

Verkada Legolas (QM21-W-HW) Antenna Test Report

Dec. 31, 2025

Johnson Yu

Antenna Design Department

Outline

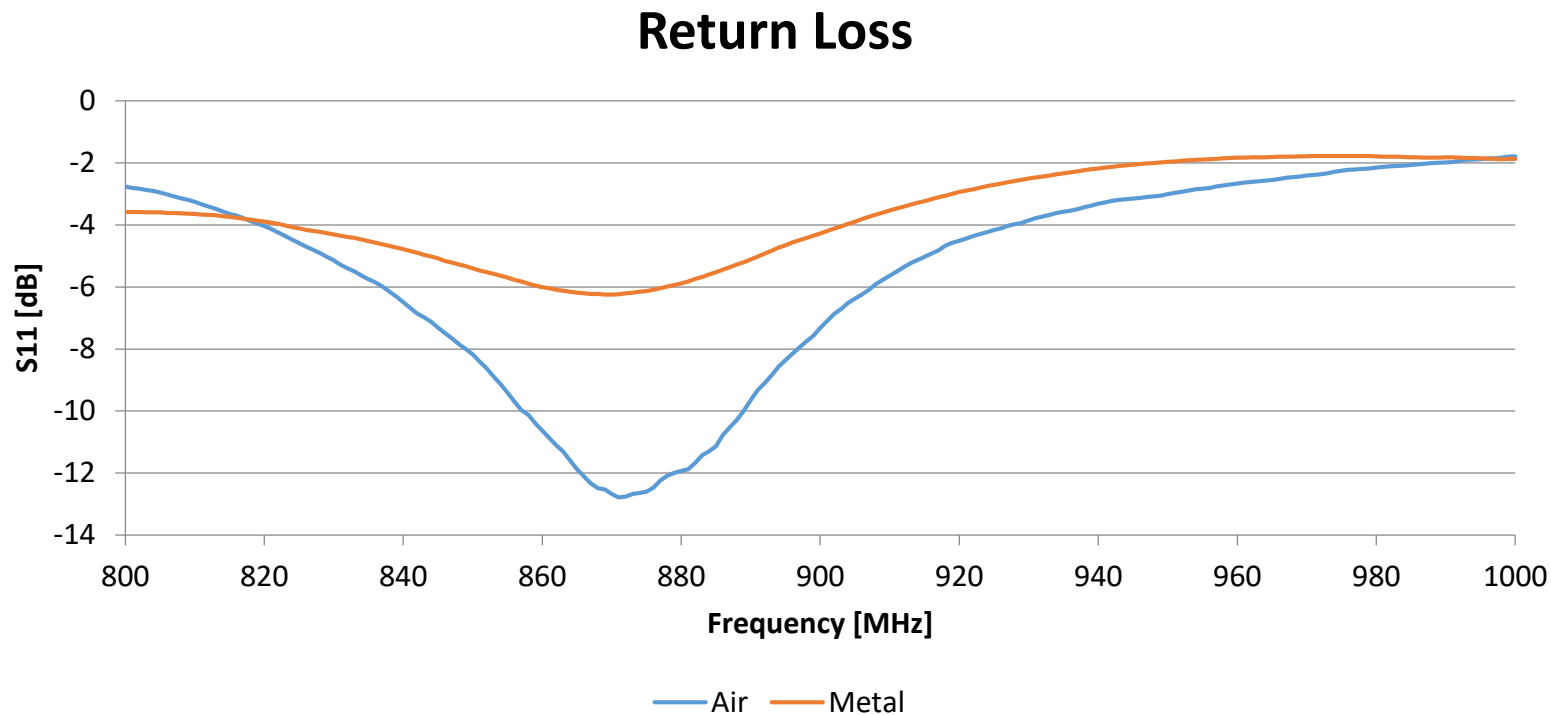
- Antenna Structure & Placement
- Return Loss
- Peak Gain & Efficiency
- Radiation Pattern



Antenna Structure & Placement

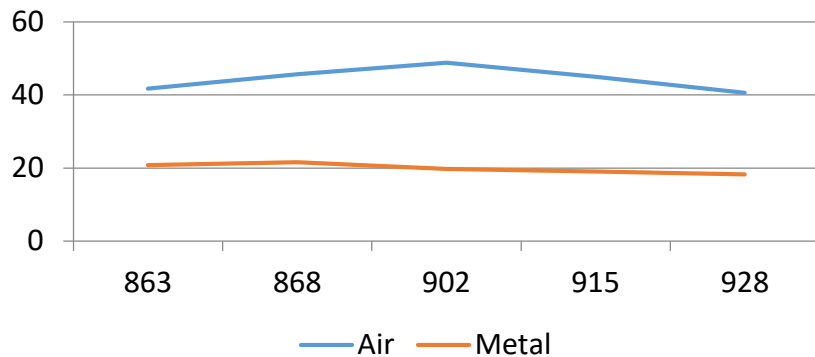
Ant No.	Function	Operating Band	Type	Material	Feeding	P/N	Dimension
Sub-G Antenna	Sub-G	868MHz ~ 915MHz	PIFA	Metal	Trace	61721MN006	34.1(L) x 7(W) x 11(H) mm ³

Return Loss



Peak Gain & Efficiency

Efficiency(%)



Peak Gain(dBi)

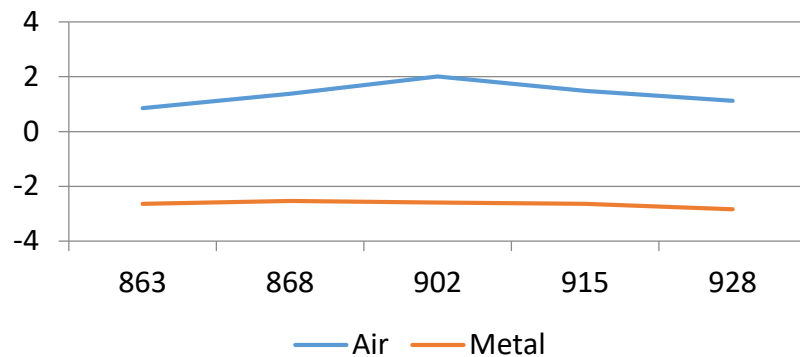


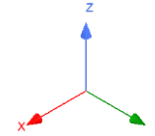
Table 6

Frequency (MHz)	Air		Metal	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
863	41.75	0.85	20.82	-2.64
868	45.67	1.38	21.56	-2.54
902	48.87	2.01	19.77	-2.59
915	44.96	1.48	19.05	-2.64
928	40.62	1.12	18.24	-2.84

Air

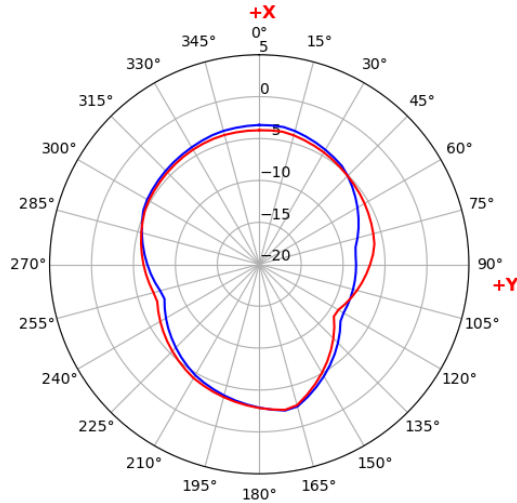
Metal

2D Radiation Pattern -Air @868 & 915MHz



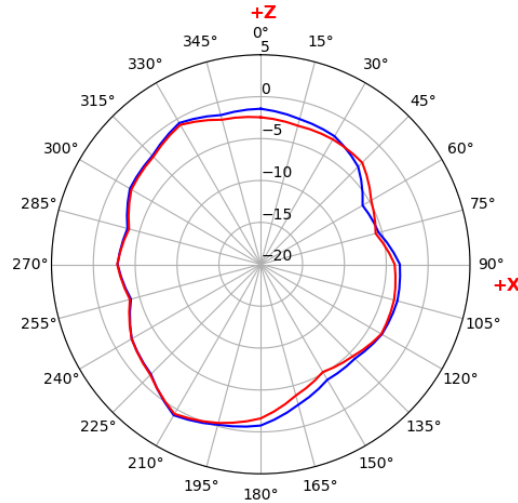
@ XY Plane

— 868MHz — 915MHz



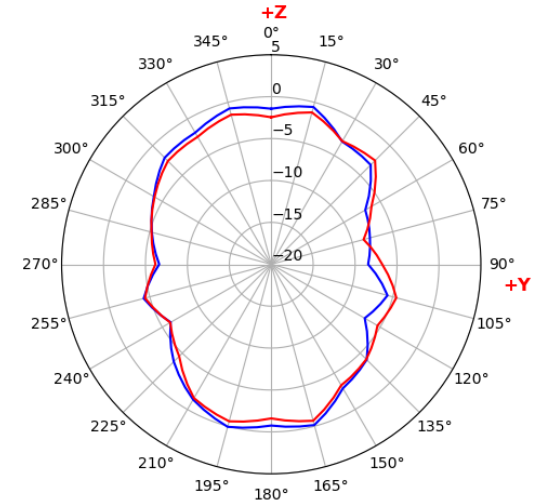
@ XZ Plane

— 868MHz — 915MHz



@ YZ Plane

— 868MHz — 915MHz

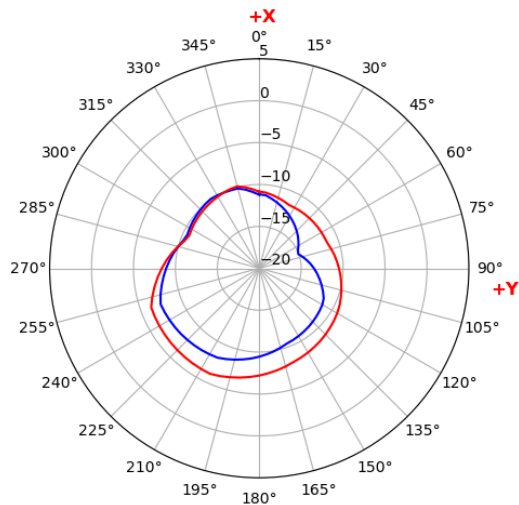


2D Radiation Pattern -Metal @868 & 915MHz



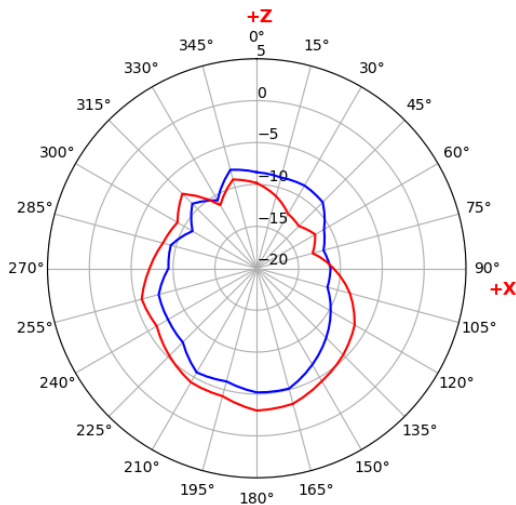
@ XY Plane

— 868MHz — 915MHz



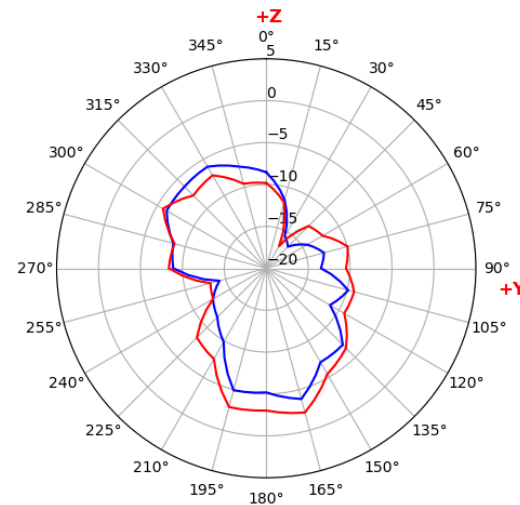
@ XZ Plane

— 868MHz — 915MHz

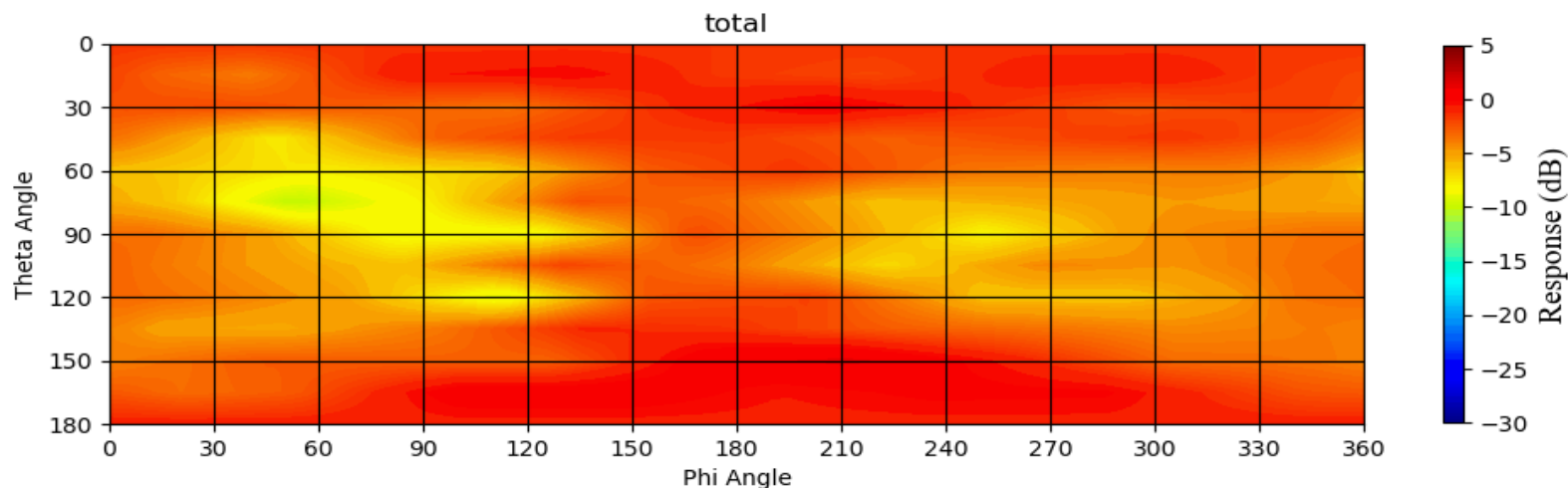
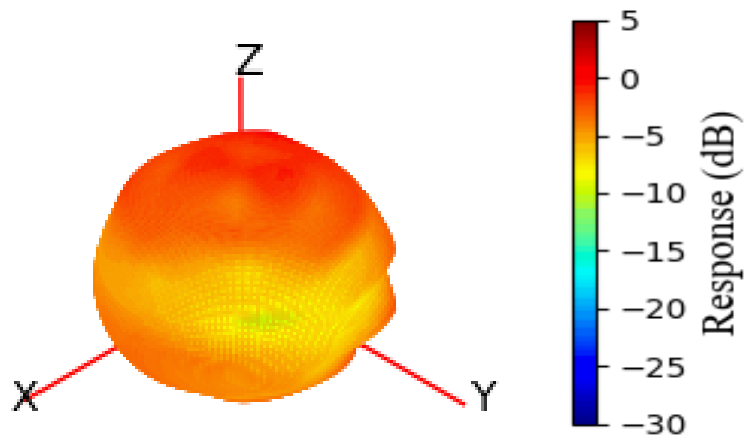


@ YZ Plane

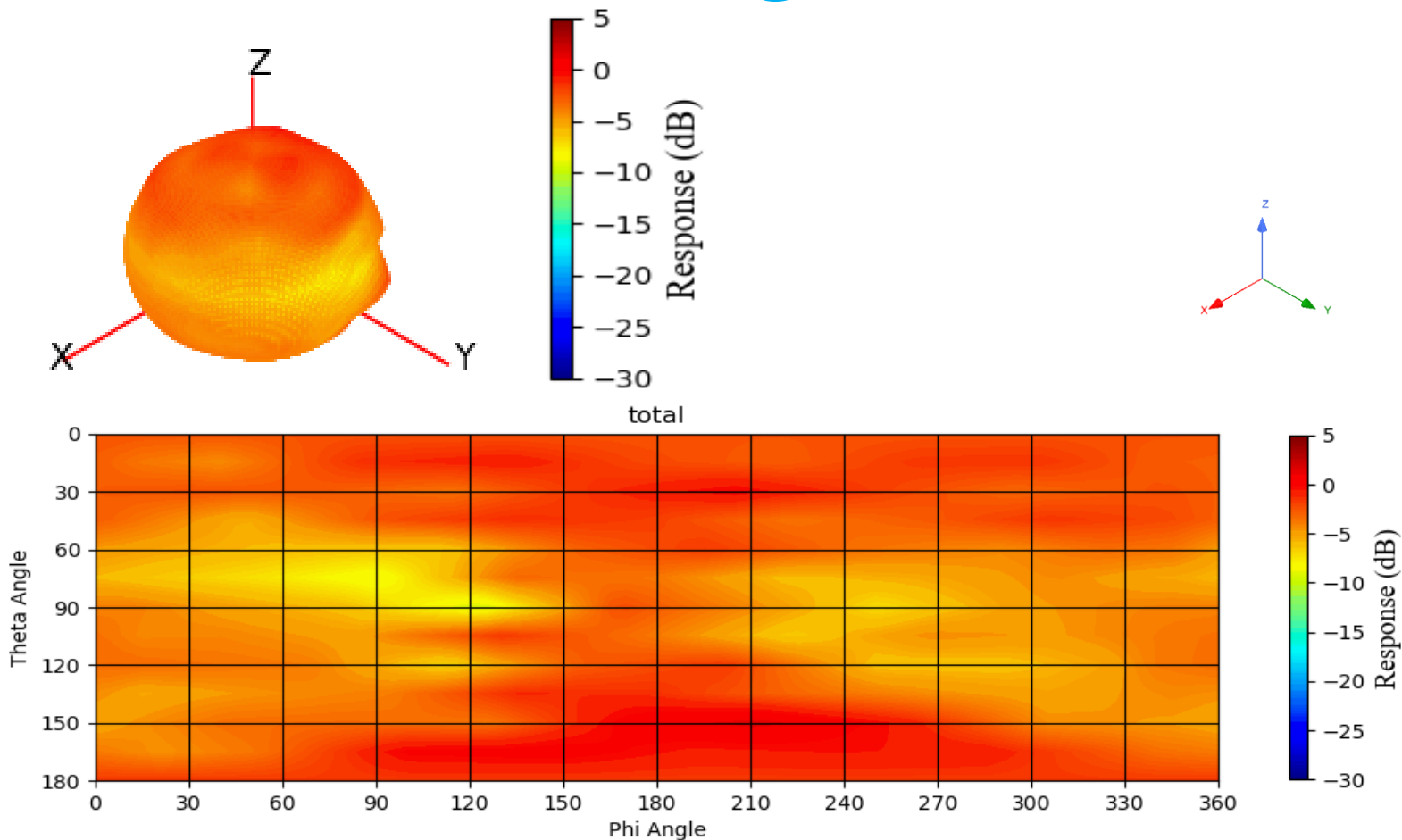
— 868MHz — 915MHz



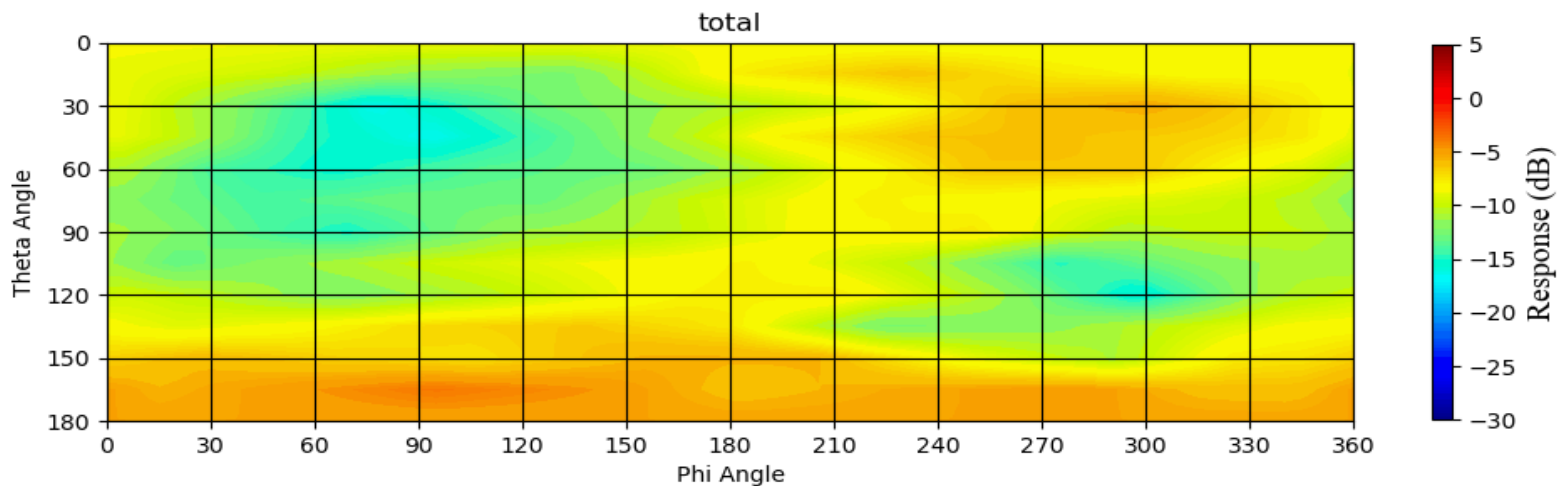
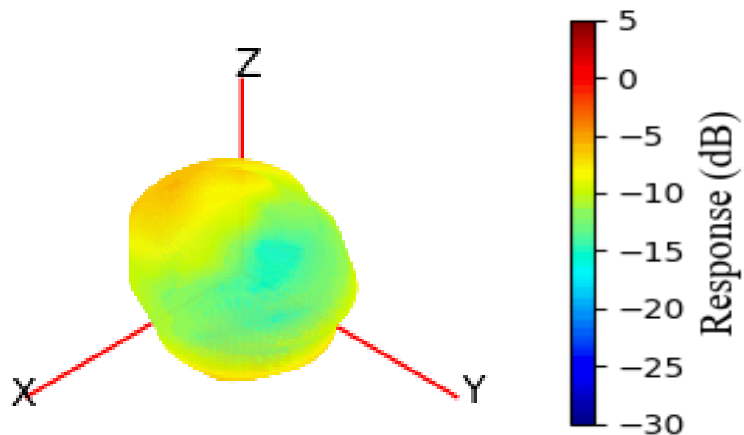
3D Radiation Pattern - Air @868MHz



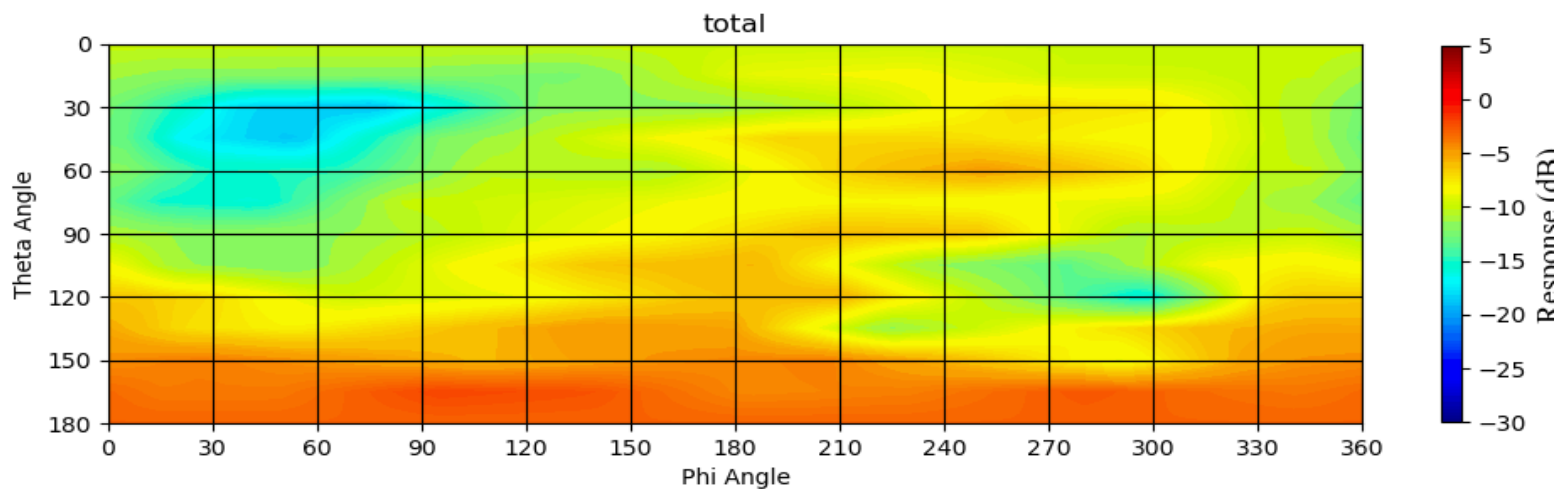
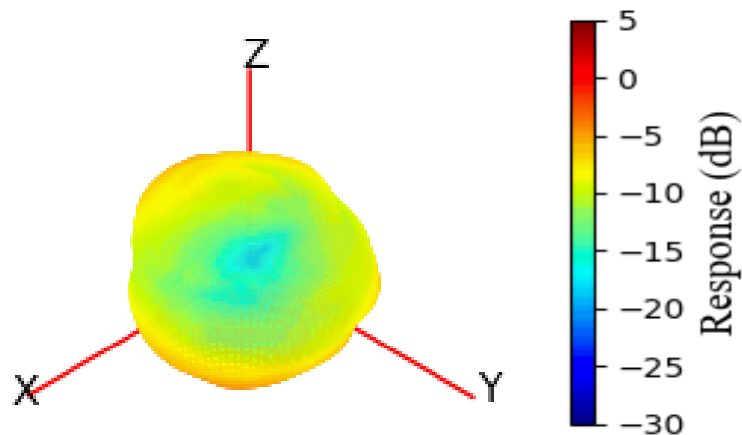
3D Radiation Pattern - Air @915MHz



3D Radiation Pattern - Metal @868MHz



3D Radiation Pattern - Metal @915MHz



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