Nova442i

Outdoor Base Station Datasheet

Ƀʌɪcells
Connect More with Less

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Standard LTE FDD Bands3
- GUI-based local and remote Web management
- Excellent Non-Line-of-Sight (NLOS) coverage
- Overall peak throughput: Up to DL 390Mbps and UL 140Mbps with 2x20MHz FDD spectrum.
- Suitable for private and public deployments; any IP based backhaul can be used, including public transmission protected by Internet Protocol Security (IPsec)
- 128 RRC connected users per carrier (128+128 in all); upgradeable to higher capacity in future releases

- Built-in RF antenna and GPS antenna
- Integrated small cell form factor for quick and easy installation
- Support PoE++, one cable for both data transmission and power supply
- Optional HaloB mode, as eNB embedded EPC solution
- Supports Transparent Bridge Mode
- 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

INTRODUCTION

The Baicells Nova442i is an advanced two cell outdoor integrated eNodeB (eNB) compliant with 3GPP LTE FDD technology. Nova442i support 2 2T2R FDD LTE cells, the cell bandwidth can be 5/10/15/20MHz, each cell can support up to 128 users. Nova442i's maximum output power is 4*4W.

Nova442i can provide omni-directional coverage, each 2T2R cell covers a 180° sector. With baseband, radio unit, LTE antenna and GPS antenna all-in-one compact design, Nova442i is small and light, can support flexible deployment based on the existing lamp pole or power pole.

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

TECHNOLOGY

Standard	LTE FDD RAN (3GPP R13compliant)
Frequency Band	Band3(UL 1710~1785MHz, DL 1805~1880MHz)
Carrier Bandwidth	5/10/15/20 MHz
Multiplexing	MIMO: 2x2 (DL)
Security	Radio: SNOW 3G/AES-128 Backhaul: IPsec (X.509 AES-128, AES-256, SHA-128, SHA-256)

INTERFACE

Ethernet Interface	1 RJ-45 Ethernet interface (1 GE)
Power Supply	PoE++, IEEE 802.3bt standard
Protocols Used	IPv4/IPv6 (Dual Stack), UDP, TCP, ICMP, SNMPv2c, NTP, SSH, IPsec, TR-069, HTTP/HTTPs, 1588v2, DHCP
Network Management	IPv4/IPv6, HTTP/HTTPs, SNMPv2c, TR-069, SSH, Embedded EPC
VLAN/VxLAN	802.IQ/VxLAN
LED Indicators	**4 X STATUS LED** CELL1/CELL2/ALM/PWR

PERFORMANCE

Peak throughput	Bandwidth	DL 256QAM &2*2MIMO(Mbps)	UL 64QAM (Mbps)
	20MHz	195(SC) 390(DC)	75(SC) 140(DC)
	10 MHz	97(SC) 194(DC)	37(SC) 74(DC)
User Capacity	Up to 128 RRC connected users per cell SC: 128 RRC connected users DC: 128+128 RRC connected users		
Latency	30 milliseconds		
Receive Sensitivity	-100 dBm (per channel)		

Modulation	MCS0 (QPSK) to MCS27 (256QAM)
	DL: QPSK, 16QAM, 64QAM, 256QAM
	UL: QPSK, 16QAM, 64QAM
Transmit Power Range	0 to 36 dBm per channel (combined +42dBm, configurable) (1 dB interval)
Quality of Service	Nine-level priority indicated by QoS Class Identifiers (QCI)
ARQ/HARQ	Supported
Synchronization	GPS, 1588v2

MODULATION LEVELS (ADAPTIVE)

MCS	Modulation Scheme	RSRP (dBm)	Coverage Distance (km)
0 - 4	QPSK	$-120 \leq RSRP < -110$	$9 < D \leq 12$
5- 9	16QAM	$-110 \leq RSRP < -100$	$4 < D \leq 9$
10 - 19	64QAM	$-100 \leq RSRP < -85$	$2 < D \leq 4$
20 - 27	256QAM	$RSRP \geq -85$	$D \leq 2$

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
NSA	Supported
SON	Self-Organizing Network
	• Automatic setup
	• Automatic Neighbor Relation (ANR)
	• PCI confliction detection
EPC	HaloB (Embedded EPC)
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

LINK BUDGET

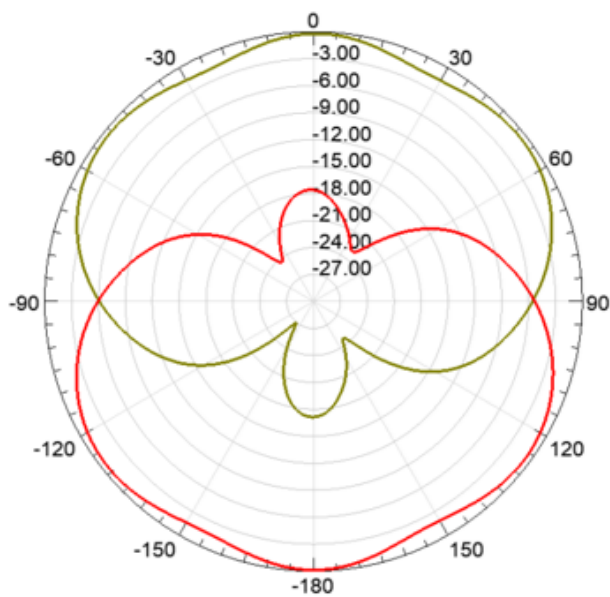| RF Antenna	Two sets internal integrated 2T2R antennas
	Horizontal Beam width 180°
	Vertical Beam width 17°
	Polarization ±45°
	Electronic down tilt 0°
GPS Antenna	Internal GPS antenna
Antenna Gain	10.5dBi
Power Control	UL Open-loop/Closed-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)

PHYSICAL

Surge Suppression	Yes
Power Interface Lightning Protection	Differential mode: ±10 KA
	Common mode: ±20 KA
MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Ingress Protection Rating	IP55
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 100W, maximum 120W
Weight	23.8 lbs / 10.8kg
Dimensions (HxWxD)	Diameter: 7.9 inches/200mm
	Height:
	with lightning rod: 35.7 inches/907mm
	without lightning rod: 25.9 inches/658mm
Installation	Pole mount

MODEL NUMBERS

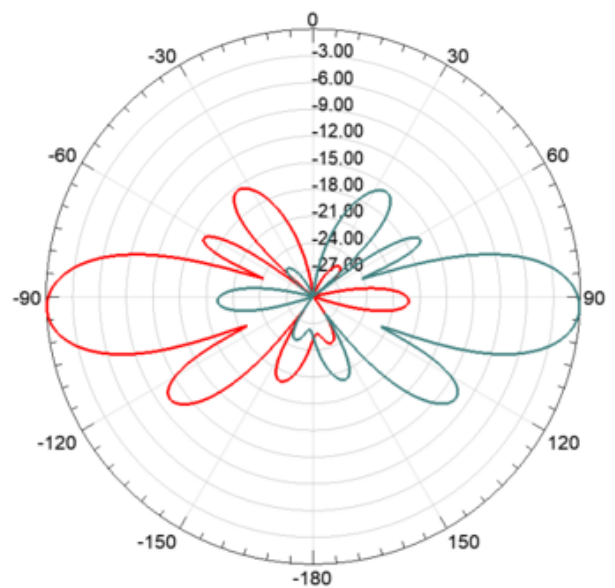|	
mBS32000	Nova442i outdoor FDD eNB - LTE Release 13, 4x4W (42 dBm), 1GE, Band3, built-in antenna

NOTE: Customized versions can be requested.

ANTENNA PATTERN

H-Pattern

V-Pattern