

EMB-LR1272E

Long Range 868/915 MHz
LoRaWAN® OEM Module



Technical Specifications

EMB-LR1272E is a powerful OEM sub-1GHz wireless module featuring the Semtech LoRa® long range modulation providing ultra-long range spread spectrum communication and high interference immunity on the 868/915 MHz radio band. It embeds a full LoRaWAN® compliant Class A and Class C protocol enabling the connection to any LoRaWAN® network infrastructure.

EMB-LR1272E can be configured as an embedded micro system or simple data modem for low power applications in the 868/915 MHz bands. It is based on Semtech SX1272 transceiver coupled with Microchip ATSAM20 MCU, equipped with up to 256 KBytes of FLASH memory and up to 32 KBytes of SRAM memory.

EMB-LR1272E can communicate with other devices through a wide range of interfaces: UART, I2C and SPI ports, several digital and analog I/O ports useful for the management of external devices.

Thanks to the extremely reduced power consumption (less than 3 µA in sleep mode with RTC running) the **EMB-LR1272E** is a perfect solution to implement long life battery powered devices.

EMB-LR1272E firmware can be easily developed starting from the EMBit SDK, allowing to establish LoRaWAN® compliant end-nodes or custom point-to-point networks.

The EMBit evaluation kit (**EMB-LR1272E-EVK**) contains all the documentation, software and hardware tools to get started with the **EMB-LR1272E** module.

With the LoRaWAN® disruptive long range wireless technology, the **EMB-LR1272E** delivers dramatic performance improvements for the AMI, IoT, M2M mobile and consumer markets. It offers a unique network scalability and 10x range extension over existing sub -1GHz solutions.

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| MCU | Microchip® ATSAMD20Gxx |
| Transceiver | Semtech SX1272 |
| Memory | 32 KB RAM/ 256 KB Flash |
| Frequency | 863 ÷ 870 MHz / 902 ÷ 928 MHz |
| Tx output power | Available at: up to +14 dBm (868MHz) up to +19 dBm (915MHz) |
| Rx sensitivity | up to -137 dBm |
| Data Rate | 0.3 ÷ 37.5 kbps LoRa® 0.6 ÷ 300 kbps (G) FSK |
| Interfaces | UART/I2C/SPI/ADC |
| Digital I/O | Up to 18 lines |
| Analog I/O | 10 ADC channels |
| Outdoor link range | Up to 15 km |
| Supply Voltage | 1.8 — 3.6 V |
| Tx current | 34 mA @+14 dBm 125 mA @ +19 dBm |
| Rx current | 12 mA |
| Sleep Current | ≤ 3 µA |
| Antenna | U.FL connector GSG pcb pads |
| Dimensions | 29.5mm x22.6mm x 3.5mm Standard EMBit Form Factor |
| Connector | SDM Edge Connector |
| Temperature Range | -40 °C +85 °C |
| Certifications | LoRa® Alliance certified CE |
| Ordering information: | EMB-LR1272E/PC with GSG PADS only EMB-LR1272/UL with U.FL connector for external antenna. |



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