

Antenna Test Report

Report No.: E4/2015/40008

Test Plan: Non-compliance with ISO17025

Applicant Name: Darfon Electronics Corp.

Manufacturer Name: Darfon Electronic Corp

Product Name: INV_F_ANTENNA

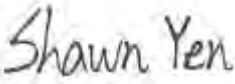
Model Number: UH1B ANTENNA

Measurements performed at

SGS Taiwan Ltd.

Hwaya District, Taiwan

Issued Date: April 23, 2015

	Name	Date & Signature	Distribution
Prepared by:	Shawn Yen Sr. Engineer	 April 23, 2015	
Approved by:	Dragon Wu Asst. Manager	 April 23, 2015	

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Measurement System Information

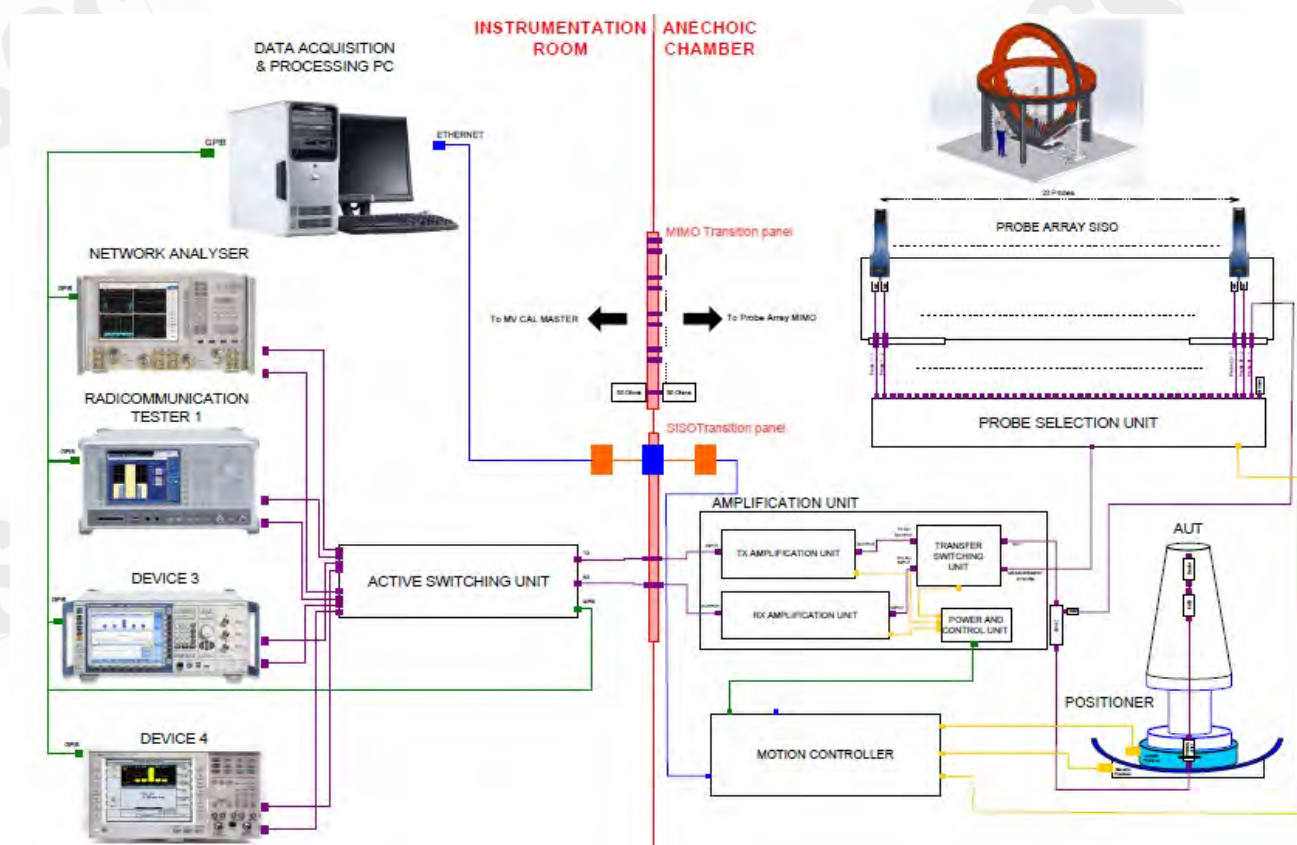
General Information

Testing Condition:

- Temperature: $22 \pm 3^\circ\text{C}$
- Humidity: $< 80\%$

Measurement Facility:

- Measurement Chamber: Satimo 3D fully anechoic chamber and its measuring system (Stargate-24-L)
- Base Station Simulator: Anritsu MT8820C (or R&S CMU200)
- Network Analyzer: Agilent E5071C



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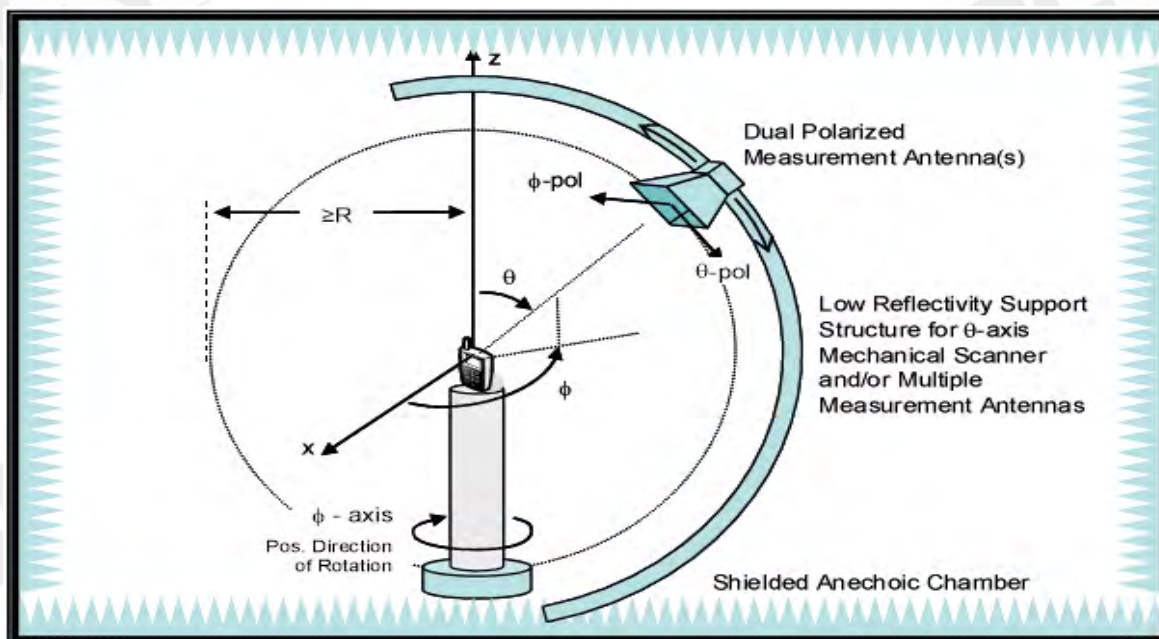
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Measurements are performed in a Satimo **Stargate-24-L** with the StarAct interface for a base station simulator. The **Stargate-24-L** has 23 probe antennas mounted with equal spacing on a circular arch. Electronic switching of the probe antennas provides outstanding measurement speed. The geometry of the setup, with only a Styrofoam column within 1.6 meters of the EUT, ensures minimum interference and low ripple on the measured radiation patterns. The DUT is placed on top of the pedestal, in the center of the system.

Typical Setup for Satimo Stargate-24-L:



Instruments View



Inside View



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Testing Laboratory: Identification of the Responsible Test Laboratory.

- **OTA Laboratory:**
SGS Taiwan Ltd. Electronics & Communication Laboratory
No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803.
Telephone: +886 2 2299 3279
Fax: +886 2 2298 0488
Internet: <http://www.tw.sgs.com>
- **Testing Location:**
No. 2, Keji 1st Rd., Guishan Township, Hwaya District, Taoyuan County, Taiwan 33383.

Details of Applicant:

Applicant's name:	Darfon Electronics Corp.
Applicant's address:	167, Shanying Road, Gueishan, Taoyuan 33341, Taiwan, R.O.C.
Contact person:	Gianbi Chiang, Safety Engineer
Telephone:	03-250-8800#3588
Fax:	N/A
E-mail:	gianbi.chiang@darfon.com.tw

Details of Manufacturer:

Manufacturer's name:	Darfon Electronics Corp.
Manufacturer's address:	167, Shanying Road, Gueishan, Taoyuan 33341, Taiwan, R.O.C.
Contact person:	Gianbi Chiang, Safety Engineer
Telephone:	03-250-8800#3588
Fax:	N/A
E-mail:	gianbi.chiang@darfon.com.tw

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Details of EUT:

Device Description:	INV_F_ANTENNA
Device Manufacturer:	Darfon Electronics Corp.
Device Model:	UH1B ANTENNA
Hardware Version:	N/A
Software Version:	N/A
IMEI:	N/A
FCC ID:	O62-UH1B
Frequency Range:	2400MHz ~ 2500MHz Step size: 10MHz
Antenna Type:	Internal antenna

Duration of Tests:

Sample Receive Date:	2015-04-20
Test Starting Date:	2015-04-20
Test Ending Date:	2015-04-20
Report Issued Date:	2015-04-23

Photographs of EUT:**Front View****Back View**

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List of Equipment

Equipment Summary Sheet

Equipment Description	Manufacturer	Identification no.	Current calibration date	Next calibration date
Universal Radio Communication tester	Anritsu	MT8820C	2014/10/6	2015/10/6
Network Analyzer	Agilent	E5071C	2014/5/23	2015/5/23
Dual Ridge Horn	Satimo	SH600	2015/3/25	2016/3/25
Stargate-24-L probe array	Satimo	Stargate-24-L	2014/12/16	2015/12/16
Measurement software	Satimo	SPM V1.5	N/A	N/A

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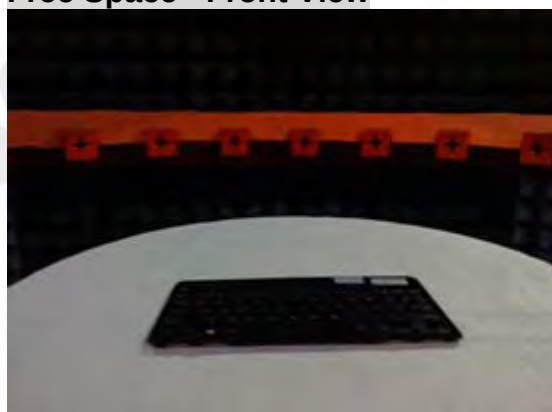
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Antenna Gain and Efficiency

UH1B ANTENNA			
Frequency	Peak. dBi	Efficiency	Average . dBi
2400000000	1.18	30.69%	-5.13
2410000000	1.05	30.06%	-5.22
2420000000	1.24	30.94%	-5.09
2430000000	1.27	30.85%	-5.11
2440000000	1.43	31.89%	-4.96
2450000000	1.39	31.31%	-5.04
2460000000	1.54	32.05%	-4.94
2470000000	1.21	30.96%	-5.09
2480000000	1.14	31.53%	-5.01
2490000000	0.96	30.49%	-5.16
2500000000	0.92	30.27%	-5.19

Test Setup

Free Space - Front View



Free Space - Side View



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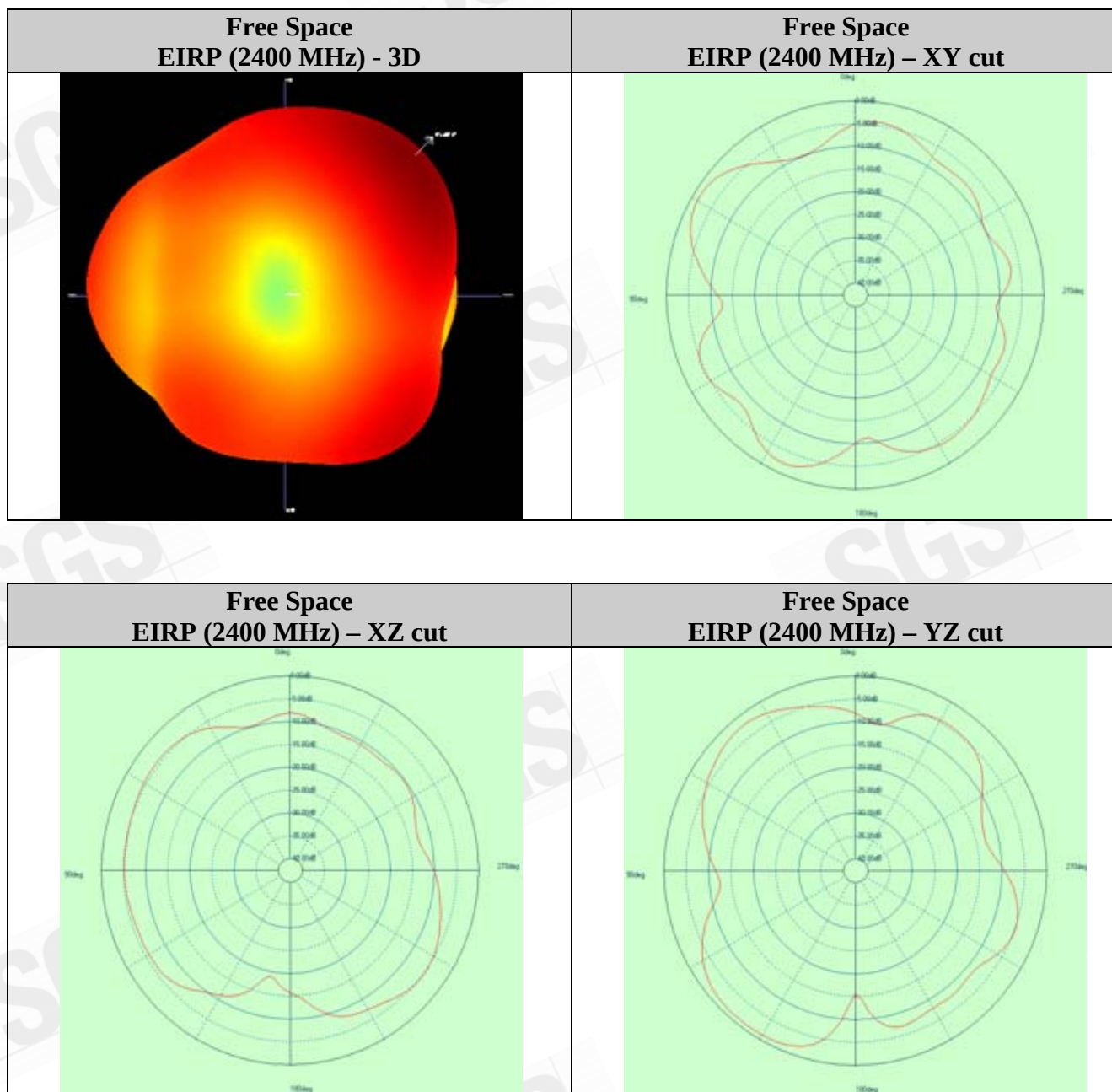
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Antenna 3D Plot Matrix

All plots in this section show the total EIRP ($EIRP_{\theta} + EIRP_{\phi}$) with the +x-axis pointing out of the page, +y-axis pointing right, and +z-axis pointing up.

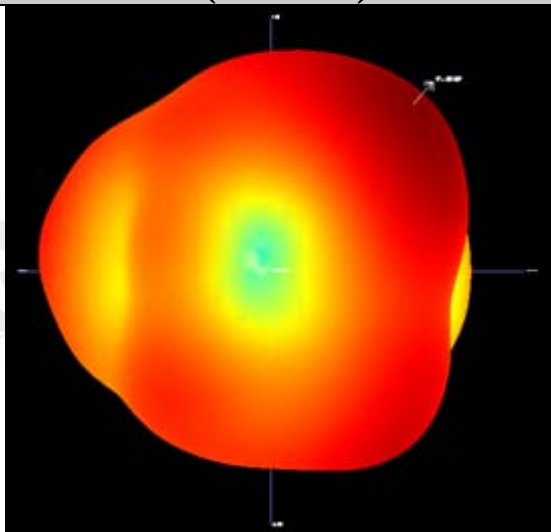


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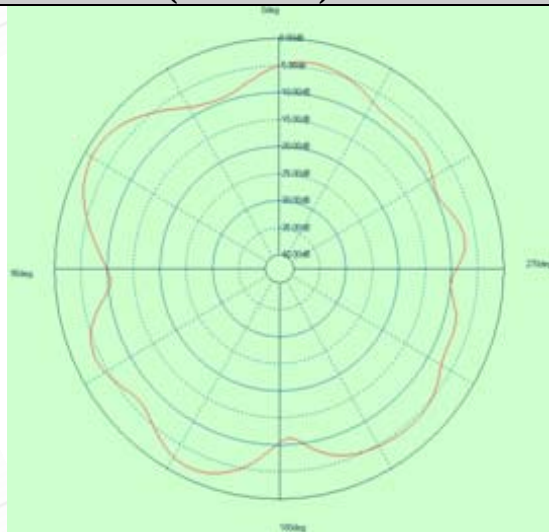
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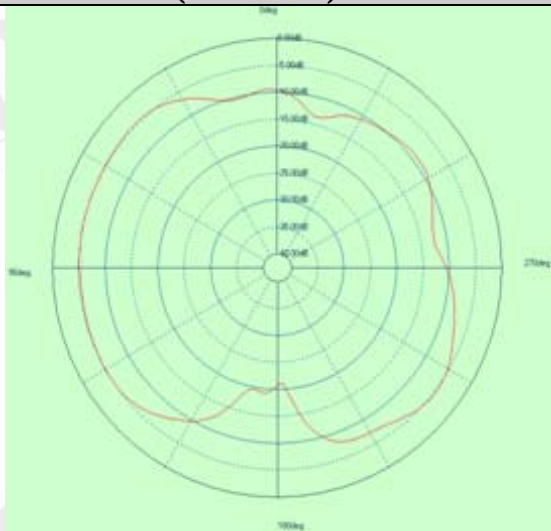
**Free Space
EIRP (2450 MHz) - 3D**



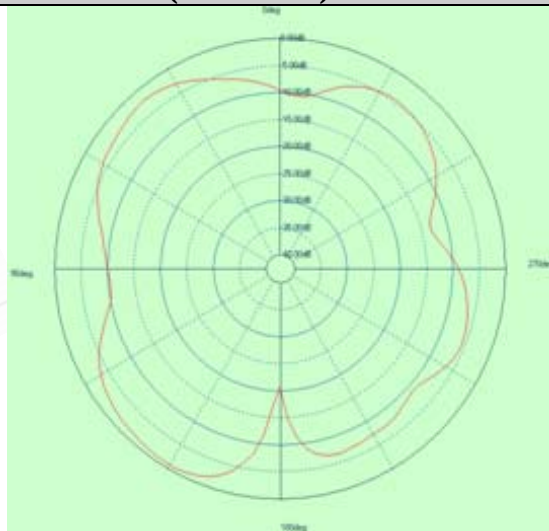
**Free Space
EIRP (2450 MHz) - XY cut**



**Free Space
EIRP (2450 MHz) - XZ cut**



**Free Space
EIRP (2450 MHz) - YZ cut**



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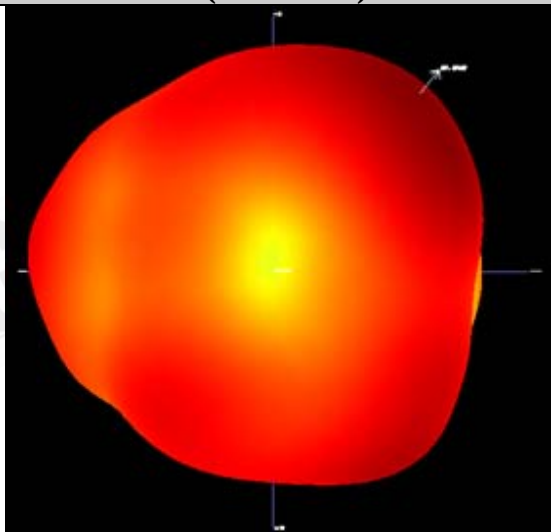
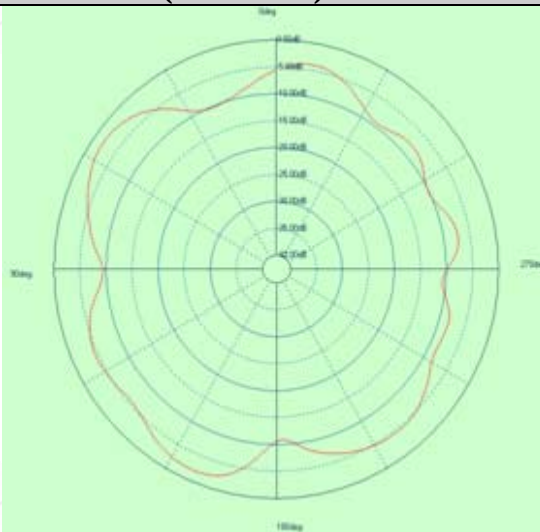
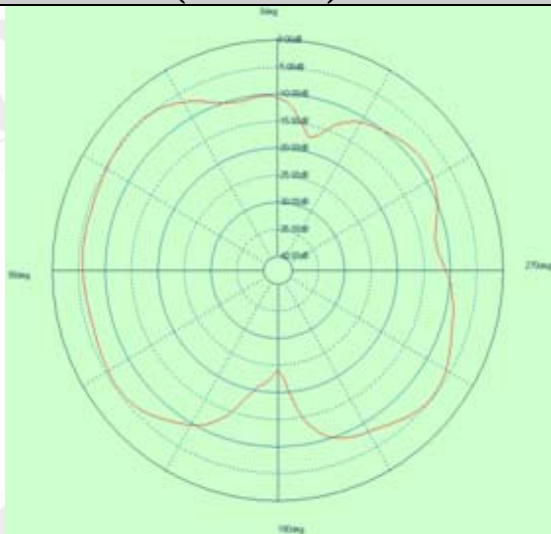
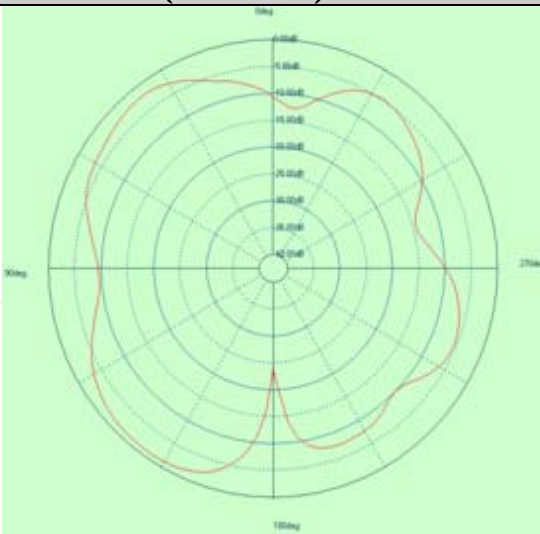
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**Free Space
EIRP (2500 MHz) - 3D****Free Space
EIRP (2500 MHz) - XY cut****Free Space
EIRP (2500 MHz) - XZ cut****Free Space
EIRP (2500 MHz) - YZ cut****End of Report**

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