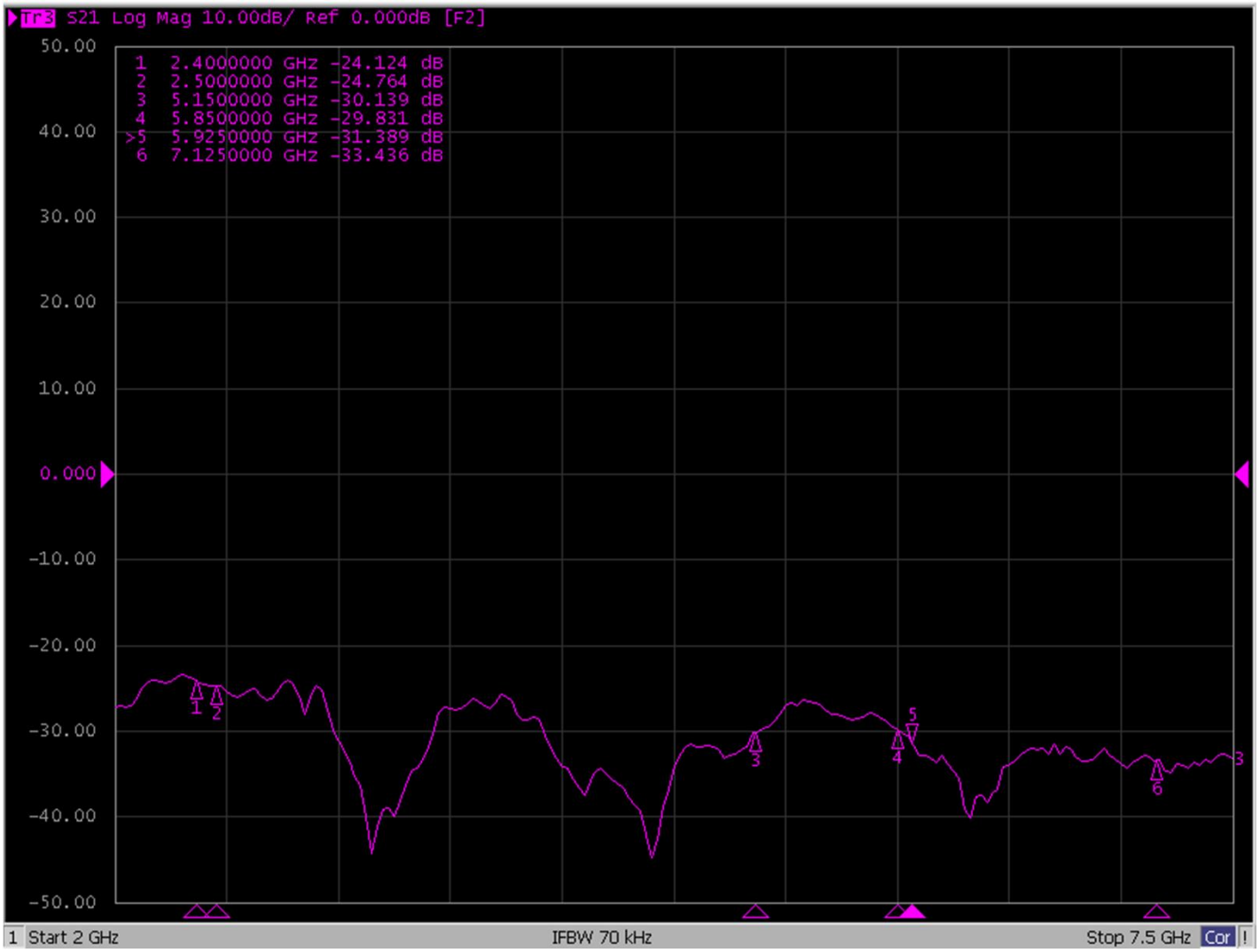
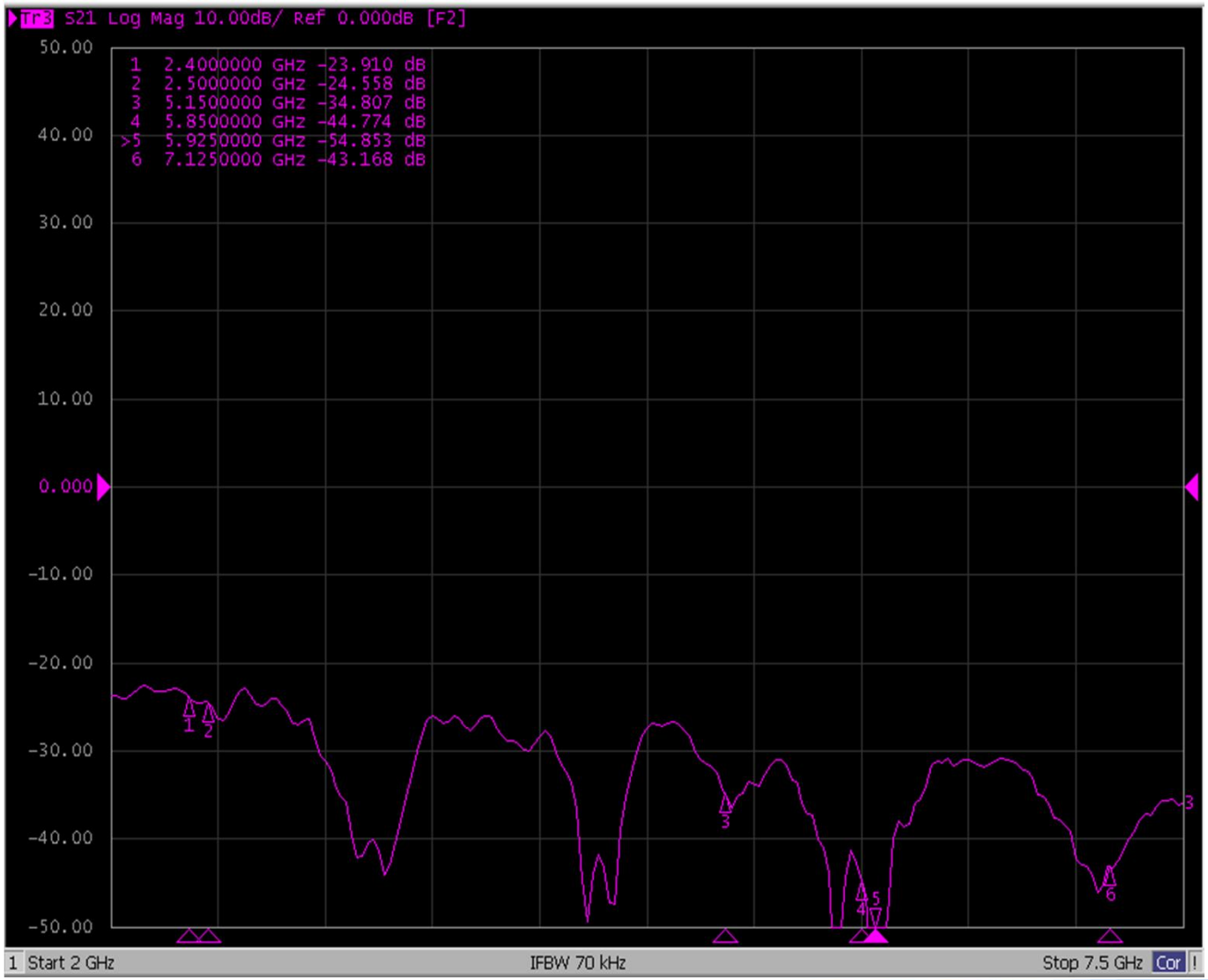
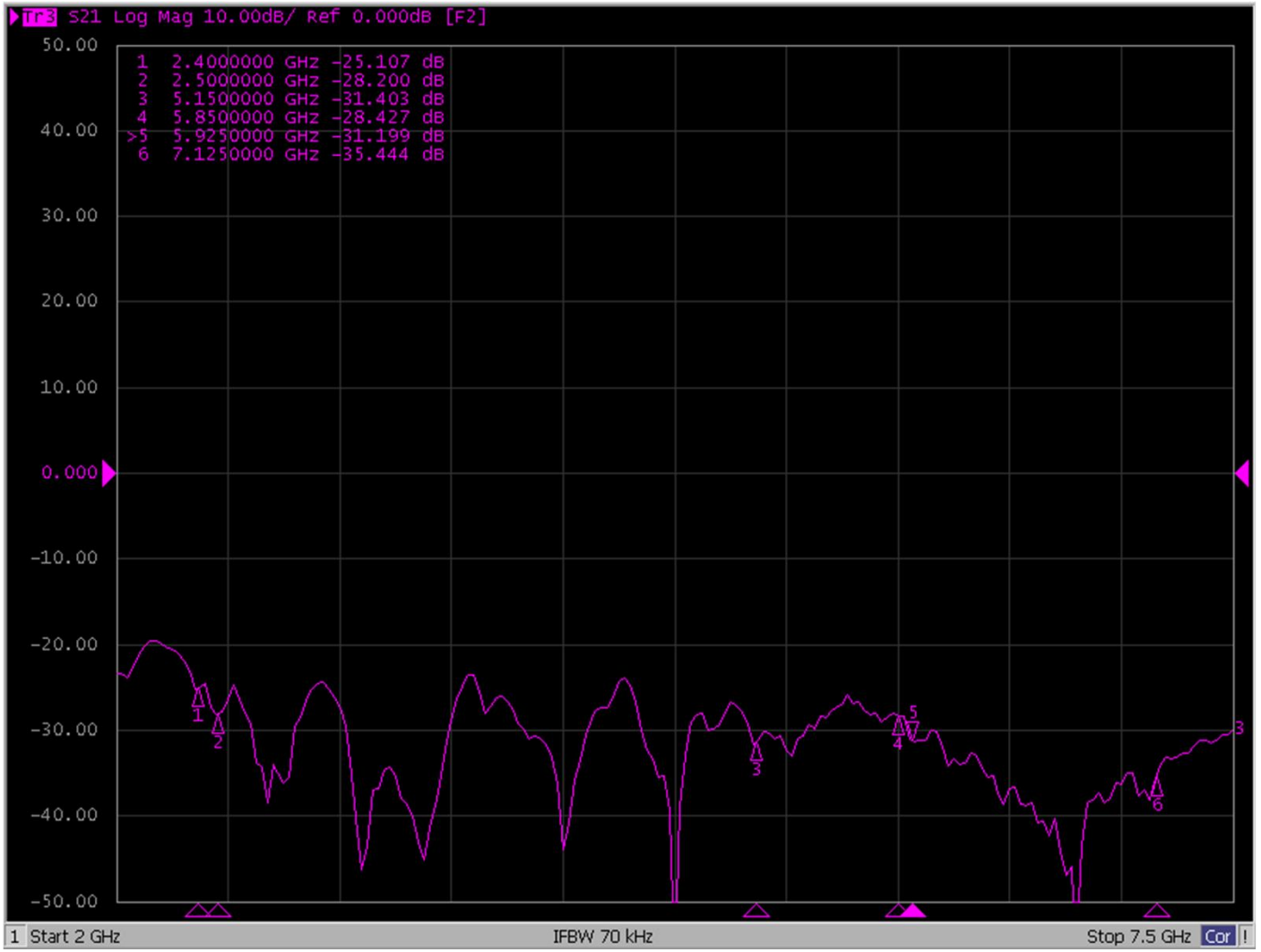
ANT2&ANT7 Isolation



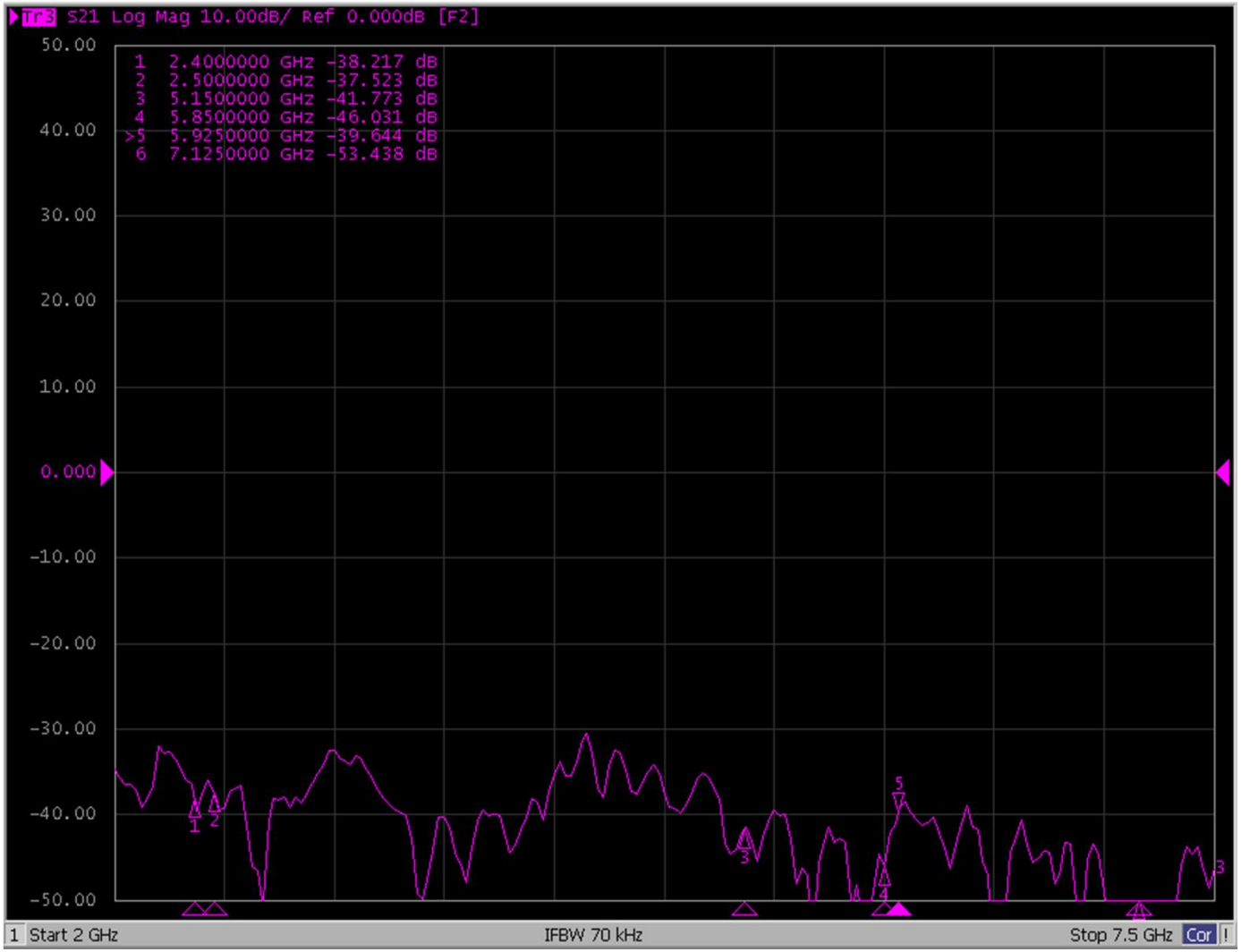
ANT2&ANT8 Isolation



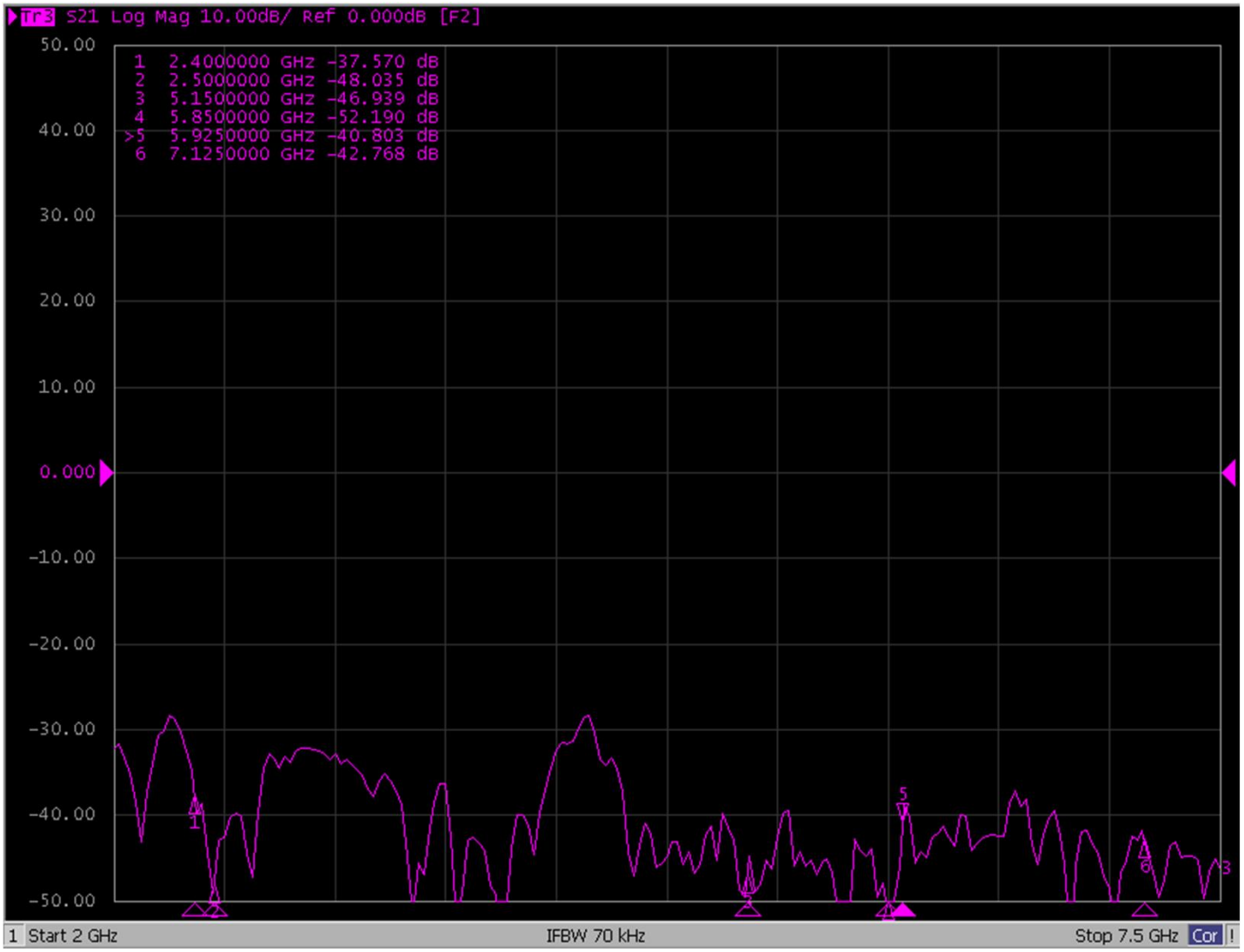
ANT3&ANT4 Isolation



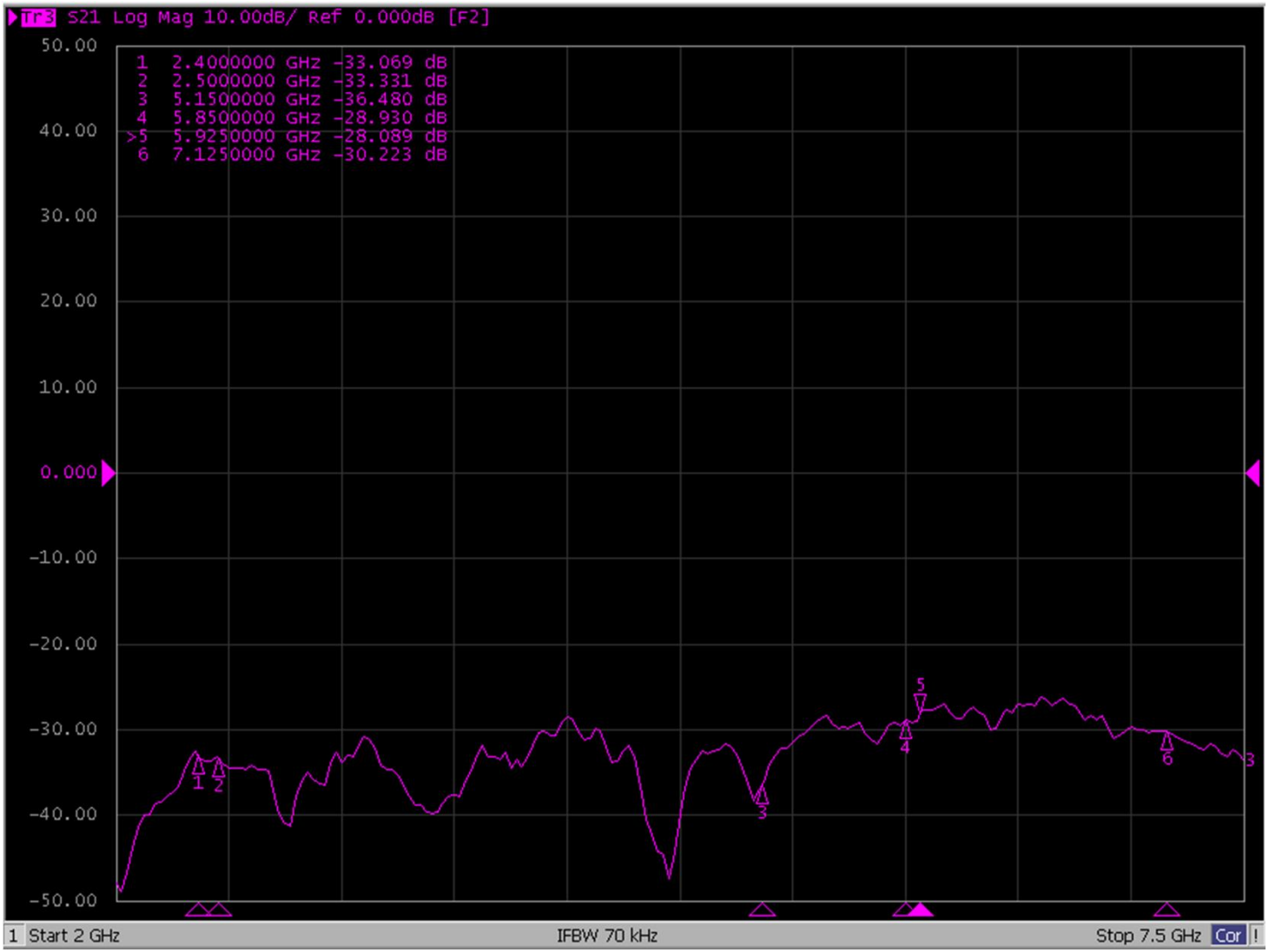
ANT3&ANT5 Isolation



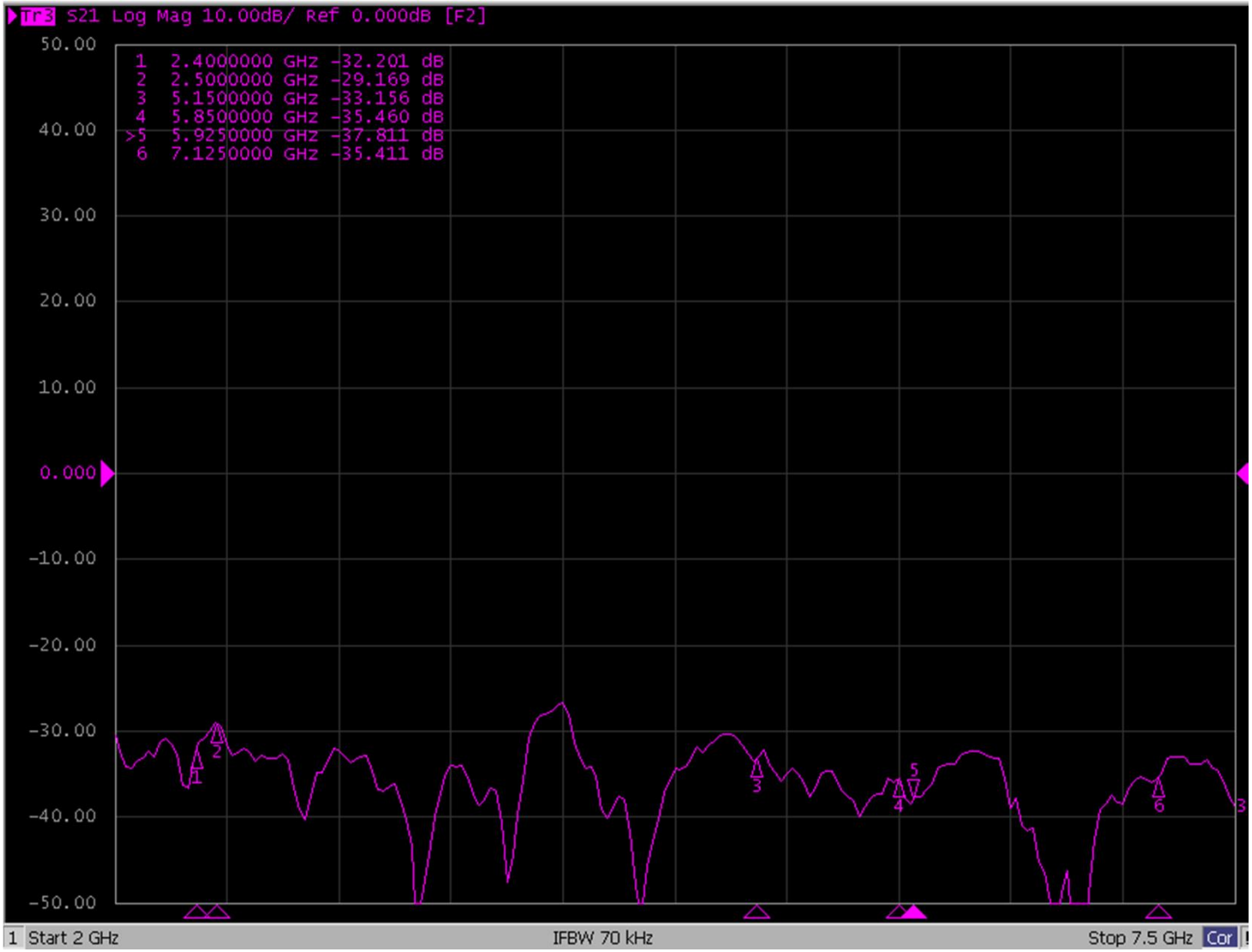
ANT3&ANT6 Isolation



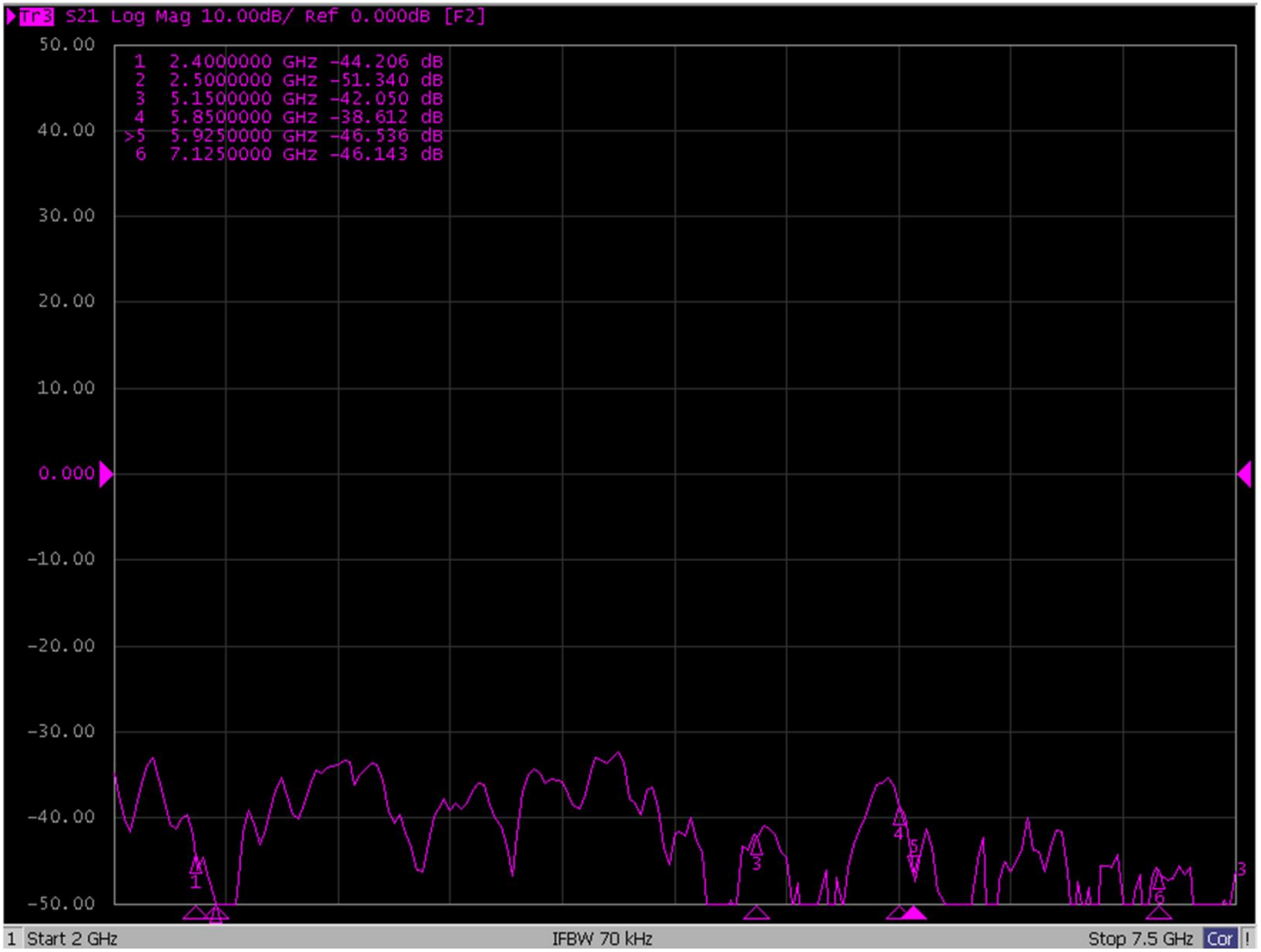
ANT3&ANT7 Isolation



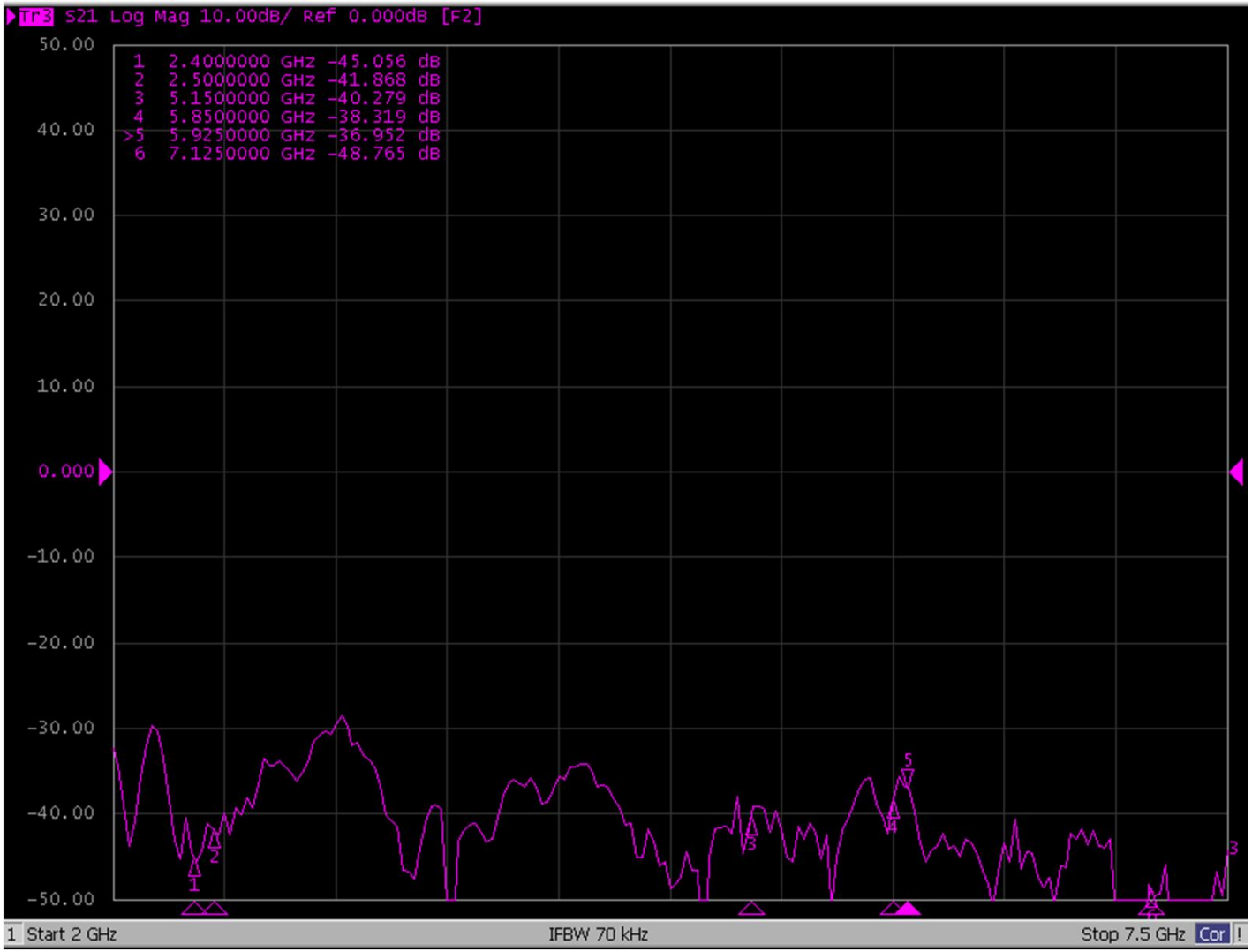
ANT3&ANT8 Isolation



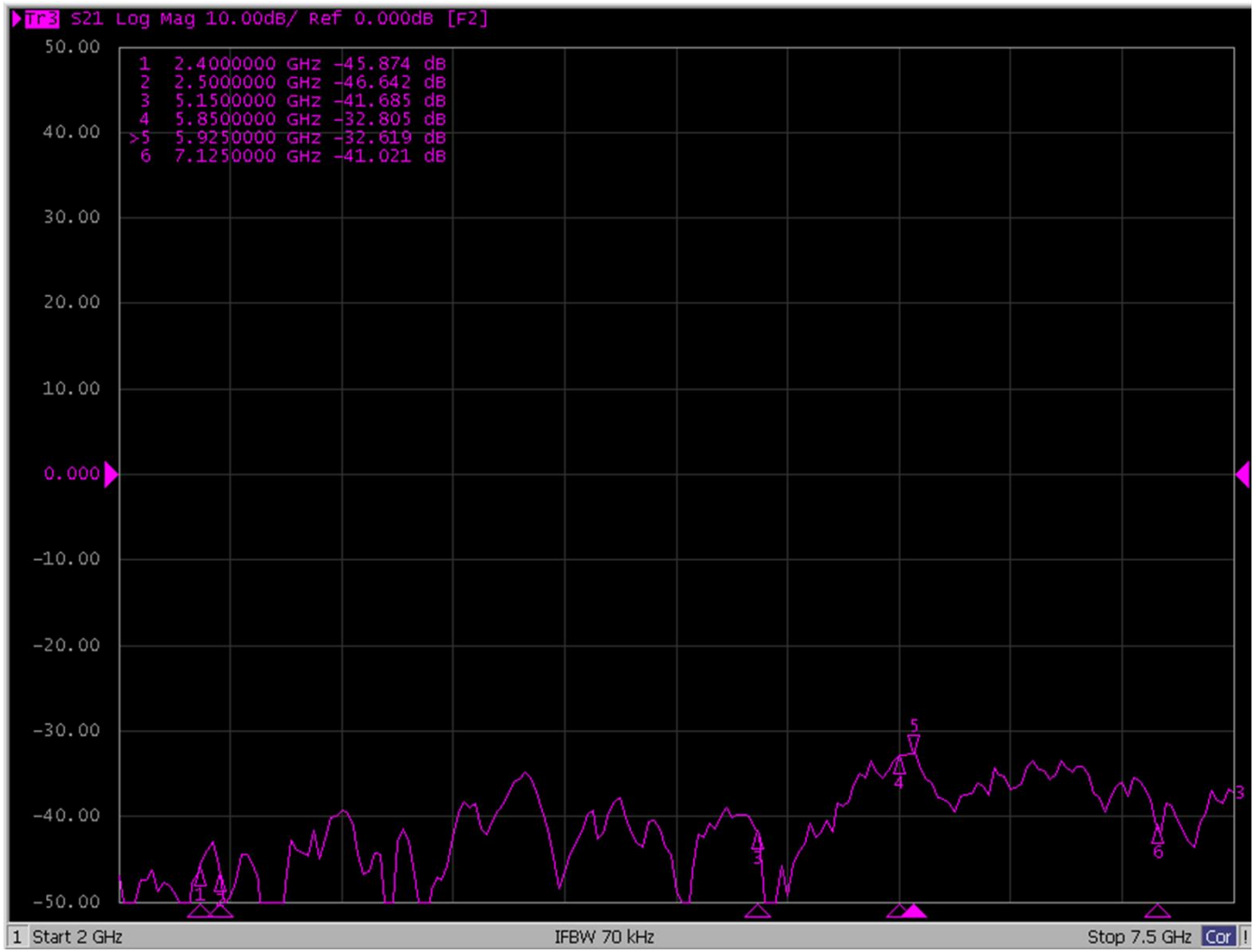
ANT4&ANT5 Isolation



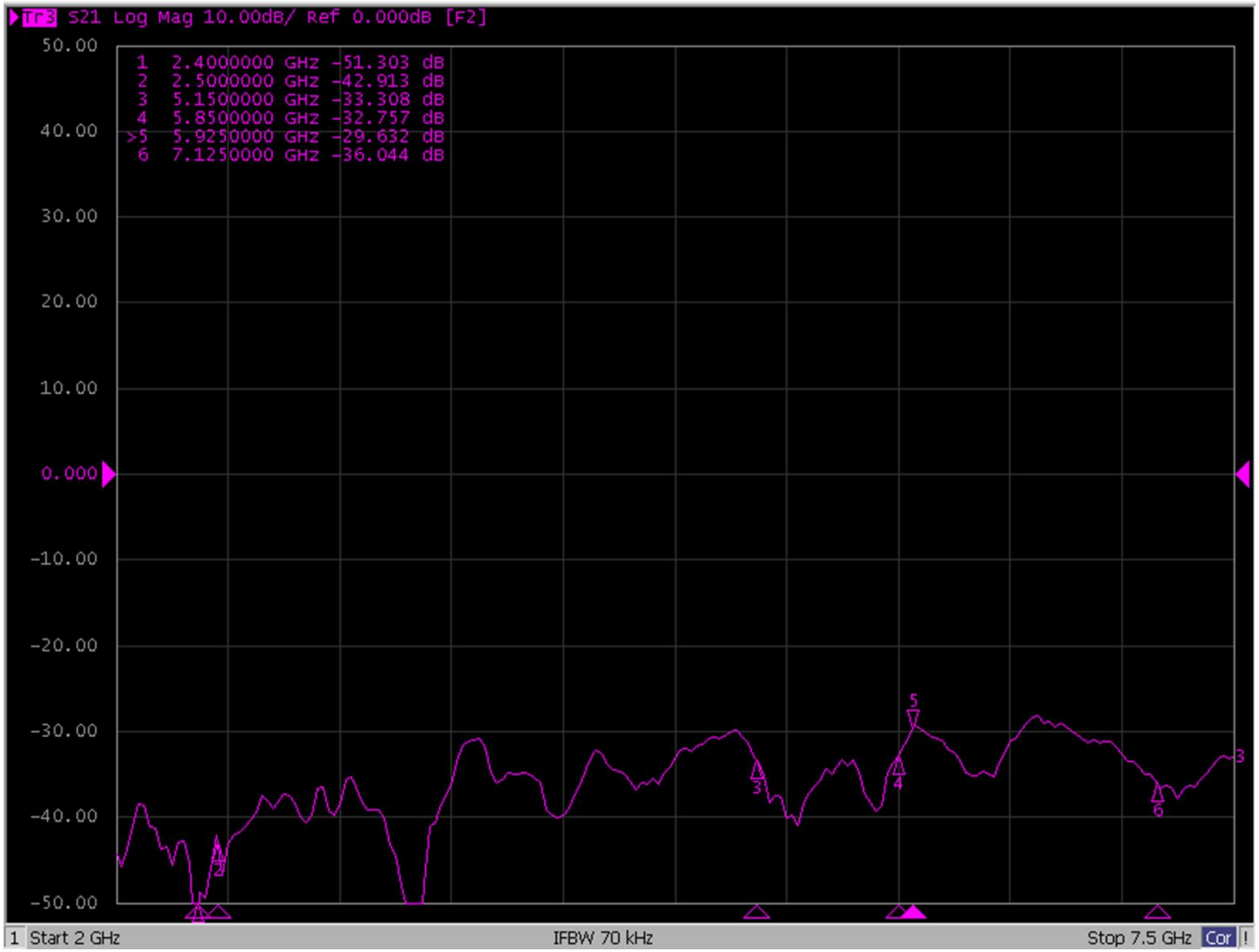
ANT4&ANT6 Isolation



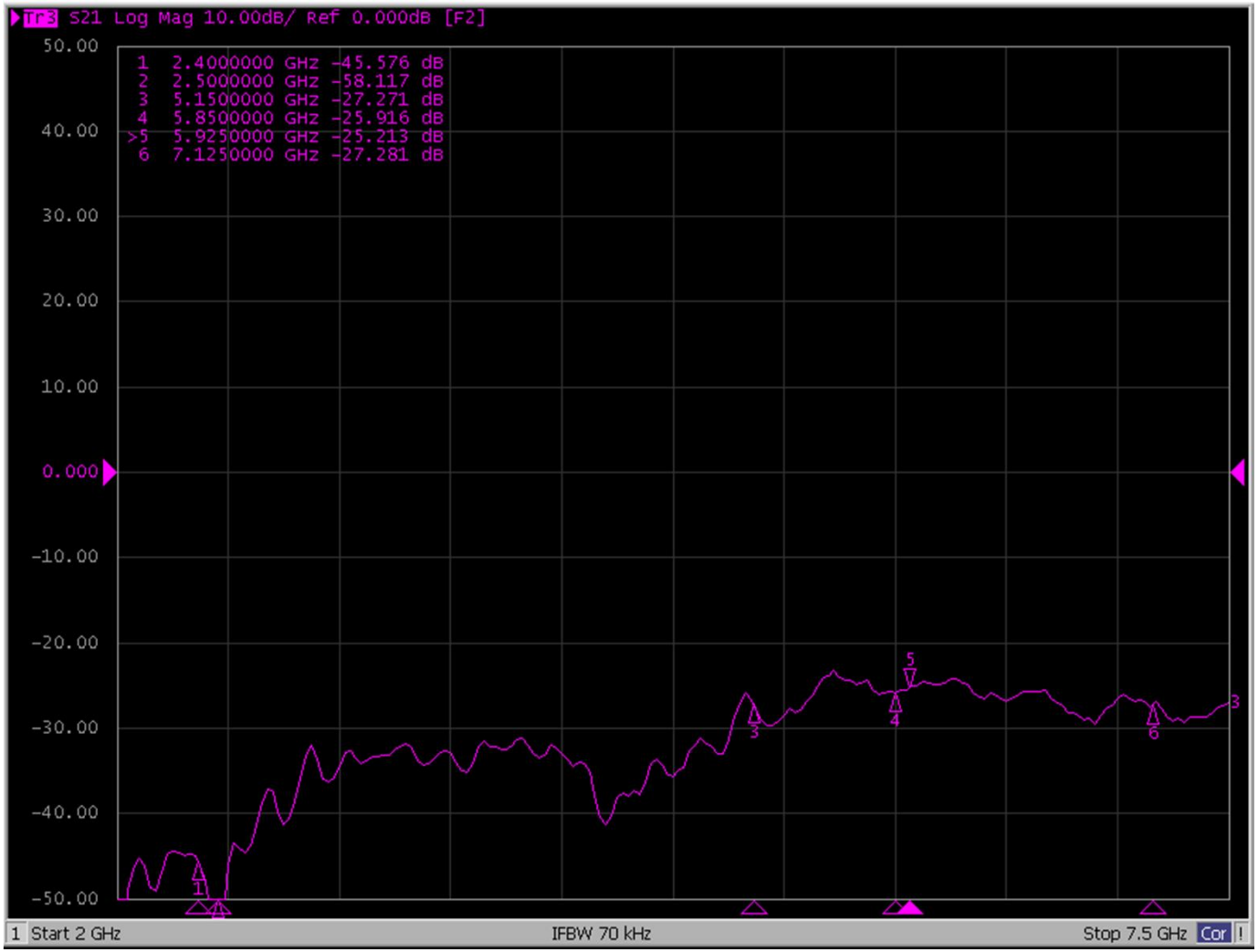
ANT4&ANT7 Isolation



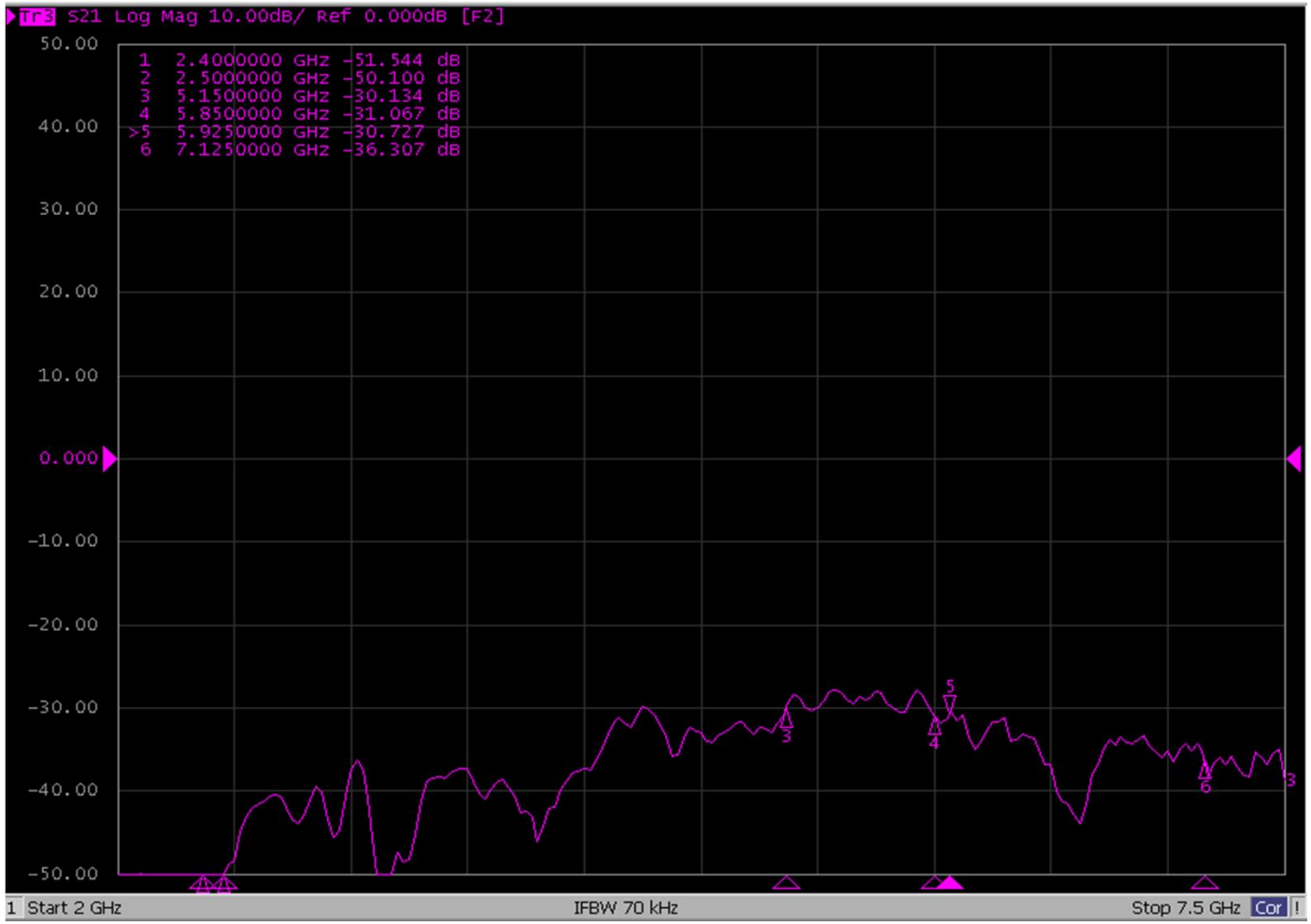
ANT4&ANT8 Isolation



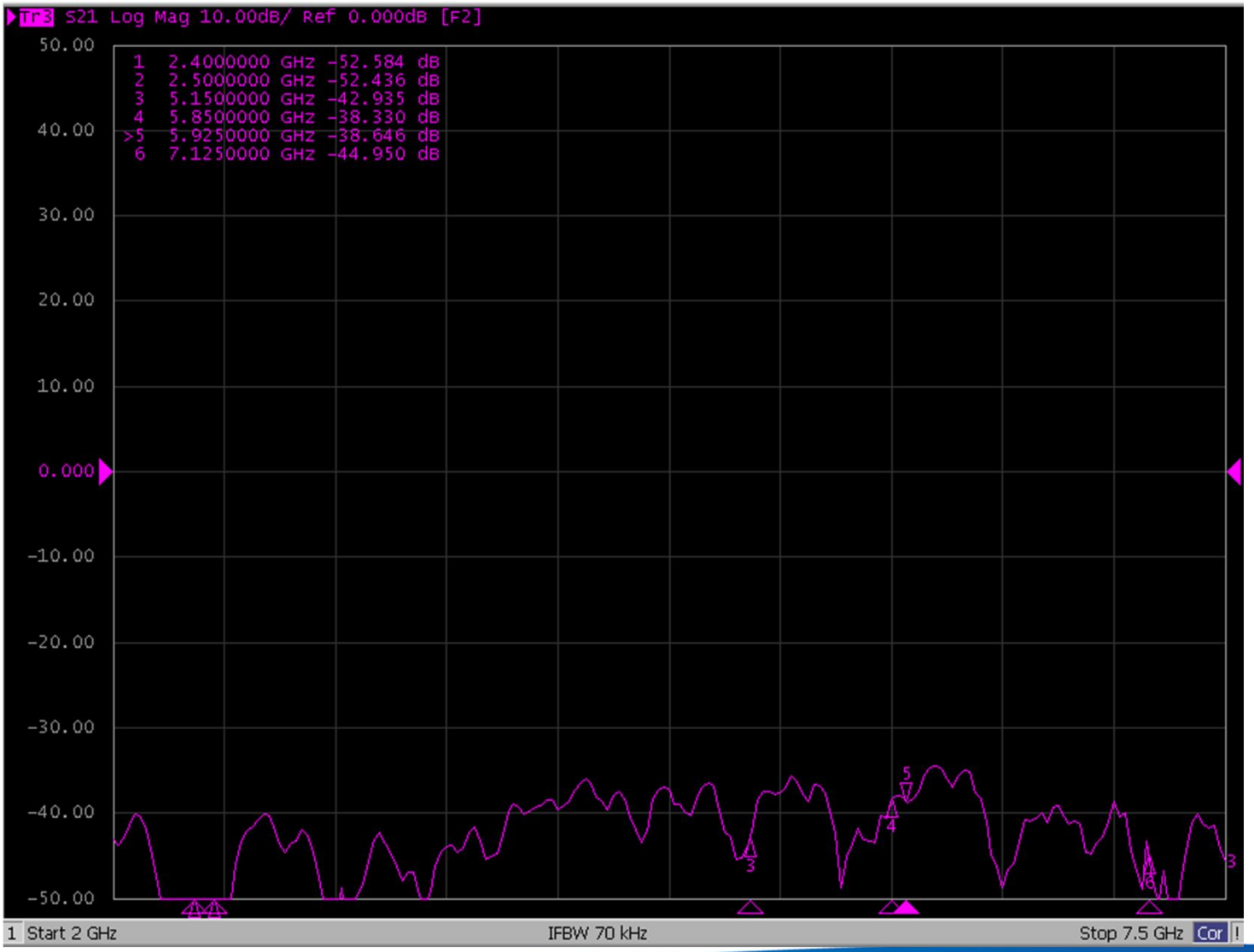
ANT5&ANT6 Isolation



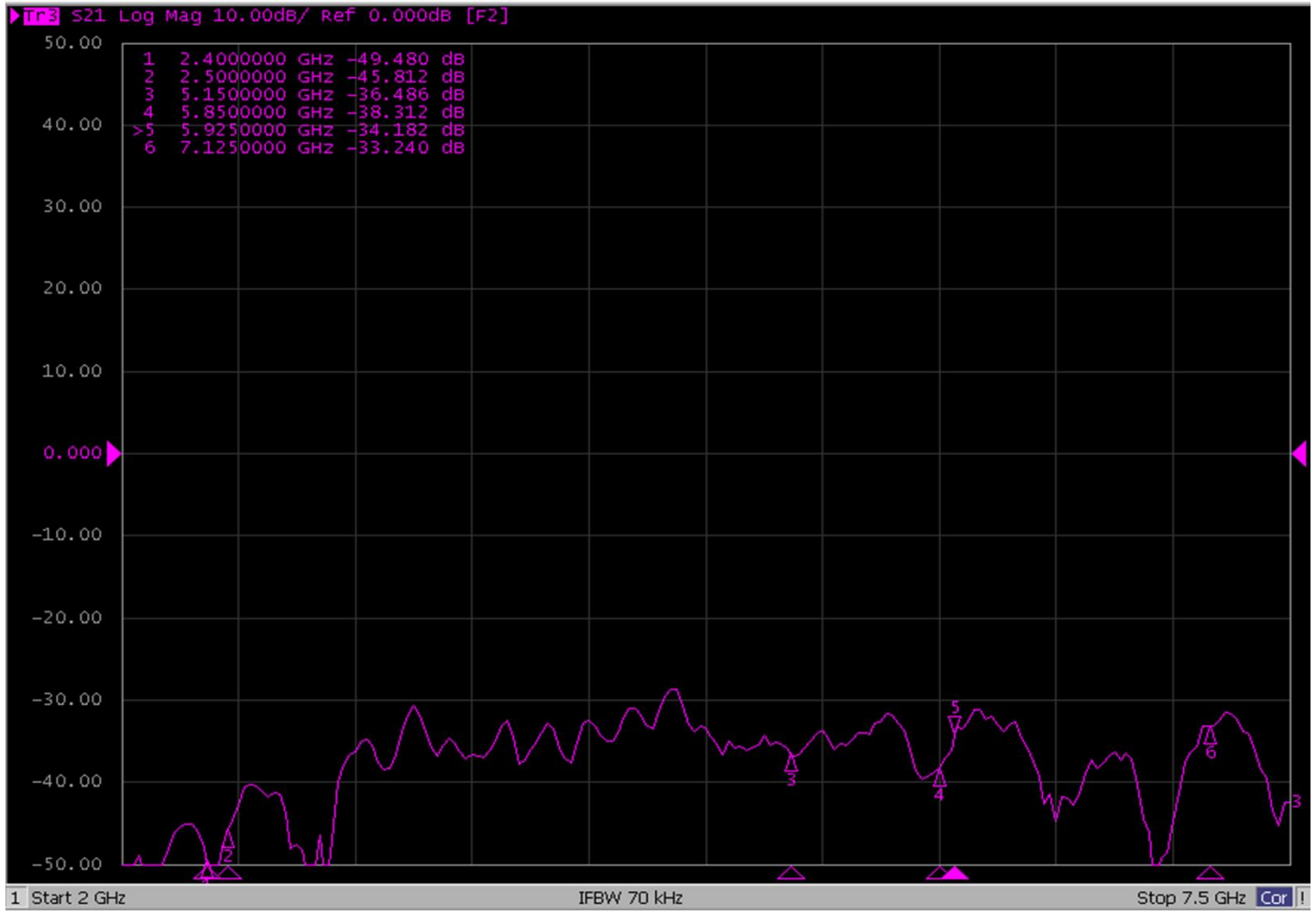
ANT5&ANT7 Isolation



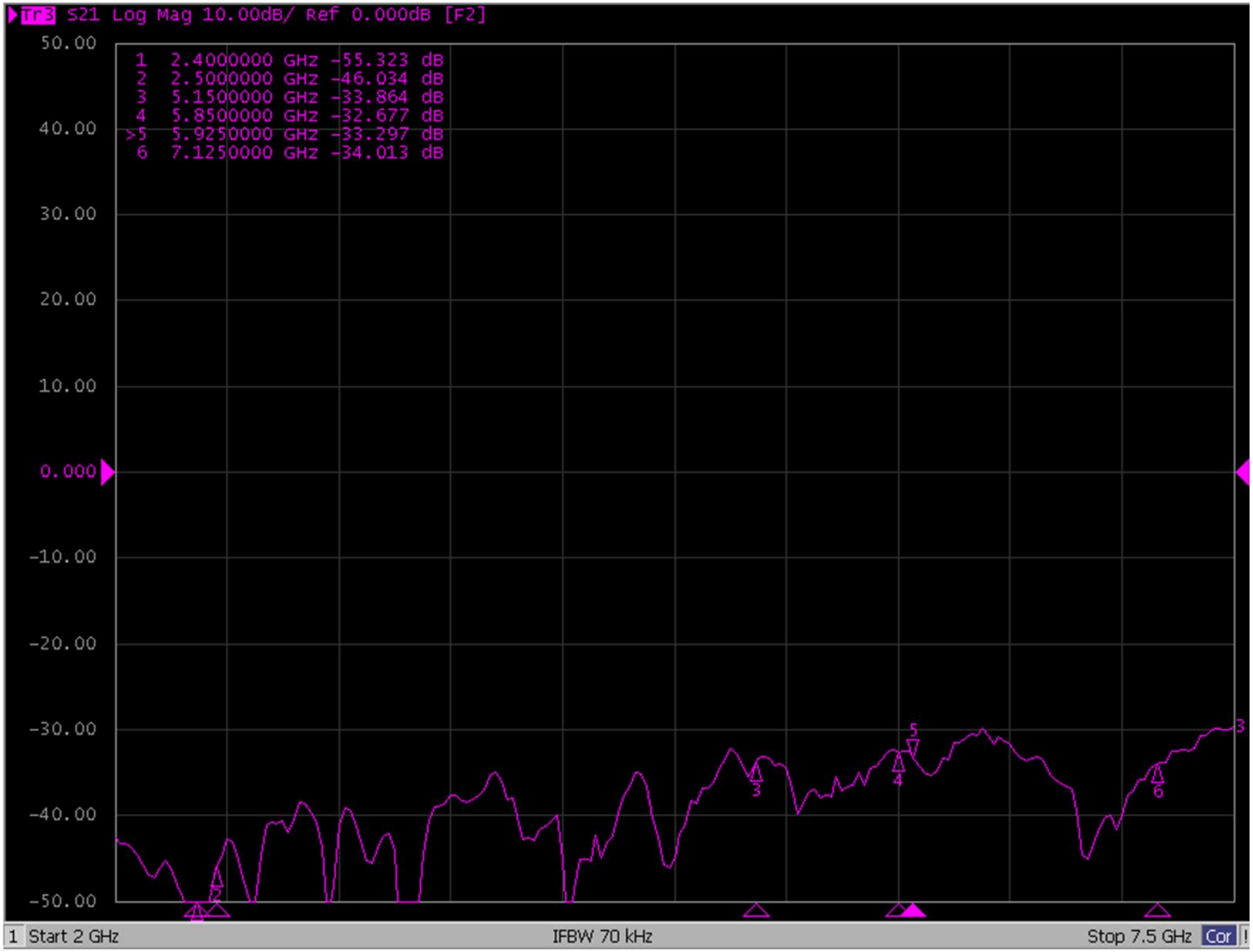
ANT5&ANT8 Isolation



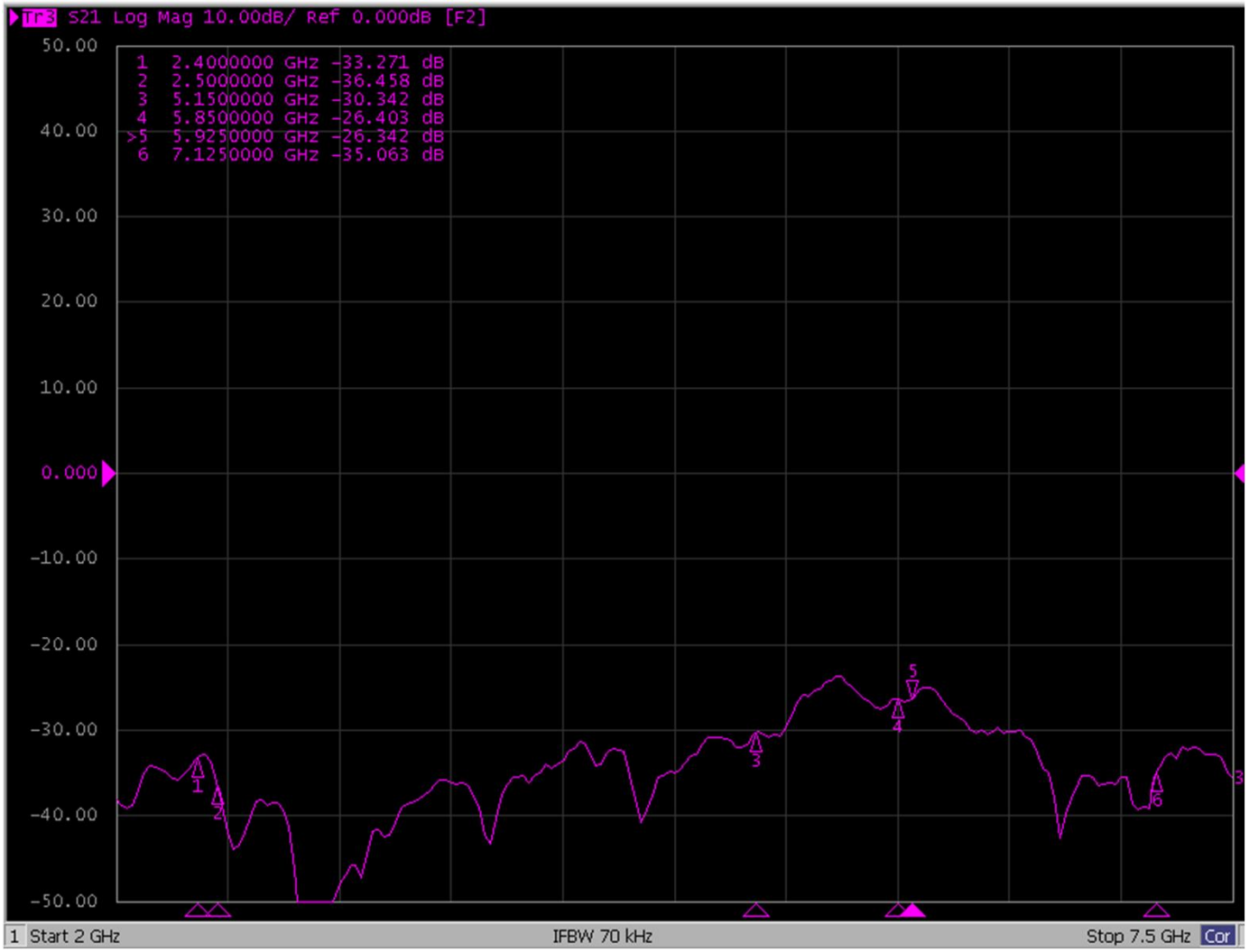
ANT6&ANT7 Isolation



ANT6&ANT8 Isolation



ANT7&ANT8 Isolation

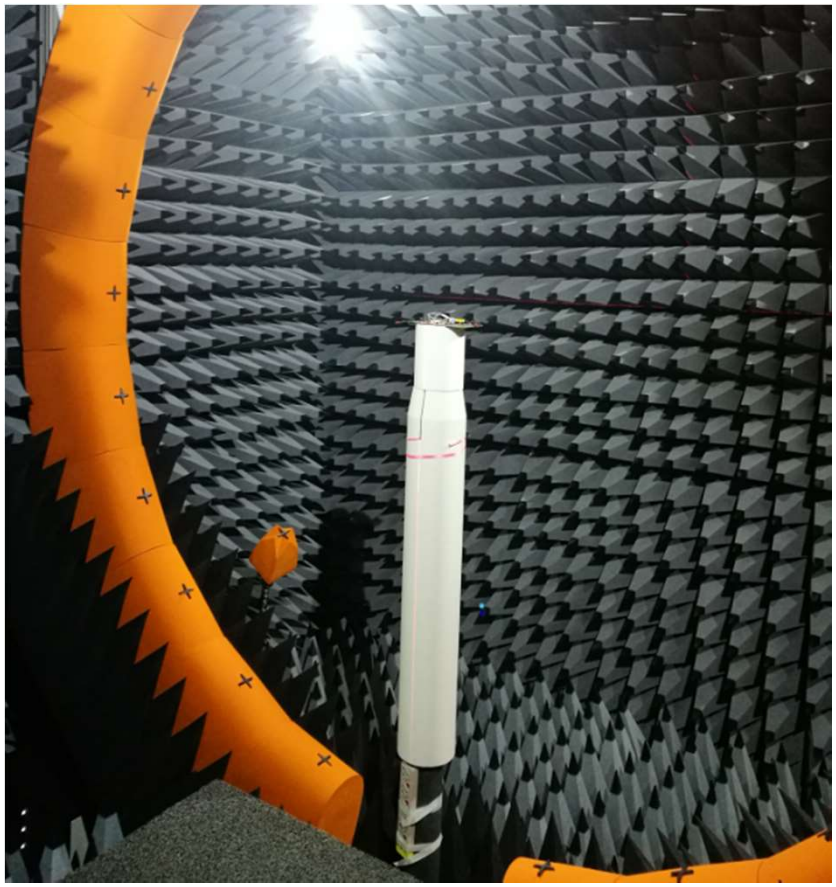


Summary

- All antennas` Return loss are ≤ -10dB@ 2.4G
- All antennas` Return loss are ≤ -10dB@ 5G
- All antennas` Return loss are ≤ -10dB@ 6G
- The isolation of all WIFI 2.4G/5G antennas are ≤ -20dB.
- The isolation of all WIFI 6G antennas are ≤ -25dB.

2D/3D Radiation pattern

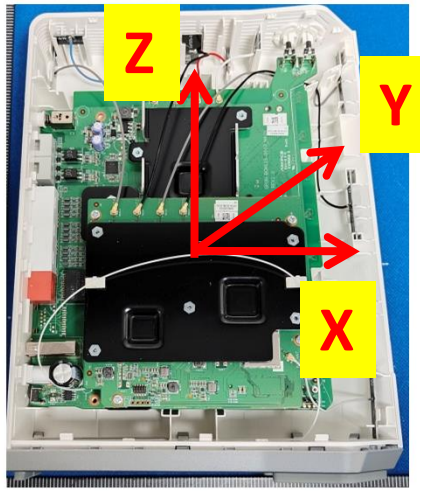
Measurement Condition

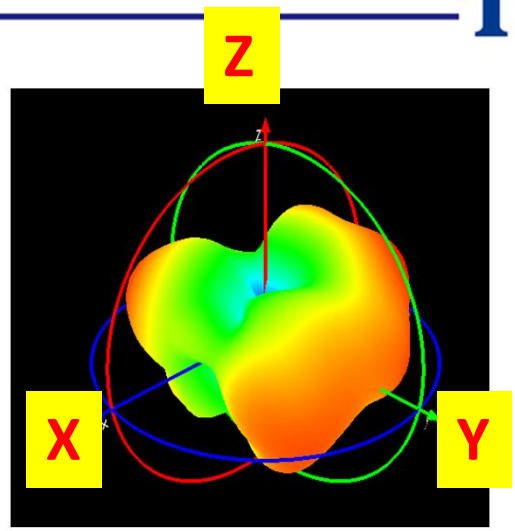


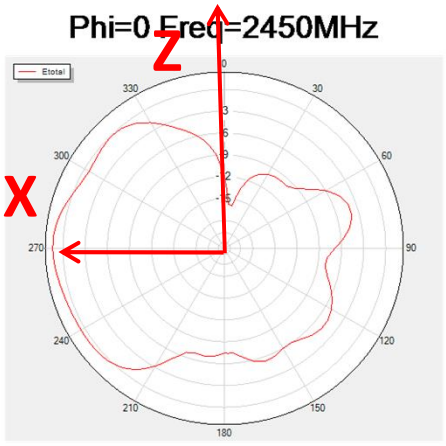
Microwave anechoic chamber

Radiation Pattern

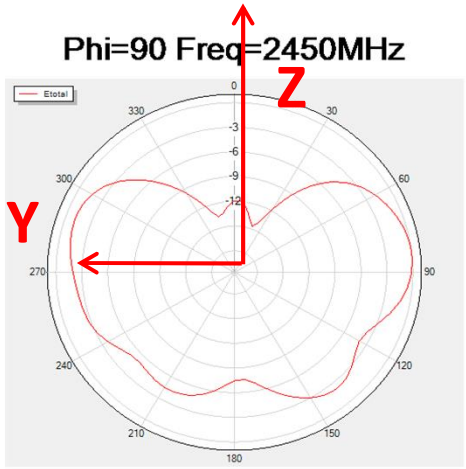
Ant1-2.4G



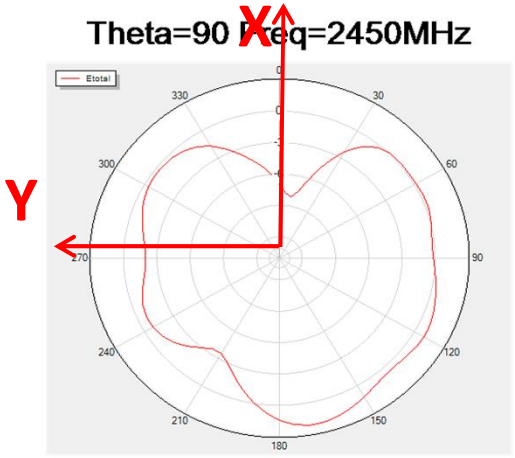




E1（Phi=0）



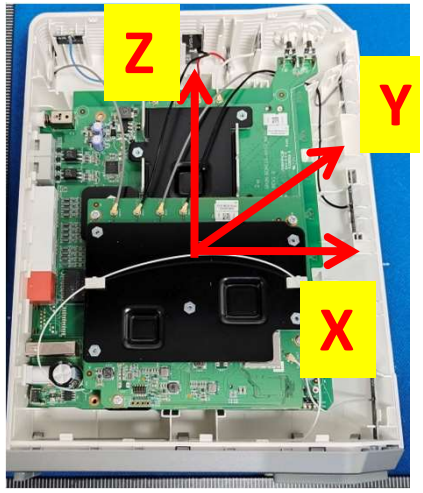
E2（Phi=90）

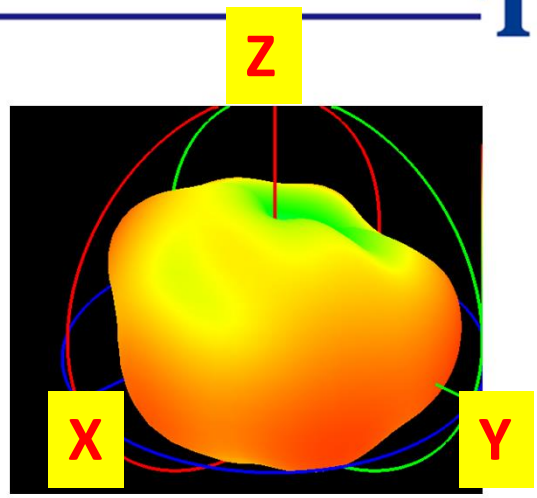


H（Theta=90）

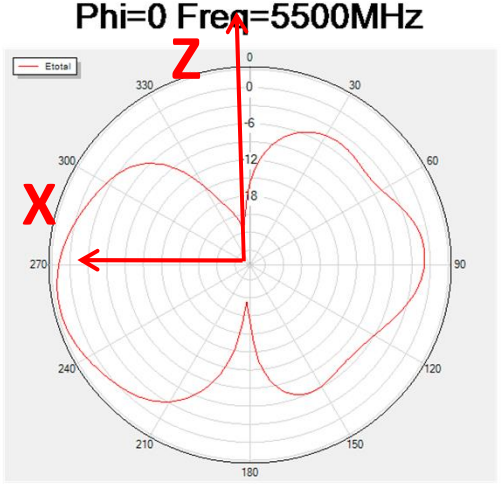
Radiation Pattern

Ant1-5G



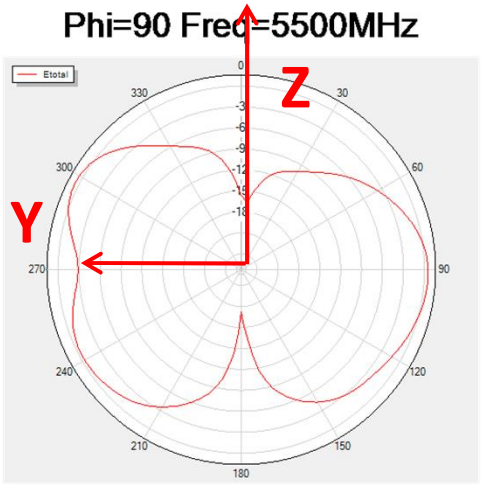


Phi=0 Freq=5500MHz



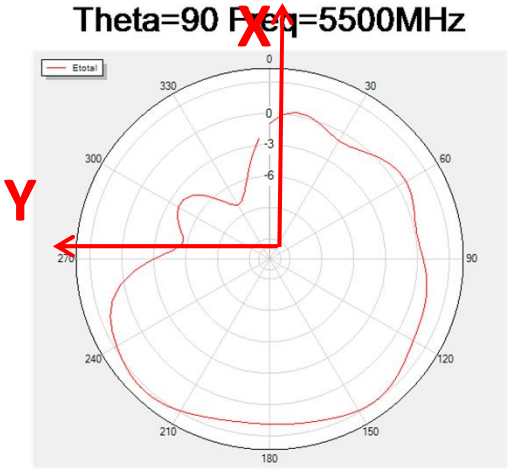
E1（Phi=0）

Phi=90 Freq=5500MHz



E2（Phi=90）

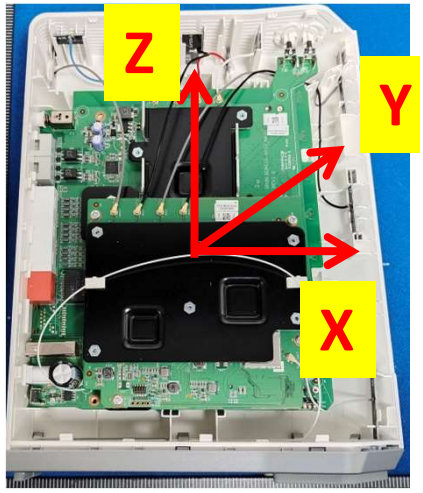
Theta=90 Freq=5500MHz

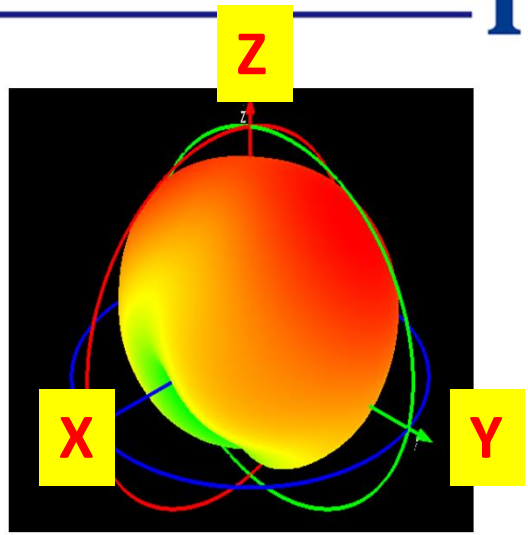


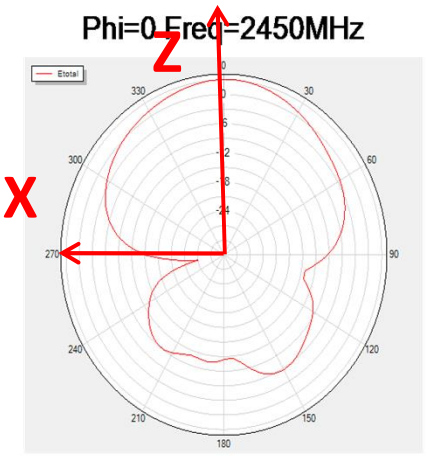
H（Theta=90）

Radiation Pattern

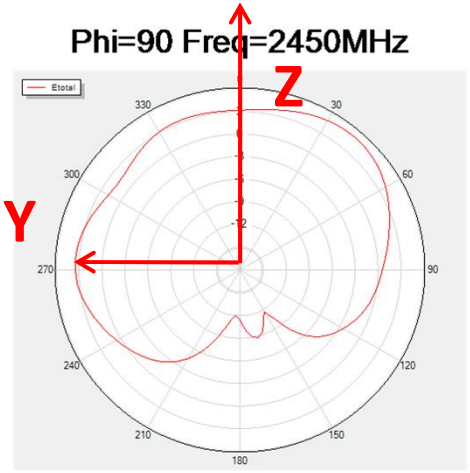
Ant2-2.4G



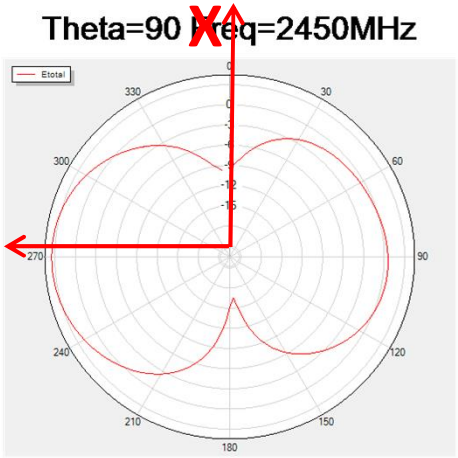




E1（Phi=0）



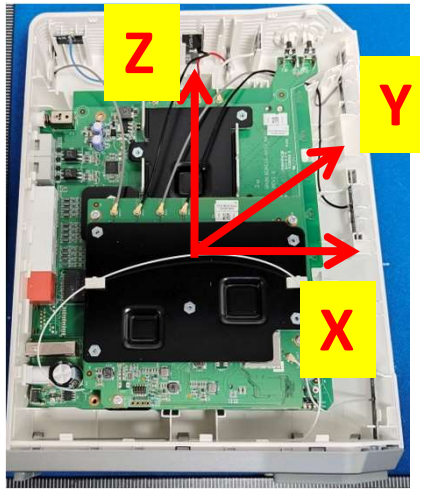
E2（Phi=90）

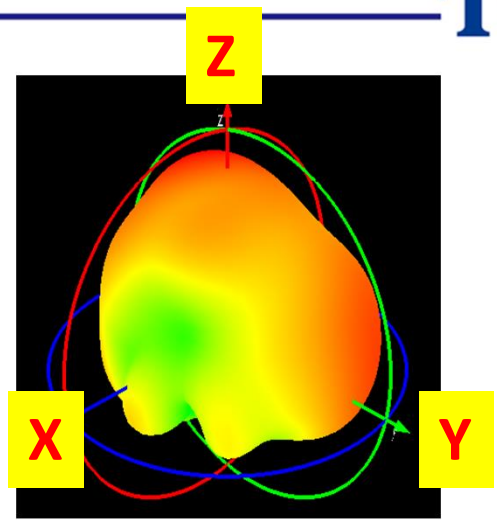


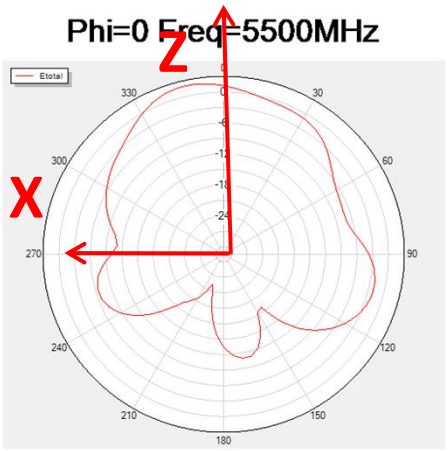
H（Theta=90）

Radiation Pattern

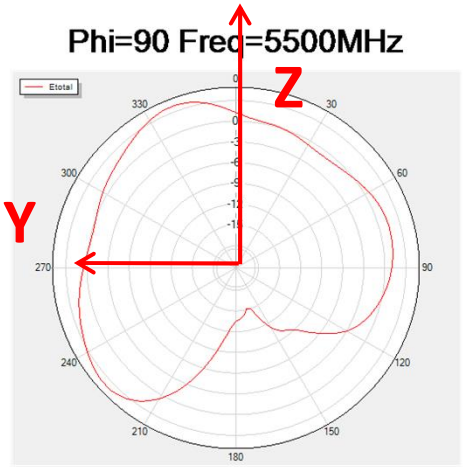
Ant2-5G



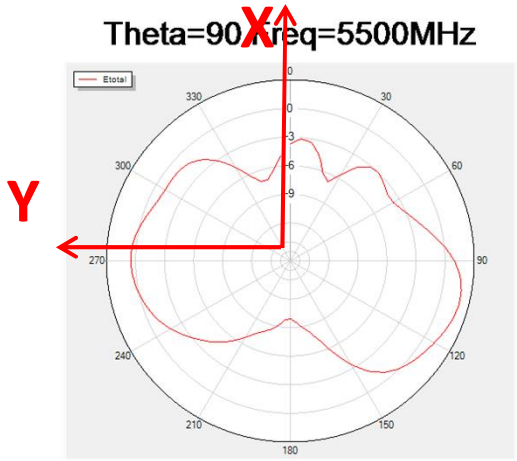




E1（Phi=0）



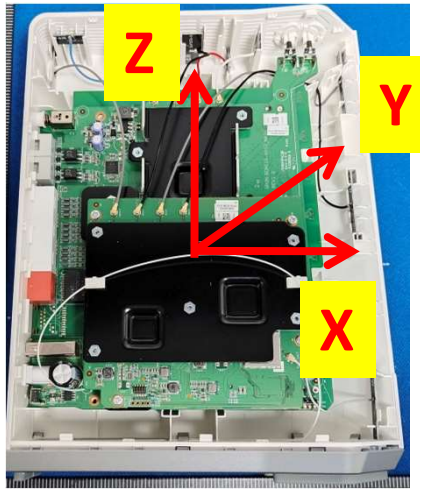
E2（Phi=90）

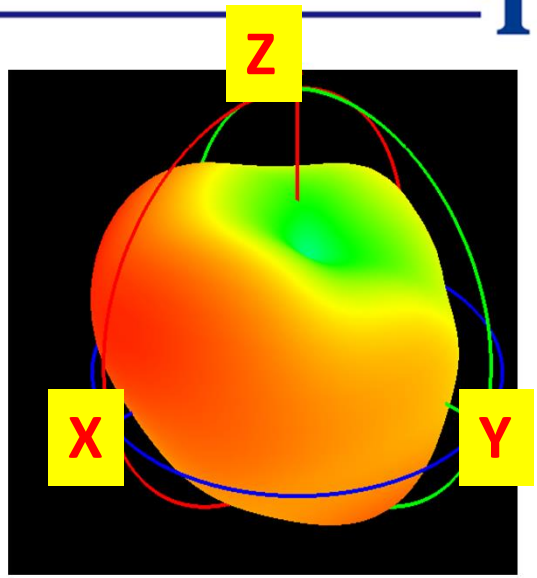


H（Theta=90）

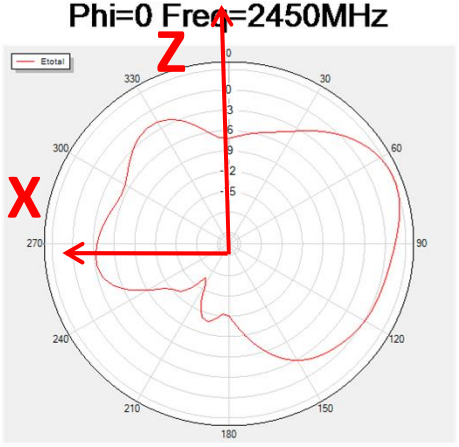
Radiation Pattern

Ant3-2.4G



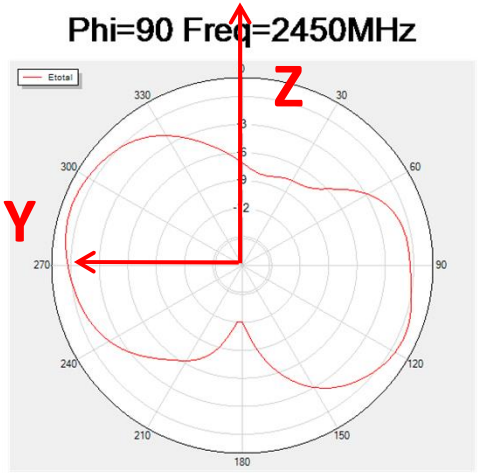


Phi=0 Freq=2450MHz



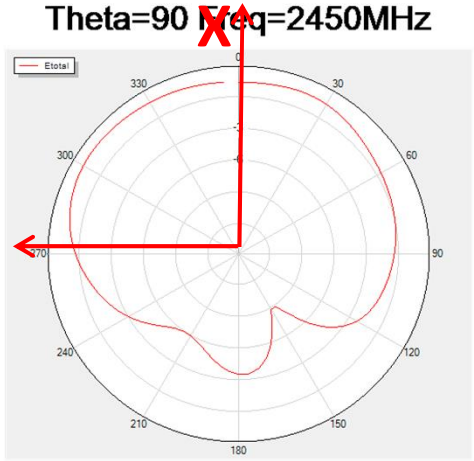
E1（Phi=0）

Phi=90 Freq=2450MHz



E2（Phi=90）

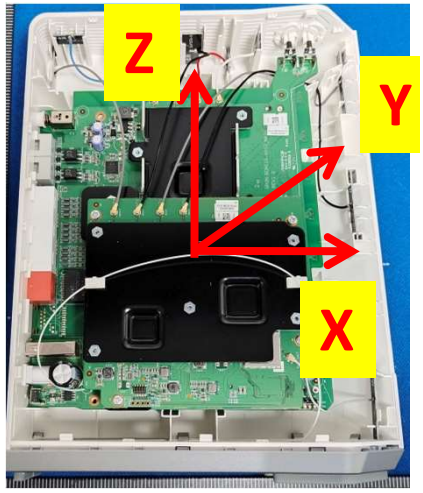
Theta=90 Freq=2450MHz

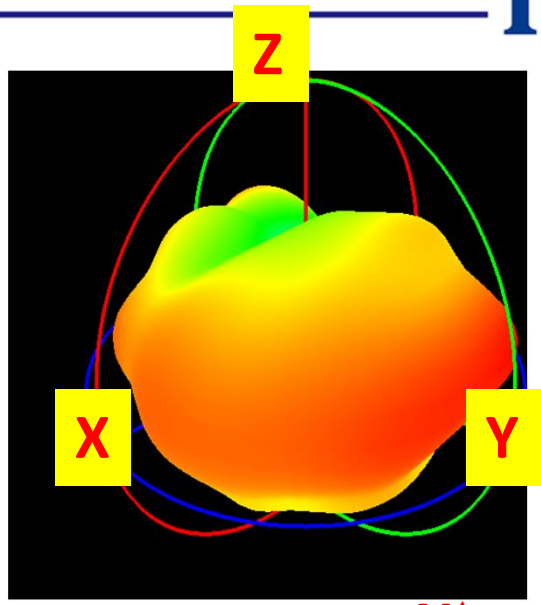


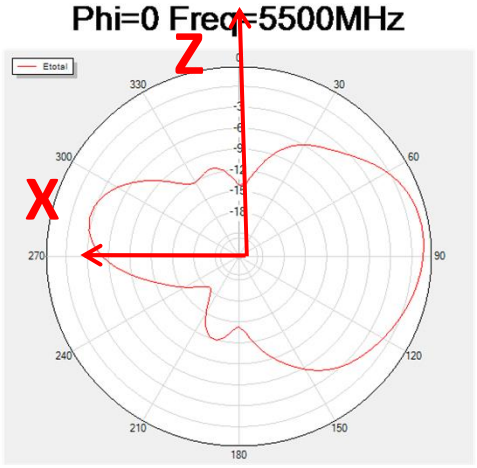
H（Theta=90）

Radiation Pattern

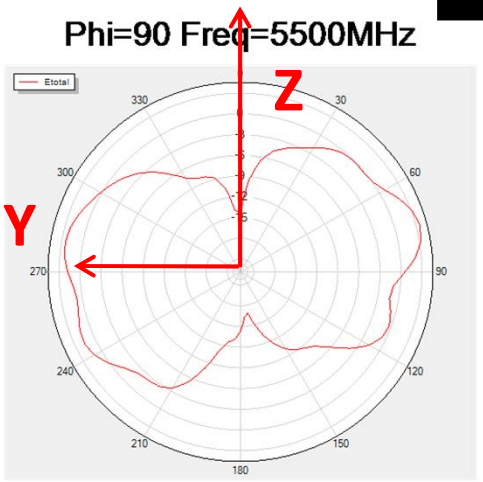
Ant3-5G



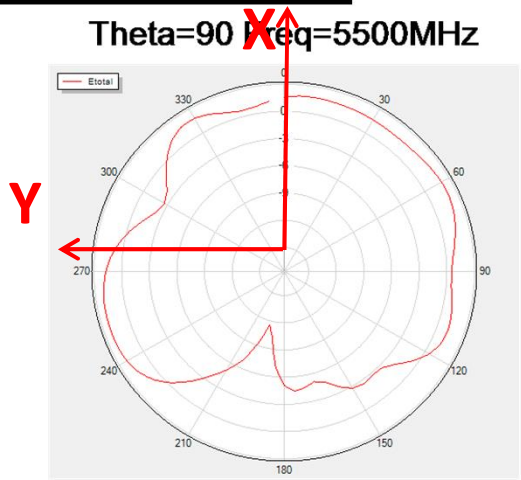




E1（Phi=0）



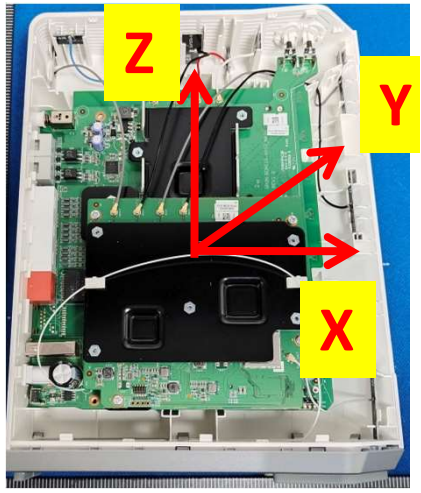
E2（Phi=90）

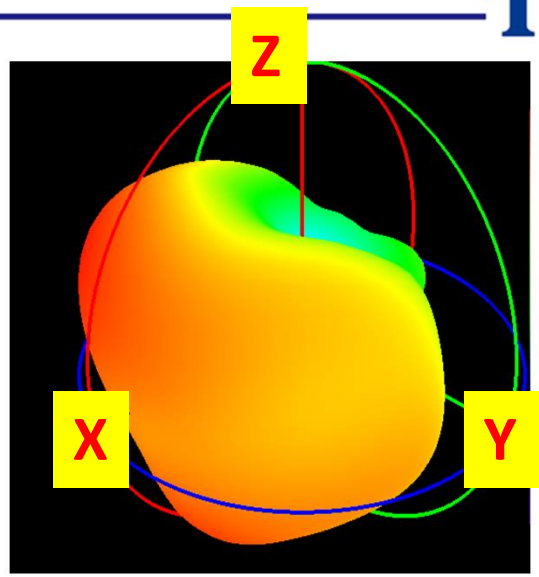


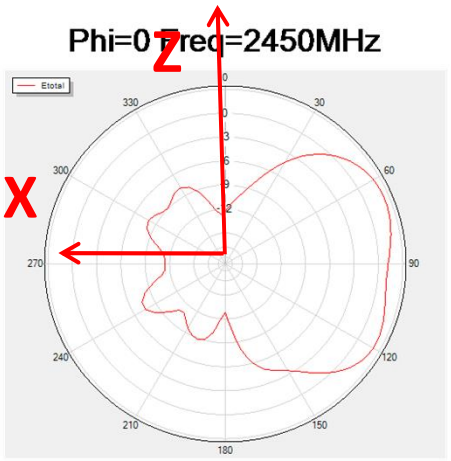
H（Theta=90）

Radiation Pattern

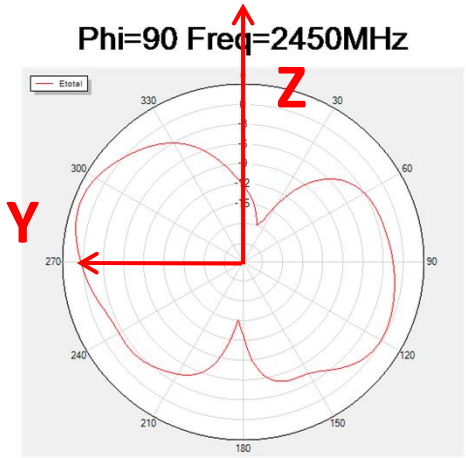
Ant4-2.4G



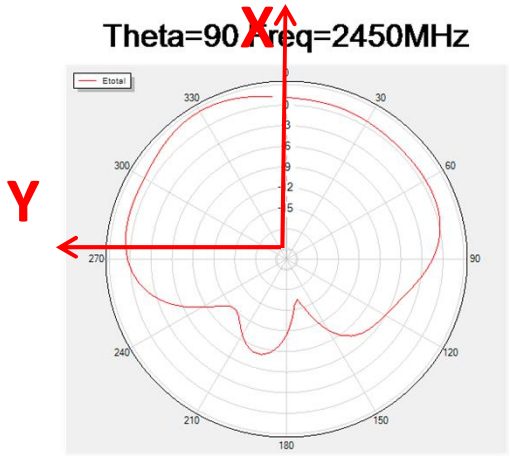




E1（Phi=0）



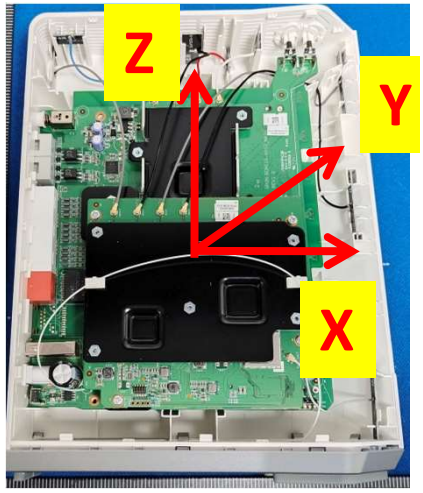
E2（Phi=90）

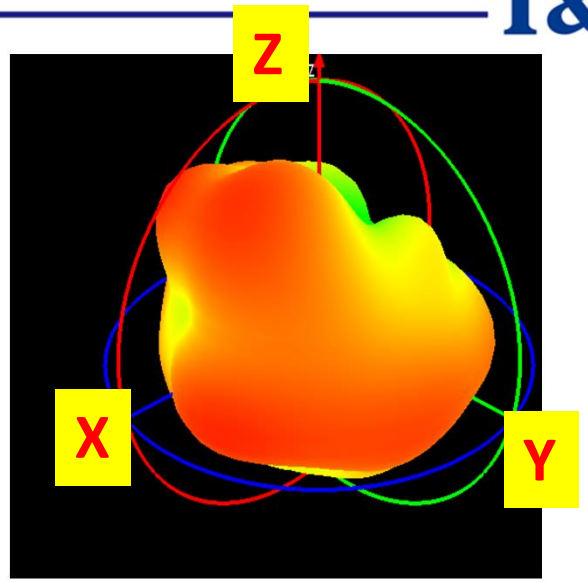


H（Theta=90）

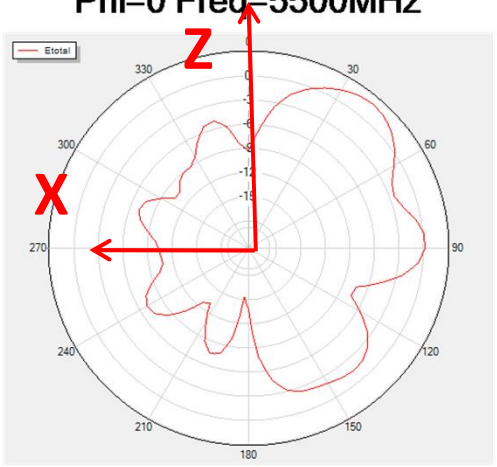
Radiation Pattern

Ant4-5G



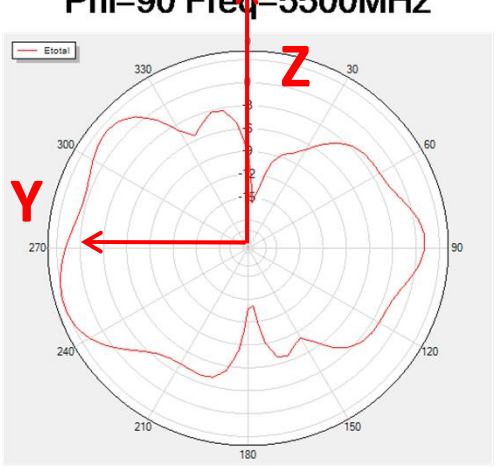


Phi=0 Freq=5500MHz



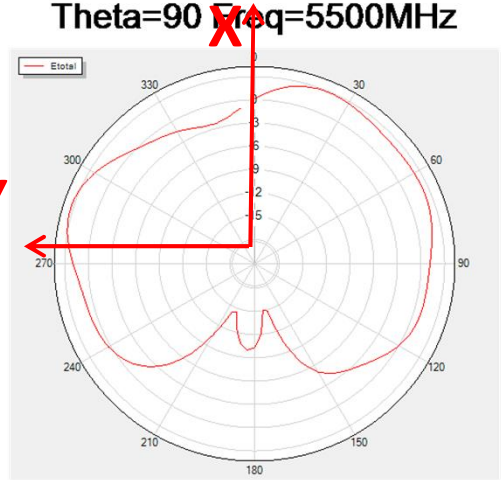
E1（Phi=0）

Phi=90 Freq=5500MHz



E2（Phi=90）

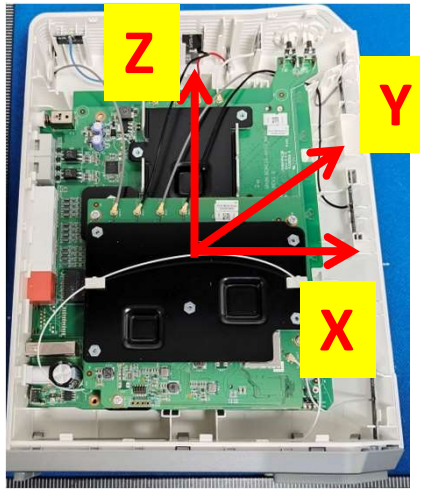
Theta=90 Freq=5500MHz

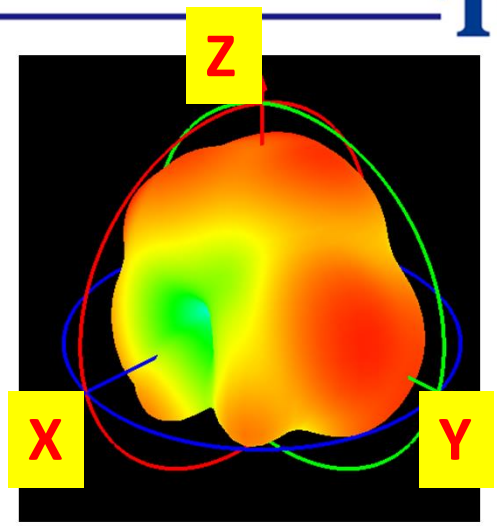


H（Theta=90）

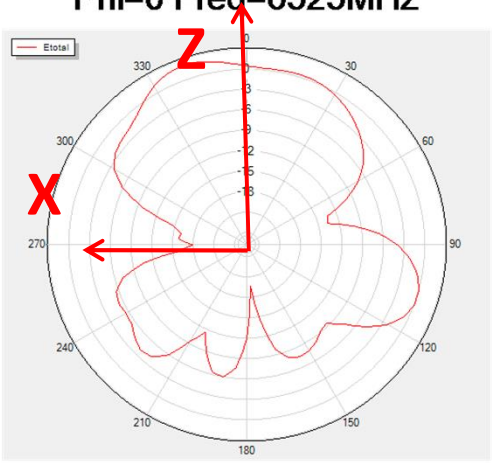
Radiation Pattern

Ant5-6G



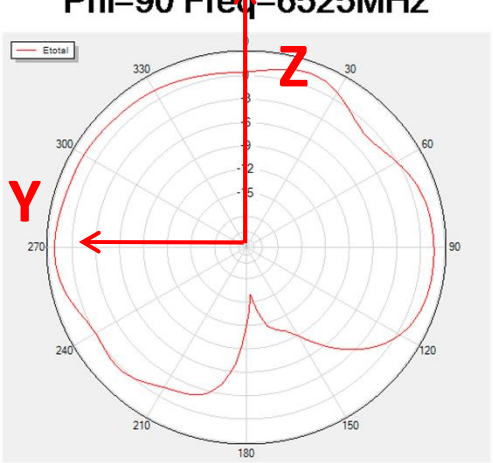


Phi=0 Freq=6525MHz



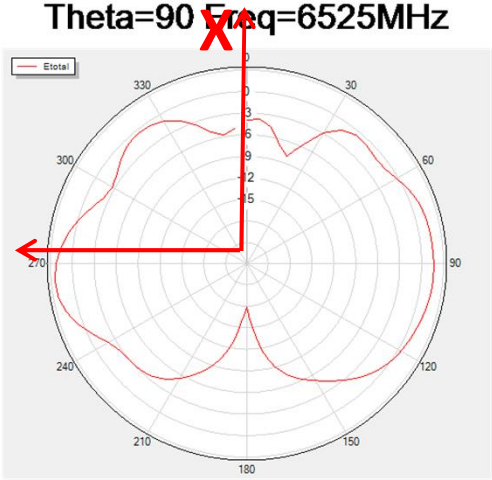
E1（Phi=0）

Phi=90 Freq=6525MHz



E2（Phi=90）

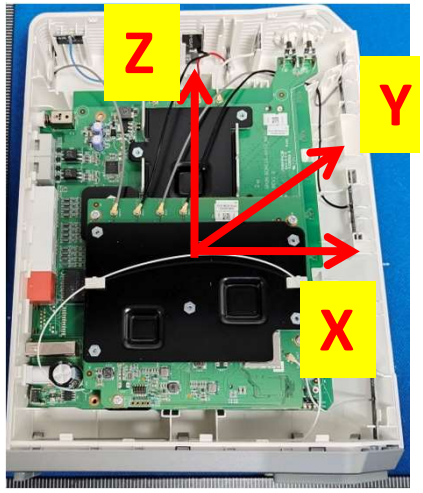
Theta=90 Freq=6525MHz

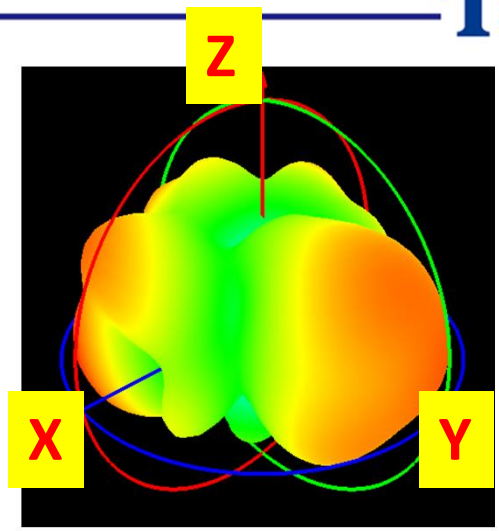


H（Theta=90）

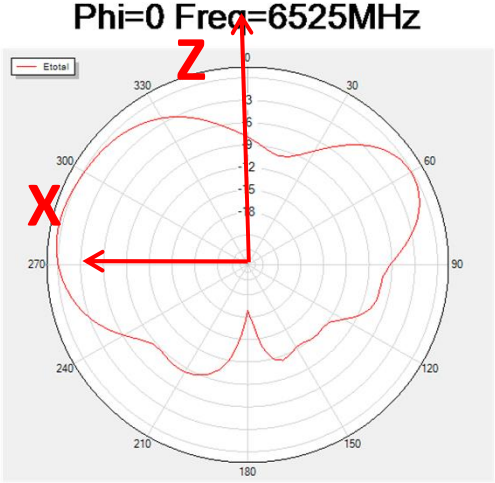
Radiation Pattern

Ant6-6G

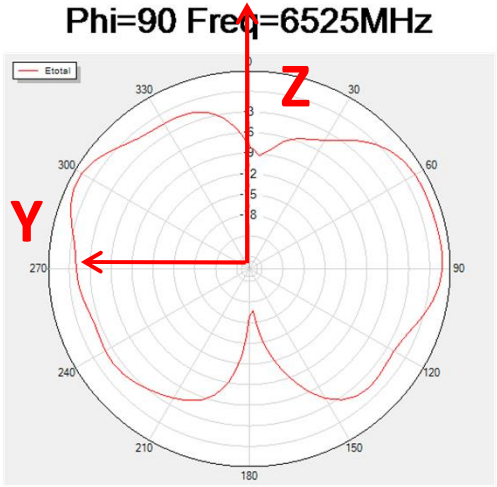




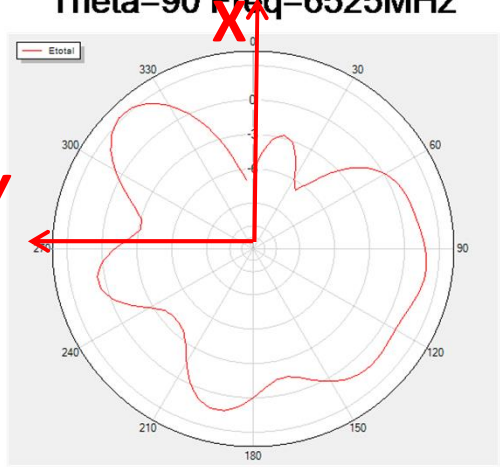
Phi=0 Freq=6525MHz



Phi=90 Freq=6525MHz



Theta=90 Freq=6525MHz



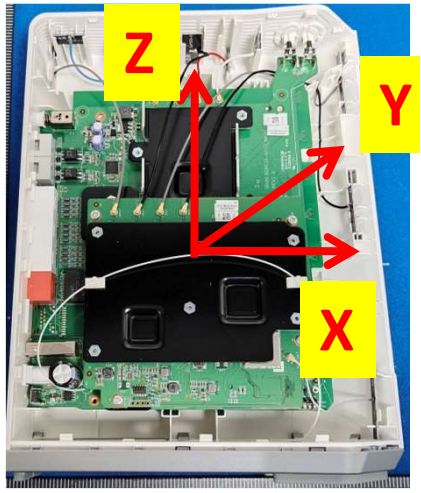
E1（Phi=0）

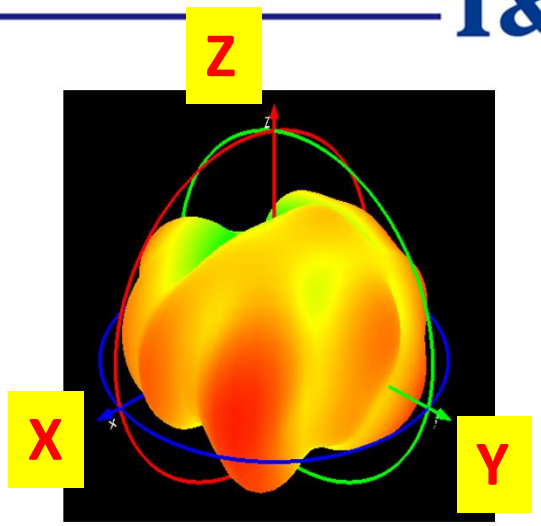
E2（Phi=90）

H（Theta=90）

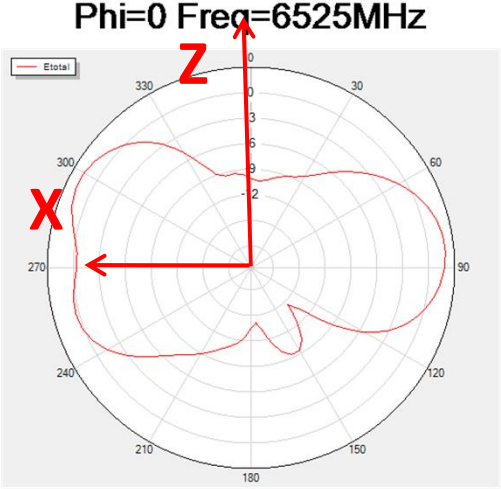
Radiation Pattern

Ant7-6G



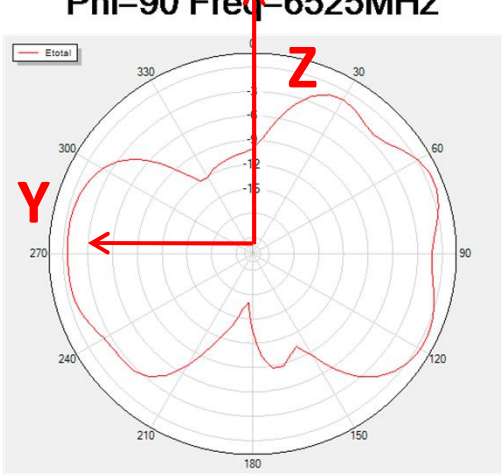


Phi=0 Freq=6525MHz



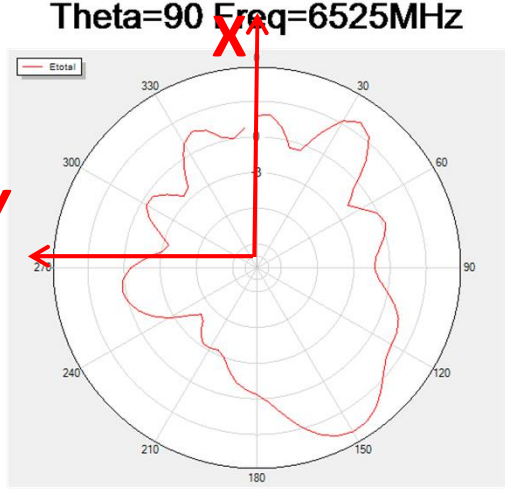
E1（Phi=0）

Phi=90 Freq=6525MHz



E2（Phi=90）

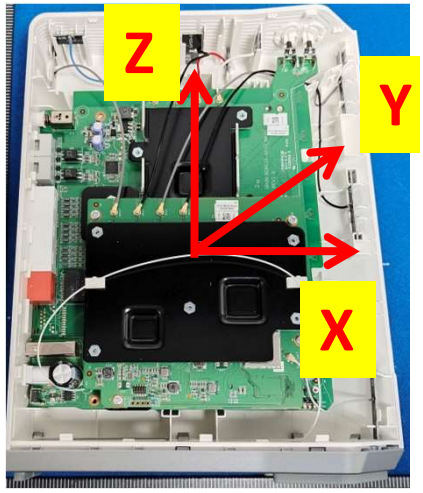
Theta=90 Freq=6525MHz

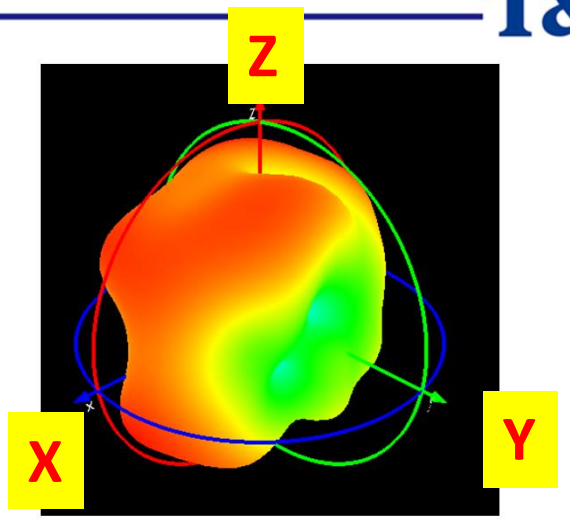


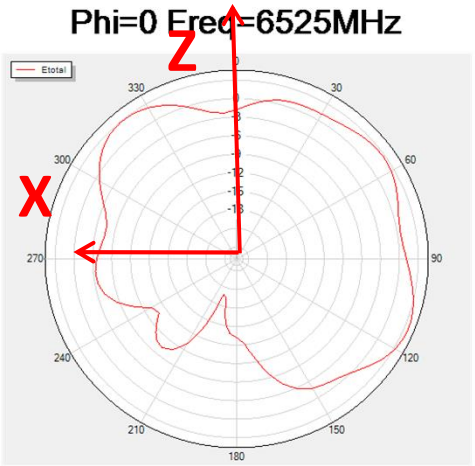
H（Theta=90）

Radiation Pattern

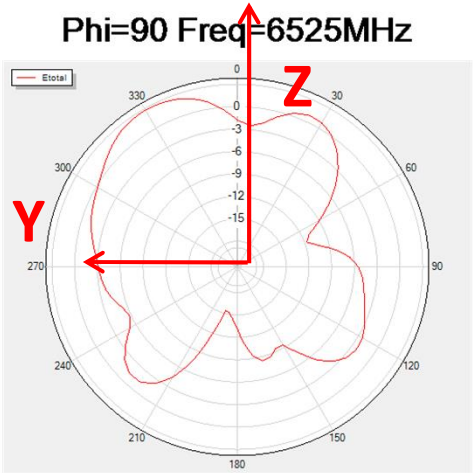
Ant8-6G



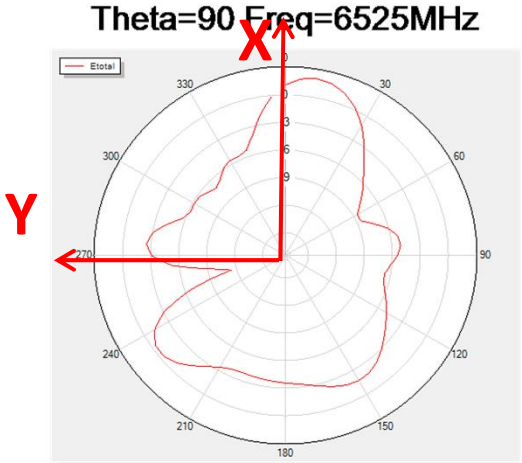




E1（Phi=0）



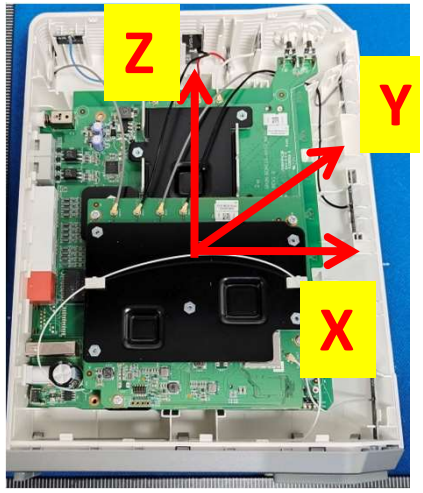
E2（Phi=90）

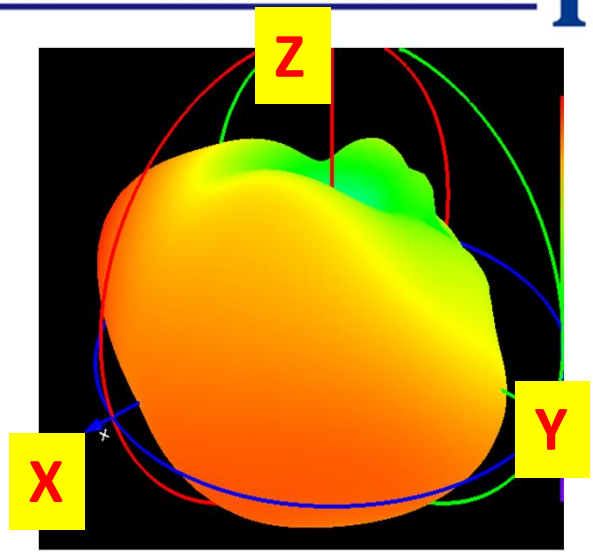


H（Theta=90）

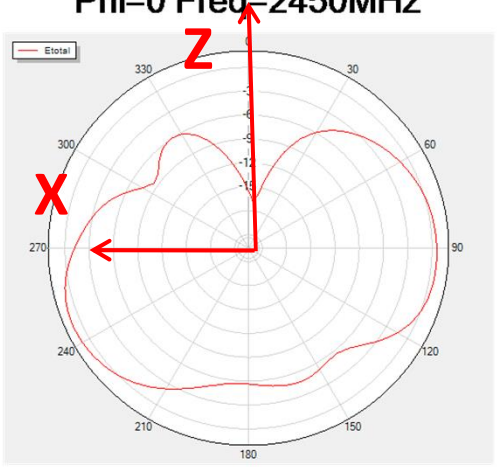
Radiation Pattern

Bluetooth

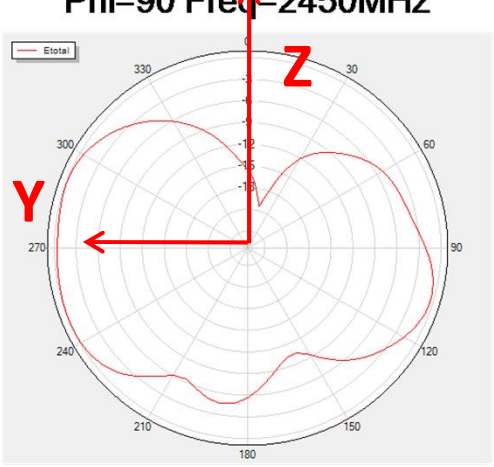




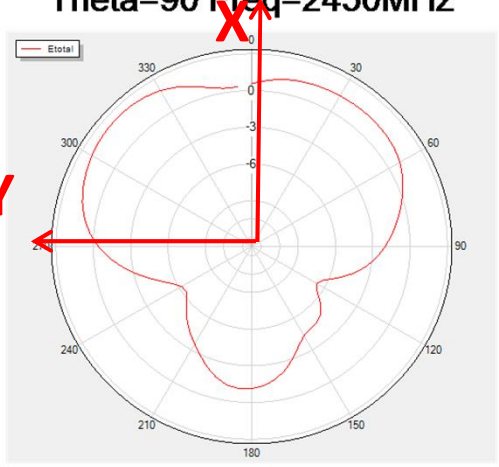
Phi=0 Freq=2450MHz



Phi=90 Freq=2450MHz



Theta=90 Freq=2450MHz



E1（Phi=0）

E2（Phi=90）

H（Theta=90）

Efficiency and Peak Gain

	ANT-1		ANT-2		ANT-3		ANT-4	
Frequency	Efficiency	Gain(dBi)	Efficiency	Gain(dBi)	Efficiency	Gain(dBi)	Efficiency	Gain(dBi)
2.4	65%	3.3	71%	3.7	68%	3.2	65%	3.8
2.45	68%	3.4	67%	3.7	70%	3.7	67%	3.5
2.5	67%	3.1	68%	3.3	71%	3.7	70%	3.6
5.15	71%	3.5	65%	4.0	67%	3.6	66%	3.9
5.55	68%	4.2	66%	3.9	67%	3.8	66%	4.2
5.85	68%	4.3	66%	4.1	71%	4.1	68%	4.3

Efficiency and Peak Gain:

	ANT-5		ANT-6		ANT-7		ANT-8	
Frequency	Efficiency	Gain(dBi)	Efficiency	Gain(dBi)	Efficiency	Gain(dBi)	Efficiency	Gain(dBi)
5.925	67%	3.6	68%	4.2	66%	4.4	67%	4.2
6.525	68%	3.9	68%	4.4	71%	4.7	68%	4.4
7.125	71%	4.4	70%	4.6	72%	4.9	70%	4.5

	Bluetooth	
Frequency	Efficiency	Gain(dBi)
2.4	66%	3.6
2.5	68%	3.5

Efficiency and Peak Gain

Test results

Used for FCC and CE certification

Frequency (GHz)		2.400	2.45	2.5
Peak Gain (dBi)	ANT1	3.3	3.4	3.1
	ANT2	3.7	3.7	3.3
	ANT3	3.2	3.7	3.7
	ANT4	3.8	3.5	3.6
Directional Gain (dBi)	4S4T	1.63	1.81	1.85

Frequency (GHz)		5.15	5.55	5.85
Peak Gain (dBi)	ANT1	3.5	4.2	4.3
	ANT2	4.0	3.9	4.1
	ANT3	3.6	3.8	4.1
	ANT4	3.9	4.2	4.3
Directional Gain (dBi)	4S4T	1.96	2.03	2.11

Frequency (GHz)		5.925	6.525	7.125
Peak Gain (dBi)	ANT5	3.6	3.9	4.4
	ANT6	4.2	4.4	4.6
	ANT7	4.4	4.7	4.9
	ANT8	4.2	4.4	4.5
Directional Gain (dBi)	4S4T	2.26	2.19	2.06

Directional gain = $10 \log[(10^{G1\ phi\ /10} + 10^{G2\ phi\ /10} + \ldots + 10^{GN\ phi\ /10}) /N_{ANT} + (10^{G1\ theta\ /10} + 10^{G2\ theta\ /10} + \ldots + 10^{GN\ theta\ /10}) /N_{ANT}]$ dBi

Summary

◆ANT efficient： 65%~71%@2.4G，66%~71%@5G，66%~72%@6G
◆2.4G ANT peak gain＜3.7dBi
◆5G ANT peak gain＜4.3dBi
◆6G ANT peak gain＜4.6dBi

T&W

Thanks!