Andea Electronics

EA2602-BL/EA2602-BL-P HF RFID Shielded Antenna

User Manual

- Before you use this product, please read this manual carefully and properly keep it for future reference.
- As our products continue improving, they may be changed without advanced notice.
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Version: V1.0

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1. Product Overview

1.1. Introduction

This product is a series of antennas specially designed for the metal environment of production lines. The series antennas adopt anti-metal design, which can adapt to various metal and non-metal environments without affecting product performance, and realizes stable identification of electronic tags. The product can be widely used in various radio frequency identification (RFID) systems such as industrial automation, production line management, clothing stores, confidential documents, personnel files, intelligent catering trays, self-service book borrowing and returning machines, shared books, and production process control.

This antenna cannot work alone and needs to be used in combination with a reader-writer. Therefore, this instruction manual is described in conjunction with our company's RD2101 high-frequency medium-power reader-writer.

1.2. Product Features

- Operating frequency 13.56MHz
- High sensitivity and strong anti-interference ability
- Has good environmental adaptability
- Contains conflict prevention mechanism
- Fast reading speed and excellent multi tag read-write performance
- Can be placed on any material plane or embedded on any material surface
- Durable and sturdy, easy to install and maintain

1.3. Product Model

EA2602-BL/EA2602-BL-P

RD2101

1.4. Main Parameter

The detailed technical parameters of antennas are as follows:

Table 1 Technical parameters

Parameter/Model	EA2602-BL	EA2602-BL-P
Operating Frequency	13.56MHz	
RF Interface	SMA	
Antenna impedance	50Ω	
Maximum supported power	4W	
Reading distance (2W)	20cm	
Antenna type	Passive antenna	Active antenna
Feeder length	2.5M	

Shell material	PCB and sheet metal
Size (LxWxH)	175*89*26.5mm
Weight	310g

2. Product Dimension Diagram

The external dimensions of the antenna are as follows (unit: mm):

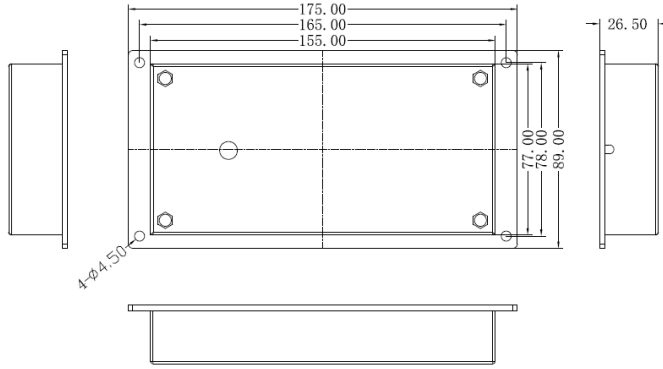

Figure 1 Product dimensions (unit: mm)

3. Interface Description

The RD2101 reader adopts an external single antenna port design, and the antenna interface uses a standard SMA female head. The EA2602-BL/EA2602-BL-P antenna interface uses a standard SMA male head, with a matching impedance of 50 Ω, as shown in the following figure:

Figure 2 Reader interface and antenna interface

4. Instructions for Using

4.1. Device Connection Instructions

Connect the device according to the following diagram.

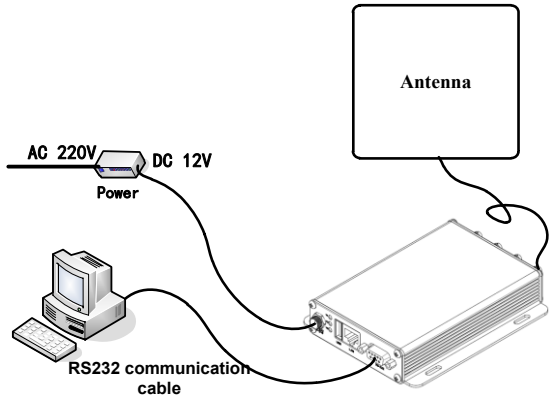

Figure 3 Schematic diagram of using serial communication connection

After connecting the device and ensuring normal power on through the power indicator light, open the configuration tool R-Tool folder and find the file R-Tool in the folder directory. Double click on the file to open the configuration tool, as shown below:

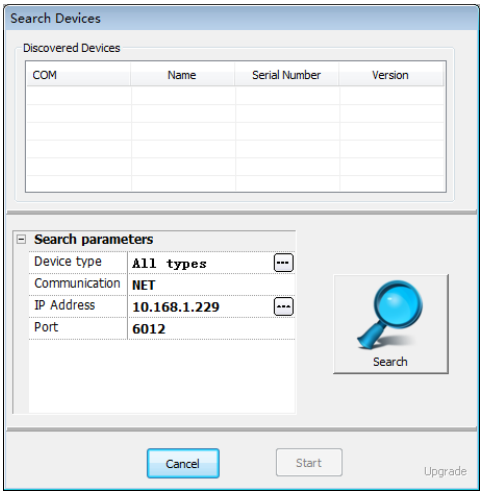

Figure 4 R-Tool connection interface

Select the corresponding communication method according to the actual interface type used by the device, such as:

Choose "COM" from [Communication] under [Search parameters]. Choose "All" for [COM name], set [Baud rate] as 38400, set [Frame] as 8E1, and set [address] as 255;

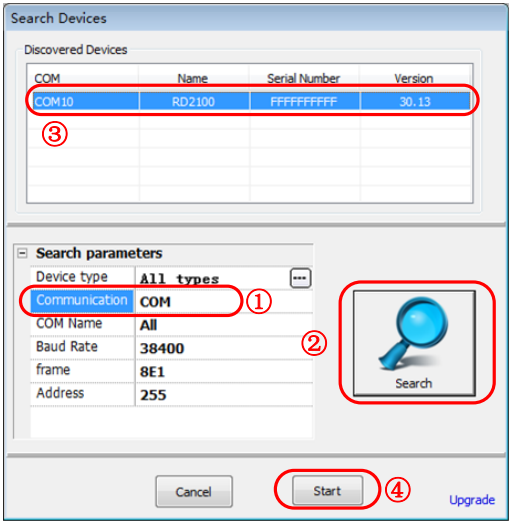

Figure 5 Operation steps when use RS232 interface connection

4.2. Testing

4.2.1. Antenna Parameters

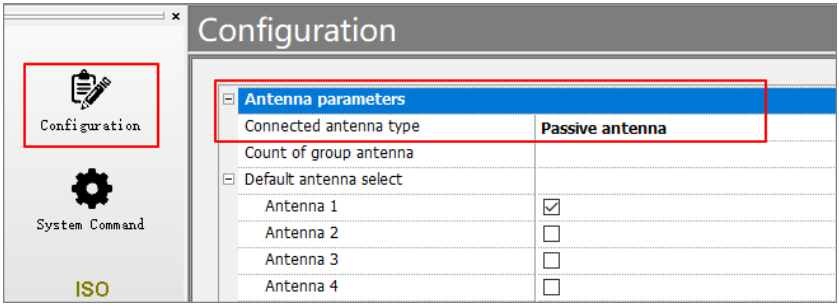

Figure 6 Configuration interface for antenna port parameters

- **Antenna type:** Passive antenna, Active antenna, Group antenna

Attention: When using EA2602-BL, the reader must be configured as "Passive antenna ", and when using EA2602-BL-P, the reader/writer must be configured as "Active antenna".

4.2.2. Multi-tags Inventory Testing

After entering the main interface of R-Tool test software, select "ISO Multi-Tag Test" ,carry out the procedure as shown in the following figure ①, ② and ③ for tags inventory test:

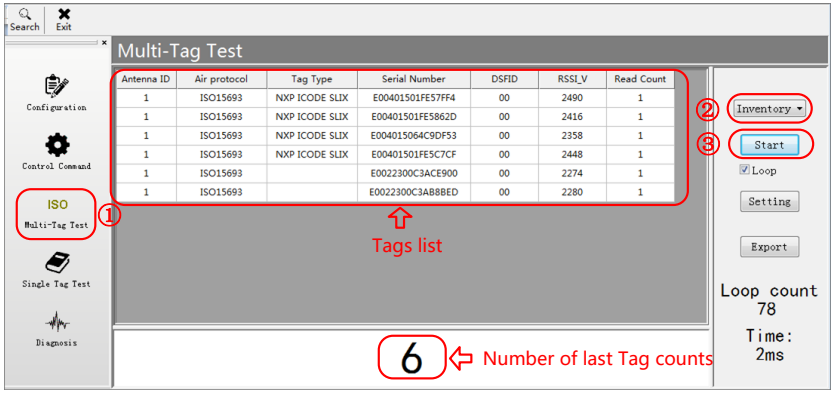

Figure 7 Multi-Tag inventory test steps

Note:

Step 1: Select the menu "ISO Multi-Tag Test" in the main interface of the software;

Step 2: Select the "Inventory" in the drop-down list above the "Start" button;

Step 3: Click the "Start" button to carry out the inventory testing.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

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.

FCC Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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