Nova436Q Outdoor TDD eNodeB

INTRODUCTION

The Baicells Nova436Q is an advanced two-carrier outdoor eNodeB (eNB) compliant with 3GPP LTE TDD technology. This versatile eNodeB can be configured as a 2x1W single carrier eNB, (2) 2x1Ws single carrier eNBs (Dual Carrier/Split Sector) or a 4x1W Carrier Aggregation eNB. This allows the operator to grow a market with the same eNB as the market demands change.

In CA mode, contiguous or non-contiguous channels are aggregated to provide up to 40 MHz bandwidth. Carrier Aggregation mode doubles the downlink capacity when the CA Nova436Q is used with all CAT6/7 or higher user equipment.

In DC mode, each carrier is treated as an independent cell, supporting 96 users per cell. Each cell supports 5, 10, 15, or 20 MHz channels. Using a Nova436Q in DC mode simplifies and streamlines the deployment of split sectors.

Additionally, HaloB (an embedded MME option) is included as a standard feature in the base software. The Baicells patented HaloB solution migrates the necessary core network functions to the eNB.

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

FEATURES

Note: Features may vary based on model or region.

- Standard LTE TDD Bands 48 and partial 42, 43
  - Customization can be requested; contact sales_na@baicells.com
- 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
- Aggregate peak rate: 2CC CA for both DL/UL (up to) DL 220 Mbps, UL 56 Mbps with 2x20 MHz, using all CAT6/7 or higher CPEs
- 96 concurrent users per carrier, 96+96 in DC mode
- Supports 4-port antenna or 2 antennas with 2 ports
- Integrated small cell form factor for quick and easy installation
- Configured out of the box to work with Baicells CloudCore
- Embedded HaloB ("lite" EPC) solution
- Supports Citizens Broadband Radio Service (CBRS)
- Plug-and-play with Self-Organizing Network (SON) capabilities
- Internet of Things (IoT) with all standard LTE Evolved Packet Core (EPC)
- TR-069 network management interface support
- Lower power consumption, which reduces OPEX, can be powered easily by Baicells compact outdoor UPS EPB41511

HARDWARE SPECIFICATIONS

LTE Mode	TDD
Frequency Bands	B48 and partial B42, B43
Channel Bandwidth	5/10/15/20 MHz per carrier
Max Output Power	30 dBm/port
Power Supply	+/- 48 VDC, AC adaptor (multi-national standards)
Safe Voltage Range	+42 V to +60 V
Power Consumption	Typical 60 W, peak 100 W

Receive Sensitivity	-100 dBm
Synchronization	GPS
Interfaces	1 optical (SFP) and 1 RJ-45 Ethernet interface (1 GE)
MIMO	DL: 2x2 on each carrier
Installation	Pole or wall mount
Antenna	eNB has N-Type connectors and supports external high-gain antenna(s), either (2) 2-port antennas or (1) 4-port antenna
Dimensions (HxWxD)	12.2 x 9.4 x 4.1 inches 310 x 239 x 105 millimeters
Weight	12.1 lbs / 5.5 kgs
MTBF	⩾ 150000 hours
MTTR	⩽ 1 hour

SOFTWARE SPECIFICATIONS

LTE Standard	3GPP Release 15		
Peak Rate (up to) in SC mode	SA1 is 1x80 Mbps DL and 1x28 Mbps UL		
Peak Rate (up to) in DC mode SA - Subframe Assignment (configurable parameter) SA1: config. 1(DSUUD) SA2: config. 2(DSUDD)	**2x20 MHz:**	DL (Mbps)	UL (Mbps)
	SA1:	2x80	2x28
	SA2:	2x110	2x14
	2x10 MHz:	DL (Mbps)	UL (Mbps)
	SA1:	2x40	2x14
	SA2:	2x55	2x7
Peak Rate (up to) in CA mode Rates based on using all CAT6/7 or higher UEs	**2x20 MHz:**	DL (Mbps)	UL (Mbps)
	SA1:	160	56
	SA2:	220	28
	2x10 MHz:	DL (Mbps)	UL (Mbps)
	SA1:	80	28
	SA2:	110	14
User Capacity	• 96 concurrent users in single carrier mode • 96+96 concurrent users in DC mode • 96 concurrent users in CA mode		

QoS Control	3GPP standard Quality of Service Class Identifier (QCI)
Modulation	DL: QPSK, 16 QAM, 64 QAM, and future software release 256 QAM UL: QPSK, 16 QAM, 64 QAM
Traffic Offload	Local breakout
Voice	VoLTE (future software release)
SON	Self-organizing network: • Automatic setup • Automatic Neighbor Relation (ANR) • PCI confliction detection
RAN Sharing	Multi-Operator Core Network (MOCN)
Network Mgmt	TR-069
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

ENVIRONMENTAL SPECIFICATIONS

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
Ingress Protection Rating	IP66
Power Interface Lightning Protection	Differential mode: ±10 KA Common mode: ±20 KA

GLOBAL PART NUMBER

mBS31001	**Single Carrier Mode** Nova436Q outdoor TDD eNodeB - LTE Release 13, **2x1W (30 dBm), 2 port**, 3.5 GHz (3550 MHz-3700 MHz), B42/43/48
	Carrier Aggregation (CA) or Dual Carrier (DC)/Split Mode Nova436Q outdoor TDD eNodeB - LTE Release 13, **4x1W (30 dBm), 4 port**, 3.5 GHz (3550 MHz-3700 MHz), B42/43/48 • FCC certification: 2AG32MBS3100196N • IC certification: 20982-MBS31001

Note: Customized versions can be requested.