

# MXConnect Series

## Advanced In-Vehicle 4G/LTE Wireless Router

### BEC MX-1000



#### High performance & reliability and easy to manage and access

- Offers 4G/LTE broadband connectivity (3G Fallback is optional)
- Dual- WAN LTE interface for network resilience and reliable connectivity
- Advanced SX Antenna Technology for increased coverage, signal reception and efficiency
- Embedded GPS option for real-time asset tracking and location data-based applications
- Enterprise level routing functionality
- Wi-Fi 802.11n , WPA2/AES and MSSID
- Local and Remote management via SNMP or BEC LCMS (LTE Central Management System) (cloud based)
- BEC SiteSmart Mobile Application for easy access/status in the palm of your hand

#### QoS (Quality of Service)

- Traffic prioritization based-on IP protocol, port number, and IP address
- Enhanced IGMP, Proxy/Snooping and Fast Leave

#### Compact and unobtrusive design

- Small form factor with multiple mounting options, easily installed by a single person
- Power ignition control option when mounted within vehicles

#### Designed for challenging / rugged deployments

- Hardened enclosure with Industrial-graded components
- Designed to withstand heat, humidity and protect from shock, vibration, etc.



### Overview

The BEC MX-1000 Advanced In-Vehicle 4G/LTE Wireless Router is a high performance all-in-one fixed wireless communications platform with advanced software enabling high availability, reliable and secure connectivity for mission critical applications. The MX-1000 is specifically designed to support a wide range of applications and vertical machine-to-machine (M2M) market segments.

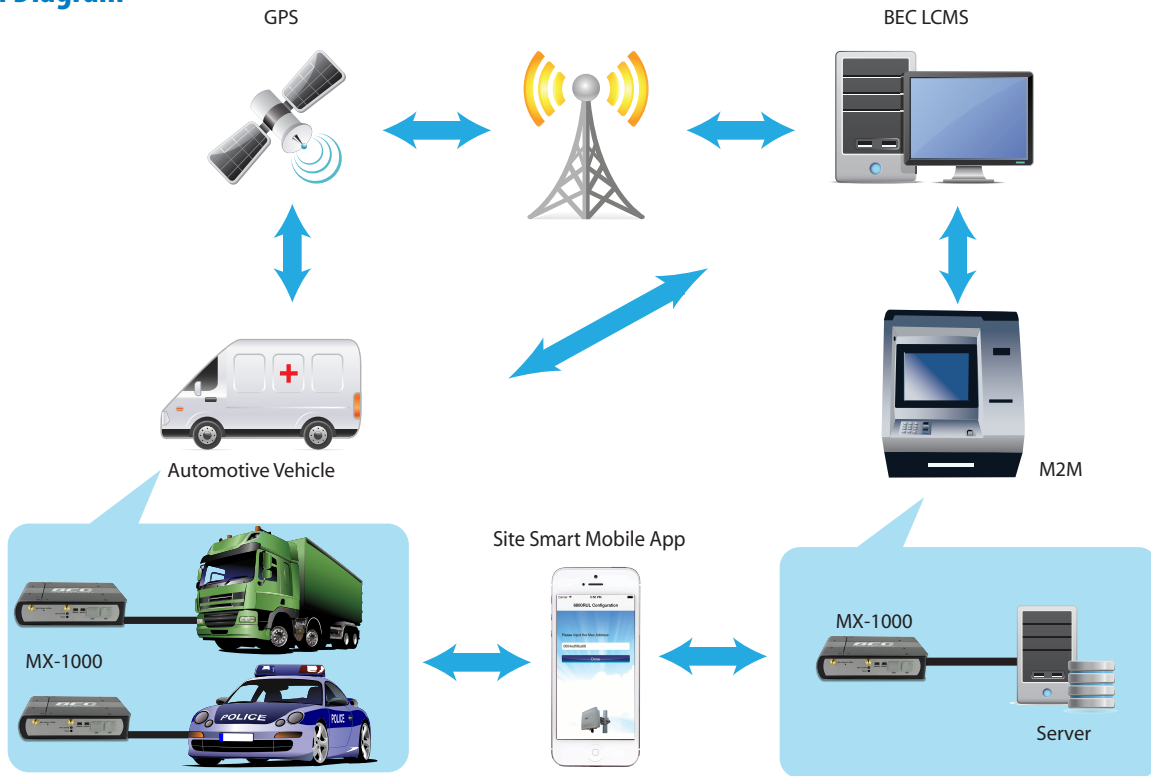
The MX-1000 features a rugged compact design with integrated 4-port Gigabit switch, 802.11n Wi-Fi access point and Multiple SSID support, two multi-function USB 2.0 host interfaces for Storage/SAMBA server, Embedded GPS with concurrent multi-GNSS engine for GPS or GLONASS as well as a variety of configurable options such as: Dual SIM Dual Module, power ignition control and cloud-based remote access/management. To support the growing demands of M2M services, the MXConnect offers Enterprise level routing, advanced security functionality, Quality of Service (QoS), SPI firewall, integrated VPN and auto failover for consistent connectivity and network redundancy.

Remote monitoring, management and control of devices in real-time is essential for M2M applications. The BEC LCMS (LTE Central Management System) is a comprehensive device management platform designed to minimize deployment, lower support expenses and maximize the operational efficiency and profitability of the operator. The LCMS provides access to critical information for LTE Network diagnostics and troubleshooting, such as: signal quality measurements (RSSI, RSRP, RSRQ and SINR), network status/APN, location ID and Cell ID. Additional functionality includes OTA firmware upgrades (individual or batch), LAN and WLAN setting configuration settings on the MX-1000.

The compact small form factor industrial-grade enclosure is designed to resist heat, dust, moisture and provides long-term operation in the toughest of environments. The MX-1000 supports an extended temperatures range from -40 to 140° F (-40 to 60° C) for environments such as: manufacturing plants, industrial automation, stadiums, convention halls, stadium facilities, school campuses or virtually any venue requiring a robust wireless solution

The MX-1000 is the ideal solution for Financial/Point-of-Sales (PoS), Logistics/Transportation and Fleet Management, Healthcare, Smart Energy, Remote connectivity and Public Safety applications.

## Application Diagram



## Features & Specifications

### Availability and Resilience

- Dual-WAN Interfaces (Dual LTE Modules)
- Auto fail-over and failback

### Supported Frequency Bands

- LTE: 700/800/900/2100/2600MHz (Depending on module configuration)
- UMTS/HSPA+: B1, B2, B4, B5, B8
- CDMA 1xRTT/EV-DO Rev A: BC0, BC1, BC10
- GSM/GPRS/EDGE (850/900/1800/1900)
- Peak downlink speeds up to 100Mbps and peak uplink speeds up to 50Mbps
- Receive equalizer with antenna diversity on the 800, 850, 900, 1900, 2100 MHz, and AWS(1700/2100 MHz) bands
- Web-based GUI for Configuration and Management Center

### Network Protocols and Features

- IPv4, IPv6, IPv4 / IPv6 dual stack\*
- IP Tunnel IPv6 in IPv4 (6RD)\*
- IP Tunnel IPv4 in IPv6 (DS-Lite)\*
- 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 for video service
- MLD proxy and MLD snooping for video service
- Supports port-based Virtual LAN (VLAN)

### Quality of Service Control

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

### USB Application Server

- Storage: FTP server and Samba server

### Firewall

- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- Prevents DoS attacks including Land Attack, Ping of Death, etc.
- Access Control
- IP Filtering, MAC Filtering, URL Filtering
- Password protection for system management
- VPN Passthrough

### Wireless

- Compliant with IEEE 802.11n standard
- Backward compatible with IEEE 802.11b and 802.11g standards
- Up to 300Mbps wireless operation rate
- WPS (Wi-Fi Protected Setup) for easy setup
- 64/128 bits WEP supported for encryption
- Wireless security with WPA-PSK/WPA2-PSK
- Supports WDS repeater function

### VPN (Optional)

- IPSec VPN Tunneling (up to 8 tunnels)
- PPTP VPN Tunneling (up to 4 dial-in/dial-out tunnels)
- L2TP over IPSec VPN Tunneling (up to 4 dial-in/dial-out tunnel)
- GRE (up to 8 tunnels)
- Embedded PPTP / L2TP / IPSec Client and Server
- IKE Key Management
- MPPE Encryption for PPTP
- IPSec DES, 3DES and AES encryption

### Management

- Quick Installation Wizard
- Web-based GUI for remote and local management

### Management (Cont.)

- 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
- Support SNMP
- Syslog monitoring

### Hardware Specifications

#### Physical Interface

- Antenna:
  - Wireless: two(2) detachable antennas
  - 3G/4G LTE: four(4) detachable antennas
  - GPS: one (1) detachable antenna
- WAN: 3G/4G LTE
- USB 2.0 : two (2) ports
- Mini USB Console: two (2) ports
- Ethernet LAN: 4-port 10/100/1000Mbps auto-crossover (MDI/ MDI-X) switch
- SIM Card: two (2) slots
- Reset Button
- Wireless On/Off and WPS Push Button
- Power jack
- LED Indicators

#### Physical Specifications

- Dimensions: 7.25"(W) x 1.91"(H) x 5.31"(D) (184.25 mm x 48.5 mm x 135 mm)
- Weight: 1.07kg (2.36lbs)

#### Operating Environment

- Operating temperature: -40 to 140° F (-40 to 60° C)
- Humidity: 20 ~ 95% non-condensing

\*Future Release