

RF Exposure Evaluation Report

Product : Mini bluetooth speaker
Trade mark : N/A
Model/Type reference : BS100, BS200
Serial Number : N/A
Report Number : EED32L00364702
FCC ID : 2AAPS-BS100BS200
Date of Issue : Dec. 25, 2019
Test Standards : 47 CFR Part 1.1307(2015)
: 47 CFR Part 1.1310(2015)
: KDB447498D01v06
Test result : PASS

Prepared for:

Shenzhen UEMade Technology CO., Ltd
3F, 3rd Building, Long Fa Industry Park,
1-1 Da Wan Road, Da Kang Zone,
Yuan Shan Street, Long Gang District,
Shen Zhen, Guang Dong Province, China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Tested By: mark.chen.

Mark Chen

Compiled by: Sunlight Sun

Sunlight Sun

Reviewed by: Ware Xin

Ware Xin

Approved by: Kevin Yang

Kevin Yang

Date: Dec. 25, 2019

Check No.: 2447622129



2 Version

Version No.	Date	Description
00	Dec. 25, 2019	Original

3 Contents

	Page
1 COVER PAGE	1
2 VERSION	2
3 CONTENTS	3
4 GENERAL INFORMATION	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT.....	4
4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD.....	5
4.4 TEST LOCATION.....	6
4.5 DEVIATION FROM STANDARDS.....	6
4.6 ABNORMALITIES FROM STANDARD CONDITIONS.....	6
4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	6
5 RF EXPOSURE EVALUATION	7
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	7
5.2 MAXIMUM PERMISSIBLE EXPOSURE.....	8
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	9

4 General Information

4.1 Client Information

Applicant:	Shenzhen UEMade Technology CO., Ltd
Address of Applicant:	3F, 3rd Building, Long Fa Industry Park, 1-1 Da Wan Road, Da Kang Zone, Yuan Shan Street, Long Gang District, Shen Zhen, Guang Dong Province, China
Manufacturer:	Shenzhen UEMade Technology CO., Ltd
Address of Manufacturer:	3F, 3rd Building, Long Fa Industry Park, 1-1 Da Wan Road, Da Kang Zone, Yuan Shan Street, Long Gang District, Shen Zhen, Guang Dong Province, China
Factory:	Shenzhen UEMade Technology CO., Ltd
Address of Factory:	3F,3rd Building, Long Fa Industry Park, 1-1 Da Wan Road, Da Kang Zone, Yuan Shan Street, Long Gang District, Shen Zhen, Guang Dong Province, China

4.2 General Description of EUT

Product Name:	Mini bluetooth speaker
Model No.(EUT):	BS100, BS200
Test Model No.:	BS100
Trade Mark:	N/A
EUT Supports Radios application	BT 5.0 Single mode, 2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz		
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK		
Number of Channels:	79		
Test Power Grade:	DH5: 7, 2DH5: 6, 3DH5: 6		
Test Software of EUT:	BT_Tool V1.0.5		
Antenna Type:	PCB Antenna		
Antenna Specification	Bluetooth :	Antenna Gain :	0.00 dBi (Numeric gain: 1.00)
Maximum tune up power	Bluetooth:	4.50 dBm	(2.818 mW)
Power Supply:	Battery	Li-ion Battery: DC 5V	
Sample Received Date:	Dec. 02, 2019		
Sample tested Date:	Dec. 02, 2019 to Dec. 19, 2019		
<p>The tested sample(s) and the sample information are provided by the client. Model No.:BS100, BS200 Only the model BS100 was tested, Their electrical circuit design, layout, components used and internal wiring are identical, Only the appearance and color are difference.</p>			

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm^2

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm^2)
39	2441	2.818	1	20	0.0006	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00364701 for EUT external and internal photos.

*** End of Report ***

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.