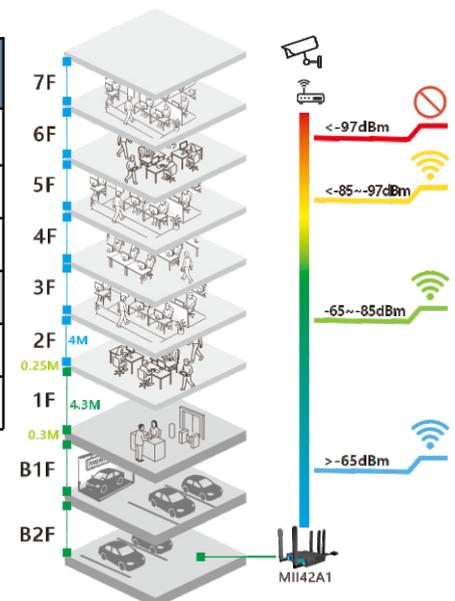# Wireless Industrial LTE Router

MII42A1

About

The MII42A1 is an industrial-grade gateway integrating dual-band Wi-Fi (2.4GHz & 5GHz), LTE, and HaLow with comprehensive industrial interfaces for versatile connectivity.

It supports dual Micro SIMs for reliable LTE failover and IEEE 802.11n & ac & ah for long-range, low-power wireless connectivity. Flexible industrial I/O—including software-configurable RS-232/RS-485, DI/DO, Modbus TCP-to-RTU, and MQTT—enables easy integration with sensors, controllers, and cloud-based IIoT systems.

Its rugged metal enclosure supports operation from –30°C to +70°C with flexible installation options including wall-mount, DIN-rail, and desktop.

With strong performance and industrial durability, the MII42A1 is a cost-effective, scalable gateway for modern IIoT deployments.

MII42A1 HaLow Penetration Test

Level	Location	Operating Bandwidth (MHz)	Link Rate (RX/TX)	Signal (dBm)	TCP/RX (Mbps)	TCP/TX (Mbps)	UDP/RX (Mbps)	UDP/TX (Mbps)
1	B1F	8MHz	32.5/32.5	-51	16.1	17.5	17.7	22
2	1F	8MHz	32.5/26	-70	12.9	12.6	13.1	19.7
3	2F	8MHz	6.5/6.5	-84	5.16	5.94	5.05	5.09
4	3F	8MHz	0.75/0.675	-89	0.153			0.651
4	3F	1MHz(ch11)	1.376/0.390	-94	0.811	0.776	0.762	0.845
6	5F	1MHz(ch11)	0.619/0.342	-95	0.572	0.497	0.043	0.013

7F
6F   <-97dBm
5F   <-85~-97dBm
4F
3F   -65~-85dBm
2F   4M
0.25M
1F   4.3M
0.3M   >-65dBm
B1F
B2F   MII42A1

Features

- Dual Micro SIM slots for reliable cellular connectivity and automatic failover.
- Supports dual-band Wi-Fi (2.4GHz & 5GHz, IEEE 802.11n & ac) and long-range, low-power IEEE 802.11ah (HaLow).
- High-precision GNSS (L1) for accurate industrial IoT positioning.
- Flexible industrial I/O: RS-232/RS-485 (SW configurable) and DI/DO.
- Linux-based OpenWrt OS with VPN, firewall, and SNMP support.

Specifications

General

Cellular Interface
- 4G: LTE FDD
- GNSS: L1

Band (Telit LE910C4-WWXD)

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

Hardware Interface

- 1 x 10/100/1000 Base-T WAN port
- 1 x 10/100/1000 Base-T LAN port
- 2 x Micro SIM slots
- 1 x Reset Button
- 1 x RS-485/ RS-232 (D+/D-/GND, Non-Isolated, SW configurable)
- 1 x DI (Isolated), 1 x DO (Isolated)
- Terminal Block Power Input: 9~60 VDC

Wireless Interface

- 2T2R IEEE 802.11n 2.4GHz & 802.11ac 5GHz
- Wireless MAC filtering
- Wireless client isolation
- IEEE 802.11ah (Optional)

Antenna

- 2 x SMA connectors for detachable LTE antenna
- 2 x SMA connectors for detachable WiFi antenna
- 1 x SMA connector for detachable GNSS antenna
- 1 x SMA connector for detachable HaLow antenna

Physical Characteristics

Enclosure : Metal case
Dimensions (W x H x D) : 140.0mm*121.3mm*32.5mm
Weight : 500g
Installation : Wall mounting, DIN-rail mounting, Desktop
LED Display :
- 1 x Power status
- 1 x LTE
- 1 x Wi-Fi
- 1 x Failover
- 1 x HaLow

Power Supply

Power Input : AC 100 ~ 240 V
DC Output : 12V/1.5A(MAX)

Software

Software Version
- Linux Open Wrt version: 21.02 Lede
- Kernel version: 5.4.284

Network Protocols
- IPv4, IPv6, IPv4/IPv6 dual stack, DHCP server and client
- Static IP, SNTP, DNS Proxy, Modbus TCP to Modbus RTU, MQTT, VLAN

VPN
- Open VPN, IPSec (3DES, AES128, AES196, AES256, MD5, SHA-1, SHA256), L2TP, PPTP, Wire Guard

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

Alarm: SMS, VPN/WAN disconnect, SNMP trap

Others: DDNS, QoS, SMS action, Diagnostics

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

Environment

Operating Temperature: -30 ~ +70°C
Storage Temperature: -40 ~ +85°C
Ambient Relative Humidity: 10 ~ 95% (Non-condensing)
Humidity: 0 ~ 95% (Non-condensing)

Enclosure Drawing