



Spectra

Outdoor LTE-FDD Base Station Specification



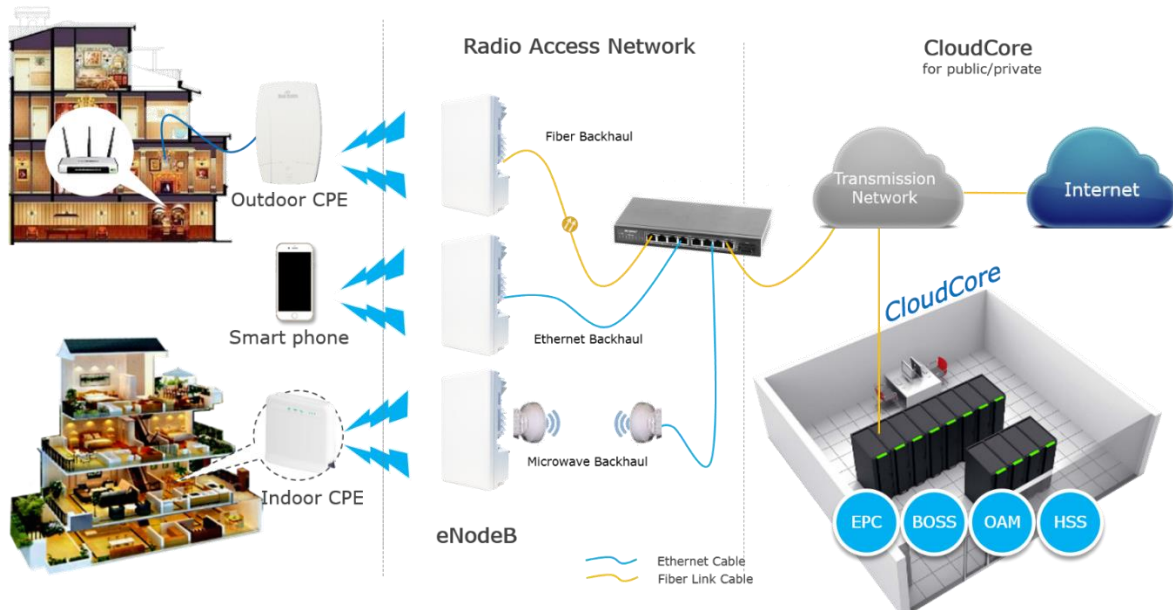
Introduction

The Baicells Spectra is outdoor LTE-FDD base station that works on unlicensed band of 5.8GHz. Since it works in standalone mode, it doesn't require any licensed band to build a network. With 2*320mw output power (2x2 MIMO with 320mw output each channel) and embedded antenna, Spectra is compact, light, ultimately easy to install and maintain, and has excellent performance. It can be used to build a network completely based on unlicensed band or as additional capacity for network based on licensed bands, which can help operators to extend and improve their business, without the huge cost of buying license.

With the advantage of LTE technology, Spectra enjoys much higher receiving sensitivity and better QoS control, if compared to WiFi based technology. And also Spectra support continuous networking thanks to LTE technology with GPS synchronization.



With high capacity and easy deployment, the LTE-U eNB can help mobile operators to provide better coverage and higher capacity with minimal effort. The typical topology of LTE-U deployment is as follows.



Highlights

Easy Deployment

- Super slim and beautiful design, suitable for private and public deployments.
- Any IP based backhaul can be used, including public transmission.
- Support GPS synchronization.
- Low power consumption, can be integrated with solar power conveniently.
- Plug-and-Play with SON capabilities.
- Internal high gain directional antenna and GPS antenna.

Better Performance

- Peak rate 150Mbps@ Downlink, 50Mbps@Uplink with 20MHz spectrum.
- Maximum 32 concurrent users.
- Support eGW (optional) for S1 aggregation to reduce signaling load of MME.
- Support local traffic offload and charging in cooperation with eGW.
- Support 10MHz/20MHz operation bandwidth

Easy Management

- Efficient remote configuring, monitoring, and maintaining operations with Baicells network management system (NMS) BaiOMC.
- Highly secured with equipment certification against potential intrusion risk.

Smooth Evolution

- Abundant features achievable with software upgrade.
- Smooth evolution to C-RAN architecture, which support centralized scheduling for better networking performance, with Baicells' central network unit (CNU).

Hardware Specifications

Item	Description
LTE Mode	FDD
Frequency Bands	DL:5725-5825MHz UL:5150-5250MHz
Channel Bandwidth	10MHz, 20 MHz
MAX Output Power	25 dBm /Ant
Receive Sensitivity	-102 dBm/Ant
Synchronization	GPS
Backhaul	1 Optical (SFP) and 1 RJ-45 Ethernet interface (1 GE)
MIMO	DL: 2 x 2
Dimensions	120mm (L) x 93mm (W) x 37.5mm (H)
Installation Type	Pole, wall
Antenna	14dBi, internal directional antenna Horizontal beam width 45°, vertical beam width 12° Polarization mode: $\pm 45^\circ$
Power Consumption	< 65W

Power Supply	48V DC 1.5A (maximum) PoE+ power supply
Weight	Less than 4.0kg

Software Specifications

Item	Description
LTE Standard	3GPP Release 9
Peak Rate	20MHz: DL: 150Mbps, UL: 50Mbps
User Capacity	32 concurrent users
QoS Control	3GPP standard QCI
Modulation	UL: QPSK, 16QAM DL: QPSK, 16QAM, 64QAM
Traffic Offload	LIPA (Local IP Access) SIPTO (Selected IP Traffic Offload)
SON	Automatic setup ANR (Automatic Neighbor Relation) PCI confliction detection
Spectrum Scanning	Supported
UL Interference Detection	Supported
RAN Sharing	Supported
Network Management Interface	TR069
MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Maintenance	Remote/local maintenance
	Online status management

	Performance statistics
	Fault management
	Local or remote software upgrade
	Logging
	Connectivity diagnosis
	Automatic start and configuration
	Alarm reporting
	KPI Recording
	User information tracing
	Signaling trace

Environmental Specifications

Item	Description
Operating Temperature	-40°C to 55°C
Storage Temperature	-45°C to 70°C
Humidity	5% to 95%
Atmospheric Pressure	70 kPa to 106 kPa
Ingress Protection Rating	IP65
Power interface Lightning Protection	Differential mode: ±10 KA Common mode: ±20 KA

Model List

Filter Range	Models	Description
UL/DL: 5150MHz~5825 MHz	u4G-AP1000	u4G-AP1000(FDD Outdoor Micro cell, Unlicensed frequency, DL:5725-5825MHz/UL:5150-5250MHz, 2T2R, 25dBm,48V DC, PoE+, America standards)

Regulatory Compliance

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 60 cm between the radiator & your body.

ISED Compliance

This device complies with Innovation, Science, and Economic Development Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d' Innovation, Science et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 60 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter, End-Users must be provided with transmitter operation conditions for satisfying RF exposure compliance.