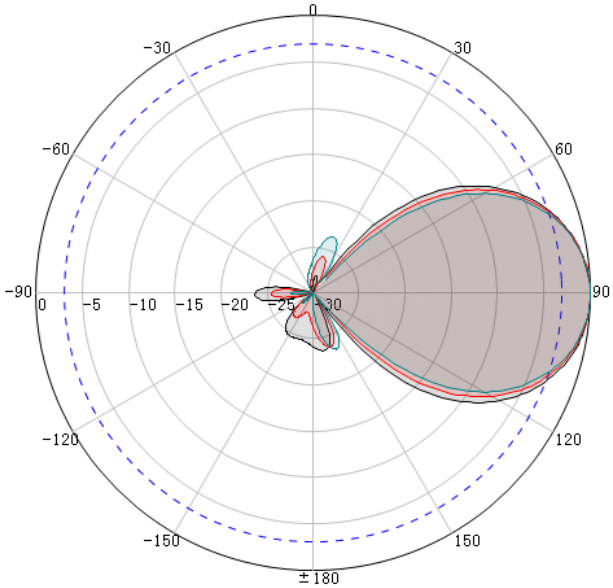
pBS4200B	Nova230i outdoor FDD eNB – LTE Release 10, 2x500mW (27 dBm), 1 port, built-in antenna, UL1710-1785MHz/DL1805-1880MHz, PoE++, B3

NOTE: Customized versions can be requested.

ANTENNA PATTERN



H-Pattern



V-Pattern