Neutrino-430 Indoor TDD eNodeB

Baicells

INTRODUCTION

The Baicells Neutrino-430 is an advanced two-carrier indoor eNodeB (eNB) that is compliant with 3GPP LTE TDD technology. This 4x250mW 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 mode 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 Neutrino-430 in DC mode simplifies and streamlines the deployment of split sectors.

In addition to having the option to operate Neutrino-430 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
- 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)
- Built-in integrated antenna
- Excellent non-line-of-sight (NLOS) coverage
- Aggregate peak rate: (up to) DL 220 Mbps, UL 56 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
- Supports HaloB operating mode
- Supports Citizens Broadband Radio Service (CBRS) pending Part 96 certification
- Plug-and-play with self-organizing network (SON) capabilities
- TR-069 network management interface support
- IoT with all standard LTE Evolved Packet Core (EPC)
- Lower power consumption, which reduces OPEX
- Built-in DHCP server, DNS client, and NAT functionality, providing strong high-speed routing

Neutrino-430 Indoor TDD eNodeB

Baicells

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	24 dBm / port
Power Supply	+/- 48V DC, PoE+/12V 2A, IEEE 802.3at standard
Power Consumption	~20W (peak)
Receive Sensitivity	-100 dBm
Synchronization	GPS, Network Listening (NL)
Interfaces	1 optical (SFP) and 1 RJ-45 Ethernet interface (1 GE)
MIMO	DL: 2x2 on each carrier
Installation	Ceiling or wall mount
Antenna	3dBi, built-in omni antenna
Dimensions (HxWxD)	8.7 x 8.7 x 1.8 inches 220 x 220 x 45 millimeters
Weight	3.52 lbs / 1.6 kgs
MTBF	≥ 150000 hours
MTTR	≤ 1 hour

SOFTWARE SPECIFICATIONS

LTE Standard	3GPP Release 15		
Peak Rate (up to) in DC mode	**2x20 MHz:**	DL (Mbps)	UL (Mbps)
	SA1 :	2x80	2x28
SA - Subframe	SA2 :	2x110	2x14
Assignment (configurable	**2x10 MHz:**	DL (Mbps)	UL (Mbps)
parameter)	SA1 :	2x40	2x14
SA1: config. 1(DSUUD) SA2: config. 2(DSUDD)	SA2 :	2x55	2x7
Peak Rate (up to) in CA mode	**2x20 MHz:**	DL (Mbps)	UL (Mbps)
	SA1 :	160	28
Rates based on using	SA2 :	220	14
all Cat6/7 or higher	**2x10 MHz:**	DL (Mbps)	UL (Mbps)
UEs	SA1 :	80	14
	SA2 :	110	7

User Capacity	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: • 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 • KPI reporting • User information tracing • Signaling Trace

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	23°F to 113°F / -5°C to 45°C
Storage Temperature	14°F to 122°F / -10°C to 50°C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa

GLOBAL PART NUMBER

pBS31010	Neutrino-430 indoor TDD eNodeB - LTE Release 15, 4x250mW (24 dBm), 3dBi built-in antenna, 3.5 GHz (3550-3700 MHz), B42/43/48. Carrier Aggregation/Dual Carrier.

Note: Customized versions may be requested.