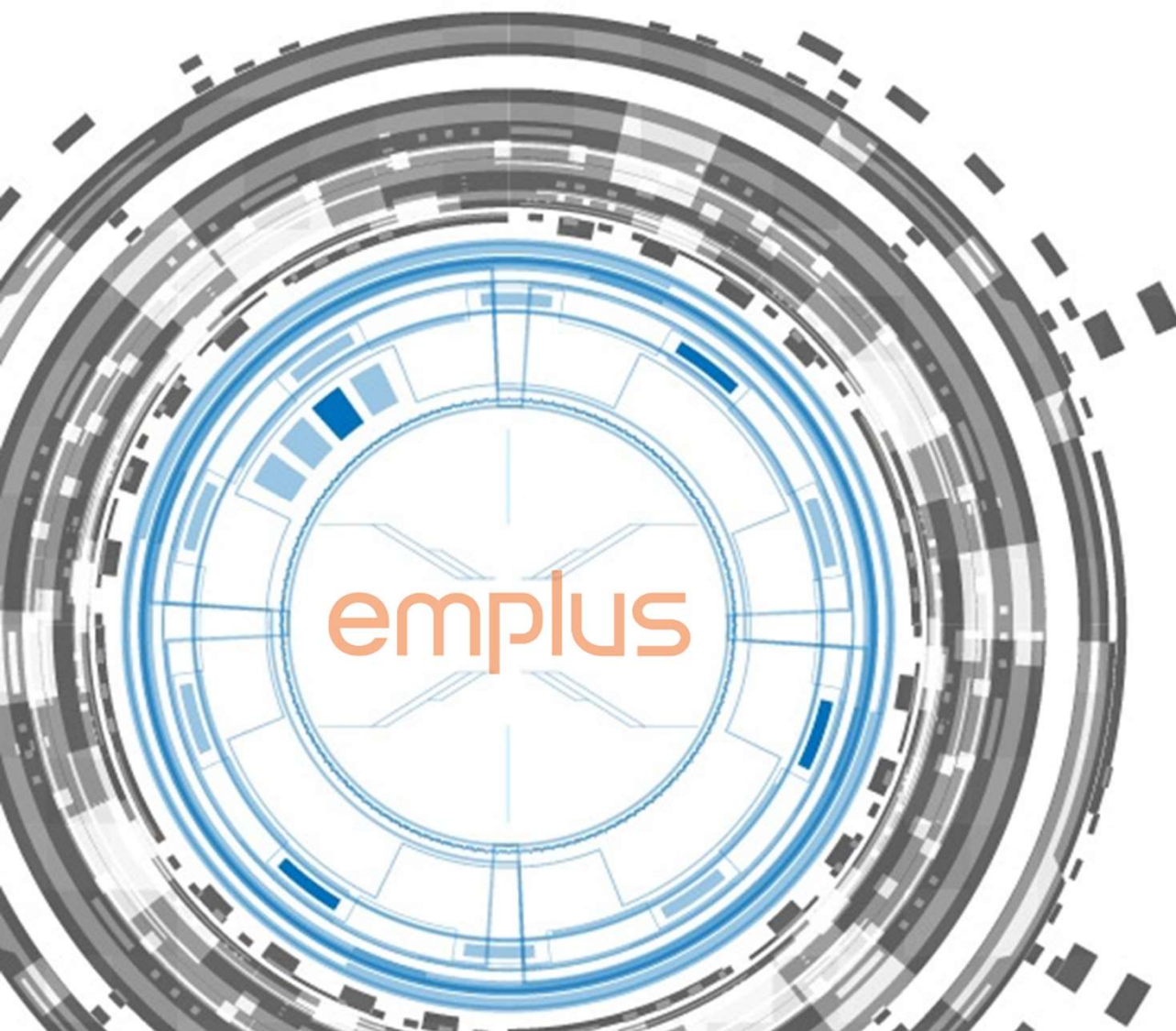




AN-520-AP-I

Antenna test report

V1.1
Tim Chao
2022/03/15

Agenda

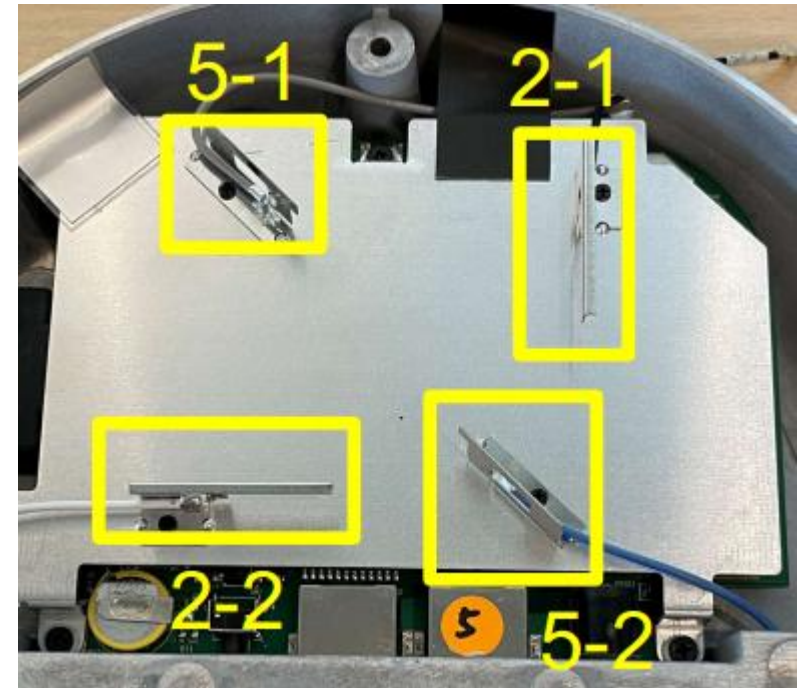
- History
- Antenna Placement
- Return Loss & Isolation
- Gain table
- 2D Radiation Pattern
- Combine Pattern

History

Date	Description	Version
2022/02/18	Drift Emplus ver. (Two absorbers on antenna plate)	V1.0
2022/03/15	Update gain table	V1.1

Antenna placement

- AN-520-AP-I have total four antennas as figure :
- 2.4GHz * 2
- 5GHz * 2



Return loss : 2-1



Criteria :
S11 < -10dB

Result : PASS

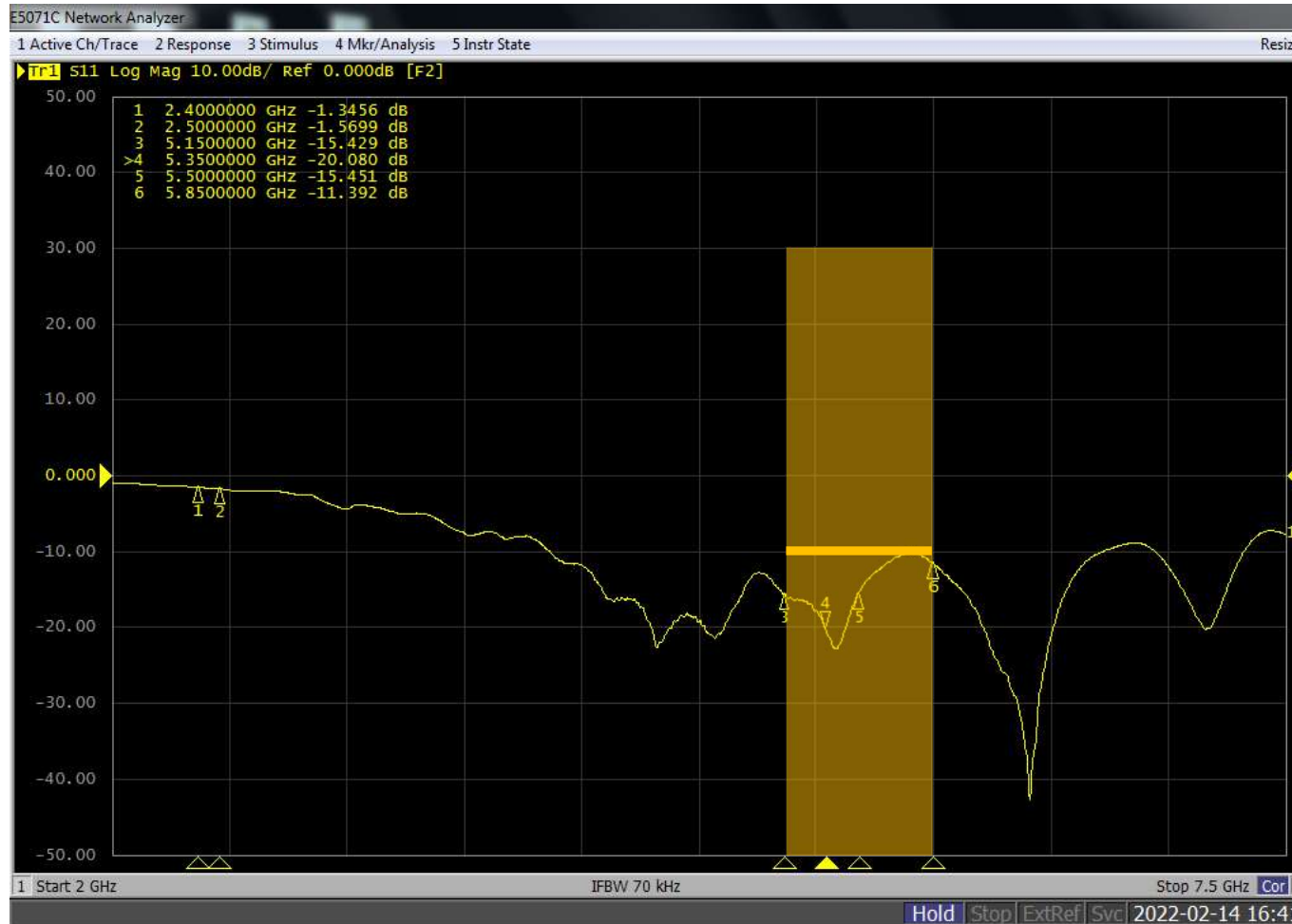
Return loss : 2-2



Criteria :
 $S_{11} < -10\text{dB}$

Result : PASS

Return loss : 5-1



Criteria :
S11 < -10dB

Result : PASS

Return loss : 5-2



Criteria :
 $S_{11} < -10\text{dB}$

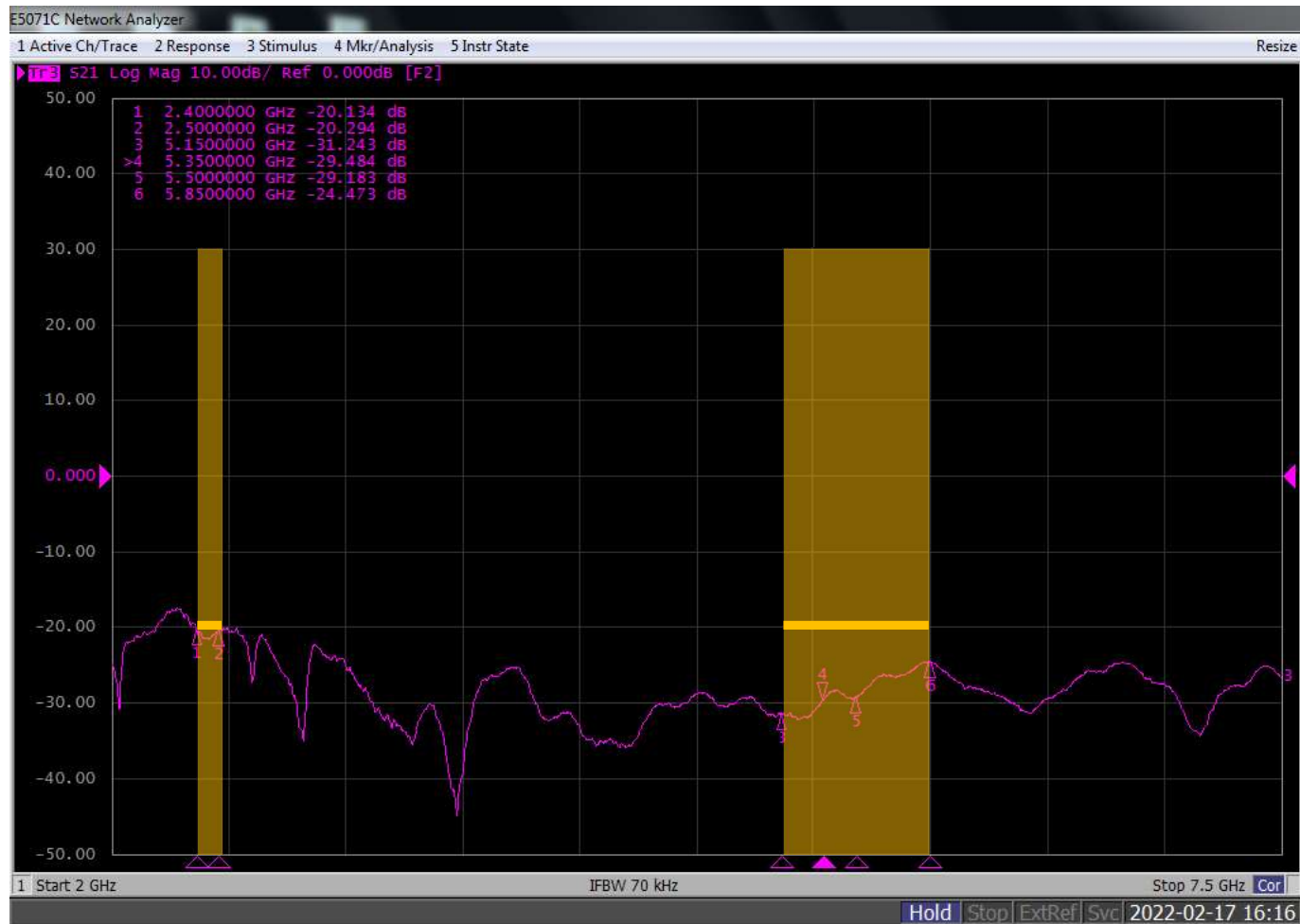
Result : PASS

Return loss table

S11(dB)	2.4GHz	2.5GHz	5.15GHz	5.35GHz	5.5GHz	5.85GHz
2-1	-14.8	-10.9				
2-2	-10.9	-19.8				
5-1			-15.4	-20	-15.4	-11.3
5-2			-17.8	-11.7	-11.7	-21

Criteria :
S11 < -10dB
Result : PASS

Isolation : 2-1 to 2-2



Criteria :
Isolation < -20dB

Result : PASS

Isolation : 5-1 to 5-2



Criteria :
Isolation < -20dB

Result : PASS

Isolation table

Isolation (dB)	2.4GHz	2.5GHz	5.15GHz	5.35GHz	5.5GHz	5.85GHz
2-1 to 2-2	-20.1	-20.2	-31.2	-29.4	-29.1	-24.4
5-1 to 5-2	-39.8	-38.8	-20.4	-22.7	-20.6	-24.7

Criteria :
Isolation < -20dB

Result : PASS

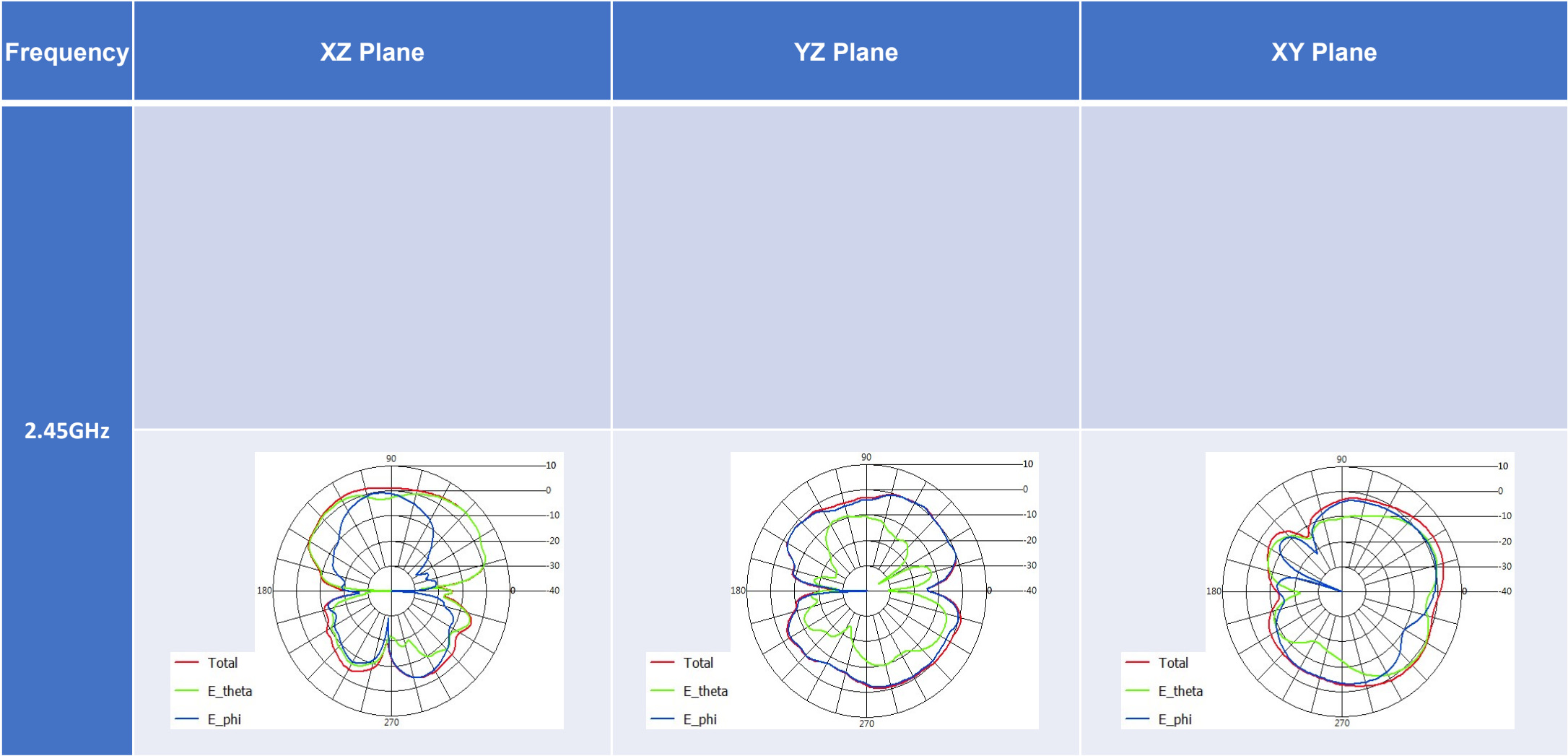
Gain table

Antenna		2400~2483.5MHz	5150~5250MHz	5250~5350MHz	5470~5725MHz	5725~5850MHz
2-1	Peak Gain (dBi)	5.66				
	Effi.(%)	85.6				
2-2	Peak Gain (dBi)	6.75				
	Effi.(%)	81.6				
5-1	Peak Gain (dBi)		4.9	5.1	5.8	5.5
	Effi.(%)		61	64.5	63	67
5-2	Peak Gain (dBi)		5.1	5.0	5.25	5.13
	Effi.(%)		65.1	64.6	67.2	66.3

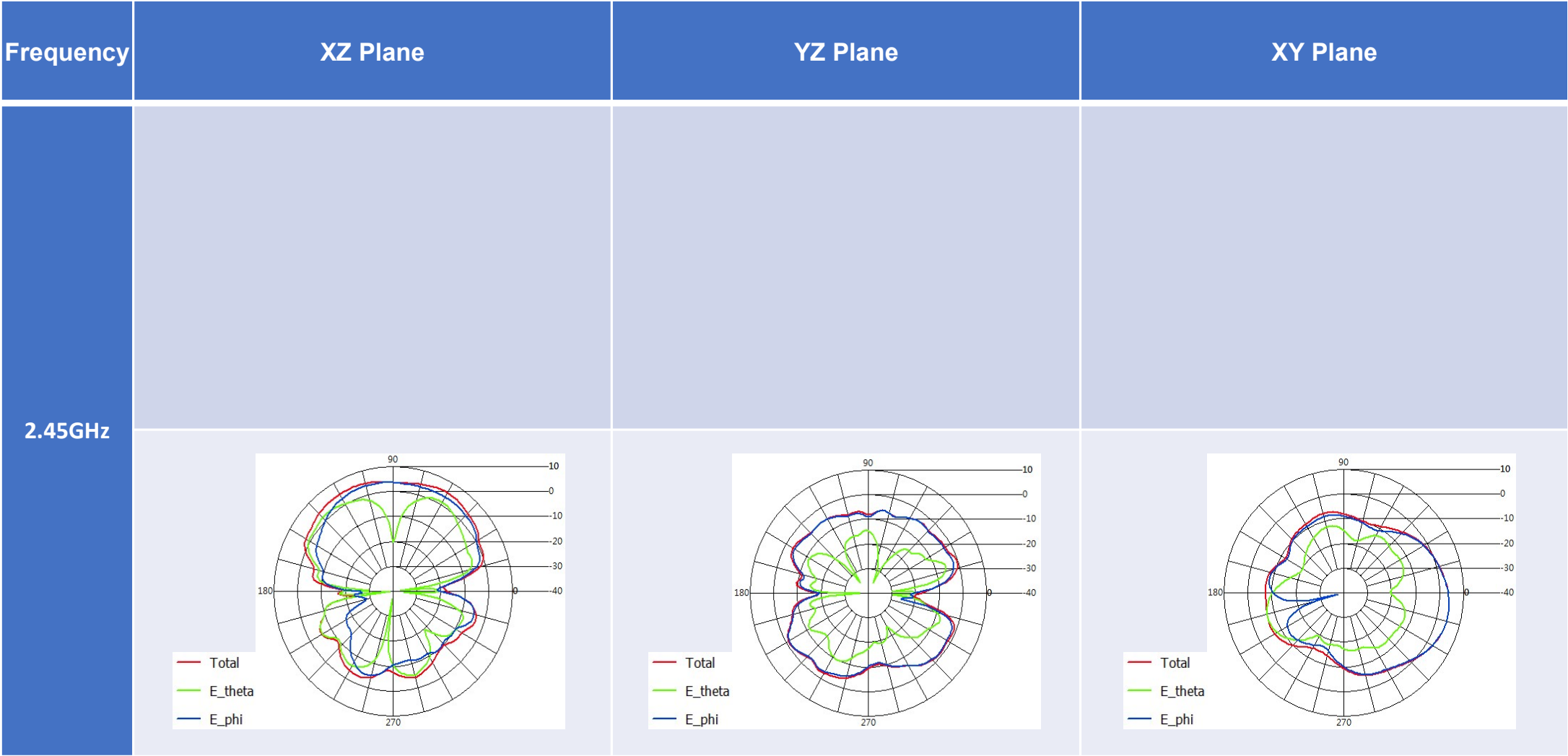
Criteria :
 2.45GHz > 3.5dBi
 5.5GHz > 4dBi
 Efficiency > 60%
 Result : PASS

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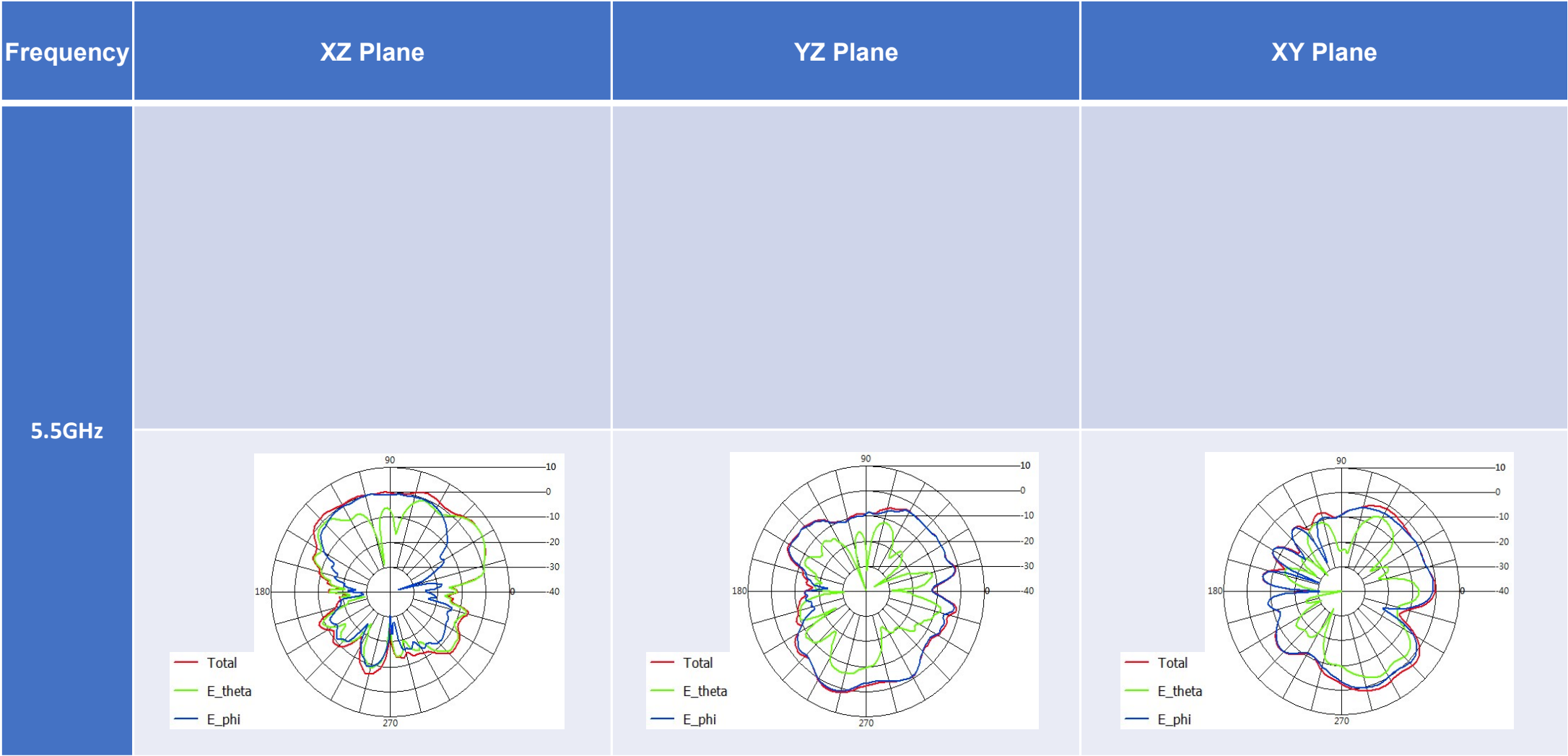
2D pattern : 2-1



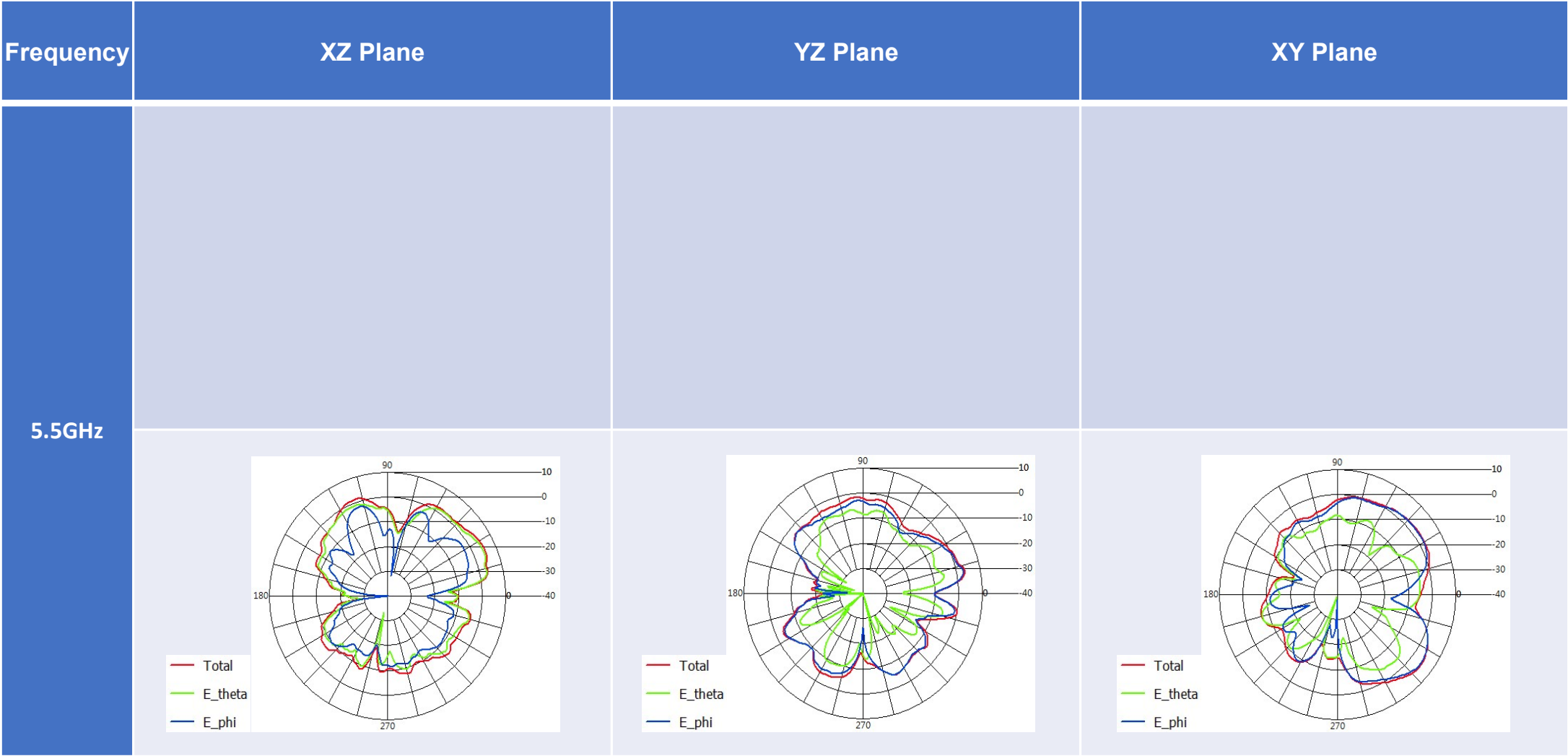
2D pattern : 2-2



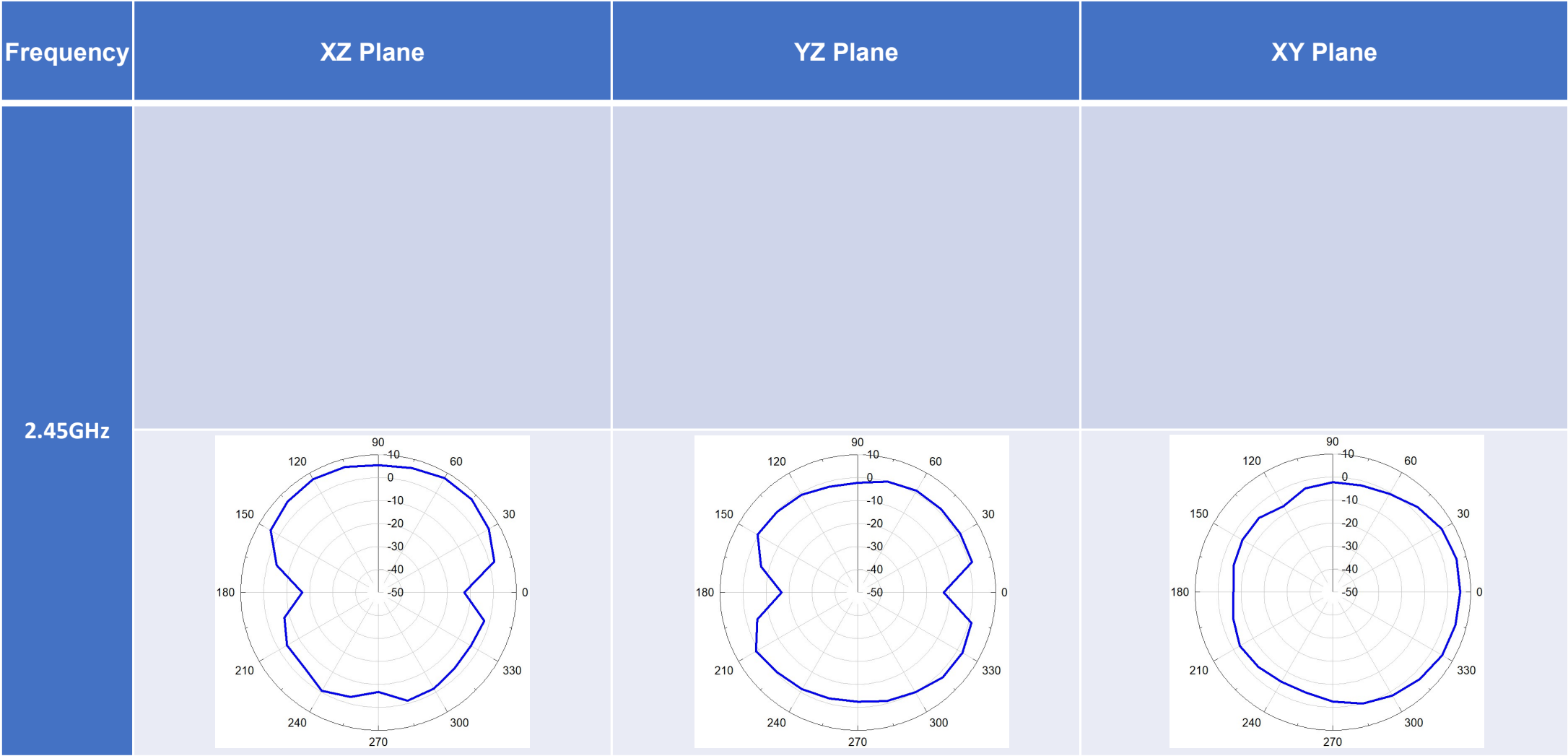
2D pattern : 5-1



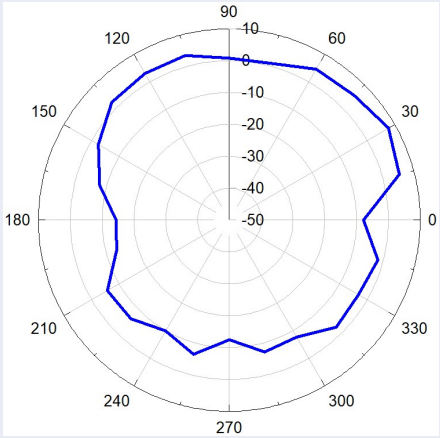
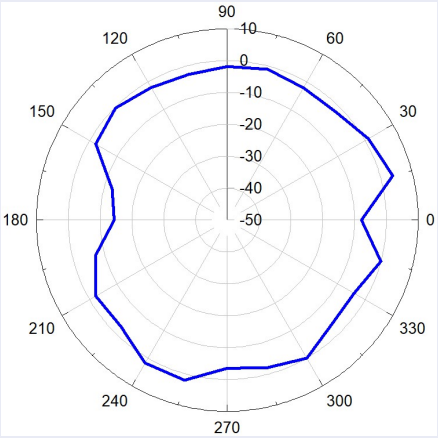
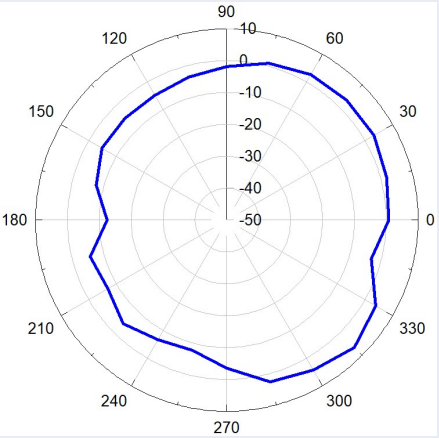
2D pattern : 5-2



Combine 2D pattern : 2.4GHz antennas



Combine 2D pattern : 5GHz antennas

Frequency	XZ Plane	YZ Plane	XY Plane
5.5GHz			
			



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