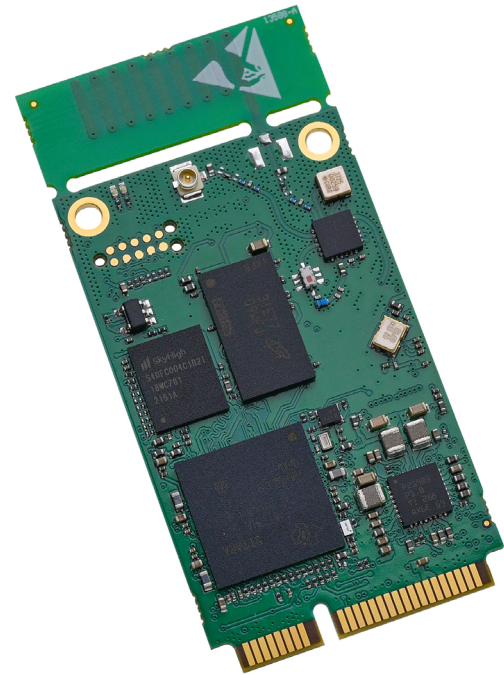


miro EdgeCard mioty®

High-performance 868 MHz
mioty® base station or software
defined radio on Mini PCIe card
with power amplifier



Description

miro EdgeCard mioty® is a high-performance, fully compliant mini PCI Express 868 MHz mioty® base station and provides a plug-and-play solution for long-range and low-power wireless communication networks in the ISM 868 MHz frequency band available in Europe. The Mini PCIe card exposes a network interface over USB 2.0 communication device class (CDC) to interface the mioty® Base Station Service Center Interface (BSSCI) data with a host processor.

miro EdgeCard mioty® is based on a high-performance quad-core A53 processor implementing software-defined radio (SDR). It enables to build cost optimized and certified mioty® base station solutions.

Features

- ▶ Full mioty® base station on Mini PCIe card
- ▶ ISM 868 MHz frequency band
- ▶ Direct mioty® BSSCI interface
- ▶ Up to 3.5M telegrams per day
- ▶ Sub-GHz RF I/Q frontend
- ▶ TX power up to 27 dBm
- ▶ High sensitivity down to -136 dBm
- ▶ Fully Mini PCIe compliant card using USB CDC

Applications

- ▶ High performance mioty® base station
- ▶ Large scale wireless IoT
- ▶ Smart Metering / Smart Buildings
- ▶ Industry 4.0
- ▶ Home Automation
- ▶ Smart Agriculture
- ▶ Healthcare
- ▶ Supply Chain & Logistics
- ▶ Facility Management

Document Information

About

File name	Document type	Date	Revision
DS miro Edge mioty®	Datasheet	2024/01/24	1.1

Revision history

Date	Release	Changes
2023/10/23	1.0	Initial draft
2024/01/24	1.1	Minor changes to texts

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Functional Description

miro EdgeCard mioty® is a full System-on-Module (SOM) providing full EU868 mioty® base station functionality over USB 2.0 interface. It thus provides a plug-and-play solution for long-range and low-power wireless communication networks and is well-suited for large scale IoT deployments through its high processing capabilities.

The device is based on a high-performance Sitara processor running the mioty® base station core library and implementing software-defined radio (SDR). It exposes a network interface over USB 2.0 communication device class (CDC) to interface the mioty® Base Station Service Center Interface (BSSCI) data with a host processor, and thus facilitates the development of high-performance and certified mioty® gateway solutions. Since the decoding of the mioty® telegrams is implemented on the card itself, the host CPU no longer requires high computational performance.

The integrated RF power amplifier provides a maximum transmission power output of up to 27 dBm and high receiver sensitivity of up to -136 dBm.

A base station based on the miro EdgeCard mioty® is capable of processing up to 3.5M telegrams per day. This allows for the card to be placed in high-density urban or long-range rural environments and connect a large variety of sensors to the mioty® network.

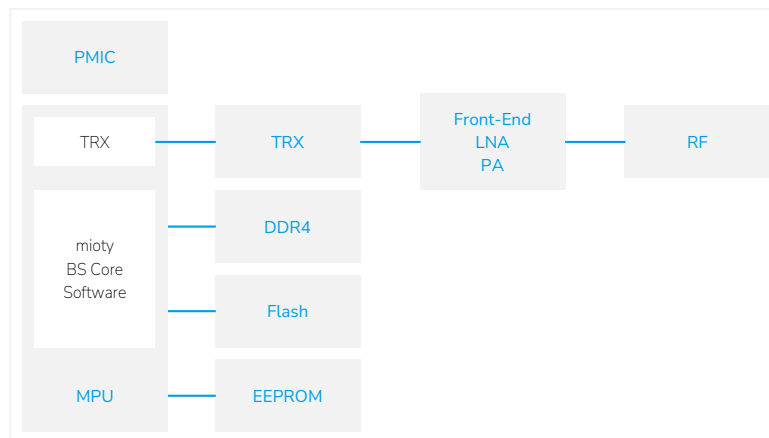


Figure 1: Block diagram miro EdgeCard mioty®

Technical Specifications

Mechanical specifications

Weight	7 g
Dimensions	62.5 × 30 × 4 mm, see Figure 2

Operating conditions

Temperature	-20 – 65 °C
Humidity	0 – 95% RH, non-condensing

Device power supply

Power supply	According to PCI Express specifications (3.3VDC)
Power consumption	1.65 W max.

Radio / wireless

Supported ISM bands	868 MHz
Rx sensitivity	-136 dBm
RF transmission power	Up to 27 dBm
mioty® frame RX capability	Up to 3.5 telegrams per day (PER ≤ 1%)
Antenna diversity (software selectable)	2× U.FL connector

Certifications

CE	Pending
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Mechanical Dimensions

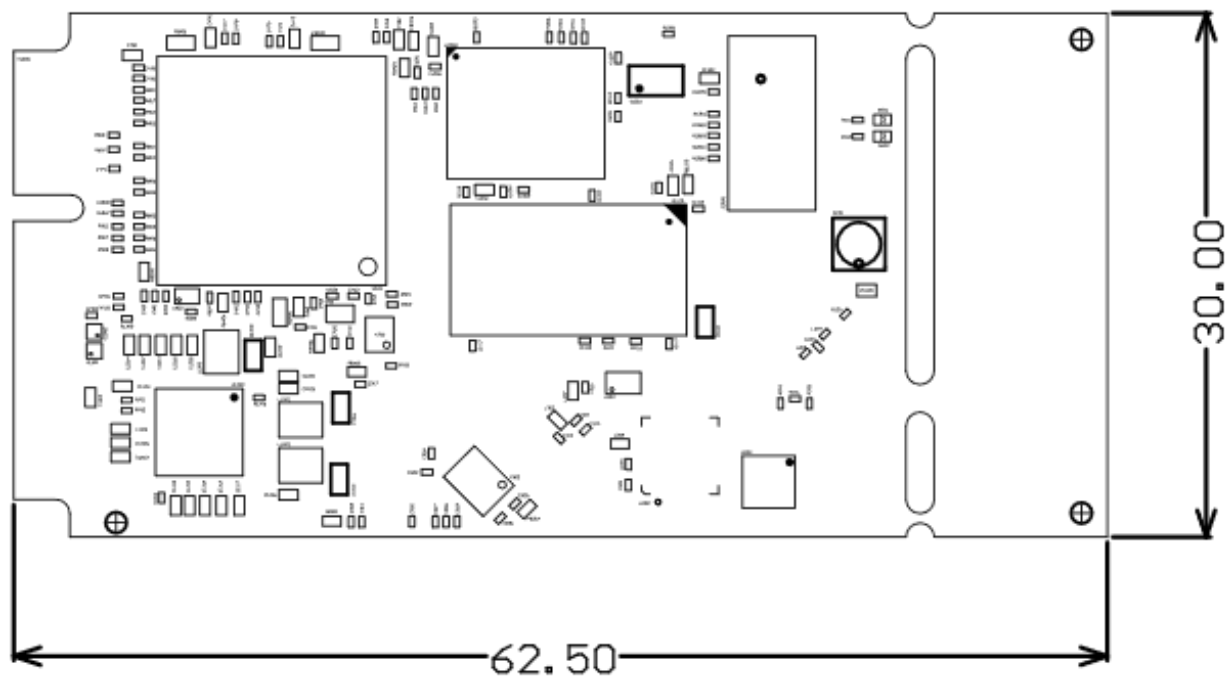


Figure 2: Top view, all values in mm

Additional Documentation

Additional Ressources

Product Information Page	miromico.ch/gateways/miro-edgecard-mioty-r
Technical Documentation	docs.miromico.ch/gateways-cards/miro-edgecard-mioty/

Device Options

Product ID

GWC-62-MY-868

Keep in touch

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