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RF Exposure Evaluation Report

Report No.: CQASZ20201200038EX-02
Applicant: Shenzhen Joining Free Technology Co.,LTD
Address of Applicant: 16F,Block C,Qifengda Building, Taohuayuan Technology Park, Furong Road, Songgang,Baoan District, Shenzhen, China,518105
Equipment Under Test (EUT):
EUT Name: True Wireless Stereo Headset
Model No.: JEP09, JBH09-XXXXX
Test Model No.: JEP09
Brand Name: N/A
FCC ID: 2AR4Q-JBH09
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2020-11-23
Date of Test: 2020-11-23 to 2020-12-02
Date of Issue: 2020-12-14
Test Result: **PASS***

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

Tested By:

Jun Li

(Jun Li)

Reviewed By:

Sheek Luo

(Sheek Luo)

Approved By:

Jack Ai

(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20201200038EX-02	Rev.01	Initial report	2020-12-14

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3 General Information

3.1 Client Information

Applicant:	Shenzhen Joining Free Technology Co.,LTD
Address of Applicant:	16F,Block C,Qifengda Building, Taohuayuan Technology Park, Furong Road, Songgang,Baoan District, Shenzhen, China,518105
Manufacturer:	Shenzhen Joining Free Technology Co.,LTD
Address of Manufacturer:	16F,Block C,Qifengda Building, Taohuayuan Technology Park, Furong Road, Songgang,Baoan District, Shenzhen, China,518105

3.2 General Description of EUT

Product Name:	True Wireless Stereo Headset
Test Model No.:	JEP09
Trade Mark:	N/A
Hardware Version:	V1
Software Version:	V1.8
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Transfer Rate:	1Mbps
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
EUT Power Supply:	DC 3.7V from battery

Note:

All model: JBH09, JBH09-XXXXX

Only the model JEP09 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being 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:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \cdot \sqrt{f(\text{GHz})} \right] \leq 3.0$$
 for 1-g SAR and ≤ 7.5 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)	-0.763	-1±1	0	1.000
Middle(2441MHz)	-1.326	-2±1	1	1.259
Highest(2480MHz)	-1.383	-2±1	1	1.259
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	1.051	0±1	1	1.259
Middle(2441MHz)	0.520	-1.5±1	0.5	1.122
Highest(2480MHz)	0.503	-1.5±1	0.5	1.122
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	1.168	0±1	1	1.259
Middle(2441MHz)	0.735	0±1	1	1.259
Highest(2480MHz)	0.679	0±1	1	1.259

Worst case: π/4DQPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	1.168	0±1	1	1.995	0.390	3.0
Middle (2441MHz)	0.735	0±1	1	1.995	0.393	
Highest (2480MHz)	0.679	0±1	1	1.995	0.397	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20201200038EX-01