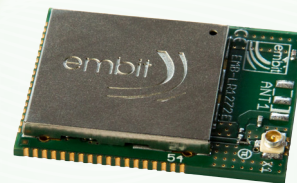# EMB-LR1272E
Long Range 868/915 MHz
OEM Module

EMB-LR1272E is a powerful OEM sub-1GHz wireless module featuring the Semtech LoRa® long range modem providing ultra-long range spread spectrum communication and high interference immunity on the 868/915 MHz radio band. It embeds a full LoRaWAN™ Class A and Class B protocols enabling connection to any LoraWAN™ compliant 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 Atmel® ATSAMD20/L21 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 serial interfaces: UART, I2C and SPI ports, several digital and analog I/O ports useful for the management of external devices and interfaces.

EMB-LR1272E can be configured as network coordinator or router, as well as an end-device thanks to the extremely reduced power consumption (less than 3 μA in sleep mode with RTC running / 1 μA usign XLP sleep).

EMB-LR1272E's firmware can be easily developed starting from the Embit SDK, allowing to establish LoRaWAN™ compliant end-nodes or custom point-to-point networks.
Moreover the related Embit evaluation kit (**EMB-LR1272E-EVK**) contains all the documentation, software and hardware tools to get started with **EMB-LR1272E**.

With the **LoRa**® 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.

TECHNICAL SPECIFICATIONS

MCU	Atmel® ATSAMD20Gxx/L21Gxx
Transceiver	Semtech SX1272
Memory	32 KB RAM / 256 KB Flash 8 KB RAM / 64 KB Flash
Frequency	863 ÷ 870 MHz / 902 ÷ 928 MHz
Tx output power	up to +14 dBm up to +19 dBm (opt.)
Rx sensitivity	up to -137 dBm at 300 bps
Data rate	0.3 ÷ 37.5 kbps LoRa® 0.6 ÷ 300 kbps (G)FSK
Interfaces	UART/I2C/SPI/ADC/SWD
Digital I/O	up to 18 lines
Analog I/O	10 ADC channel
Outdoor link range	over 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 D20 ≤ 1 μA XLP sleep L21
Antenna	U.FL connector, GSG pcb pads
Dimensions	29.5x22.6x3.5 mm Standard Embit form factor
Connector	SMD Edge Connector
Temperature Range	-40 to +85 °C
Certification	CE

The LoRa name and associated logo are trademarks of Semtech Corporation or its subsidiaries.

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