RG-AP180-I
Antenna Test Report

Date : Sep. 6, 2022
Prepared by : Stella Sun

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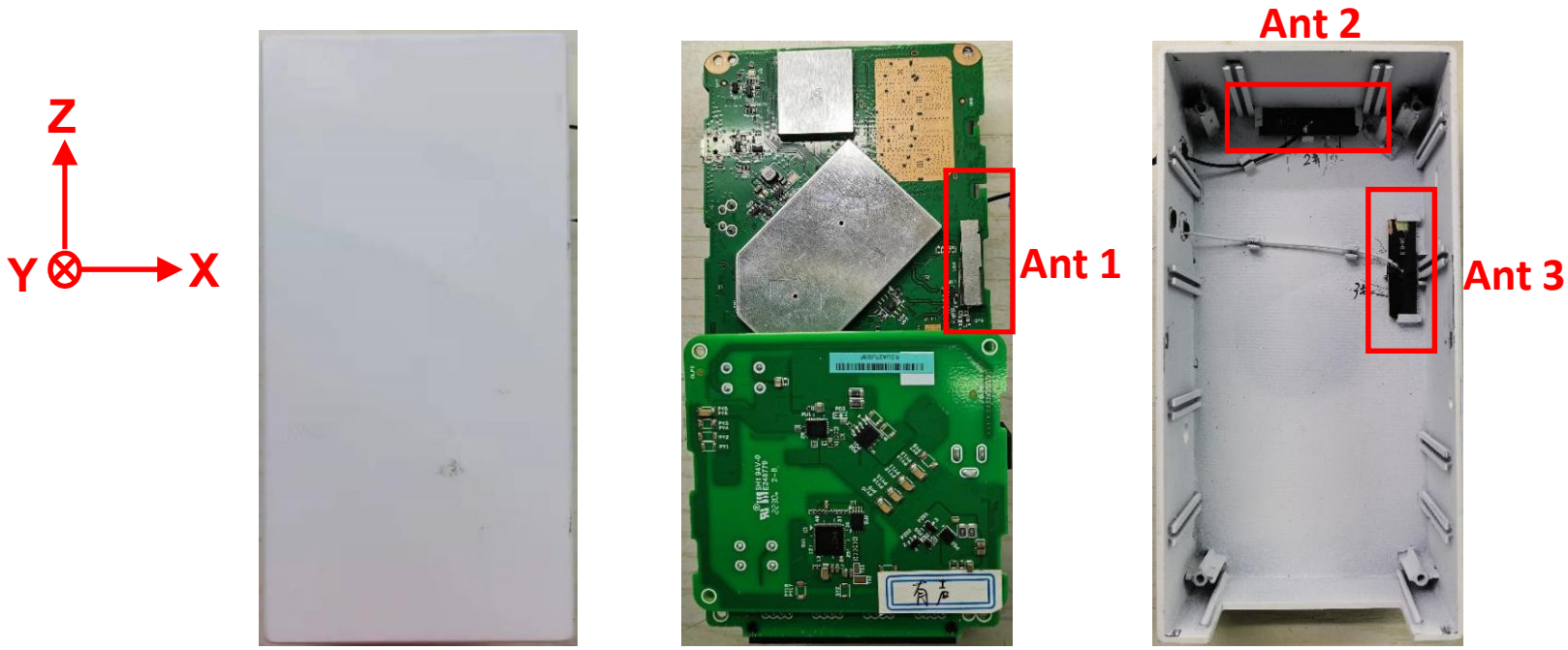
Outline

- Antenna Structure & Placement
- Return Loss & Isolation
- Radiation Pattern
- Peak Gain & Efficiency

Proprietary

Antenna Structure & Placement



Antenna No.	Operating Frequency	Type	Material	Feeding	Size
Ant 1	BT	PIFA	Metal	Trace	22.8(L) x 5.1(W) x 4.8(H) mm^3
Ant 2	WiFi 2G/5G	Dipole	PCB	Cable	35(L) x 10(W) x 0.8(T) mm^3
Ant 3	WiFi 2G/5G	Dipole	PCB	Cable	35(L) x 10(W) x 0.8(T) mm^3

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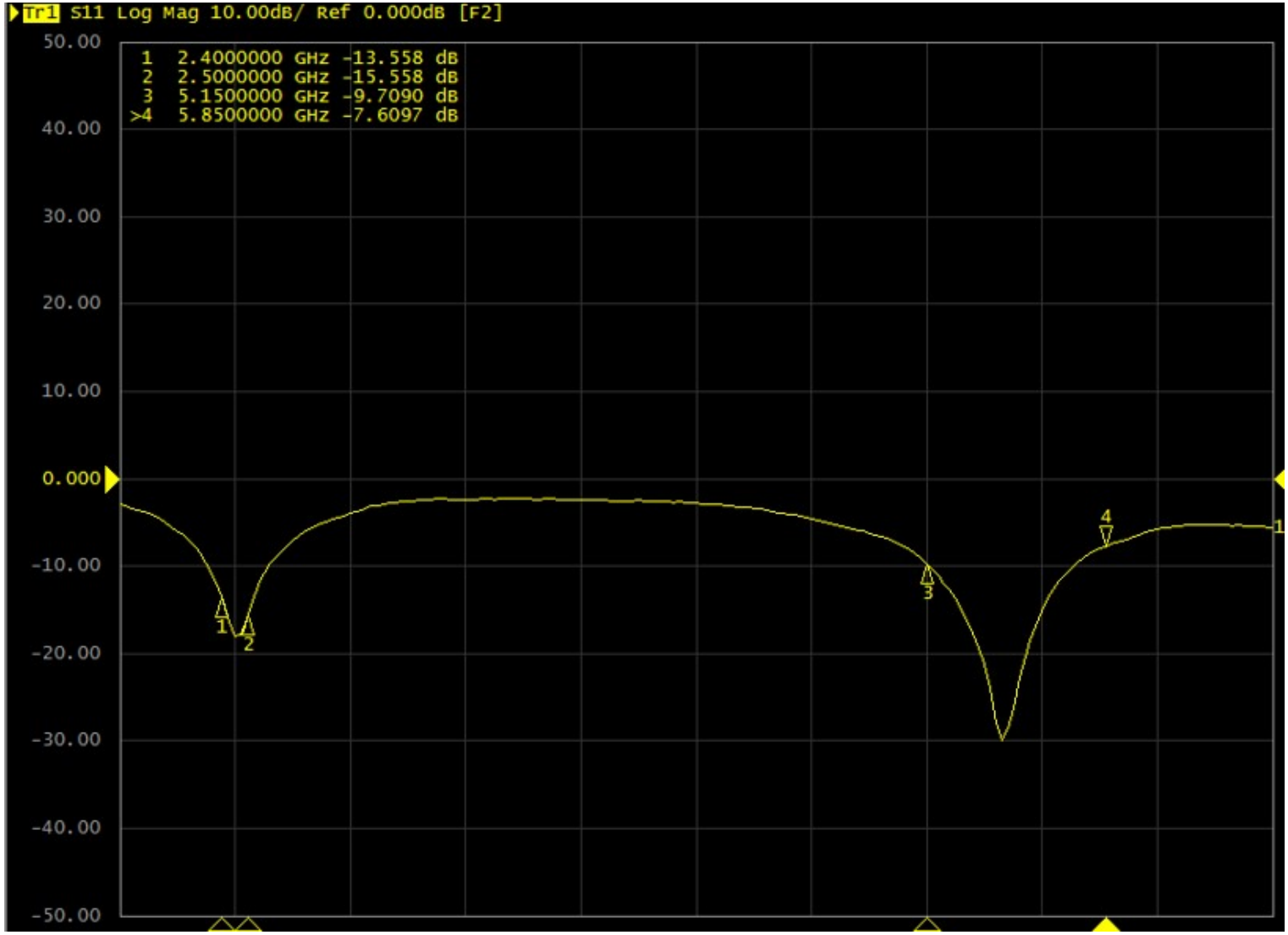
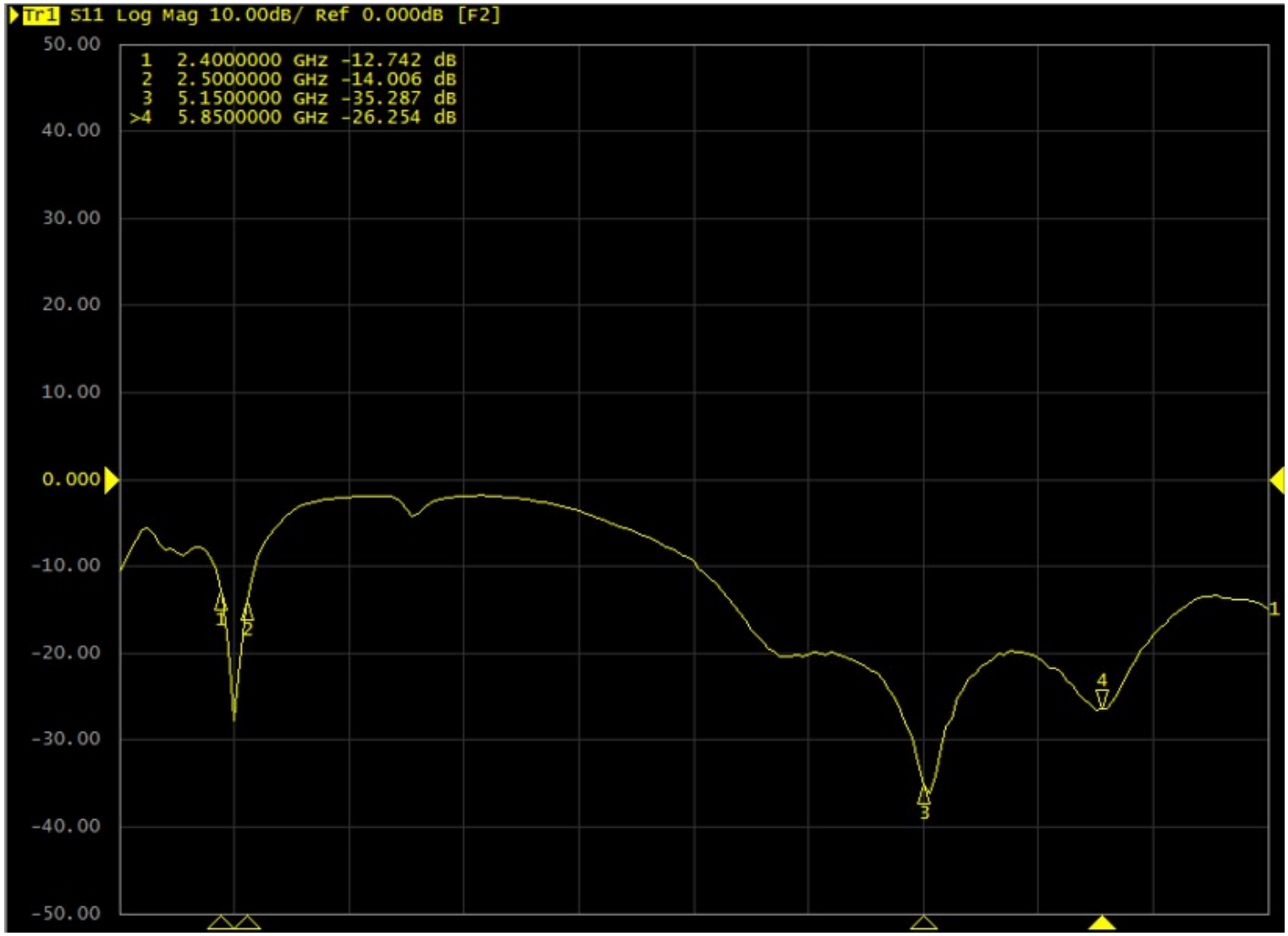
Return Loss – Ant 1



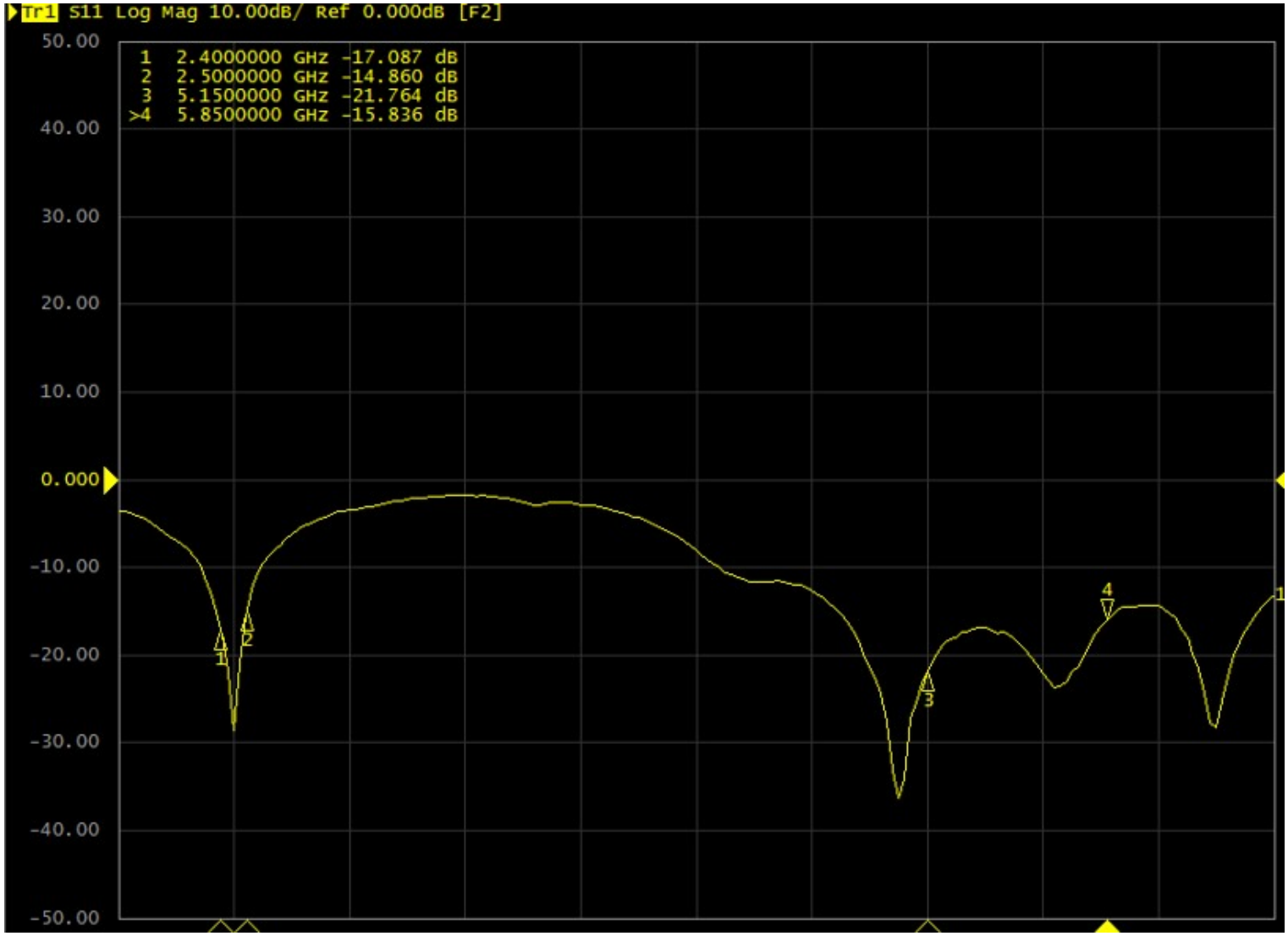
Proprietary

Return Loss – Ant 2



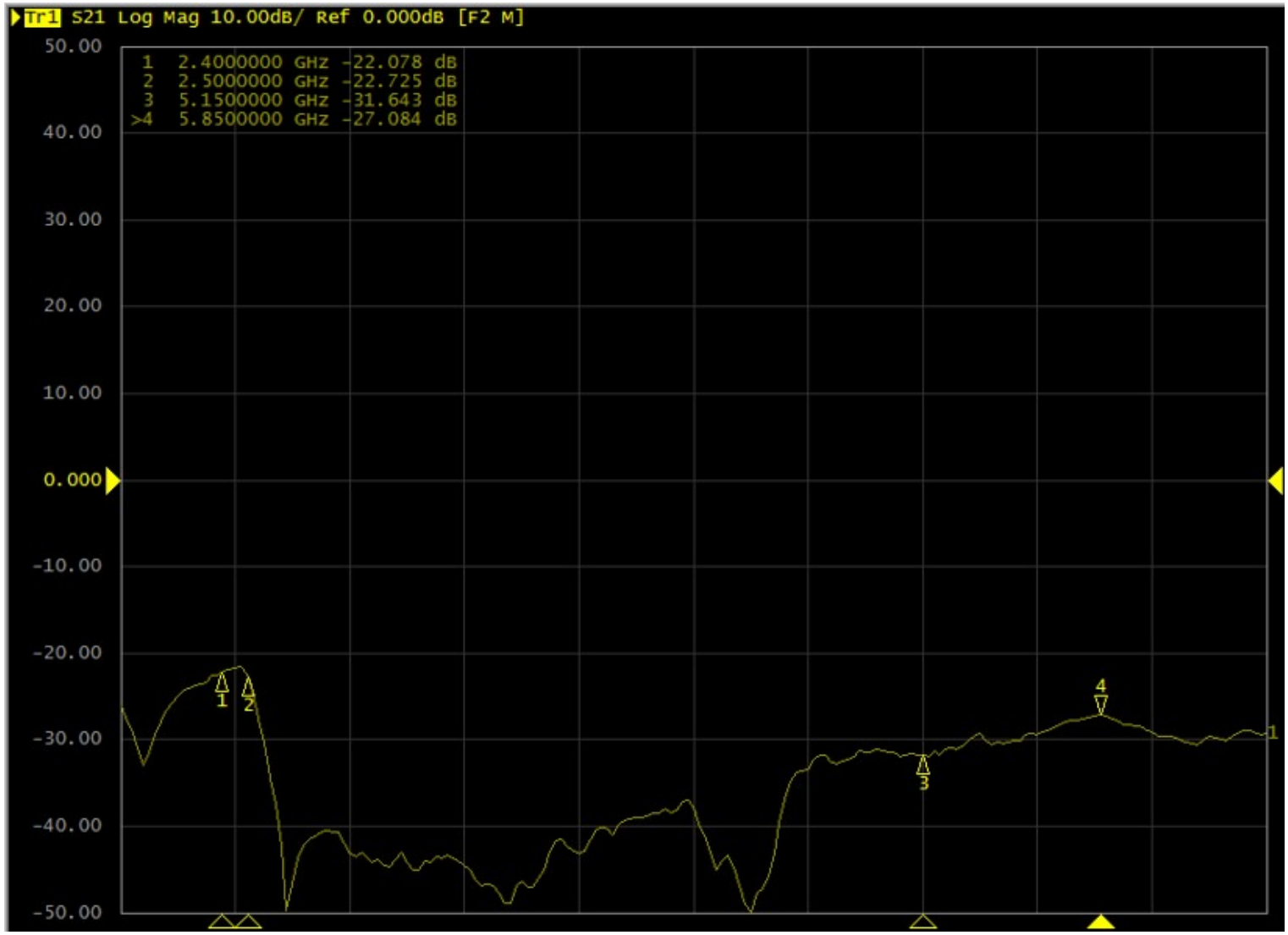
Proprietary

Return Loss – Ant 3



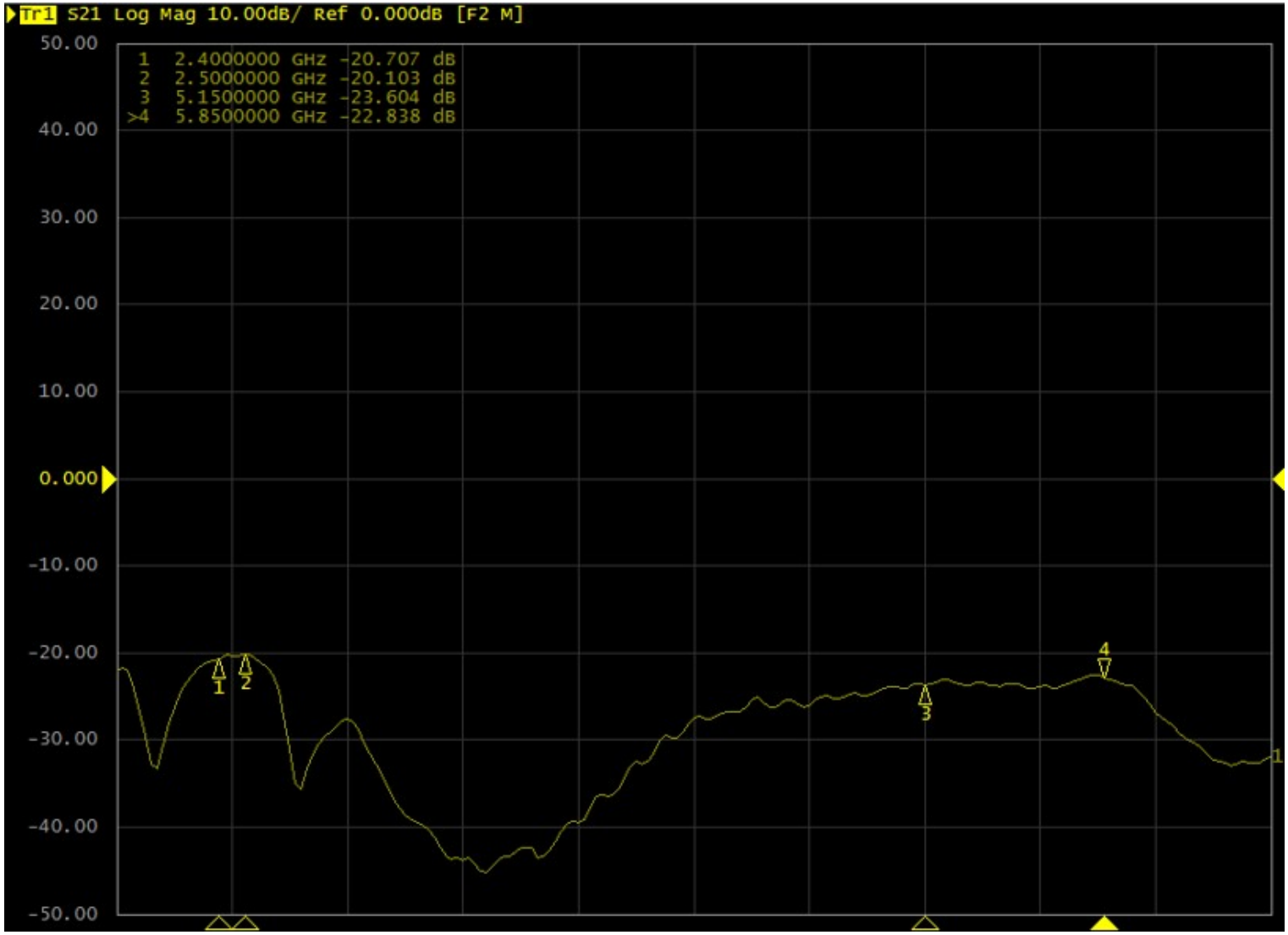
Proprietary

Isolation – Ant 1 & Ant 2



Proprietary

Isolation – Ant 1 & Ant 3



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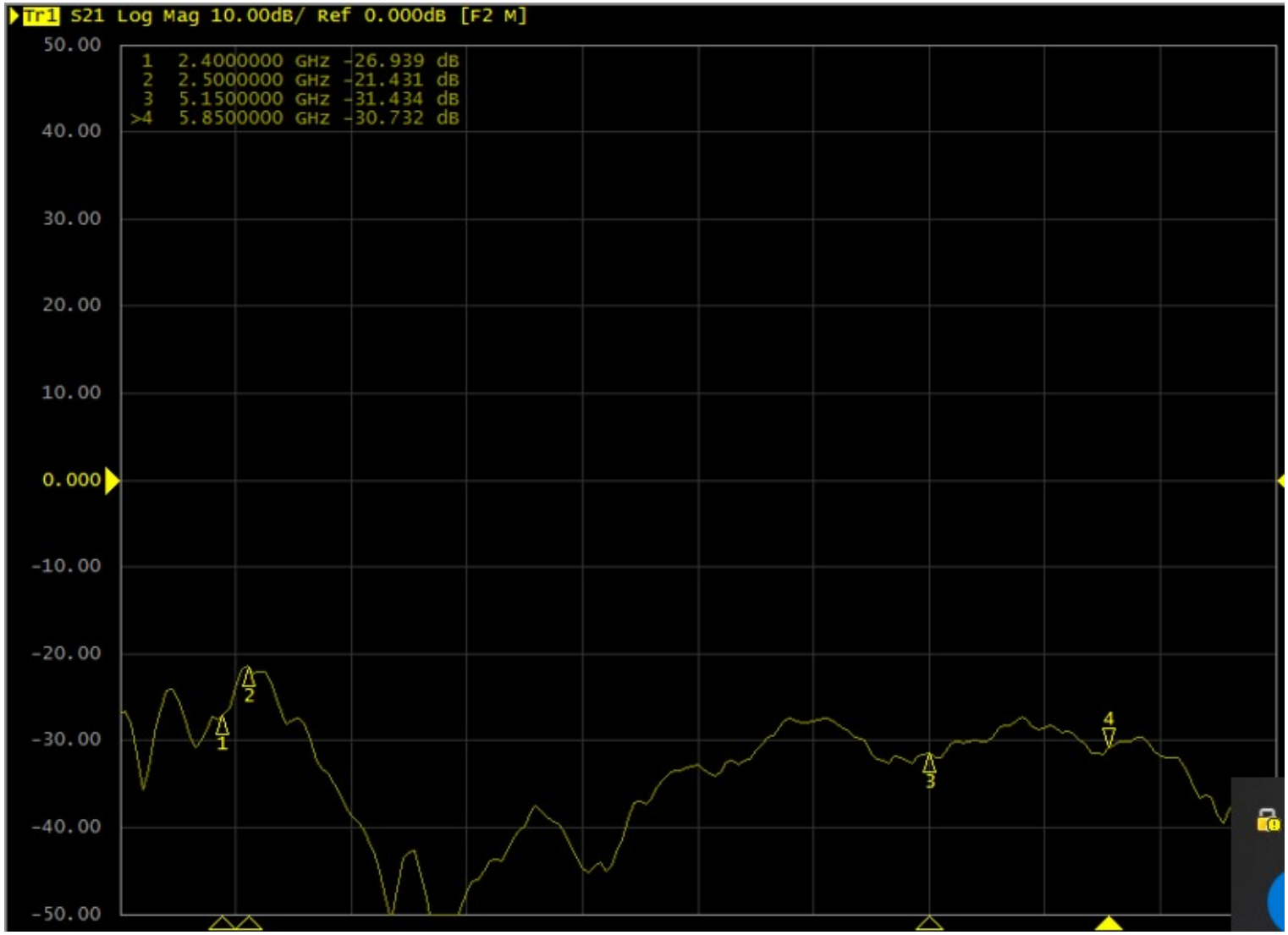
Isolation – Ant 2 & Ant 3



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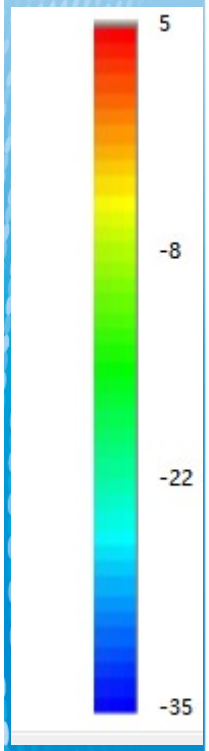
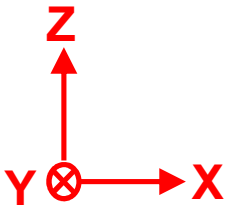
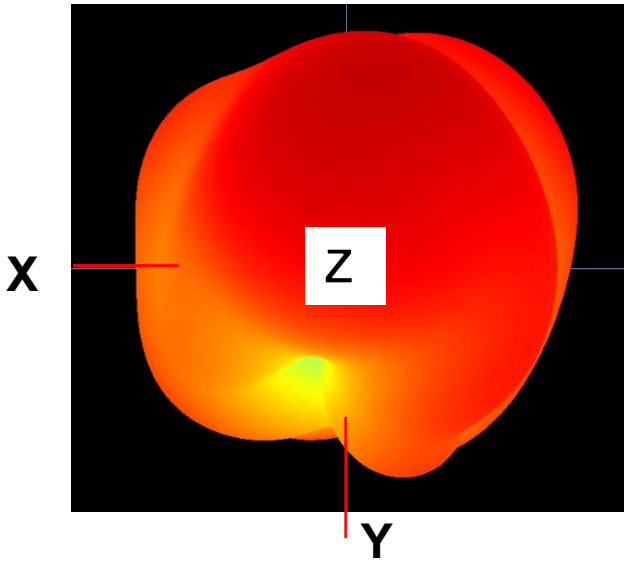
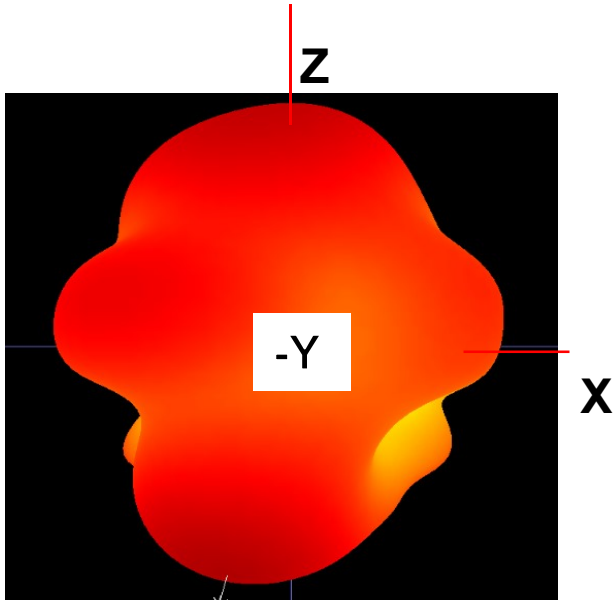
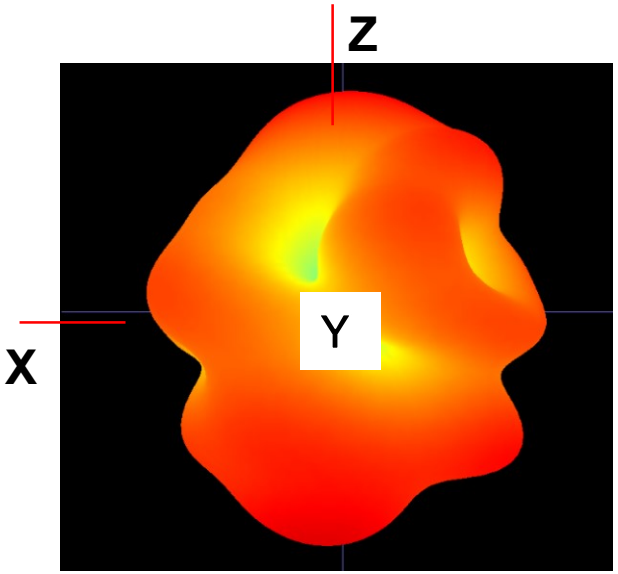
3D Pattern – Ant 1 @ 2.45GHz











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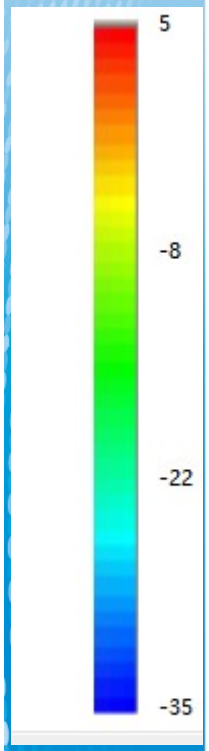
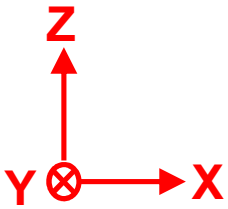
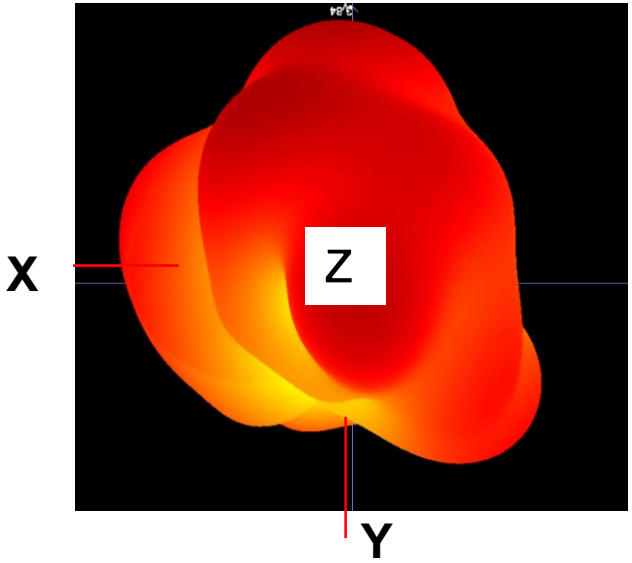
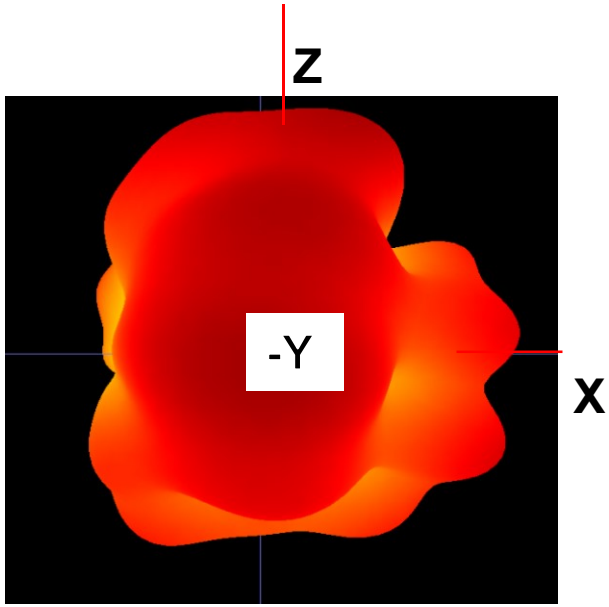
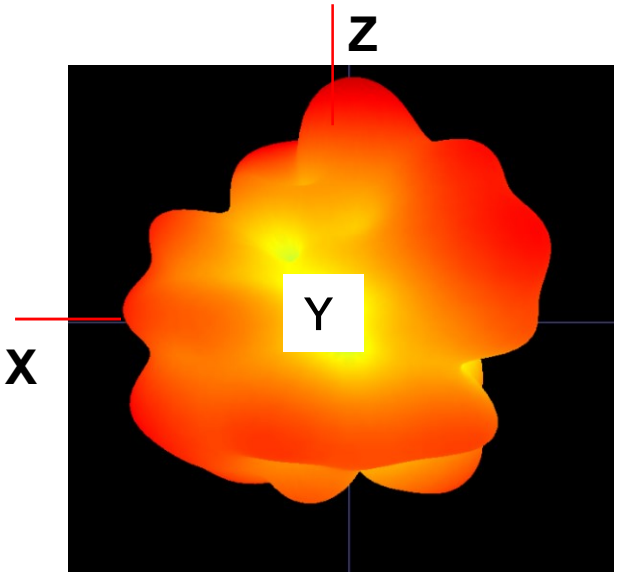
3D Pattern – Ant 2 @ 2.45GHz











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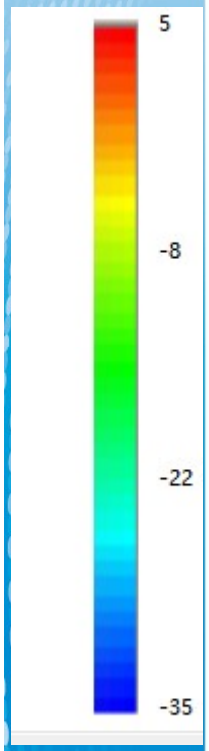
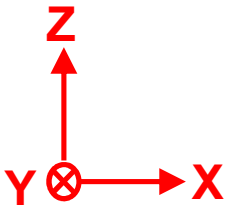
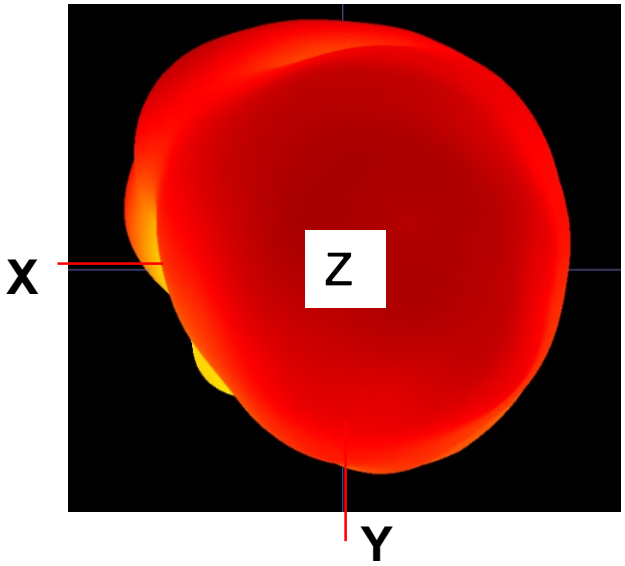
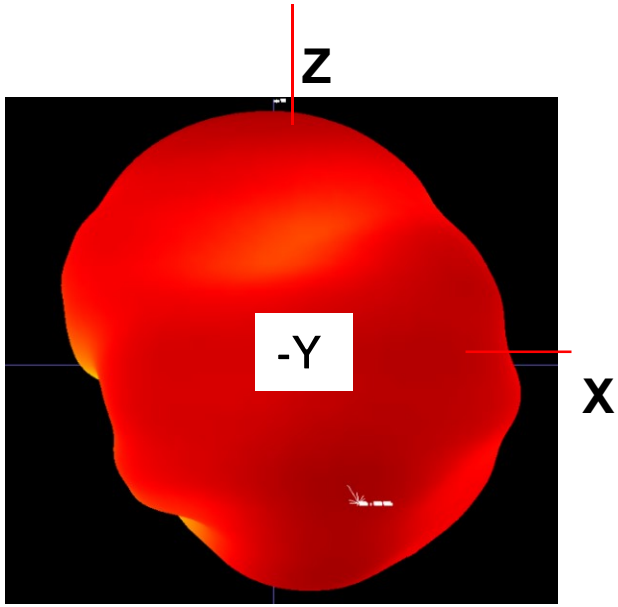
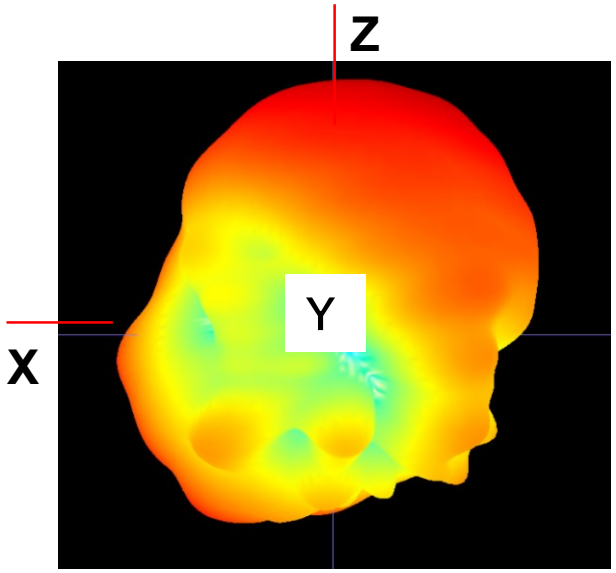
3D Pattern – Ant 2 @ 5.5GHz











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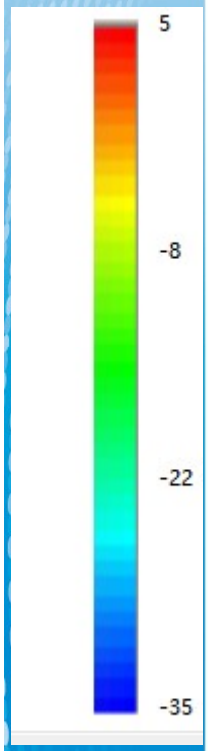
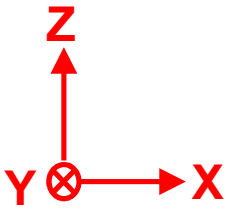
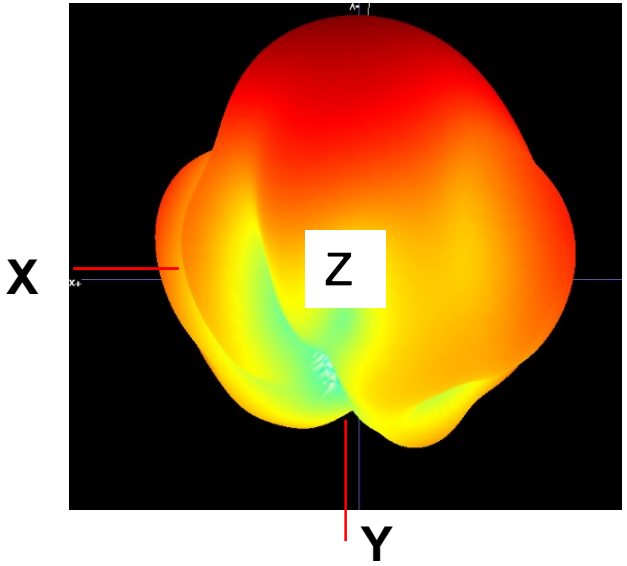
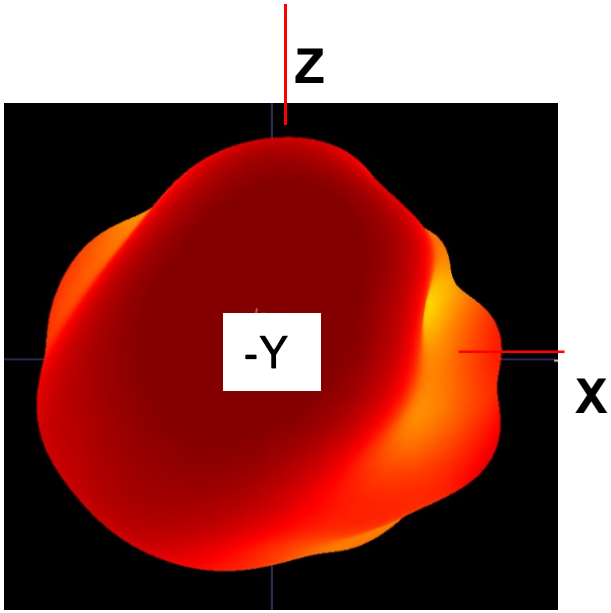
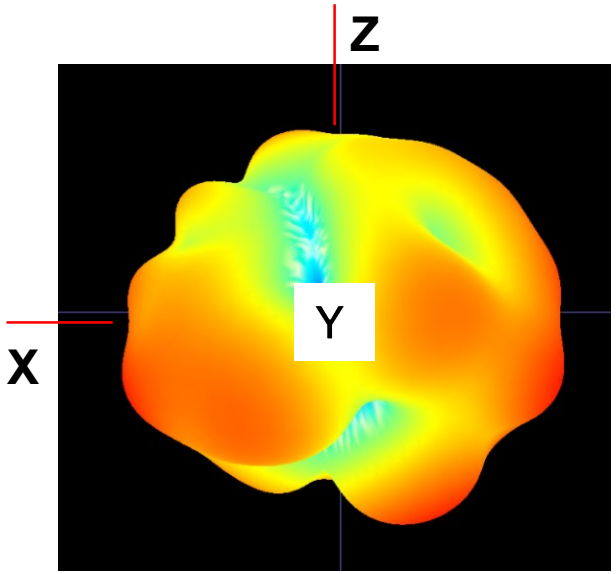
3D Pattern – Ant 3 @ 2.45GHz











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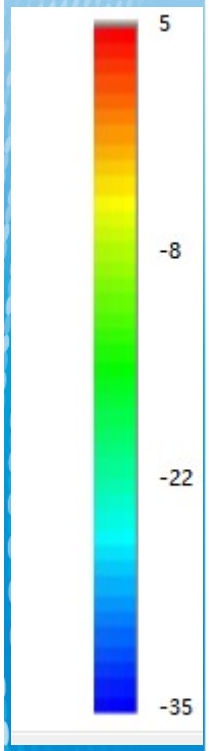
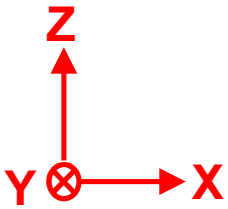
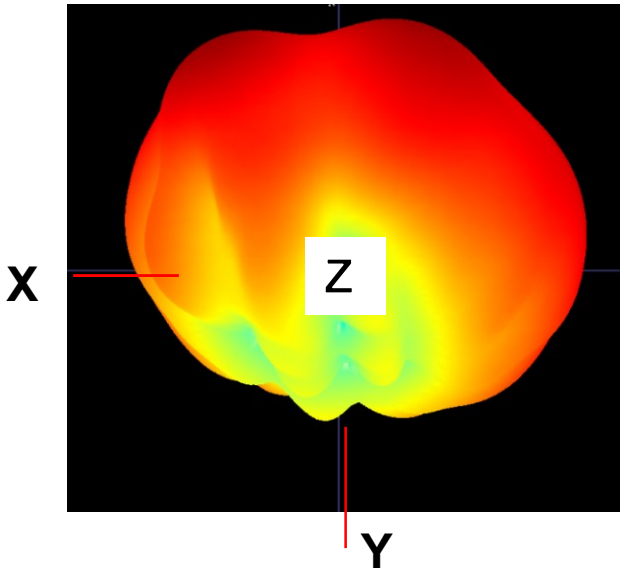
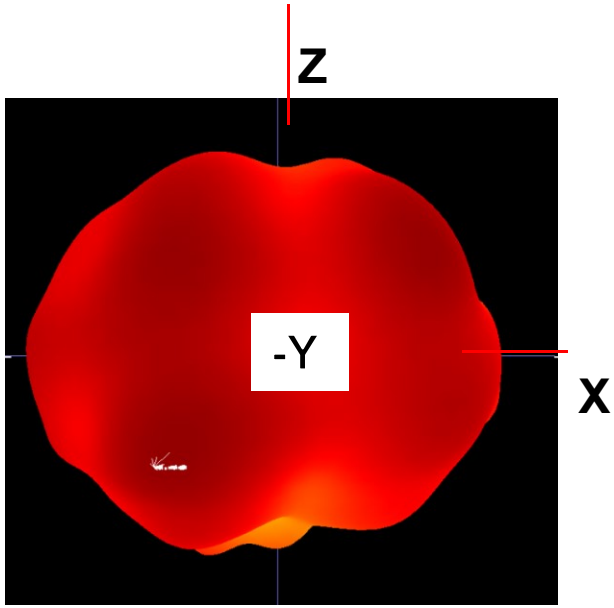
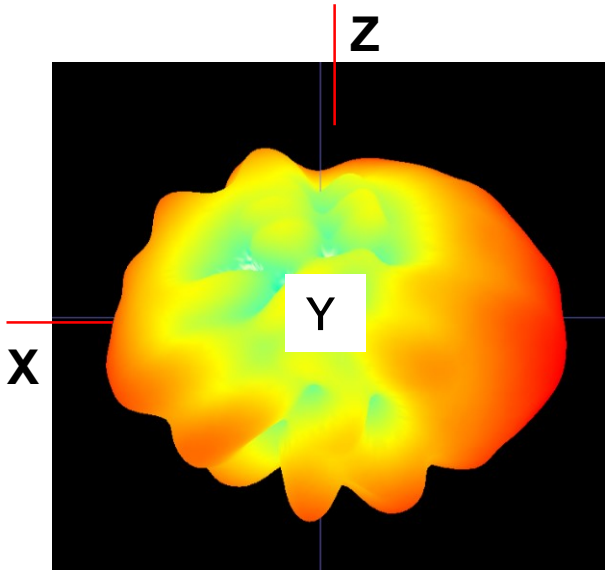
3D Pattern – Ant 3 @ 5.5GHz











Proprietary

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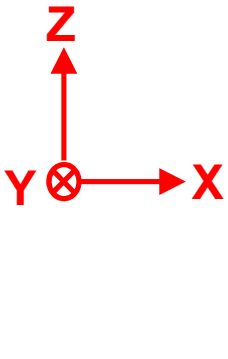
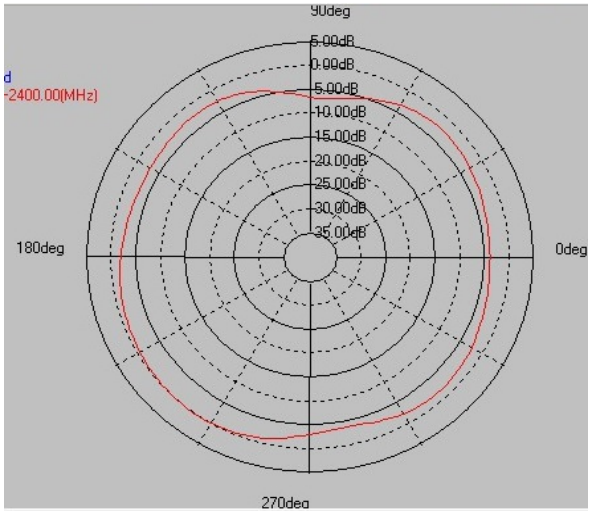
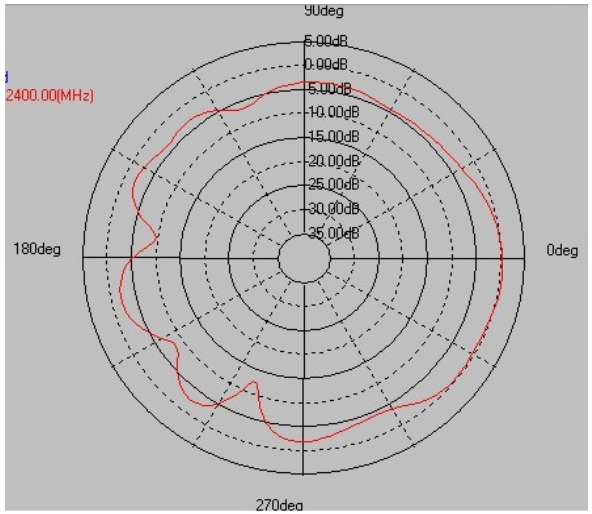
2D Pattern – Ant 1 @ 2.45GHz

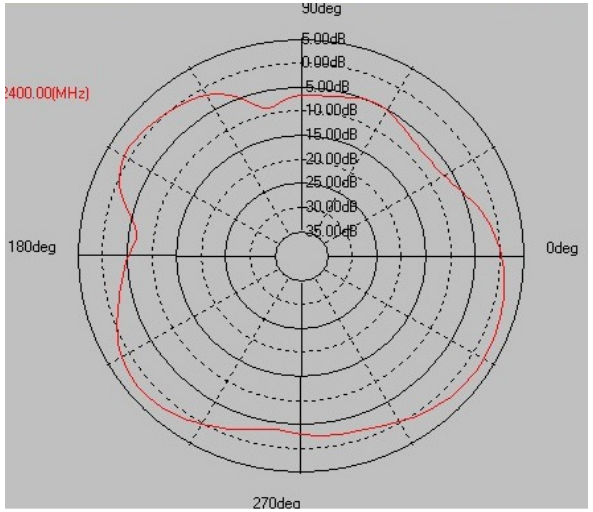




XY plane



XZ plane

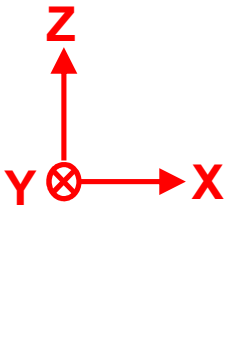


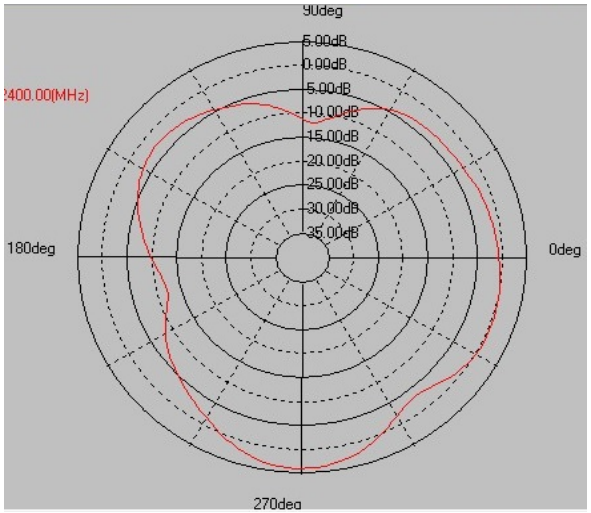
YZ plane

Proprietary

SERCOM

2D Pattern – Ant 2 @ 2.45GHz





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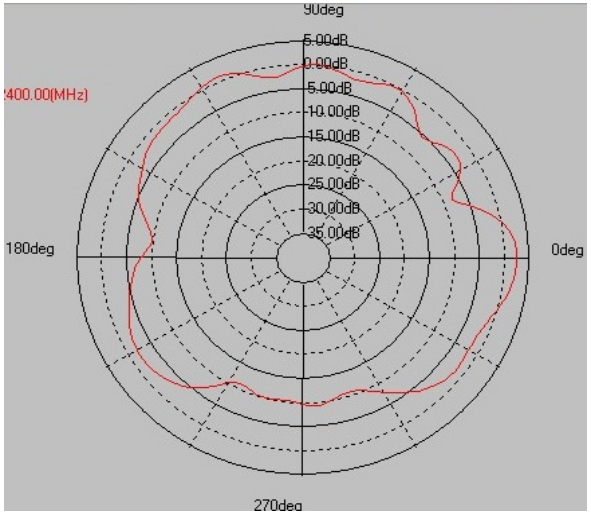

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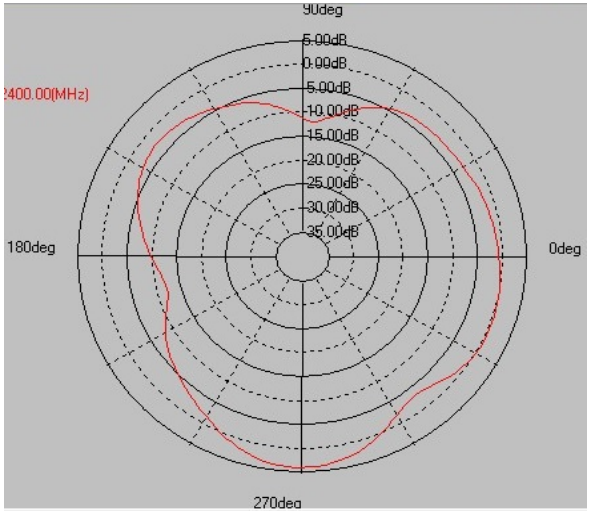
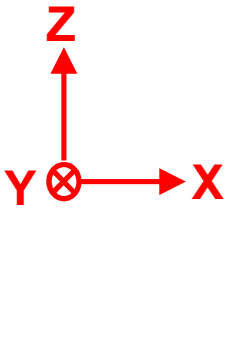
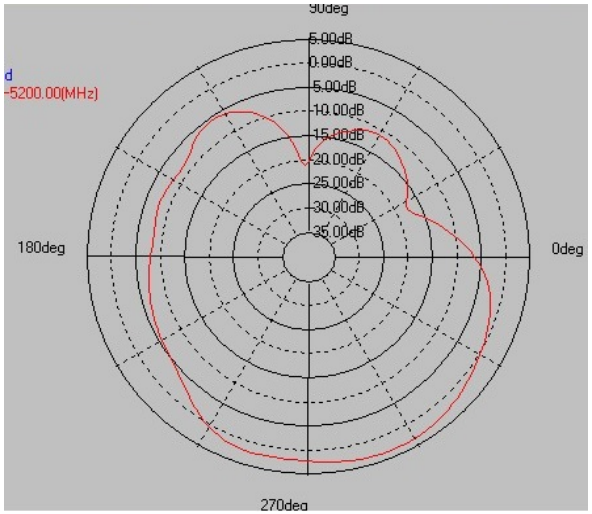


YZ plane

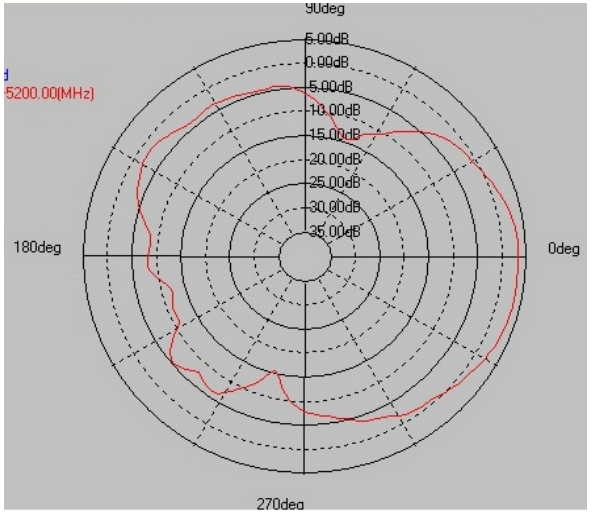
Proprietary

2D Pattern – Ant 2 @ 5.5GHz

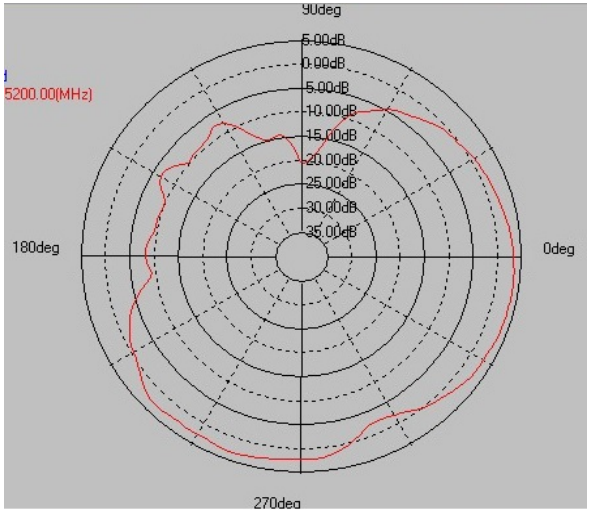




XY plane



XZ plane



YZ plane

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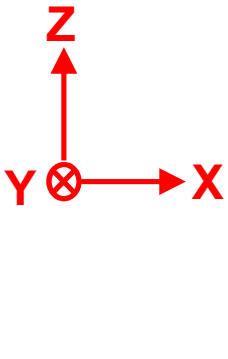
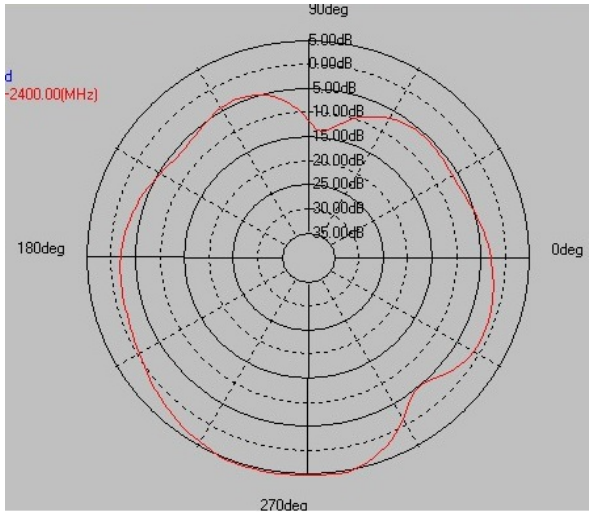
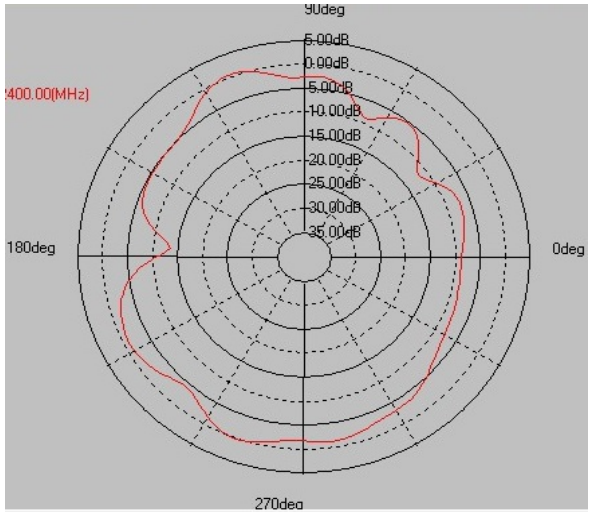
2D Pattern – Ant 3 @ 2.45GHz

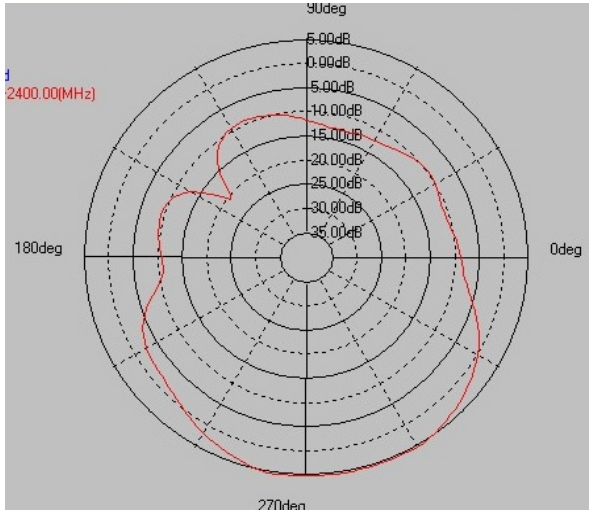




XY plane



XZ plane

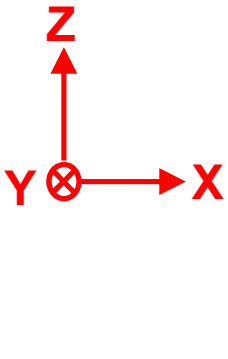


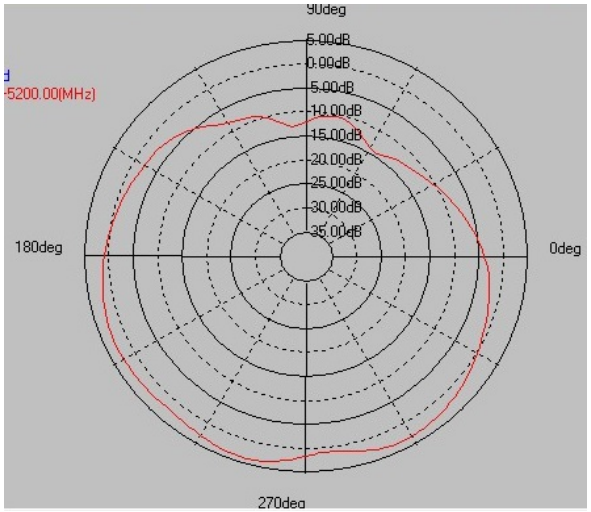
YZ plane

Proprietary

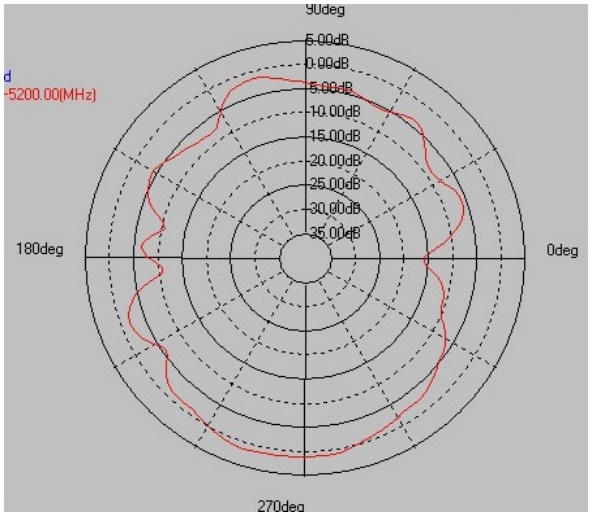
SERCOM

2D Pattern – Ant 3 @ 5.5GHz

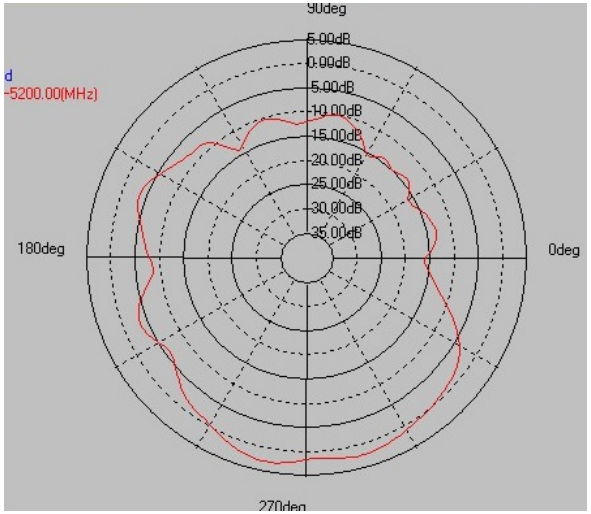




XY plane



XZ plane



YZ plane

Proprietary

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Peak Gain & Efficiency

Ant 1		
Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400 MHz	2.5	53.2
2450 MHz	2.2	52.8
2500 MHz	2.1	51.9

Ant 2		
Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400 MHz	3.4	53.4
2450 MHz	3.7	55.3
2500 MHz	3.6	53.6
5150 MHz	4.1	65.5
5250 MHz	4.3	65.7
5350 MHz	4.4	66.3
5550 MHz	4.6	72.9
5850 MHz	4.3	73.3

Ant 3		
Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400 MHz	5.5	54.3
2450 MHz	5.5	57.9
2500 MHz	5.6	58.1
5150 MHz	4.6	63.2
5250 MHz	4.6	64.5
5350 MHz	4.7	65.1
5550 MHz	5.5	67.5
5850 MHz	4.8	63.3

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