RF EXPOSURE REPORT

Report No.: 15070077-FCC-H

Applicant	DASAN ELECTRON
Product Name	Wireless Headset
Model No.	DW-779U
Serial No.	DW-779
Test Standard	FCC 2.1091
Test Date	March 05 to April 03.2015
Issue Date	July 15, 2015
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Dustin.Wang	Chris You	
Dustin Wang Test Engineer	Chris You Checked By	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070077-FCC-H	NONE	Original	July 15, 2015

2. Customer information

Applicant Name	DASAN ELECTRON CO.,LTD.,
Applicant Add	606, GODOWHADONG, KYUNGGI TECHONO PARK 1271-11, SA-DONG, ANSAN-SI, KYUNGGI-DO, ANSAN-SI, South Korea
Manufacturer	DASAN ELECTRON CO.,LTD
Manufacturer Add	#307, P1-dong, Gyunggi Techno Park, 1271-11, Sa-dong, Sangnok-Gu, Ansan-si, Gyunggi-Do, 426-901, KOREA

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Labview of SIEMIC version 2.0

4. Equipment under Test (EUT) Information

Description of EUT:	Wireless Headset
Main Model:	DW-779U
Serial Model:	DW-779
Date EUT received：	March 02.2015
Antenna Gain:	-0.04 dBi
Type of Modulation:	GFSK
Number of Channels:	5
Input Power:	AC Adapter: Model: WCF0900050A 1BA Input: AC100 ~ 240V, 50/60Hz,0.15A Output: DC 9.0V, 0.5A
Trade Name :	N/A
GPRS/EGPRS Multi-slot class	N/A
RF Operating Frequency (ies):	1921.536 MHz~1928.448 MHz (Tx/Rx)
Port:	Charging port
FCC ID:	WF2DW-779U-H

Note: In this report, we have chosen the main model DW-779U for testing. The difference among models was explained in the declaration lette

5. FCC §2.1091 - Maximum Permissible exposure (MPE)

6.1 Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission' s guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

6.2 Test Result

FP:

Type	Frequency (MHz)	Duty Cycle	Conducted power	Frame power	Turn Up Power(dBm)	Antenna Gain (dBi)	E-field Strength (V/m) @ 20 cm	E-field Strength Limit (V/m)	Result
Power	1921.536	8.33%	16.511	5.719	6±1	-0.04	0.001	1	Pass
	1924.992	8.33%	16.312	5.520	6±1	-0.04	0.001	1	Pass
	1928.448	8.33%	16.384	5.592	6±1	-0.04	0.001	1	Pass

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density (in appropriate units, e.g. mW/cm^2)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

WCDMA BAND V

For the antenna manufacturer provide only used limited to ERP/EIRP or radiated spurious emission test. The MPE evaluation as below:

Maximum output power at antenna input terminal: 7 dBm)

Maximum output power at antenna input terminal: 5.01(mW)

Prediction distance: >20 (cm)

Predication frequency: 1921.536 (MHz) High frequency

Antenna Gain (typical): -0.04 (dBi)

Antenna Gain (typical): 0.991 (numeric)

The worst case is power density at predication frequency at 20 cm: 0.001(mW/cm^2)

MPE limit for general population exposure at prediction frequency: 1 (mW/cm^2)

0.001(mW/cm^2) < 1 (mW/cm^2)

Result: Pass