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RF Exposure Evaluation Report

Report No.: CQASZ20210400473E-02
Applicant: Funclass. Inc
Address of Applicant: 302, 7, Wausan-ro 25-gil, Mapo-gu, Seoul, Republic of Korea
Equipment Under Test (EUT):
EUT Name: TWS earphone
Model No.: OSTIA Lite
Brand Name: DIVINUS
FCC ID: 2AZRC-OSTIALITE
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2021-4-15
Date of Test: 2021-4-15 to 2021-5-17
Date of Issue: 2021-5-17
Test Result: PASS*

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

Tested By:

Lewis Zhou

(Lewis Zhou)

Reviewed By:

Jun Li

(Jun Li)

Approved By:

Sheek Luo

(Sheek Luo)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20210400473E-02	Rev.01	Initial report	2021-5-17

2 Contents

	Page
1 VERSION.....	2
2 CONTENTS.....	3
.....	3
3 GENERAL INFORMATION.....	4
3.1 CLIENT INFORMATION.....	4
3.2 GENERAL DESCRIPTION OF EUT.....	4
3.3 GENERAL DESCRIPTION OF BT.....	4
4 SAR EVALUATION.....	5
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	5
4.1.1 <i>Standard Requirement</i>	5
4.1.2 <i>Limits</i>	5
4.1.3 <i>EUT RF Exposure</i>	6

3 General Information

3.1 Client Information

Applicant:	Funclass. Inc
Address of Applicant:	302, 7, Wausan-ro 25-gil, Mapo-gu, Seoul, Republic of Korea
Manufacturer:	Dongguan XinYao Electronic Industrial Co. LTD
Address of Manufacturer:	Liuhua Street, Xiakou, Dongcheng District,Dongguan City, Guangdong Province, China
Factory:	Dongguan XinYao Electronic Industrial Co. LTD
Address of Factory:	Liuhua Street, Xiakou, Dongcheng District,Dongguan City, Guangdong Province, China

3.2 General Description of EUT

Product Name:	TWS earphone
Model No.:	OSTIA Lite
Trade Mark:	DIVINUS
EUT Supports Radios application:	Bluetooth dual mode: 2402-2480MHz
Hardware Version:	HYH-B31 V1.1
Software Version:	B31-3015-V1.0
EUT Power Supply:	lithium battery:DC3.7V, 45mAh, Charge by DC5.0V

3.3 General Description of BT

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V 5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps/3Mbps
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	☐ Mobile ☒ Portable ☐ Fix Location
Antenna Type:	Chip antenna
Antenna Gain:	3.12dBi

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:

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

$f(\text{GHz})$ 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

1) For BT

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	0.600	-0.5±1	0.5	1.122
Middle(2441MHz)	1.860	1±1	2	1.585
Highest(2480MHz)	2.490	1.5±1	2.5	1.778
$\pi/4$ DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	1.590	0.5±1	1.5	1.413
Middle(2441MHz)	2.830	2±1	3	1.995
Highest(2480MHz)	3.480	2.5±1	3.5	2.239
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	1.810	1±1	2	1.585
Middle(2441MHz)	3.150	2±1	3	1.995
Highest(2480MHz)	3.760	3±1	4	2.512

Worst case: GFSK mode						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	1.810	1±1	2	1.585	0.491	3.0
Middle (2441MHz)	3.150	2±1	3	1.995	0.623	
Highest (2480MHz)	3.760	3±1	4	2.512	0.791	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20210400473E-01