ENB-430i CBRS OUTDOOR eNODE-B

Compact, Durable, Flexible

The JACS **eNB-430i** is an advanced two-carrier outdoor eNodeB (eNB) compliant with 3GPP LTE TDD technology. This 4x250mW eNB operates in either Carrier Aggregation (CA) mode or Dual Carrier (DC) mode.

The eNB-430 supports LTE TDD Band 48, is interoperable with a standard LTE Evolved Packet Core, and includes a TR069 network management interface to allow you to easily deploy and manage a private cellular network for mobility, security, and capacity wherever your operations require it.

Customization Benefits

Empower your workforce with value-generating solutions designed specifically to meet the needs of your business.

Hardware

- Small form factor
- Internal antenna
- Built for tough environments

Software

- Remote web management
- Evolved packet core interop
- Pre-configurable

Connectivity

- Private LTE
- LTE TDD Band 48
- IPSec protection

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STANDARD
LTE TDD RAN (3GPP Release 15 compliant)

TDD UL/DL CONFIGURATION
1, 2, 6 (with Special Subframe Configuration 7)

FREQUENCY BAND
B48 (3550 MHz–3700 MHz)

CHANNEL BANDWIDTH
SC: 5/10/15/20 MHz
CA: 40 MHz as maximum aggregated bandwidth

MULTIPLEXING
MIMO: 2x2 (DL)

SECURITY
Radio: SNOW 3G/AES-128
Backhaul: IPsec (X.509 AES-128, AES-256, SHA-128, SHA-256)

ETHERNET INTERFACE
1 RJ-45 Ethernet interface (1 GE)

POWER SUPPLY
PoE++ (IEEE 802.3bt compliant)

PROTOCOLS
IPv4/IPv6 (Dual Stack), UDP, TCP, ICMP, SNMPv2c, NTP, SSH, IPsec, TR-069, HTTP/HTTPS, 1588v2, DHCP

NETWORK MANAGEMENT
IPv4/IPv6, HTTP/HTTPS, SNMPv2c, TR-069, SSH, Embedded EPC

VLAN/VxLAN
802.IQ/VxLAN

LED INDICATORS
4 x status LED
CELL1/CELL2/ALM/PWR

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PERFORMANCE

PEAK DATA RATE (DC)	2X20 MHZ	DL (MBPS)	UL (MBPS)
	UL/DL Config 1	2X105	2X28
	UL/DL Config 2	2X145	2X14
	UL/DL Config 6	2x85	2x35
	2x10 MHZ	**DL (MBPS)**	**UL (MBPS)**
	UL/DL Config 1	2x51	2x14
	UL/DL Config 2	2x70	2x7
	UL/DL Config 6	2x42	2x17

PEAK DATA RATE (CA)	2X20 MHZ	DL (MBPS)	UL (MBPS)
	UL/DL Config 1	210	56
	UL/DL Config 2	290	28
	UL/DL Config 6	170	70
	2x10 MHZ	**DL (MBPS)**	**UL (MBPS)**
	UL/DL Config 1	102	28
	UL/DL Config 2	140	14
	UL/DL Config 6	84	34
	20 MHZ + 10 MHZ	**DL (MBPS)**	**UL (MBPS)**
	UL/DL Config 1	156	42
	UL/DL Config 2	215	21
	UL/DL Config 6	127	52
	20 MHZ + 15 MHZ	**DL (MBPS)**	**UL (MBPS)**
	UL/DL Config 1	182	49
	UL/DL Config 2	250	24
	UL/DL Config 6	148	61

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USER CAPACITY
Up to 96 RRC connected users per cell (4 users per TTI)
· SC/CA: 96 RRC connected users
· DC: 96+96 RRC connected users

MAXIMUM DEPLOYMENT RANGE
5 kilometers

LATENCY
30 milliseconds

RECEIVE SENSITIVITY
-100 dBm (per channel)

MODULATION
MCS0 (QPSK) to MCS27 (256 QAM)
DL: QPSK, 16 QAM, 64 QAM, 256 QAM
UL: QPSK, 16 QAM, 64 QAM

TRANSMIT POWER RANGE
0 to 24 dBm per channel (combined +30 dBm, configurable) (1 dB interval)

QUALITY OF SERVICE
Nine-level priority indicated by QoS Class Identifiers (QCI)

ARQ/HARQ
Supported

SYNCHRONIZATION
GPS, 1588v2 (default)

MODULATION LEVELS (ADAPTIVE)

MCS	MODULATION SCHEME	RSRP (dBm)	COVERAGE DISTANCE (km)
0-4	QPSK	$-120 \le RSRP < -110$	$4 < D \le 5$
5-9	16 QAM	$-110 \le RSRP < -100$	$3 < D \le 4$
10-19	64 QAM	$-100 \le RSRP < -85$	$2 < D \le 3$
20-27	256 QAM	$RSRP \ge -85$	$D \le 2$

NOTE: The information provided is for reference only as the environment can impact modulation levels.
Scenario: Base Station height is 30 meters; Customer User Equipment (CPE) height is two meters.

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FEATURES

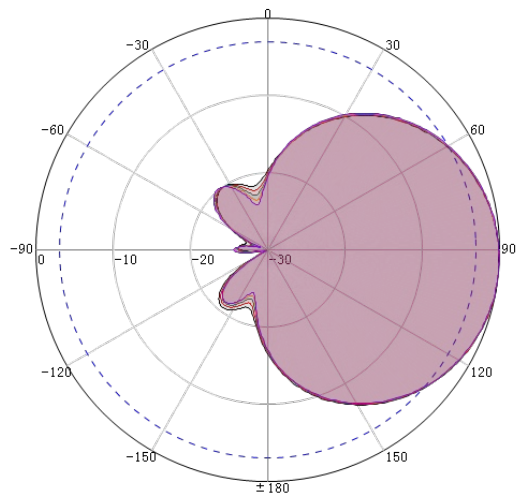|	
VOICE	VoLTE (planned)
NSA	Supported
SON	**Self-Organizing Network** Automatic setup Automatic Neighbor Relation (ANR) PCI confliction detection
EPC	HaloB (Embedded EPC)
TRAFFIC OFFLOAD	Local breakout
LAYER 2 SUPPORT	Transparent Bridge Mode
MAINTENANCE	• Local/Remote Web maintenance • Online status management • Performance statistics • Fault management • Local/Remote software upgrade • Logging • Connectivity diagnosis • Automatic start and configuration • Alarm reporting • User information tracing • Signaling trace

LINK BUDGET

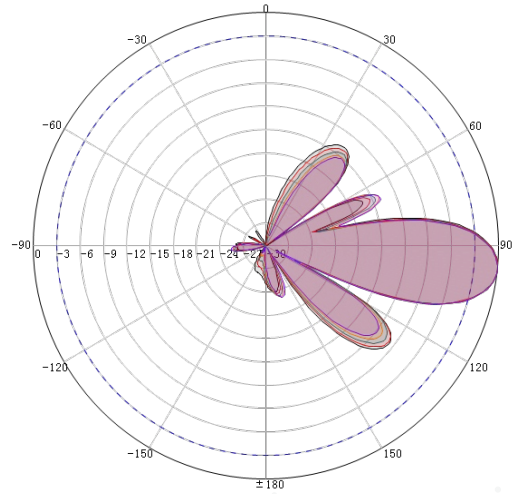|	
ANTENNA	Integrated 4T4R antennas • Horizontal Beam width 65 ± 10° • Vertical Beam width 17° • Polarization: ±45°
ELECTRICAL DOWNTILT	6° at Band 48
ANTENNA GAIN	13 ± 1 dBi
MAXIMUM EIRP	43 ± 1 dBm
POWER CONTROL	UL Open-loop/Closed-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)

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PHYSICAL

SURGE SUPPRESSION	Yes
POWER INTERFACE LIGHTNING PROTECTION	Differential mode: ±10 KA Common mode: ±20 KA
MBTF	≥ 150000 hours
MTTR	≤ 1 hour
INGRESS PROTECTION RATING	IP65
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
POWER CONSUMPTION	Typical 20 W, maximum 25 W
WEIGHT	10.7 lb/4.85 kg (without bracket)
DIMENSIONS (HxWxD)	12.6 x 8.9 x 4.1 inches 319 x 227 x 104 millimeters
INSTALLATION	Pole or wall mount

ANTENNA PATTERN

H-Pattern

V-Pattern