NB-IoT / LoRa Flexible Antenna User Manual

(Applicable to 840–928MHz SMA Male Antenna and Matching 10cm IPEX to SMA Female Cable)

1. Product Usage Instructions

1.1 Product Overview

This is a high-gain (10dBi) flexible antenna supporting the 840–928MHz frequency band, compatible with NB-IoT, LoRa, UAV wireless modules, and image/data transmission equipment. It adopts an SMA male connector for direct connection to devices. For equipment with an IPEX interface, the matching 10cm IPEX to SMA female cable can be used. The antenna uses vertical polarization to improve signal integrity and stability, with an operating temperature range of -40℃ to +60℃, suitable for various complex environments.

1.2 Installation Steps

Direct Connection: Align the SMA male connector of the antenna with the SMA female interface of the device, rotate clockwise until tightened, and ensure a firm and secure connection.

Adapter Connection: For devices with an IPEX interface, first insert the IPEX end of the IPEX to SMA female cable into the device's IPEX interface, then connect the SMA male connector of the antenna to the SMA female end of the cable to complete the connection.

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

Flexible Bending: The antenna can be bent flexibly to adapt to the installation space, but avoid excessive bending to prevent damage to the internal structure.

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 such as 840/868/915/923/902/928MHz, and frequencies can be customized according to requirements.

2. Usage Restrictions

Frequency Restriction: The antenna operates in the 840–928MHz band. Use outside this range may cause signal attenuation, reduced gain, or equipment damage.

Environmental Restriction: Avoid long-term use in extreme temperatures beyond -40℃ to +60℃, otherwise the antenna performance and service life may be affected.

Interface Restriction: Only compatible with devices with SMA female or IPEX interfaces. Ensure interface matching when using adapter cables to avoid damage caused by forced connection.

Physical Restriction: Although the antenna is bendable, avoid repeated bending at the same position or excessive twisting to prevent internal conductor breakage. 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 forcibly plug or unplug the antenna interface while powered 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 cracking or interface deformation is found.

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

Maintenance Safety: Regularly check the antenna interface and cable connection. Clean and re-tighten them in time if oxidation or looseness is found. Use a dry soft cloth to clean the antenna surface; do not use chemical solvents.

Compliance Note: This product is only used for legal and compliant wireless communication scenarios. Use must comply with local radio management regulations, and it is prohibited to use for illegal signal transmission or interference with normal communication order.