

Report No.: SZOA240100000701

Rev.01

Page: 1 of 20

# ANTENNA PASSIVE TEST REPORT

Application No. SZOA2401000007AT

Huizhou Enya Musical Instrument Co., Ltd. **Applicant** Manufacturer Huizhou Enya Musical Instrument Co., Ltd.

**Product Name GUITAR** 

Model No. BP1048.CH573

**Standards** ANSI/IEEE Std 149-2008

2024.1.15 Date Initial Sample(s) Received **Testing Start Date** 2024.1.15 **Testing Finish Date** 2024.1.15 **Report Issue Date** 2024.1.22

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Yuanyu Luo

Max. Huang

Reviewed By





Shenzhen Branch

Report No.: SZOA240100000701

Rev.01

2 of 20 Page:

# **Revision Version**

Report No.	Version	Date	Memo
SZOA240100000701	01	2024.1.22	Initial creation of report



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Report No.: SZOA240100000701

Rev.01

3 of 20 Page:

#### **TABLE OF CONTENTS**

1	GENERAL INFORMATION	4
1.1	Testing Laboratory	4
1.2	Details of Applicant	
1.3	Details of Manufacturer	4
1.4	General Description of EUT	5
1.5	Test Procedure	5
1.6	Test Specification	6
1.7	Laboratory Environment	6
2	OTA MEASUREMENTS SYSTEM CONFIGURATION	7
2.1	Test Configuration	7
3	TEST EQUIPMENT LIST	8
4	MEASUREMENT UNCERTAINTY	9
5	TEST RESULTS	10
6	PATTERN PLOTS	12
6.1	Return Loss	12
6.2	VSWR	
6.3	Stimulus	14
7	2-D ANTENNA PATTERN(THETA=90°)	15
8	3-D ANTENNA PATTERN	16
9	THE EUT AND TEST CONFIGURATION	18



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Report No.: SZOA240100000701

Rev.01

4 of 20 Page:

#### **General Information** 1

#### 1.1 Testing Laboratory

Test Lab	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057
Contact	Ervin Li
Tel.	+86 18823369694
Fax	+86-755-25328600
E-mail	Ervin.Li@sgs.com

#### 1.2 Details of Applicant

Applicant's Name	Huizhou Enya Musical Instrument Co., Ltd.	
Applicant's Address	Huizhou city Qiuchang street tea garden management area Shunju village	
Contact	JIAN BIAO HE	
Tel.	0752—3595114	
Fax	0752—3595114	
E-mail	hjb@enyamusical.com	

#### 1.3 Details of Manufacturer

Manufacturer's Name	Huizhou Enya Musical Instrument Co., Ltd.	
IIVIani itacti irar e Andraee	Huizhou city Qiuchang street tea garden management area Shunju village	
Contact	JIAN BIAO HE	
Tel.	0752—3595114	
Fax	0752—3595114	
E-mail	hjb@enyamusical.com	

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Report No.: SZOA240100000701

Rev.01

5 of 20 Page:

#### 1.4 General Description of EUT

Device Description:	GUITAR
Device Manufacturer:	Huizhou Enya Musical Instrument Co., Ltd.
Device Model:	BP1048,CH573
Hardware Version:	N/A
Software Version:	N/A
Antenna Dimensions:	12.3 x 5.6 x 0.5 mm

#### 1.5 Test Procedure

Testing is performed according to the ANSI/IEEE Std 149-2008.



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Rev.01

6 of 20 Page:

#### 1.6 Test Specification

Identity	Document Title
ANSI/IEEE Std 149-2008	IEEE Standard Test Procedures for Antennas

#### 1.7 Laboratory Environment

Temperature	Min. =19°C → Max. = 25°C		
Relative humidity	Min. =40%,Max. =72%		
Shield effect	0.7-6GHz > 100dB		
Ground resistance	<0.5Ω		





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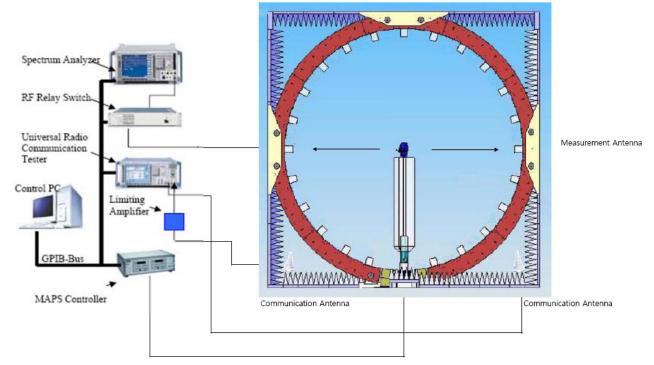
Rev.01

Page: 7 of 20

#### **OTA Measurements System Configuration** 2

### 2.1 Test Configuration

Great-Circle-Cut method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 5m



F-1. OTA Measurement System Configuration



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Report No.: SZOA240100000701

Rev.01

8 of 20 Page:

**Test Equipment List** 3

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	E5071C S/N MY46523591	Keysight	2023/2/16	2024/2/15
Quad-Ridge Horn Antenna 700 MHz-10 GHz	EMCO 3164-08 S/N 161915	ETS-Lindgren L.P.	N/A	N/A
MAPS Controller	EMCENTER S/N 160485	ETS-Lindgren L.P.	N/A	N/A





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Report No.: SZOA240100000701

Rev.01

9 of 20 Page:

**Measurement Uncertainty** 4

Item	2400-2500 MHz (dB)	
Gain	0.88	
Efficiency	0.88	
Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2		



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Report No.: SZOA240100000701

Rev.01

10 of 20 Page:

#### **Test Results** 5

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Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)	
2350	-9.65	10.84	-1.16	
2355	-9.97	10.07	-1.57	
2360	-9.87	10.30	-1.39	
2365	-10.02	9.95	-1.52	
2370	-10.16	9.63	-1.72	
2375	-10.31	9.31	-1.77	
2380	-10.40	9.12	-1.96	
2385	-10.36	9.19	-1.90	
2390	-10.55	8.81	-2.16	
2395	-10.65	8.61	-2.29	
2400	-11.16	7.65	-2.76	
2402	-11.39	7.26	-3.09	
2405	-11.59	6.93	-3.35	
2410	-11.81	6.59	-3.54	
2415	-12.06	6.22	-4.00	
2420	-12.08	6.20	-4.11	
2425	-12.38	5.78	-4.46	
2430	-12.64	5.45	-4.97	
2435	-12.89	5.15	-5.10	
2440	-13.10	4.90	-5.65	
2441	-13.10	4.90	-5.70	
2445	-13.14	4.85	-5.62	
2450	-13.30	4.68	-6.08	
2455	-13.23	4.75	-6.11	
2460	-13.37	4.60	-6.44	

CH573				
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)	
2350	-8.47	14.22	-1.38	
2355	-8.71	13.47	-1.76	
2360	-8.56	13.93	-1.59	
2365	-8.64	13.66	-1.78	
2370	-8.66	13.61	-1.93	
2375	-8.72	13.43	-1.96	
2380	-8.63	13.72	-1.91	
2385	-8.47	14.24	-1.68	
2390	-8.46	14.27	-1.64	
2395	-8.40	14.46	-1.59	
2400	-8.72	13.41	-1.86	
2402	-8.85	13.02	-2.07	
2405	-8.96	12.72	-2.19	
2410	-9.00	12.60	-2.26	
2415	-9.01	12.56	-2.38	
2420	-8.78	13.23	-2.16	
2425	-8.87	12.98	-2.19	
2430	-8.89	12.91	-2.34	
2435	-8.93	12.79	-2.15	
2440	-8.92	12.82	-2.29	
2441	-8.87	12.97	-2.25	
2445	-8.80	13.17	-1.92	
2450	-8.82	13.11	-2.03	
2455	-8.65	13.63	-1.70	
2460	-8.75	13.35	-1.77	



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Report No.: SZOA240100000701

Rev.01

11 of 20 Page:

2465	-13.40	4.57	-6.61
2470	-13.55	4.41	-6.72
2475	-13.52	4.45	-6.67
2480	-13.43	4.54	-6.52
2482	-13.38	4.59	-6.49
2485	-13.32	4.65	-6.27
2490	-13.22	4.77	-6.10
2495	-12.99	5.03	-5.78
2500	-12.84	5.20	-5.58
2505	-12.57	5.53	-5.26
2510	-12.45	5.69	-5.07
2515	-12.46	5.68	-5.02
2520	-12.49	5.64	-4.99
2525	-12.51	5.61	-4.95
2530	-12.48	5.65	-4.86
2535	-12.44	5.70	-4.79
2540	-12.27	5.93	-4.54
2545	-12.08	6.20	-4.36
2550	-11.97	6.35	-4.15
2555	-11.91	6.44	-4.10
2560	-11.90	6.46	-3.97
2565	-11.80	6.60	-3.91
2570	-11.71	6.75	-3.83
2575	-11.54	7.01	-3.75
2580	-11.36	7.31	-3.60

2465	-8.71	13.46	-1.67
2470	-8.90	12.90	-1.81
2475	-8.86	12.99	-1.78
2480	-8.84	13.06	-1.74
2482	-8.80	13.18	-1.76
2485	-8.76	13.30	-1.67
2490	-8.74	13.37	-1.59
2495	-8.59	13.85	-1.44
2500	-8.56	13.93	-1.38
2505	-8.41	14.43	-1.24
2510	-8.40	14.45	-1.25
2515	-8.52	14.05	-1.39
2520	-8.65	13.65	-1.59
2525	-8.79	13.23	-1.70
2530	-8.85	13.03	-1.78
2535	-8.93	12.78	-1.82
2540	-8.87	12.96	-1.72
2545	-8.82	13.13	-1.64
2550	-8.80	13.17	-1.58
2555	-8.85	13.03	-1.68
2560	-8.92	12.82	-1.74
2565	-8.92	12.83	-1.80
2570	-8.92	12.81	-1.86
2575	-8.84	13.05	-1.90
2580	-8.79	13.22	-1.82



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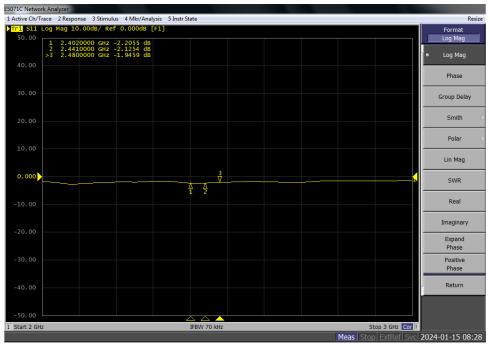
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Rev.01

Page: 12 of 20

#### **Pattern Plots**

#### 6.1 Return Loss



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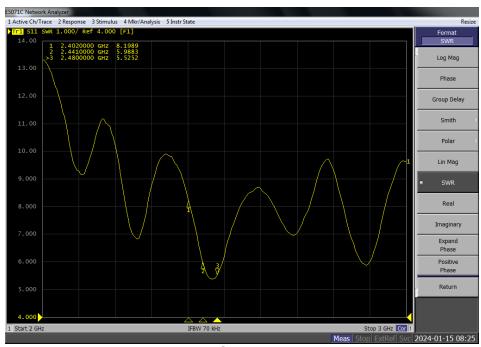
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#### **6.2 VSWR**



**BP1048** 



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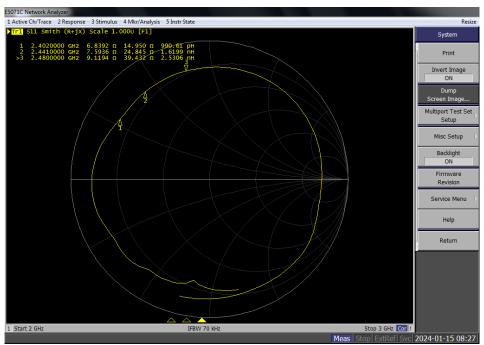
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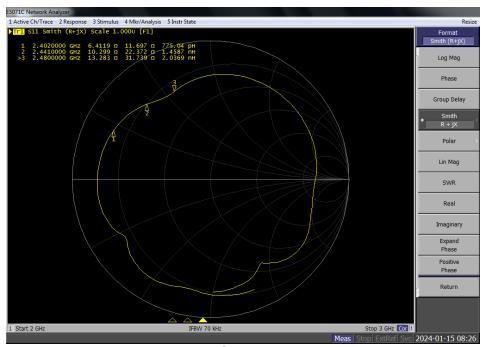
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#### 6.3 Stimulus



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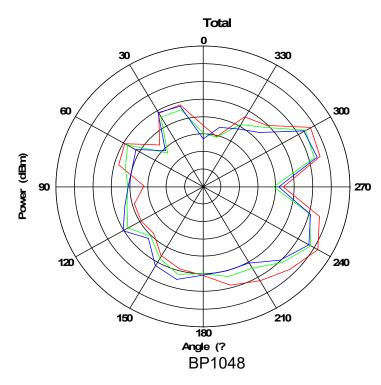


Report No.: SZOA240100000701

Rev.01

Page: 15 of 20

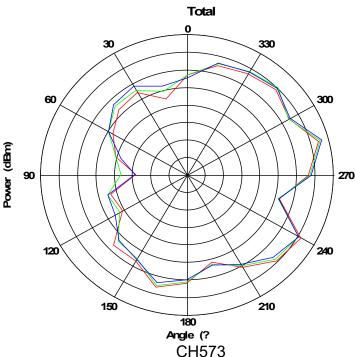
## 2-D Antenna Pattern(Theta=90°)





Min: -40 Scale: 5/div

Max: 0







Max: 0

Min: -40 Scale: 5/div

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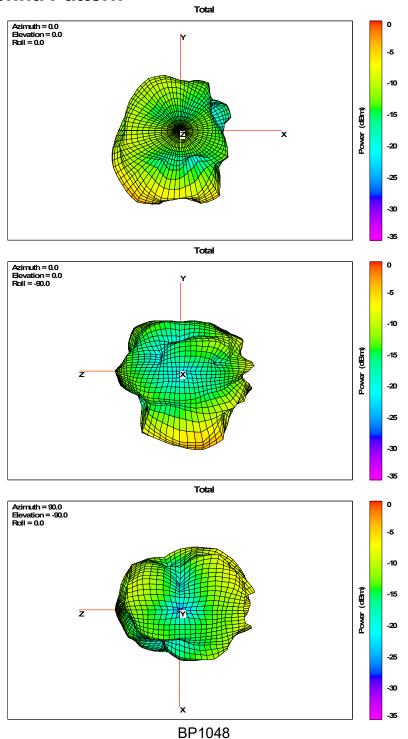


Report No.: SZOA240100000701

Rev.01

16 of 20 Page:

#### 8 3-D Antenna Pattern





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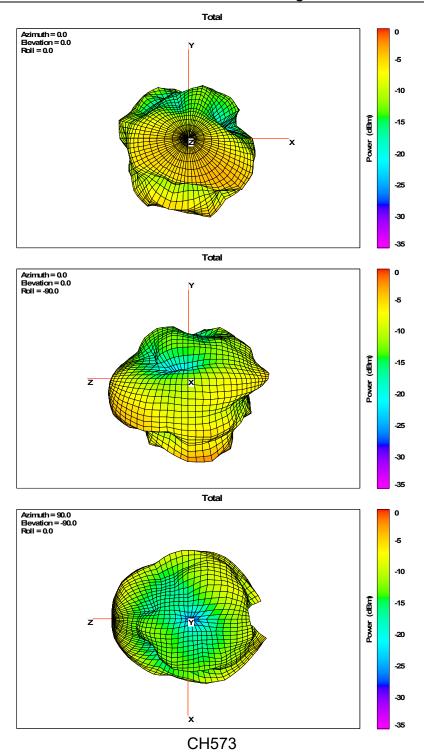
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Report No.: SZOA240100000701

Rev.01

17 of 20 Page:





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Report No.: SZOA240100000701

Rev.01

18 of 20 Page:

#### The EUT and Test Configuration 9

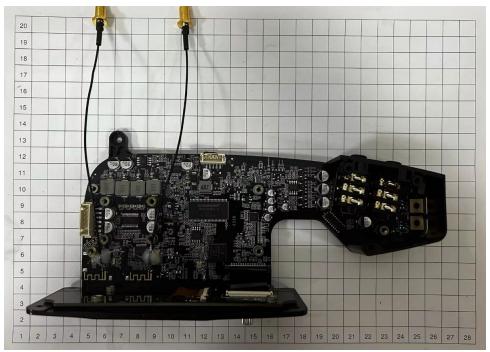
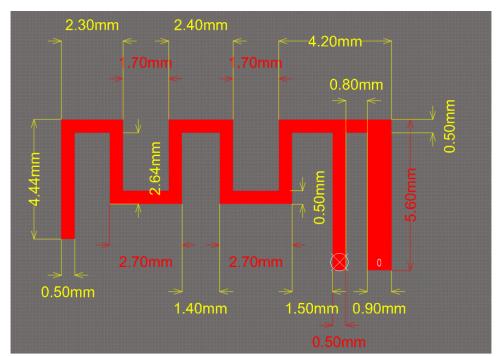


Photo of EUT



Antenna Dimensions (BP1048&CH573)



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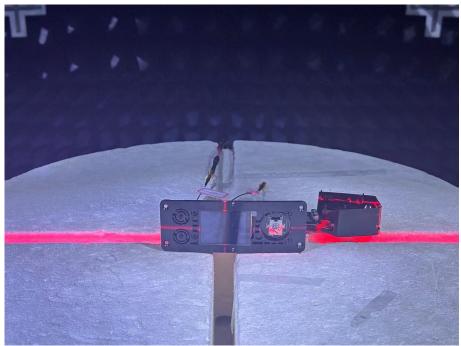


Shenzhen Branch

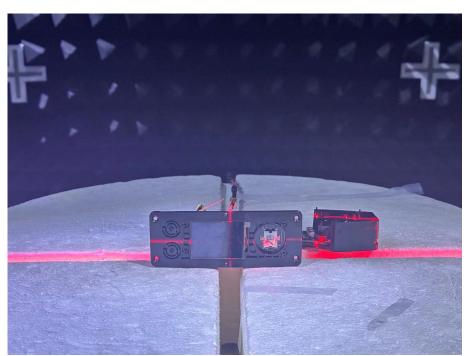
Report No.: SZOA240100000701

Rev.01

Page: 19 of 20



CH573



BP1048



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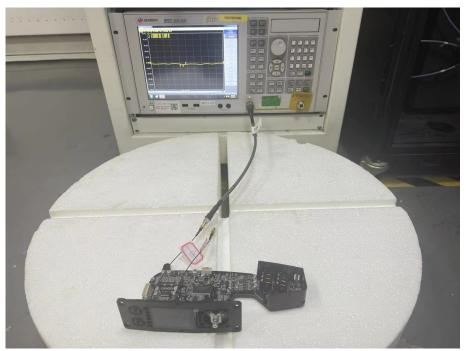


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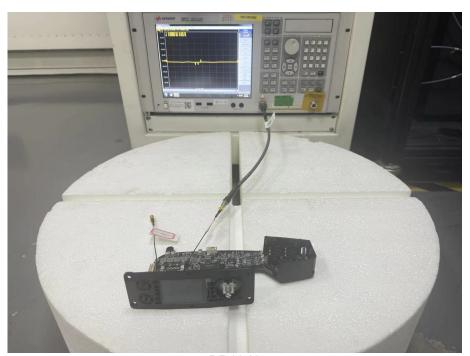
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Page: 20 of 20



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