



## INTRODUCTION

The Baicells Nova-436Q is an advanced two-carrier outdoor eNodeB (eNB) that is compliant with 3GPP LTE TDD technology. This 4x1W eNB is capable of operating in Carrier Aggregation (CA) mode or Dual Carrier (DC) / split mode.

In CA mode, contiguous or non-contiguous channels are aggregated to provide up to 40 MHz bandwidth. This essentially doubles the downlink capacity when the CA 436Q is used with all CAT6/7 user equipment. In DC mode, each carrier is treated as an independent cell, supporting 64+64 users, and each supporting 5, 10, 15, or 20 MHz bandwidth. Using a Nova-436Q in DC mode simplifies and streamlines the deployment of split sectors.

In addition to having the option to operate Nova-436Q in either CA or DC mode, HaloB (an embedded MME option) comes as a default 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; extended warranty is available.

## FEATURES

Note: Features may vary based on model or region.

- Standard LTE TDD Bands 48 and partial 42, 43
  - Customization may be requested; contact [sales\\_na@baicells.com](mailto: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: (up to) DL 220 Mbps, UL 28 Mbps with 2x20 MHz, using all Cat6/7 or higher UEs
- 64 concurrent users per carrier, 64+64 in DC mode; upgradeable to higher capacity in future releases
- 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
- 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	48 and partial bands 42, 43
Channel Bandwidth	5/10/15/20 MHz per carrier
Max Output Power	30 dBm / port
Power Supply	+/- 48VDC, AC adaptor (multi-national standards)
Power Consumption	Typical 60W, peak 100W
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 DC mode	<b>2x20 MHz:</b>	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
	SA1 :	2x80	2x28
SA - Subframe Assignment (configurable parameter)	SA2 :	2x110	2x14
	<b>2x10 MHz:</b>	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
SA1: config. 1(DSUUD) SA2: config. 2(DSUDD)	SA1 :	2x40	2x14
	SA2 :	2x55	2x7
Peak Rate (up to) in CA mode	<b>2x20 MHz:</b>	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
	SA1 :	160	28
Rates based on using all Cat6/7 or higher UEs	SA2 :	220	14
	<b>2x10 MHz:</b>	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
User Capacity	SA1 :	80	14
	SA2 :	110	7
64 concurrent users in single carrier mode 64+64 concurrent users in DC mode 64 concurrent users in CA mode Future software release: 96			
QoS Control	3GPP standard Quality of Service Class Identifier (QCI)		
Modulation	DL: QPSK, 16QAM, 64QAM, and future software release 256QAM UL: QPSK, 16QAM, 64QAM		
Traffic Offload	Local breakout		

Voice	VoLTE (future software release)
SON	Self-organizing network: <ul style="list-style-type: none"> <li>• Automatic setup</li> <li>• Automatic Neighbor Relation (ANR)</li> <li>• PCI confliction detection</li> </ul>
RAN Sharing	Multi-Operator Core Network (MOCN)
Network Mgmt	TR-069
Maintenance	<ul style="list-style-type: none"> <li>• Local/Remote Web maintenance</li> <li>• Online status management</li> <li>• Performance statistics</li> <li>• Fault management</li> <li>• Local/Remote software upgrade</li> <li>• Logging</li> <li>• Connectivity diagnosis</li> <li>• Automatic start and configuration</li> <li>• Alarm reporting</li> <li>• User information tracing</li> <li>• Signaling Trace</li> </ul>

## 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-CA	Nova-436Q outdoor TDD eNodeB - LTE Release 13, 4x1W (30 dBm), 4 port, 3.5 GHz (3550-3700 MHz), B42/43/48. Includes Carrier Aggregation. <ul style="list-style-type: none"> <li>• FCC certification: 2AG32MBS3100196N</li> <li>• IC certification: 20982-MBS31001</li> </ul>
mBS31001-DC	Nova-436Q outdoor TDD eNodeB - LTE Release 13, 4x1W (30 dBm), 4 port, 3.5 GHz (3550-3700 MHz), B42/43/48. Includes Dual Carrier (Split Mode). <ul style="list-style-type: none"> <li>• FCC certification: 2AG32MBS3100196N</li> <li>• IC certification: 20982-MBS31001</li> </ul>

Note: Customized versions may be requested.