



1 Cover Page

RF MPE REPORT

Application No.: SHEM1905013434CR
FCC ID: 2ATI810790
Applicant: CASO INTERNATIONAL LTD.
Address of Applicant: 2/F, Lok's Industrial Building, 204 Tsat Tsz Mui Road, Quarry Bay, Hong Kong.
Manufacturer: CASO INTERNATIONAL LTD
Address of Manufacturer: 2/F, Lok's Industrial Building, 204 Tsat Tsz Mui Road, Quarry Bay, Hong Kong.
Factory: Nanjing Chuangwei Household Electronic Appliances Limited
Address of Factory: Skyworth(nanjing) industrial park,Economic development zone,LiShui, Nanjing,Jiangsu P.R,China

Equipment Under Test (EUT):
EUT Name: Sound & Cool
Model No.: Sound & Cool (10790)
Trade mark: CASO DESIGN
Standard(s) : FCC Rules 47 CFR §2.1093
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2019-05-23
Date of Test: 2019-05-24 to 2019-08-01
Date of Issue: 2019-10-25

Test Result:	Pass*
---------------------	--------------

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

Parlam Zhan

Parlam Zhan
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center E&E

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

NO.588 West Jindu Road, Songjiang District, Shanghai, China 201612
中国·上海·松江区金都西路588号 邮编: 201612

t(86-21) 61915666 f(86-21) 61915678 www.sgsgroup.com.cn
t(86-21) 61915666 f(86-21) 61915678 e.sgs.china@sgs.com

Member of the SGS Group (SGS SA)



Revision Record			
Version	Description	Date	Remark
00	Original	2019-10-25	/

Authorized for issue by:				
		Vincent Zhu		
		Vincent Zhu / Project Engineer		
		Parlam Zhan		
		Parlam Zhan /Reviewer		



2 Contents

	Page
1 COVER PAGE.....	1
2 CONTENTS	3
3 GENERAL INFORMATION.....	4
3.1 GENERAL DESCRIPTION OF E.U.T.....	4
3.2 TECHNICAL SPECIFICATIONS	4
3.3 TEST LOCATION	5
3.4 TEST FACILITY	5
4 TEST STANDARDS AND LIMITS	6
4.1 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS:.....	6
5 MEASUREMENT AND CALCULATION	7
5.1 MAXIMUM TRANSMIT POWER	7
5.2 MPE CALCULATION	7



3 General Information

3.1 General Description of E.U.T.

Power supply:	AC 120V 60Hz
Test voltage:	AC 120V 60Hz
Cable:	AC Cable 2m

3.2 Technical Specifications

BLE

Antenna Gain	0 dBi
Antenna Type	PCB Antenna
Bluetooth Version:	4.0 BT Dual mode
Channel Spacing	2MHz
Modulation Type	GFSK
Number of Channels	40
Operation Frequency	2402MHz to 2480MHz

BT

Antenna Gain	0 dBi
Antenna Type	PCB Antenna
Bluetooth Version:	4.0 BT Dual mode
Channel Spacing	1MHz
Modulation Type	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels	79
Operation Frequency	2402MHz to 2480MHz
Spectrum Spread Technology	Frequency Hopping Spread Spectrum(FHSS)



3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shanghai Branch

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (Certificate No. 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program(NVLAP). Certificate No. 201034-0.

- **FCC –Designation Number: CN5033**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN5033. Test Firm Registration Number: 479755.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

IC Registration No.: 8617A-1. CAB Identifier: CN0020.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure 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:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ 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
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

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 according to 4.1 f) is applied to determine SAR test exclusion. For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 3.0 \cdot D_{\text{min}} / \sqrt{f} = 3.0 \cdot 5 / \sqrt{2.480} = 9.525 \text{ mW}$$

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM190501343401 & SHEM190501343402.

BLE

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
BLE	2402	1.19	1.32
	2442	4.32	2.70
	2480	5.67	3.69

BT

Test Mode	Test Channel	Power [dBm]	Power [mW]
DH5	2402	-1.76	0.67
DH5	2441	1.11	1.29
DH5	2480	1.98	1.58
2DH5	2402	-0.45	0.90
2DH5	2441	2.34	1.71
2DH5	2480	3.2	2.09
3DH5	2402	-0.2	0.95
3DH5	2441	2.58	1.81
3DH5	2480	3.4	2.19

5.2 MPE Calculation

For FCC:

The Max Conducted Peak Output Power is 3.69mW.

The BT and the BLE modules can't simultaneous transmitting at frequency 2.4GHz band. So the SAR report is not required.

--End of the Report--