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Report Template Version: V03

Report Template Revision Date: Mar.1st, 2017

RF Exposure Evaluation Report

Report No. : CQASZ20190900052EX-02
Applicant: Chervon(China)Trading Co.,Ltd
Address of Applicant: No.99 Tianyuan West Road, Jiangning Economic & Technical Development Zone, nanjing, jiangsu, China
Manufacturer: Chervon(China)Trading Co.,Ltd
Address of Manufacturer: No.99 Tianyuan West Road, Jiangning Economic & Technical Development Zone, nanjing, jiangsu, China
Equipment Under Test (EUT):
Product: Bluetooth speaker
All Model No.: OB24RD, KBTS 124B-03
Test Model No.: OB24RD
Brand Name: Kobalt
FCC ID: YWKOB24RD
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Test: 2019-09-18
Test Result : PASS*

Tested By:

Tom Chen

(Tom Chen)

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
CQASZ20190900052EX-02	Rev.01	Initial report	2019-09-18

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3 General Information

3.1 Client Information

Applicant:	Chervon(China)Trading Co.,Ltd
Address of Applicant:	No.99 Tianyuan West Road, Jiangning Economic & Technical Development Zone, nanjing, jiangsu, China
Manufacturer:	Chervon(China)Trading Co.,Ltd
Address of Manufacturer:	No.99 Tianyuan West Road, Jiangning Economic & Technical Development Zone, nanjing, jiangsu, China

3.2 General Description of EUT

Product Name:	Bluetooth speaker
All Model No.:	OB24RD, KBTS 124B-03
Test Model No.:	OB24RD
Trade Mark:	Kobalt
Hardware Version:	V1.0
Software Version:	V2.4
Operation Frequency:	2402-2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK
Transfer Rate:	1Mbps/2Mbps
Number of Channel:	79
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
EUT Power Supply:	DC 24V from battery

Note:

There are many products, Only OB24RD the model 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:

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

$f(\text{GHz})$ 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

GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	2.545	3	3	1.995	0.257	3.0
Middle (2440MHz)	0.805	1	1	1.259	0.161	
Highest (2480MHz)	0.340	1	1	1.259	0.160	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

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)	1.708	3	3	1.995	0.257	3.0
Middle (2440MHz)	1.383	1	1	1.259	0.161	
Highest (2480MHz)	1.172	1	1	1.259	0.160	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190900052EX-01