

endiio Gateway V2

User Manual

Prepared By:

Omar Gorgies



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v1.0

Revision History

Revision	Date	Description
v1.0	22.07.2025	Initial Release

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1 Introduction

The endiio Gateway is a Sub-GHz (915MHz) wireless device uses the endiio Wireless Module v2.

Its functionality is receiving the wireless sensor values from the Retrofit-Box(s), calculates special vibration parameters (like Indicator, ISO, envelope analysis, etc.), and forwards them to the local server or the cloud.

The Gateway itself is based on the Up-Board from Aaeon.

2 Product Marketing Information

The endiio Gateway v2 device contains the radio module “endiio Wireless Module v2”.

Error! Reference source not found. below lists the endiio Gateway V2 marketing information:

Table 1 Product Marketing Information

Module Name	endiio Gateway V2
UPN (Unique Product Nr.)	ENWM2
Used Wireless Module	endiio Wireless Module v2
PMN (Product Marketing Nr.)	endiio WM
HVIN (Hardware Version Id Nr.)	V2.21
HMN (Host Marketing Name)	endiio Gateway V2

The used radio module “endiio Wireless Module V2” specifications are listed in Table 2.

Table 2 Wireless Module Specifications

FCC ID	2BL4CEN-WM2
IC Number	33310-ENWM2
Wireless Frequency Band	Sub-GHz (902 – 928 MHz)
Maximum Output Transmission Power	Typ. 8 dBm
Antenna	MikroTik 868 Omni antenna
Antenna Cable Length	1.5 m
Wireless Modulation	GFSK
Wireless Protocol	IEEE 802.15.4
Separation distance between the device and the human body	> 20 cm

3 Electrical & Mechanical Specification

Table 3 Product Electrical and Mechanical Specification

Input Voltage	5 V DC
Operating Temperature	-20 – 60 °C
No. of Wireless Channels	4 (915.4, 915.6, 915.8, 916.0 MHz)
Sampling Rate	15 min.
Polling Rate	30 sec.
Dimensions (W x H x D)	37.5 x 91.5 x 103.5 mm

Note: The Omni-Antenna is realized with SMA connector by manufacturing. A SMA-RPSMA adapter is mounted and glued to the antenna using epoxy compound at our factory prior to shipment, see the figures below. Thus, the antenna would be shipped with a unique connector.

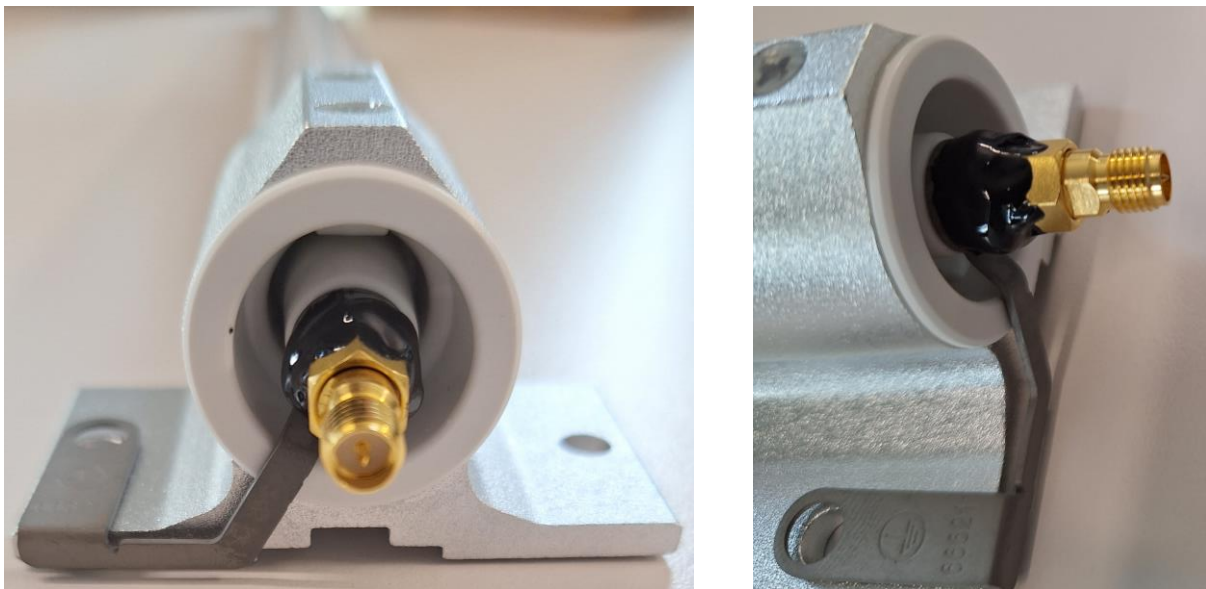


Figure 1: Modified Antenna at endiio

4 Product Photo

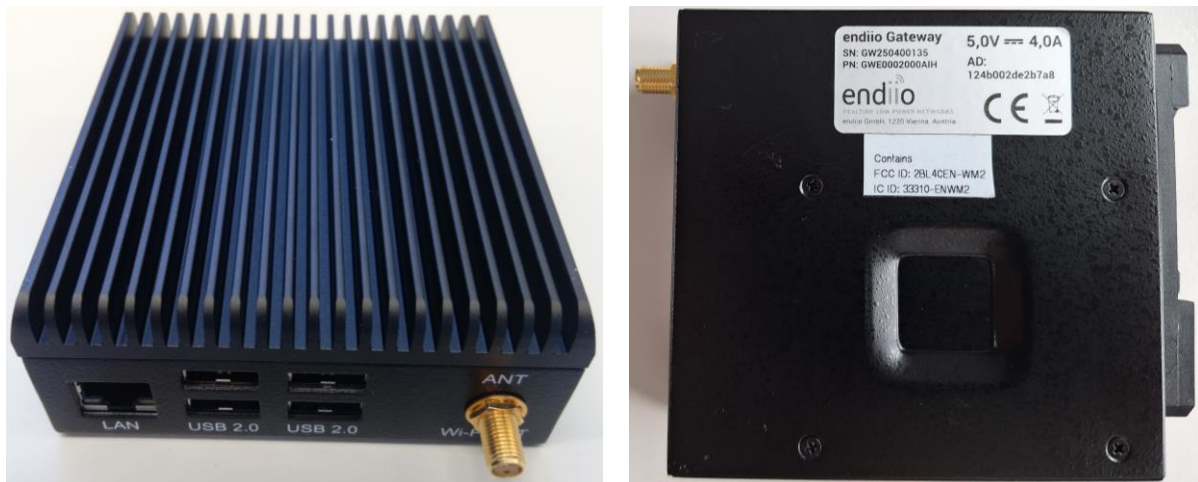


Figure 2: endiio Gateway V2

5 Interfaces

The following interfaces are available on the endiio Gateway V2:

- Wireless Sub-GHz (915 MHz) RP-SMA Antenna connection
- 5 V DC, 4 A Supply
- RJ45 Ethernet
- 4 x USB-A
- HDMI
- USB 3.0 OTG

6 Certifications and Compatibilities

6.1 *CE RED (Europe)*

The device is RED (Radio Equipment Directive) certified for the Sub-GHz. Frequency band (868 MHz).

6.2 *FCC Part 15 (USA) and ISED RSS (Canada)*

This device is using a wireless module contains licence-exempt transmitter/receiver that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s) and complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage.
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

6.3 *RF Exposure Information*

This equipment complies with FCC and ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

Note: Changes or modifications made to this equipment not expressly approved by endiio Engineering GmbH may void the FCC authorization to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.