



RLWR5V2.1

Wi-SUN Mesh NIC

User Manual

1 Overview

This document describes Wasion international RLWR5V2.1 Wi-SUN RF Mesh NIC (Network Interface Card), which is based on discrete chip platform as configured for energy meters and other devices to be used in Wasion AMI Solution. RLWR5V2.1 RF NIC meets the industry-agreed standards for conformance and interoperability for Wi-SUN Alliance.

In a typical application, the NIC will be installed in electricity metering applications. The module will communicate with other network devices. This can include other meters, relays, access points, Distribution Automation devices and other host devices.

2 Power Requirements

The RLWR5V2.1 RF NIC must be supplied by $5.0 \pm 0.5\text{V}$, $> 6\text{W}$ power supply. The necessary power supply performance is described in Table 4.1 and 4.2.

Table 2.1 – Power Supply

Parameter Rating	
Un-regulated Voltage	$5.0 \pm 0.5\text{V}$
Ripple	$\pm 120\text{mV}$
Transient Response	$\pm 200\text{mV}$

Table 2.2 – Operating State Current

Mode	Typical	Maximum
Receive Mode	65mA	70mA
Transmit 900MHz	700mA	1000mA
Last Gasp Alarm	15mA	20mA

3 Mechanical Information

Figure 3.1 shows the basic mechanical dimensions of the NIC in mm.

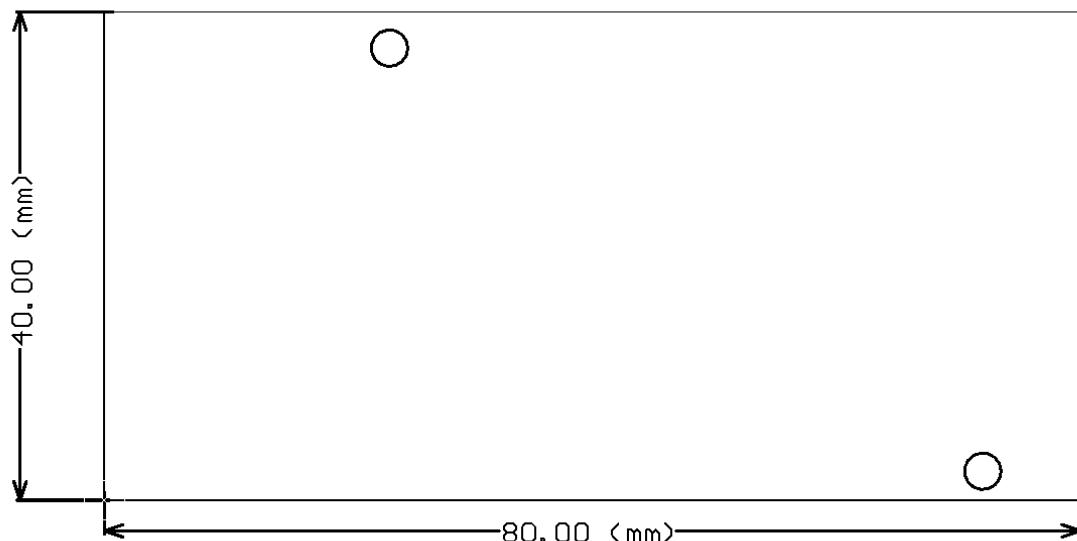


Figure 3.1 – RLWR5V2.1 RF NIC dimension and layout



Figure3.2- RLWR5V2.1 NIC

4 Precaution

1. It is prohibited to power on unconnected antenna NIC, also replace or remove the antenna with power on
2. Make sure all connections are good before power on
3. Do not install directly in open (risk of rain) or wet locations
4. When installing the antenna, tighten the antenna connector
5. It is forbidden to operate the NIC under power

5 FCC regulatory compliance statement

§15.19 Statement

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.

§15.21 Information to user

Warning: changes or modifications not expressly approved by the party responsible for compliance could void the user's

authority to operate the equipment.

- **List of applicable FCC rules:**

47 CFR Part 15, Subpart C 15.247

- **Summarize the specific operational use conditions**

No applicable. The device is a full module approval

- **Limited module procedures**

This module is not a limited module.

- **Trace antenna designs**

The antenna is not a trace antenna.

- **RF exposure considerations**

This Module complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

- **Antennas**

If you desire to increase antenna gain and either change antenna type or use same antenna type certified, a Class II permissive change application is required to be filed by us, or you (host manufacturer) can take responsibility through the change in FCC ID (new application) procedure followed by a Class II permissive change application.

- **Label and compliance information**

Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID: 2BEBA0101RLWR5V21" any similar wording that expresses the same meaning may be used.

§ 15.19 Labelling requirements shall be complied on end user device.

Labelling rules for special device, please refer to §2.925, § 15.19 (a)(5) and relevant KDB publications. For E-label, please refer to §2.935.

- **Information on test modes and additional testing requirements**

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module. The module is limited to installation in mobile application, a separate approval is required for all other operating configurations, including portable configurations with respect to §2.1093 and difference antenna configurations.

Test software access to different test modes: cent nv rftest 1

Testing item, Frequencies, Transmit Power, Modulation Type can be selected on the test script instructions.

- **FCC other Parts, Part 15B Compliance Requirements for Host product manufacturer**

This modular transmitter is only FCC authorized for the specific rule parts listed on our grant, host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

Host manufacturer in any case shall ensure host product which is installed and operating with the module is in compliant with Part 15B requirements.

Please note that For a Class B or Class A digital device or peripheral, the instructions furnished the user manual of the end-user product shall include statement set out in §15.105 *Information to the user* or such similar statement and place it in a prominent location in the text of host product manual. Original texts as following:

For Class B

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For Class A

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.