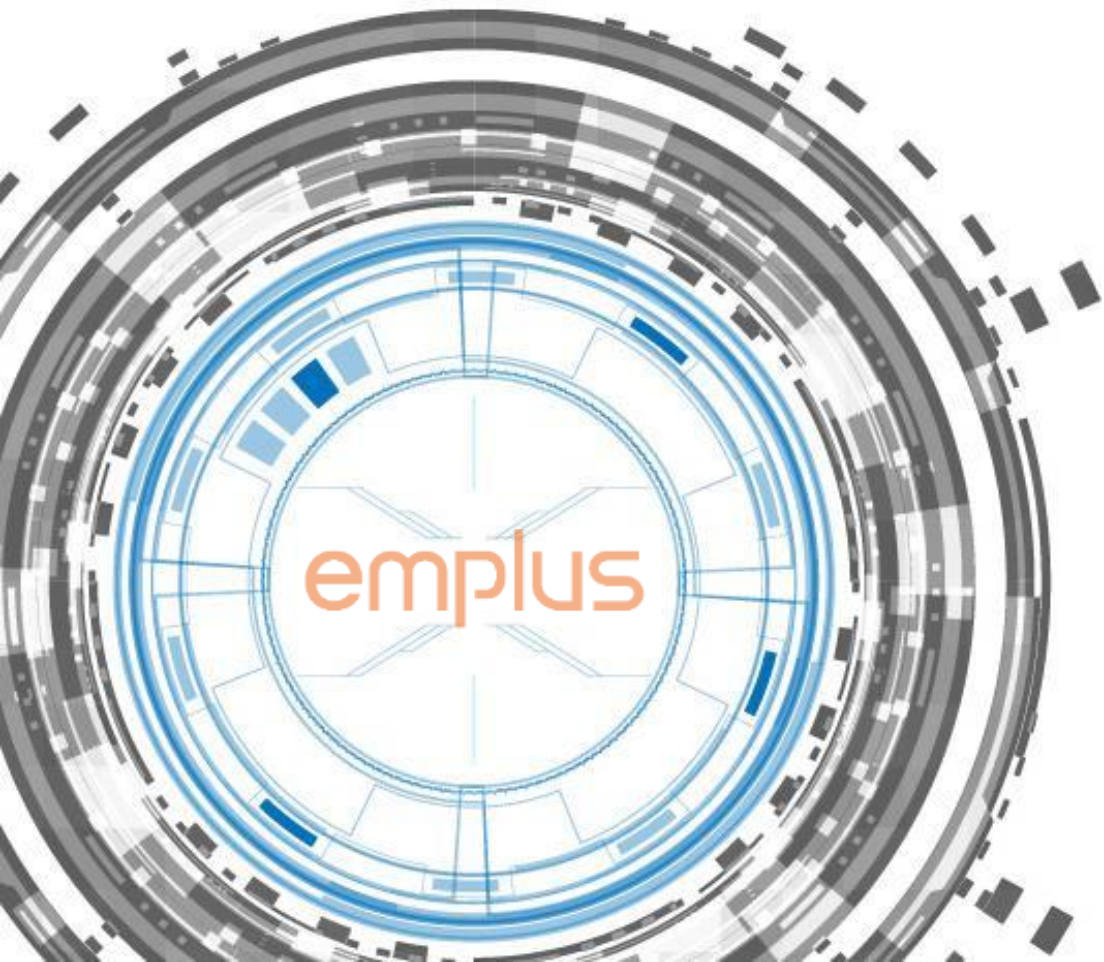




AP One mini Antenna test report

V0.1
Tim Chao
2024/01/26

Agenda

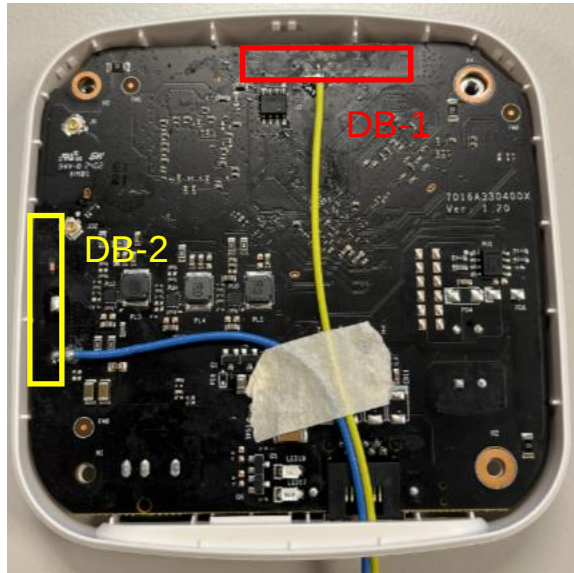
- History
- Antenna Placement
- Antenna Information
- Return loss & Isolation
- Gain table
- 2D Radiation Pattern
- Combine Pattern

History

Date	Description	Version
2024/01/26	Draft, modified antennas layout	V0.1

Antenna Location

- AP One mini have total two antennas as figure :
- Dual Band * 2



Antenna Information

	Brand	Model name	Antenna type	Peak gain @2.4GHz	Peak gain @5GHz	Peak gain @5150~5250MHz	Peak gain @5725~5850MHz
DB-1	Emplus	Printed on board_DB-1	PIFA	3.1dBi	3.6dBi	3.0dBi	3.6dBi
DB-2	Emplus	Printed on board_DB-2	PIFA	3.3dBi	3.9dBi	3.3dBi	3.9dBi

Return Loss : DB-1

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

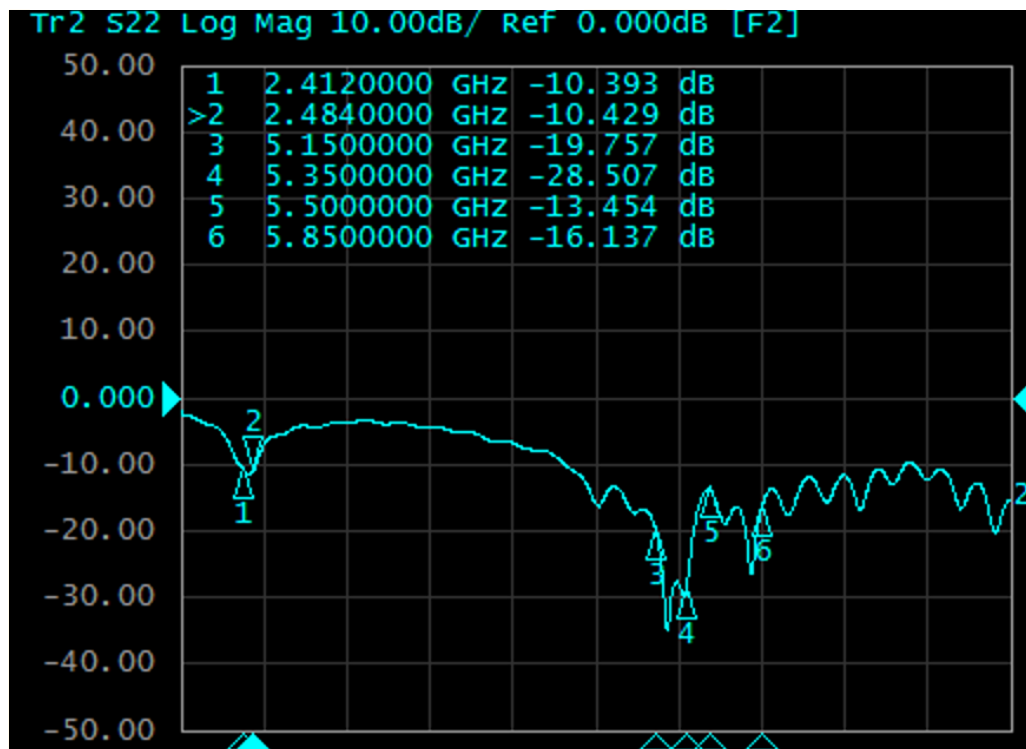
Result : PASS



Return Loss : DB-2

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

Result : PASS



Isolation Table:

Criteria : 2.4GHz ≤ -20dB

5GHz ≤ -25dB

Result : PASS

	DB-1 to DB-2
@2.45GHz	-22
@5.5GHz	-31

Gain table

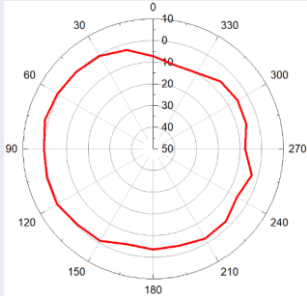
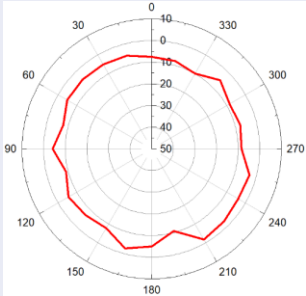
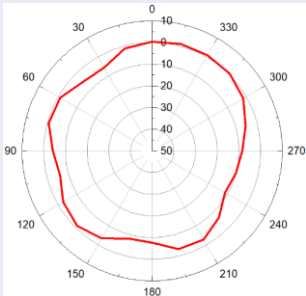
	Antenna	Peak gain (dBi)	Efficiency (%)
2.45GHz	DB-1	3.1	63
	DB-2	3.3	60
5.5GHz	DB-1	3.6	62
	DB-2	3.9	62

Criteria : Peak Gain: 2.4G $\geq$ 3dBi, 5G $\geq$ 3.5dBi

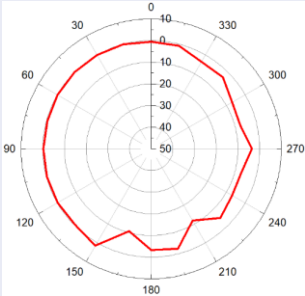
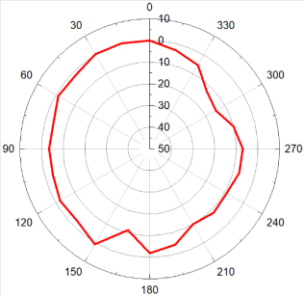
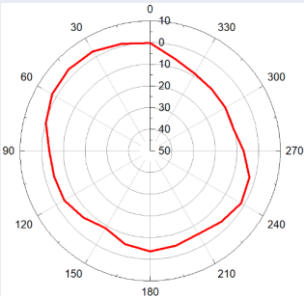
Efficiency: $\geq$ 60 %

Result : PASS

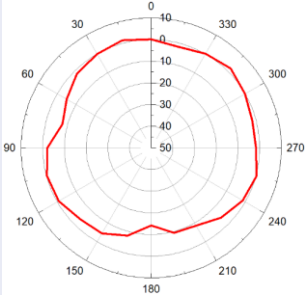
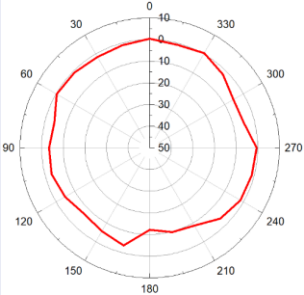
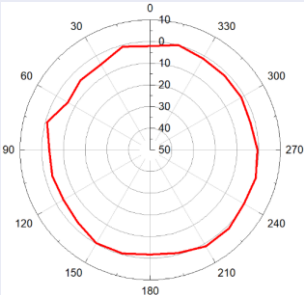
2D pattern : DB-1

Frequency	XZ Plane	YZ Plane	XY Plane
2.45GHz			
			

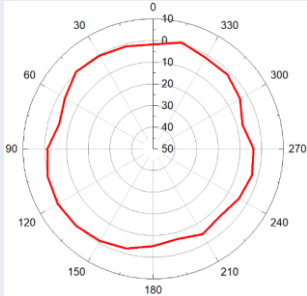
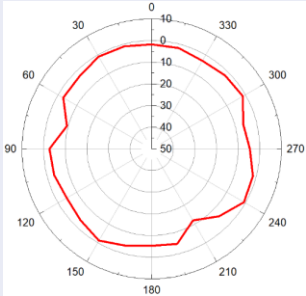
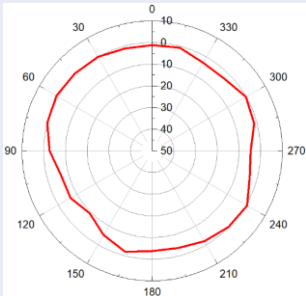
2D pattern : DB-2

Frequency	XZ Plane	YZ Plane	XY Plane
2.45GHz			
			

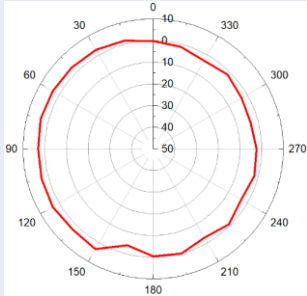
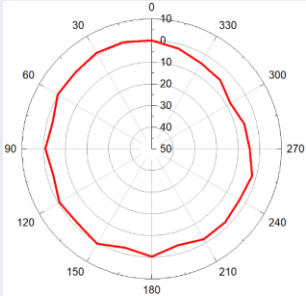
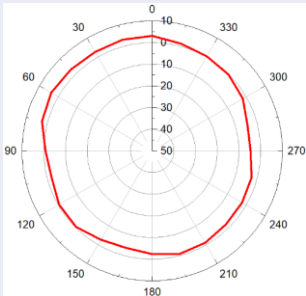
2D pattern : DB-1

Frequency	XZ Plane	YZ Plane	XY Plane
5.5GHz			
			

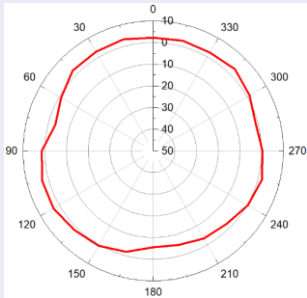
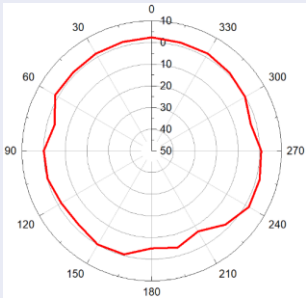
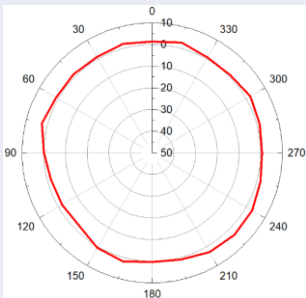
2D pattern : DB-2

Frequency	XZ Plane	YZ Plane	XY Plane
5.5GHz			
			

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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