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RF Exposure Evaluation Report

Report No. : CQASZ20181000021E-02
Applicant: Shenzhen SKY DRAGON Audio-video Technology Co.LTD
Address of Applicant: B16,Laneway 3,Liuxian 2RD,District71,Baoan,Shenzhen, China
Manufacturer: Shenzhen SKY DRAGON Audio-video Technology Co.LTD
Address of Manufacturer: B16,Laneway 3,Liuxian 2RD,District71,Baoan,Shenzhen, China
Equipment Under Test (EUT):
Product: Party Speaker
All Model No.: PT860, ISB659B, RD0605
Test Model No.: PT860
Brand Name: SAMESAY, CKY
FCC ID: ZJP-RD0605
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Test: 2018-10-25 to 2018-11-12
Date of Issue: 2018-11-12
Test Result : PASS*

Tested By:

Martin Lee

Reviewed By:

(Martin Lee)
Aaron Ma

Approved By:

(Aaron Ma)
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.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20181000021E-02	Rev.01	Initial report	2018-11-12

2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
3 GENERAL INFORMATION.....	4
3.1 CLIENT INFORMATION.....	4
3.2 GENERAL DESCRIPTION OF EUT	4
4 SAR EVALUATION	5
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	5
4.1.1 Standard Requirement.....	5
4.1.2 Limits	5
4.1.3 EUT RF Exposure.....	5

3 General Information

3.1 Client Information

Applicant:	Shenzhen SKY DRAGON Audio-video Technology Co.LTD
Address of Applicant:	B16,Laneway 3,Liuxian 2RD,District71,Baoan,Shenzhen, China
Manufacturer:	Shenzhen SKY DRAGON Audio-video Technology Co.LTD
Address of Manufacturer:	B16,Laneway 3,Liuxian 2RD,District71,Baoan,Shenzhen, China

3.2 General Description of EUT

Product Name:	Party Speaker
All Model No.:	PT860, ISB659B, RD0605
Test Model No.:	PT860
Trade Mark:	SAMESAY, CKY
Hardware Version:	V02
Software Version:	V03
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.1
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:	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Test Software of EUT:	FCCAssist_V2.4 (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	-0.58dBi
Power Supply:	Adapter: MODEL: JDA1400120WUS INPUT: 100-240~50/60Hz 0.8A OUTPUT: 14V 1.2A lithium battery:DC12V, 2000mAh

Note:

All model: PT860, ISB659B, RD0605

Only the model PT860 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 and model name.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 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.

4.1.2 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:

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

$f(\text{GHz})$ 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

4.1.3 EUT RF Exposure

For BT:

Measurement Data

GFSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-2.340
Middle	-2.420
Highest	-2.530
$\pi/4$ DQPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-1.580
Middle	-1.440
Highest	-1.710

The Max Conducted Peak Output Power is -1.44dBm in Lowest channel(2.441GHz);

The best case gain of the antenna is -0.58dBi.

$$\text{EIRP} = -1.44\text{dBm} + -0.58\text{dBi} = -2.02\text{dBm}$$

-2.02dBm logarithmic terms convert to numeric result is nearly 0.63mW

According to the formula. calculate the EIRP test result:

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

$$\text{General RF Exposure} = (0.63\text{mW} / 5 \text{ mm}) \times \sqrt{2.441\text{GHz}} = 0.2 \quad ①$$

SAR requirement:

$$S = 3.0 \quad ② ;$$

$$① < ②.$$

So the SAR report is not required.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20181000021E-01