No.QEC-2303071

Advanced Ceramic X

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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*
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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。

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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	-8.8	-12.7	-6.5	-13.7	-6.7	-10.6	7.0%
@2450MHz	-8.0	-10.8	-5.1	-12.5	-4.9	-9.9	8.0%
@2500MHz	-11.1	-14.6	-7.9	-15.8	-8.1	-13.3	4.0%

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電池遮蔽，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

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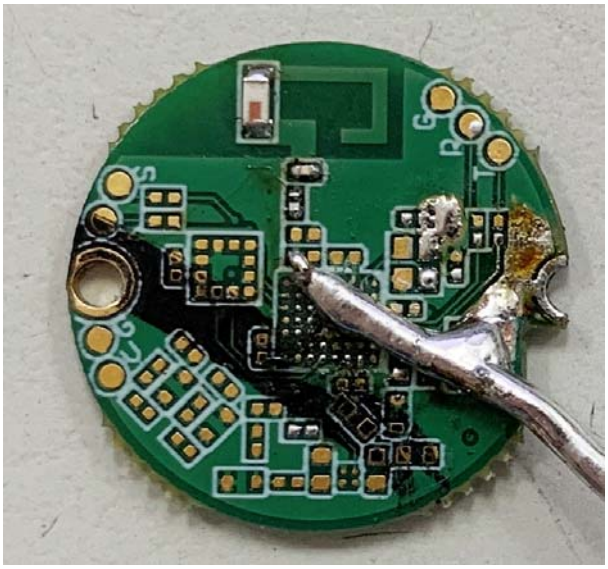
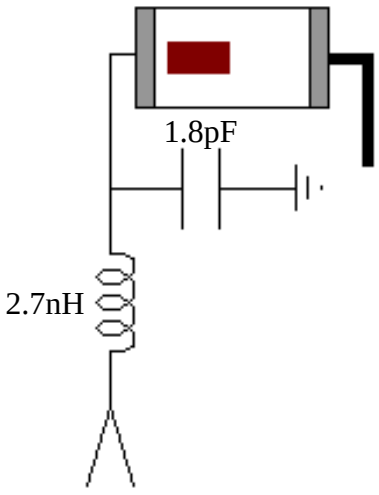
1. PCB 和外殼結構圖:

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	1.8pF	2.7nH
	250R05L1R8BV4S	HI0603-1B2N7SHT

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):

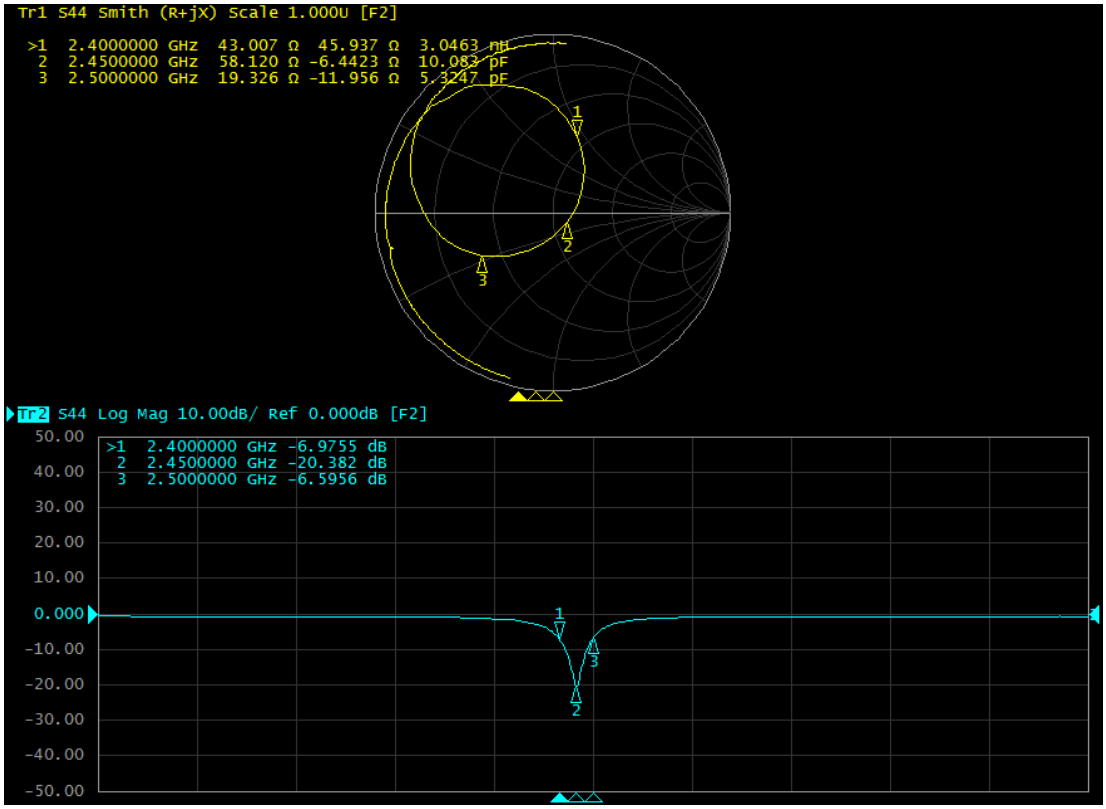
◆量測儀器 ：vector network analyzer - AG

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

▲3D Radiation Pattern :

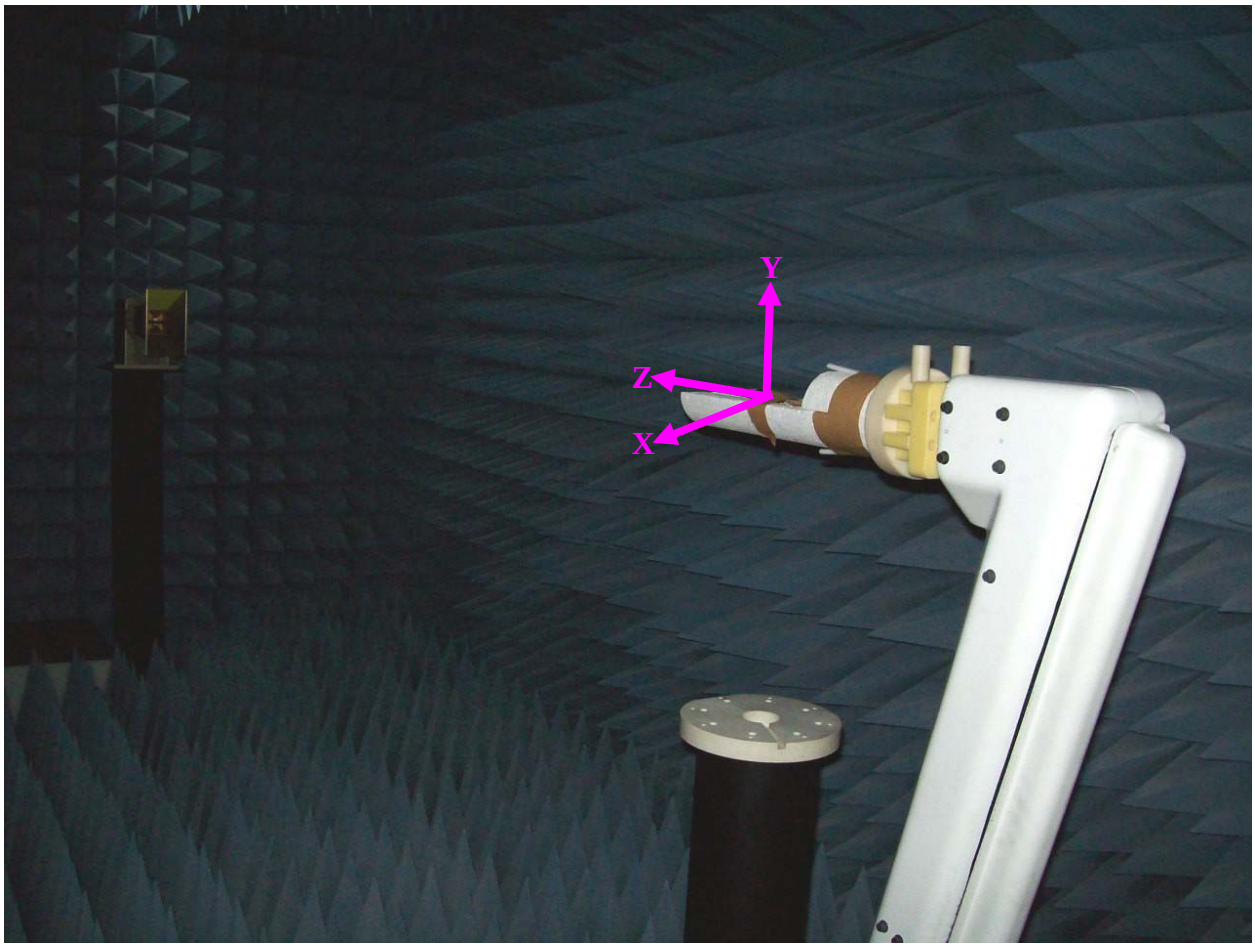
◆NSI 800F-10 Far Field antenna measurement system

B. AT1608-A2R4HAA 之 Return Loss 量測值



C. 輻射場型圖

◆量測座標圖

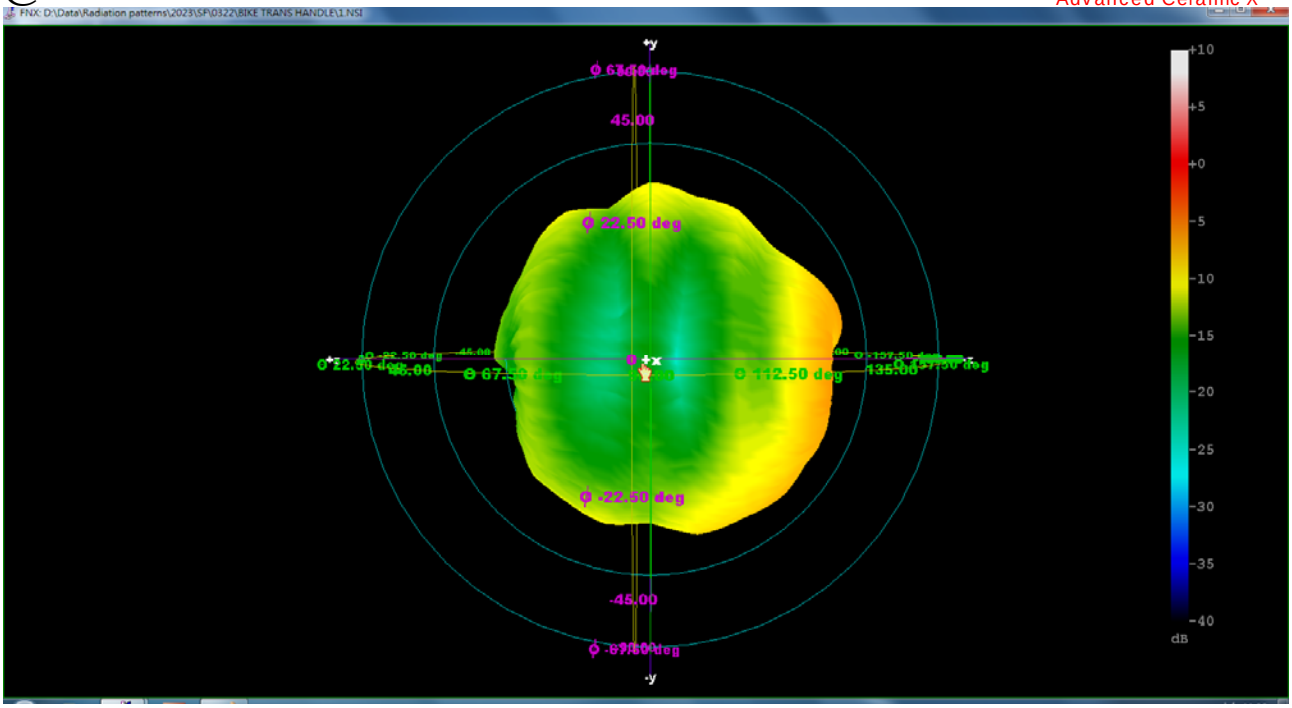


◆各平面定義

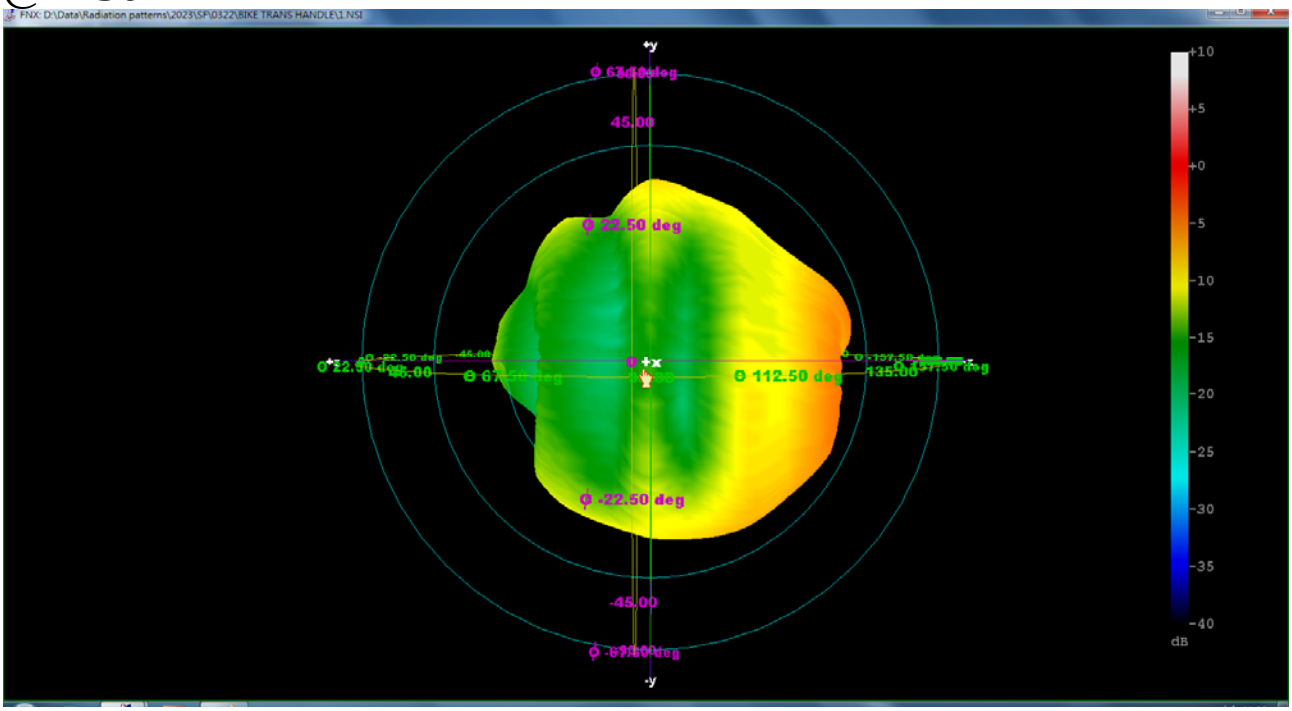
XY-plane	**Theta=90˚**
XZ-plane	**Phi=0˚**
YZ-plane	**Phi=90˚**

◆3D 輻射場型圖

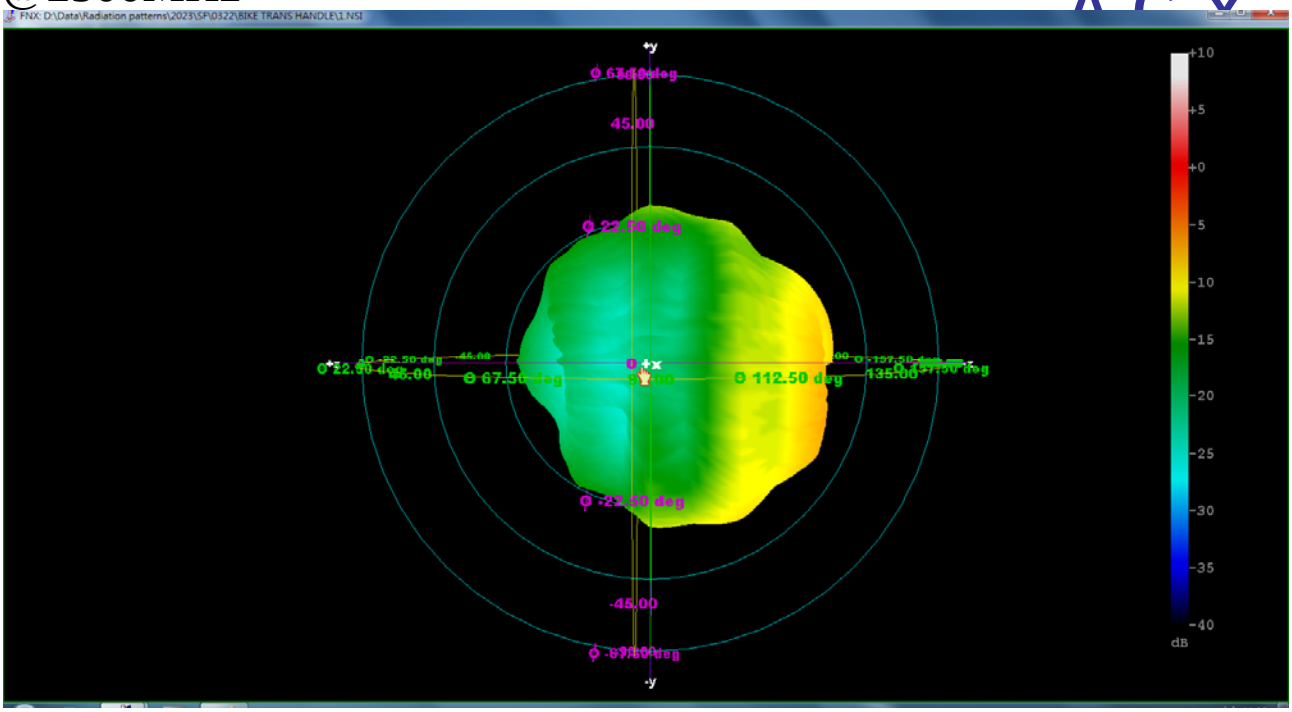
@2400MHz



@2450MHz



@2500MHz


+y
45.00
Φ 22.50 deg
Θ 67.50 deg
Θ 112.50 deg
135.00
Φ -22.50 deg
-45.00
-y
+10
+5
+0
-5
-10
-15
-20
-25
-30
-35
-40
dB

@2400MHz 之輻射場型圖

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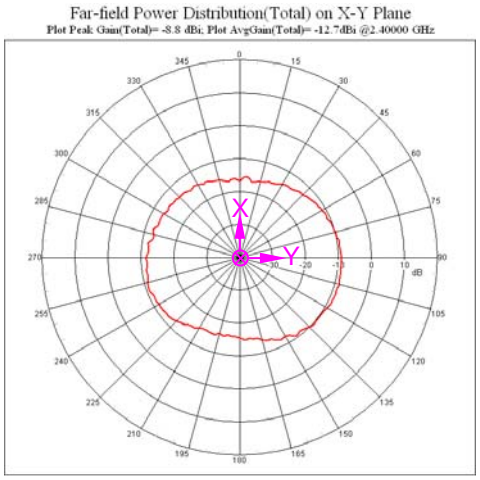
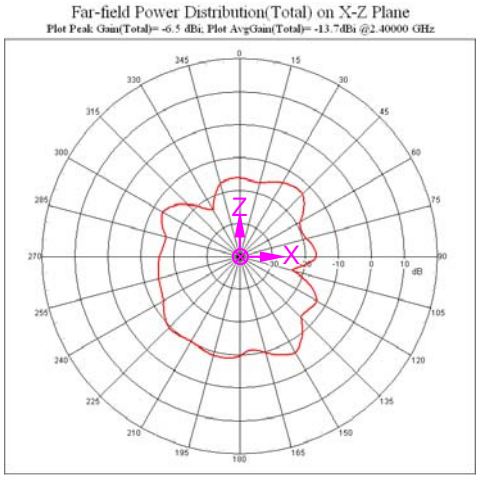
◆XY-plane



Unit : dBi

	Peak gain	Avg. gain
XY-plane	-8.8	-12.7

◆XZ-plane



	Peak gain	Avg. gain
XZ-plane	-6.5	-13.7

◆YZ-plane

	Peak gain	Avg. gain
YZ-plane	-6.7	-10.6

@2450MHz 之輻射場型圖

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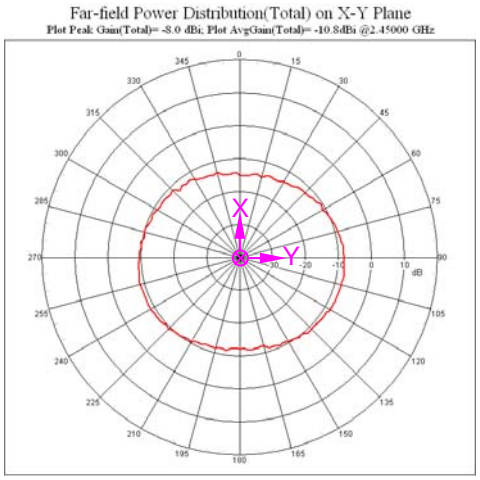
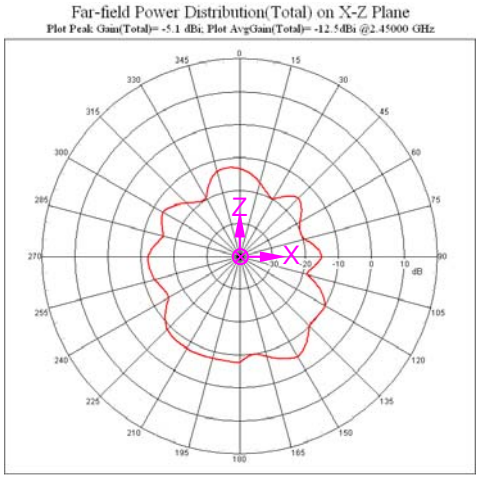
◆XY-plane



Unit : dBi

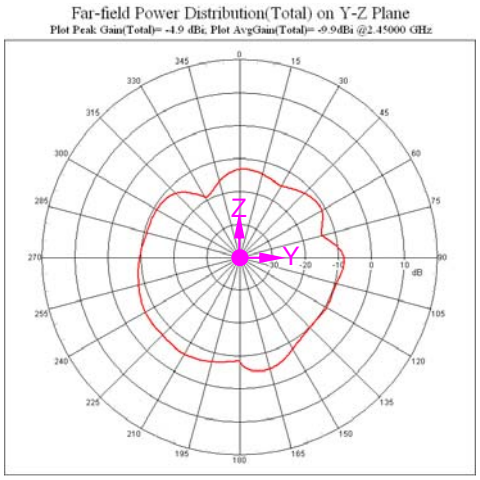
	Peak gain	Avg. gain
XY-plane	-8.0	-10.8

◆XZ-plane



	Peak gain	Avg. gain
XZ-plane	-5.1	-12.5

◆YZ-plane



	Peak gain	Avg. gain
YZ-plane	-4.9	-9.9

@2500MHz 之輻射場型圖

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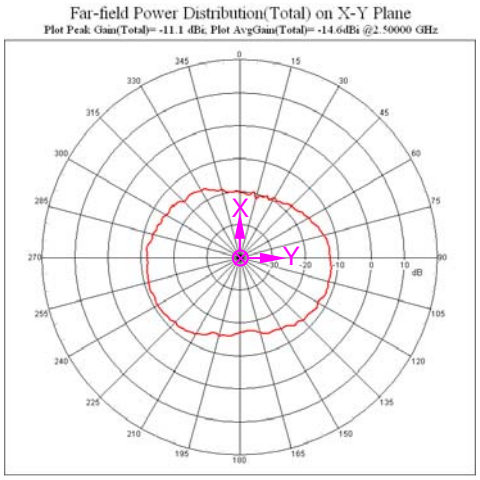
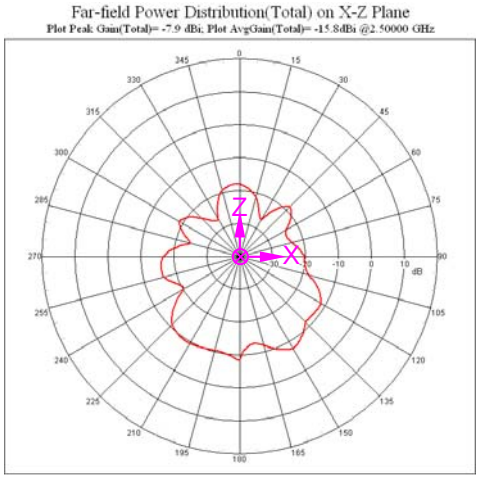
◆XY-plane



Unit : dBi

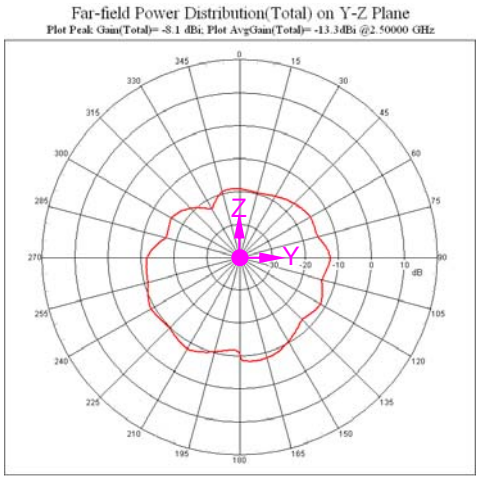
	Peak gain	Avg. gain
XY-plane	-11.1	-14.6

◆XZ-plane



	Peak gain	Avg. gain
XZ-plane	-7.9	-15.8

◆YZ-plane



	Peak gain	Avg. gain
YZ-plane	-8.1	-13.3