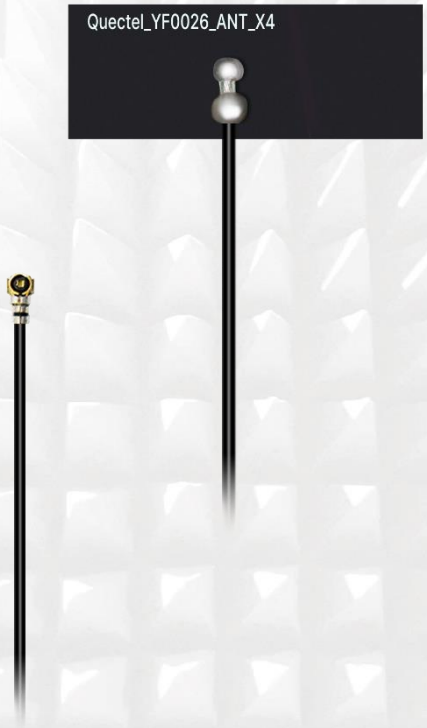


Antenna Datasheet

Product OC: YF0026LA
Version: 2.2
Date: 2025-05-19
Status: Released

Product Name: Wi-Fi Adhesive Mount FPC + Cable PIFA Embedded Antenna

Key Features:

Frequency Band: 2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz
Dimensions: 28.9 mm × 11 mm
Efficiency: Up to 80.08 %
RoHS Compliant

Overview

The YF0026LA is a Wi-Fi FPC antenna measuring 28.9 mm × 11 mm. This Wi-Fi antenna provides coverage from 2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz. The antenna has a 100 mm-long cable, terminated with IPEX MHF 4L connector, and is available with customized cable lengths and connectors. This adhesive mount omni-directional antenna, ideal for applications where the antenna is required to be mounted inside, is easy to install thanks to its flexible material. It is compatible with Quectel's Wi-Fi Series modules. It has been tested with FR4 board.

It allows constant and reliable transmission and reception due to its omni-directional gain across all frequency bands. The YF0026LA is designed as a PIFA antenna, which is to offer high efficiency in many different mounting scenarios. 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.

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: On 1 mm FR4

1.1. Electrical

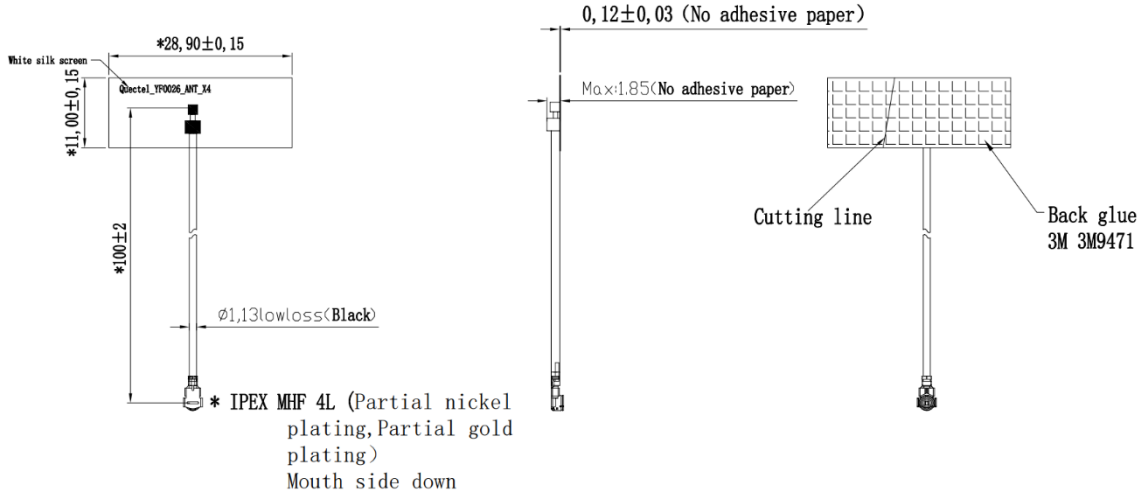
Electrical	
Frequency Range	2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Band / Specification	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 6G
	2400–2500	**5150–5850**	**5925–7125**
Max. VSWR	1.8	2.3	1.9
Max. Return Loss (dB)	-11.2	-8.0	-10.4
AVG Eff. (%)	78.3	59.7	60.9
AVG. AVG Gain (dB)	-1.1	-2.3	-2.2
Max. Peak Gain (dBi)	2.5	4.2	5.2
VSWR	≤ 2.3		
Return Loss	≤ -8 dB		
Peak Gain	≤ 5.2 dBi		

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	28.9 mm × 11 mm
Material & Color	FPC & Black
Cable Type & Color & Length	Φ 1.13 & Black & 100 mm
Connector Type	IPEX MHF 4L
Mounting Type	Adhesive
Weight	Typ. 0.5 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS Compliant	Yes

2 Drawing

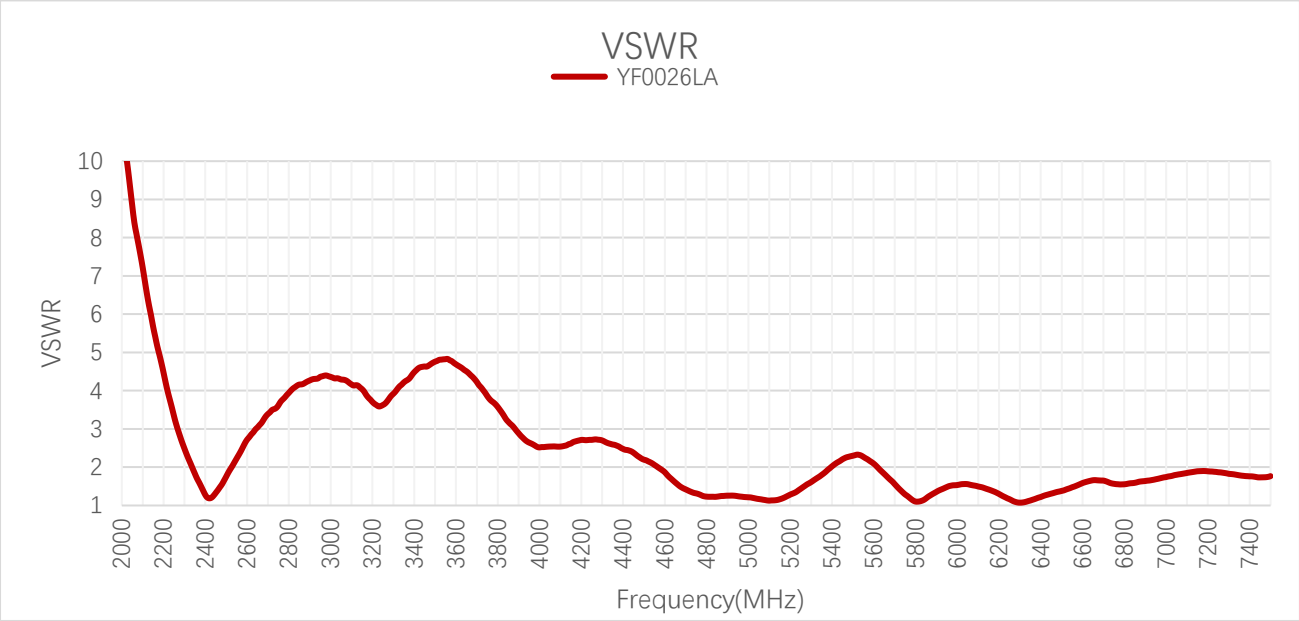

*28.90±0.15
White silk screen
Quectel_YF0026_ANT_X4
*11.00±0.15
*100±2
Ø1.13lowloss(Black)
* IPEX MHF 4L (Partial nickel plating,Partial gold plating)
Mouth side down
0.12±0.03 (No adhesive paper)
Max:1.85(No adhesive paper)
Cutting line
Back glue
3M 3M9471

3 Detailed Performance

- Quectel Wireless Solutions (Changzhou) Co., Ltd.
  Address: No.8 Nanhu West Road, Wujin District, Changzhou City, Jiangsu Province, China 213100.

3.1. S-Parameter Test

3.1.1. VSWR

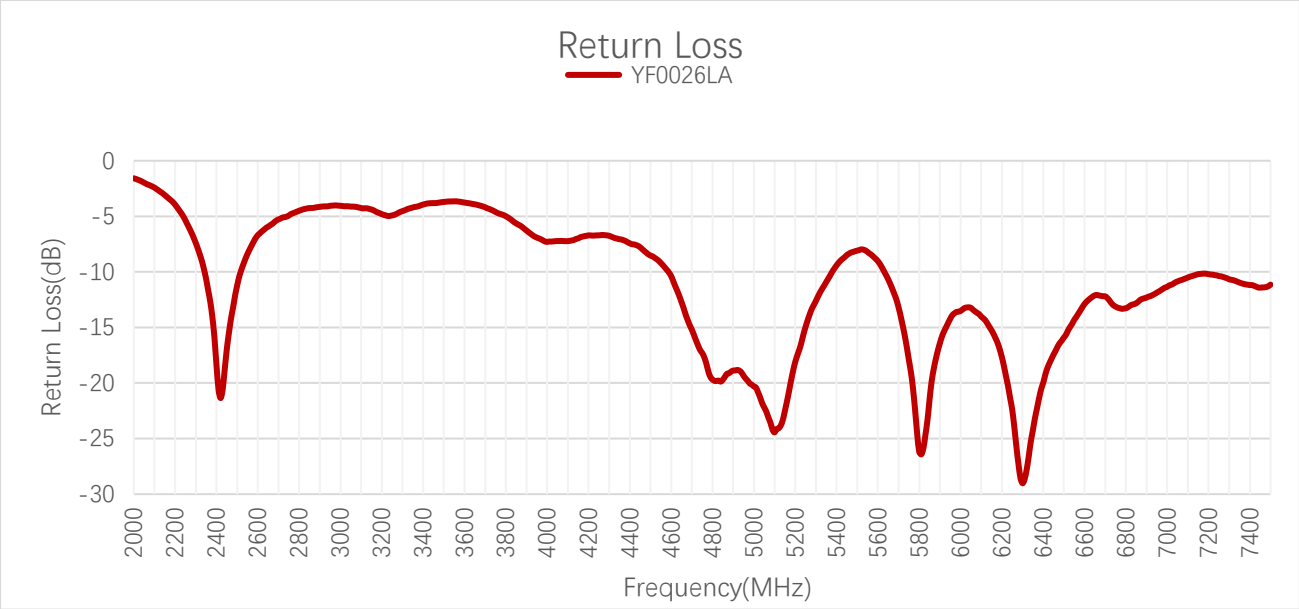


VSWR

Frequency (MHz)	**2400**	**2410**	**2420**	**2430**	**2440**	**2450**	**2460**	**2470**	**2480**	**2490**
VSWR	1.27	1.21	1.19	1.21	1.26	1.33	1.40	1.48	1.56	1.66
Frequency (MHz)	**2500**	**5150**	**5200**	**5250**	**5300**	**5350**	**5400**	**5450**	**5500**	**5550**
VSWR	1.76	1.16	1.28	1.43	1.61	1.80	2.02	2.21	2.30	2.27
Frequency (MHz)	**5600**	**5650**	**5700**	**5750**	**5800**	**5850**	**5900**	**5950**	**6000**	**6050**

VSWR	2.09	1.83	1.56	1.29	1.10	1.18	1.36	1.48	1.53	1.56
Frequency (MHz)	**6100**	**6150**	**6200**	**6250**	**6300**	**6350**	**6400**	**6450**	**6500**	**6550**
VSWR	1.50	1.42	1.30	1.16	1.07	1.13	1.22	1.31	1.38	1.48
Frequency (MHz)	**6600**	**6650**	**6700**	**6750**	**6800**	**6850**	**6900**	**6950**	**7000**	**7050**
VSWR	1.59	1.66	1.65	1.57	1.55	1.59	1.64	1.69	1.74	1.80
Frequency (MHz)	**7100**	**7150**								
VSWR	1.85	1.89								

3.1.2. Return Loss

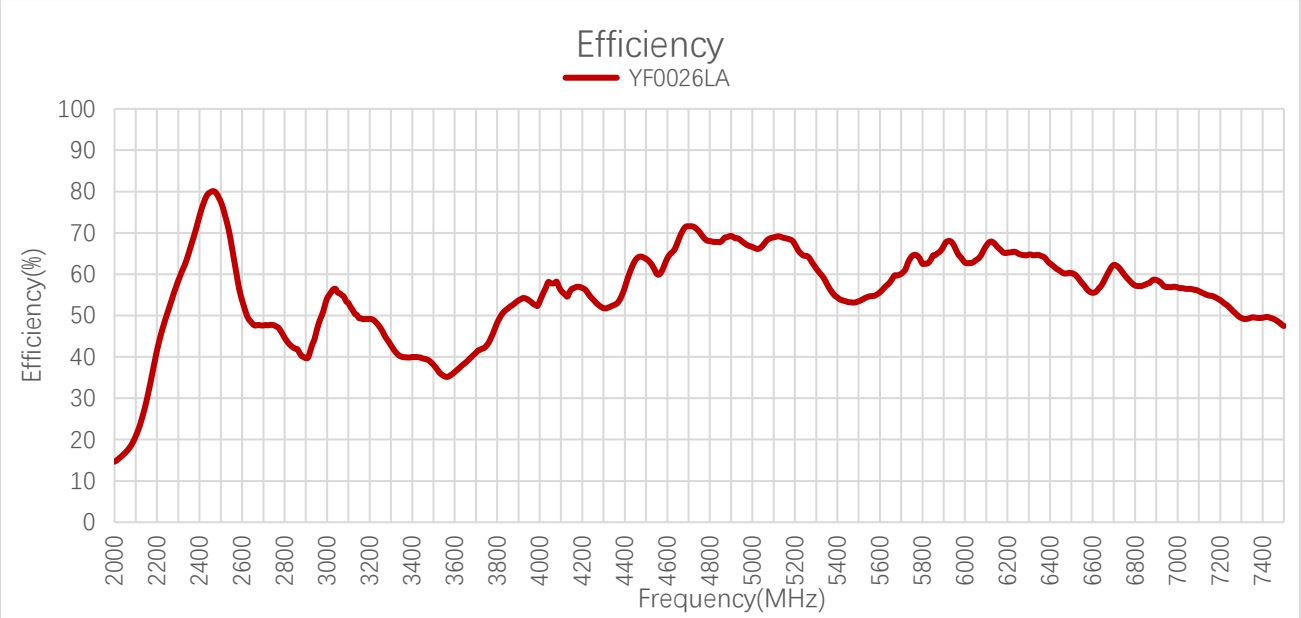


Return Loss (dB)

Frequency (MHz)	**2400**	**2410**	**2420**	**2430**	**2440**	**2450**	**2460**	**2470**	**2480**	**2490**
Return Loss (dB)	-18.39	-20.63	-21.36	-20.58	-18.75	-16.96	-15.51	-14.25	-13.23	-12.14
Frequency (MHz)	**2500**	**5150**	**5200**	**5250**	**5300**	**5350**	**5400**	**5450**	**5500**	**5550**
Return Loss (dB)	-11.23	-22.53	-18.12	-14.97	-12.62	-10.92	-9.42	-8.49	-8.09	-8.20
Frequency (MHz)	**5600**	**5650**	**5700**	**5750**	**5800**	**5850**	**5900**	**5950**	**6000**	**6050**
Return Loss (dB)	-9.03	-10.67	-13.18	-17.93	-26.18	-21.53	-16.42	-14.23	-13.52	-13.24
Frequency (MHz)	**6100**	**6150**	**6200**	**6250**	**6300**	**6350**	**6400**	**6450**	**6500**	**6550**
Return Loss (dB)	-14.02	-15.25	-17.67	-22.40	-29.02	-24.26	-19.99	-17.44	-15.91	-14.32
Frequency (MHz)	**6600**	**6650**	**6700**	**6750**	**6800**	**6850**	**6900**	**6950**	**7000**	**7050**
Return Loss (dB)	-12.89	-12.11	-12.20	-13.12	-13.27	-12.82	-12.31	-11.87	-11.35	-10.86
Frequency (MHz)	**7100**	**7150**								
Return Loss (dB)	-10.51	-10.20								

3.2. Radiation Performance Test

3.2.1. Efficiency

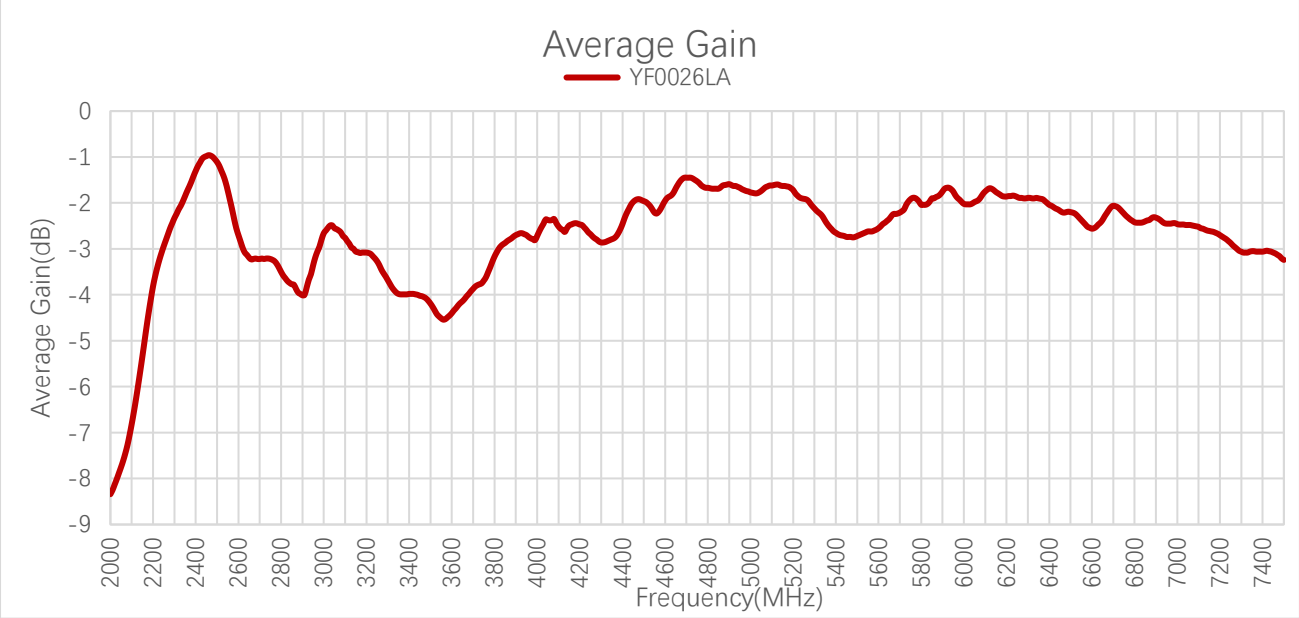


Efficiency (%)

Frequency (MHz)	**2400**	**2410**	**2420**	**2430**	**2440**	**2450**	**2460**	**2470**	**2480**	**2490**
Efficiency (%)	74.1	75.87	77.32	78.63	79.46	79.8	80.08	80.02	79.51	78.57
Frequency (MHz)	**2500**	**5150**	**5200**	**5250**	**5300**	**5350**	**5400**	**5450**	**5500**	**5550**
Efficiency (%)	77.51	68.76	67.23	64.44	61.42	57.71	54.36	53.27	53.46	54.64
Frequency (MHz)	**5600**	**5650**	**5700**	**5750**	**5800**	**5850**	**5900**	**5950**	**6000**	**6050**
Efficiency (%)	55.64	58.28	60.09	64.34	62.53	64.54	66.83	66.78	62.83	63.35
Frequency (MHz)	**6100**	**6150**	**6200**	**6250**	**6300**	**6350**	**6400**	**6450**	**6500**	**6550**
Efficiency (%)	66.86	66.74	65.21	65	64.73	64.61	62.59	60.68	60.3	57.88
Frequency (MHz)	**6600**	**6650**	**6700**	**6750**	**6800**	**6850**	**6900**	**6950**	**7000**	**7050**
Efficiency (%)	55.52	58	62.25	59.85	57.27	57.53	58.58	56.9	56.82	56.45

Frequency (MHz)	7100	7150								
Efficiency (%)	55.91	54.82								

3.2.2. Average Gain

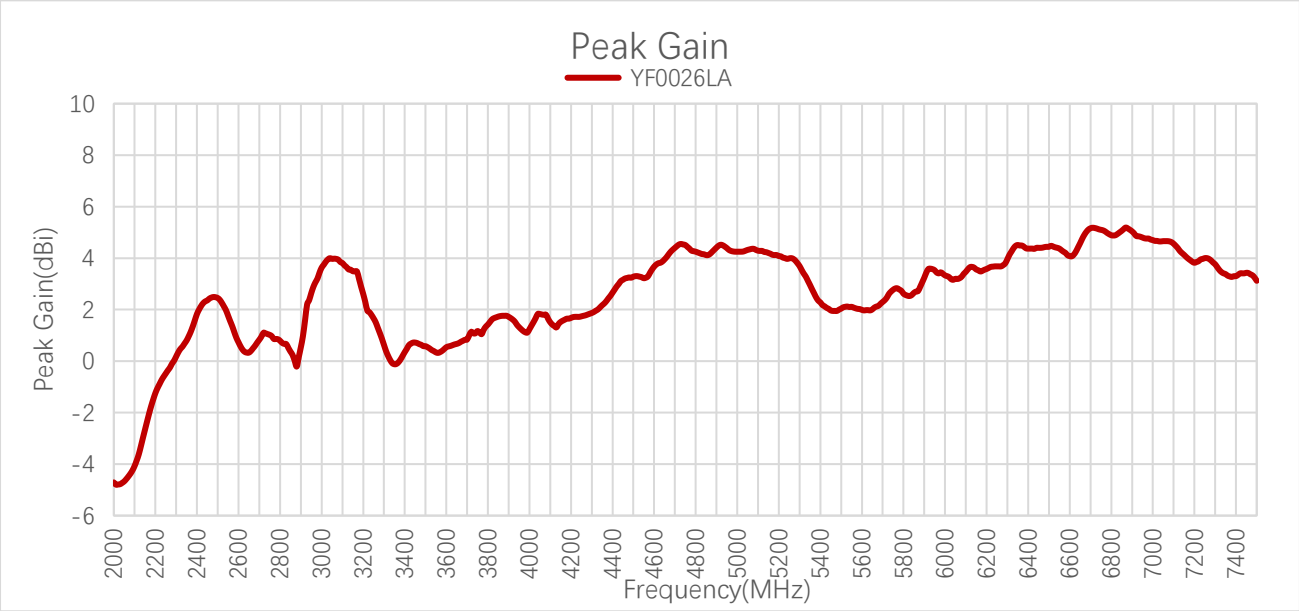


Average Gain (dB)

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490
Average Gain (dB)	-1.3	-1.2	-1.12	-1.04	-1	-0.98	-0.96	-0.97	-1	-1.05
Frequency (MHz)	2500	5150	5200	5250	5300	5350	5400	5450	5500	5550
Average Gain (dB)	-1.11	-1.63	-1.72	-1.91	-2.12	-2.39	-2.65	-2.74	-2.72	-2.62
Frequency (MHz)	5600	5650	5700	5750	5800	5850	5900	5950	6000	6050
Average Gain (dB)	-2.55	-2.35	-2.21	-1.92	-2.04	-1.9	-1.75	-1.75	-2.02	-1.98
Frequency (MHz)	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550
Average Gain (dB)	-1.75	-1.76	-1.86	-1.87	-1.89	-1.9	-2.04	-2.17	-2.2	-2.37
Frequency (MHz)	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050

Average Gain (dB)	-2.56	-2.37	-2.06	-2.23	-2.42	-2.4	-2.32	-2.45	-2.46	-2.48
Frequency (MHz)	**7100**	**7150**								
Average Gain (dB)	-2.52	-2.61								

3.2.3. Peak Gain



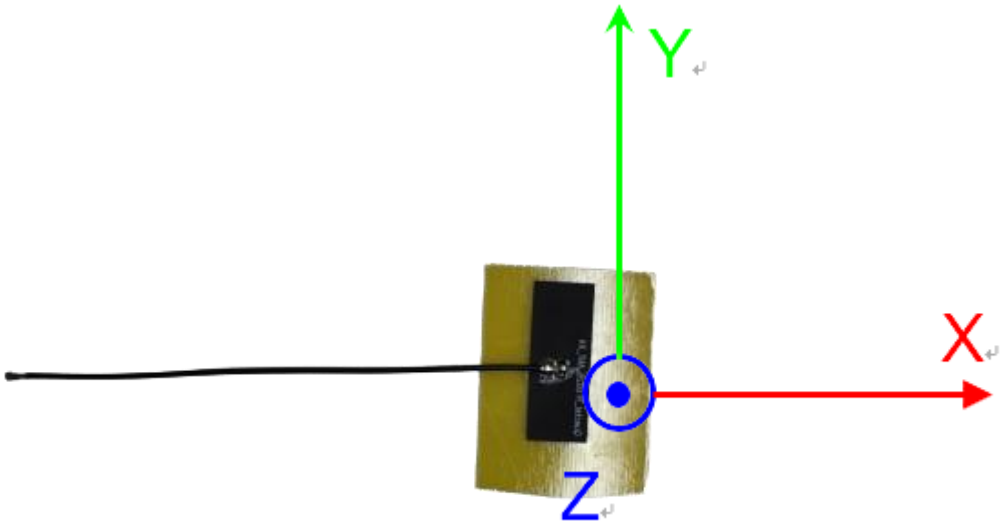
Peak Gain (dBi)

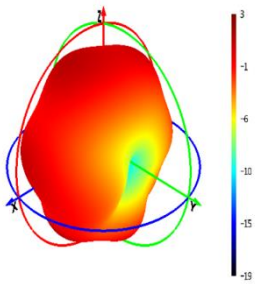
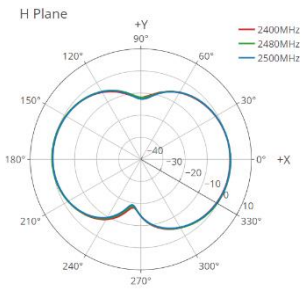
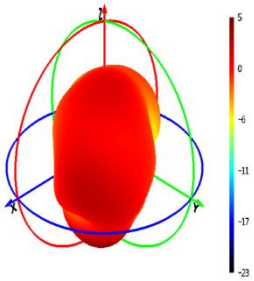
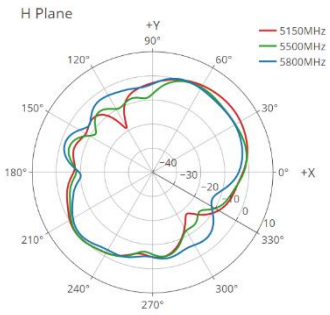
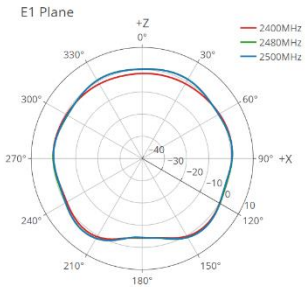
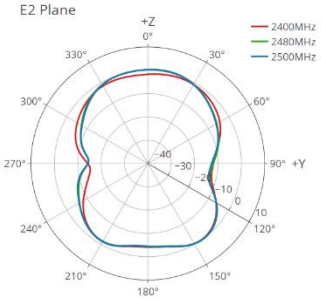
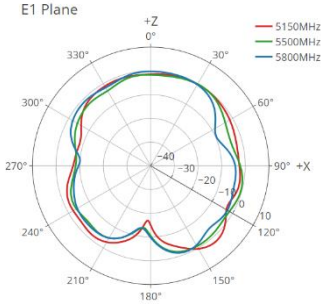
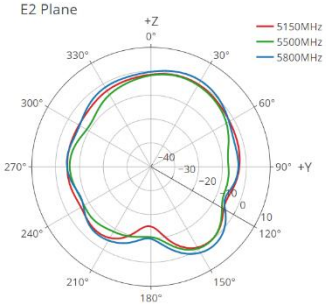
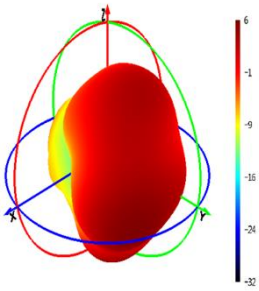
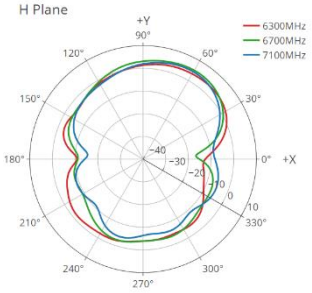
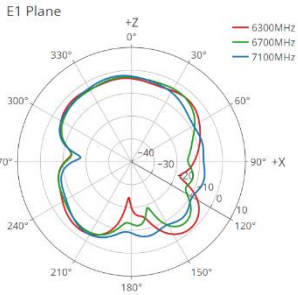
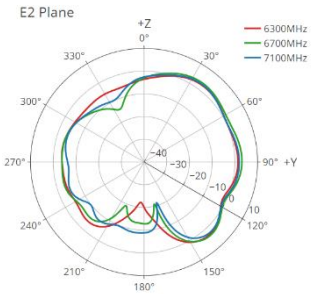
Frequency (MHz)	**2400**	**2410**	**2420**	**2430**	**2440**	**2450**	**2460**	**2470**	**2480**	**2490**
Peak Gain (dBi)	1.83	2	2.14	2.25	2.32	2.36	2.43	2.47	2.49	2.48
Frequency (MHz)	**2500**	**5150**	**5200**	**5250**	**5300**	**5350**	**5400**	**5450**	**5500**	**5550**
Peak Gain (dBi)	2.45	4.2	4.08	3.99	3.69	2.96	2.28	1.97	2.04	2.11
Frequency (MHz)	**5600**	**5650**	**5700**	**5750**	**5800**	**5850**	**5900**	**5950**	**6000**	**6050**
Peak Gain (dBi)	1.99	2.01	2.3	2.77	2.62	2.65	3.24	3.53	3.33	3.2
Frequency (MHz)	**6100**	**6150**	**6200**	**6250**	**6300**	**6350**	**6400**	**6450**	**6500**	**6550**
Peak Gain	3.47	3.56	3.58	3.68	3.96	4.51	4.37	4.4	4.44	4.37

(dBi)										
Frequency (MHz)	**6600**	**6650**	**6700**	**6750**	**6800**	**6850**	**6900**	**6950**	**7000**	**7050**
Peak Gain (dBi)	4.08	4.58	5.16	5.1	4.89	5.06	5.04	4.8	4.7	4.66
Frequency (MHz)	**7100**	**7150**								
Peak Gain (dBi)	4.56	4.13								

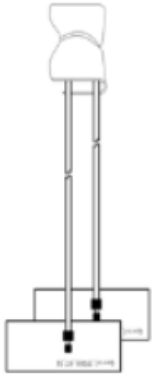
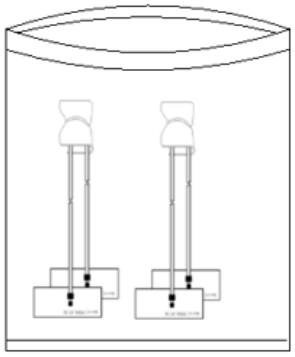
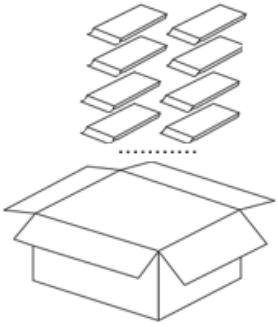
3.2.4. 3D & 2D Radiation Pattern

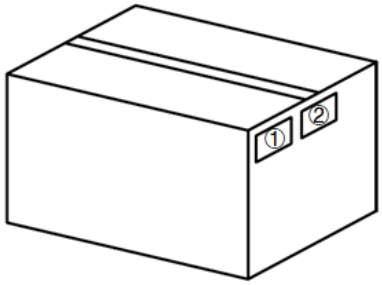
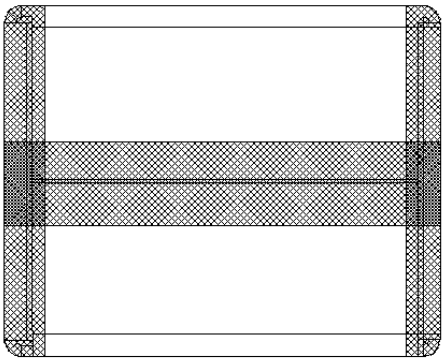
- Test Condition: On 1 mm FR4
- Test Chamber: GL-S-1



2480 MHz		5150 MHz	
			
			
6700 MHz			
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		50 pcs antenna products are wrapped with EPE foam (50 PCS Antennas / Tie)
2		100 pcs antenna products in a PE bag. (100 PCS Antennas / PE Bag)
3		(50 PE Bags / Carton Box) (5000 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 = 300 × 250 × 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:

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.

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Revision History

Version	Date	Author	Note
-	2022-08-18	Sly LIU/ Lucky FENG	Creation of the document
1.0	2023-01-15	Sly LIU/ Lucky FENG	First official release
2.0	2024-01-18	Sly LIU/ Lucky FENG/ David LIU/ Rainey LIAO	Numerous changes were made to this document. It should be read in its entirety.
2.1	2024-06-07	Lucky FENG	Update the drawing.
2.2	2025-05-19	Riva REN/ Aria CHU	1. Updated the antenna image (Cover page). 2. Updated the overview. 3. Updated the packaging (Chapter 4).

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