



SPACE4 A VARIANT ANTENNA TEST REPORT

SHANGHAI INTERNATIONAL
DAISY
2024.03.08

PROJECT---- SPACE4 A VARIANT –DV2

Antenna manufacture and Address

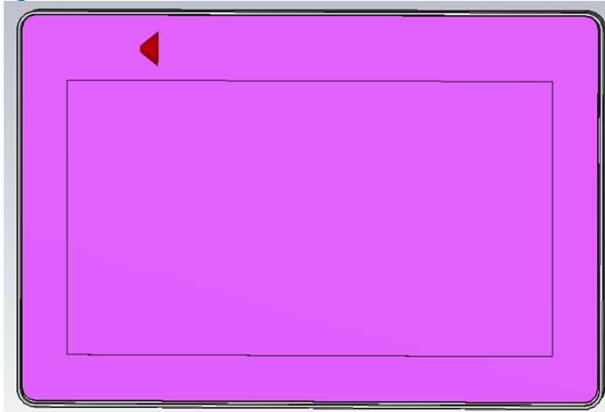
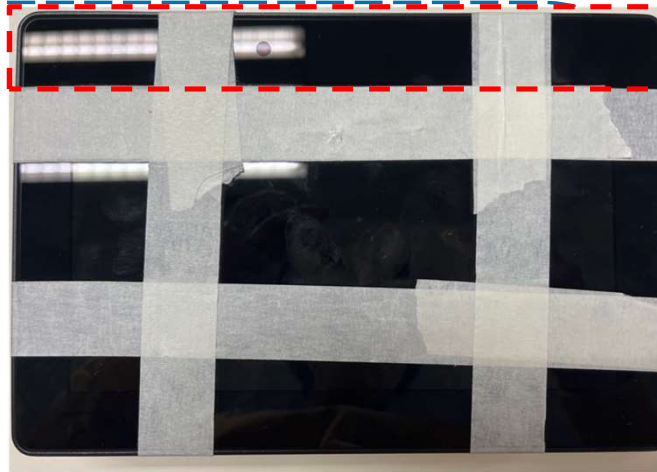


Address: No.157 Shan-Ying Rd., Gueishan Dist., Taoyuan City 33341, Taiwan

Harman Part number: 4133855

PROJECT---- SPACE4 A VARIANT –DV2

Overview of project



**It is an internal
PCB-antena. It
locates in Space4
BASE unit, behind
the display.**

PROJECT---- SPACE4 A VARIANT –DV

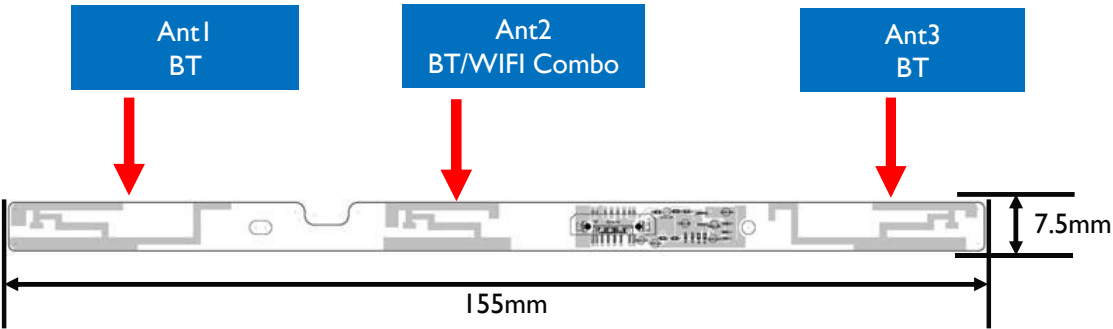
Antenna module



Front view

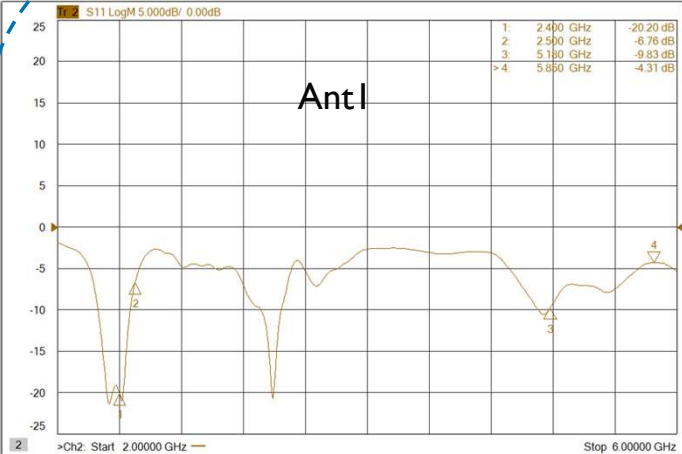
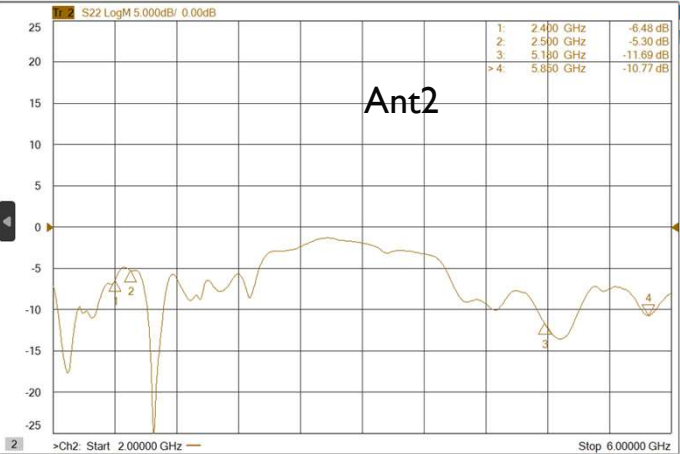
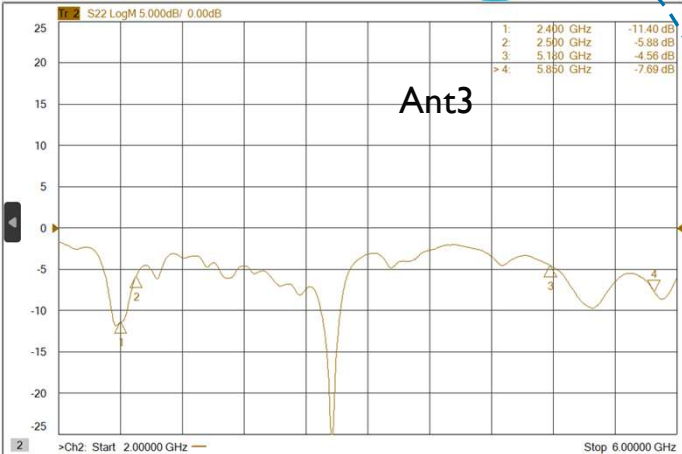
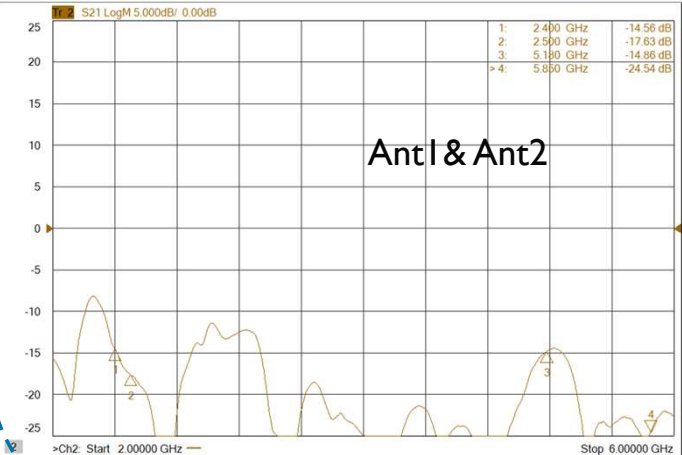
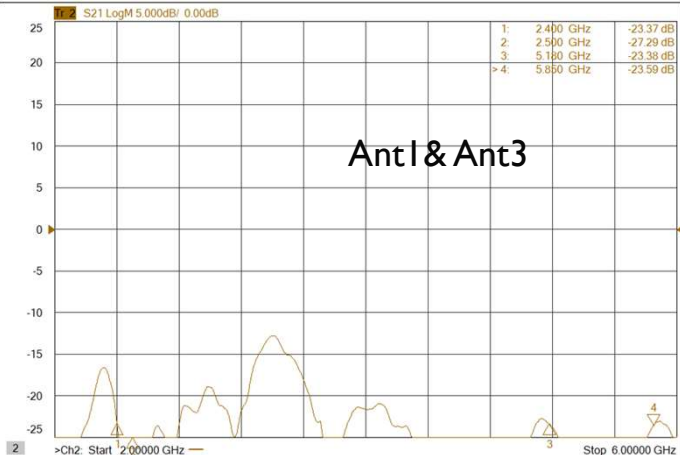
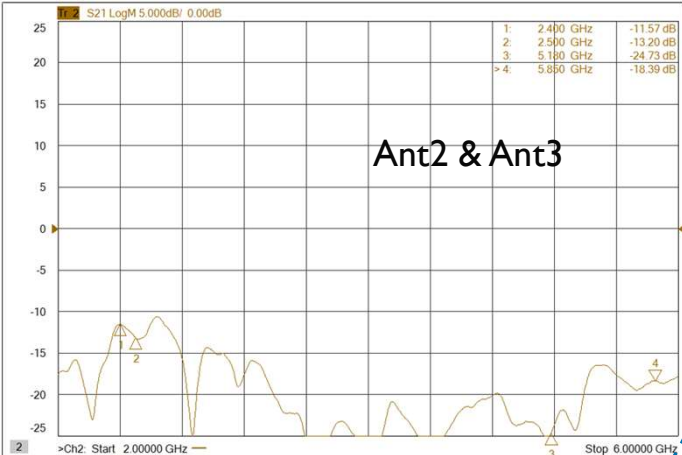


Back view

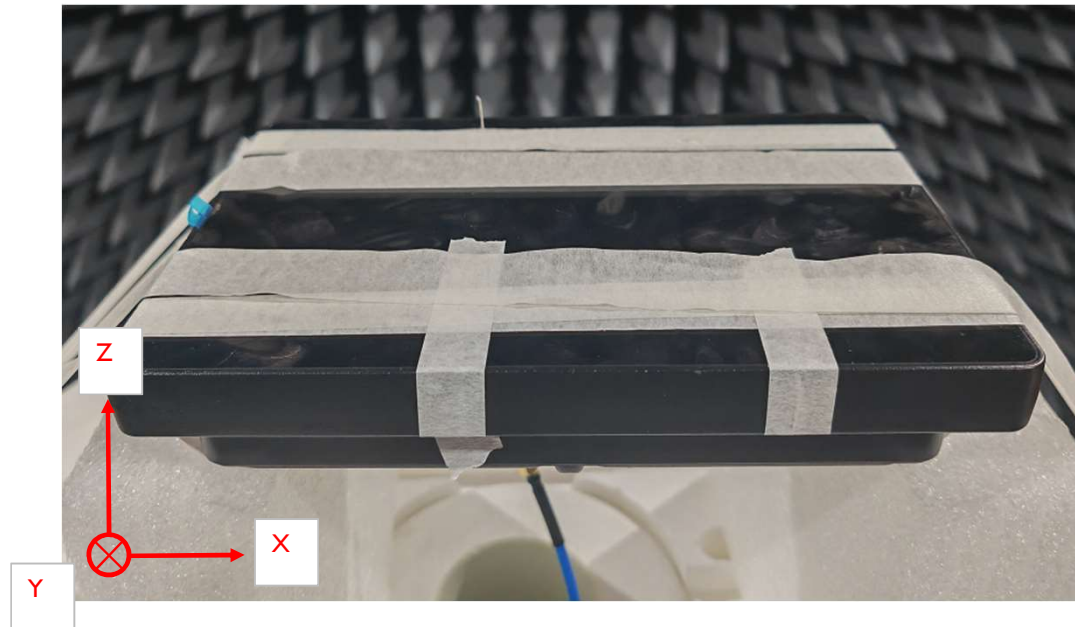


PROJECT---- SPACE4 A VARIANT –DV2

Performance of antenna itself

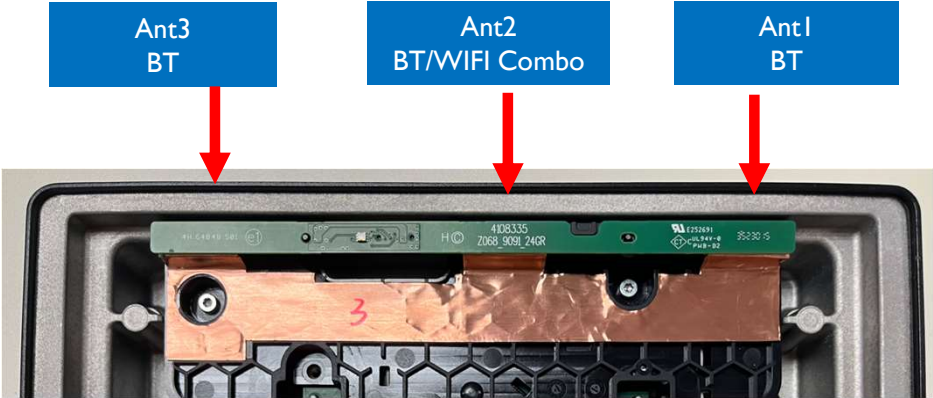


PROJECT---- SPACE4 A VARIANT –DV
Coordinate system in the Chamber



PROJECT---- SPACE4 A VARIANT –DV2 Efficiency and peak Gain

Space 4 DV2 A-variant									
Fre(MHz)	ant1			ant2			ant3		
	BT			WIFI 2.4GHz +BT			BT		
	Eff.%	Eff.dB	Peak Gain.dB	Eff.%	Eff.dB	Peak Gain.dB	Eff.%	Eff.dB	Peak Gain.dB
2400	19%	-7.17	0.34	22%	-6.59	-2.03	29%	-5.3	0.67
2420	18%	-7.41	0.1	22%	-6.66	-1.62	29%	-5.42	0.83
2440	17%	-7.6	-0.22	22%	-6.64	-1.14	28%	-5.56	1.37
2460	17%	-7.64	-0.86	23%	-6.44	-0.93	26%	-5.81	0.46
2480	17%	-7.66	-0.78	26%	-5.88	-0.79	24%	-6.23	-0.03
2500	17%	-7.78	-0.69	30%	-5.29	-0.4	22%	-6.61	-0.42
5150				34%	-4.63	2.96			
5200				36%	-4.49	3.16			
5250				38%	-4.23	3.56			
5300				39%	-4.12	3.97			
5350				39%	-4.1	4.45			
5400				40%	-4.02	3.91			
5450				38%	-4.21	4.48			
5500				35%	-4.59	5.17			
5550				33%	-4.75	5.81			
5600				33%	-4.81	5.71			
5650				36%	-4.44	4.66			
5700				37%	-4.28	4.38			
5750				34%	-4.66	4.55			
5800				34%	-4.74	5.18			
5850				34%	-4.72	5.18			

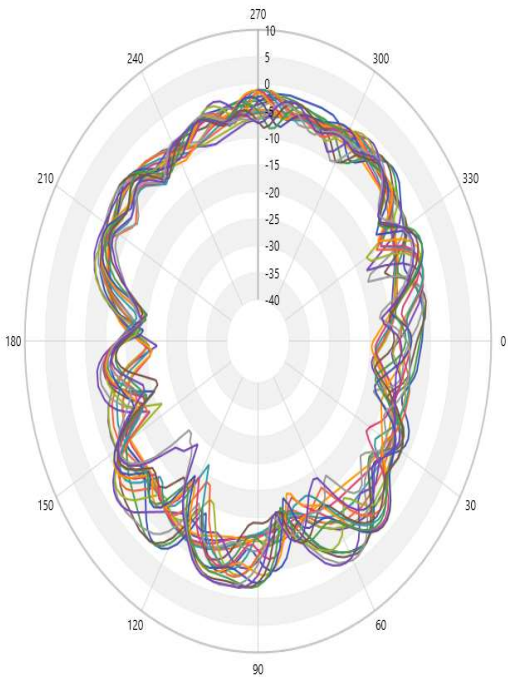


PROJECT---- SPACE4 A VARIANT –DV2

2D-Radiation Pattern for ant1

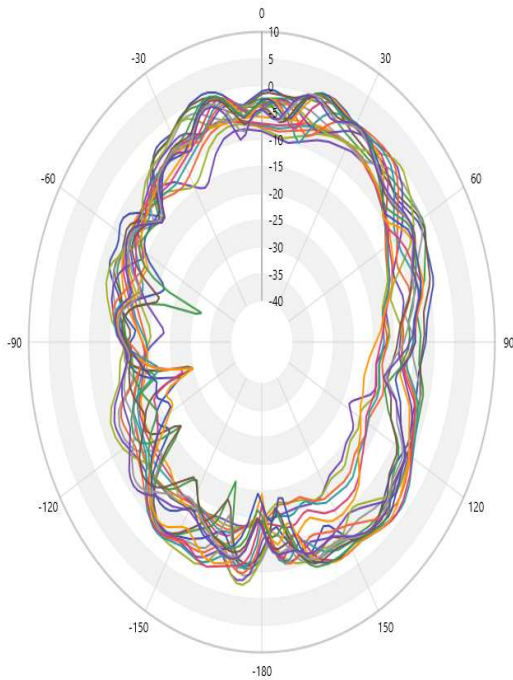


- 90° 2400.00 MHz ETotal
- 90° 2420.00 MHz ETotal
- 90° 2440.00 MHz ETotal
- 90° 2460.00 MHz ETotal
- 90° 2480.00 MHz ETotal
- 90° 2500.00 MHz ETotal
- 90° 5150.00 MHz ETotal
- 90° 5200.00 MHz ETotal
- 90° 5250.00 MHz ETotal
- 90° 5300.00 MHz ETotal
- 90° 5350.00 MHz ETotal
- 90° 5400.00 MHz ETotal
- 90° 5450.00 MHz ETotal
- 90° 5500.00 MHz ETotal
- 90° 5550.00 MHz ETotal
- 90° 5600.00 MHz ETotal
- 90° 5650.00 MHz ETotal
- 90° 5700.00 MHz ETotal
- 90° 5750.00 MHz ETotal
- 90° 5800.00 MHz ETotal
- 90° 5850.00 MHz ETotal



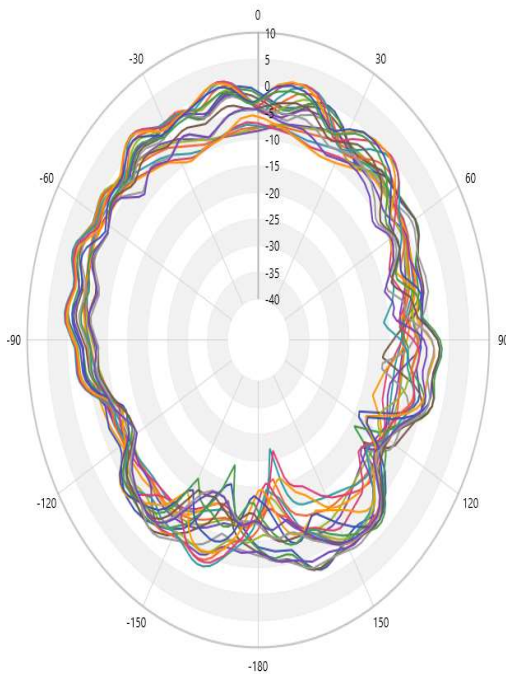
Theta 90

- 0° 2400.00 MHz ETotal
- 0° 2420.00 MHz ETotal
- 0° 2440.00 MHz ETotal
- 0° 2460.00 MHz ETotal
- 0° 2480.00 MHz ETotal
- 0° 2500.00 MHz ETotal
- 0° 5150.00 MHz ETotal
- 0° 5250.00 MHz ETotal
- 0° 5300.00 MHz ETotal
- 0° 5400.00 MHz ETotal
- 0° 5350.00 MHz ETotal
- 0° 5450.00 MHz ETotal
- 0° 5500.00 MHz ETotal
- 0° 5550.00 MHz ETotal
- 0° 5600.00 MHz ETotal
- 0° 5650.00 MHz ETotal
- 0° 5700.00 MHz ETotal
- 0° 5750.00 MHz ETotal
- 0° 5800.00 MHz ETotal
- 0° 5850.00 MHz ETotal



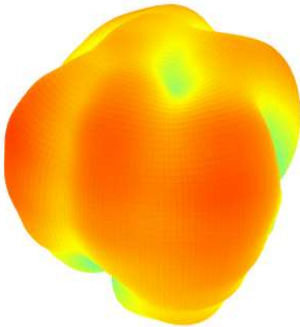
Phi 0

- 90° 2400.00 MHz ETotal
- 90° 2420.00 MHz ETotal
- 90° 2440.00 MHz ETotal
- 90° 2460.00 MHz ETotal
- 90° 2480.00 MHz ETotal
- 90° 2500.00 MHz ETotal
- 90° 5150.00 MHz ETotal
- 90° 5200.00 MHz ETotal
- 90° 5250.00 MHz ETotal
- 90° 5300.00 MHz ETotal
- 90° 5350.00 MHz ETotal
- 90° 5400.00 MHz ETotal
- 90° 5450.00 MHz ETotal
- 90° 5500.00 MHz ETotal
- 90° 5550.00 MHz ETotal
- 90° 5600.00 MHz ETotal
- 90° 5650.00 MHz ETotal
- 90° 5700.00 MHz ETotal
- 90° 5750.00 MHz ETotal
- 90° 5800.00 MHz ETotal
- 90° 5850.00 MHz ETotal

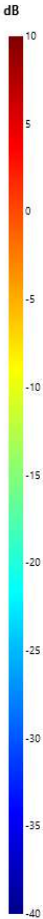
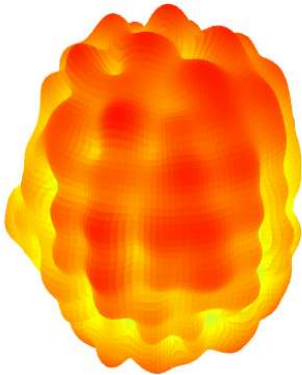


Phi 90

3D-Radiation Pattern for ant1



2440MHz

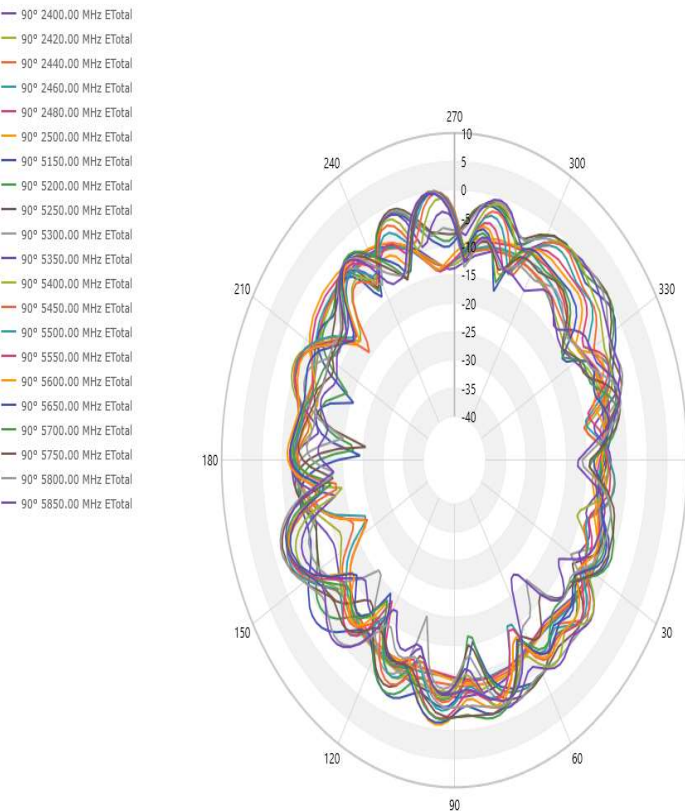


5500MHz

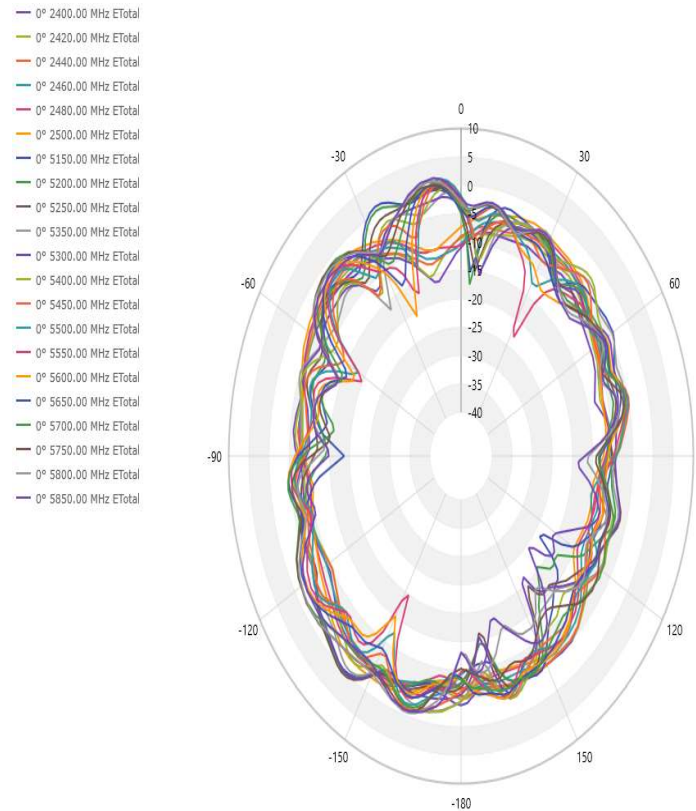


PROJECT---- SPACE4 A VARIANT –DV2

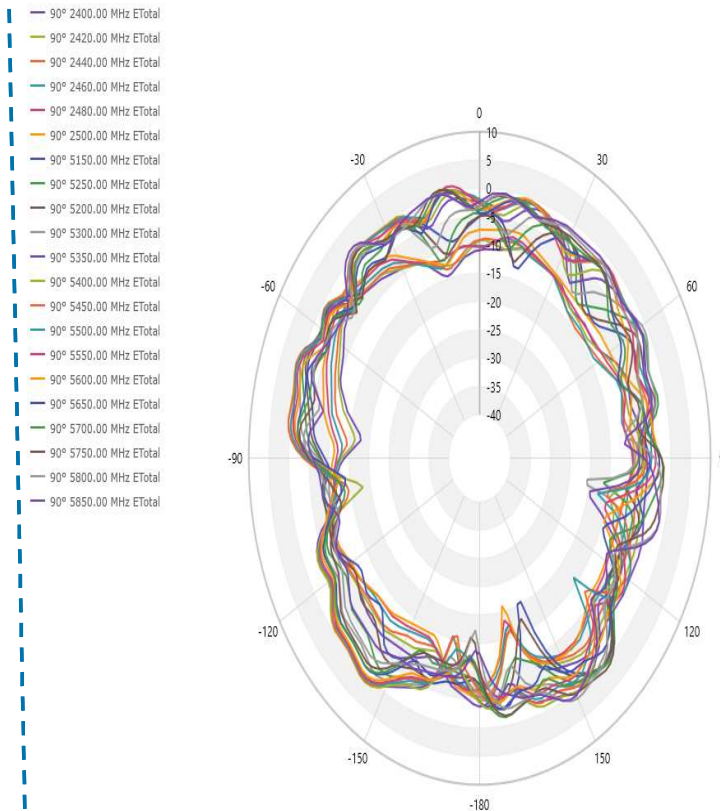
2D-Radiation Pattern for ant2



Theta 90



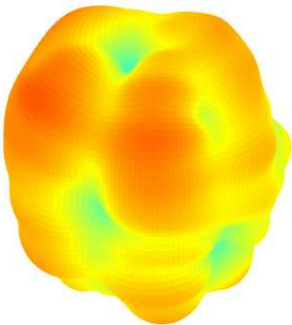
Phi 0



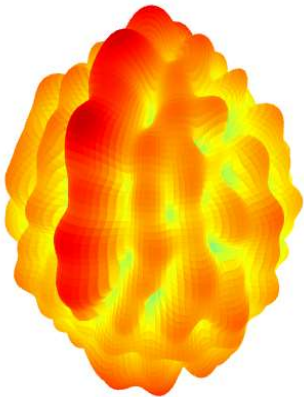
Phi 90

PROJECT---- SPACE4 A VARIANT –DV2

3D-Radiation Pattern for ant2



2440MHz



5500MHz

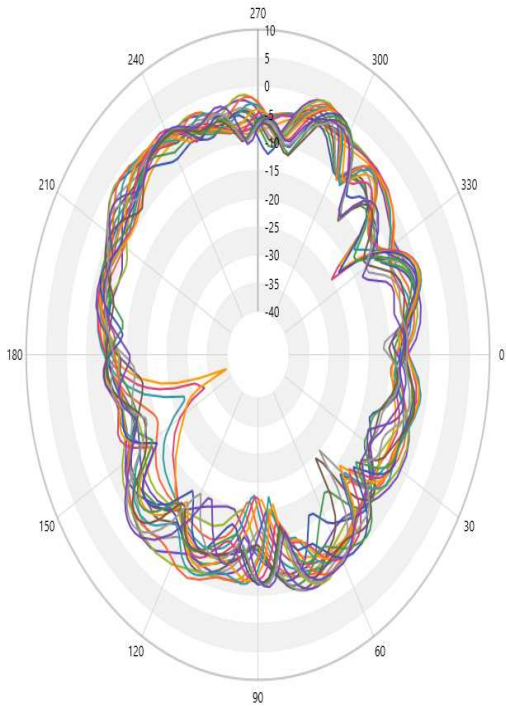


PROJECT---- SPACE4 A VARIANT –DV2

2D-Radiation Pattern for ant3

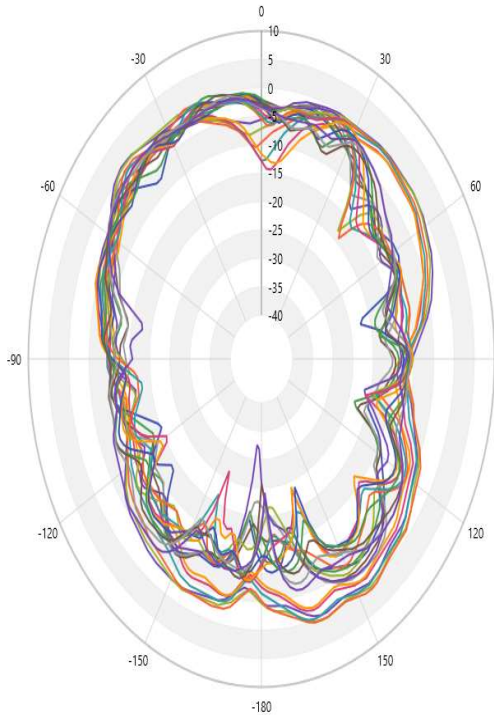


- 90° 2400.00 MHz ETotat
- 90° 2420.00 MHz ETotat
- 90° 2440.00 MHz ETotat
- 90° 2460.00 MHz ETotat
- 90° 2480.00 MHz ETotat
- 90° 2500.00 MHz ETotat
- 90° 5150.00 MHz ETotat
- 90° 5200.00 MHz ETotat
- 90° 5250.00 MHz ETotat
- 90° 5300.00 MHz ETotat
- 90° 5350.00 MHz ETotat
- 90° 5400.00 MHz ETotat
- 90° 5450.00 MHz ETotat
- 90° 5500.00 MHz ETotat
- 90° 5600.00 MHz ETotat
- 90° 5550.00 MHz ETotat
- 90° 5650.00 MHz ETotat
- 90° 5700.00 MHz ETotat
- 90° 5750.00 MHz ETotat
- 90° 5800.00 MHz ETotat
- 90° 5850.00 MHz ETotat



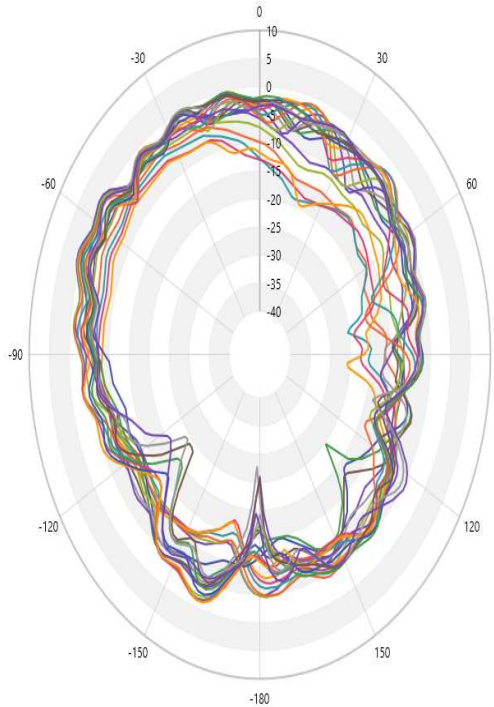
Theta 90

- 0° 2400.00 MHz ETotat
- 0° 2420.00 MHz ETotat
- 0° 2440.00 MHz ETotat
- 0° 2460.00 MHz ETotat
- 0° 2480.00 MHz ETotat
- 0° 2500.00 MHz ETotat
- 0° 5150.00 MHz ETotat
- 0° 5200.00 MHz ETotat
- 0° 5250.00 MHz ETotat
- 0° 5300.00 MHz ETotat
- 0° 5350.00 MHz ETotat
- 0° 5400.00 MHz ETotat
- 0° 5450.00 MHz ETotat
- 0° 5500.00 MHz ETotat
- 0° 5600.00 MHz ETotat
- 0° 5650.00 MHz ETotat
- 0° 5700.00 MHz ETotat
- 0° 5750.00 MHz ETotat
- 0° 5800.00 MHz ETotat
- 0° 5850.00 MHz ETotat



Phi 0

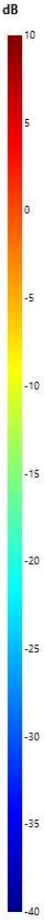
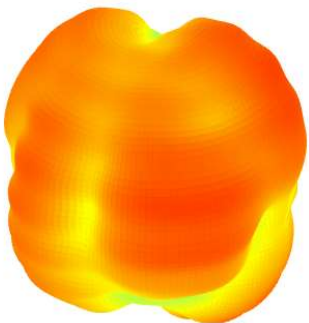
- 90° 2400.00 MHz ETotat
- 90° 2420.00 MHz ETotat
- 90° 2440.00 MHz ETotat
- 90° 2460.00 MHz ETotat
- 90° 2480.00 MHz ETotat
- 90° 2500.00 MHz ETotat
- 90° 5150.00 MHz ETotat
- 90° 5200.00 MHz ETotat
- 90° 5250.00 MHz ETotat
- 90° 5300.00 MHz ETotat
- 90° 5350.00 MHz ETotat
- 90° 5400.00 MHz ETotat
- 90° 5450.00 MHz ETotat
- 90° 5500.00 MHz ETotat
- 90° 5600.00 MHz ETotat
- 90° 5650.00 MHz ETotat
- 90° 5700.00 MHz ETotat
- 90° 5750.00 MHz ETotat
- 90° 5800.00 MHz ETotat
- 90° 5850.00 MHz ETotat



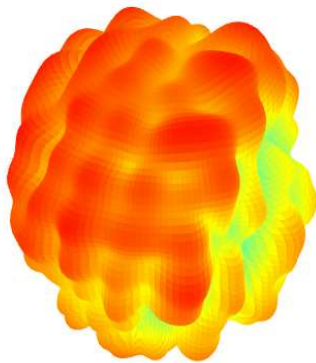
Phi 90

PROJECT---- SPACE4 A VARIANT –DV2

3D-Radiation Pattern for ant3



2440MHz



5500MHz

