

cnRanger Sierra 800 Baseband Unit (BBU)



The cnRanger™ Fixed LTE wireless platform from Cambium Networks substantially increases range and coverage, while reducing the cost and complexity typically associated with LTE networks.

- Simplified LTE with a Virtualized, Embedded core
- LTE Optimized for Fixed Wireless Broadband
- Zero touch configuration automatically recognizes and provisions elements on contact while prohibiting unauthorized devices
- Avoid cost and complexity of the Evolved Packet Core (EPC). Eliminate dependency on cloud communication, provision infrastructure in minutes

SPECIFICATIONS

PRODUCT

Model Name	Sierra 800
Model Numbers	LTE-BBU-800

INTERFACE

RRH Interface	Four SFP+ / CPRI v7.0
Ethernet Interface (Copper)	10/100/1000BaseT, full duplex, rate auto negotiated, 802.3 compliant
Ethernet Interface (Optical)	1000Base -SX

SECURITY

Encryption	AES-128 and SNOW 3G
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SPECTRUM

Channel Spacing	Configurable on 1 MHz increments
Frequency Range	2300 - 2700 MHz, Bands 38, 40, 41, software upgradeable to any TD-LTE band
Channel Width	5 MHz*, 10 MHz, 15 MHz*, 20 MHz

Console Interface	Mini USB Serial
Display Interface	1.77 inch LCD Display
Protocols Used	IPv4, UDP, TCP, IPv4, ICMP
Network Management	HTTP, HTTPS, SSH, cnMaestro
MTU	1500 bytes

SPECIFICATIONS

PERFORMANCE

Subscribers per Sector	64 (software upgradeable to 256*)
PPS	TBD
HARQ	Yes
Maximum Deployment Range	32 km (20 mi)
Latency	<30 msec typical
Throughput	<ul style="list-style-type: none"> Config 1: 68 Mbps DL / 20 Mbps UL Config 3: 95 Mbps DL / 13 Mbps UL.
GPS Synchronization	On-board GPS and GPS antenna via SMA connector, IPPS SYNC IN via SMA connector, IPPS SYNC OUT via SMA connector
Quality of Service	QCI*, DSCP classification*

Adaptive Modulation Levels (MCS)		Signal to Noise Required (SNR, in dB)			
MCS	SNR	MCS	SNR	MCS	SNR
0-QPSK	-3	10-QPSK	6	20-16QAM	14
1-QPSK	-3	11-16QAM	7	21-16QAM	15
2-QPSK	-1	12-16QAM	8	22-16QAM	16
3-QPSK	0	13-16QAM	9		
4-QPSK	1	14-16QAM	10		
5-QPSK	2	15-16QAM	10		
6-QPSK	2	16-16QAM	11		
7-QPSK	3	17-16QAM	12		
8-QPSK	4	18-16QAM	13		
9-QPSK	5	19-16QAM	13		

PHYSICAL

Surge Suppression	<ul style="list-style-type: none"> Ethernet EN61000-4-5: 8us/20us, 2kV voltage waveform DC Power Port EN61000-4-5: 10us/700us, 2kV voltage waveform
Temperature / Humidity	-40°C to +60°C (-40°F to +140°F), 5-95% non-condensing
Weight	3.2Kg (7.1 lbs)
Dimensions (WxHxD) (including mount)	13" (W) x 2 3/8" (H) x 9" (D) (330 mm x 60 mm x 229 mm)
Power Consumption	90 W nominal, 120 W peak
Recommended Power Supply	P/N: N000000L129A - XP Power 120 W PSU
Input Voltage	± 48V DC (36V to 60V)

CERTIFICATIONS

ETSI	EN 301 489-1 v2.2.0 Draft EN 301 489-19 v2.1.0
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FEATURES

LTE Standard for EPC and eNB	3GPP Release 10, software upgradeable through release 13*
LTE Configurations Supported	1 and 3
Evolved Packet Core	Fully embedded, virtualized EPC
Layer 2 Support	Bridge Mode*
Carrier Aggregation	2 Component Carrier*
Frequency Re-Use	N=1*