Neutrino224

Indoor Base Station Datasheet

INTRODUCTION

The Neutrino224 is an indoor 2x125mW picocell eNodeB (eNB), which offers lower cost access for indoor user equipment (UE) and solve indoor blind area problem and enhance the hotspot capacity. It is specifically used in family, small enterprise, and other indoor scenarios. As with all Baicells products, the Neutrino224 supports Long-Term Evolution (LTE) technology, and it operates in Time Division Duplexing (TDD) mode.

With high capacity and easy deployment, the Neutrino224 TDD series eNB can help mobile operators to provide better coverage and higher capacity with lower network deployment cost and operating expense (OPEX).

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

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Standard LTE TDD Bands 38/40/42/48
- GUI-based local and remote Web management
- Compact, all-in-one design of external antenna
- Any IP based backhaul can be used, including public transmission protected by Internet Protocol Security (IPsec)
- Peak rate: Up to DL 110Mbps and UL 10Mbps with 20MHz bandwidth
- 32 RRC connected users
- PoE+ power supply; only one Ethernet cable required for data transmission and power supply
- Configured out of the box to work with Baicells Cloud Core
- Inter operation with all standard LTE Evolved Packet Core (EPC)
- Lower power consumption to reduce OPEX
- Support TR-069 network management interface

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Baicells
Connect More with Less

TECHNOLOGY

Standard	LTE TDD RAN (3GPP R10 compliant)
TDD UL/DL Configuration	1, 2 (with Special Subframe Configuration 7)
Frequency Band	B38 (2570MHz – 2620MHz) B40 (2300MHz – 2400MHz) B42 (3400MHz – 3600MHz) B48 (3550 MHz – 3700 MHz)
Channel Bandwidth	5/10/15/20 MHz
Multiplexing	MIMO: 2x2 (DL)
Security	Radio: SNOW 3G/AES-128/ZUC Backhaul: IPsec (X.509 AES-128, AES-256, SHA-128, SHA-256)

INTERFACE

Ethernet Interface	One RJ-45 Ethernet backhaul interface (1 GE) and one RJ-45 local Mgmt. interface (1 GE)
Power Supply	12VDC, AC adaptor (multiple standards optional), PoE+, comply with IEEE 802.3at standard
Protocols Used	IPv4/IPv6 (Dual Stack), UDP, TCP, ICMP, NTP, SSH, IPsec, TR-069, HTTP/HTTPs, 1588v2, DHCP
Network Management	IPv4/IPv6, HTTP/HTTPs, TR-069, SSH, Embedded EPC
VLAN/VxLAN	802.IQ/VxLAN
LED Indicators	1 X STATUS LED

PERFORMANCE

Peak Data Rate	20MHz: SA1: DL 80Mbps, UL 20Mbps SA2: DL 110Mbps, UL 10Mbps 10MHz: SA1: DL 40Mbps, UL 7Mbps SA2: DL 55Mbps, UL 5Mbps
User Capacity	32 RRC connected users
Latency	30 milliseconds
Receive Sensitivity	Band40: -101dBm Band38/42/48: -100dBm

Modulation	MCS0 (QPSK) to MCS28 (64QAM) DL: QPSK, 16QAM, 64QAM UL: QPSK, 16QAM
Transmit Power Range	0 to 21 dBm per channel (combined +24dBm, configurable) (1 dB interval)
Quality of Service	Nine-level priority indicated by QoS Class Identifiers (QCI)
ARQ/HARQ	Supported
Synchronization	GPS, 1588v2, network listening (NL)

FEATURES

Voice	VoLTE, Circuit Switched Fallback (CSFB) to GSM and UTRAN
Inter-RAT Mobility	To GSM, UTRAN and 5G NSA/SA
SON	Self-Organizing Network • Automatic setup • Automatic Neighbor Relation (ANR) • PCI confliction detection
EPC	HaloB (Embedded EPC)
Traffic Offload	Local breakout
UL Interference Detection	Supported
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

LINK BUDGET

Antenna Type	External Omni Antenna • Horizontal Beamwidth 360° • Vertical Beamwidth 40°±5 • Polarization: Vertical
RF Antenna Gain	5 dBi

GPS Antenna	External GPS antenna, SMA connector
Maximum EIRP	29 dBm
Power Control	UL Open-loop/Closed-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)

PHYSICAL

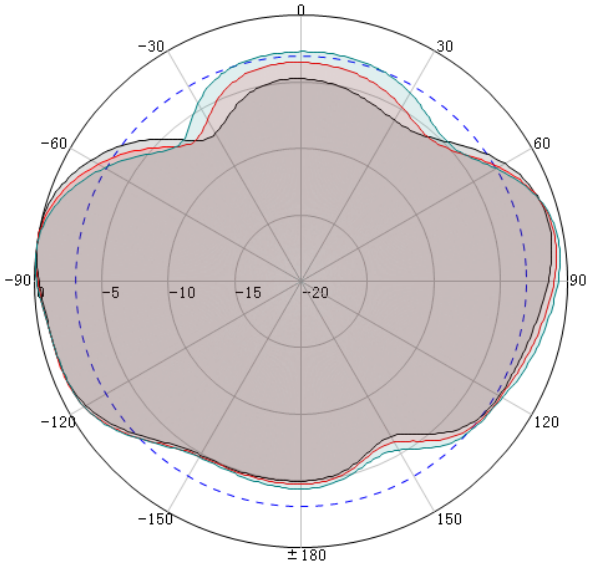
MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Operating Temperature	23°F to 113°F / -5°C to 45°C
Storage Temperature	14°F to 122°F / -10°C to 50°C
Humidity	5% to 95% RH
Power Consumption	Typical 11.25W, maximum 15W
Weight	1.0 lbs / 455g
Dimensions (HxWxD)	Flat antenna: 11.9 x 6.9 x 1.2 inches 301.6 x 175 x 30.5 millimeters Vertical antenna: 5.8 x 6.9 x 7.1 inches 146.5 x 175 x 180.4 millimeters
Installation	Ceiling or wall mount, or desktop

GLOBAL PART NUMBERS

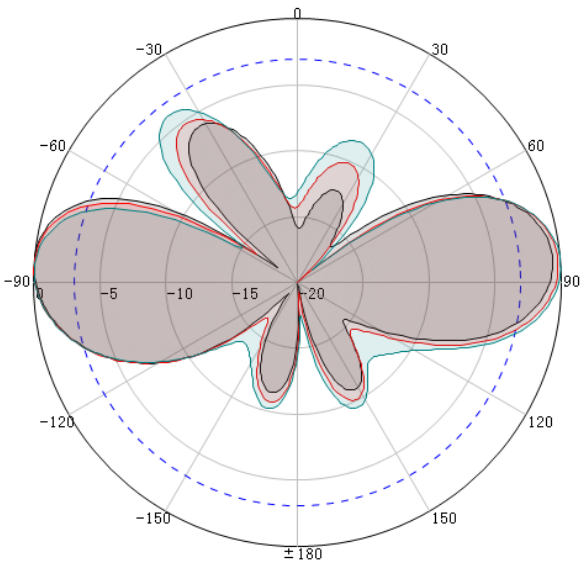
pBS4100	Neutrino224 indoor TDD eNB – LTE Release 10, 2x125mW (21 dBm), 2GE, 5 dBi external antenna, 2.3GHz, B40
pBS4110	Neutrino224 indoor TDD eNB – LTE Release 10, 2x125mW (21 dBm), 2GE, 5 dBi external antenna, 3.5GHz, B48
pBS4130	Neutrino224 indoor TDD eNB – LTE Release 10, 2x125mW (21 dBm), 2GE, 5 dBi external antenna, 3.4GHz, B42
pBS4150	Neutrino224 indoor TDD eNB – LTE Release 10, 2x125mW (21 dBm), 2GE, 5 dBi external antenna, 2.5GHz, B38

NOTE: Customized versions can be requested

ANTENNA PATTERN



H-Pattern



V-Pattern