AirConnect® BEC 8243

5G NR High-Power mmWave Outdoor Router

AIRCONNECT by BEC

3GPP Rel-16 | 5G NR mmWave & sub-6 GHz | 4G LTE Cat. 20 | MIMO DL 4 X 4 | Carrier Aggregation

NSA / SA Modes | IP68 | Gigabit Passive PoE | Firewall | BECentral® CloudEdge

Ideal Use Cases

- Fixed Wireless Access (FWA)
- Last Mile Connectivity
- Mission-Critical & Performance Intensive Networks
- Industrial Connectivity Applications
- Urban and Rural Environments

The BEC AirConnect® 8243 5G NR High-Power mmWave outdoor router unlocks diverse fixed wireless access (FWA) market opportunities and provides subscribers with a broadband experience surpassing your rivals. Specifcally designed for performance, the AirConnect® 8243 is 3GPP Release 16 compliant supporting 5G Non-Standalone (NSA) and Standalone (SA) modes for both mmWave and sub-6 GHz as well as Gigabit LTE CAT 20. Invest in technology innovation from BEC that enables the delivery of extreme data speeds, lower latencies, broader coverage, and increased network capacity. Our connectivity solutions are trusted and widely deployed to help customers broaden their service offerings create value and drive revenue growth.

Redefining Fixed Wireless Access

The AirConnect® 8243 supports high-power 5G mmWave, sub-6 GHz and 4G LTE with dual connectivity modes, standalone access (SA) fully benefiting from all the 5G capabilities and non-standalone access (NSA) attached to a 4G network up to a gigabit speed to ensure a quick and flexible adaptation to any 5G NR or LTE networks.

Innovative MIMO Antenna Technology

Operators need innovative antenna technology to meet capacity and throughput demands in challenging deployment scenarios such as Fixed Wireless Access (FWA). The MIMO high-gain embedded dual-polarization/dual slant antenna technology ensures faster and efficient bi-directional transmission for maximum bandwidth and coverage.

Rugged Weatherproof Design

The AirConnect® 8243 is built to last, fully ruggedized with industrial-grade components. Unique to BEC devices are GORE® Vents for pressure equalization, humidity, and airflow. The BEC 8243 is also accompanied with lighting/ESD Protection and the IP68/UL 50E enclosure ensure protection against dirt, harmful ingress of water and extreme temperatures for years of dependable operation.

BECentral® CloudEdge Services

BECentral® CloudEdge is an Industry-leading cloud-based service platform designed to accelerate LTE and 5G Wireless WAN connectivity for deployments of any scale. The platform enables zero-touch provisioning and provides visual dashboards with realtime analytics, detailed reporting, historical analysis, performance monitoring, proactive alerts/notifications, and API extensibility for 3rd party integration.

High Performance & Support for 5G NR & LTE Networks

- 5G NR
  : 3GPP Release 16 Operation, mmWave
  : 3GPP Release 16 NSA/SA Operation, sub-6 GHz
  : 5G NSA mmWave: 8.8 Gbps (DL)/2.6 Gbps (UL)
  : 5G SA /NSA sub-6 GHz: 4.0 Gbps (DL)/900 Mbps (UL) NSA: 550 Mbps (UL)

- 4G/LTE Cat.20
  : LTE: 7CA DL / 2CA UL (Carrier Aggregation)
  : Peak Data Rate: 2 Gbps (DL) / 200 Mbps (UL)
  (The presented data rates are theoretical only, actual values are network dependent.)

Patented Dual-Polarization & Dual Slant Antenna

- High-Power mmWave Antenna
- Embedded High-Gain 4x4 MIMO sub-6GHz Antenna
- H-Plane & V-Plane Polarization
- Ensures exceptional RF performance for maximum bandwidth and coverage
- Precise alignment achievable with multi-angle and multi-position pole mount brackets
- High isolation for stable and reliable connectivity

Designed for Challenging and Rugged Deployments

- IP68 / UL-50E enclosure for protection against dust and water ingress
- Industrial-grade components for greater reliability
- GORE ™ vent for pressure equalization, humidity, and air flow
- Electrostatic Discharge (ESD) & Surge protection
- Wind tunnel rated, successful operation up to 132mph (F2 Tornado Speeds)

Package Includes

- PoE Injector (2) RJ-45 - (1) Data+Power
- L2PS Mounting kit
- Grounding Wire
- M25 Cable Glands
- Mylar Film SIM Protection

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Features & Specifications

Supported Frequency Band

- **5G NR mmWave**
  : FR2 Bands (SA/NSA): n257 (28GHz), n258 (26GHz), n260 (39GHz), n261 (28GHz)
  : Modulation: 256QAM DL / 64QAM UL
  : NR Dual Connectivity (NR-DC)
  : 8 component carriers (CC)
  : Bandwidth: Up to 800 MHz

- **5G NR Sub-6 GHz**
  : FR1 Bands (SA & NSA): n2, n5, n7, n12, n13, n14, n25, n26, n29, n30, n38, n41, n48, n66, n70, n71, n77, n78
  : Modulation: 256QAM DL / 256QAM UL
  : Carrier Aggregation: (FDD + FDD, TDD + TDD, FDD + TDD) DL 3CA / UL 2CA
  : Bandwidth: Up to 200 MHz

- **4G / LTE (Cat.20)**
  : Support Frequency Bands (FDD & TDD): 2, 4, 5, 7, 8, 12(17), 13, 14, 25, 26, 29, 30, 38, 41, 42, 43, 48, 66, 71
  : Modulation: 256QAM DL / 256QAM UL
  : Carrier Aggregation: 7CA DL / 2CA UL
  : Bandwidth: 1.4 / 3 / 5 / 10 / 15 / 20 MHz

- **Transmitting Power**
  : mmWave: Power Class 1.5 (PC1.5) up to 48 dBm EIRP
  : 5G NR bands: Class 3 (23 dBm ±2 dB)
  : 5G NR HPUE: Bands: n38/n41/n77/n78 (Class 2 (26 dBm +2/-3 dB)
  : LTE bands: Class 3 (23 dBm ±2 dB)
  : LTE HPUE: Bands:: B38/B41/B42/B43 (Class 2 (26 dBm ±2 dB)

- **Embedded Antennas**
  : mmWave: 2x2 MIMO DL/UL
  : sub-6 GHz: 4x4 MIMO DL/2x2 MIMO UL

- **Data Transmission**
  : 5G NSA mmWave: 8.8 Gbps (DL)/2.6 Gbps (UL)
  : 5G FDD + mmWave: 8.9 Gbps (DL)/2.7 Gbps (UL)
  : 5G TDD + mmWave: 8.0 Gbps (DL)/3.4 Gbps (UL)
  : 5G SA /NSA sub-6 GHz: 4.0 Gbps (DL)/900 Mbps (UL) NSA: 550 Mbps (UL)
  : LTE: DL 2.0Gbps / UL 200Mbps
  (The presented data rates are theoretical only, actual values are network dependent.)

Operational Modes

- Router or Bridge

Quality of Service Control

- DiffServ
- Traffic prioritization based-on protocol, port number and IP address

Network Protocols and Features

- NAT, static routing and RIP-1/2
- NAT supports PAT and multimedia applications
- Virtual server and DMZ
- SNTP, DNS relay and DDNS
- IGMP snooping and IGMP proxy

Management

- Quick Installation Wizard
- Web-based GUI for remote and local management
- Firmware upgrade and configuration data upload & download via web-based GUI or BECentral®
- DHCP server/client/relay
- TR-069 supports remote management
- BECentral® CloudEdge
- SNMP and Syslog monitoring

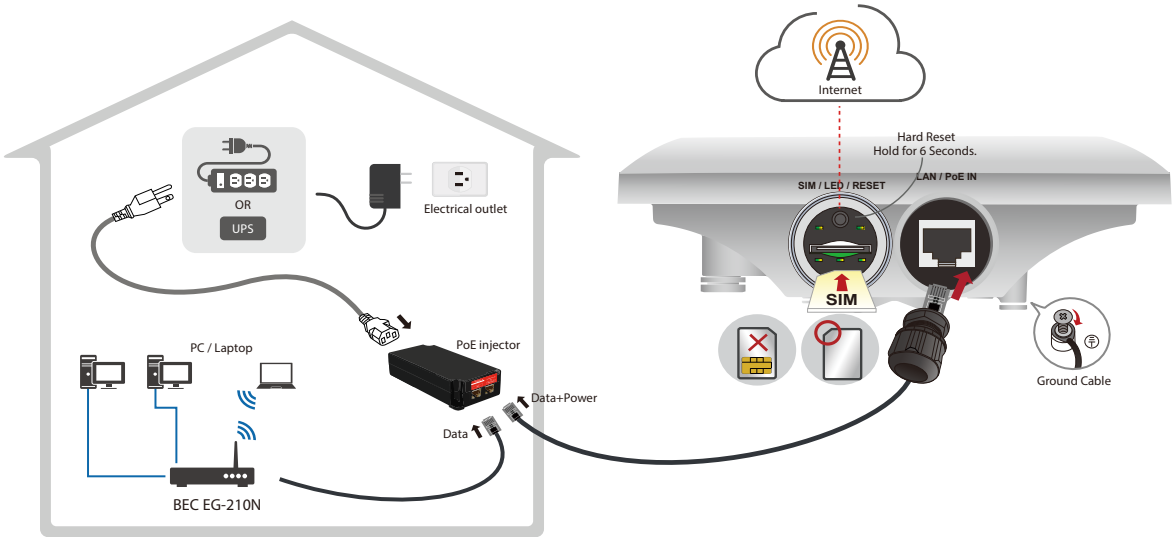
Hardware Specifications

- **Physical Interface**
  : 2.5GbE IEEE 802.3bt compliant PD interface
  : SIM Card Slot: (1), Mini SIM (2FF) and eSIM (embedded SIM capable)
  : LED Indicators: Power, LAN(PoE), LTE Signal Strength, and Internet

- **Dimensions and Weight**
  : 12 x 8.2 x 3.8 in (321 x 210 x 97.9 mm) | 2.5 kg (5.5 lbs.)

- **Operating Environment**
  : Operating temperature: -40°C to 70°C (-40°F to 158°F)

- **Surge/ESD Protection**
  : Surge Protection: K.21 enhanced mode 6KV
  : ESD Protection: Contact: ± 8KV / Air: ±15KV



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