



喬暘

SV510XW-0906

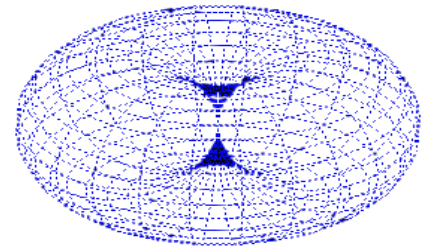
Engineer : Aiden

Report date : 2025/04/18 REV.04



Executive Summary

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Revision History

Revision	Date	Engineer	Description
01	2024/11/15	Aiden	New Release
02	2024/11/19	Aiden	Change ANT1 Cable Length to 400 mm
03	2025/01/14	Aiden	Check antennas performance for DUT
04	2025/04/18	Aiden	Check antenna performance of the new cable routing for ANT1

Antenna Specification

Item	ANT1	ANT2
Operating Frequency(MHz)	2400-2500	2400-2500
Bandwidth	100 MHz (Min.)	100 MHz (Min.)
Return Loss	10 dB (Min.)	10 dB (Min.)
Peak Gain	2.58 dBi (Max)	2.74 dBi (Max)
Impedance	50Ω	50Ω
Material	FPC	FPC
Maximum Power	1W	1W
V.S.W.R	2 : 1	2 : 1
Efficiency	53 %(Max.)	65 %(Max.)

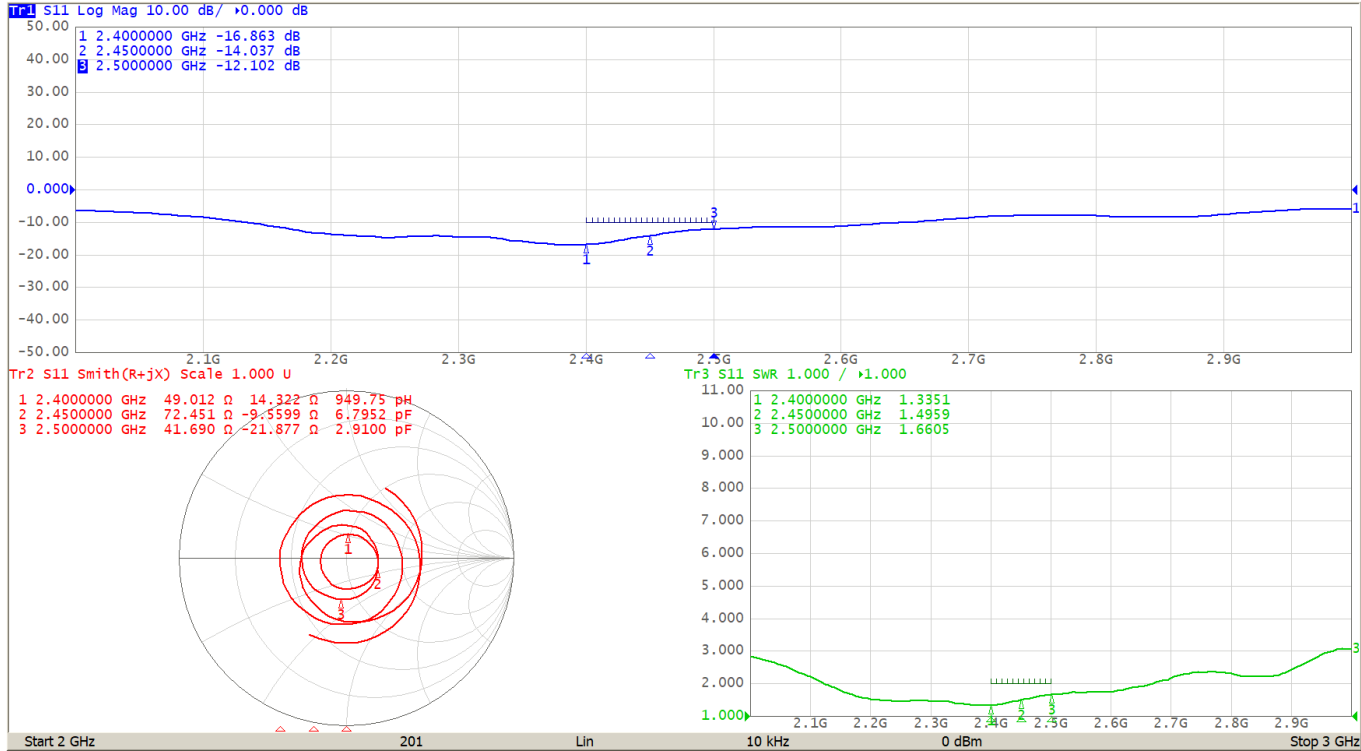
S-Parameter Result

Return Loss(dB)			
ANT \ Freq.(MHz)	2400	2450	2500
ANT1	16.8	14.0	12.1
ANT2	22.4	19.6	14.9

Isolation(dB)			
ANT \ Freq.(MHz)	2400	2450	2500
ANT1&ANT2	51.9	51.1	51.5

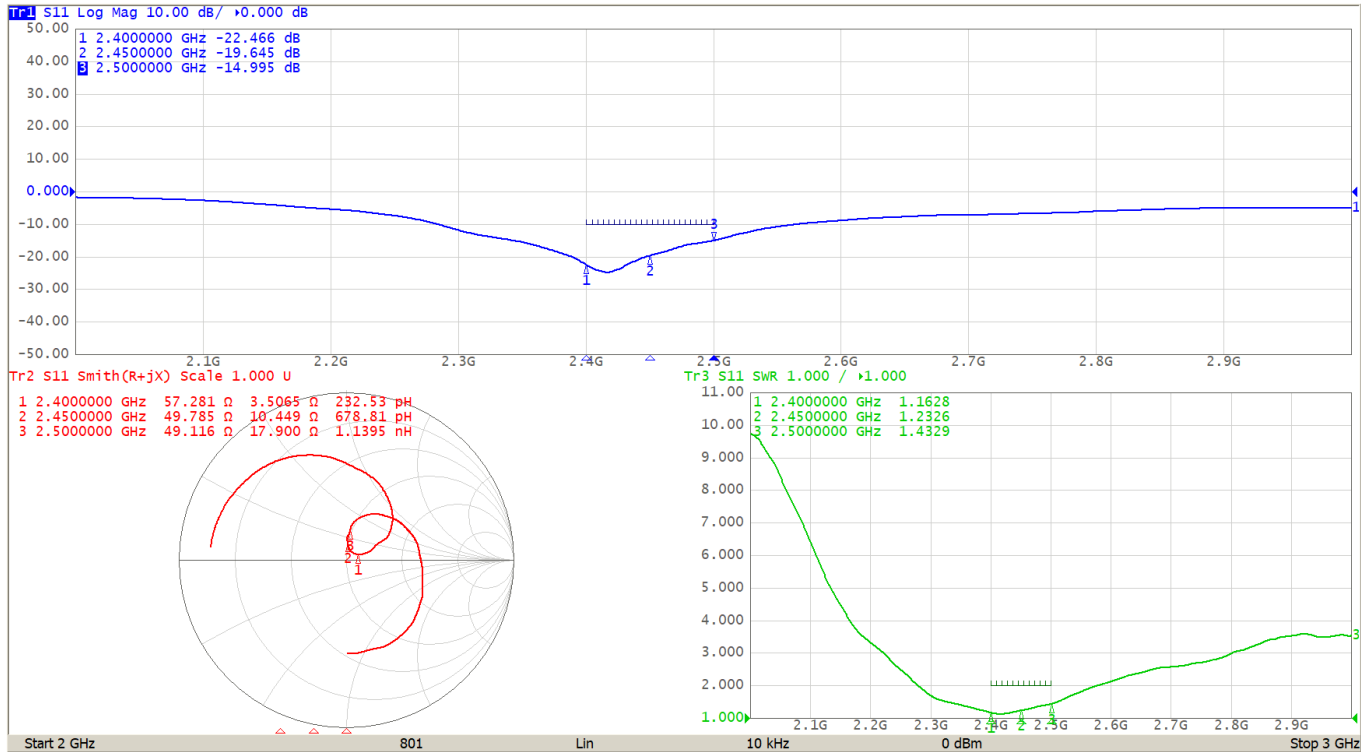
S-Parameter Result

ANT1

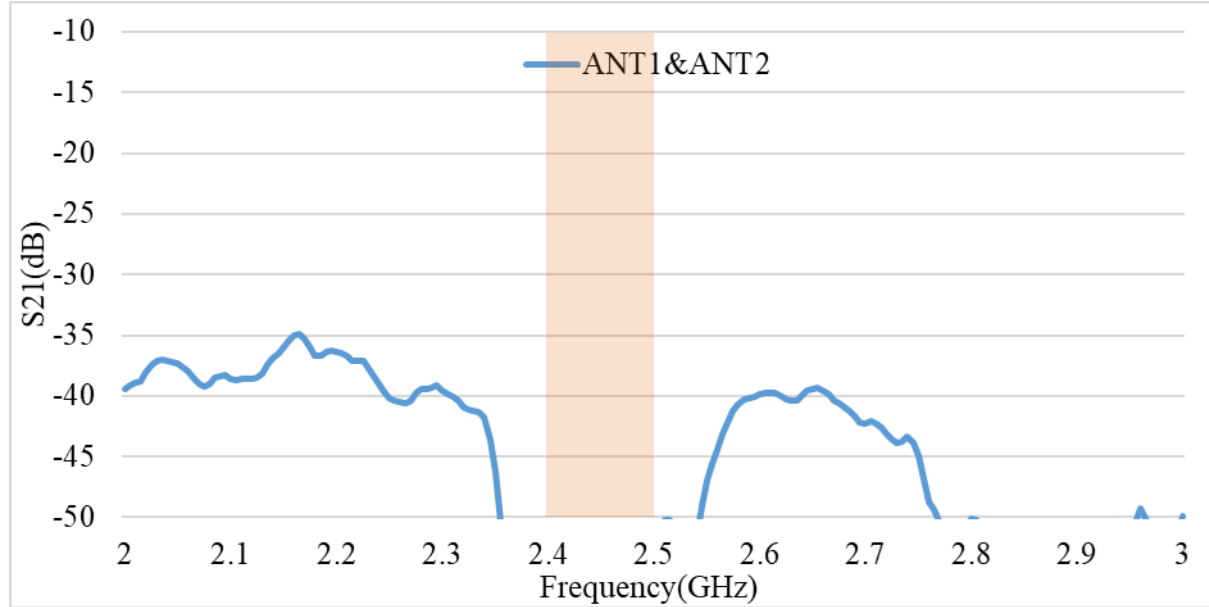


S-Parameter Result

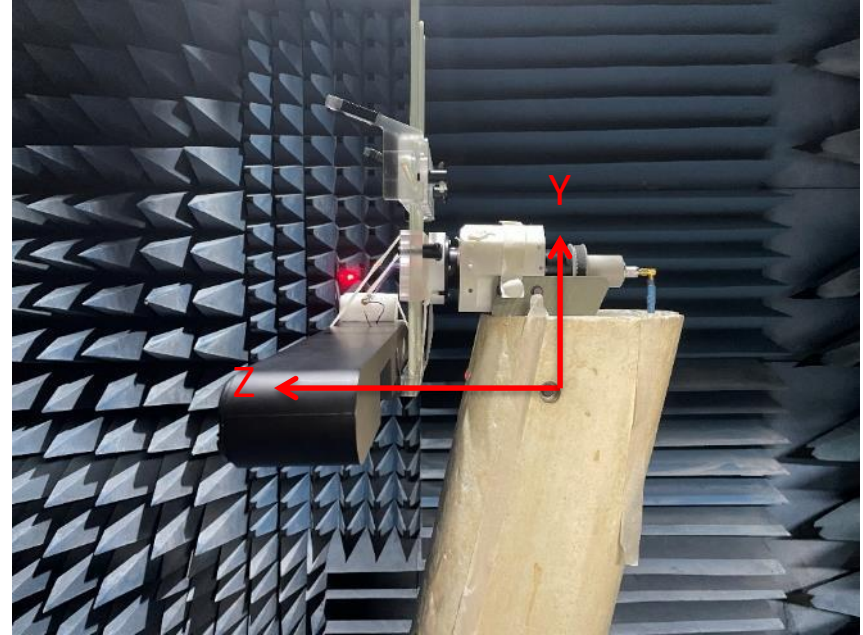
ANT2



Isolation Result



Chamber Measurement Photo



Peak Gain 、 Efficiency Result

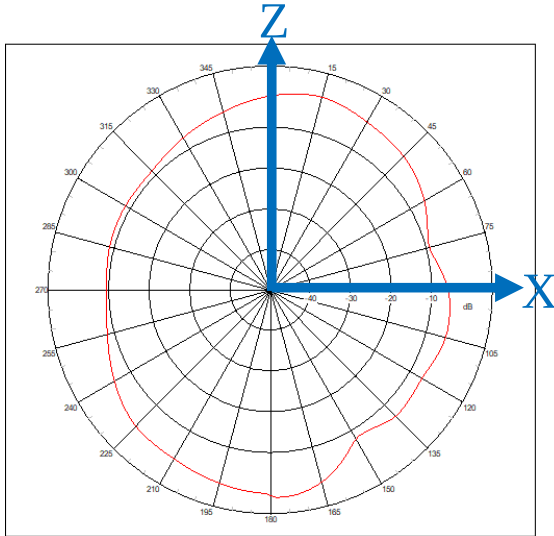
Frequency(GHz)	ANT1		ANT2	
	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)
2.4	2.19	48	2.32	62
2.41	2.16	49	2.47	63
2.42	2.31	50	2.55	64
2.43	2.46	51	2.74	65
2.44	2.56	52	2.64	64
2.45	2.58	53	2.41	63
2.46	2.42	51	2.44	63
2.47	2.29	50	2.51	63
2.48	2.29	49	2.31	62
2.49	2.16	48	2.2	61
2.5	1.97	47	2.13	60

2D Antenna Pattern

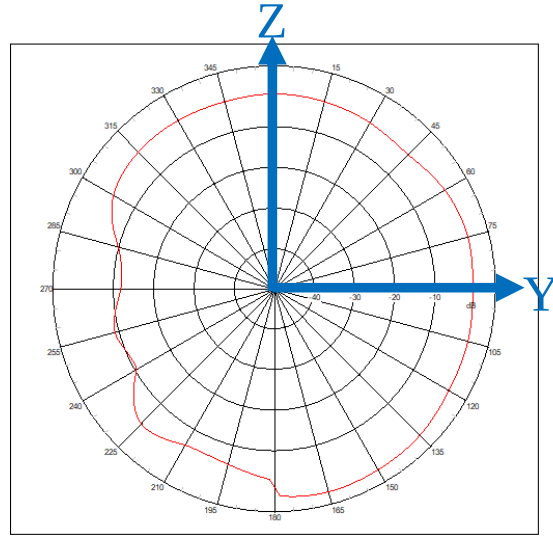
ANT1

Frequency : 2450 MHz

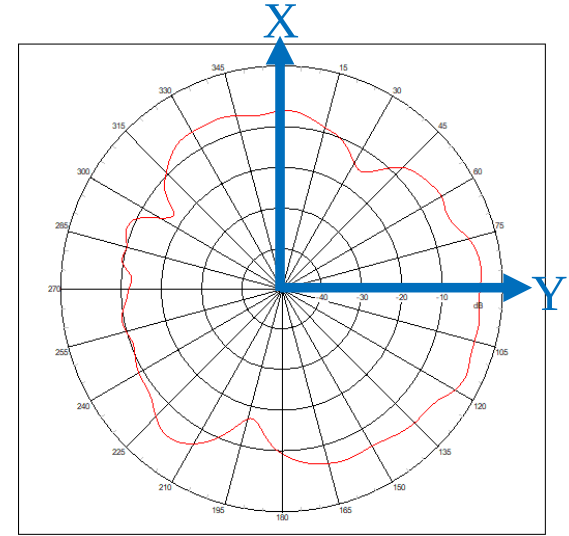
XZ-plane



YZ-plane



XY-plane



Far-field amplitude limits:

Max: 5dB

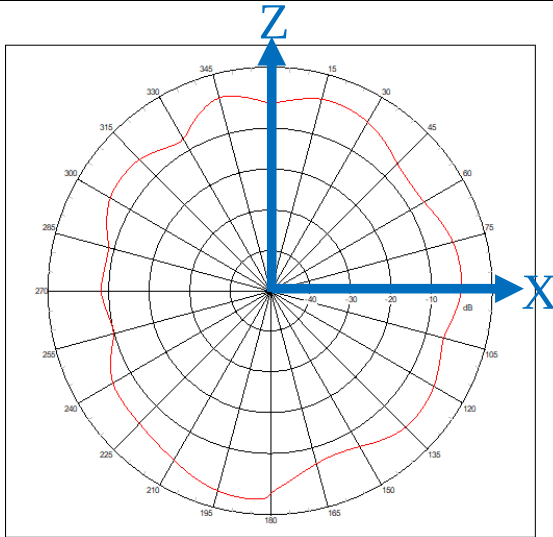
min: -50dB

2D Antenna Pattern

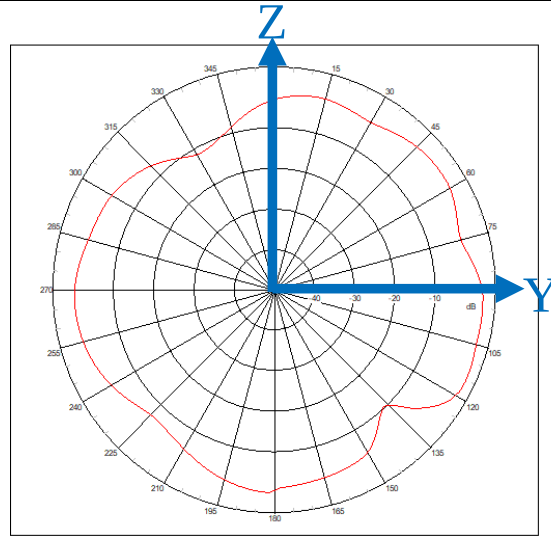
ANT2

Frequency : 2450 MHz

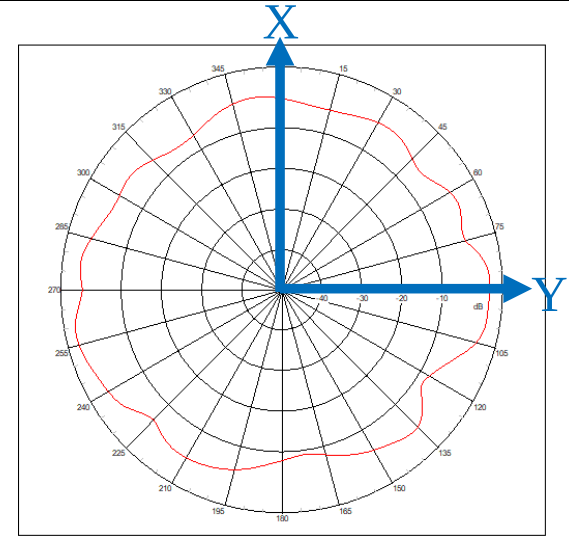
XZ-plane



YZ-plane



XY-plane



Far-field amplitude limits:

Max: 5dB

min: -50dB

Conclusion & Recommendations

- The antenna performance is as follows :

喬暘_SV510XW-0906 Result		
Item	ANT1	ANT2
Operating Frequency (MHz)	2400-2500	2400-2500
Return Loss	10 dB	10 dB
Isolation	2400-2500>50 dB	
Peak Gain	2.58 dBi (Max)	2.74 dBi (Max)
Efficiency	53 %(Max.)	65 %(Max.)



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