



Dongguan Hengxin Electronic Technology Co., Ltd.

Acknowledgment Form

Custome:

Product Name : 2.4/5.8GHz Integral Antenna

part number: HX-A01D

Customer part number:

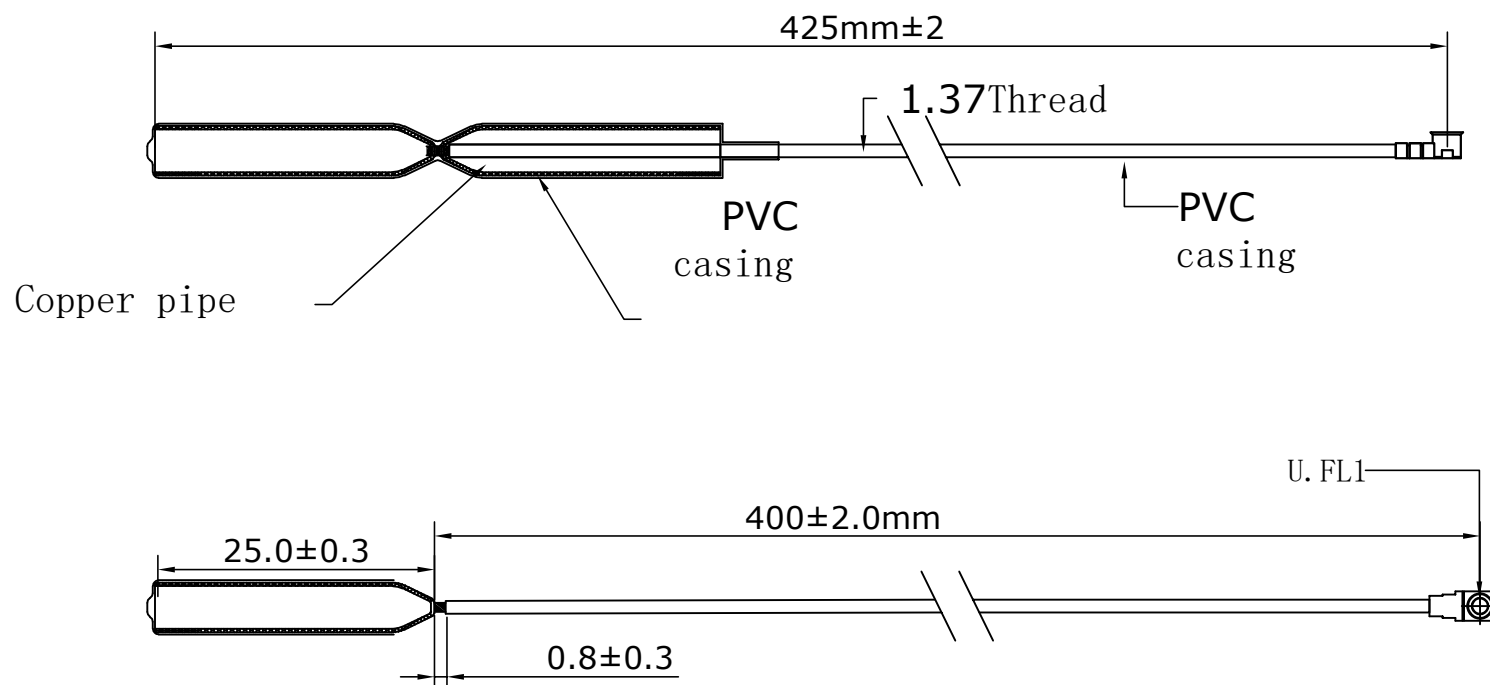
Datelanded: 2026.01.28

Client confirmation			Supplier	
Engineering Department Quality Assurance	Department	Purchasing Department	Approval	Person sending the samples
			Zhao 2026.01.28 ShouGang	GongYinMing

Address: 75 Yanghe Road, Yangguzhou, Shatian Town, Dongguan City
TEL : 0769-81663533 FAX: 0769-89361945
E-mail:nogps@nogps.com
Http://www.nogps.com

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D			



Dongguan Hengxin Electronic Technology Co., Ltd.

PART NAME: 2 4G/5 8G copper tube antenna connected to the first generation terminal

PART NO.: HX-A01

DATE: 2026-04-21

APPROVED BY

CHECKED BY

DESIGNED BY



Tolerance



UNITS: mm

X.X ±0.50

SCALE: 1/1

X.X ±0.15

REVISION: A

X° ±3°

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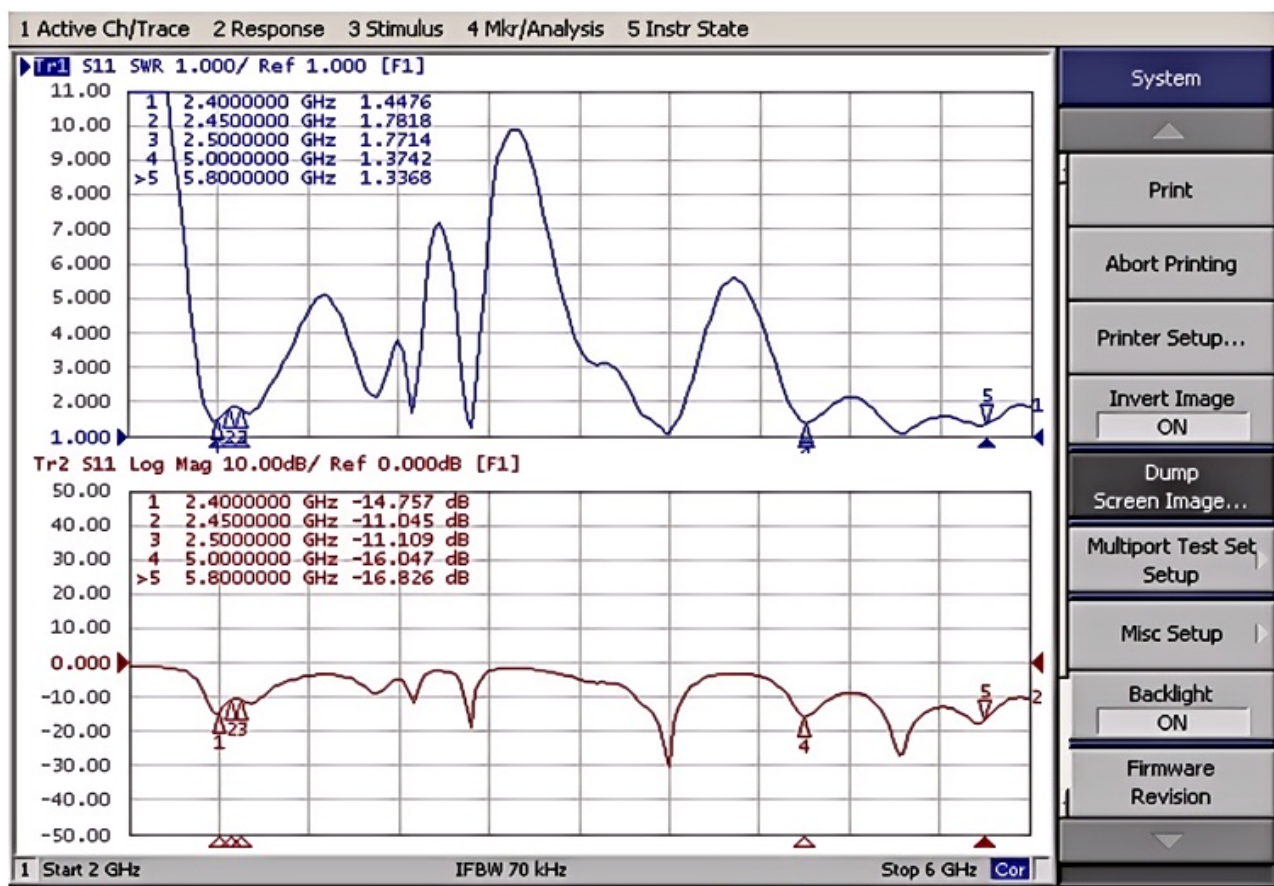
1. Reliability Testing

Test Item	Procedure	Requirement
1. Visual inspection and Dimension Check	Applicable methods using x5 magnification	follow specification
2. Rapid Changing of Temperature	-40°C (30minutes) to 80°C (30minutes); 24 cycles	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < $\pm 5\%$
3. Damp Heat	24 hours at 60°C; 90 ~ 95% RH	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < $\pm 5\%$
4. Endurance	24 hours at 80°C	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < $\pm 5\%$
5. Connector Pull Strength Test	≥ 1.0 Kg	Hold 2~3S: 1. no visible damage 2. bandwidth tolerance < $\pm 5\%$

2. Specification

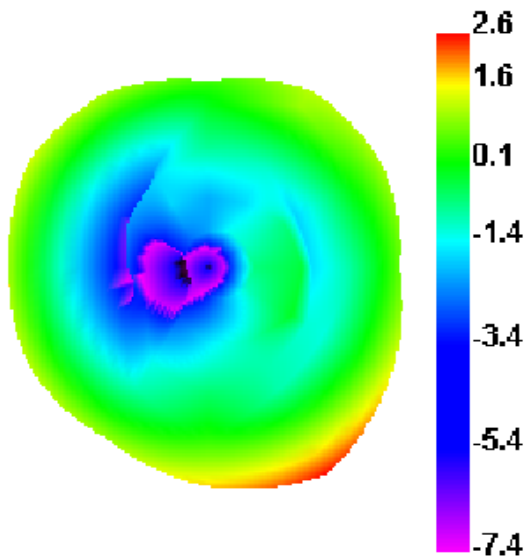
A. Electrical Characteristics	
S.W.R.(Tested in PC)	≤ 2.0 @ 2 4 0 0 - 5 8 0 0 MHZ
Typical Antenna Gain	3.5dBi
Impedance	50 Ohm
B. Material	
Material of Radiator	CU
Connector Type	U.FL1
Material of Coaxial Cable	113
C. Environmental	
Operation Temperature	- 30 °C ~ + 85 °C
Storage Temperature	- 30 °C ~ + 85 °C

3. S.W.R. Testing Result

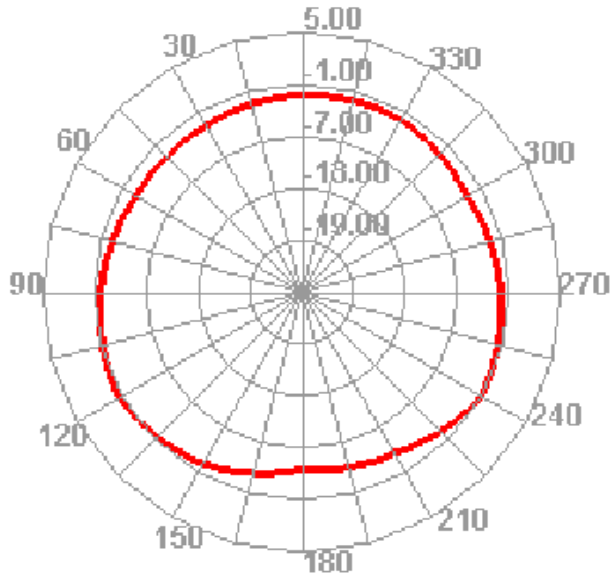


Passive Test For WIFI-2.4G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directi vity (dBi)	Beamwid th (3dB)	AttH (dB)	AttV (dB)
2400	54.93	-2.6	2.61	0.46	28.9	26.029	2.61	-15	5.22	0	45.1	45.07
2410	50.5	-2.97	2.32	0.17	26.923	23.574	2.32	-15.78	5.29	0	44.88	44.83
2420	51.06	-2.92	2.14	-0.01	27.55	23.514	2.14	-16.24	5.05	0	44.83	44.71
2430	52.52	-2.8	2.13	-0.02	28.501	24.019	2.13	-16.46	4.93	0	45.16	44.88
2440	51.9	-2.85	1.86	-0.29	28.113	23.786	1.86	-17.18	4.71	0	45.17	44.94
2450	56.76	-2.46	2.15	0	30.79	25.972	2.15	-17.42	4.61	0	45.89	45.33
2460	59.21	-2.28	2.34	0.19	32.252	26.956	2.34	-17.94	4.62	0	45.86	45.53
2470	57.79	-2.38	2.14	-0.01	31.728	26.065	2.14	-18.66	4.52	0	45.69	45.39
2480	56.53	-2.48	2.04	-0.11	31.251	25.284	2.04	-20.49	4.52	0	45.73	45.51
2490	60.23	-2.2	1.93	-0.22	33.688	26.545	1.93	-24.37	4.13	0	45.96	45.84
2500	52.98	-2.76	1.13	-1.02	29.867	23.115	1.13	-28.1	3.89	30	45.47	45.3

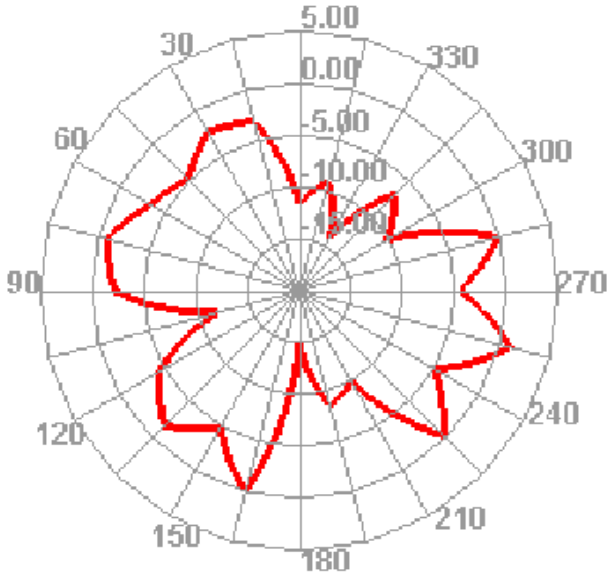
2400.000MHz



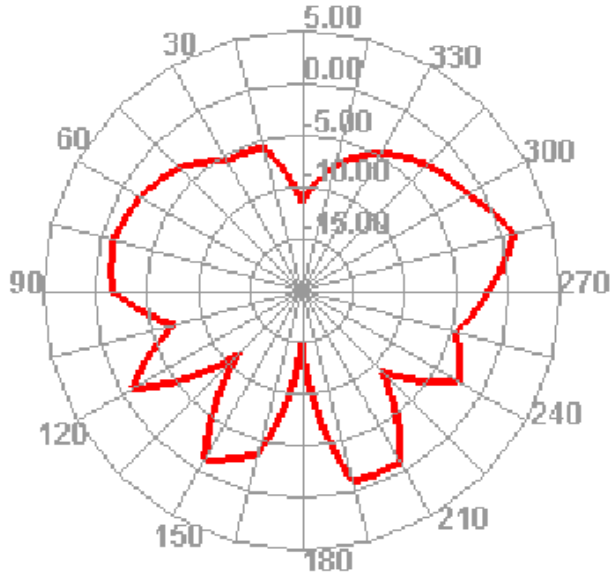
2400.000MHz H



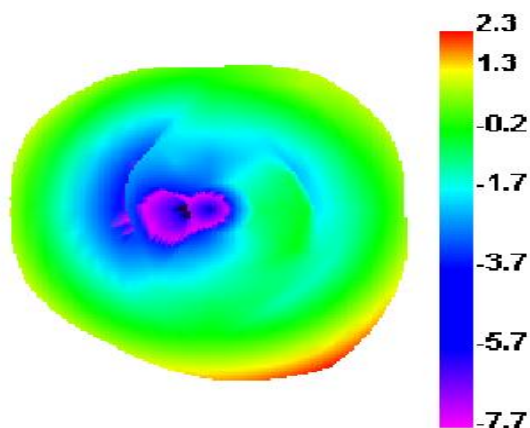
2400.000MHz E1



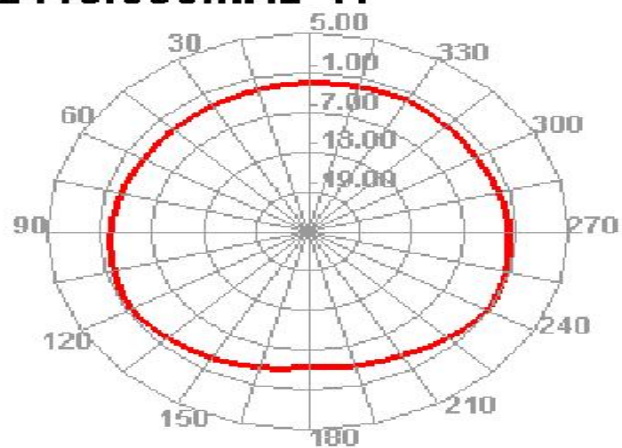
2400.000MHz E2



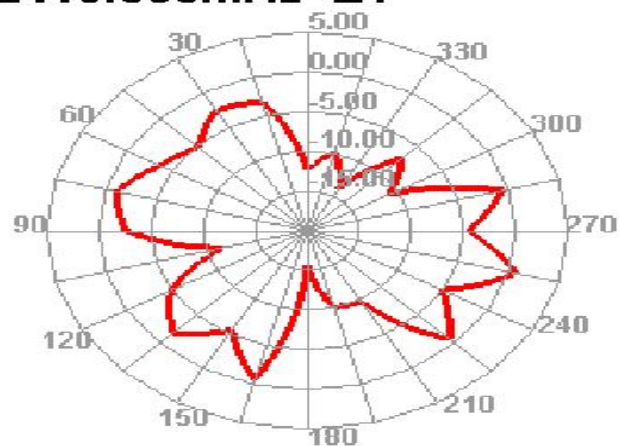
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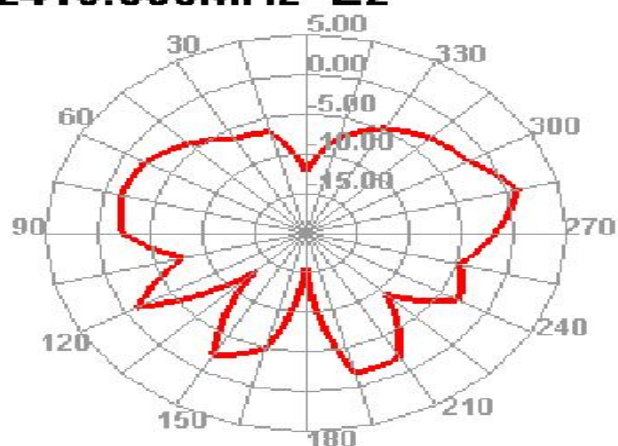
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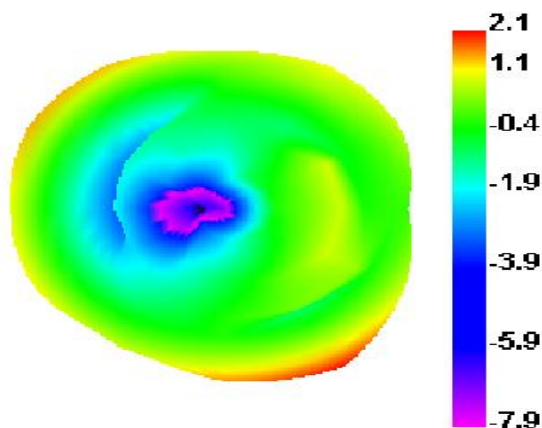
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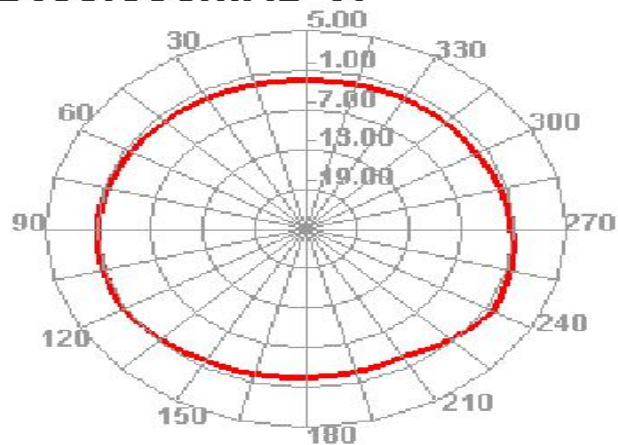
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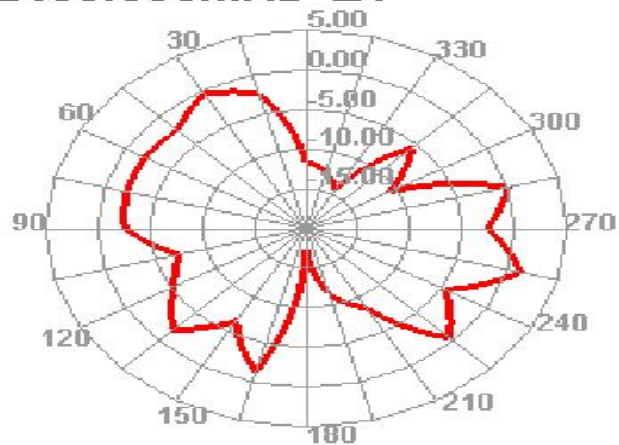
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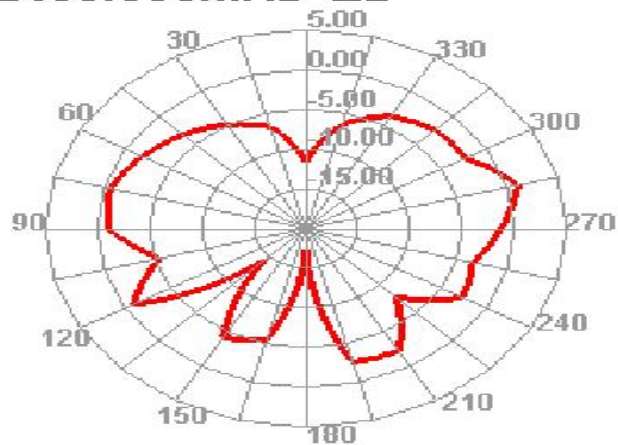
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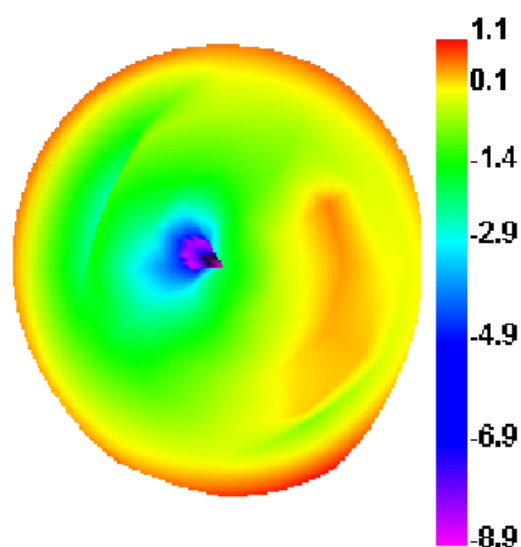
2450.000MHz E1



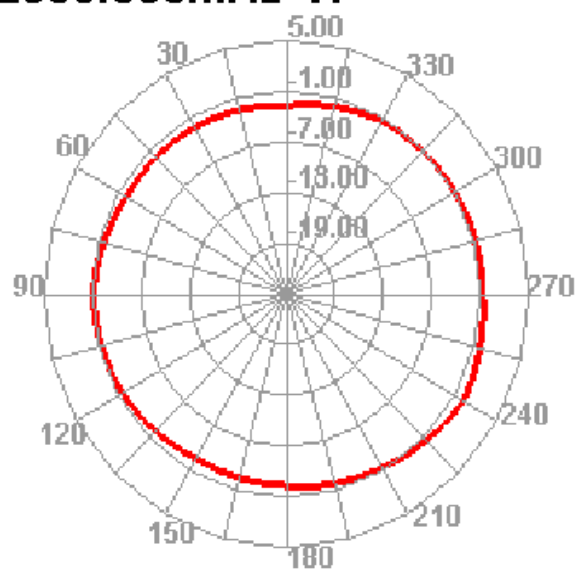
2450.000MHz E2



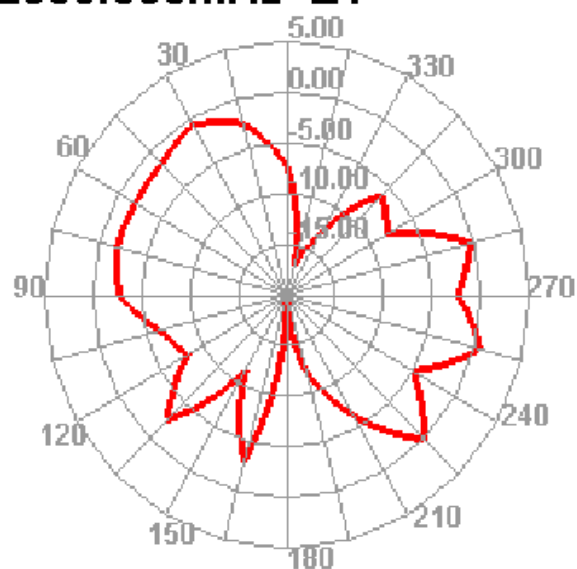
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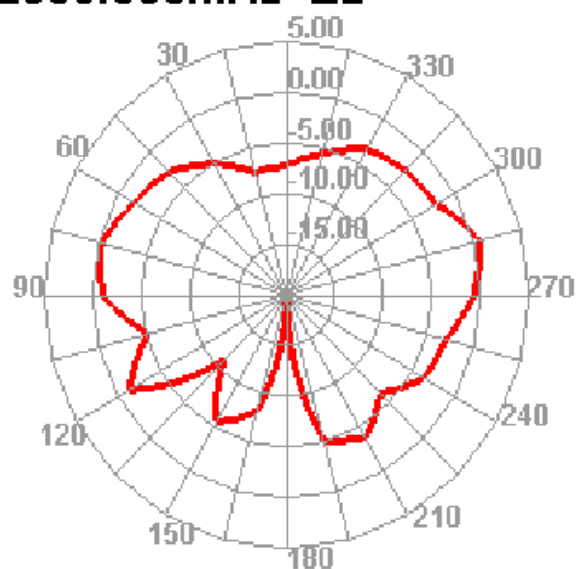
2500.000MHz H



2500.000MHz E1

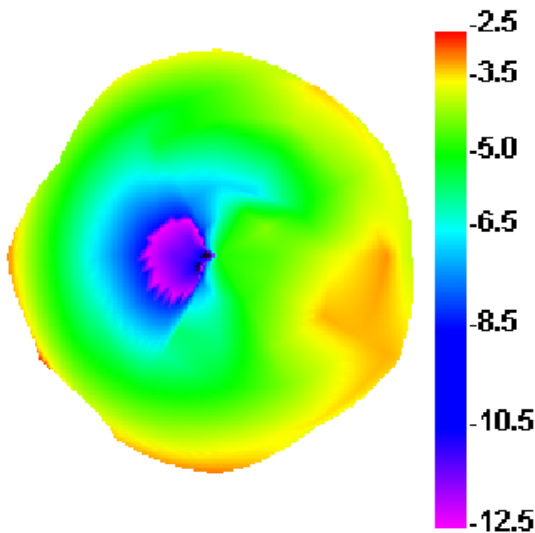


2500.000MHz E2

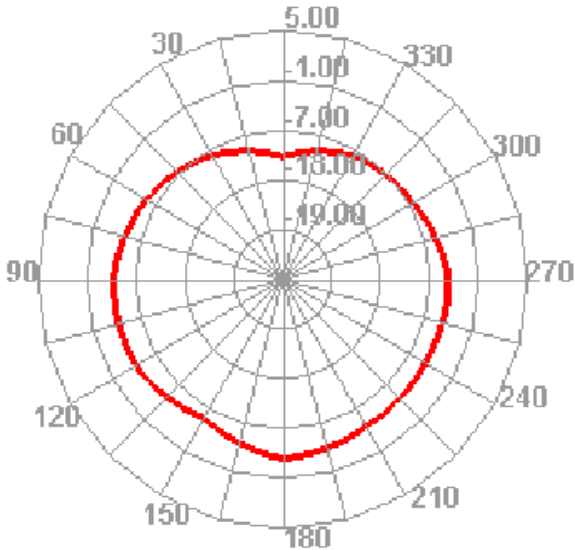


Passive Test For 5.8G												
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min	Directi	Beamwid	AttH	AttV
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)	(dBi)	(3dB)	(dB)	(dB)
5000	21.38	-6.7	-2.5	-4.65	12.285	9.091	-2.5	-20.99	4.2	30	58.55	56.05
5100	19.5	-7.1	-2.75	-4.9	11.243	8.254	-2.75	-23.31	4.35	45	61.4	57.15
5200	23.25	-6.34	-2.22	-4.37	12.798	10.451	-2.22	-19.91	4.11	30	55.42	55.3
5300	18.72	-7.28	-3.02	-5.17	10.33	8.388	-3.02	-18.77	4.26	30	53.82	53.7
5400	18.26	-7.38	-3.17	-5.32	10.728	7.533	-3.17	-21.51	4.21	30	52.63	53.03
5500	13.16	-8.81	-3.74	-5.89	7.63	5.535	-3.74	-21.16	5.06	30	51.95	52.78
5600	21.68	-6.64	-2.51	-4.66	12.621	9.064	-2.51	-23.96	4.13	15	53.12	53.77
5700	27.98	-5.53	-1.35	-3.5	16.298	11.677	-1.35	-22.09	4.19	60	54.71	55.69
5800	17.12	-7.67	-3.15	-5.3	9.708	7.408	-3.15	-20.54	4.52	45	54.19	54.94
5900	17.85	-7.48	-3.21	-5.36	9.98	7.874	-3.21	-17.63	4.28	15	55.78	56.28
6000	10.78	-9.67	-4.94	-7.09	6.113	4.672	-4.94	-21.71	4.73	0	53.89	54.3

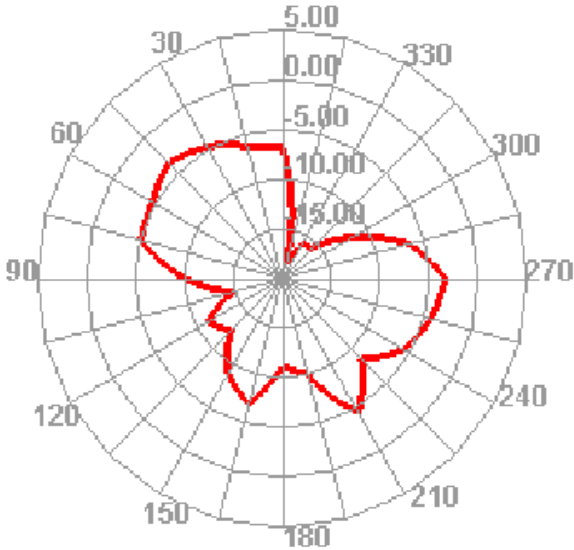
5000.000MHz



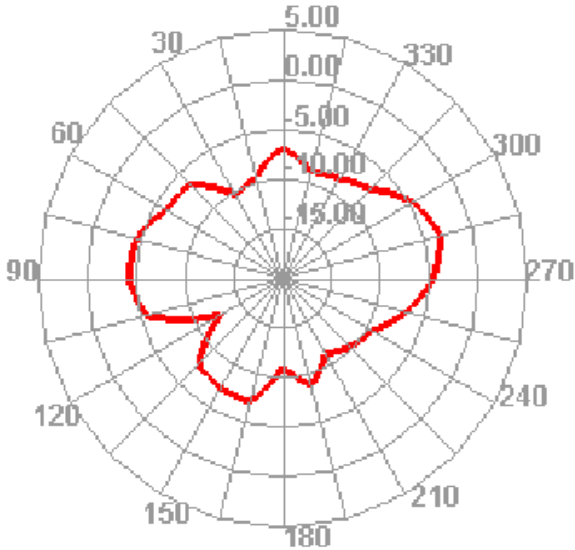
5000.000MHz H



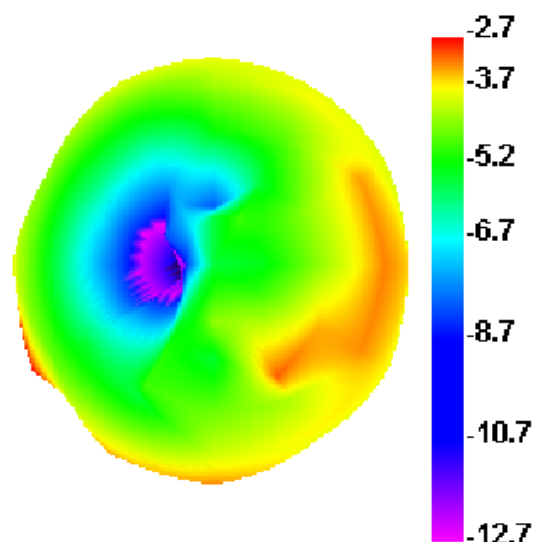
5000.000MHz E1



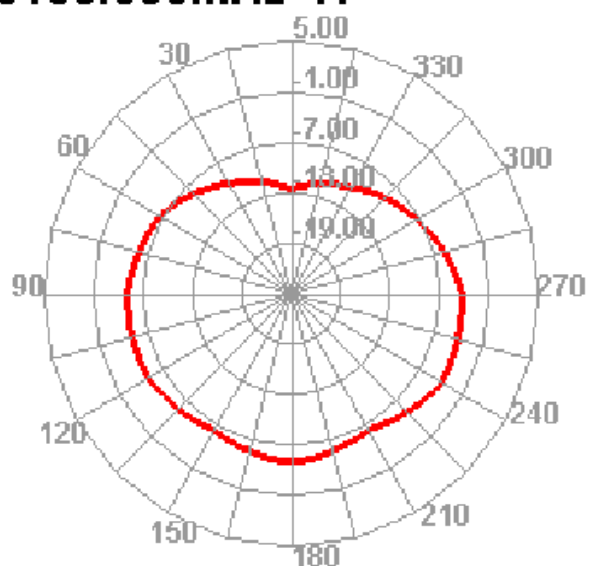
5000.000MHz E2



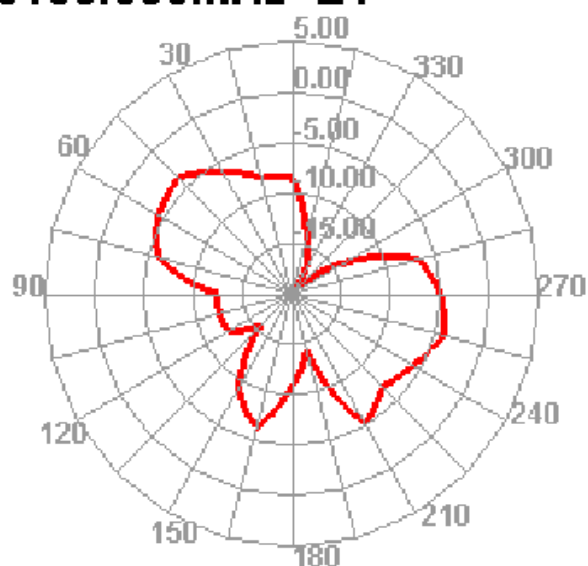
5100.000MHz



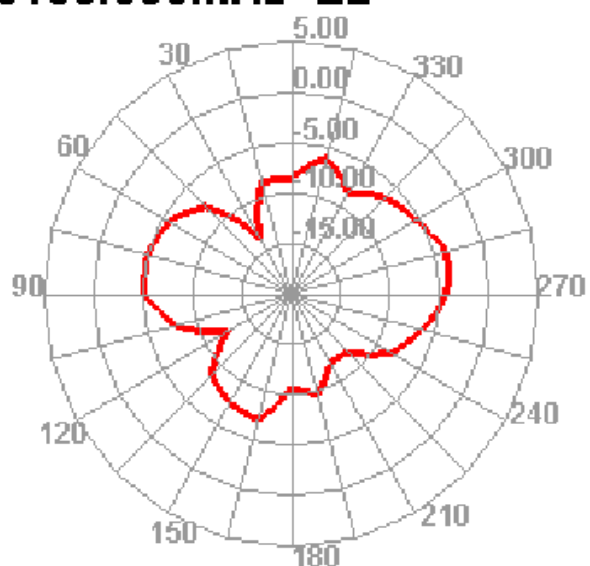
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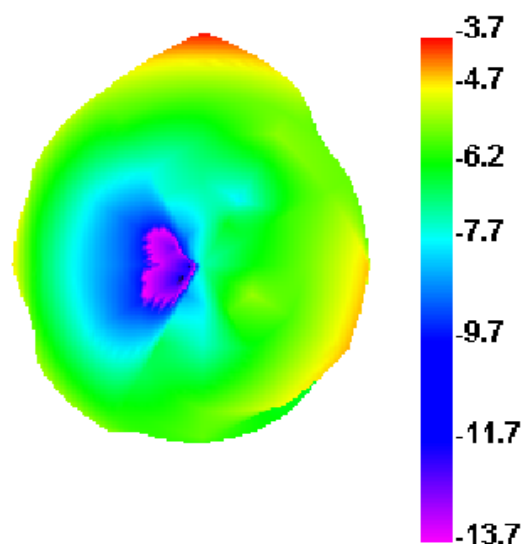
5100.000MHz E1



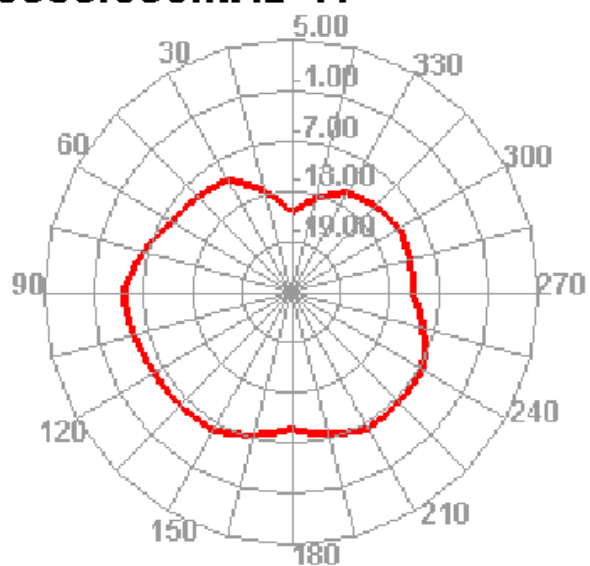
5100.000MHz E2



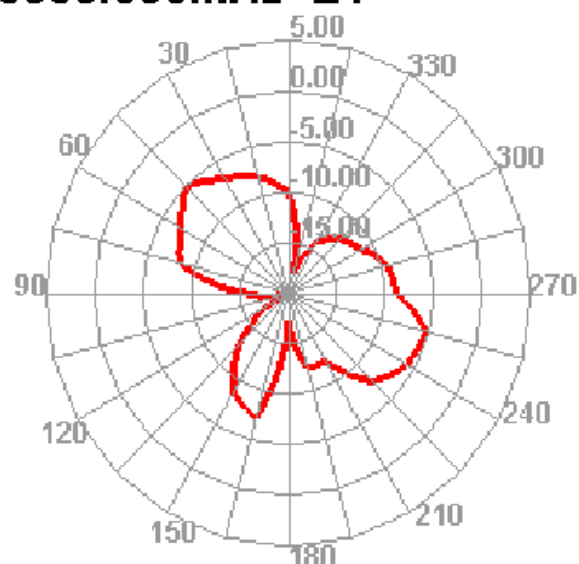
5500.000MHz



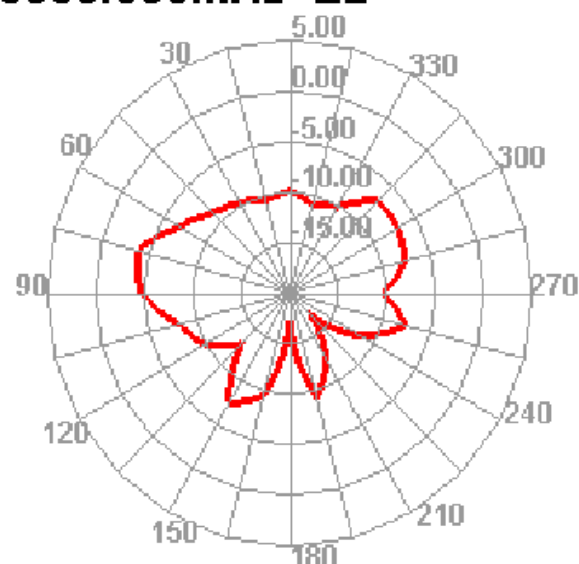
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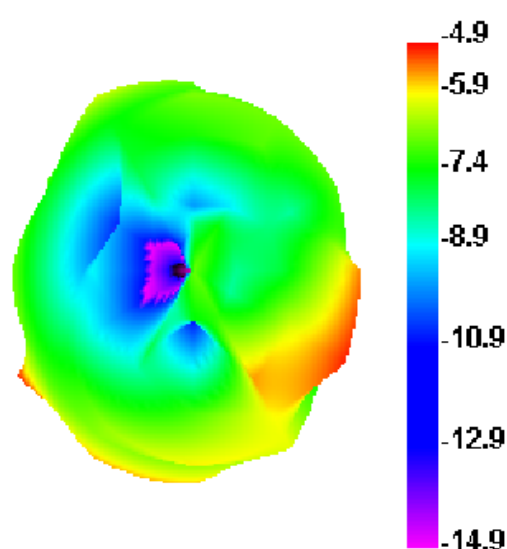
5500.000MHz E1



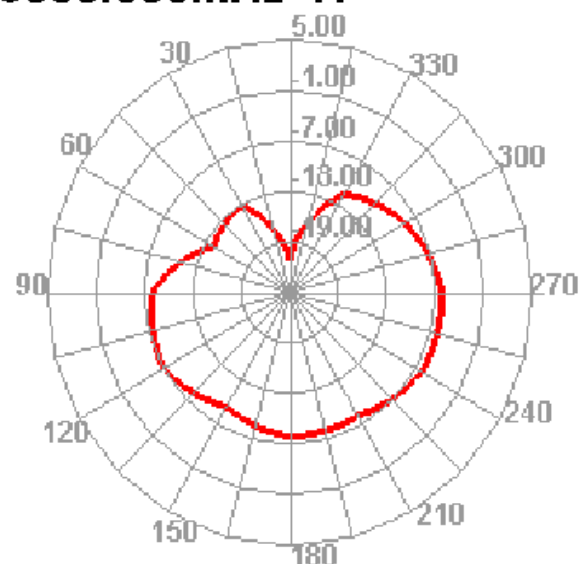
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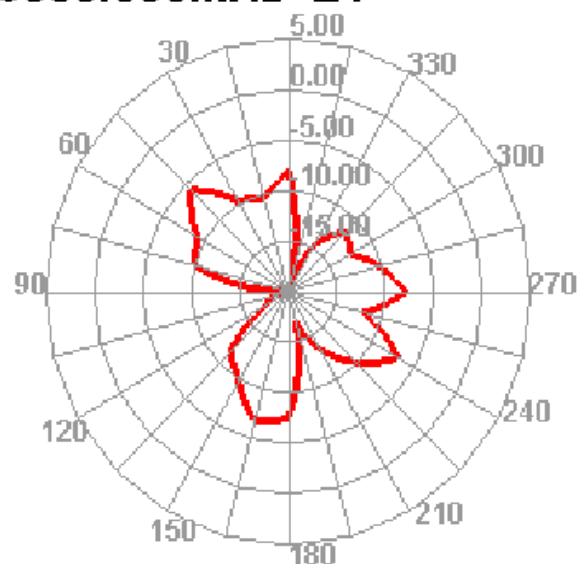
6000.000MHz



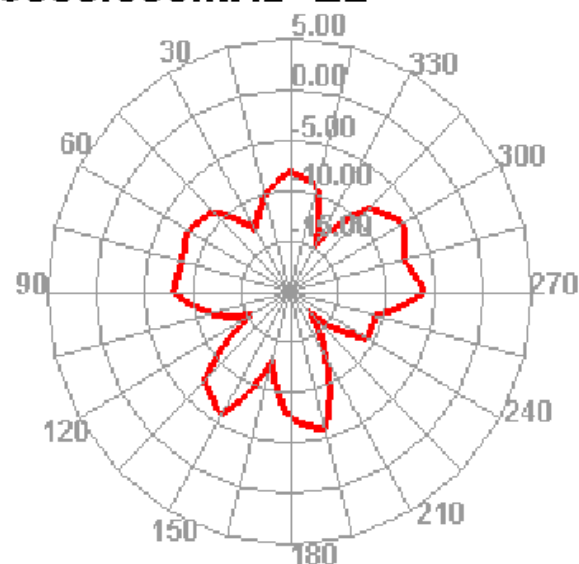
6000.000MHz H



6000.000MHz E1



6000.000MHz E2



4. Antenna Radiation Pattern

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

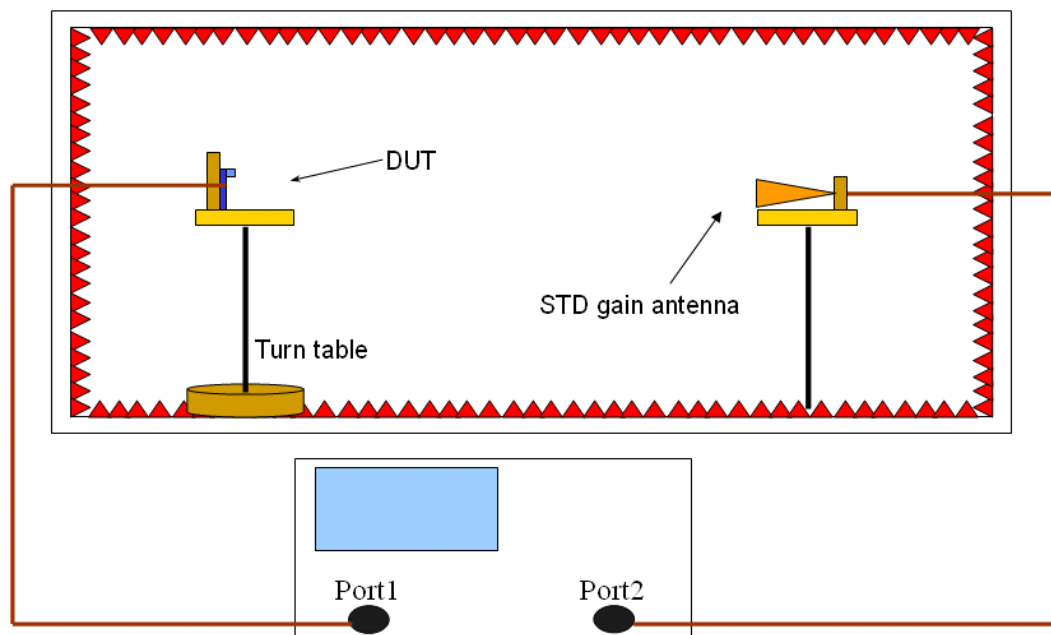
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna



Dongguan Hengxin Electronic Technology Co.,Ltd.

Type	RF-1.37	P/N	XGN137/50-1001
Structure drawing			
Structure drawing			
Structure	Item		Standard value
1.Inner conductor	Material		Siverplated copper wire
	(mm)Makeup:total/O.D.of every wire(mm)		7/0.102±0.005
	(mm)(In tertwist)NOM.OD(mm)		0.306±0.01
2.Insulation	Material		FEP
	Color		Natural
	Dia(approx)		0.8B±0.03
3.Outer conductor	Material		Timned copper
	Composition: Total number of wires / Outer diameter per wire (mm)		16/5/0.05±0.03
	Dia(approx)		1.13±0.05
4.Jacket	Material		FEP
	Color		Black
	Dia(approx)		1.37±0.05
Electrical characteristics			
Item	Standard value	Item	Standard value
Characteristic impedance Ω	50±2.0	1GHz	≤1.7
Max.operating frequency(MHz)	8000	2GHz	≤2.4
Max.operating voltage(V)	AC 1000V for1min	3GHz	≤3.0
Capaaitance(pF/m)	98	4GHz	≤3.5
Standing wave ratio	≤13@0~6GHz	5GHz	≤4.1
	≤1.4 @6~8GHz	6GHz	≤4.5
		7GHz	≤5.0
		8GHz	≤5.45
Dependability			
Item	Unit	Standard value	
Min.bending radius(static/repeated)	MM	5	
Operating temperature	℃	-55~+200	
Fluoroplastic shrink	MM	Insulation shrink<0.20mm;Jacketshrink:<0.30mm	
Packing			
Item	Unit	Standard value	
The length of each spool	M	800	
Connectors per spool/The shortest length of each root	NO/M	≤3/≥10	
Matters needing attention			
Condition of storage	Temperature:Under 30℃;Humidity:20%-65%		
Optimal storage period	Two monts;If the cable is stored for more than two months,te solderability will be reduced,but the electrical characteristics will not e affected. The cable nees to be procesed as soon s possible afer striping.,under high temperature and hieh humidity in summer		
Processing temperature	Fluoroplastics can be used continuously at 260℃ and withstand short-term exposure above 300℃. The conventional molecular end groups begin to decompose above 300℃. Remarkable thermal decomposition occurs at temperatures above 400℃		
Structural story displacement	The insulation layer and jacket layer are easilydisplaced,when th cable length is less than 50mm		