



MEASUREMENTS OF SHURE MXWNDX2 ANTENNA FOR REGULATORY APPROVAL 2.4GHZ BLUETOOTH ANTENNA

Project: MXW HW Updates

Revision: 1.0

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Page: 1 of 9

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Contents

Measurements of Shure MXWNDX2 Antenna for Regulatory Approval.....	1
2.4GHz Bluetooth Antenna.....	1
1. Overview and Reference Angles.....	3
1.1 DUT Overview.....	3
1.2 Test Setup Photos	5
1.3 Supporting Equipment List.....	6
2. Antenna Measurements	7

Table of Figures

Figure 1-1. Shure MXWNDX2 Internal Antennas Block Diagram.....	3
Figure 1-2. Shure MXWNDX2 PCB Overview	3
Figure 1-3. MXWNDX2 Reference Angles 3D.....	4
Figure 1-4. MXWNDX2 Reference Angles XZ Plane.....	4
Figure 1-5. Photo 1 of Shure MXWNDX2 in antenna chamber	5
Figure 1-6. Photo 2 of Shure MXWNDX2 in antenna chamber	6
Figure 2-1. 2.442GHz Antenna X-Y Plane.....	7
Figure 2-2. 2.442GHz Antenna Y-Z Plane	8
Figure 2-3. 2.442GHz Antenna X-Z plane	8
Figure 2-4. 2.442GHz Antenna 3D	9



1. Overview and Reference Angles

1.1 DUT Overview

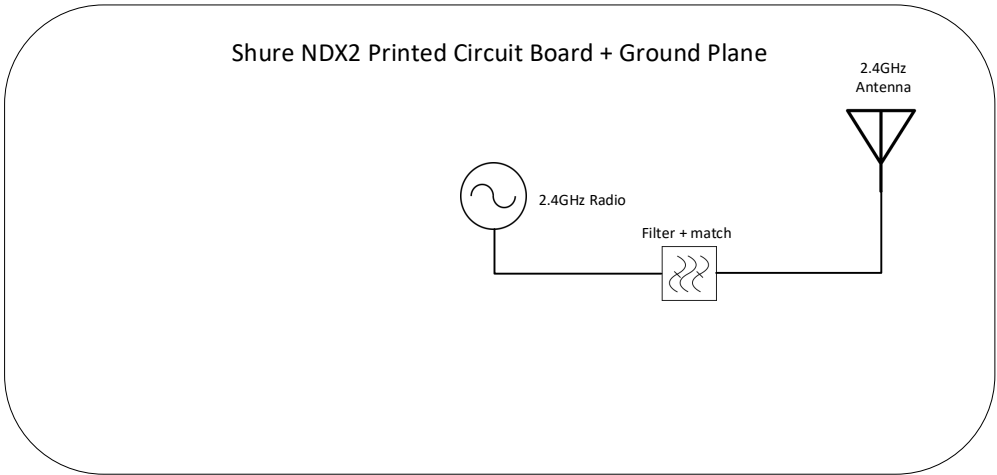


Figure 1-1. Shure MXWNDX2 Internal Antennas Block Diagram

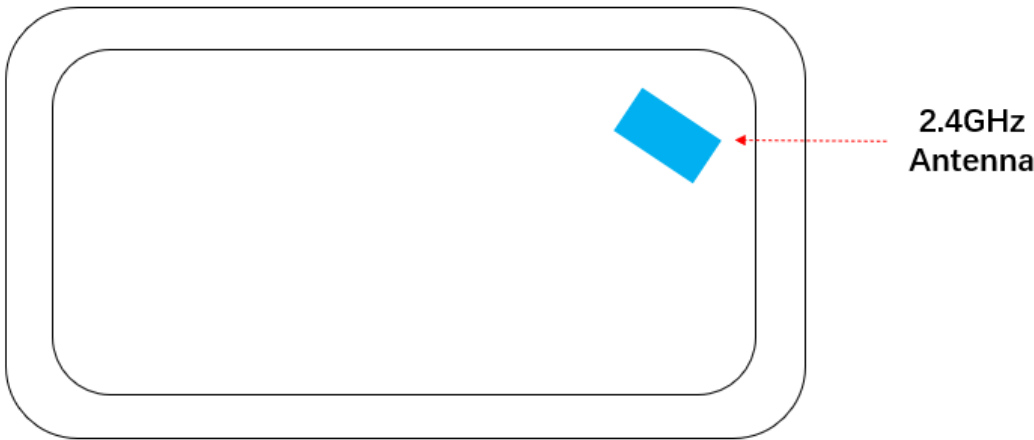


Figure 1-2. Shure MXWNDX2 PCB Overview

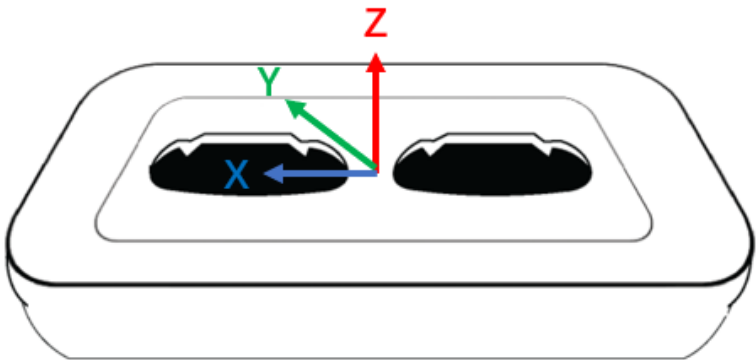


Figure 1-3. MXWNDX2 Reference Angles 3D

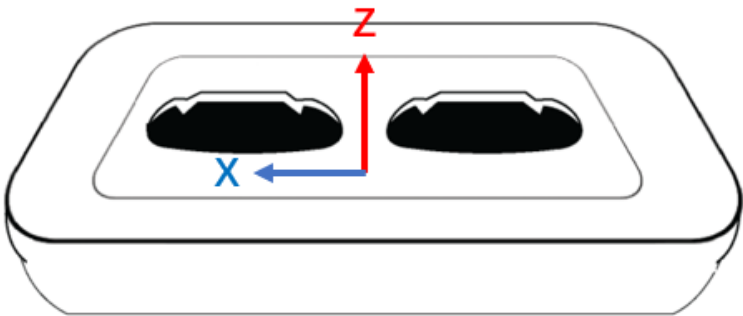


Figure 1-4. MXWNDX2 Reference Angles XZ Plane



1.2 Test Setup Photos



Figure 1-5. Photo 1 of Shure MXWNDX2 in antenna chamber



Figure 1-6. Photo 2 of Shure MXWNDX2 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



2. Antenna Measurements

Peak Gain					
Parameter	Type	Pattern	2412 MHz	2442 MHz	2484 MHz
2.4GHz Antenna	PIFA Antenna	Hemisphere	3.88 dBi	3.12 dBi	3.05 dBi
Antenna Model	53A25629		Manufacturer	Shure Incorporated	

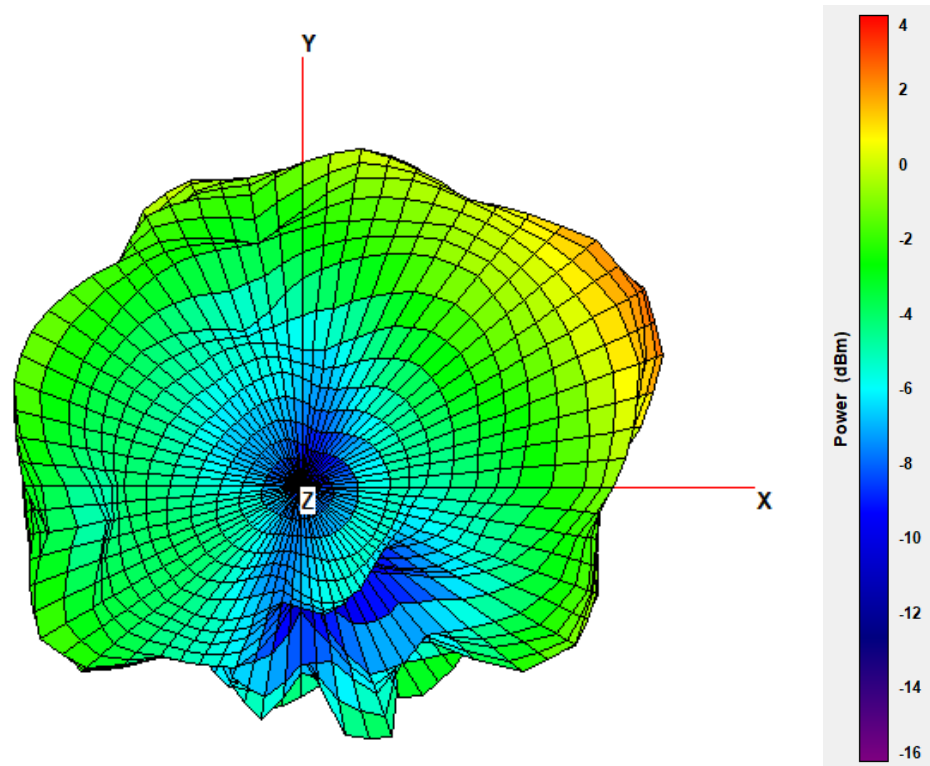


Figure 2-1. 2.442GHz Antenna X-Y Plane.

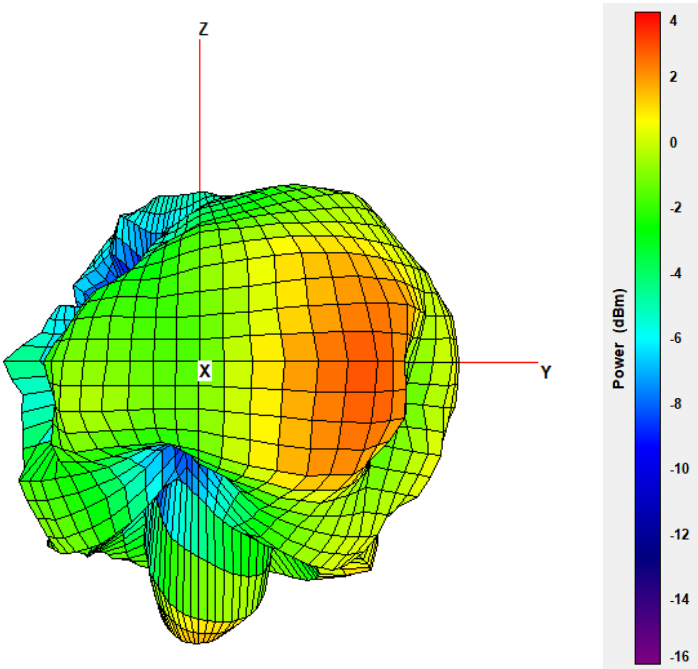


Figure 2-2. 2.442GHz Antenna Y-Z Plane

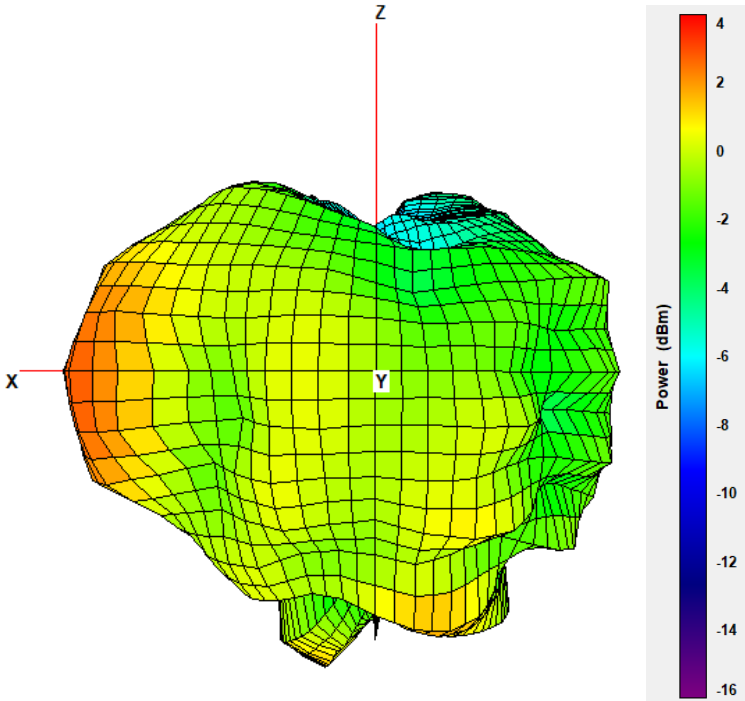


Figure 2-3. 2.442GHz Antenna X-Z plane

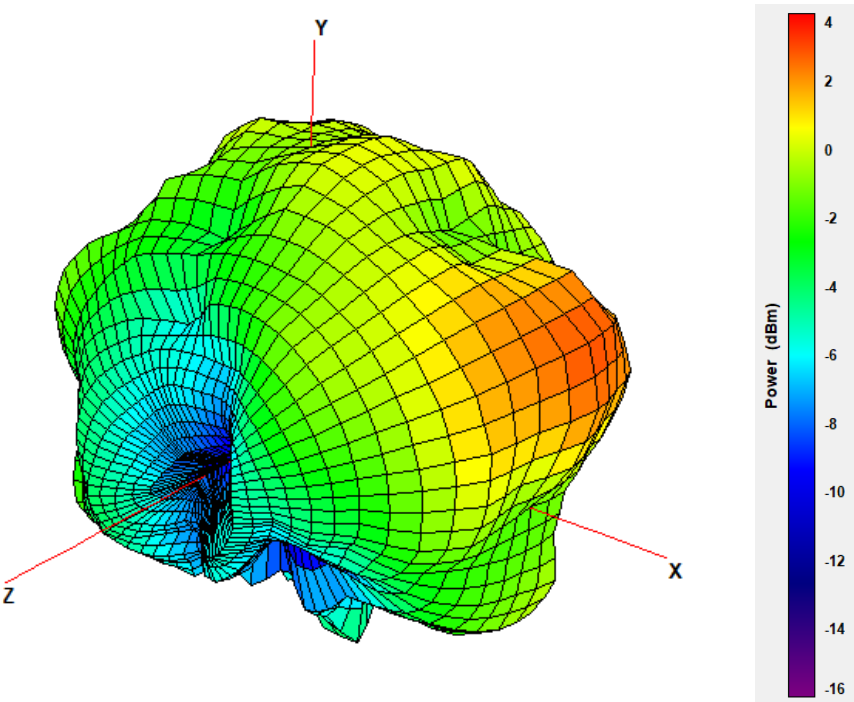
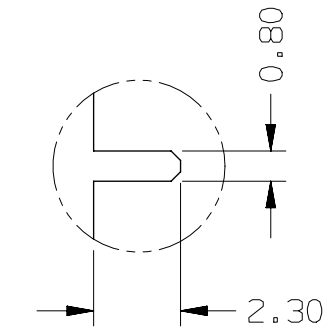
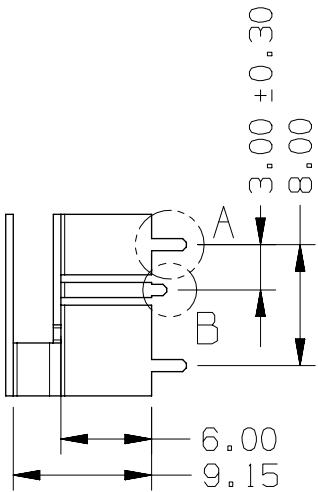
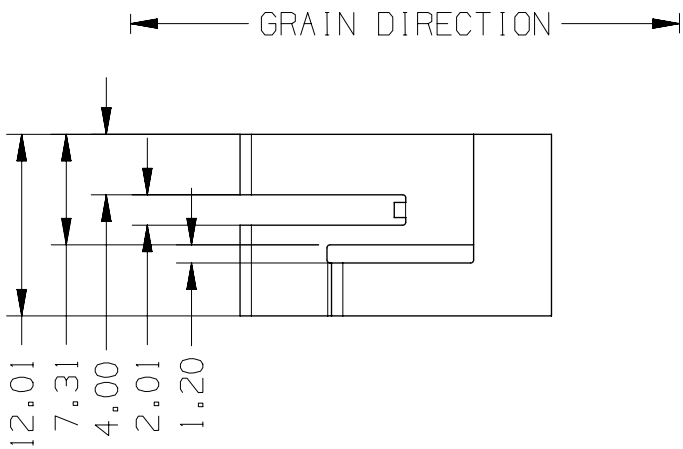
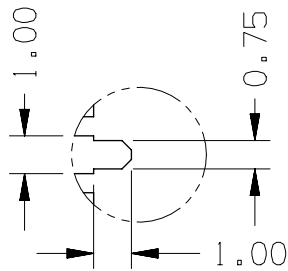


Figure 2-4. 2.442GHz Antenna 3D

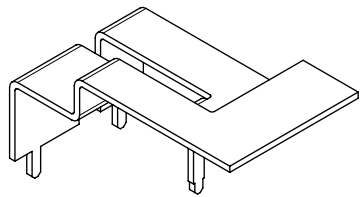
Antenna drawing



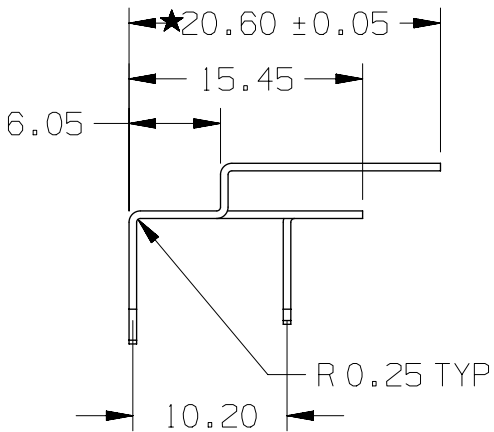
DETAIL A
SCALE 5:1
(2 PLCS)



DETAIL B
SCALE 5:1



ISO VIEW
SCALE 2:1



PCBA FOOT PRINT

NOTES UNLESS OTHERWISE SPECIFIED:

- INTERROGATE 3D CAD MODEL FOR DIMENSIONS NOT SHOWN
TOLERANCES ON ALL DIMENSIONS NOT SHOWN TO BE ± 0.20
- FEATURE MARKED ★ IMPORTANT FOR PROPER FIT/CLEARANCE WITH
MATING PART(1PL)
- MUST MEET SUPPLIER QUALITY REQUIREMENTS PER LATEST SHURE
INCORPORATED INCOMING INSPECTION INSTRUCTIONS
- MATERIAL:COPPER-NICKEL-ZINC ALLOY C7521 PER JIS H3110, 1/2H, 0.50 ± 0.03
- NO CHANGE SHALL BE MADE TO PCBA FOOT PRINT WITHOUT FIRST TALKING
WITH COMPONENT LIBRARIAN.

DRAWING NO: 53-25629				
REVISION RECORD				
R E V	ECO / PROCESS NUMBER	DESCRIPTION OF CHANGE NAME MM/DD/YYYY	Z O N E	
00		INITIAL RELEASE TO COMPONENT ENGINEERING W HARWOOD 12/05/2014		
01		UPDATED PER ACTUAL PART W HARWOOD 01/05/2015		
02		UPDATED FOR BETTER RF PERFORMANCE AT 2.4GHz FOOTPRINT NEEDS TO BE UPDATED STILL W HARWOOD 08/17/2015		
03		1.0 WAS 1.25 CORRECT NOTE4 OF MATERIAL TO 0.50±0.03 MARK YAN 10/14/2016	B4	
04		20.6 WAS 21.45 TITLE BOX OF 2 PL: 0.10 WAS 0.20 MARK YAN 01/17/2017	B2	
05		PROD RELEASE MARK YAN 05/24/2017		
SHURE SHURE INCORPORATED 5800 W TOUHY AVENUE NILES, IL 60714-4608 847-600-2000 WWW.SHURE.COM				
CONFIDENTIAL © 2014-2017 SHURE INCORPORATED			3RD ANGLE 	
DRN: YANM 12/05/2014		TOL: 1 PL ± N/A 2 PL ± 0.10 ± 1°		
CHK: N/A MM/DD/YYYY				
APP: N/A MM/DD/YYYY				
NOTES: - NX CAD MODEL - DO NOT SCALE - MUST CONFORM TO ENVIRONMENTAL COMPLIANCE SPEC - 6A278 - ALL DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED				
NOTICE THIS DRAWING IS THE PROPERTY OF SHURE INCORPORATED AND IS DISCLOSED TO YOU IN STRICT CONFIDENCE AND WITH THE UNDERSTANDING THAT IT IS NOT TO BE REPRODUCED, COPIED, OR USED EXCEPT FOR THE PURPOSE OF PRODUCING TOOLS OR PRODUCTS EXCLUSIVELY FOR SHURE INCORPORATED. COPIES OF THIS DRAWING ARE TO BE MADE ONLY WHEN NECESSARY FOR THE PURPOSE STATED ABOVE AND ALL COPIES MUST CONTAIN THIS NOTICE. THIS DRAWING AND ALL COPIES MUST BE RETURNED ON REQUEST.		DESCRIPTION: Antenna 2.4-5GHz		
MATL: SEE NOTES		FINISH: N/A		
DWG NO: 53-25629			REV 05	SIZE B
PROJ: 17776		SCALE: 2:1	SHEET: 1 OF 1	