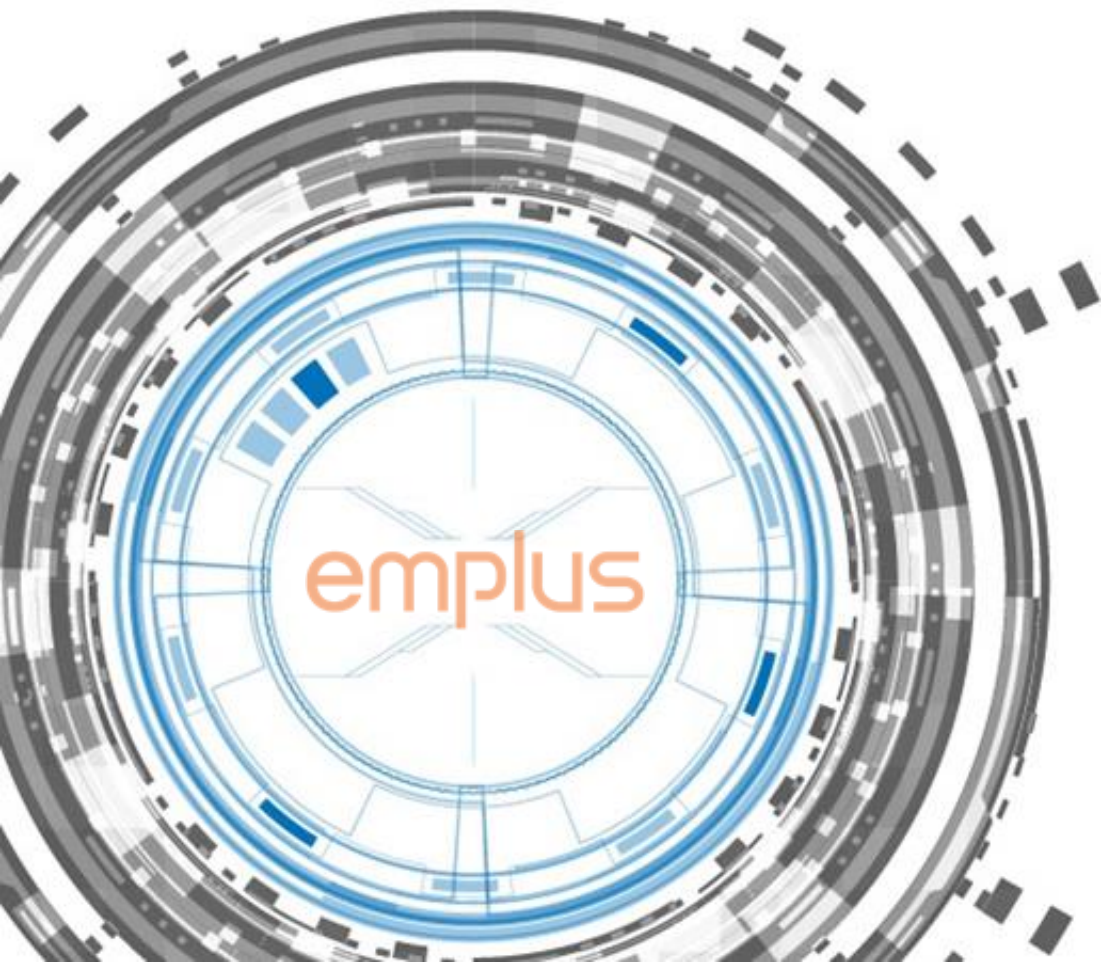




BSAP6020(V3) **Antenna design proposal**

V1.0
Tim Chao
2022/09/21

Agenda

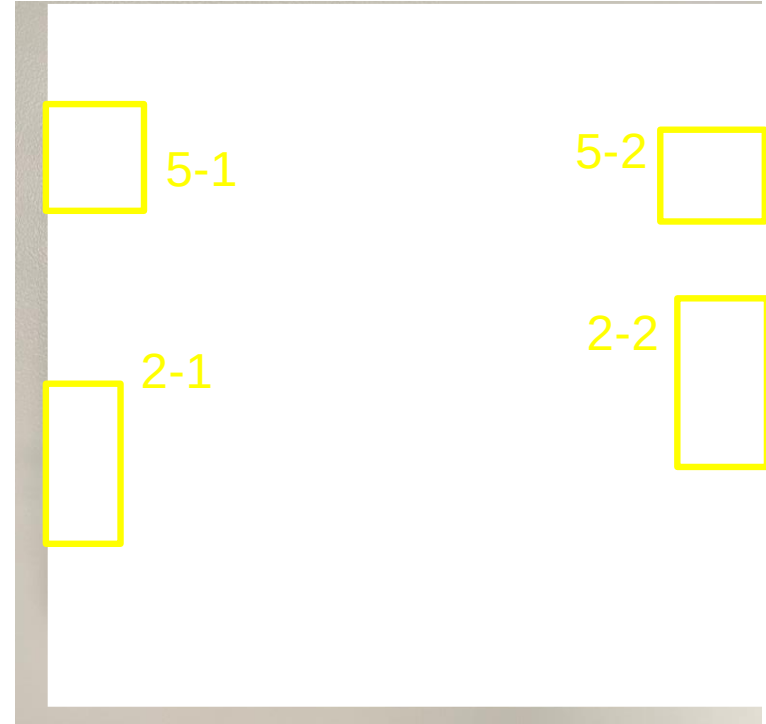
- History
- Antenna Placement
- Return loss & Isolation
- Gain table
- 2D Radiation Pattern

History

Date	Description	Version
2022/09/21	Drift (From BSAP6020)	V1.0

Antenna Placement

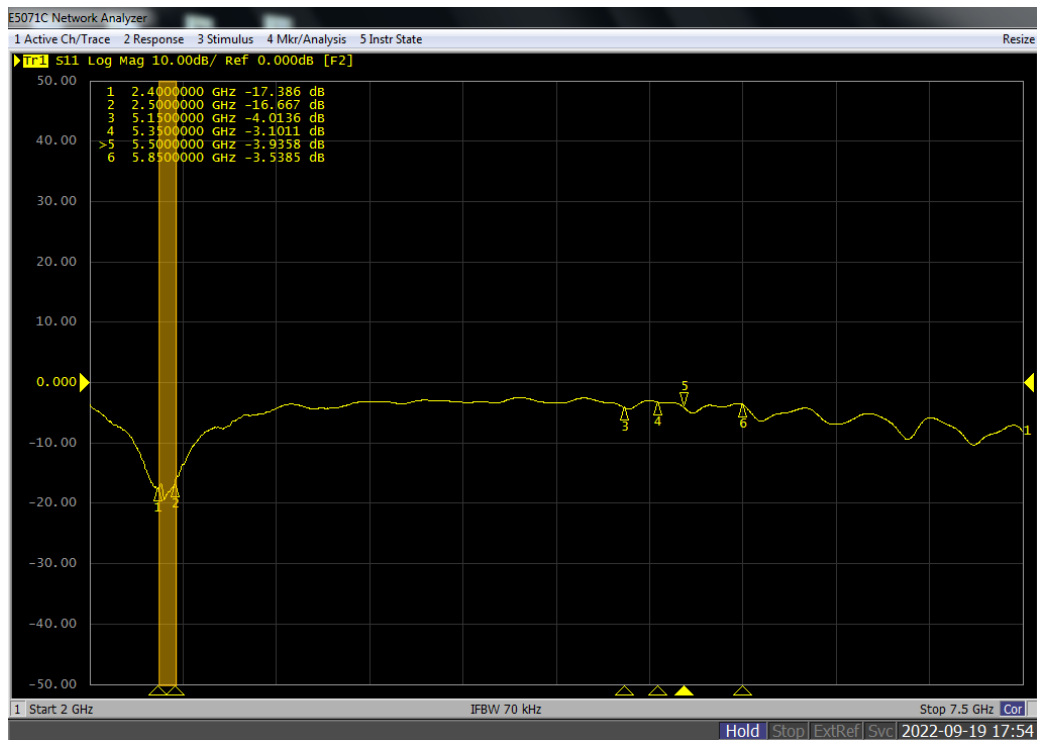
- BSAP6020(V3) have total four antennas as figure :
- 2.45GHz * 2
- 5GHz * 2



Emplus Technologies, Inc.

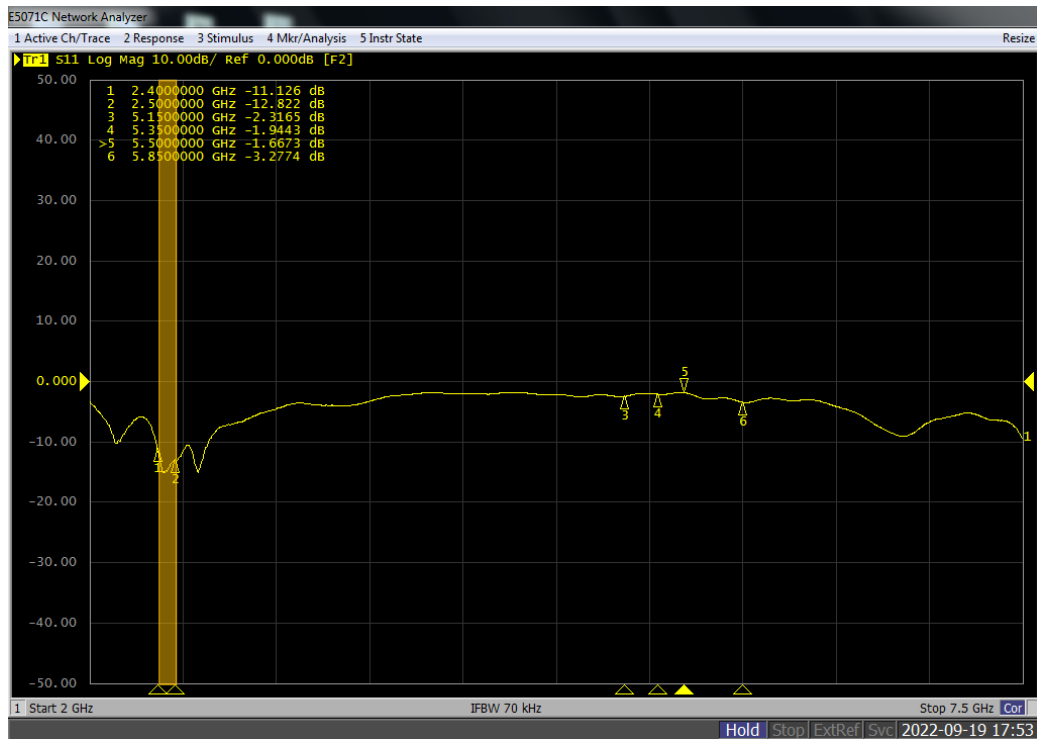
Add.:Bldg. B, 10F., No.209, Sec. 1, Nangang Rd.,
Nangang Dist., Taipei City 11568, Taiwan

Return Loss : 2-1



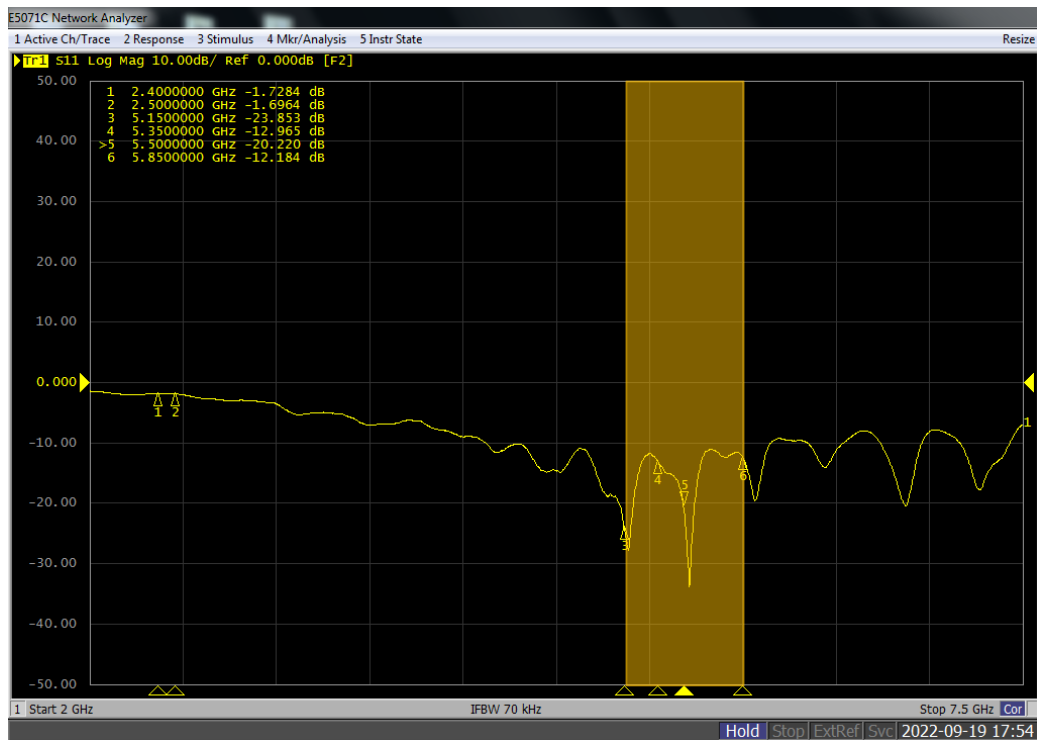
Criteria : $\leq -10\text{dB}$

Return Loss : 2-2



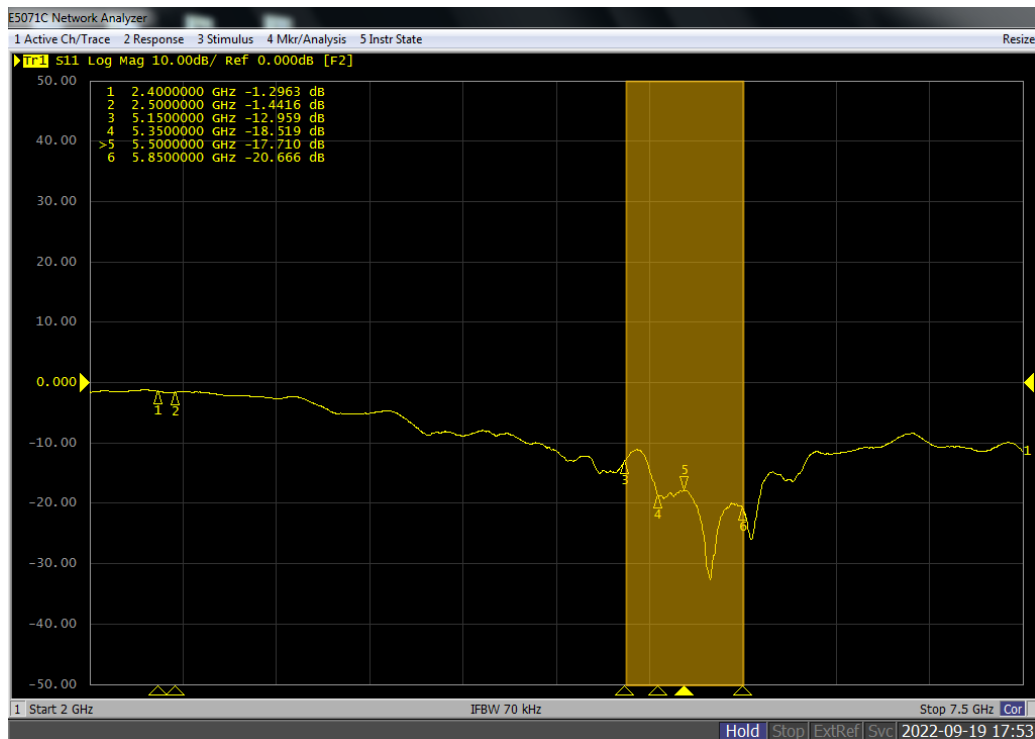
Criteria : $\leq -10\text{dB}$

Return Loss : 5-1



Criteria : $\leq -10\text{dB}$

Return Loss : 5-2



Criteria : $\leq -10\text{dB}$

Return loss table

S11(dB)	2.4GHz	2.5GHz	5.15GHz	5.35GHz	5.5GHz	5.85GHz
2-1	-17	-16				
2-2	-11	-12				
5-1			-23	-12	-20	-12
5-2			-12	-17	-18	-20

Criteria :
S11 < -10dB

Result : PASS

Isolation

	2.4GHz	2.5GHz
2-1 to 2-2	-26	-30

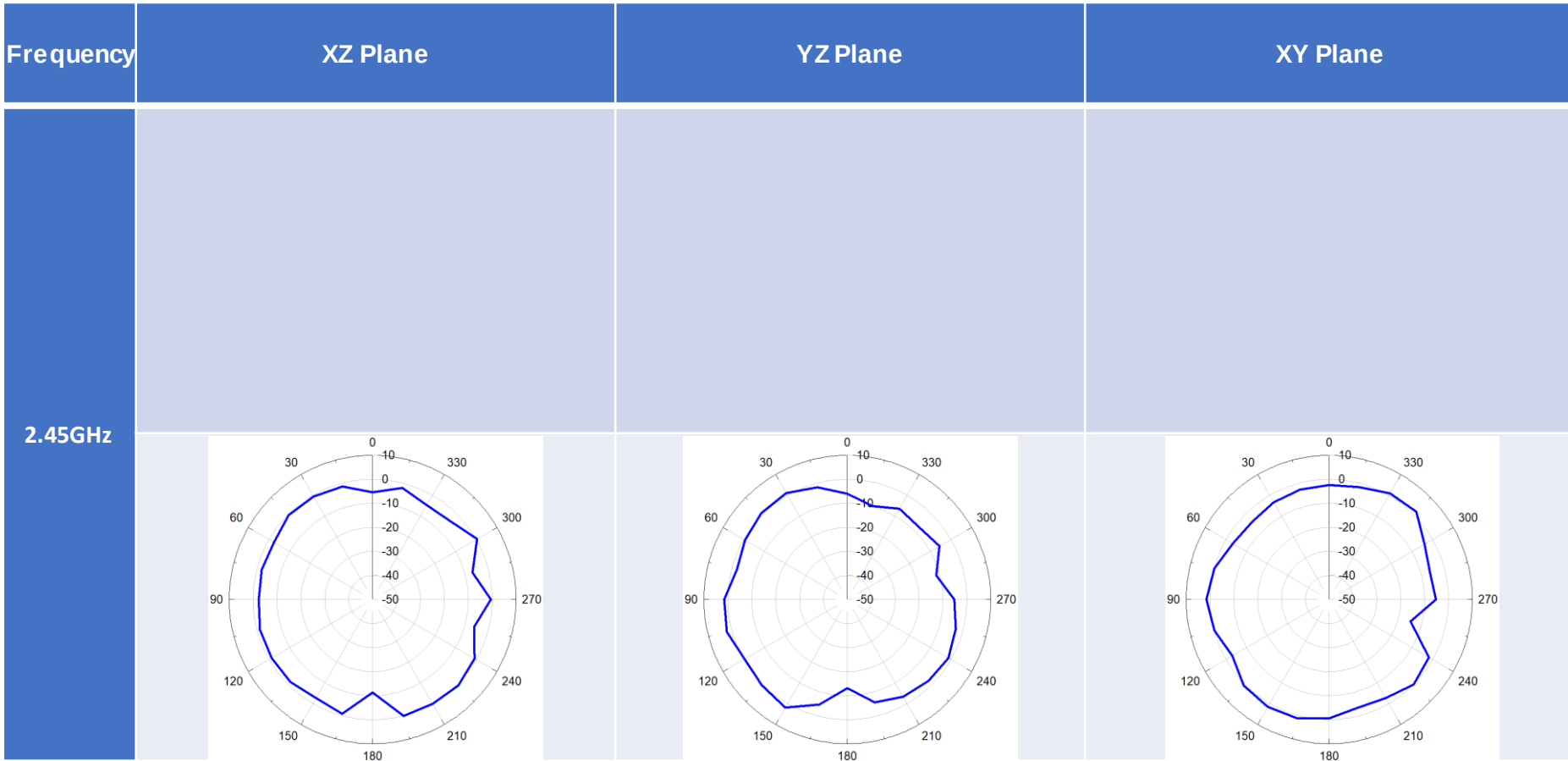
	5.15GHz	5.85GHz
5-1 to 5-2	-28	-31

Criteria : $\leq -20\text{dB}$

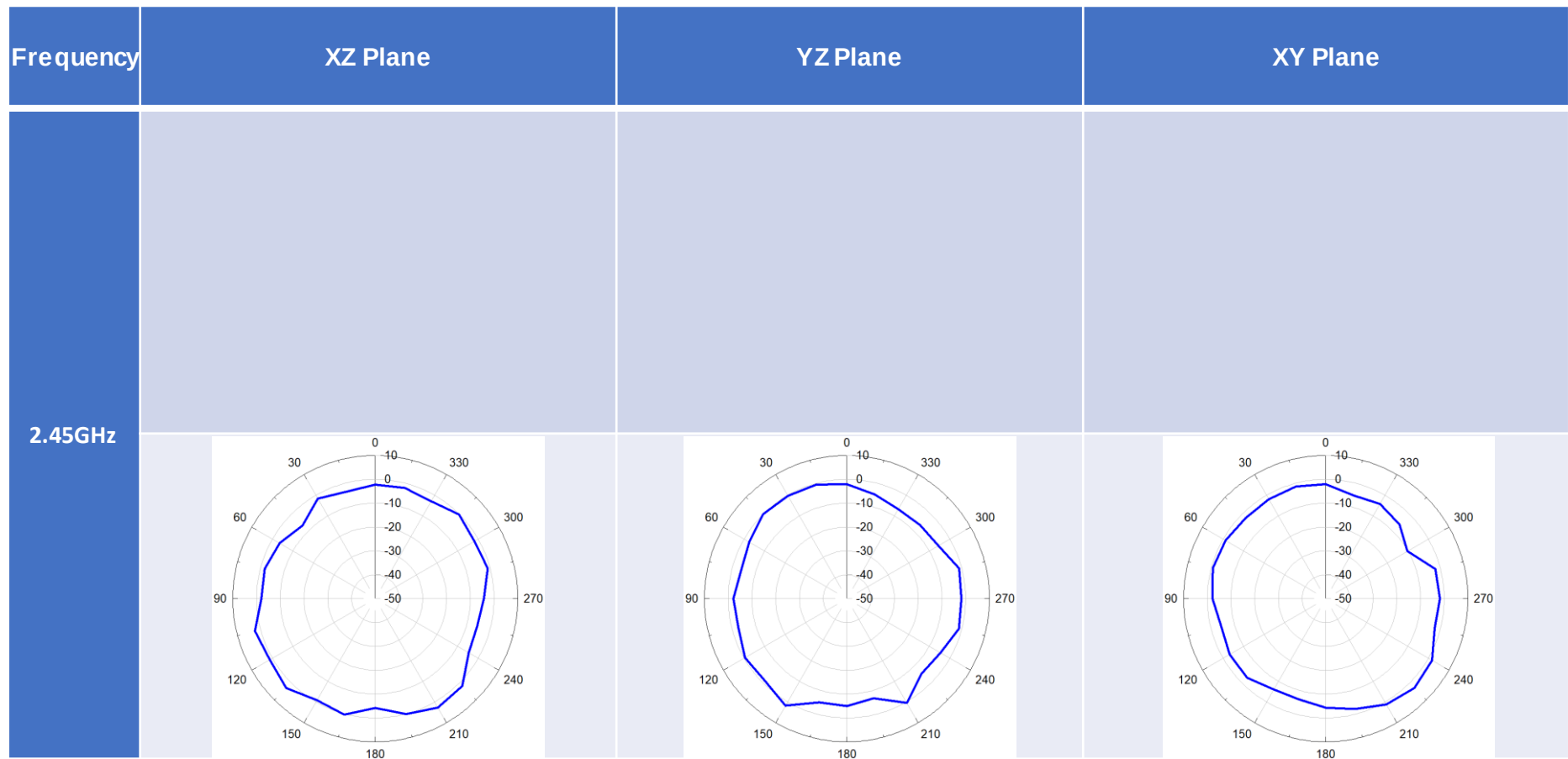
Gain table

Antenna	Frequency (GHz)	Peak gain (dBi)	Efficiency (%)
2-1	2.4	3.8	70
	2.45	3.7	69
	2.5	3.4	71
2-2	2.4	3.0	66
	2.45	3.3	72
	2.5	3.8	72
5-1	5.15	4.3	65
	5.5	3.4	64
	5.85	5.1	61
5-2	5.15	4.7	76
	5.5	5.2	75
	5.85	4.8	73

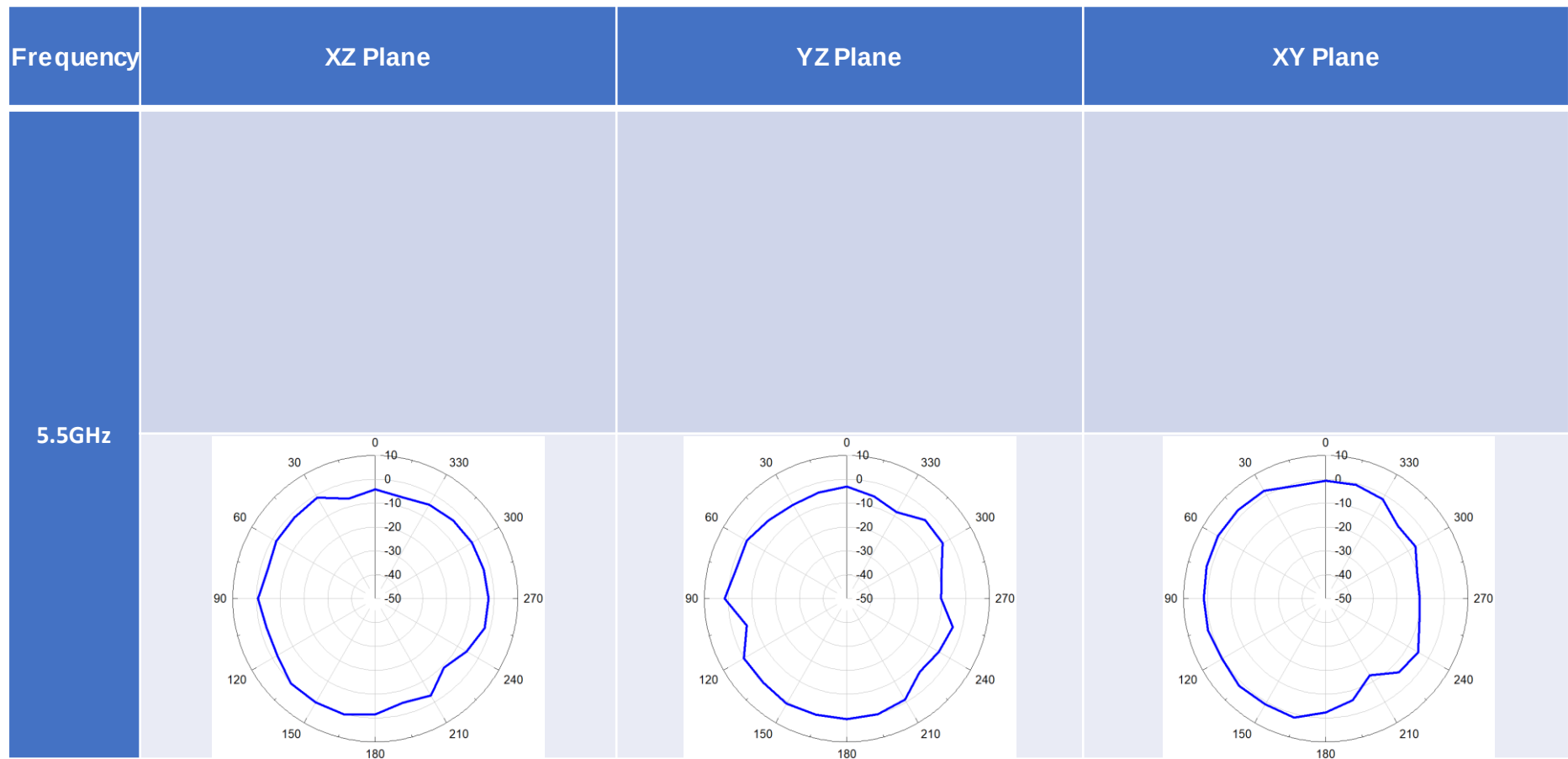
2D pattern : 2-1



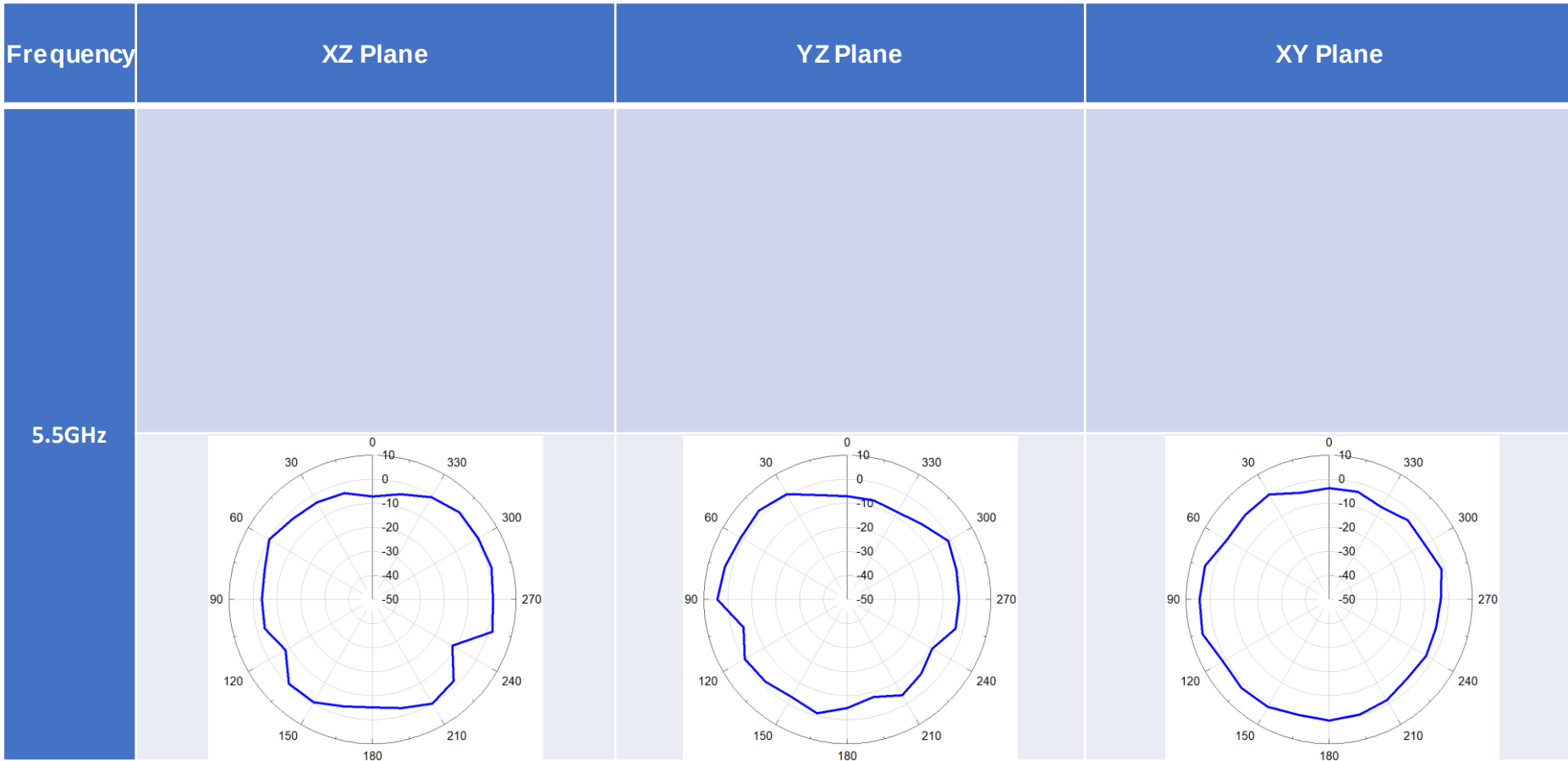
2D pattern : 2-2



2D pattern : 5-1



2D pattern : 5-2





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