

APPROVAL SHEET

Dipole ANTENNA
2.4/5.x GHz Working Frequency
Halogens Free Product
P/N: RFDPA800905IMLB302

Customer : LGIT

Customer 's Part No. : 2ANE00018A

Approval No. :

Issue Date :

*Contents in this sheet are subject to change without prior notice.

Version	Date	Description	Author
V01	2023 Dec.	New Release	SHLEE
V02	2024 Mar.	Added Sponge 、 Added dimension definition 、 Test report 、 Added Package	SHLEE
V03	2024 May.	Added reliability test report	SHLEE
V04	2024 Jun.	Added reliability test report 、 Test report	SHLEE

WARRANTY PERIOD

The warranty for new products is for a period of one year from date of invoice.

ELECTRICAL CHARACTERISTICS

Item	Specification
Working Frequency Range	2.4 ~ 2.5 / 5.15 ~ 5.85 GHz (Note-1)
Gain (Peak)	3.12 dBi@2.4~2.5 GHz 3.92 dBi@5.15~5.85 GHz
Return Loss	-10dB(Max)
VSWR	2 max.
Polarization	Linear
Radiation Pattern	Omni-directional
Impedance	50Ω
Operation Temperature	-20℃ ~ +65℃
Storage condition	Room temperature 20±5℃
Humidity	20-65%RH

*Note 1. Central Frequency should be defined after customers' application approval.

MATERIAL TABLE

Items	Description
Antenna Down Base	PC+PBT(White)
Antenna UP Base	PC(White)
Rivet	POM(White)
Antenna Cover	TPE(White)
UP Brass Tube	Brass
Down Brass Tube	Brass
Coaxial Cable	ø1.13(Gray)
Connector	IPEX Compatible(Gold)
Heat Shrink Tube	CB-HFT(Black)
Sponge	EVA(White)

STORAGE CONDITION

Item	Specification
Temperature	Any temperature between 15℃ and 25℃
Humidity	20-65%RH

ORDERING RULE

RF	DPA	8009	05	I	M	L	B	3	02
Type Code	Product Code	Dimension (Unit: mm)	Cable Length (unit: cm)	Connector Brand	Type of Connector	Application	Project status	Wire Diameter	Project
RF Device	Antenna	Per 2 digits of length, width e.g.: 1310 Length 135.7mm, Width ϕ 10.0mm	2 digits for cable length e.g.: 10 Length 10cm	A: N C:MCX D:IPEX III E: IPEX IV F: IPEX A13 H: Hirose I: IPEX M: MMCX S: SMA T: TNC U:MURATA N: None	A: Reverse Female B: Reverse Male F: Female M: Male N: None	0: 0GHz 3: 3GHz 5: 5 GHz 6: 6GHz A: 2.4GHz ISM band B: GSM 900/1800 dual band G: GPS band L: 2.4/5.x GHz tri-band N: NFC T:LTE band W: WCDMA band	B: MP T:During Test X: Pile Run	0:None 1:0.81 3: ϕ 1.13 6:RG316 7: ϕ 1.37 8:RG178 9: ϕ 1.37 Low Loss	01~99 series number

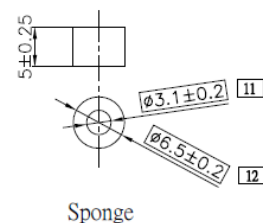
DIMENSIONS

ELECTRICAL

Frequency :
2.4~2.5 / 5.15~5.85 GHz

No.	DESCRIPTION	MAT'L	Color	Q'TY
A	Antenna Down Base	PC+PBT	White (024+UV)	1
B	Antenna Up Base	PC	White (024+UV)	1
C	Rivet	POM	White (024+UV)	2
D	Antenna Cover	TPE	White (024+UV)	1
E	UP Brass Tube	Brass	—	1
F	Down Brass Tube	Brass	—	1
G	Coaxial Cable	(Ø1.13 Cable)	Gray	1
H	Connector	IPEX Compatible (721300000322)	Gold	1
I	Heat Shrink Tube	CB-HFT	Black	1
J	Sponge	EVA	White	1

Assemble EVA foam to the position inside of the antenna base and Flush with the bottom of the bracket.
To meet anti-jamming requirements

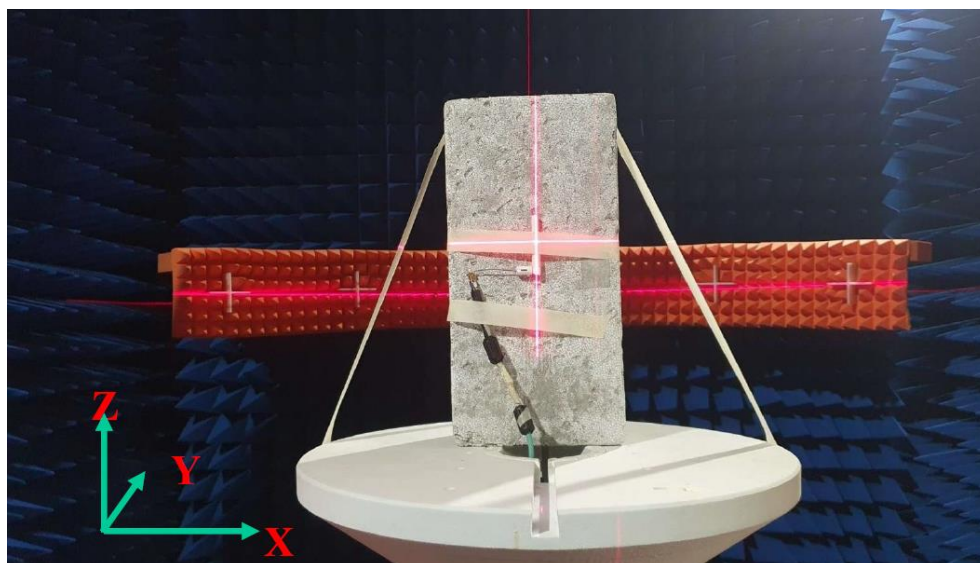


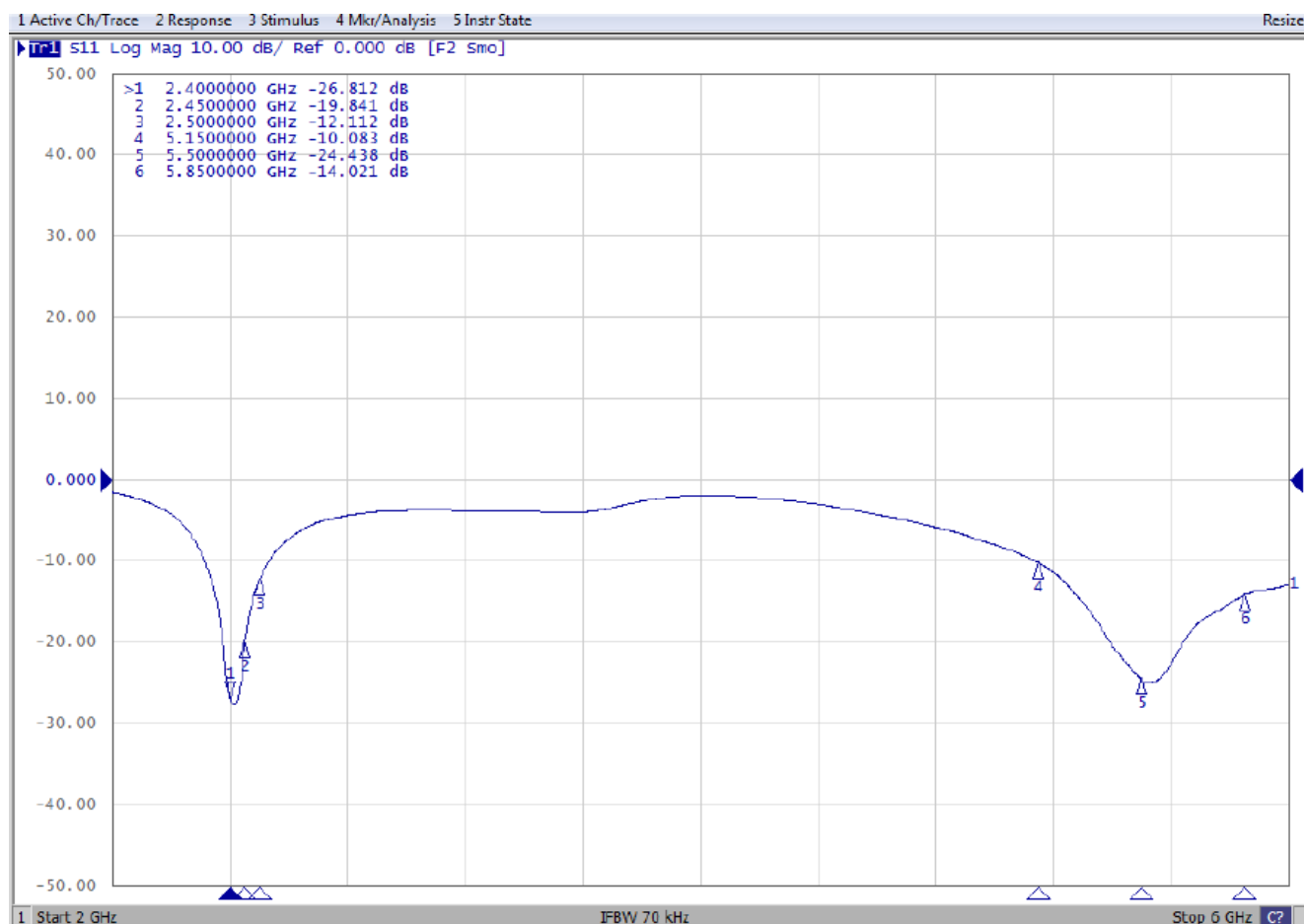
※□ indicates key sizes to be examined

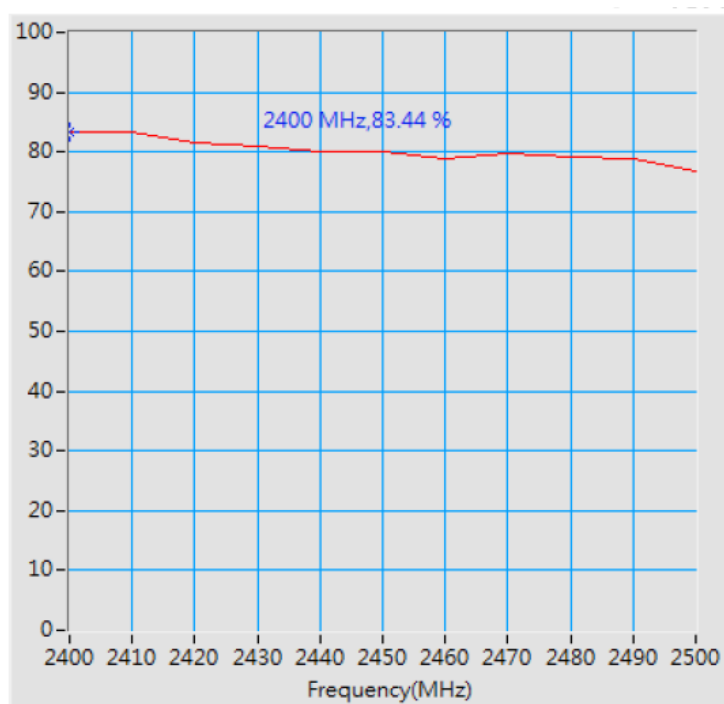
				DR.	SHLEE	2023.12.21	ARTICLE	REV. B		
				APPD.	MARCO					
Added Sponge · Added dimension definition			2024.04.02	SHLEE					TOLERANCE	
LTR	DESCRIPTION		DATE	REQ. BY						
PSA 華新科技股份有限公司 WALSIN TECHNOLOGY CORPORATION						RFDPA800905IMLB302				
						6以下.....±0.2	UNIT	SCALE	SHEET	
						6以上~30.....±0.5				
						30以上~120.....±0.8	mm	****	1	
						120以上~315.....±1.2				
						315以上~1000.....±2.0				
						1000以上~2000.....±3.0				

Test Report

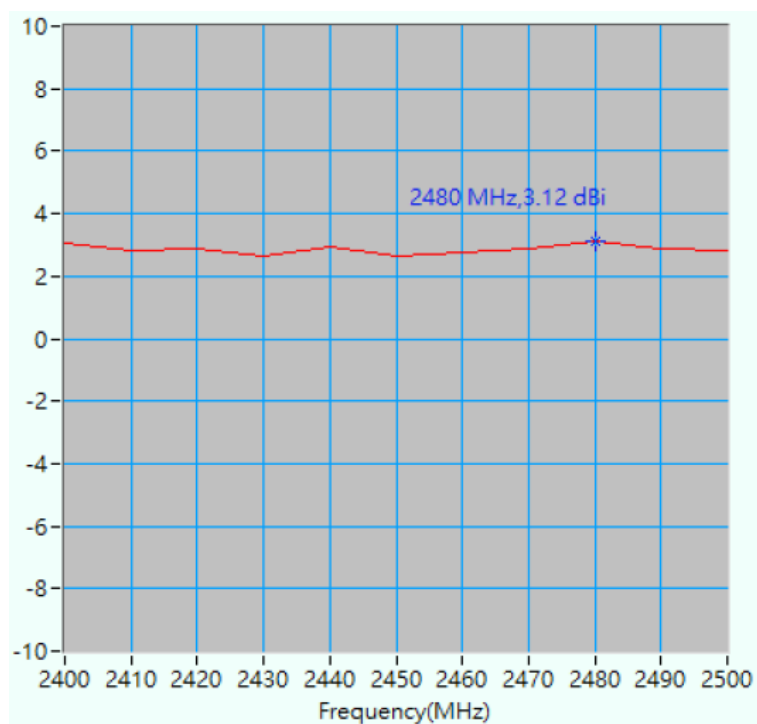
■ Experimental Setup



ELECTRICAL CHARACTERISTICS**S-Parameter**

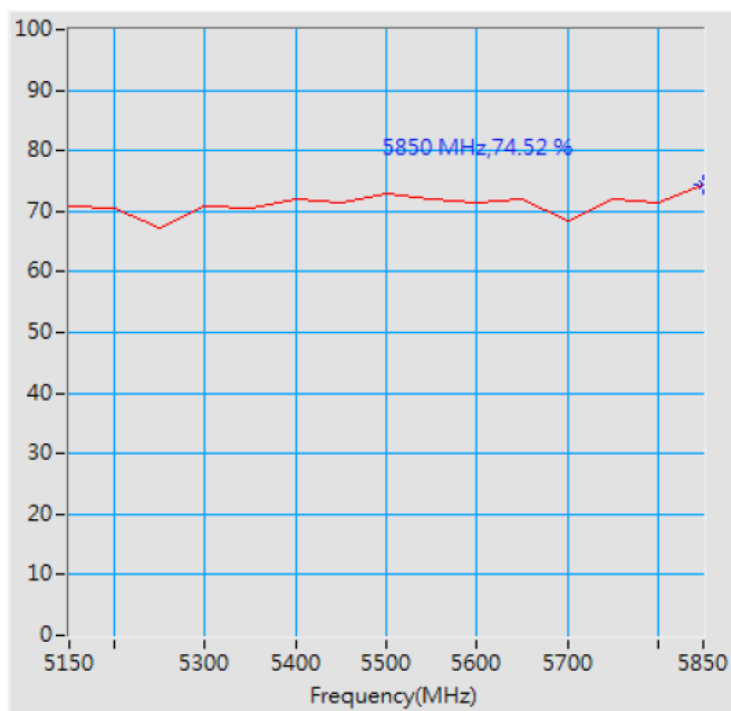
■ ANTENNA EFFICIENCY AND PEAK GAIN**2400~2500 MHz**

Maximum Efficiency at 2400 MHz : 83.44 %

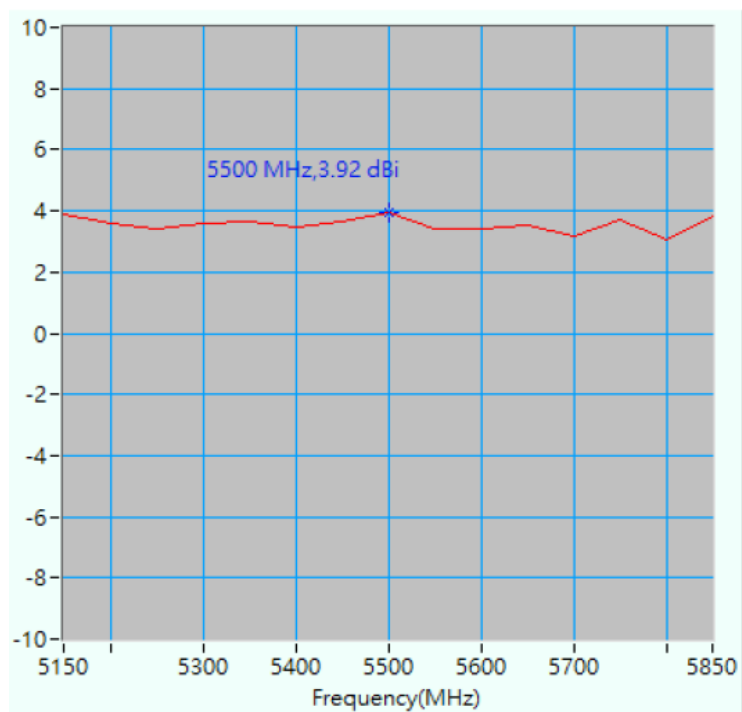


Maximum Peak Gain at 2480 MHz : 3.12 dBi

5150~5850 MHz



Maximum Efficiency at 5850 MHz : 74.52 %



Maximum Peak Gain at 5500 MHz : 3.92 dBi

Frequency (MHz)	Efficiency (%)	Peak gain (dBi)
2400	83.44	3.04
2440	80.13	2.96
2480	79.03	3.12
5150	70.83	3.90
5500	72.88	3.92
5850	74.52	3.85

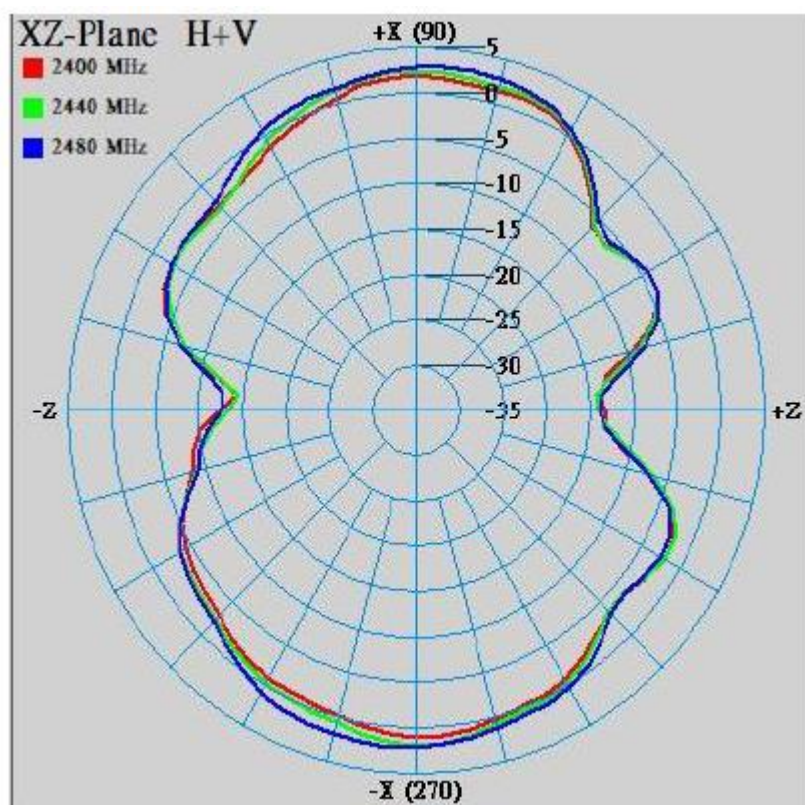
■ RADIATION PATTERN

2400~2500 MHz

X-Z Plane

Phi=0.00deg

Gain . dB

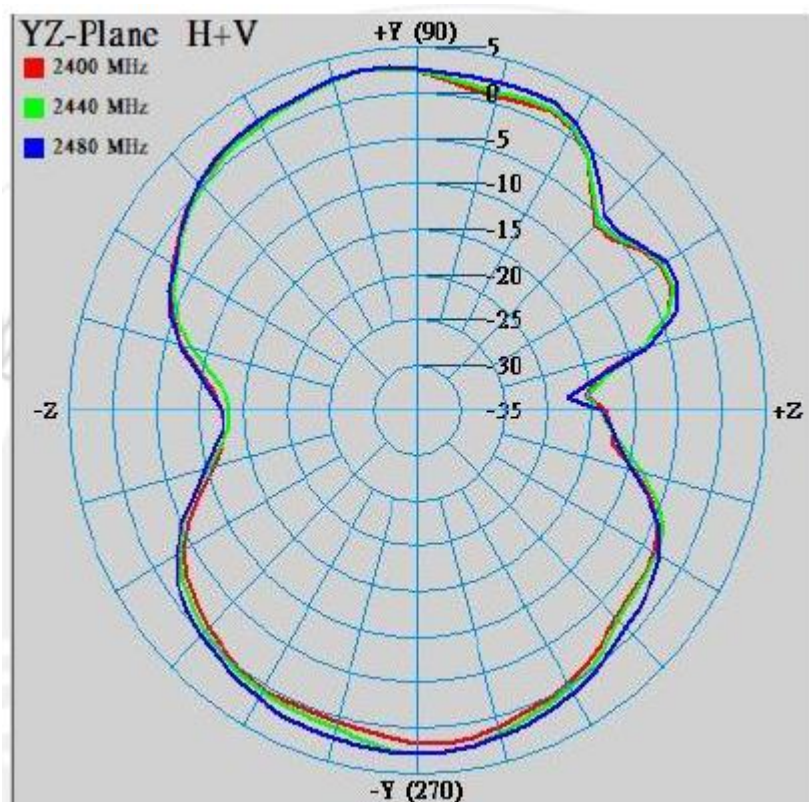


2400~2500 MHz

Y-Z Plane

Phi=90.00deg

Gain . dB

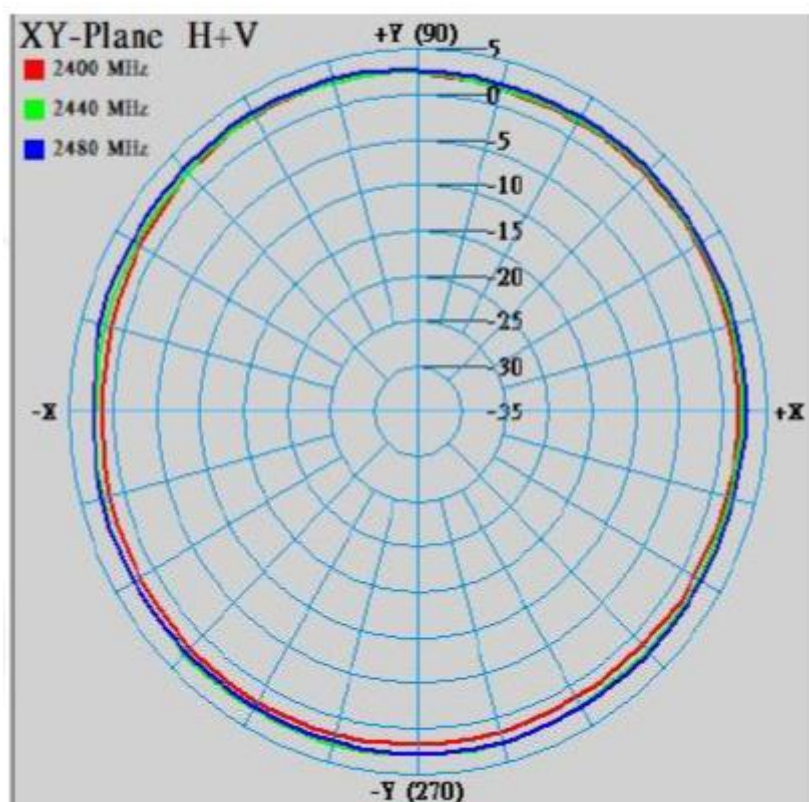


2400~2500 MHz

X-Y Plane

Theta=90.00deg

Gain . dB



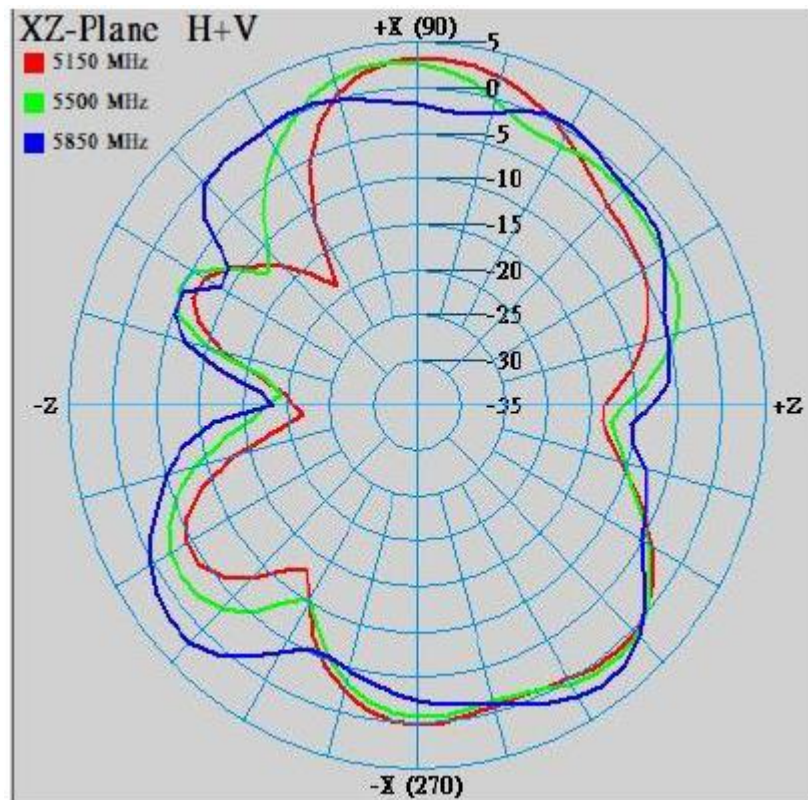
Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	1.83	-2.01	2.92	-1.16	2.70	1.85
2440	2.40	-1.54	2.87	-0.83	2.92	2.42
2480	2.89	-1.01	2.97	-0.29	3.08	2.66

5150~5850 MHz

X-Z Plane

Phi=0.00deg

Gain . dB

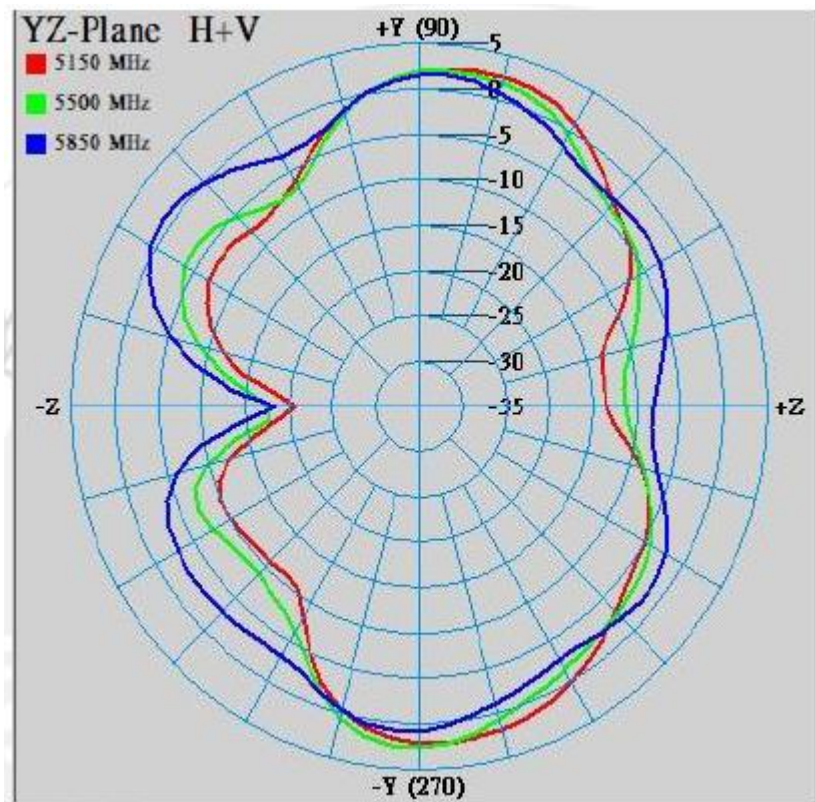


5150~5850 MHz

Y-Z Plane

Phi=90.00deg

Gain . dB

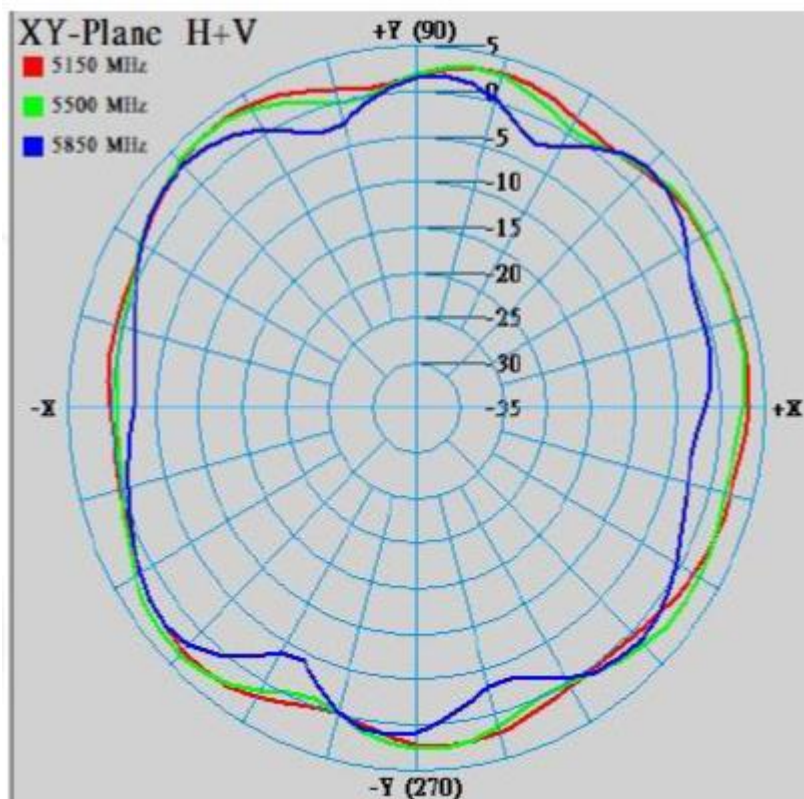


5150~5850 MHz

X-Y Plane

Theta=90.00deg

Gain . dB



Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
5150	3.21	-2.76	2.53	-2.63	3.89	2.00
5500	2.85	-2.36	2.71	-2.66	3.74	1.89
5850	2.45	-1.81	1.67	-2.08	2.92	0.11

Reliability Test Report

PASSIVE SYSTEM ALLIANCE Walsin Technology Corporation								RELIABILITY TEST REPORT			
(Regularity)								NO.27-T-009E			
Original filed :		Title : Reliability Test Report				Section : Antenna		Date :2024/3/1			
Page : 1/7						Reporter : hongyu_zhang					
Report No. : 20240301001											
						Verified	Alex	Checker	aimee		
No.	Part No.	Lot No.	Test Item	Test Condition	RE/Total Q'ty	Result	Remark				
1	RFDPA800905IMLB302	N/A	High temp & High humidity	Temperature 85℃,Humidity85°,Test duration: 72hrs	0/2	ACC	—				
2	RFDPA800905IMLB302	N/A	High temp & High humidity storage	High Temperature 85℃,Test duration : 72hrs	0/2	ACC	—				
3	RFDPA800905IMLB302	N/A	Salty spray test	Liquid pH:6.5-7.2 , 5% Concentration Neutral Salt Spray for 48hrs	0/2	ACC	—				
4	RFDPA800905IMLB302	N/A	Thermal Shock Test	Low temperature -40℃ test for 30 minutes then High Temperature 85℃ for 30 minutes as a cycle, temperature change rate : 1℃,total 72 cycles,test duration:72hrs	0/2	ACC	—				
5	RFDPA800905IMLB302	N/A	Low temperature Storage	Low temperature -40°,Test duration:72hrs	0/2	ACC	—				
6	RFDPA800905IMLB302	N/A	Coating adhesive Test(Tape)	Cross-Cut Method	0/2	ACC	—				

Package

PASSIVE SYSTEM ALLIANCE Walsin Technology Corporation		Walsin Technology Corporation	
Confidentiality Level : ☐ Ordinary ☒ Restricted Access ☐ Confidential ☐ High Confidential			
RFDPA800905IMLB302 Packaging Specifications		Page: 1 to 1	
		Document No.:	Version : A0
		Reversion Date: 2024/2/29	
Packaging Picture			
Picture 1			
	→		→
		PE Bag	10pcs/Bag
			→
			10pcs/Bag
Picture 2			
	→		→
Cotton Pearl		Outer Box	
Picture 3			
	→		→
Packed finished good		1000pcs/ box	
			Seal the box with a '工' shape
Packaging Specifications Rules :			
1.Wrap the terminals of every 10 PCS of products with pearl cotton, then pack them into PE bags. Seal each PE bag with 100 PCS inside, and affix the manufacturing label on the top center of the PE bag °			
2.Place the pearl cotton into the outer box (as shown in picture 2)			
3.Place the packed finished products (as shown in picture 3) into the outer box, with 1000 pieces of products per box. Place one piece of pearl cotton on the top and bottom of each box.			
4.On the outer box, affix the manufacturing label and relevant customer-requested labels. Seal the box with a '工' shape, meaning it's sealed on all six sides. The cardboard box has no logo and measures L365 xW365xH210mm.			
Manufacturing Label Diagram: The actual label content is for reference only.			
The specific content shall be based on the shipping part number.			
		(NO 1.): Spec desc. (NO 2.): PN & LOT & QTY (NO 3.):Inventory check barcode (NO 4.): print system time-total piece this print (NO 5.): BULK LOT (NO 6.):Label Serial Number	
Manufacturing Lable Size Specification : Copperplate paper (L85mm±5mm*W25±3mm) Barcode spec: code 93			
Approved by :	何耀輝	Reviewed by :	赵文豹
		Made by :	伍伟建