Nova846 Outdoor TDD eNB Datasheet

INTRODUCTION

The Baicells Nova846 is an advanced two-carrier outdoor eNodeB (eNB) that is compliant with 3GPP LTE TDD technology. This 8x5W 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 128+128 users, and each supporting 20 MHz bandwidth. Using a Nova846 in DC mode simplifies and streamlines the deployment of split sectors.

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

The product comes with a standard one-year warranty; extended warranty is available.

FEATURES

Note: Features may vary based on model or region.

- Standard LTE TDD Bands 41 and 48
  - Customization may be requested; contact sales_na@baicells.com.
- Compact design, easy to deploy
- Supports GPS synchronization
- 128+128 concurrent users, 256+256 RRC users
- Peak rate (up to): DL 440 Mbps with 4x4 MIMO Carrier Aggregation (CA) mode, UL 28 Mbps
- GUI-based local and remote Web management
- Highly secured with equipment certification against potential intrusion risk
- TR-069 network management interface support
- 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)
- Lower power consumption, which reduces OPEX, can be powered easily by the Baicells compact outdoor SmartUPS EPB83521 and EPB93531 series

HARDWARE SPECIFICATIONS

Air Interface	LTE
LTE Mode	TDD
Frequency Bands	Band 41, 48
Channel Bandwidth	5/10/15/20 MHz
Carrier Config.	Maximum 2 carriers
Max Output Power	37 dBm / channel x 8 channel
MIMO	DL: 4x4
Rx Sensitivity	-102 dBm
Synchronization	GPS

Data Interface	1 optical GE or 1 electrical GE or 2 optical GE
LED Indicator	5 x status LED: RUN/ACT/ALM/GE0/GE1
Power Supply	-40.5 to 57 VDC, Nominal -48 VDC
Power Consumption	<=200 W
Installation	Pole or wall mount
Antenna Port Config	2 x cluster antenna port (4T4R)
Antenna	External high-gain antenna compatible with eNB N-Type connectors
Dimensions (HxWxD)	18.7 x 10 x 4.8 inches 475 x 254 x 123 millimeters
Volume	<=14.8 Liters
Weight	17.6 lbs./8 kgs
Basic Report Function	RSSI, VSWR, TSSI (transmission signal strength), temperature, etc.
Cooling Method	Natural convection cooling @ vertical installation
Noise Figure	• Room temperature: <2.5 • All temperature: <3.5
MTBF	≥ 150000 hours
MTTR	≤ 1 hour

User Capacity	• 128+128 concurrent users, 256+256 RRC users • Future software release 256+256 concurrent users, 512+512 RRC users		
QoS Control	3GPP standard QCI		
Modulation	• DL: QPSK, 16 QAM, 64 QAM, and future software release 256 QAM • UL: QPSK, 16 QAM, 64 QAM		
Voice	VoLTE, Circuit Switched Fallback (CSFB)*		
Traffic Offload	Local breakout		
SON	Self-organizing network: • Automatic setup • Automatic Neighbor Relation (ANR) • PCI confliction detection		
RAN Sharing	Multi-Operator Core Network (MOCN)*		
HaloB	Supported		
Network Mgmt	TR-069		
Maintenance	• Remote/local maintenance • Online status management • Performance statistics * • Fault management* • Local or remote software upgrade • Logging • Connectivity diagnosis		

*Note: Future software release.

SOFTWARE SPECIFICATIONS

LTE Standard	3GPP Release 15		
Peak Rate (up to) in CA mode SA - Subframe Assignment (configurable parameter) SA1: config. 1 (DSUUD) SA2: config. 2 (DSUDD)	**2x20 MHz:**	DL (Mbps)	UL (Mbps)
	SA1:	320	28 (56*)
	SA2:	440	14 (28*)
	2x10 MHz:	DL (Mbps)	UL (Mbps)
	SA1:	160	14 (28*)
	SA2:	220	7 (14*)
Peak Rate (up to) in Single Carrier	**20 MHz:**	DL (Mbps)	UL (Mbps)
	SA1:	160	28
	SA2:	220	14
	10 MHz:	DL (Mbps)	UL (Mbps)
	SA1:	80	14
	SA2:	110	7

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature (ambient)	-40°F to 131°F / -40°C to 55°C
Humidity	2% to 95%
Ingress Protection Rating	IP66
Salt Fog/Salt Spray	GR-487
Seismic Specification	Telcordia GR-63-CORE, Section 4.4 Zone 4
Wind Resistance	ETSI300019-1-4
EMC	• ETSI EN 301 489-4 • ETSI EN 301 908-1

ESD	Contact Discharge 8 kV (Criteria B) Air Discharge 15 kV (Criteria B) (GR-1089-CORE section 2)
Safety	• EN 60950-1 Last edition • EN 60950-22 Last edition
RF	• EN 301 908-1 V6.2.1 • EN 301 908-14 V5.2.1

GLOBAL PART NUMBERS

sBS71010	sBS71010 (TDD Outdoor eNB, band 48 (3550 MHz-3700 MHz), 8T8R, 8*5 W, 48 VDC, outdoor, external antenna, 1*RJ45+1*OPT) • FCC certification: TBD • IC certification: TBD
sBS71011	sBS71011 (TDD Outdoor eNB, band 48 (3550 MHz-3700 MHz), 8T8R, 8*5 W, 48 VDC, outdoor, external antenna, 2*OPT) • FCC certification: TBD • IC certification: TBD
sBS71080	sBS71080 (TDD Outdoor eNB, band 41 (2496 MHz-2690 MHz), 8T8R, 8*5 W, 48 VDC, outdoor, external antenna, 1*RJ45+1*OPT) • FCC certification: TBD • IC certification: TBD
sBS71081	sBS71081 (TDD Outdoor eNB, band 41 (2496 MHz-2690 MHz), 8T8R, 8*5 W, 48 VDC, outdoor, external antenna, 2*OPT) • FCC certification: TBD • IC certification: TBD

Note: Customized versions can be requested.