



Shure Axient Digital AD2

# **Measurements of Shure Axient Digital AD2 UHF Antennas For Regulatory Approval**

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## Shure Axient Digital AD2

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### 1. Shure AD2 – Handheld Transmitter

#### 1.1 Design Block Diagram and Reference Angles

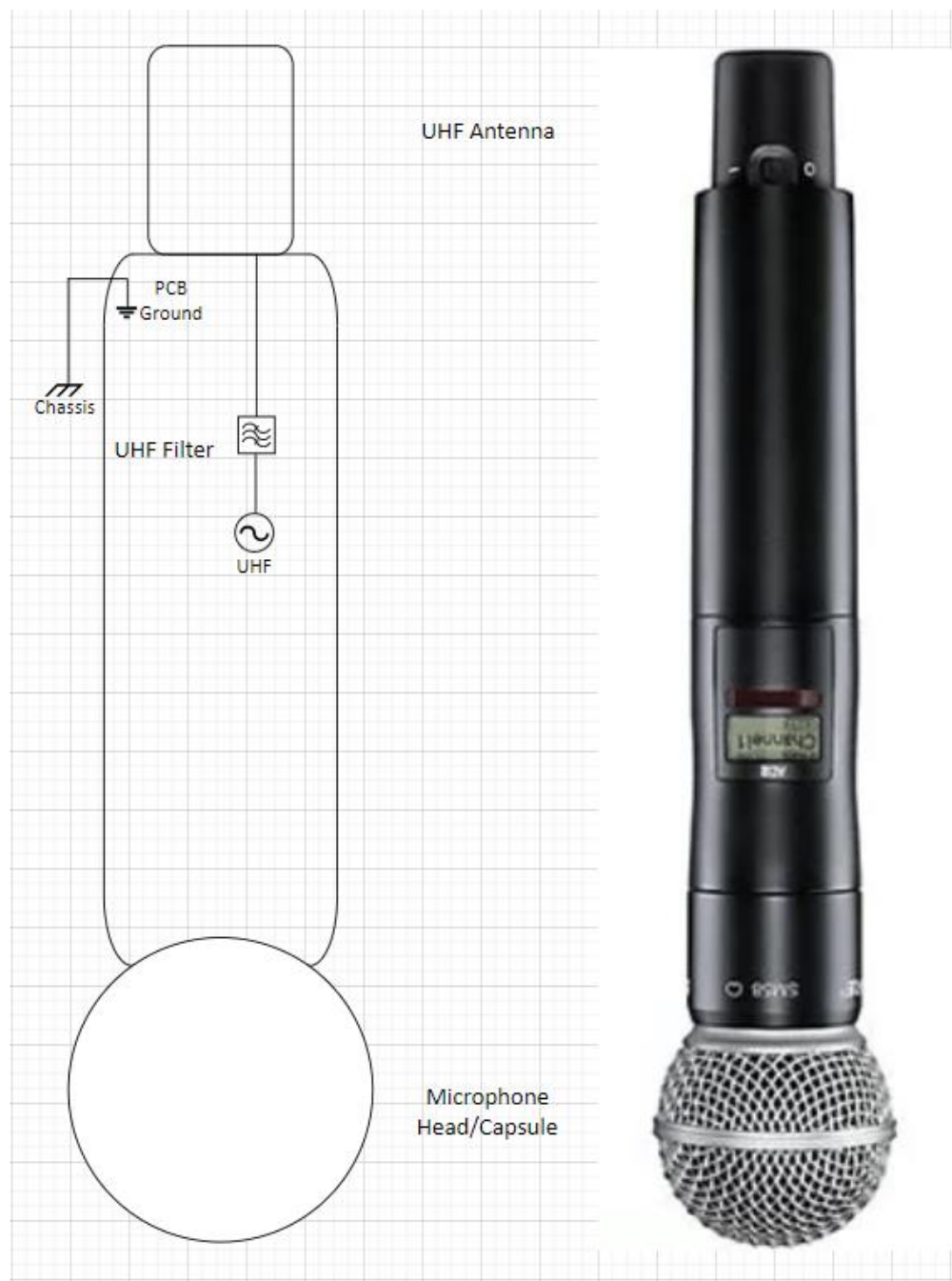


Figure 1 Shure AD2 UHF Antenna Block Diagram



## 1.2 Test Setup

Shure Axient Digital AD2

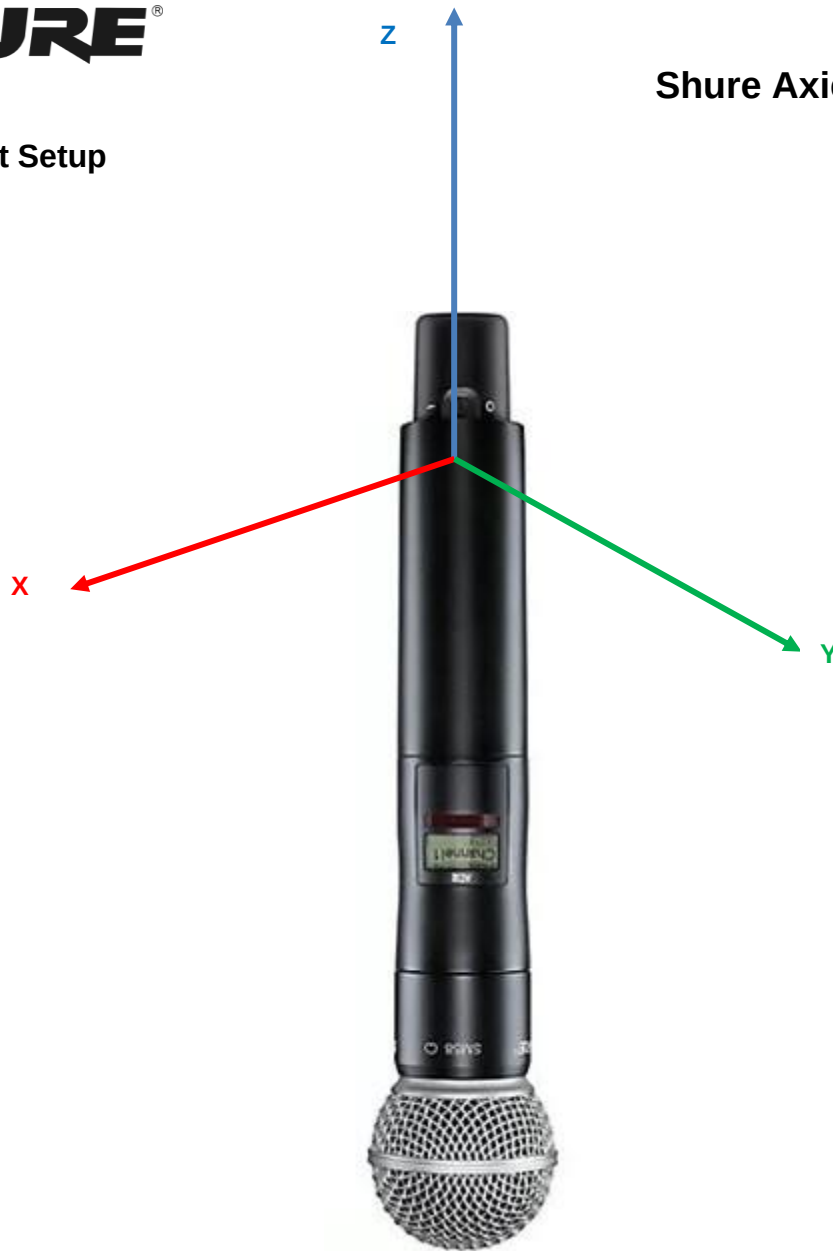


Figure 2 Shure AD2 Reference Angles

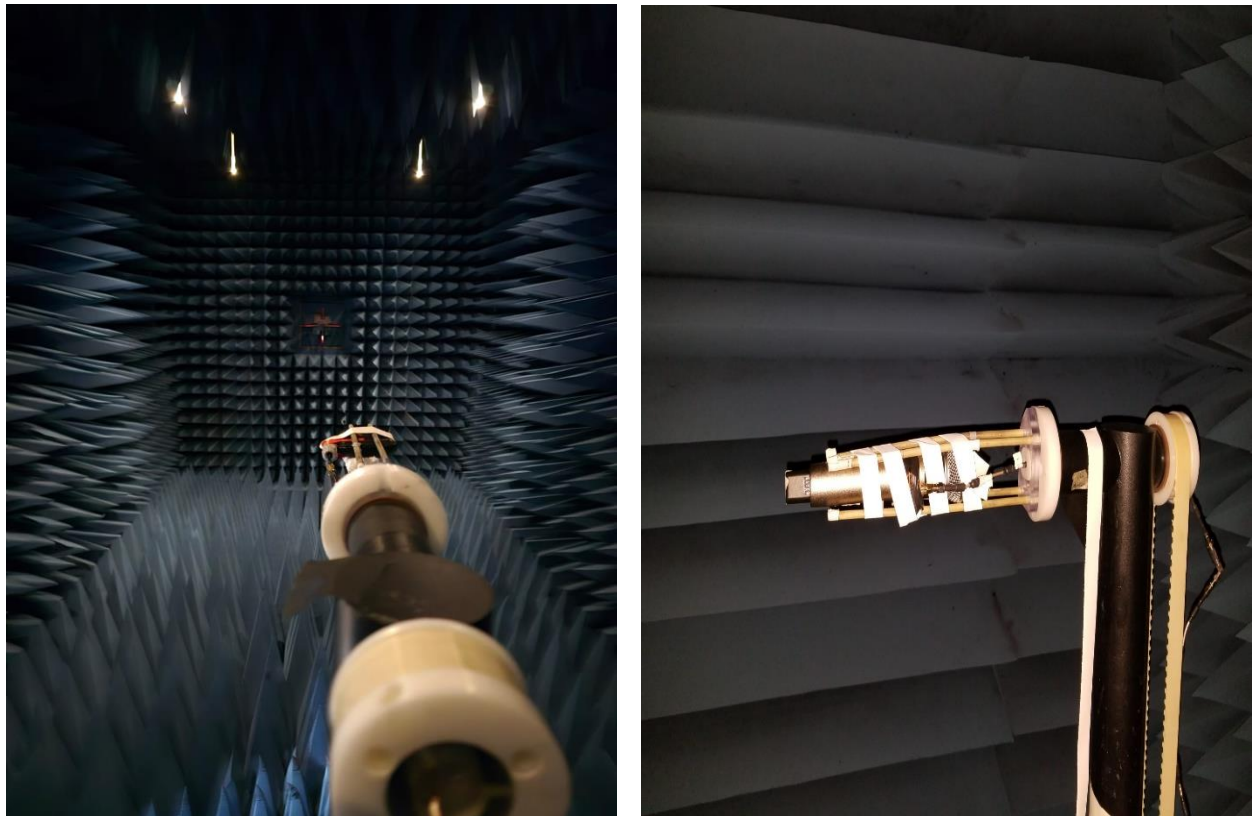


Figure 3 Photo of Shure AD2 in Antenna Chamber

### 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            |              |                 |

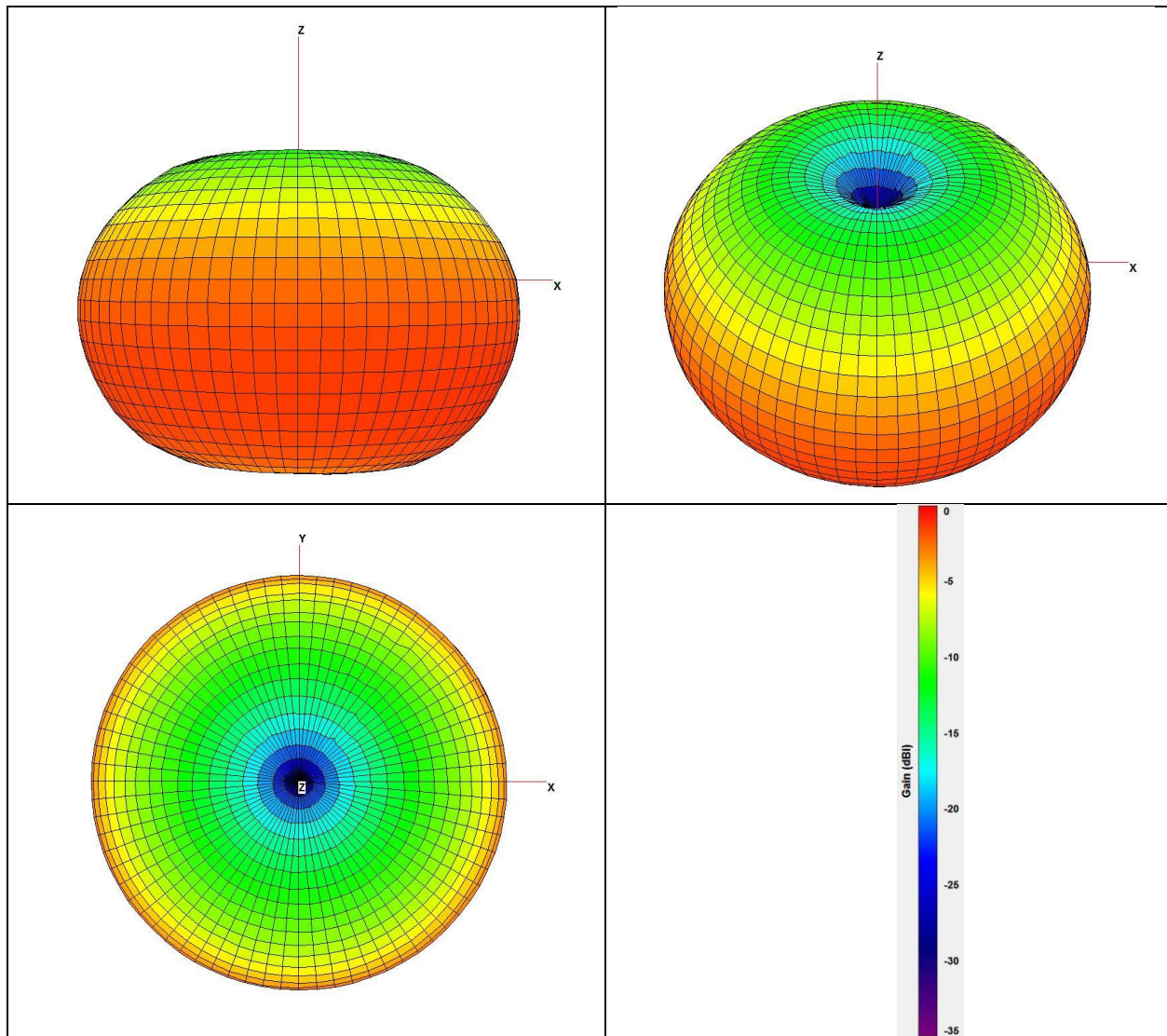


Figure 4 – AD2 (Helical Antenna Blue Dot) 3D radiation patterns and scale at max peak gain

### 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            |

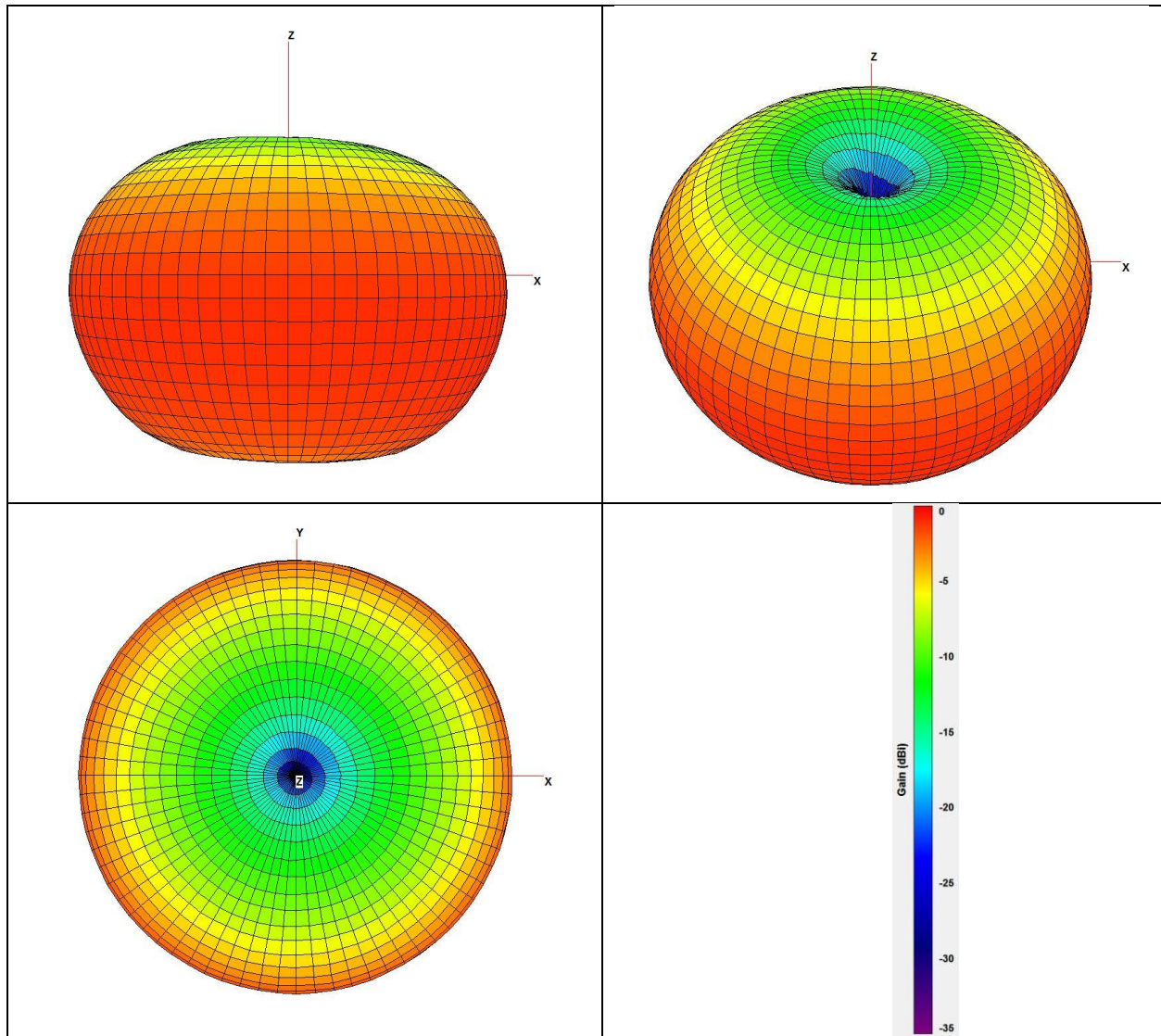


Figure 5 – AD2 (Helical Antenna Red Dot) 3D radiation patterns and scale at max peak gain



### 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            |              |                 |

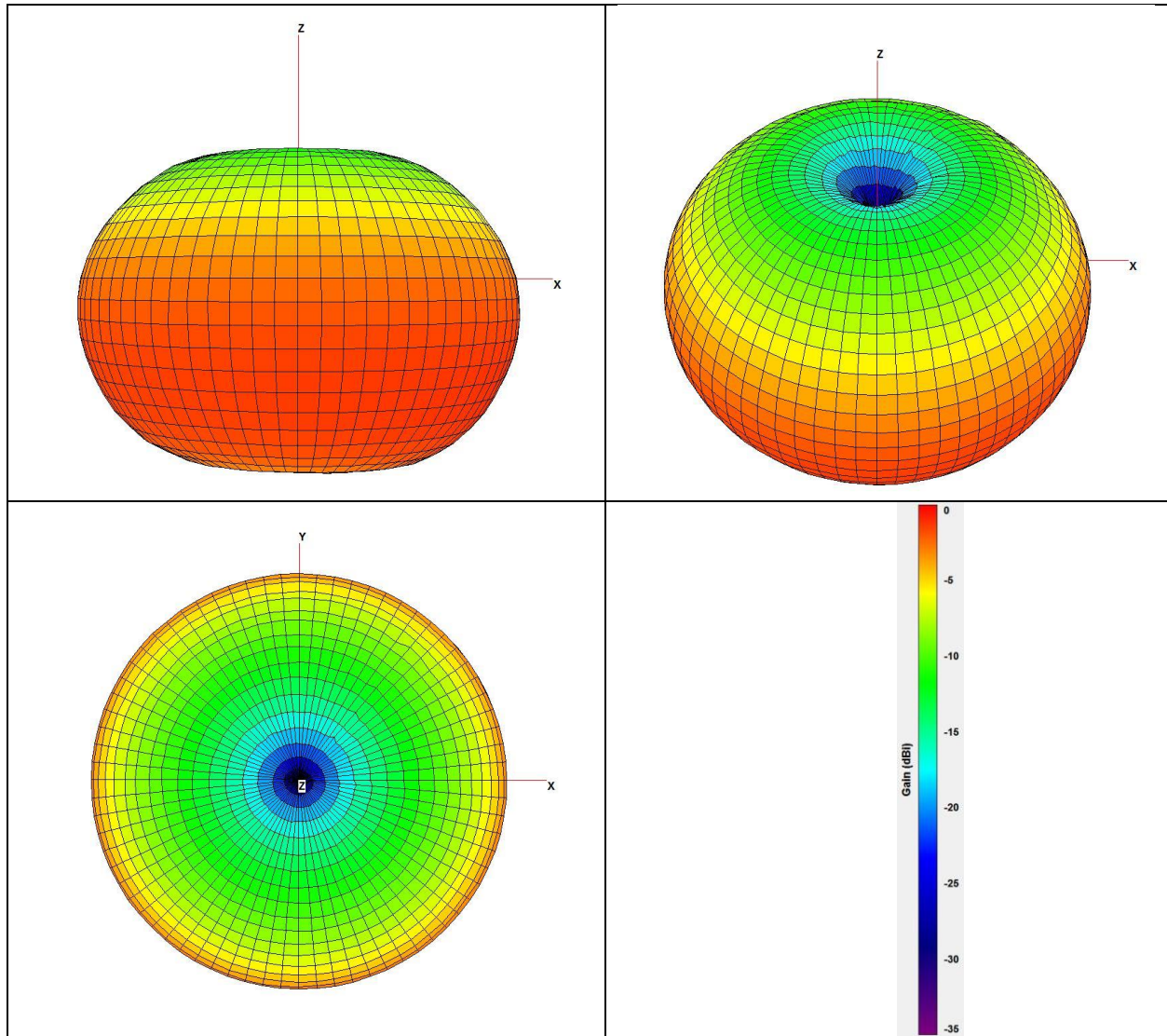


Figure 6 – AD2 (Helical Antenna Black Dot) 3D radiation patterns and scale at max peak gain



### 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            |              |                 |

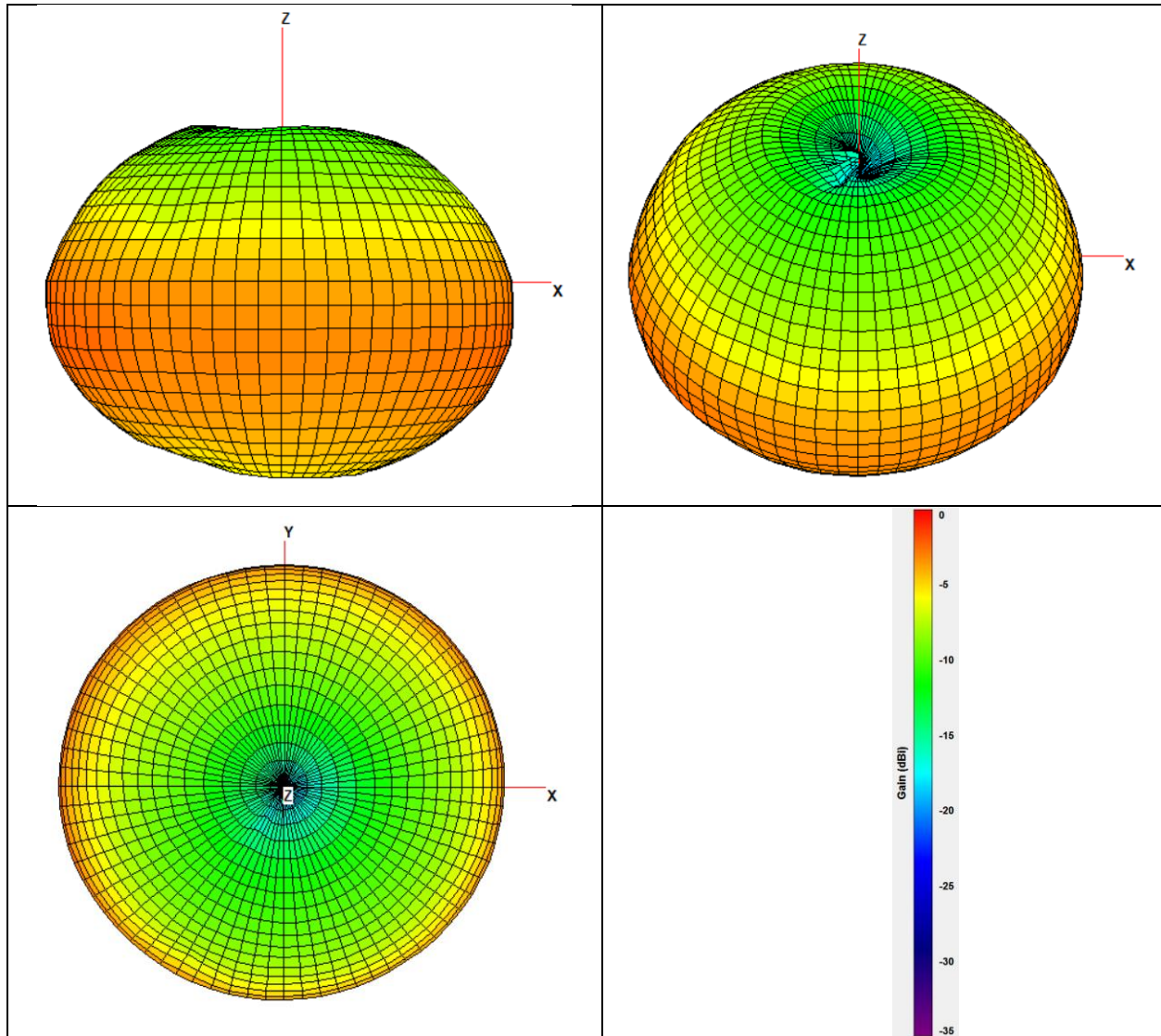


Figure 7 – AD2 (Helical Antenna Yellow Dot) 3D radiation patterns and scale at max peak gain

### 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            |              |                 |

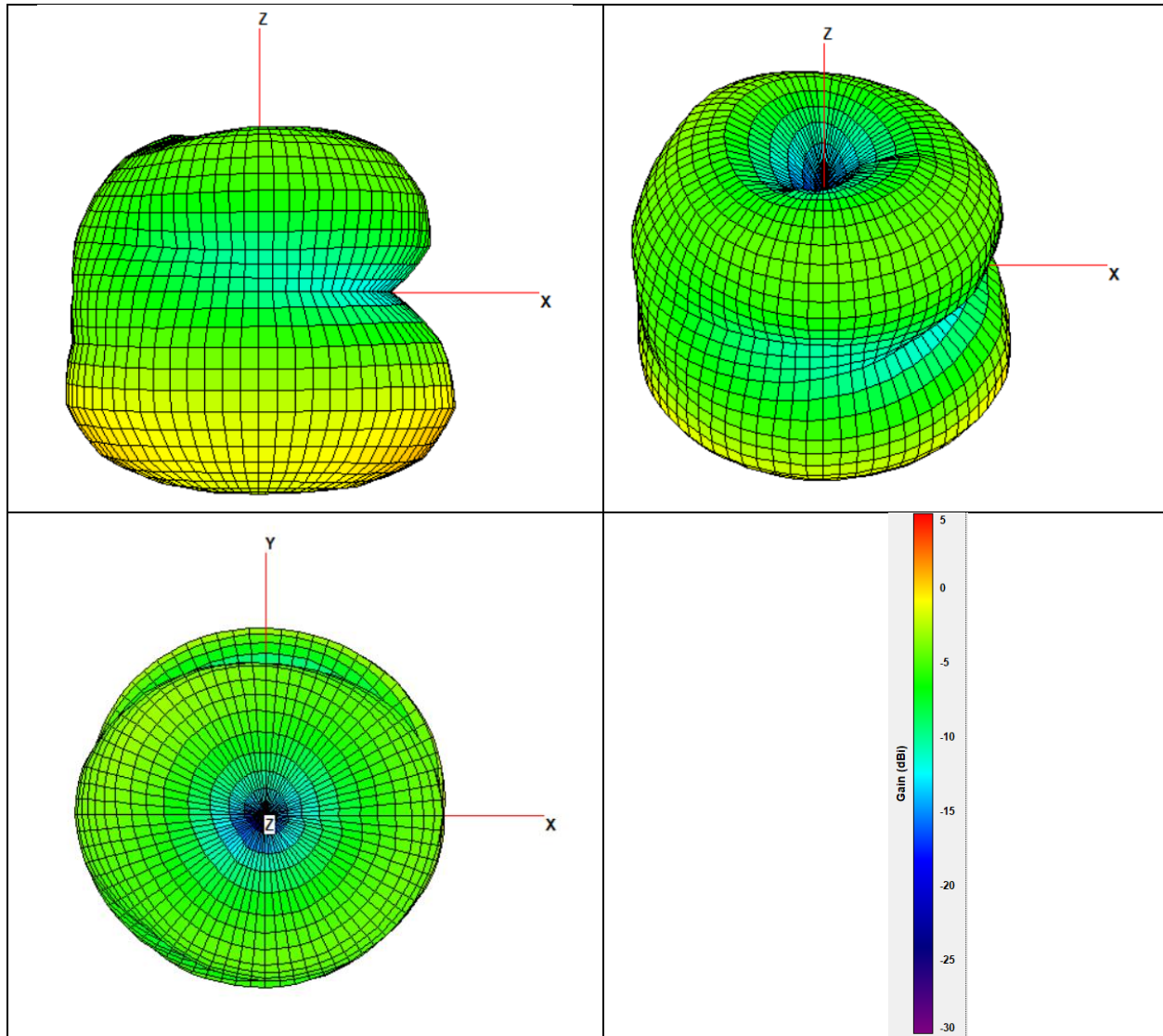


Figure 8 – AD2 (Helical Antenna Orange Dot) 3D radiation patterns and scale at max peak gain