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RF Exposure Evaluation Report

Report No. :	CQASZ20190900905E-03
Applicant:	Cosonic Intelligent Technologies Co.,Ltd.
Address of Applicant:	506, 1st Building,No.6, South Industry Road, Songshan Lake National High-tech Industrial Development Zone, Dongguan City, Guangdong, China 523808
Equipment Under Test (EUT):	
Product:	WIRELESS HEADPHONES
Model No.:	HA-FX41W
Brand Name:	JVC
FCC ID:	2ALVKHA-HAFX41W
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2019-09-11
Date of Test:	2019-09-11 to 2019-09-19
Date of Issue:	2019-09-19
Test Result :	**PASS***

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

Tested By: Tom Chen.

(Tom Chen)

Reviewed By: Sheek Luo

(Sheek Luo)

Approved By:

(Jack Ai)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20190900905E-03	Rev.01	Initial report	2019-09-19

2 Contents

3 General Information

3.1 Client Information

Applicant:	Cosonic Intelligent Technologies Co.,Ltd.
Address of Applicant:	506, 1st Building,No.6, South Industry Road, Songshan Lake National High-tech Industrial Development Zone, Dongguan City, Guangdong, China 523808
Manufacturer:	Cosonic Intelligent Technologies Co.,Ltd.
Address of Manufacturer:	506, 1st Building,No.6, South Industry Road, Songshan Lake National High-tech Industrial Development Zone, Dongguan City, Guangdong, China 523808

3.2 General Description of EUT

Product Name:	WIRELESS HEADPHONES
Model No.:	HA-FX41W
Trade Mark:	JVC
Hardware Version:	VE
Software Version:	VR
Bluetooth Version:	V5.0
Sample Type:	☐ Mobile ☒ Portable ☐ Fix Location
Power Supply:	lithium battery:DC3.7V, Charge by DC5.0V

3.3 General Description of BT classic

Operation Frequency:	2402MHz~2480MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps/3Mbps
Hopping Channel Type:	Adaptive Frequency Hopping systems
Test Software of EUT:	BK32xx RF Test – V1.8.2_en (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	2.2dBi

3.4 General Description of BLE

Operation Frequency:	2402MHz~2480MHz
Modulation Type:	GFSK
Transfer Rate:	1Mbps/2Mbps
Number of Channel:	40
Test Software of EUT:	BK32xx RF Test – V1.8.2_en (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	2.2dBi

Note: Only one model number: HA-FX41W, but it comes in tow colors (black, blue)

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:

[(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

4.1.3 EUT RF Exposure

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-3.140	-4.0±1	-3.0	0.501
Middle(2441MHz)	-3.700	-4.5±1	-3.5	0.447
Highest(2480MHz)	-4.190	-5.0±1	-4.0	0.398
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.720	-2.5±1	-1.5	0.708
Middle(2441MHz)	-2.600	-3.5±1	-2.5	0.562
Highest(2480MHz)	-2.490	-3.0±1	-2.0	0.631
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.220	-2.0±1	-1.0	0.794
Middle(2441MHz)	-2.200	-3.0±1	-2.0	0.631
Highest(2480MHz)	-2.050	-3.0±1	-2.0	0.631

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-1.220	-2.0±1	-1.0	0.794	0.246	3.0
Middle (2441MHz)	-2.200	-3.0±1	-2.0	0.631	0.197	
Highest (2480MHz)	-2.050	-3.0±1	-2.0	0.631	0.199	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190900905E-01

2) For BLE

Measurement Data

GFSK(1Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-3.10	-4.0±1	-3.0	0.501
Middle(2440MHz)	-2.63	-3.5±1	-2.5	0.562
Highest(2480MHz)	-2.43	-3.0±1	-2.0	0.631

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-3.10	-4.0±1	-3.0	0.501	0.155	3.0
Middle (2440MHz)	-2.63	-3.5±1	-2.5	0.562	0.176	
Highest (2480MHz)	-2.43	-3.0±1	-2.0	0.631	0.199	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190900905E-02

BDR, EDR and BLE can not simultaneous transmitting at same time.