SHENZHEN MIZAR TECHNOLOGY CO., LTD.

Bluetooth Speaker

Main Model: DC-0230-A
Serial Model: DC-0337-A, MA-890-B, MA-860

March 20, 2014

Report No.: 13070095-FCC-H2
(This report supersedes NONE)

Modifications made to the product : None

This Test Report is Issued Under the Authority of:		
Herith shi	Alex Liu	
Herith Shi **Compliance Engineer**	**Alex Liu** **Technical Manager**	

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

EMC Test Report
To: FCC 2.1091

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Laboratory 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.

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SIEMIC (Shenzhen-China) Laboratories Accreditations for Conformity Assessment

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

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CONTENTS

1 EXECUTIVE SUMMARY & EUT INFORMATION

The purpose of this test programmers was to demonstrate compliance of the SHENZHEN MIZAR TECHNOLOGY CO., LTD., Bluetooth Speaker and Model: DC-0230-A against the current Stipulated Standards. The Bluetooth Speaker has demonstrated compliance with the FCC 2.1091.

EUT Information

EUT Description	:	**Bluetooth Speaker**
Main Model	:	**DC-0230-A**
Serial Model		**DC-0337-A, MA-890-B, MA-860 (the difference between Main Model and Serial Model is only the Model Number)**
Antenna Gain	:	**Bluetooth: 0 dBi**
Input Power	:	**Battery:** **Model: 052530-450mAh** **Spec: 3.7V 450mAh** **Limited charger voltage: 4.2V**
Classification Per Stipulated Test Standard	:	**Class B Emission Product Per FCC 2.1091**

2 TECHNICAL DETAILS

Purpose	**Compliance testing of Bluetooth Speaker with stipulated standards**
Applicant / Client	**SHENZHEN MIZAR TECHNOLOGY CO., LTD. 3F, Building B, NO.34 Gongyuan Road, jiabao Block22, Baoan District, Shenzhen P.R. China**
Manufacturer	**SHENZHEN MIZAR TECHNOLOGY CO., LTD. 3F, Building B, NO.34 Gongyuan Road, jiabao Block22, Baoan District, Shenzhen P.R. China**
Laboratory performing the tests	**SIEMIC (Shenzhen-China) Laboratories Zone A, Floor 1, Building 2, Wan Ye Long Technology Park, South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong, China Tel: +86-0755-2601 4629 / 2601 4953 Fax: +86-0755-2601 4953-810 Email: China@siemic.com.cn**
Test report reference number	**13070095-FCC-H2**
Date EUT received	**March 10, 2014**
Standard applied	**FCC 2.1091**
Dates of test (from – to)	**March 20, 2014**
No of Units	**#1**
Equipment Category	**DSS**
Trade Name	**N/A**
RF Operating Frequency (ies)	**Bluetooth: 2402-2480 MHz**
Number of Channels	**Bluetooth: 79CH**
Modulation	**Bluetooth: GFSK& π/4DQPSK**
FCC ID	**2ABZRDC0230A**

3 FCC §2.1091 - MaximuM Permissible exposure (MPE)

3.1 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

3.2 Test Data

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/cm2)
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)

2.4GHz
GFSK

Maximum peak output power at antenna input terminal: -4.876(dBm)
Maximum peak output power at antenna input terminal: 0.325 (mW)

Prediction distance: >20 (cm)
Predication frequency: 2402(MHz)
Antenna Gain (typical): 0 (dBi)

Antenna Gain (typical): 1 (numeric)
The worst case is power density at predication frequency at 20 cm: 0.00006(mW/cm^2)
MPE limit for general population exposure at prediction frequency: 1 (mW/cm^2)

0.00006(mW/cm^2) < 1 (mW/cm^2)

Result: Pass