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RF Exposure Evaluation Report

Report No. : CQASZ20190300136E-02
Applicant: ZAGG Inc.
Address of Applicant: 910 West Legacy Center Way, Midvale, Utah, United States, 84047
Manufacturer: ZAGG Inc.
Address of Manufacturer: 910 West Legacy Center Way, Midvale, Utah, United States, 84047
Factory: Cosonic Intelligent Technologies Co., Ltd
Address of Factory: 506, 1st Building, No.6, South Industry Road, Songshan Lake National High-tech Industrial Development Zone, Dongguan City, Guangdong, China
Equipment Under Test (EUT):
Product: Braven Earbuds Flye Sport
Model No.: FLYE SPORT
Brand Name: Braven
FCC ID: QTG-BAICB12
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Test: 2019-03-06 to 2019-03-12
Date of Issue: 2019-03-12
Test Result : PASS*

Tested By:

Daisy Qin

(Daisy Qin)

Reviewed By:

Aaron Ma

(Aaron Ma)

Approved By:

Jack Ai

(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
CQASZ20190300136E-02	Rev.01	Initial report	2019-03-12

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 <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:	ZAGG Inc.
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3.2 General Description of EUT

Product Name:	Braven Earbuds Flye Sport
Model No.:	FLYE SPORT
Trade Mark:	Braven
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.2
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Transfer Rate:	1Mbps/2Mbps/3Mbps
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Test Software of EUT:	ISRT Ver2.1.30.4913 (manufacturer declare)
Antenna Type:	Ceramic antenna
Antenna Gain:	0.5dBi
Power Supply:	lithium battery:DC3.7V, Charge by USB

Note: Only one model number: FLYE SPORT, but it comes in three colors (white, 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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{[\sqrt{f(\text{GHz})}]^2} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where} \right]$$

☐ $f(\text{GHz})$ 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

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	4.080	3.5±1	4.5	2.818
Middle(2441MHz)	4.470	3.5±1	4.5	2.818
Highest(2480MHz)	4.480	3.5±1	4.5	2.818
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	4.700	4.0±1	5.0	3.162
Middle(2441MHz)	5.000	4.5±1	5.5	3.548
Highest(2480MHz)	5.040	4.5±1	5.5	3.548
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	4.960	4.0±1	5.0	3.162
Middle(2441MHz)	5.250	4.5±1	5.5	3.548
Highest(2480MHz)	5.270	4.5±1	5.5	3.548

Worst case: 8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	4.960	4.0±1	5.0	3.162	0.98	3.0
Middle (2441MHz)	5.250	4.5±1	5.5	3.548	1.11	
Highest (2480MHz)	5.270	4.5±1	5.5	3.548	1.12	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190300136E-01