



蓝牙天线测试报告

Test Report of Bluetooth Antenna

Customer/Project		蓝牙		Frequency Band		BT	
SCT P/N				Version		A0	
Date							
Checked by	RF			Design by	RF		
	ME				ME		
					Remark		
Customer							
Date							
Confirmed by	RF						
	ME						
Remark							

1 Introduction 简介

This report summarizes the electrical performance results of the proposed antenna to support the antenna Bluetooth project. The antenna covers the band: BT(2400MHz-2480MHz). (Figure1).

这份测试报告主要介绍了蓝牙天线的电气性能。天线频段 BT(2400MHz-2480MHz). (Figure1).

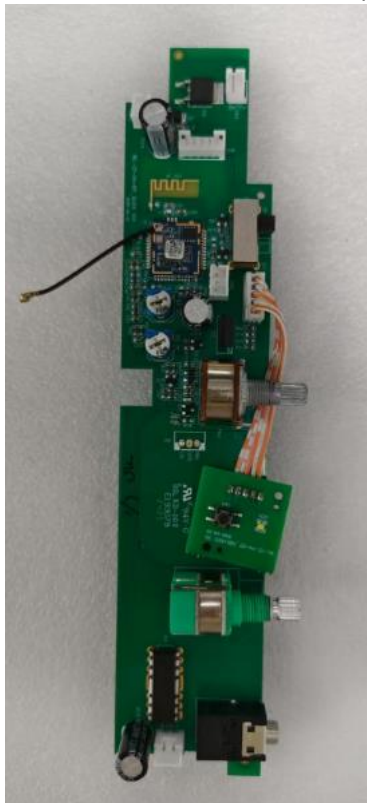


Figure 1: Proposed Antenna

天线照片

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2 Electrical Performance 电气性能

2.1 Specification 电气规格

Antenna Band		BT
1	Antenna Size	200*40mm
2	Frequency	2450MHz
3	VSWR	<9
4	Bandwidth	80MHz(Min)
5	Impedance	50ohm
6	Ant. Port Input Pwr. (dBm)	0 (Typ. BT class 2 output power)
7	Tot. Rad. Pwr. (dBm)	-11.69 (Input pwr ? loss pwr)
8	Peak EIRP (dBm)	-6.17
9	Gain(dBi)	-5.52
10	Efficiency (dB)	-11.69
11	Directivity (dBi)	5.53 (all direction antenna)
12	Maximum Power (dBm)	-6.17
13	Minimum Power (dBm)	-24.18
14	Average Power (dBm)	-11.69
15	Max/Min Ratio (dB)	18.01
16	Max/Avg Ratio (dB)	5.00
17	Min/Avg Ratio (dB)	-13.01
18	Average Gain (dB)	-11.69

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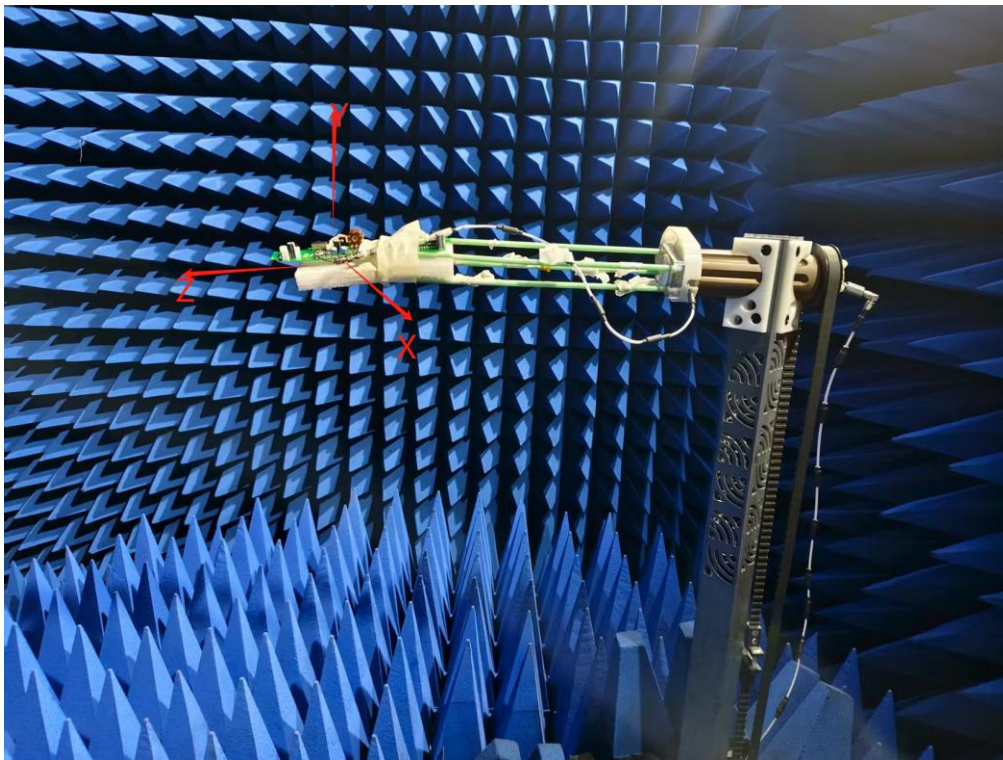
2.2 Test Set-up 测试设备

The return loss and VSWR were measured with Agilent E5071C.

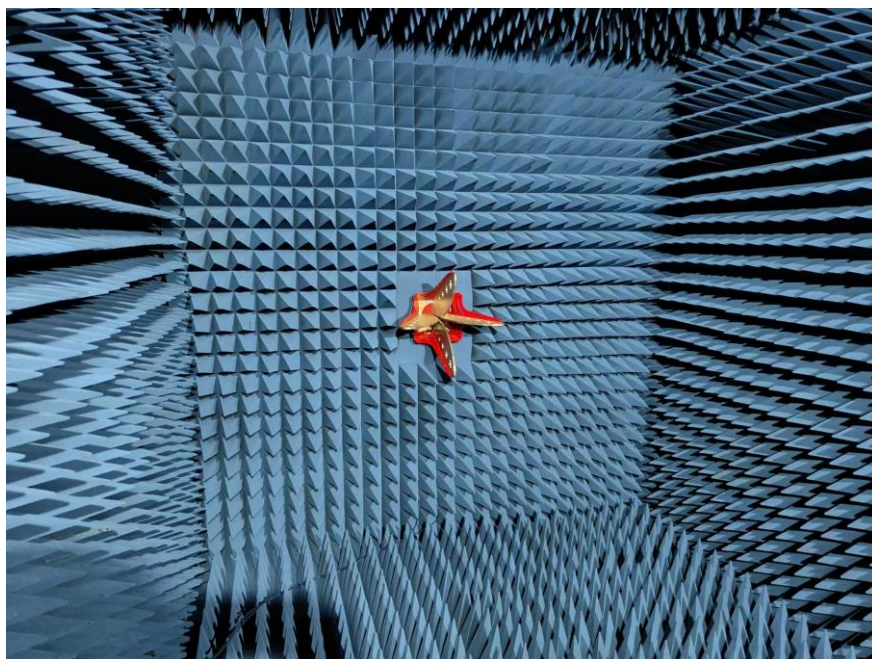
天线反射系数和驻波测试使用安捷伦的 E5071C 矢量网络分析仪。

The efficiency and gain were measured in ETS Chamber in Jiangsu Sigal lab in picture2.

天线效率和辐射增益测试使用江苏星纳尔 ETS 远场暗室测试。



天线实际测试摆放位置



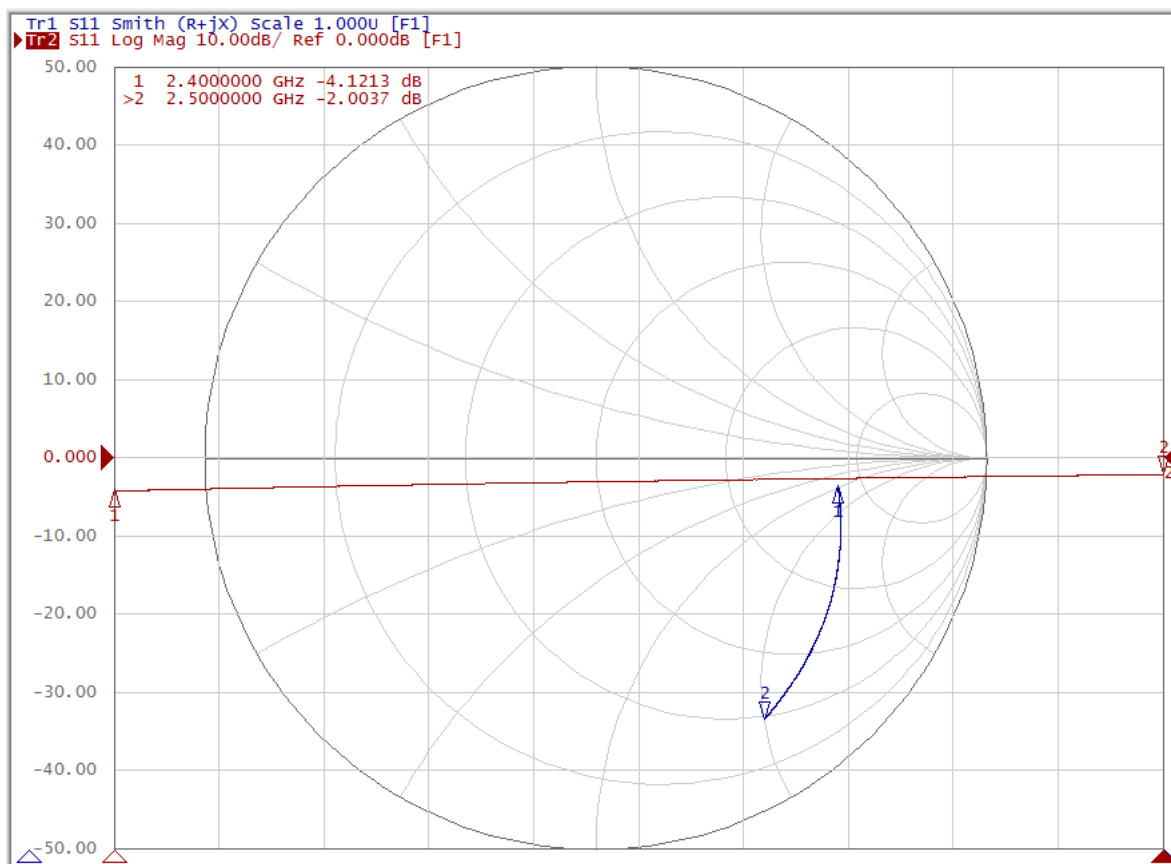
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Figure 2: ETS chamber and measurement system
ETS 暗室及测试系统

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2.3 Smith Chart, Return Loss, VSWR 史密斯圆图,反射系数,驻波比



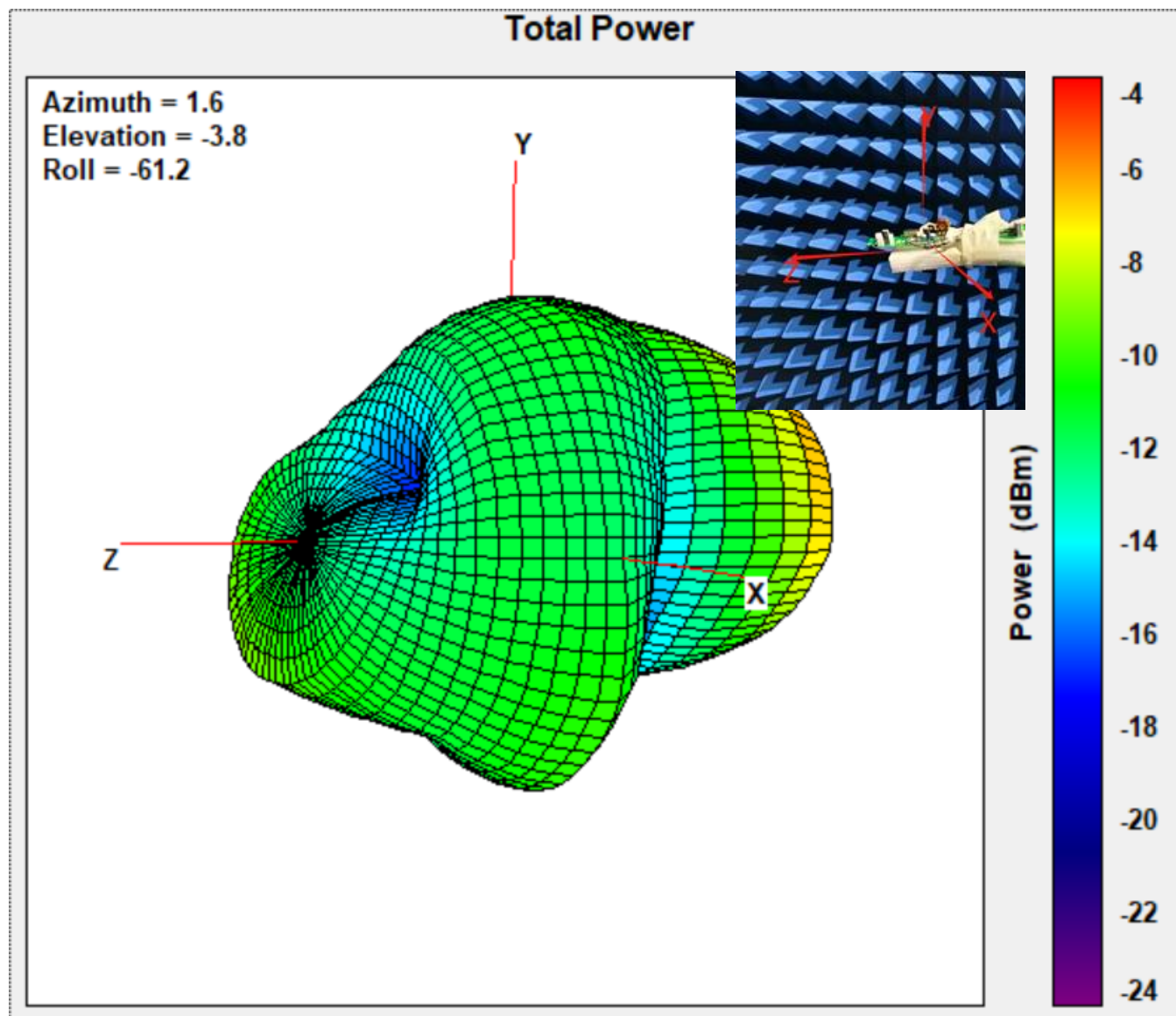
BD3-L 频点的 S11 和 Smith 圆图

2.4 Efficiency and Gain 效率及增益

天线 Antenna	频率 Frequency(MHz)	增益 Gain(dBi)	效率 Efficiency(dB)	Efficiency(%)
BT	2400	-5.95	-11.50	7.08
	2405	-6.10	-11.52	7.04
	2410	-6.25	-11.58	6.95
	2415	-6.46	-11.75	6.69
	2420	-6.74	-12.02	6.27
	2425	-6.76	-12.10	6.16
	2430	-6.59	-12.04	6.25
	2435	-6.39	-11.94	6.40
	2440	-6.24	-11.89	6.47
	2445	-6.13	-11.85	6.53
	2450	-5.96	-11.72	6.73
	2455	-5.70	-11.49	7.09
	2460	-5.52	-11.32	7.37
	2465	-5.53	-11.34	7.34
	2470	-5.57	-11.34	7.34
	2475	-5.64	-11.34	7.34
	2480	-5.81	-11.41	7.23

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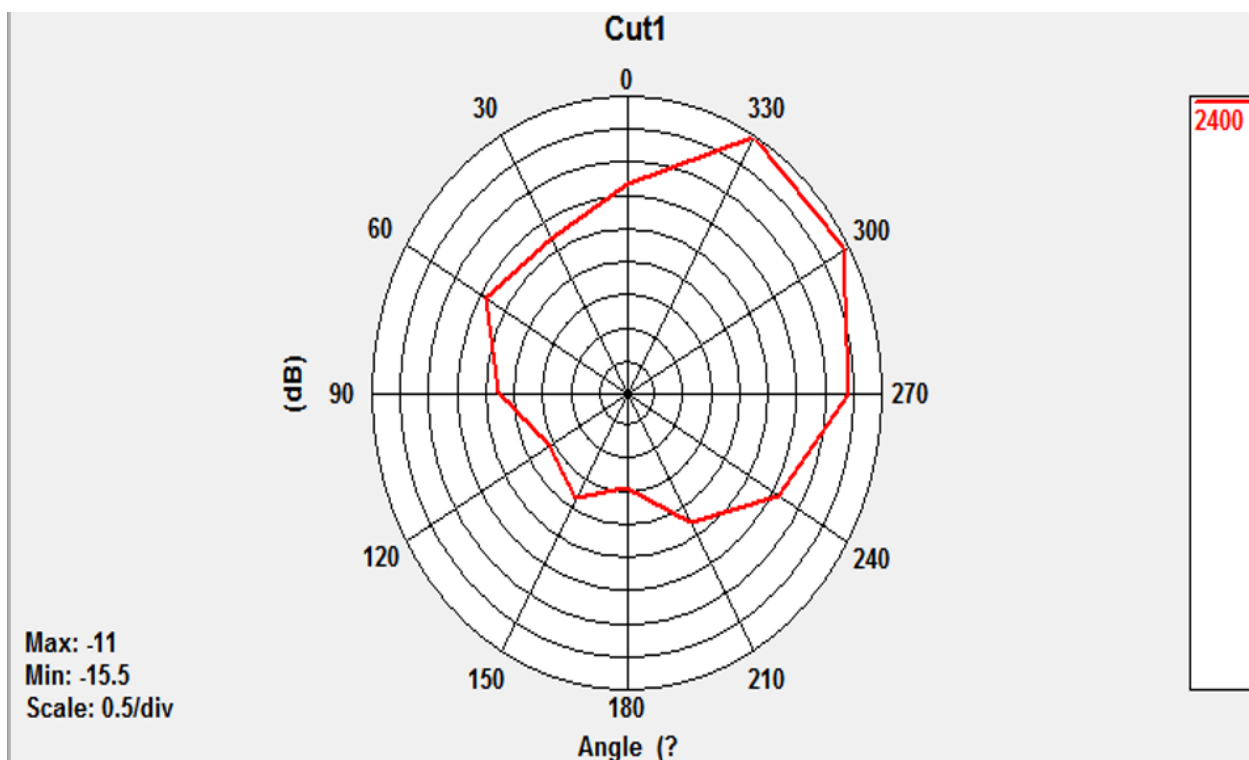
2.5 Gain and Radiation Pattern 增益及辐射方向图



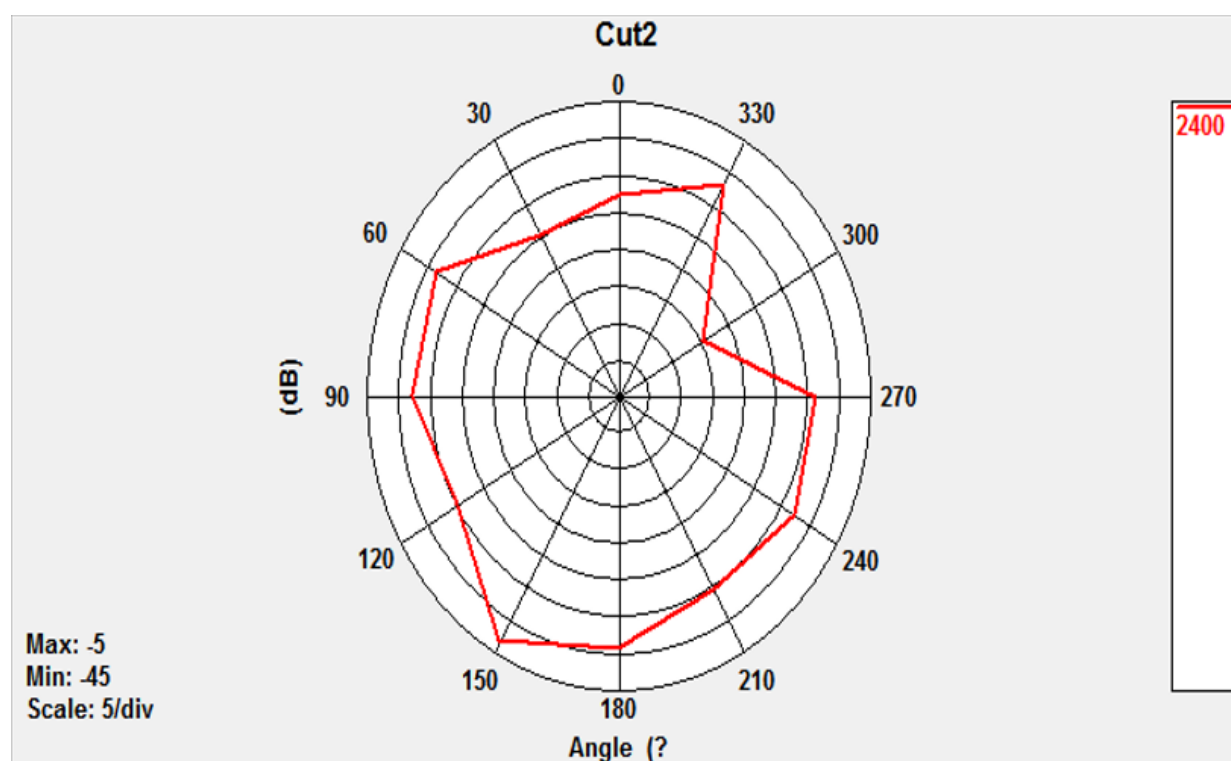
3D radiation pattern

3D 辐射方向图

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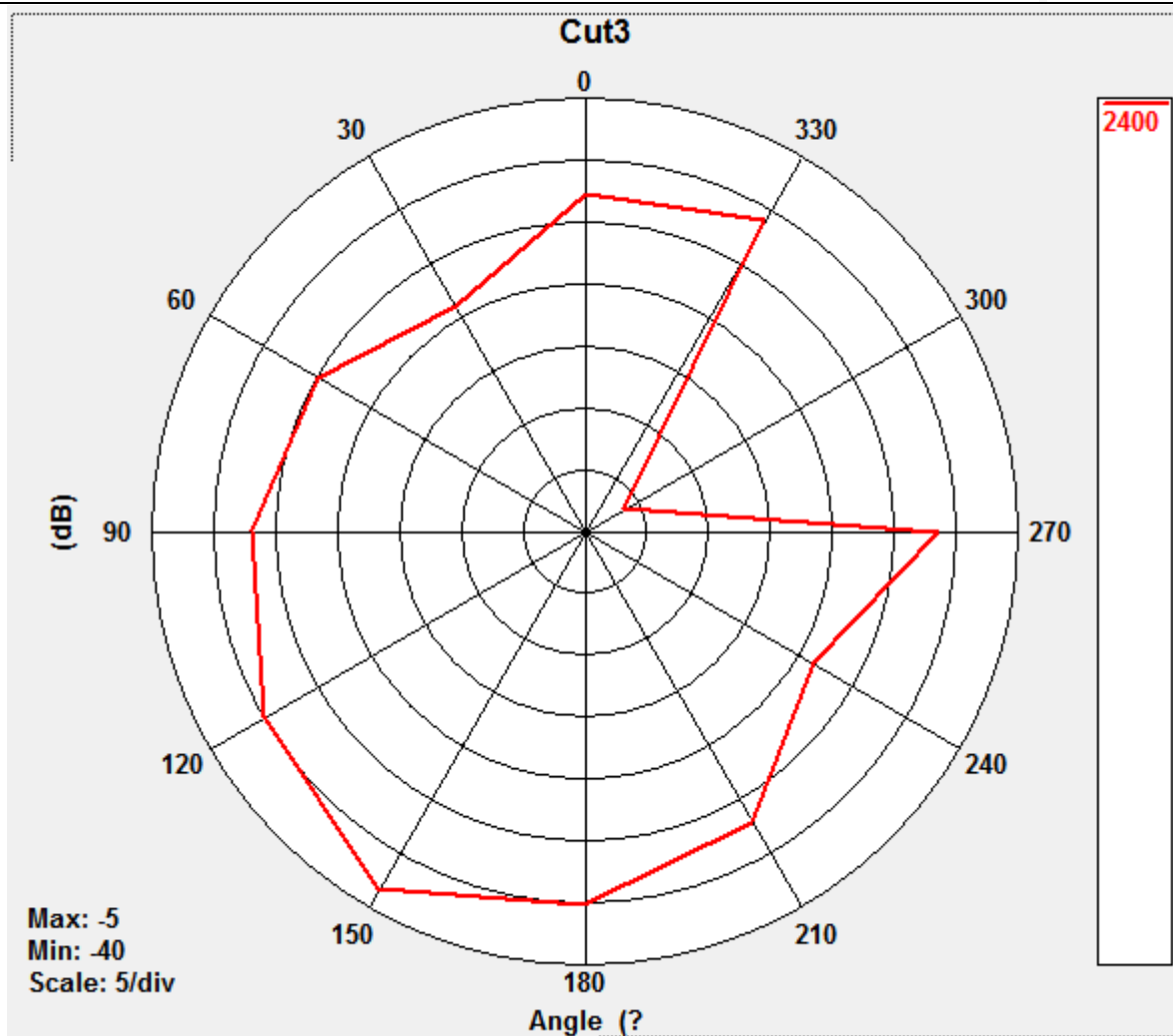


H-Plane 2D pattern
H 面 2D 方向图



E1-Plane 2D pattern
E1 面 2D 方向图

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E 2-Plane 2D pattern

E 2 面 2D 方向图

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