



ADT SD-EXT09 Antenna Test Report

Date : Jun. 9, 2022

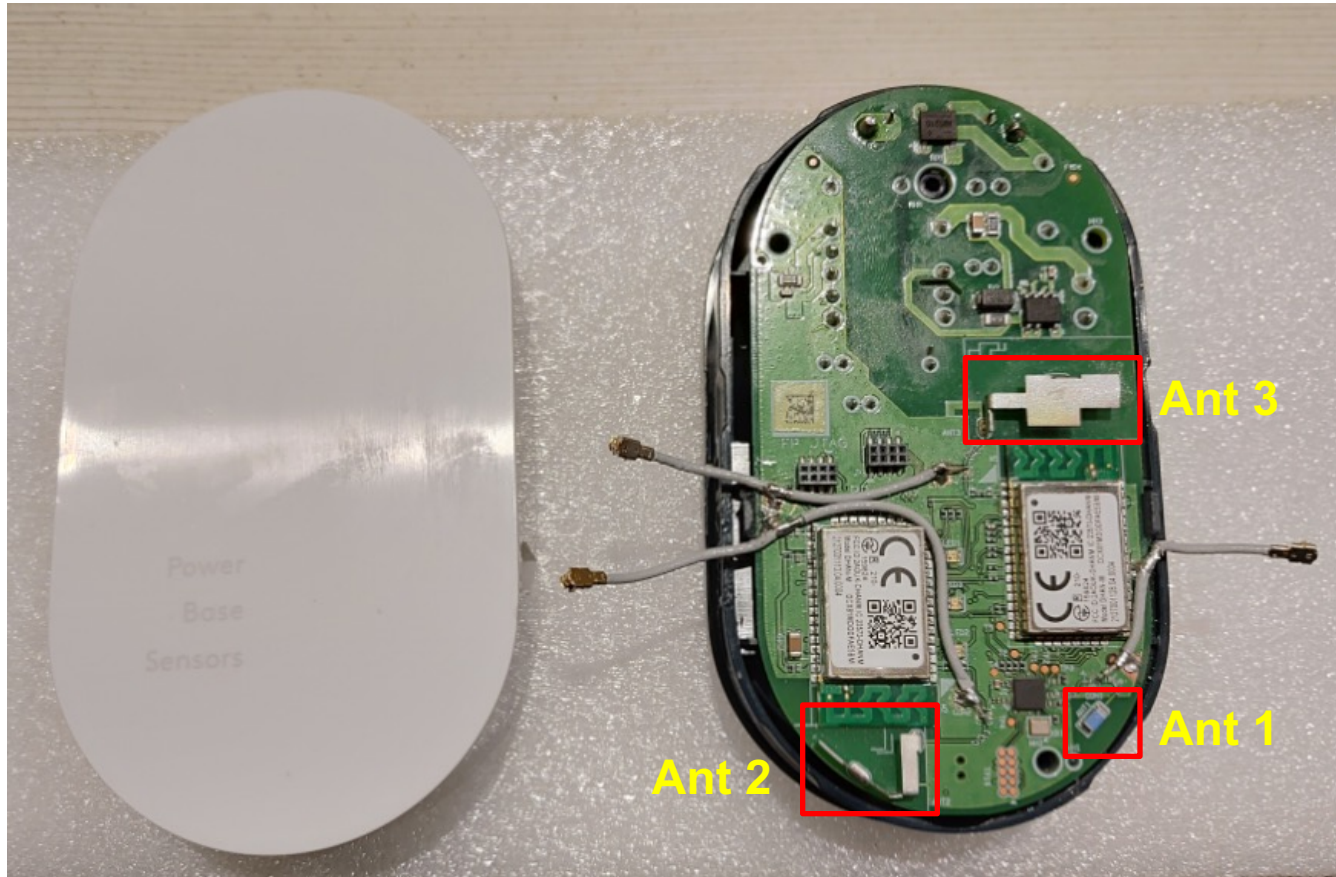
Prepared by : Jerry Ko



Outline

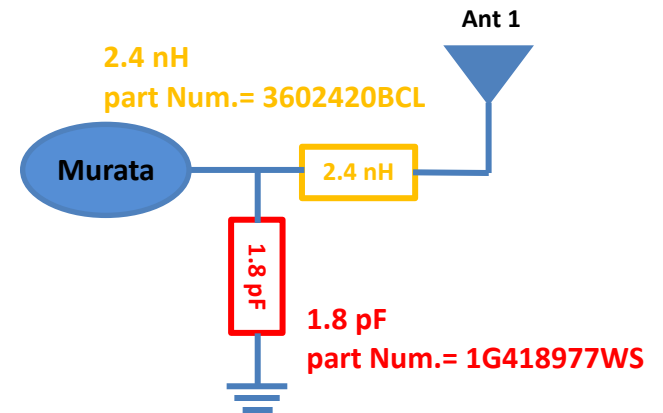
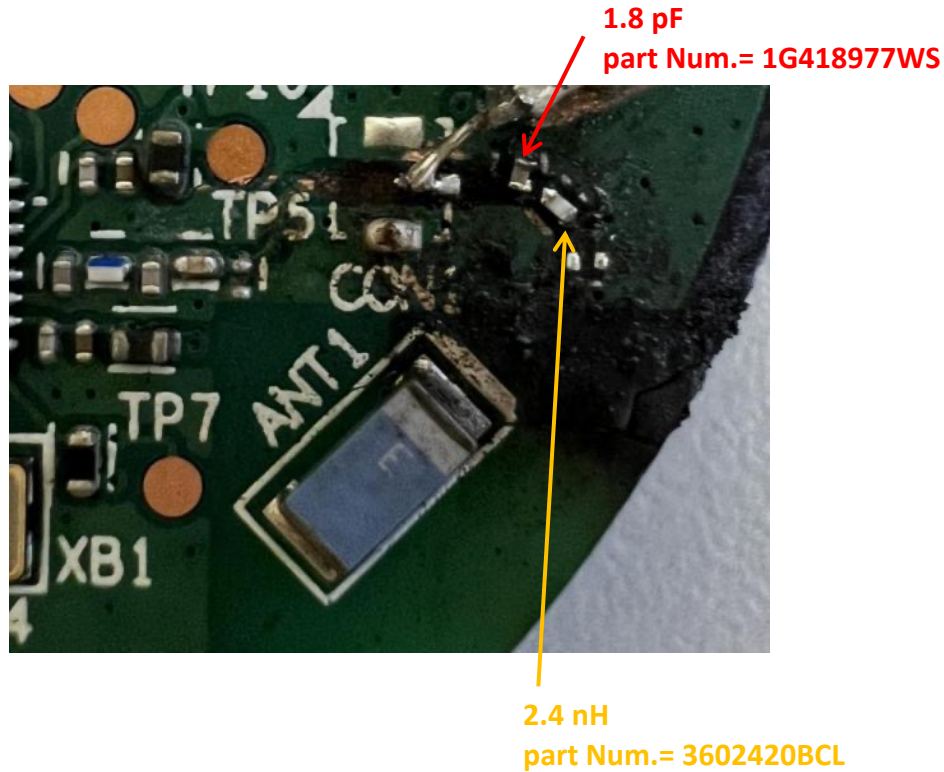
- Antenna Structure & Placement
- Return Loss & Isolation
- Radiation Pattern
- Peak Gain & Efficiency

Antenna Structure & Placement

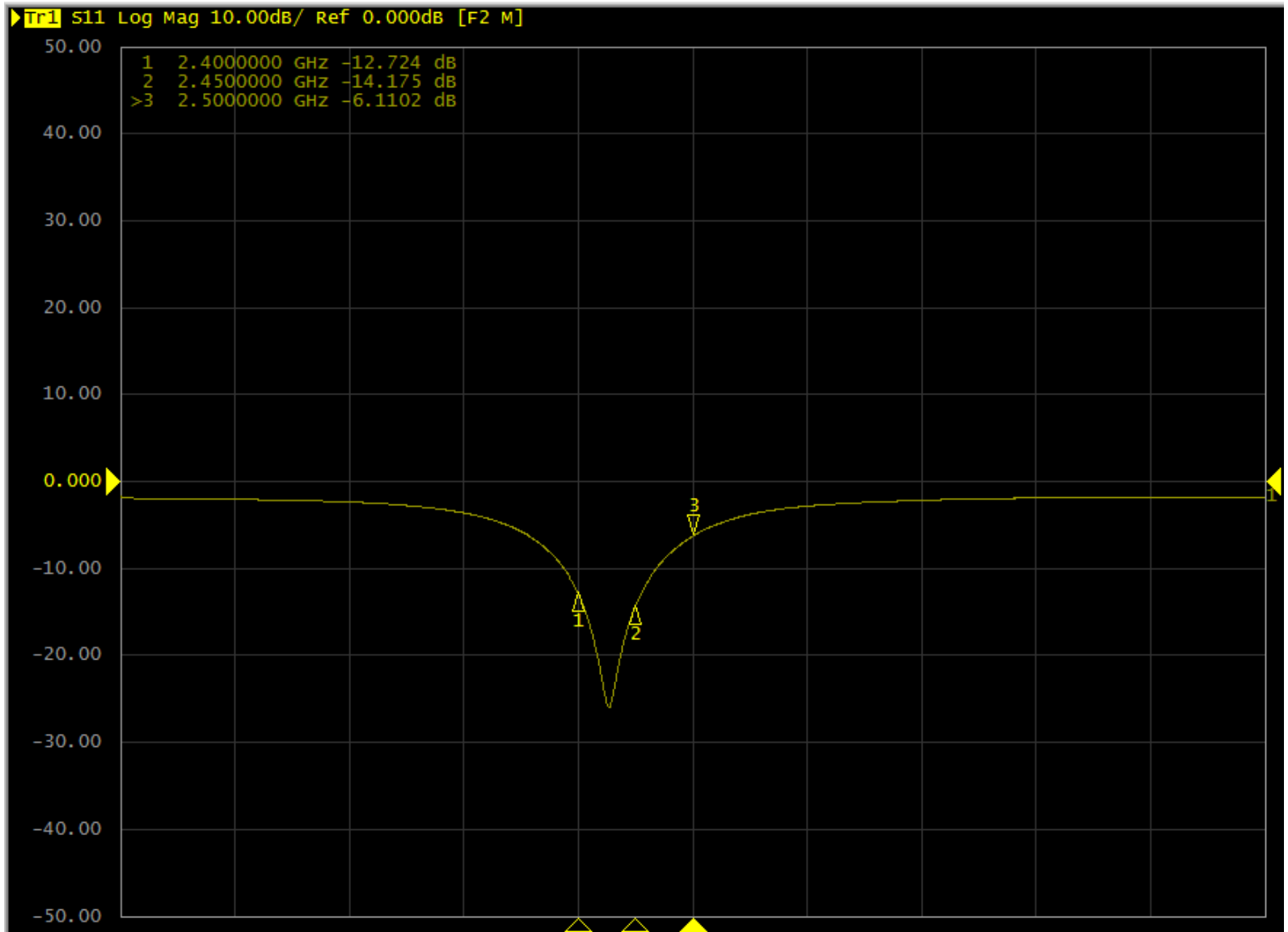


Antenna No.	Operating Band	Type	Material	Feeding	Size
Ant 1	BT	Chip	Ceramic	Trace	3.2(L) x 1.6(W) x 0.6(H) mm ³
Ant 2	DECT	PIFA	Metal	Trace	12.7(L) x 9.4(W) x 6.4(H) mm ³
Ant 3	DECT	PIFA	Metal	Trace	18.9(L) x 7.2(W) x 6.4(H) mm ³

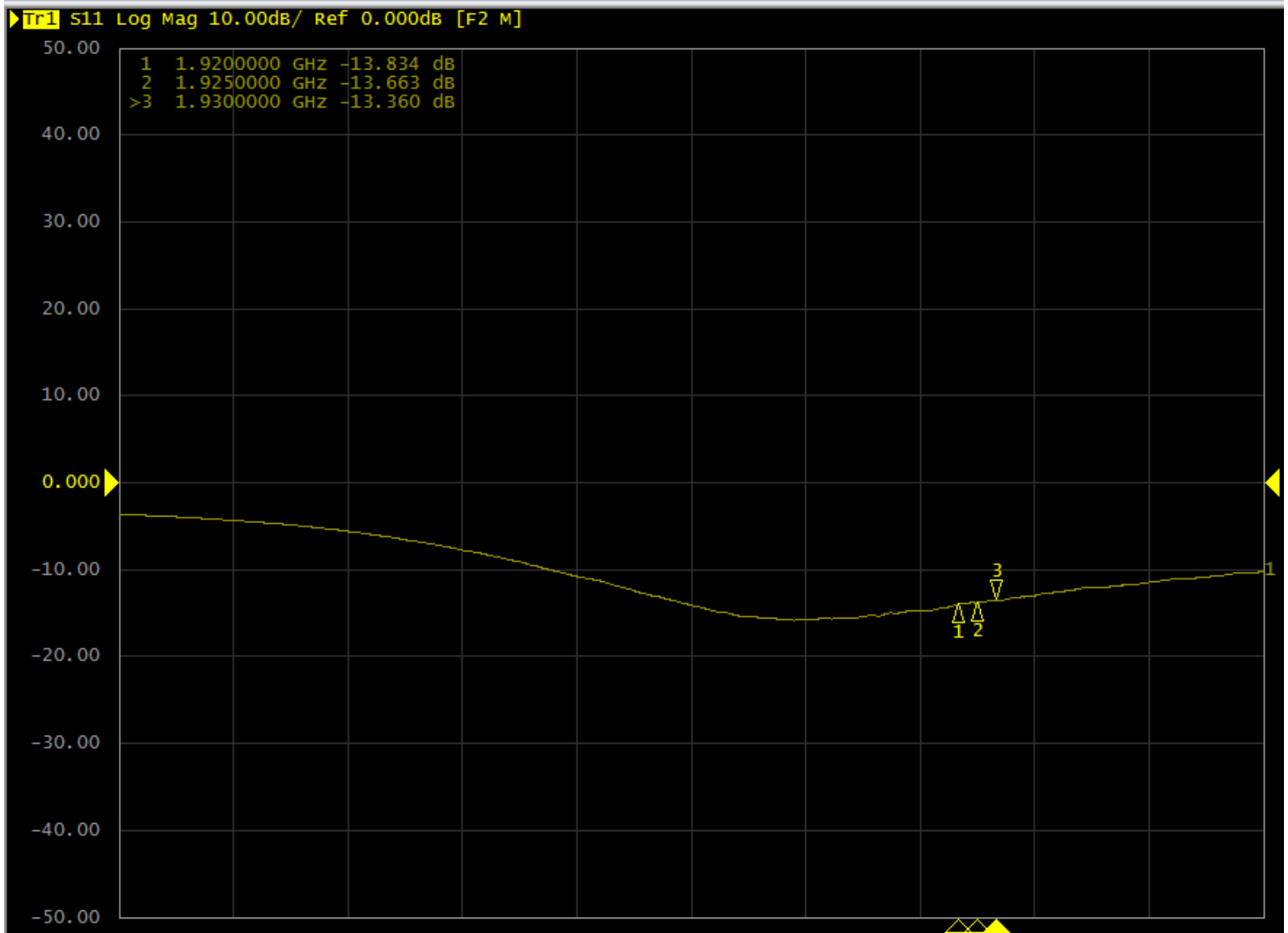
BT Matching Circuit



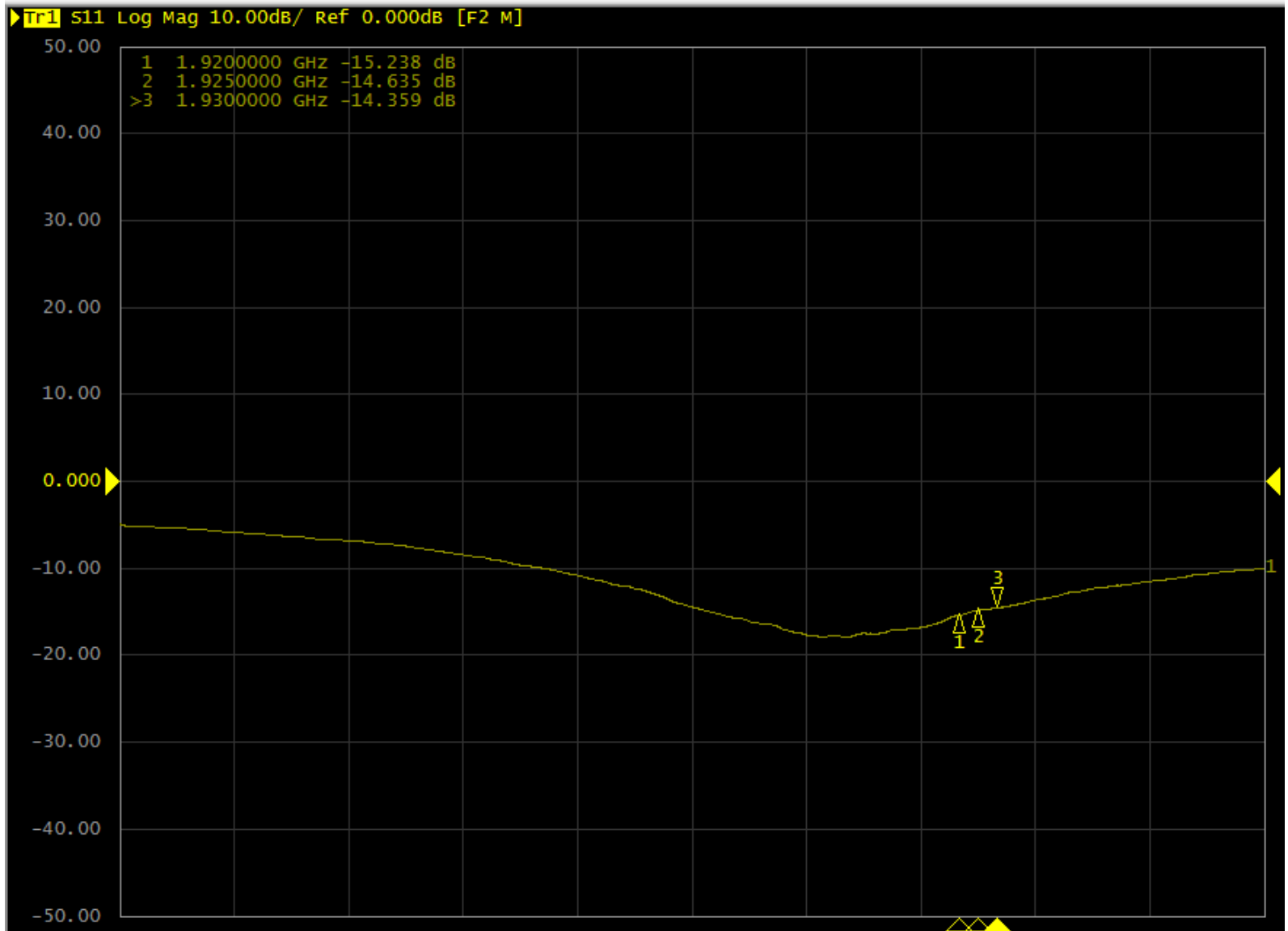
Return Loss - Ant 1



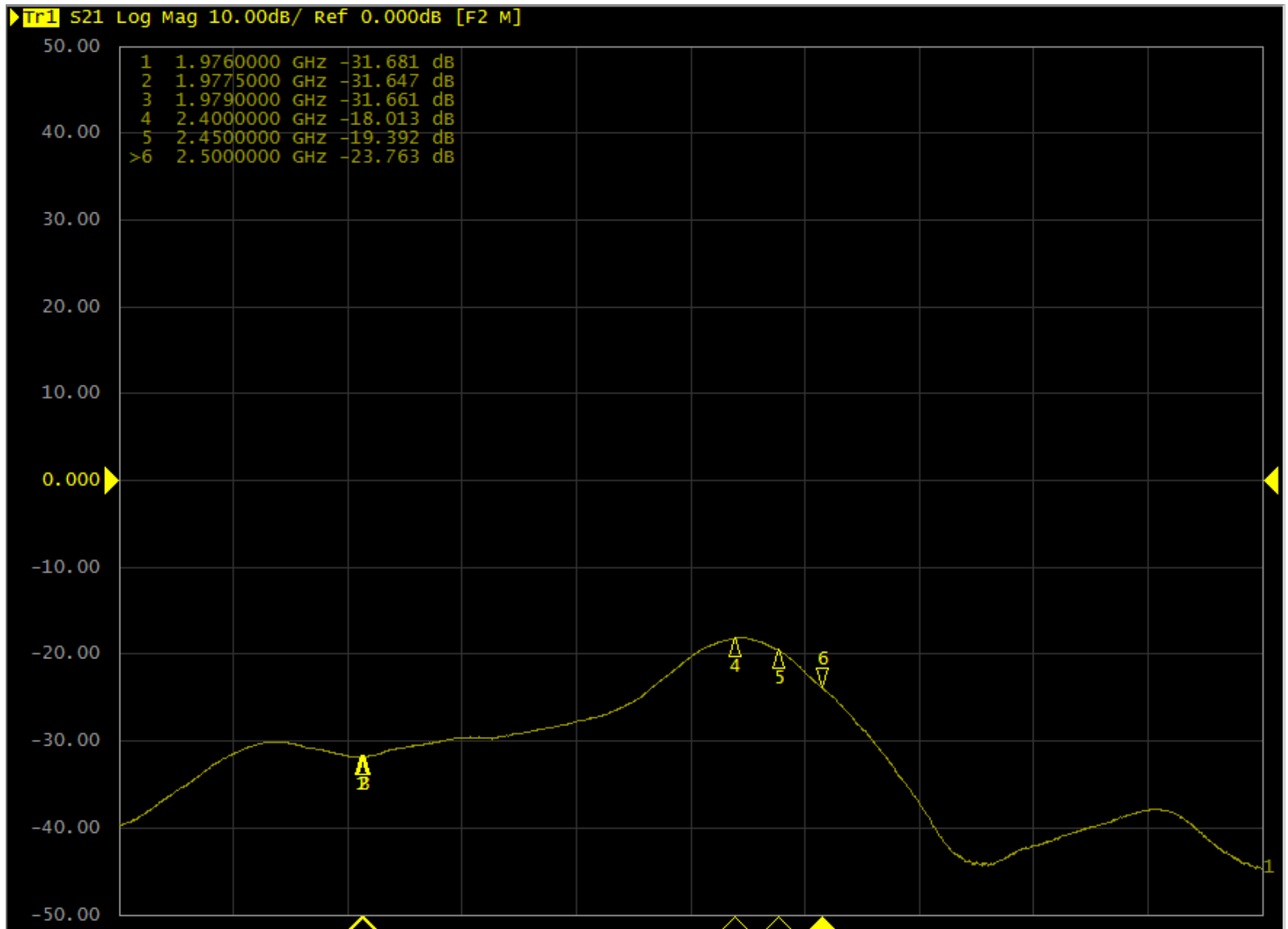
Return Loss - Ant 2



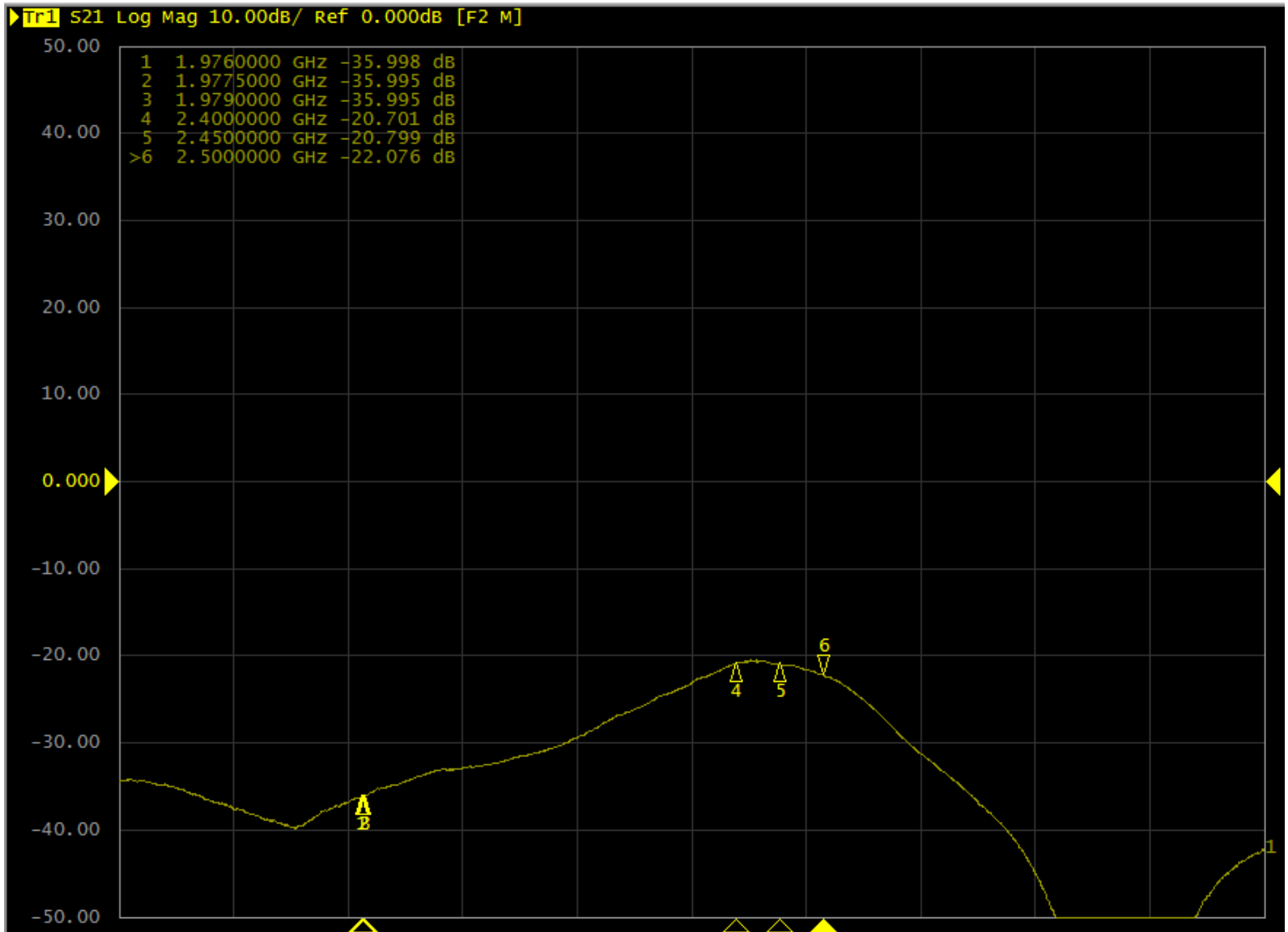
Return Loss - Ant 3



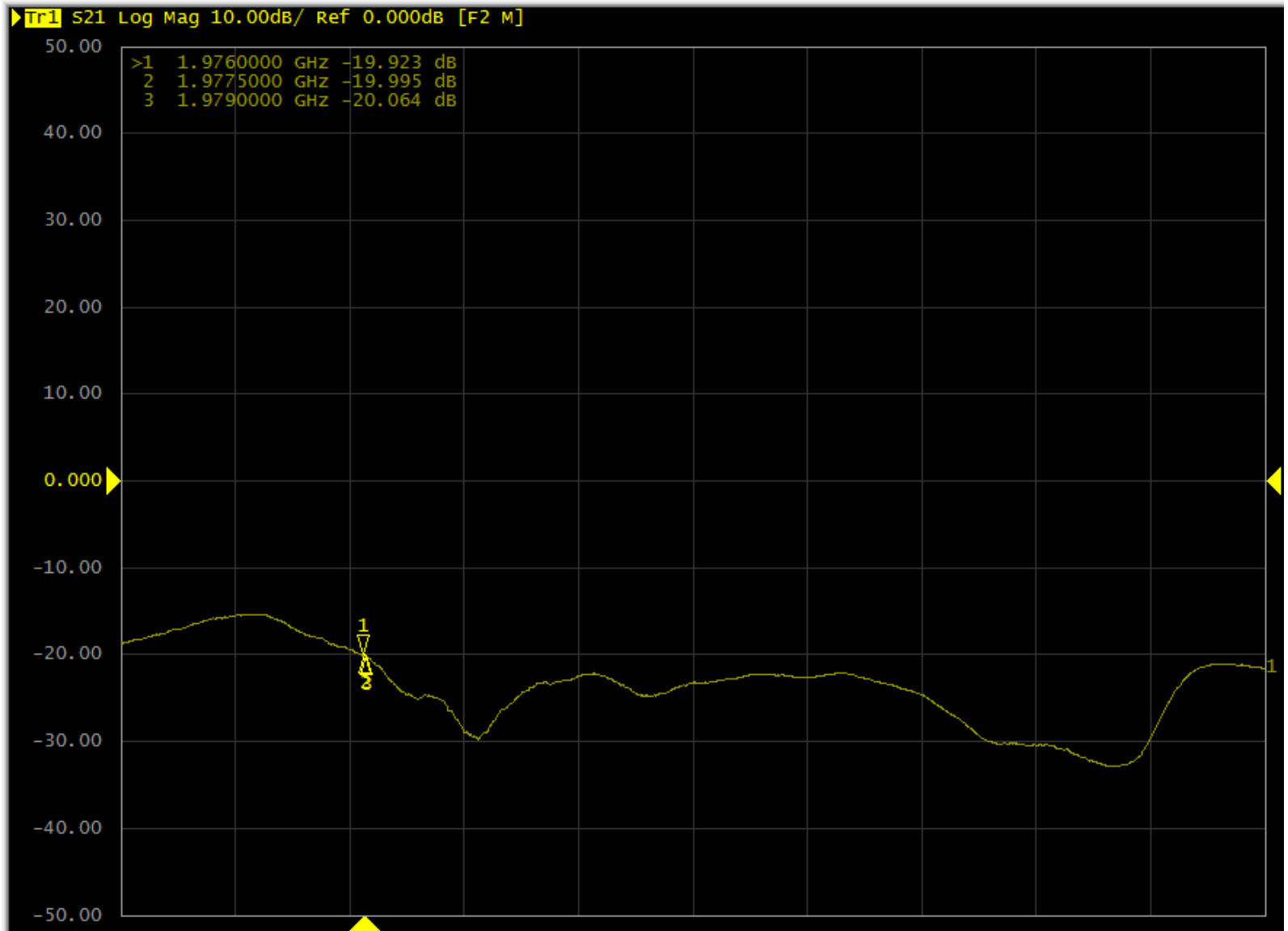
Isolation - Ant 1 to Ant 2



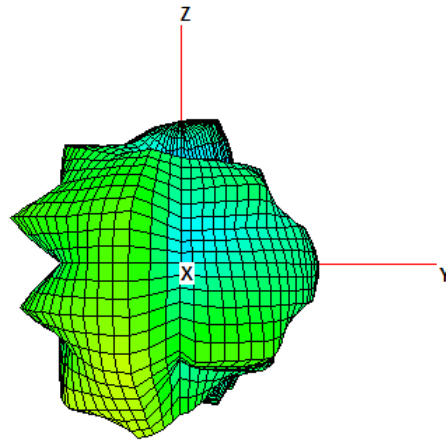
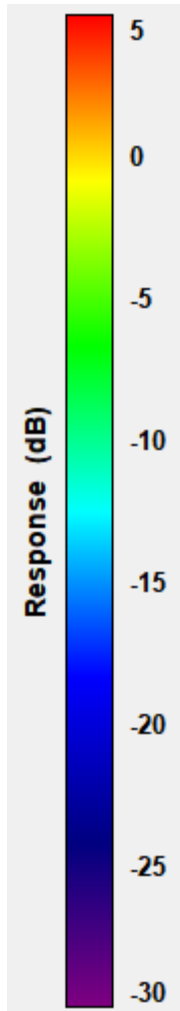
Isolation - Ant 1 to Ant 3



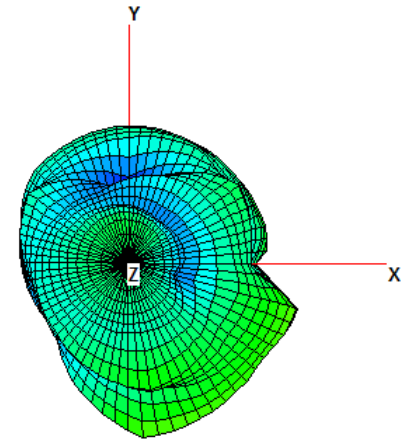
Isolation - Ant 2 to Ant 3



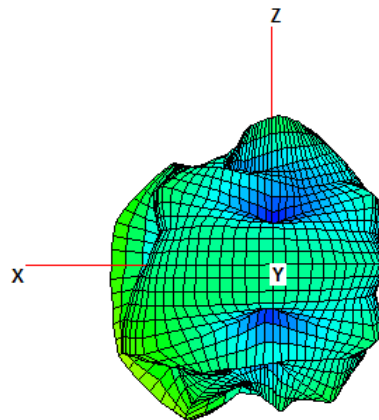
Radiation Pattern – Ant 1 @ BT



YZ-Plane



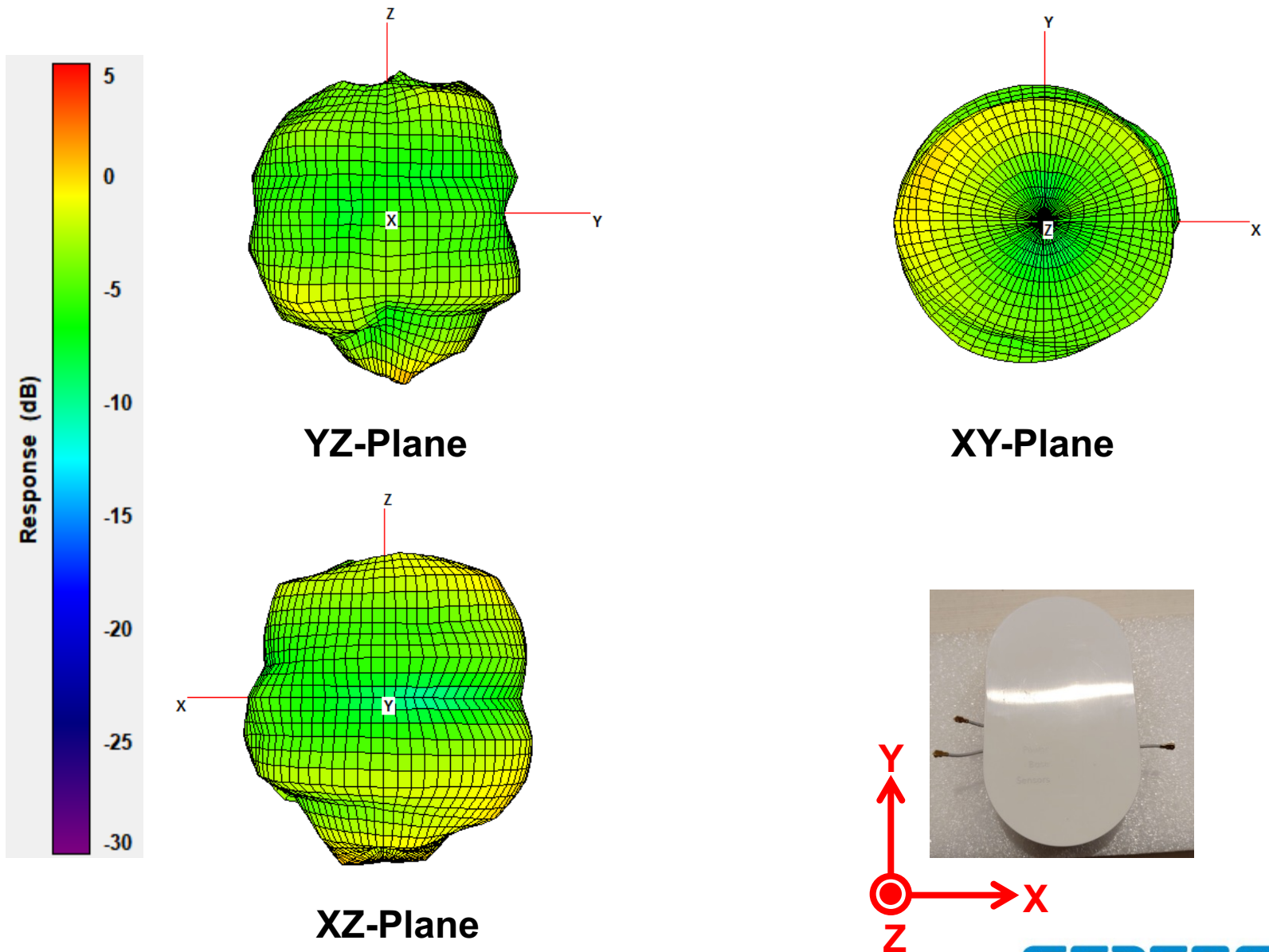
XY-Plane



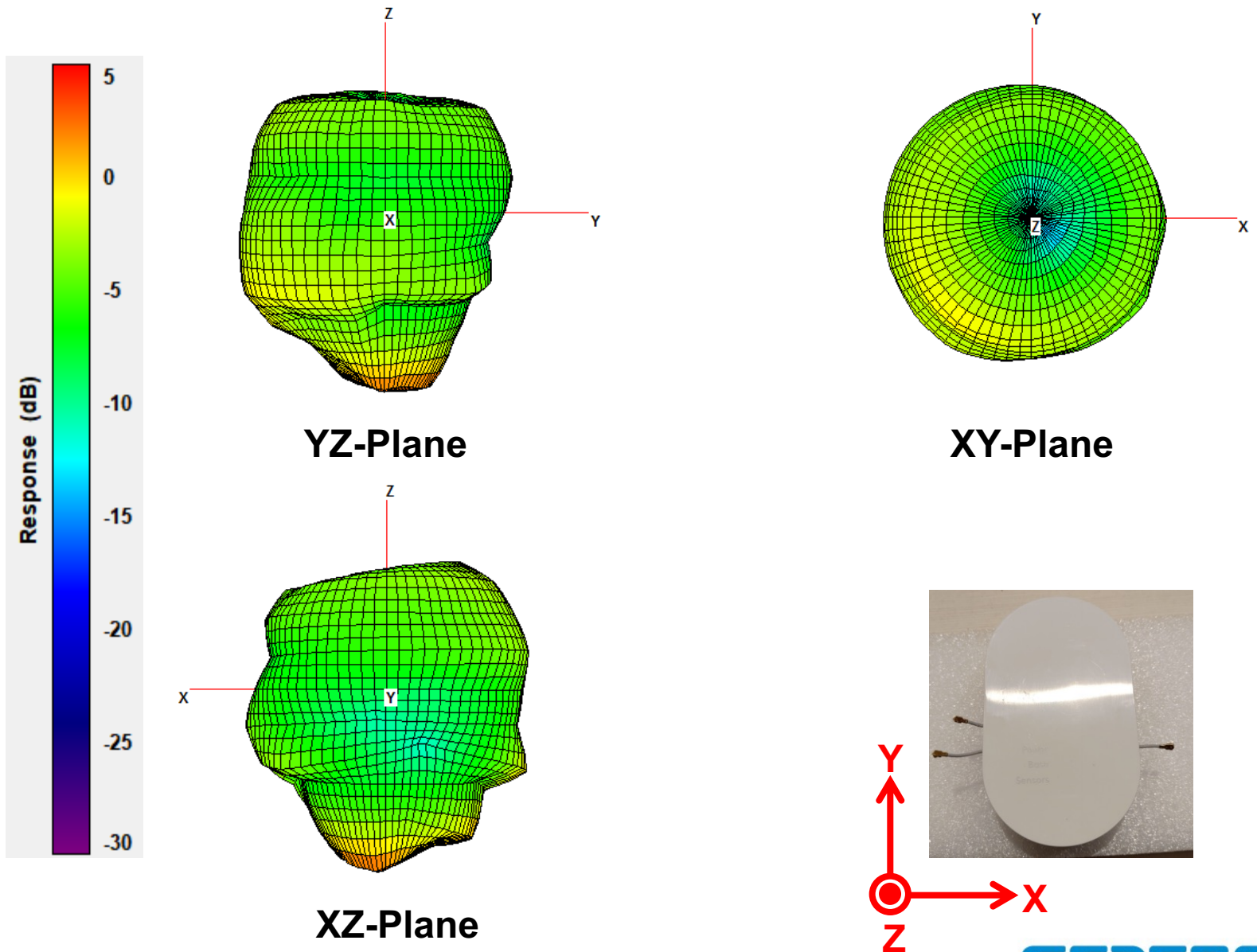
XZ-Plane



Radiation Pattern – Ant 2 @ DECT



Radiation Pattern – Ant 3 @ DECT



Peak Gain & Efficiency

Frequency		1.92GHz	1.925GHz	1.93GHz	2.4GHz	2.45GHz	2.5GHz
Ant 1 (BT)	Efficiency (%)	X			12	15	13
	Peak Gain (dBi)				-3.5	-1.9	-1.6
Ant 2 (DECT)	Efficiency (%)	65	66	66	X		
	Peak Gain (dBi)	1.7	1.7	1.8			
Ant 3 (DECT)	Efficiency (%)	66	67	65			
	Peak Gain (dBi)	2.9	2.9	2.7			

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