



INTRODUCTION

The Baicells Nova430e is an advanced two-carrier outdoor eNodeB (eNB) compliant with 3GPP LTE TDD technology. This 4x250mW eNB can operate in Carrier Aggregation (CA) mode or Dual Carrier (DC)/split mode.

The Nova430 is available in two variants: The Nova430e, which has one 4-port or two 2-port external antennas, and the Nova430i, which has four integrated high-gain LTE antennas. The Nova430e is described in this datasheet.

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

In DC mode, each carrier is treated as an independent cell, supporting 96+96 users, with each supporting 5, 10, 15, or 20 MHz bandwidth. Using a Nova430e in DC mode simplifies and streamlines the deployment of split sectors.

In addition to CA and DC mode options, HaloB (an embedded MME option) is available on the Nova430e as part of 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
- 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

HARDWARE SPECIFICATIONS

| | |
|-------------------|------------------------------|
| LTE Mode | TDD |
| Frequency Bands | B48 and partial B42, B43 |
| Channel Bandwidth | 5/10/15/20 MHz per carrier |
| Max Output Power | 24 dBm/channel |
| Power Supply | PoE++, IEEE 802.3bt standard |
| Power Consumption | Typical 20 W, Max 25 W |

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|---------------------|--|
| Receive Sensitivity | -100 dBm |
| Synchronization | GPS |
| Interfaces | 1 RJ-45 Ethernet interface (1 FE/GE) |
| MIMO | DL: 2x2 on each carrier, 2 carriers |
| Installation | Pole or wall mount |
| Antenna | One 4-port or two 2-port external antennas compatible with N-type eNB connectors |
| Dimensions (HxWxD) | <ul style="list-style-type: none"> With Joint: <ul style="list-style-type: none"> 15 x 8.9 x 3 inches 381 x 227 x 75 millimeters Without Joint and Handle: <ul style="list-style-type: none"> 12.2 x 8.9 x 3 inches 311 x 227 x 75 millimeters |
| Weight | <ul style="list-style-type: none"> With Pre-Installed Bracket <ul style="list-style-type: none"> 10.5 lb/4.75 kg Without Bracket <ul style="list-style-type: none"> 9.6 lb/4.35 kg |
| MTBF | ≥ 150000 hours |
| MTTR | ≤ 1 hour |

SOFTWARE SPECIFICATIONS

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|--|---|------------------|------------------|
| LTE Standard | 3GPP Release 15 | | |
| Peak Rate (up to) in DC mode | 2x20 MHz: | <u>DL (Mbps)</u> | <u>UL (Mbps)</u> |
| | SA1: | 2x80 | 2x28 |
| | SA2: | 2x110 | 2x14 |
| | SA - Subframe Assignment (configurable parameter) | 2x10 MHz: | <u>DL (Mbps)</u> |
| Peak Rate (up to) in CA mode | SA1: | 2x40 | 2x14 |
| | SA2: | 2x55 | 2x7 |
| | 2x20 MHz: | <u>DL (Mbps)</u> | <u>UL (Mbps)</u> |
| | SA1: | 160 | 56 |
| Rates based on using all CAT6/7 or higher CPEs | SA2: | 220 | 28 |
| | 2x10 MHz: | <u>DL (Mbps)</u> | <u>UL (Mbps)</u> |
| | SA1: | 80 | 28 |
| | SA2: | 110 | 14 |

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|-----------------|---|
| User Capacity | <ul style="list-style-type: none"> 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), support SC1 |
| Modulation | <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Automatic setup Automatic Neighbor Relation (ANR) PCI confliction detection |
| Network Mgmt | TR-069, SNMP |
| Maintenance | <ul style="list-style-type: none"> 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

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|--------------------------------------|--|
| 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 | IP65 |
| Power Interface Lightning Protection | Differential mode: ±10 KA Common mode: ±20 KA |

GLOBAL PART NUMBERS

pBS3101SE

Nova430e Outdoor TDD eNodeB - LTE
Release 15, 4x250mW (24 dBm),
4-port, 3.5 GHz (3550 MHz-3700 MHz),
B42/43/48. Carrier Aggregation/Dual
Carrier

- FCC certification: 2AG32PBS3101SE
- IC certification: 20982-PBS3101SE

Note: Customized versions can be requested.