

# EMB-LR1303-mPCIe

868/915 MHz

mini PCI express multichannel

LoRaWAN® card



## Technical Specifications

**EMB-LR1303-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-LR1303-mPCIe** is easier to be embedded in highly-integrated environment where power dissipation might be a challenge.

**EMB-LR1303-mPCIe** is designed around the Semtech SX1303 which is a new generation of digital baseband LoRa® chip for gateways. It offers 8 simultaneous 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 -140 dBm and a RF output power of +27 dBm making it the ideal device to use in LoRa® gateways applications.

**EMB-LR1303-mPCIe** embeds the capability to support two new spreading factors: SF5 and SF6. This enables users to reach higher data rate communication.

Moreover the **EMB-LR1303-mPCIe** provides spectral scan and LBT functionalities.

Two versions of **EMB-LR1303-mPCIe** are available: 868MHz or 915MHz

**EMB-LR1303-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

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 in the 868 MHz (or 915 MHz) frequency allowing it to receive up to 64 LoRa® packets simultaneously
- High sensitivity up to -141dBm 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

<b>Chipset</b>	Semtech SX1303, SX1250
<b>Modulation</b>	LoRa® Spread Spectrum, FSK, GFSK
<b>External Antenna</b>	U.FL connector
<b>Operating Frequency</b>	868MHz (EU) / 915 MHz (US)
<b>Frequency Range</b>	860MHz to 1020MHz
<b>Operating temperature</b>	-40 °C to +85 °C
<b>RF Output Power</b>	Up to +27dBm
<b>Operating Voltage</b>	+3.3V/5V
<b>Current consumption</b>	Tx: Max. 148mA @ +14dBm; Rx: 49mA
<b>Interfaces</b>	Standard mPCIe (USB)
<b>Sensitivity</b>	-140 dBm @ SF12 BW 125kHz
<b>Dimension</b>	50.95x30x1 mm
<b>Features</b>	On-board u.FL antenna connector 8 simultaneous LoRa® channels Addition of SF5 and SF6 Crypto unit enhancing data security.
<b>Part Numbers</b>	EMB-LR1303-mPCIe-Y Y: 868 or 915

