Antenna Datasheet

Product OC: YEBA000J1AM
Version: 1.1
Date: 2025-05-19
Status: Released

Product Name: Wi-Fi & V2X Adhesive Mount Rubber Dipole Antenna
Key Features:
Frequency band: Wi-Fi: 2400–2500MHz, 5150–5850MHz,
5925–7125 MHz
V2X: 5850–5925 MHz
Peak efficiency: 72 % (EVB)
Dimensions: 16 mm × 60 mm × 6.3 mm
RoHS and REACH Compliant

Overview

YEBA000J1AM is a Wi-Fi & V2X rubber antenna measuring 16 × 60 × 6.3 mm. This ultra-wide-band antenna provides broad coverage from 2400–2500MHz, 5150–7125 MHz. The antenna is available with connection via cable lengths from 209 mm, terminated with SMA Male connector. This low profile, terminal mount omni-directional antenna, ideal for applications where the antenna is required to be discrete, is easy to install with maximum durability assured thanks to its PC + ABS enclosure. It is compatible with Quectel's Wi-Fi Series modules.

It allows constant and reliable transmission and reception due to its omni-directional gain across all frequency bands. YEBA000J1AM is designed as an active antenna, which offers high efficiency in all working bands. It is a perfect antenna product for customers that desire highest performance. This high-efficiency, high-gain omni-directional antenna is ideally suited for smart metering, remote monitoring, vehicle tracking and telematics, and many other IoT devices It is suitable for outdoor and indoor applications due to its PC enclosure.

Typical applications include:

- vehicle safety applications
- Smart City
- Routers and Gateways
- V2X mesh networks system

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: Free Space & On 130 × 130 mm EVB

1.1. Electrical

Electrical		
Frequency Range	**Wi-Fi**	2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz
	V2X	5850–5925 MHz
Impedance		50 Ω
Polarization		Linear
Radiation Pattern		Omni-directional

1.1.1. Wi-Fi

Band / Specification	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 6G
	Freq. (MHz)	**2400–2500**	**5150–5850**	**5925–7125**
Max. VSWR	**FS**	1.7	1.8	2.4
	EVB	2.7	2.8	3.0
Max. Return Loss (dB)	**FS**	-11.5	-11.3	-7.8
	EVB	-6.8	-6.5	-6.1
AVG Eff. (%)	**FS**	59.3	60.9	52.3
	EVB	66.9	53.1	47.3
AVG. AVG Gain (dB)	**FS**	-2.3	-2.2	-2.8
	EVB	-1.8	-2.8	-3.3
Max. Peak Gain (dBi)	**FS**	4.6 (2400)	4.3 (5155)	3.5 (7005)

	EVB	4.0 (2430)	5.4 (5155)	3.4 (7010)
VSWR	**FS**	≤ 2.4		
	EVB	≤ 3.0		
Return Loss	**FS**	≤ -7.8 dB		
	EVB	≤ -6.1 dB		
Peak Gain	**FS**	≤ 4.6 dBi		
	EVB	≤ 5.4 dBi		

Gain – Detail

Band	Channel	Freq. (MHz)	Max peak Gain (dBi)	
W52	**36/40/44/48**	**5150–5250**	4.3 (FS) (5155)	5.4 (EVB) (5155)
W53	**52/56/60/64**	**5250–5350**	3.7 (FS) (5260)	4.4 (EVB) (5265)
W56	**100/104/108/112/116/132/136/140**	**5470–5725**	2.8 (FS) (5470)	3.1 (EVB) (5470)
W58	**149/153/157/161/165**	**5725–5850**	2.3 (FS) (5775)	1.4 (EVB) (5830)

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

1.1.2. V2X

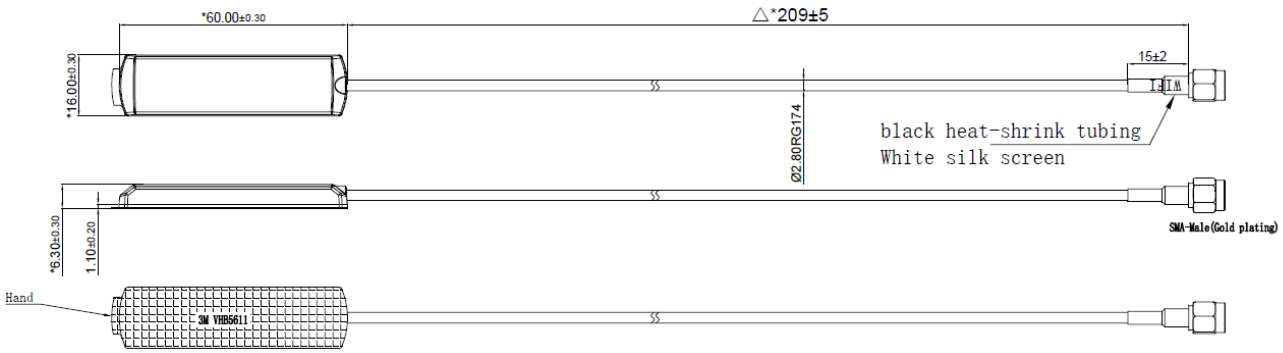
Band / SPEC	Band	V2X
	Freq. (MHz)	5850–5925
Max VSWR	FS	1.7
	EVB	1.9
Max Return Loss (dB)	FS	-11.3
	EVB	-10.3
AVG Eff. (%)	FS	56.2
	EVB	53.6
AVG. AVG Gain (dB)	FS	-2.5
	EVB	-2.7
Max Peak Gain (dBi)	FS	2.1 (5865)
	EVB	2.0 (5880)

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

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	16 mm × 60 mm × 6.3 mm
Material & Color	PC + ABS & Black
Cable Type & Color & Length	RG 174 & Black & 209 mm
Connector Type	SMA Male (Overgild)
Mounting Type	Adhesive
Weight	Typ. 10.3 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes

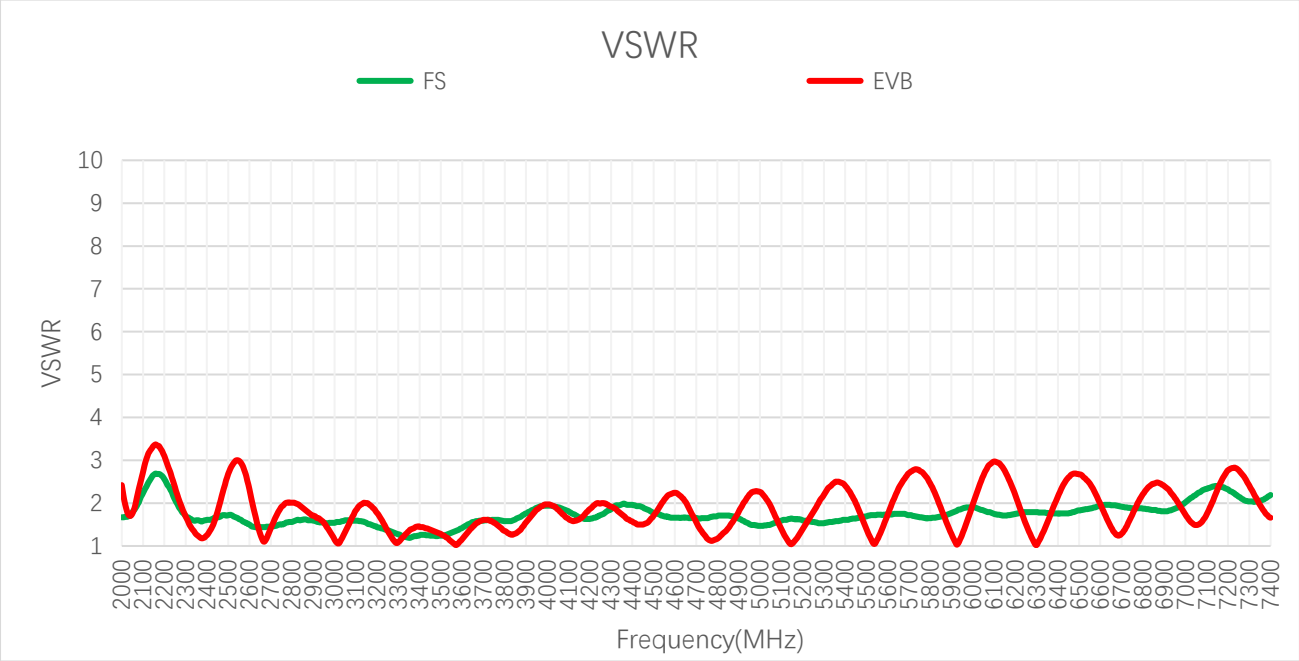
2 Drawing


*60.00±0.30
△*209±5
15±2
*16.00±0.30
Ø2.80RG174
black heat-shrink tubing
White silk screen
*6.30±0.30
1.10±0.20
SMA-Male(Gold plating)
Hand

3 Detailed Performance

3.1. S-Parameter Test

3.1.1. VSWR



VSWR – Wi-Fi

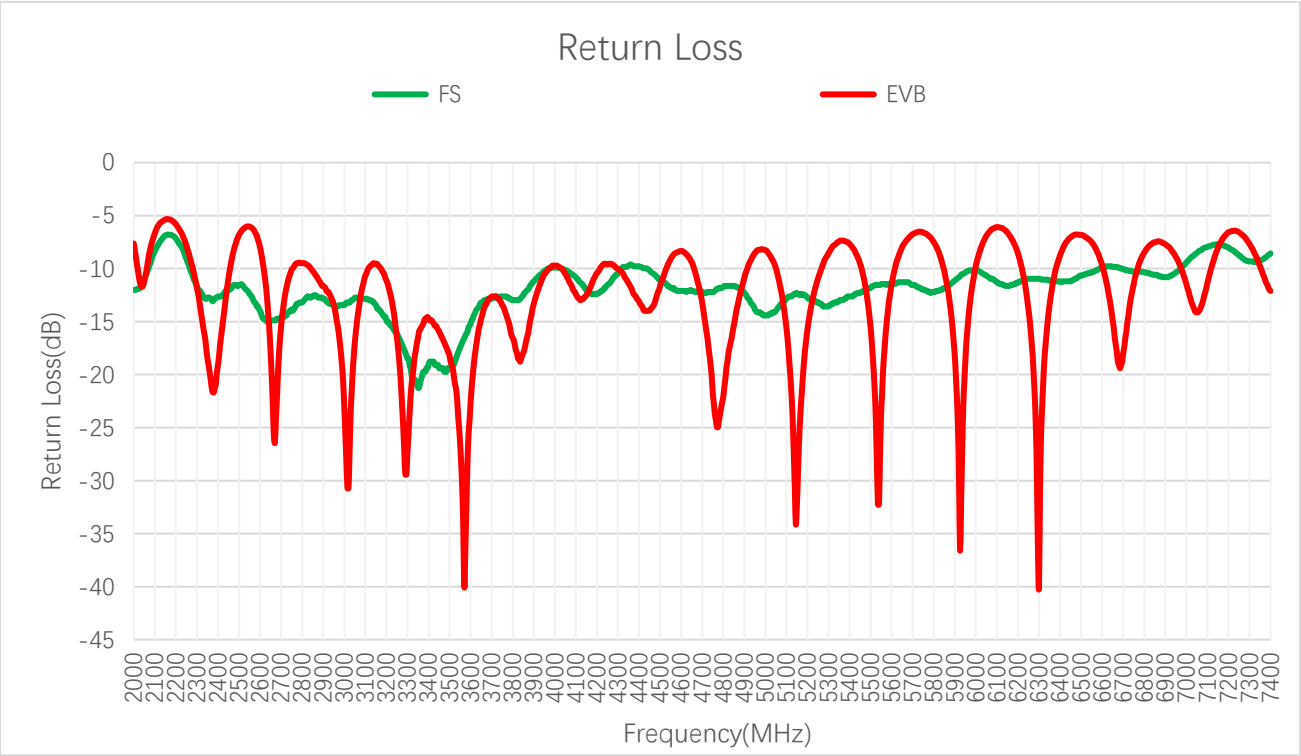
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
FS	1.6	1.7	1.7	1.6	1.7	1.7	1.8	1.9	2.4
EVB	1.3	1.8	2.7	1.1	1.4	1.9	1.0	2.6	2.0

VSWR – V2X

Frequency (MHz)	5850	5885	5925
FS	1.7	1.7	1.8

EVB	1.9	1.5	1.0

3.1.2. Return Loss



Return Loss (dB) – Wi-Fi

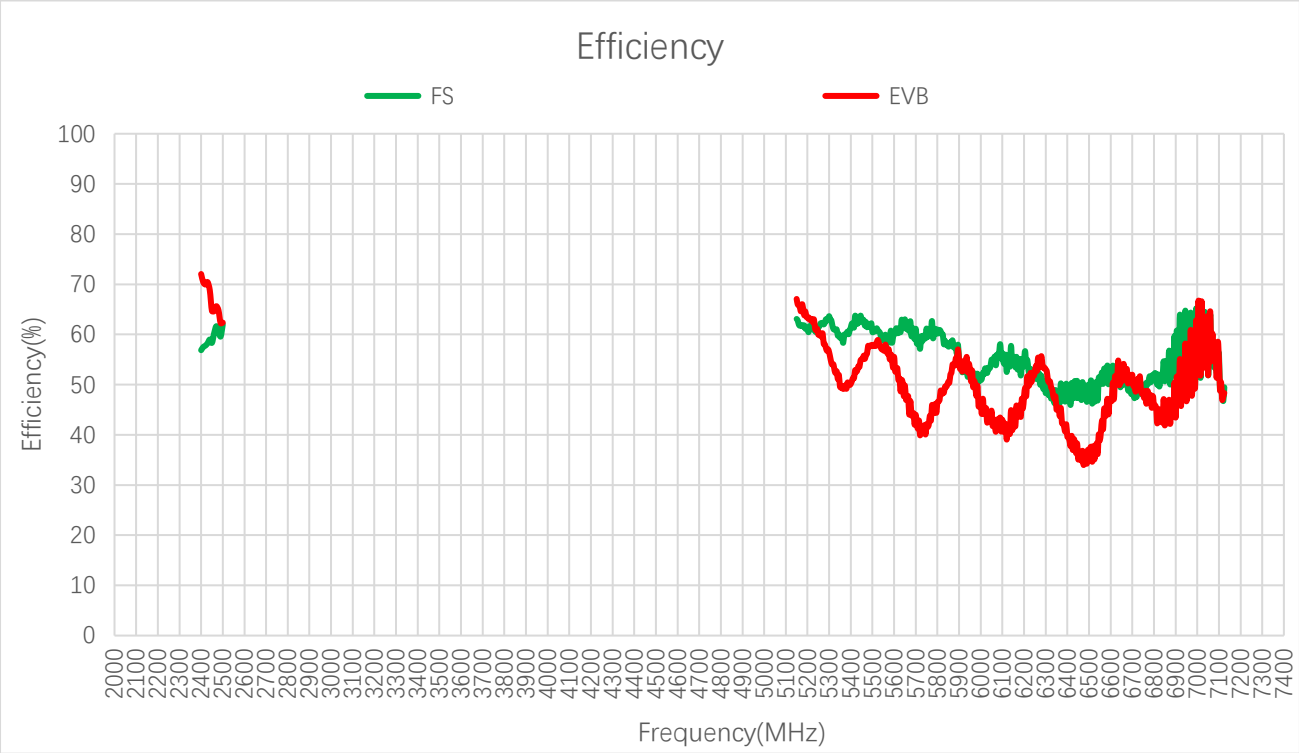
Frequency (MHz)	**2400**	**2450**	**2500**	**5150**	**5500**	**5850**	**5925**	**6525**	**7125**
FS	-12.6	-12.0	-11.5	-12.3	-11.8	-11.8	-10.7	-10.5	-7.8
EVB	-19.1	-10.9	-6.8	-32.3	-15.6	-10.2	-36.6	-7.1	-9.5

Return Loss (dB) – V2X

Frequency (MHz)	**5850**	**5885**	**5925**
FS	-11.8	-11.4	-10.7
EVB	-10.2	-14.7	-36.6

3.2. Radiation Performance Test

3.2.1. Efficiency



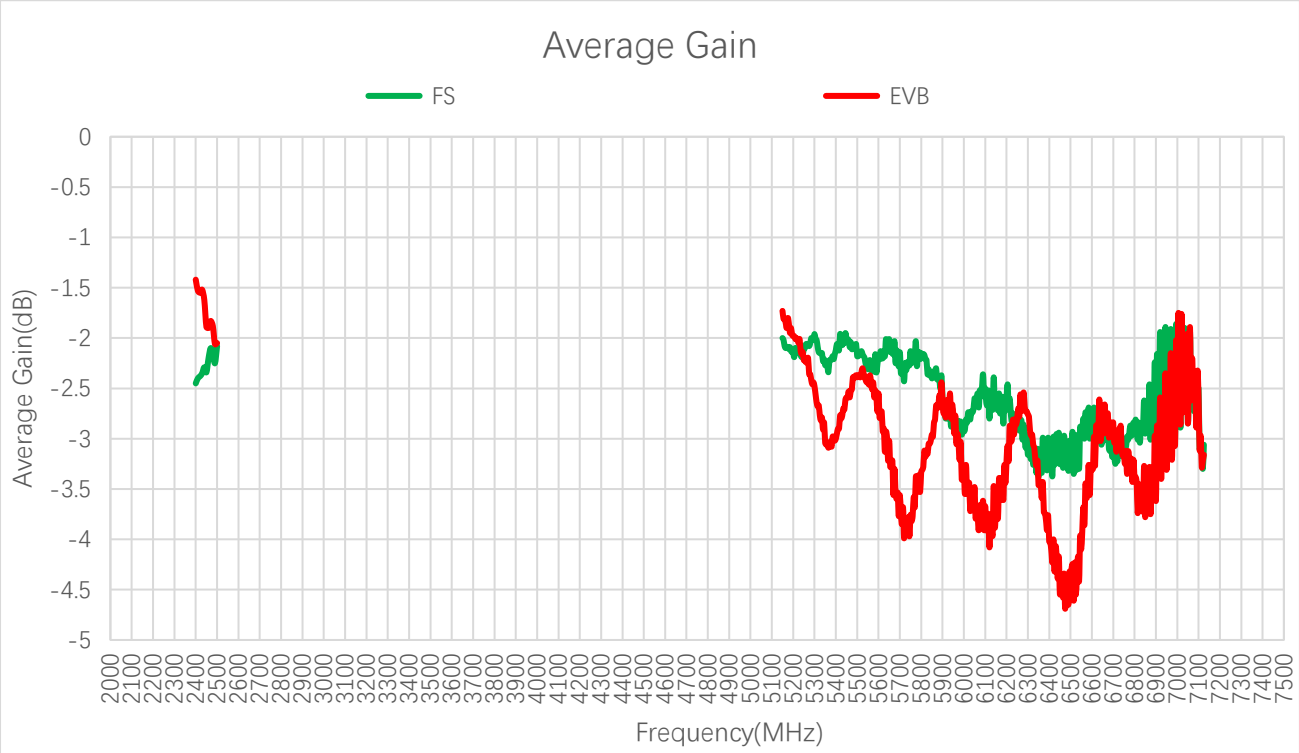
Efficiency (%) – Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
FS	56.9	58.3	62.0	63.1	60.5	57.6	52.5	46.6	49.5
EVB	72.1	64.7	62.4	67.1	57.7	50.6	54.0	35.1	48.3

Efficiency (%) – V2X

Frequency (MHz)	5850	5885	5925
FS	57.6	57.5	52.5
EVB	50.6	55.3	54.0

3.2.2. Average Gain



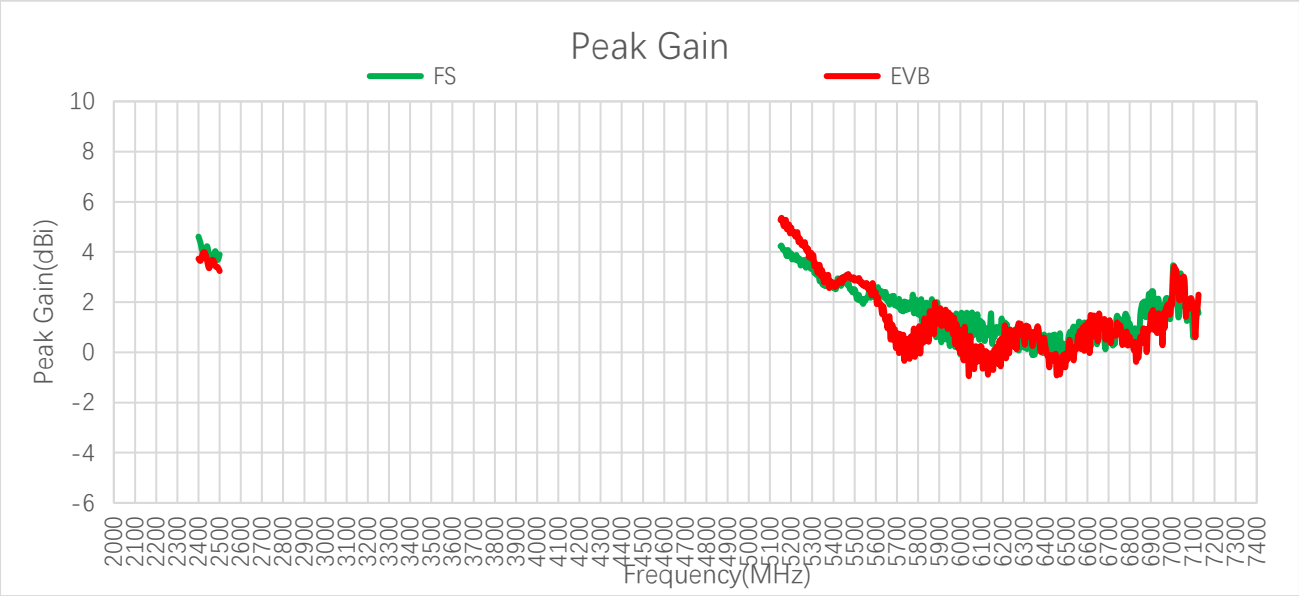
Average Gain (dB) – Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
FS	-2.5	-2.3	-2.1	-2.0	-2.2	-2.4	-2.8	-3.3	-3.1
EVB	-1.4	-1.9	-2.1	-1.7	-2.4	-3.0	-2.7	-4.6	-3.2

Average Gain (dB) – V2X

Frequency (MHz)	5850	5885	5925
FS	-2.4	-2.4	-2.8
EVB	-3.0	-2.6	-2.7

3.2.3. Peak Gain



Peak Gain (dBi) – Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
FS	4.6	3.9	3.9	4.2	2.5	1.4	0.5	0.7	1.6
EVB	3.7	3.4	3.2	5.3	2.9	0.4	1.2	0.2	2.3

Peak Gain (dBi) – V2X

Frequency (MHz)	5850	5885	5925
FS	1.4	0.6	0.5
EVB	0.4	1.2	1.2

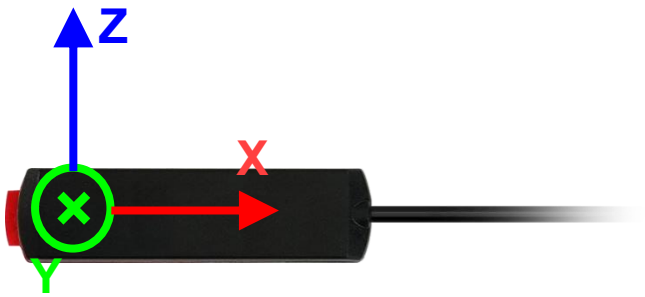
Max Peak Gain (dBi)

Band		Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 7G	V2X
FS	Frequency (MHz)	2400	5155	7005	5865
	Peak Gain (dBi)	4.6	4.3	3.5	2.1
EVB	Frequency (MHz)	2430	5155	7010	5880
	Peak Gain (dBi)	4.0	5.4	3.4	2.0

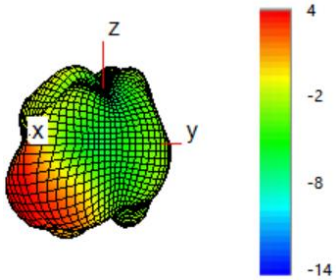
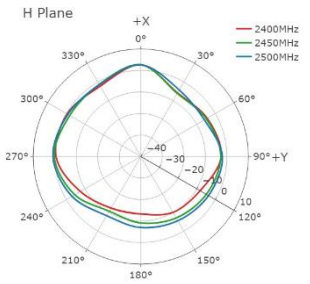
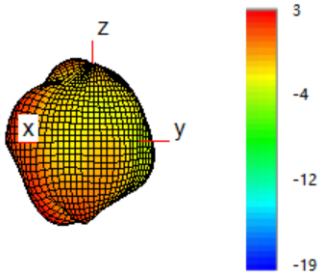
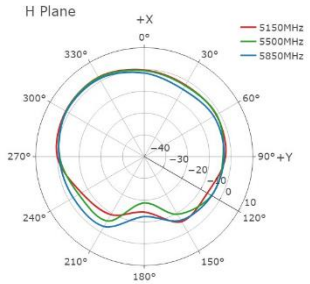
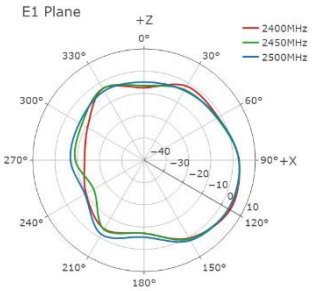
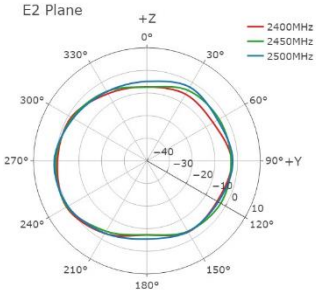
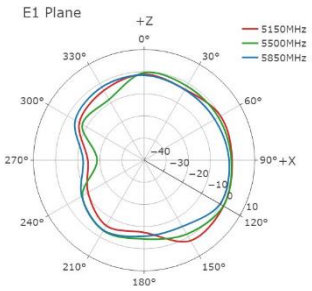
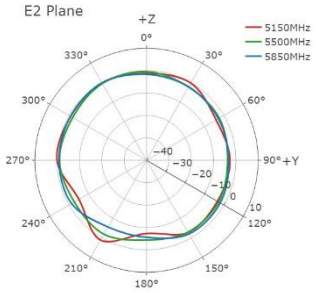
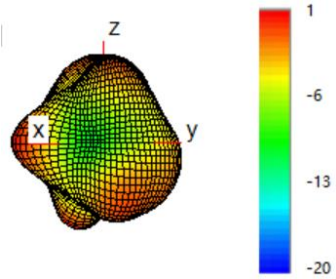
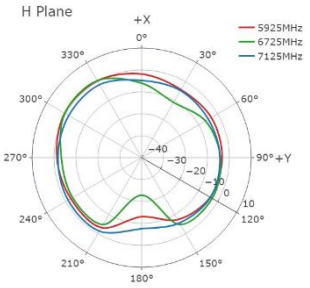
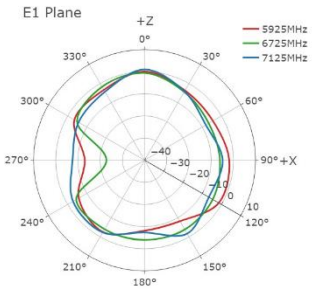
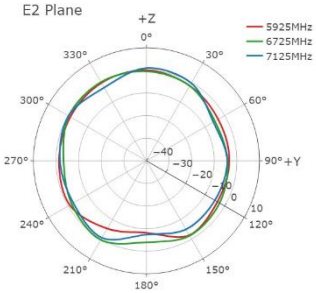
3.2.4. 3D & 2D Radiation Pattern

3.2.4.1. Test Condition: Free Space

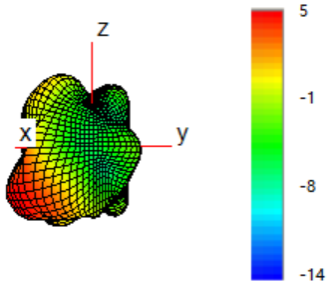
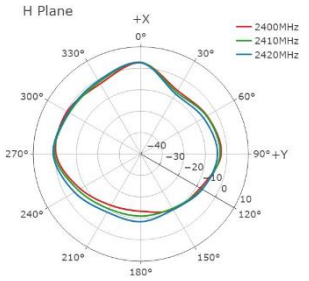
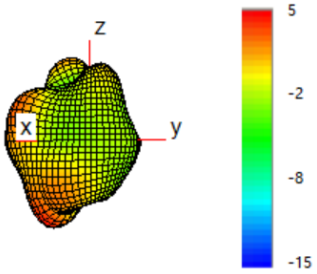
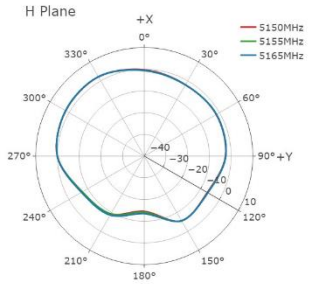
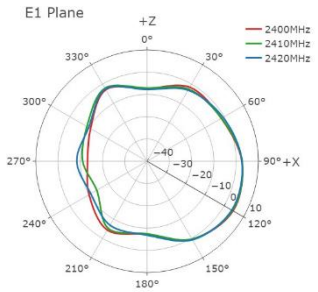
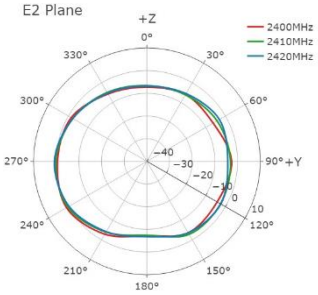
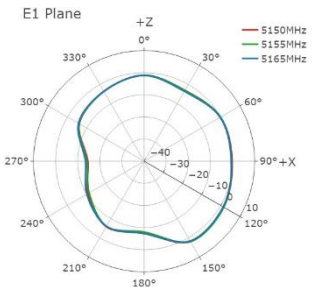
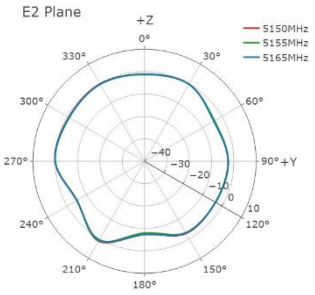
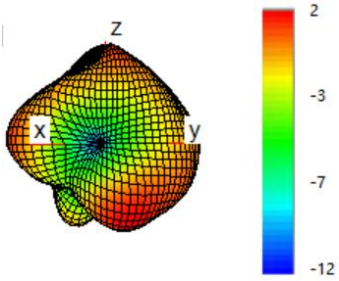
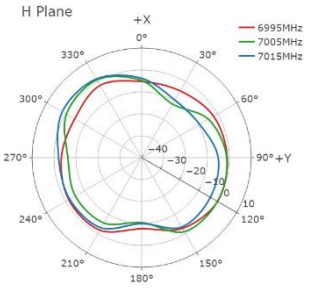
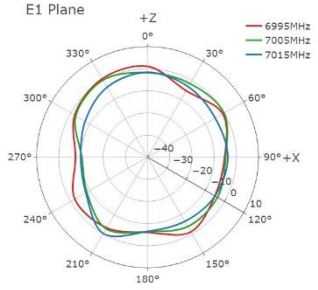
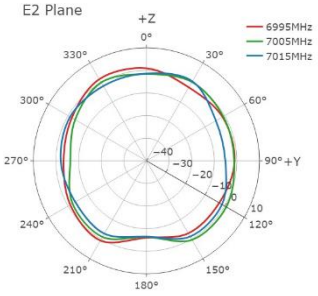
- Test Chamber: HF-G-1



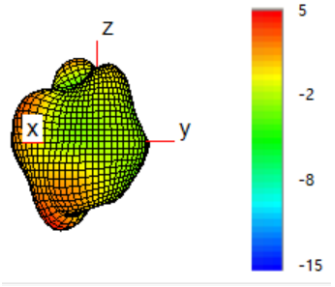
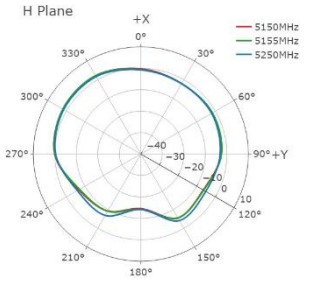
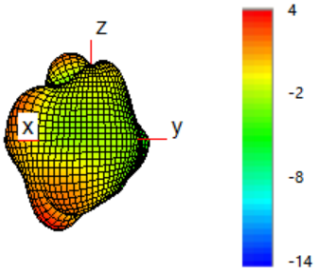
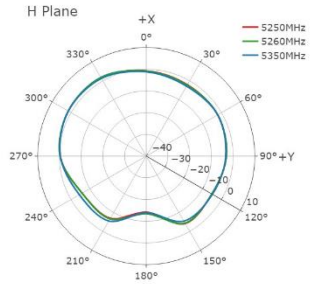
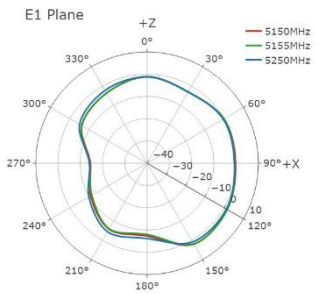
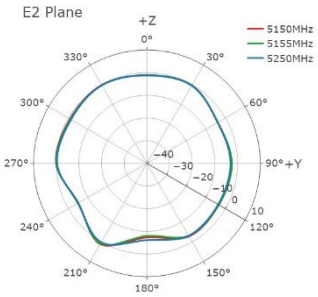
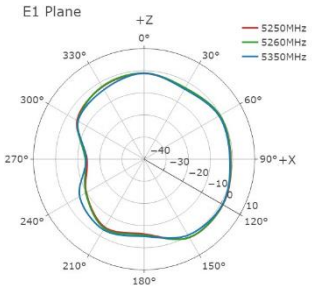
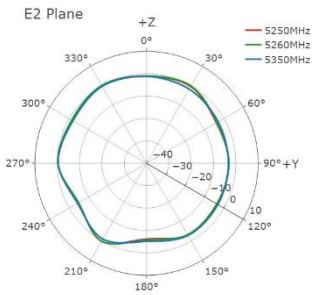
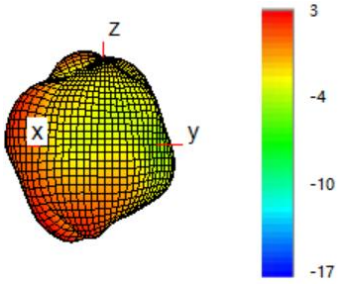
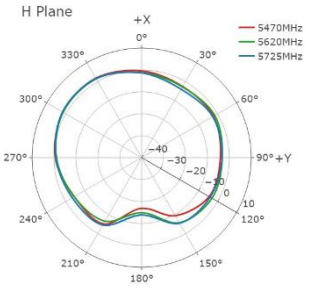
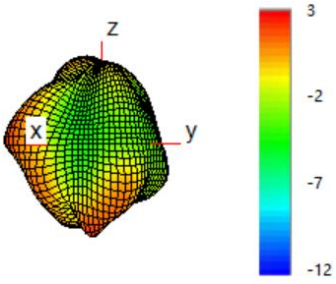
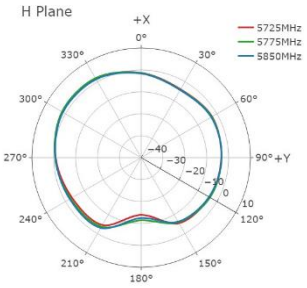
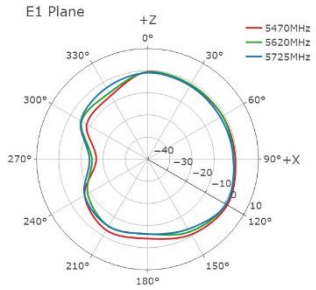
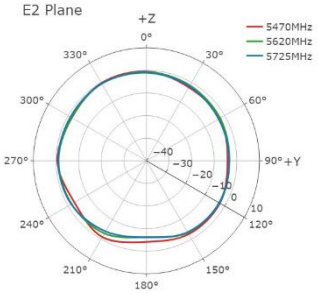
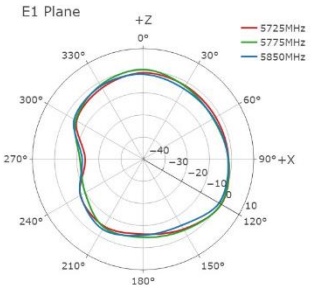
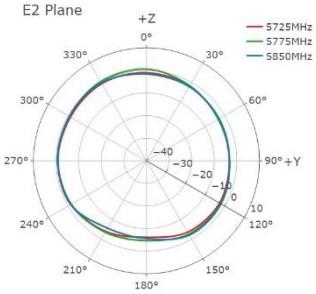
- **Wi-Fi**

2450 MHz		5500 MHz	
			
			
6725 MHz			
			
			

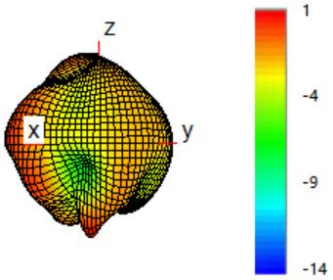
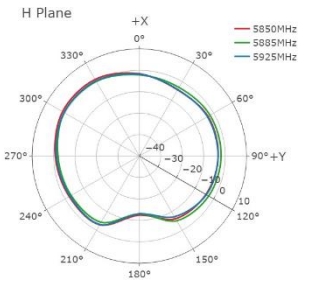
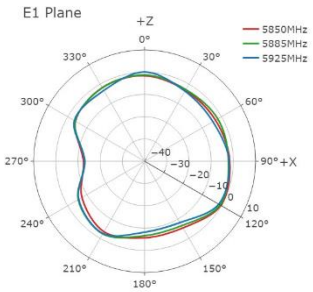
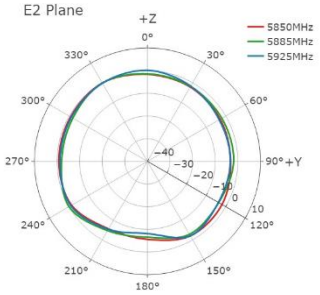
- **Max Peak Gain**

2400 MHz		5155 MHz	
			
			
7005 MHz			
			
			

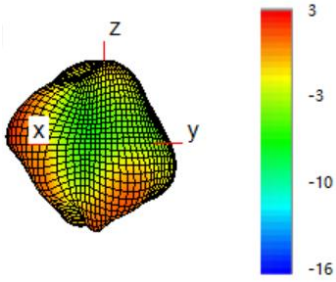
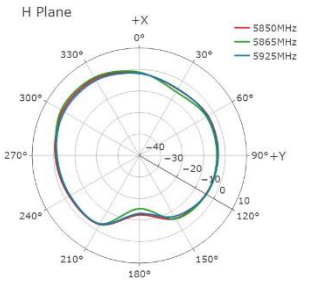
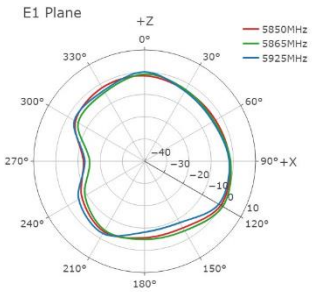
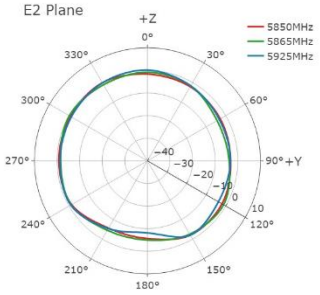
- **Max Peak Gain – 5G**

5155 MHz		5260 MHz	
			
			
5470 MHz		5775 MHz	
			
			

- **V2X**

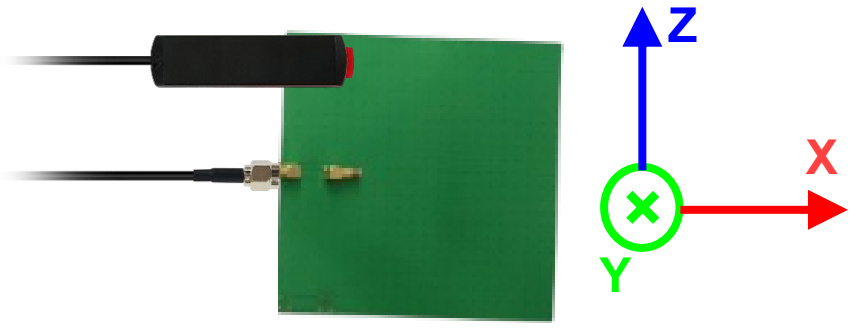
5885 MHz	
	
	

- **Max Peak Gain**

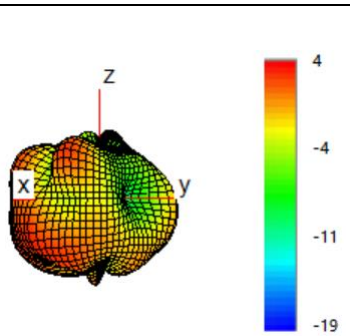
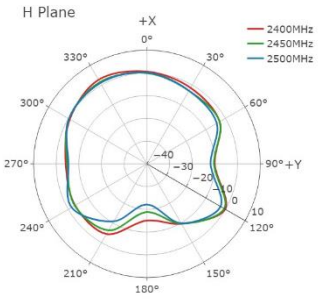
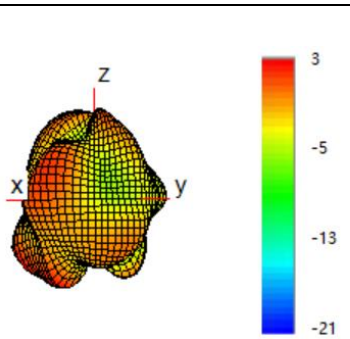
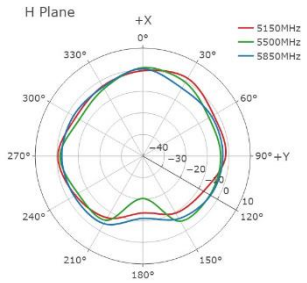
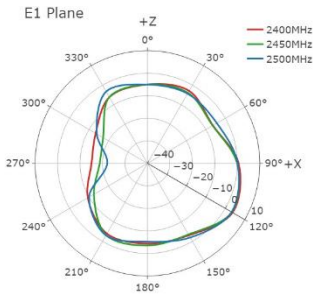
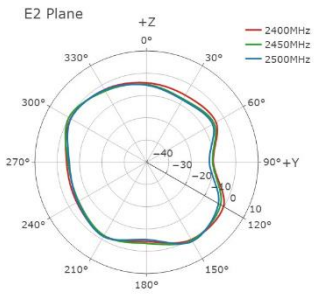
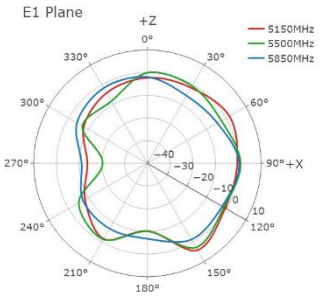
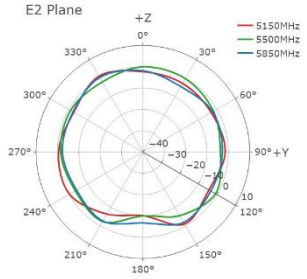
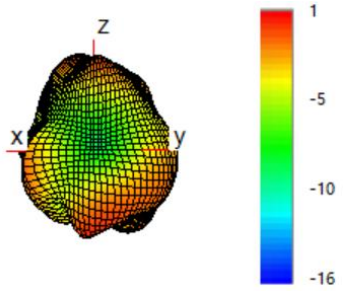
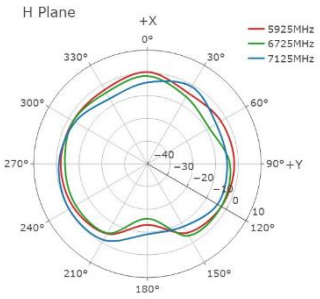
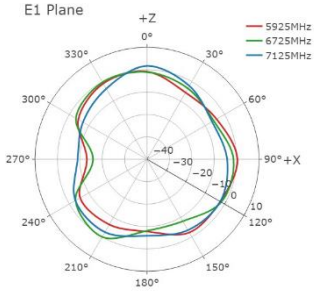
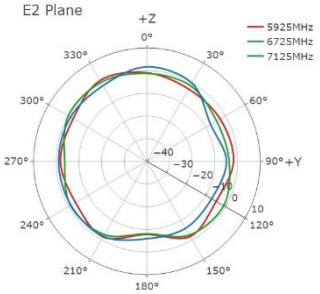
5865 MHz	
	
	

3.2.4.2. Test Condition: On 130 × 130 mm EVB

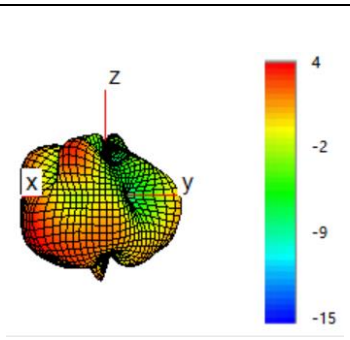
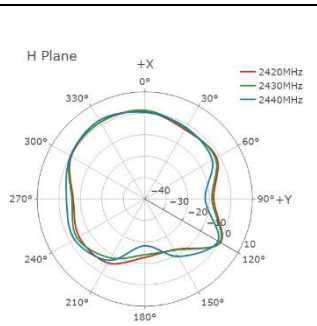
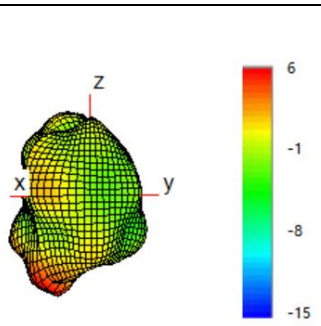
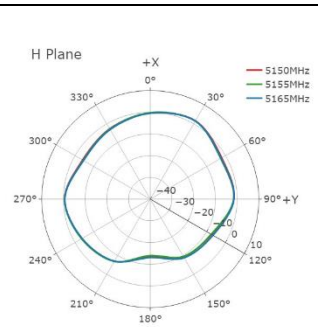
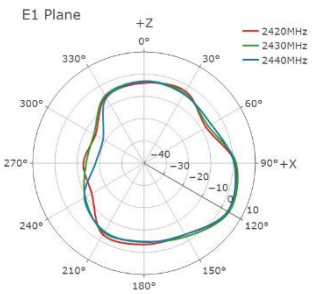
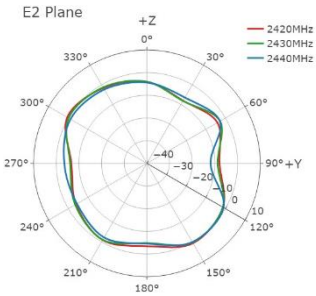
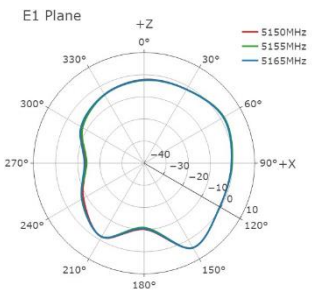
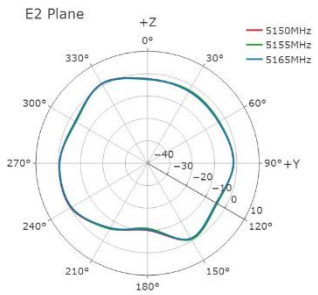
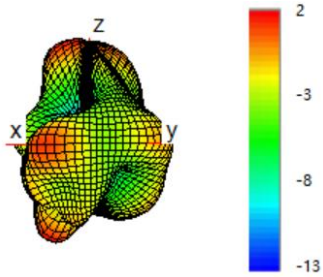
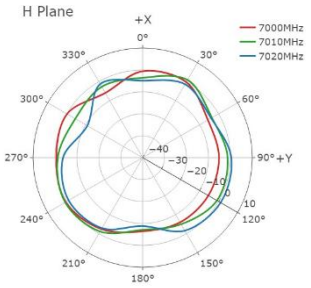
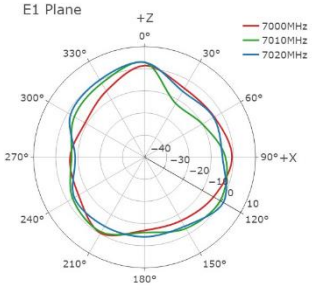
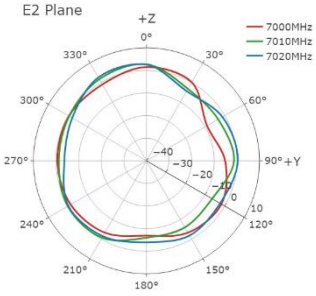
- Test Chamber: HF-G-1



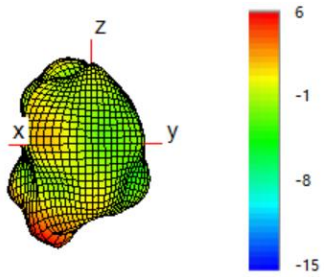
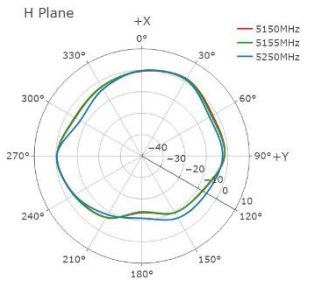
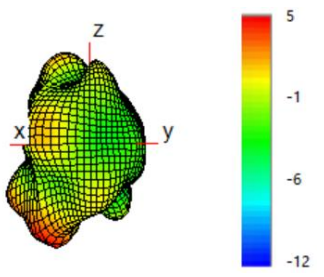
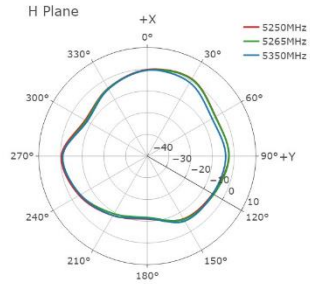
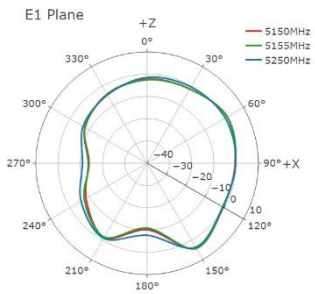
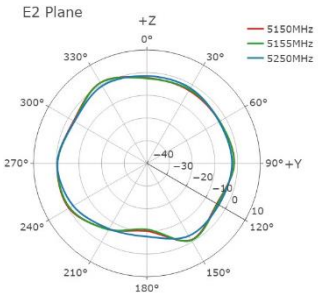
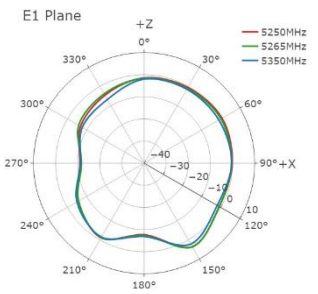
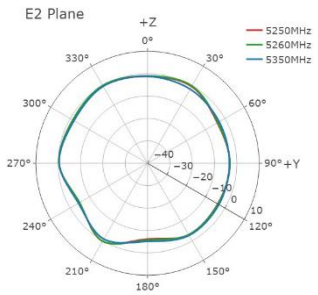
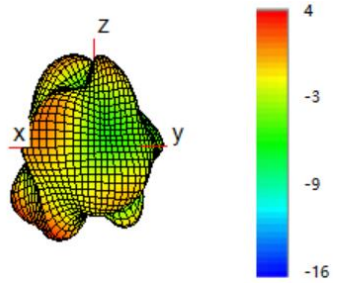
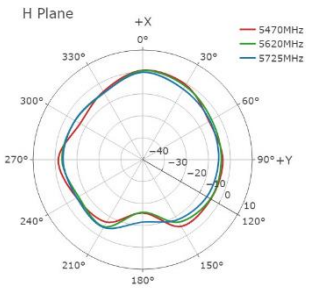
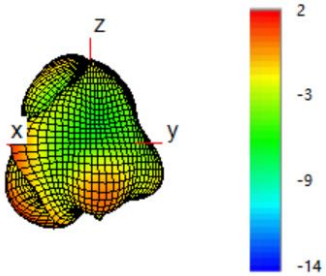
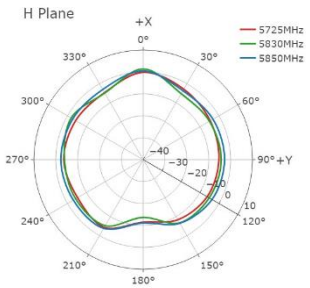
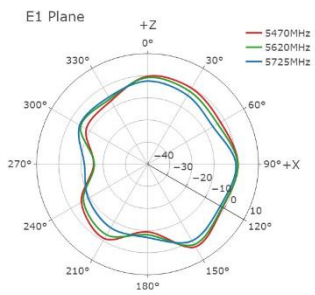
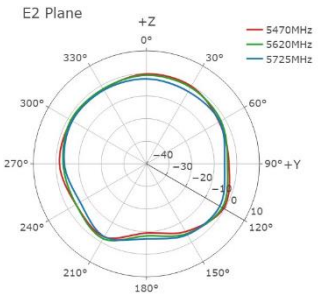
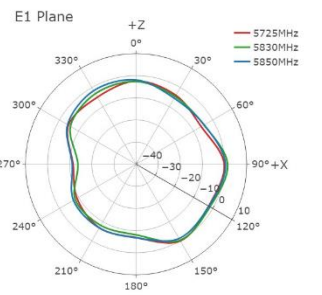
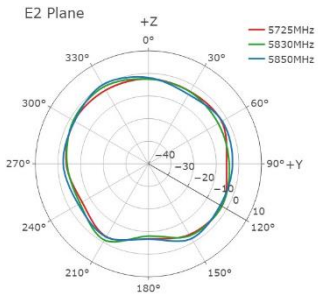
- **Wi-Fi**

2450 MHz		5500 MHz	
			
			
6725 MHz			
			
			

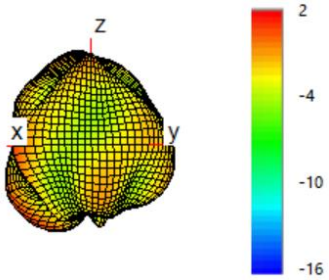
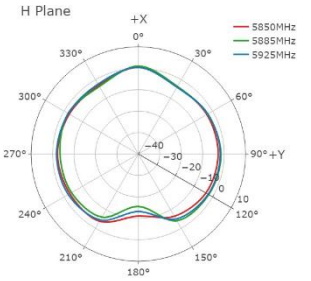
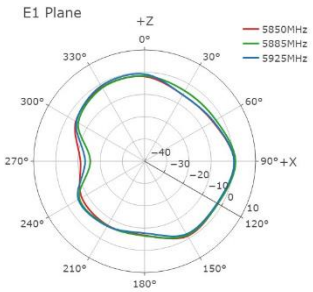
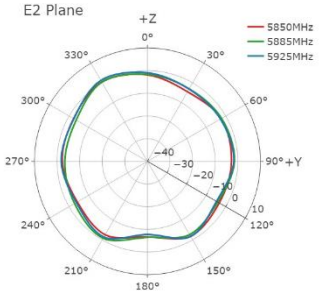
- **Max Peak Gain**

2430 MHz		5155 MHz	
			
			
7010 MHz			
			
			

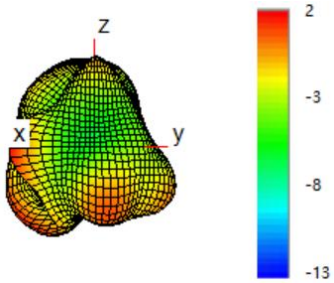
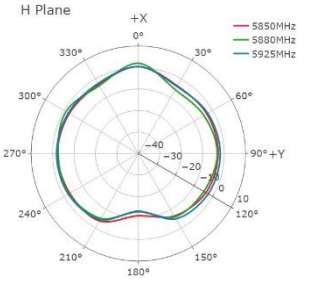
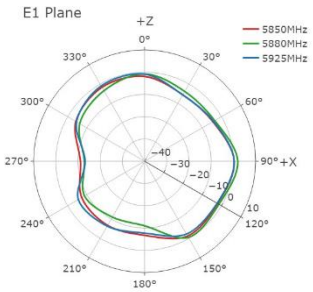
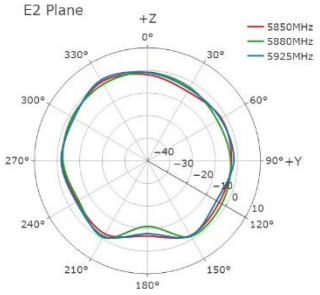
- **Max Peak Gain – 5G**

5155 MHz		5265 MHz	
			
			
5470 MHz		5830 MHz	
			
			

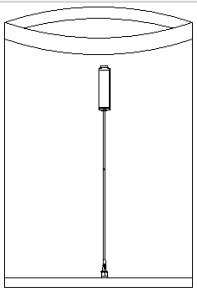
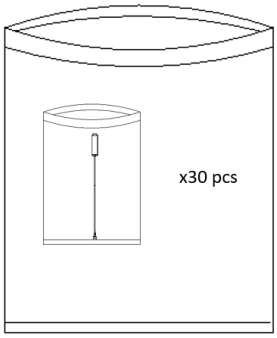
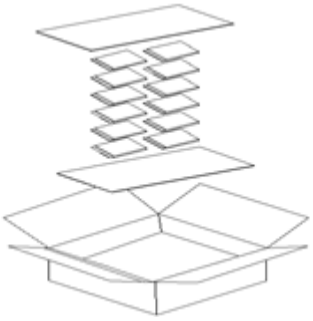
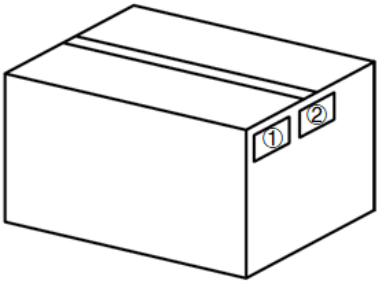
- **V2X**

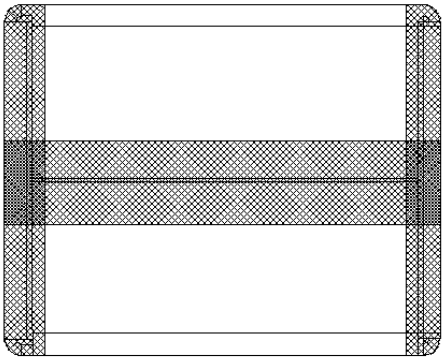
5885 MHz	
	
	

- **Max Peak Gain**

5880 MHz	
	
	

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		1 pc antenna product in a small PE Bag. (1 PC antenna / Small PE Bag)
2		30 pcs antenna products in a big PE bag. (30 PCS Antennas / Big PE Bag)
3		(12 Big PE Bags / Carton Box) (360 PCS 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 = 405 × 293 × 185 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:

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

Or our local offices. For more information, please visit:
http://www.quectel.com/support/sales.htm.

For technical support, or to report documentation errors, please visit:
http://www.quectel.com/support/technical.htm.
Or email us at: support@quectel.com.

Legal Notices

We offer information as a service to you. The provided information is based on your requirements and we make every effort to ensure its quality. You agree that you are responsible for using independent analysis and evaluation in designing intended products, and we provide reference designs for illustrative purposes only. Before using any hardware, software or service guided by this document, please read this notice carefully. Even though we employ commercially reasonable efforts to provide the best possible experience, you hereby acknowledge and agree that this document and related services hereunder are provided to you on an “as available” basis. We may revise or restate this document from time to time at our sole discretion without any prior notice to you.

Use and Disclosure Restrictions

License Agreements

Documents and information provided by us shall be kept confidential, unless specific permission is granted. They shall not be accessed or used for any purpose except as expressly provided herein.

Copyright

Our and third-party products hereunder may contain copyrighted material. Such copyrighted material shall not be copied, reproduced, distributed, merged, published, translated, or modified without prior written consent. We and the third party have exclusive rights over copyrighted material. No license shall be granted or conveyed under any patents, copyrights, trademarks, or service mark rights. To avoid ambiguities, purchasing in any form cannot be deemed as granting a license other than the normal non–exclusive, royalty-free license to use the material. We reserve the right to take legal action for noncompliance with abovementioned requirements, unauthorized use, or other illegal or malicious use of the material.

Trademarks

Except as otherwise set forth herein, nothing in this document shall be construed as conferring any rights to use any trademark, trade name or name, abbreviation, or counterfeit product thereof owned by Quectel or any third party in advertising, publicity, or other aspects.

Third-Party Rights

This document may refer to hardware, software and/or documentation owned by one or more third parties (“third-party materials”). Use of such third-party materials shall be governed by all restrictions and obligations applicable thereto.

We make no warranty or representation, either express or implied, regarding the third-party materials, including but not limited to any implied or statutory, warranties of merchantability or fitness for a particular purpose, quiet enjoyment, system integration, information accuracy, and non-infringement of any third-party intellectual property rights with regard to the licensed technology or use thereof. Nothing herein constitutes a representation or warranty by us to either develop, enhance, modify, distribute, market, sell, offer for sale, or otherwise maintain production of any our products or any other hardware, software, device, tool, information, or product. We moreover disclaim any and all warranties arising from the course of dealing or usage of trade.

Privacy Policy

To implement module functionality, certain device data are uploaded to Quectel's or third-party's servers, including carriers, chipset suppliers or customer-designated servers. Quectel, strictly abiding by the relevant laws and regulations, shall retain, use, disclose or otherwise process relevant data for the purpose of performing the service only or as permitted by applicable laws. Before data interaction with third parties, please be informed of their privacy and data security policy.

Disclaimer

a) We acknowledge no liability for any injury or damage arising from the reliance upon the information.
b) We shall bear no liability resulting from any inaccuracies or omissions, or from the use of the information contained herein.
c) While we have made every effort to ensure that the functions and features under development are free from errors, it is possible that they could contain errors, inaccuracies, and omissions. Unless otherwise provided by valid agreement, we make no warranties of any kind, either implied or express, and exclude all liability for any loss or damage suffered in connection with the use of features and functions under development, to the maximum extent permitted by law, regardless of whether such loss or damage may have been foreseeable.
d) We are not responsible for the accessibility, safety, accuracy, availability, legality, or completeness of information, advertising, commercial offers, products, services, and materials on third-party websites and third-party resources.

Revision History

Version	Date	Author	Note
-	2024-06-19	Kane LIU/ Blake XIANG/ David LIU/ Rainey LIAO	Creation of the document
1.0	2024-06-19	Kane LIU/ Blake XIANG/ David LIU/ Rainey LIAO	First official release
1.1	2025-05-19	Blake XIANG/ Riva REN/ Rainey LIAO	1. Updated the antenna image (Cover page and Chapter 3.2.4). 2. Updated the drawing (Chapter 2). 3. Updated the packaging (Chapter 4).

www.quectel.com