Spectra LTE-U Outdoor FDD eNB

INTRODUCTION

The Baicells Spectra Long-Term Evolution – Unlicensed (LTE-U) 2x320mW eNodeB enables smart mobile device users to be served by unlicensed 5.8 GHz spectrum using Frequency Division Duplexing (FDD) technology*. Providing the stability and bandwidth of LTE service while avoiding the cost of licensed spectrum is a significant advantage for wireless operators.

LTE-U outshines Wi-Fi with better capacity and coverage for multiple users, efficient power usage, guaranteed security authentication, and robust QoS. Spectra LTE-U's forthcoming and incremental capability of harmonizing licensed and unlicensed bands echoes key 5G radio access goals known as Licensed Assisted Access (LAA). It is an attractive option for operators since it increases network capacity while limiting the CAPEX investment.

FEATURES

Easy Deployment

- Slim design suitable for private and public deployments
- Any IP based backhaul can be used, including public transmission
- Low power consumption; can be integrated with solar power
- Plug-and-Play with self-organizing network (SON) capabilities
- Integrated high-gain directional RF antenna and GPS antenna

Better Performance

- Standard LTE FDD network mode: UL 5150-5250 MHz, DL 5725-5825 MHz, and customized frequencies
- 2x2 MIMO antenna technology
- Excellent NLOS coverage performance
- Peak rate of 150 Mbps DL, 75 Mbps UL with 20 MHz spectrum
- 32 concurrent users
- Supports 5/10/15/20 MHz bandwidth operation
- Future flexible combination of licensed and unlicensed bands

Easy Management

- Local and remote Web GUI, network management through BaiOMC
- Highly secured with equipment certification against potential intrusion risk

*Time Division Duplexing (TDD) versions are planned as well.

HARDWARE SPECIFICATIONS

LTE Mode	FDD
Frequency Bands	UL: 5150-5250 MHz DL:5725-5825 MHz
Channel Bandwidth	5/10/15/20 MHz
Max Output Power	27 dBm / antenna
Receive Sensitivity*	-102 dBm per antenna
Synchronization Mode	GPS
Backhaul Mode	1 standard optical (SFP) and 1 RJ-45 Ethernet interface (1 GE with PoE+)
MIMO	DL: 2x2
Dimensions (HxWxD)	10.2 x 7.5 x 3.6 inches 260 x 190 x 90 millimeters
Installation Method	Pole or wall mount
Antenna	15±1 dBi, internal directional antenna • Horizontal beamwidth: 45°±3 • Vertifical beamwidth: 13°±3 • Polarization: ±45°, Isolation > 25 dB • Efficiency > 80%
Power Consumption	< 65W
Power Supply	Fiber: +/-48V DC 1.5A (maximum) Cable: PoE (802.3bt standard)
Weight	8.8 lbs (4 kg)

*Test method for Receive Sensitivity follows 3GPP TS 36.104, which is based on 5 MHz bandwidth, FRC A1-3 in Annex A.1 (QPSK, R=1/3, 25RB) standard.

SOFTWARE SPECIFICATIONS

LTE Standard	3GPP Release 9
Max Peak rate	20 MHz: DL 150 Mbps, UL 75 Mbps
User Capacity	32 concurrent users
QoS Control	3GPP standard QCI
Modulation	UL: QPSK, 16QAM, 64QAM DL: QPSK, 16QAM, 64QAM
Traffic Offload	• Local IP Access (LIPA) • Selected IP Traffic Offload (SIPTO)
SON	Self-organizing network: • Automatic setup • Automatic Neighbor Relation (ANR) • PCI confliction detection
Spectrum Scanning	Supported
UL Interference Detection	Supported
RAN Sharing	Supported
Network Management Interface	TR069 interface protocol
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

Operating Temperature	-40°F to 131°F -40°C to 55°C
Storage Temperature	-49°F to 176°F -45°C to 80°C
Humidity	5%~95% RH
Atmospheric Pressure	70 kPa to 106 kPa
Ingress Protection Rating	IP65
Power Interface Lightning Protection	Differential mode: ±10 KA Common mode: ±20 KA

GLOBAL PART NUMBER

u4G-AP1000	u4G-AP1000(FDD Outdoor Micro cell, unlicensed frequency, DL: 5725-5825 MHz/UL 5150-5250 MHz, 2T2R, 27 dBm, 48V DC, PoE+, American standards