Wireless 802.11ah LTE Outdoor Router
MOI4231

About

Engineered to withstand the harsh realities of industrial and outdoor operations, the MOI4231 delivers robust, long-range connectivity right where it's needed most. With IEEE 802.3at PoE for simplified power deployment and 802.11ah Wi-Fi HaLow for extended-reach wireless connectivity, the MOI4231 is ideal for IoT, smart agriculture, transportation, and a wide range of industrial applications. Its IP67-rated enclosure with built-in surge and ESD protection ensures reliable, year-round performance in the most demanding environments. Combined with advanced multi-band M.gear antennas that significantly enhance 4G LTE reception and transmission, the MOI4231 provides stable, high-quality data communication—making it a dependable, future-ready solution for mission-critical industrial networks.

OTA Range test

Device @Local

Halow

Device @Far end site

LAN — HaLow AP

HaLow STA

Host-A
Iperf3 Client
Antenna Mounting Height 4.5m

Length: 2040 meters

Host-B
Iperf3 server
Antenna Mounting Height 4.5m

STA Device @Far end site

AP Device @Local

Distance(m)	Bandwidth (MHz)	Model	Ch_No.	Link Rate(RX/TX) AP view	Signal (dBm) AP view	TCP (Mbps) AP TX	TCP (Mbps) AP RX	UDP (Mbps) AP TX	UDP (Mbps) AP RX
2040	8	MOI4231	12	19.5/13.0	-80	9.18	9.3	10.3	9.62

Features

- IEEE 802.3at PoE power input supports simplified and flexible power installation.

- Supports 802.11ah Wi-Fi HaLow for long-range, low-power wireless connectivity ideal for IoT and industrial applications.

- The IP67-rated enclosure with surge and ESD protection withstands harsh conditions, ensuring reliable, year-round operation.

Specifications

General

Cellular Interface
- 4G: LTE FDD

Band (Telit LE910C4-WWXD)

- LTE FDD : B1, B2, B3, B4, B5, B7, B8, B9, B12, B13, B14, B18, B19, B20, B25, B26, B28

Hardware Interface

- 1 x Gigabit Ethernet port with 802.3at PoE
- 1 x Micro SIM Card Slot
- 1 x Reset Button

Antenna

- 2 x N-Type connectors for detachable LTE Antenna
- 1x N-Type connector for detachable WiFi HaLow Antenna
- 1x N-Type connector for detachable GPS Antenna (option)

Physical Characteristics

Enclosure : Metal case
Dimensions (W x H x D) : 254.7 x 160 x 79.5 mm
Weight : 1550g
Installation : Wall mounting, Pole mounting
LED Display :
- PWR Status LED (Green/Red)
- Wi-Fi HaLow status LED (Blue/Yellow)
- 4G LTE status LED (Red/Cyan)

Power Supply

Power Input : IEEE 802.3at PoE PD

Software

Network Protocols
- IPv4, IPv6, IPv4/IPv6 dual stack, DHCP server and client
- Static IP, SNTP, DNS Proxy
- Static Routing and RIP v1/v2

VPN
OpenVPN, IPSec (DES, 3DES, AES128, AES196, AES256, MD5, SHA-1, SHA128, SHA192, SHA256), PPTP, L2TP, WireGuard

Firewall
- NAT, Virtual server, Port trigger, DMZ
- MAC and URL filter, Stateful packet inspection, DOS attack

Alarm: SMS, VPN/WAN disconnect, SNMP trap

Management: Web GUI with HTTPS/HTTP, Dual image, Syslog, SNMP, SSH v2

WiFi HaLow :
- Access Point/Station
- Security: WPA3

Environment

Operating Temperature: -30 ~ +70°C

Storage Temperature: -30 ~ +85°C

Ambient Relative Humidity: 10 ~ 95% (Non-condensing)

Humidity: 0 ~ 95% (Non-condensing)

Enclosure Drawing

254.7

160.0

79.5