

# EMB-LR1302-mPCIe

868/915 MHz  
mini PCI express multichannel  
LoRaWAN® module



**EMB-LR1302-mPCIe** provides long range connectivity using ultra-long range spread spectrum communication and high interference immunity on the 868 (or 915 MHz) MHz radio band. This device is characterized by far less power consumption than previous solutions, has a better thermal design and it is capable of handling a higher amount of traffic than preceding devices.

**EMB-LR1302-mPCIe** is easier to be embedded in highly-integrated environment where power dissipation might be a challenge.

**EMB-LR1302-mPCIe** is designed around the Semtech SX1302 which is a new generation of digital baseband LoRa® chip for gateways. It offers up to 8 LoRa® channels in the 868 MHz (or 915 MHz) frequency allowing it to receive up to 64 LoRa® packets simultaneously. It is able to achieve a sensitivity of down to -141dBm and a RF output power of +27 dBm making it the ideal device to use in LoRa® gateways applications.

**EMB-LR1302-mPCIe** embeds the capability to support two new spreading factors: SF5 and SF6. This enables users to reach higher data rate communication.

2 versions of **EMB-LR1302-mPCIe** are available:  
Both USB and SPI versions either in 868MHz or 915MHz

**EMB-LR1302-mPCIe** can be used in several applications where LoRa® gateway is needed, such as:

- Internet of Things (IoT)
- Automated Meter Reading
- Smart Cities
- Home and Building Automation
- Wireless Alarm and Security system

## Technical Specifications

Operating Voltage	+3.3V/5V
Current consumption	Tx: Max. 148mA @ +14dBm; Rx: 49mA
Chipset	Semtech SX1302, SX1250
External Antenna	U.FL connector
Modulation	LoRa® Spread Spectrum, FSK, GFSK
Operating Frequency	868MHz (EU) / 915 MHz (US)
Frequency Range	860MHz to 1020MHz
Operating Temperature	-40°C to +85°C
RF Output power	Up to +27 dBm
Interfaces	Standard mPCIe or Proprietary mPCIe (SPI/ I2C /GPIOs)
Sensitivity	-141 dBm @ SF12 BW 125kHz
Dimension	50.95 x 30 x 1 mm
Features	On-board uFL antenna connector– 8 simultaneous LoRa® channels Addition of SF5 and SF6 for high traffic network applications A crypto unit to protect the communication between the board and external interfaces, enhancing data security
Part Numbers	EMB-LR1302-mPCIe-X-Y X: USB or SPI Y: 868 or 915



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