



Shure Axient Digital AD2

Measurements of Shure Axient Digital AD2 UHF Antennas For Regulatory Approval

Shure Incorporated
December 2024

Prepared by
Adem Celebi, Ph.D.



Shure Axient Digital AD2

Table of Contents

1. Shure AD2 – Handheld Transmitter	1
1.1 Design Block Diagram and Reference Angles	1
1.2 Test Setup.....	2
2. Test Results	4
2.1 AD2 UHF Antenna (Helical Dipole/Monopole Type).....	4
2.1.1 AD2 – Helical Antenna Blue Dot (28B15095 Label)	4
2.1.2 AD2 – Helical Antenna Red Dot (28A15095 Label)	5
2.1.3 AD2 – Helical Antenna Black Dot (28D15095 Label)	6
2.1.4 AD2 – Helical Antenna Yellow Dot (28E15095 Label)	7
2.1.5 AD2 – Helical Antenna Orange Dot (28G15095 Label)	8

1. Shure AD2 – Handheld Transmitter

1.1 Design Block Diagram and Reference Angles

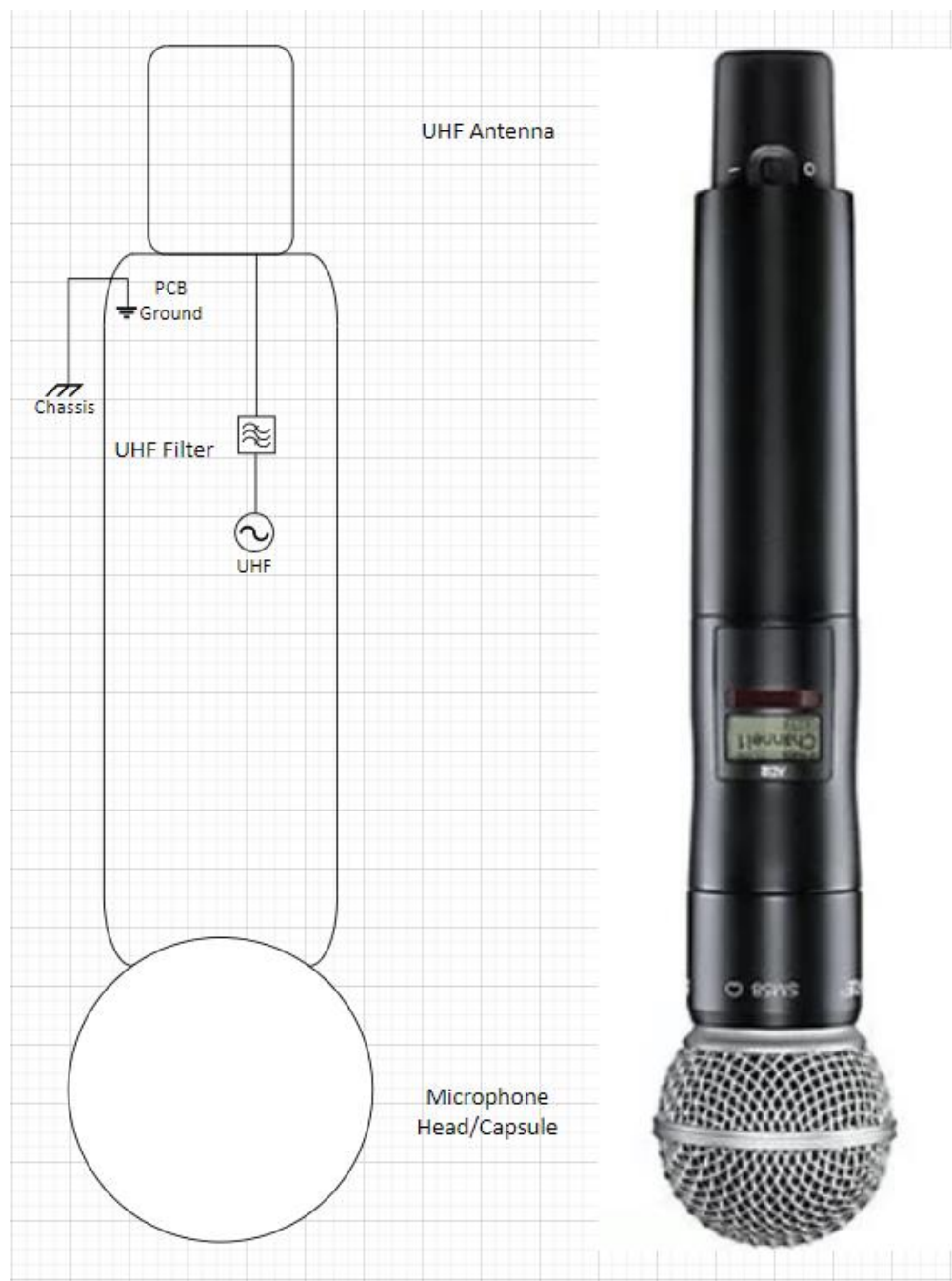


Figure 1 Shure AD2 UHF Antenna Block Diagram



1.2 Test Setup

Shure Axient Digital AD2

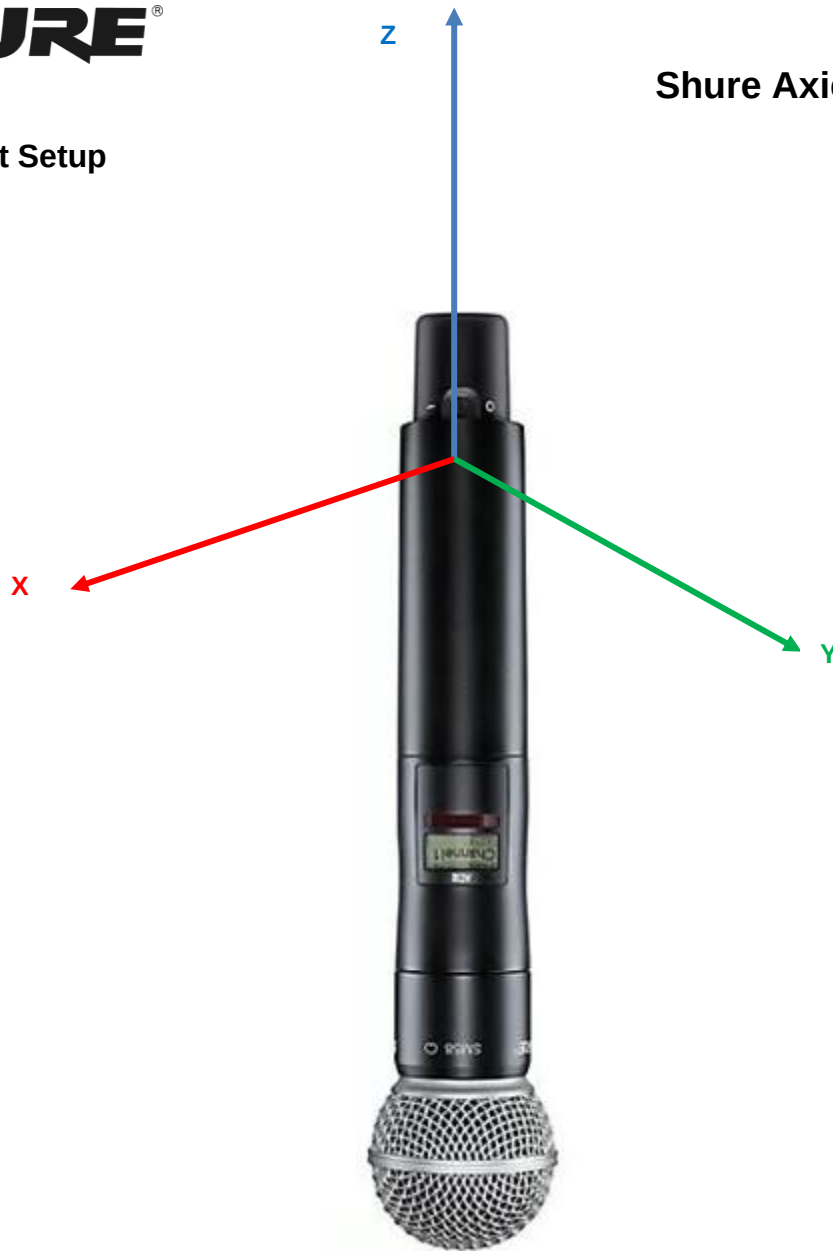


Figure 2 Shure AD2 Reference Angles



Figure 3 Photo of Shure AD2 in Antenna Chamber

Supporting Test Equipment List and Software:

- E5071C ENA series Vector Network Analyzer 100kHz-8.5GHz
- ETS Model 2090 Multi Device Controller
- ETS Lindgren Model 3164-10 3164-10 Open Boundary Quad-Ridged Horn 400MHz-10GHz
- ETS Lindgren Model 3126-2450 Precision Sleeve Dipole
- ETS Lindgren Model 3122D-DB4 Tuned Dipole Antenna
- EMQuest Data Acquisition and Analysis Software

2. Test Results

2.1 AD2 UHF Antenna (Helical Dipole/Monopole Type)

2.1.1 AD2 – Helical Antenna Blue Dot (28B15095 Label)

Peak Gain				
Band	Band Range (MHz)	Peak Gain (dBi)	Antenna Type	Antenna Pattern
G56	470 – 636	-1.3	Helical	Omni
G57	470 – 616	-1.3		

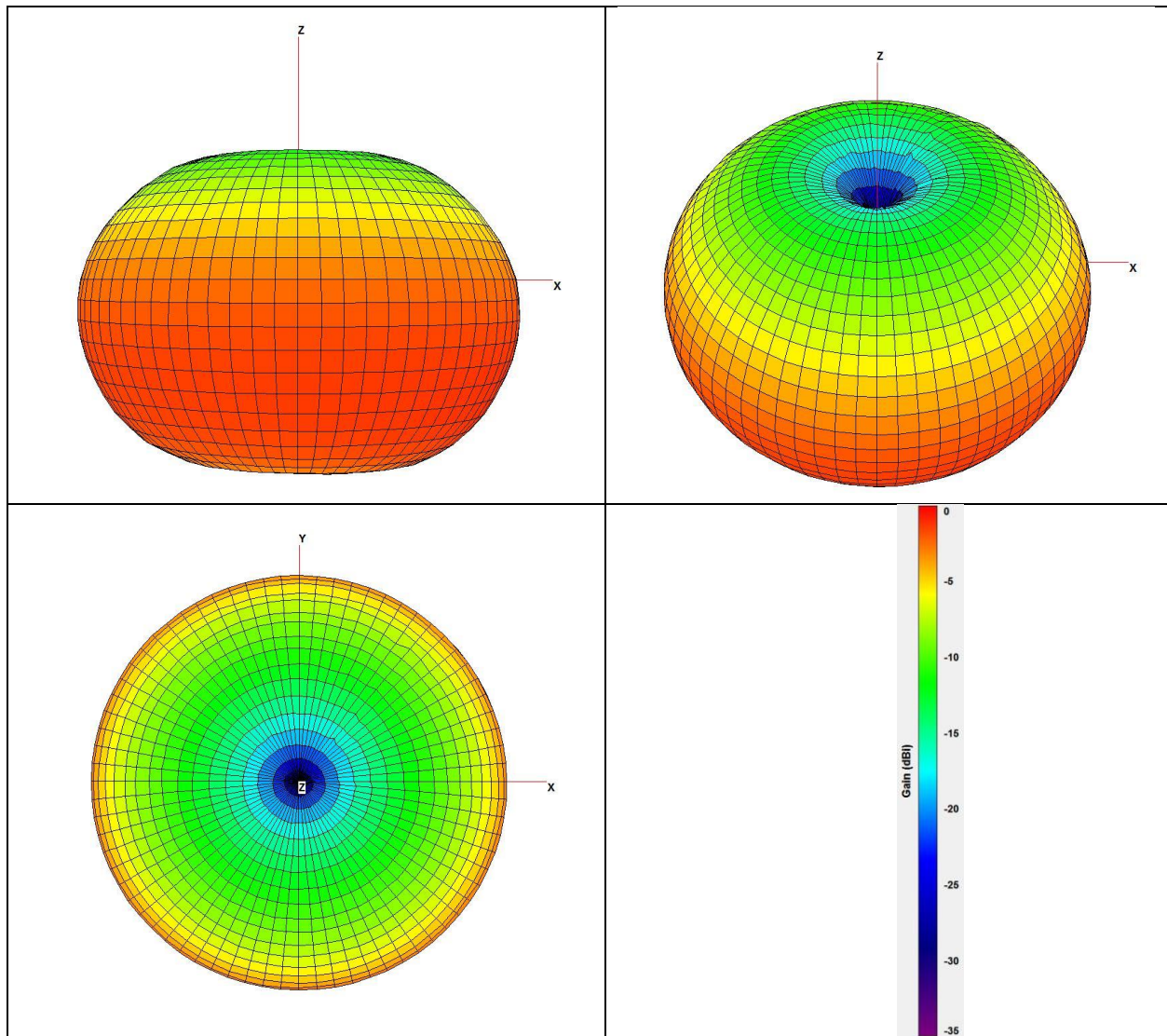


Figure 4 – AD2 (Helical Antenna Blue Dot) 3D radiation patterns and scale at max peak gain

2.1.2 AD2 – Helical Antenna Red Dot (28A15095 Label)

Peak Gain				
Band	Band Range (MHz)	Peak Gain (dBi)	Antenna Type	Antenna Pattern
G62	510 – 530	-0.6	Helical	Omni

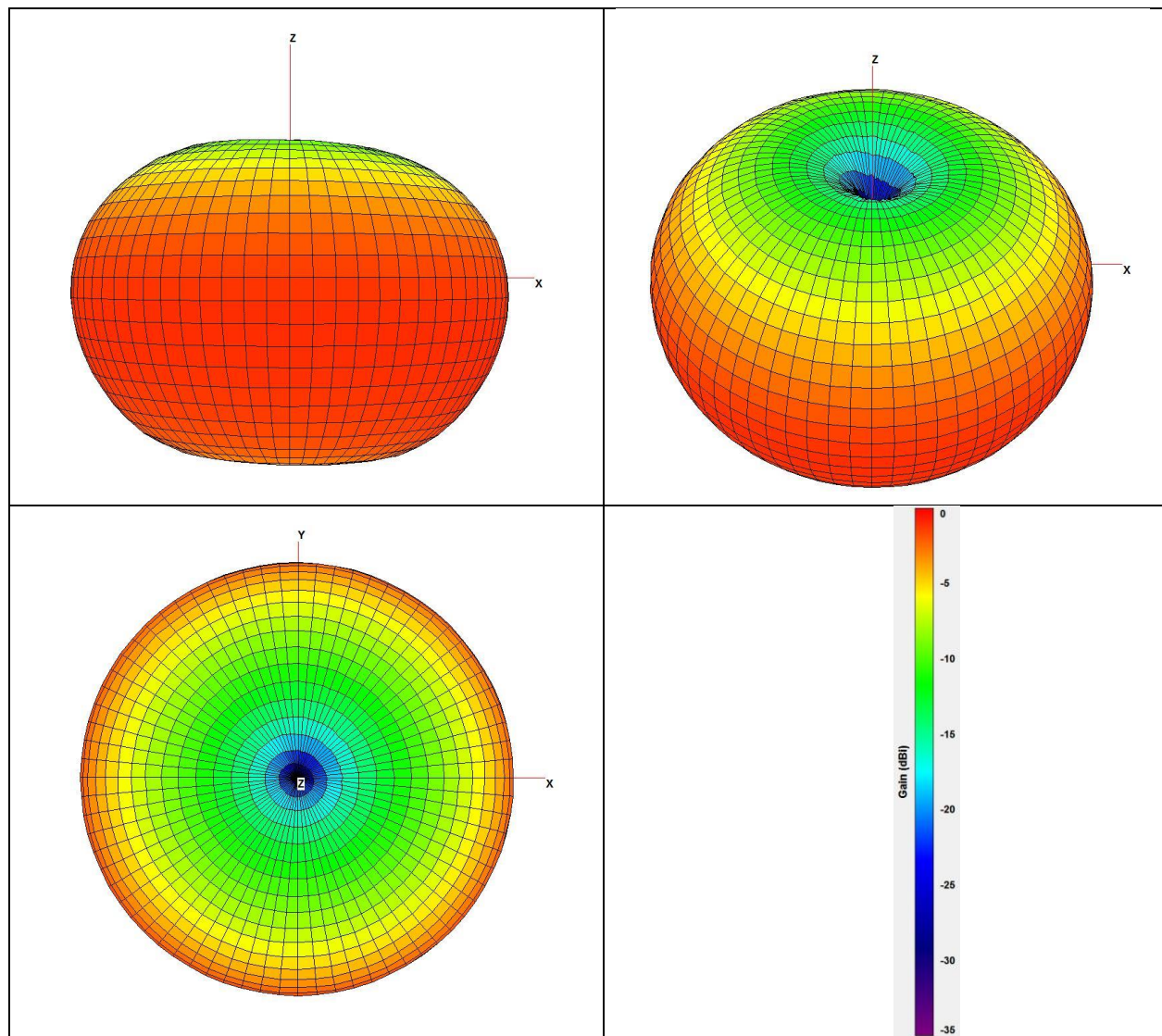


Figure 5 – AD2 (Helical Antenna Red Dot) 3D radiation patterns and scale at max peak gain

2.1.3 AD2 – Helical Antenna Black Dot (28D15095 Label)

Peak Gain				
Band	Band Range (MHz)	Peak Gain (dBi)	Antenna Type	Antenna Pattern
K54	606 – 663	-1.0	Helical	Omni
K55	606 – 694	-1.0		

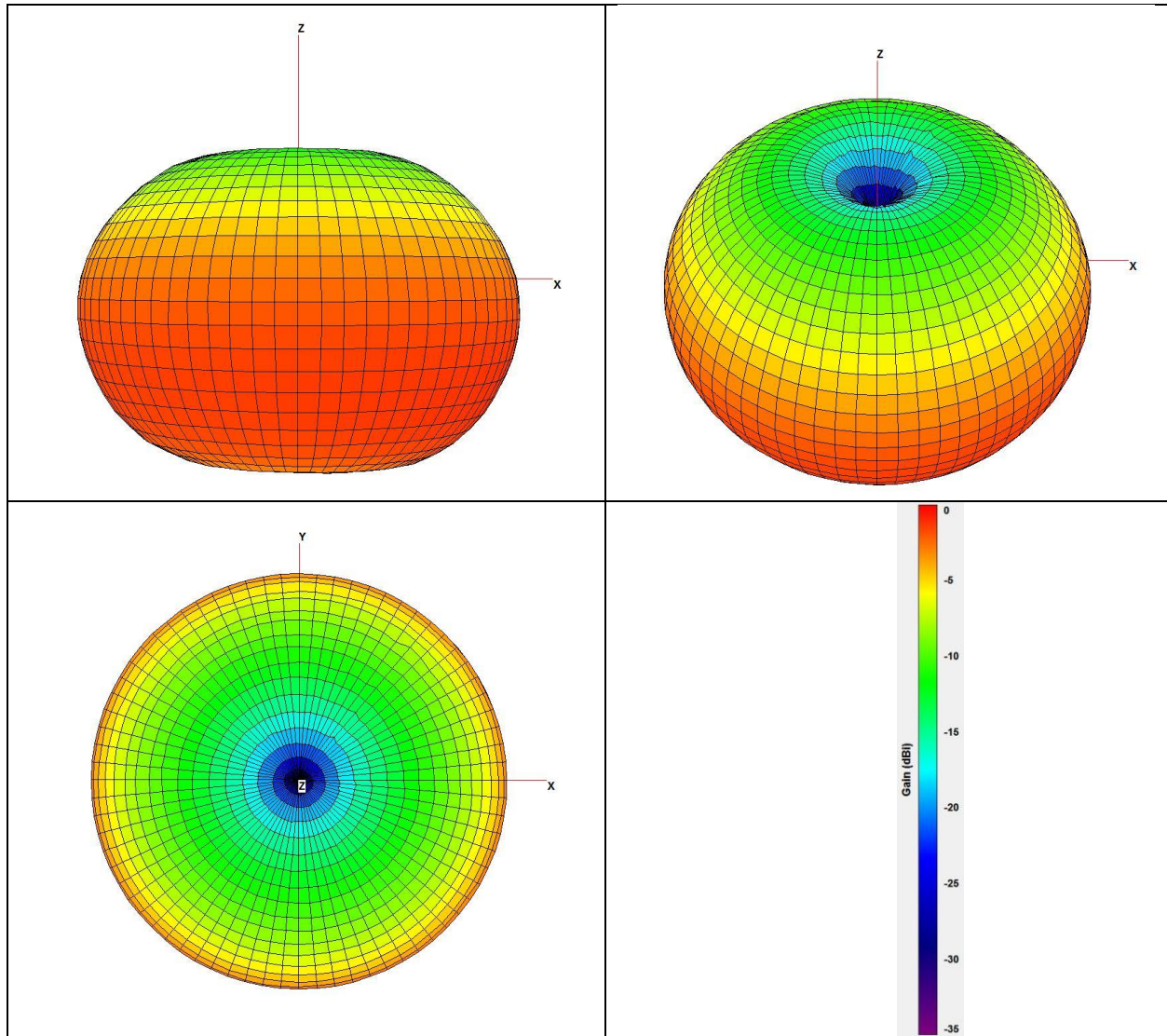


Figure 6 – AD2 (Helical Antenna Black Dot) 3D radiation patterns and scale at max peak gain

2.1.4 AD2 – Helical Antenna Yellow Dot (28E15095 Label)

Peak Gain				
Band	Band Range (MHz)	Peak Gain (dBi)	Antenna Type	Antenna Pattern
K57	606 – 790	-2.0	Helical	Omni
JB	806 – 810	-3.0		

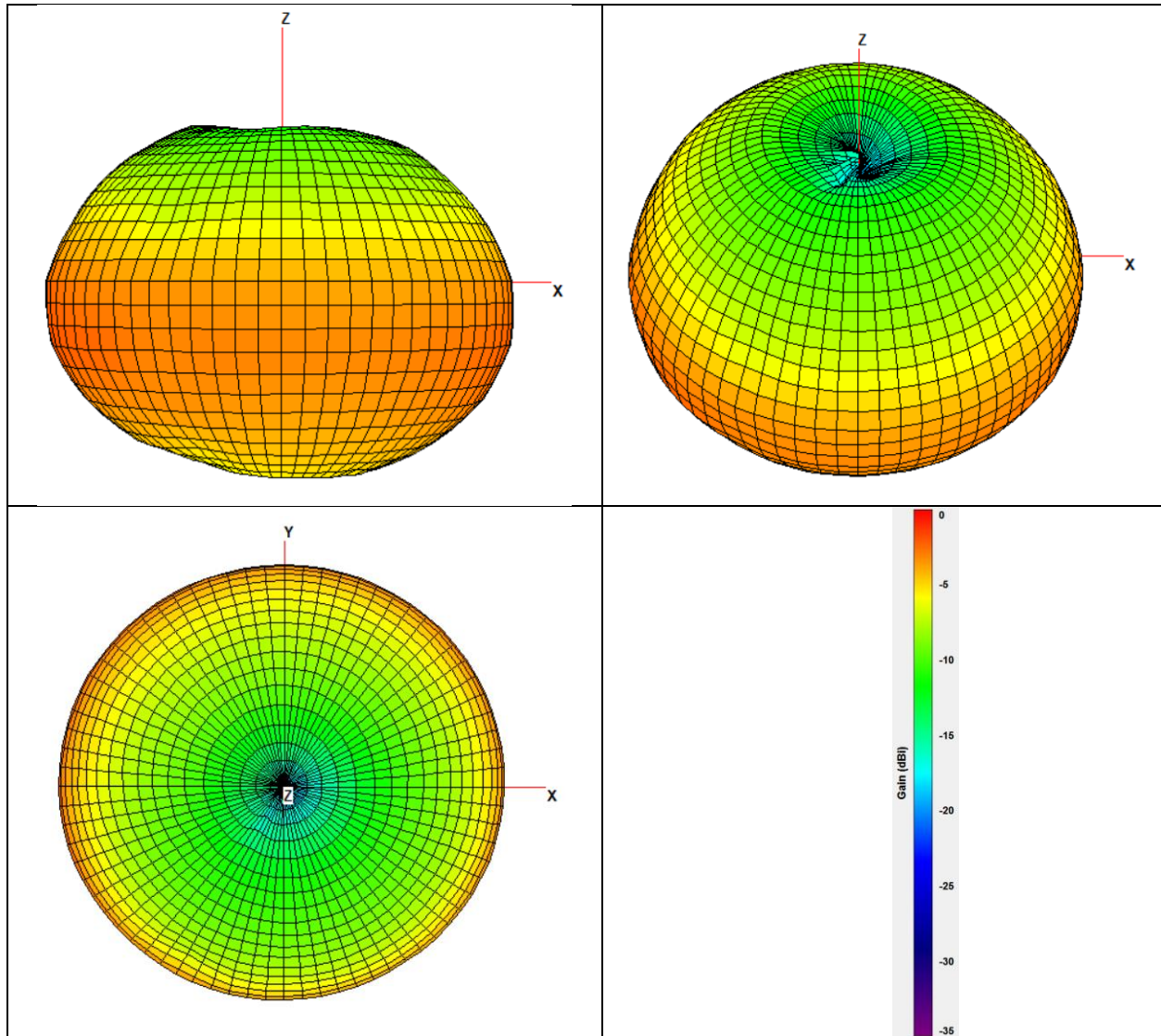


Figure 7 – AD2 (Helical Antenna Yellow Dot) 3D radiation patterns and scale at max peak gain

2.1.5 AD2 – Helical Antenna Orange Dot (28G15095 Label)

Peak Gain				
Band	Band Range (MHz)	Peak Gain (dBi)	Antenna Type	Antenna Pattern
X55	941 – 960	-3.5	Helical	Omni
X56	960 – 1000	-3.5		

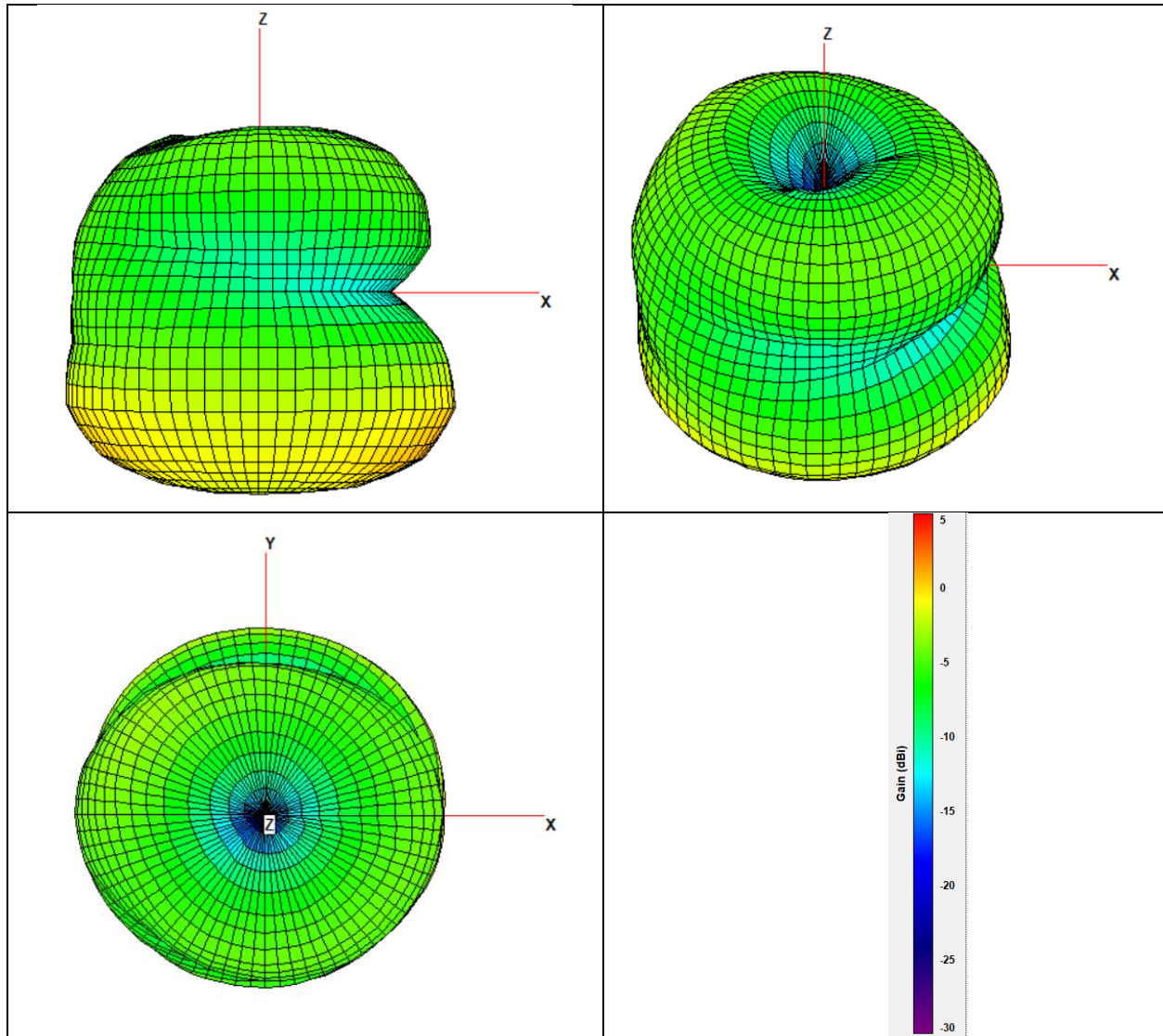


Figure 8 – AD2 (Helical Antenna Orange Dot) 3D radiation patterns and scale at max peak gain