



FCCID: 2AD2THD-026

Report Number: HST201409-3658-SAR

Test Report

Applicant: Enping Heng da Electronic Industry Co., Ltd

Address of Applicant: No.8, B District, Dongan Industry Zone,
Enping, Jiangmen, Guangdong, China.

Equipment Under Test (EUT):

EUT Name: Wireless Microphone

Model No.: Listed on the 3rd page

Trade Mark: N/A

Serial No.: Not supplied by client

Standards: FCC Part 1.1307, 2.1091, and 2.1093: 2014

Date of Receipt: Sep. 20, 2014

Date of Test: Sep. 20 to Oct. 8, 2014

Date of Issue: Oct. 18, 2014

Test Result : **PASS***

- In the configuration tested, the EUT complied with the standards specified above.

Tested by:

Sandy Yu

Sandy Yu / EMC Engineer

Authorized Signature:

Henly

Henly Xie / Manager, Representative of the Lab

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

All test results in this report can be traceable to National or International Standards.

The test report prepare by:

Guangdong Huesent Testing & Inspection Technology Co., Ltd.

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1 Test Summary

Test	Test Requirement	Standard Paragraph	Result
RF Exposure Evaluation	FCC Part 1.1307, 2.1091, and 2.1093	447498 D01 General RF Exposure Guidance v05r02	PASS

Remark:

• The EUT has one channel, which is located in the range 614.200 MHz to 697.800MHz.

Only test result of sample of Wireless Microphone in channels 614.2 MHz, 660.5 MHz and 697.8 MHz were recorded in this report.

Model: U-616, U-418, U-412, U-783, U-723, U-782, HD-091, HD-065, HD-016, MU-21D, HD-026

Only tested HD-026, since the other models listed above are electric identical with only difference being the model name.

2 General Information

2.1 Client Information

Applicant: Enping Heng da Electronic Industry Co., Ltd
Address of Applicant: No.8, B District,Dongan Industry Zone,
Enping,Jiangmen,Guangdong,China.

2.2 General Description of E.U.T.

EUT Name: Wireless Microphone
Item No.: Listed on the 3rd page
Serial No.: Not supplied by client

2.3 Details of E.U.T.

Power Supply: 3.0Vdc 2*AA Batteries
Main Function: Wireless microphone system with an associated receiver for transmitting voice.
Transmitting Power: Low 614.2MHz: 6.8dBm(i.e.4.79 mW) ±1.0 dBm
Mid. 660.5MHz: 6.1dBm(i.e.4.07 mW) ±1.0 dBm
High 697.8MHz: 6.6dBm(i.e 4.57 mW) ±1.0 dBm

The final amplifier Collector Voltage and Collector Current are 0.3V & 3.5mA respectively.

Necessary Bandwidth: $2M+2DK = 2 \times 80 \text{ kHz} + 2 \times 20\text{kHz} \times 1.0 = 200 \text{ kHz}$

16 channels for each microphone; Modulation: F3E; Antenna Type: Fixed; Gained: 0 dBi

2.4 Description of Support Units

Connect the EUT to mains power, and then test the EUT with signal generator.

2.5 Standards Applicable for Testing

The standard used was FCC Part 1.1307, 2.1091, and 2.1093: 2014

The EUT belongs to licensed low power auxiliary devices.

2.6 Test Location

ERP & Spurious Emission tests were subcontracted to the laboratory following-

Guangdong Environment Radiation Monitoring Center.

860, South Guangzhou Avenue, Guangzhou, P.R. China

Tel: 86-20-84281721 Fax: N/A Email: Kevin.ma@nemko.com

FCC- Registration No: 667318 on Sep. 29, 2009

CNAS- Accreditation No: L5539.

2.7 Deviation from Standards

None.

2.8 Abnormalities from Standard Conditions

None.

3 Equipments Used during Test

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date	Cal. Due date
1	RF Generator	Rohde & Schwarz	SMT06	61-318	2014-6-8	2015-6-8
2	Spectrum Analyzer	R&S	CMU 200	/	2014-6-8	2015-6-8
3	EMI Test Receiver	Rohde & Schwarz	ESU	/	2014-6-8	2015-6-8
4	Power Meter	Rohde & Schwarz	URV35	EMC1506	2014-6-8	2015-6-8
5	Audio Analyzer	Rohde & Schwarz	UPL	EMC1508	2014-6-8	2015-6-8
6	Antenna Positioner	ETS-LINDGREN	/	/	2014-6-8	2015-6-8
7	Turn table	ETS-LINDGREN	/	/	2014-6-8	2015-6-8
8	Multi-Device Controller	ETS-LINDGREN	/	/	2014-6-8	2015-6-8
9	EMI Test Software	Ceprei	/	/	2014-6-8	2015-6-8
10	Coaxial cable	Ceprei	/	/	2014-6-8	2015-6-8
11	Coaxial cable	Ceprei	/	/	2014-6-8	2015-6-8
12	Power Sensor	Rohde & Schwarz	URV5-Z7	EMC1507	2014-6-8	2015-6-8
13	Temperature Chamber	Gongwen	GDS-250	1150	2014-6-8	2015-6-8
14	D.C. Power Supply	WELLSTAR	PS-205A	SEL0045	2014-6-8	2015-6-8
15	Humidity/ Temperature Meter	Shanghai	ZJ1-2B	SEL0101 to SEL0103	2014-6-8	2015-6-8
16	Barometer	ChangChun	DYM3	SEL0088	2014-6-8	2015-6-8
17	Multimeter	Victor	VC9805A+	3000125	2014-6-8	2015-6-8
18	DC Power Supply	DG HuaYang	PS-3030	9862036	2014-6-8	2015-6-8
19	Low loss coaxial cable	HST	2 m	EMC1008	2014-6-8	2015-6-8
20	Monopole Antenna	HST	N/A	N/A	2014-6-8	2015-6-8
21	Noise Generaror	Ningbo Zhongce	DF1681	EMC0009	2014-6-8	2015-6-8
22	Antenna	R & S	HF906	/	2014-5-10	2015-5-10
23	3m Semi-anechoic Chamber	ABLATROSS	SAC-3	/	2014-5-10	2015-5-10
24	EMI Receiver	R & S	ESCI-3	/	2014-5-10	2015-5-10
25	Spectrum Analyzer	R & S	FSP30	/	2014-5-10	2015-5-10
26	BiConiLog Antenna	SCHWARZBECK	SWB-VULB 9163	/	2014-5-10	2015-5-10
27	Pre-amplifier	B & Z TECHNOLOGIES	SCA-SCU18	/	2014-5-10	2015-5-10

4 RF Exposure Evaluation

Test Requirement: FCC CFR 47 RF Exposure Evaluation

Test Method: 447498 D01 General RF Exposure Guidance v05r02

Test Date: Sep. 28, 2014

Test Procedure:

SAR Test In 447498 D01 General RF Exposure Guidance v05r02 Section
Guidance 4.3.1

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,²⁵ where

- $f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁶
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Note:

Max. power of channel, including tune-up tolerance:
 Low 614.2MHz: 7.8dBm(i.e.6.03 mW)
 Mid. 674MHz: 7.1dBm(i.e.5.13 mW)
 High 697.8MHz: 7.6dBm(i.e 5.75 mW)

Distance from the antenna to the outer skin = 8 mm
 Min. test separation =8 mm

Low channel $f_{(GHz)}=0.6142$ GHz
 Mid channel $f_{(GHz)}= 0.6605$ GHz
 High channel $f_{(GHz)}=0.6978$ GHz

In low channel: 614.2MHz:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(GHz)}}] = [((6.03) / 8) * (\sqrt{0.6142})] = 0.739 \leq 3$$

In mid channel: 660.5MHz:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(GHz)}}] = [((5.13) / 8) * (\sqrt{0.6605})] = 0.656 \leq 3$$

In high channel: 697.8MHz:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(GHz)}}] = [((5.75) / 8) * (\sqrt{0.6978})] = 0.756 \leq 3$$

Result: The EUT's SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required.

*****End of Report*****