

Report No.: SZEM191102074901 Page: 1 of 30

TEST REPORT

Application No.:	SZEM1911020749CR				
Applicant:	ASAP Technology(Jiangxi) Co., Ltd.				
Address of Applicant:	li'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 Wireless Charging Pad				
Model No.:	LACA124, WIABLK100008474 🔹				
*	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:	2APXNLACA124				
Standard(s) :	47 CFR Part 15, Subpart C				
Date of Receipt:	2019-11-29				
Date of Test:	2019-12-07 to 2020-01-14				
Date of Issue:	2020-01-14				
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-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/Terms-end-Conditions/T



Report No.: SZEM191102074901 Page: 2 of 30

	Revision Record						
Version	Version Chapter Date Modifier						
01		2020-01-14		Original			

Authorized for issue by:		
	Bin 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-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 lime 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 represented except in full, without prior written approval of the Company. Any unathorized 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) test and sub approval offenders may be prosecuted to the same contact us at telephone: (86-755) 8307 1443, or email: (8.D.occheck@gss.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.: SZEM191102074901 Page: 3 of 30

Test Summary 2

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

Radio Spectrum Matt	er 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.: LACA124, WIABLK100008474

Only the model WIABLK100008474 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model No. and the appearance.



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 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: (80-755) 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.china@sgs.com



Report No.: SZEM191102074901 Page: 4 of 30

3 Contents

		Page
1	I COVER PAGE	1
•		0
2	2 TEST SUMMARY	
3	3 CONTENTS	4
4	4 GENERAL INFORMATION	5
•		
	 4.1 DETAILS OF E.U.T. 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	5 EQUIPMENT LIST	7
~		10
6	6 RADIO SPECTRUM TECHNICAL REQUIREMENT	10
	6.1 ANTENNA REQUIREMENT	10
	6.1.1 Test Requirement:	
	6.1.2 Conclusion	
7	7 RADIO SPECTRUM MATTER TEST RESULTS	11
'		
	7.1 CONDUCTED EMISSIONS AT AC POWER LINE (150kHz-30MHz)	11
	7.1.1 E.U.T. Operation	
	7.1.2 Test Setup Diagram	
	7.1.3 Measurement Procedure and Data	
	7.2 20DB BANDWIDTH	
	7.2.1 E.U.T. Operation	
	7.2.2 Test Setup Diagram	
	7.2.3 Measurement Procedure and Data 7.3 Restricted Bands	
	7.3 RESTRICTED BANDS	
	7.3.1 E.O.1. Operation	
	7.3.3 Measurement Procedure and Data	
	7.4 RADIATED EMISSIONS (9KHz-30MHz)	
	7.4.1 E.U.T. Operation	
	7.4.2 Test Setup Diagram	
	7.4.3 Measurement Procedure and Data	
	7.5 RADIATED EMISSIONS (30MHz-1GHz)	
	7.5.1 E.U.T. Operation	
	7.5.2 Test Setup Diagram	
	7.5.3 Measurement Procedure and Data	
8		
0		
	8.1 TEST SETUP	
	8.2 EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	
	Unless otherwise agreed in writing, this document is issued by the Company subject to its General Con overleaf available on request or accessible at http://www.sos.com/en/Terms-and-Conditions aspx and for ele	ditions of Service printed



Onless otherwise agreed in whiting, this document is issued by the Company subject to its General Conditions of Service printee on every state of the service printee of the service of t

www.suggroup.com 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.: SZEM191102074901 Page: 5 of 30

General Information 4

4.1 Details of E.U.T.

Power Supply:	Input: DC 5V-12V 1.5A Max		
	Output: 10W Max		
Operation frequency:	126.122-128.846kHz		
Antenna Type:	Loop Antenna		
Modulation Type:	Load Modulation		
Antenna Gain:	0dBi		

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPhone 8	Apple	A1863	F4GVQ656JC6D
SAMSUNG Galaxy S8	SAMSUNG	SM-G9500	R28J9140LPB
Adapter	SAMSUNG	EP-TA200	R37J8YA7W71DK3
Micro USB cable	PHILIPS	SWR2101	SEA0700

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 ℃
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-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 relow to testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (80-755) 8307 1443, or email: (80-755)

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.: SZEM191102074901 Page: 6 of 30

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-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) is re retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443,

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tt (86-755) 26012053 ft (86-755) 26710594 中国 • 深圳 • 科技园中区M-10栋一号厂房 邮编: 518057 tt (86-755) 26012053 ft (86-755) 26710594

www.sgsgroup.com.cn



Report No.: SZEM191102074901 Page: 7 of 30

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 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 lime 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 represented except in full, without prior written approval of the Company. Any unathorized 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) test and sub approval offenders may be prosecuted to the same contact us at telephone: (86-755) 8307 1443, or email: (8.D.occheck@gss.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.: SZEM191102074901 Page: 8 of 30

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	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 Schwarzbeck (30MHz-1GHz)		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 & Schwar		ESR	SEM004-03	2019-04-01	2020-03-31			
Trilog-Broadband Antenna Schwarzbeck (30MHz-1GHz)		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-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 lime 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 represented except in full, without prior written approval of the Company. Any unathorized 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) test and sub approval offenders may be prosecuted to the same contact us at telephone: (86-755) 8307 1443, or email: (8.D.occheck@gss.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



Report No.: SZEM191102074901 Page: 9 of 30

General used equipment						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	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-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 lime 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 and sub agment). Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (8.0.Doccheck@gss.com)

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

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 sgs.china@sgs.com



Report No.: SZEM191102074901 Page: 10 of 30

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

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 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-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditis/Conditions/Ter

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

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 sgs.china@sgs.com



Report No.: SZEM191102074901 Page: 11 of 30

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.						



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) 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@gss.com

No.1 Worksnop, M-10, Middle Section, Science & lechnology Park, Shenzhen, China 518057 t (86-755) 26012053 t (86-755) 26710594 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

or email: CN. Doccheck@sgs.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

Member of the SGS Group (SGS SA)



Report No.: SZEM191102074901 Page: 12 of 30

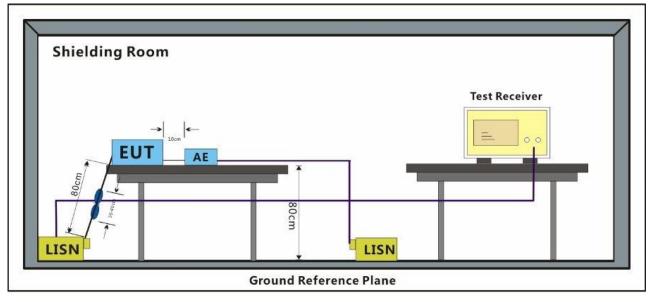
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.3 °C Humidity: 56.6 % RH Atmospheric Pressure: 1020 mbar a:Wireless charger mode(10W) Keep the EUT with wireless charging Pretest these modes to find b:Wireless charger mode(7.5W)_Keep the EUT with wireless charging the worst case: c:Wireless charger mode(5W)_Keep the EUT with wireless charging a:Wireless charger mode(10W)_Keep the EUT with wireless charging

The worst case for final test:

7.1.2 Test Setup Diagram







Report No.: SZEM191102074901 Page: 13 of 30

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/50µH + 5ohm 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



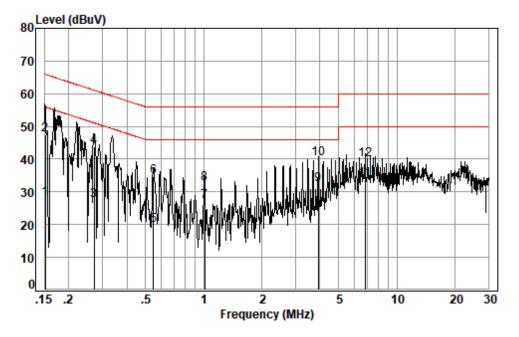
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditis/Conditions/Ter

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



Report No.: SZEM191102074901 Page: 14 of 30

Mode:a; Line:Live Line



Site :	Shielding	Room
Condition:	Line	
Job No. :	20749CR	
Test mode:	а	

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1516	0.01	9.59	18.36	27.96	55.91	-27.95	Average
2	0.1516	0.01	9.59	37.74	47.34	65.91	-18.57	QP
3	0.2715	0.03	9.59	17.73	27.35	51.07	-23.72	Average
4	0.2715	0.03	9.59	34.23	43.85	61.07	-17.22	QP
5	0.5493	0.06	9.60	10.25	19.91	46.00	-26.09	Average
6	0.5493	0.06	9.60	25.10	34.76	56.00	-21.24	QP
7	1.0103	0.09	9.60	17.47	27.16	46.00	-18.84	Average
8	1.0103	0.09	9.60	22.98	32.67	56.00	-23.33	QP
9	3.9222	0.16	9.65	22.44	32.25	46.00	-13.75	Average
10	3.9222	0.16	9.65	30.47	40.28	56.00	-15.72	QP
11	6.8412	0.17	9.72	23.94	33.83	50.00	-16.17	Average
12	6.8412	0.17	9.72	29.89	39.78	60.00	-20.22	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-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 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: (80-755) 8307 1443, or email: (

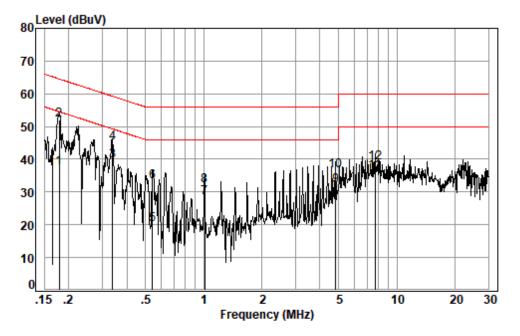
中国·深圳·科技园中区M-10栋一号厂房

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



Report No.: SZEM191102074901 Page: 15 of 30

Mode:a; Line:Neutral Line



Site :	Shielding	Room
Condition:	Neutral	
Job No. :	20749CR	
Test mode:	а	

		Cable	LISN	Read		Limit	0ver	
	Freq	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1787	0.02	9.55	27.84	37.41	54.55	-17.14	Average
2	0.1787	0.02	9.55	42.43	52.00	64.55	-12.55	QP
3	0.3374	0.04	9.54	29.88	39.46	49.27	-9.81	Average
4	0.3374	0.04	9.54	35.49	45.07	59.27	-14.20	QP
5	0.5436	0.06	9.54	10.51	20.11	46.00	-25.89	Average
6	0.5436	0.06	9.54	23.64	33.24	56.00	-22.76	QP
7	1.0103	0.09	9.55	18.76	28.40	46.00	-17.60	Average
8	1.0103	0.09	9.55	22.35	31.99	56.00	-24.01	QP
9	4.8224	0.17	9.63	22.03	31.83	46.00	-14.17	Average
10	4.8224	0.17	9.63	26.73	36.53	56.00	-19.47	QP
11	7.7278	0.17	9.73	26.42	36.32	50.00	-13.68	Average
12	7.7278	0.17	9.73	29.03	38.93	60.00	-21.07	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-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 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: (80-755) 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.china@sgs.com



Report No.: SZEM191102074901 Page: 16 of 30

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:	

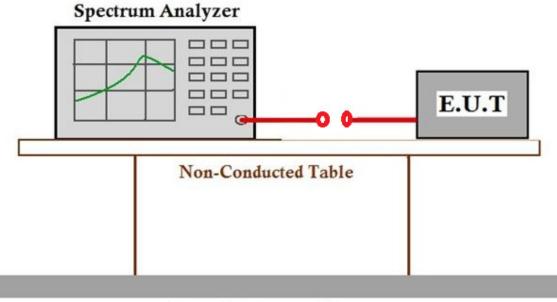
For report reference only

7.2.1 E.U.T. Operation

Operating Environment:

Temperature:	23.6 °C	Humidity:	42.6 % RH	Atmospheric Pressure:	1020	mbar		
Pretest these		a:Wireless charger mode(10W)_Keep the EUT with wireless charging						
modes to find	b:Wireless charger mode(7.5W)_Keep the EUT with wireless charging							
the worst case:	c:Wireless charger mode(5W)_Keep the EUT with wireless charging							
The worst case for final test:	a:Wireless cha	rger mode(1	0W)_Keep the El	JT with wireless charging				

7.2.2 Test Setup Diagram



Ground Reference Plane

7.2.3 Measurement Procedure and Data

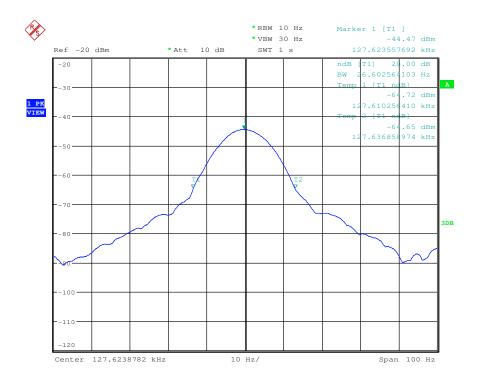
Mode a:

Test Frequency(KHz)	20dB bandwidth (KHz)	Limit (KHz)	Results
127.624	0.027	N/A	Pass





Report No.: SZEM191102074901 Page: 17 of 30





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 lime 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 and sub agment). Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (8.0.Doccheck@gss.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

Member of the SGS Group (SGS SA)



Report No.: SZEM191102074901 18 of 30 Page:

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:	

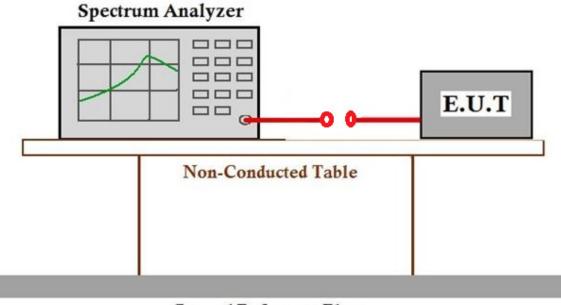
The fundamental wave can not fall in the restricted band 90KHz-110KHz

7.3.1 E.U.T. Operation

Operating Environment:

Temperature:	23.6 °C	Humidity:	42.6 % RH	Atmospheric Pressure:	1020	mbar				
Pretest these	a:Wireless charger mode(10W)_Keep the EUT with wireless charging									
modes to find the worst case:	b:Wireless charger mode(7.5W)_Keep the EUT with wireless charging									
	c:Wireless charger mode(5W)_Keep the EUT with wireless charging									
The worst case for final test:	a:Wireless cha	rger mode(1	0W)_Keep the El	UT with 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/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 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: (80-755) 8307 1443, or email: (

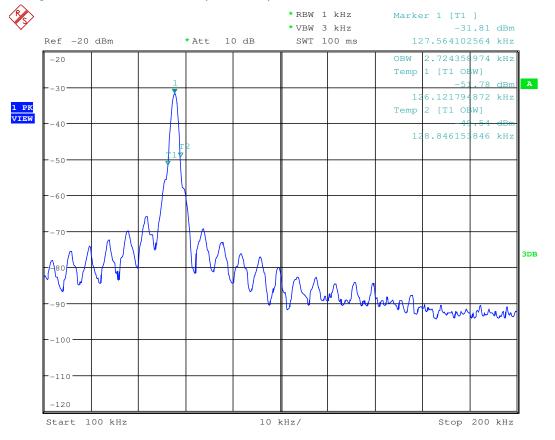
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn 中国・深圳・科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594

Member of the SGS Group (SGS SA)



Report No.: SZEM191102074901 Page: 19 of 30

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-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 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: (80-755) 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 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 中国・深圳・科技园中区M-10栋一号厂房

Member of the SGS Group (SGS SA)



Report No.: SZEM191102074901 Page: 20 of 30

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):

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

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

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-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 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: <u>CN.Doccheck@sags.com</u> (No.1) (Mo.1) (Mo.1) (Mo.1) (Mo.1) (Mo.1) (Mo.1) (Mo.2) (M

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

Member of the SGS Group (SGS SA)



Report No.: SZEM191102074901 Page: 21 of 30

7.4.1 E.U.T. Operation

Temperature:

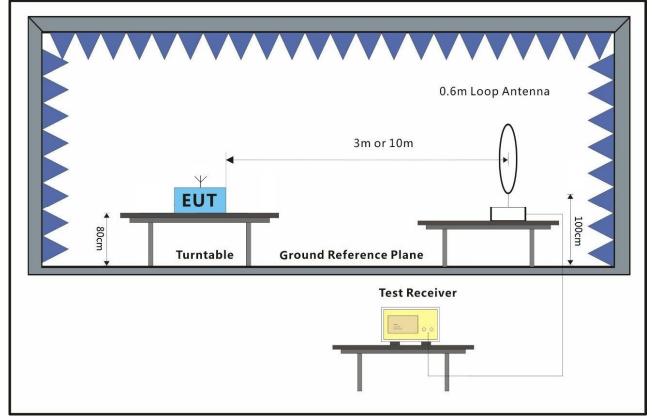
Pretest these modes to find

Operating Environment:

Humidity: 50 % RH 23 Atmospheric Pressure: 1020 mbar °C a:Wireless charger mode(10W) Keep the EUT with wireless charging b:Wireless charger mode(7.5W) Keep the EUT with wireless charging the worst case: c:Wireless charger mode(5W)_Keep the EUT with wireless charging a:Wireless charger mode(10W)_Keep the EUT with wireless charging

The worst case for final test:

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.

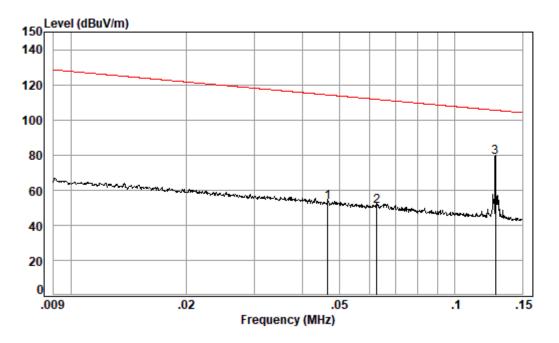




SGS-CSTC Standards Technical Services Co., Ltd.

Report No.: SZEM191102074901 Page: 22 of 30

Mode a:



Condition: 3m Job No. : 20749CR Test Mode: a

			Preamp						Pamank	
-			Factor							
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	0.047	14.65	31.68	0.01	70.21	53.19	114.22	-61.03	Average	
2									Average	
3 pp	0.128	13.96	32.20	0.02	97.20	78.98	105.48	-26.50	Average	



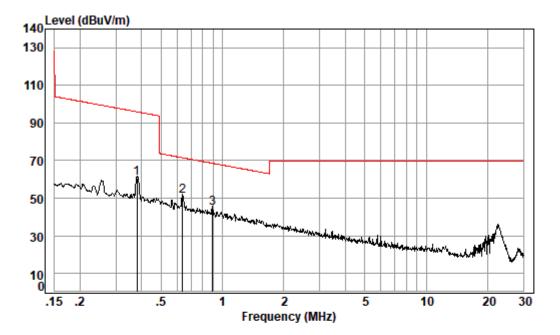
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-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 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: (80-755) 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.china@sgs.com



Report No.: SZEM191102074901 Page: 23 of 30



Condition:	Зm
Job No. :	20749CR
Test Mode:	а

	Freq		Preamp Factor						Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1 av 2 pp 3	0.637	13.80	32.24 32.25 32.27	0.07	69.35	50.97	71.52	-20.55	-



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 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: (80-755) 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.china@sgs.com



Report No.: SZEM191102074901 Page: 24 of 30

7.5 Radiated Emissions (30MHz-1GHz)

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.5
Measurement Distance:	10m
Limit:	

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.



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 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: (80-755) 8307 1443, or email: (

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

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

Member of the SGS Group (SGS SA)



Report No.: SZEM191102074901 25 of 30 Page:

7.5.1 E.U.T. Operation

Temperature:

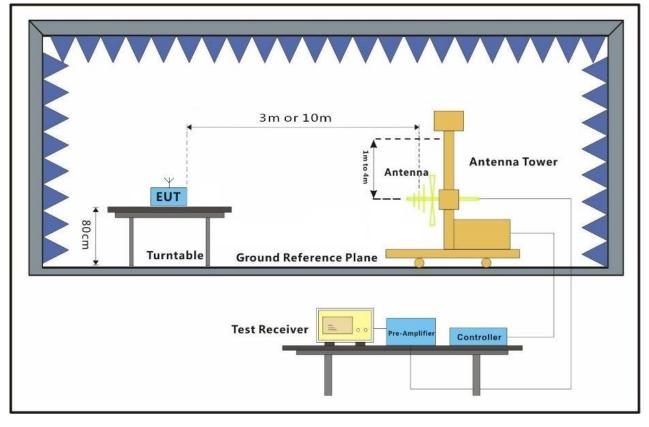
Pretest these modes to find

Operating Environment:

23 °C Humidity: 48 % RH Atmospheric Pressure: 1020 mbar a:Wireless charger mode(10W) Keep the EUT with wireless charging b:Wireless charger mode(7.5W)_Keep the EUT with wireless charging the worst case: c:Wireless charger mode(5W)_Keep the EUT with wireless charging a:Wireless charger mode(10W)_Keep the EUT with wireless charging

The worst case for final test:

7.5.2 Test Setup Diagram







Report No.: SZEM191102074901 Page: 26 of 30

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 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) is retained for 30 days only. Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

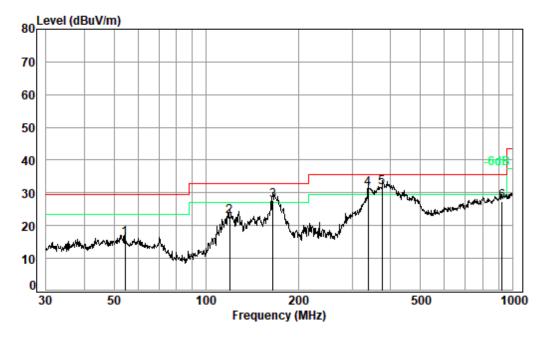
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 中国 ·深圳 · 科技园中区M-10核一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594

755) 26710594 www.sgsgroup.com.cn 755) 26710594 sgs.china@sgs.com



Report No.: SZEM191102074901 Page: 27 of 30

Mode:a; Polarization:Horizontal



Condition: 10m HORIZONTAL Job No. : 20749CR Test Mode: a

	Enor			Preamp					Romank
	Freq	LOSS	Factor	Factor	Level	rever	LTUG	LIMIC	кешаг к
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	54.261	1.01	20.02	32.44	27.46	16.05	29.50	-13.45	QP
2	119.436	1.32	17.06	32.30	36.80	22.88	33.00	-10.12	QP
3	165.487	1.51	19.52	32.30	38.94	27.67	33.00	-5.33	QP
4	338.400	2.22	20.50	32.22	40.82	31.32	35.60	-4.28	QP
5 pp	375.939	2.42	21.38	32.14	39.96	31.62	35.60	-3.98	QP
6	925.756	3.45	29.80	31.38	25.60	27.47	35.60	-8.13	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-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 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: (80-755) 8307 1443, or email: (

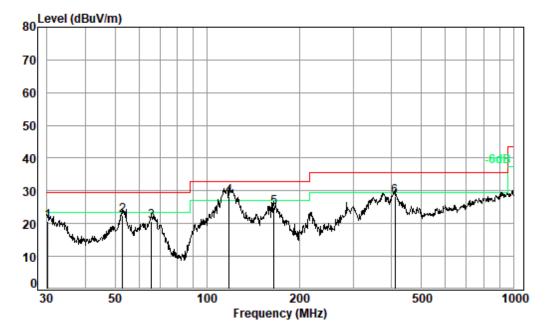
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594

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 sgs.china@sgs.com



Report No.: SZEM191102074901 Page: 28 of 30

Mode:a; Polarization:Vertical



Condition: 10m VERTICAL Job No. : 20749CR Test Mode: a

	Fred						Limit Line		Remark
	i i eq	LUSS	actor	1 ac coi	Level	Level	LINE	LIMIC	IVEIIIdi K
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.211	0.85	18.61	32.38	33.55	20.63	29.50	-8.87	QP
2	52.945	1.01	20.00	32.45	33 .8 1	22.37	29.50	-7.13	QP
3	65.803	1.06	18.31	32.40	33.73	20.70	29.50	-8.80	QP
4 pp	118.186	1.31	16.96	32.31	42.21	28.17	33.00	-4.83	QP
5	165.487	1.51	19.52	32.30	36.10	24.83	33.00	-8.17	QP
6	410.383	2.59	22.01	32.13	35.91	28.38	35.60	-7.22	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-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 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: (80-755) 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.china@sgs.com



Report No.: SZEM191102074901 Page: 29 of 30

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:

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
30.21	20.63	10.75	35.84	31.09	40.00	-8.91	V
52.95	22.37	13.14	43.79	32.83	40.00	-7.17	V
65.80	20.70	10.84	36.13	31.16	40.00	-8.84	V
118.19	28.17	25.62	85.38	38.63	43.50	-4.87	V
165.49	24.83	17.44	58.13	35.29	43.50	-8.21	V
410.38	28.38	26.24	87.47	38.84	46.00	-7.16	V
54.26	16.05	6.35	21.15	26.51	40.00	-13.49	Н
119.44	22.88	13.93	46.44	33.34	43.50	-10.16	Н
165.49	27.67	24.18	80.61	38.13	43.50	-5.37	Н
338.40	31.32	36.81	122.71	41.78	46.00	-4.22	Н
375.94	31.62	38.11	127.02	42.08	46.00	-3.92	Н
925.76	27.47	23.63	78.77	37.93	46.00	-8.07	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-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditis/Conditions/Ter

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

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 sgs.china@sgs.com



Report No.: SZEM191102074901 Page: 30 of 30

Photographs 8

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-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 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: (80-755) 8307 1443, or email: (

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

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 sgs.china@sgs.com