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Report Template Version: V03
Report Template Revision Date: Mar.1st, 2017

SAR Evaluation Report

Applicant:	Hangzhou Lianluo Interactive Information Technology Co., Ltd.
Address of Applicant:	Lianluo Mansion, Bldy.3, 10th Yard Wangjing street, Chaoyang District, Beijing, China
Manufacturer:	Hangzhou Lianluo Interactive Information Technology Co., Ltd.
Address of Manufacturer:	No.3766, NanHuan Road, BinJiang District, HangZhou, Zhejiang, China
Factory:	Hangzhou Lianluo Interactive Information Technology Co., Ltd.
Address of Factory:	No.3766, NanHuan Road, BinJiang District, HangZhou, Zhejiang, China
Equipment Under Test (EUT):	
Product:	MOPS Wireless Speaker
Model No.:	MOPS-001
Brand Name:	MOPS
FCC ID:	2AMLY-MOPS001
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2017-07-05 to 2017-07-12
Date of Issue:	2017-07-12
Report No. :	CQASZ170701432EW-02
Test Result :	**PASS***

Tested By: Aaron Ma

(Aaron Ma)

Reviewed By: Owen Zhou

(Owen Zhou)

Approved By: Jack Ai

(Jack Ai)

SHENZHEN HUAXIA TESTING TECHNOLOGY CO., LTD 华夏准测 APPROVED

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

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ170701432EW-02	Rev.01	Initial report	2017-07-12

3 Contents

4 General Information

4.1 Client Information

Applicant:	Hangzhou Lianluo Interactive Information Technology Co., Ltd.
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Address of Factory:	No.3766, NanHuan Road, BinJiang District, HangZhou, Zhejiang, China

4.2 General Description of EUT

Product Name:	MOPS Wireless Speaker
Model No.:	MOPS-001
Trade Mark:	MOPS
Hardware Version:	V2.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	portable production
Test Software of EUT:	Blue test3 (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Power Supply:	Adapter: Model:SK02G-1200150C Input:AC100~240V 50/60Hz, Output: DC12V 1.5A lithium battery: Model: 18650 DC12V, 2200mAh

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:

[(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

5.1.3 EUT RF Exposure

For BT:

Measurement Data

GFSK mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	-0.17	21.00	Pass
Middle	3.18	21.00	Pass
Highest	4.74	21.00	Pass
π/4DQPSK mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	-2.41	21.00	Pass
Middle	2.24	21.00	Pass
Highest	3.40	21.00	Pass
8DPSK mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	-0.26	21.00	Pass
Middle	3.12	21.00	Pass
Highest	4.69	21.00	Pass

The Max Conducted Peak Output Power is 4.74dBm in highest channel(2.480GHz);

The best case gain of the antenna is 0dBi.

EIRP= 4.74dBm + 0dBi = 4.74dBm

4.74dBm logarithmic terms convert to numeric result is nearly 2.98mW

According to the formula. calculate the EIRP test result:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)]

General RF Exposure = (2.98mW / 5 mm) x √2.480GHz = 0.94 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.: CQASZ170701432EW-01