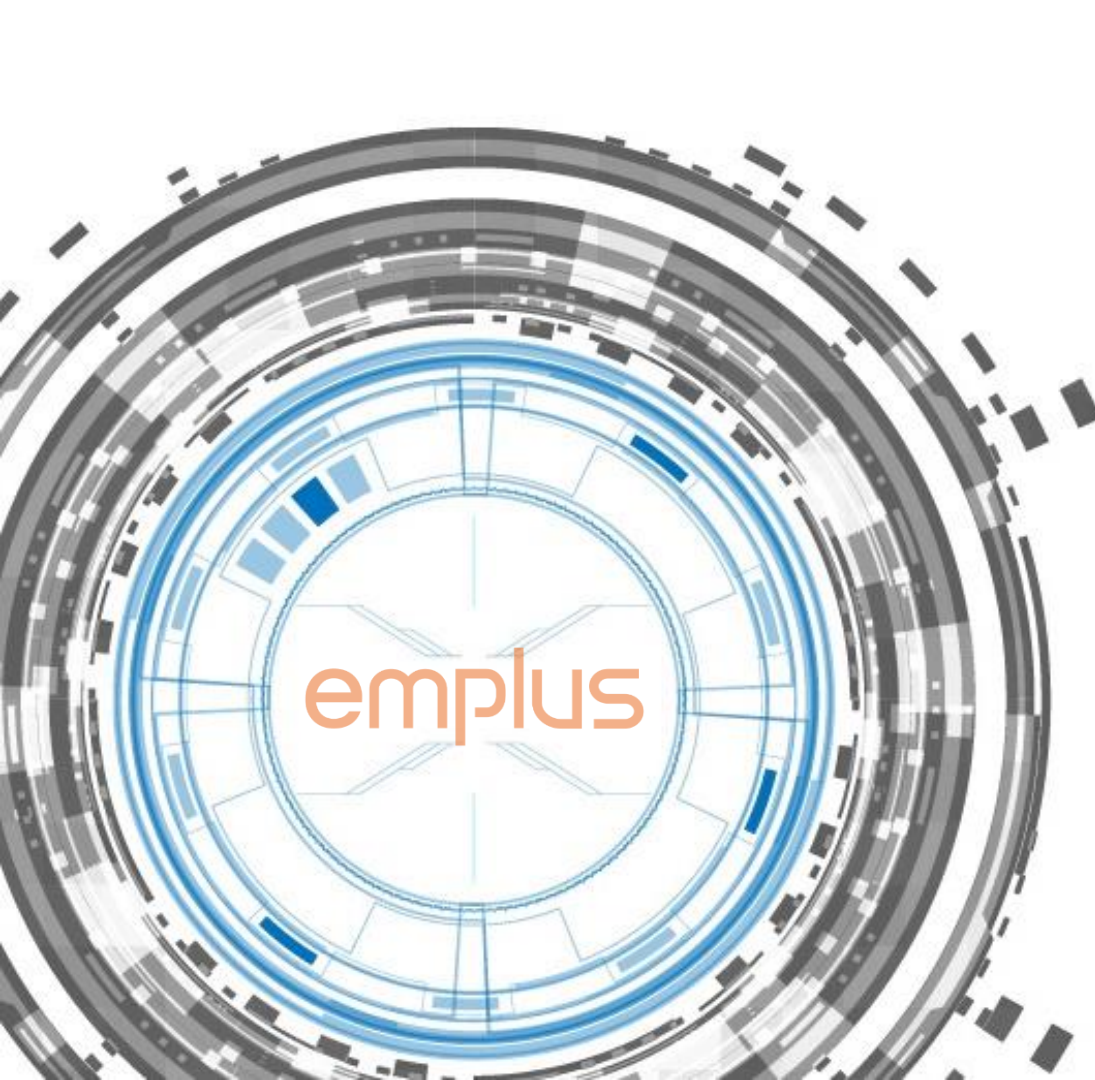


A circular graphic on the left side of the page. It features several concentric rings. The innermost ring is blue and contains the word "emplus" in orange. The next ring out is white with blue segments. The outermost ring is grey with black segments. The entire graphic has a stylized, technical appearance.

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AP6W Antenna test report

V0.1
Tim Chao
2025/02/25

Agenda

- History
- Antenna Placement
- Return Loss & Isolation
- Gain table
- 2D Radiation Pattern
- Combine Pattern

History

Date	Description	Version
2025/02/25	Draft	V0.1

Antenna placement

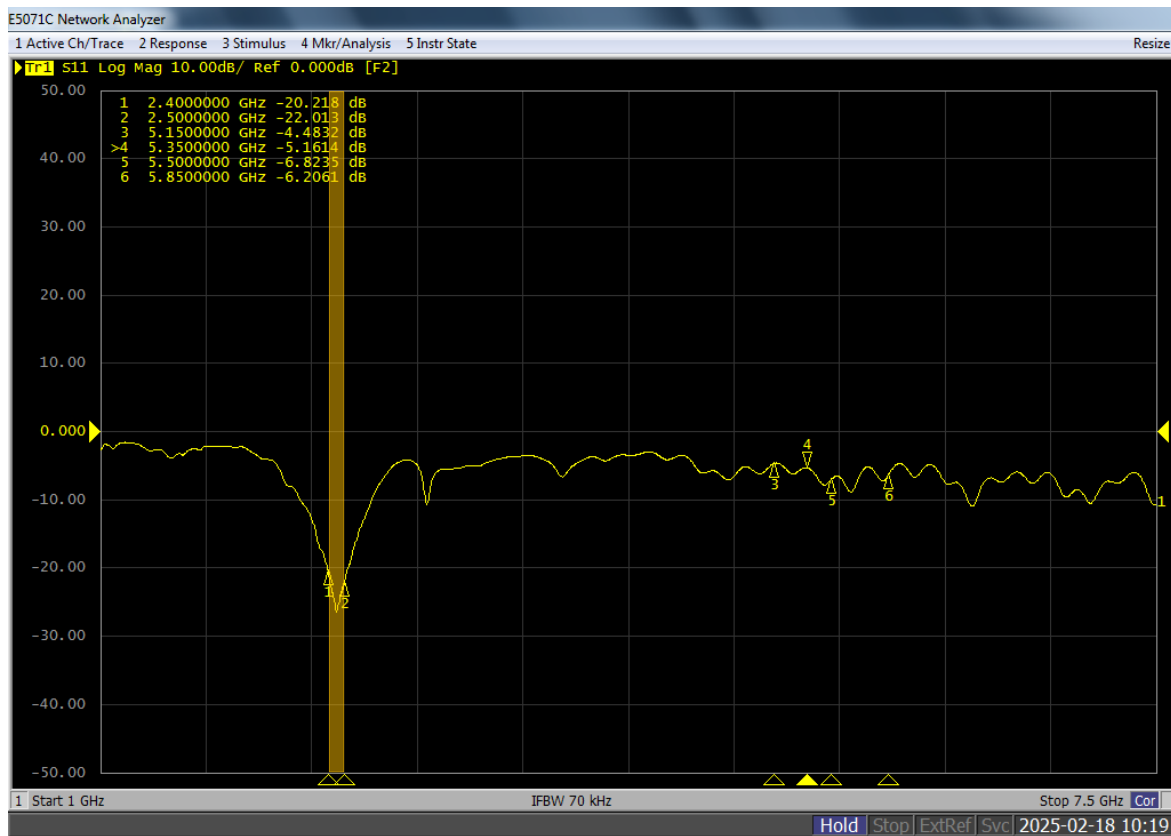
- AP6W have total five antennas as figure :

	Size(mm)	Material	PN	Type
2-1	38x9.6x1.4	FR4	7102A0503000	Dipole
2-2	23.5x15x1.4	FR4	7102A0504000	Dipole
5-1	22x8x1.4	FR4	7102A0505000	Dipole
5-2	22x8x1.4	FR4	7102A0506000	Dipole
BT	23.5x15x1.4	FR4	7102A0507000	Dipole

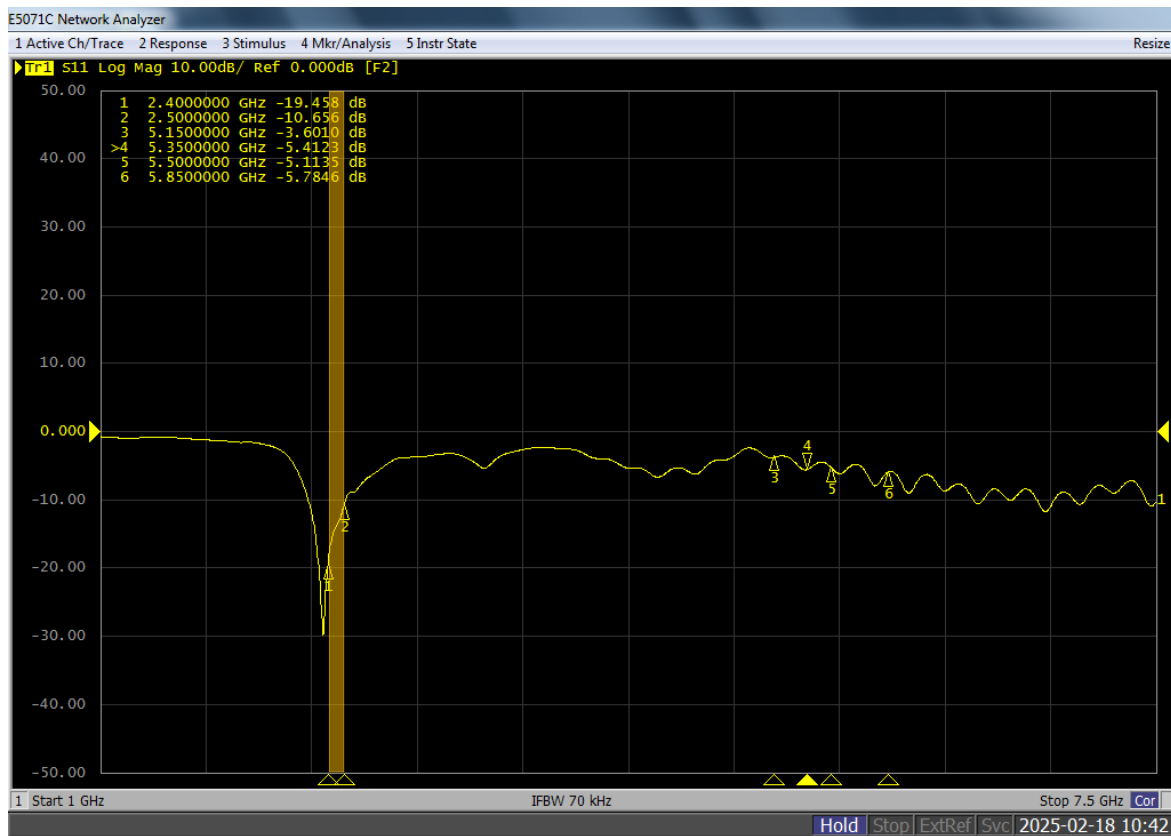
Manufactory : Advanced wireless & antenna inc.

Add. : B2-F,No.207-1,Sec.3,Beixin Rd.,Xindian
Dist.,New Taipei City,231,Taiwan

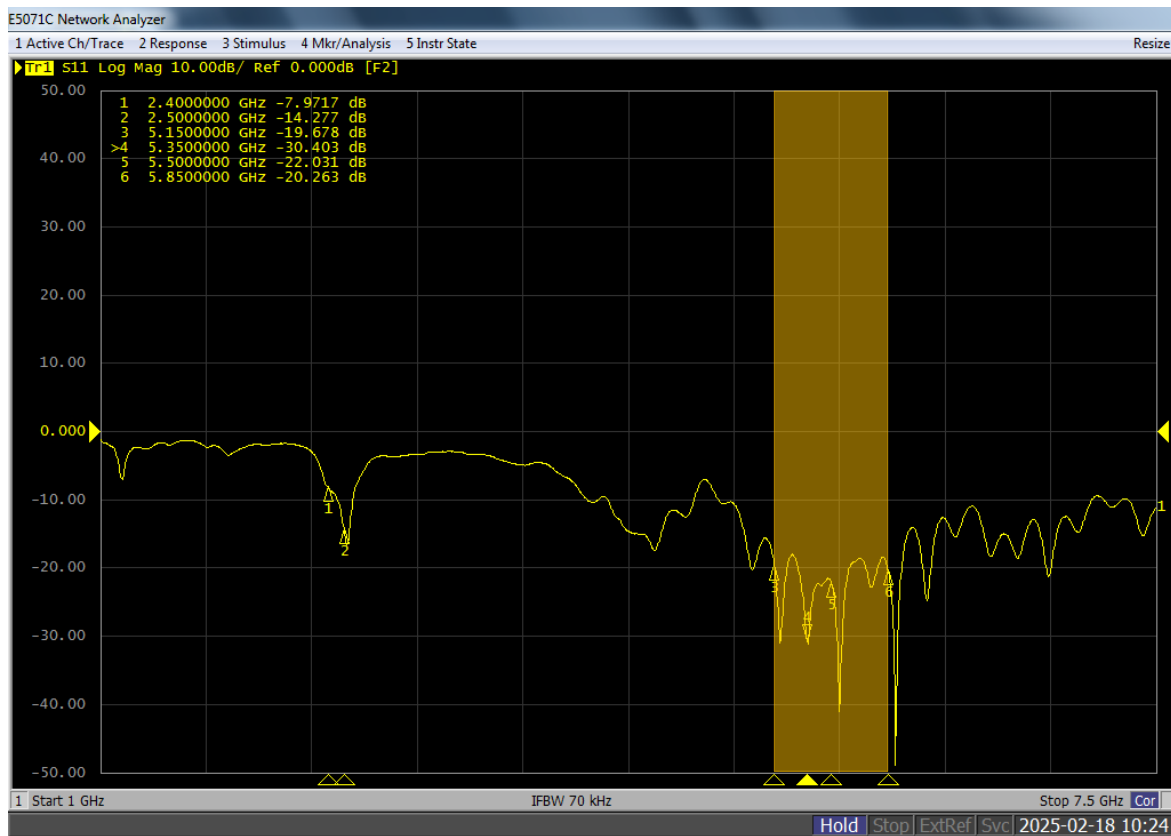
Return loss : 2-1



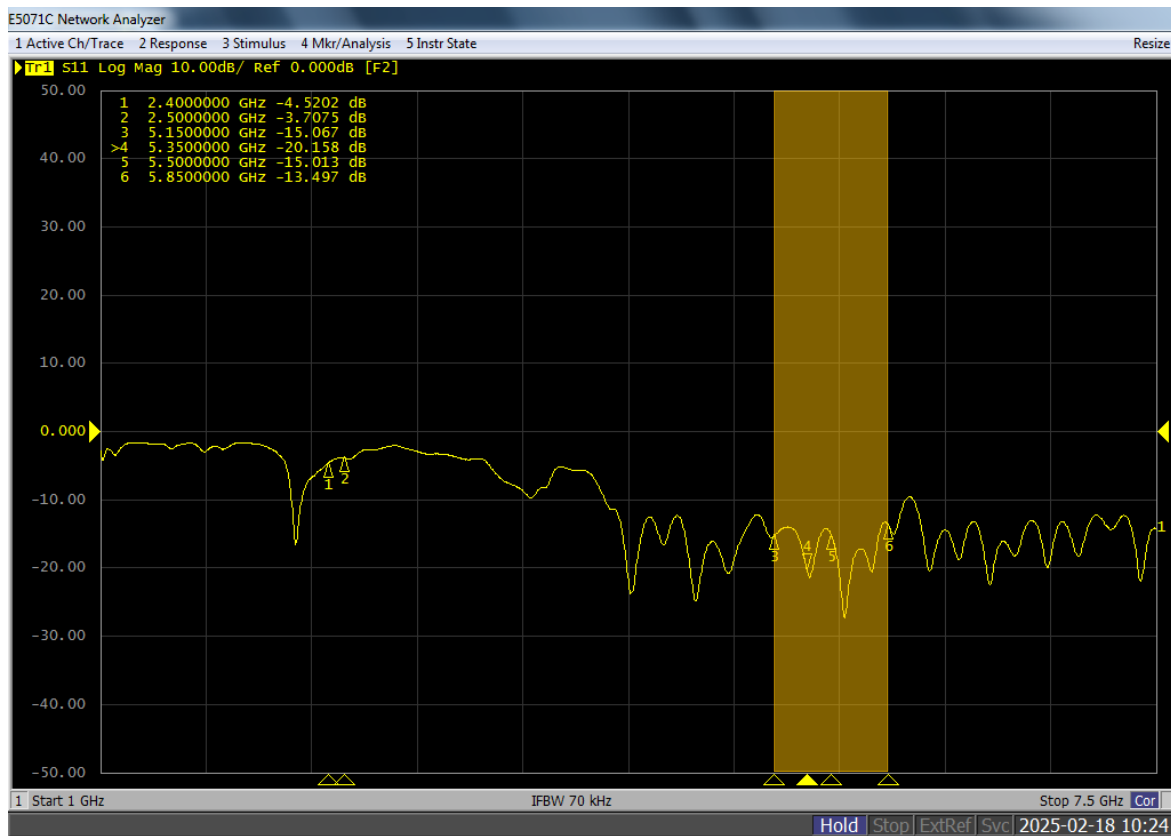
Return loss : 2-2



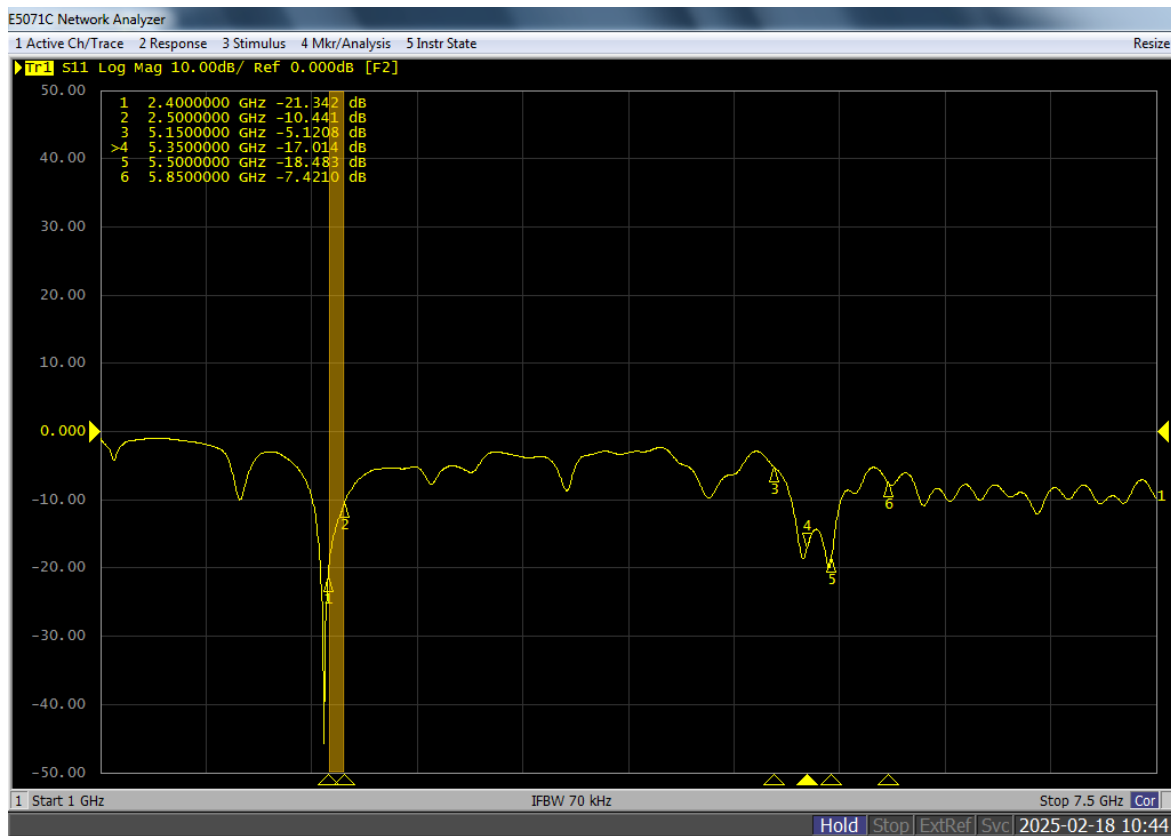
Return loss : 5-1



Return loss : 5-2



Return loss : BT



S11 table

	2.4GHz	2.5GHz	5.15GHz	5.85GHz
2-1	-20	-22		
2-2	-19	-10		
5-1			-19	-20
5-2			-15	-13
BT	-21	-10		

Criteria : < -10dB

Result : PASS

Isolation table : 2.4GHz

	2-1	2-2	5-1	5-2	BT
2-1		-20	-20	-27	-20
2-2			-20	-25	-23
5-1					
5-2					
BT					

Criteria : < -20dB

Result : PASS

Isolation table : 5GHz

	2-1	2-2	5-1	5-2	BT
2-1			-25	-20	
2-2			-31	-31	
5-1				-25	
5-2					
BT					

Criteria : < -20dB

Result : PASS

Gain table

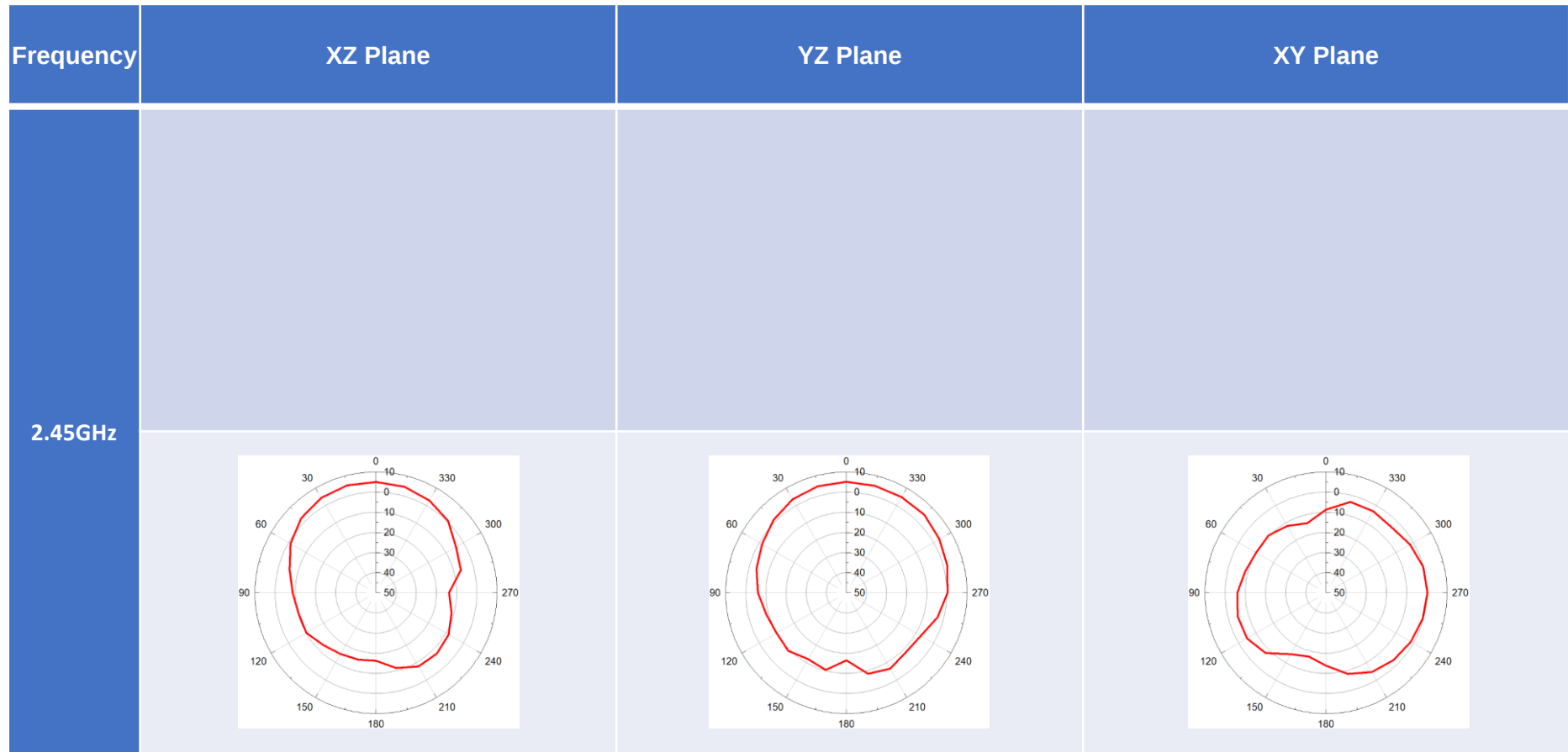
Antenna		2.45GHz	5.15GHz	5.35GHz	5.5GHz	5.725GHz	5.85GHz
2-1	Peak Gain (dBi)	5.4					
	Effi.(%)	69					
2-2	Peak Gain (dBi)	4.0					
	Effi.(%)	65					
5-1	Peak Gain (dBi)		5	6.4	6.7	7.2	7.1
	Effi.(%)		68	69	72	75	76
5-2	Peak Gain (dBi)		5.1	5.3	6.3	6.2	6.1
	Effi.(%)		64	68	75	75	75
BT	Peak Gain (dBi)	3.9					
	Effi.(%)	61					

Criteria :
 2.45GHz > 3.5dBi
 5.5GHz > 5dBi

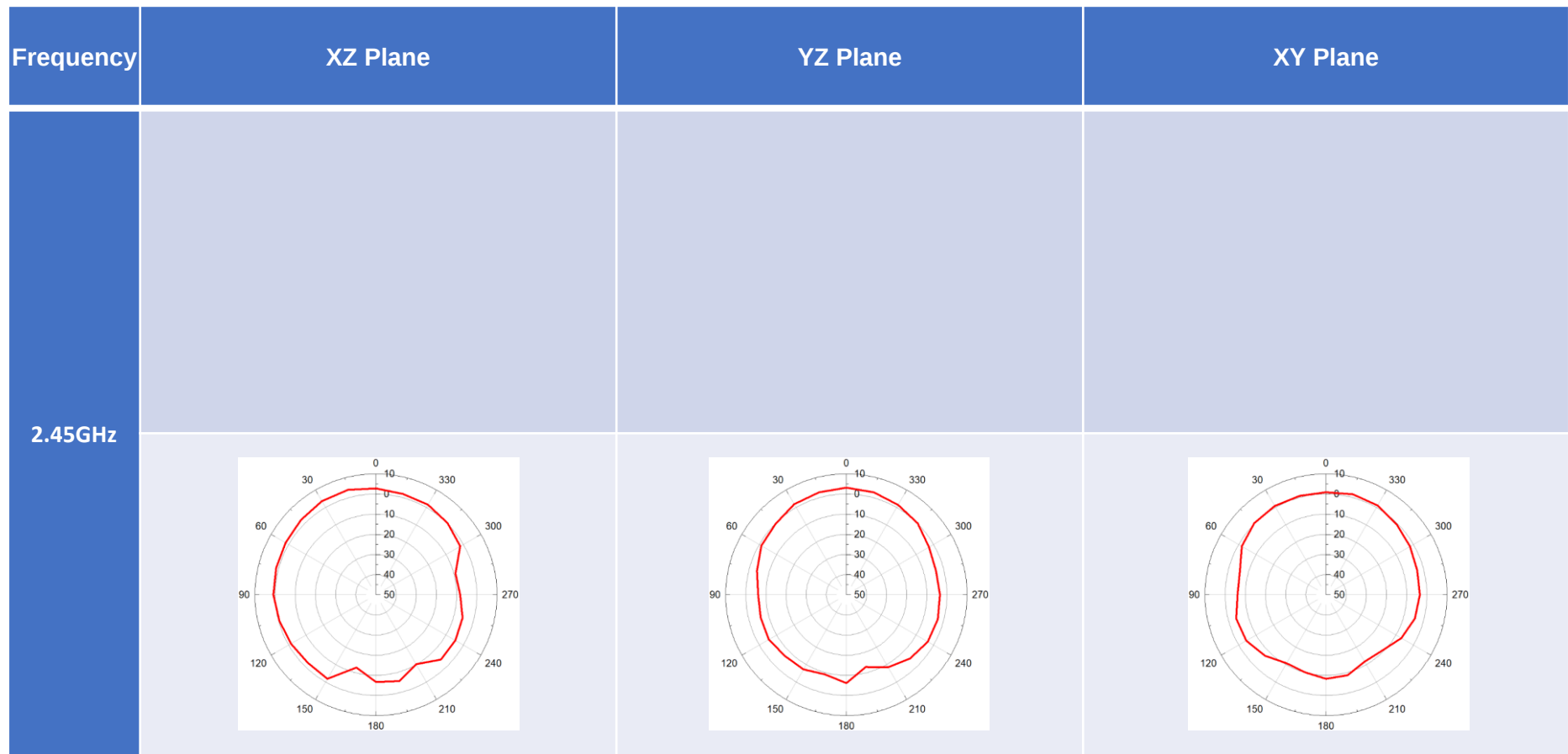
Criteria :
 Efficiency > 60%

Result : PASS

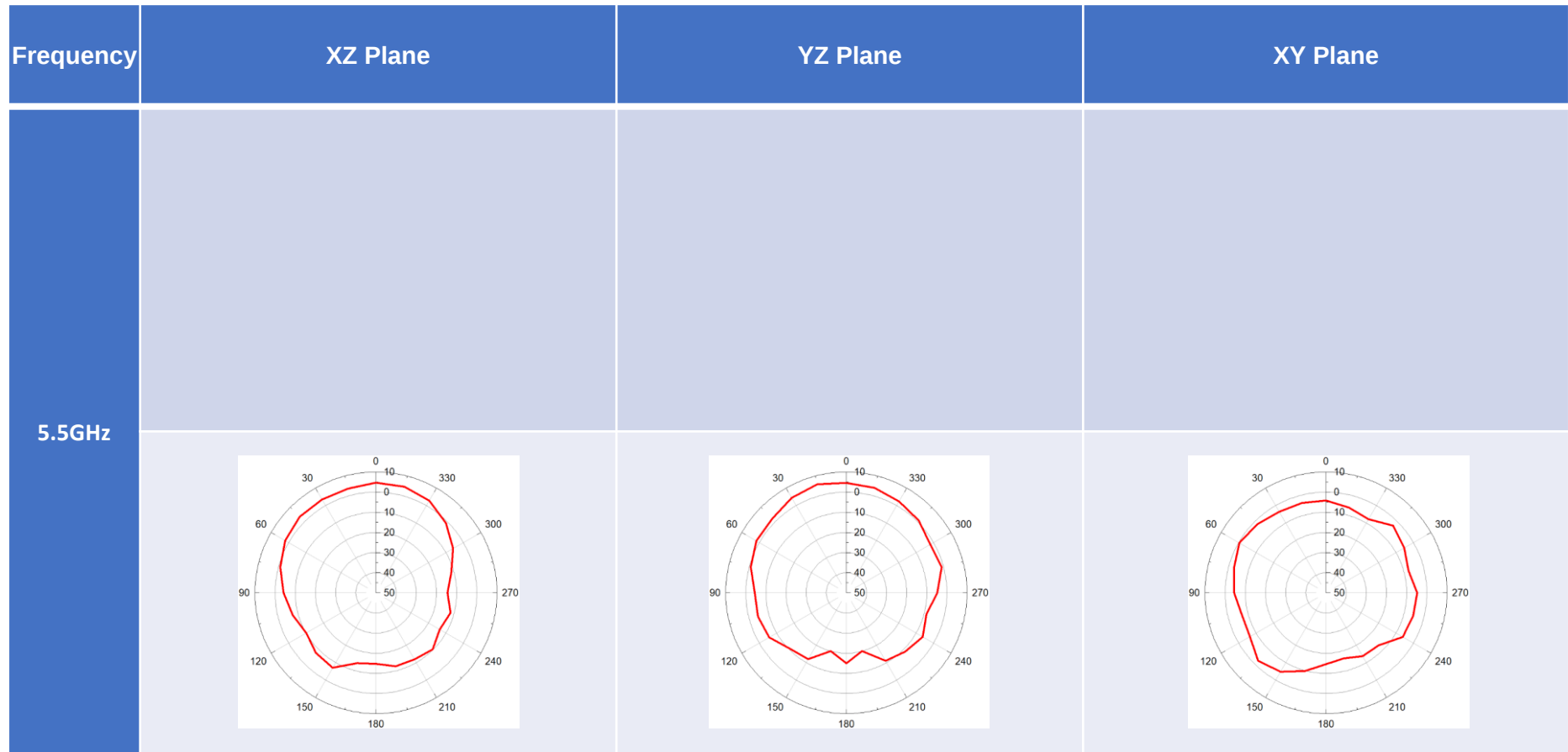
2D pattern : 2-1



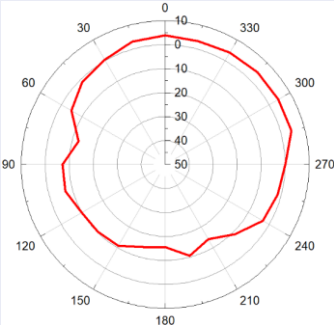
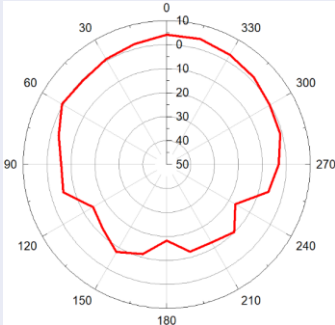
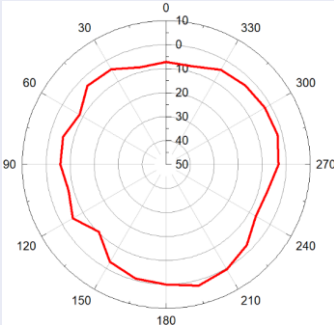
2D pattern : 2-2



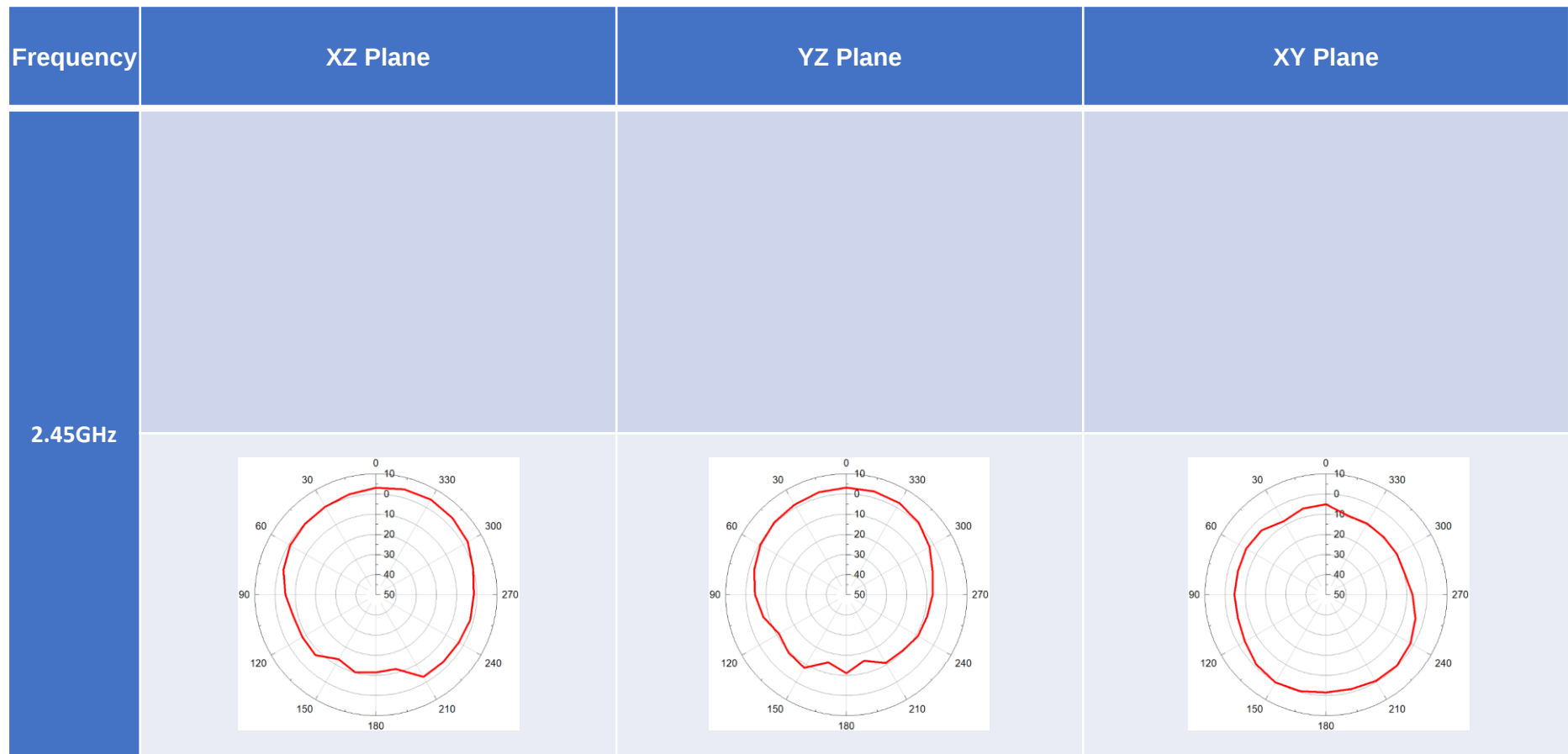
2D pattern : 5-1



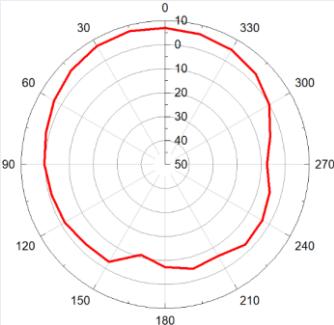
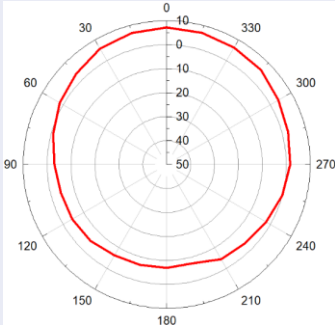
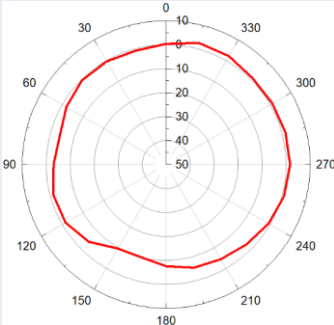
2D pattern : 5-2

Frequency	XZ Plane	YZ Plane	XY Plane
5.5GHz			
			

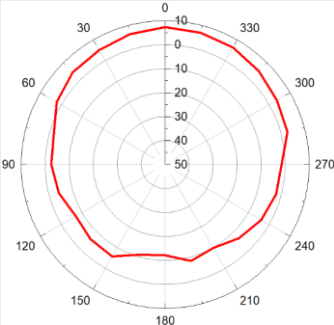
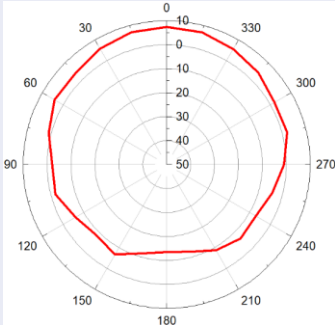
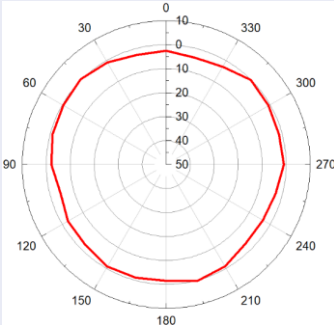
2D pattern : BT



Combine pattern : 2.4GHz

Frequency	XZ Plane	YZ Plane	XY Plane
2.45GHz			
			

Combine pattern : 5GHz

Frequency	XZ Plane	YZ Plane	XY Plane
5.5GHz			
			



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