

Human Exposure Report

Application No.: SZEM1902011041CR
Applicant: Hubbell Incorporated (Delaware) Wiring Device-Kellems Division
Address of Applicant: 40 Waterview Drive, Shelton, Connecticut, 06484 United States
Manufacturer: DONGGUAN HUBBELL ELECTRICAL PRODUCTS CO LTD
Address of Manufacturer: XINCHENG INDUSTRIAL ZONE HENG LI TOWN DONGGUAN GUANDONG 523460 CHINA
Factory: DONGGUAN HUBBELL ELECTRICAL PRODUCTS CO LTD
Address of Factory: XINCHENG INDUSTRIAL ZONE HENG LI TOWN DONGGUAN GUANDONG 523460 CHINA
Equipment Under Test (EUT):
EUT Name: WIRELESS CHARGER
Model No.: USB1528AC, USB1528C, USB2028AC, USB2028C ♣
 ♣ Please refer to section 3.1 of this report which indicates which model was actually tested and which were electrically identical.
Trade mark: HUBBELL
FCC ID: GX7-USB1528AC
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
Date of Receipt: 2019-02-20
Date of Test: 2019-02-26 to 2019-03-11
Date of Issue: 2019-03-12

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

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

Keny Xu

Keny Xu
EMC Laboratory Manager





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

Report No.: SZEM190201104103

Page: 2 of 10

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-03-12		Original

Authorized for issue by:				
				
		Powell Bao /Project Engineer		
				
		Eric Fu /Reviewer		



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMAA) CCC Laboratory

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-Document.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) 6307 1443, or email: CN.Doccheck@sgs.com

No.11 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



2 Contents

1	COVER PAGE	1
2	CONTENTS	3
3	GENERAL INFORMATION	4
3.1	DETAILS OF E.U.T.	4
3.2	DESCRIPTION OF SUPPORT UNITS	4
3.3	TEST LOCATION.....	5
3.4	TEST FACILITY.....	5
3.5	DEVIATION FROM STANDARDS	5
3.6	ABNORMALITIES FROM STANDARD CONDITIONS.....	5
4	EQUIPMENTS USED DURING TEST.....	6
5	TEST RESULTS	7
5.1	RF EXPOSURE TEST	7
5.1.1	E.U.T. Operation	7
5.1.2	Measurement Data.....	8
6	PHOTOGRAPHS.....	10



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMAA) EMC Laboratory

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) 6307 1443, or email: CN.Doccheck@sgs.com

No.11 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



3 General Information

3.1 Details of E.U.T.

Power supply: Input: AC105-135V, 60Hz, 0.8A
Output: DC5V, 1A; DC5V, 1.5A;
Operation Frequency: 110.577kHz to 166.186kHz
Antenna Type: Inductive Loop Coil Antenna
Working Power: 5W/ 7.5W
Modulation Type: Load Modulation
Remark: This device has been tested with mobile phone at the worst status(7.5W)
and the device has been tested with load at zero charge, intermediate
charge, and full charge.

Declaration of EUT Family Grouping:

Model No.: USB1528AC, USB1528C, USB2028AC, USB2028C

Only the model USB1528AC was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on USB RECEPTACLE.

3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPhone 8	Apple	A1863	F4GVQ656JC6D



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-Document.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) 6307 1443, or email: CN.Doccheck@sgs.com
No. 11 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

3.3 Test Location

All tests were performed at:

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

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

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

3.4 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 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

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

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

CAB identifier: CN0006.

IC#: 4620C.

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch E&E Lab, No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

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-Document.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) 6307 1443, or email: CN.Doccheck@sgs.com

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 | (86-755) 26012053 | (86-755) 26710594 | www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 | 邮编: 518057 | (86-755) 26012053 | (86-755) 26710594 | sgs.china@sgs.com



4 Equipments Used during Test

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Due date
1	Shielding Room	SAEMC	MSR733	SEM001-09	2020-05-09
2	Electric and Magnetic Field Analyzer	Narda	EHP-50F	EMC092	2019-05-06



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMAA) EMC Laboratory

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) 6397 1443, or email: CN.Doccheck@sgs.com

No.11 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

5 Test Results

5.1 RF Exposure test

Test Requirement: 47 CFR PART 1, Subpart I, Section 1.1310

Measurement Distance: 15cm

Limit:

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

5.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 52 % RH Atmospheric Pressure: 1015 mbar

EUT Operation:

This device has been tested the worst status of full load and the device has been tested with mobile phone at zero charge, intermediate charge, and full charge.



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMA, CNAS, CECC Laboratory)

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-Document.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) 6307 1443, or email: CN.Doccheck@sgs.com

No. 11 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

5.1.2 Measurement Data

For load horizontal placement:

Output Voltage=DC 5V; The max output power =7.5W;

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
140.9 kHz	15	Side 1	0.1463	0.815
		Side 2	0.3158	0.815
		Side 3	0.2972	0.815
		Side 4	0.2329	0.815
		Top	0.1875	0.815

Mobile phone has been charge at zero charge, intermediate charge, and full charge.

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limit (A/m)
			zero charge	intermediate charge	full charge	
140.9 kHz	15	Side 1	0.1843	0.1533	0.1063	0.815
		Side 2	0.3618	0.3278	0.2668	0.815
		Side 3	0.3372	0.3062	0.2502	0.815
		Side 4	0.2749	0.2499	0.2159	0.815
		Top	0.2255	0.1915	0.1535	0.815



For load Vertical placement:

Output Voltage=DC 5V; The max output power =7.5W

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
140.9 kHz	15	Side 1	0.1866	0.815
		Side 2	0.3224	0.815
		Side 3	0.2361	0.815
		Side 4	0.2635	0.815
		Top	0.2057	0.815

Mobile phone has been charge at zero charge, intermediate charge, and full charge.

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limit (A/m)
			zero charge	intermediate charge	full charge	
140.9 kHz	15	Side 1	0.2366	0.1956	0.1436	0.815
		Side 2	0.3614	0.3404	0.2974	0.815
		Side 3	0.2791	0.2461	0.1891	0.815
		Side 4	0.2985	0.2695	0.2215	0.815
		Top	0.2577	0.2317	0.1887	0.815





6 Photographs

Please refer to RF Exposure Setup Photos.

- End of the Report -



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

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMAA) EMC Laboratory

No. 11 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 | (86-755) 26012053 | (86-755) 26710594 | www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 | 邮编: 518057 | (86-755) 26012053 | (86-755) 26710594 | sgs.china@sgs.com