Testing Report

Customer Name: SCANTECH (HANGZHOU) CO., LTD

Product Name: AirGo

Sample Model: Airgo Power; Airgo Pro; Airgo ProII

Reference Standard: *GB/T 9410-2008; ANSI/IEEE Std 149-1979*

Issue Date: 2022.11.11

Engineer: Jackson	Date: 2022.11.11
Auditor: Eason	Date: 2022.11.11
Approver: Aaron	Date: 2022.11.11

Shenzhen RFI-LAB Communication Technology Co.,Ltd RFI-LAB

Version

Version No.	Date	Description	Formulate	Approval
A0	2022.11.11	For the first time, formulate	Jackson	Eason

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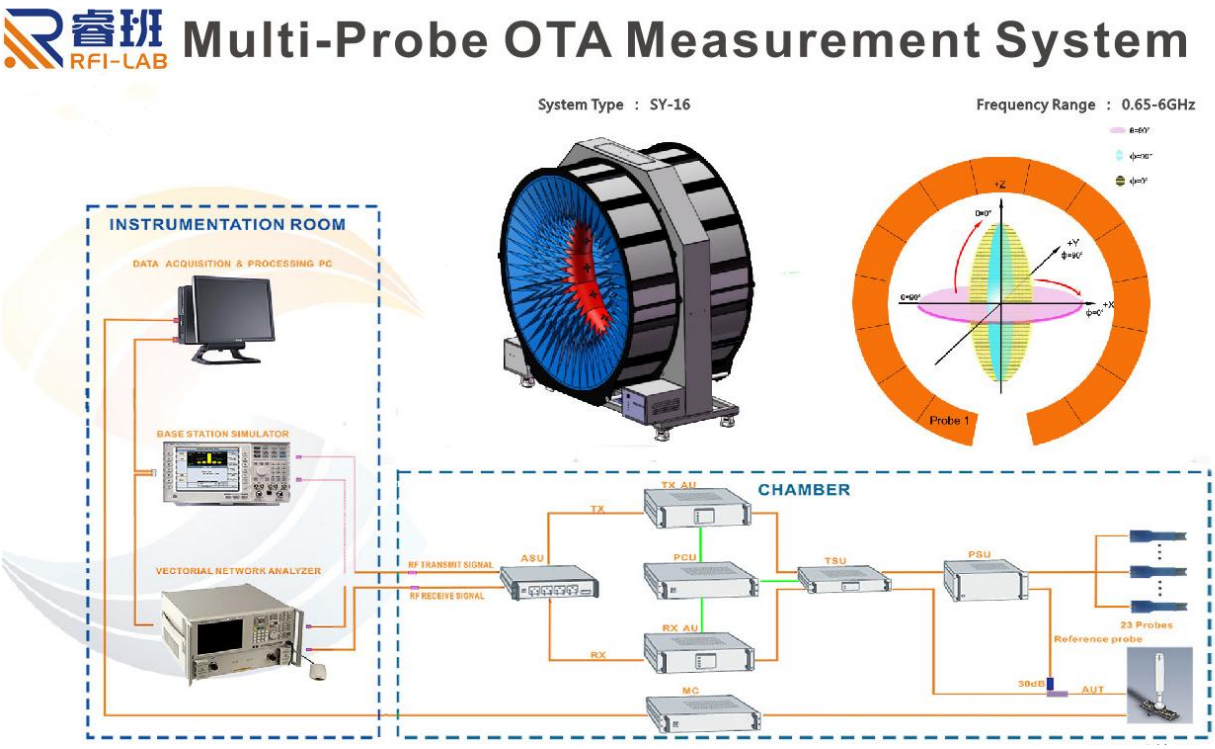
1.General Information

1.1 General information of testing institutions

Name	Shenzhen RFI-LAB Communication Technology Co., Ltd.
Address	10/F A, Lingyun Bld, Liufang Rd, Baoan District, SZ
Tel	13682621346
E-mail	rfi-lab@tech-now.com
Equipment	All the equipment used in the report is fixed in 10/F A, Lingyun Bld, Liufang Rd, Baoan District, SZ

1.2 Testing principle



1.3 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
16 probe microwave chamber	3*3*2.5	RFI-LAB-RF-A00	SUNYIELD	2021.3.15	2023.3.14
Network Analyzer	E5071C	RFI-LAB-RF-A02	Agilent	2022.5.13	2023.5.12

1.4 Test environment

Temperature	24.4℃
Humidity	58%RH
Pressure	100.12kPa

1.5 Statement

(1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.
(2) Only Shenzhen RFI-LAB Communication Technology Co., Ltd. have the right to modify the report, and the modification information shall be annotated in the revision form.
(3) Any objection to this report shall be raised within 30 days after formal confirmation of the report.
(4) This report is invalid if there is any evidence that the sample information provided is falsified.
(5) The report is invalid without the signature of the auditor and approver.

2.Sample Information

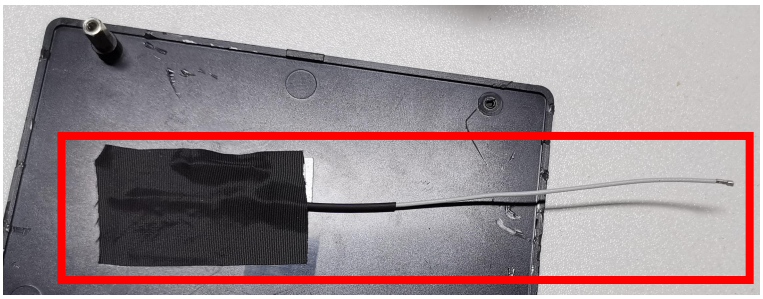
2.1 Client information

Name	SCANTECH (HANGZHOU) CO., LTD
Address	Room 102, Unit 1, Building 12, No 998, West Wenyi Road, Wuchang Street, Yuhang District, Hangzhou, Zhejiang, China
Contacts	Mr.Xiao
Tel	13538218145
E-mail	m13538218145@163.com
Manufacturer	SCANTECH (HANGZHOU) CO., LTD

2.2 Description of EUT(S)

Product Name	AirGo
Sample Model	Airgo Power; Airgo Pro; Airgo ProII
Size	/
Serial No.	/
Test Item	Antenna gain; Efficiency; Radiation pattern
Frequency Range	2412-2462MHz; 5150-5250MHz; 5725-5850MHz
Received Date	2022.11.10
Test Date	2022.11.11
Remark	/

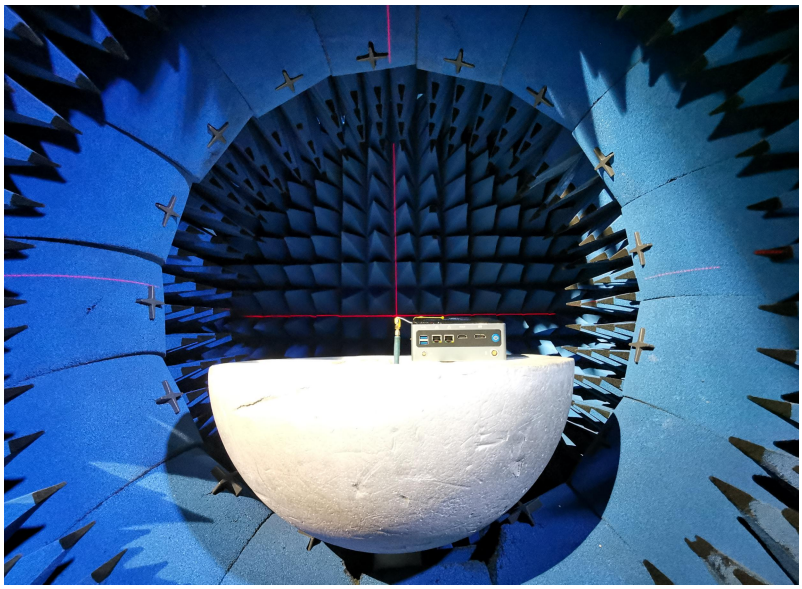
2.3 EUT appearance

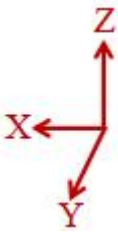


2.4 DUT setup photo of free space OTA testing

Planform

Front view





3.Test Results

3.1 Test standard

Name	Parameter	Method	Standard no.
Mobile communication antenna	Antenna gain	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Radiation pattern		
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979
	Gain and directivity		

3.2 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of K=2 and the 95% confidence level to express the extended uncertainty.

Item	Uncertainty
Antenna gain	±1dB
Radiation efficiency	±10%

3.3 Test data

3.3.1 Typical free space efficiency and gain

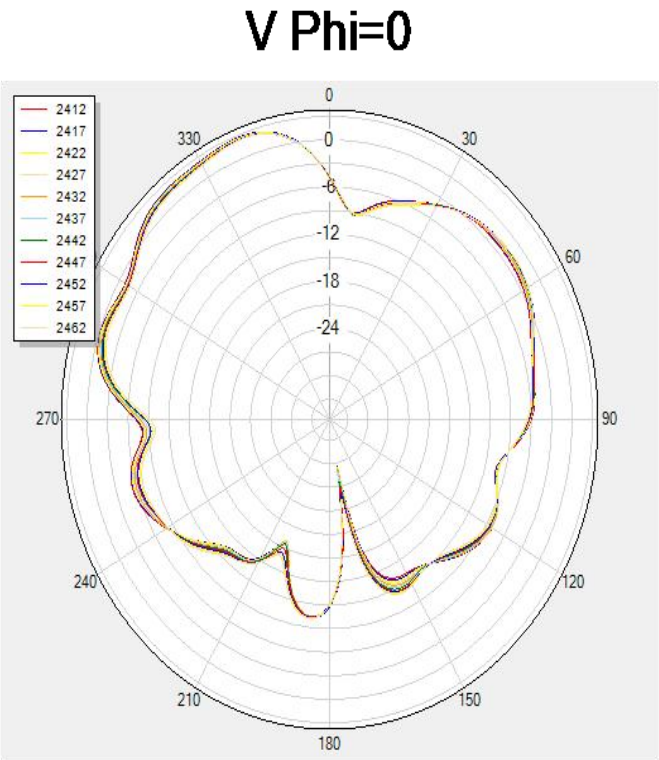
Frequency/MHz	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462
Peak Gain/dBi	2.93	2.92	2.84	2.72	2.65	2.67	2.7	2.7	2.67	2.64	2.63
Efficiency/%	34.36	34.41	34.22	33.86	33.82	34.02	34.26	34.50	34.47	34.22	34.09

Frequency/MHz	5150	5160	5170	5180	5190	5200	5210	5220	5230	5240	5250
Peak Gain/dBi	5.76	5.62	5.77	5.55	5.83	5.47	5.79	5.56	5.81	5.66	5.79
Efficiency/%	46.85	46.54	47.88	46.49	48.44	46.05	47.32	46.26	47.52	46.39	47.62

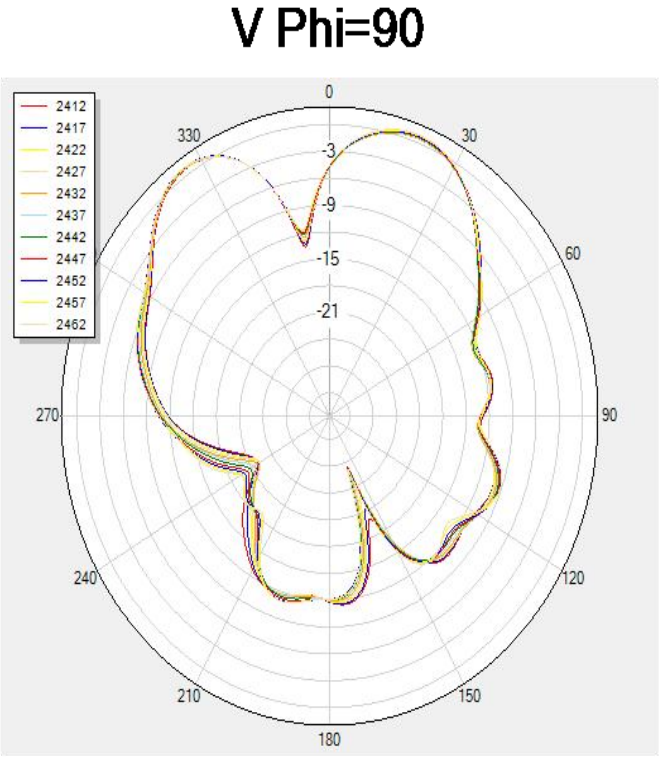
Frequency/MHz	5725	5750	5775	5800	5825	5850
Peak Gain/dBi	3.55	3.66	3.56	3.65	3.36	2.86
Efficiency/%	37.98	38.68	36.69	37.54	35.07	32.65

3.3.2 Typical free space radiation pattern

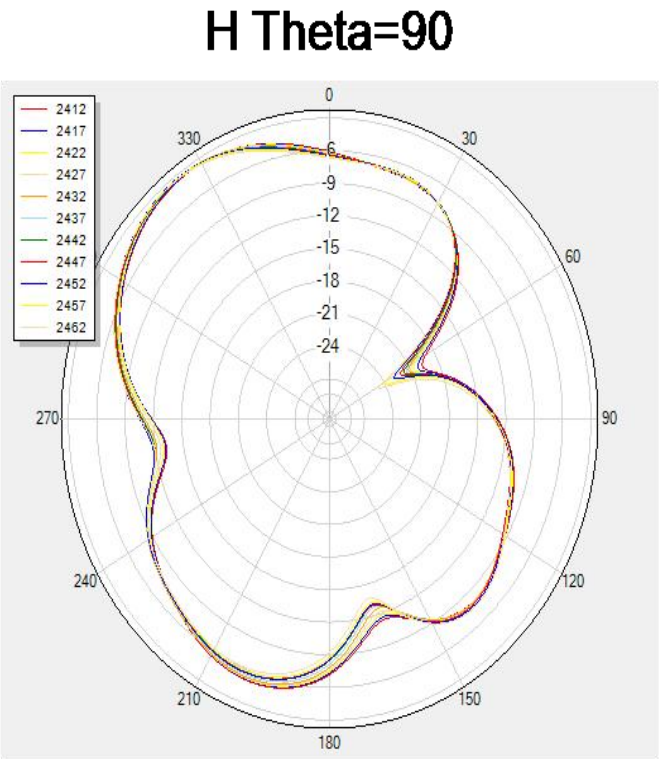
(1) 2412-2462MHz X-Z Plane:



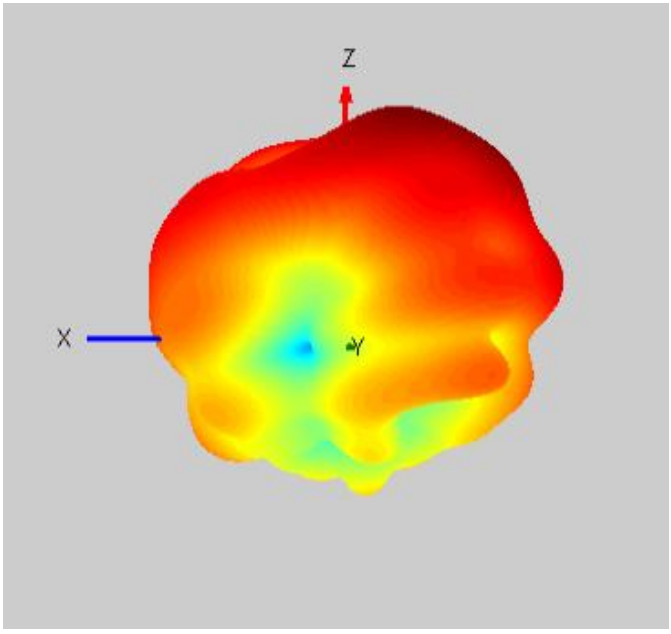
(2) 2412-2462MHz Y-Z Plane:



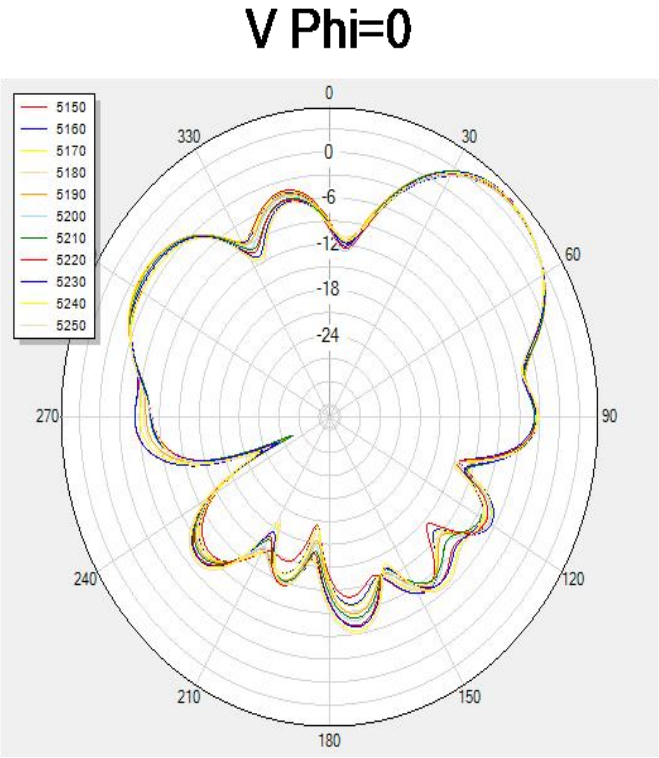
(3) 2412-2462MHz X-Y Plane:



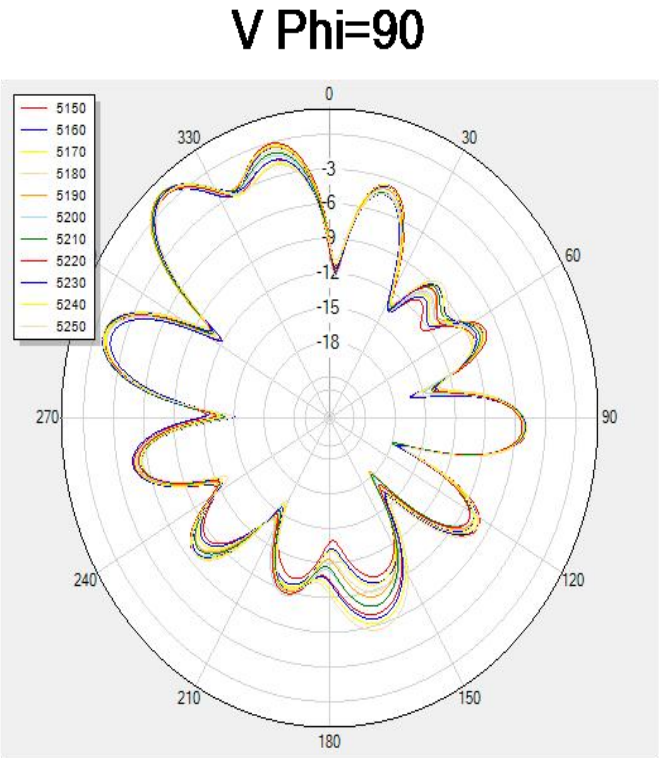
(4) 2412-2462MHz Typical Free Space 3D Radiation Pattern at 2437MHz:



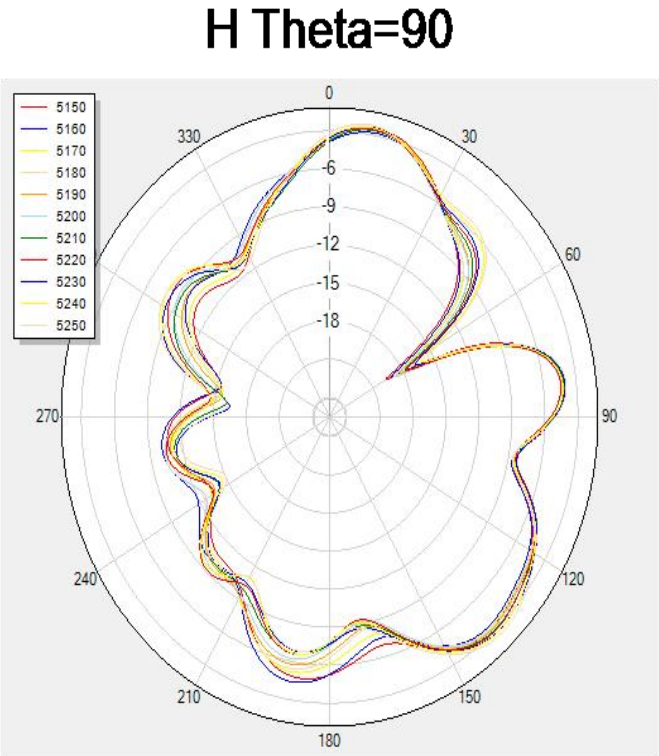
(5) 5150-5250MHz X-Z Plane:



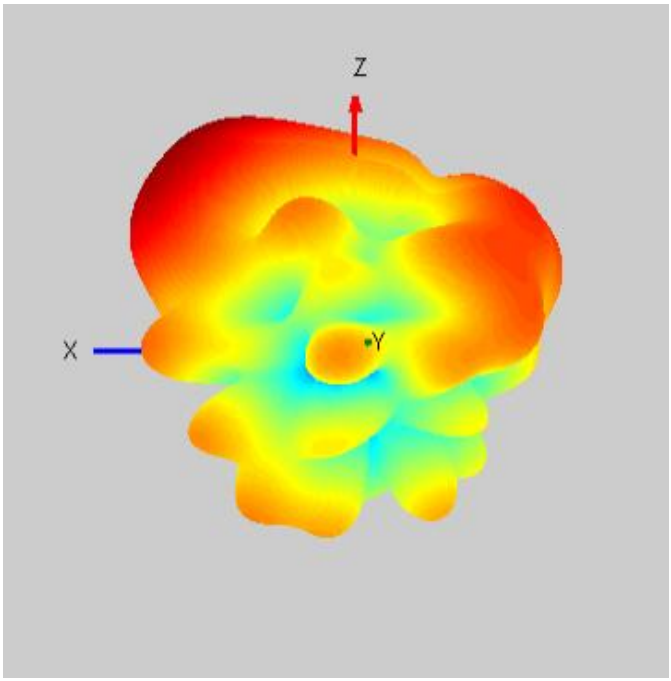
(6) 5150-5250MHz Y-Z Plane:



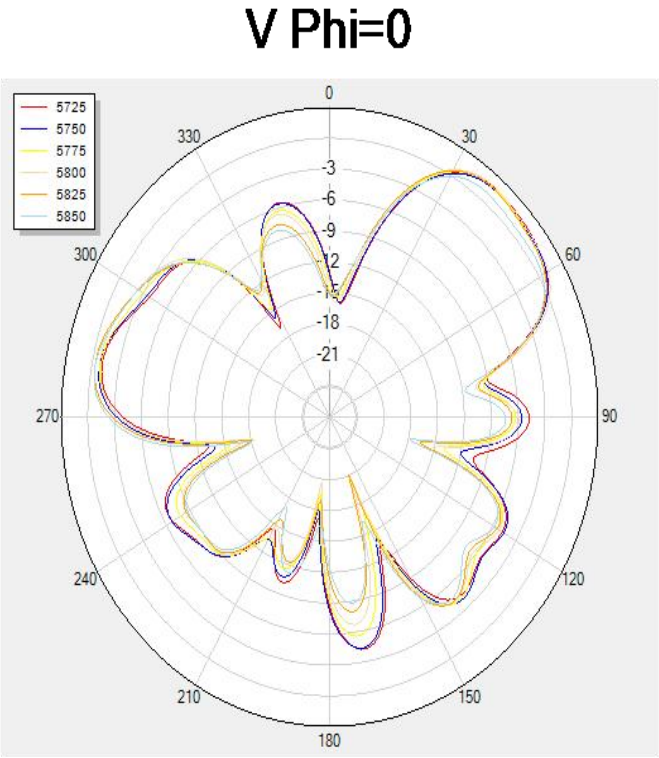
(7) 5150-5250MHz X-Y Plane:



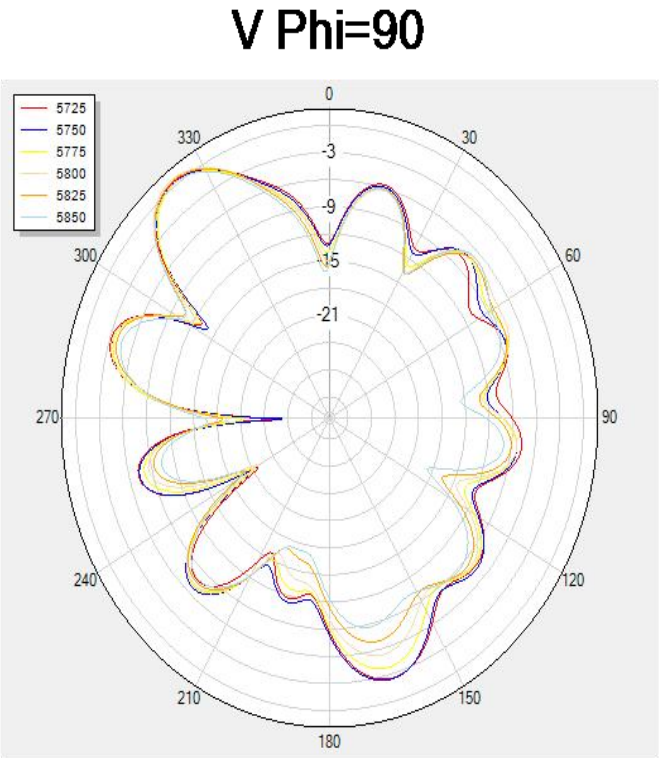
(8) 5150-5250MHz Typical Free Space 3D Radiation Pattern at 5200MHz:



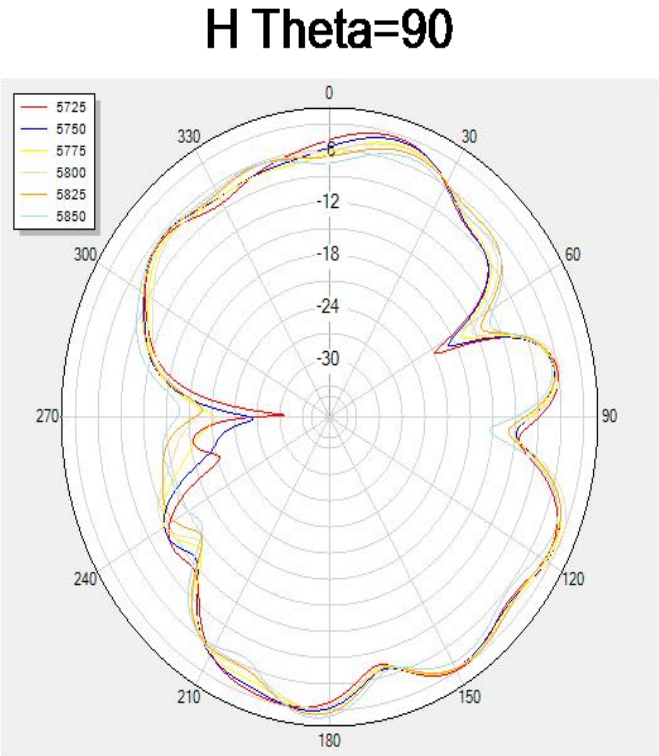
(9) 5725-5850MHz X-Z Plane:



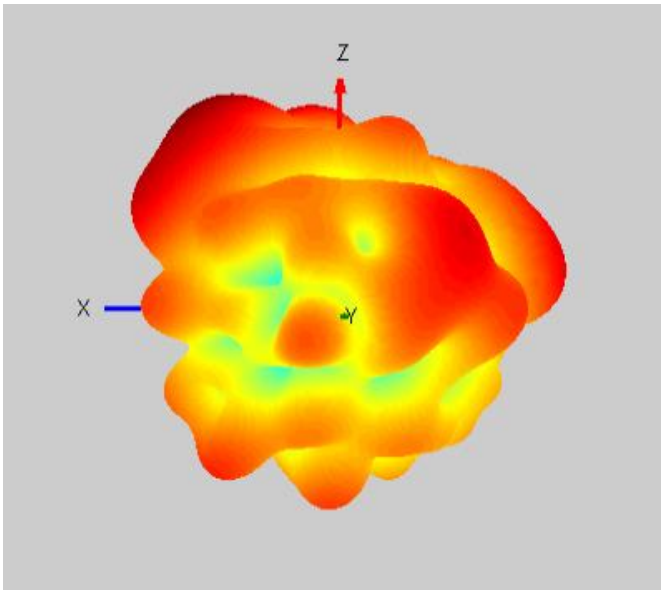
(10) 5725-5850MHz Y-Z Plane:



(11) 5725-5850MHz X-Y Plane:



(12) 5725-5850MHz Typical Free Space 3D Radiation Pattern at 5775MHz:



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