

EMB-Fem2GW-0_2G4

femto LoRa® 2.4 GHz Gateway



Technical Specifications

EMB-Fem2GW-O-2G4 is a multi-protocol outdoor network platform, designed to meet IoT (Internet Of Things) and M2M (Machine-2-Machine) scenarios in smart city and smart home environment. It enables LoRa® 2.4GHz connectivity to the cloud, being fully compliant with LoRa® 2.4GHz Semtech protocol specification.

EMB-Fem2GW-O-2G4 provides the LoRa® 2.4GHz packet forwarder functionality: the SX1280 radio will start to operate as a LoRa® base station, receiving radio LoRa® 2.4 GHz packets and forwarding them to a LoRa® 2.4GHz network server. It has a TCP/IP connection through Ethernet, or via 4G connection, available through SIM card and 4G mini PCI express module. 2.4GHz is a global ISM band, allowing this product to be easily deployed all over the world. 4G connection is adapted to the region of usage, simply substituting the mini PCI card. The gateway includes GPS connectivity to locate the device.

The **EMB-Fem2GW-O-2G4** is based on the EMBIT MiniPCI-express board **EMB-LR1280-mPCIe-4x**. It manages 3 LoRa® 2.4GHz channels in reception and 1 LoRa® 2.4GHz channel in trasmission. The Embit RF design is studied to cover up to 10 km in the country side and up to 1 km in urban areas. In indoor scenario, it exploits 2.4GHz RF properties and it has high immunity interference to other wireless technologies, such as WiFi or Bluetooth. 2.4GHz ISM Band does not have any kind of duty cycle restrictions and the Gateway can transmit data continuously.

The OS system is based on a Linux distribution, and customers can configure it according to their needs, with a complete root access. The **EMB-Fem2GW-O-2G4** provides a web interface to manage and configure the connectivity with the different network protocols. It can be powered using an IEEE 802.3af Power-Over-Ethernet (PoE) or +12/+24 VDC.

EMB-Fem2GW-O-2G4 is the perfect solution for numerous worldwide applications that require a LoRa® 2.4GHz Gateway such as:

- Logistic and Supply Chain
- Industrial Monitoring and Control
- Factory Automation
- Home and Building Automation
- Wireless Alarm and Security System

Processor	MCU Broadcom BCM2837B0, Cortex - A53 (ARMv8) 64-bit SoC @ 1.2 GHz
Ram Memory	RAM 1GB LPDDR2 SDRAM
Flash Memory	8 GB Emmc
LAN Connection	Ethernet RJ 45 10/100/1000
LoRaWAN® Connectivity	EMB-LR1280-mPCIe-4x, 3 LoRa® 2.4GHz Rx Channels, 1 LoRa® 2.4GHz Tx Channels
Connectivity	GPS - 3G/LTE
Optional Connectivity	//
Power Source	POE IEEE 802.3af / +12/+24 VDC
Ports	Ethernet RJ 45 10/100/1000 N-Type Antenna Connector
Temperature Range	-40 °C +85 °C
Rx Sensitivity	down to -129 dBm @ SF12 BW 812.5kHz
OS	Embedded Linux
Dimensions	L:165mm W:165mm H:53mm



Embit S.r.l.®
Via Emilia Est 911
41122 Modena (Italy)
Phone: +39 059 371714
Fax: +39 059 3680498
www.embit.eu | info@embit-eu

