

APPROVAL

客 户

东莞市触美电子有限公司

:

品 名 规 格

SMA(公)-5DIB 双频可折叠天线

DESCRIPTION:

SMA(male)-5DIB dual frequency foldable antenna

料 号

PART NO.:

客 户 料 号

CUS PART NO.:

5630-YB1080-00B

日 期

D A T E:

2022-22-28

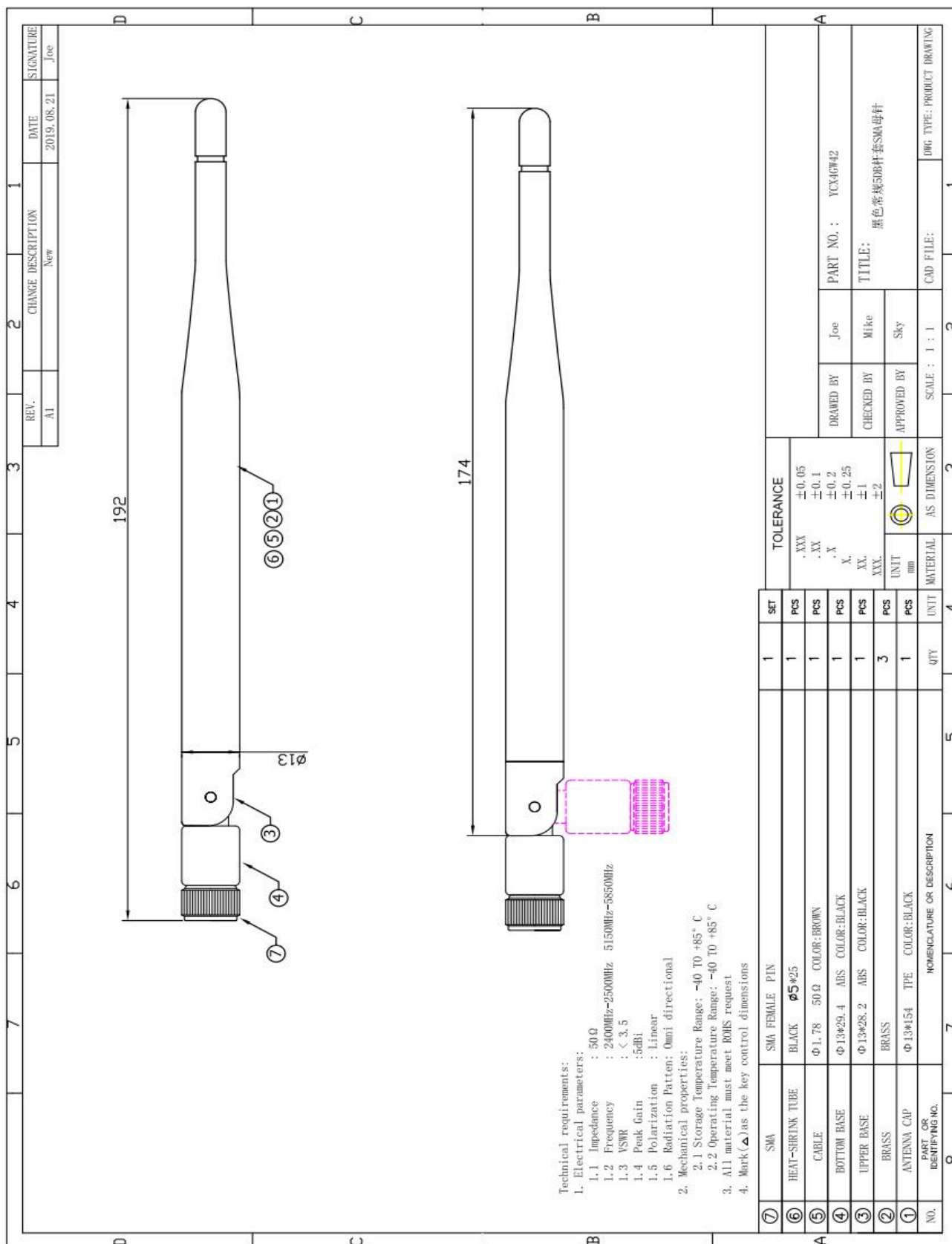
商秀呈样签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT
高龙	张兰兰	黄晓林

客户承认签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	采 购 PURCHASING DEPARTMENT

※ 承认书一式三份, 惠蒙贵司承认签章



电器技术参数

电 性 能 指 标		Electrical Specifications	
频率范围	2400-5800GHz	Frequency Range	2400-5800GHz
电压驻波比	≤2.0	VSWR	≤2.0
输入阻抗	50 Ω	Input Impedance	50 Ω
最大输入功率	50W	Maximum Input Power	50W
机 械 指 标		Mechanical Specifications	
天线颜色	黑色	Antenna Color	BLACK
接口形式	SMA (公针)	Input connector	SMA(J)
天线长度	192mm	Cable length	192mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%

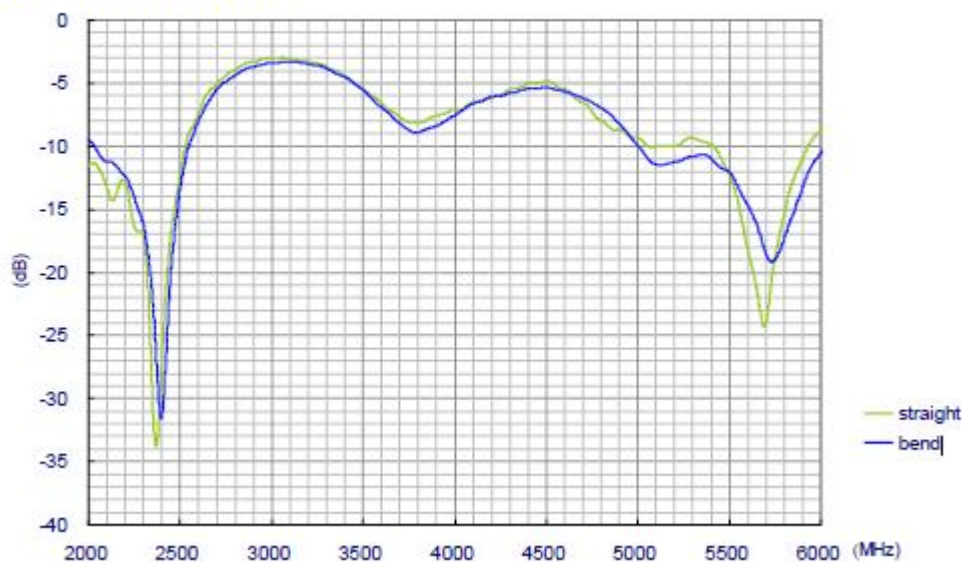
Environmental performance test:

project	Test conditions	specifications
Storage environment	Test temperature, humidity, and air pressure without specifying the following: 1. The temperature ranges from -30℃ to +80℃ 2. Relative humidity is 45%-85% 3. The air pressure is 86kpa-106kpa	Electrical and mechanical properties are normal
High and low temperature test	Five cycles were performed between 70℃ and 40℃, and then under normal conditions 1 to 2 hours, check the appearance quality.	The dimensions shall meet the requirements and shall meet the requirements Mechanical and electrical properties
Constant heat and humidity test	The relative humidity was 95±3%, and the test temperature was 40℃. After 2H treatment, the electrical properties were measured within 5min after the samples were taken out, and the appearance quality of the samples was checked under normal conditions for 1-2H	The dimensions shall meet the requirements and shall meet the requirements Mechanical and electrical properties
Vibration test	Vibration frequency range 10-55HZ, displacement amplitude: 0.35MM, acceleration amplitude: 50.0M/S, frequency sweep cycle: 30 times	Electrical and mechanical properties are normal
Drop off test	1M altitude in accordance with the vertical axis of the direction of free fall three times	Electrical and mechanical properties are normal

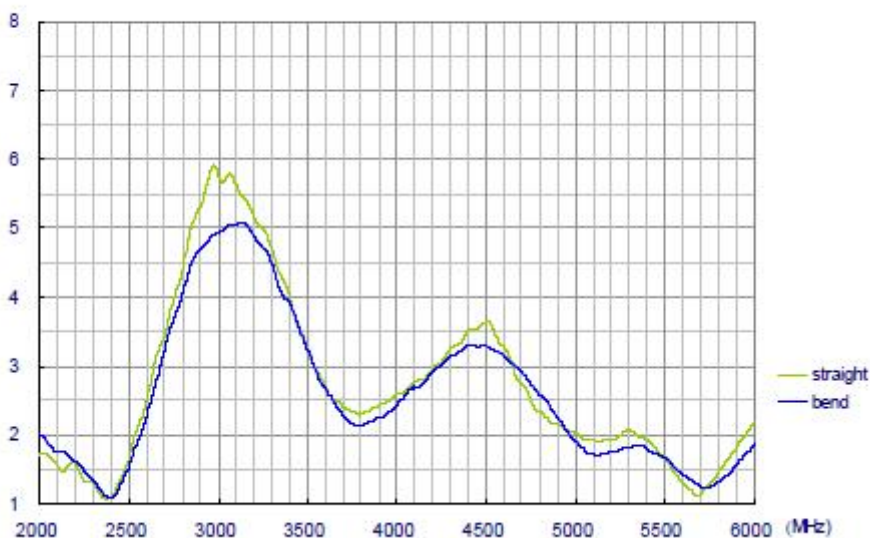
天线网络测试:

2. Antenna S11 Property

2.1. Return Loss

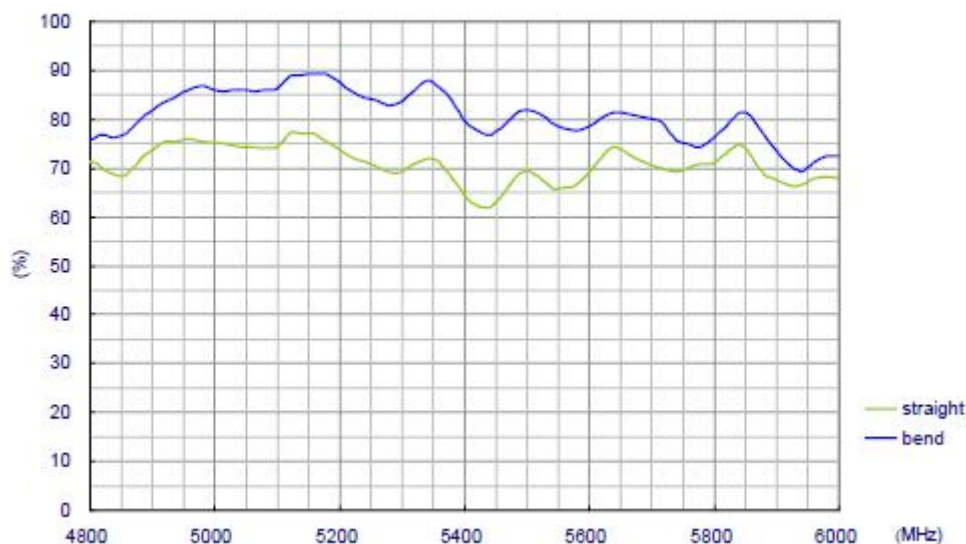
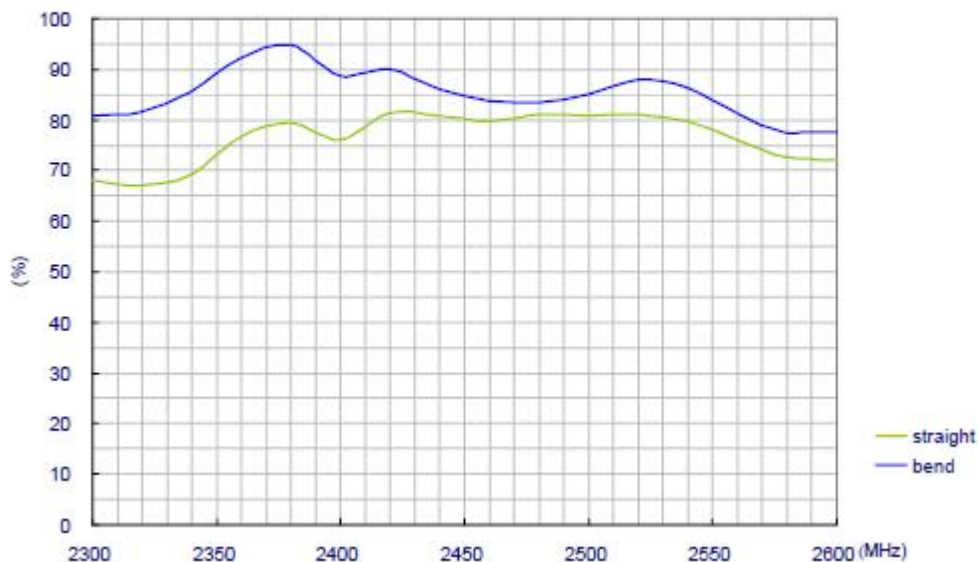


2.2. VSWR

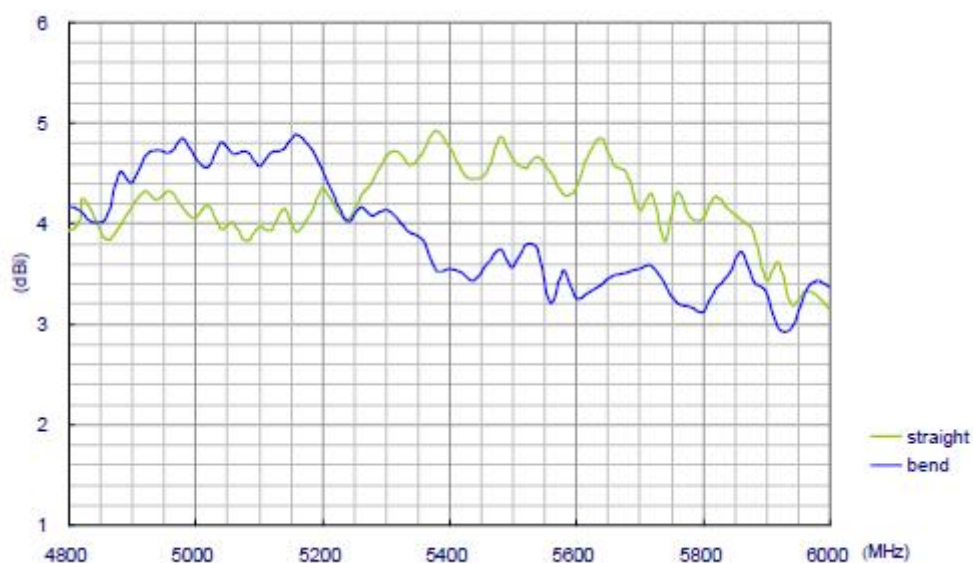


3. 3D Radiation Property

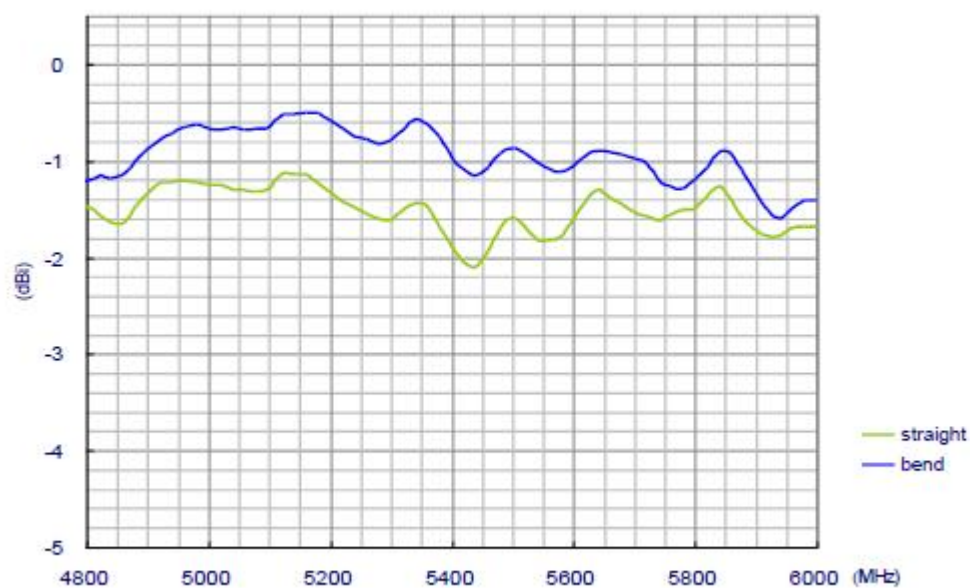
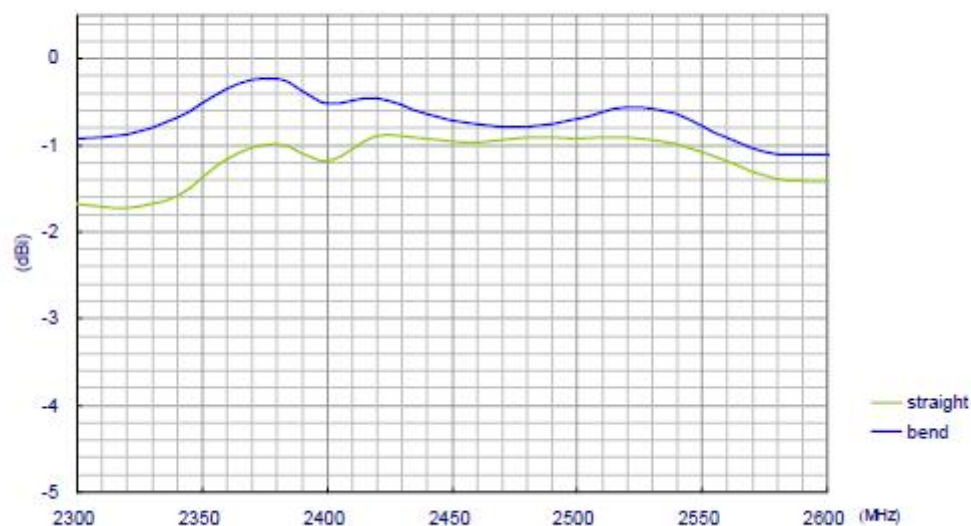
3.1. Radiation Efficiency



3.2. Peak Gain



3.3. Average Gain

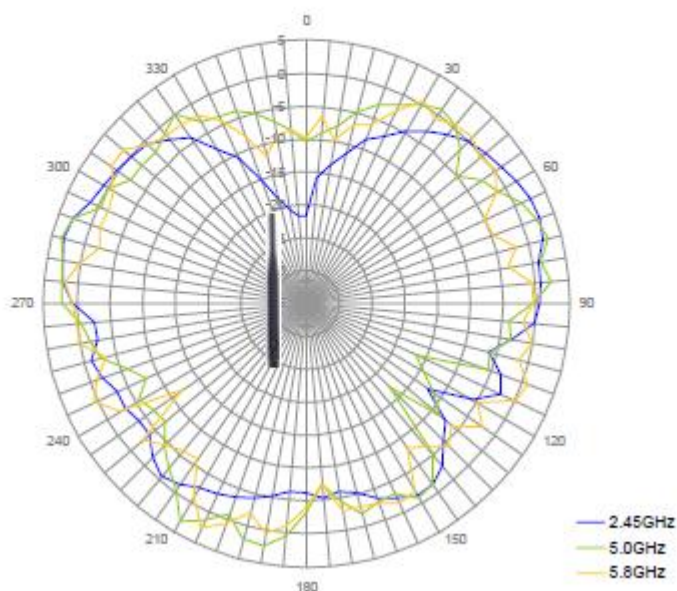


Frequency	Efficiency	Efficiency . dB	Frequency	Gain . dB
2400000000	66.98%	-1.740624096	2400000000	4.223412738
2410000000	65.78%	-1.818843612	2410000000	4.410007793
2420000000	64.95%	-1.87446588	2420000000	4.546801778
2430000000	67.50%	-1.706990162	2430000000	4.477849078
2440000000	67.02%	-1.738079093	2440000000	4.138790333
2450000000	65.77%	-1.820025518	2450000000	4.153333975
2460000000	66.28%	-1.785873353	2460000000	3.970231893
2470000000	68.69%	-1.631279001	2470000000	3.41401879
2480000000	68.49%	-1.643835505	2480000000	3.058968811
2490000000	68.66%	-1.633241003	2490000000	3.141098831
2500000000	69.82%	-1.560223736	2500000000	3.25448129

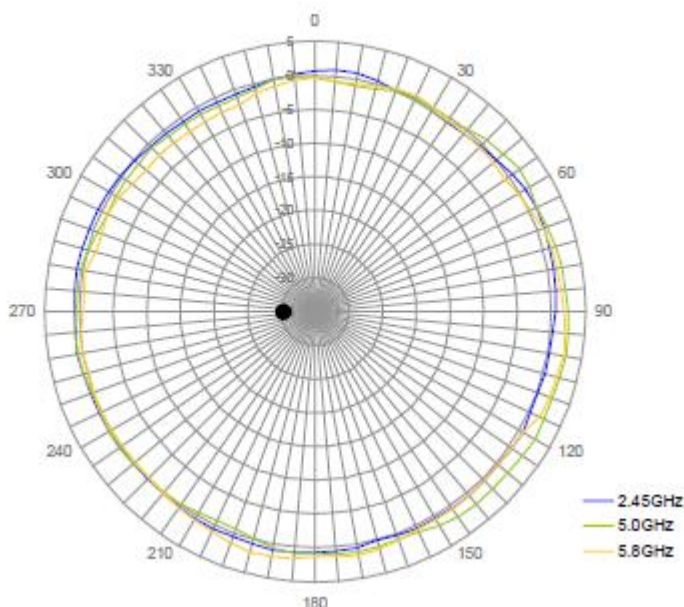
Frequency	Efficiency	Efficiency . dB	Frequency	Gain . dB
5200000000	65.97%	-1.806375897	5200000000	6.774205475
5230000000	57.07%	-2.436054284	5230000000	6.706278725
5260000000	53.71%	-2.699387692	5260000000	5.850995724
5290000000	49.45%	-3.058096495	5290000000	5.815473375
5320000000	43.83%	-3.582338842	5320000000	5.016589156
5350000000	40.67%	-3.907639704	5350000000	4.149894386
5380000000	41.50%	-3.81991895	5380000000	3.685889261
5410000000	49.14%	-3.085634593	5410000000	3.803894342
5440000000	57.10%	-2.433885656	5440000000	4.305369979
5470000000	57.37%	-2.413025723	5470000000	4.629135228
5500000000	62.92%	-2.012004505	5500000000	5.302142024
5530000000	65.64%	-1.828409599	5530000000	5.83761895
5560000000	64.83%	-1.88257217	5560000000	5.988824548
5590000000	58.77%	-2.308498803	5590000000	5.490754544
5620000000	54.94%	-2.600873494	5620000000	5.014318175
5650000000	52.94%	-2.761833026	5650000000	4.550567105
5680000000	54.03%	-2.673719185	5680000000	4.239952858
5710000000	52.37%	-2.809260826	5710000000	3.763343523
5740000000	54.67%	-2.622848205	5740000000	3.376936232
5770000000	61.28%	-2.127085009	5770000000	4.327945139
5800000000	60.95%	-2.150222297	5800000000	4.204692206

3.4. Radiation Pattern

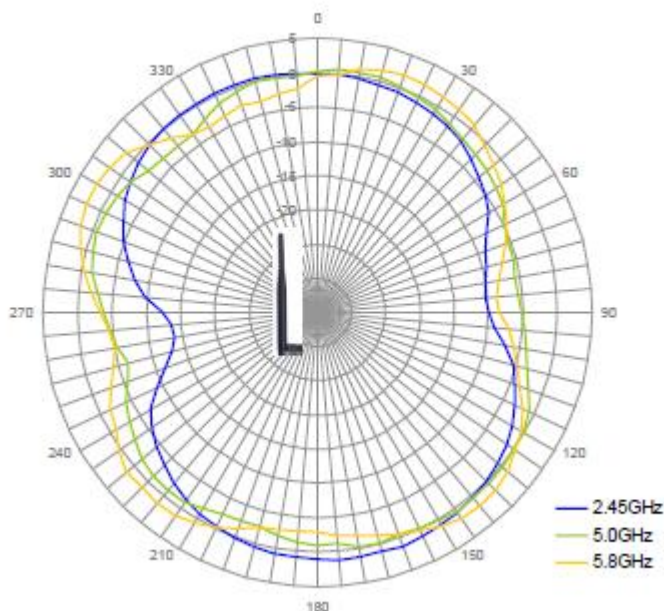
E-Plane Radiation of Straight Position



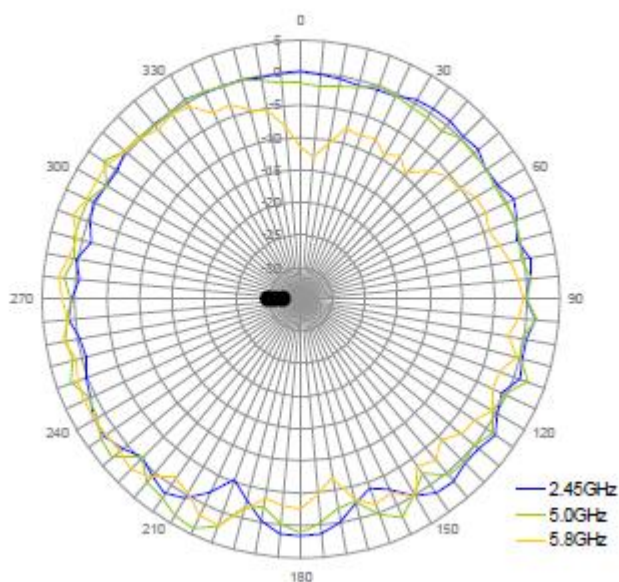
H-Plane Radiation of Straight Position



E-Plane Radiation of Bend Position



H-Plane Radiation of Bend Position



4. Ground Plane Effect

Three ground setups are used to see the affect of positioning GW.71 close to ground -

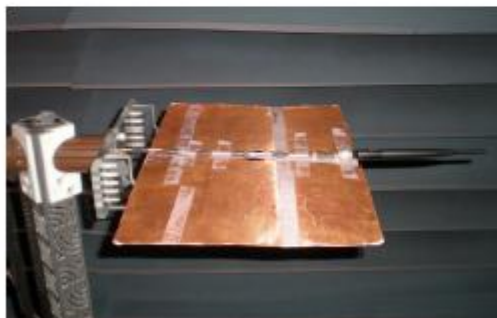
1. Small Ground (15 x 9cm) – common size of CPE devices. GW.71 is mounted at the longer edge for testing.
2. Big Ground Edge (45 x 30cm) – simulate the effect of mounting antenna on a base station device. GW.71 is mounted at the centre of the longer edge.
3. Big Ground Centre (45 x 30cm) – simulate the effect of mounting antenna in a centre of a big ground plane, such as vehicle top.



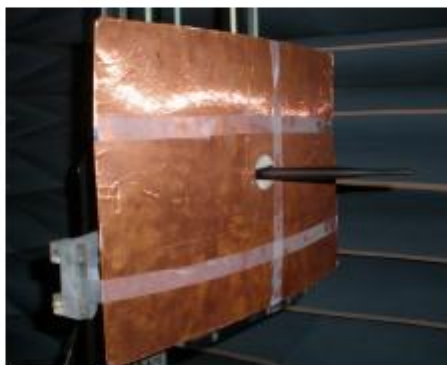
Free space



Small ground edge



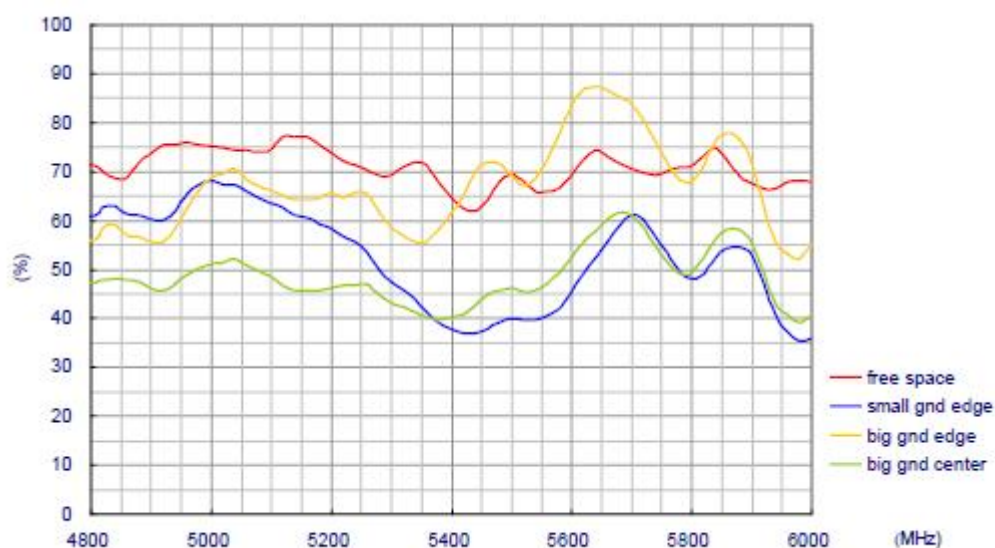
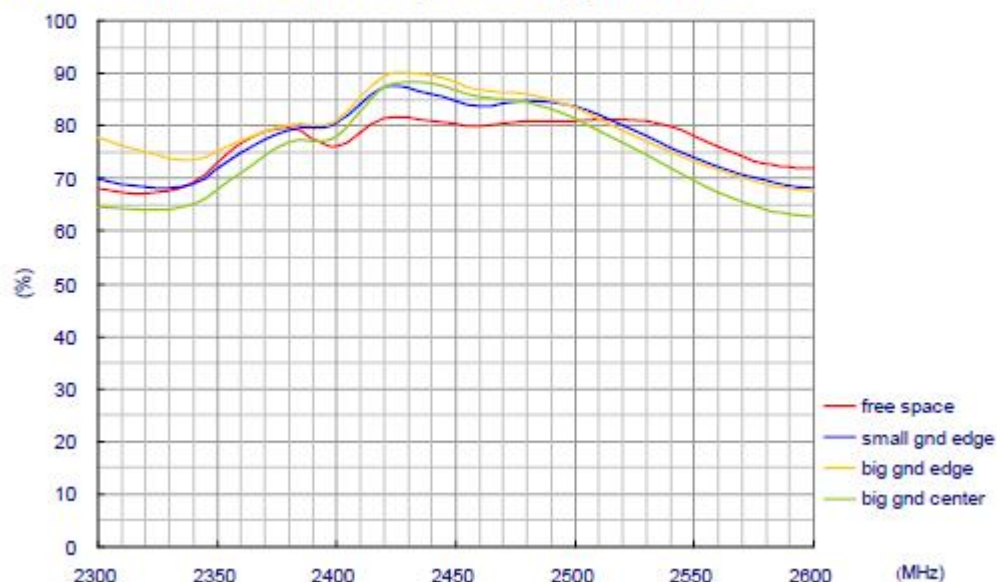
Big ground edge



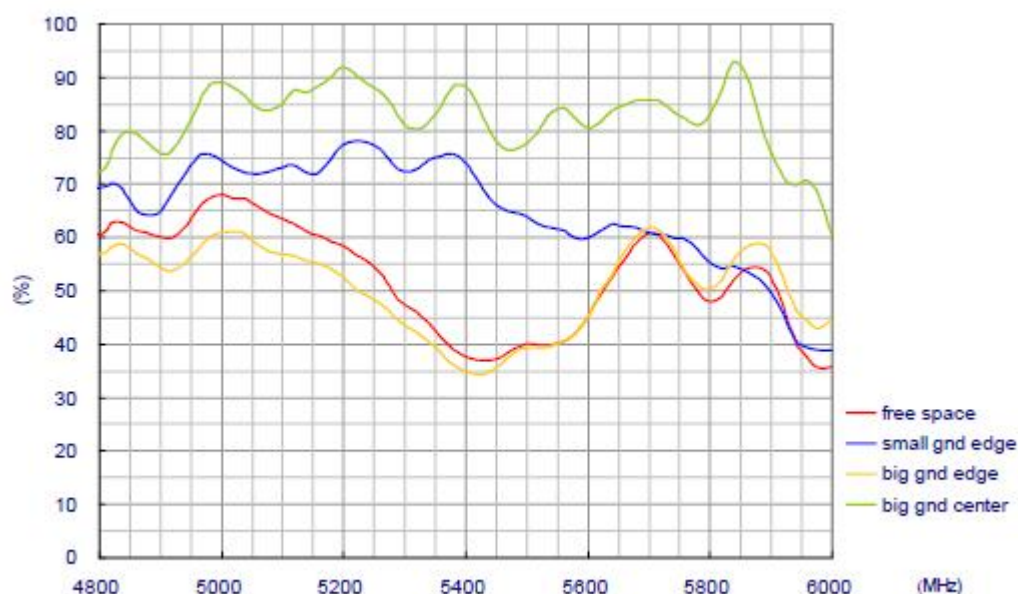
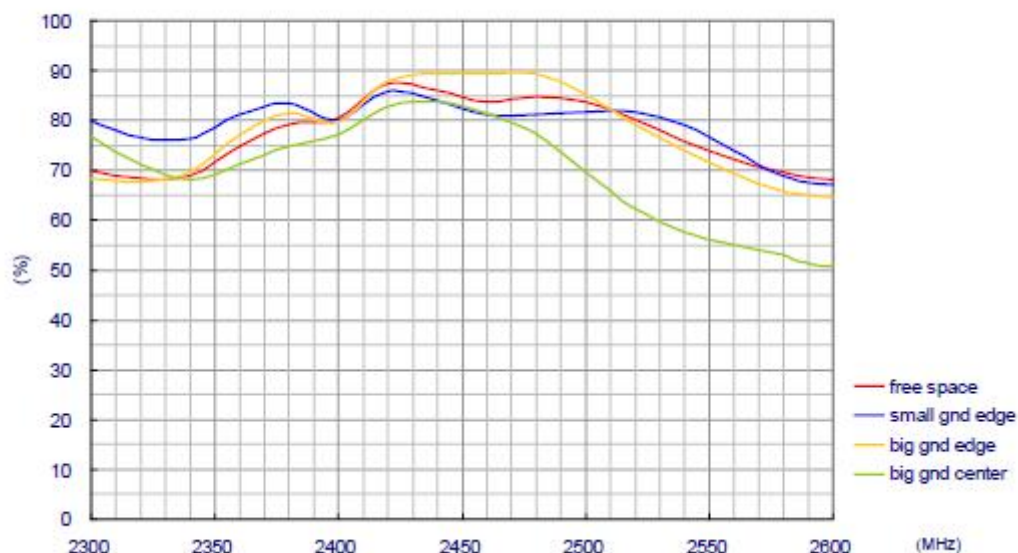
Big ground center

5. Radiation Property of GW.71 with Different Ground

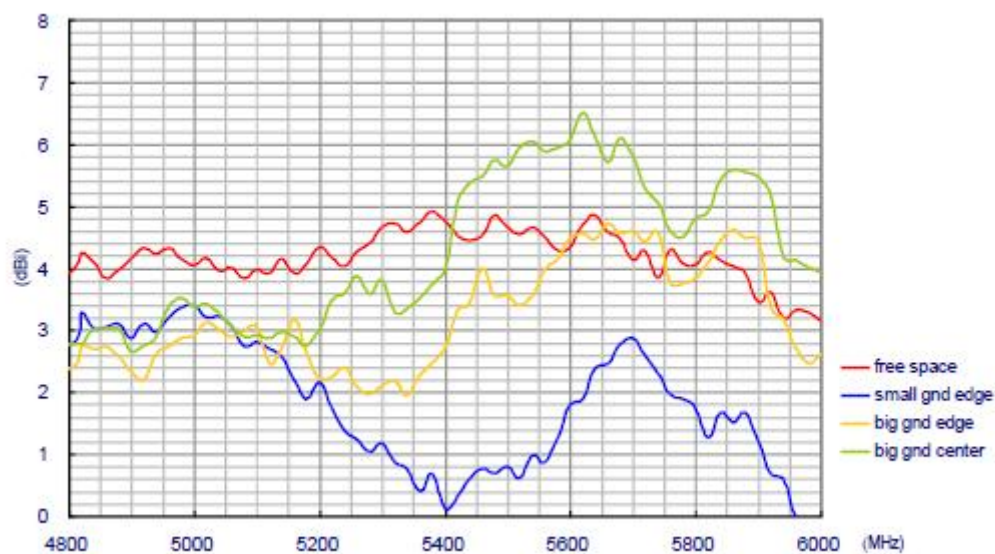
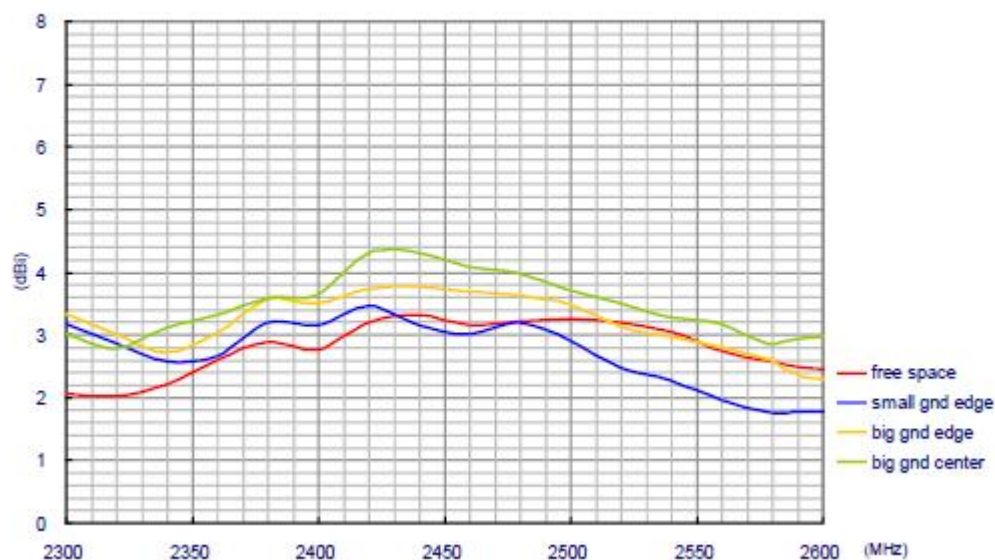
5.1. Radiation Efficiency of Straight GW.71



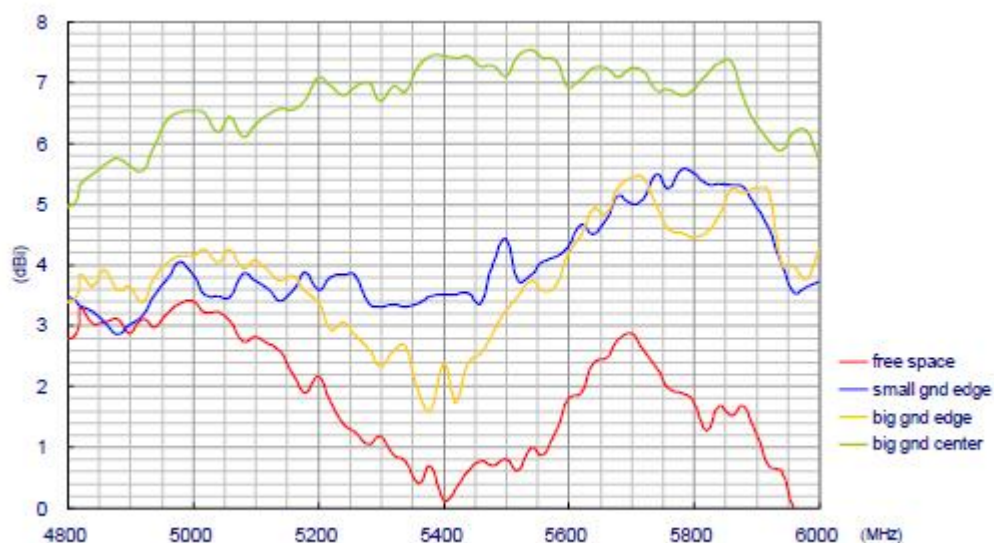
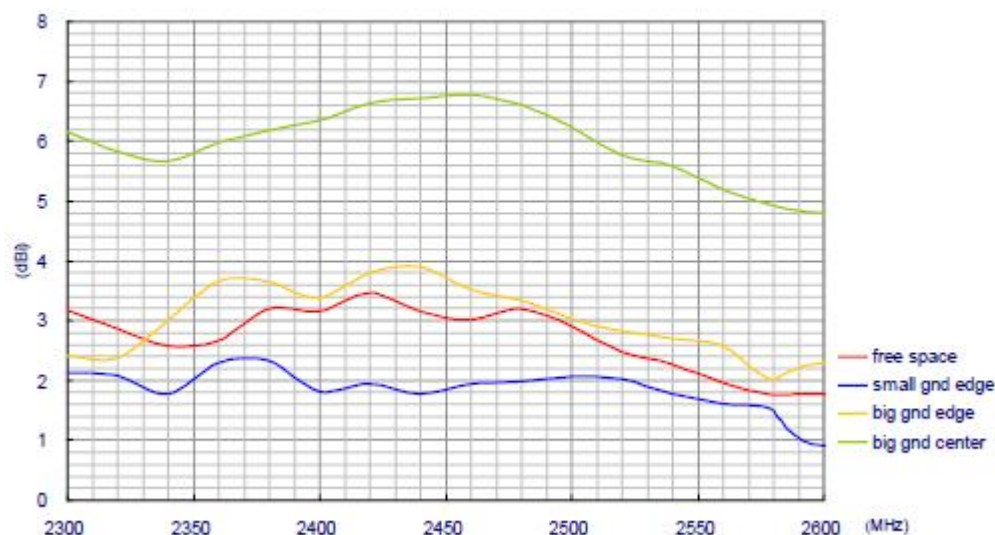
5.2. Radiation Efficiency of Bend GW.71



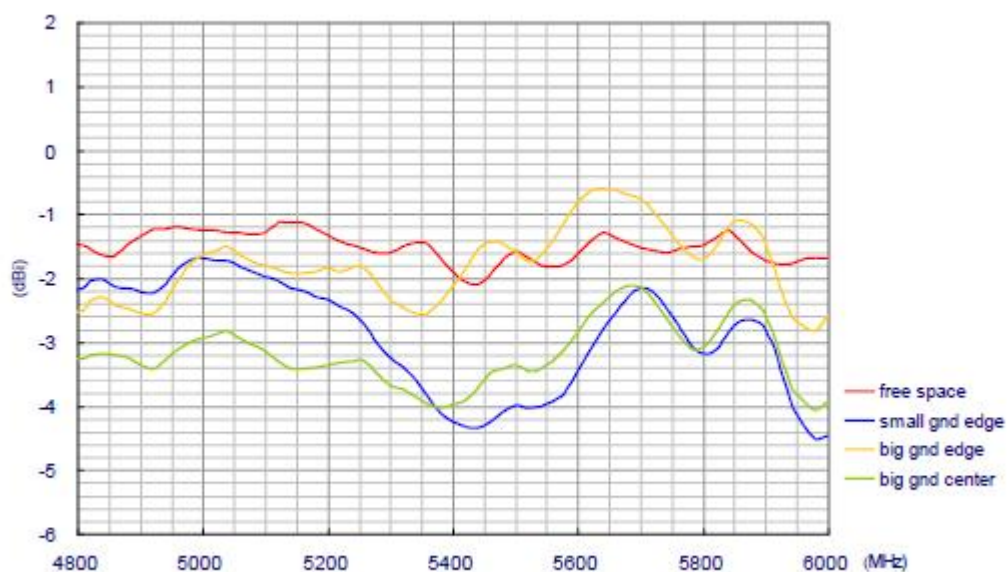
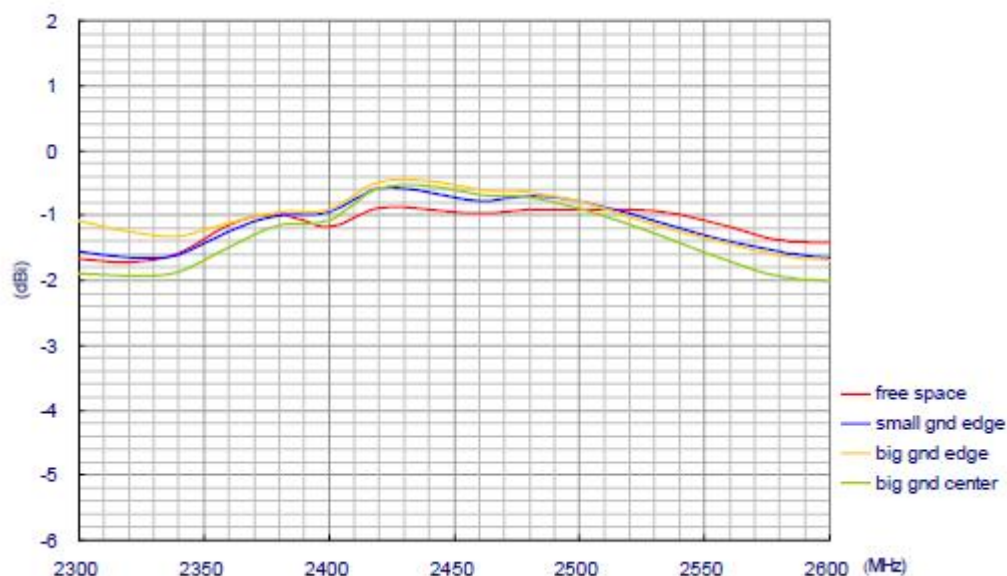
5.3. Peak Gain of Straight GW.71



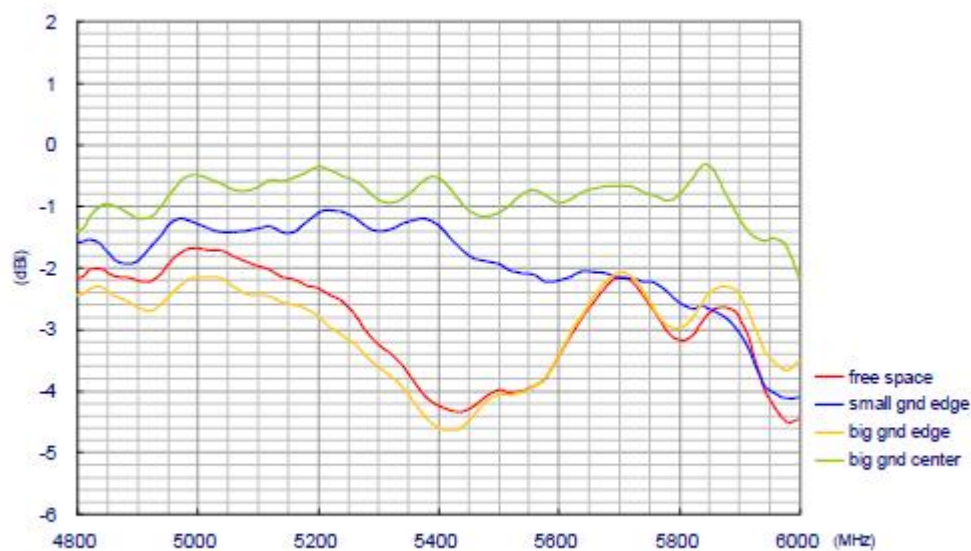
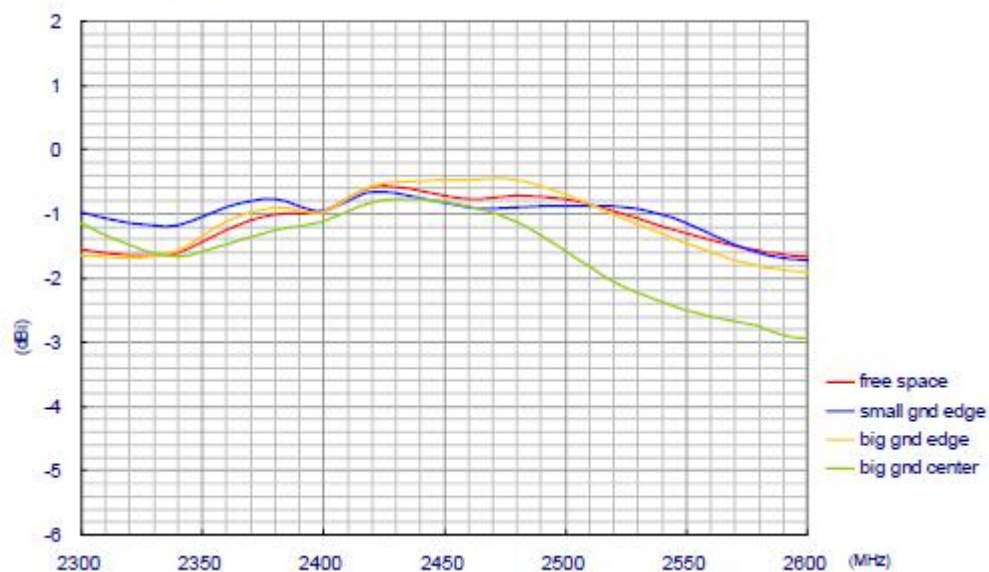
5.4. Peak Gain of Bend GW.71



5.5. Average Gain of Straight GW.71

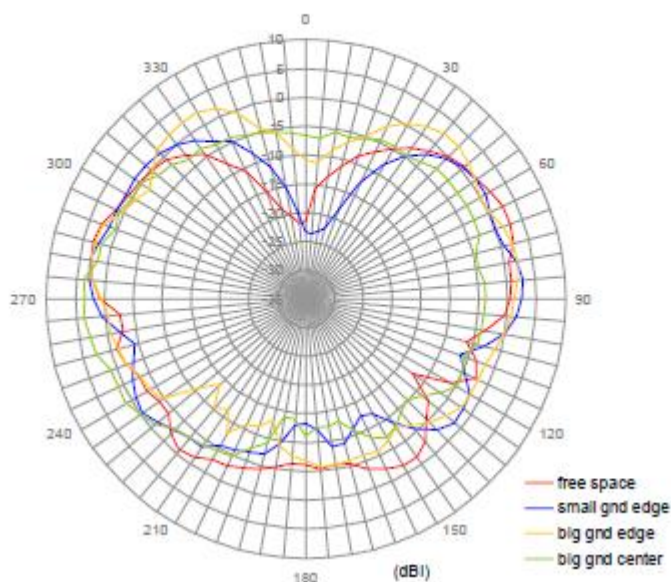


5.6. Average Gain of Bend GW.71

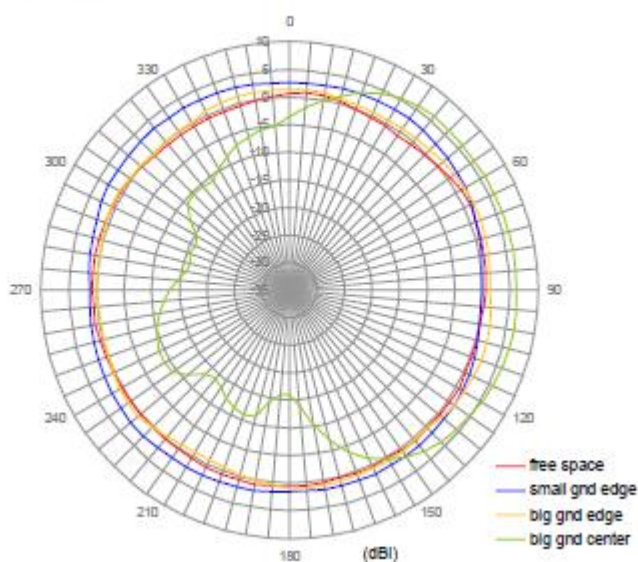


5.7. Radiation Pattern of Straight GW.71 at 2.45GHz

E-Plane Radiation

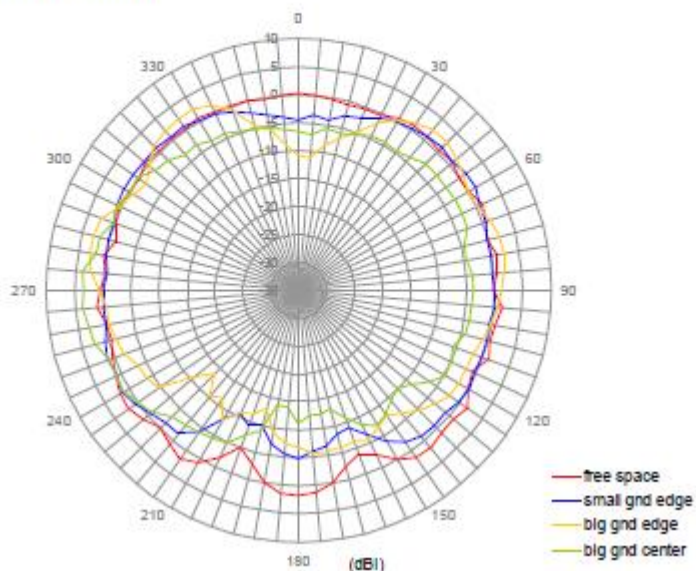


H-Plane Radiation

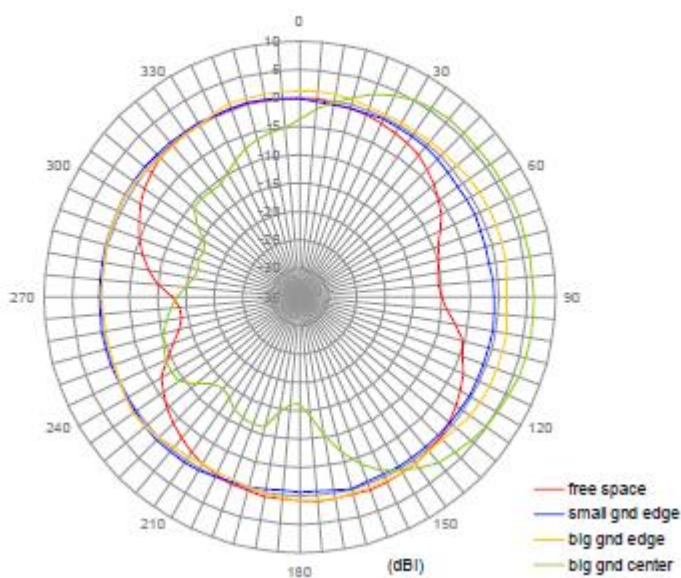


5.8. Radiation Pattern of Bend GW.71 at 2.45GHz

E-Plane Radiation

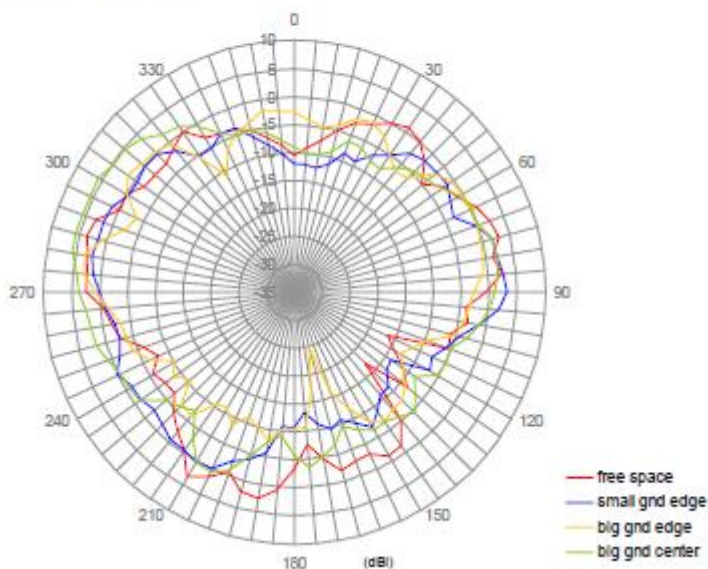


H-Plane Radiation

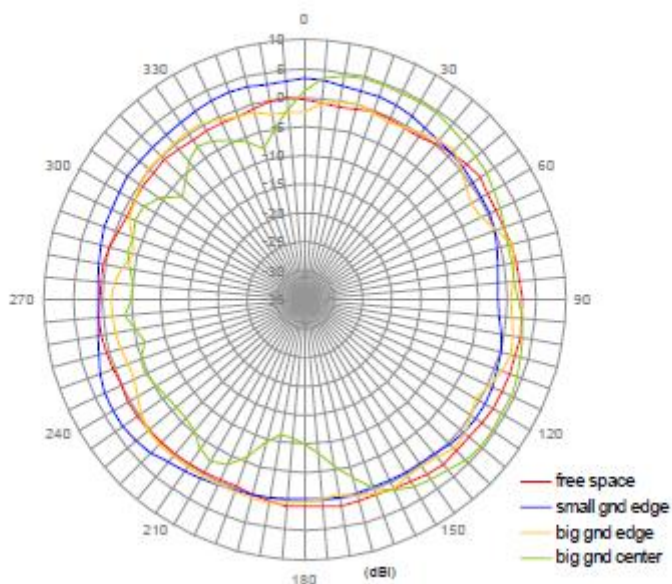


5.9. Radiation Pattern of Straight GW.71 at 5.0GHz

E-Plane Radiation

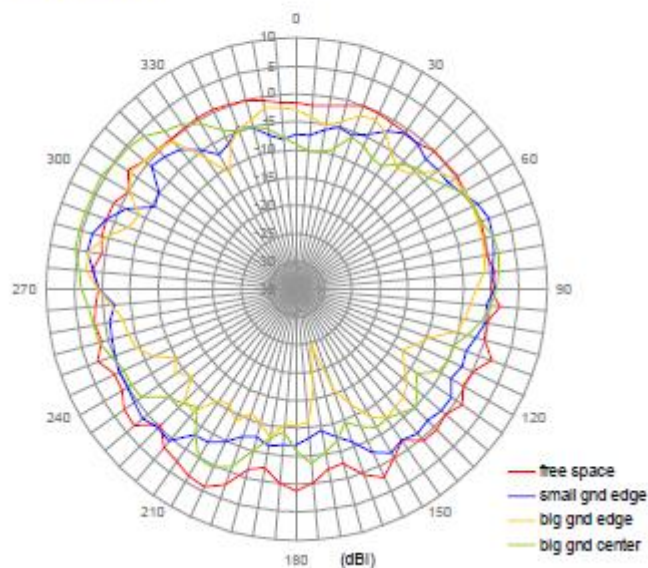


H-Plane Radiation

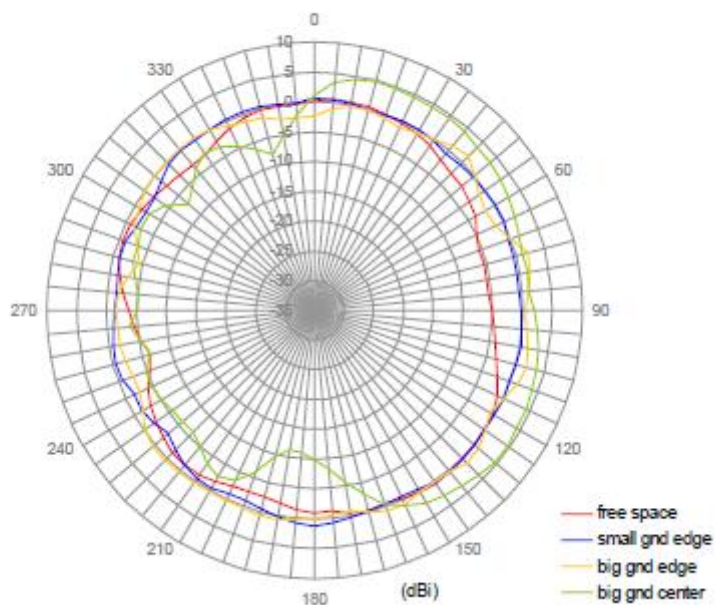


5.10. Radiation Pattern of Bend GW.71 at 5.0GHz

E-Plane Radiation

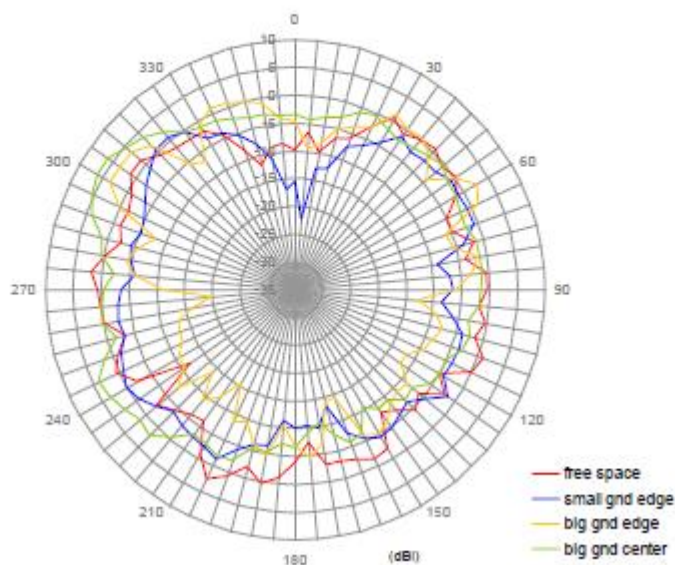


H-Plane Radiation

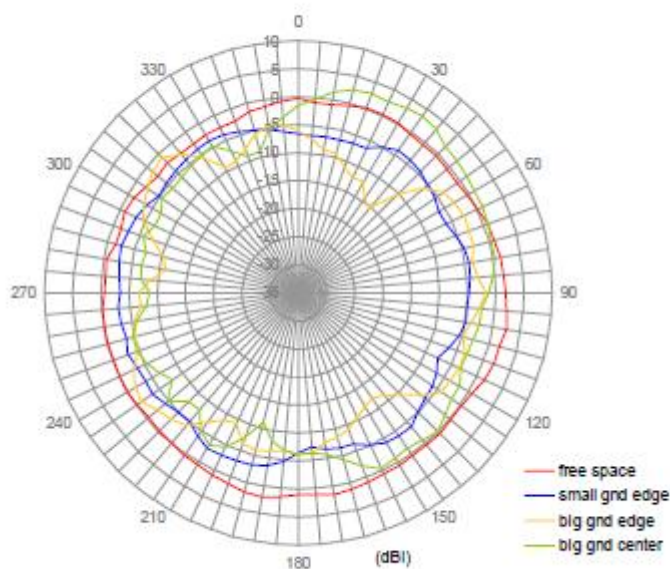


5.11. Radiation Pattern of Straight GW.71 at 5.8GHz

E-Plane Radiation

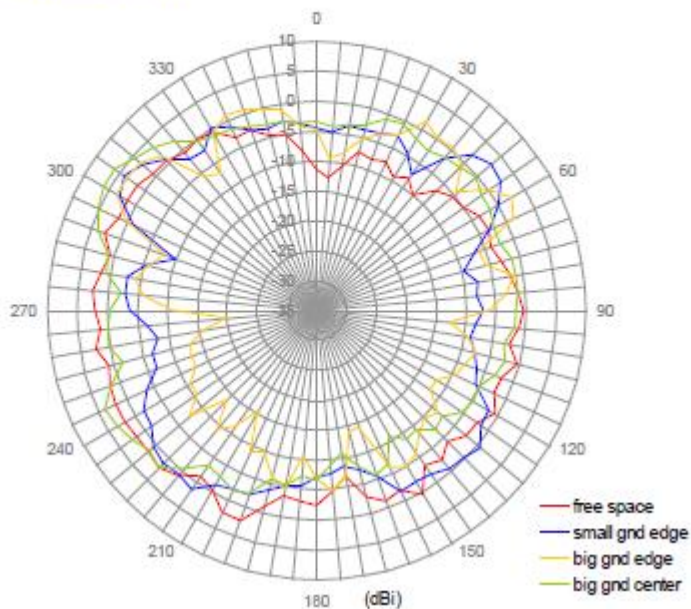


H-Plane Radiation

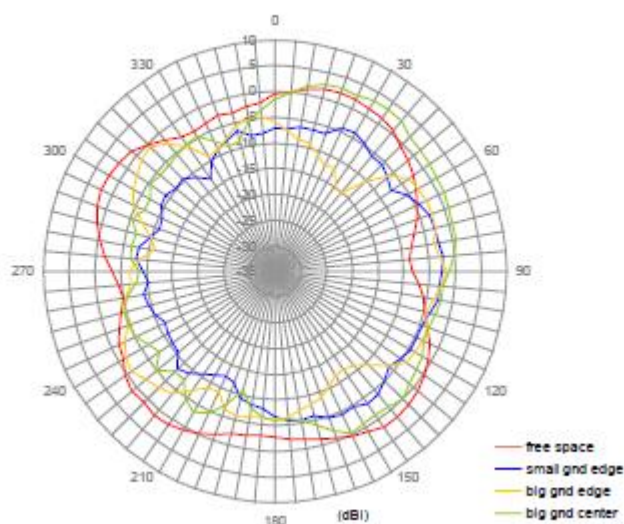


5.12. Radiation Pattern of Bend GW.71 at 5.8GHz

E-Plane Radiation

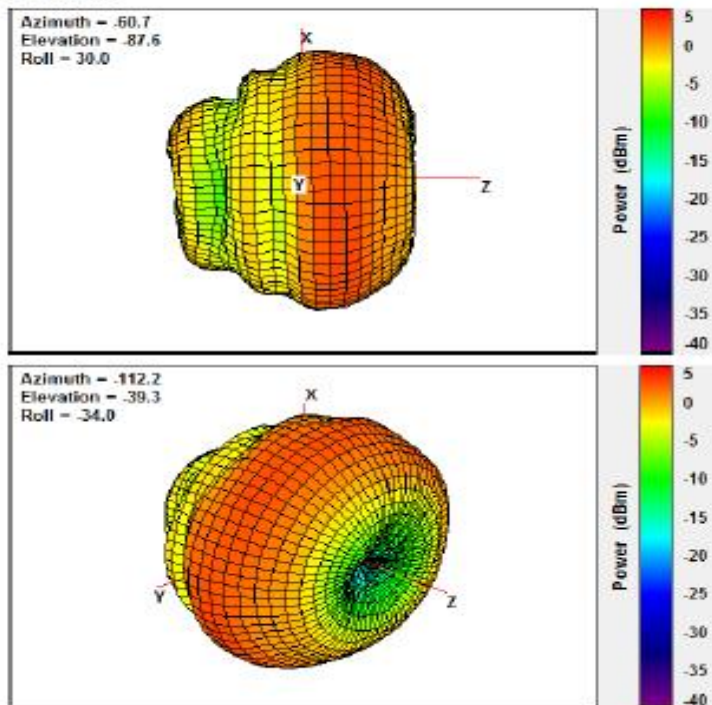


H-Plane Radiation

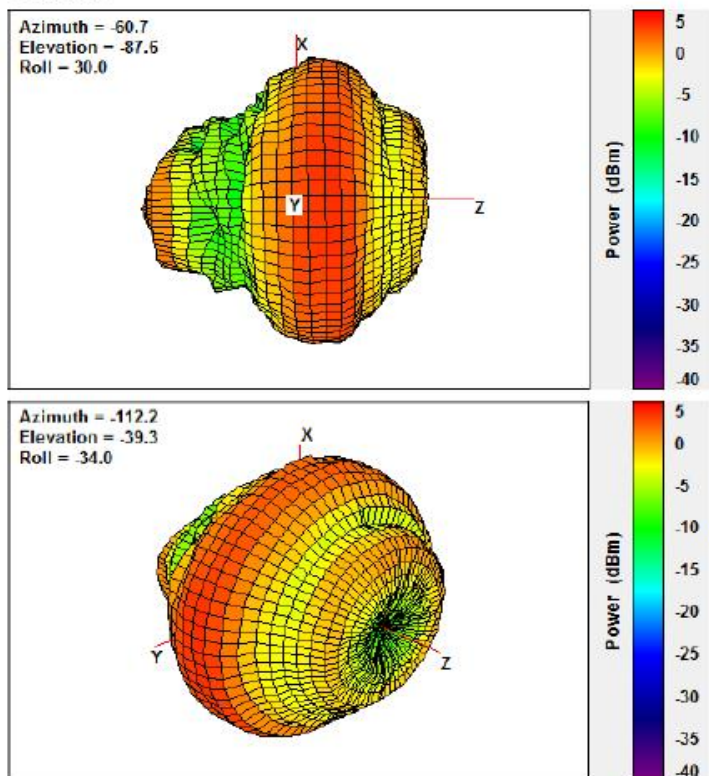


6. 3-D Radiation Patterns (Straight in free space)

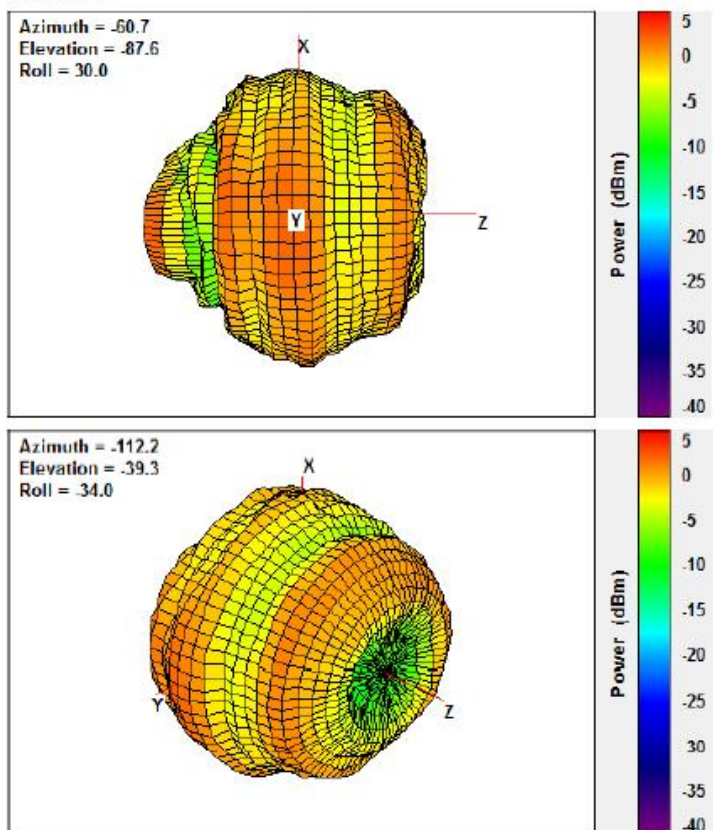
2450MHz



5000MHz



5800MHz



线材规格:

1. Scope:

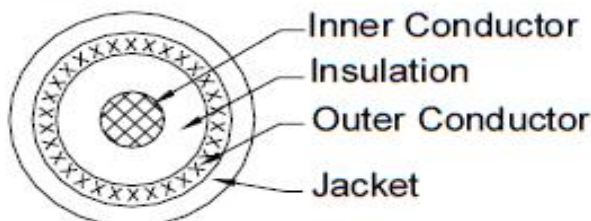
This specification covers FEP insulated High-Frequency coaxial cable for internal wiring of electronic equipment.

2. Construction :

Item	Unit	Spec. Value
Inner Conductor	Material	Silver plated copper
	construction	7/0.102
	Dia.(approx)	0.30
Insulation	Material	FEP
	Nom. Thickness	0.27
	Dia.(approx)	0.85±0.05
	Color	Natural
Outer Conductor	Type	Braid
	Material	Silver plated copper
	Coverage	16/3/0.10
	Dia.(approx)	1.30
Jacket	Material	FEP
	Nom. Thickness	0.27
	Color	BROWN
	Dia.(approx)	1.85±0.10

3. Characteristics :

Test Item	Unit	Specified Value	Note
Appearance	-	Faultless in visible	-
Inner conductor resistance(at 20℃)	Ω /km	Max.354	At 20℃
Insulation resistance 1> (at 20℃)	M Ω -km	Min.1000	At 20℃
Dielectric strength		No breakdown at AC 2000V for 1min	Outer conductor to inner conductor
Capacitance	pF/m	Nom.95	At 1KHz
Characteristic impedance (at D-TDR)	Ω	50±2	TDR method
Attenuation	dB/m	0.45	100MHz
		1.5	1G
		2.1	2G
		2.6	3G



Cross-section of cable

SMA射频同轴连接器

RF COAXIAL CONNECTORS

编号: 1101

主要技术特性 (TECHNICAL SPECIFICATIONS):

温度范围 (Temp.range):	-55~+155° C
特性阻抗 (Impedance):	50 Ω
频率范围 (Frequency Range):	DC~12.4GHz
工作电压 (Working Voltage):	335Vmax (有效值)
耐压 (Withstand Voltage):	1000V rms (海平面最小值)
接触电阻 (Contact resistance):	
	内导体之间 (Center Contact) ≤3m Ω
	外导体之间 (Outer Contact) ≤2m Ω
绝缘电阻 (Insulationresistance):	≥5000m Ω
电压驻波比 (VSWR):	直式 (Right angle) ≤1.10
耐用性 (Durability):	≥500次

材料与涂覆 (MATERIAL AND PLATING):

壳体 (Shell):	黄铜 (Brass)	镀硬金 (Gold plated)
插针 (contact pin):	黄铜 (brass)	镀硬金 (Gold plated)
插孔 (socket contact)	铍青铜 (brylliumbrass)	镀硬金 (Gold plated)
绝缘体 (Insulator):	聚四氟乙烯 (PTFE)	
压接套 (Crimping suite):	铜合金 (Copper alloy)	镀金 (Gold plated)
O型密封件 (O-ring sealing):	硅橡胶 (6146 silastic)	

铁耐克-C® (TENAC-C®) 性能 (ASTM)

1/2

项目 / 测试方法 (ASTM) / 单位 / 等级				标准等级				
				高粘度型	中等粘度型		高流动型	
				3510	4520	5520	7520	8520
比重	D 792	-		1.41	1.41	1.41	1.41	1.41
吸湿率	D 570	%		0.2	0.2	0.2	0.2	0.2
机械性能	抗拉强度	D 638	MPa	61	61	61	61	61
	延伸率	D 638	%	75	60	55	50	45
	抗挠强度	D 790	MPa	88	88	88	90	90
	抗挠系数	D 790	MPa	2600	2600	2620	2630	2630
	悬臂梁式冲击强度 (带缺口)	D 256	J/m	78	59	59	59	39
	洛氏硬度	D 785	M-scale	78	80	80	80	80
			R-scale	-	115	115	115	115
热性能	磨损率	D 1044	mg/1000次	14	14	14	14	14
	熔流指数	D 1238	gr/10min	2.8	9	15	30	45
	线性膨胀系数	(TMA)	$\times 10^{-6} \text{cm/cm}^{\circ}\text{C}$	10	10	10	10	10
	热变形温度	D 645	$^{\circ}\text{C}(1.82\text{MPa})$	110	110	110	110	110
			$^{\circ}\text{C}(0.45\text{MPa})$	158	158	158	158	158
阻燃性	(UL 94)	-		HB	HB	HB	HB	HB
成型收缩率	(旭化成方法)	%		1.6~2.0	1.6~2.0	1.6~2.0	1.6~2.0	1.6~2.0
特点				高抗冲击、高延伸率等级，具有较高的分子量。	标准流动等级，具有最小的注塑模垢。	与4520类似，但具有较高的流动性和最小的注塑模垢。	高流动等级，具有最小的注塑模垢。	超高流动等级，具有最小的注塑模垢。

项目 / 测试方法 (ASTM) / 单位 / 等级				HC 系列		高循环等级	耐气候性等级			
				中等粘度型	高流动型	高流动型	高粘度型	中等粘度型		高流动型
				HC450	HC750	7554	3513	4513	4563	7513
比重	D 792	-		1.41	1.41	1.41	1.41	1.41	1.41	1.41
吸湿率	D 570	%		0.2	0.2	0.2	0.2	0.2	0.2	0.2
机械性能	抗拉强度	D 638	MPa	65	65	60	60	60	60	60
	延伸率	D 638	%	60	50	50	75	55	55	45
	抗挠强度	D 790	MPa	95	98	90	88	88	88	89
	抗挠系数	D 790	MPa	2890	2990	2630	2600	2600	2600	2630
	悬臂梁式冲击强度 (带缺口)	D 256	J/m	69	59	39	69	59	59	59
	洛氏硬度	D 785	M-scale	-	-	80	78	80	80	80
			R-scale	-	-	115	-	115	115	115
热性能	磨损率	D 1044	mg/1000times	-	-	14	14	14	14	14
	熔流指数	D 1238	gr/10min	8	30	30	3	9	9	30
	线性膨胀系数	(TMA)	$\times 10^{-6} \text{cm/cm}^{\circ}\text{C}$	-	-	10	10	10	10	10
	热变形温度	D 645	$^{\circ}\text{C}(1.82\text{MPa})$	124	124	110	110	110	110	110
			$^{\circ}\text{C}(0.45\text{MPa})$	163	163	158	158	158	158	158
阻燃性	(UL 94)	-		HB	HB	HB	-	-	-	-
成型收缩率	(旭化成方法)	%		1.6~2.0	1.6~2.0	1.5~1.9	1.6~2.0	1.6~2.0	1.6~2.0	1.6~2.0
特点				革新共聚物，对标准等级的物理性能有所增强。		高流动等级，具有录像机卷轴所需性能。	耐气候性等级，含有紫外线吸收剂和其他添加剂，因而具有良好的耐气候性。			

- 请注意，所有的数据和数值都是用所示试验方法获得的典型结果，只能作为等级选择的基本参考，而不能作为任何形式的产品规格或保证。如有更改，恕不另行通知。
- 处理和使用之前必须阅读相关的MSDS，并一定要遵守重要注意事项。
- 铁耐克或铁耐克-C用于接触食品的用途之前，应当与旭化成联系。

产品质量保证书

质保书编号:

产品批号:

Q/HITY-QM10-2002

2009 年 2 月 20 日

名称		牌号		规格		状态		制造方法		验收标准		
黄铜管		H65				硬		拉制		国标		
主要成份 %	Cu 铜	63.48	Zn 锌	36.43	Sn 锡	0.0035	As 砷	0.0096	P 磷	0.0036	Al 铝	0.001
	Fe 铁	0.019	Pb 铅	0.0096	Sb 锑	0.0064	Bi 铋	0.0014	Ni 镍	0.0053	Cd 镉	0.0007
	O 氧	---	S 硫	0.0067								
物理性能	抗拉强度 ξ Nmm ²		延伸率 δ 10%		扩口 压扁		硬度 HV/HB		内应力 检查		水压 检查	
	345		45		正常		90-110					

注: 1、如对以上产品有异议, 请在30天内向本公司提出。

用户单位:

深圳鹏基

2、盖章生效:

质量检查员:

刘小军

包装规格:

产品料号: XXX

产品型号: XXX

一、标签要求:

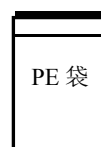
需方	XXX		
供方	XXXXX		
物料编码	XX		
产品型号	XX		
数量/单	XXX PCS	出厂日期	X 年 X 月 X 日
备注/其他			

二、装箱要求:

作业说明:

1. 内包装:

产品 XXpcs 一袋, 放入小 PE 袋;



2. 外包装:

XxPCS 一箱;

3. 注意事项:

- 是否要增设隔板、珍珠棉;
- 标签的帖附, 如 ROHS 等;

