

NL68 Module – Integrator Manual (FCC Only)

FCC ID: 2BR8WNL68

Model Number (HVIN): 2BR8WNL68-001

1. Introduction

This manual provides OEM integrators with installation guidance and regulatory requirements for the NL68 ISM-band module when used in FCC markets. It outlines the mandatory Part 15 rules, antenna requirements, labeling obligations, operating restrictions, and RF exposure limits.

2. FCC Compliance Statement

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.

2.1 Interference Statement (47 CFR §15.105)

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.

3. RF Exposure Requirements (47 CFR §2.1091)

This transmitter must be installed to provide a minimum separation distance of 20 cm between the radiator and any person. The module must not be co-located or operating in conjunction with any other transmitter unless additional evaluations are performed.

4. Approved Antenna Types and Maximum Gain

The following antenna types are approved for use with the NL68 module under FCC certification:

- PCB trace antenna (50 Ω)
- Chip antenna (Johanson / Taoglas / Linx equivalent)

Maximum permitted antenna gain:

- Peak Gain: 5.0 dBi with unique connector

Use of any antenna with higher gain or different type requires a new FCC certification or a permissive change filing.

Type of antenna used 915 MHz ISM Connector Mount.

Additional tests are recommended when installing the device in a host.

5. Installation Instructions

Integrators must follow the guidelines below to ensure compliance:

- Install the module with proper grounding and ESD protection.
- Maintain the antenna orientation per the antenna datasheet.
- Ensure the antenna region is free from metal objects and ground copper.
- Maintain compliance with all FCC RF exposure and interference rules.
- Ensure end users cannot access or modify the module or attached antenna.

6. FCC Labeling Requirements

The host device must display the following label on its exterior:

Contains FCC ID: 2BR8WNL68

The final product manual must also include the FCC compliance statements provided in Section 2.

7. Electrical Interface

- Input voltage: 2.0–3.6 V
- SPI clock: 8–20 MHz
- UART/I2C/SPI digital interfaces
- GPIO pins for interrupt and wake signals

8. Operating Conditions

- Temperature: –40°C to +85°C
- Humidity: 5–95% non-condensing
- Input voltage: 2.0–3.6 V

9. Integrator Responsibilities

Integrators are responsible for ensuring that the final host system complies with all applicable FCC emission, RF exposure, and safety requirements. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

For technical support:

Email: support@yourcompany.com

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10. Contact Information