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RF Exposure Evaluation Report

Report No. : CQASZ171101549EW-02

Applicant: Shenzhen Weile Electronics Co., Ltd.

Address of Applicant: Room 602, Building 2, Zhuguang Innovative Technology Park, Taoyuan Street, Nanshan District, Shenzhen, China

Manufacturer: Dongguan Weile Electronics Co., Ltd.

Address of Manufacturer: No.3, Yongye first Street, Xiabian Area, Chang'an District, Dongguan, China

Factory: Dongguan Weile Electronics Co., Ltd.

Address of Factory: No.3, Yongye first Street, Xiabian Area, Chang'an District, Dongguan, China

Equipment Under Test (EUT):

Product: Bluetooth Speaker

Model No.: M80

Brand Name: VELEV

FCC ID: 2AOHU-M80

Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06

Date of Test: 2018-01-08 to 2018-01-11

Date of Issue: 2018-01-11

Test Result : **PASS***

Tested By:

(Aaron Ma)

Reviewed By:

(Owen Zhou)

Approved By:

(Jack Ai)



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

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 CQA, this report can't be reproduced except in full.

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ171101549EW-02	Rev.01	Initial report	2018-01-11

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Weile Electronics Co., Ltd.
Address of Applicant:	Room 602, Building 2, Zhuguang Innovative Technology Park, Taoyuan Street, Nanshan District, Shenzhen, China
Manufacturer:	Dongguan Weile Electronics Co., Ltd.
Address of Manufacturer:	No.3, Yongye first Street, Xiabian Area, Chang'an District, Dongguan, China
Factory:	Dongguan Weile Electronics Co., Ltd.
Address of Factory:	No.3, Yongye first Street, Xiabian Area, Chang'an District, Dongguan, China

4.2 General Description of EUT

Product Name:	Bluetooth Speaker
Model No.:	M80
Trade Mark:	VELEV
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V2.1
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	portable production
Test Software of EUT:	FCC Assist 1.4 (Provide by Manufacturer)
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Power Supply:	DC5V by USB

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. 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.

5.1.2 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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{[\sqrt{f(\text{GHz})}]} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where} \right.$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

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

5.1.3 EUT RF Exposure

For BT:

Measurement Data

GFSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-1.84
Middle	-1.63
Highest	-1.96
$\pi/4$ DQPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-0.97
Middle	-0.74
Highest	-1.04

The Max Conducted Peak Output Power is -0.74dBm in middle channel(2.441GHz);

The best case gain of the antenna is 0dBi.

EIRP= -0.74dBm + 0dBi = -0.74dBm

-0.74dBm logarithmic terms convert to numeric result is nearly 0.84mW

According to the formula. calculate the EIRP test result:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

General RF Exposure = $(0.84\text{mW} / 5 \text{ mm}) \times \sqrt{2.441\text{GHz}} = 0.26$ ①

SAR requirement:

S= 3.0

② ;

① < ②.

So the SAR report is not required.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ171101549EW-01