



Antenna Datasheet

Product OC: YECT000WXA

Version: 1.1

Date: 2025-03-06

Status: Released

Product Name: 5G Screw Mount External Monopole Antenna

Key Features:

Frequency Band: 600–960 MHz, 1400–6000 MHz

Dimensions: Φ 41 mm $\times$ 80.2 mm

Efficiency: Up to 66.2 %

RoHS Compliant

IP67 & IP69K

IK10

Overview

The Quectel YECT000WXA is an external Screw mounting antenna. This ultra-wide-band antenna provides coverage the 5G/4G/3G/2G networks as well at LPWA, Cat-M, NB IoT, ZigBee, ISM, Wi-Fi/BT. Its shape is cylinder, with dimensions of Φ 41 mm × 80.2 mm. YECT000WXA has a NMO male connector, which can be installed on a NMO female base.

YECT000WXA is an external antenna with high performance, which can be installed outside the device. It can adopt waterproof, dustproof, and anti-drop design, with IP67 and IP69K waterproof and dustproof ratings, and IK10 impact protection (IK) rating, this design can maximize the protection of the antenna from natural environmental damage such as water droplets, dust and falls. We also provide a housing UV resistant of UL 746c f1, which can allow the YECT000WXA to be used in outdoor environments for a long time and remain intact even in harsh environments, thereby extending its service life for providing a more flexible and reliable high-performance antenna solution for products in external application environments.

YECT000WXA allows high efficiency, stable signal transmission and reception for from 600 to 960 MHz, 1400 to 6000 MHz.

Typical Applications Include:

- Smart Buildings: Climate control, access control, security, irrigation
- Transport (Busses, Utility & Public Safety)
- Agricultural machinery
- Mining Vehicles & Machinery communications, telemetry and automation
- Industrial factory automation
- Warehouses & Logistic systems

Quectel provides customized service for optimization of your devices, 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: Mount on NMO base with 0.9-meter $\Phi 5$ mm cable and on 300 mm × 300 mm metal plane

1.1. Electrical

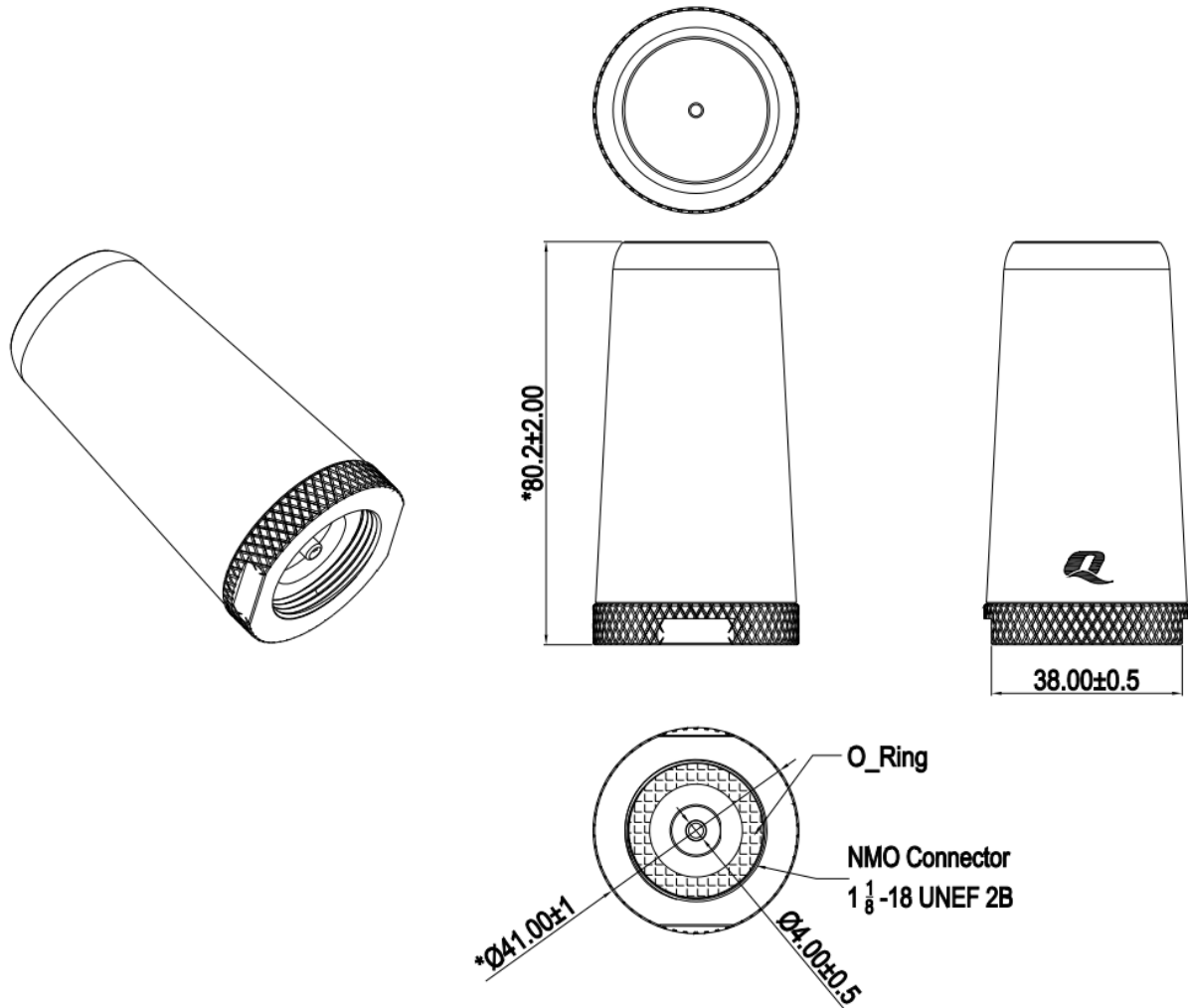
Electrical	
Frequency Range	600–960 MHz, 1400–6000 MHz
Impedance	50 Ω
Polarization	Vertical
Radiation Pattern	Omni-directional

Electrical – Detail												
Band	Band	B71	B12 /B13 /B28	B5 /B8 /B26	n74 /n75 /n76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /n77	n79	Wi-Fi 5G
SPEC	Freq. (MHz)	600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	4400– 5000	5150– 5850
Max. VSWR		4.5	2.7	1.8	1.6	2.3	1.9	2.1	2.5	2.4	2.5	2.0
Max. Return Loss (dB)		-4.0	-6.9	-10.7	-13.2	-8.0	-10.0	-9.1	-7.3	-7.9	-7.5	-9.7
AVG Eff. (%)		33.4	59.8	59.2	56.2	44.7	41.4	37.0	29.7	28.5	14.8	14.7
AVG AVG Gain (dB)		-4.9	-2.3	-2.3	-2.5	-3.5	-3.8	-4.3	-5.3	-5.5	-8.4	-8.9
Max. Peak Gain (dBi)		0.1	1.8	1.6	1.5	1.5	0.7	0.3	-0.3	3.8	2.1	0.8
VSWR		≤ 4.5										
Return Loss		≤ -4.0 dB										
Peak Gain		≤ 3.8 dBi										

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	Φ 41 mm × 80.2 mm
Material & Color	ASA & Black
Connector Type	NMO Male
Weight	Typ. 190 g
Mounting Type	Screw
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	IP67 (After Installation) IP69K (After Installation)
Impact Protection (IK) Rating	IK10
RoHS Compliant	Yes
Housing UV Resistant	UL 746c f1

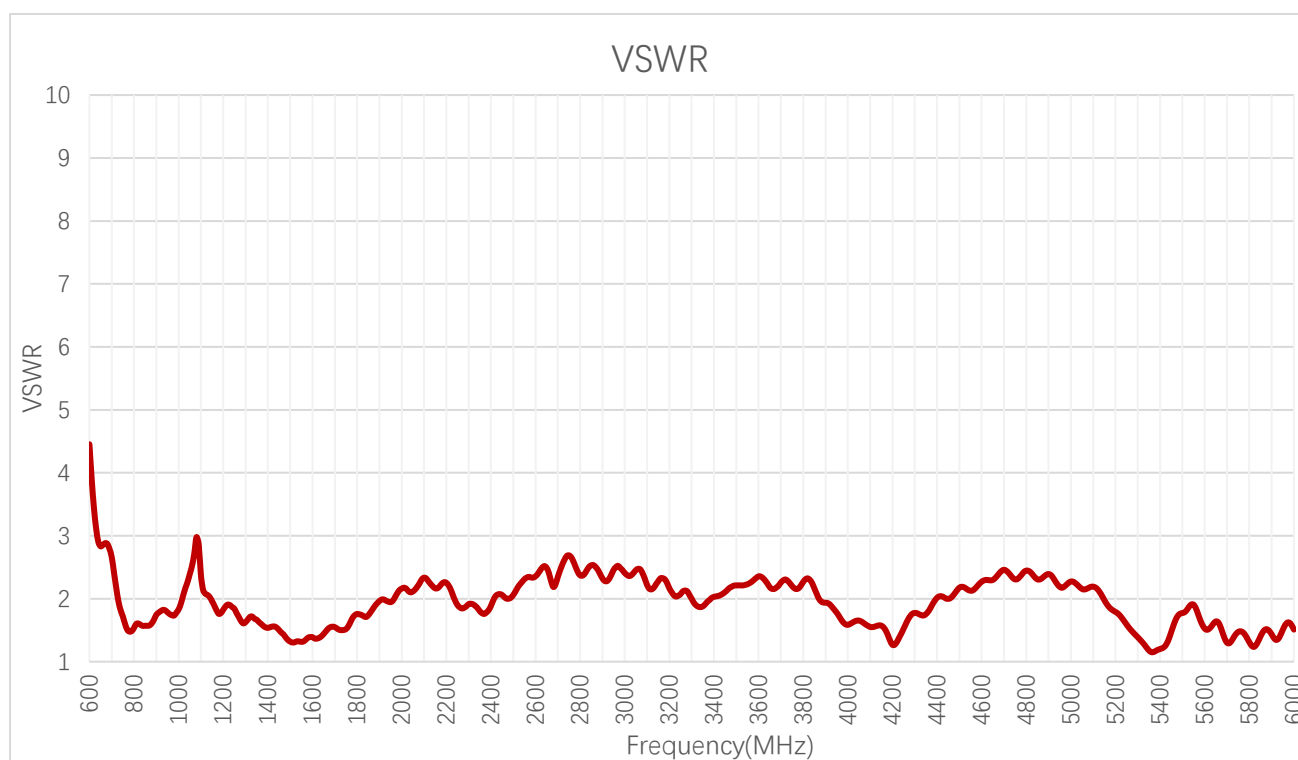
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

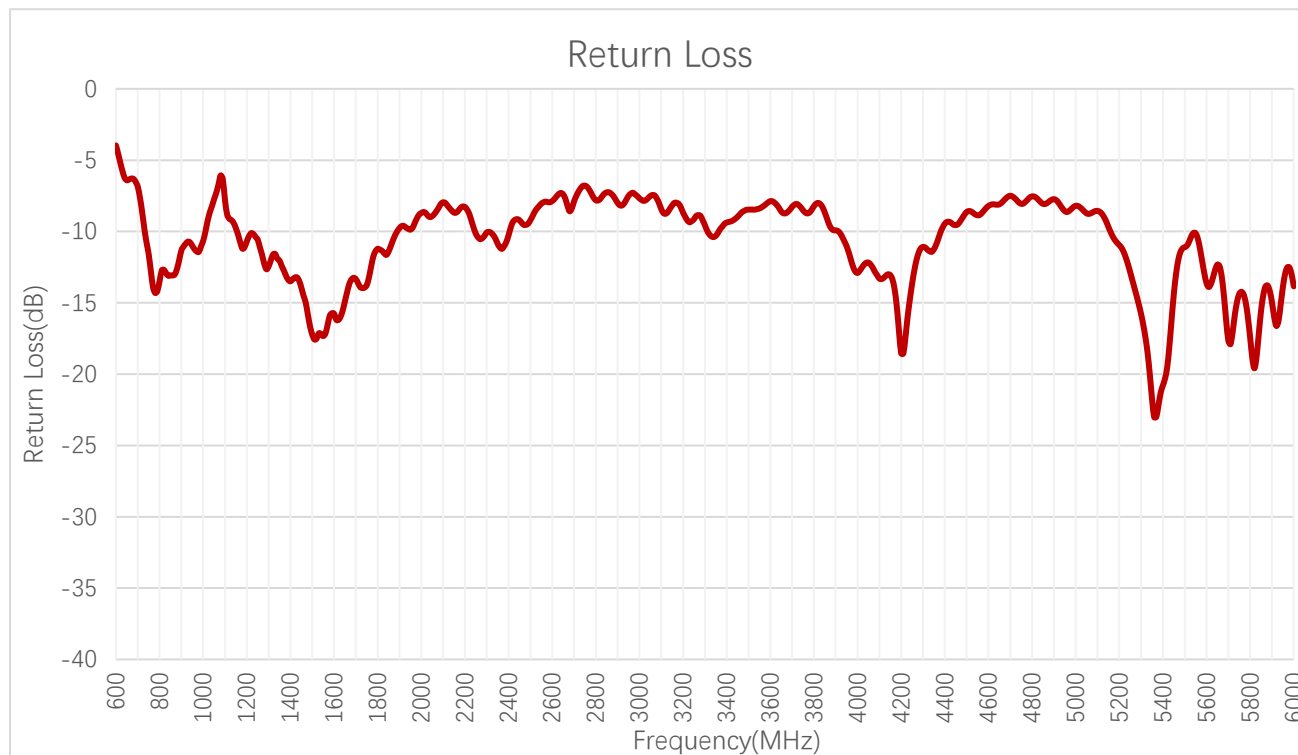
3.1.1. VSWR



VSWR

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
VSWR	4.5	3.1	2.4	1.6	1.7	1.8	1.5	1.5	1.5	1.9
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
VSWR	1.9	2.2	1.8	2.1	2.4	2.4	2.5	2.3	1.8	1.5

3.1.2. Return Loss

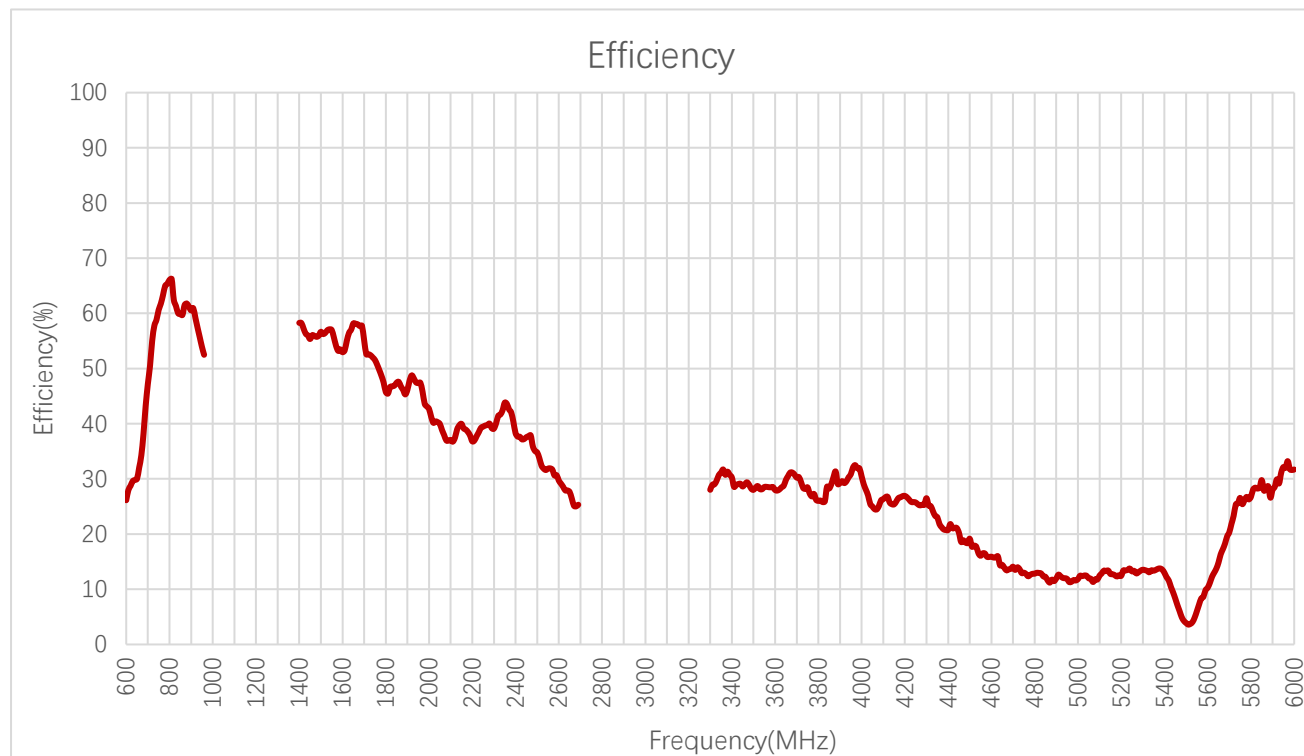


Return Loss (dB)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Return Loss (dB)	-4.0	-5.8	-7.6	-12.9	-11.3	-11.2	-13.5	-13.6	-13.9	-10.3
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Return Loss (dB)	-9.9	-8.5	-10.9	-9.2	-7.9	-7.9	-7.5	-8.2	-11.1	-13.8

3.2. Radiation Performance Test

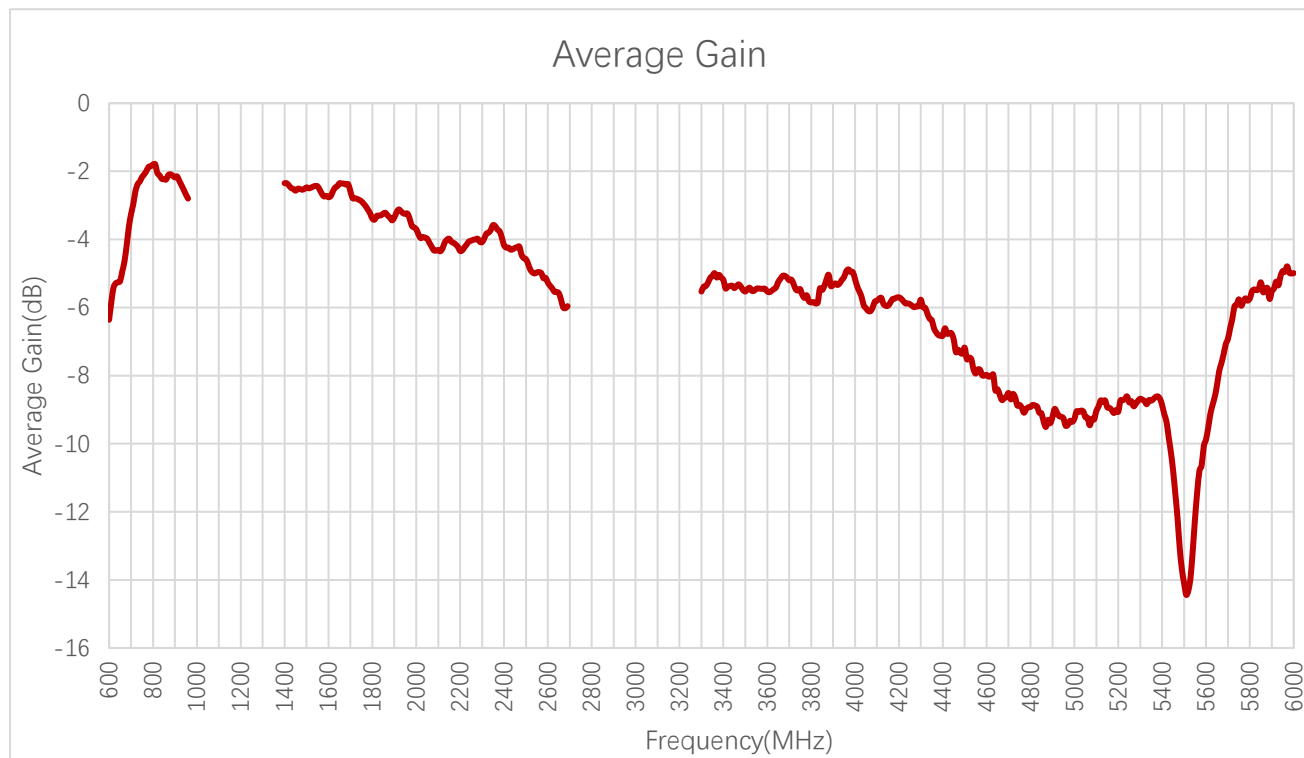
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Efficiency (%)	26.1	29.6	50.5	61.3	60.5	52.5	56.0	52.6	52.0	46.1
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Efficiency (%)	47.4	39.7	43.8	37.6	29.7	28.0	14.1	11.8	3.9	31.7

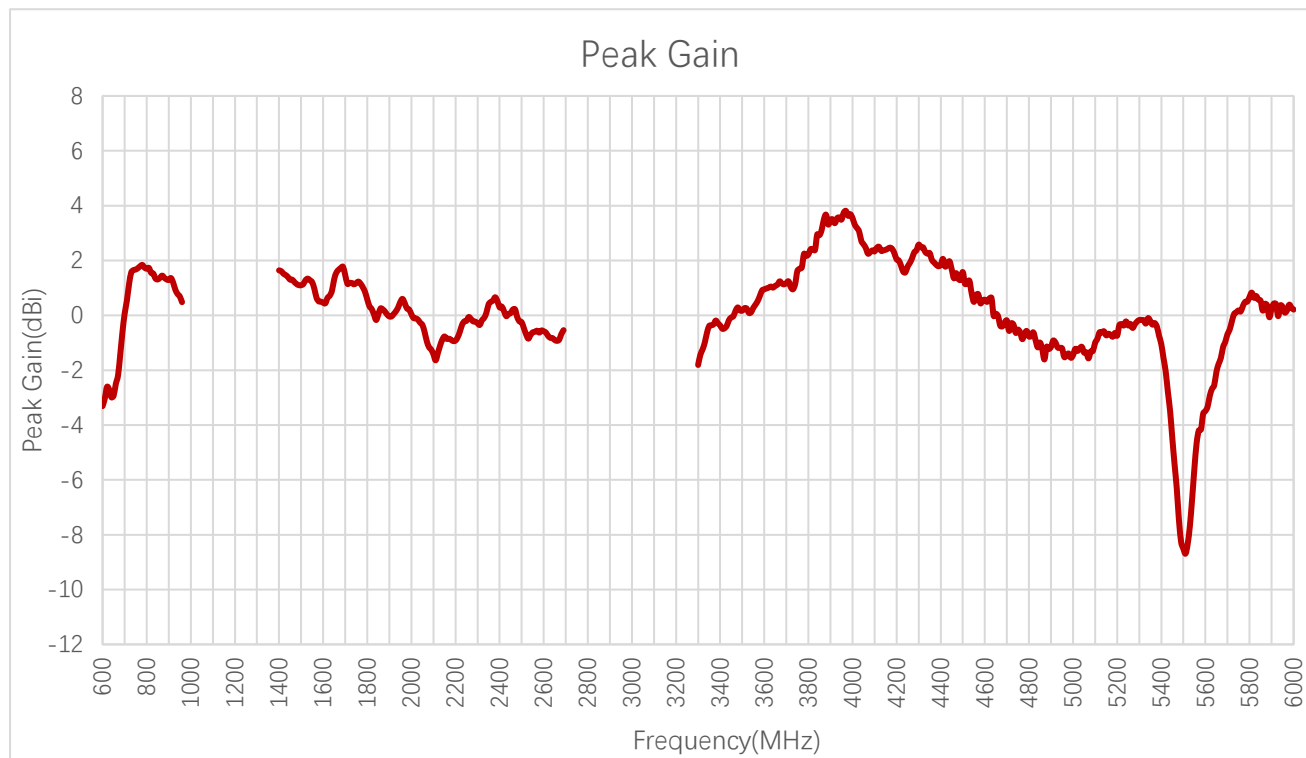
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Average Gain (dB)	-6.4	-5.3	-3.0	-2.1	-2.2	-2.8	-2.5	-2.8	-2.8	-3.4
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Average Gain (dB)	-3.3	-4.0	-3.6	-4.3	-5.3	-5.5	-8.5	-9.3	-14.1	-5.0

3.2.3. Peak Gain

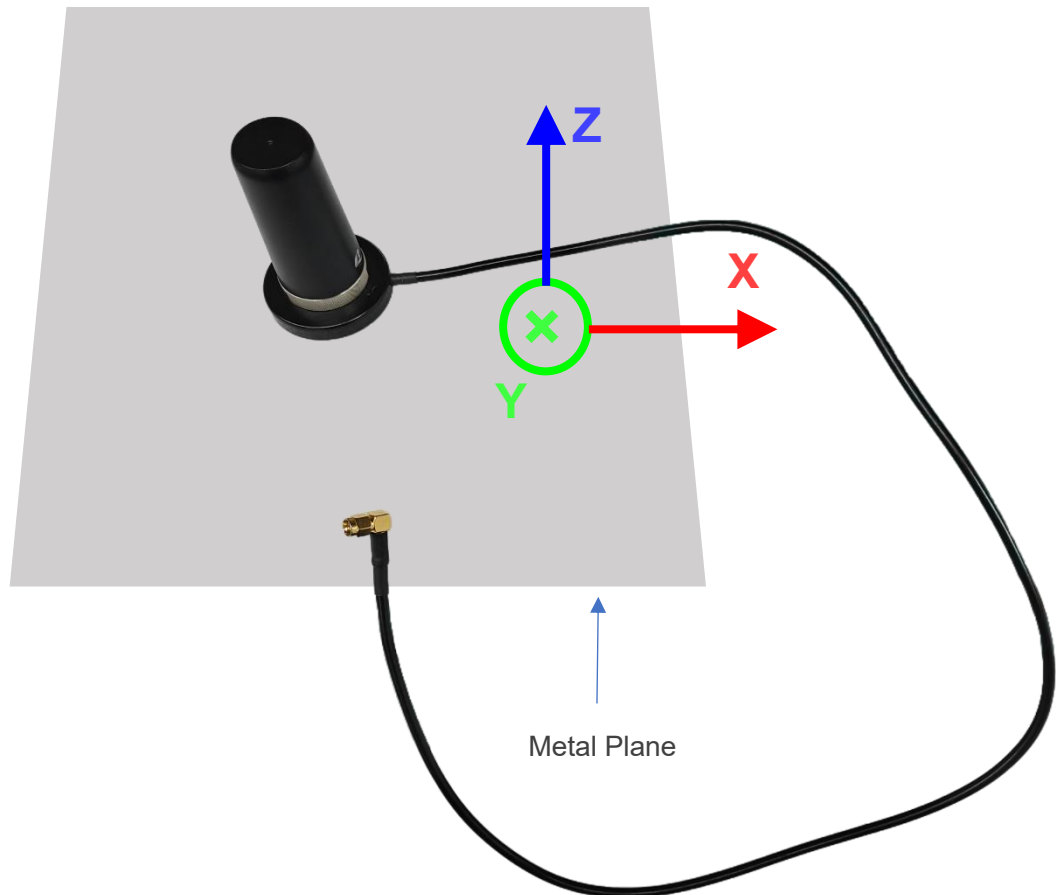


Peak Gain (dBi)

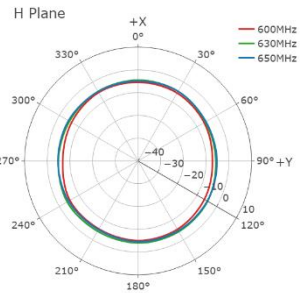
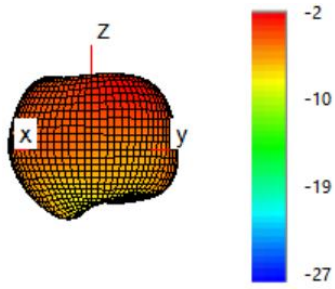
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Peak Gain (dBi)	-3.3	-2.7	0.5	1.5	1.3	0.5	1.4	1.2	1.1	0.1
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Peak Gain (dBi)	0.5	-0.9	0.4	0.1	-0.6	1.0	-0.2	-1.5	-8.5	0.2

3.2.4. 2D Radiation Pattern

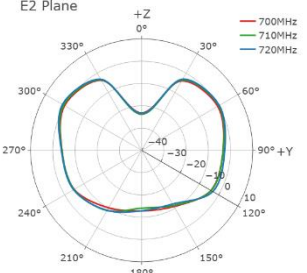
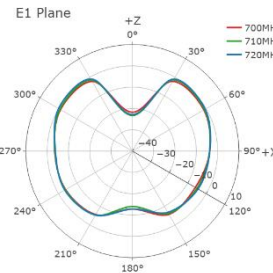
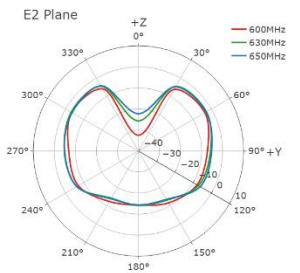
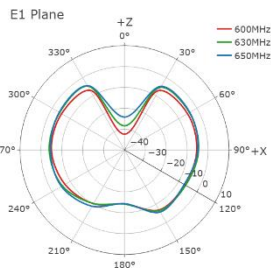
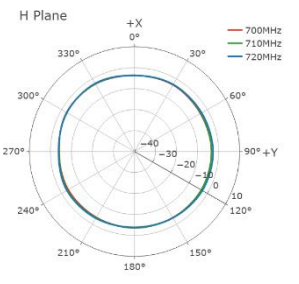
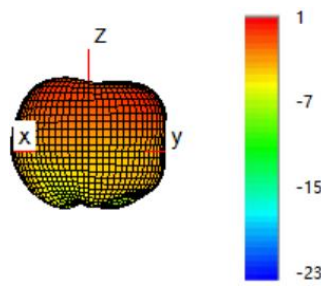
- Test Condition: Mount on NMO base with 0.9-meter $\Phi 5$ mm cable and on 300 mm $\times$ 300 mm metal plane
- Test Chamber: GL-G-1



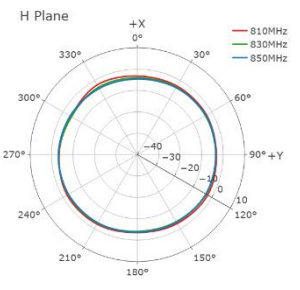
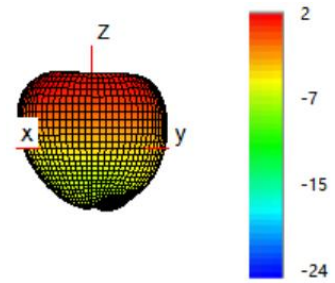
630 MHz



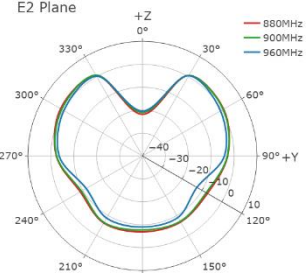
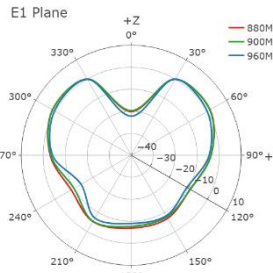
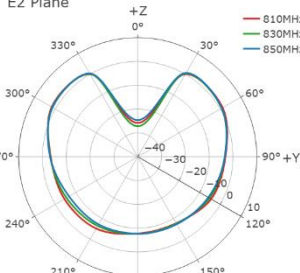
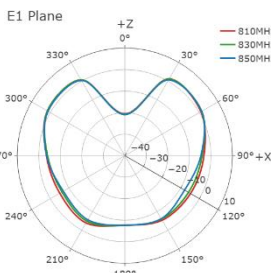
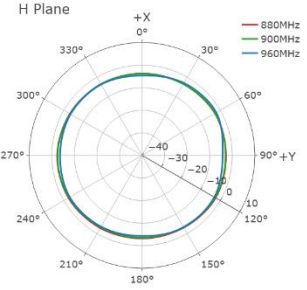
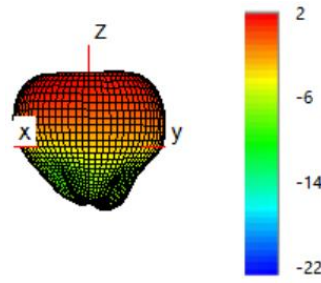
710 MHz

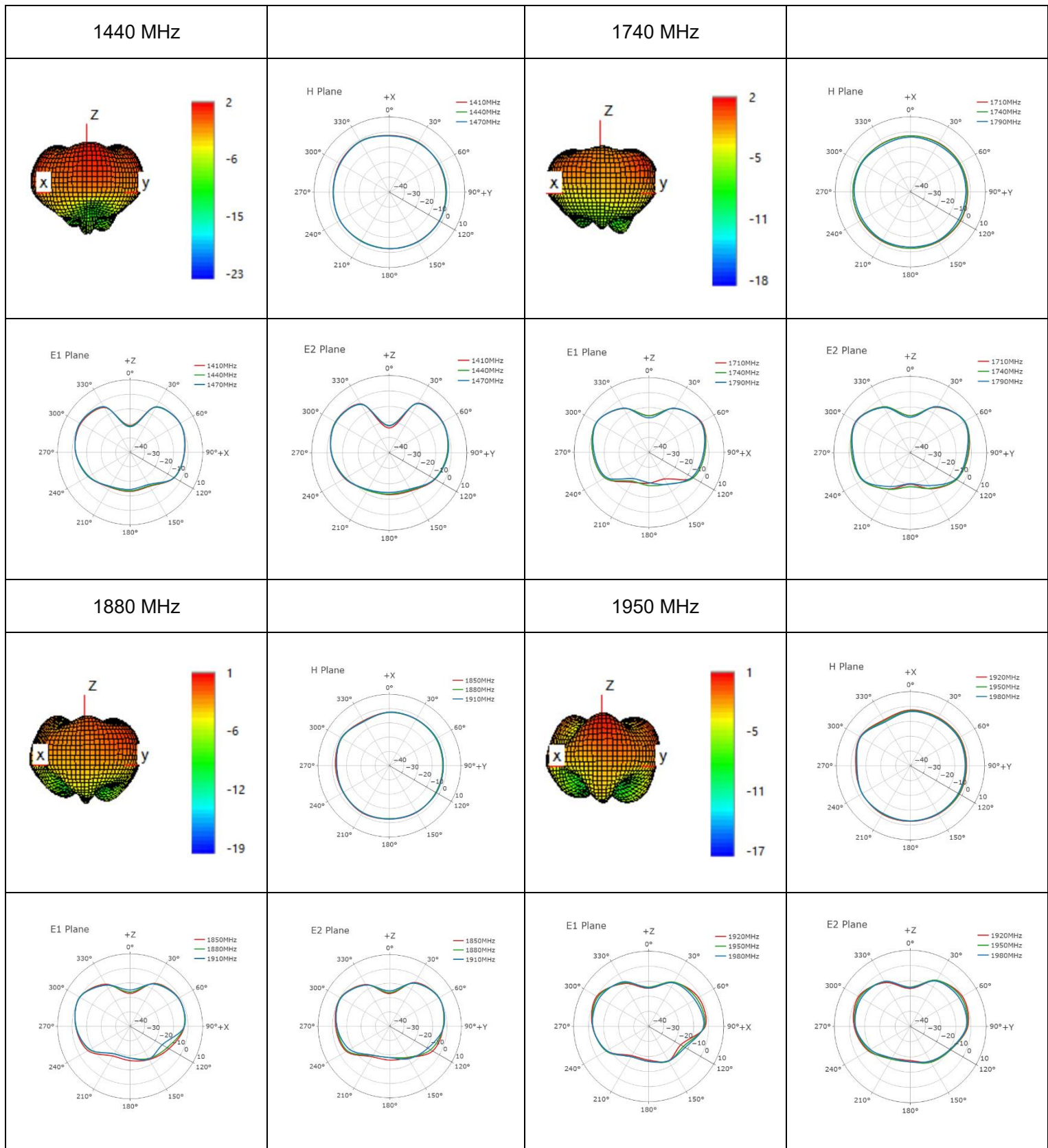


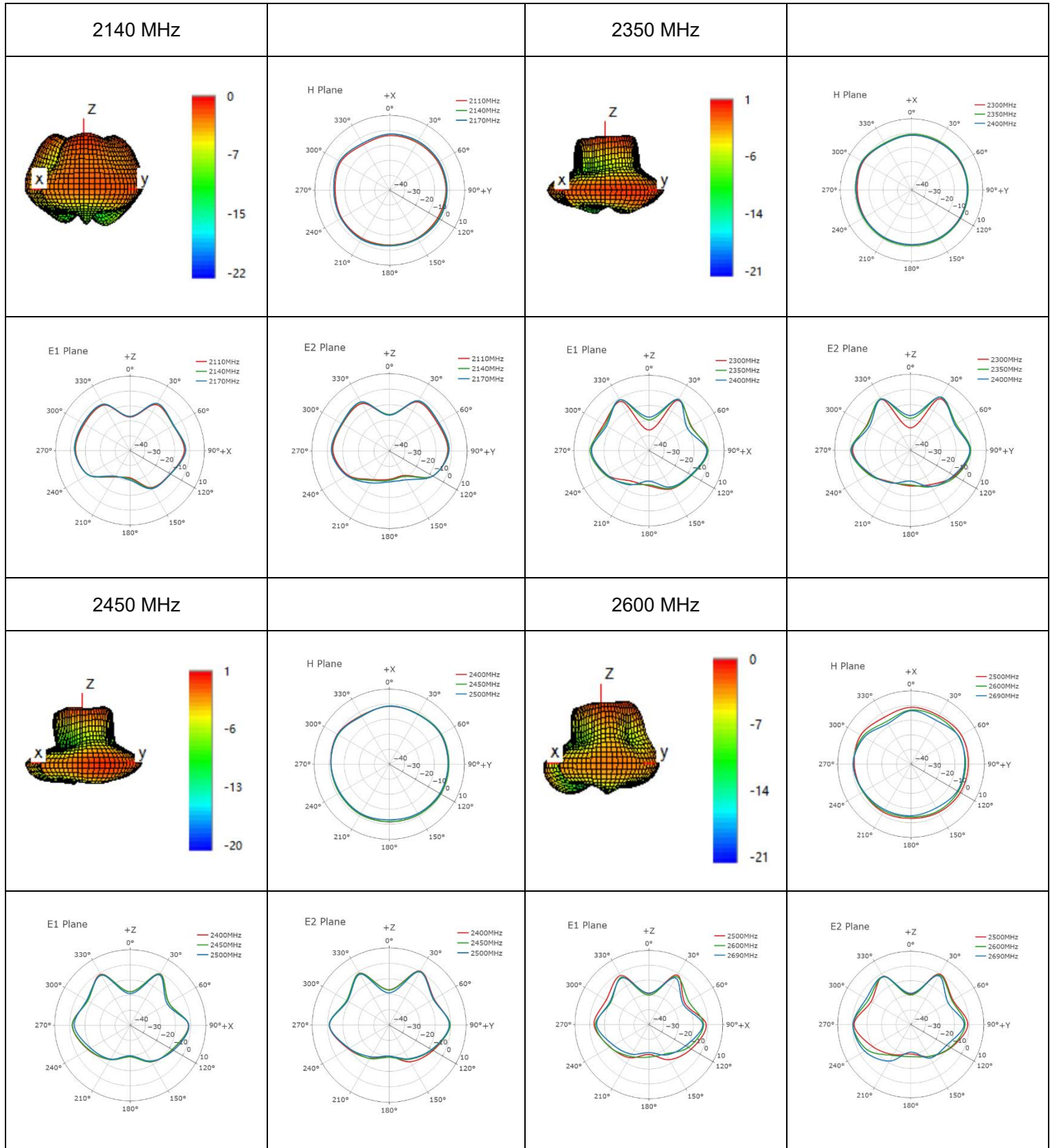
830 MHz

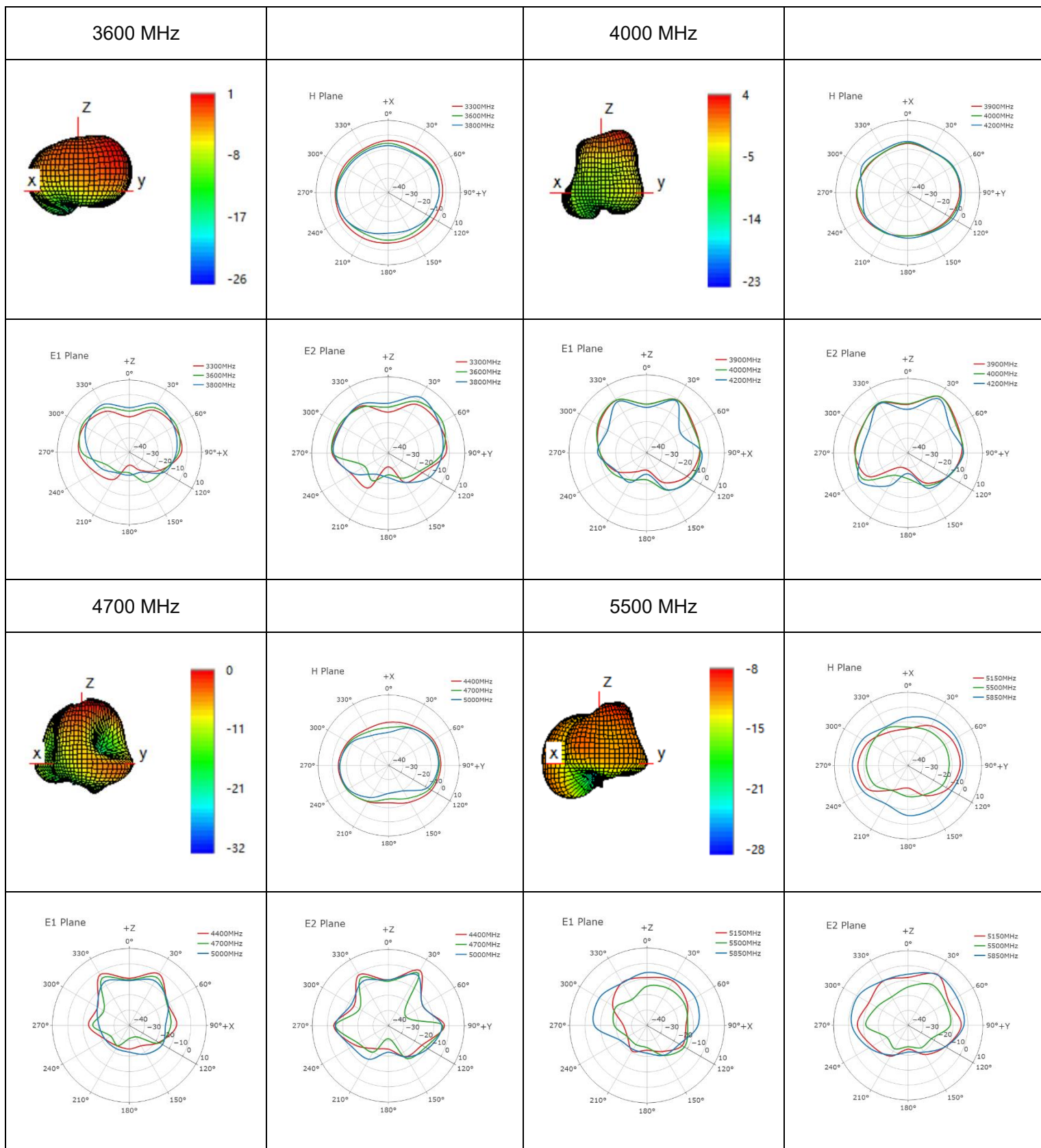


900 MHz

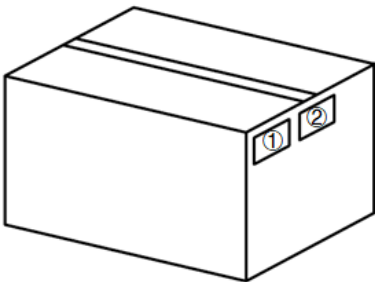


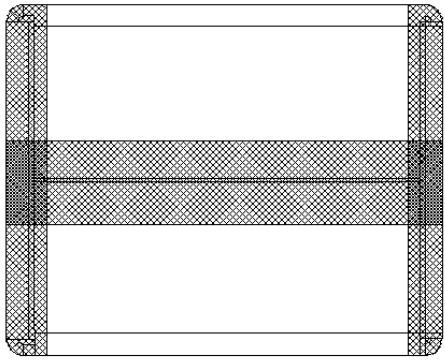






4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		1 pc antenna product in a PE bag. (1 PC Antenna / PE Bag)
2		Put the product into a bubble bag.
3		(18 PCS Antennas / Layer) (36 PCS Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. <u>Carton Size:</u> <u>L × W × H = 390 × 275 × 165 mm</u>
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:

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

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Revision History

Version	Date	Author	Note
-	2025-02-17	Mayes LI/ Lance SUN/ Riva REN/ Rainey LIAO	Creation of the document
1.0	2025-02-17	Mayes LI/ Lance SUN/ Riva REN/ Rainey LIAO	First official release
1.1	2025-03-06	Riva REN	Updated the packaging (Chapter 4).



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