

天線客服報告書

客戶名稱：彥豪金屬

撰寫者：S.F You

核准者：Jess Lee

日期：2023/03/22

Advanced Ceramic X Corp.

16 Tzu Chiang Road, Hsinchu Industrial District Hsinchu Hsien 303, Taiwan

TEL:886-3-5987008 FAX:886-3-5987001

E-mail: acx@acxc.com.tw

<http://www.acxc.com.tw>

1.目的:

使用 AT1608-A2R4HAA 調試並量測場型。

2.結論與建議

2.1 天線增益如下表所示:

Gain Table

Unit in dBi	XY-plane		XZ-plane		YZ-plane		Efficiency
	Peak	Avg.	Peak	Avg.	Peak	Avg.	
@2400MHz	-5.5	-9.0	-6.8	-10.0	-4.7	-9.2	13.0%
@2450MHz	-5.5	-8.8	-5.2	-9.0	-3.2	-8.4	15.0%
@2500MHz	-5.6	-9.3	-5.8	-9.2	-3.5	-8.6	14.0%

2.2 結論:

AT1608-A2R4HAA 量測結果如上表所示，因板子較小且淨空區周圍被金屬遮蔽，導致效率較差，建議客戶使用附件二的匹配值進行實測。

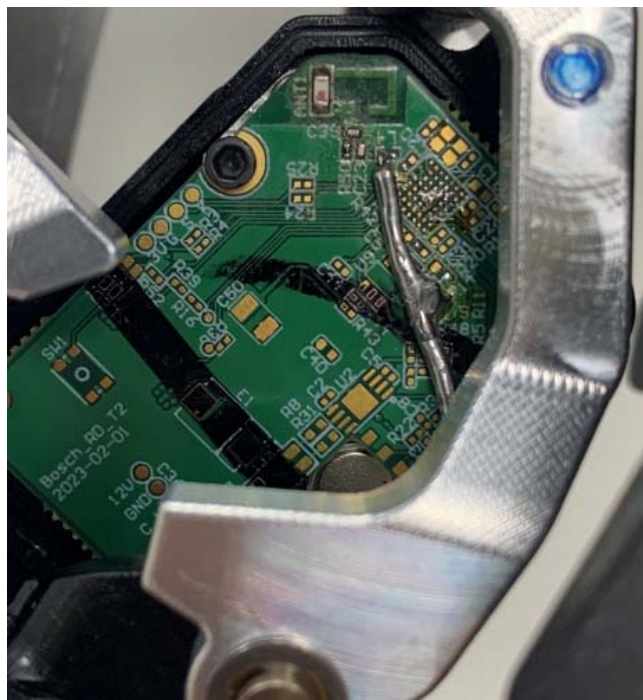
3.建議 Matching 值： 詳見附件 2

4.場形及各項量測方法、結果:詳見附件 3

附件

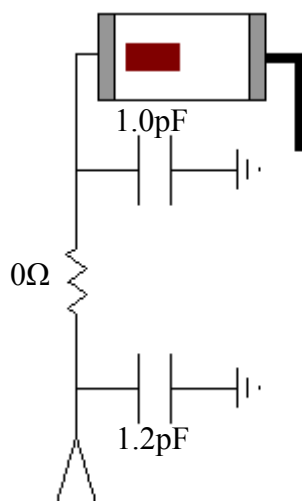
1. PCB 和外殼結構圖:

AT1608-A2R4HAA



2. 天線匹配電路示意圖:

AT1608-A2R4HAA



匹配電路使用之元件:

AT1608-A2R4HAA	1.0pF	0Ω	1.2pF
	250R05L1R0BV4S	RC0201JR-7D0RL	250R05L1R2BV4S

3. 場型及各項量測方法、結果

A. 儀器設定

▲返回損耗(Return Loss) / 駐波比(VSWR):

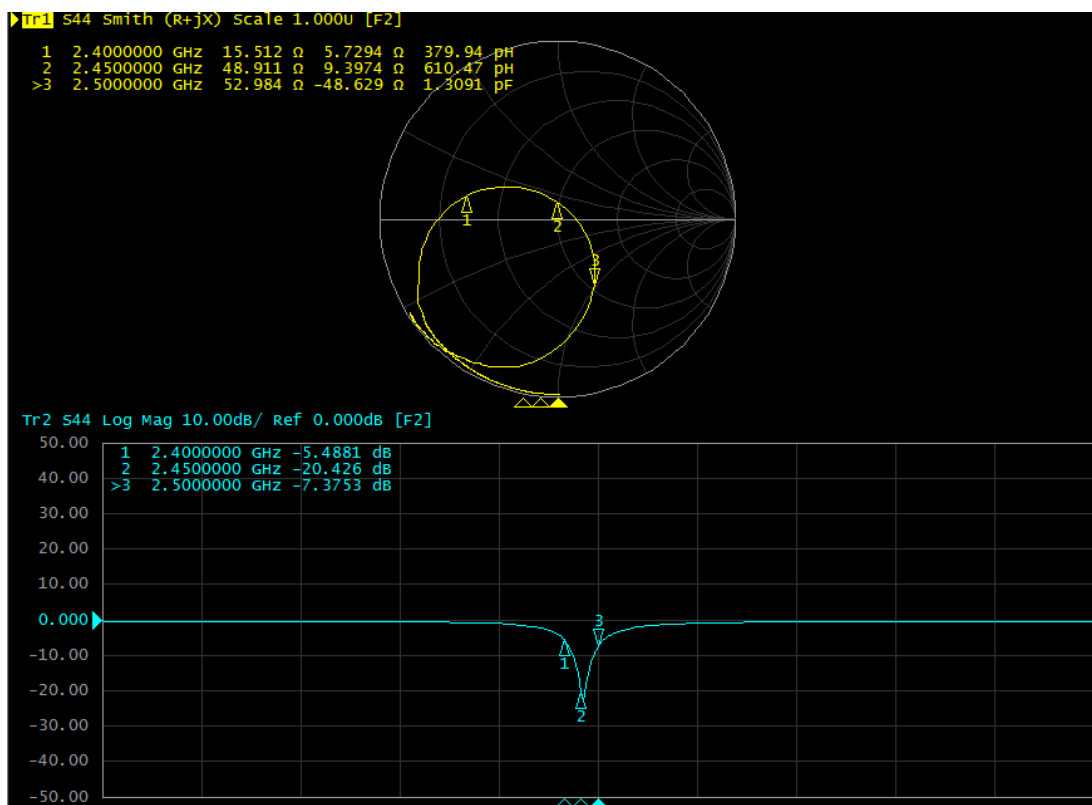
◆量測儀器 : vector network analyzer - AG

◆校正方法 : open/short/load –Cal. Kit 85052D

▲3D Radiation Pattern :

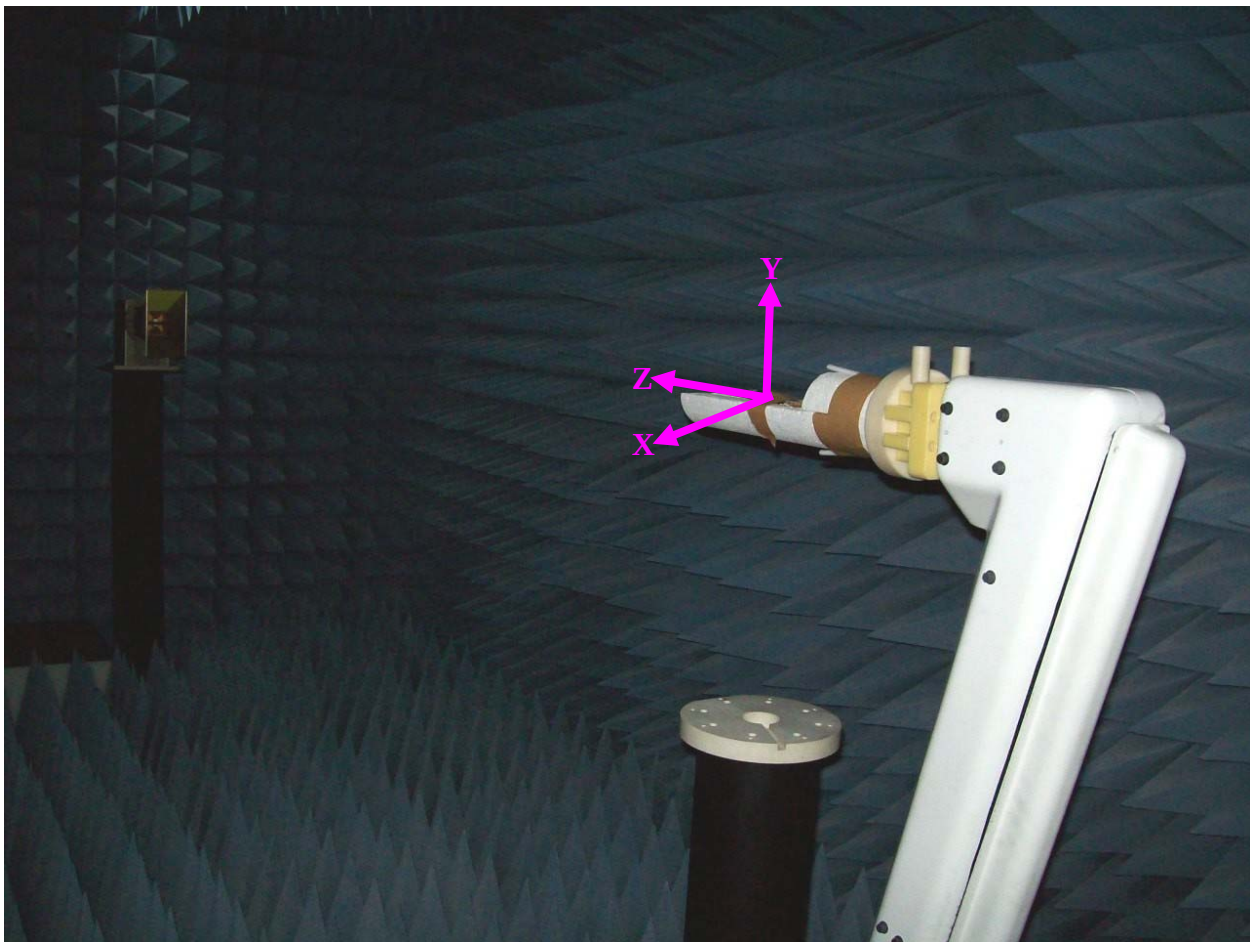
◆NSI 800F-10 Far Field antenna measurement system

B. AT1608-A2R4HAA 之 Return Loss 量測值



C. 輻射場型圖

◆量測座標圖

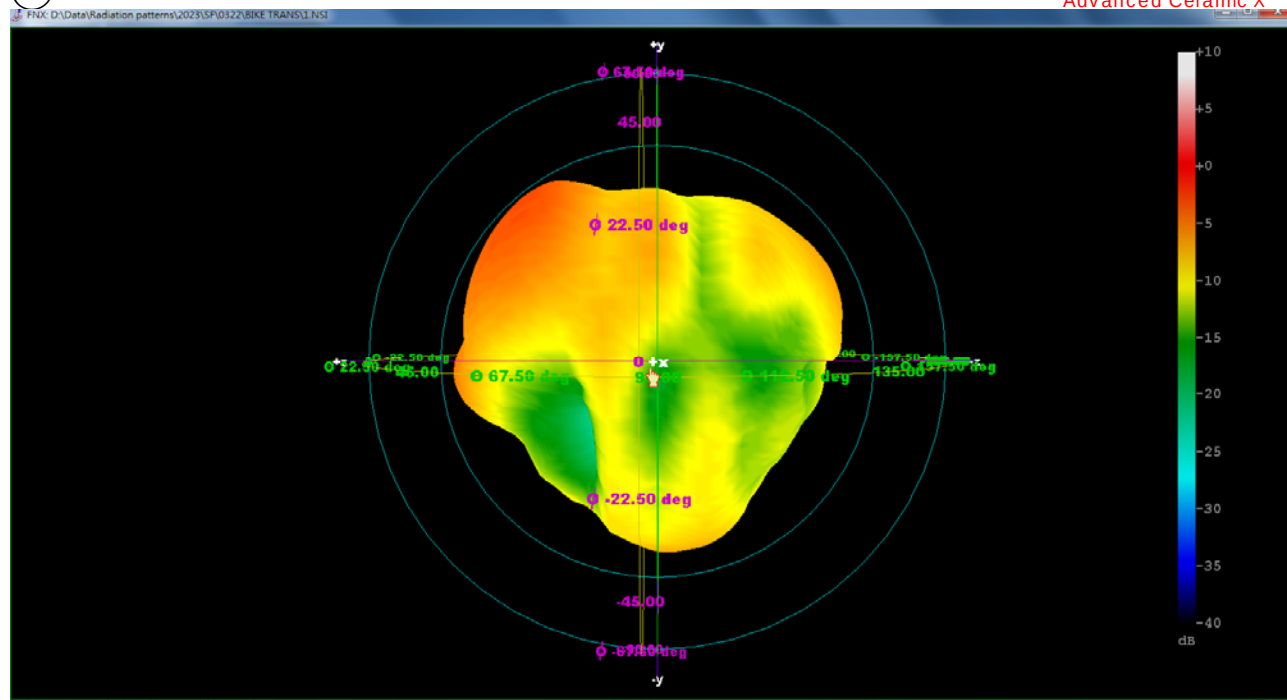


◆各平面定義

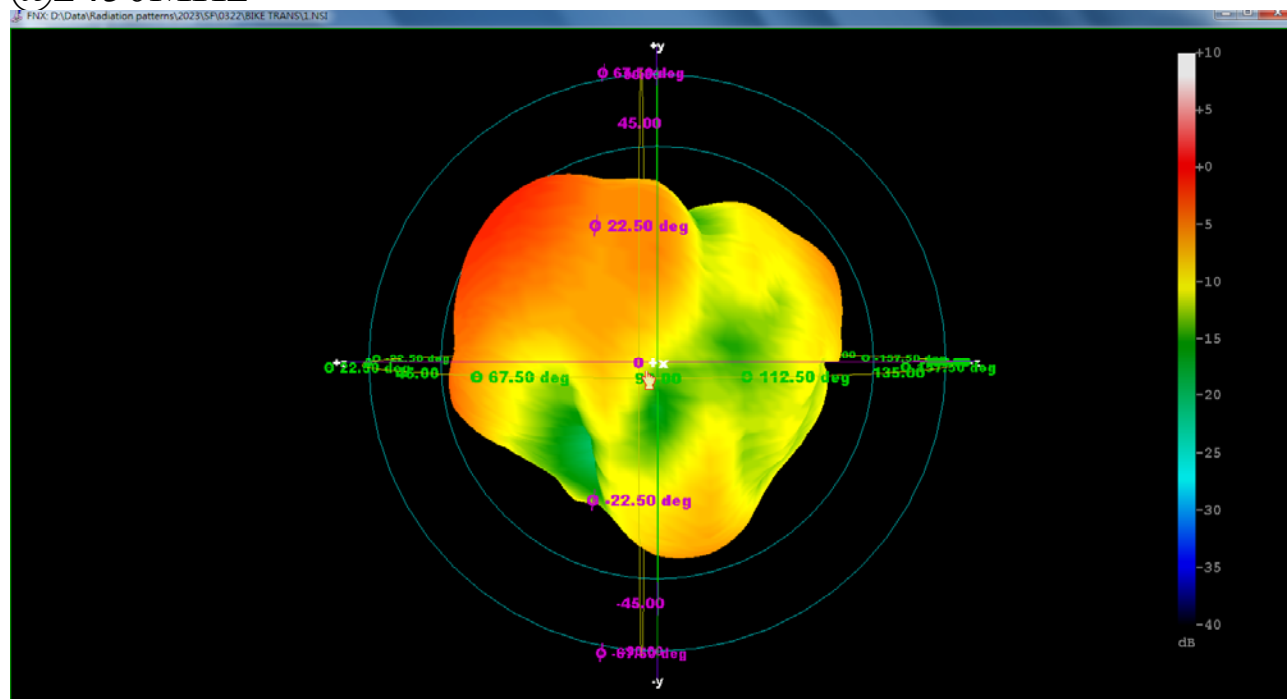
XY-plane	Theta=90°
XZ-plane	Phi=0°
YZ-plane	Phi=90°

◆3D 輻射場型圖

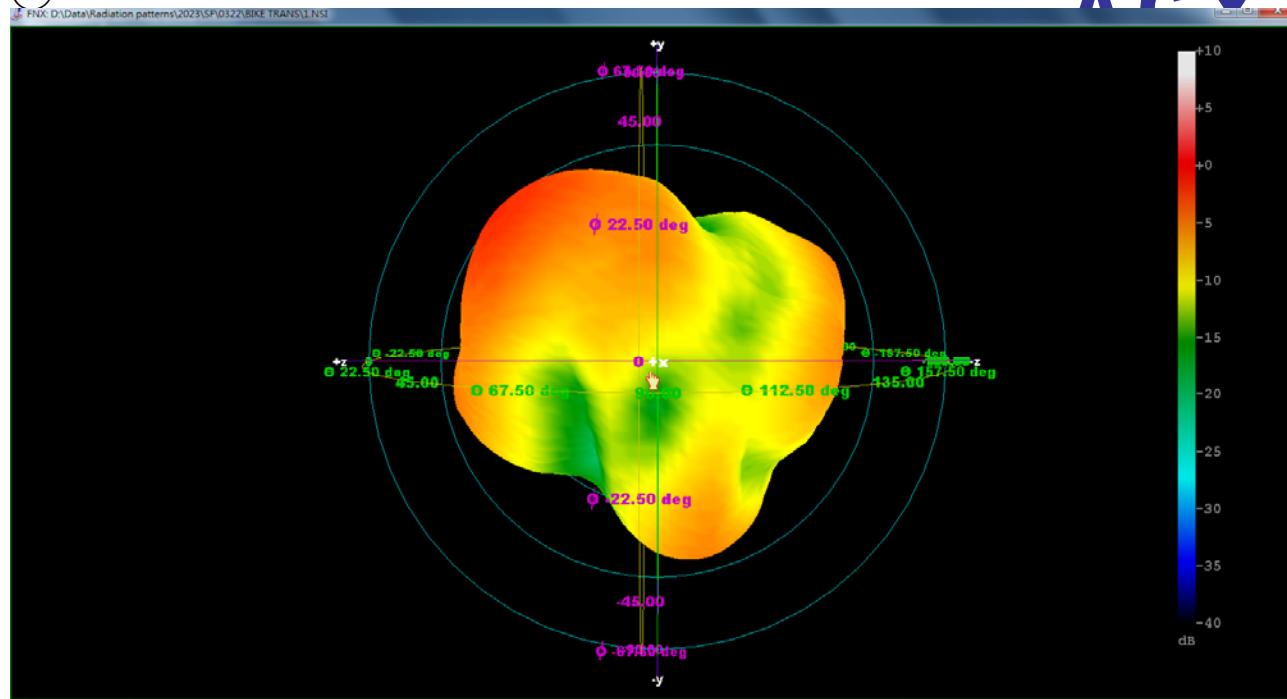
@2400MHz



@2450MHz

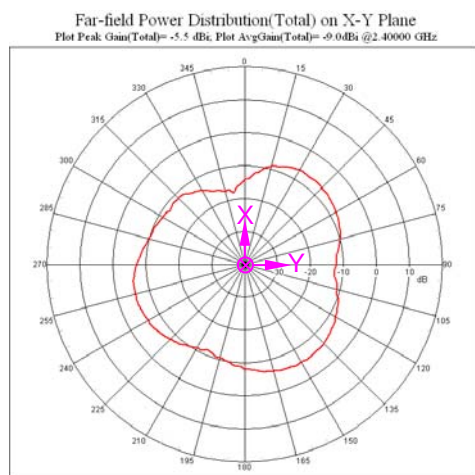


@2500MHz



@2400MHz 之輻射場型圖

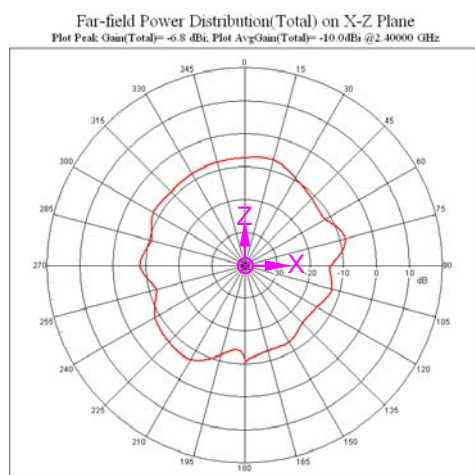
◆XY-plane



Unit : dBi

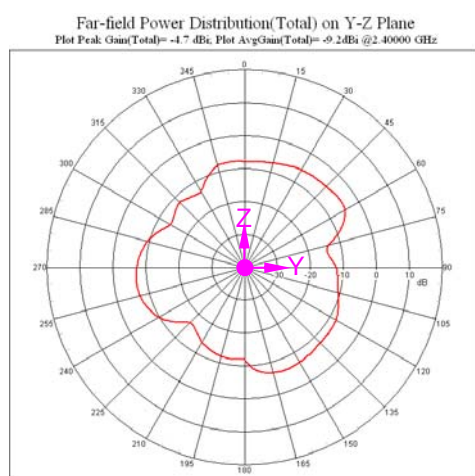
	Peak gain	Avg. gain
XY-plane	-5.5	-9.0

◆XZ-plane



	Peak gain	Avg. gain
XZ-plane	-6.8	-10.0

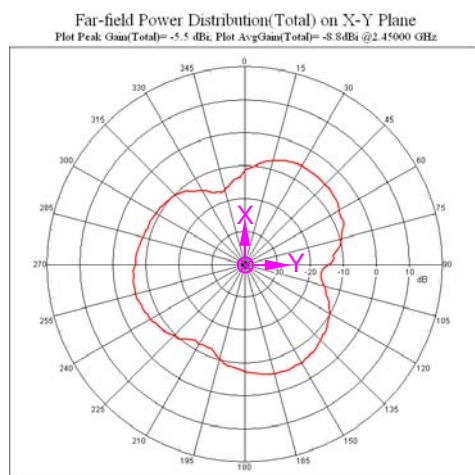
◆YZ-plane



	Peak gain	Avg. gain
YZ-plane	-4.7	-9.2

@2450MHz 之輻射場型圖

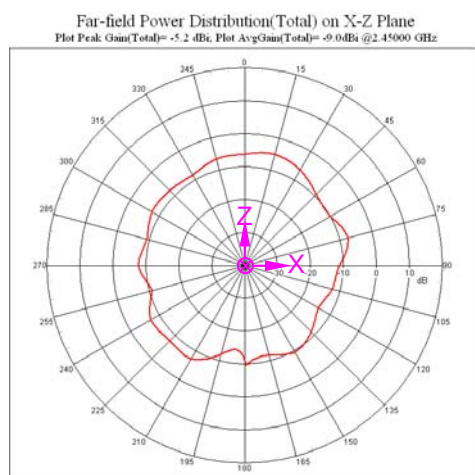
◆XY-plane



Unit : dBi

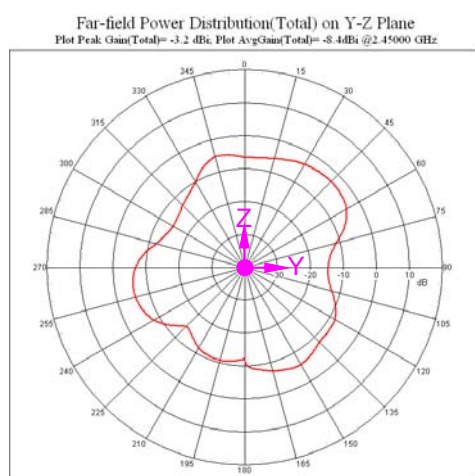
	Peak gain	Avg. gain
XY-plane	-5.5	-8.8

◆XZ-plane



	Peak gain	Avg. gain
XZ-plane	-5.2	-9.0

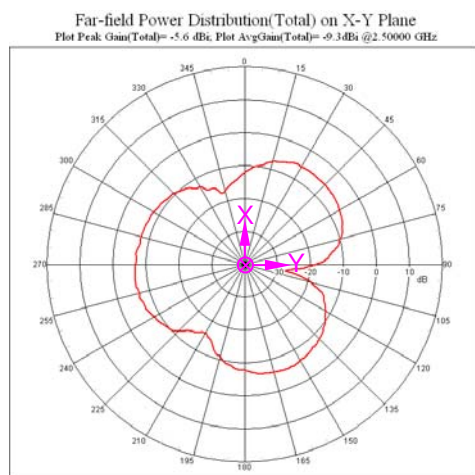
◆YZ-plane



	Peak gain	Avg. gain
YZ-plane	-3.2	-8.4

@2500MHz 之輻射場型圖

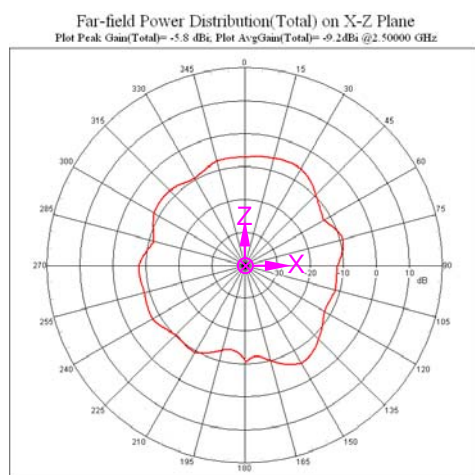
◆XY-plane



Unit : dBi

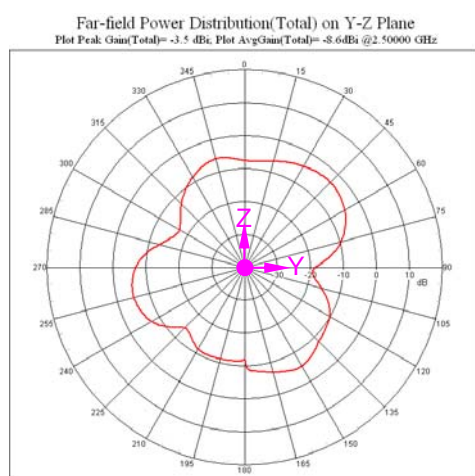
	Peak gain	Avg. gain
XY-plane	-5.6	-9.3

◆XZ-plane



	Peak gain	Avg. gain
XZ-plane	-5.8	-9.2

◆YZ-plane



	Peak gain	Avg. gain
YZ-plane	-3.5	-8.6