



## 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<sup>a</sup>.

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. Nova-436Q will support CBRS 3.55-3.7 GHz frequencies including bands 42, 43, and 48.

In DC mode, each carrier is treated as an independent cell, each supporting 5, 10, 15, or 20 MHz bandwidth. The Nova-436Q 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 EPC option) comes as a default feature in the base software. Baicells's patented HaloB solution migrates the necessary core network functions to the eNB so that it operates independently, with no connection through an S1 link to the EPC (core network).

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

## FEATURES

Note: Features may vary based on model or region.

### Easy Deployment

- Suitable for private and public deployments; any IP based backhaul can be used, including public transmission
- 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 GPS synchronization
- CBRS ready
- Plug-and-play with future self-organizing network (SON)<sup>a</sup> capabilities
- IoT with most EPC vendors

### Better Performance

- Standard LTE TDD Bands 42/43/48
  - Customization may be requested; contact [sales\\_na@baicells.com](mailto:sales_na@baicells.com).
- Complies with 3GPP Release 13 standards
- Supports 5/10/15/20 MHz bandwidth per carrier
- Excellent non-line-of-sight (NLOS) coverage
- Aggregate peak rate: (up to) DL 220 Mbps, UL 56 Mbps<sup>b</sup> with 2x20 MHz and using all Cat6/7 UEs
- 32 concurrent users; upgradeable to higher capacity in future software releases
- Lower power consumption, which reduces OPEX
- Supports 4-port antenna or 2 antennas with 2 ports

## Easy Management

- GUI-based local and remote Web management
- TR069 network management interface support
- Flexible cloud or local NMS/EMS management using Baicells Operations Management Console (OMC)

## Flexible Operating Mode Options

- HaloB (embedded "lite" EPC)
- Carrier Aggregation license available
- Dual Carrier<sup>a</sup> license available

## HARDWARE SPECIFICATIONS

LTE Mode	TDD
Frequency Bands	42/43/48
Channel Bandwidth	5/10/15/20 MHz per carrier
Max Output Power	30 dBm / antenna
Power Supply	+/- 48VDC, AC adaptor (multi-national standards)
Power Consumption	< 60W
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

NOTES:

<sup>a</sup> Future software upgrade

<sup>b</sup> Future software release will support uplink CA, which can double the single carrier 28 Mbps UL capacity, depending on operating mode

## SOFTWARE SPECIFICATIONS

LTE Standard	3GPP Release 13		
Peak Rate (up to)  Rates based on using all Cat6/7 UEs  SA - Special Subframe Assignment (configurable parm)	2x20 MHz:	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
	SA1 :	2x80 (160)	2x28 (56) <sup>b</sup>
	SA2 :	2x110 (220)	2x14 (28)
	2x10 MHz:	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
SA1 :	2x40 (80)	2x14 (28)	
SA2 :	2x55 (110)	2x7 (14)	
User Capacity	32 concurrent Future: 64 <sup>a</sup> and 96 <sup>a</sup>		
QoS Control	3GPP standard Quality of Service Class Identifier (QCI)		
Modulation	DL: QPSK, 16QAM, 64QAM, 256QAM <sup>a</sup> UL: QPSK, 16QAM, 64QAM		
Traffic Offload	Local IP Access (LIPA) Selected IP Traffic Offload (SIPTO)		
Voice	VoLTE <sup>a</sup>		
SON	Self-organizing network <sup>a</sup> : <ul style="list-style-type: none"> <li>• Automatic setup</li> <li>• Automatic Neighbor Relation (ANR)</li> <li>• PCI confliction detection</li> </ul>		
RAN Sharing	Supported		
Network Mgmt	TR069		
MTBF	≥ 150000 hours		
MTTR	≤ 1 hour		
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>• KPI recording</li> <li>• User information tracing</li> <li>• Signaling Trace<sup>a</sup></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	<p>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.</p> <ul style="list-style-type: none"><li>FCC certification: 2AG32MBS3100190</li></ul>
mBS31001-DC	<p>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).</p> <ul style="list-style-type: none"><li>FCC certification: 2AG32MBS3100190</li></ul>

### Notes:

- 1 - Other models available for other regions. Contact [sales\\_na@baicells.com](mailto:sales_na@baicells.com).
- 2 - Customized versions may be requested.