

Antenna test report

1. product picture

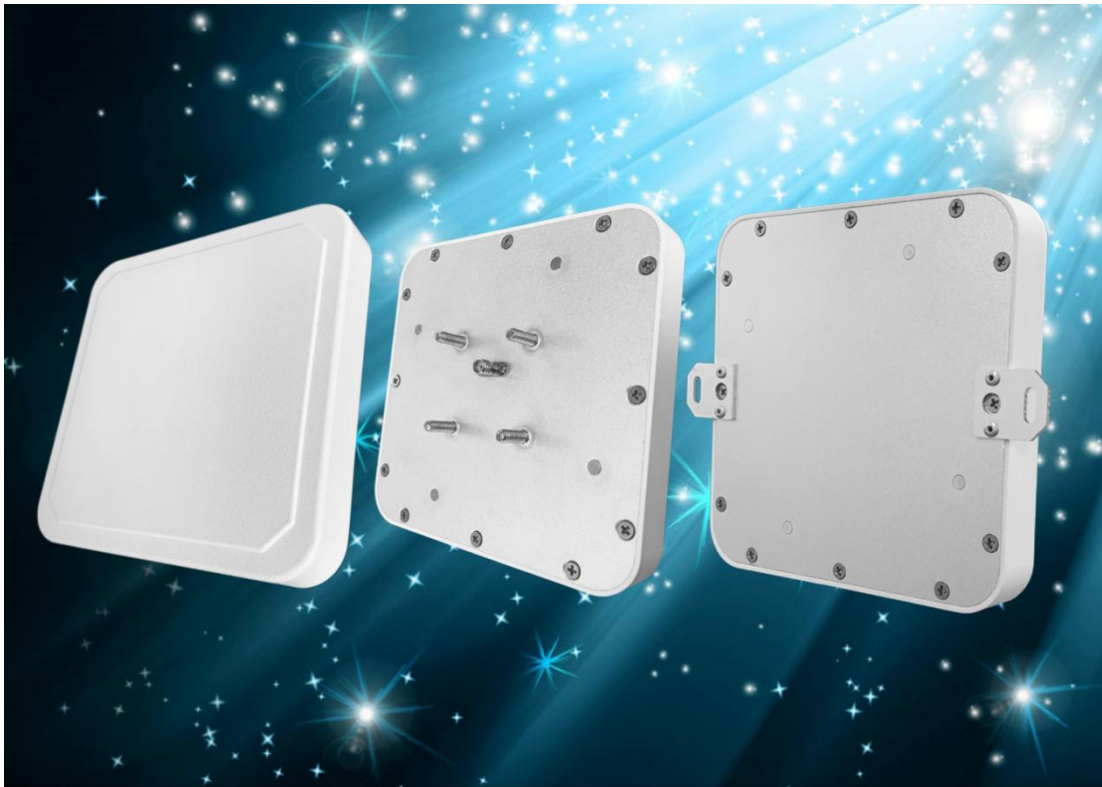


Figure 1: Front and back images of the circularly polarized antenna

2. Application Areas of the Product

The circular polarization antenna is a versatile far-field antenna designed for UHF-band RFID applications, featuring compact size, high gain, low standing wave ratio, excellent pattern symmetry, and low axial ratio. It is readily applicable in UHF-band RFID scenarios such as access control, warehousing, logistics, and retail settings.

3. technical parameter :

Table 1: Product Parameter Definition Circular Polarization Antenna

Frequency range (MHz)	902MHz ~ 928MHz
Polarization Method	Circular polarization
Gain (dBi)	6.26dBi
axial ratio (dB)	< 3dB
H-side HPBW	86 degrees
E-side HPBW	86 degrees
impedance (Ω)	50 Ω
Voltage Standing Wave Ratio (VSWR)	$\leq 1.3:1$
Joint type	RP-SMA
Joint position	Backhaul or Side Feed

product size (mm)	128mm×128mm×20mm
weight	236g (excluding the bracket)
material	Industrial plastic: ABS + aluminum
pigment	ivory
levels of protection	IP66
way to install	Pole holder (maximum diameter 60 mm) or wall-mounted unit
working temperature (°C)	-40°C ~ +86°C
Manufacturer:	GUANGDONG OVERCLOCKING HUI TECHNOLOGY CO.,LTD
Address:	Room 405, Chunsheng Building, Lingya Industrial Park, Tangtou No. 1 Road, Shiyan Subdistrict, Bao'an District, Shenzhen City, Guangdong Province

4. Actual measured antenna characteristic curve in a dark room:

(1) Gain versus frequency curve

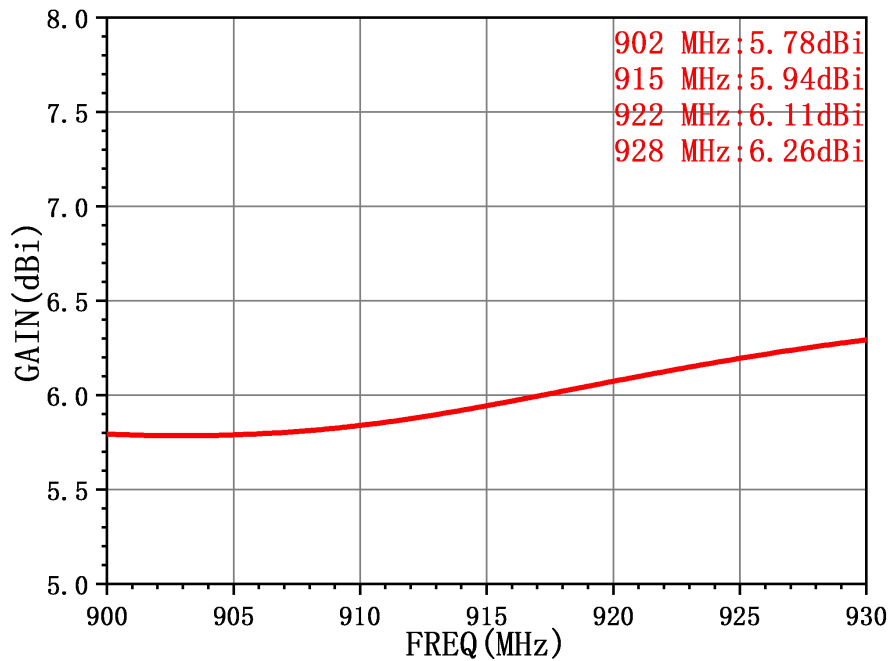


Figure 2: Gain versus frequency curve

Freq/MHz	902	915	922	928
Gain/dBi	5.78	5.94	6.11	6.26

(2) Curve showing how the shaft ratio changes with frequency

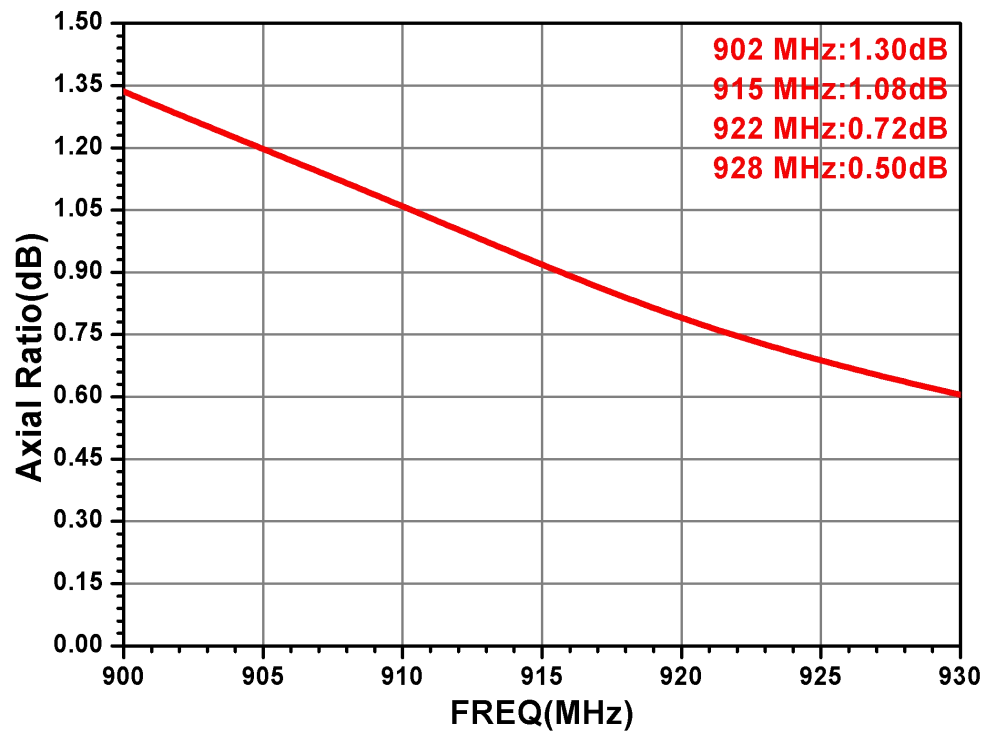


Figure 3: Curve of the axis ratio versus frequency

(3) Two-dimensional H-plane direction pattern (horizontal beam pattern)

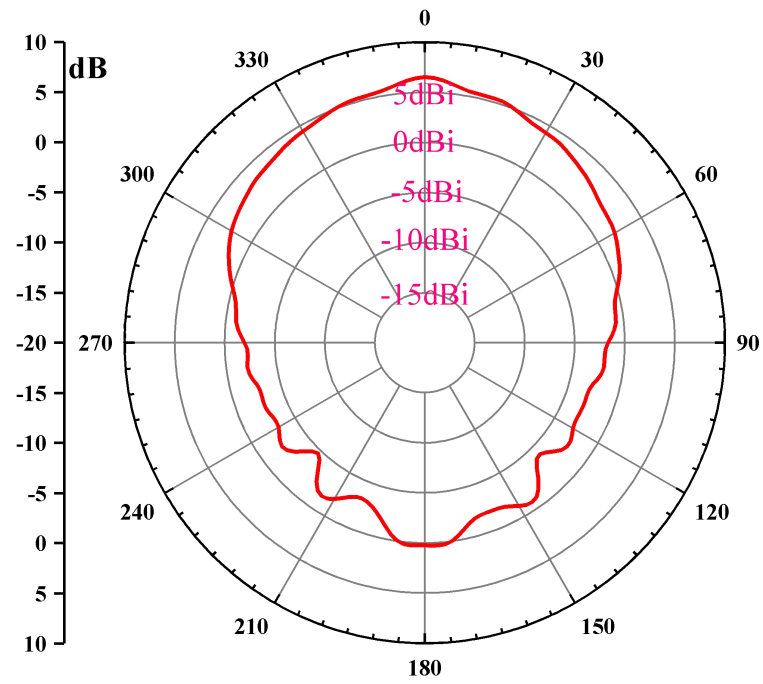


Figure 4: Two-dimensional direction pattern of the H-plane
 (4) Two-dimensional E-plane direction pattern (vertical beam pattern)

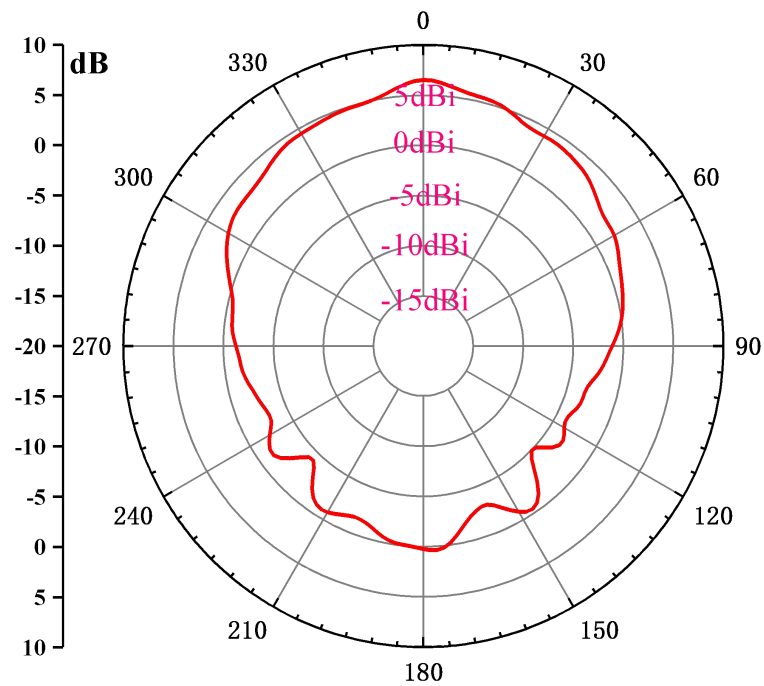


Figure 5: Two-dimensional direction diagram of the E face

(5) Frequency-dependent curve of echo loss S11

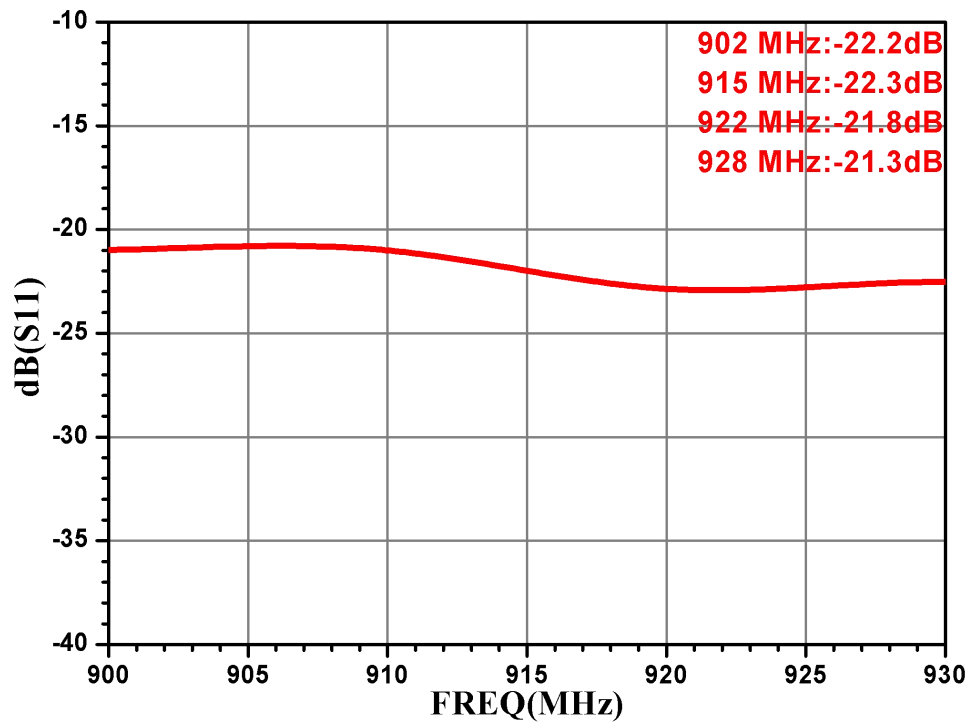


Figure 6: Curve of return loss S11 versus frequency

(6) The curve of voltage standing wave ratio (VSWR) versus frequency

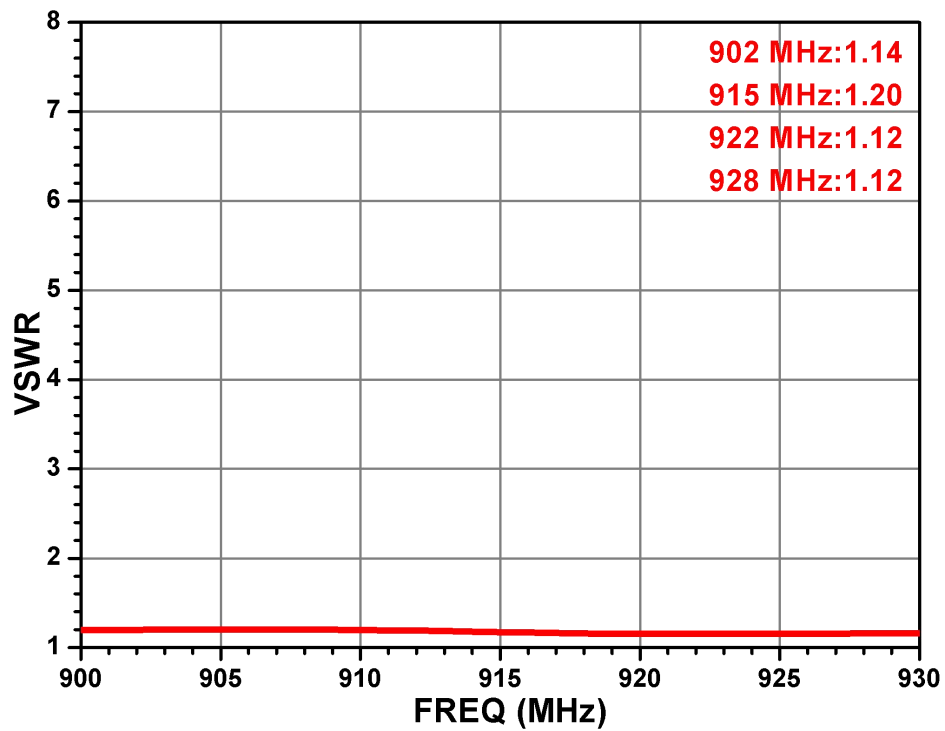


Figure 7: Curve of voltage standing wave ratio (VSWR) versus frequency

5. Product size specifications

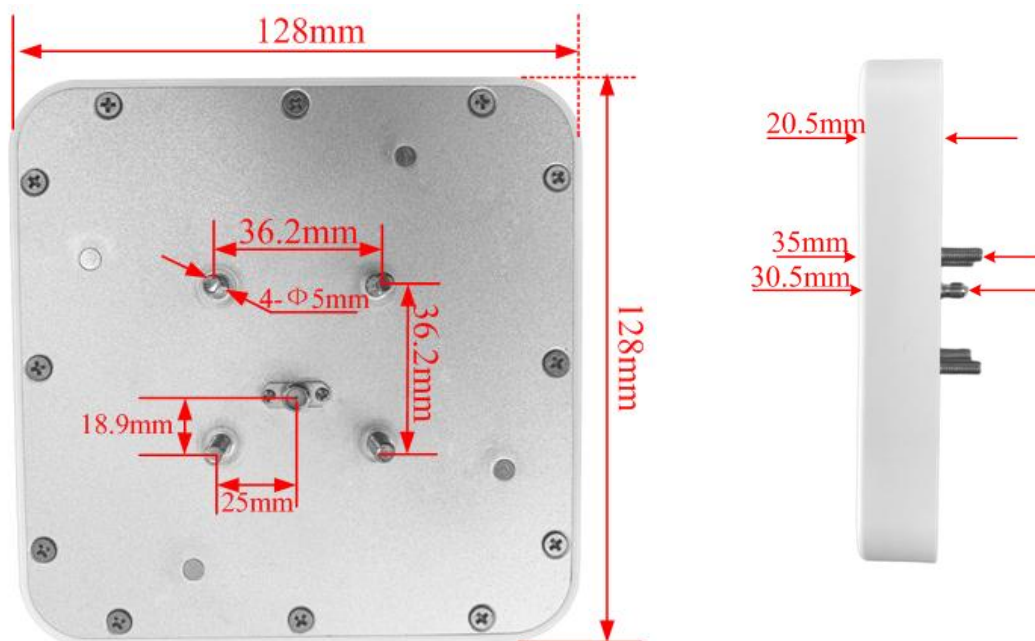


Figure 8: Dimensions of the-antenna unit (length, width, thickness), back-side riveting posts, and SMA connector positions

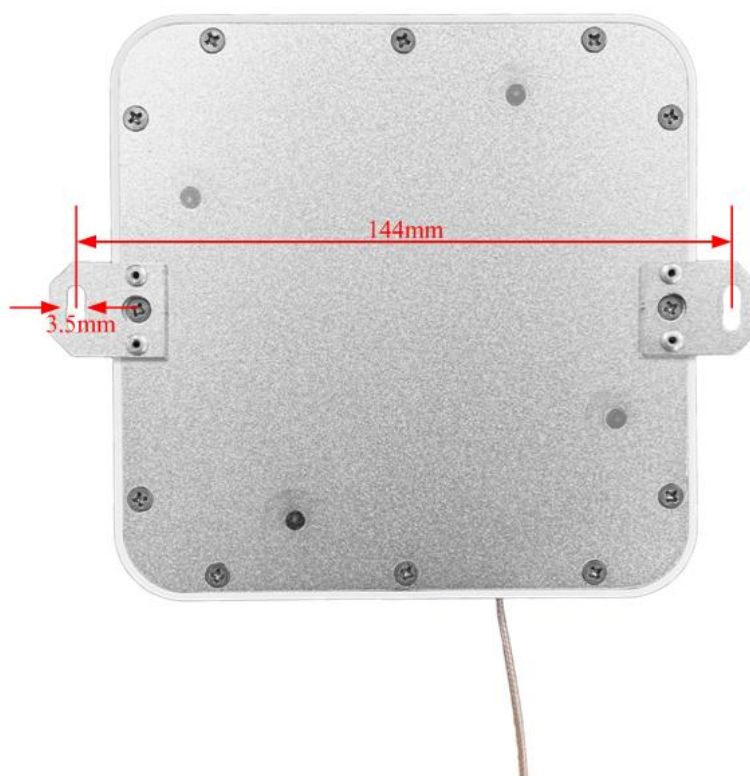


Figure 9: Spacing and aperture diameter dimensions of the-antenna antenna horn assembly