

Product Specifications of FSC-RA01DL Antenna

Product Model

FSC-RA01DL Antenna

Product Function and Features

Electrical Properties: It is a general antenna for UHF RFID applications with high gain and low VSWR. It has the dual advantages of the far reading distance in the linear polarization antenna and the non-directional feature in the circular polarization antenna.

Mechanical Properties: pleasing appearance with small size, double waterproof design with waterproof ring and silica gel, rib reinforcement design for shell, suitable for various severe environments.

Product Applications

FSC-RA01DL Antenna is of convenient application in access control, warehousing, logistics, retail and other UHF RFID application fields.

Performance Specifications

Frequency Range: 902MHz ~ 928MHz

VSWR: $\leq 1.3:1$

Gain: > 9 dBic

H side HPBW: 70°

E side HPBW: 70°

Polarization: Cross polarized

Relative humidity: 5% ~ 95%

Impedance: $50 \pm 1 \Omega$

Connector Type: N Female (two inputs)

Mechanical Specifications

Size: 258mm \times 258mm \times 36mm

Weight: 0.91kg (bracket excluded)

Material: Engineering plastics ASA, aluminum,

Color: Milk-white

Production Class: IP67

Operating Temperature: $-40^\circ\text{C} \sim +85^\circ\text{C}$

Storage Temperature: $-40^\circ\text{C} \sim +85^\circ\text{C}$



Figure 1. Antenna Photo

Mounting

FSC-RA01DL Antenna can be mounted on any steel frame or column with its built-in bracket or user's bracket and be connected with reader through coaxial cable. It can be installed horizontally or vertically according to the bracket's position. The antenna tilt can be adjusted according to the actual applications. Antenna bracket is an optional accessory and customers can choose it according to actual need.

1. Mounting dimensions

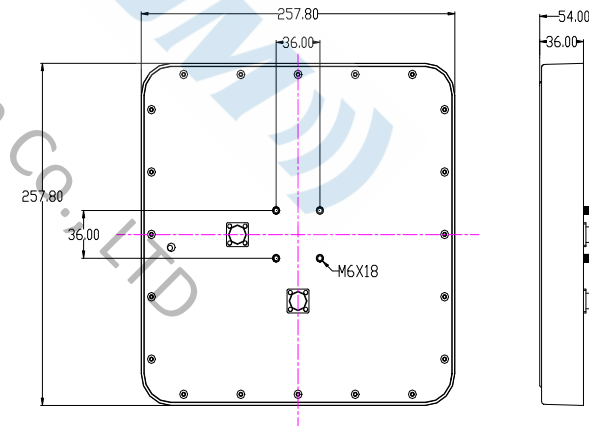


Figure 2. Mounting Dimensions

2. Mounting instruction

2.1 Horizontal mounting

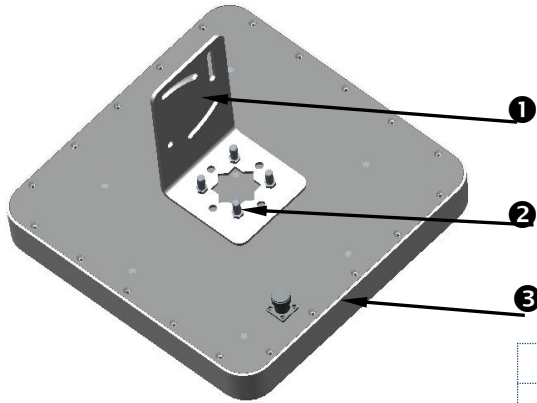


Figure 3. Horizontal mounting step 1

①	L board (Bracket)
②	M6 screw, elastic washer and plain washer
③	FSC-RA01DL antenna

Step 1: Use M6 screw, elastic washer and plain washer, to fix the L board on the antenna, please see Figure 3.

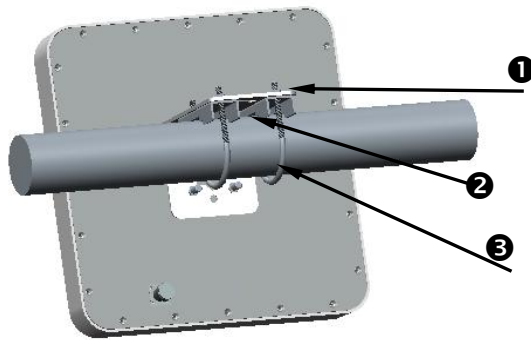


Figure 4. Horizontal mounting step 2

①	M6 screw, elastic washer and plain washer
②	Dog tooth
③	M6 U style screw bolt

Step 2: Please use M6 screw, elastic washer and plain washer and "Dog tooth" to fix it on the horizontal and vertical bracket, please see Figure 4

2.2 Vertical mounting

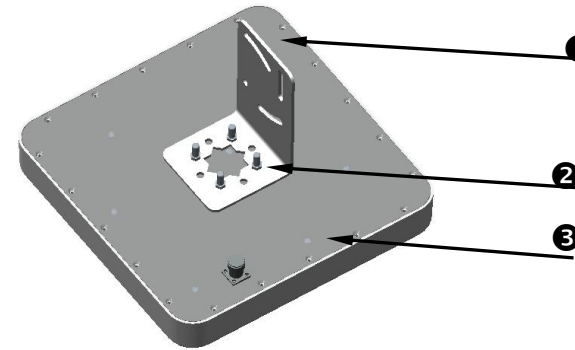


Figure 5. Vertical mounting step 1

①	L board (Bracket)
②	M6 screw, elastic washer and plain washer
③	FSC-RA01DL antenna

Step 1: Use M6 screw, elastic washer and plain washer, to fix the L board on the antenna, please see Figure 5.

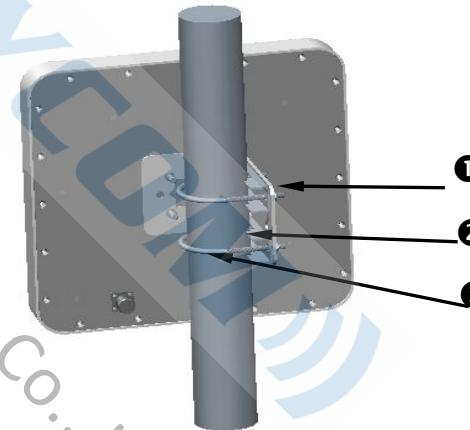


Figure 6. Vertical mounting step 2

①	M6 screw, elastic washer and plain washer
②	Dog tooth
③	M6 U style screw bolt

Step 2: Please use M6 screw, elastic washer and plain washer and "Dog tooth" to fix it on the horizontal and vertical bracket,, please see Figure 6.

Antenna Pattern

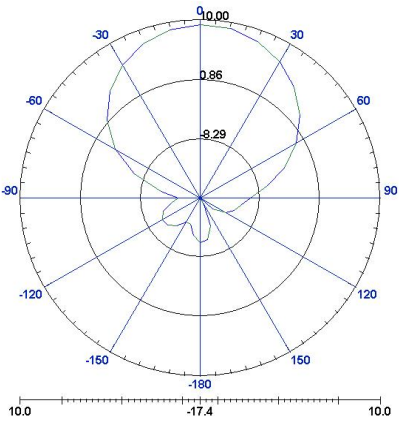


Figure 7. Antenna Pattern 1 (E-Plane)

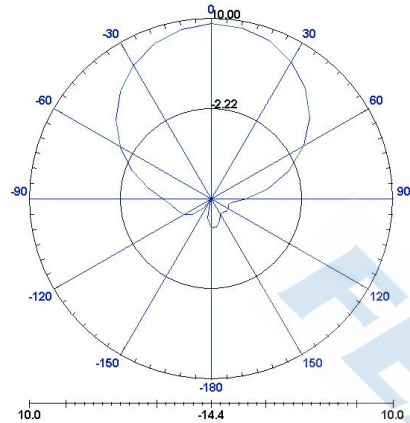


Figure 8. Antenna Pattern 2 (H-Plane)

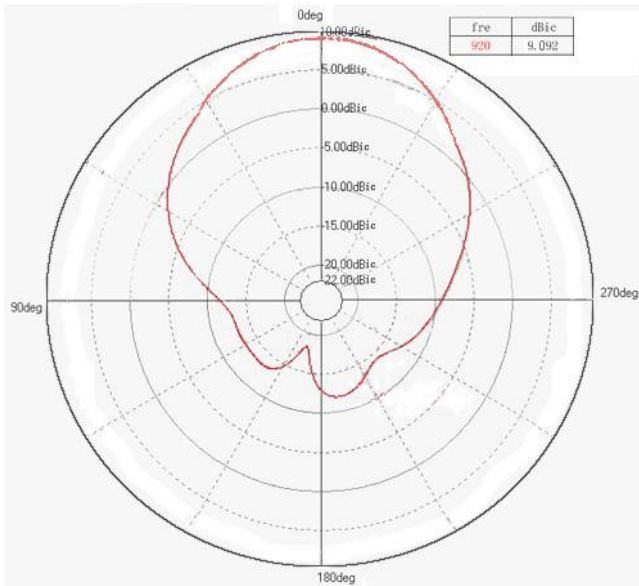


Figure 9. Antenna Pattern 2D (Gain > 9 dBi)

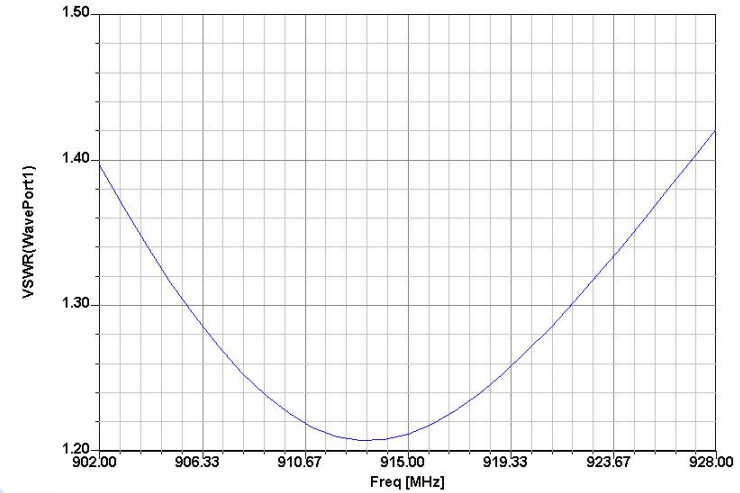


Figure 10. Antenna VSWR



Figure 11. Antenna input port S parameters

FAQ and Cautions

FSC-RA01DL Antenna is circularly polarized directional antenna. Attention should be paid to adjusting the antenna tilt to obtain the optimal reading performance.

FSC-RA01DL Antenna can be used outdoors, but not suitable for use in acid or alkali environment.