MX-221P
Triple-SIM 4G/LTE Router with WWAN Failover

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Key Applications

- **Business Continuity**
- **Digital Signage**
- **Remote Surveillance**
- **Remote Patient Care Service**
- **Vending Machines**
- **Retail PoS / SCADA**
- **Metering Applications and much more**

Triple-SIM 4G/LTE Router with WWAN Failover

BEC MX-221P Triple-SIM 4G/LTE Router is a compact, affordable and high-performance fixed 4G/LTE Router with flexible options for multi-WAN failover with assigned specific interface for uninterrupted Internet services, priority or conditional failover among mobile carriers, redundant power source for safe & quick power installation via one of the versatile LAN/PoE-PD ports, secure network connection and smooth out traffic burst to ensure no drops on latency-sensitive application and data with Firewall and QoS capabilities to provide a reliable and cost-effective alternative solution for business continuity.

Triple SIMs	4G/LTE	Gigabit ETH WAN	PoE
2-Port Gb Switch	Auto Failover	QoS	BECentral

Versatile WAN Options

MX-221P is a classic 4G/LTE router with multiple WAN interfaces for redundancy or seamless failover between mobile carrier and carrier network or mobile carrier and the wireline, an interchangeable Gigabit Ethernet LAN/WAN, to ensure continuous Internet connectivity. The device operates regardless of whether the primary connection is LTE or a Load balancing and traffic prioritization mechanisms can be enabled to enhance failover performance and maximize bandwidth utilization for critical applications delivery. In the event of a connectivity failure of the primary WAN interface, traffic will automatically redirect to the secondary WAN interface and seamless fallback when the primary interface connection is restored.

Secure Network Privacy Protection

With hardware-based VPN engine, MX-221P supports simultaneous and multiple VPN remote and/or site-to-site connection access without network performance degradation. All online data transmissions including phone call, database access, etc. are encrypted and protected via the VPN technologies offered by the MX-221P including PPTP, IPSec, L2TP, GRE, OpenVPN and compatible with most major servers and platforms by establishing private tunnels and enabling office environment for Remote/Branch employees to work without being present in the headquarter office to ensure business continuity.

24/7 Cloud Management and Network Visibility

Remote monitoring, management and control of devices in real-time is essential for IoT networking devices, M2M and critical applications. BECentral®, BEC's Cloud Based Remote Management, is a comprehensive device management platform designed to minimize deployment, lower support expenses and maximize the operational efficiency and profitability of the operator. BECentral® 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), multi-user account management, local network configuration settings on the MX-221P.

Always-On Internet Service

- Offer 4G/LTE and/or Ethernet IP broadband connectivity
- Automatic wireless and wireline failover & failback
- Automatic or manually prioritize 4G/LTE carrier-to-carrier failover
- WAN Load Balancing

High Performance & Easy Access

- Local and Remote management via SNMP
- BECentral® Remote Management System
- Virtual Routing Redundancy Protocol (VRRP)
- QoS (Quality of Service)
- IEEE 802.1Q VLAN
- Bandwidth Management and Control

Enterprise Class Routing and Security

- Dynamic Routing Protocols (BGP, OSPF)
- Secured VPNs (IPSec, GRE, LT2P, PPTP, OpenVPN)

Ultra-Compact and Lightweight Design

- Small Form Factor
- Fits in the palm on your hand
- Simplified deployments, easily mounted discretely anywhere

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Application Diagram
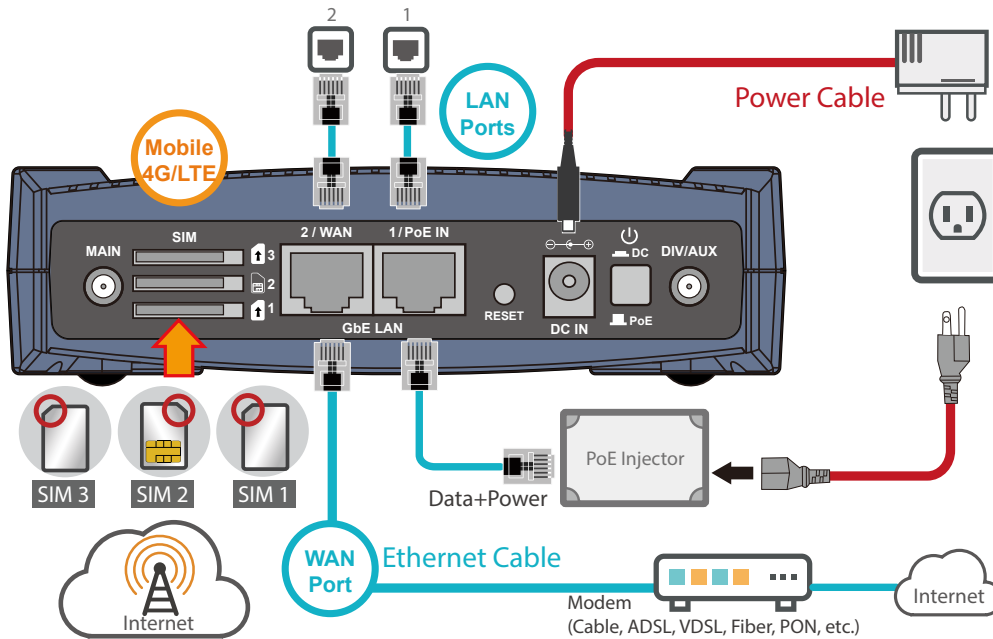
Features & Specifications

Availability and Resilience
• Dual-WAN ports (4G & Ethernet WAN)
• Load balancing - Maximizing bandwidth of outbound traffic
• Automatic failover and fallback

Supported Frequency Bands
• 4G/LTE: FDD (Cat.4)
  : Uplink (UL) & Downlink (DL) in MHz
  : B2   (1850–1910 UL | 1930–1990 DL)
  : B4   (1710–1755 UL | 2110–2155 DL)
  : B5   (824–849 UL | 869–894 DL)
  : B12 (699–716 UL | 729–746 DL)
  : B13 (777–787 UL | 746–756 DL)
  : B14 (788–798 UL | 758–768 DL)
  : B66 (1710–1780 UL | 2110–2200 DL)
  : B71 (663–698 UL | 617–652 DL)
• WCDMA: B2, B4, B5
• Peak downlink speeds up to 150Mbps and peak uplink speeds up to 50Mbps
• LTE Maximum Output Power: 23dBm±2dB
• 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

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

Quality of Service Control
• IEEE 802.1Q VLAN
• Bandwidth Management
• Outbound Load Balancing (Round Robin, Weight or IP Hash)

Secured VPN (Optional)
• IPSec, PPTP VPN Tunneling
• L2TP over IPSec VPN Tunneling
• Embedded PPTP / L2TP / IPSec Client and Server
• IKE Key Management
• MPPE Encryption for PPTP
• IPsec DES, 3DES and AES encryption
• GRE and OpenVPN

Dynamic Routing Protocols (Optional)
• BGP and OSPF

Management
• Quick Installation Wizard
• Web-based GUI for remote and local management
• Syslog monitoring

Management (Cont.)
• Firmware upgrade and configuration data upload and download via web-based GUI
• Supports DHCP server/client/relay
• TR-069 supports remote management
• BECentral® Cloud Management
• Support SNMP

Hardware Specifications
Physical Interface
• 3G/4G LTE: Two (2) SMA Female Connectors
• Power On/Off Button
• Power Source: DC or PoE
• Reset Button
• Ethernet LAN: 2-port 10/100/1000Mbps auto-crossover (MDI/ MDI-X) switch
   - 2 x Versatile Port
     : LAN1 / PoE-PD
     : LAN2 / EWAN
• SIM Card: Three (3) 2FF mini-SIM slots
• LED Indicators: Power / Ethernet 1-2 / LTE Signal Strength / Internet

Power Specifications
• Input: DC 12V 1.2A or PoE-PD (802.3at PD compliant (25.5W))

Physical Requirements
• Dimensions: 5.19"(W) x 1.38"(H) x 3.71"(D) (132mm x 35 mm x 94 mm)

Operating Environment
• Operating temperature: 0° to 40° C (32° to 104° F)
• Humidity: 20 ~ 95% non-condensing