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RF Exposure Evaluation Report

Report No.: CQASZ20220300471E-02
Applicant: HONG KONG YOU RUI LIGHT CO., LIMITED
Address of Applicant: UNIT E 10 FLOOR, CNT POWER, NO 338 HENNESSY ROAD WAN CHAL, HONG KONG.
Equipment Under Test (EUT):
EUT Name: slidebar radio
Model No.: CAM-MS-SBR 64-66, CAM-LM-SBR 67-73, CAM-VECH7-SBR 57
CAM-CHTKL-SBR 67-72, CAM-VECH56-SBR 55-56,
CAM-CVMV-SBR 68-76
Test Model No.: CAM-MS-SBR 64-66
Brand Name: CUSTOM AUTOSOUND MFG
FCC ID: 2A53-CAMSBR
Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
447498 D04 Interim General RF Exposure Guidance v01
Date of Receipt: 2022-03-29
Date of Test: 2022-03-29 to 2022-04-08
Date of Issue: 2022-04-11
Test Result: PASS*

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

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Rock Huang
(Rock Huang)

Approved By: Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220300471E-02	Rev.01	Initial report	2022-04-11

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3 General Information

3.1 Client Information

Applicant:	HONG KONG YOU RUI LIGHT CO., LIMITED
Address of Applicant:	UNIT E 10 FLOOR, CNT POWER, NO 338 HENNESSY ROAD WANCHAL, HONG KONG.
Manufacturer:	DONGGUAN YOU RUI LIGHT CO., LIMITED
Address of Manufacturer:	JINHE INDUSTRIAL PARK ZHANGMUTOU TOWN GUANGDONG
Factory:	DONGGUAN YOU RUI LIGHT CO., LIMITED
Address of Factory:	JINHE INDUSTRIAL PARK ZHANGMUTOU TOWN GUANGDONG

3.2 General Description of EUT

Product Name:	slidebar radio
Model No.:	CAM-MS-SBR 64-66, CAM-LM-SBR 67-73, CAM-VECH7-SBR 57 CAM-CHTKL-SBR 67-72, CAM-VECH56-SBR 55-56, CAM-CVMV-SBR 68-76
Test Model No.:	CAM-MS-SBR 64-66
Trade Mark:	CUSTOM AUTOSOUND MFG
Software Version:	USA 66
Hardware Version:	USA66-MB-00
EUT Power Supply:	Power by DC 12V

3.3 General Description of BT Classic

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	Bluetooth Spec 5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps/3Mbps
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	☒ Mobile ☐ Portable ☐ Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Cable loss:	1.0 dB

Note:

The above parameters will directly affect the test results. The information is provided by the applicant.

4 MPE Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least $\lambda/2\pi$. The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator. For mobile devices that are not exempt per Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave Dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.1.3 EUT RF Exposure

1) For BT Classic

Output Power Into Antenna & RF Exposure Evaluation Distance:

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.39	-1.5±1	-0.5	1.12
Middle(2441MHz)	0.1	0±1	1.0	1.26
Highest(2480MHz)	0.24	0.5±1	1.5	1.41
$\pi/4$ DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.92	-2.0±1	-1.0	0.79
Middle(2441MHz)	-0.55	-0.5±1	0.5	1.12
Highest(2480MHz)	0.02	0±1	1.0	1.26
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.65	-1.5±1	-0.5	0.89
Middle(2441MHz)	-0.06	0±1	1.0	1.26
Highest(2480MHz)	-0.01	0±1	1.0	1.26

The maximum output power of this product is less than 3060mW

Note: 1) Refer to report No. CQASZ20220300471E-01 for EUT test Max Conducted Peak Output Power value.

2) EUT's Bluetooth module and its antenna is more than 20cm away from the human body.

*** END OF REPORT ***