

Test report

Applicant Shenzhen Xinbinuo Communication Co. , Ltd.

Product Multi-branch DK054

Issue Date 202311 August

The equipment was tested according to the ANTI/IEEE Standard 149-2008. The results of the tests indicate that the equipment tested has proved to be in compliance with the requirements recorded in this report.

Prepared by: Jiang Cheng

Approved by: Wang Peng

Shenzhen Xinbinuo Communication Co. , Ltd.

3rd floor, building 25, Feipeng Industrial Park, Pinghu Street, Longgang District,

Shenzhen City

Shenzhen Xinbinuo Communication Co. , Ltd.

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1. Test Laboratory

1.1 Notes of the Test report

This report shall not be reproduced in full or partial. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of applicable standards stated above.

1.2 Test facility

Wide-screen microwave anechoic chamber: the Test frequency range is 600 to 6GHZ.

1.3 Testing Location

Company: Shenzhen Xinbinuo Communication Co. , Ltd.

Address: 3F, 25 Feipeng Industrial Park, Longgang District Shenzhen, P.R. China

Contact: Jiang Cheng

Telephone: 18682131070

E-mail: xbn518@xinbinuo.com

1.4 Laboratory Environment

Temperature	Min.= 19℃, Max.=30℃	
Relative humidity	Min.=40%, Max.=72%	
Shield effect	0.6-7GHz	>100dB
Ground resistance	<0.5Ω	

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2. General Description of Equipment under Test

2.1 Applicant and Manufacturer information

Applicant Name	Shenzhen Xinbinuo Communication Co. , Ltd.
Applicant address	3F, 25 Feipeng Industrial Park, Longgang District Shenzhen, P.R. China
Manufacturer Name	Shenzhen Xinbinuo Communication Co. , Ltd.
Manufacturer address	3F, 25 Feipeng Industrial Park, Longgang District Shenzhen, P.R. China

2.2 General information

EUT Description	
Product Name	DK054
Model	BV6200
Version	20230720V01
Version	
Antenna Type	PIFA antenna
Antenna Manufacturer	Shenzhen Xinbinuo Communication Co. , Ltd.
Test Frequency	600MHz-6GHz

2.3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test Method: **ANSI/IEEE Std 149-2008**

3. Test Conditions

3.1 Test Configuration

The method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 1m.

3.2 Test Measurement

Spherical coordinate system

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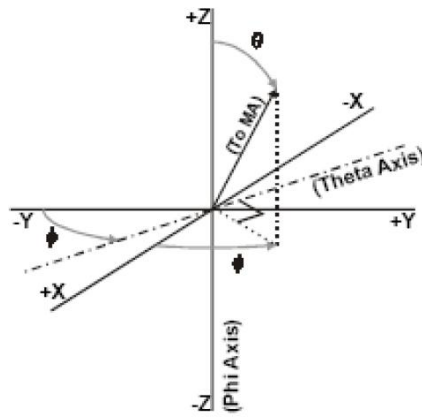
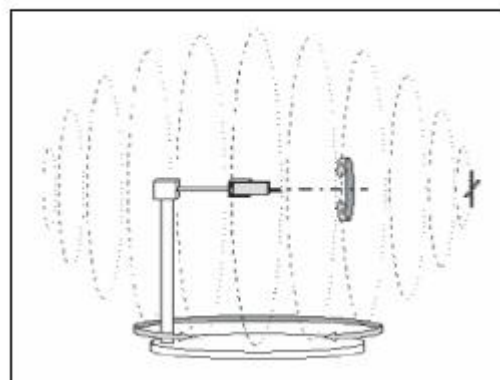
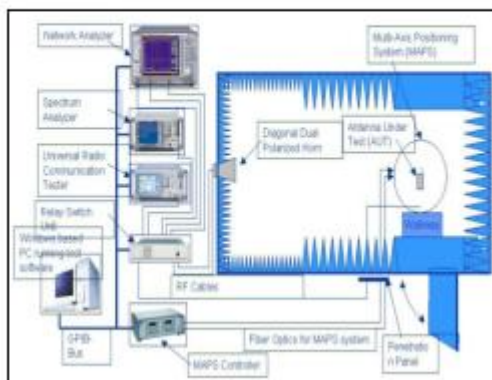
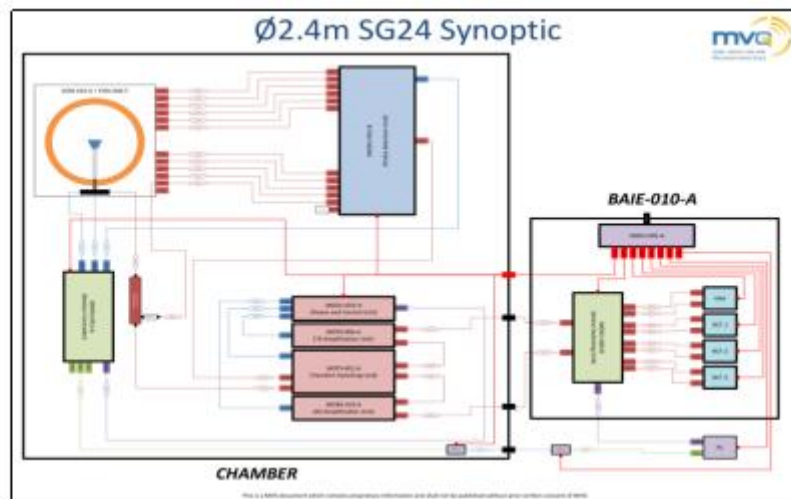


Figure 1 Test coordinate system

Note: Theta is from 0-360degree. Phi is from EUT and record the Date, the step of rotation is 30 degree.

Test Setup



4. Test Results

4.1 Gain and Efficiency

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Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
	Free Space	700	12.85	-5.14	1912	21.32	-1.75	
		710	16.7	-4.28	1932	22.92	-1.23	
		720	17.36	-4.09	1952	21.97	-1.37	
		730	16.15	-4.8	1972	17.82	-2.08	
		740	15.74	-4.97	1992	17.54	-1.96	
		750	13.74	-5.18	2013	16.58	-2.19	
		760	13.36	-5.22	2033	13.3	-3.04	
		770	11.74	-5.67	2053	12.54	-3	
		780	10.35	-5.93	2073	11.31	-3.49	
		790	9.73	-6.23	2093	10.04	-4.17	
		800	7.59	-7.38	2114	8.57	-4.47	
		810	9.58	-7.3	2134	7.56	-4.8	
		820	10.53	-6.65	2154	7.51	-4.73	
		830	11.14	-6.34	2174	8.39	-4.09	
		840	10.75	-6.4	2194	7.78	-4.22	
		850	10.98	-6.11	2215	8.83	-3.56	
		860	11.58	-5.68	2235	9.09	-3.48	
		870	11.39	-5.92	2255	7.09	-4.58	
		880	10.4	-5.99	2275	8.46	-4.12	
		890	9.18	-6.32	2295	8.18	-4.51	
		900	7.48	-6.77	2316	7.35	-5.56	
		910	6.39	-7.13	2336	9.79	-4.98	
		920	5.84	-7.4	2356	8.24	-6.01	
		930	5.66	-8.01	2437	11.38	-6.49	
		940	5.34	-8.61	2457	14.12	-5.11	
		950	4.84	-9.5	2477	15.95	-4.46	
		960	4.06	-10.81	2497	20.61	-3.29	
		1710	18.45	-0.83	2518	20.04	-3.19	
		1730	19.55	-0.89	2538	19.55	-3.23	
		1750	18.24	-1.46	2558	20.64	-2.89	
		1770	20.91	-0.91	2578	16.48	-3.93	
		1790	21.72	-0.96	2598	15.35	-3.67	
		1811	20.8	-1.21	2619	16.08	-3.18	
		1831	23.04	-1	2639	11.8	-4.95	
		1851	22.57	-1.59	2659	11.38	-4.98	
		1871	23.41	-1.7	2679	11.96	-4.5	
		1891	24.79	-1.37	2700	8.18	-6.67	

Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
	Free Space	1560	44. 81	−0. 35	5150	17. 73	−2. 73	
		1564	46. 1	−0. 19	5174	14. 96	−3. 08	
		1568	45. 08	−0. 2	5198	13. 79	−2. 74	
		1573	44. 34	−0. 26	5222	15. 99	−2. 21	
		1577	45. 64	−0. 17	5246	11. 74	−3. 32	
		1582	47. 2	−0. 05	5270	16. 66	−1. 56	
		1586	46. 24	0. 06	5294	12. 99	−2. 47	
		1591	45. 35	−0. 11	5318	17. 18	−1. 03	
					5343	17. 73	−0. 97	
		2400	28. 55	0. 39	5367	13. 7	−2. 06	
		2411	31. 39	0. 75	5391	21. 55	−0. 04	
		2422	32. 58	0. 86	5415	16. 75	−1. 03	
		2433	32. 04	0. 82	5439	24. 38	0. 89	
		2444	31. 99	0. 78	5463	21. 44	0. 41	
		2455	34. 96	1. 08	5487	18. 55	−0. 19	
		2466	36. 09	1. 08	5512	23. 61	0. 56	
		2477	37. 23	1. 11	5584	19. 11	−0. 05	
		2488	36. 16	0. 9	5608	20. 32	−0. 19	
					5632	20. 33	0. 21	
					5656	19. 96	−0. 4	
					5753	17. 29	−1. 36	
					5777	13. 67	−3	
					5801	15. 41	−2. 43	
					5825	10. 89	−3. 57	
					5849	12. 31	−3. 28	
		Note: WIFI and BT share an antenna						

5. Equipment List

Type of Equipment	Manufacture	Model Number
Network Analyzer	Key sight	E5071B
Switch control System	Wide screen	
Software	Wide screen	Measurement software

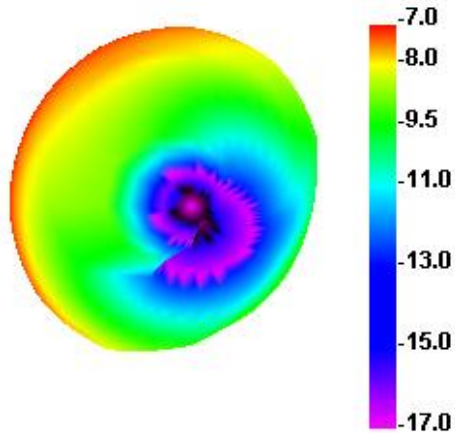
ANNEX A 3-D Patten Plots

Shenzhen Xinbinuo Communication Co., Ltd.

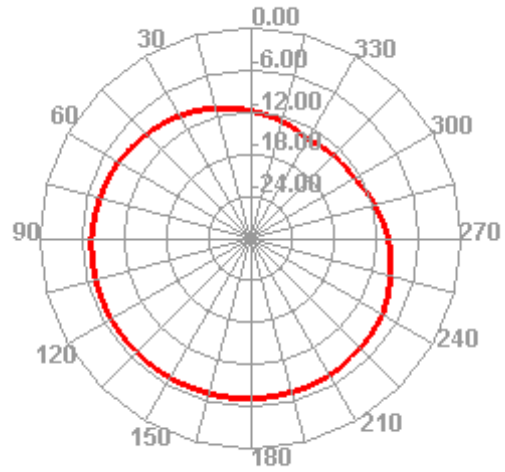
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700MHz

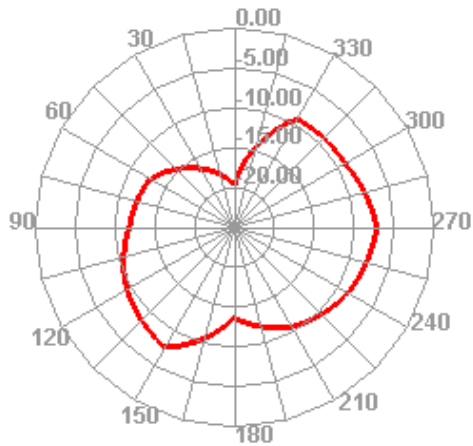
690.000MHz



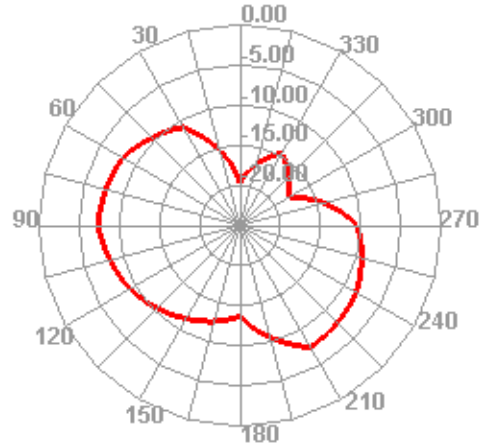
690.000MHz H



690.000MHz E1

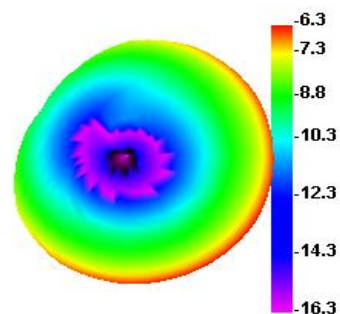


690.000MHz E2

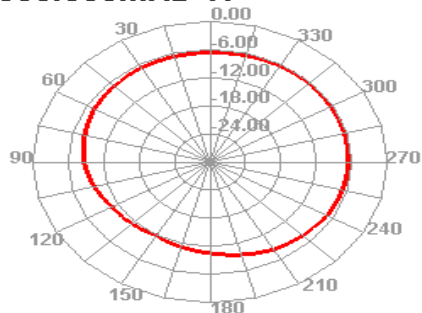


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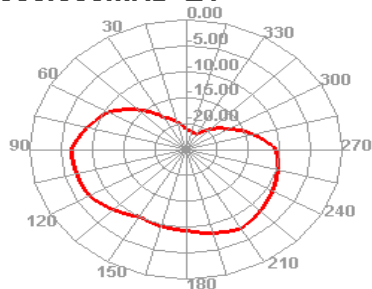
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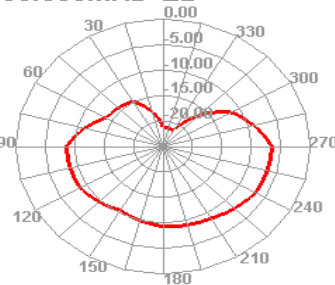
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830.000MHz E1

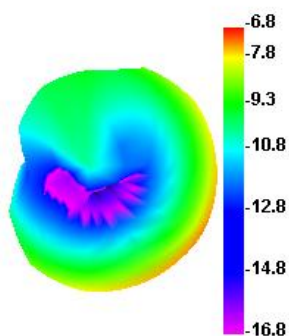


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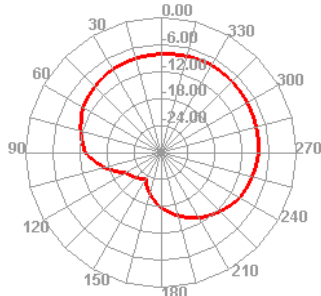


900MHz

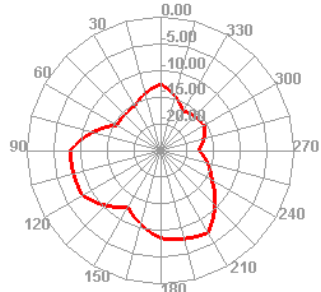
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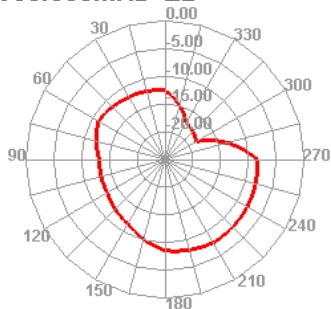
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900.000MHz E1

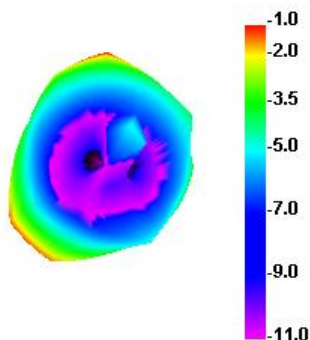


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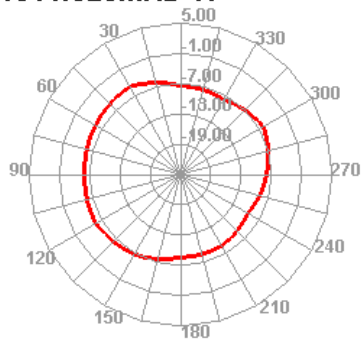


1800MHz

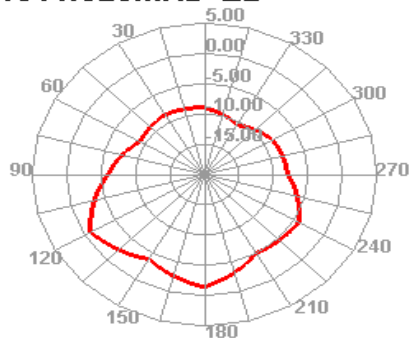
1811.020MHz



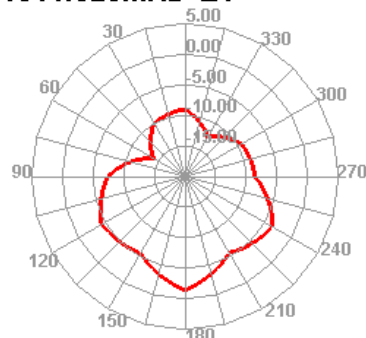
1811.020MHz H



1811.020MHz E2

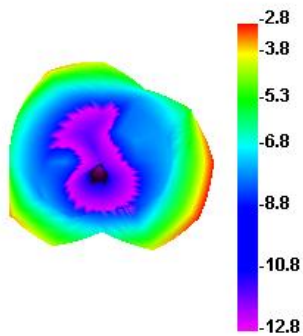


1811.020MHz E1

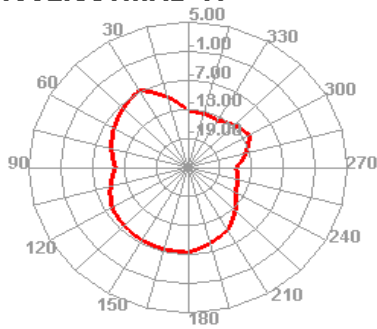


1900MHz

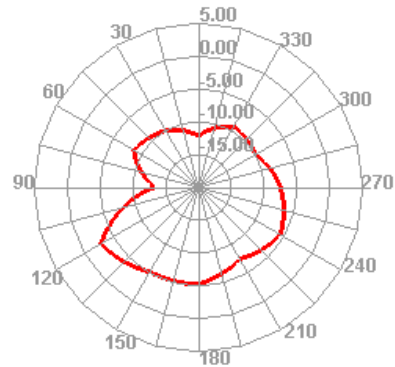
1992.856MHz



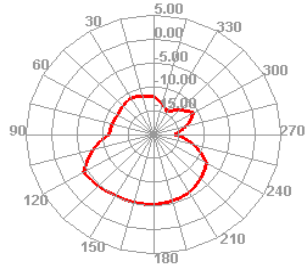
1992.856MHz H



1992.856MHz E1

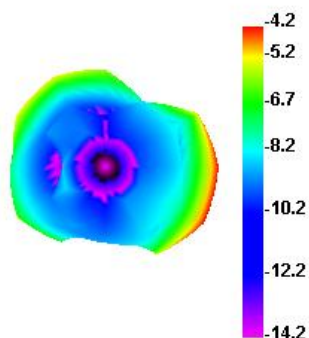


1992.856MHz E2

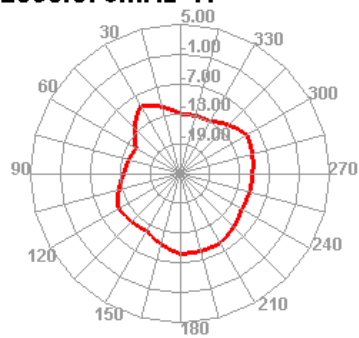


2100MHz

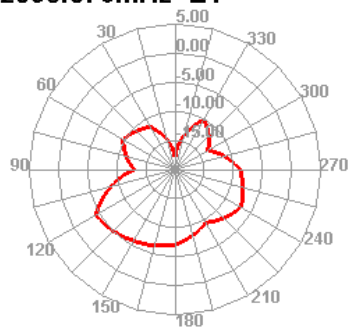
2093.876MHz



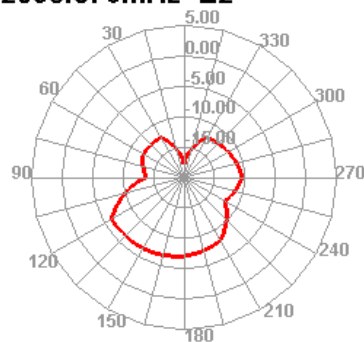
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2093.876MHz E1

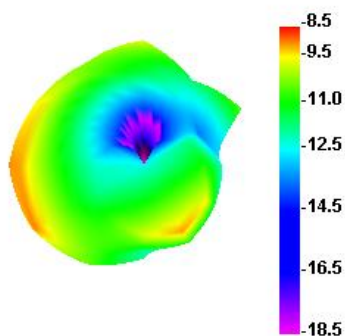


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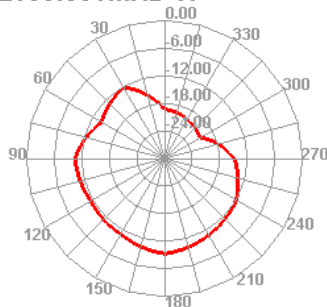


2700MHz

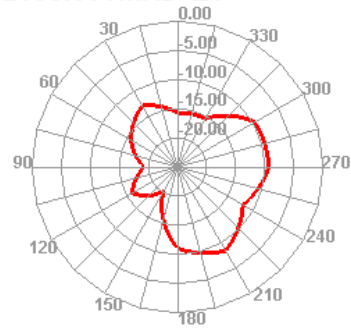
2699.996MHz



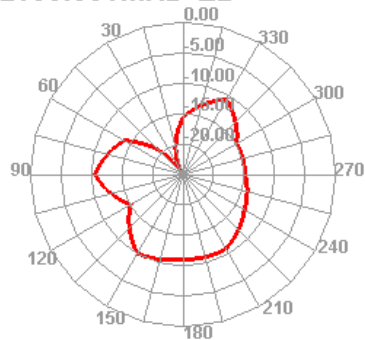
2699.996MHz H



2699.996MHz E1

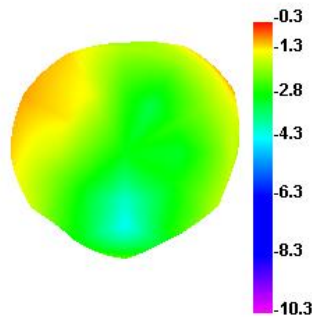


2699.996MHz E2

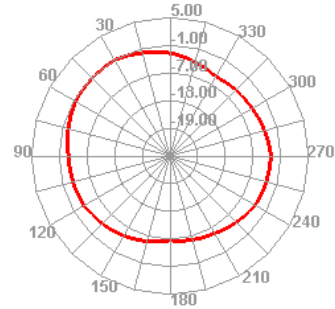


1575MHz

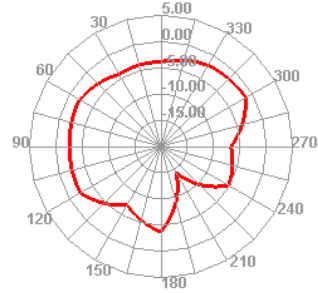
1573.332MHz



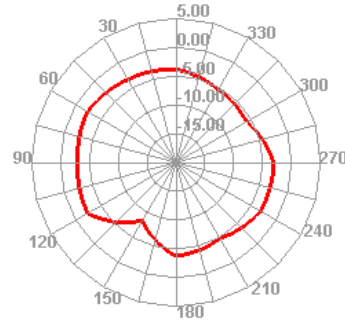
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1573.332MHz E1

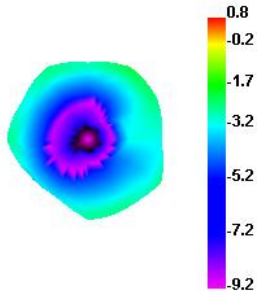


1573.332MHz E2

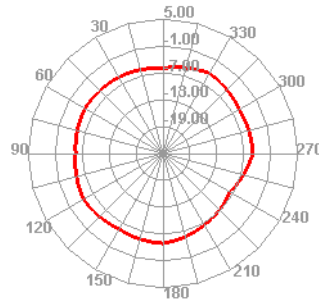


2450MHz

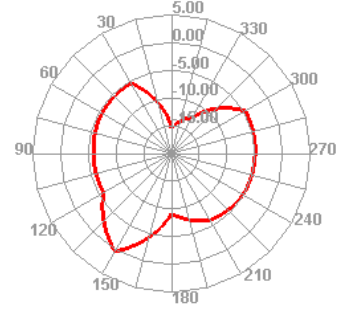
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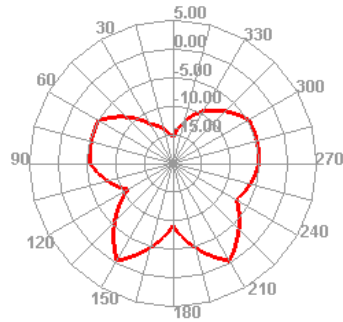
2444.444MHz H



2444.444MHz E1

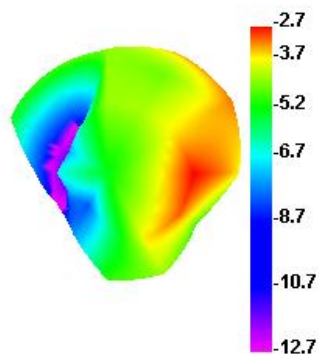


2444.444MHz E2

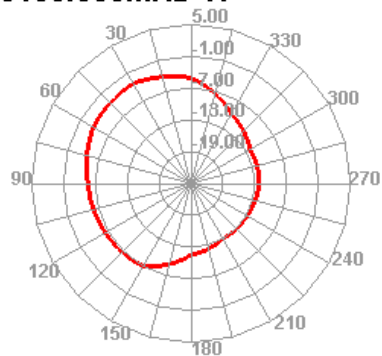


5100MHz

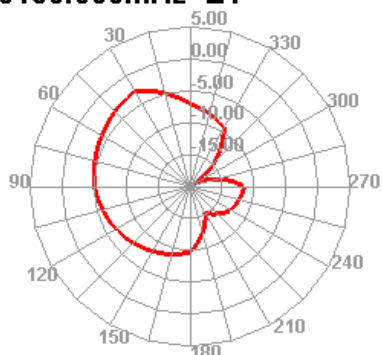
5150.000MHz



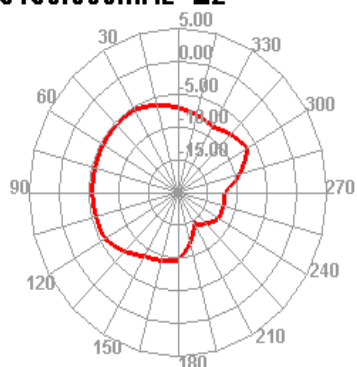
5150.000MHz H



5150.000MHz E1

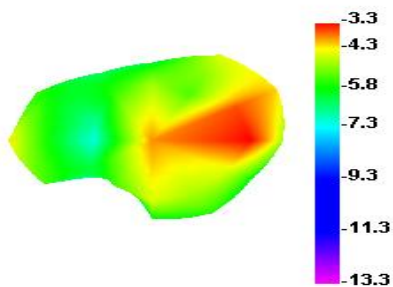


5150.000MHz E2

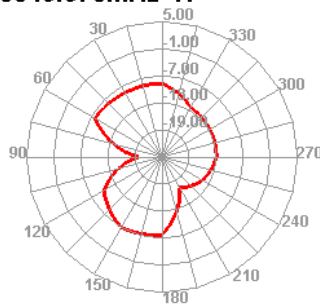


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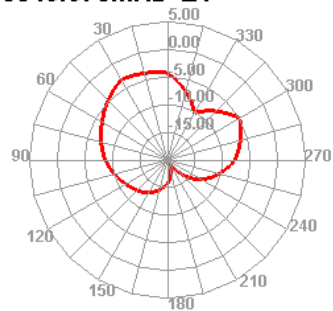
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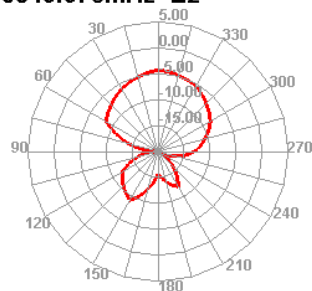
5849.973MHz H



5849.973MHz E1



5849.973MHz E2



ANNEX B: The EUT Appearance and Test Configuration

Test Configuration

