

MEASUREMENTS OF SHURE MXWAPX ANTENNAS FOR REGULATORY APPROVAL

1.9GHZ ANTENNAS 2.4GHZ BLUETOOTH ANTENNA

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Overview and Reference Angles

1.1 DUT Overview

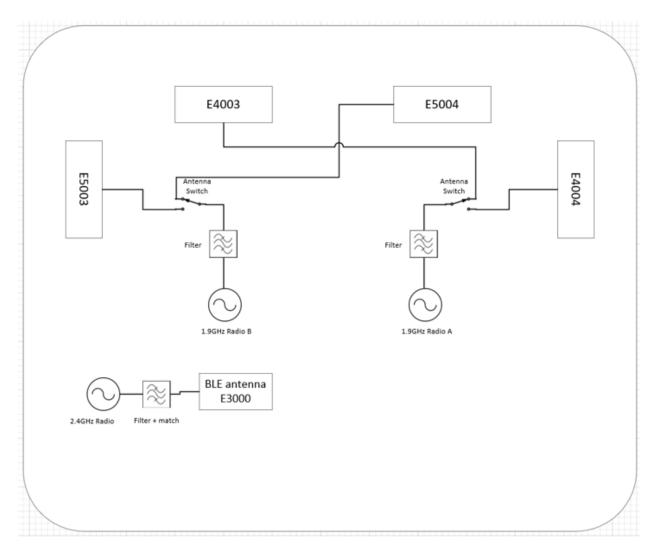


Figure 1-1. Shure MXWAPX Internal Antennas Block Diagram

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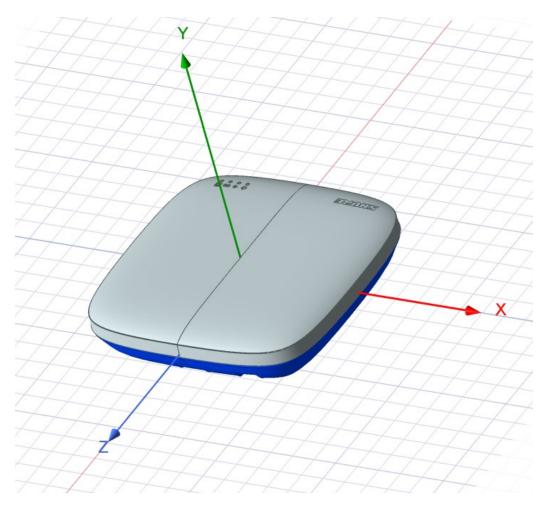


Figure 1-2. MXWAPX Reference Angles

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1.2 Test Setup Photos

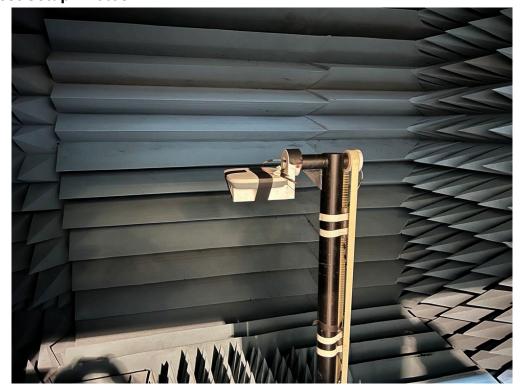


Figure 1-3. Photo 1 of Shure MXWAPX in antenna chamber

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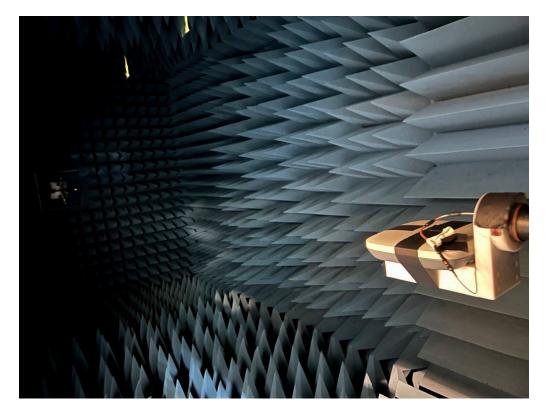


Figure 1-4. Photo 2 of Shure MXWAPX in antenna chamber

1.3 Supporting Equipment List

- 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 no 3126-1920 precision sleeve dipole 1728-2112MHz
- ets lindgren model no 3126-2450 precision sleeve dipole 2205-2695MHz
- EMQuest Data Acquisition and Analysis Software v1.12

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	Peak Gain				
Parameter	Туре	Pattern	1880 MHz	1905 MHz	1930 MHz
Antenna E4003	Internal Shure Custom	Hemisphere	4.57 dBi	4.28 dBi	3.64 dBi
Antenna Manufacturer: Shure Incorporated		Ante	nna Model: 53A4	5384	

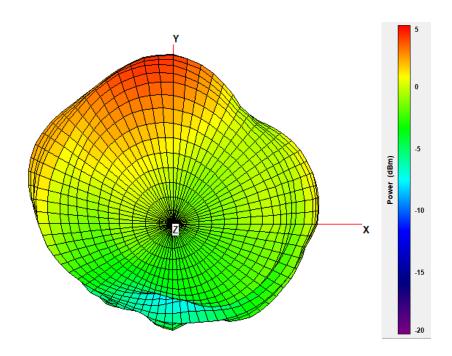


Figure 2-1. 1.9GHz Antenna E4003 X-Z Plane.

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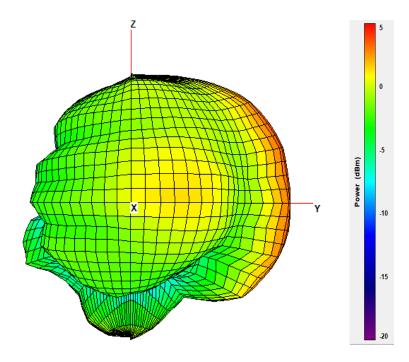


Figure 2-2. 1.9GHz Antenna E4003 Y-Z Plane

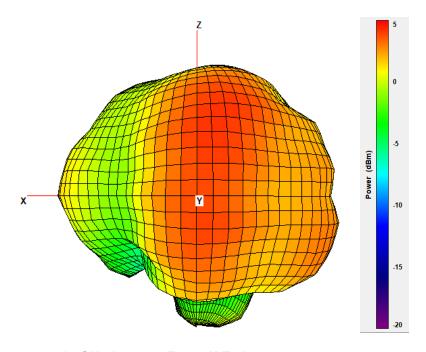


Figure 2-3. 1.9GHz Antenna E4003 X-Z plane

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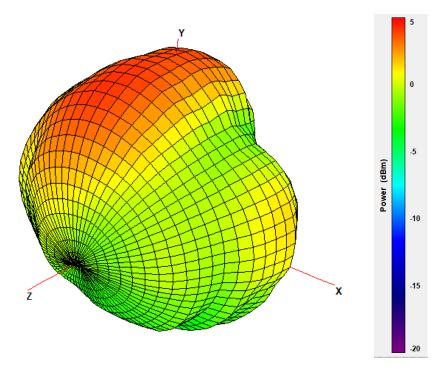


Figure 2-4. 1.9GHz Antenna E4003 3D

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	Peak Gain				
Parameter	Туре	Pattern	1880 MHz	1905 MHz	1930 MHz
Antenna E4004	Internal Shure Custom	Hemisphere	3.14 dBi	3.01 dBi	3.13 dBi
Antenna Manufacturer: Shure Incorporated		Ante	nna Model: 53A4	5384	

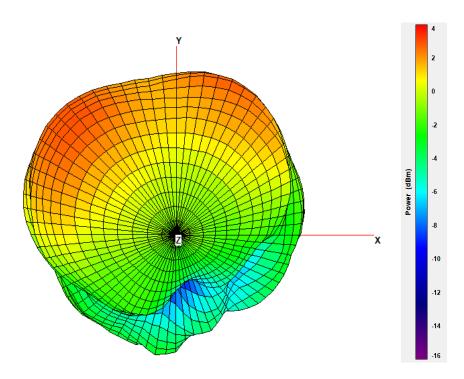


Figure 3-1. 1.9GHz Antenna E4004 X-Y Plane.

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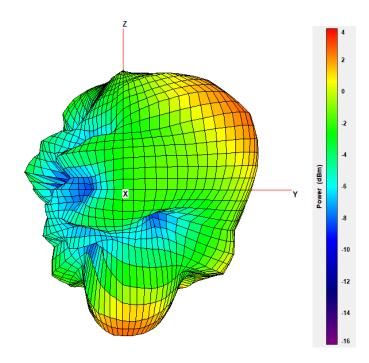


Figure 3-2. 1.9GHz Antenna E4004 Y-Z Plane.

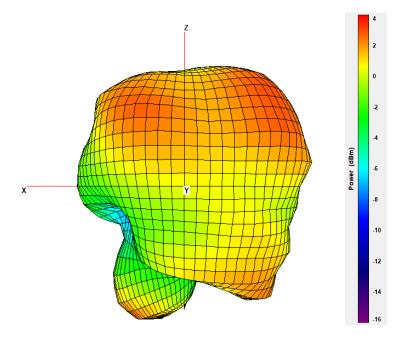


Figure 3-3. 1.9GHz Antenna E4004 X-Z Plane.

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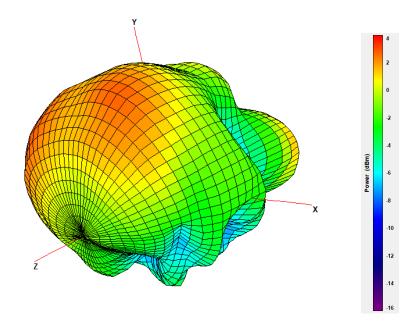


Figure 3-4. 1.9GHz Antenna E4004 3D

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Peak Gain					
Parameter Type Pattern 1880 MHz 1905 MHz 1930 MHz					1930 MHz
Antenna E5003	Internal Shure Custom	Hemisphere	3.31 dBi	3.38 dBi	3.41 dBi
Antenna Manufacturer: Shure Incorporated			Ante	nna Model: 53A4	5384

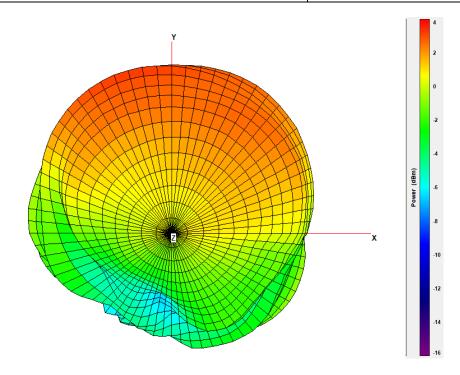


Figure 4-1. 1.9GHz Antenna E5003 X-Y Plane.

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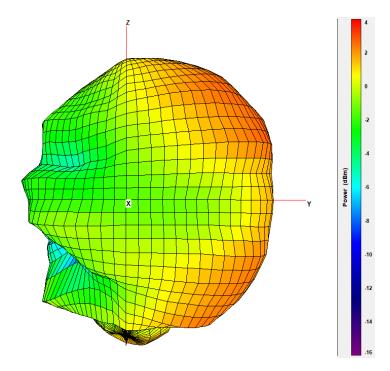


Figure 4-2. 1.9GHz Antenna E5003 Y-Z Plane.

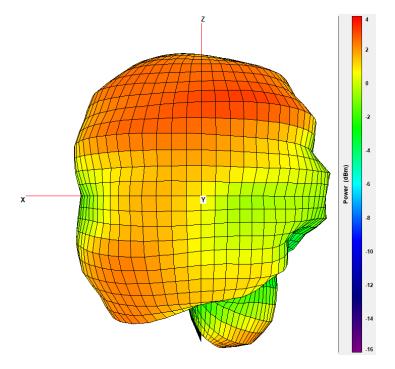


Figure 4-3. 1.9GHz Antenna E5003 X-Z Plane.

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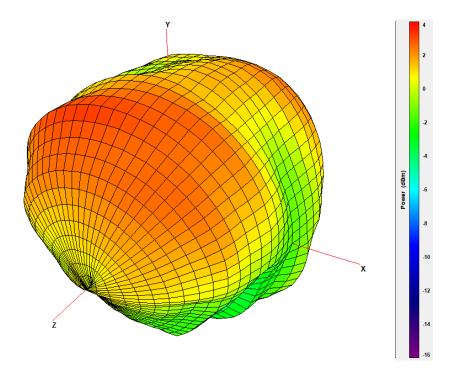


Figure 4-4. 1.9GHz Antenna E5003 3D

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Peak Gain					
Parameter	Туре	Pattern	1880 MHz	1905 MHz	1930 MHz
Antenna E5004	Internal Shure Custom	Hemisphere	4.63 dBi	4.32 dBi	3.76 dBi
Antenna Manufacturer: Shure Incorporated		Ante	nna Model: 53A4	5384	

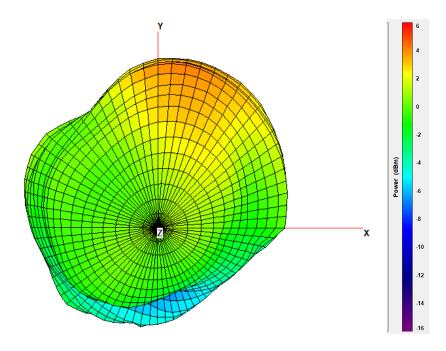


Figure 5-1. 1.9GHz Antenna E5004 X-Y Plane.

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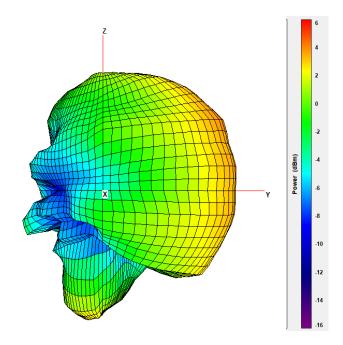


Figure 5-2. 1.9GHz Antenna E5004 Y-Z Plane.

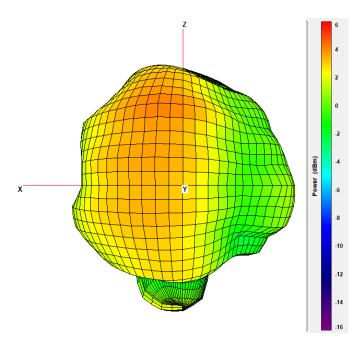


Figure 5-3. 1.9GHz Antenna E5004 X-Z Plane.

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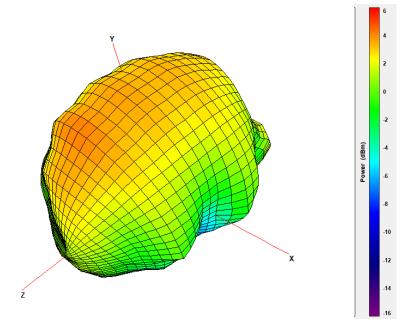


Figure 5-4. 1.9GHz Antenna E5004 3D

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6. 2.4GHz Bluetooth Antenna E3000

Peak Gain					
Parameter Type Pattern 2400 MHz 2442 MHz 2480 MHz					2480 MHz
Antenna E3000	Internal Shure Custom	Hemisphere	3.39 dBi	3.24 dBi	3.36 dBi
Antenna Manufacturer: Shure Incorporated			Ante	nna Model: 53A2	5629

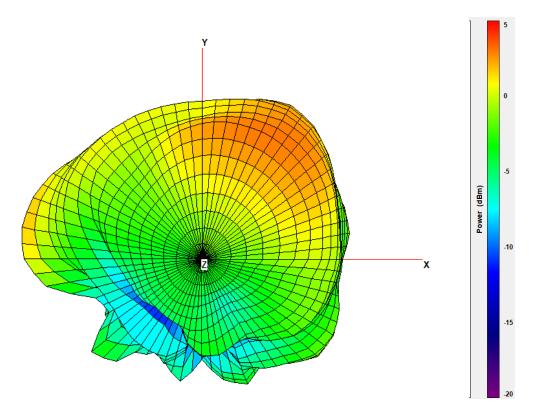


Figure 6-1. 2.4GHz Antenna E3000 X-Y plane

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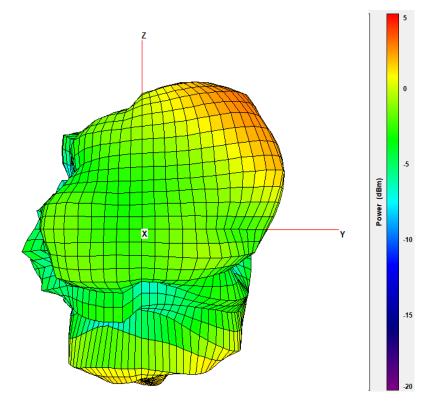


Figure 6-2. 2.4GHz Antenna E3000 Y-Z plane

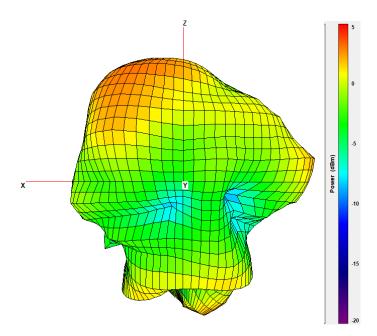
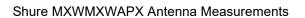


Figure 6-3. 2.4GHz Antenna E3000 X-Z plane

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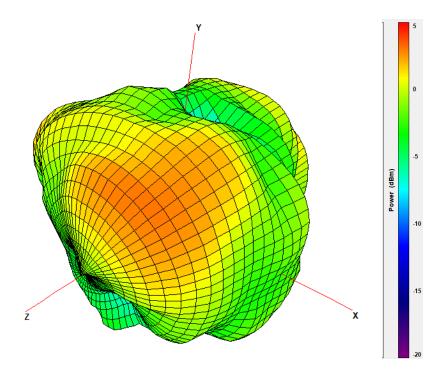


Figure 6-4. 2.4GHz Antenna E3000 3D

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