Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640
Fax: +86-755-26648637
Website: www.cqa-cert.com

Report Template Version: V04
Report Template Revision Date: 2018-07-06

RF Exposure Evaluation Report

Report No. :	CQASZ20220601019E-02
Applicant:	TOPWAY EM ENTERPRISE LTD.
Address of Applicant:	8F BLOCK B BUILDING 6 BAONENG S & T PARK LONG HUA, SHENZHEN GD, China 518109
Equipment Under Test (EUT):	
EUT Name:	BLUETOOTH HEADPHONES
Model No.:	20BF01, Z02, TP-BF01, TP-BF01 PLUS
Test Model No.:	20BF01
Brand Name:	N/A
FCC ID:	2AKI8-TP-BF01
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2020-06-12
Date of Test:	2020-06-12 to 2020-06-24
Date of Issue:	2022-8-19
Test Result :	**PASS***

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

Tested By: Timo Lei
(Timo Lei)

Reviewed By: K. Liao
(K Liao)

Approved By: Jack Ai
(Jack Ai)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220601019E-02	Rev.01	Initial report	2022-8-19

Note:

This test report (Ref. No.: CQASZ20220601019E-02)

All test data comes from source test reports (Ref. No.: CQASZ20200600521E-02).

Only on the basis of the original report Change EUT Name, Model No.. The tested samples have not been changed.

2 Contents

3 General Information

3.1 Client Information

Applicant:	TOPWAY EM ENTERPRISE LTD.
Address of Applicant:	8F BLOCK B BUILDING 6 BAONENG S & T PARK LONG HUA, SHENZHEN GD, China 518109
Manufacturer:	TOPWAY EM ENTERPRISE LTD.
Address of Manufacturer:	8F BLOCK B BUILDING 6 BAONENG S & T PARK LONG HUA, SHENZHEN GD, China 518109
Factory:	Shenzhen Jia Hua Li Dian Zi You Xian Gong Si
Address of Factory:	NO 101,201, BUILDING E, NEW INDUSTRIAL ZONE, SHENZHU ROAD, LIUYUE SHENKENG VILLAGE, HENGGANG, LONGGANG DISTRICT, SHENZHEN CHINA

3.2 General Description of EUT

Product Name:	BLUETOOTH HEADPHONES
Model No.:	20BF01, Z02, TP-BF01, TP-BF01 PLUS
Test Model No.:	20BF01
Trade Mark:	N/A
Hardware Version:	V1.2
Software Version:	1_V29
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
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
Sample Type:	☐ Mobile ☒ Portable ☐ Fix Location
Test Software of EUT:	Blue test 3 (manufacturer declare)
Antenna Type:	Ceramic antenna
Antenna Gain:	0.5dBi
Power Supply:	lithium battery:DC 3.7V 410mAh, Charge by DC5.0V

Model No.: 20BF01, Z02, TP-BF01, TP-BF01 PLUS.

Only the model 20BF01 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:

[(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)	-0.080	0±1	1	1.259
Middle(2441MHz)	-0.150	0±1	1	1.259
Highest(2480MHz)	-0.060	0±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)	-2.260	-2.0±1	-1.0	0.794
Middle(2441MHz)	-3.070	-3.0±1	-2.0	0.631
Highest(2480MHz)	-3.610	-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)	-1.800	-2.0±1	-1.0	0.794
Middle(2441MHz)	-2.500	-3.0±1	-2.0	0.631
Highest(2480MHz)	-2.970	-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)	-0.080	0±1	1	1.259	0.390	3.0
Middle (2441MHz)	-0.150	0±1	1	1.259	0.393	
Highest (2480MHz)	-0.060	0±1	1	1.259	0.397	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20220601019E-01