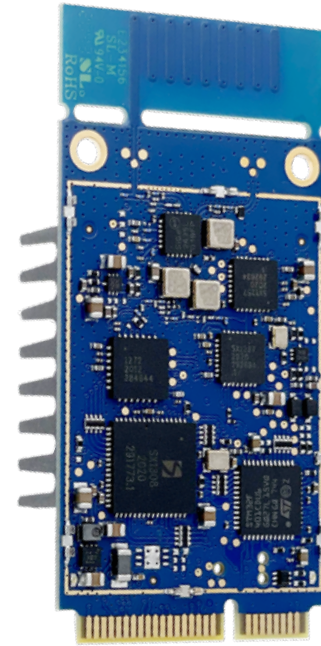


miro EdgeCard 08 868/915 MHz

Mini PCI Express compliant
LoRaWAN® gateway card for
868 / 915 MHz



Description

miro EdgeCard 08, a mPCIe LoRaWAN® gateway card, provides a plug-and-play solution for long-range and low-power wireless communication networks based on LoRaWAN® standard.

The card is implemented using Semtech SX1308 chipset. It enables to build high-performance and certified LoRaWAN® gateway solutions.

Each gateway module offers eight receive channels and a single dedicated transmit channel.

This allows for advanced duty cycle operation due to listen-before-talk and spectrum scanning capabilities.

Features

- ▶ SX1308 LoRa® concentrator chipset
- ▶ Supports 8 parallel receive channels
- ▶ Dedicated TX path with improved spectrum mask
- ▶ Fully mPCIe compliant card
- ▶ Software selectable integrated or external antenna (U.FL)
- ▶ Up to 30 dBm output power
- ▶ Available for 868 and 915 MHz ISM band

Applications

- ▶ LoRaWAN® gateways
- ▶ Smart building and facility management
- ▶ Industrial and home automation

Document Information

About

File name	Document type	Date	Revision
DS miro EdgeCard 08	Datasheet	2026/02/18	2.0

Revision history

Date	Release	Changes
2021/02/11	1.1	New template
2021/08/09	1.2	Updated FCC info
2022/03/01	1.3	New Design
2026/02/18	2.0	Added pin table Updated mechanics with shield and picture Updated product variants Split EdgeCard 02 and 08 into two

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Functional Description

miro EdgeCard 08 is a high-performance picocell gateway card that supports the LoRaWAN® long-range wireless protocol.

miro EdgeCard 08 is fully compatible mPCIe card allowing a quick setup of gateways using existing network devices. The device features a Semtech SX1308 digital baseband chip combined with two SX1257 RF frontend chips and a dedicated transmission channel based using SX1272 to provide listen-before-talk and spectrum scanning capabilities. This enables to overcome the typical 1 % duty cycle in ETSI applications.

The integrated RF power amplifier provides a maximum transmission power output of up to 30 dBm and high receive sensitivity of up to -142 dBm. This allows for a **miro EdgeCard 08** to be placed in high-density urban or long-range rural environments and connect a large variety of sensors to LoRaWAN® and proprietary networks based on LoRa®, (G)FSK, (G)MSK, ASK, OOK coding schemes.

The card can easily be integrated into any system that has a standard mPCIe interface. The **miro EdgeCard 08** is using the USB interface defined in the mPCIe standard to communicate with the host system. The card also supports in system firmware update using some dedicated pins to initiate the process of downloading the new firmware image through USB.

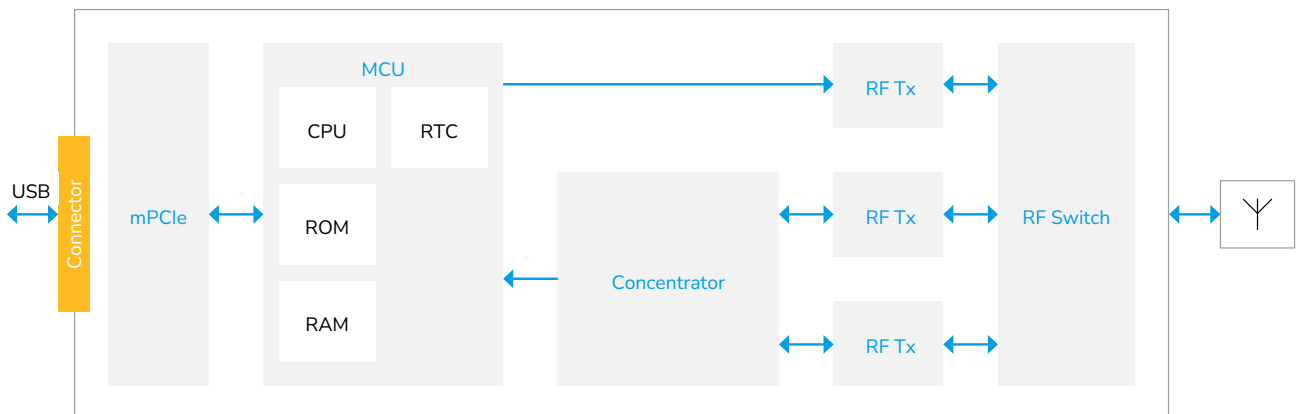


Figure 1: Block diagram miro EdgeCard

Technical Specifications

Mechanical specifications

Weight	16 g
Dimensions	63.15 × 30 × 2.5 mm

Operating conditions

Temperature	0 – 70 °C
Humidity	0 – 95% RH, non-condensing

Device power supply

Power supply	3.3V, according to PCI Express specifications
Power consumption	< 1A

Radio / wireless

Supported ISM bands	868 MHz, 915 MHz
Data rates ¹	0.6 – 300 kbps (FSK) SF7-SF12, 125/250/500 kHz (SubG LoRa®)
Rx sensitivity ¹	-139.5 dBm (SF12)
RF transmission power	up to 24 dBm (868MHz), up to 30 dBm (915 MHz)
LoRa® antenna	Integrated or external U.FL antenna, software selectable

¹See transceiver datasheet for detailed specifications

Certifications

CE	
UKCA	
FCC	FCC ID 2AUQE30REJ

FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

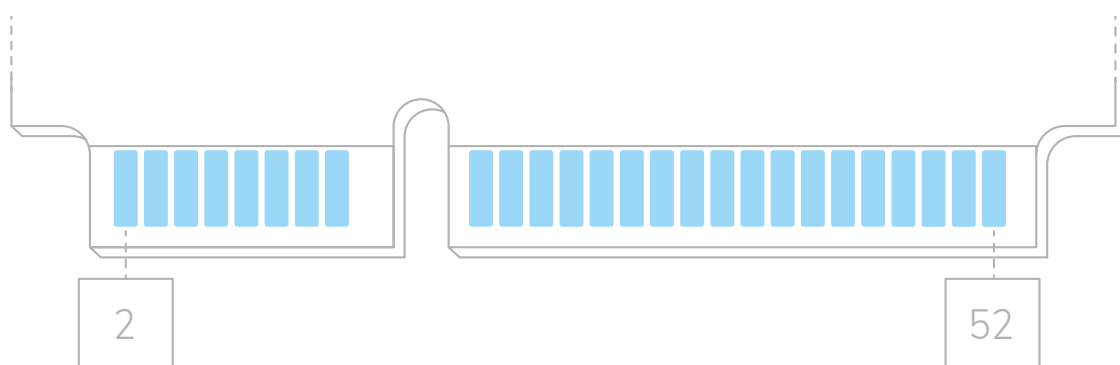
(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

The module is FCC compliant by using antenna model JCG410 by JIAXING JINCHANG ELECTRONIC TECHNOLOGY CO.,LTD, 3dBi gain.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Module Pinout miro EdgeCard 08



Pin	Name	Function
1	NC	Do not connect
2	3V3	System supply
3	NC	Do not connect
4	GND	Ground connection
5	NC	Do not connect
6	NC	Do not connect
7	NC	Do not connect
8	NC	Do not connect
9	GND	Ground connection
10	NC	Do not connect
11	NC	Do not connect
12	NC	Do not connect
13	NC	Do not connect
14	NC	Do not connect
15	GND	Ground connection
16	NC	Do not connect
17	NC	Do not connect
18	GND	Ground connection
19	BOOT0	MCU boot
20	NC	Do not connect
21	GND	Ground connection
22	#RESET	Card reset
23	NC	Do not connect
24	3V3	System supply
25	NC	Do not connect
26	GND	Ground connection

Pin	Name	Function
27	GND	Ground connection
28	NC	Do not connect
29	GND	Ground connection
30	I2C_SCL	I2C clock
31	NC	Do not connect
32	I2C_SDA	I2C data
33	NC	Do not connect
34	GND	Ground connection
35	GND	Ground connection
36	USB_D_N	USB D-
37	GND	Ground connection
38	USB_D_P	USB D+
39	3V3	System supply
40	GND	Ground connection
41	3V3	System supply
42	LED_WWAN#	LED WWAN status
43	GND	Ground connection
44	LED_WLAN#	LED WLAN status
45	NC	Do not connect
46	LED_WPAN#	LED WPAN status
47	NC	Do not connect
48	NC	Do not connect
49	NC	Do not connect
50	GND	Ground connection
51	NC	Do not connect
52	3V3	System supply

Mechanical Dimensions

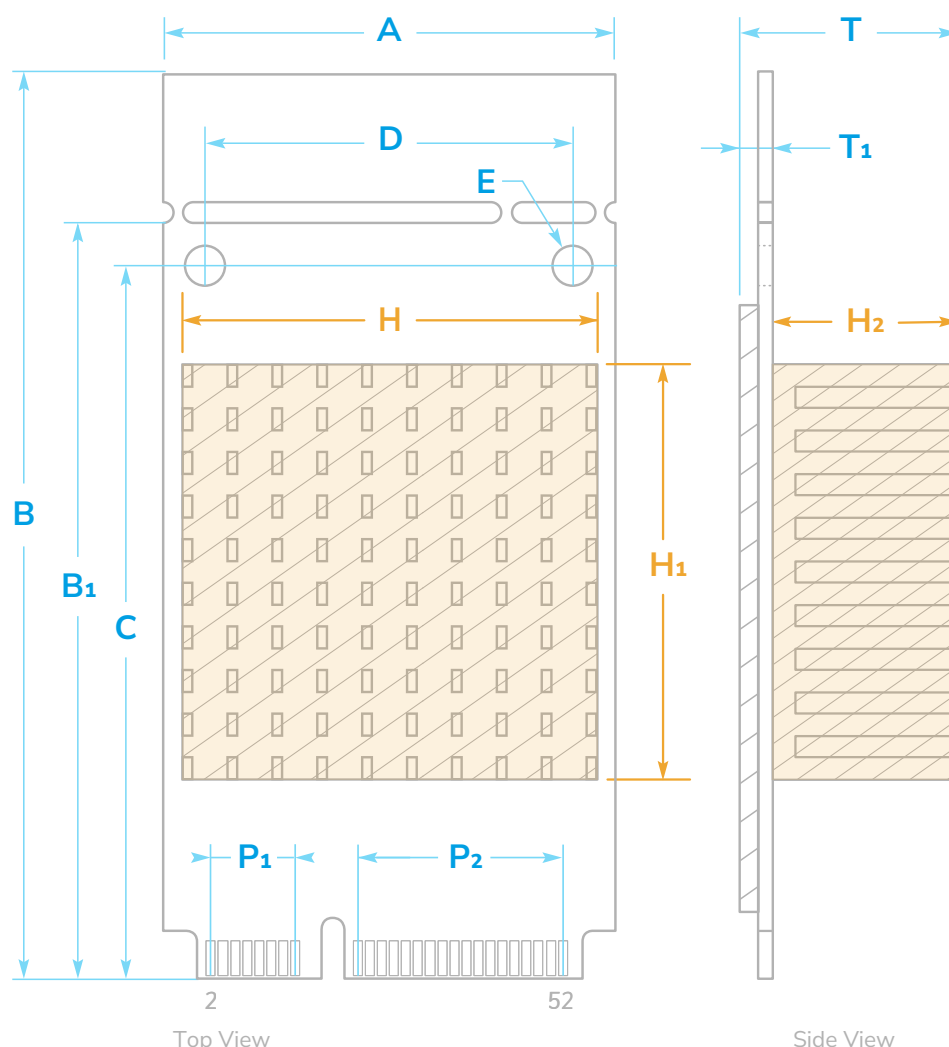


Figure 2: Top view, all values in mm

Ref	Length (in mm)	Ref	Length (in mm)
A	30.00 +0.00/-0.30	E	2x Ø2.60 ± 0.10
B	62 +0.00/-0.30	P ₁	5.60
B ₁	50.95 +0.00/-0.30	P ₂	13.60
C	48 +0.00/-0.30	T ₁	1.0
D	24.20	T ₁	3.90

Ref	Length (in mm)
H	27.5
H ₁	5.60
H ₂	11.5

Additional Documentation

Additional Ressources

Product Information Page	miromico.ch/products/details/miro-EdgeCard
Technical Documentation	docs.miromico.ch/gateways-cards/miro-edgecard/

Device Options

Product ID	ISM BAND	
	EU868	US915
GWC-08-LW-868	✓	
GWC-08-LW-915		✓

Keep in touch

Miromico AG
Gallusstrasse 4
CH-8006 Zürich
Switzerland

info@miromico.ch
www.miromico.ch

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