

Testing Report

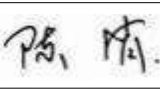
Customer Name: SHENZHEN SHIXINZHONGXIN TECHNOLOGY.CO.,LTD

Product Name: 5 G Antenna

Sample Model: F-6168

Reference Standard: GB/T9410-2008; ANSI/IEEE Std 149-1979

Issue Date: 2024.04. 28

Engineer:		Date: 2024.04. 28
Auditor:		Date: 2024.04. 28
Approver:		Date: 2024.04. 28

1. General Information

1.1 General Information of testing institutions

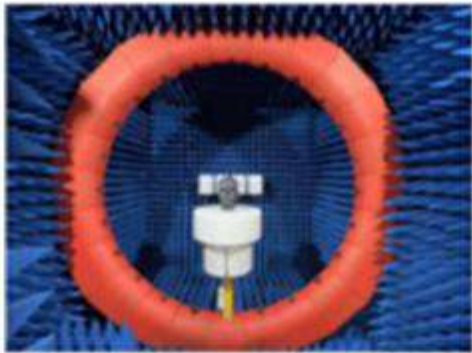
Name	Shenzhen Hetuo Technology Co., Ltd.
Address	Room 1202 B, Building C6, Hengfeng Industrial City, Xixiang, Baoan District, Shenzhen
Tel	18665849001
E-mail	18665849001@163.com
Equipment	Agilent 5071C

1.2 Testing principle

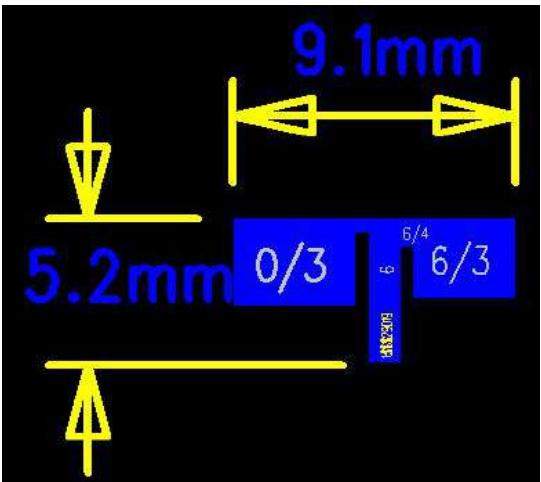
2. Test System

Multi-probe OTA Measurement System

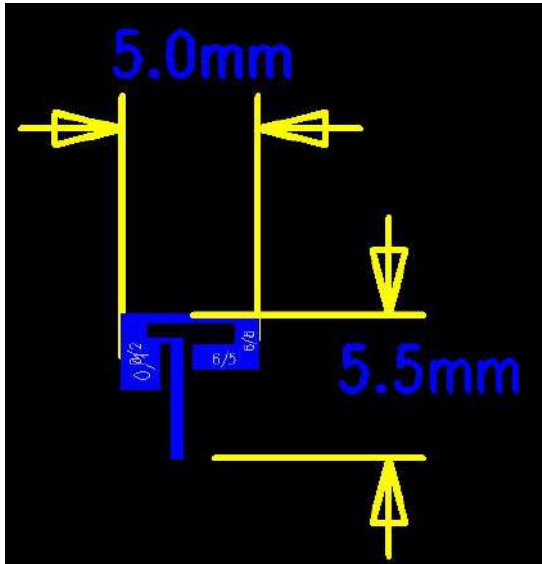
Gain & Efficiency	Gain & Efficiency	SATIMO Agilent 5071C
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Antenna Photo & Lenght(mm)_ANT1:PCB antenna



Antenna Photo & Lenght(mm)_ANT2:PCB antenna



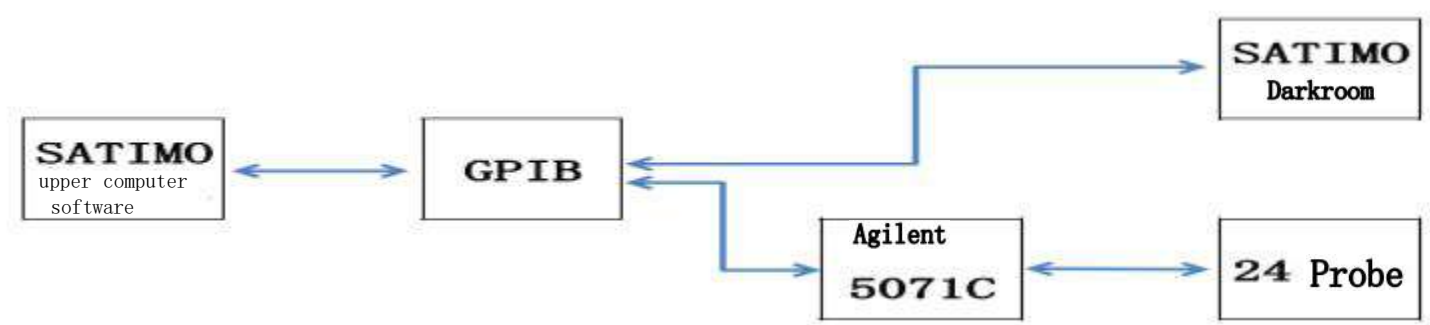
1.3 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
24 probe microwave chamber	4*3*3	NA	SATIMO	2024.03.29	2024.04.29
Network Analyzer	5071C	NA	Agilent	2024.03.29	2024.04.29

1.4 Test environment

Temperature	24 C ± 1.5 C
Humidity	45%RH
Pressure	101kPa

1.5 Brief summary of Procedure



1. SATIMO turn on the Upper Computer Software, Name: VeryView99.exe, Version No.: V1.10;
2. VeryView99 via GPIB (General Purpose Interface Bus) to control the shielding room (darkroom)'s SATIMO;
3. Meanwhiel, GPIB control the Agilent 5071C to read the Antenna data by 24 Probe;
4. Agilent 5071C will analyse the data and generate the result;
5. Agilent 5071C will feedback to VeryView99 software to generate the test report.

2. Sample Information

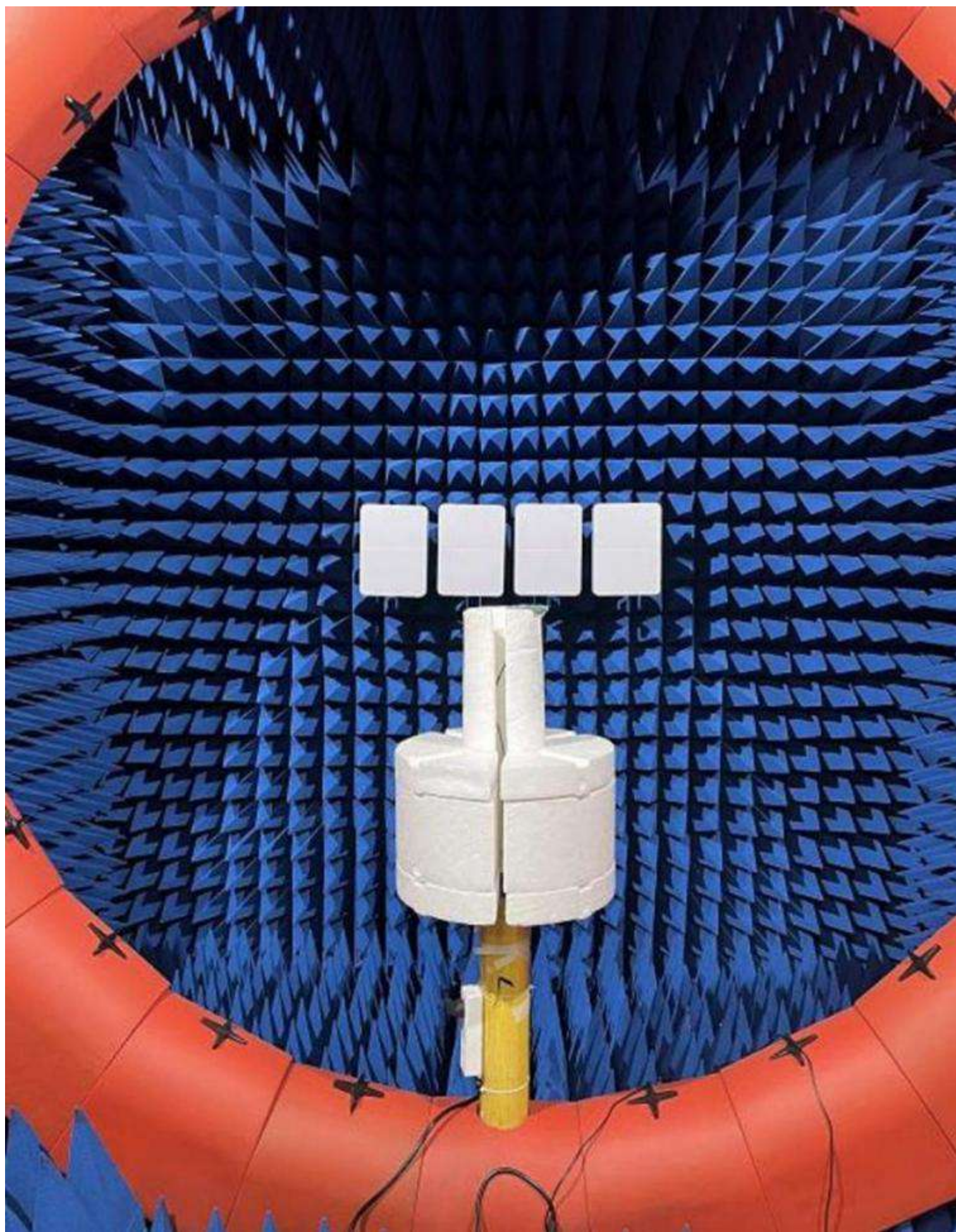
2.1 Client information

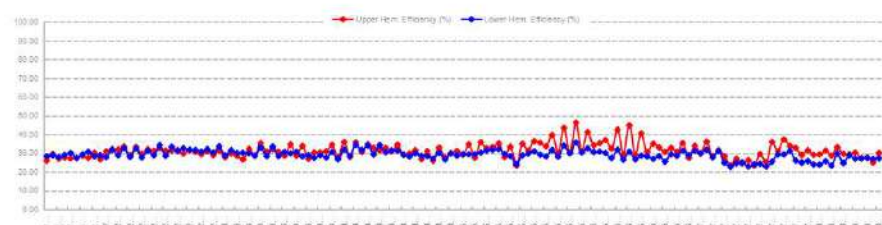
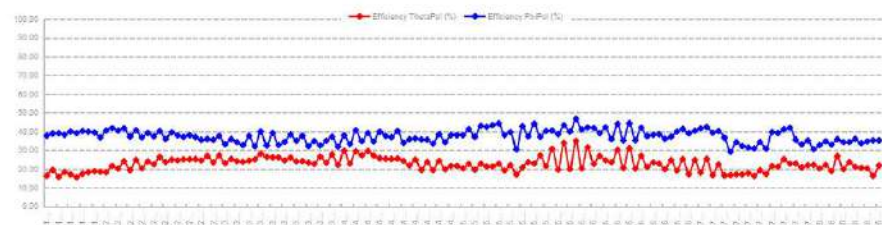
Name	SHENZHEN SHIXINZHONGXIN TECHNOLOGY CO.,LTD
Address	A1 , Shajing Donghuan Industrial Zone , Bao 'an District , Shenzhen
Contacts	Ma Chao
Tel	18218809918
E-mail	machao@c- chip. com. cn

2.2 Description of EUT(S)

Product Name	5.2G/5.8G Antenna
Sample Model	F-6168
Antenna Size	ANT1:9.1*5.2mm
	ANT2:5.0*5.5mm
Antenna Type	PCB antenna
Serial No.	/
Test Item	Antenna Gain, Radiation pattern
Frequency Range	5155-5245MHz 5730-5848MHz
Received Date	2024.04.28
Test Date	2024.04. 28
Remark	The length of the RF cable is 50mm

The test photos

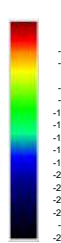
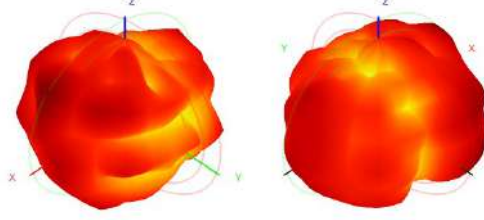


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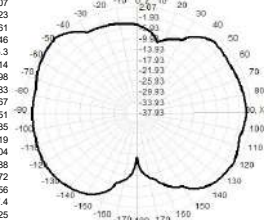
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-2.13	-1.84	-2.46	-1.80	-1.95	-1.88	-1.73	-2.10	-2.33	-1.56	-2.14	-1.73	-1.91	-2.09	-1.48	-2.35	-1.11	-2.22	-0.86	-2.12	-1.32	-1.89	-1.80	-1.74	-2.24	-1.28	-2.53	-2.07	-2.28	-1.16	-2.50	-1.85	-2.24	-1.49	-2.52	-2.03	-2.74	-3.38	-2.48	-3.06	-3.08	-3.26	-2.70	-3.18	-2.13	-2.20	-1.78	-1.87	-2.32	-2.48	-2.43	-2.76	-2.75	-2.43	-2.85	-2.02	-2.66	-2.38	-2.43	-2.61	-2.59	-2.67	-2.43																																																																																																																																																																																																																																																																																																																																																																																																																																																
2.75	2.60	2.54	2.82	2.90	2.65	2.86	1.90	2.84	1.21	3.03	3.30	3.32	3.26	3.97	2.79	3.24	3.97	3.07	3.86	3.21	3.37	3.29	3.38	3.70	2.91	3.90	2.85	3.36	3.31	2.97	2.63	3.50	3.33	1.99	2.98	2.59	1.84	2.51	1.92	1.73	2.47	2.15	2.28	1.97	2.95	3.26	3.99	4.18	3.91	2.91	2.07	2.57	2.21	2.15	2.16	3.21	3.58	2.16	2.91	2.61	1.66	2.18	2.10																																																																																																																																																																																																																																																																																																																																																																																																																																															
58.48	64.02	56.80	66.00	63.84	64.85	67.19	57.29	61.70	47.54	63.66	61.13	67.14	64.42	61.83	71.14	58.18	77.36	59.92	81.74	61.37	72.74	64.66	66.03	66.98	59.68	74.24	55.85	75.34	55.60	69.11	58.71	61.78	61.43	56.02	62.07	59.09	66.73	56.26	65.24	59.70	67.76	56.03	62.67	53.25	45.92	51.55	49.40	49.16	47.24	53.74	48.12	61.28	60.31	66.41	64.94	58.64	53.91	57.25	52.94	53.15	57.12	51.91	62.81	54.21	58.18	57.21	54.38	55.09	51.69	57.20	56.00																																																																																																																																																																																																																																																																																																																																																																																																																																							
5.08	4.54	5.00	4.62	4.85	4.53	4.59	4.32	4.94	4.44	4.99	3.88	4.62	5.14	5.38	4.80	5.63	5.05	4.57	5.36	5.29	4.96	5.66	4.95	5.52	4.59	5.91	4.93	5.46	5.51	5.16	5.45	5.42	5.44	4.70	5.79	5.09	4.49	4.75	6.62	4.78	5.11	3.87	5.25	4.41	4.79	4.80	5.55	5.40	4.98	5.14	5.08	5.46	5.77	6.06	6.23	4.76	4.99	4.97	4.90	4.59	6.06	5.60	4.82	5.28	5.03																																																																																																																																																																																																																																																																																																																																																																																																																																													
135.0	45.00	135.0	45.00	105.00	45.00	105.00	75.00	150.00	45.00	150.00	45.00	75.00	45.00	30.00	45.00	135.00	45.00	135.00	45.00	135.00	45.00	75.00	45.00	30.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	75.00	45.00	7

5150.0MHz H+V, Eff: 54.2%

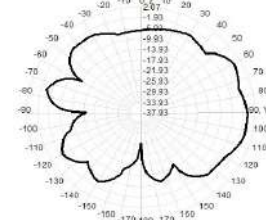
Back View



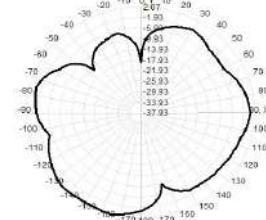
5150.0MHz Total(E1-XZ), Max= 2.07dBi



5150.0MHz Total(E2-YZ), Max= -0.46dBi

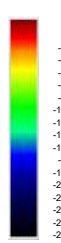
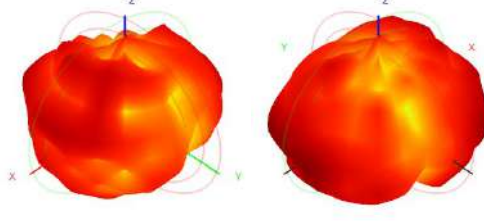


Total(H-XY), Max= 1.73dBi, CirD=20.59

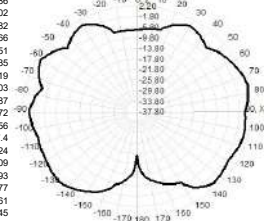


5155.0MHz H+V, Eff: 58.3%

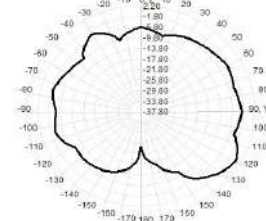
Back View



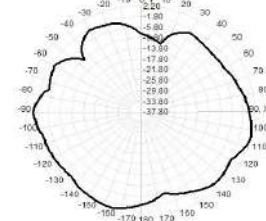
5155.0MHz Total(E1-XZ), Max= 2.20dBi



5155.0MHz Total(E2-YZ), Max= 0.23dBi

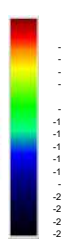
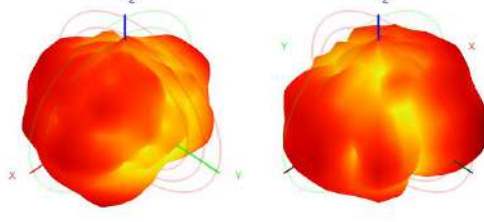


Total(H-XY), Max= 1.84dBi, CirD=13.08

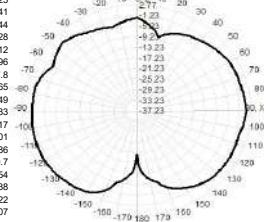


5160.0MHz H+V, Eff: 54.7%

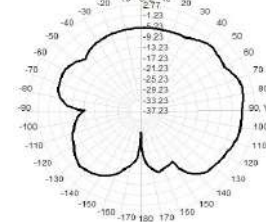
Back View



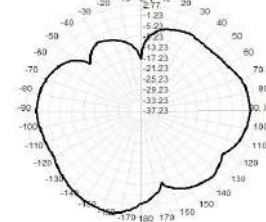
5160.0MHz Total(E1-XZ), Max= 0.93dBi



5160.0MHz Total(E2-YZ), Max= -0.76dBi

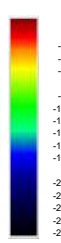
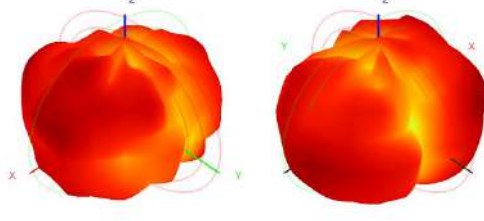


Total(H-XY), Max= 2.77dBi, CirD=20.32

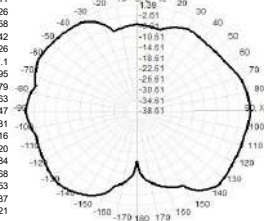


5165.0MHz H+V, Eff: 56.5%

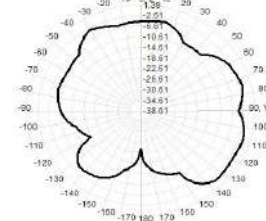
Back View



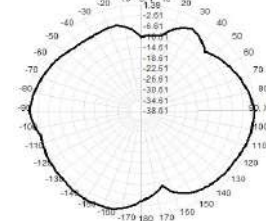
5165.0MHz Total(E1-XZ), Max= 1.39dBi



5165.0MHz Total(E2-YZ), Max= -1.37dBi

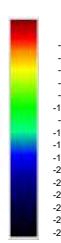
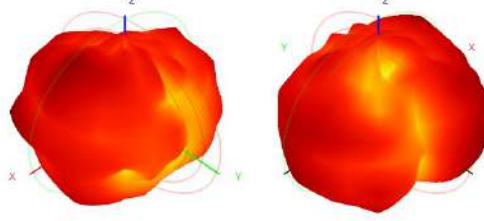


Total(H-XY), Max= 0.96dBi, CirD=11.69

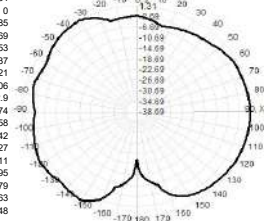


5170.0MHz H+V, Eff: 57.1%

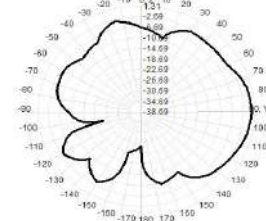
Back View



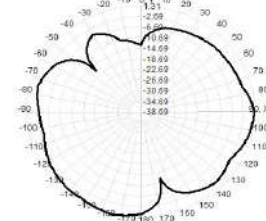
5170.0MHz Total(E1-XZ), Max= 1.19dBi



5170.0MHz Total(E2-YZ), Max= 0.01dBi

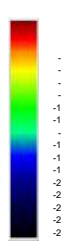
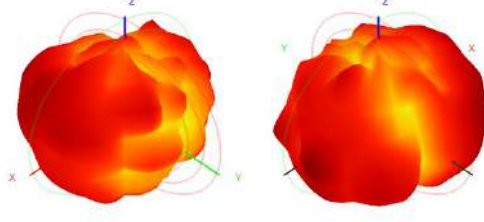


Total(H-XY), Max= 1.31dBi, CirD=17.98

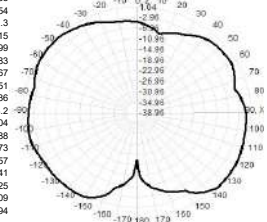


5175.0MHz H+V, Eff: 54.7%

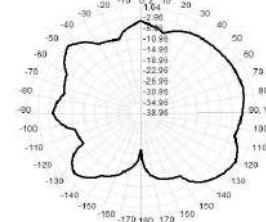
Back View



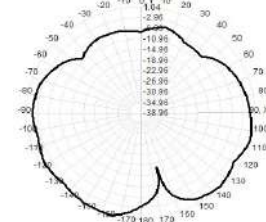
5175.0MHz Total(E1-XZ), Max= 0.92dBi



5175.0MHz Total(E2-YZ), Max= -1.04dBi

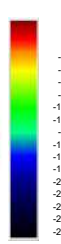
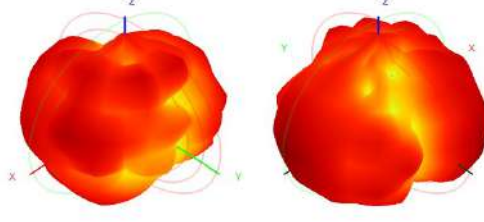


Total(H-XY), Max= 1.04dBi, CirD=18.68

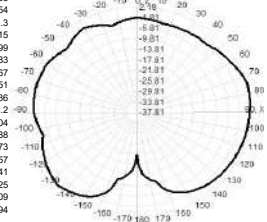


5180.0MHz H+V, Eff: 57.7%

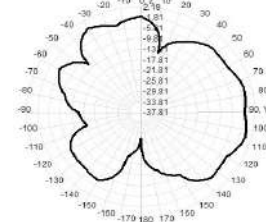
Back View



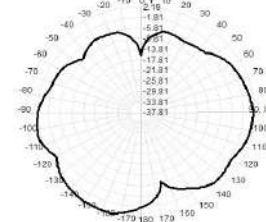
5180.0MHz Total(E1-XZ), Max= 2.19dBi



5180.0MHz Total(E2-YZ), Max= -0.20dBi

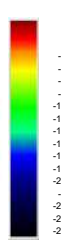
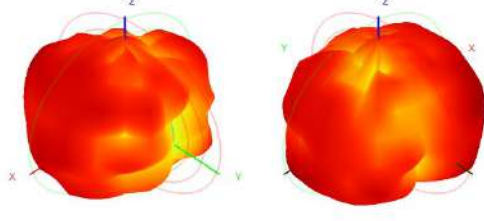


Total(H-XY), Max= 1.88dBi, CirD=16.00

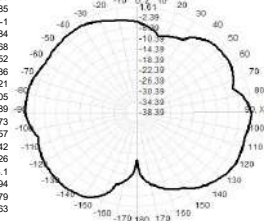


5185.0MHz H+V, Eff: 58.1%

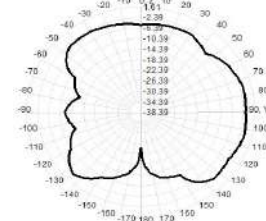
Back View



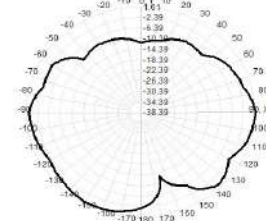
5185.0MHz Total(E1-XZ), Max= 1.61dBi



5185.0MHz Total(E2-YZ), Max= -1.35dBi

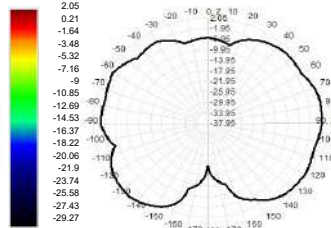
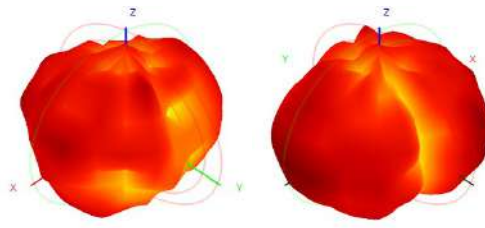


Total(H-XY), Max= 1.61dBi, CirD=15.06

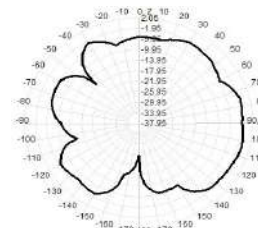


5190.0MHz H+V, Eff: 58.3%

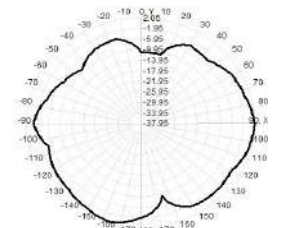
Back View



5190.0MHz Total(E2-YZ), Max= -1.01dBi

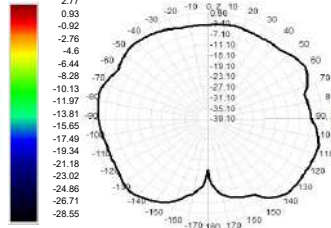
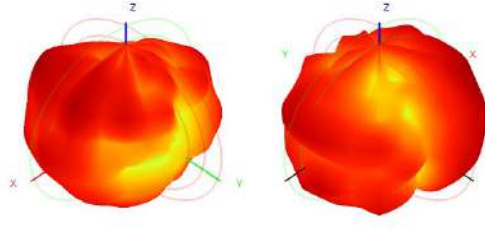


Total(H-XY), Max= 1.70dBi, CirD=12.65

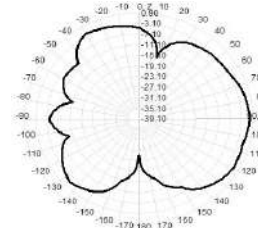


5195.0MHz H+V, Eff: 55.4%

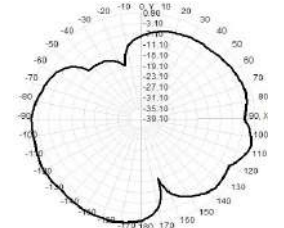
Back View



5195.0MHz Total(E2-YZ), Max= -0.41dBi

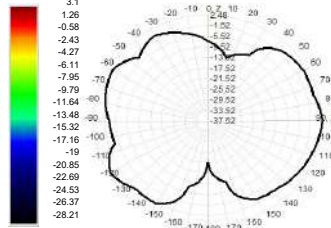
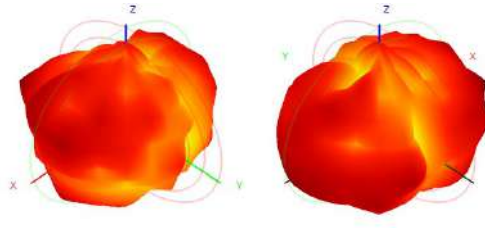


Total(H-XY), Max= 0.90dBi, CirD=19.21

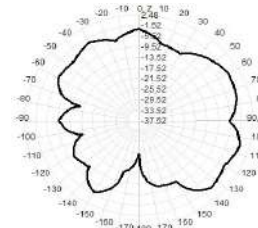


5200.0MHz H+V, Eff: 58.7%

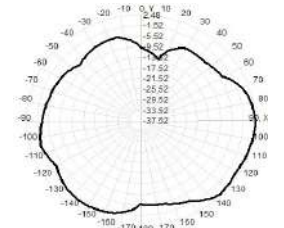
Back View



5200.0MHz Total(E2-YZ), Max= -1.11dBi

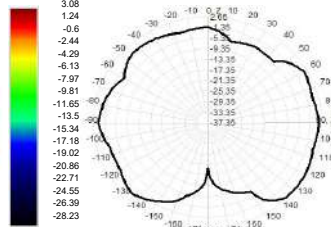
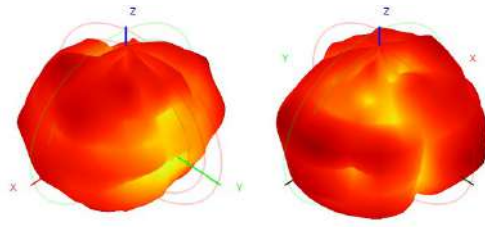


Total(H-XY), Max= 2.48dBi, CirD=16.15

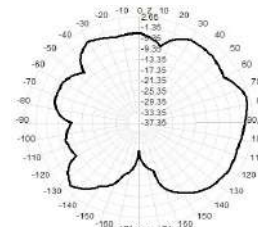


5205.0MHz H+V, Eff: 63.5%

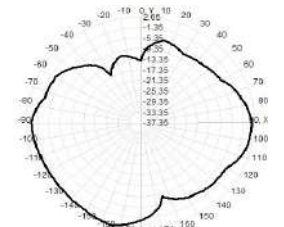
Back View



5205.0MHz Total(E2-YZ), Max= 1.36dBi

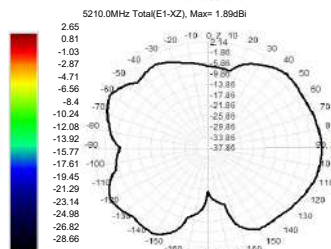
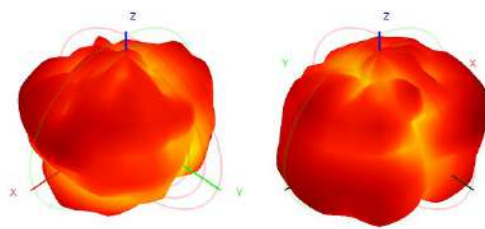


Total(H-XY), Max= 2.65dBi, CirD=19.38

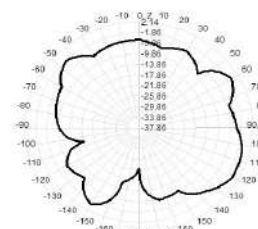


5210.0MHz H+V, Eff: 60.7%

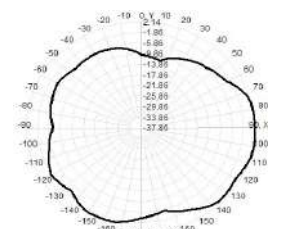
Back View



5210.0MHz Total(E2-YZ), Max= -0.25dBi

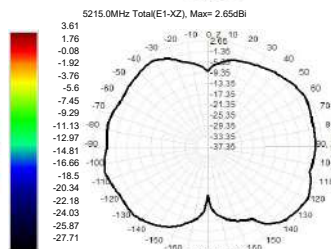
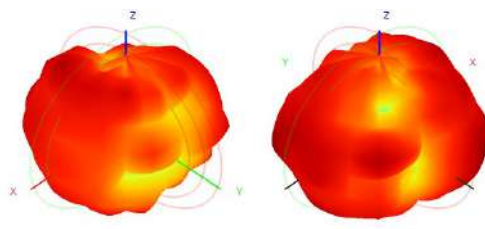


Total(H-XY), Max= 2.14dBi, CirD=13.80

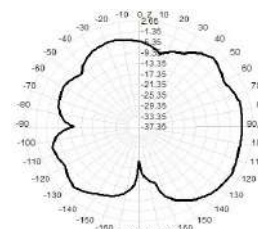


5215.0MHz H+V, Eff: 66.1%

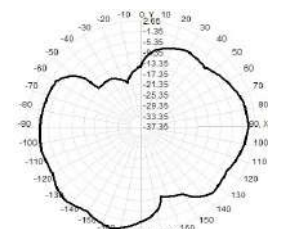
Back View



5215.0MHz Total(E2-YZ), Max= -0.43dBi

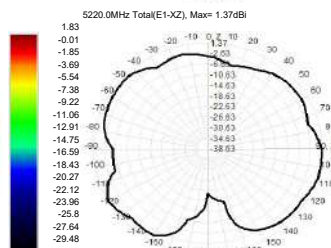
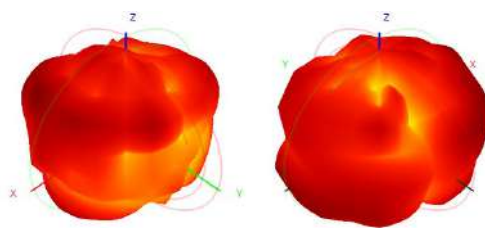


Total(H-XY), Max= 2.42dBi, CirD=22.58

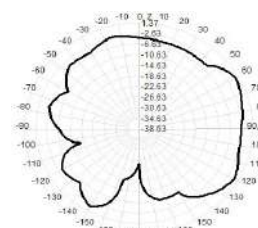


5220.0MHz H+V, Eff: 56.7%

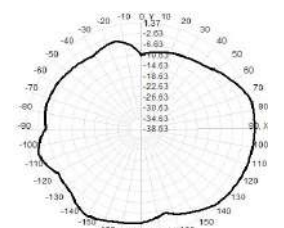
Back View



5220.0MHz Total(E2-YZ), Max= 0.29dBi

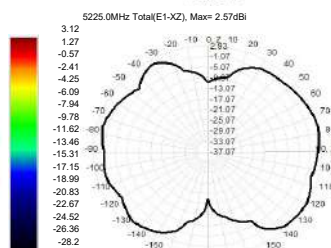
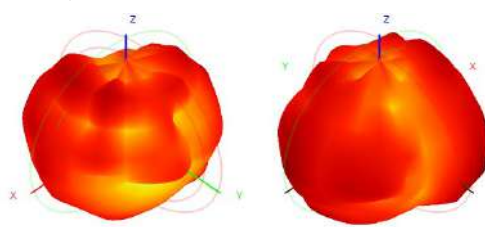


Total(H-XY), Max= 1.28dBi, CirD=12.03

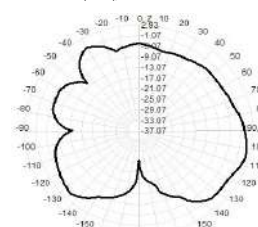


5225.0MHz H+V, Eff: 65.6%

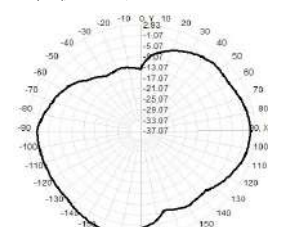
Back View



5225.0MHz Total(E2-YZ), Max= 1.44dBi

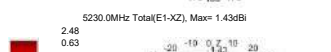


Total(H-XY), Max= 2.93dBi, CirD=16.83

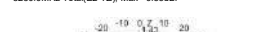


5230.0MHz H+V, Eff: 57.3%

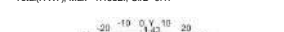
Back View

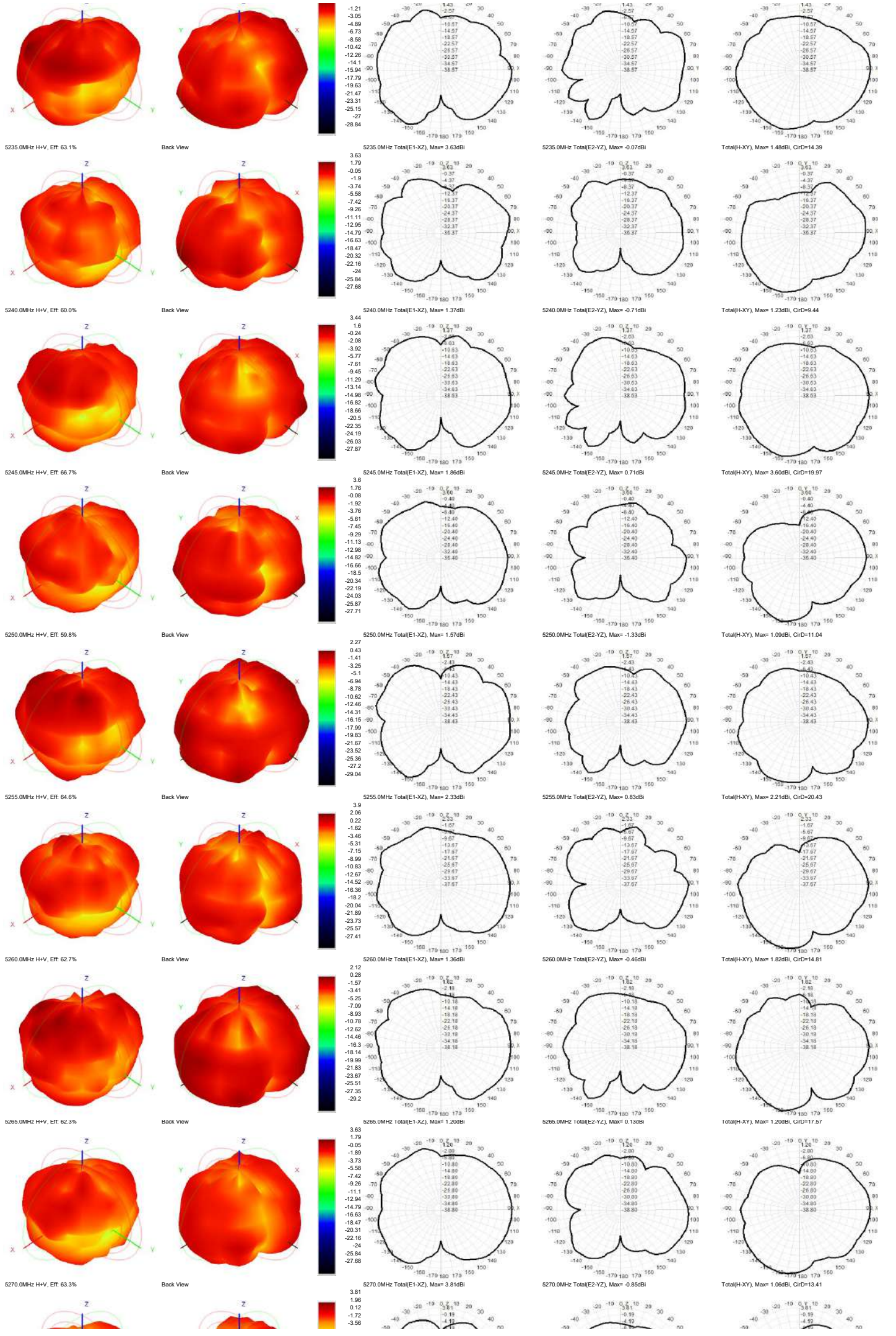


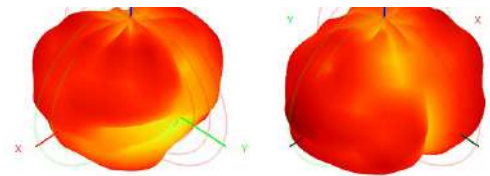
5230.0MHz Total(E2-YZ), Max= 0.53dBi



Total(H-XY), Max= 1.43dBi, CirD=9.17

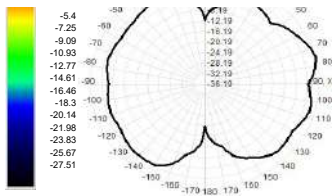




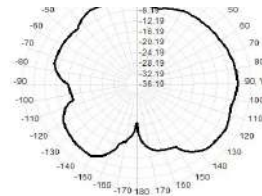


02/0.UMPHZ 11V, EFL 02.379

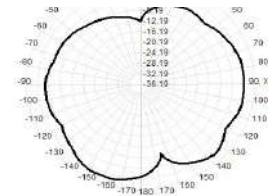
BACK VIEW



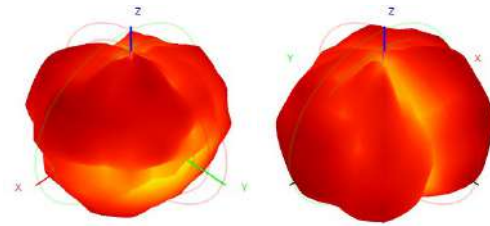
02/0.UMPHZ 100B(E-T-XZ), MAX= 1.01001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

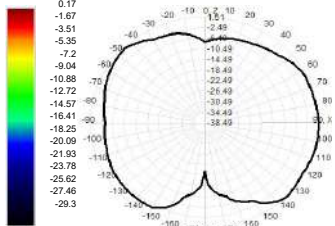


100B(T-A-T), MAX= 1.00001, UFL=10.00

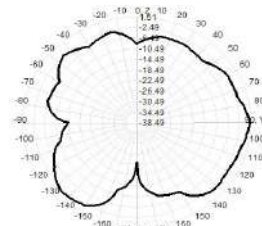


02/0.UMPHZ 11V, EFL 02.379

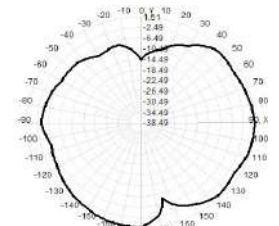
BACK VIEW



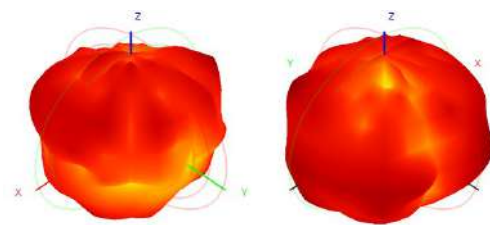
02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

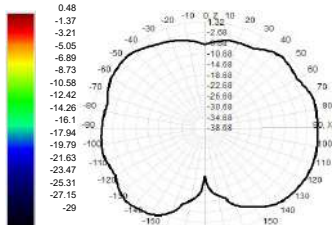


100B(T-A-T), MAX= 1.00001, UFL=10.00

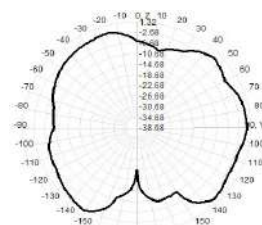


02/0.UMPHZ 11V, EFL 02.379

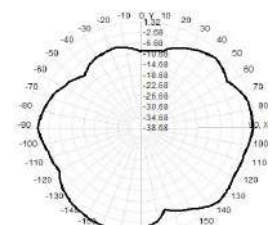
BACK VIEW



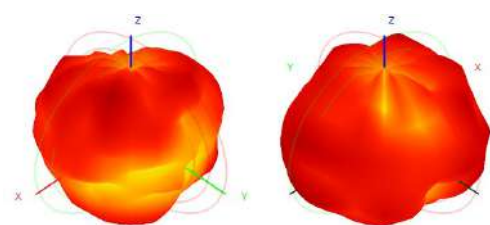
02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

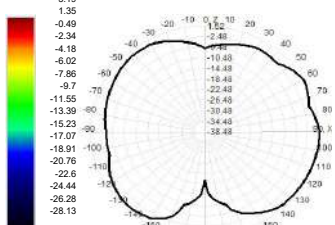


100B(T-A-T), MAX= 1.00001, UFL=10.00

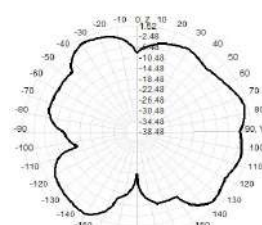


02/0.UMPHZ 11V, EFL 02.379

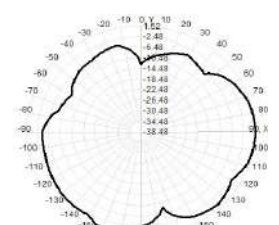
BACK VIEW



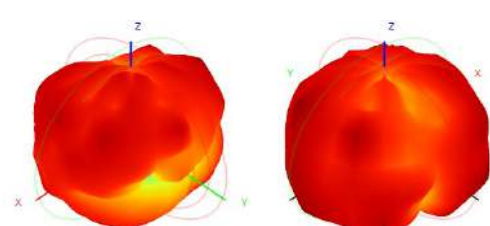
02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

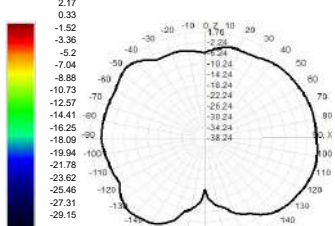


100B(T-A-T), MAX= 1.00001, UFL=10.00

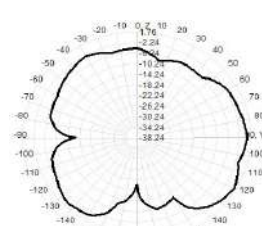


02/0.UMPHZ 11V, EFL 02.379

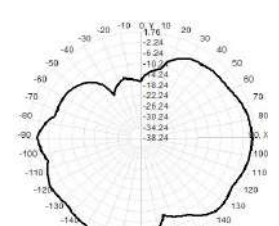
BACK VIEW



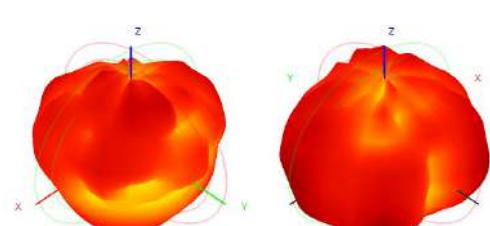
02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

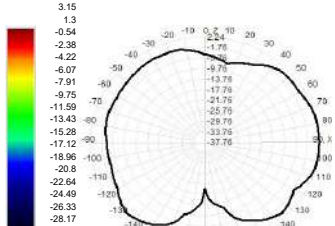


100B(T-A-T), MAX= 1.00001, UFL=10.00

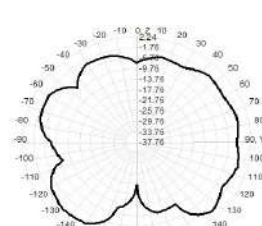


02/0.UMPHZ 11V, EFL 02.379

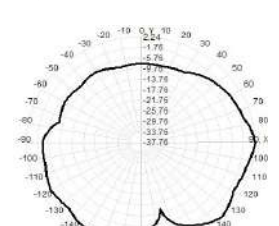
BACK VIEW



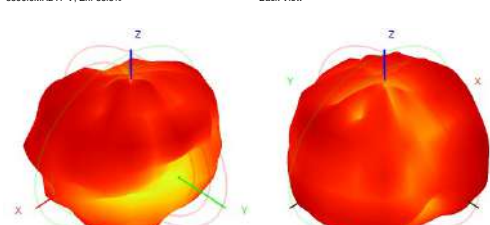
02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

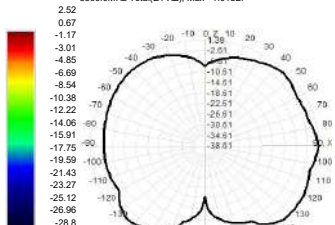


100B(T-A-T), MAX= 1.00001, UFL=10.00

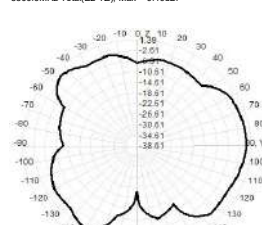


02/0.UMPHZ 11V, EFL 02.379

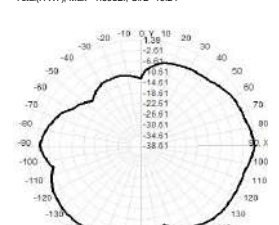
BACK VIEW



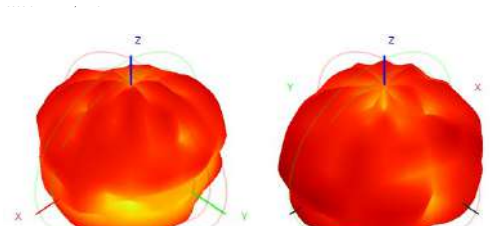
02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

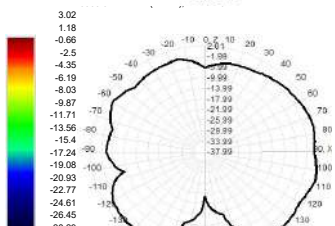


100B(T-A-T), MAX= 1.00001, UFL=10.00

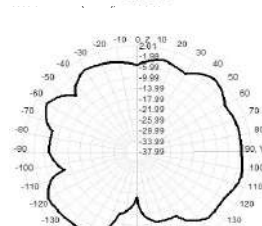


02/0.UMPHZ 11V, EFL 02.379

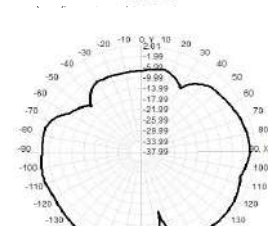
BACK VIEW



02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001

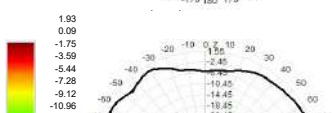


100B(T-A-T), MAX= 1.00001, UFL=10.00

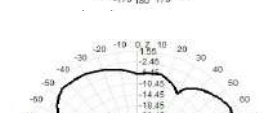


02/0.UMPHZ 11V, EFL 02.379

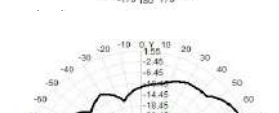
BACK VIEW



02/0.UMPHZ 100B(E-T-XZ), MAX= 1.02001



02/0.UMPHZ 100B(E-T-XZ), MAX= 0.92001



100B(T-A-T), MAX= 1.00001, UFL=10.00

