Antenna Datasheet

Product OC: YENT002F3AM
Version: 1.0
Date: 2025-07-21
Status: Released

Product Name: LoRa Terminal Mount External Dipole Antenna
Key Features:
Frequency Band: 860–930 MHz
Dimensions: 13 mm × 15.6 mm × 130 mm
Efficiency: Up to 61.7 % (EVB)
RoHS & REACH Compliant

Overview

YENT002F3AM is a Lora external antenna measuring 13 mm × 15.6 mm ×130 mm. This Lora antenna provides broad coverage from 860–930 MHz. The antenna is terminated with IPEX MHF 1 connector via one cable. Ideal for applications where the antenna is required to be discrete, this low profile, terminal mount omni-directional antenna is easy to install with maximum durability assured thanks to its PC+ABS enclosure.

The antenna is designed as dipole type to work with various GND plane sizes or in free space for ease of integration with an IPEX MHF I connector via cable for optimal positioning. The cable structure allows flexible layout when installed on end devices to avoid interference with other antennas or objects. This omni-directional antenna is ideally suited for microwave communication equipment, communication base station, radio and television system, weather radar, offering great performance with its high gain and efficiency.

Typical applications include:

- Microwave Communication Equipment
- Communication Base Station
- Radio and Television System
- Weather Radar

Quectel provides comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs. We have regional R & D centers to offer quick response to meet your requirements. Please contact our sales & FAEs if you have any requests.

Contents

1 Specification

Test Condition: In Free Space & On 130 mm × 130 mm EVB

1.1. Electrical

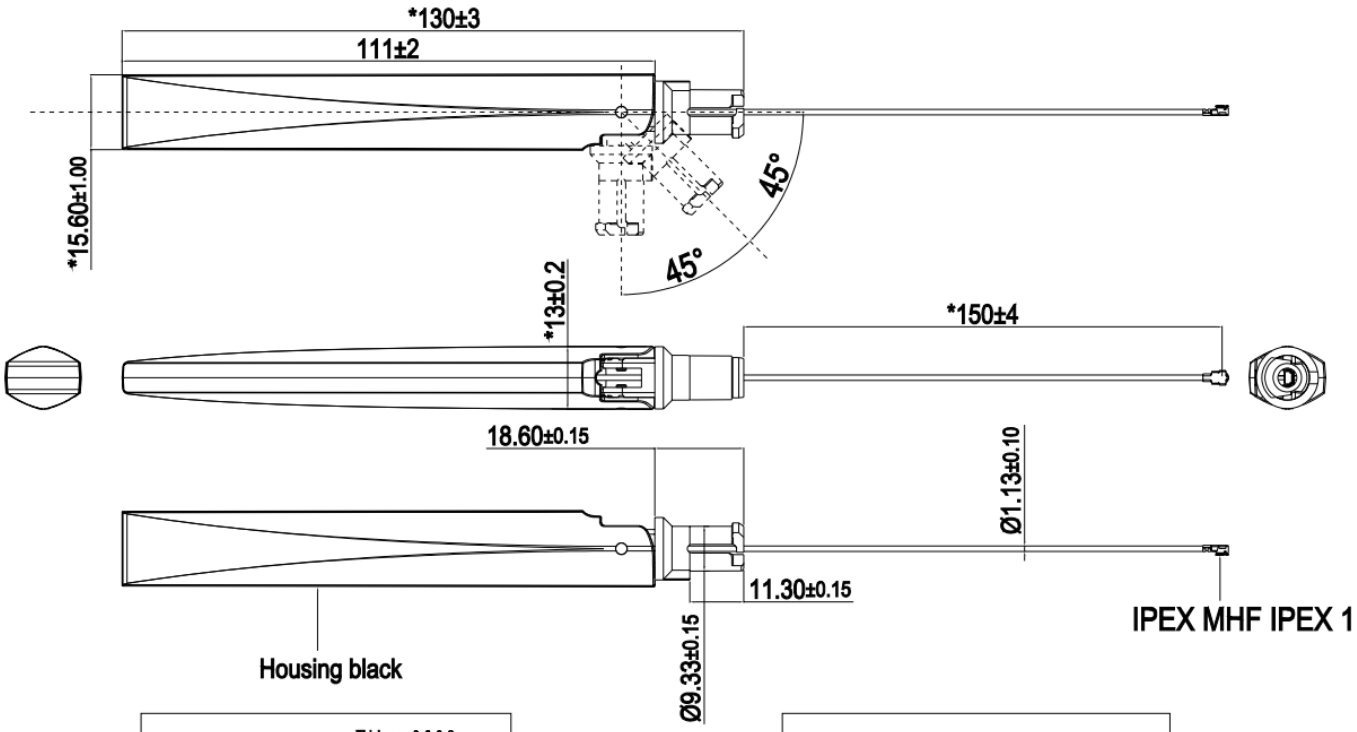
Electrical	
Frequency Range	860–930 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional
Antenna Type	Dipole

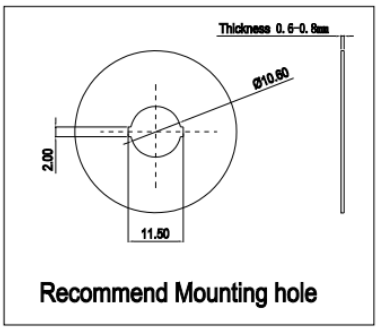
Band / SPEC		470–510	860–930
Max VSWR	**FS**	-	2.0
	EVB	-	2.4
Max Return Loss (dB)	**FS**	-	-9.3
	EVB	-	-7.8
AVG Eff. (%)	**FS**	-	40.1
	EVB	-	56.2
AVG AVG Gain (dB)	**FS**	-	-4.0
	EVB	-	-2.5
Max Peak Gain (dBi)	**FS**	-	0.5 (895)
	EVB	-	1.9 (905)

1.2. Mechanical & Environmental

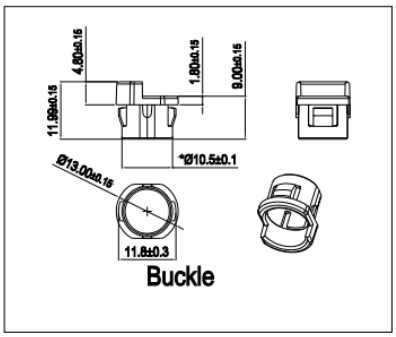
Mechanical	
Antenna Dimensions	13 mm × 15.6 mm × 130 mm
Material & Color	PC + ABS & Black
Connector Type	IPEX MHF 1
Cable Type & Length	Φ 1.13 Black & 150 mm
Mounting Type	Terminal
Weight	Typ. 13.2 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS &REACH Compliant	Yes

2 Drawing





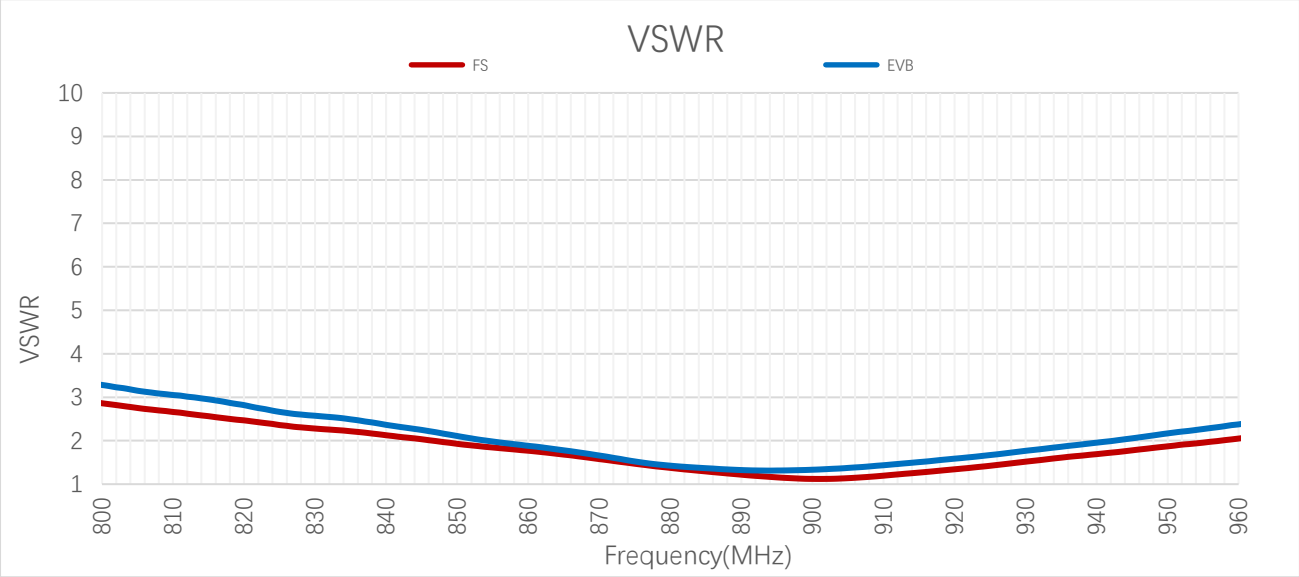
UNIT:mm



3 Detailed Performance

3.1. S-Parameter Test

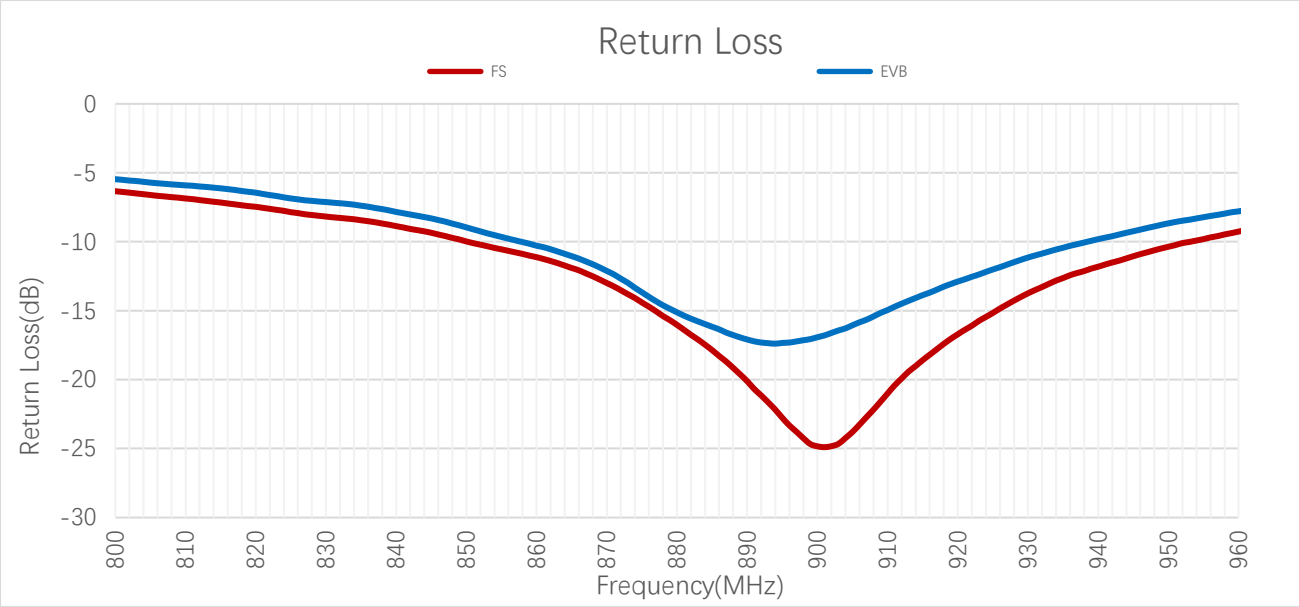
3.1.1. VSWR



VSWR

Frequency (MHz)	433	470	490	510	860	863	868	873	915	930
FS	-	-	-	-	1.8	1.7	1.6	1.5	1.3	1.5
EVB	-	-	-	-	1.9	1.8	1.7	1.5	1.5	1.8

3.1.2. Return Loss

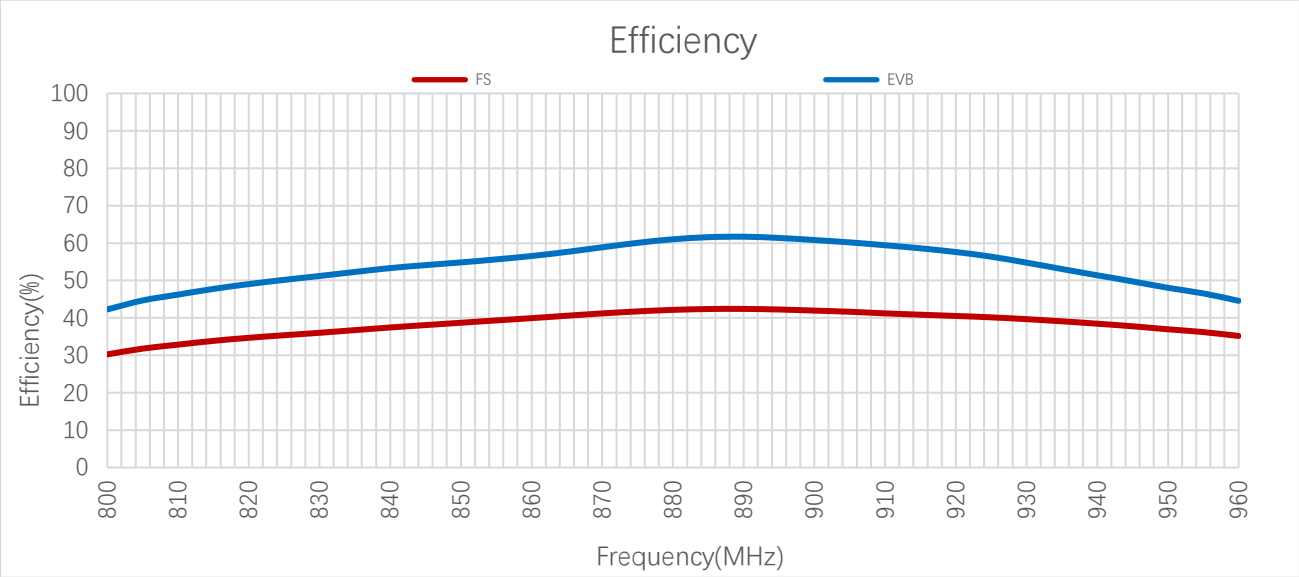


Return Loss (dB)

Frequency (MHz)	433	470	490	510	860	863	868	873	915	930
FS	-	-	-	-	-11.1	-11.9	-13.0	-14.4	-18.6	-13.7
EVB	-	-	-	-	-10.3	-11.0	-12.1	-13.7	-13.9	-11.1

3.2. Radiation Performance Test

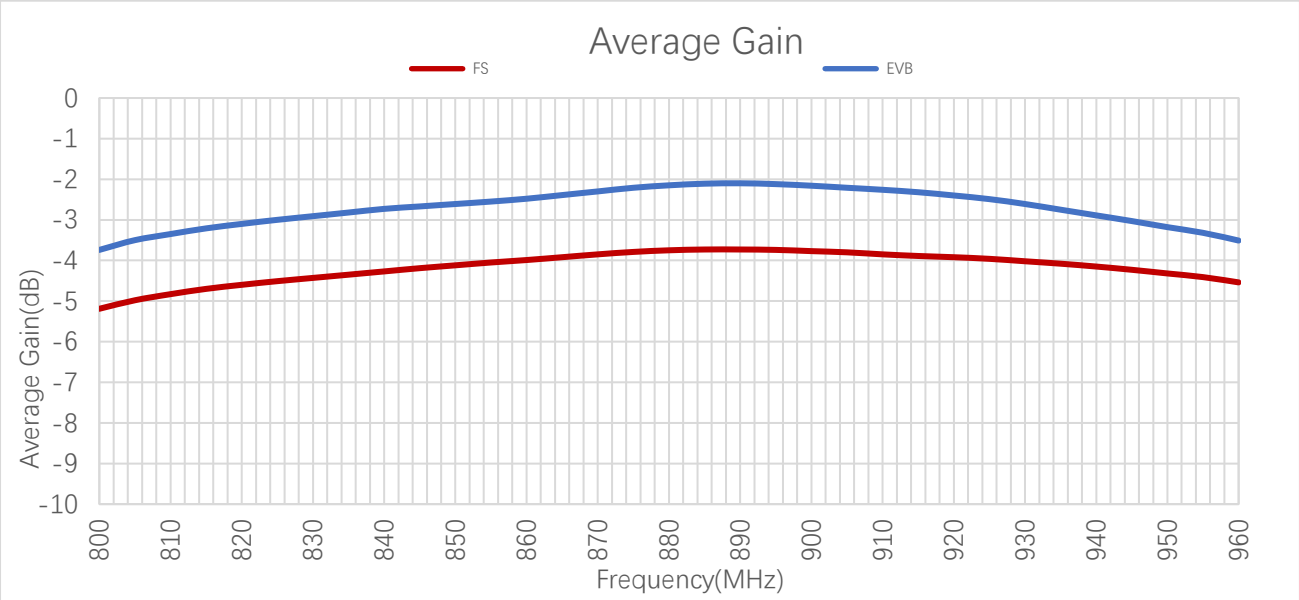
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	433	470	490	510	860	863	868	873	915	930
FS	-	-	-	-	39.9	40.6	41.2	41.7	40.9	39.7
EVB	-	-	-	-	56.5	57.6	58.9	60.1	58.6	54.8

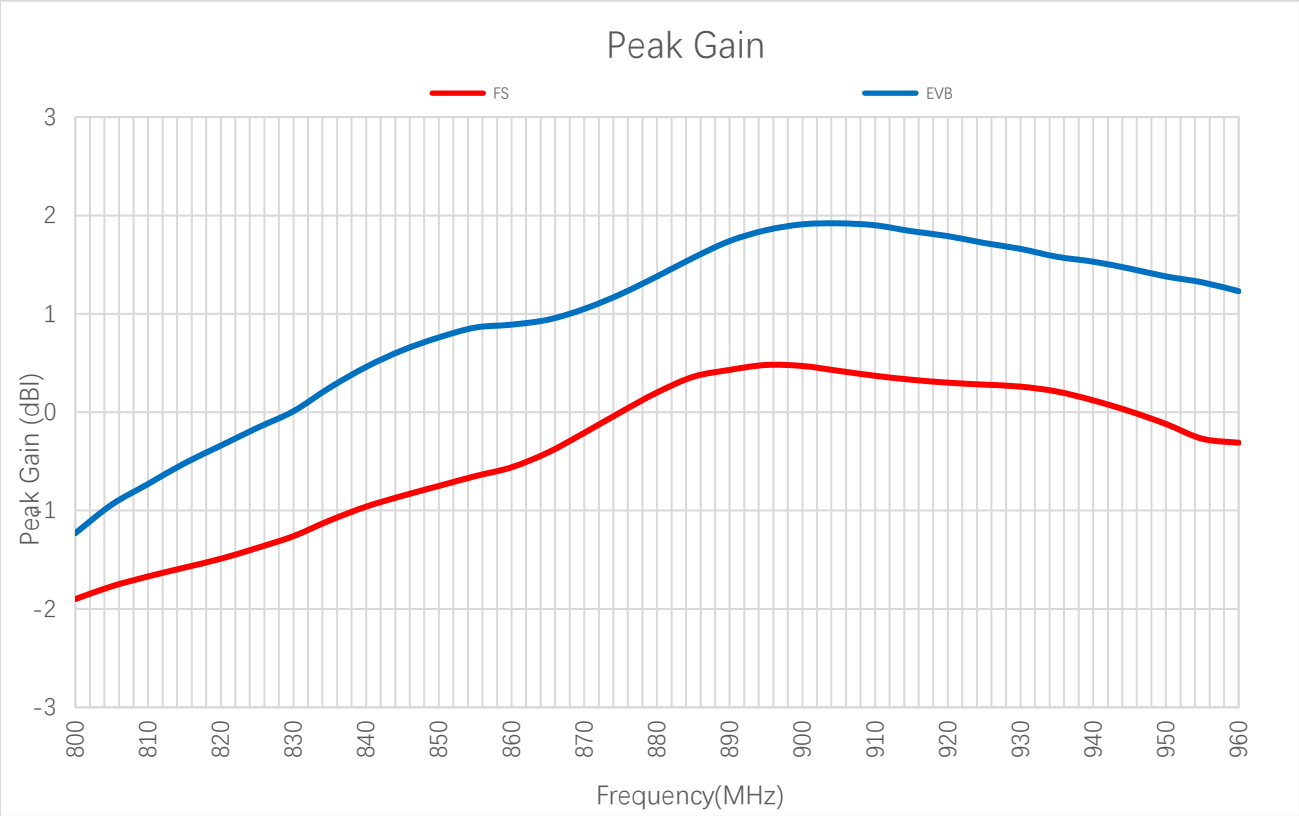
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	433	470	490	510	860	863	868	873	915	930
FS	-	-	-	-	-4.0	-3.9	-3.9	-3.8	-3.9	-4.0
EVB	-	-	-	-	-2.5	-2.4	-2.3	-2.2	-2.3	-2.6

3.2.3. Peak Gain



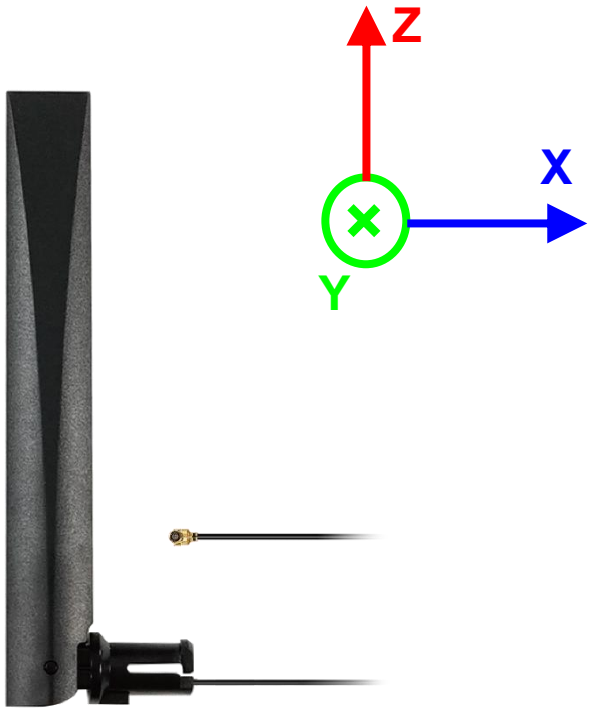
Peak Gain (dBi)

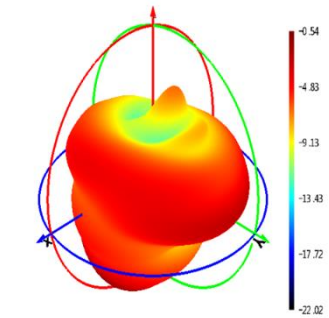
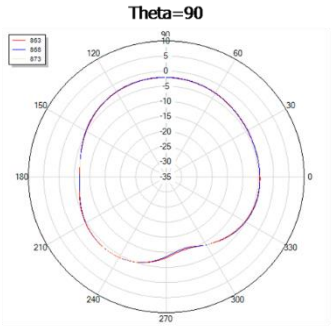
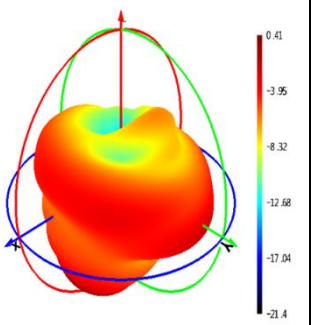
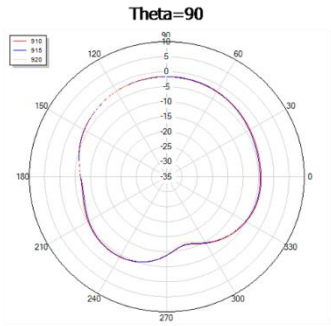
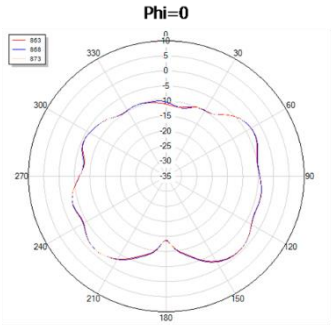
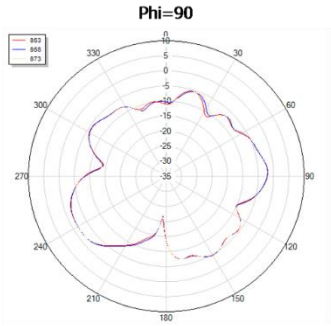
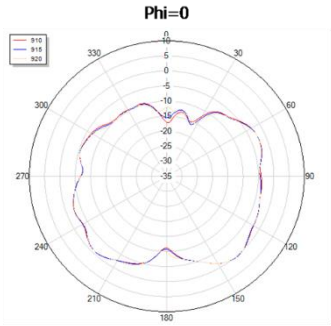
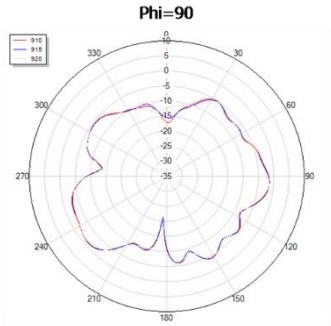
Frequency (MHz)	433	470	490	510	860	863	868	873	915	930
FS	-	-	-	-	-0.6	-0.4	-0.2	0.0	0.3	0.3
EVB	-	-	-	-	0.9	0.9	1.1	1.2	1.8	1.7

3.2.4. 3D & 2D Radiation Pattern

3.2.4.1. Test Condition: In Free Space

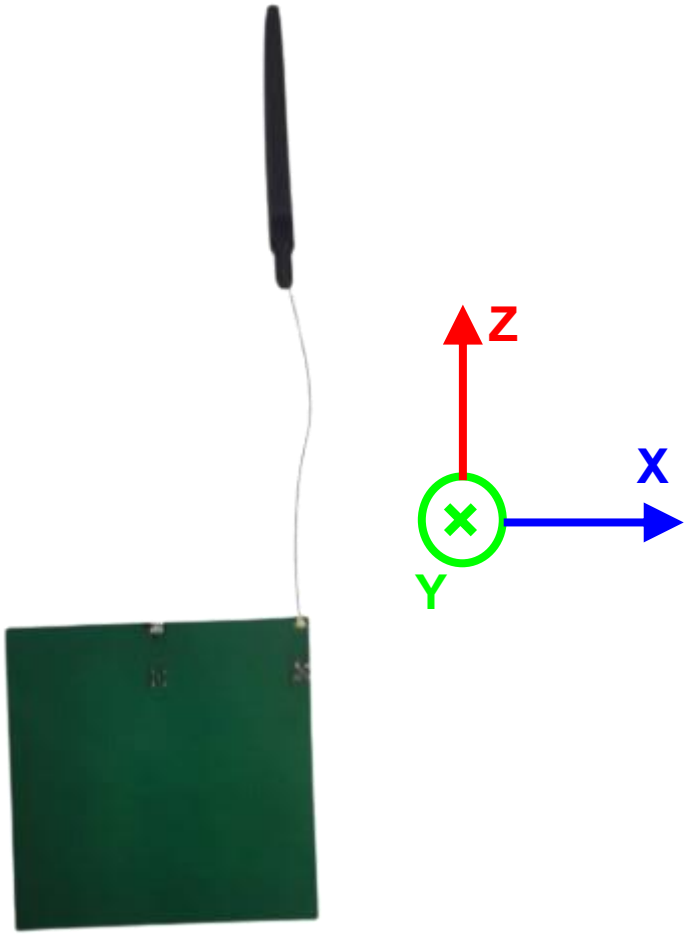
- Test Chamber: HF-S-1

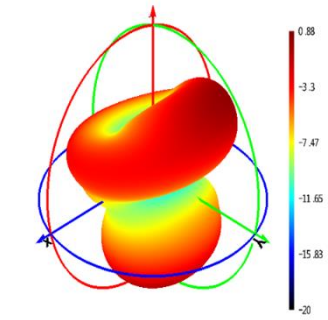
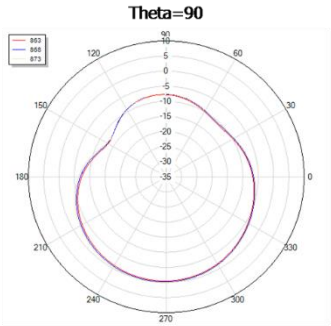
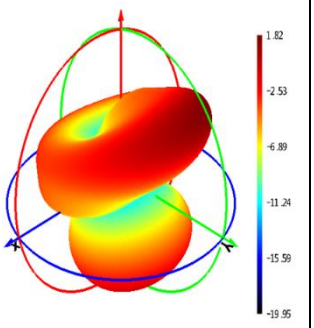
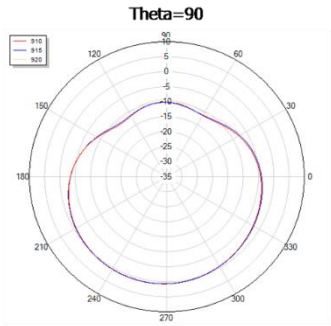
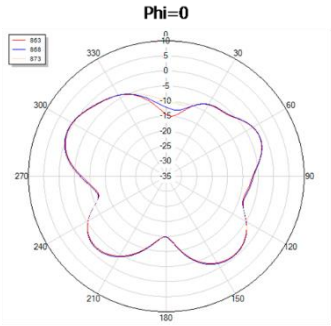
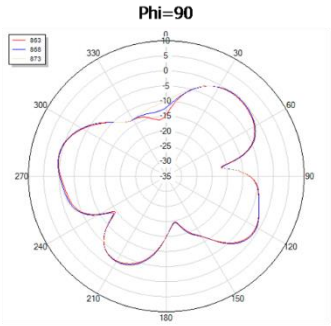
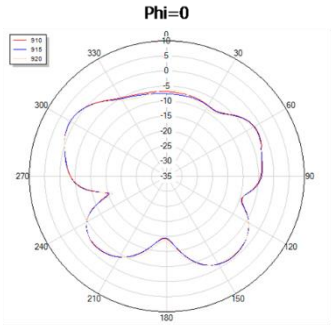
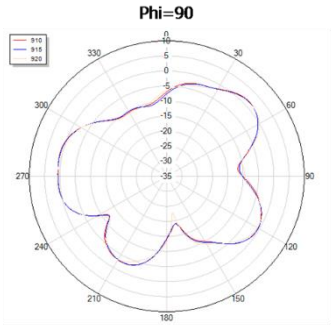


868 MHz		915 MHz	
			
			

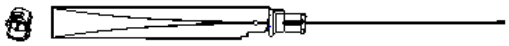
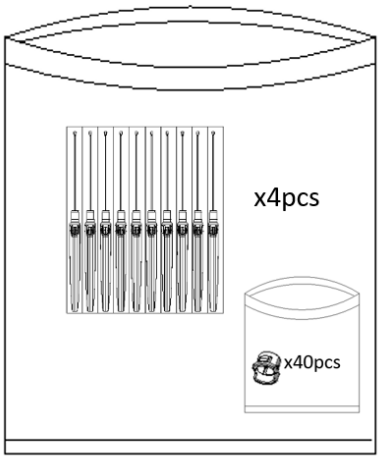
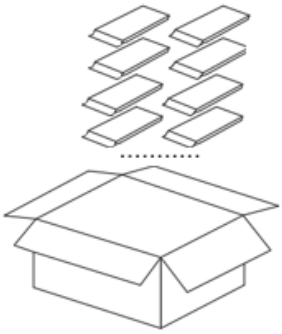
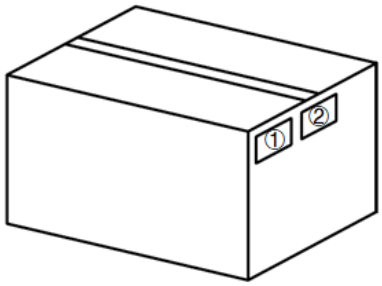
3.2.4.2. Test Condition: On 130 mm × 130 mm EVB

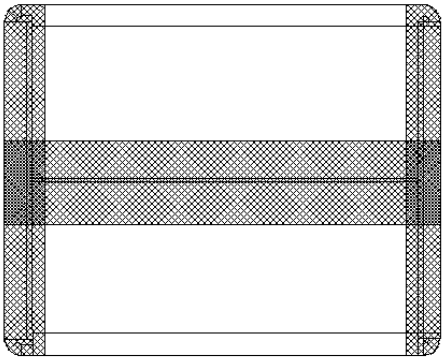
- Test Chamber: HF-S-1



868 MHz		915 MHz	
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		Product drawing
2		40 antenna products in a PE bag. (40 Antennas / PE Bag)
3		(5 PE Bags / Carton Box) (200 Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. Carton Size: L × W × H = 325 × 325 × 200 mm
4		**Position for Attaching Labels** ① Carton Label ② Quality Label

5		**Sealing Cartons** H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

Contact Us

At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

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Or our local offices. For more information, please visit:
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Revision History

Version	Date	Author	Note
-	2025-07-21	Nero ZHANG/ Lance SUN/ Riva REN/ Rainey LIAO	Creation of the document
1.0	2025-07-21	Nero ZHANG/ Lance SUN/ Riva REN/ Rainey LIAO	First official release

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