



Ideal Use Cases

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

4G/LTE-A Pro CBRS Outdoor Router

The RidgeWave® BEC 4900R21 4G/LTE-Advanced Pro CBRS Outdoor Router is purpose-built for increased coverage and bandwidth in non-line-of-sight conditions. Operators seeking high performance, robust connectivity, and a cost-effective platform for Part 90 device replacements need to look no further. The 4900R21 offers LTE Advanced Pro CAT 12, carrier aggregation, dual polarity MIMO high-gain antenna, and a compact IP68 rated enclosure for years of dependable operation. The RidgeWave® BEC 4900R21 is the ideal solution for Fixed Wireless Access (FWA), last-mile access, remote locations, residences, rural areas, and the underserved.

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. The 4900 is optimized to work in non-line-of-sight (NLOS) conditions, where either visual line-of-sight or Fresnel zone clearance is obstructed (or both) where desirable signal strength was difficult to achieve.

Rugged Weatherproof Design

The RidgeWave® BEC 4900 is built to last, fully ruggedized with industrial-grade components. Unique to BEC devices are GORE® Vents for pressure equalization, humidity, and airflow, this 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.

24/7 Cloud Management and Network Visibility

Remote monitoring, management and control of devices in real-time is essential for LTE devices and applications such as Fixed Wireless Access (FWA). The 4900 integrates seamlessly with BECentral®, BEC's cloud-based remote management platform as a complete solution, for managing large-scale UE deployments.

Administrators can remotely provision, monitor, upgrade, and troubleshoot devices from a single centralized location in real-time. BECentral® extends network visibility with RF signal measurements, historical analysis/charts, proactive alerts/notifications, connectivity management and well-defined API to facilitate application development or integration into other platforms.

CAF II or other ETC support recipients, BECentral® fully supports scheduling, testing, report generation, and submission for FCC Performance Measures. BECentral® is a comprehensive device management platform designed to minimize deployment, lower support expenses and maximize the operational efficiency and profitability of the operator.



Designed for Challenging and Rugged Deployments

- IP68 / UL-50E Hardened 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 tested/rated for successful operation up to 132mph (F2 Tornado Speeds)

High Performance & Support for LTE TDD Band 48 (CBRS)

- 3GPP Release 12, Category 12, with data rates of up to 430Mbps (DL) / 20Mbps (UL)
- Carrier Aggregation to increase data rates, 2CA UL&DL and 3CA DL
- Advanced IP networking functionalities including bridge and router modes
- Advanced secure VPN sessions (Optional)

Patented Dual-Polarization Antenna Technology

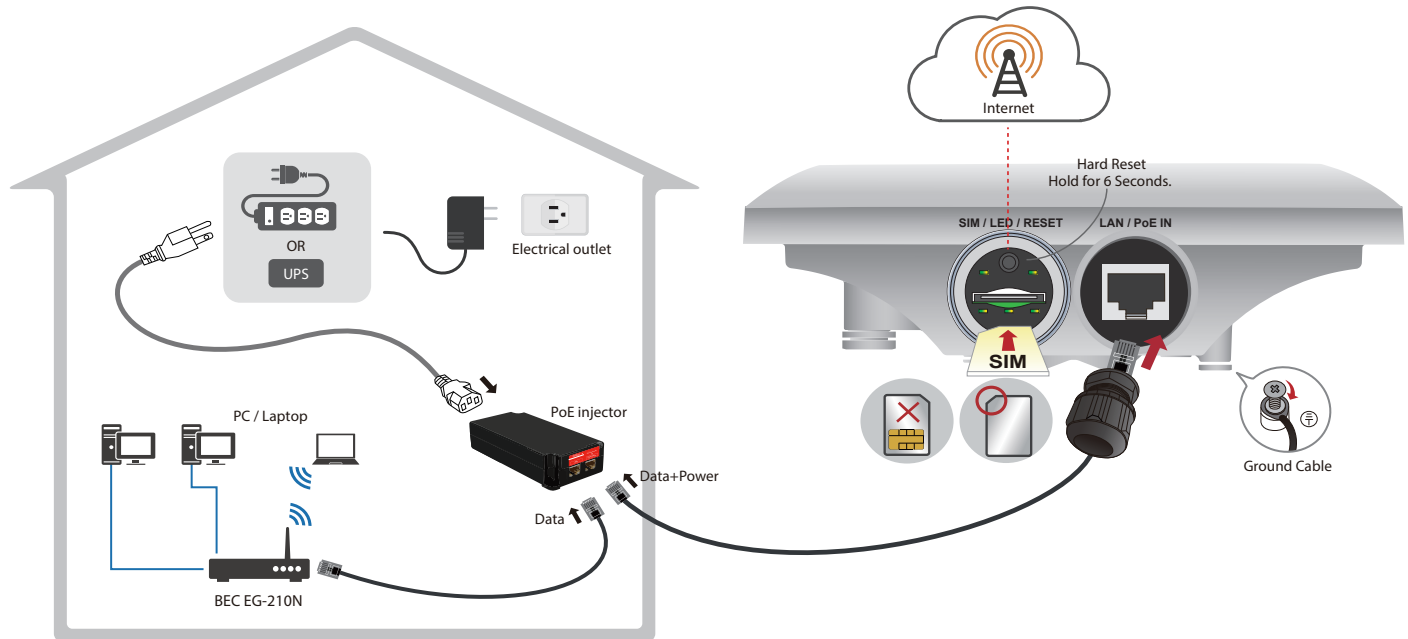
- Embedded High-Gain 4x4 MIMO Antenna
- H-Plane & V-Plane Polarization
- Ensures exceptional RF performance for maximum bandwidth and coverage
- Fixed or multi-angle, multi-position pole mount bracket options
- Simplicity and high isolation for stable and reliable connectivity

Certifications

- FCC Part 96 EUD

Package includes Passive PoE injector and Mounting Kit

Product Quick Glance



Features & Specifications

Supported Frequency Band

- Comply 3GPP Rel.12 4G/LTE: TDD (Cat.12)
 - B48 (3550 - 3700MHz)
- Downlink speeds up to 430Mbps
- Uplink speeds up to 20Mbps
- **Carrier Aggregation**
 - 2CA (UL) & (DL)
 - 3CA (DL)
- **Channel Bandwidth**
 - 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
- **RF Characteristics**
 - Modulation: 256QAM DL / 64QAM UL
 - Sensitivity: -95dBm
- **LTE Antenna**
 - 4x4 Dual Polarity MIMO

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

Firewall

- Built-in NAT Firewall with stateful Packet Inspection (SPI)
- Prevents DoS attacks including Land Attack, Ping of Death, etc.
- Access Control
- IP Filtering, MAC Filtering, URL Filtering

Operation Modes

- Bridge or Router

Quality of Service Control

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

Management

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

Hardware Specifications

Physical Interface

- Gigabit LAN / PoE PD Interface
- SIM Card: One (1) slot 2FF Size
- LED Indicators: Power, Ethernet, LTE Signal Strength and Internet

Power Specifications

- Input: Passive PoE-PD

Physical Specifications

- Dimensions: 12.64"(L) x 8.27"(W) x 3.06"(D)
(321 mm x 210 mm x 77.6 mm)

Operating Environment

- Operating temperature: -40°C to 60°C (-40° F to 140° F)