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Measurements of Shure Axient Digital ADX1 UHF and 2.4 GHz Antennas For Regulatory Approval

Shure Incorporated
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Prepared by

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1. Shure ADX1 – Bodypack Transmitter

1.1 Design Overview and Reference Angles

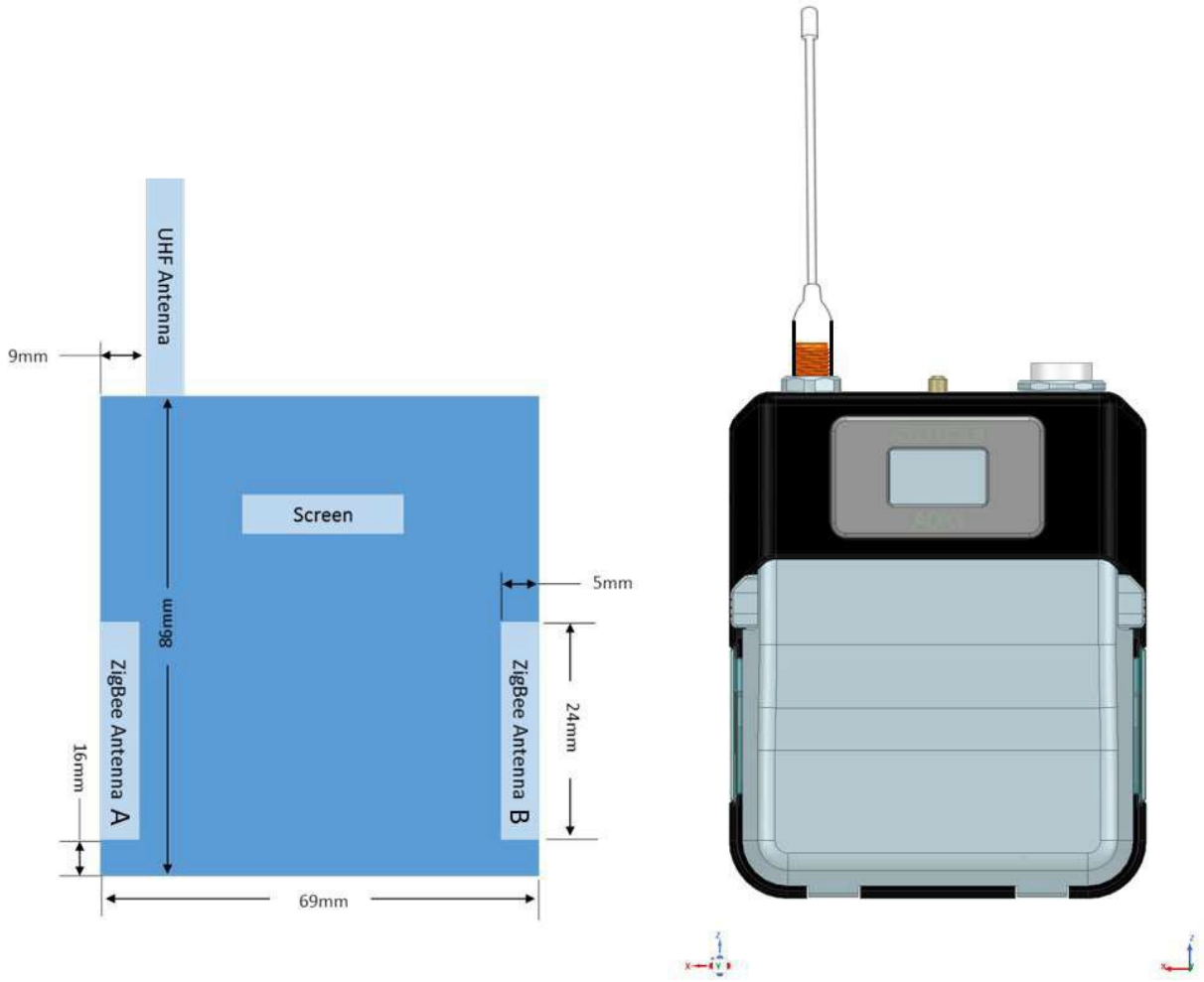

Figure 1 **Shure ADX1 UHF and Zigbee Antennas Overview**

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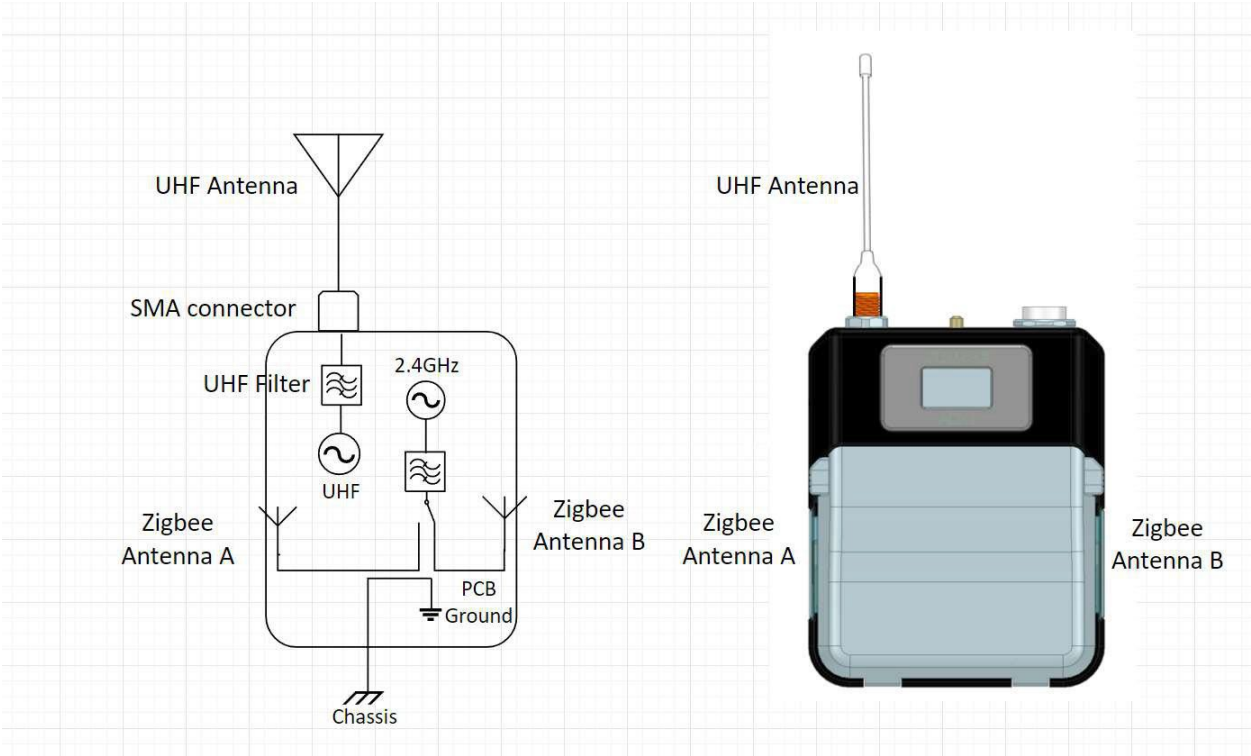

Figure 2 **Shure ADX1 UHF and Zigbee Antennas Block Diagram**

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1.2 Test Setup

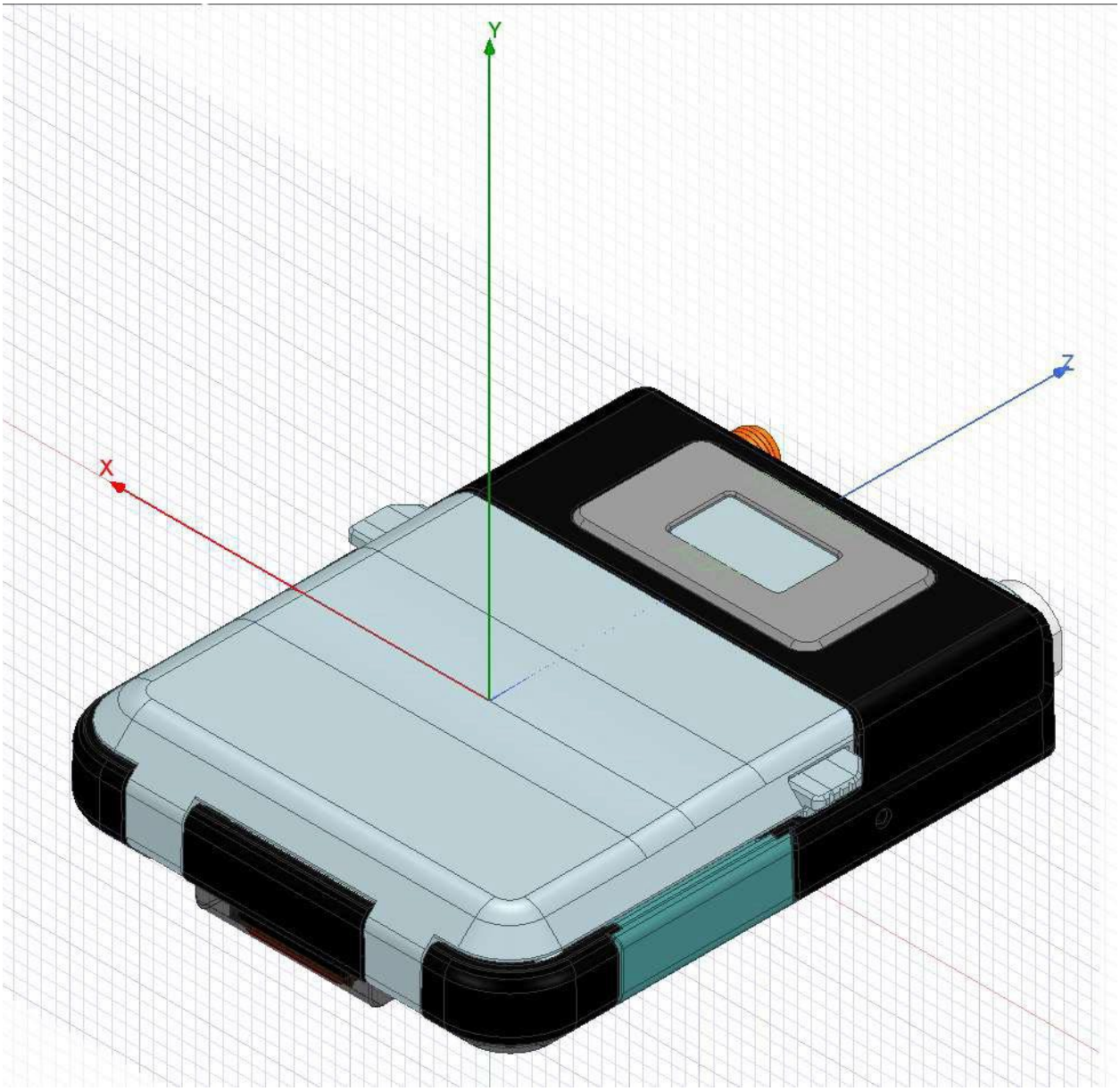

Figure 3 **Shure ADX1 Reference Angles**

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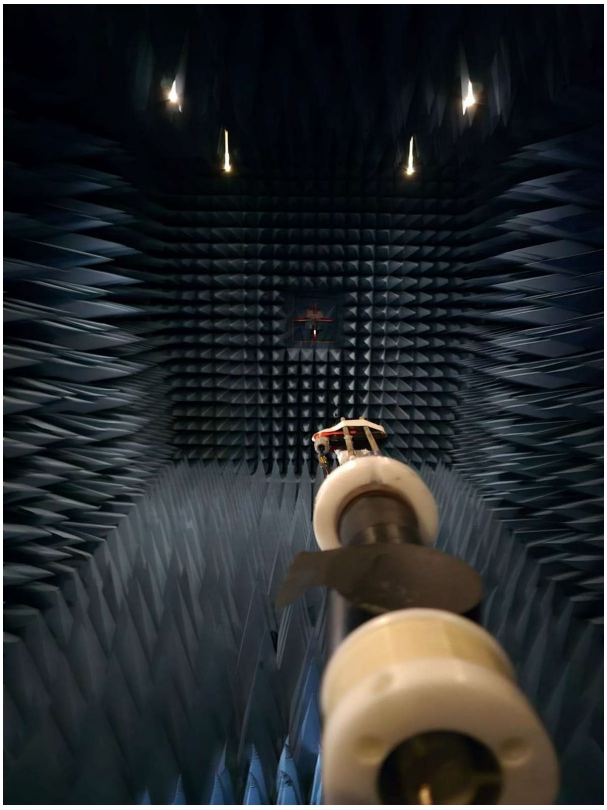

Figure 4 Photo of Shure ADX1 in Antenna Chamber

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 Horn400MHz-10GHz
- ETS Lindgren Model 3126-2450 Precision SleeveDipole
- ETS Lindgren Model 3122D-DB4 Tuned DipoleAntenna
- EMQuest Data Acquisition and Analysis Software

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2. Test Results

2.1 ADX1 UHF Antenna (Dipole/Monopole Type)

2.1.1 ADX1 G56 (operating band 470-636MHz, Antenna Model: 95D9043)

Peak Gain					
Parameter	Type	Pattern	470 MHz	553 MHz	636 MHz
UHF Antenna	Dipole	Omni	-3.0 dBi	0 dBi	-0.2 dBi

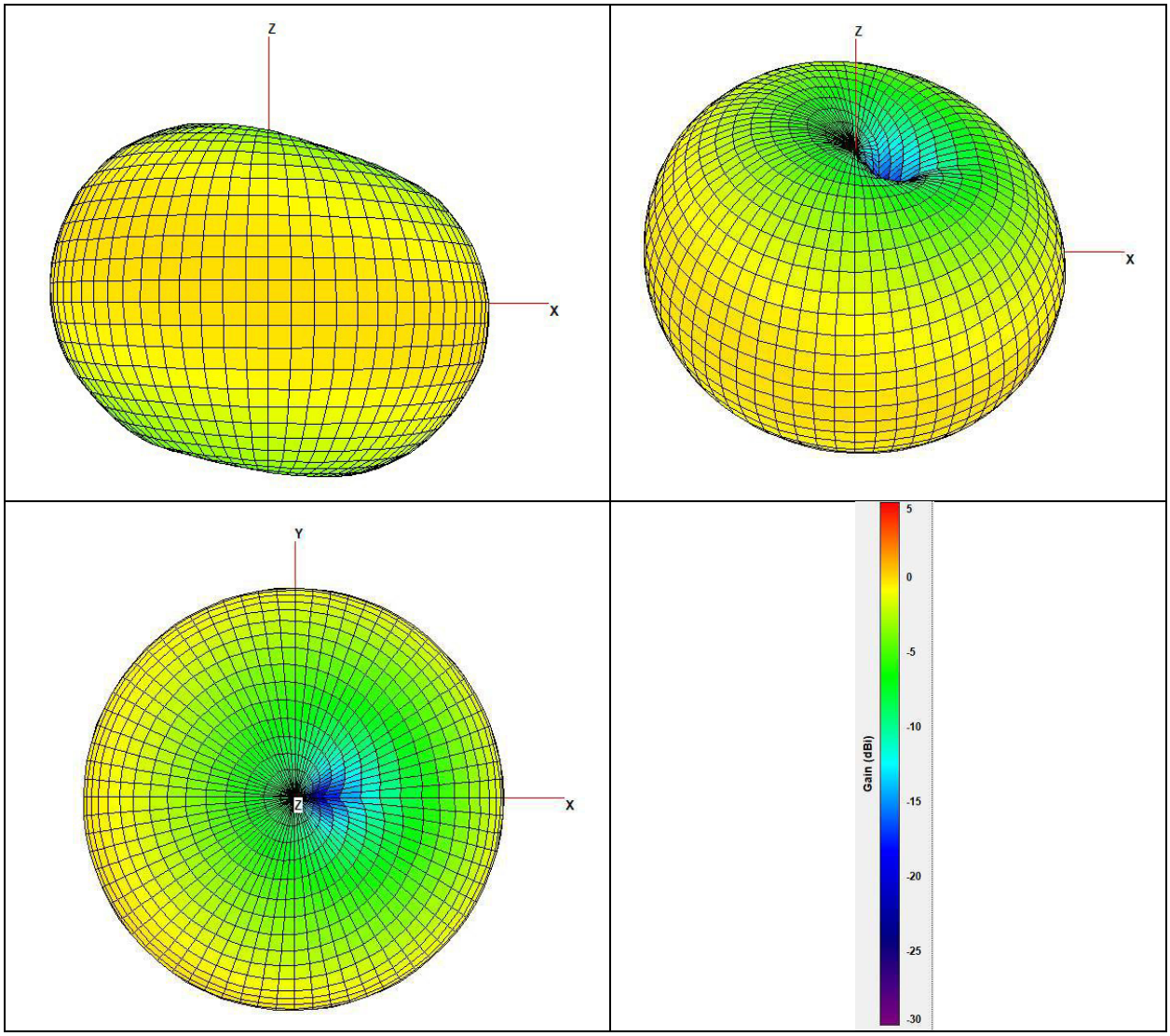

Figure 5 – ADX1 (G56) 3D radiation patterns and scale at max peak gain

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2.1.2 ADX1 G57 (operating band 470-616MHz, Antenna Model: 95D9043)

Peak Gain					
Parameter	Type	Pattern	470 MHz	543 MHz	616 MHz
UHF Antenna	Dipole	Omni	-3.0 dBi	-0.2 dBi	0.4 dBi

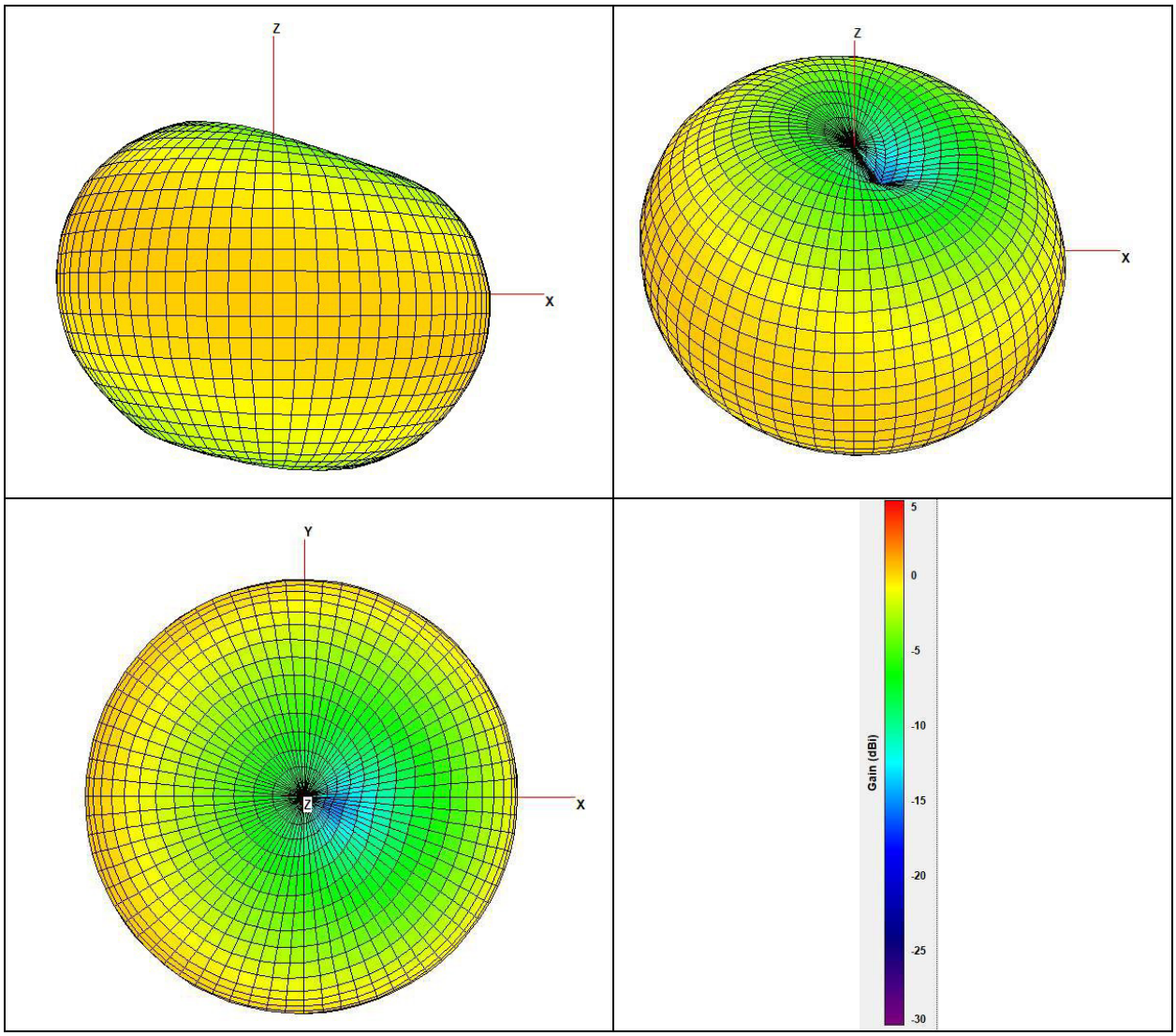

Figure 6 – ADX1 (G57) 3D radiation patterns and scale at max peak gain

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2.1.3 ADX1 G62 (operating band 510-530MHz, Antenna Model: 95G9043)

Peak Gain					
Parameter	Type	Pattern	510 MHz	520 MHz	530 MHz
UHF Antenna	Dipole	Omni	0	0.2 dBi	-0.4 dBi

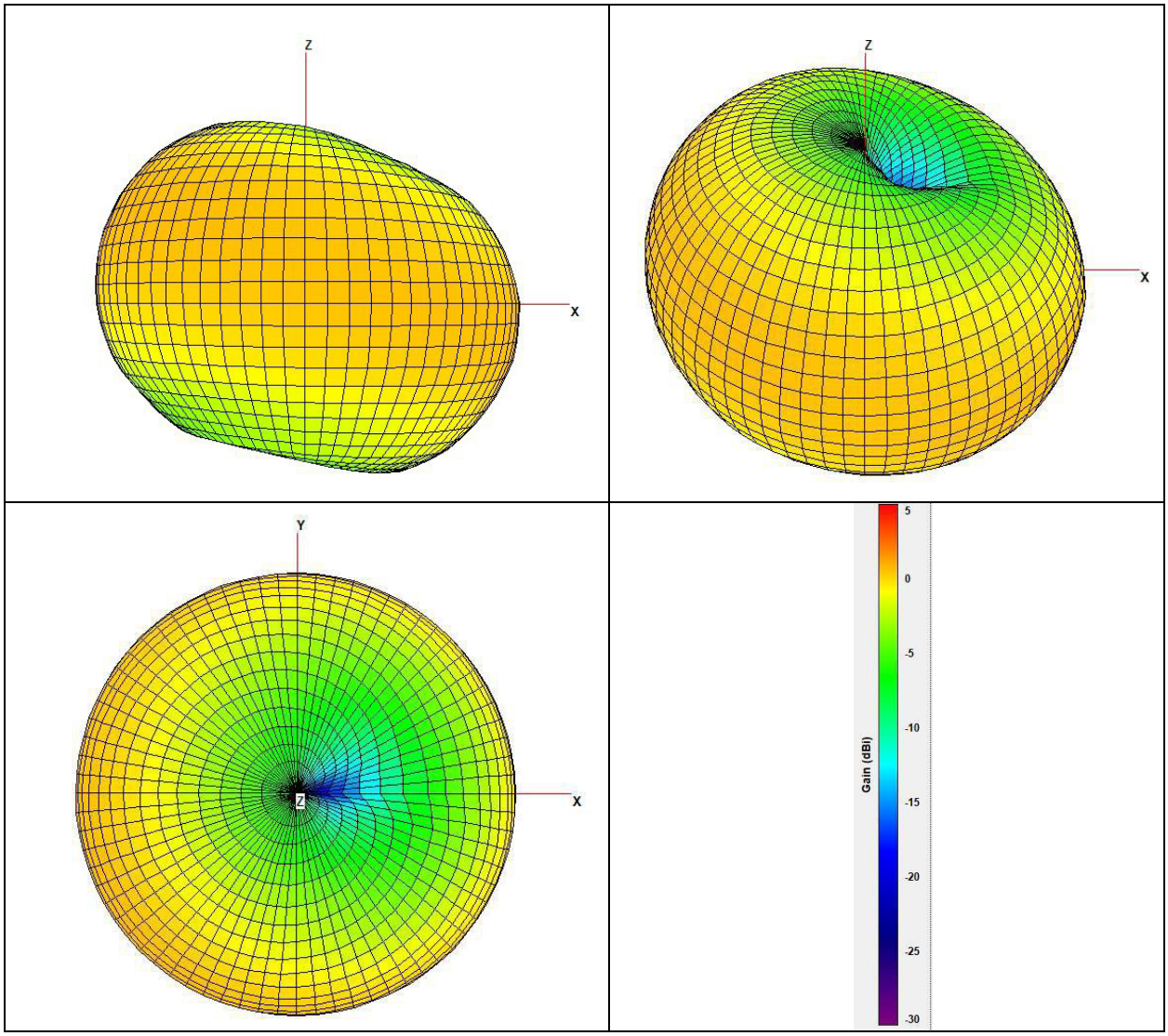

Figure 7 – ADX1 (G62) 3D radiation patterns and scale at max peak gain

2.1.10 ADX1 K54 (operating band 606-663MHz, Antenna Model: 95E9043)

Peak Gain					
Parameter	Type	Pattern	606 MHz	650 MHz	663 MHz
UHF Antenna	Dipole	Omni	0.3 dBi	0.5 dBi	0.6 dBi

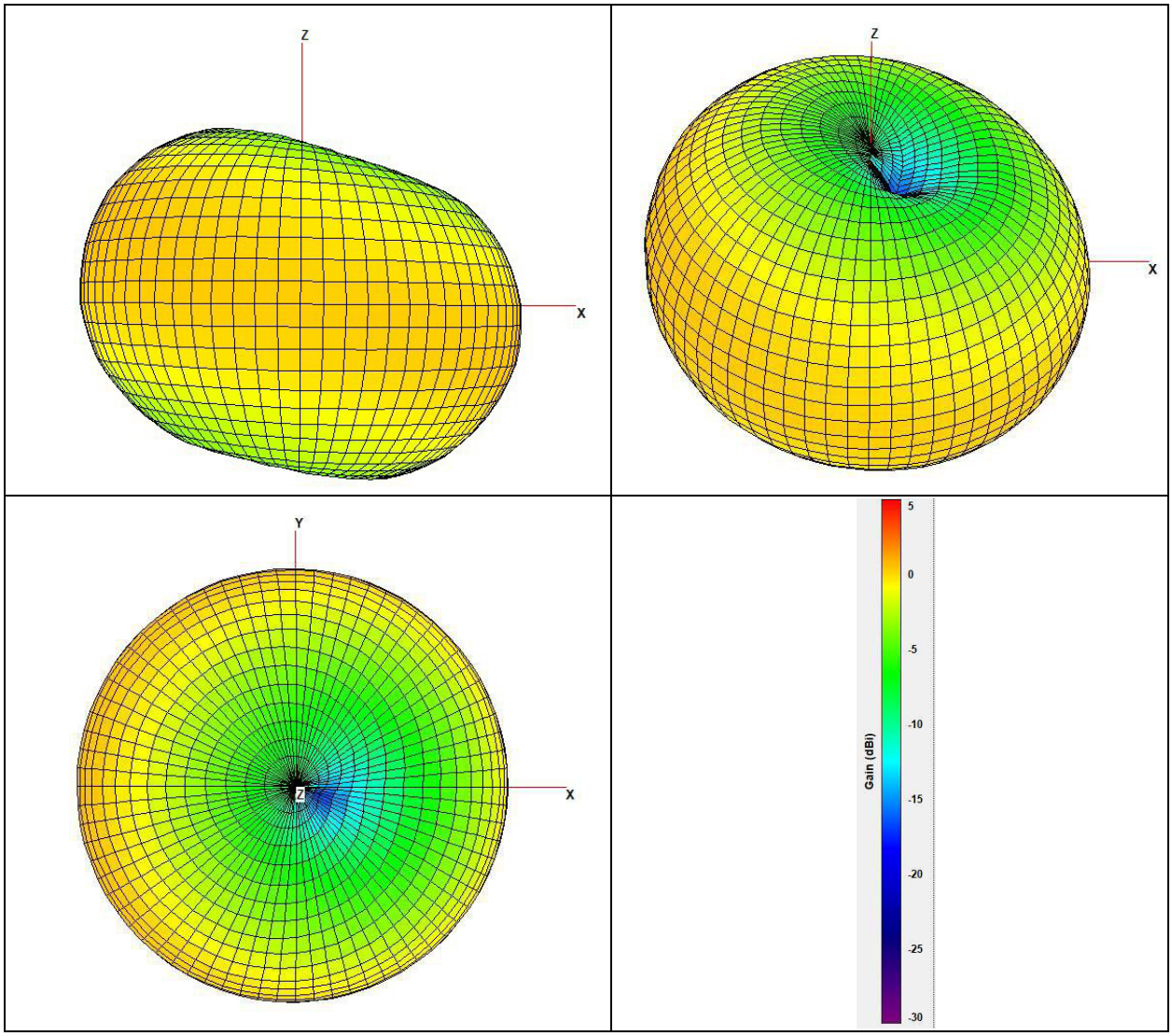

Figure 8 – ADX1 (K54) 3D radiation patterns and scale at max peak gain