



Airtel GPON Antenna Test Report

Date : May 22, 2020

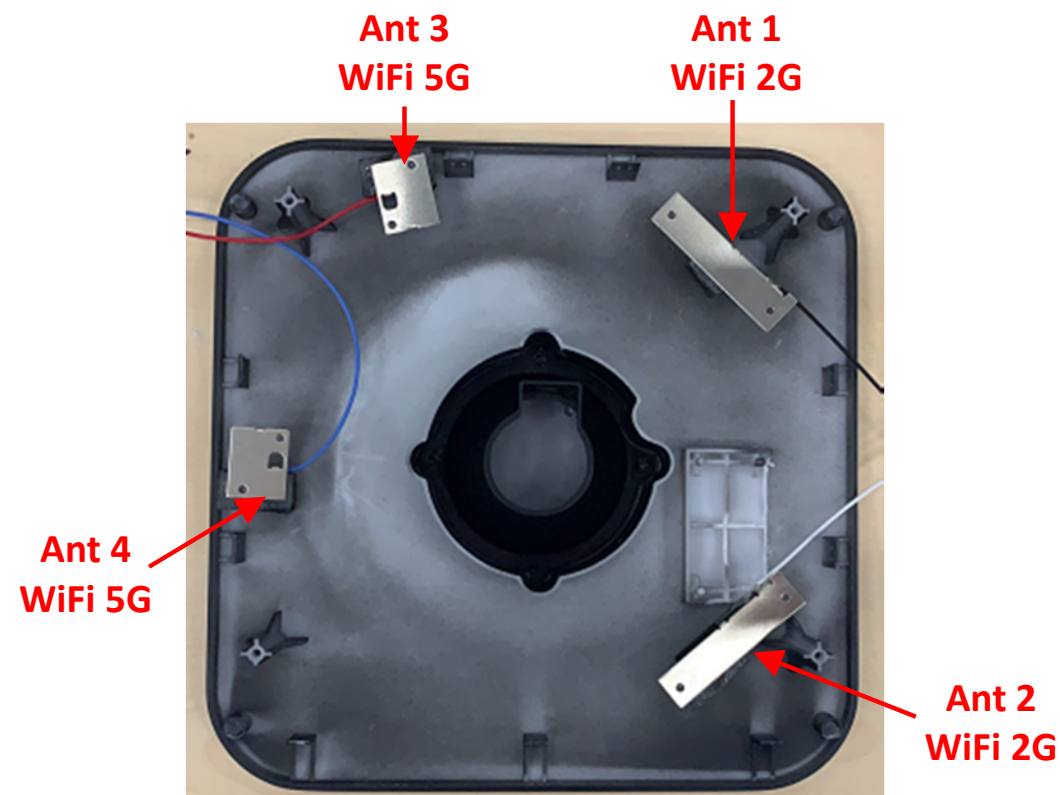
Prepared by : Vangie Wen



Outline

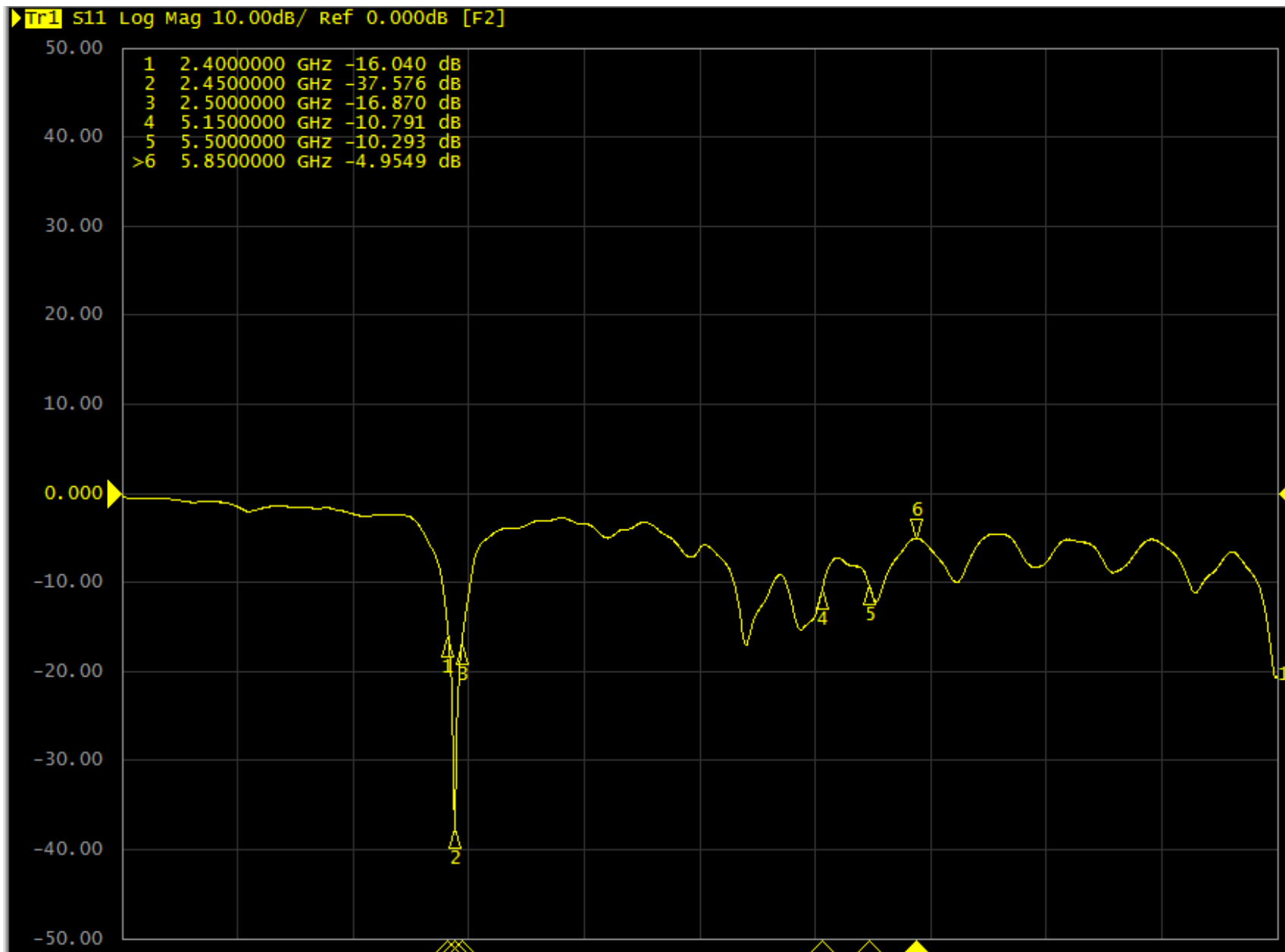
- Antenna Structure & Placement
- Return Loss & Isolation
- Radiation Pattern
- Peak Gain & Efficiency

Antenna Structure & Placement

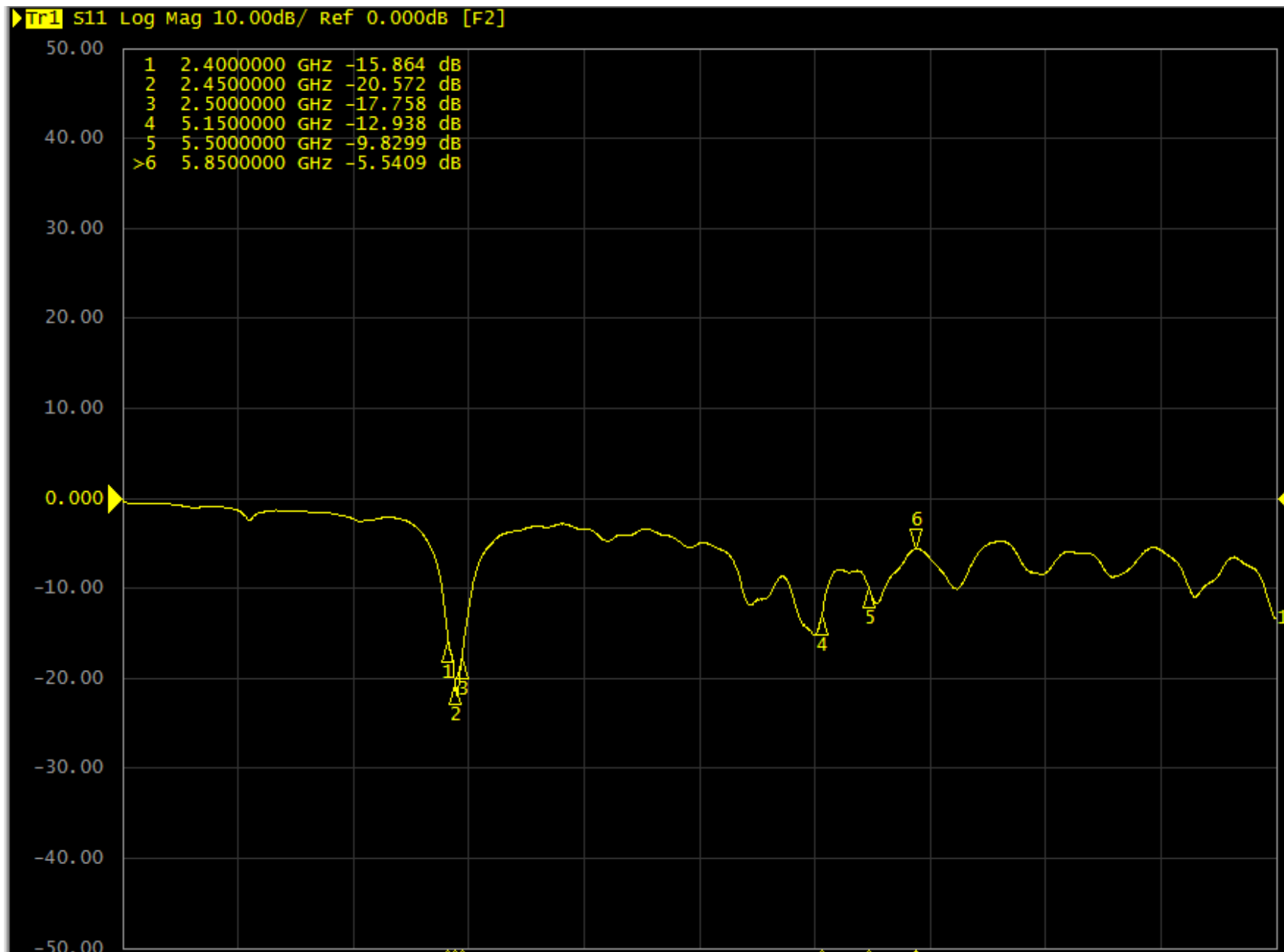


Ant No.	Operating Band	Type	Material	Feeding	Dimension
Ant 1	WiFi 2.4G	PIFA	Metal	Cable	45(L) x 11.4(W) x 8.45(H) mm ³
Ant 2	WiFi 2.4G	PIFA	Metal	Cable	45(L) x 11.4(W) x 8.45(H) mm ³
Ant 3	WiFi 5G	PIFA	Metal	Cable	15(L) x 19(W) x 10.8(H) mm ³
Ant 4	WiFi 5G	PIFA	Metal	Cable	15(L) x 19(W) x 10.8(H) mm ³

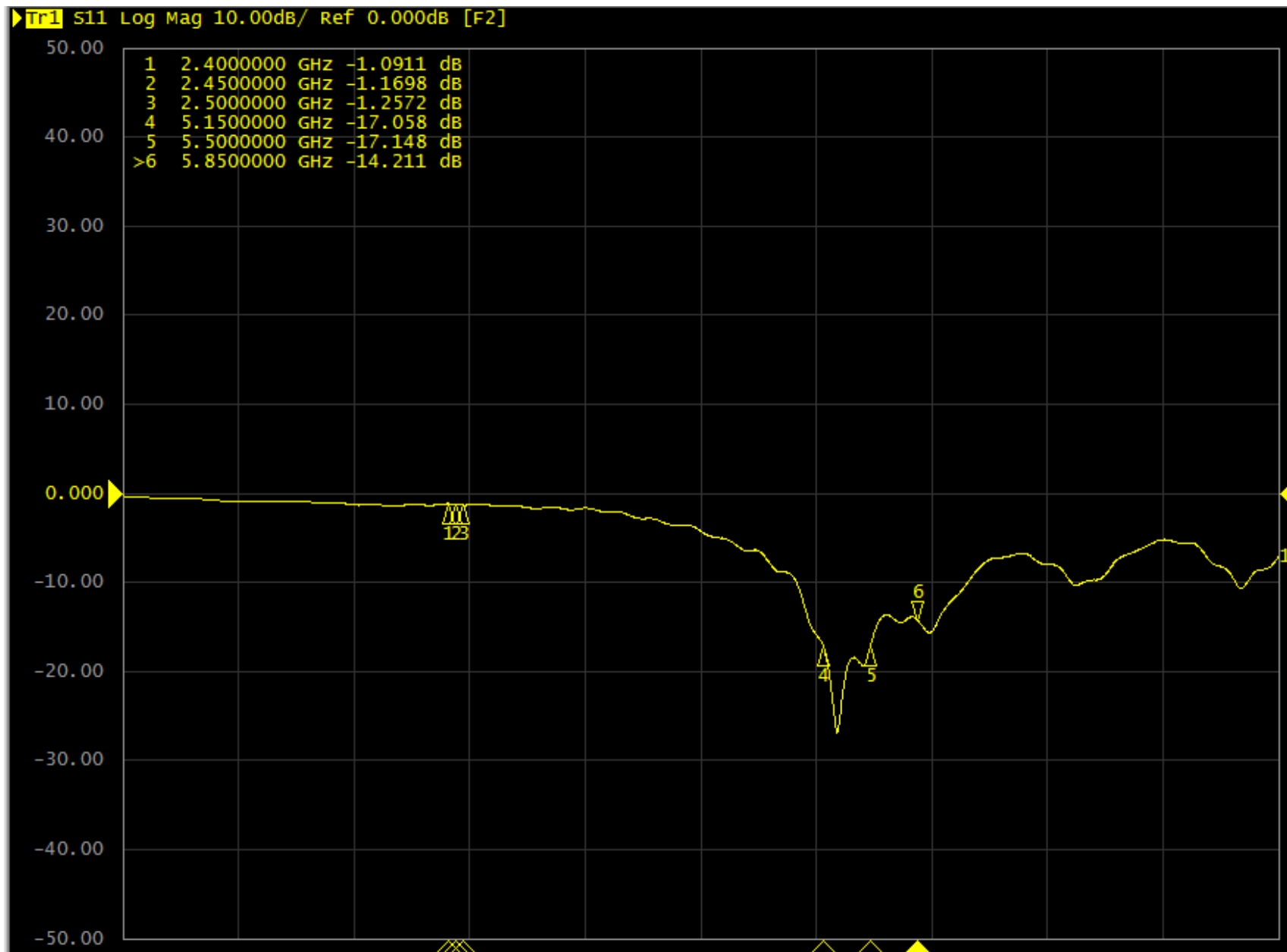
Return Loss – Ant 1 WiFi 2G



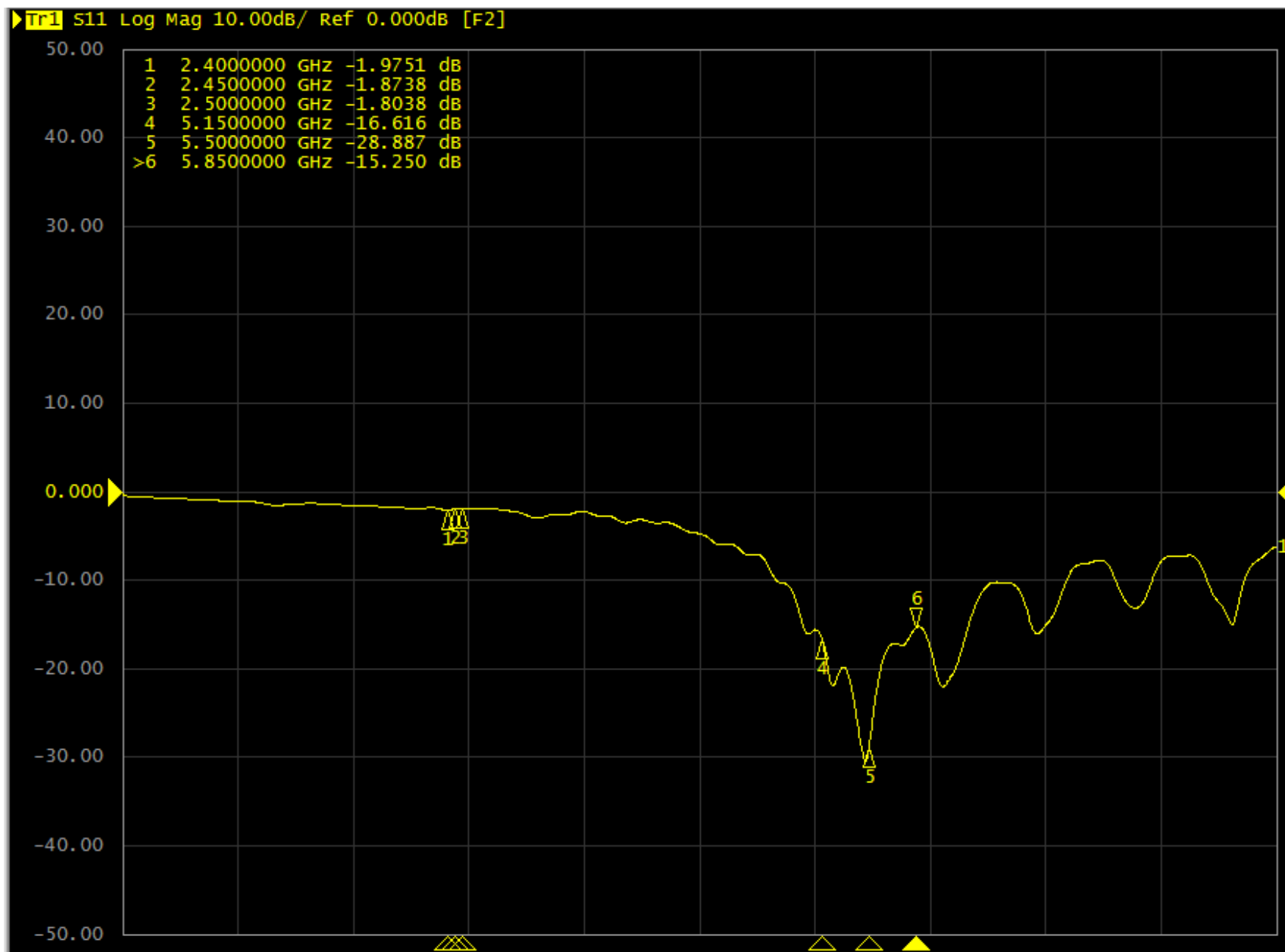
Return Loss – Ant 2 WiFi 2G



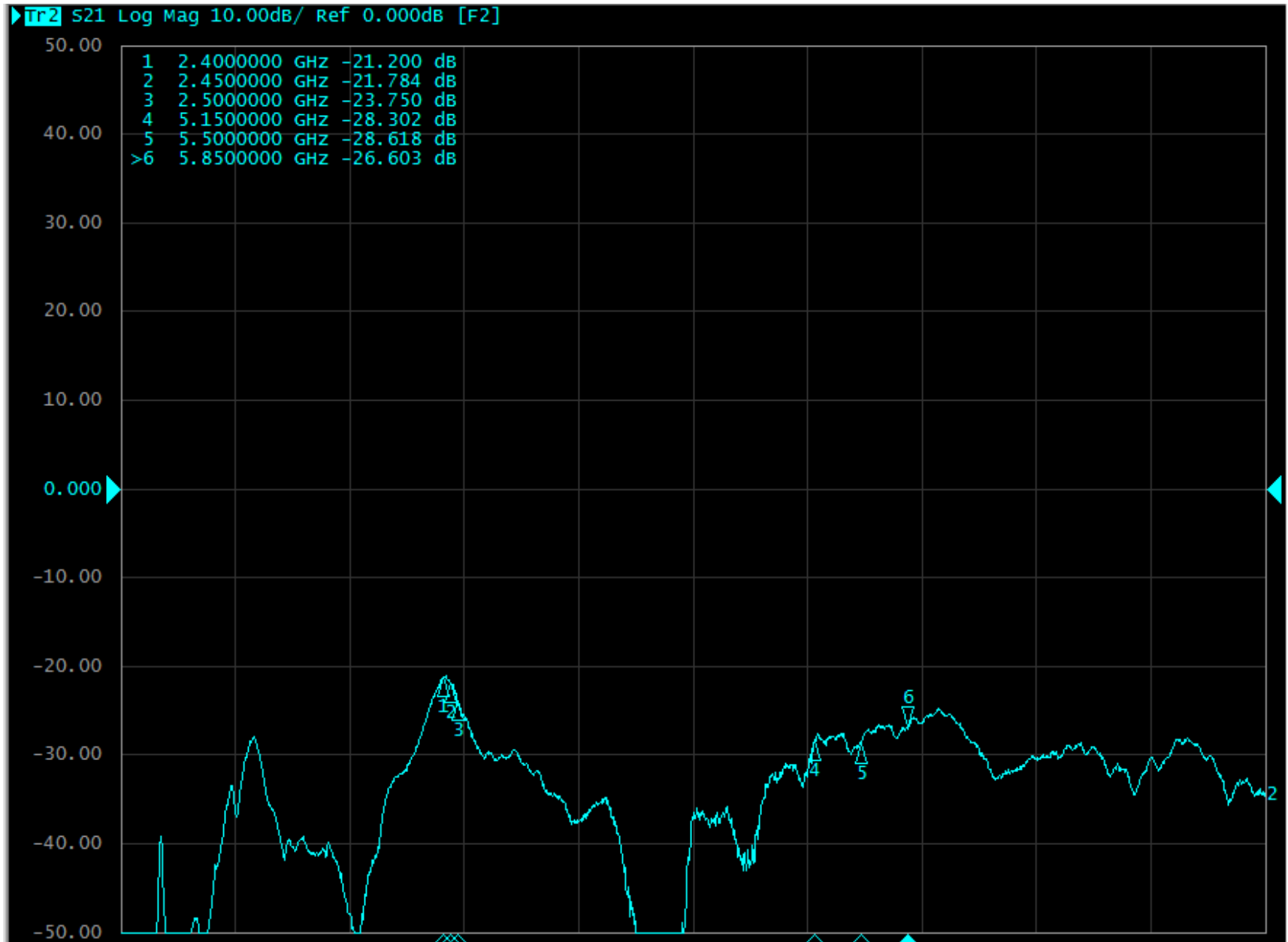
Return Loss – Ant 3 WiFi 5G



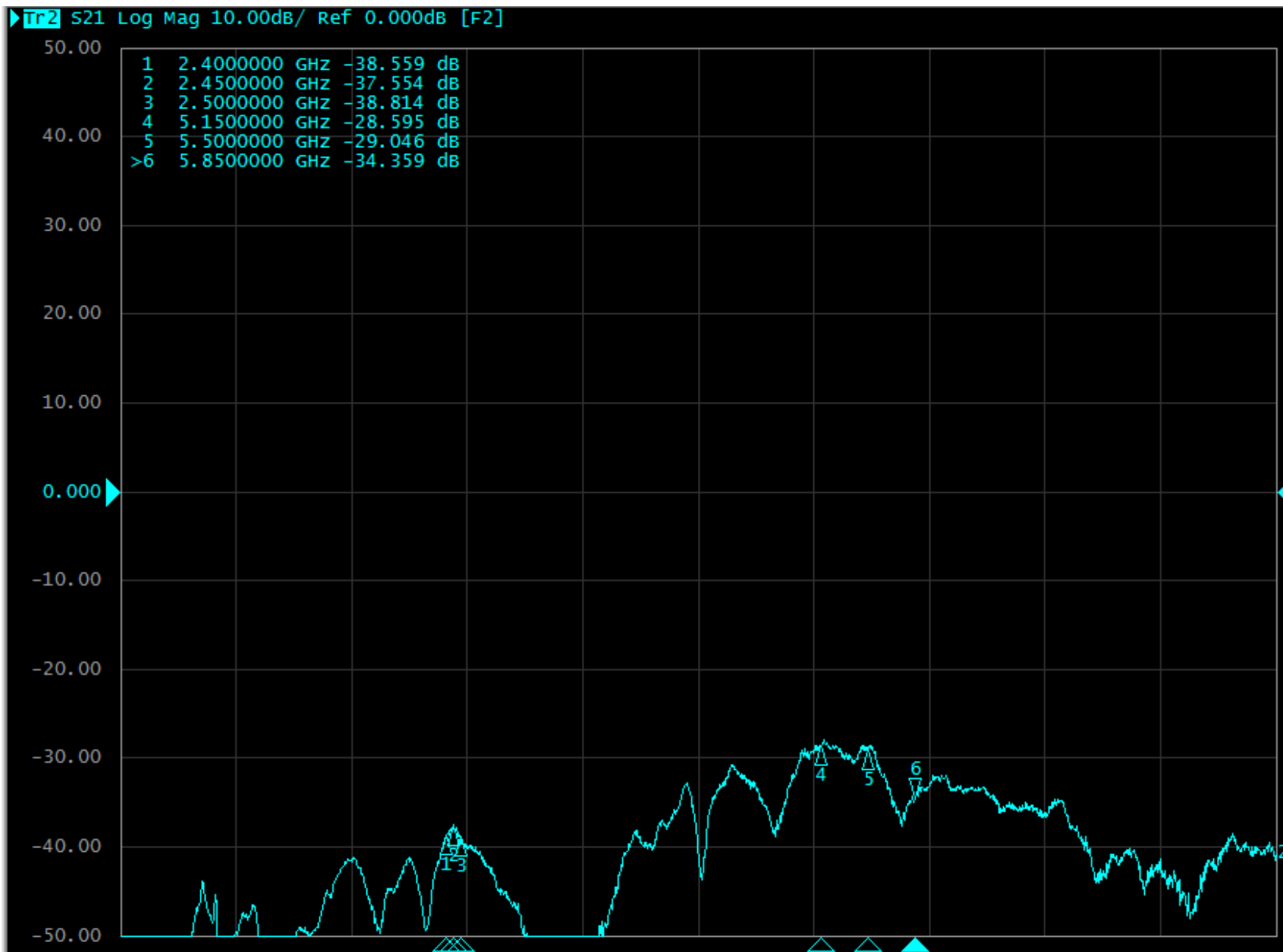
Return Loss – Ant 4 WiFi 5G



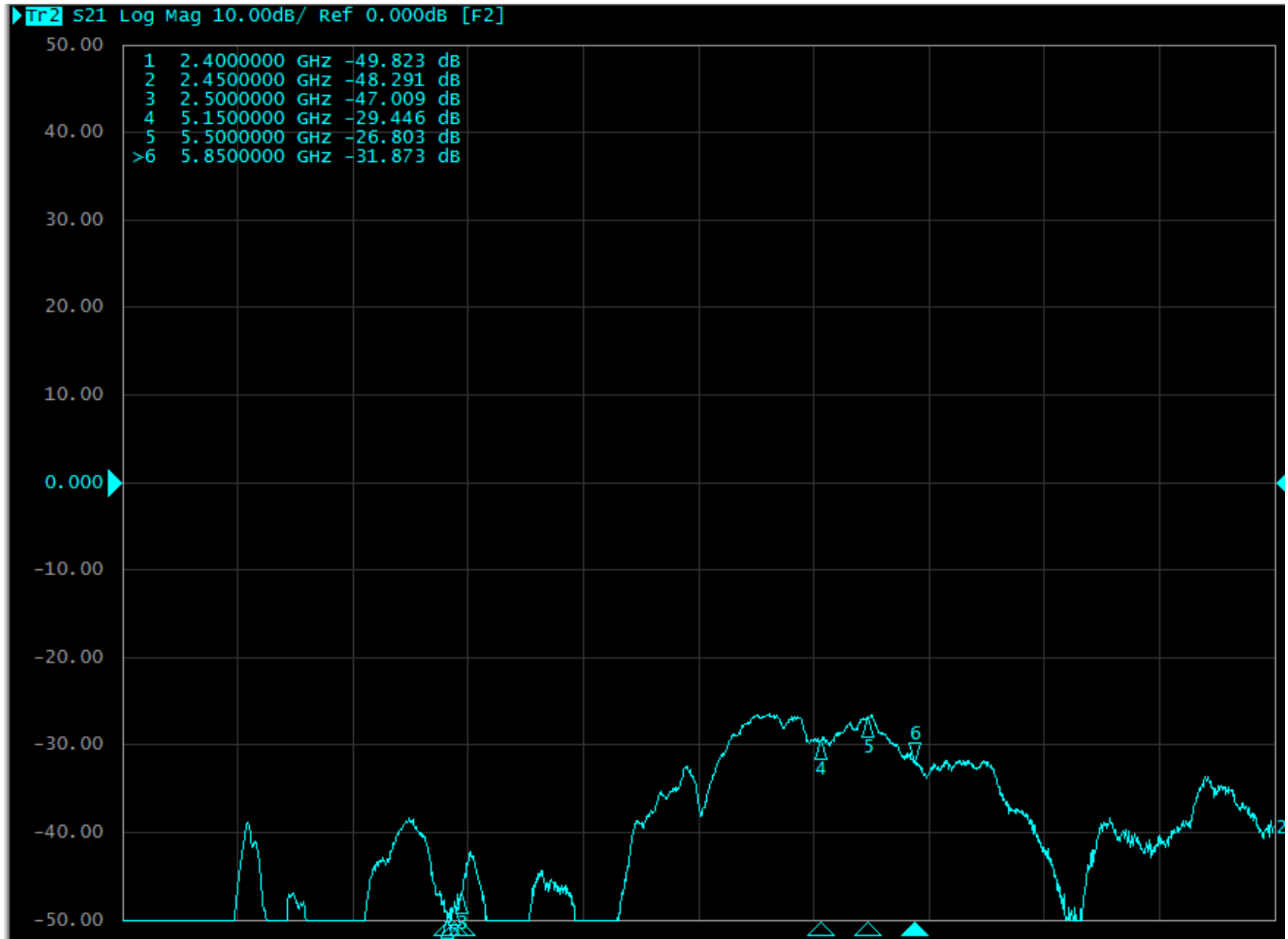
Isolation – Ant 1 to Ant 2



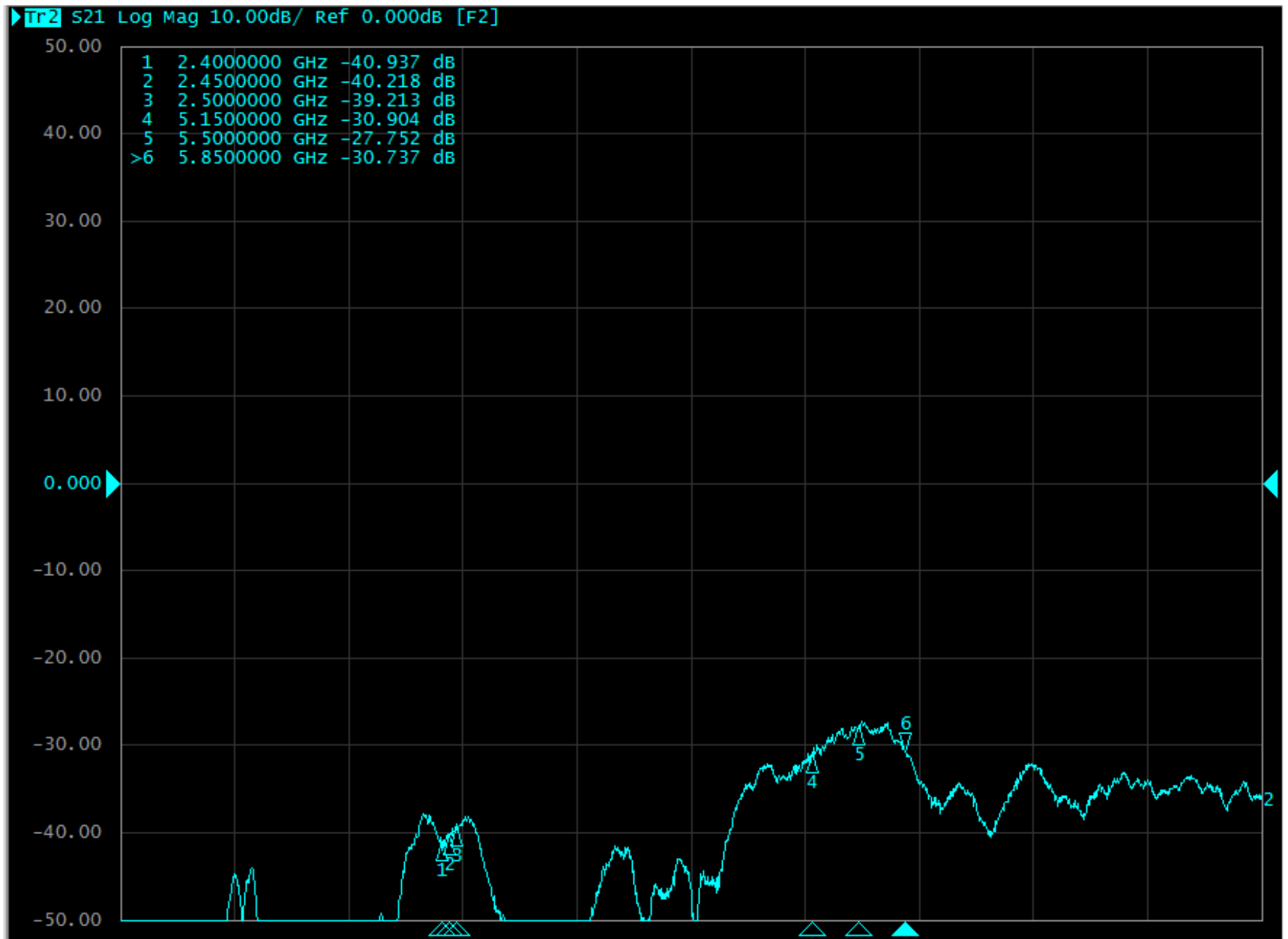
Isolation – Ant 1 to Ant 3



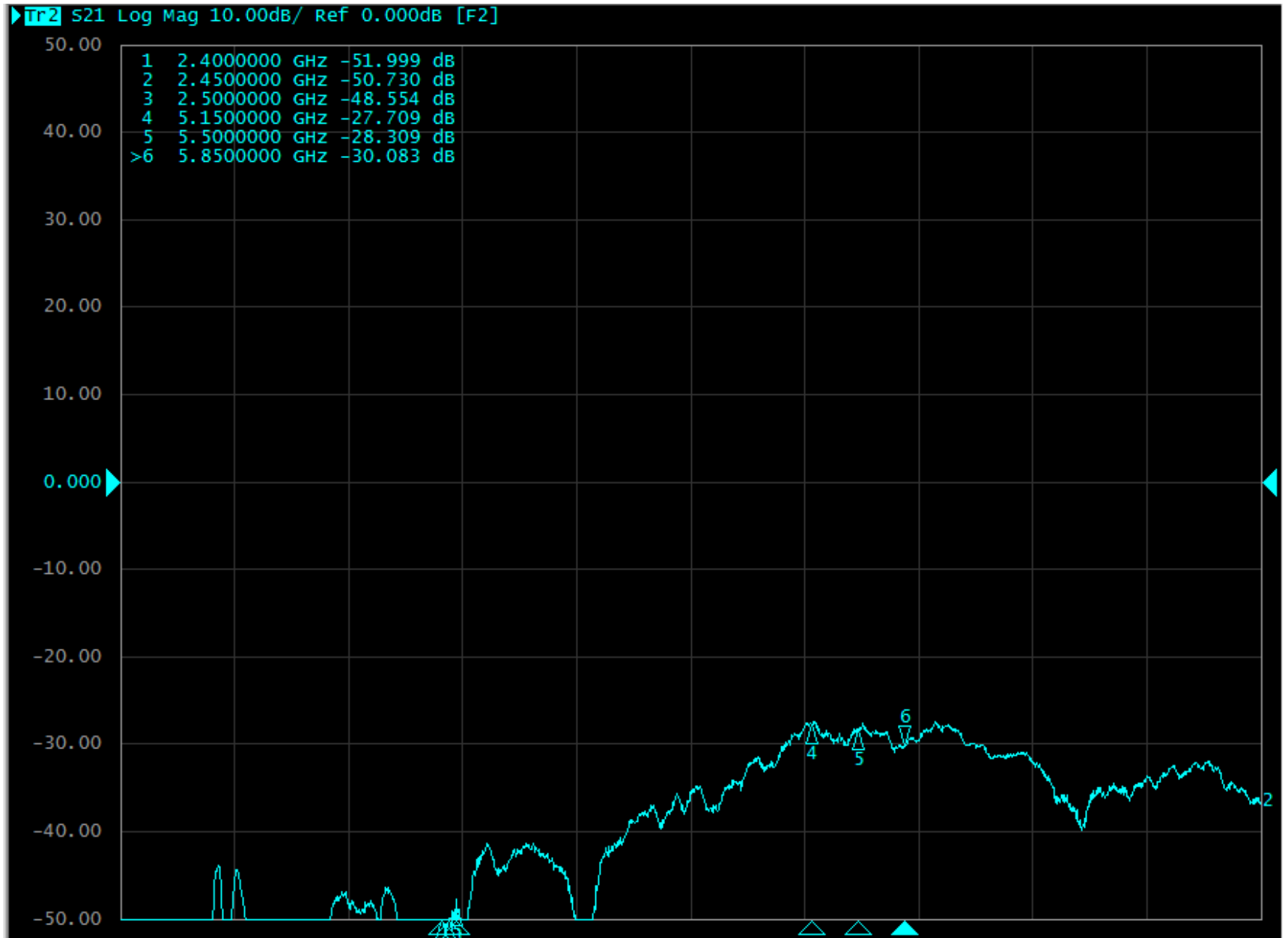
Isolation – Ant 1 to Ant 4



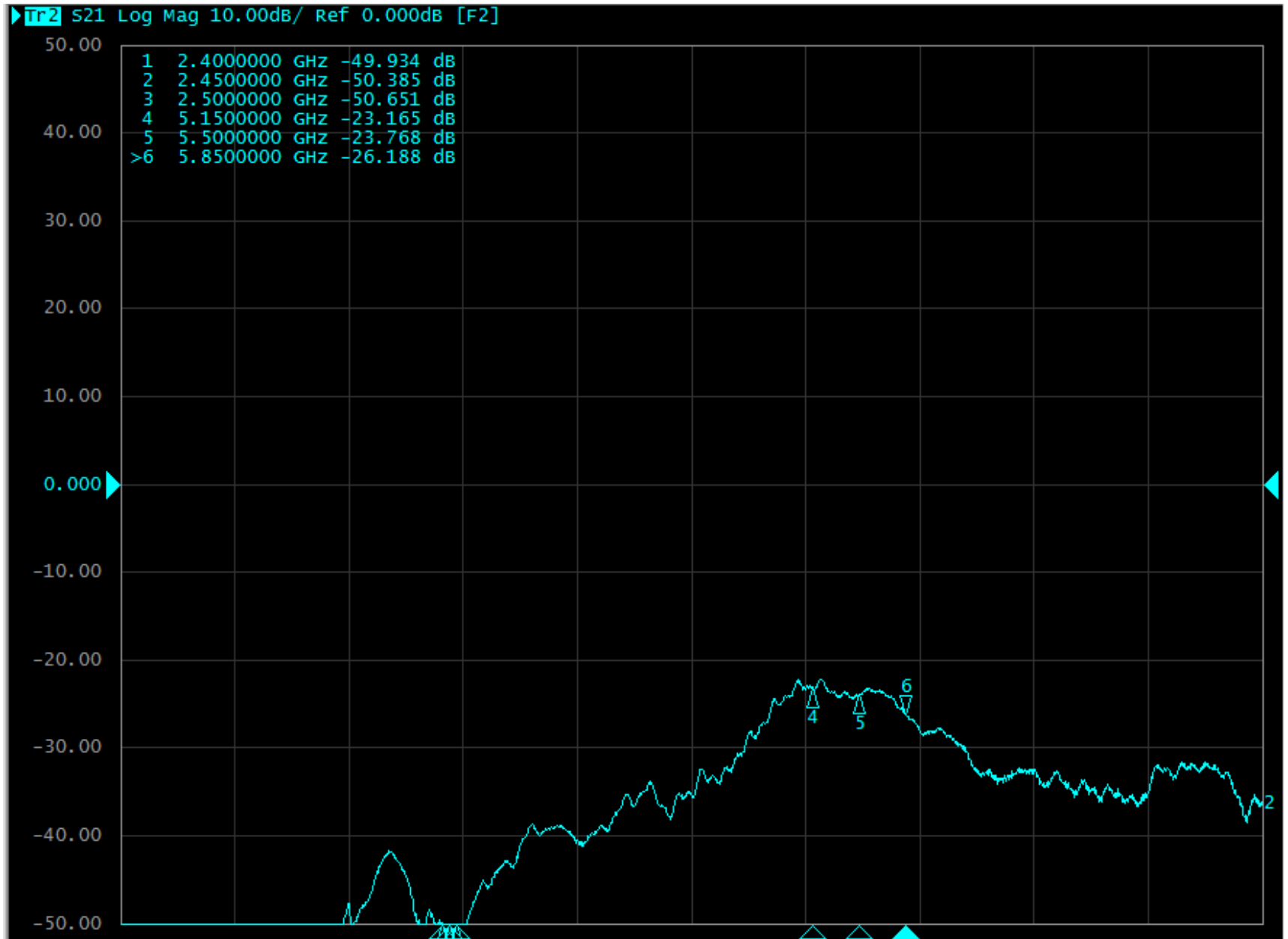
Isolation – Ant 2 to Ant 3



Isolation – Ant 2 to Ant 4

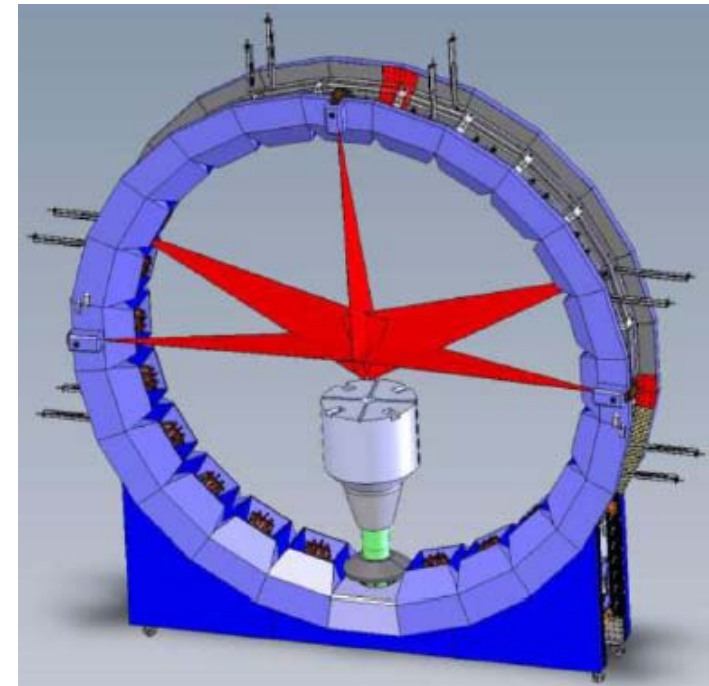
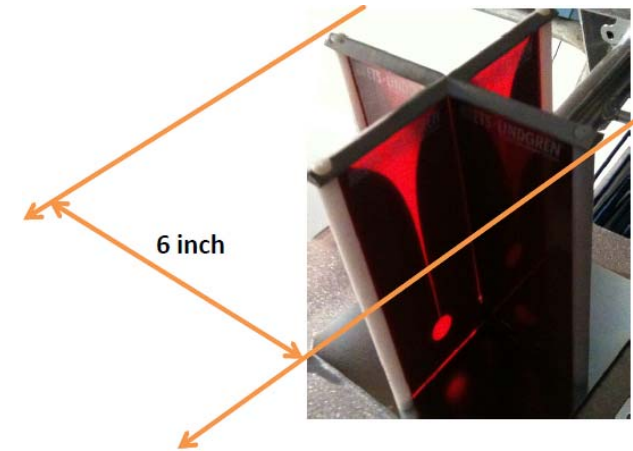
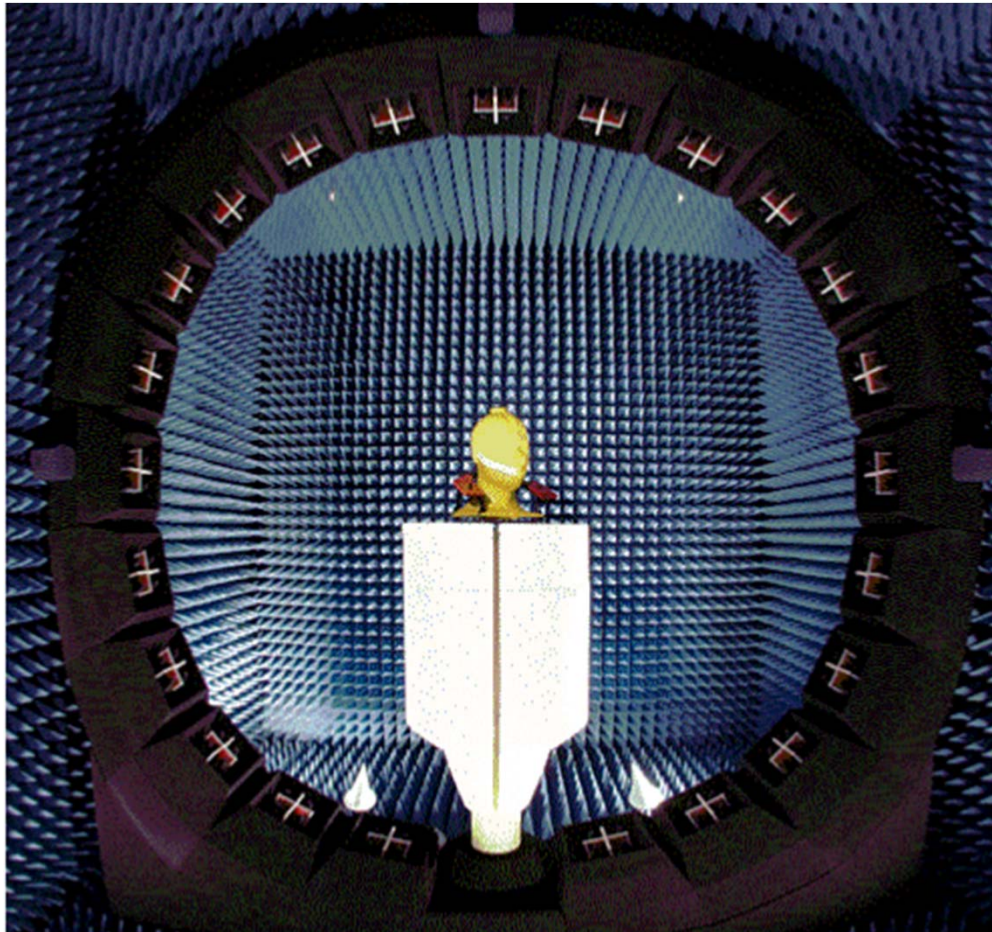


Isolation – Ant 3 to Ant 4



Antenna Measurement Chamber

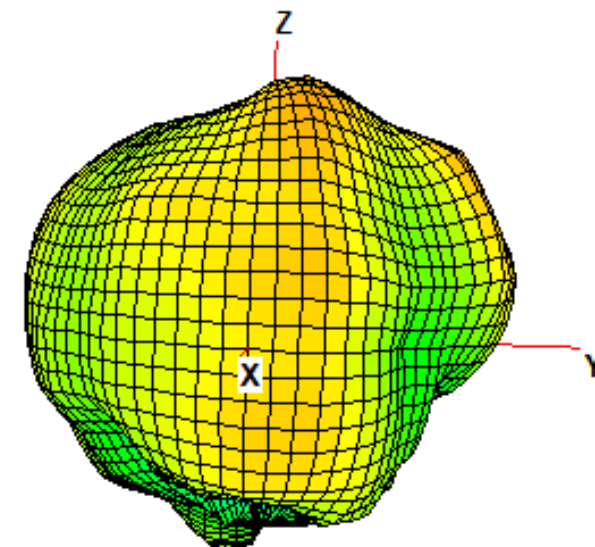
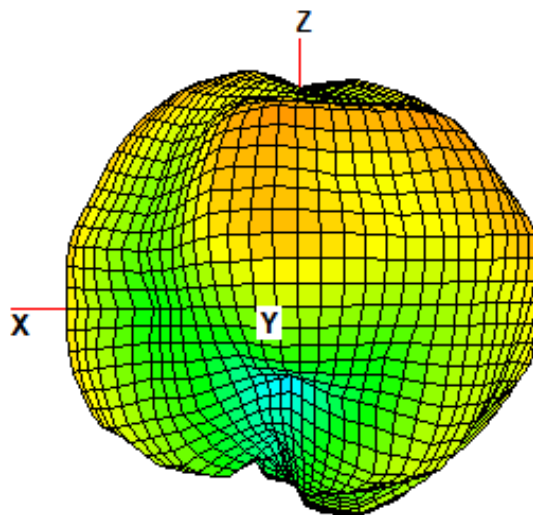
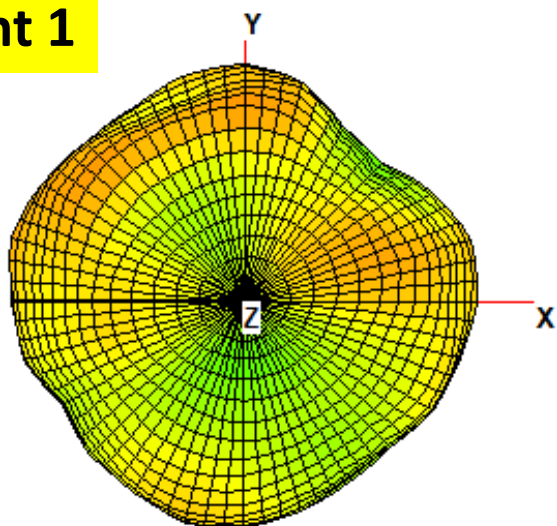
- ETS AMS8923 antenna measurement system
- Interior dimensions : 4.9(L)×4.9(W)×4.9(H)m³
- Operating band : 600 MHz – 6 GHz
- Support passive test & TRP/TIS test
- Provide graphic data display



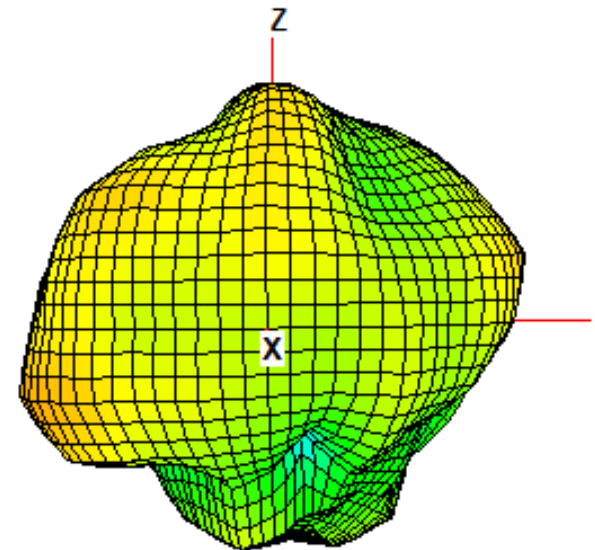
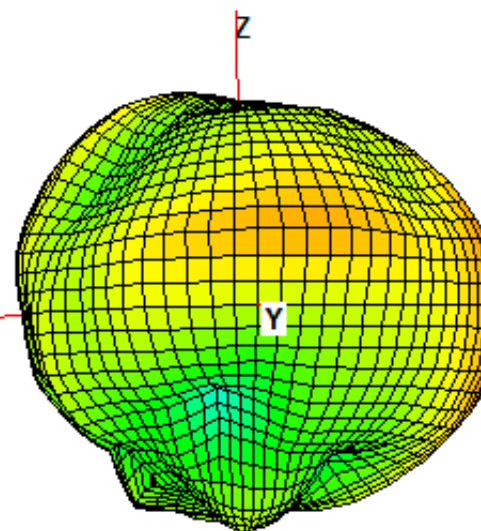
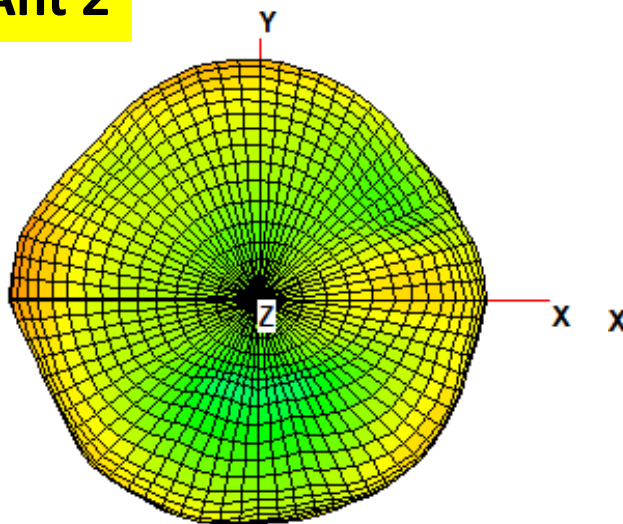
SERCOM

Radiation Pattern – WiFi 2G

Ant 1



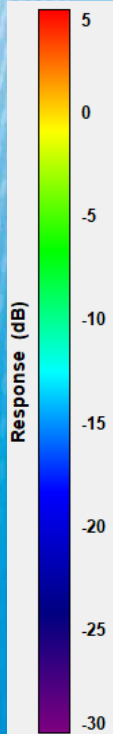
Ant 2



X-Y plane

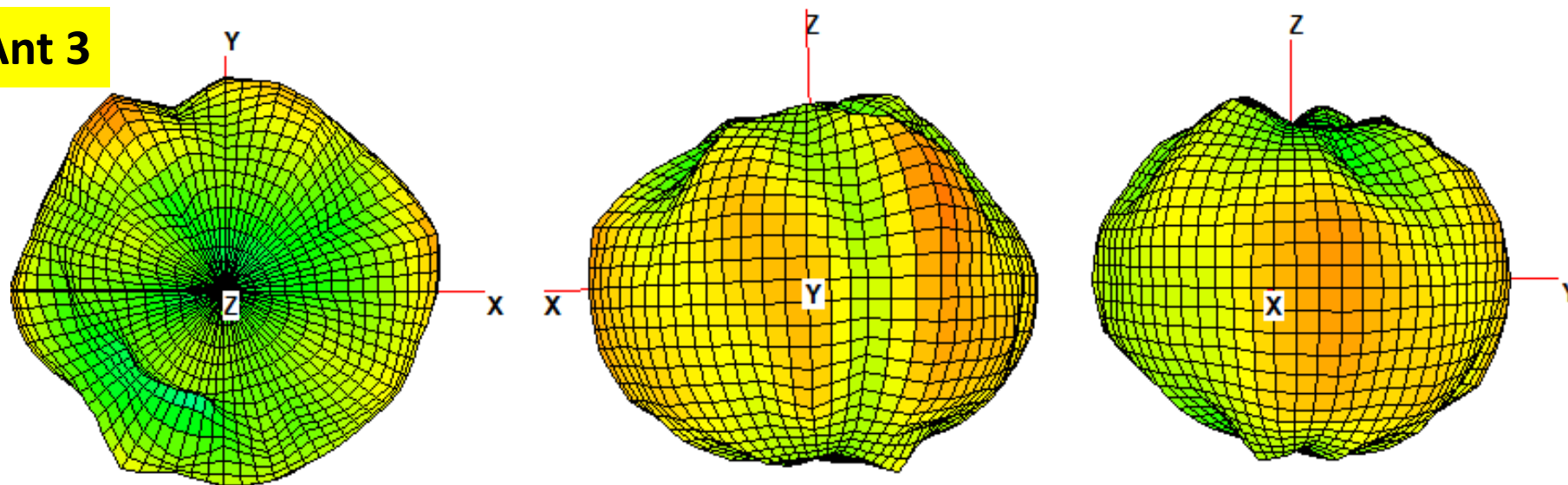
Z-X plane

Z-Y plane

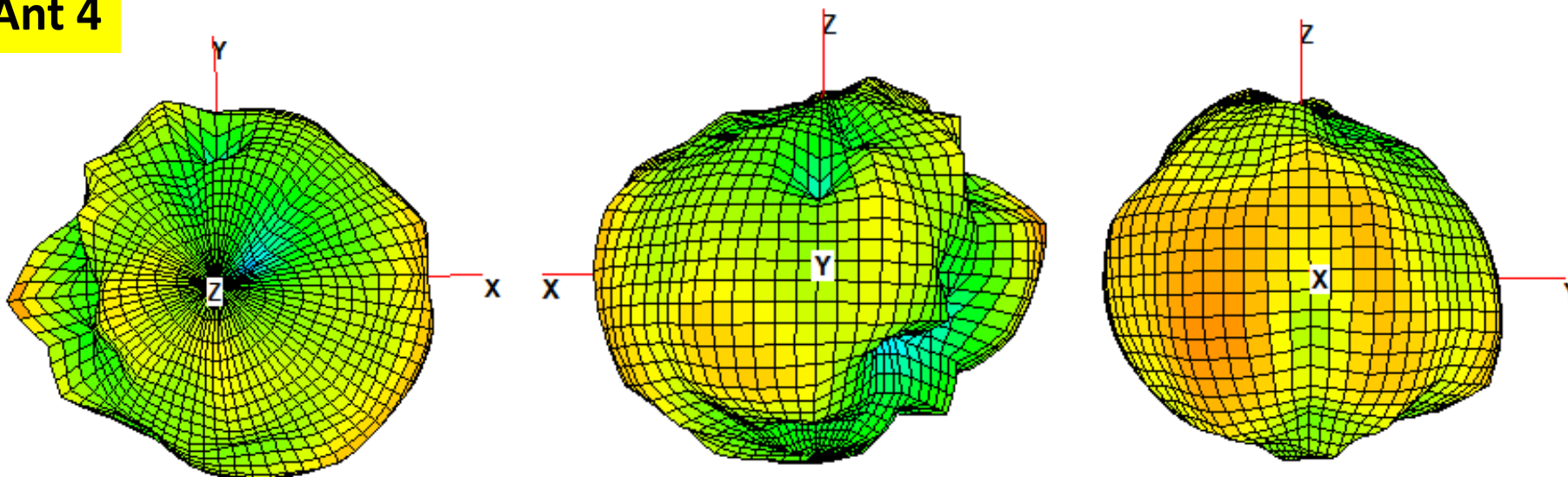


Radiation Pattern – WiFi 5G

Ant 3



Ant 4



X-Y plane

Z-X plane

Z-Y plane

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Peak Gain & Efficiency

Ant 1 (WiFi 2.4G)		
Freq. (MHz)	Peak Gain (dBi)	Efficiency(%)
2400	3.4	62
2450	3.2	62
2500	3.5	65

Ant 2 (WiFi 2.4G)		
Freq. (MHz)	Peak Gain (dBi)	Efficiency(%)
2400	3.2	64
2450	3.4	62
2500	3.3	64

Ant 3 (WiFi 5G)		
Freq. (MHz)	Peak Gain (dBi)	Efficiency(%)
5150	3.2	61
5500	3.2	63
5850	3.1	62

Ant 4 (WiFi 5G)		
Freq. (MHz)	Peak Gain (dBi)	Efficiency(%)
5150	3.0	62
5500	3.3	60
5850	3.2	61