

Nova230 Pro

Outdoor Base Station Datasheet

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INTRODUCTION

The Nova230 Pro is a low 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 Nova230 Pro supports Long-Term Evolution (LTE) technology, and it operates in Frequency Division Duplexing (FDD) mode and Time Division Duplexing (TDD) 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 2/3, and TDD Band 40
- 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
- FDD Peak rate: Up to DL 195Mbps and UL 75Mbps with 20MHz bandwidth
- TDD Peak rate: Up to DL 145Mbps and UL 35Mbps with 20MHz bandwidth
- 128 RRC connected users
- PoE++ power supply; only one Ethernet cable required for data transmission and power supply
- 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

Nova230 Pro

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TECHNOLOGY

Standard	LTE RAN (3GPP R10 compliant)
TDD UL/DL Configuration	1, 2, 6 (with Special Subframe Configuration 7)
Frequency Band	Band2 (UL: 1850MHz-1910MHz, DL: 1930MHz-1990MHz) Band3 (UL: 1710MHz-1785MHz, DL: 1805MHz-1880MHz) Band40 (2300MHz – 2390MHz)
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)
Voice	VoLTE, Circuit Switched Fallback (CSFB) to GSM
SON	Self-Organizing Network ● Automatic setup ● Automatic Neighbor Relation (ANR) ● PCI confliction detection
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/IPv6, HTTP/HTTPS, TR-069, SSH
VLAN/VxLAN	802.IQ/VxLAN
Power Control	UL Open-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/BDS (built-in), 1588v2

PERFORMANCE

FDD Peak Data Rate	Bandwidth	DL (Mbps)	UL (Mbps)
	20MHz	195Mbps	75Mbps
	10MHz	97.5Mbps	31Mbps
TDD Peak Data Rate	20 MHz	DL (Mbps)	UL (Mbps)
	UL/DL Config 1	105	28
	UL/DL Config 2	145	14
	UL/DL Config 6	85	35
	10 MHz	DL (Mbps)	UL (Mbps)
	UL/DL Config 1	51	14
	UL/DL Config 2	70	7
	UL/DL Config 6	42	17
User Capacity	Up to 128 RRC connected users per cell		
Latency	30 milliseconds		
Receiving Sensitivity	-101 dBm (per channel)		
Modulation	MCS0 (QPSK) to MCS27 (256QAM) DL: QPSK, 16QAM, 64QAM, 256QAM UL: QPSK, 16QAM, 64QAM		
Transmit Power Range	0 to 27 dBm per channel (combined +30dBm, 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.

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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)
Power Supply	PoE++, comply with IEEE 802.3bt standard
LED Indicators	4 x status LED PWR/ACT/RUN/ALM
Antenna Type	External high-gain antenna with N-Type connectors

PHYSICAL

Power Interface Lightning Protection	Common mode: 3kA, 8/20μs current wave Differential mode: 2kV, 10/700μs voltage wave
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	FDD: Typical 28W, maximum 35W TDD: Typical 25W, maximum 32W
Weight	3.42 lbs / 1.55kg
Dimensions (HxWxD)	8.7 x 5.9 x 2.05 inches / 221 x 150 x 52 millimeters
Installation	Pole or wall mount

MODEL NUMBERS

pBS32022	Nova230 Pro outdoor FDD eNB – LTE Release 10, 2x500mW (27 dBm), 1 port, external antenna, UL1850–1910MHz/DL1930–1990MHz, PoE++, B2
pBS32032	Nova230 Pro outdoor FDD eNB – LTE Release 10, 2x500mW (27 dBm), 1 port, external antenna, UL1710–1785MHz/DL1805–1880MHz, PoE++, B3
pBS31402	Nova230 Pro outdoor TDD eNB – LTE Release 10, 2x500mW (27 dBm), 1 port, external antenna, 2.3GHz(2300MHz – 2390MHz), PoE++, B40

NOTE: Customized versions can be requested.