

Antenna Specification

Customer Name:	WAH LUNG TOYS Co., Ltd
Project Name:	Hf01
New Material Model:	M02-0600040ROA
Old Material Model:	M1G.0096-ROA
Product Name:	2.4G external rod antenna
Customer Number:	
Antenna Type:	Monopole
Version:	D

supplier		customer	
Prepared by		Purchase	
Checked by		Engineering	
Approved by		Quality	
<input checked="" type="checkbox"/> The new material <input type="checkbox"/> Recycle (The number to be recycled)			
Cachet : 2024-03-01		Cachet:	

Contents

- 1. Cover 1
- 2. Contents 2
- 3. Version information..... 3
- 4. The performance parameters 4
- 5. Engineering Drawing..... 5
- 6. AntennaTest 6
 - 6.1 Processing Mode 6
 - 6.1.1 Matching Circuit 6
 - 6.1.2 Environmental Treatmen 6
 - 6.2 Antenna Performance Test 6
 - 6.2.1 VSWR 6
 - 6.2.2 Active Antenna Test 6
 - 6.2.3 Passive Antenna Test 7-8
 - 6.2.4 3D graphics 9
 - 6.2.5 2D graphics 9
- 7. Antenna placement diagram..... 10
- 8. Inspection Report 11
- 9. Packing specification diagram..... 12
- 10. QC engineering drawing..... 13-16
- 11. ROHS Test Report 17

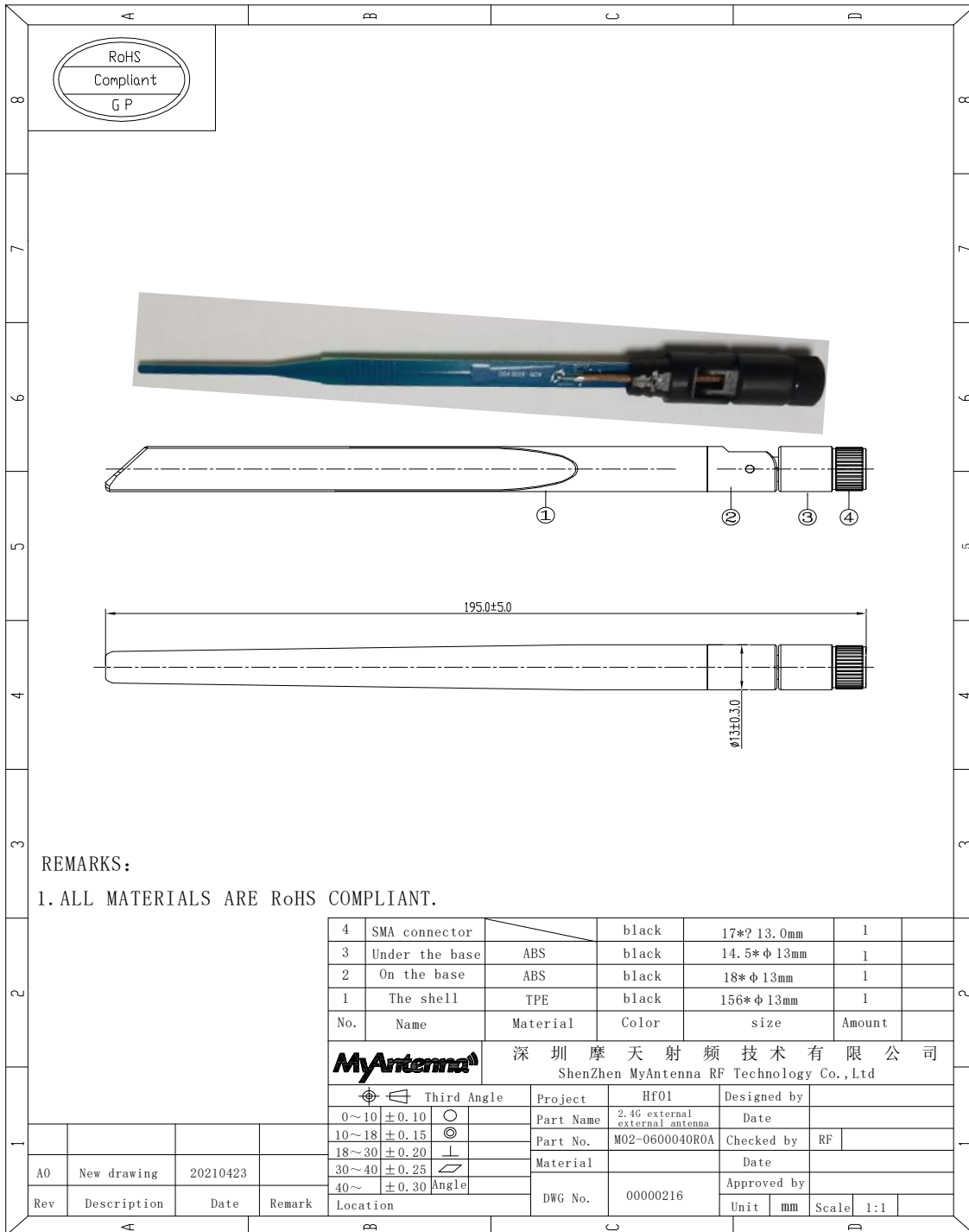
3. Version information

Version	DATE	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED
V1. 0	2021-02-23	For the first time to issue	DONG	Yang	Chen
V1. 1	2022-03-22	Add performance parameters	DONG	Yang	Chen
V1. 2	2022-06-11	Modify the shell	DONG	Yang	Chen
V1. 3	2024-03-01	Add performance parameters	DONG	Yang	Chen

4. The performance parameters

Electrical performance index	
Frequency range	2400–2500MHZ
2.4GHz VSWR	≤1.9
Gain	≤4.23dBi (Different darkroom and different environment location, the gain will be different)
Radiation direction	omnidirectional
The input impedance	50 Ω
Polarization mode	Linear polarization
The most powerful	2W
Mechanical performance index	
Interface form	SMA Male and female
The antenna material	PCB+hardware+plastic
Working temperature	-40°C–85°C
Working humidity	5%–95%

5. Engineering Drawing



6. Antenna Test

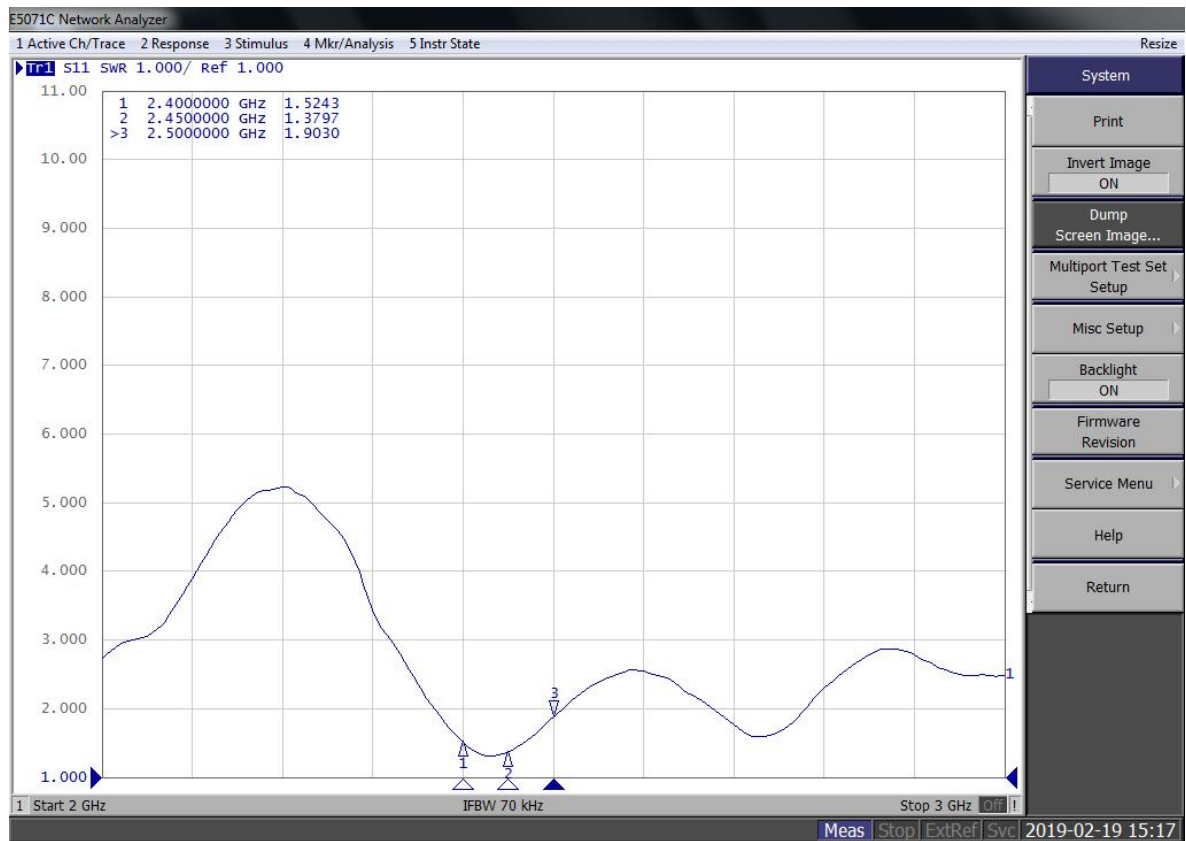
6.1 Processing Mode

6.1.1 Matching Circuit (Nothing)

6.1.2 Environmental Treatment (Nothing)

6.2 Performance Testing

6.2.1 VSWR



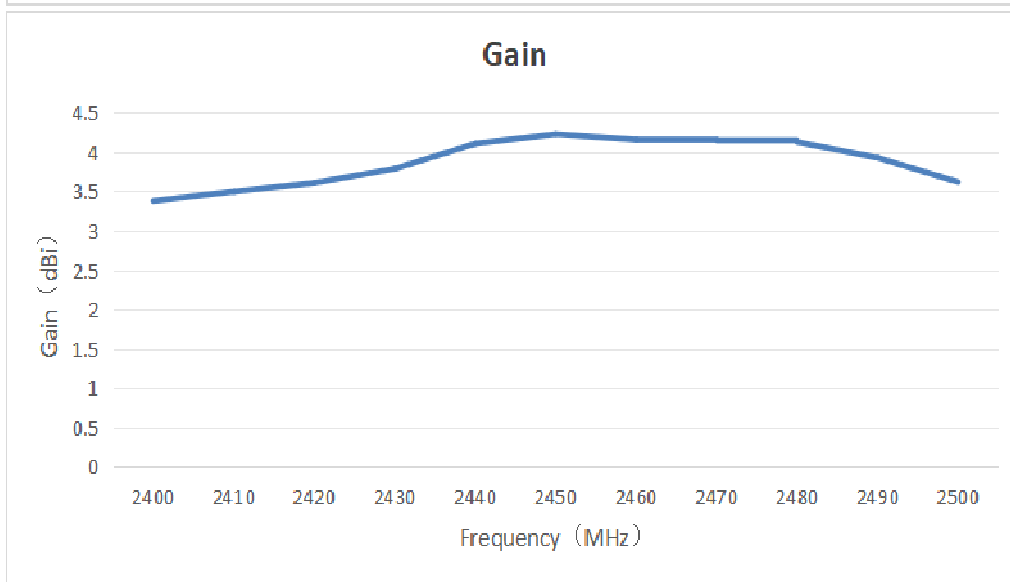
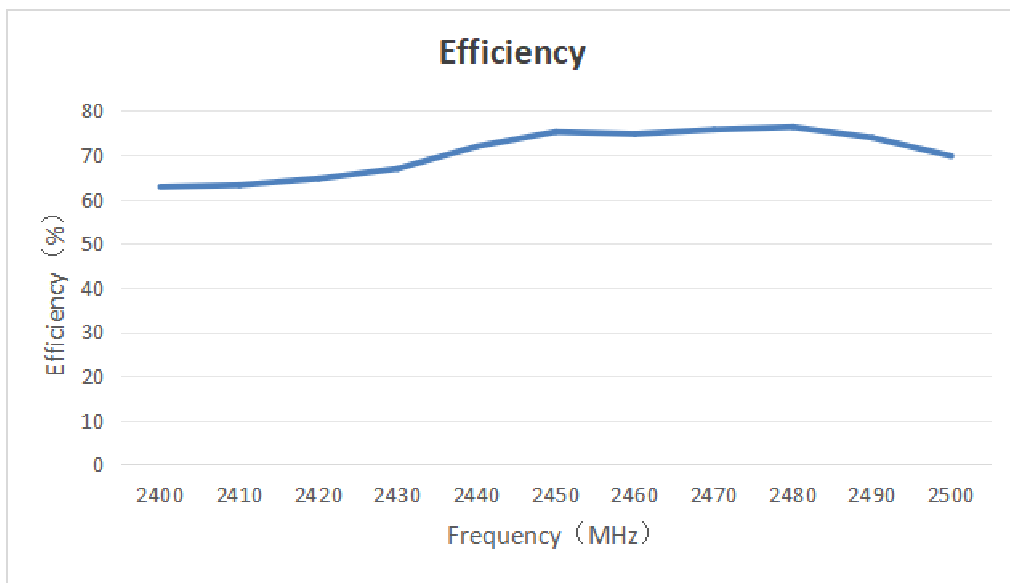
Standing wave ratio data

Freq	2.4GHz	2.45GHz	2.5GHz
VSWR	1.52	1.37	1.90

6.2.2 Active Antenna Test (Nothing)

ShenZhen MyAntenna RF Technology Co.,Ltd
 Address: Room 405, building r3-a, South District, Nanshan Science Park, Shenzhen
 Telephone: 0755-86503881 Fax:0755-27801677
 Mailbox: nfc@imyantenna.com Zip code:518057

6. 2. 3 Passive Antenna Test



Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	3.38	62.78	2460	4.16	74.70
2410	3.50	63.19	2470	4.15	75.69
2420	3.61	64.65	2480	4.13	76.24
2430	3.79	66.90	2490	3.93	73.86
2440	4.11	71.89	2500	3.62	69.73
2450	4.23	75.18			

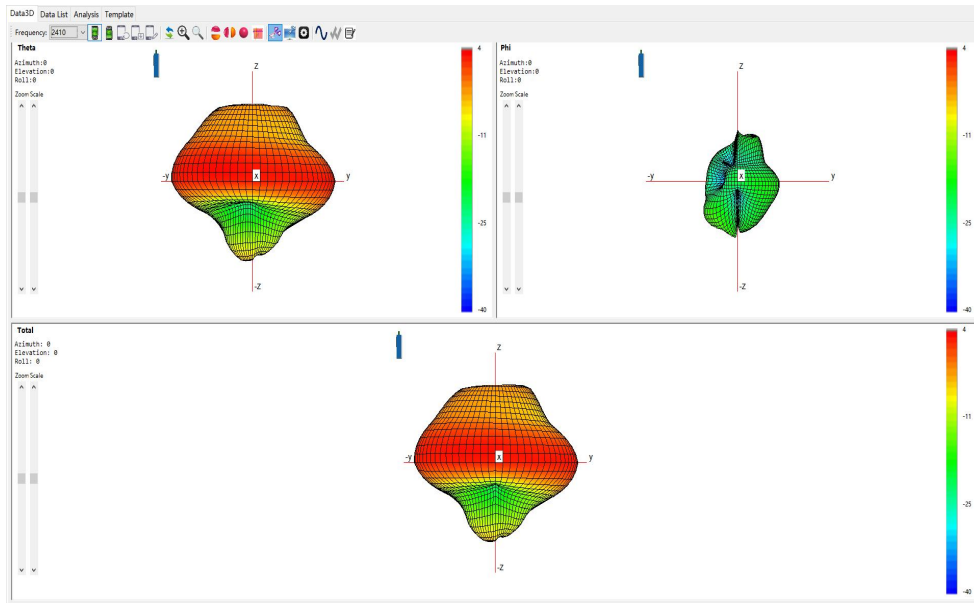
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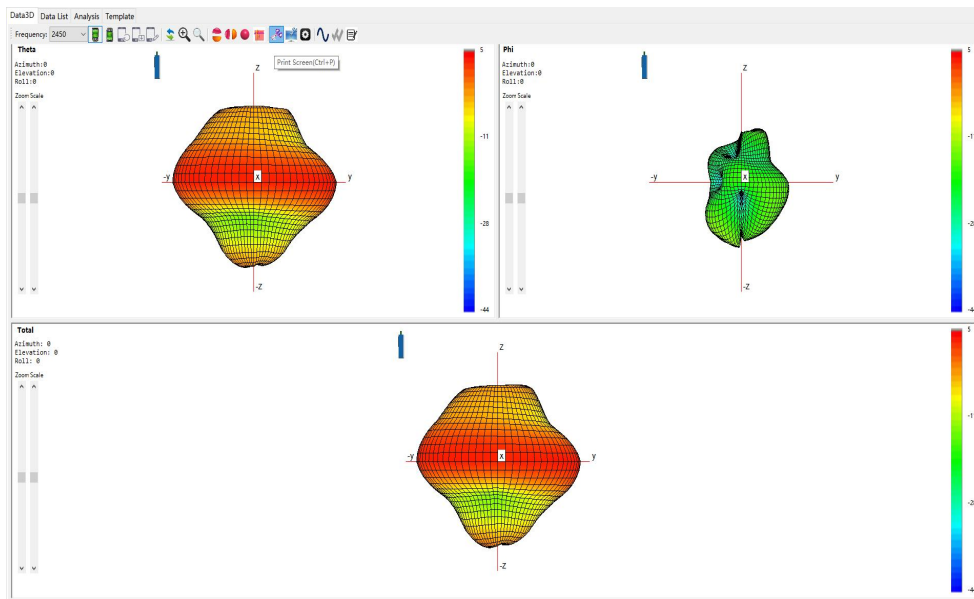
Mailbox: nfc@imyantenna.com Zip code:518057

6. 2. 4 3D graphics



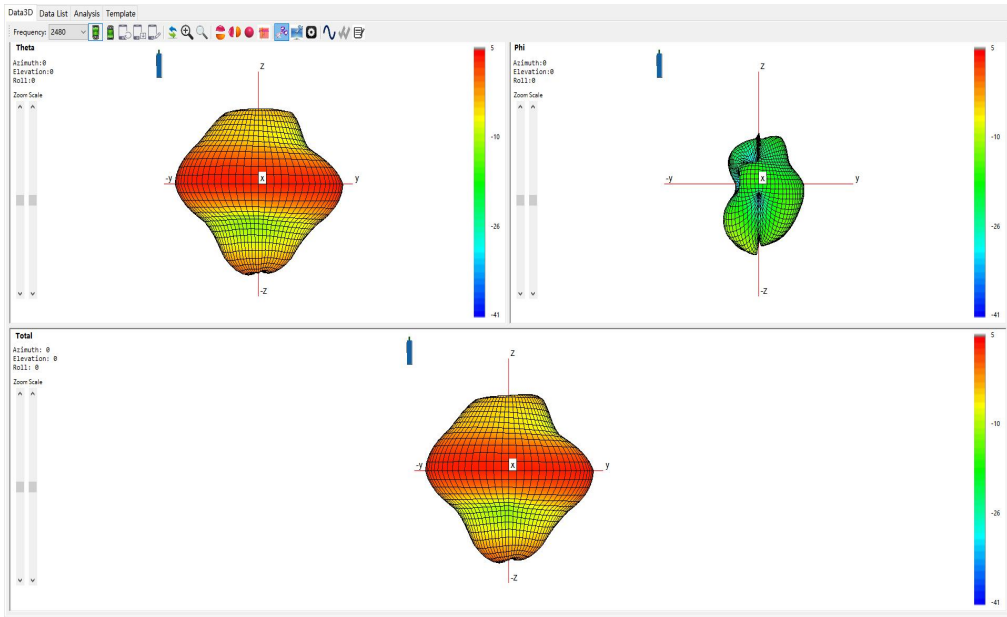
2410MHz

Gain=3. 5dBi



2450MHz

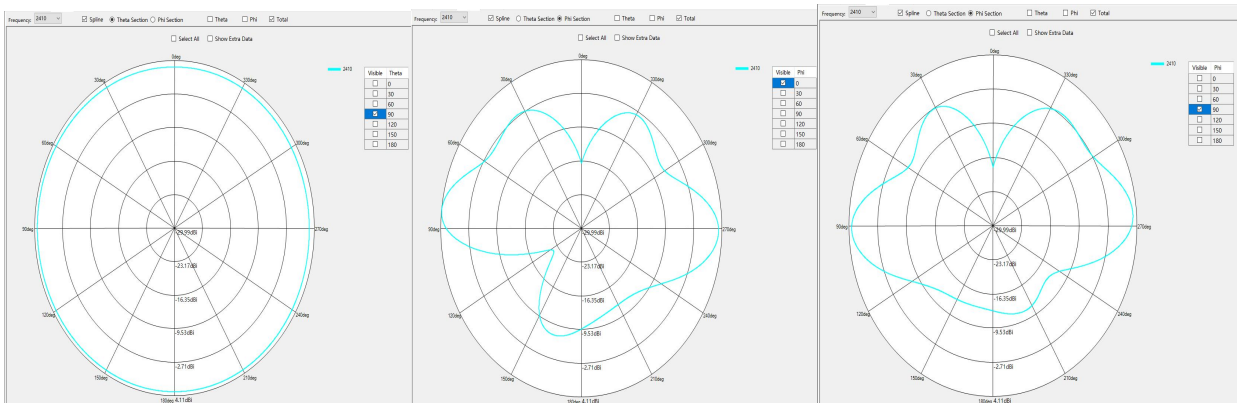
Gain=4. 23dBi



2480MHz

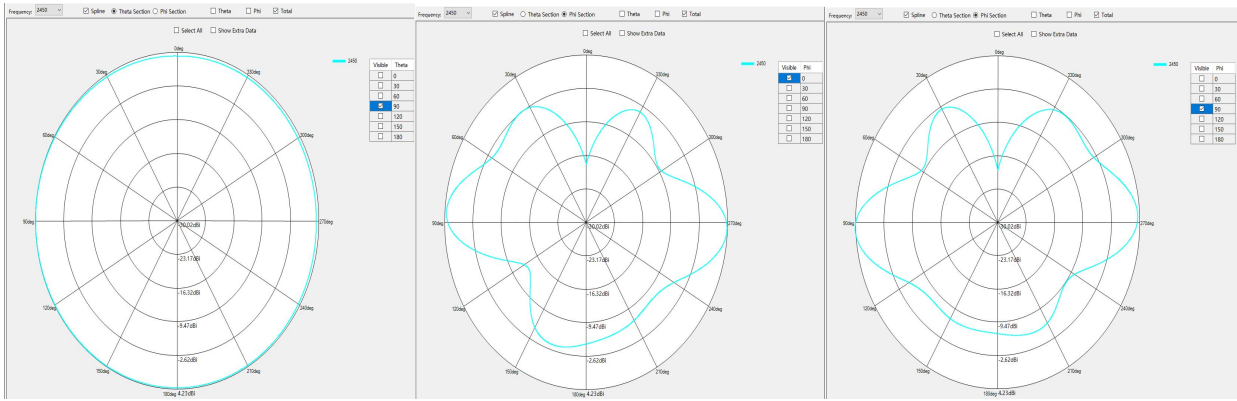
Gain=4. 13dBi

6. 2. 5 2D graphics



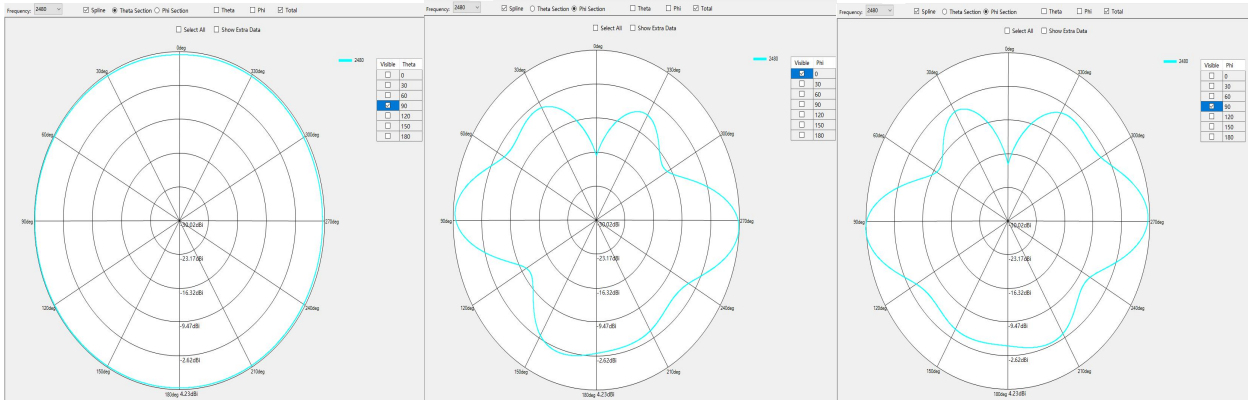
2410MHz

Gain=3. 5dBi



2450MHz

Gain=4. 23dBi



2480MHz

Gain=4. 13dBi

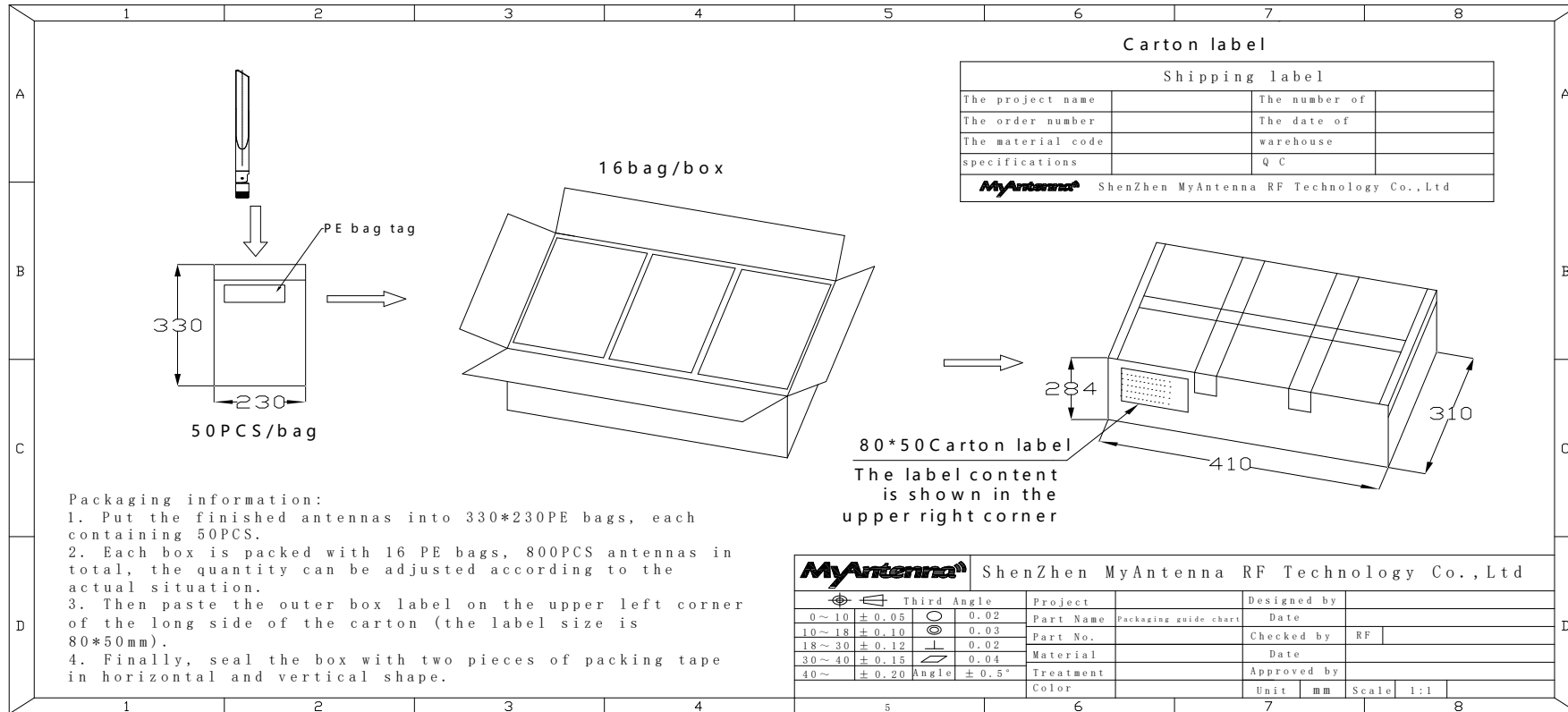
7. Antenna placement diagram





8. Inspection Report

Project Name		Hf01		Antenna Type	2.4G external rod antenna	Inspection Date	2024-03-01		
Appearance Standard				1、 No abnormality on the antenna surface					
Dimension Standard				2、 Within the required tolerances based on the drawing					
No	Inspection subject	Standard	Inspection tool	Sampling number	Result	Remark			
1	Appearance	As Above	Visually	6PCS	OK				
2	Dimension	As Below Chart	Vernier Caliper	6PCS	OK				
No	Inspection Subject	Dimension	Tool	Test Results (Recorded six groups of testing data includes the highest & lowest values)					
				1	2	3	4	5	1
1	Dimension	$\Phi 13 \pm 0.3$	Caliper	13.05	13.08	13.09	13.01	13.03	13.07
2		195.0 ± 5.0		196.4	195.9	196.8	195.2	196.3	195.2
3									
Remark									
Supervisor: SAM			Audit: CHEN			Inspector: JOYCE			

9. Packing specification diagram



10. QC engineering drawing

 QC engineering drawing		The file number	MA-QCW-2206-006	The file name	2.4G external rod antenna			To compile	zhao	
		version	A					audit		
		The release date	2022-06-11	Effective date	2022-06-11	The page number	1/2	approval	xu	
The serial number	process	The name of the process	Make technical parameters/quality characteristics	Use equipment fixture	Testing equipment	Check the method	Check the frequency	Using the record	undertaker	The relevant documents
1		Incoming inspection	Inspection standards/drawings	caliper	/	visual	AQL sampling	IQC inspection report	IQC	
2		Production of picking	Production task list	/	/	/	/	Material requisition	Warehouse operator	
3		Unpacking (unpacking) confirm quantity	Delivery note	/	/	/	/	Delivery note	The operator	
4		First appearance	Sealed samples samples	/	visual	visual	/	IPQC first inspection	IPQC	

		confirmation						record		
5		First piece performance test	The product meets the requirements in the design specification	/	Network analyzer	Test visual	/	IPQC first inspection record	IPQC	
6		Assemble the SMA head	Technical documents/drawings/BOM	/	manual	visual	All inspection	Daily production report	The operator	
7		inspection	IPQC process inspection regulations	/	visual	visual	2H	IPQC process inspection record	IPQC	
8		Soldering PCB	Technical documents/drawings/BOM	/	manual	visual	All inspection	Daily production report	The operator	
9		inspection	IPQC process inspection regulations	/	visual	visual	2H	IPQC process inspection record	IPQC	
10		Assemble the shell	Technical documents/drawings/BOM	/	manual	visual	All inspection	Daily production report	The operator	
11		inspection	IPQC process inspection regulations	/	visual	visual	2H	IPQC process inspection record	IPQC	
12		Appearance all inspection	Technical documents/drawings/appearance criteria	/	visual	visual	All inspection	Daily production report	The inspector	

13		Test	Technical documents/drawings	/	Network analyzer	Test visual	All inspection	Daily production report	The operator	
14		Packing (bag) quantity confirmation	Drawing/BOM	/	/	visual	All inspection	Daily production report	The operator	
15		inspection	IPQC process inspection regulations	/	visual	visual	2H	IPQC process inspection record	IPQC	
16		Put in storage	Production task list	/	/	/	/	Warehouse receipt of products	Warehouse operator	
17		Pre-shipment inspection	Shipping note	Network analyzer		measurement	AQL sampling	/	QQC	

instructions: □ Said operation、 processing; ◇ It means confirm, check, judge, approve; ▽ Put into storage; ↓ Said handling

mark	Modify the content	version	The date of	modifier	The examination and approval