

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

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone:	+86 (0) 755 2601 2053
Fax:	+86 (0) 755 2671 0594
Email:	ee.shenzhen@sgs.com

Report No.: SZEM160800657503 Page: 1 of 7

RF Exposure Evaluation Report

Test Result:	PASS*
Date of Issue:	2016-08-26
Date of Test:	2016-08-13
Date of Receipt:	2016-08-08
Standards:	RSS102 Issue 5 March 2015
IC :	10486A-S6CRW
Trade Mark:	SKULLCANDY
Model No.(EUT):	S6CRW
Name:	Crusher Wireless
Manufacturer:	SKULLCANDY, INC.
Applicant:	SKULLCANDY, INC.
Application No:	SZEM1608006575CR

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

Authorized Signature:



Jack Zhang EMC Laboratory 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.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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

Report No.: SZEM160800657503 Page: 2 of 7

2 Version

Revision Record					
Version	Chapter	Date	Modifier	Remark	
00		2016-08-26		Original	

Authorized for issue by:		
Tested By	Benson Wong	2016-08-13
	(Benson Wang) /Project Engineer	Date
Checked By	Eric Fu	2016-08-26
	(Eric Fu) /Reviewer	Date

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

Report No.: SZEM160800657503 Page: 3 of 7

3 Contents

1	COV	ER PAGE	1
2	VER	SION	2
3	CON	ITENTS	3
4	GEN	IERAL INFORMATION	.4
	4.1 4.2 4.3 4.4 4.5 4.6 4.7	CLIENT INFORMATION GENERAL DESCRIPTION OF EUT TEST LOCATION TEST FACILITY DEVIATION FROM STANDARDS ABNORMALITIES FROM STANDARD CONDITIONS OTHER INFORMATION REQUESTED BY THE CUSTOMER	4 5 5 5 5
5	RF E	EXPOSURE EVALUATION	6
	5.1 5.1.1 5.1.2 5.1.3	RF Exposure Compliance Requirement 1 Limits 2 Test Procedure 3 EUT RF Exposure Evaluation	6 6 7 7



Report No.: SZEM160800657503 Page: 4 of 7

4 General Information

4.1 Client Information

Applicant:	SKULLCANDY, INC.
Address of Applicant:	1441 W. UTE BLVD. SUITE 250, PARK CITY, UT 84098, USA
Manufacturer:	SKULLCANDY, INC.
Address of Manufacturer:	1441 W. UTE BLVD. SUITE 250, PARK CITY, UT 84098, USA

4.2 General Description of EUT

Product Name:	Crusher Wireless
Model No.:	S6CRW
Trade Mark:	
Bluetooth Version:	BT4.1 single Mode+ EDR
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channels:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	Portable production
Antenna Type:	PCB Printed Inverted F
Antenna Gain:	4.76dBi
Power Supply	Lithium Ion Battery: 3.7V 1050mAh (Charge by usb)

Remark:

Model No.: S6CRW

The model No.: S6CRW has two colors: black & gray and two sources for the crystals: source 1: CRYSTAL 26MHz SMD\3 SIWARD XTL571, source 2: CRYSTAL 26MHz 3225 EPSON TSX-32, but the specification is identical.

Only the model S6CRW (black) with source 1 of the crystal was tested fully, and the S6CRW (black) with source 2 of the crystal was performed the Radiated spurious emission test for discrepancy, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above samples, on color, aux in port size, diaphragm of the speaker, and source of the crystal.

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Report No.: SZEM160800657503 Page: 5 of 7

4.3 Test Location

All tests were performed at:

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

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594 No tests were sub-contracted.

4.4 Test Facility

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

CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

Industry Canada (IC)

The 3m Semi-anechoic chambers and the 10m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-2, 4620C-3.

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

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Report No.: SZEM160800657503 Page: 6 of 7

5 **RF Exposure Evaluation**

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

All transmitters are exempt from routine SAR and RF exposure evaluations provided that they comply with the requirements of sections 2.5.1 or 2.5.2 of RSS102 issue 5 March 2015. If the equipment under test (EUT) meets the requirements of sections 2.5.1 or 2.5.2, applicants are only required to submit a properly signed declaration of compliance.

5.1.1.1 Exemption Limits for Routine Evaluation — SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

Table 1: SAR evaluation — Exemption limits for routine evaluation based on frequency and separation distance

	Exemption Limits (mW)					
Frequency (MHz)	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm	
≤300	71 mW	101 mW	132 mW	162 mW	193 mW	
450	52 mW	70 mW	88 mW	106 mW	123 mW	
835	17 mW	30 mW	42 mW	55 mW	67 mW	
1900	7 mW	10 mW	18 mW	34 mW	60 mW	
2450	4 mW	7 mW	15 mW	30 mW	52 mW	
3500	2 mW	6 mW	16 mW	32 mW	55 mW	
5800	1 mW	6 mW	15 mW	27 mW	41 mW	
	Exemption Limits (mW)					
		Exe	emption Limits (m	ıW)		
Frequency (MHz)	At separation distance of 30 mm	Exe At separation distance of 35 mm	emption Limits (m At separation distance of 40 mm	W) At separation distance of 45 mm	At separation distance of ≥50 mm	
Frequency (MHz) ≤300	At separation distance of 30 mm 223 mW	Exe At separation distance of 35 mm 254 mW	At separation distance of 40 mm 284 mW	W) At separation distance of 45 mm 315 mW	At separation distance of ≥50 mm 345 mW	
Frequency (MHz) ≤300 450	At separation distance of 30 mm 223 mW 141 mW	Exe At separation distance of 35 mm 254 mW 159 mW	At separation distance of 40 mm 284 mW 177 mW	W) At separation distance of 45 mm 315 mW 195 mW	At separation distance of ≥50 mm 345 mW 213 mW	
Frequency (MHz) ≤300 450 835	At separation distance of 30 mm 223 mW 141 mW 80 mW	Exe At separation distance of 35 mm 254 mW 159 mW 92 mW	At separation distance of 40 mm 284 mW 177 mW 105 mW	W) At separation distance of 45 mm 315 mW 195 mW 117 mW	At separation distance of ≥50 mm 345 mW 213 mW 130 mW	
Frequency (MHz) ≤300 450 835 1900	At separation distance of 30 mm 223 mW 141 mW 80 mW 99 mW	Exe At separation distance of 35 mm 254 mW 159 mW 92 mW 153 mW	At separation distance of 40 mm 284 mW 177 mW 105 mW 225 mW	W) At separation distance of 45 mm 315 mW 195 mW 117 mW 316 mW	At separation distance of ≥50 mm345 mW213 mW130 mW431 mW	
Frequency (MHz) ≤300 450 835 1900 2450	At separation distance of 30 mm 223 mW 141 mW 80 mW 99 mW 83 mW	Exe At separation distance of 35 mm 254 mW 159 mW 92 mW 153 mW 123 mW	At separation distance of 40 mm 284 mW 177 mW 105 mW 225 mW 173 mW	W) At separation distance of 45 mm 315 mW 195 mW 117 mW 316 mW 235 mW	At separation distance of ≥50 mm 345 mW 213 mW 130 mW 431 mW 309 mW	
Frequency (MHz) ≤300 450 835 1900 2450 3500	At separation distance of 30 mm 223 mW 141 mW 80 mW 99 mW 83 mW 86 mW	Exe At separation distance of 35 mm 254 mW 159 mW 92 mW 153 mW 123 mW 124 mW	At separation distance of 40 mm 284 mW 177 mW 105 mW 225 mW 173 mW 170 mW	W) At separation distance of 45 mm 315 mW 195 mW 117 mW 316 mW 235 mW 225 mW	At separation distance of ≥50 mm345 mW213 mW130 mW431 mW309 mW290 mW	

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Report No.: SZEM160800657503 Page: 7 of 7

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

For medical implants devices, the exemption limit for routine evaluation is set at 1 mW. The output power of a medical implants device is defined as the higher of the conducted or e.i.r.p to determine whether the device is exempt from the SAR evaluation.

5.1.2 Test Procedure

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

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 4.76dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 3.01 in linear scale.

Channel	Frequency (MHz)	Conduct power (dBm)	E.I.R.P. (mW)	Limit (mW)	Result
Lowest	2402	-3.00	1.50	4.26	Pass
Middle	2440	-0.79	2.49	4.05	Pass
Highest	2480	-0.89	2.44	3.94	Pass

Note: Refer to report No. SZEM160800657502 for EUT test EIRP value.

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