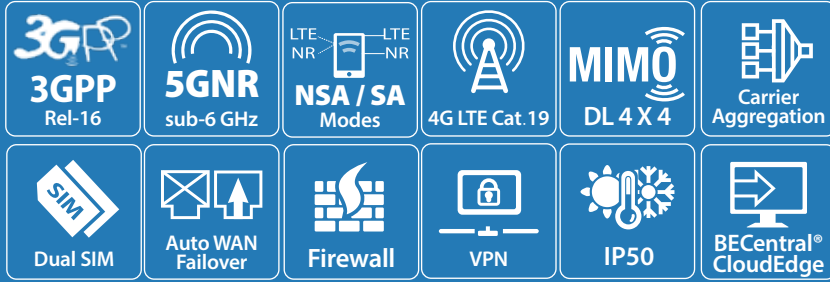


# MX-Connect® BEC MX-220e

5G Advanced Industrial Router



## IDEAL USE CASES

- Private Networks
- Enterprise IoT/M2M
- SD-WAN Deployments
- Retail Networks
- Industrial Connectivity
- Remote Monitoring & Control
- Mission Critical Communications

The BEC MXConnect® MX-220e 5G Advanced Industrial Router is a high-performance, industrial-grade router, designed to deliver reliable and secure connectivity between devices across a broad range of M2M/IoT and industrial communication applications.

The ultra-compact platform is specifically designed for limited space installations featuring Dual Gigabit Ethernet interfaces with configurable LAN/WAN options, Active GPS, and enterprise-level functionality such as advanced security mechanisms, Quality of Service (QoS), SPI firewall, integrated VPN, and auto-failover for unparalleled uptime and network redundancy.

The BEC MX-220e is the perfect balance of performance, ruggedness, reliability, price, and secure wireless connectivity for business-critical operations and acceleration on 5G network deployments

## 5G NR Network Performance and Enhanced Capacity

Designed for performance, the BEC MX-220e, 3GPP Release 16 compliant platform delivers lower latency and enhanced network connectivity with standalone access (SA), two-carrier sub-6 GHz aggregation, non-standalone access (NSA) dual connectivity and up to five carrier aggregation for LTE. A single platform offering the flexibility quick deployment for any 5G or LTE network.

## BECentral® CloudEdge Service Platform

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 real-time analytics, detailed reporting, historical analysis, performance monitoring, proactive alerts/notifications, and API extensibility for 3rd party integration..

## High Performance and Network Resilience

- 5G NR
    - : 3GPP Release 16 NSA/SA Operation, Sub-6 GHz
    - : SA (Max.) DL 2.4Gbps (DL) / 900Mbps (UL)
    - : NSA (Max.) DL 3.2Gbps (DL) / 600Mbps (UL)
  - 4G/LTE Cat.19
    - : LTE: 5CA DL / 2CA UL (Carrier Aggregation)
    - : Peak Data Rate: 1.6 Gbps (DL) / 200 Mbps (UL)
- (Data rates are theoretical only, actual values depend on network conditions.)

## Enterprise Class Routing and Secured VPN

- BGP and OSPF Dynamic Routing Protocols
- IPSec, GRE, L2TP, PPTP, and OpenVPN
- Advanced secure and simultaneous VPN connections



## Ultra-Compact & Industrial-Grade Design

- Designed for limited space installation of retrofit application
- Fits in the palm on your hand for discrete mounting anywhere
- Rugged and Hardened Metal Housing (IP50)
- Industrial Grade Components
- Extended Temperature Range
- Flexible Input Voltage Selection

## Package Includes

- 2-pin screw terminal plug connector
- 2-pin screw terminal plug Power Cable
- 12V DC 1.2A Power Adapter
- Din Rail Mount Kit with Screws
- (4) 5G Wideband Antennas

### Features & Specifications

#### Availability and Resilience

- Multiple WANs (5G or Gigabit EWAN,)
- Load Balancing - Maximizing bandwidth of outbound traffic
- Automatic WAN failover

#### Supported Frequency Bands

##### • 5G NR sub-6 GHz

- : Comply 3GPP Rel.16
- : Support Frequency Range 1 Bands (SA & NSA): n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n66, n70, n71, n77, n78, n79
- : Carrier Aggregation: sub-6 GHz (FDD+FDD, TDD+TDD, FDD+TDD 2CA)
- : Channel Bandwidth: Up to 120 MHz bandwidth
- : Modulation: 256QAM DL / 256QAM UL

##### • 4G / LTE (Cat.19)

- : Support Frequency Bands (FDD & TDD)
- : 1, 2, 3, 4(66), 5(18,19,26), 7, 8, 12(17), 13, 14,20, 25, 26, 28, 29, 30, 32, 34, 38, 39, 40, 41, 42, 43, 46(LAA), 48, 71
- : Carrier Aggregation: 5CA DL / 2CA UL
- : Channel Bandwidth: 1.4/3/5/10/15/20 MHz
- : Modulation: 256QAM DL / 64QAM UL

##### • 5G SX Antenna

- : Low Band: 2x2 MIMO
- : Mid Band / High Band: 4x4 MIMO
- : 2T4R Antenna Chain

##### • Transmitting Power

- : 5G NR bands: Class 3 (23 dBm ±2 dB)
- : 5G NR HPUE: bands: n38/n40/n41/n77/n78/n79 Class 2 (26 dBm ±2 dB)
- : LTE bands: Class 3 (23 dBm ±2 dB)
- : LTE HPUE bands: B38/B41/B42/B43 Class 2 (26 dBm ±2 dB)

##### • Data Transmission

- : 5G NSA: DL 3.2Gbps (DL) / 600Mbps (UL)
- : 5G SA: DL 2.4Gbps (DL) / 900Mbps (UL)
- : 4G/LTE: DL 1.6Gbps / UL 200Mbps
- (The presented data rates are theoretical only, actual values depend on network conditions.)

#### Network Protocols and Features

- IPv4, IPv6, IPv4 / IPv6 dual stack
- IPv6 in IPv4 (6RD) / IPv4 in IPv6 (DS-Lite) / IPv6-464XLAT
- Dual APN
- Keep Alive
- NAT, static routing and RIP-1/2
- Universal Plug and Play (UPnP) compliant
- Dynamic Domain Name System (DDNS)
- Virtual server and DMZ
- SNTP, DNS relay, IGMP proxy and IGMP snooping, MLD proxy and MLD snooping for video service

#### Firewall

- Built-in NAT Firewall
- Stateful Packet Inspection
- Prevents DoS attacks including Land Attack, Ping of Death, etc.
- Access Control
- IP / MAC / URL / Domain Filtering

#### Dyanmic Routing

- BGP and OSPF

#### Quality of Service (QoS)

- IEEE 802.1Q VLAN
- Outbound Load Balancing (Round Robin, Weight or IP Hash)

#### Redundancy Protocol

- Virtual Routing Redundancy Protocol (VRRP)

#### VPN/Tunneling

- IPsec, OpenVPN, PPTP, L2TP VPN Tunneling
- OpenVPN VPN Tunneling
- PPTP VPN Tunneling
- L2TP VPN Tunneling
- GRE (up to 8 tunnels)
- Embedded PPTP / L2TP / IPsec / OpenVPN Client and Server
- IKE Key Management
- MPPE Encryption for PPTP
- IPsec DES, 3DES and AES encryption

#### Global Navigation Satellite System (GNSS)

- Embedded GNSS Engine for GPS or GLONASS

#### Management

- BECentral® CloudEdge Management
- Quick Installation Wizard
- Web-based GUI for remote and local management
- Firmware upgrade and configuration data upload and download via web-based GUI and over-the-air
- Supports DHCP server/client/relay
- TR-069 supports remote management
- SNMP v1 , v2, v3, MIB-I and MIB-II support
- Syslog monitoring
- SMS Control function for status and reboot

#### Hardware Specifications

##### Physical Interface

- 5G: Four (4) SMA Female Connectors
- Ethernet LAN: 2-port Gigabit Interfaces auto-crossover (MDI/ MDI-X) switch
- 1 port configurable LAN/WAN
- 1 physical SIM (3FF)
- eSIM (Embedded SIM)
- Mini-USB B Type Receptacle
- Reset button
- Power Connector: 1x2 terminal block
- LED indicators (Power, Internet, Signal Strength, Ethernet)

##### Physical Specifications

- Dimensions: 4.3 (L) x 3.3 (W) x 1.1 (H) in. (109.3x 85.7 x 28.9 mm)

##### Weight

- 1.36lbs (0.62kg)

##### Power Requirements

- Input: DC 9V - 56V

##### Operating Environment

- Operating Temperature: -40° to 70°C (-40° to 158°F)
- Humidity: 20 ~ 95% non-condensing

##### Regulatory Compliance

- FCC Part 15
- FCC Part 96
- PTCRB

### Hardware Interfaces

