

EMB-LR1272E

Long Range 868 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 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 MHz bands. It is based on Semtech SX1272 transceiver coupled with Microchip ATSAMD20 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.

MCU	Microchip® ATSAMD20Gxx
Transceiver	Semtech SX1272
Memory	32 KB RAM/ 256 KB Flash
Frequency	863 ÷ 870 MHz
Tx output power	Available at: up to +14 dBm (868MHz)
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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