

Report No.: SZEM191202149102 Page: 1 of 28

TEST REPORT

Application No.:	SZEM1912021491CR
Applicant:	ASAP Technology (Jiangxi) Co., Ltd.
Address of Applicant:	Ji'an Industrial Park, Ji'an, Jiangxi, 343100 China
Manufacturer:	ASAP Technology (Jiangxi) Co., Ltd
Address of Manufacturer:	Ji'an Industrial Park, Ji'an, Jiangxi, 343100 China
Factory:	LUXSHARE-ICT (VIETNAM) LIMITED
Address of Factory:	E Lot, Quang Chau Industrial zone, Quang Chau Commune, Viet Yen district, Bac Giang Province, Vietnam
Equipment Under Test (EUT):
EUT Name:	Foldable Desk Lamp with Wireless Charging Pad
Model No.:	LACA118, WIAWHT100010820 🔹
*	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade mark:	onn.
FCC ID:	2APXNLACA118
Standard(s) :	47 CFR Part 15, Subpart C
Date of Receipt:	2019-12-23
Date of Test:	2019-12-23 to 2020-01-15
Date of Issue:	2020-01-16
Test Result:	Pass*

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

Keny. XN

Keny Xu EMC Laboratory Manager



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 on ilability, 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 exconsing all their rights and obligations under the transaction documents. 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) test and sub-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@egs.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 2 of 28

Revision Record							
Version	Remark						
01		2020-01-16		Original			

Authorized for issue by:		
	Bive chen	
	Bill Chen /Project Engineer	-
	Evic Fu	
	Eric Fu /Reviewer	-



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 lability, 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 excore the reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or faisification for 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 refor only to testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CNLDoccheck@esps.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 3 of 28

2 Test Summary

Radio Spectrum Technical Requirement							
Item Standard Method Requirement Resul							
Antenna Requirement	47 CFR Part 15, Subpart C	N/A	47 CFR Part 15, Subpart C 15.203	Pass			

Radio Spectrum Matter Part						
Item	Standard	Method	Requirement	Result		
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass		
20dB Bandwidth	47 CFR Part 15, Subpart C	ANSI C63.10 (2013) Section 6.9.2	47 CFR Part 15, Subpart C 15.215	Pass		
Restricted Bands	47 CFR Part 15, Subpart C	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205	Pass		
Radiated Emissions (9kHz-30MHz)	47 CFR Part 15, Subpart C	ANSI C63.10 (2013) Section 6.4	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		
Radiated Emissions (30MHz-1GHz)	47 CFR Part 15, Subpart C	ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		

Remark:

Model No.: LACA118, WIAWHT100010820

Only the model WIAWHT100010820 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on model No..



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.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents 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.aspx and, for electronic format 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 excente parties to a transaction from exercising all their rights and obligations under the transaction documents. 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 refor 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.Docchee/@ags.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 4 of 28

3 Contents

			Page
1	COV	ER PAGE	1
2	TEG.	T SUMMARY	2
2	IE3		
3	CON	ITENTS	4
4	GEN	ERAL INFORMATION	5
	4.1	DETAILS OF E.U.T.	5
	4.2	DESCRIPTION OF SUPPORT UNITS	
	4.3	MEASUREMENT UNCERTAINTY	-
	4.4	TEST LOCATION	
	4.5	TEST FACILITY	
	4.6	DEVIATION FROM STANDARDS	
	4.7	ABNORMALITIES FROM STANDARD CONDITIONS	
5	EQU	IPMENT LIST	7
6	RAD	IO SPECTRUM TECHNICAL REQUIREMENT	10
	6.1	ANTENNA REQUIREMENT	10
	6.1.1		10
	6.1.2	2 Conclusion	10
7	RAD	IO SPECTRUM MATTER TEST RESULTS	11
	7.1	CONDUCTED EMISSIONS AT AC POWER LINE (150KHz-30MHz)	11
	7.1.1		
	7.1.2		
	7.1.3	1 0	
	7.2	20DB BANDWIDTH	
	7.2.1		
	7.2.2		
	7.2.3		
	7.3	RESTRICTED BANDS	
	7.3.1		
	7.3.2		
	7.3.3	3 Measurement Procedure and Data	17
	7.4	RADIATED EMISSIONS (9KHz-30MHz)	19
	7.4.1	E.U.T. Operation	20
	7.4.2	2 Test Setup Diagram	20
	7.4.3		
	7.5	RADIATED EMISSIONS (30MHz-1GHz)	
	7.5.1		
	7.5.2	1 5	
	7.5.3	3 Measurement Procedure and Data	24
8	PHO	TOGRAPHS	28
	8.1	TEST SETUP	
	8.2	EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	28
		Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service	printed



中国・深圳・科技园中区M-10栋一号厂房

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.aspx and, for electronic format documents, advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is content does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is 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: CM_Doccheck@ags.com

邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 5 of 28

4 General Information

4.1 Details of E.U.T.

Power Supply:	AC adapter:	
	Model:WIAWHT100010820	
	Input:AC 100-240V 50/60Hz 0.35A	
	Output:DC 5V 2.4A	
	Output 1:Wireles Charger DC 5V 1A	
	Output 2:LED 5W Max1	
Cable:	DC cable:150cm unshielded	
Operation frequency:	111.859-193.590kHz	
Antenna Type:	Loop Antenna	
Modulation Type:	Load Modulation	
Antenna Gain:	0dBi	
Antenna Gain.		

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
SAMSUNG Galaxy S8	SAMSUNG	SM-G9500	R28J9140LPB

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 7.25 x 10 ⁻⁸
2	Occupied Bandwidth	± 3%
3	Conduction emission	± 3.0dB (150kHz to 30MHz)
4	Radiated Spurious emission test	± 4.5dB (Below 1GHz)
5	Temperature test	± 1°C
6	Humidity test	± 3%
7	Supply voltages	± 1.5%
8	Time	± 3%



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-end-Conditions/Terms-and-Conditions/T

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tk (86-755) 26012053 fk (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 tk (86-755) 26012053 fk (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 6 of 28

4.4 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.

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

No tests were sub-contracted.

4.5 Test Facility

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

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.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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-enDocument.aspx. Attention is drawn to the limitation on 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 excente parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) test 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@csos.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (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 t (86–755) 26012053 f (86–755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 7 of 28

Equipment List 5

Conducted Emissions at AC Power Line (150kHz-30MHz)						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2019-06-13	2022-06-12	
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A	
Coaxial Cable	SGS	N/A	SEM024-01	2019-07-11	2020-07-10	
LISN	Rohde & Schwarz	ENV216	SEM007-01	2019-09-24	2020-09-23	
LISN	ETS-LINDGREN	3816/2	SEM007-02	2019-04-01	2020-03-31	
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2019-04-01	2020-03-31	

20dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	NBM- 550/EHP-50F	EMC2143	2018-02-07	2020-02-06
Electric Field Probe (100kHz-3GHz)	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20
EMF Tester	Narda	ELT-400	SZE039-4	2019-07-08	2020-07-07

Restricted Bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	NBM- 550/EHP-50F	EMC2143	2018-02-07	2020-02-06



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 <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-end-Cond No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tl (86–755) 26012053 fl (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 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 8 of 28

Electric Field Probe (100kHz-3GHz)	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20
EMF Tester	Narda	ELT-400	SZE039-4	2019-07-08	2020-07-07

Radiated Emissions (9kHz-30MHz)								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018-03-31	2021-03-30			
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A			
Coaxial Cable	baxial Cable SGS		SEM029-01	2019-07-11	2020-07-10			
EMI Test Receiver (9kHz-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2019-04-01	2020-03-31			
Trilog-Broadband Antenna(30MHz-1GHz)	Schwarzbeck	VULB9168	SEM003-18	2019-08-08	2022-08-07			
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2019-04-12	2020-04-11			
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21			

Radiated Emissions (30MHz-1GHz)								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018-03-31	2021-03-30			
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A			
Coaxial Cable	SGS	N/A	SEM029-01	2019-07-11	2020-07-10			
EMI Test Receiver (9kHz-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2019-04-01	2020-03-31			
Trilog-Broadband Antenna(30MHz-1GHz)	Schwarzbeck	VULB9168	SEM003-18	2019-08-08	2022-08-07			
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2019-04-12	2020-04-11			
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21			



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 exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) lested 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@egs.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 9 of 28

General used equipment						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	Meteorological ZJ1-2B		2019-09-26	2020-09-25	
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2019-09-26	2020-09-25	
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2019-09-26	2020-09-25	
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2019-04-04	2020-04-03	



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 excore the company sole responsibility is to its Client and this document does not excore the company. Any unauthorized alteration, forgery or faisification 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 terreport refor only to testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CNLDoccheck@egs.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 10 of 28

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement.



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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 excoreate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is 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) lested 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) 83071443, or email: CN Doccheck@csss.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (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 t (86–755) 26012053 f (86–755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 11 of 28

7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement	47 CFR Part 15, Subpart C 15.207
Test Method:	ANSI C63.10 (2013) Section 6.2
Limit:	

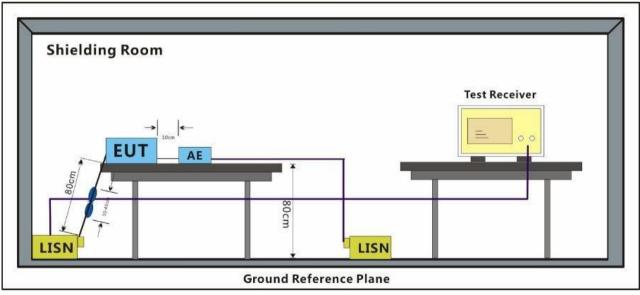
Frequency of	Conducted limit(dBµV)				
emission(MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	60	50			
*Decreases with the logarithm of the frequency.					

7.1.1 E.U.T. Operation

Operating Environment:

Temperature:22.5 °CHumidity:52.1 % RHAtmospheric Pressure:1015mbarTest modeb:Wireless charging mode_Keep the EUT with wireless charging

7.1.2 Test Setup Diagram







Report No.: SZEM191202149102 Page: 12 of 28

7.1.3 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50 μ H + 50hm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor



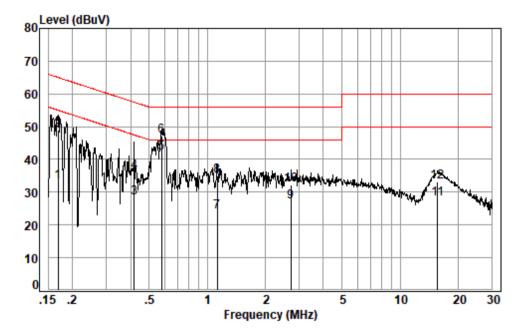
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-eDocument.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 exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is 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) lested 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@oss.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (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 t (86–755) 26012053 f (86–755) 26710594 sgs.cohina@sgs.com



Report No.: SZEM191202149102 Page: 13 of 28

Mode:b; Line:Live Line



Site : Shielding Room Condition: Line Job No. : 21491CR Test mode: b

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1685	0.01	9.59	23.66	33.26	55.03	-21.77	Average
2	0.1685	0.01	9.59	39.25	48.85	65.03	-16.18	QP
3	0.4171	0.05	9.59	18.55	28.19	47.51	-19.32	Average
4	0.4171	0.05	9.59	26.42	36.06	57.51	-21.45	QP
5	0.5792	0.07	9.60	32.25	41.92	46.00	-4.08	Average
6	0.5792	0.07	9.60	37.36	47.03	56.00	-8.97	QP
7	1.1292	0.10	9.60	14.30	24.00	46.00	-22.00	Average
8	1.1292	0.10	9.60	25.39	35.09	56.00	-20.91	QP
9	2.7212	0.16	9.65	17.12	26.93	46.00	-19.07	Average
10	2.7212	0.16	9.65	22.57	32.38	56.00	-23.62	QP
11	15.6349	0.21	10.18	17.51	27.90	50.00	-22.10	Average
12	15.6349	0.21	10.18	22.61	33.00	60.00	-27.00	QP



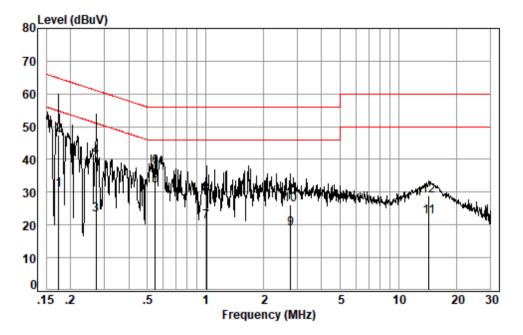
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic 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 excore a transaction from exercising all their rights and obligations under the transaction documents. This document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this tercept refor only to the sample(s) test repatries to advise its test report refer only to the sample(s) test and sub approval of testing /inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: (N-Doccheck@esp.com)

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 14 of 28

Mode:b; Line:Neutral Line



Site :	Shielding	Room
Condition:	Neutral	
Job No. :	21491CR	
Test mode:	b	

		Cable	LISN	Read		Limit	0ver	
	Freq	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1740	0.02	9.55	21.07	30.64	54.77	-24.13	Average
2	0.1740	0.02	9.55	37.74	47.31	64.77	-17.46	QP
3	0.2715	0.03	9.54	13.69	23.26	51.07	-27.81	Average
4	0.2715	0.03	9.54	31.29	40.86	61.07	-20.21	QP
5	0.5493	0.06	9.55	22.45	32.06	46.00	-13.94	Average
6	0.5493	0.06	9.55	28.15	37.76	56.00	-18.24	QP
7	1.0103	0.09	9.55	11.40	21.04	46.00	-24.96	Average
8	1.0103	0.09	9.55	19.45	29.09	56.00	-26.91	QP
9	2.7648	0.16	9.58	9.16	18.90	46.00	-27.10	Average
10	2.7648	0.16	9.58	16.45	26.19	56.00	-29.81	QP
11	14.3641	0.21	10.24	11.92	22.37	50.00	-27.63	Average
12	14.3641	0.21	10.24	18.51	28.96	60.00	-31.04	QP



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 <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-end-Cond

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 15 of 28

7.2 20dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.215
Test Method:	ANSI C63.10 (2013) Section 6.9.2
Limit:	

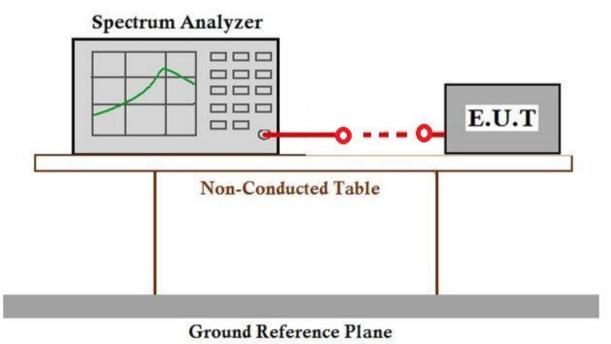
For report reference only

7.2.1 E.U.T. Operation

Operating Environment:

Temperature:23 °CHumidity:41.8 % RHAtmospheric Pressure:1015mbarTest modeb:Wireless charging mode_Keep the EUT with wireless charging

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data



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-en-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 excente parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) iser 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@cgs.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 16 of 28





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 excore a transaction from exercising all their rights and obligations under the transaction documents. This document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this tercept refor only to the sample(s) test repatries to advise its test report refer only to the sample(s) test and submy in this its report testing /inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: (N-Doccheck@egs.com)

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 17 of 28

7.3 Restricted Bands

Test Requirement	47 CFR Part 15, Subpart C 15.205
Test Method:	ANSI C63.10 (2013) Section 6.10.5
Limit:	

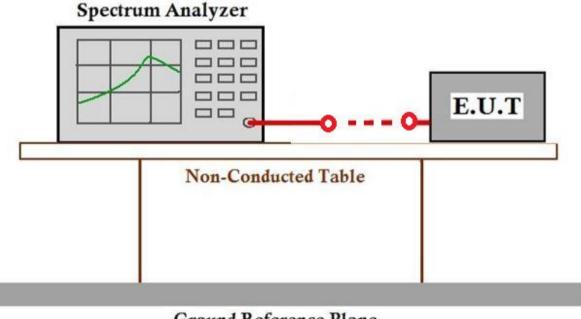
The fundamental wave can not fall in the restricted band 90KHz-110KHz

7.3.1 E.U.T. Operation

Operating Environment:

Temperature:	23	°C	Humidity:	41.8 % RH	Atmospheric Pressure:	1015	mbar
Test mode	b:W	/ireless cha	rging mode_	Keep the EUT wi	th wireless charging		

7.3.2 Test Setup Diagram



Ground Reference Plane

7.3.3 Measurement Procedure and Data



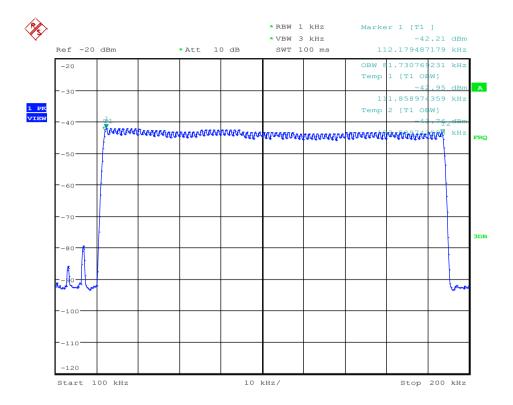
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions/Terms-eDocument.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 excente parties to a transaction from exercising all their rights and obligations under the transaction documents. 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 refor 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@asp.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tk (86-755) 26012053 fk (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 tk (86-755) 26012053 fk (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 18 of 28

According the test data blow, the fundamental wave is not fall in the restricted band 90KHz-110KHz, the field strength also meet the 15.209 requirement, please refer to clause 7.4.





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 excore a transaction from exercising all their rights and obligations under the transaction documents. 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) test reation, forgery or falsification only. Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: CNL Doccheck@ags.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tk (86-755) 26012053 fk (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 tk (86-755) 26012053 fk (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 19 of 28

7.4 Radiated Emissions (9kHz-30MHz)

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.4
Measurement Distance:	3m
Limit:	

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

If field strength is measured at only a single point, then that point shall be at the radial from the EUT that produces the maximum emission at the frequency being measured, as described in 5.4. If that point is closer to the EUT than $\lambda/2\pi$ and the limit distance is greater than $\lambda/2\pi$, the measurement shall be extrapolated to the limit distance by conservatively presuming that the field strength decreases at a 40 dB/decade of distance rate to the $\lambda/2\pi$ distance, and at a 20 dB/decade of distance rate beyond $\lambda/2\pi$. This shall be accomplished using Equation (2):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(near field)}/d_{(10m)}\} + 20\log\{d_{(30/300m)}/d_{(near field)}\}$$
(2)

If the single point measured is at a distance greater than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (3):

$$FS_{(10m)} = FS_{(30/300m)} + 20\log\{d_{(30/300m)}/d_{(10m)}\}$$
(3)

If both the single point and the limit distance are equal to or closer to the EUT than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (4):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(30/300m)}/d_{(10m)}\}$$
(4)

Remark:

 $d_{near field} = 47.77 / f_{MHz}$

where f_{MHz} is the frequency of the emission being measured in MHz.



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-en-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 exconce the excent in full, without prior written approval of the Company, sny 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 authenticity of testing inspection report & certificate, please contact of 30 days only. Attention is obschemes (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.ct

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (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 t (86–755) 26012053 f (86–755) 26710594 sgs.china@sgs.com



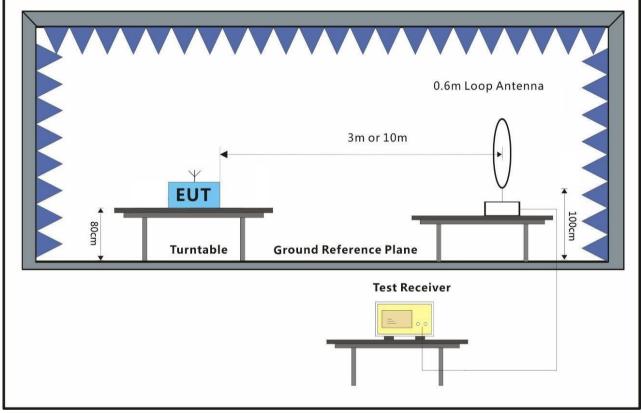
Report No.: SZEM191202149102 Page: 20 of 28

7.4.1 E.U.T. Operation

Operating Environment:

Temperature:25 °CHumidity:45 % RHAtmospheric Pressure:1015 mbarTest modeb:Wireless charging mode_Keep the EUT with wireless charging

7.4.2 Test Setup Diagram



7.4.3 Measurement Procedure and Data

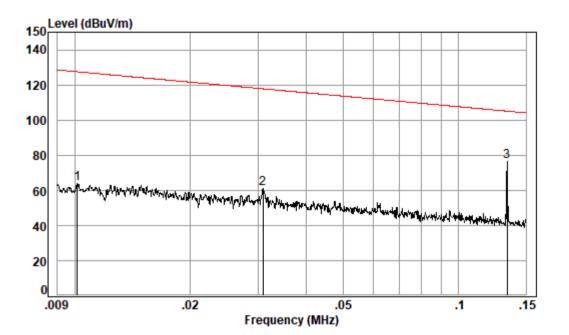
For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.





Report No.: SZEM191202149102 Page: 21 of 28

Mode b: 9kHz-150kHz



Condition: 3m Job No. : 21491CR Test Mode: b

	Freq		Preamp Factor						Remark
-	MHz		dB					dB	
1 2		20.83	30.65	0.98	72.50	63.66	127.49		Average Average
3 pp									Average



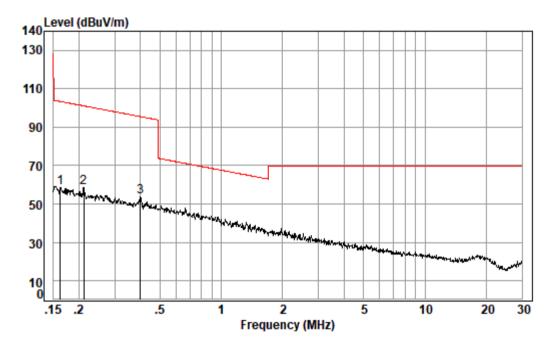
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic 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 Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not excore a transaction from exercising all their rights and obligations under the transaction documents. 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) test retaining. To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: CN.Doccheck@ags.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 22 of 28

Mode b: 150kHz-30MHz



Condition: 3m Job No. : 21491CR Test Mode: b

	Freq		Preamp Factor				Limit Line		Remark
-	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1 2 3 pp	0.212	13.89	32.22	0.03	76.74	58.44	101.09	-42.65	Average Average Average



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 Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not excore a transaction from exercising all their rights and obligations under the transaction documents. 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) test retaining. To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: CN.Doccheck@ags.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 23 of 28

7.5 Radiated Emissions (30MHz-1GHz)

Test Requirement47 CFR Part 15, Subpart C 15.205 & 15.209Test Method:ANSI C63.10 (2013) Section 6.5Measurement Distance:10mLimit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

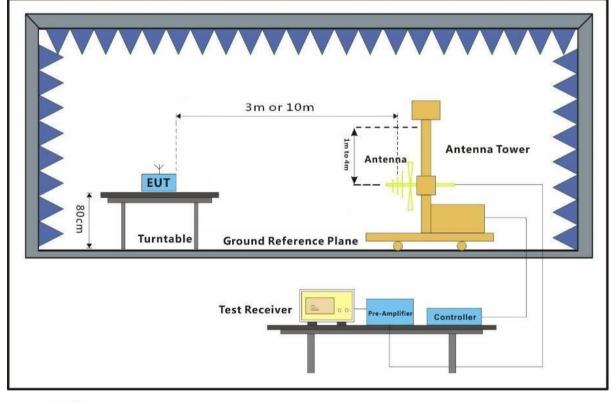
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.5.1 E.U.T. Operation

Operating Environment:

Temperature:	25	°C	Humidity:	45	% RH	Atmospheric Pressure:	1015	mbar
Test mode	b:W	/ireless cha	rging mode	Keep	the EUT	with wireless charging		

7.5.2 Test Setup Diagram



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, 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 is evonerate 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: <u>Ch.Doccheck@ags.com</u> [No.1Widdle Section, Storege & Rethology Park, Shenzhen, China 518057 tf (86-755) 26012053 ff (86-755) 26710594 www.sgsgroup.com.cn

邮编: 518057 t (86-755) 26012053 f (86-755) 26710594

scs-CST Standards Technical Services SGS-CST Standards Technical Services Co.,Ltd. Shenzhen Branch With Service Co.,Ltd. Shenzhen Branch With Service Co.,Ltd.

检验检测专用章

Member of the SGS Group (SGS SA)

sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 24 of 28

7.5.3 Measurement Procedure and Data

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case.

i. Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



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 <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Cond

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (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 t (86–755) 26012053 f (86–755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 25 of 28

Radiated Emission below 1GHz

The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

 $L_3 / L_{10} = D_{10} / D_3$

Note:

L₃: Level @ 3m distance. Unit: uV/m;

L10: Level @ 10m distance. Unit: uV/m;

D3: 3m distance. Unit: m

D₁₀: 10m distance. Unit: m

The level at 3m test distance is below:

Mode b:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m (uV/m)	Level @ 3m (uV/m)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
32.07	22.69	13.63	45.43	33.15	40.00	-6.85	V
64.21	22.59	13.47	44.91	33.05	40.00	-6.95	V
95.09	19.41	9.34	31.14	29.87	43.50	-13.63	V
106.01	28.14	25.53	85.09	38.60	43.50	-4.90	V
470.52	21.65	12.09	40.31	32.11	46.00	-13.89	V
912.86	28.57	26.82	89.41	39.03	46.00	-6.97	V
41.57	15.78	6.15	20.51	26.24	40.00	-13.76	Н
70.09	11.37	3.70	12.34	21.83	40.00	-18.17	Н
148.44	17.86	7.82	26.05	28.32	43.50	-15.18	Н
463.97	22.53	13.38	44.60	32.99	46.00	-13.01	Н
614.21	24.14	16.11	53.69	34.60	46.00	-11.40	Н
851.04	27.70	24.27	80.89	38.16	46.00	-7.84	Н



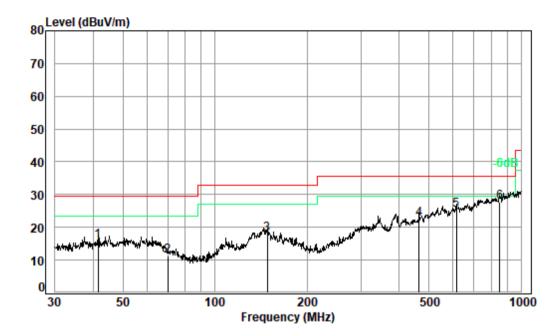
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions/Terms-enDocument.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 exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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@exage.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 26 of 28

Radiated Emission above 1GHz Mode:b: Polarization:Horizontal



Condition: 10m HORIZONTAL Job No. : 21491CR Test Mode: b

	Freq		Preamp Factor						Remark
-	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	41.567	20.32	32.43	0.93	26.96	15.78	29.50	-13.72	QP
2	70.090	17.57	32.39	1.08	25.11	11.37	29.50	-18.13	QP
3	148.441	20.12	32.30	1.47	28.57	17.86	33.00	-15.14	QP
4	463.970	23.64	32.34	2.77	28.46	22.53	35.60	-13.07	QP
5	614.214	26.42	32.06	3.17	27.61	25.14	35.60	-10.46	QP
6 pp	851.035	28.71	31.71	3.40	27.30	27.70	35.60	-7.90	QP



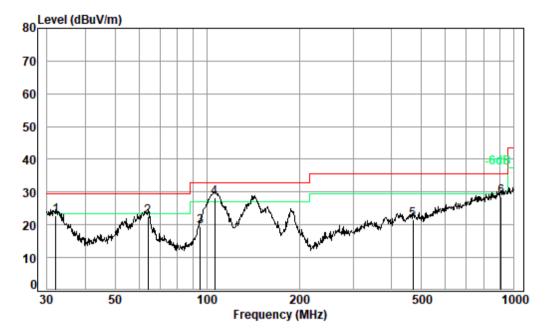
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic 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 excore a transaction from exercising all their rights and obligations under the transaction documents. 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) test reation, forgery or falsification only. Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: CND.occheck@ags.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tk (86-755) 26012053 fk (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 tk (86-755) 26012053 fk (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM191202149102 Page: 27 of 28

Mode:b; Polarization:Vertical



Condition: 10m VERTICAL Job No. : 21491CR Test Mode: b

	Freq		Preamp Factor						Remark
-	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	32.067	18.72	32.39	0.87	35.49	22.69	29.50	-6.81	QP
2	64.208	18.39	32.41	1.06	35.55	22.59	29.50	-6.91	QP
3	95.093	14.66	32.32	1.23	35.84	19.41	33.00	-13.59	QP
4 pp	106.013	15.95	32.31	1.28	43.22	28.14	33.00	-4.86	QP
5	470.523	23.70	32.37	2.80	27.52	21.65	35.60	-13.95	QP
	912.862	29.62	31.45	3.43	26.97	28.57	35.60	-7.03	QP



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 excore a transaction from exercising all their rights and obligations under the transaction documents. 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) test retaining 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:

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM191202149102 Page: 28 of 28

8 Photographs

8.1 Test Setup

Please refer to setup photos.

8.2 EUT Constructional Details (EUT Photos) Please Refer to external and internal photos for details.

- 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-eDocument.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 Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not excente parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) test retaint of 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@aspx.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (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 t (86-755) 26012053 f (86-755) 26710594 sgs.com