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SAR Evaluation Report

Applicant: 1MORE INC.

Address of Applicant: Tianliao Building F14 East Block (New Materials Industrial Park), Xueyuan Road, Nanshan District, Shenzhen, China

Manufacturer: 1MORE Shen Zhen Acoustic Technology Co., Ltd.

Address of Manufacturer: Tianliao Building 1403-1411, Zone A Tianliao Industrial Park, Taoyuan Street, Nanshan District, Shenzhen, P.R. China

Factory: RISUNTEK INC

Address of Factory: Jiuwei Industrial Zone, Qishi Town, 523000 Dongguan City, Guangdong Province, P.R. China

Equipment Under Test (EUT):

Product: 1MORE iBFree Sport Bluetooth In-Ear Headphones

Model No.: E1018BT, E1002BT, E1003BT, E1009BT

Test Model No.: E1018BT

Brand Name: 1MORE

FCC ID: 2AF8ZE1018BT


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

Date of Test: 2017-11-05 to 2017-11-20

Date of Issue: 2017-11-20

Report No. : CQASZ170701365EW-02

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.

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ170701365EW-02	Rev.01	Initial report	2017-11-20

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
5 SAR EVALUATION	5
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT	5
5.1.1 <i>Standard Requirement</i>	5
5.1.2 <i>Limits</i>	5
5.1.3 <i>EUT RF Exposure</i>	5

4 General Information

4.1 Client Information

Applicant:	1MORE INC.
Address of Applicant:	Tianliao Building F14 East Block (New Materials Industrial Park), Xueyuan Road, Nanshan District, Shenzhen, China
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4.2 General Description of EUT

Product Name:	1MORE iBFree Sport Bluetooth In-Ear Headphones
Model No.:	E1018BT, E1002BT, E1003BT, E1009BT
Trade Mark:	1MORE
Hardware Version:	V3.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.2
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	portable production
Test Software of EUT:	Blue test 1.0 (manufacturer declare)
Antenna Type:	Integral
Antenna Gain:	0dBi
Power Supply:	lithium battery: Model: MH49593 DC3.7V, 60mAh, Charge by DC5.0V

Note: Only the model E1018BT was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance.

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:

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

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

Power and distance are rounded to the nearest mW and mm before 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	4.53
Middle	7.15
Highest	7.47
π/4DQPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	1.84
Middle	4.92
Highest	5.28
8DPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	2.32
Middle	5.26
Highest	5.63

The Max Conducted Peak Output Power is 7.47dBm in highest channel(2.480GHz);

The best case gain of the antenna is 0dBi.

EIRP= 7.47dBm + 0dBi = 7.47dBm

7.47dBm logarithmic terms convert to numeric result is nearly 5.585mW

According to the formula. calculate the EIRP test result:

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

General RF Exposure = $(5.585\text{mW} / 5 \text{ mm}) \times \sqrt{2.480\text{GHz}} = 1.759$ 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 CQASZ170701365EW-01