RF Exposure Evaluation Report

Product	:	Radiooo Portable FM Radio & Bluetooth Speaker
Trade mark	:	MUZEN
Model/Type reference	:	MW-JS1, MW-JS2, MW-JS3, MW-JS4
Test Model No.	:	MW-JS1
Serial Number	:	N/A
Report Number	:	EED32N80617802
FCC ID	:	2ALXL-JS
Date of Issue	:	Aug. 05, 2021
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Test result	:	PASS

Prepared for:

Shenzhen Airsmart Technology Co., Ltd.
Unit 616,Ant's Union Start-up Accelerator No.9 Keji Road, Science and Technology Park, Nanshan District, Shenzhen,China.

Prepared by:

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Approved by: David Wang Date: Jan. 17, 2022

David Wang

Check No.: 5938210721

1 Version

Version No.	Date	Description
00	Jan. 17, 2022	Original

2 Contents

3 General Information

3.1 Client Information

Applicant:	Shenzhen Airsmart Technology Co., Ltd.
Address of Applicant:	Unit 616,Ant's Union Start-up Accelerator No.9 Keji Road,Science and Technology Park, Nanshan District, Shenzhen,China.
Manufacturer:	Shenzhen Airsmart Technology Co., Ltd.
Address of Manufacturer:	Unit 616,Ant's Union Start-up Accelerator No.9 Keji Road,Science and Technology Park, Nanshan District, Shenzhen,China.

3.2 General Description of EUT

Product Name:	Radiooo Portable FM Radio & Bluetooth Speaker
Model No.:	MW-JS1, MW-JS2, MW-JS3, MW-JS4
Test Model No.:	MW-JS1
Trade Mark:	MUZEN
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Hardware Version:	V1.0
Software Version:	V1.0
Bluetooth Version:	V4.2
Operation Frequency:	2402MHz~2480MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Antenna Type:	Integral antenna
Antenna Gain:	2.75dBi
Power Supply:	Lithium battery: DC 7.4V, Charge by DC 5.0V
Test Voltage:	DC 7.4V
Sample Received Date:	Jul. 27, 2021
Sample tested Date:	Jul. 27, 2021 to Aug. 05, 2021

Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
Model No.: MW-JS1, MW-JS2, MW-JS3, MW-JS4
Only the model MW-JS1 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color, appearance and model name. All four types of appearances have been tested, and only the worst data is recorded in the report.

3.3 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

3.4 Deviation from Standards

None.

3.5 Abnormalities from Standard Conditions

None.

3.6 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

Limits

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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation[17]

The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion

4.1.2 EUT RF Exposure

1) For BT Classic

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-3.96	-4.5±1	-3.5	0.447
Middle(2441MHz)	-3.04	-3.5±1	-2.5	0.562
Highest(2480MHz)	-2.16	-3.0±1	-2.0	0.631
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-2.95	-3.5±1	-2.5	0.562
Middle(2441MHz)	-2.23	-3.0±1	-2.0	0.631
Highest(2480MHz)	-0.93	-1.5±1	-0.5	0.891
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-2.69	-3.5±1	-2.5	0.562
Middle(2441MHz)	-1.98	-2.5±1	-1.5	0.708
Highest(2480MHz)	-0.97	-1.5±1	-0.5	0.891

Worst case: 8DPSK mode						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-2.69	-3.5±1	-2.5	0.562	0.174	3.0
Middle (2441MHz)	-1.98	-2.5±1	-1.5	0.708	0.221	
Highest (2480MHz)	-0.97	-1.5±1	-0.5	0.891	0.281	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: EED32N80617801.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32N80617801 for EUT external and internal photos.

*** End of Report ***