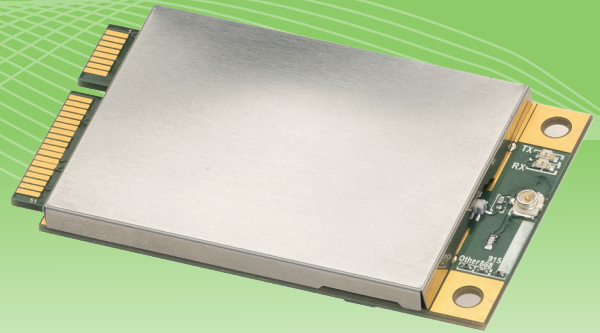


EMB-LR1302-mPCIe

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 868/915 MHz radio band. This device is characterized by 10x 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 (16 modems) in the 868 MHz (or 915 MHz) frequency allowing it to receive up to 8 LoRa® packets simultaneously. It is able to achieve a sensitivity of up to -141 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.

EMB-LR1302-mPCIe has also the **Listen Before Talk (LBT)** capability that allows many users to use the same radio channel without pre-coordination. When enabled, the device monitors all the channels continuously and it transmits only if the channel is free.

Three versions of EMB-LR1302-mPCIe will be available soon: SPI, SPI-LBT, USB

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	+5V
Current consumption	TX: typ. 421 mA@+27dBm
Chipset	Semtech SX1302, SX1250
External Antenna	U.FL connector
Modulation	LoRa® Spread Spectrum, FSK, GFSK
Operating Frequency	868MHz (EU) / 915MHz (US)
Frequency Range	860MHz to 1020MHz
Operating Temperature	-40C° to +85C°
RF output power	Up to +27dBm
Interfaces	mPCIe (SPI/I2C/UART/GPIOs)
Sensitivity	Up to -141 dBm
Dimension	30x50,95x1mm
Part numbers	EMB-LR1302-mPCIe
Features	Listen Before Talk (LBT) On-board uFL antenna connector 16 modems – 8 LoRa® channels Addition of SF5 and SF6
Part numbers	EMB-LR1302-mPCIe-SPI EMB-LR1302-mPCIe-SPI-LBT EMB-LR1302-mPCIe-USB

Highlights

- **Long range connectivity** using ultra-long range spread spectrum communication and high interference immunity on the 868/915 MHz radio band;
- **Up to 8 LoRa® channels (16 modems)** in the 868 MHz (or 915 MHz) frequency allowing it to receive up to 8 LoRa® packets simultaneously;
- **High sensitivity up to -141** and a **RF output power up to +27 dBm** making it the ideal device to use in LoRa® gateways applications;
- **Two new spreading factors: SF5 and SF6** to reach higher data rate communication;
- **Listen Before Talk (LBT)** capability that allows many users to use the same radio channel without pre-coordination;
- **10x less power consumption than previous solutions**

 LoRa Alliance Member



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