

Suzhou Point Positive Electronic Technology Co.,ltd

SPECIFICATION FOR APPROVAL

Customer	Hansong (NanJing) Technology Ltd		
Customer P/N	45-2-000815	Rev.	A1
Description	ANTENNA		
DRAWING P/N	RC12WFI0490A1		

CUSTOMER APPROVED BY STAMP	Approval	Quality	RD	Sales
	Roy	Hellen	Tak	Frank

ADD : No 8 ChuanXin West Road ,Yinghu industrial Park, Wangting Town
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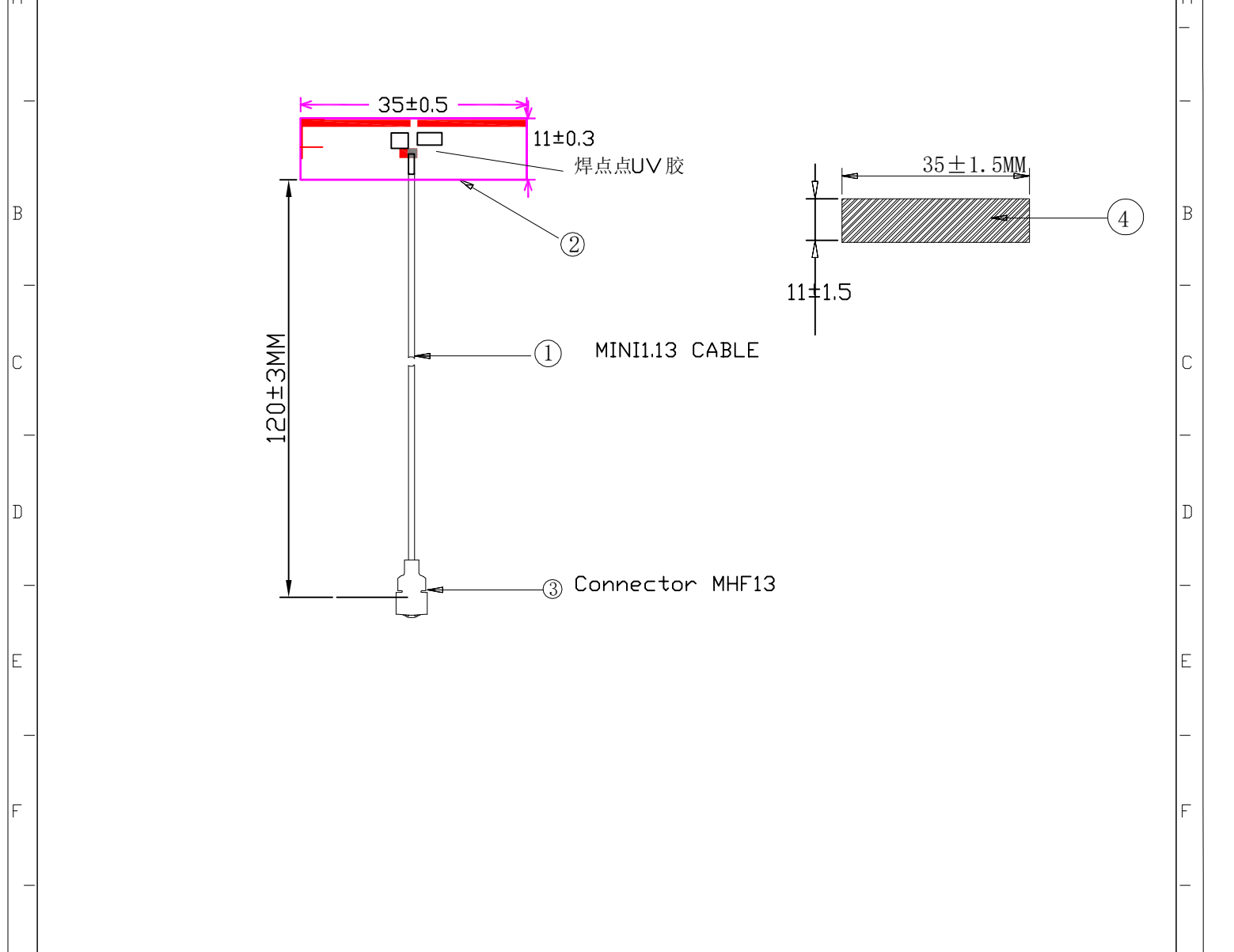
RF CABLE ASS'Y TEST ITEMS

NO	Items	Test Conditions	Specifications
1	Thermal Shock Test	Place the sample in the thermal shock chamber. One cycle consists of -40 °C for 30 minutes and 70 °C for 30 minutes. A total of 5 test cycles shall be conducted. The conditions for one cycle are as follows : '-40°C 30min 70°C 30min	No abnormality in appearance. VSWR meets the requirements. Insulation and return loss meet the requirements.
2	High and Low Temperature Storage Test	Place the sample in a high-low temperature test chamber at a temperature of 70°C±2°C for a 72-hour test. After completion, allow the sample to return to room temperature for 2 hours , then conduct inspection on its function, performance and appearance.	No abnormality in appearance. VSWR meets the requirements. Insulation and return loss meet the requirements.
3	Salt Spray Test	Place the sample into the test chamber. Temperature: 21 °C Relative Humidity: 50% Salt concentration: 5±1% NaCl concentration Test duration: 48 hours In accordance with MIL-STD-202	No obvious corrosion on the appearance.
	Finished Product Inspection Standard	The material specifications comply with the drawings. No defects such as cold solder joints, poor solder joints, sharp solder spikes, or incorrect orientation on PCB/FPC. No deformed terminals, no exposed core wires, no damage to the plastic body of PIN holes. No defects such as open circuit, short circuit, or abnormal frequency (too high or too low)	Finished Product Inspection Standard/ MIL-STD-105/ PIQ-1031

SPECIFICATION

1. Description	ANTENNA
2. Customer	Hansong (NanJing) Technology Ltd
3. Model No	RC12WFI0490A1
4. Part No	45-2-000815
5. Standard	PCB ANT
6. Antenna Profile	(see Drawing)
7. Color	BLACK
8. Electrical Characteristics	
Operating Frequency	2.4 ~5.8Ghz
Antenna Type	DUAL BAND
Polarization Type	Omni-directional
Type of Radiation	vertical or horizontal
Peak Gain	2.4~5 Ghz/1_~3dBi Typica
Impedance	50Ω
V.S.W.R	2:1 Max
9. Mechanical Characteristics	
Swivel	
Lead Length	L:120MM
Connector	MHF13
10. Raw Material	
Coaxial Cable	MINI 1.13
Housing/Hinge	N/A

1						
2						
3						



spec;
TEST VSWR/Return loss;
Frequency:2.4/5Ghz

4	背胶	KS	3M /11*35MM	灰色		1
3	连接器	CPT	MHF13 /958-C113	金色		1
2	本体	MJ	ANT PCB PP098	金色		1
1	电线	YD	MINI1.13 BLACK COAXIAL CABLE	黑色		1
No	材料名称	厂商	零件规格及描述	颜色	尺寸及备注	
第3角法		图面不用实测		客户料号	45-2-000815	
单位:MM		绘图	检图	确认	核准	品名
比例:FREE						产品分类
DATE:03/25/25		Star	Hellen	Roy	Daivd	公司图号
						RC12WF10490A1

Antenna Measurement Report

- Model: PCB Antenna(PP098)
- Manufacture : Suzhou Point Positive
- Electronic Technology Co.,Ltd
- Series Number : QTKOTAPR00321
- Antenna Type: Frequency; 2.4Ghz-5.8Ghz
- -----
- Test Date:2025-06--02

Outline Summary

- Test Environment and Equipment
 - Housing with antenna Photo
 - Test Result : 2D/3D Radiation Pattern Test
 - Test Result : Efficiency & Peak Gain
-
- Taet Laboratory:
 - Name:**Suzhou Laboratory**
 - Address:No.99 Hongye RD.Suzhou Industrial Park Loufeng Hi-New-Tech
 - Development Area,Suzhou,China
 - The test results relate only to the samples tested.

TEST ENVIRONMENT AND EQUIPMENTS

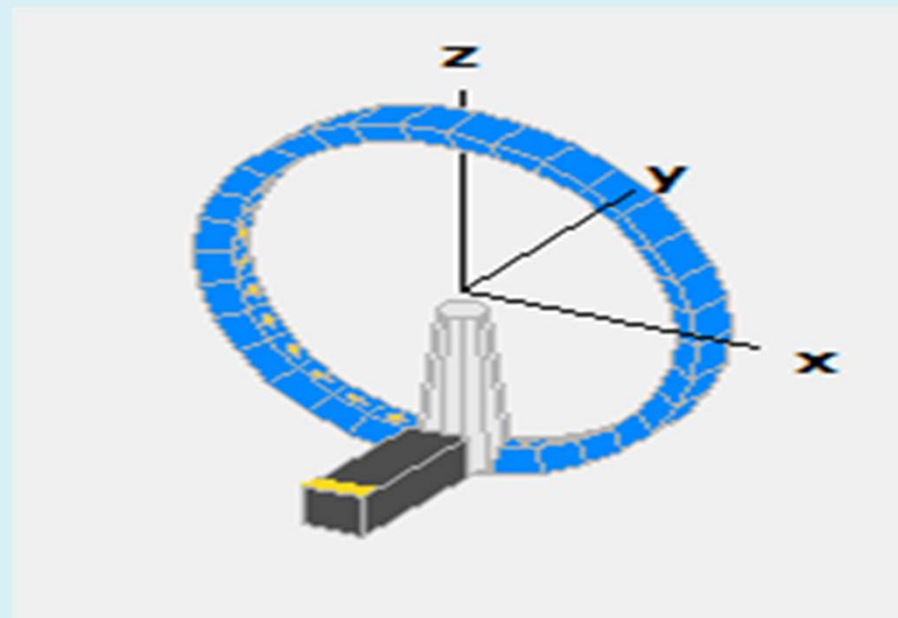
The Gain, Efficiency, Directivity and 2D/3D Pattern

Frequency Range :

Radiation Pattern Test System :

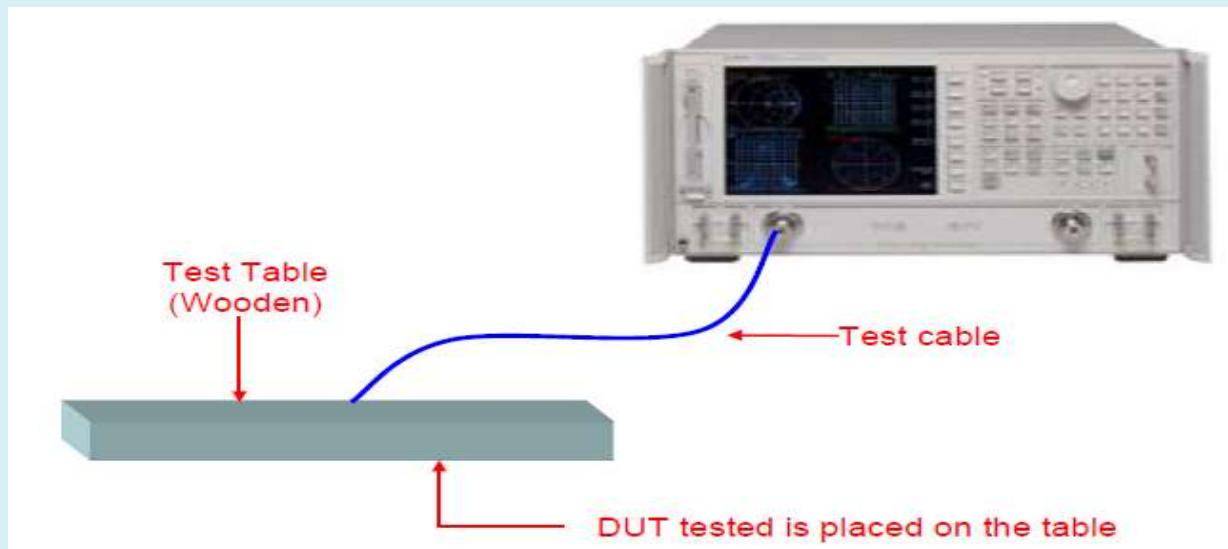
- The Radiation Pattern Test System(EMT24)
- The antenna under tested is arranged in the turned table and a decoupling sleeve is used to reduce feed line radiation (see figure. 1). when viewed from the door of the chamber.

The axis arrangement is shown in Fig. 3



Test Environment and Equipments

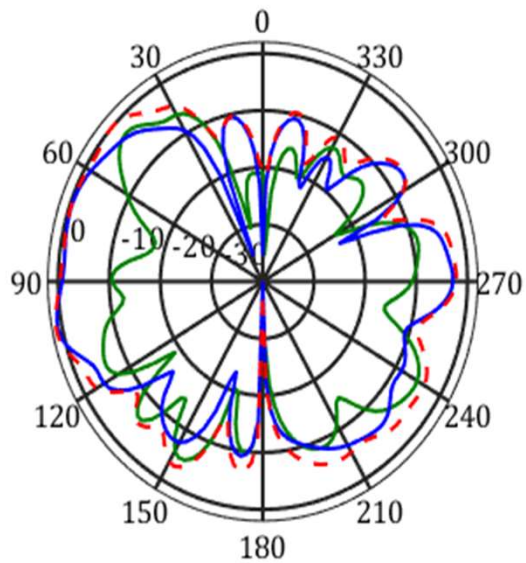
- S-Parameter test
 - Network Analyzer
 - Testing range from 30KHz to 8.5GHz



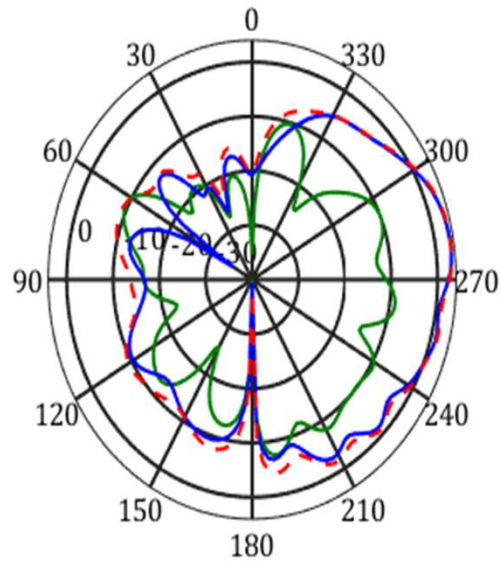
Test Result : 2D & 3D Radiation Pattern

Frequency: 2.4GHz

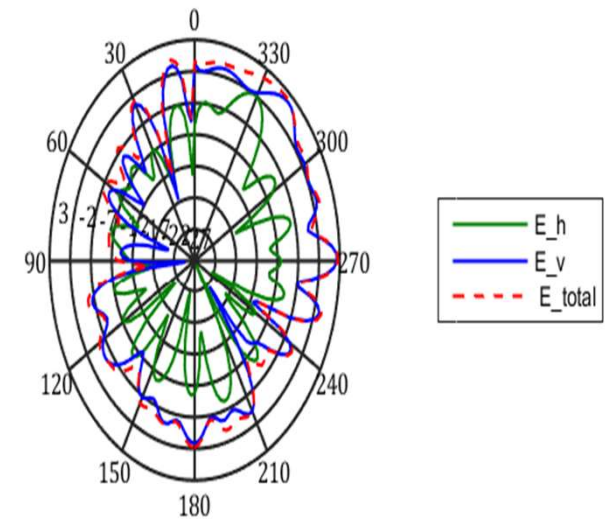
frequency=2400MHz, X-Z Plane



frequency=2400MHz, Y-Z Plane

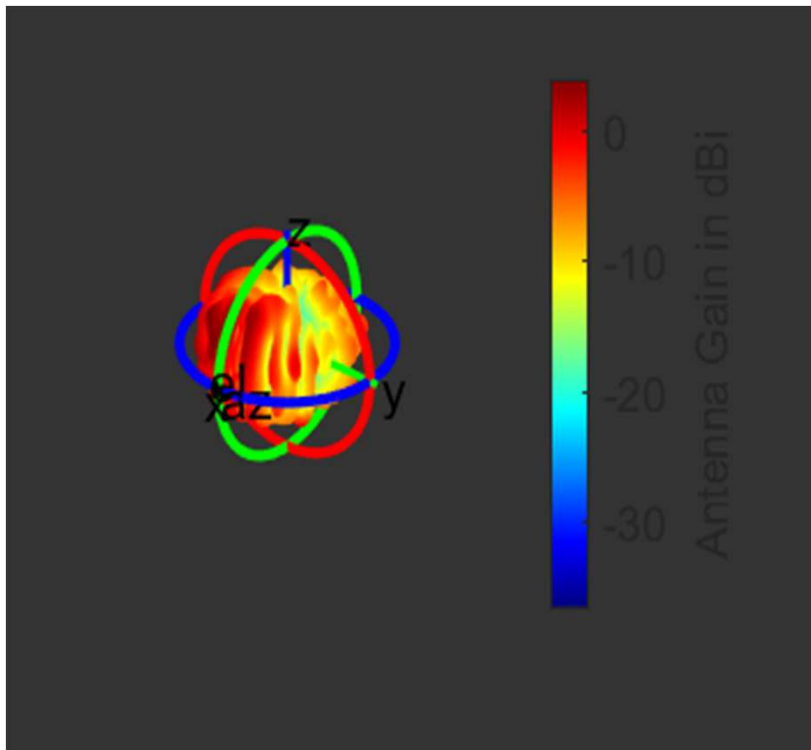


frequency=2400MHz, X-Y Plane



Test Result : 2D & 3D Radiation Pattern

Frequency:2.4Ghz

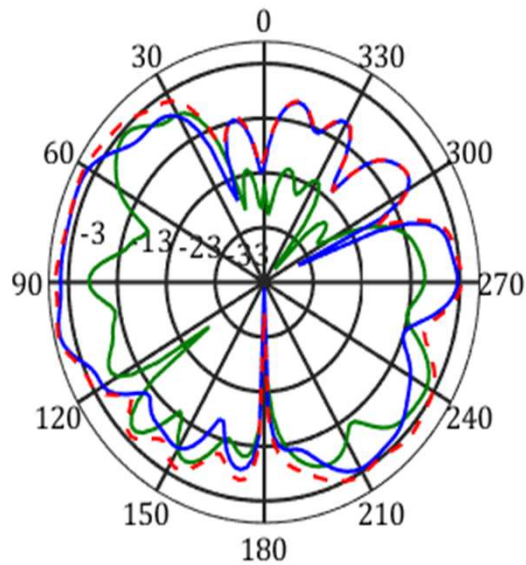


dBi	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	-2.69	-7.38	-1.98
E_v(max)	0.82	3.24	2.39
E_total(max)	1.19	3.34	2.58
E_h(min)	-39.37	-39.94	-31.3
E_v(min)	-39.94	-39.37	-29.81
E_total(min)	-36.63	-36.63	-20.91
E_h(avg)	-11.44	-13.82	-12.42
E_v(avg)	-8.42	-10.5	-5.9
E_total(avg)	-5.63	-9.08	-5.22
degree	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	46	-170	-30
E_v(max)	102	-82	-90
E_total(max)	102	-80	-90
E_h(min)	-180	-180	-148
E_v(min)	-180	180	94
E_total(min)	-180	180	94
E_h(3dB)	18.65	12.89	16.62
E_v(3dB)	56.19	51.83	10.31
E_total(3dB)	75.23	52.7	10.38

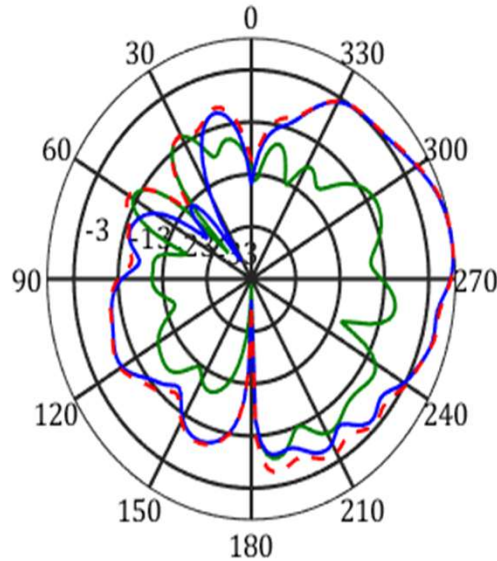
Test Result : 2D & 3D Radiation Pattern

Frequency: 2.45GHz

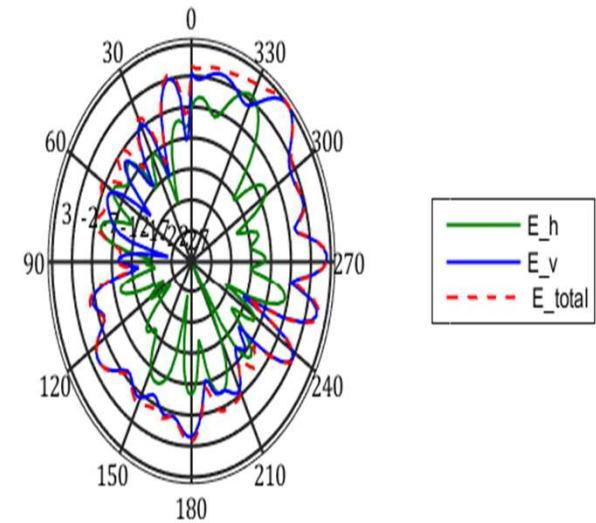
frequency=2450MHz, X-Z Plane



frequency=2450MHz, Y-Z Plane

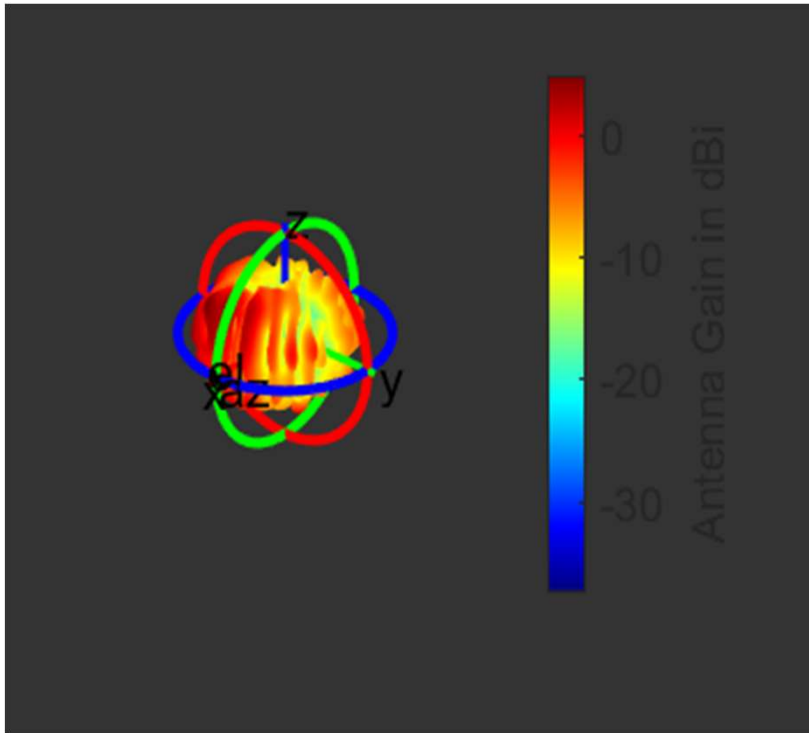


frequency=2450MHz, X-Y Plane



Test Result : 2D & 3D Radiation Pattern

Frequency:2.45Ghz

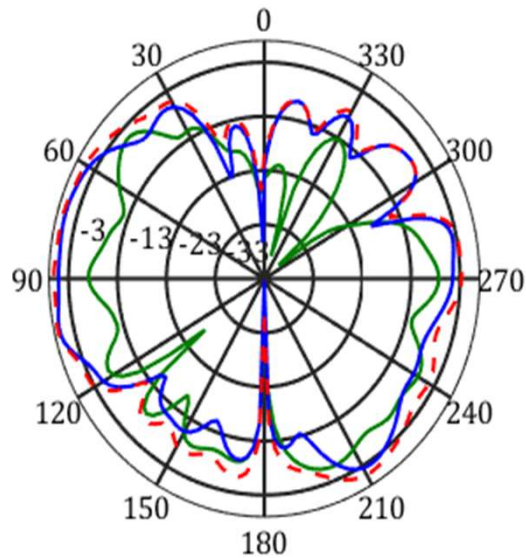


dBi	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	-3.8	-8.26	-1.2
E_v(max)	-0.14	2.76	3.02
E_total(max)	0.16	2.83	3.1
E_h(min)	-39.81	-42.05	-31.19
E_v(min)	-42.05	-39.06	-26.12
E_total(min)	-37.29	-37.29	-17.06
E_h(avg)	-11.22	-17.34	-13.31
E_v(avg)	-8.31	-10.28	-6.34
E_total(avg)	-5.41	-9.65	-5.74
degree	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	46	-170	-30
E_v(max)	102	-82	-44
E_total(max)	104	-80	-44
E_h(min)	-42	-180	-146
E_v(min)	-180	180	82
E_total(min)	-180	180	94
E_h(3dB)	19.25	12.83	16.08
E_v(3dB)	56.98	37.73	16.49
E_total(3dB)	73.67	41.02	32.93

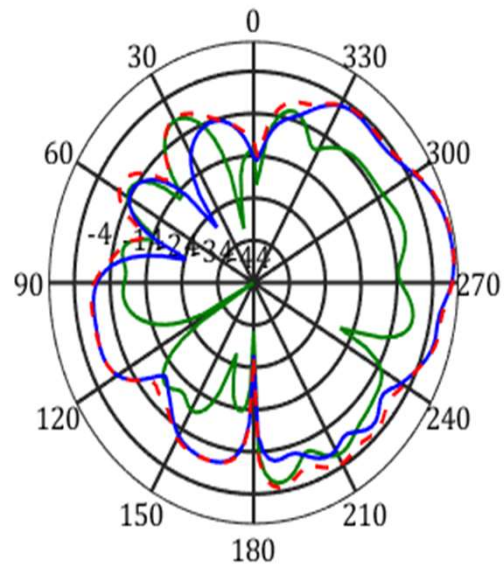
Test Result : 2D & 3D Radiation Pattern

Frequency:2.5Ghz

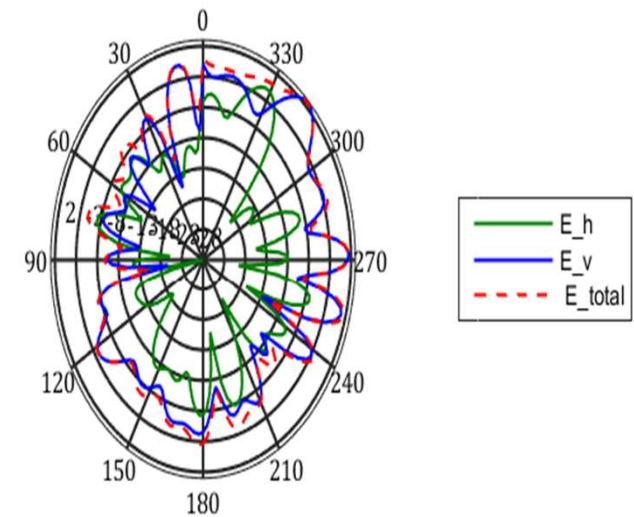
frequency=2500MHz, X-Z Plane



frequency=2500MHz, Y-Z Plane

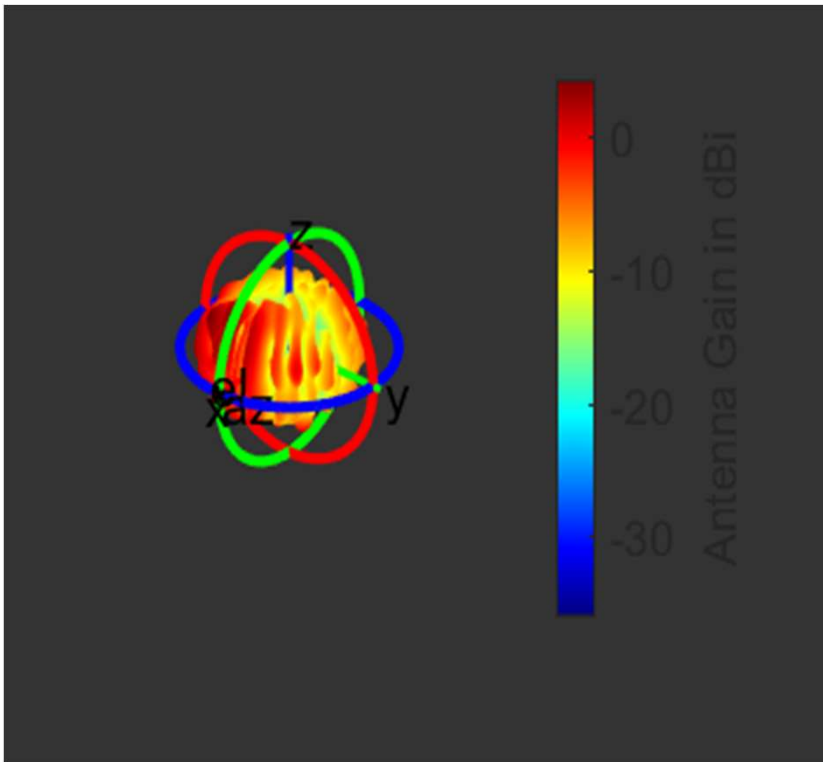


frequency=2500MHz, X-Y Plane



Test Result : 2D & 3D Radiation Pattern

Frequency:2.5Ghz

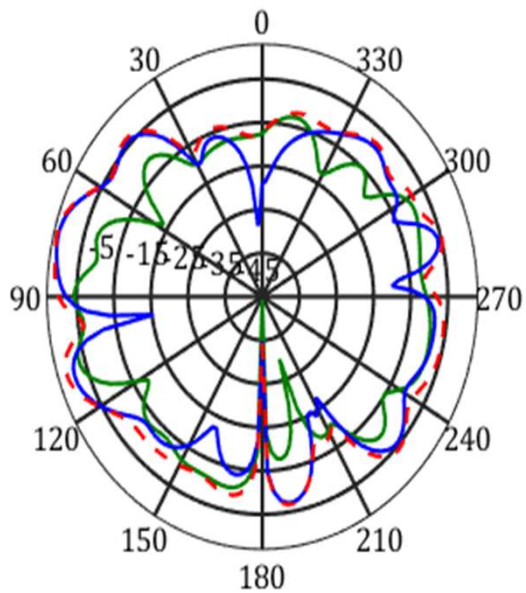


dBi	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	-4.95	-6.12	-1.19
E_v(max)	-0.1	2.04	2.66
E_total(max)	0.22	2.2	2.69
E_h(min)	-39.15	-53.9	-32.89
E_v(min)	-42.58	-37.42	-24.63
E_total(min)	-35.88	-35.88	-20
E_h(avg)	-10.58	-15.27	-13.06
E_v(avg)	-7.75	-10.45	-6.67
E_total(avg)	-5.92	-9.04	-5.53
degree	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	48	-170	-28
E_v(max)	102	-82	-44
E_total(max)	102	-82	-44
E_h(min)	-50	120	100
E_v(min)	-180	38	96
E_total(min)	-180	180	98
E_h(3dB)	18.65	12.32	15.22
E_v(3dB)	58.07	32.18	15.83
E_total(3dB)	72.84	34.47	27.04

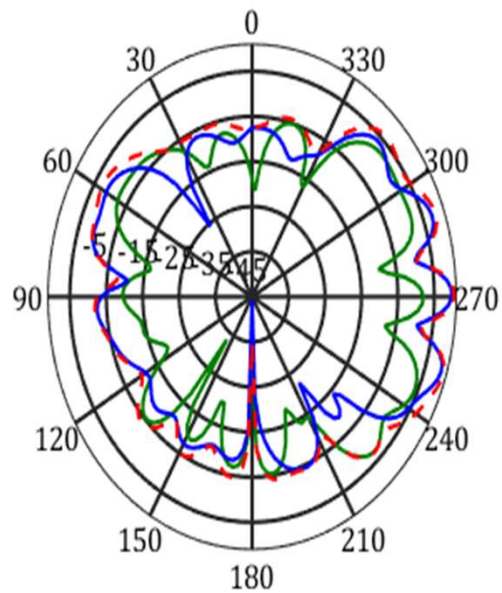
Test Result : 2D & 3D Radiation Pattern

Frequency: 5.25GHz

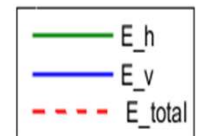
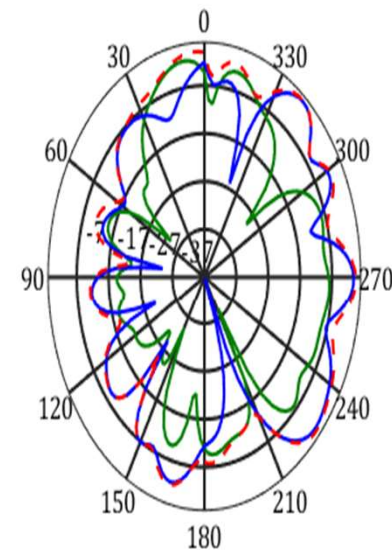
frequency=5250MHz, X-Z Plane



frequency=5250MHz, Y-Z Plane

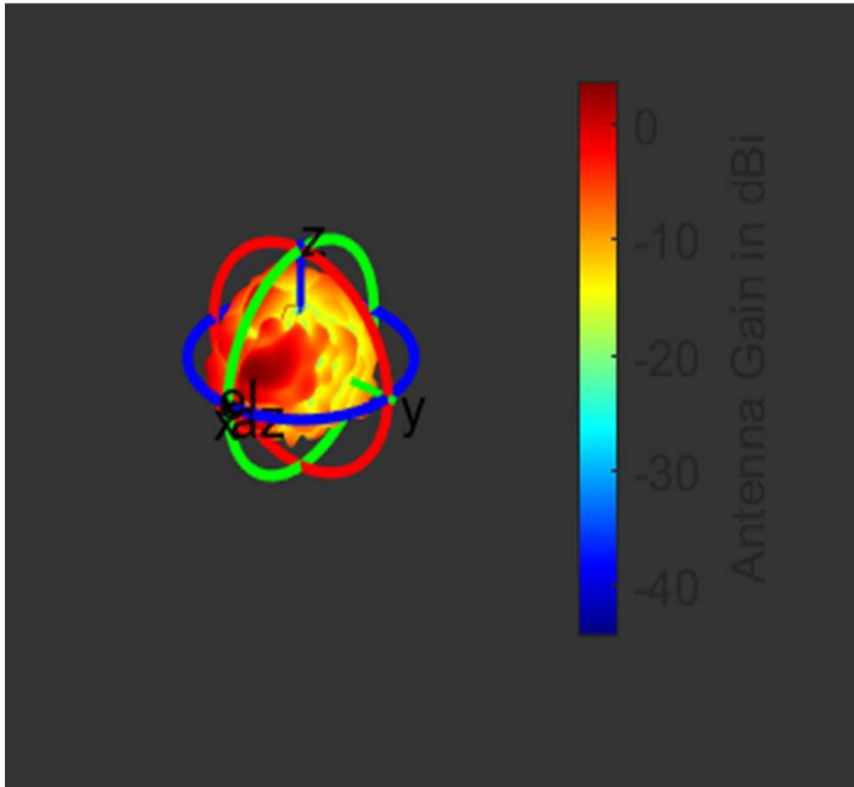


frequency=5250MHz, X-Y Plane



Test Result : 2D & 3D Radiation Pattern

Frequency:5.25Ghz

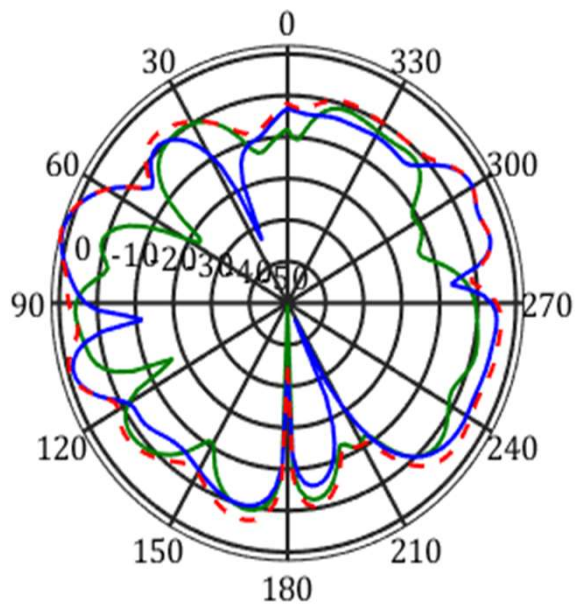


dBi	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	-3.4	-5.87	-1.44
E_v(max)	1.75	-0.2	0.92
E_total(max)	2.1	0.47	1.11
E_h(min)	-54.26	-44.82	-38.83
E_v(min)	-44.82	-54.26	-46.78
E_total(min)	-44.35	-44.35	-25.51
E_h(avg)	-13	-17.36	-11.94
E_v(avg)	-10.85	-16.83	-8.29
E_total(avg)	-8.68	-14.15	-5.67
degree	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	106	-116	8
E_v(max)	76	-90	-40
E_total(max)	76	-90	-40
E_h(min)	180	180	-148
E_v(min)	180	-180	-158
E_total(min)	180	-180	140
E_h(3dB)	14.81	16.56	20.31
E_v(3dB)	23.06	9.75	16.29
E_total(3dB)	25.74	9.77	17.16

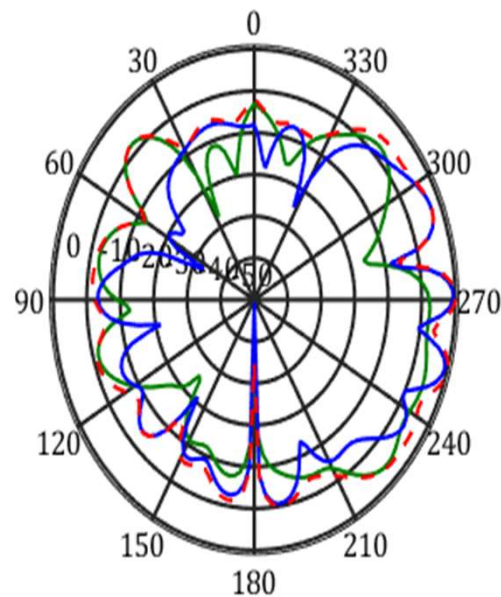
Test Result : 2D & 3D Radiation Pattern

Frequency: 5.5GHz

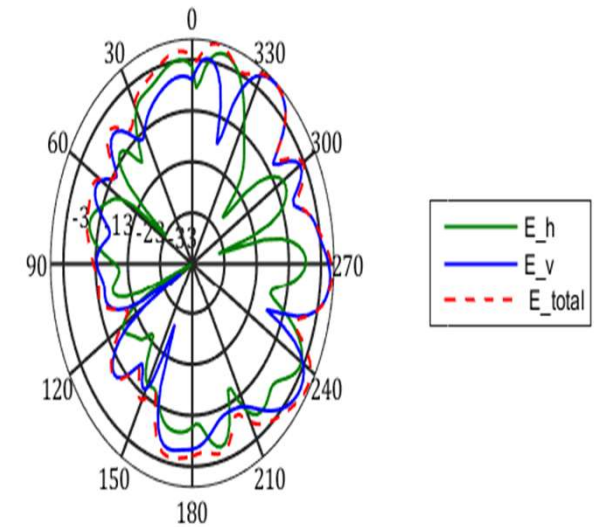
frequency=5500MHz, X-Z Plane



frequency=5500MHz, Y-Z Plane

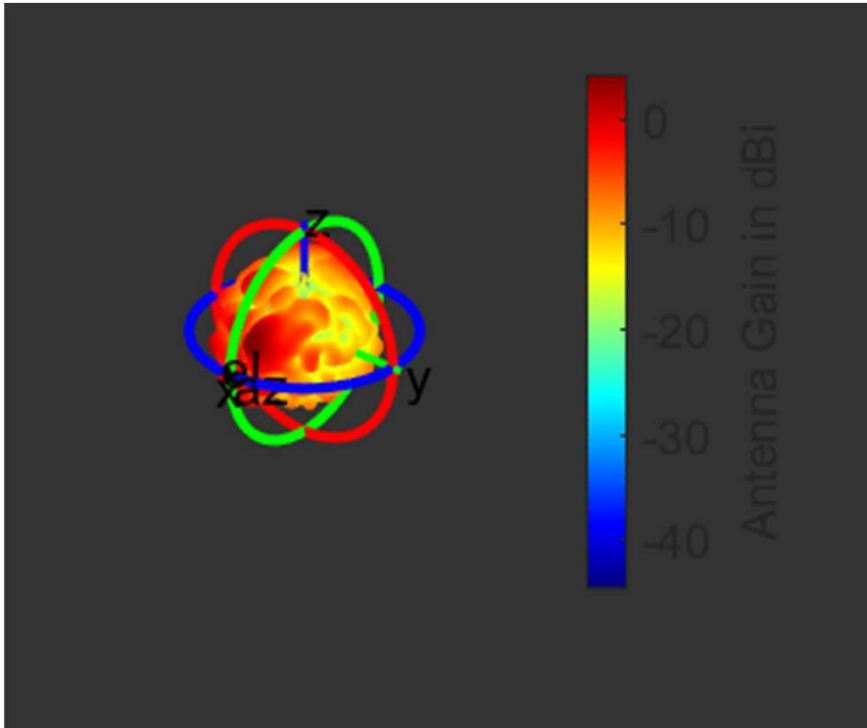


frequency=5500MHz, X-Y Plane



Test Result : 2D & 3D Radiation Pattern

Frequency:5.5Ghz

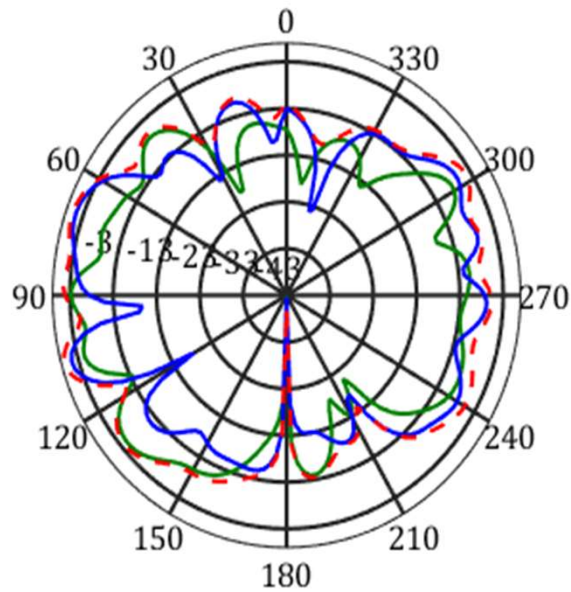


dBi	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	-4.17	-4.02	-0.73
E_v(max)	1.55	-0.63	0.73
E_total(max)	1.91	0.24	0.83
E_h(min)	-59.45	-44.72	-42.7
E_v(min)	-55.86	-59.45	-38.83
E_total(min)	-44.58	-44.58	-20.92
E_h(avg)	-12.2	-15.46	-11.59
E_v(avg)	-11.87	-16.8	-8.96
E_total(avg)	-8	-12.3	-5.57
degree	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	92	-134	-14
E_v(max)	74	-90	-36
E_total(max)	74	-106	-36
E_h(min)	-180	180	112
E_v(min)	-154	-180	118
E_total(min)	-180	-180	116
E_h(3dB)	19.73	38.61	15.69
E_v(3dB)	17.47	9.48	18.32
E_total(3dB)	17.41	11.83	20.89

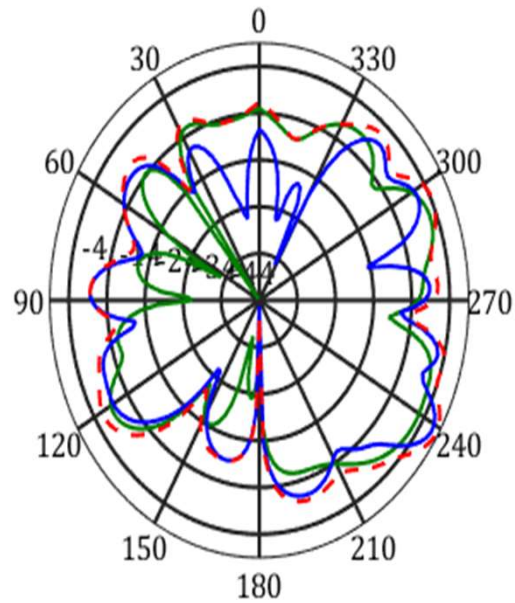
Test Result : 2D & 3D Radiation Pattern

Frequency: 5.85Ghz

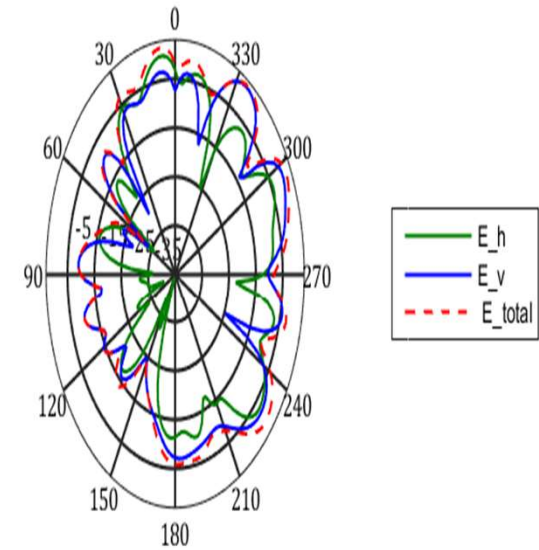
frequency=5850MHz, X-Z Plane



frequency=5850MHz, Y-Z Plane

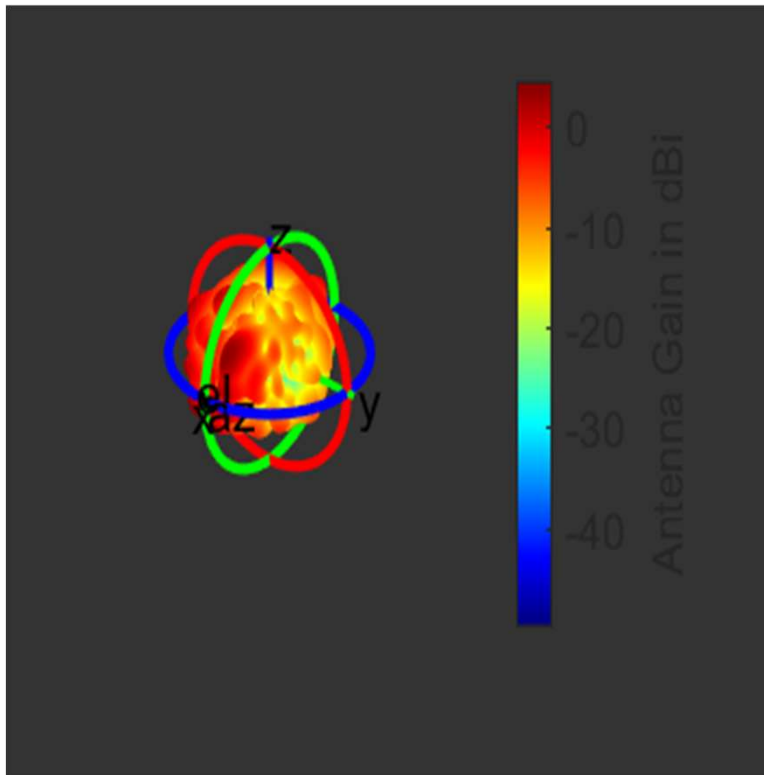


frequency=5850MHz, X-Y Plane



Test Result : 2D & 3D Radiation Pattern

Frequency:5.85Ghz



dBi	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	-3.2	-5.47	-0.03
E_v(max)	-1.34	-0.82	1.59
E_total(max)	0.3	0.46	2.05
E_h(min)	-52.83	-53.66	-44.43
E_v(min)	-52.6	-52.83	-33.66
E_total(min)	-49.7	-49.7	-31.48
E_h(avg)	-12.28	-14.84	-11.98
E_v(avg)	-12.43	-14.24	-8.87
E_total(avg)	-8.43	-10.99	-6.24
degree	X-Z plane	Y-Z plane	X-Y plane
E_h(max)	90	-122	6
E_v(max)	70	-122	-34
E_total(max)	106	-122	-36
E_h(min)	180	38	158
E_v(min)	-180	-180	60
E_total(min)	-180	-180	60
E_h(3dB)	26.36	34.86	14.45
E_v(3dB)	24.46	12.64	16.88
E_total(3dB)	11.67	15.39	17.03

Test Result : Efficiency & Peak Gain For Reference

Frequency (MHz)	Gain(dBi)	Efficiency(%)
2400	1.9319	57.472
2450	1.7854	56.4977
2500	1.2628	53.2696
5150	2.028	56.7788
5200	2.2099	66.3866
5250	2.6922	65.6929
5500	2.1578	56.8196
5800	2.1991	57.8017
5850	2.4726	56.8502

Specification

50 Ω (FEP)

50 Ω FEP Insulated Coaxial Cable

YD113 SERIES

1.

Scope

This specification covers the construction and the electrical properties of YD113 series of 50Ω FEP Insulation Coaxial Cable.

2. 结构/Construction: /Unit:mm

Item		Details
Conductor	Material	Tinned Copper Wire
	Composition(No. /mm)	7/0.083
	NOM. O. D 0.24±0.03	
Insulation	Material	FEP(Natural)
	Nom. Thick. (mm)	0.23
	NOM.	O. D 0.695±0.03
Shield	Material	Tinned annealed copper wire
	Composition	Single Braid of 0.05
Jacket	Material	FEP
	Nom. Thick (mm)	0.10
	Nom. O. D (mm)	1.13±0.05
	Color	According to corresponding have approved by the suppliers and customers

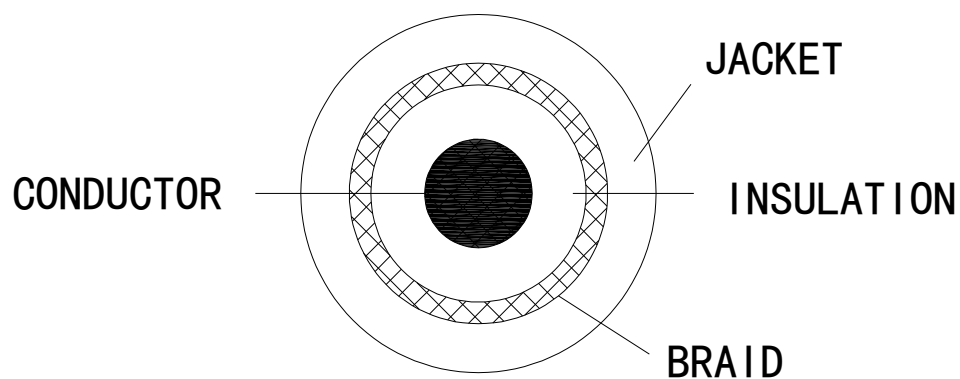
3 Electrical Properties(at 20℃)

Item	Unit	Details
Conductor Resistance	Ω/km	Max. 560
Insulation Resistance	MΩ. km	Min. 200
Dielectric Strength	V(AC)/min	1000
Capacitance	pF/m	98
Characteristic Impedance	Ω	50±2.0

Attenuation dB/m		1GHz	2.20
		2GHz	3.15
		3GHz	3.90
		4GHz	4.60
		5GHz	5.20
		6GHz	5.70
Standing wave (0-6GHz)		≤ 1.35	

Packing

Standard unit length of finished cable shall be 1000m on reel, frequency of joint max.5/reel, the mini length is 20m. The finished cable shall be packed not be damaged during transportation



This product is not suitable for automobile application in some cases. Please contact with our sales department before you use this product.

End of specification

Suzhou Point Positive Electronic Technology Co.,Ltd

Product packaging specification

2025.11

2025.11.28



50PCS 一扎/泡棉
包裹住端子

200pcs/Big PE
Bag/LABLE

装箱

2000pcs/Box

正唛 (Front Mark) ;

侧唛 (Side MARK):

备注	环保物质控制等级:RoHS
----	---------------

核准 (App) Roy

审核 (Ex) Hellen

承办(By);Sanit

保存期限(Shelf life): three Years

PP-RD-021(A0)