

Antenna User Manual

(For 868 or 915 MHz fiberglass antenna with N-type male connector, and matching connection between N-type female connector and SMA internal thread cable)

1.Product Instructions

1.1 Product Overview

This is a high-gain fiberglass antenna covering 868 or 915 MHz frequency bands, compatible with NB-IoT, LoRa, UAV wireless modules, and image/data transmission equipment.

It adopts an N-type male connector for direct connection to devices. For devices with SMA interface, a matching cable with N-type female to SMA port can be used for connection.

The antenna uses vertical polarization to improve signal integrity and stability, with an operating temperature range of -40°C to $+60^{\circ}\text{C}$, suitable for various complex environments.

1.2 Installation Steps

Direct Connection: Align the N-type male connector of the antenna with the N-type female port of the device, rotate clockwise until tightened, ensuring a firm and reliable connection.

Adapter Connection: For devices with SMA interface, first insert the SMA male to SMA female cable into the SMA female port of the device, then connect the N-type male connector of the antenna to the N-type female port of the cable to complete the connection.

Attitude Adjustment: The antenna adopts vertical polarization. Keep the antenna upright during installation, and avoid contact with metal objects or strong electromagnetic interference sources.

1.3 Application Scenarios

Suitable for UAV image and data transmission, industrial Internet of Things (NB-IoT/LoRa), wireless communication modules and other scenarios.

It supports mainstream frequency bands: 863-870 MHz or 902-928 MHz, and the frequency can be customized according to requirements.

2.Usage Restrictions

Frequency Restriction: The antenna operates within 863-870 MHz or 902-928 MHz. Use beyond this range may cause signal attenuation, gain reduction or equipment damage.

Environmental Restriction: Avoid long-term use at extreme temperatures below -40°C or above $+60^{\circ}\text{C}$, otherwise the performance and service life of the antenna may be affected.

Interface Restriction: Only compatible with devices equipped with N-type female interface or SMA interface. When using adapter cables, ensure interface matching to avoid damage caused by forced connection.

Physical Restriction: The elastic modulus of fiberglass is much lower than that of steel, resulting in insufficient rigidity and easy deformation. Do not apply sharp objects or heavy pressure on the antenna surface.

Interference Restriction: Keep away from strong electromagnetic interference sources such as high-power motors, transformers and metal shields during installation, otherwise signal instability or communication interruption may occur.

3.Safety Information

Electrical Safety: Do not insert or pull out the antenna interface forcibly when the device is powered.

red on, so as to avoid electric sparks or damage to the equipment circuit. If the interface is loose or in poor contact, cut off the power before adjustment.

Mechanical Safety: Avoid excessive force when installing or removing the antenna to prevent interface breakage or antenna damage. Stop using and replace the antenna immediately if surface cracks or interface deformation are found.

Environmental Safety: Do not expose the antenna to flammable, explosive gases or liquids to avoid safety accidents caused by static electricity or electric sparks. For outdoor use, take waterproof measures to prevent rainwater from penetrating into the interface and causing short circuit.

Maintenance Safety: Regularly check the antenna interface and cable connection. Clean and retighten in time if oxidation or looseness is found. Clean the antenna surface with a dry soft cloth; do not use chemical solvents.

Compliance Statement: This product is only suitable for legal and regulated wireless communication scenarios. Use must comply with local radio management regulations, and it is strictly prohibited to be used for illegal signal transmission or interfering with normal communication.

