



Antenna Datasheet

Product OC: YECN028AA

Version: 0.1

Date: 2026-06-11

Status: Preliminary

Product Name: 4G Terminal Mount External Dipole Antenna

Key Features:

Frequency Band: 900–960 MHz

Dimensions: 225 mm × 54.5 mm × 13 mm

Efficiency: Up to 74.2 % (FS)

RoHS and REACH Compliant

IP66 (housing)

Overview

YECN028AA is a 5G external antenna measuring 225 mm × 54.5 mm × 13 mm. This ultra-wide-band 5G antenna provides broad coverage from 410–470 MHz, 617–960 MHz, 1427–6000 MHz whilst offering backward-compatibility to support 4G/3G and 2G networks as well as LTE Cat-M and narrowband IoT (NB-IoT). The antenna is terminated with SMA Male connector. 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 IP66 rated, PC enclosure. The YECN028AA can be used in harsh environments thanks to its robust UV resistant (UL 746c f1) and flame resistant (UL 94 V-0) enclosure.

The antenna is designed as dipole type to work with various GND plane sizes or in free space for ease of integration with a hinged SMA Male connector to achieve the optimum position. Hinged structure helps to avoid other antennas or objects by rotating to different directions when mounted on terminals. This omni-directional antenna is ideally suited for access points, terminals and routers, high speed video, real-time streaming, public transportation, offering great performance with its high gain and efficiency.

Typical applications include:

- Access points, terminals and routers
- High speed video
- Real-time streaming
- Public transportation

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.

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1 Specification

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

1.1. Electrical

Electrical	
Frequency Range	900–960 MHz
Radiation Pattern	Omni-directional
Polarization	Linear
Impedance	50 Ω

Electrical – Detail		
Specification	Band	B8
	Freq. (MHz)	900–960
Max. VSWR	FS	1.6
	EVB	2.3
Max. Return Loss (dB)	FS	-12.7
	EVB	-7.9
AVG Eff. (%)	FS	65.7
	EVB	62.4
AVG AVG Gain (dB)	FS	-1.8
	EVB	-2.0
Max. Peak Gain (dBi)	FS	0.5 (960)
	EVB	1.1 (900)
VSWR	FS	≤ 1.6
	EVB	≤ 2.3
Return Loss	FS	≤ -12.7 dB
	EVB	≤ -7.9 dB
Peak Gain	FS	≤ 0.5 dBi
	EVB	≤ 1.1 dBi

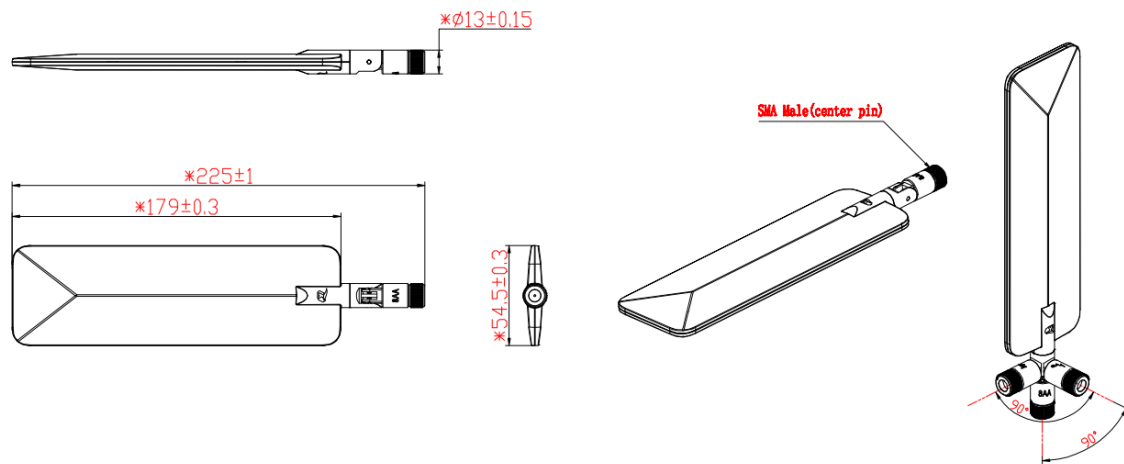
Note:

- FS: In Free Space
- EVB: On 130 mm × 130 mm EVB

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	225 mm × 54.5 mm × 13 mm
Casing Material & Color	PC & Black
Connector Type	SMA Male
Mounting Type	Terminal
Weight	Typ. 75 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	Antenna plastic housing could meet IP66, SMA connector is not waterproof. After installation, SMA connector needs additional waterproof methods.
RoHS & REACH Compliant	Yes
Housing Flame Rating	UL 94 V-0
Housing UV Resistant	UL 746c f1

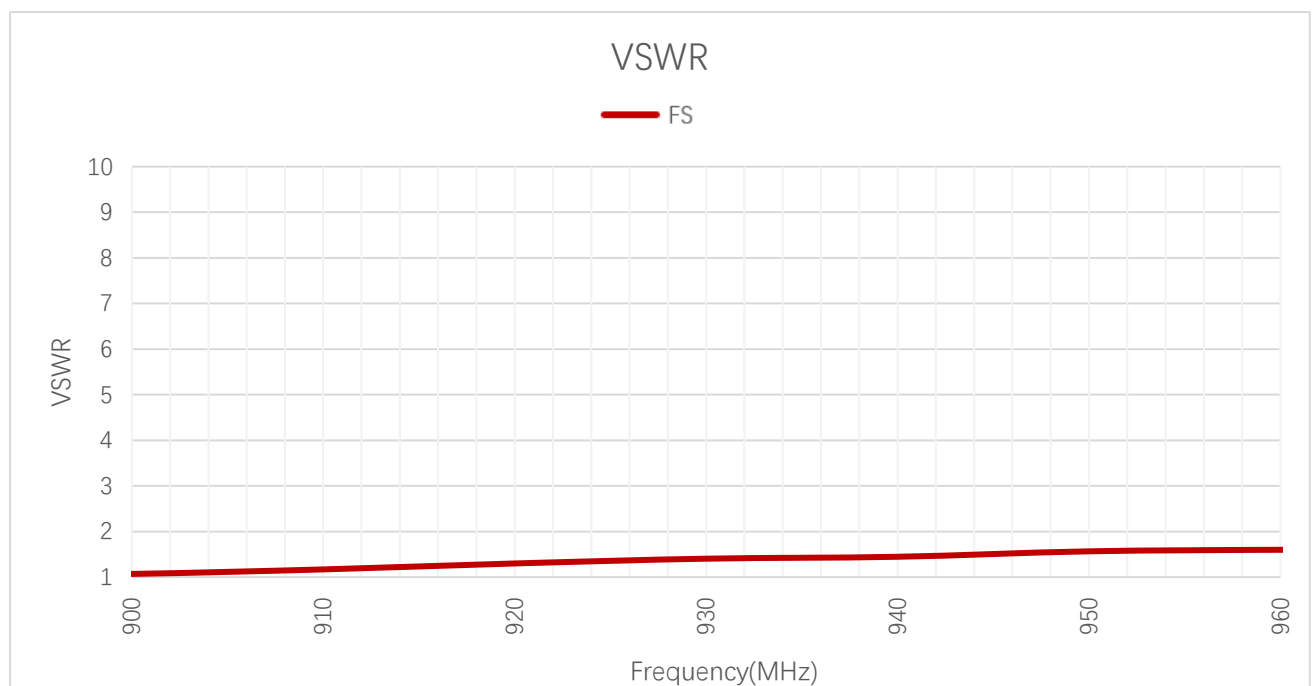
2 Drawing

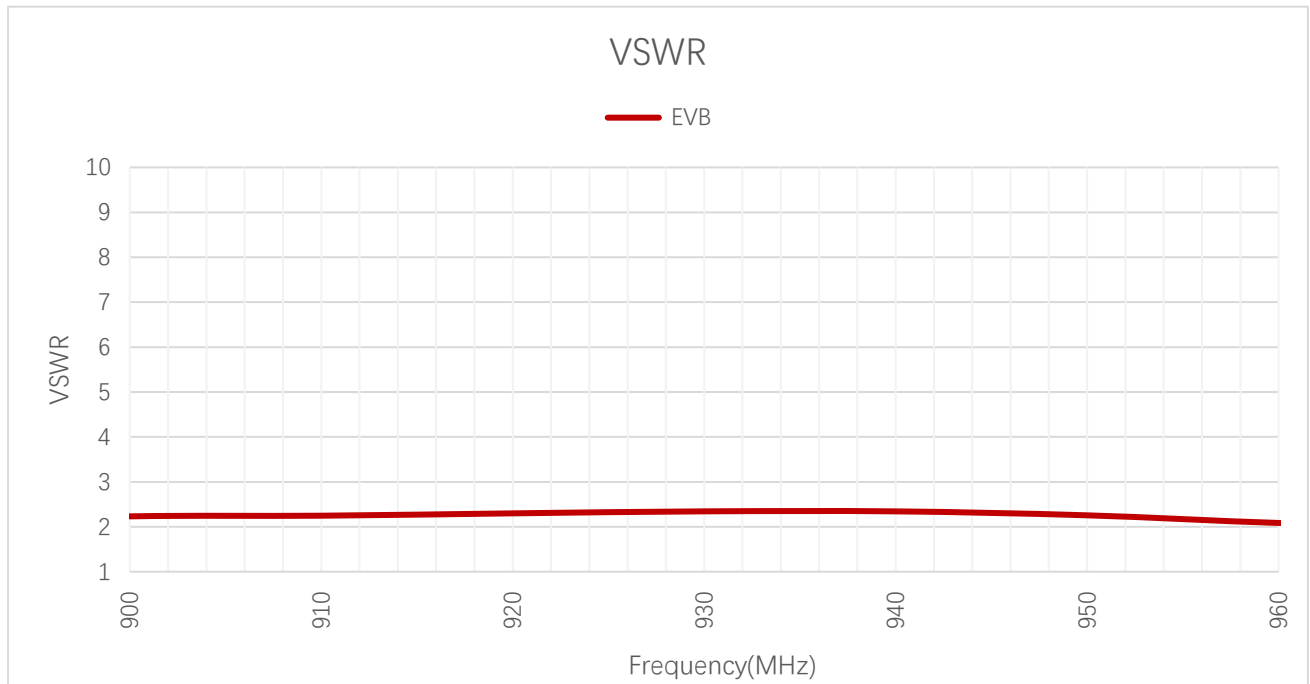


3 Detailed Performance

3.1. S-Parameter Test

3.1.1. VSWR

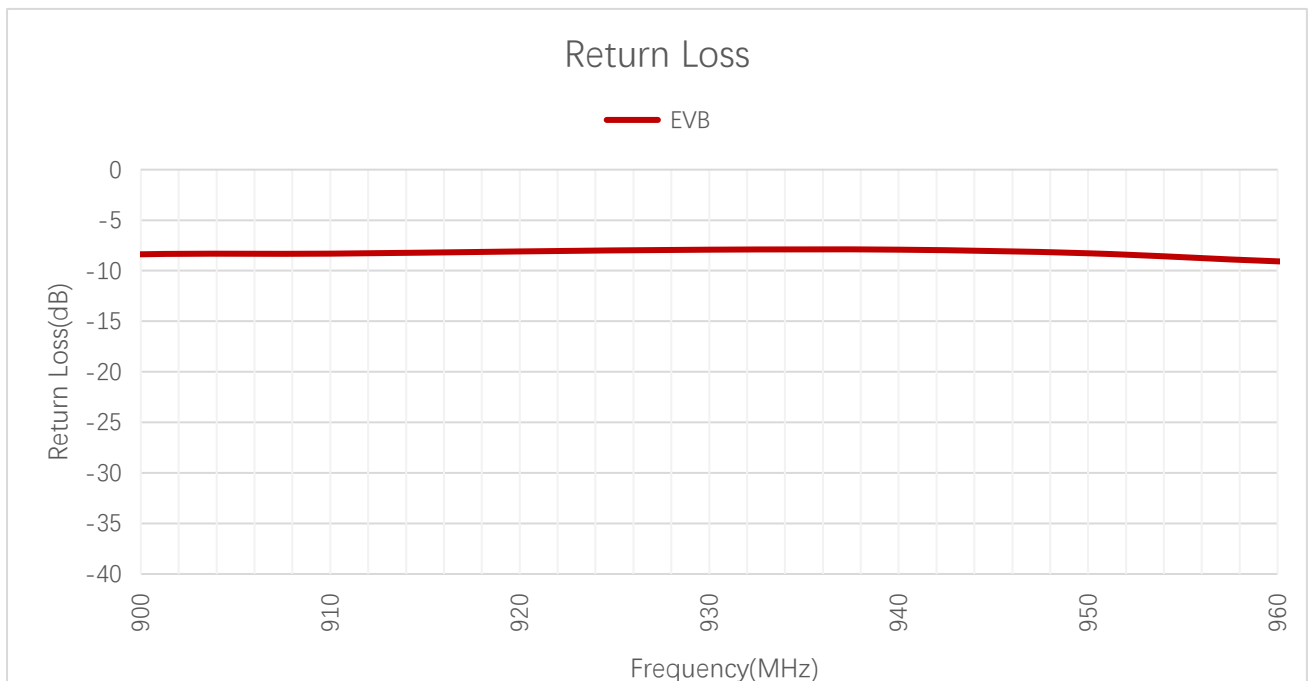
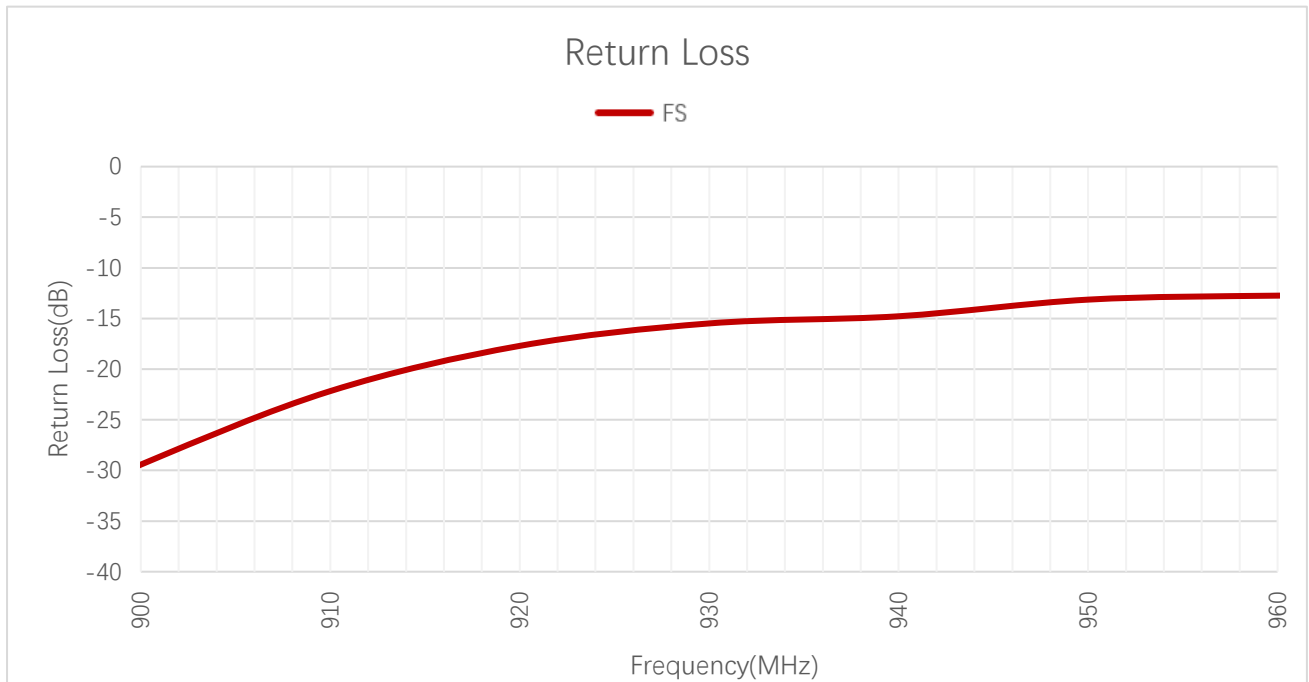




VSWR

Frequency (MHz)	810	880	900	910	920	930	940	950	960
FS	-	-	1.1	1.2	1.3	1.4	1.5	1.6	1.6
EVB	-	-	2.2	2.2	2.3	2.3	2.3	2.3	2.1

3.1.2. Return Loss

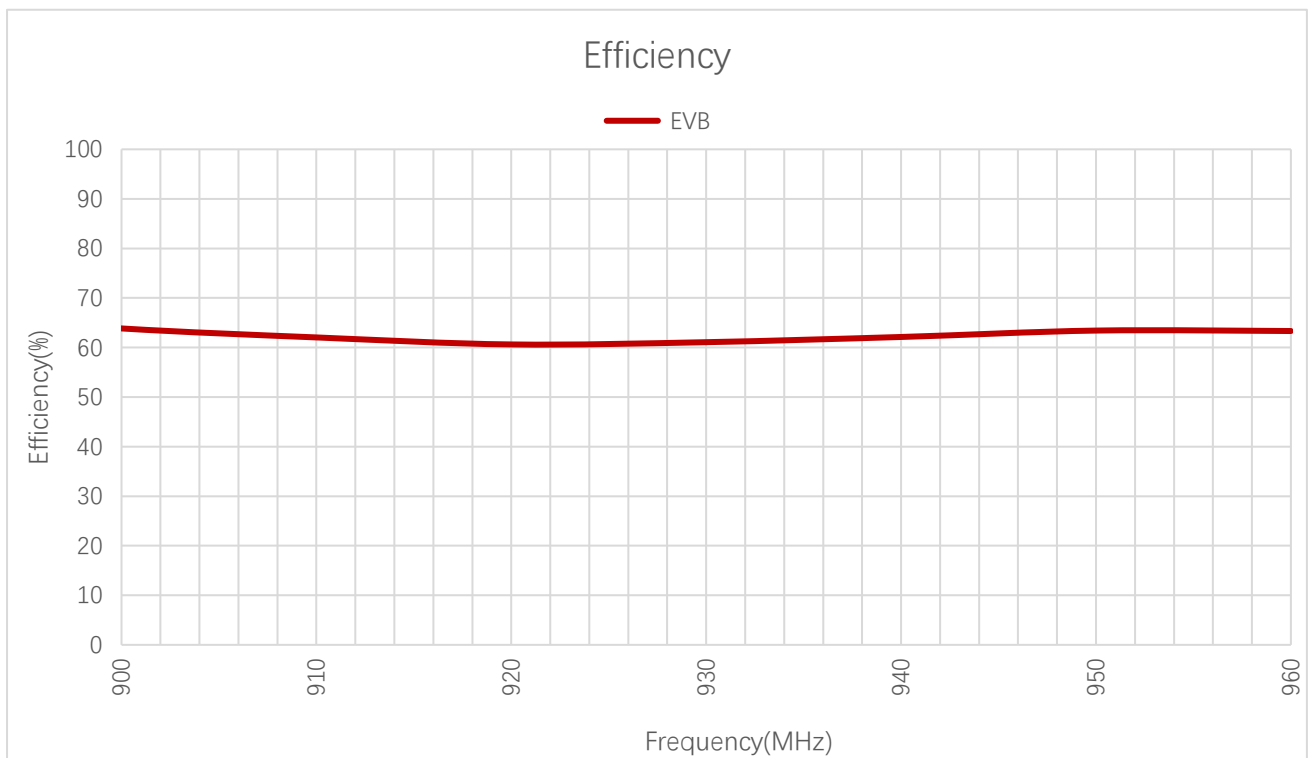
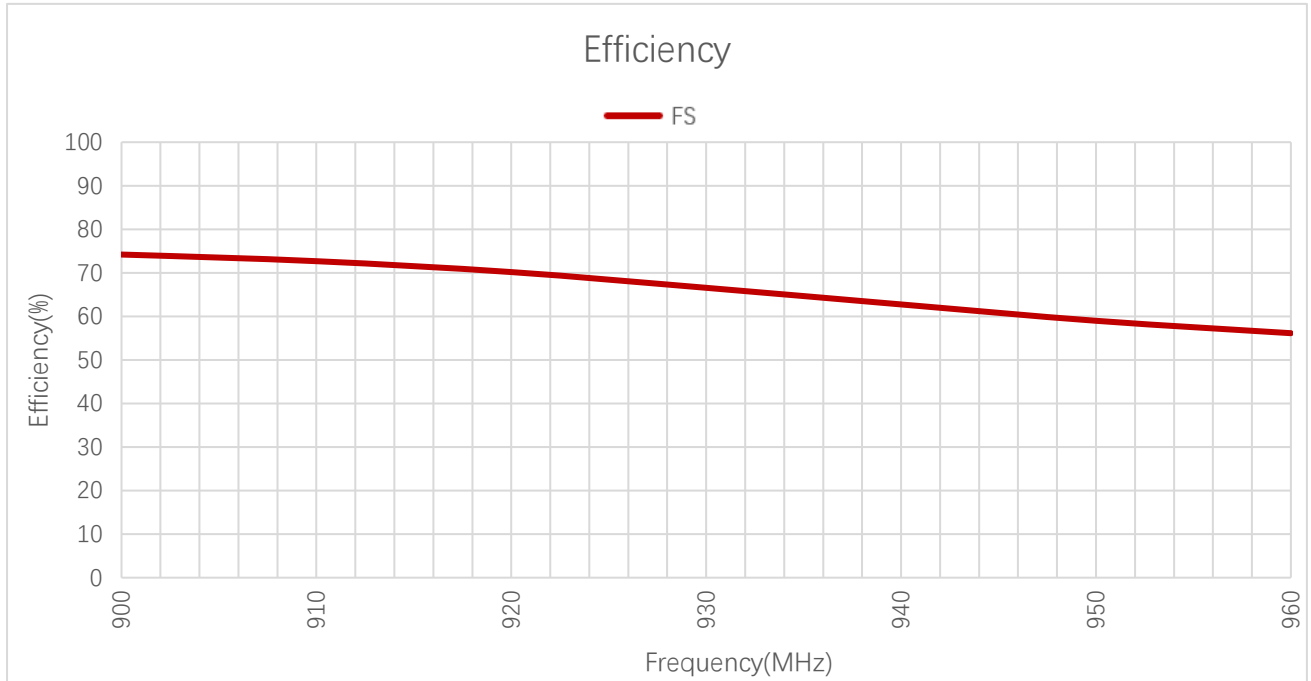


Return Loss (dB)

Frequency (MHz)	810	880	900	910	920	930	940	950	960
FS	-	-	-29.4	-22.2	-17.7	-15.5	-14.8	-13.1	-12.7
EVB	-	-	-8.4	-8.3	-8.1	-7.9	-7.9	-8.3	-9.1

3.2. Radiation Performance Test

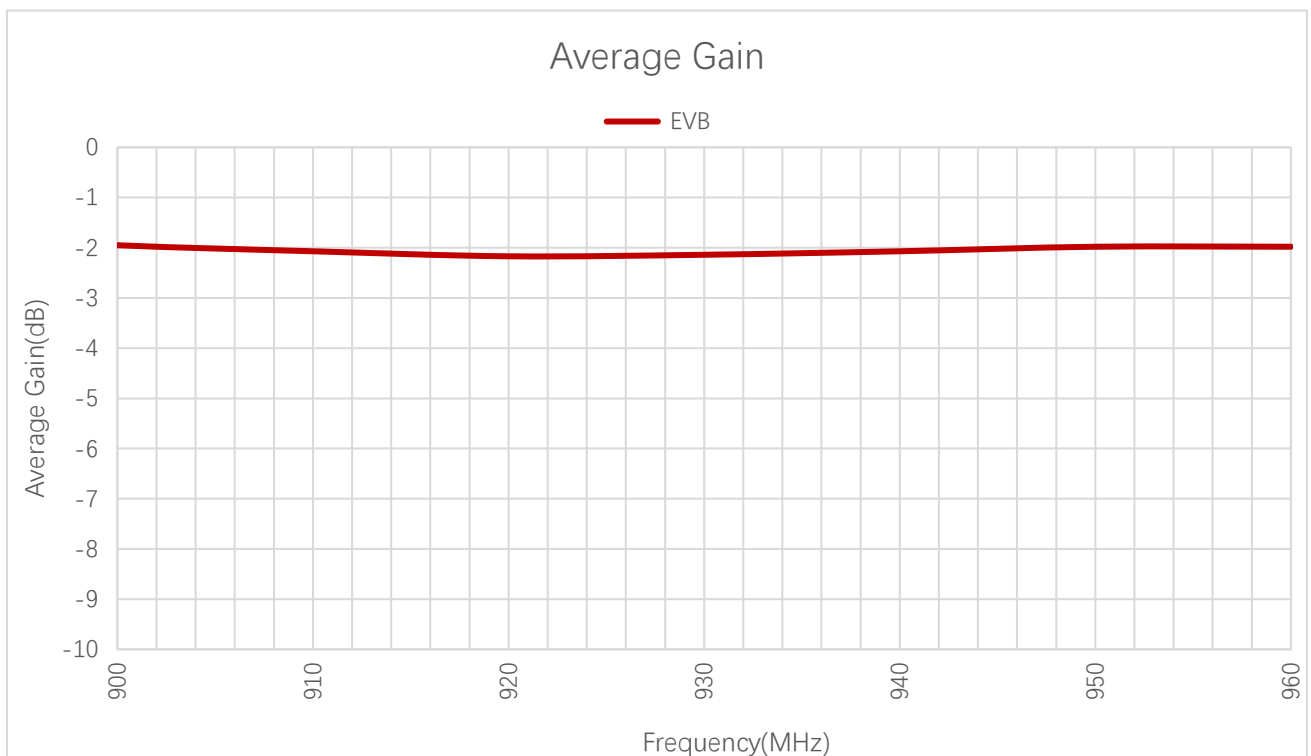
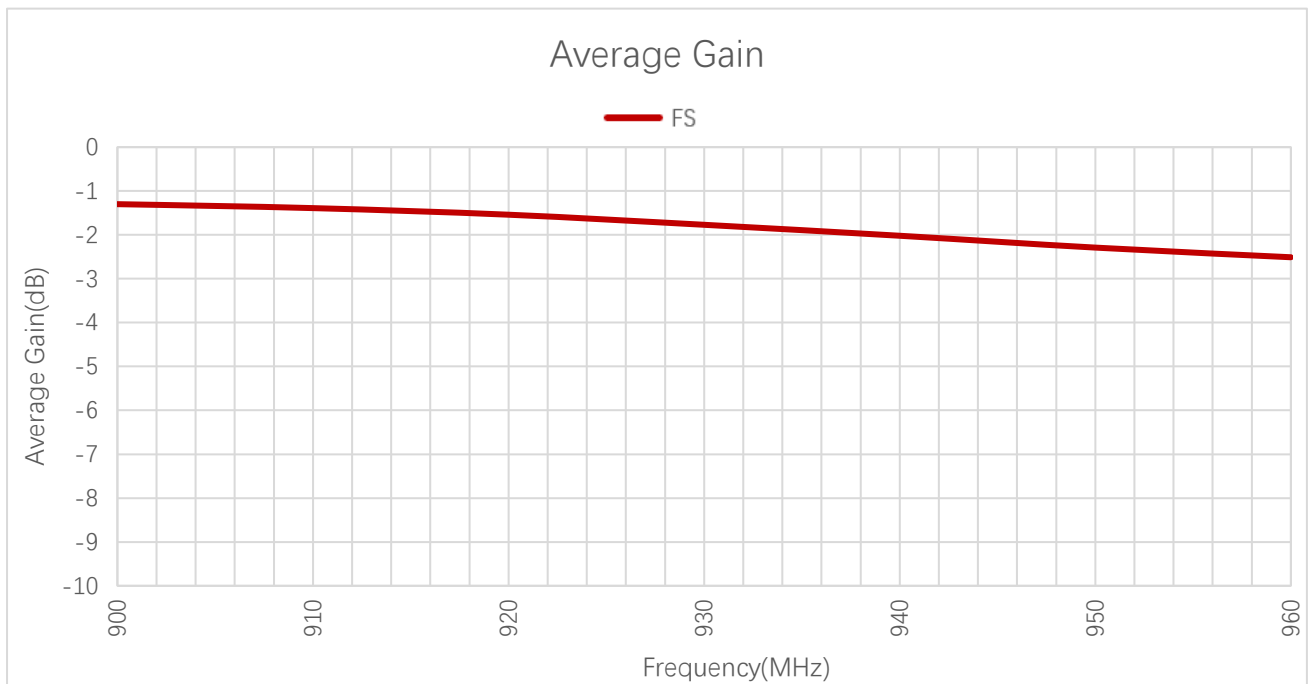
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	810	880	900	910	920	930	940	950	960
FS	-	-	74.2	72.7	70.2	66.6	62.7	59.0	56.1
EVB	-	-	63.9	62.0	60.6	61.1	62.1	63.4	63.3

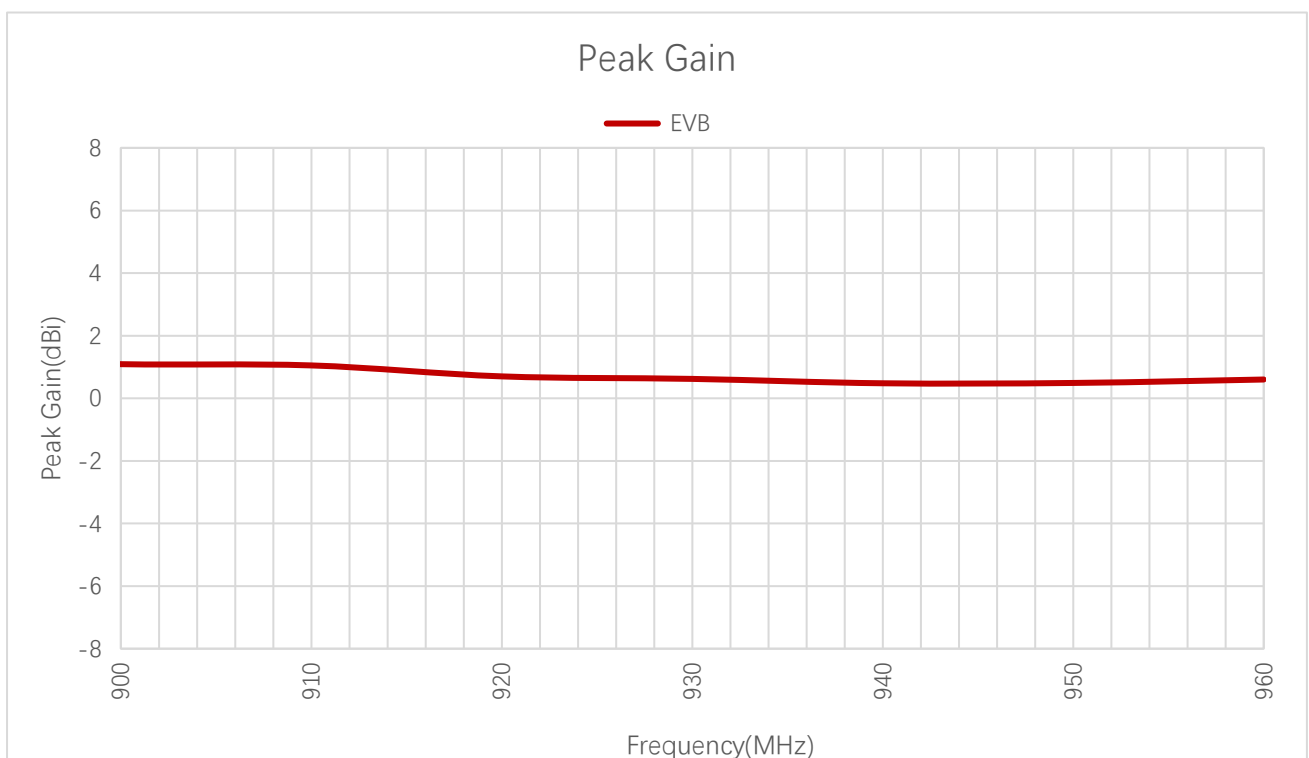
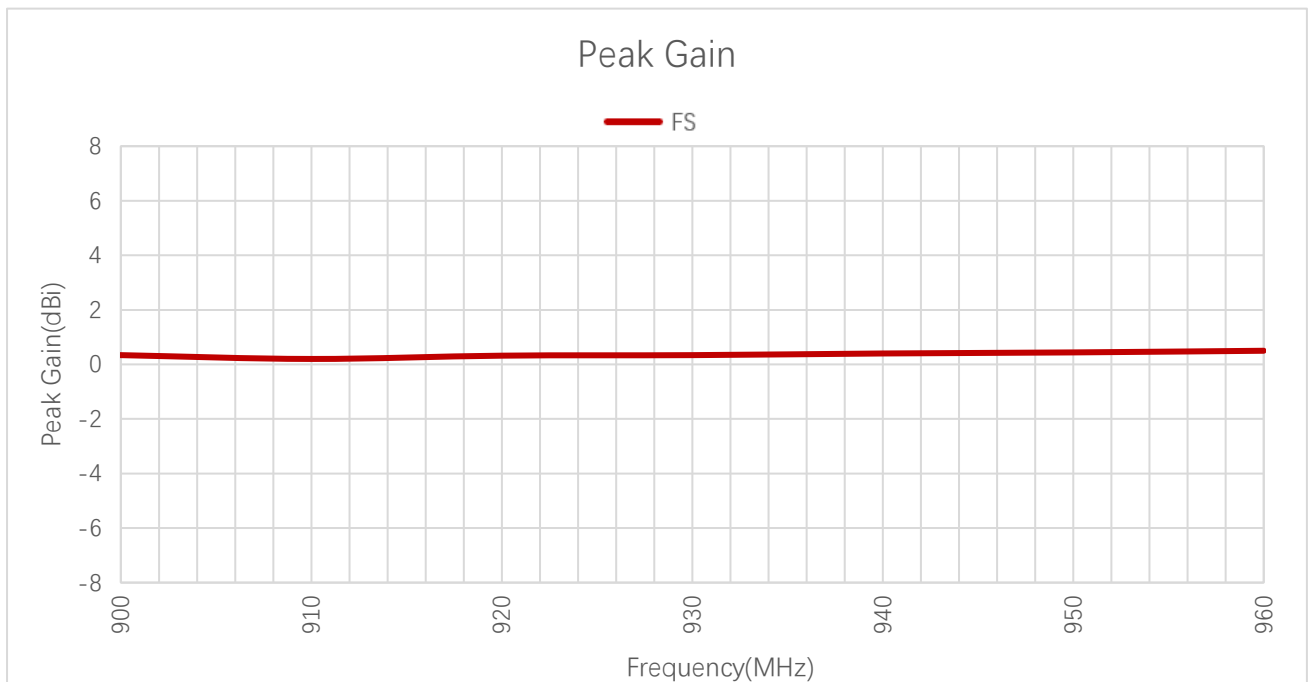
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	810	880	900	910	920	930	940	950	960
FS	-	-	-1.3	-1.4	-1.5	-1.8	-2.0	-2.2	-2.5
EVB	-	-	-2.0	-2.1	-2.2	-2.1	-2.1	-2.0	-2.0

3.2.3. Peak Gain



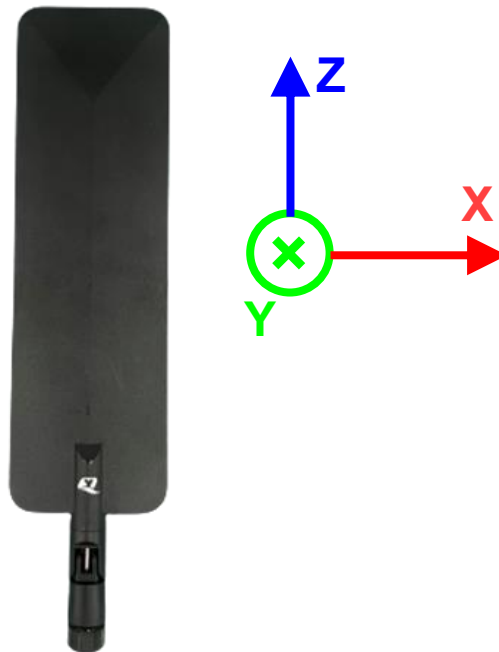
Peak Gain (dBi)

Frequency (MHz)	810	880	900	910	920	930	940	950	960
FS	-	-	0.3	0.2	0.3	0.3	0.4	0.4	0.5
EVB	-	-	1.1	1.1	0.7	0.6	0.5	0.5	0.6

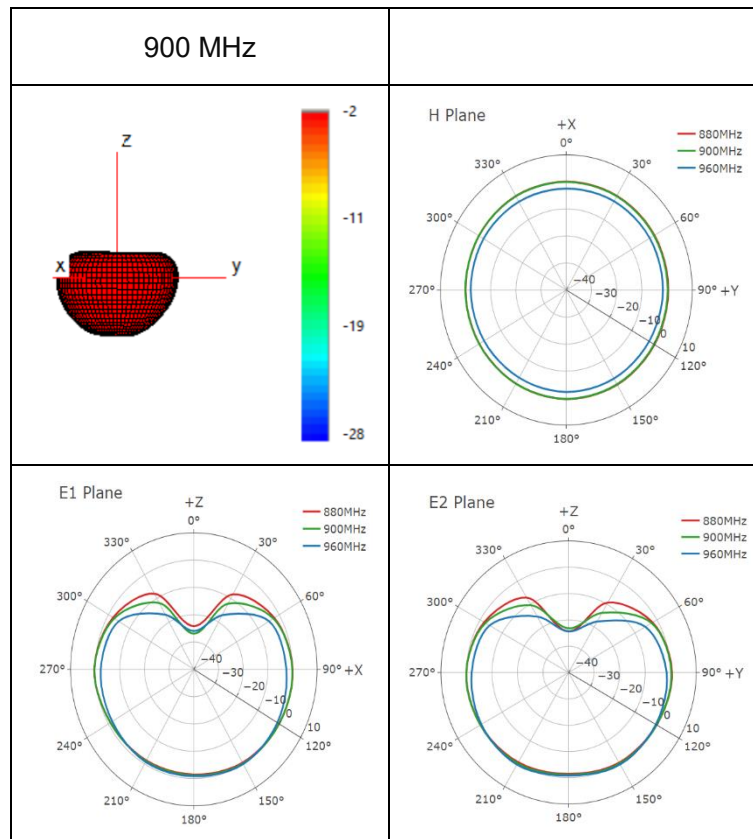
3.2.4. 3D & 2D Radiation Pattern

3.2.4.1. Test Condition: In Free Space

- Test Chamber: HF-G-1

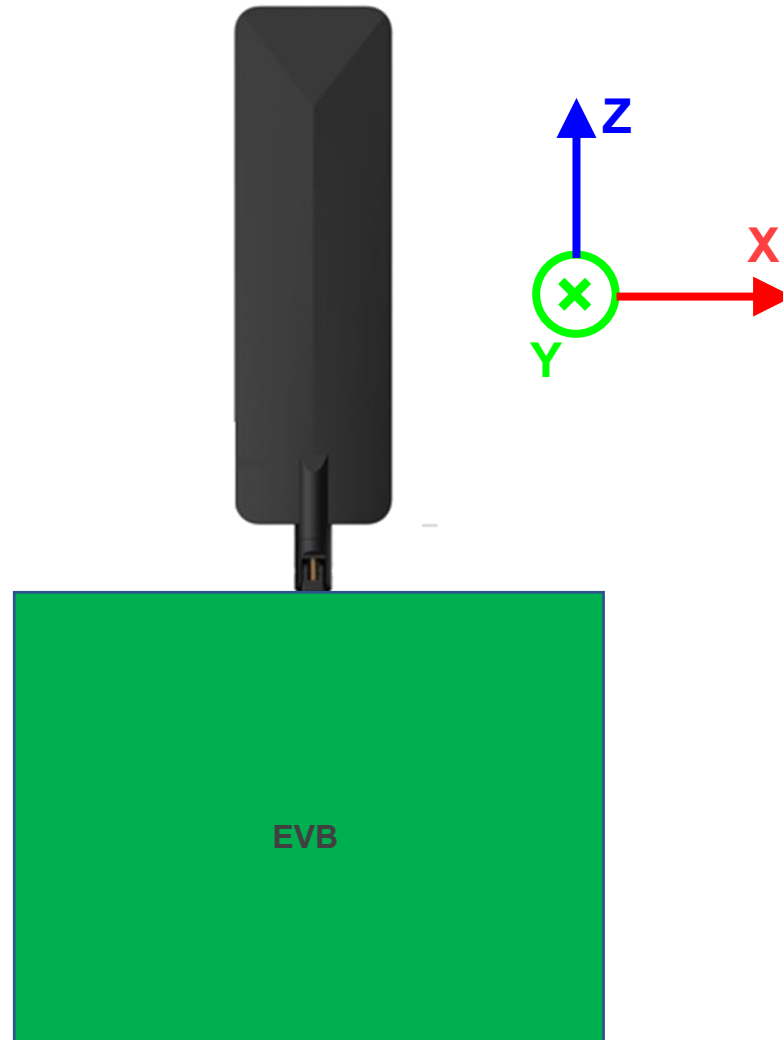


- FS

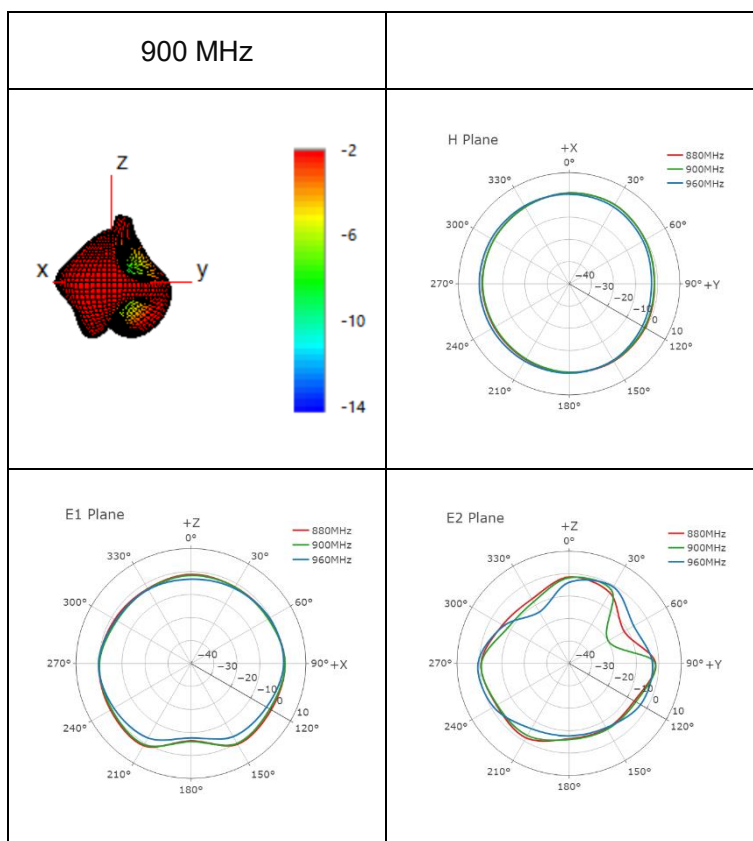


3.2.4.2. Test Condition: On 130 mm × 130 mm EVB

- Test Chamber: HF-G-1

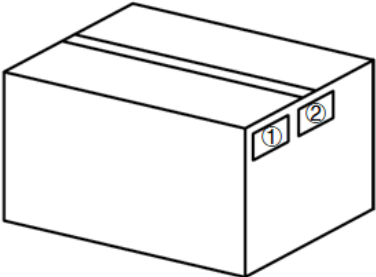
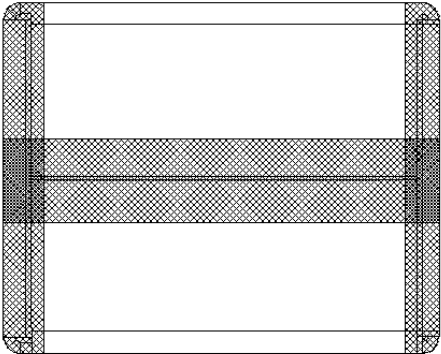


● EVB



4 Packaging

Step	Packaging Picture/2D Picture	Description
1		Put the product in a one-piece bag; Each one-piece bag contains 10 products.
2		10 pcs antenna products in a PE bag. (10 PCS / PE Bag) <u>PE Bag Size: L × W = 320 × 220 mm</u>
3		Put bubble bags at the bottom of the carton. (10 PE Bags / Carton Box) (100 PCS Antennas / Carton Box) <u>Carton Size:</u> <u>L × W × H = 405 × 293 × 185 mm</u>

4		Position for Attaching Labels ① Carton Label ② Quality Label
5		Sealing Cartons “┄” type sealing cartons

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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Revision History

Version	Date	Author	Note
-	2026-06-11	Mayes.li/	Creation of the document
0.1	2026-06-11	Mayes.li/	First official release



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