



Report No.: SZEM190701695701
Page: 1 of 29

TEST REPORT

Application No.:

SZEM1907016957CR(ZR/2019/60026)

Applicant:

TCL Communication Ltd.

Address of Applicant:

7/F, Block F4, TCL Communication Technology Building, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052

Manufacturer:

TCL Communication Ltd.

Address of Manufacturer:

7/F, Block F4, TCL Communication Technology Building, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052

Factory:

Huizhou TCL Mobile Communication Co, Ltd.

Address of Factory:

No. 86, Hechang 7th West Road, Zhongkai Hi-Tech Development District, Huizhou, Guangdong

Equipment Under Test (EUT):

EUT Name: LTE/UMTS/GSM mobile phone

Model No.: 5048A

Trade mark: alcatel

Standard(s) : 47 CFR Part 15, Subpart B

Date of Receipt: 2019-07-31

Date of Test: 2019-08-04 to 2019-08-08

Date of Issue: 2019-08-13

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

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

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 of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of this content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services Laboratory

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

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-08-13		Original

Authorized for issue by:			
		Damon Su	
		<hr/> Damon Su /Project Engineer	
		Eric Fu	
		<hr/> Eric Fu /Reviewer	

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services Laboratory

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

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass
Radiated Emissions (30MHz-1GHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass
Radiated Emissions (above 1GHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass

Internal Source	Upper Frequency
Below 1.705MHz	30MHz
1.705MHz to 108MHz	1GHz
108MHz to 500MHz	2GHz
500MHz to 1GHz	5GHz
Above 1GHz	5th harmonic of the highest frequency or 40GHz, whichever is lower

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	5
4.1 DETAILS OF E.U.T	5
4.2 DESCRIPTION OF SUPPORT UNITS	5
4.3 TEST MODES	6
4.4 MEASUREMENT UNCERTAINTY	7
4.5 TEST LOCATION	8
4.6 TEST FACILITY	8
4.7 DEVIATION FROM STANDARDS	8
4.8 ABNORMALITIES FROM STANDARD CONDITIONS	8
5 EQUIPMENT LIST	9
6 EMISSION TEST RESULTS	11
6.1 CONDUCTED EMISSIONS AT MAINS TERMINALS (150kHz-30MHz)	11
6.1.1 E.U.T. Operation	11
6.1.2 Test Setup Diagram	11
6.1.3 Measurement Data	11
6.2 RADIATED EMISSIONS (30MHz-1GHz)	18
6.2.1 E.U.T. Operation	18
6.2.2 Test Setup Diagram	18
6.2.3 Measurement Data	18
6.3 RADIATED EMISSIONS (ABOVE 1GHz)	23
6.3.1 E.U.T. Operation	23
6.3.2 Test Setup Diagram	23
6.3.3 Measurement Data	23
7 PHOTOGRAPHS	28
7.1 CONDUCTED EMISSIONS AT MAINS TERMINALS (150kHz-30MHz) TEST SETUP	28
7.2 RADIATED EMISSIONS (30MHz-1GHz) TEST SETUP	29
7.3 EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	29



4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3.85V from internal rechargeable battery or from AC/DC adapter Model No.: UC12US AC Input: 100-240V 50/60Hz 0.5A DC Output: DC 5V 2A
Cable:	USB cable: 100cm unshielded Earphone cable: 115cm unshielded

	No.	P/N	Remark
Adaptor	1	CBA0059AGAC5	5.0 V,2000 mA UC13US, PUAN
	2	CBA0059AGAC7	5.0 V,2000 mA UC13US, CHENYANG
USB cable	1	CDA000123C2	SHENGHUA
	2	CDA000123C1	JUWEI
Headset	1	CCB0049A10C1	JUWEI; alcatel Logo
	2	CCB0049A12C1	JUWEI; Is same with CCB0049A10C1, only remove alcatel logo
	3	CCB0023A12C1	JUWEI; alcatel Logo
	4	CCB0023A14C1	JUWEI; Is same with CCB0023A12C1, only remove alcatel logo
	5	CCB0049A10C4	MEIHAO; alcatel Logo
	6	CCB0049A12C4	MEIHAO; Is same with CCB0049A10C4, only remove alcatel logo
Battery	1	CAC3860014C7	TLp038C7; VEKEN;
	2	CAC3860022C7	TLp038C7; VEKEN; Is same with CAC3860014C7, only add TCL logo
	3	CAC3860010C1	TLp038C1; BYD;

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Laptop	Lenovo	T430u	REF. No.:SEA1800
Mouse	Lenovo	M-U0025-O	REF. No.:SEA2400
Router	NETGEAR	DGN2200	REF. No.:SEA2200

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

4.3 Test modes

Pretest these modes to find the worst case and show the worse data in the test items:	e: Transfer data between the EUT and the PC+USB cable1 f: Transfer data between the EUT and the PC+USB cable2 g: Telecom Idle+BT+WLAN +GPS Rx+playing MP4 (SD card) +earphone1+battery+Cable(worst)+adapter1 h: Telecom Idle+BT+WLAN +GPS Rx+playing MP4 (SD card) +earphone1+battery+Cable(worst)+adapter2 i: Telecom Idle+BT+WLAN +GPS Rx+camera (Front) +earphone+battery+Cable(worst)+Cable(worst)+adapter(Worst) j: Telecom Idle+BT+WLAN +GPS Rx+camera (Back) +earphone+battery+Cable(worst)+adapter(Worst) k: GSM 850+BT+WLAN +GPS Rx+FM+earphone+battery+Cable(worst)+adapter(Worst) l: GSM 1900+BT+WLAN +GPS Rx+ FM+earphone+battery+Cable(worst)+adapter(Worst) m: WCDMA Band II+BT+WLAN +GPS Rx+ FM+earphone+battery+Cable(worst)+adapter(Worst) n: WCDMA Band IV+BT+WLAN +GPS Rx+ FM+earphone+battery+Cable(worst)+adapter(Worst) o: WCDMA Band V+BT+WLAN +GPS Rx+ FM+earphone+battery+Cable(worst)+adapter(Worst) p: LTE band 2+BT+WLAN +GPS Rx+ FM+earphone+battery+Cable(worst)+adapter(Worst) q: LTE band 4+BT+WLAN +GPS Rx+ FM+earphone(worst)+battery(worst)+Cable(worst)+adapter(Worst) r: LTE band 5+BT+WLAN +GPS Rx+ FM+earphone(worst)+battery(worst)+Cable(worst)+adapter(Worst) s: LTE band 7+BT+WLAN +GPS Rx+ FM+earphone(worst)+battery(worst)+Cable(worst)+adapter(Worst) t: LTE band 12+BT+WLAN +GPS Rx+ FM+earphone(worst)+battery(worst)+Cable(worst)+adapter(Worst) u: LTE band 13+BT+WLAN +GPS Rx+ FM+earphone(worst)+battery(worst)+Cable(worst)+adapter(Worst) v: LTE band 17+BT+WLAN +GPS Rx+ FM+earphone(worst)+battery(worst)+Cable(worst)+adapter(Worst) w: LTE band 66+BT+WLAN +GPS Rx+ FM+earphone(worst)+battery(worst)+Cable(worst)+adapter(Worst)
---	--

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

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com



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

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

4.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conduction Emission	± 3.0dB (150kHz to 30MHz)
2	Radiated Emission	± 4.5dB (30MHz-1GHz)
		± 4.8dB (1GHz-6GHz)
3	Temperature test	± 1 °C
4	Humidity test	± 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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

4.5 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.

4.6 Test Facility

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

- CNAS (No. CNAS L2929)**

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

- A2LA (Certificate No. 3816.01)**

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

- VCCI**

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

- FCC –Designation Number: CN1178**

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

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

- Innovation, Science and Economic Development Canada**

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

CAB identifier: CN0006.

IC#: 4620C.

4.7 Deviation from Standards

None

4.8 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-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services Laboratory

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

5 Equipment List

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ChangZhou ZhongYu	GB-88	SEM001-06	2019-06-13	2024-06-12
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	2018-09-25	2019-09-24
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

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-08-05	2020-08-04
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2019-07-11	2020-07-10
EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2018-09-25	2019-09-24
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2019-04-01	2020-03-31

Radiated Emissions (above 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019-07-11	2020-07-10
EXA Spectrum Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2019-04-12	2020-04-11
Horn Antenna(1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2018-11-12	2019-11-11

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

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	2018-09-27	2019-09-26
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2018-09-27	2019-09-26
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2018-09-27	2019-09-26
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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services
CEC Laboratory

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

6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

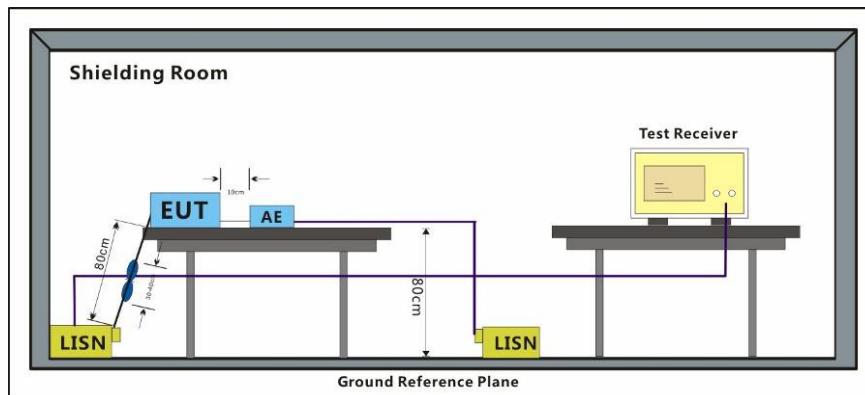
Test Requirement:	47 CFR Part 15, Subpart B
Test Method:	ANSI C63.4:2014
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.1.1 E.U.T. Operation

Operating Environment:

Temperature:	20.3 °C	Humidity:	58.1 % RH	Atmospheric Pressure:	1005 mbar
The worst case for final test:	e: Transfer data between the EUT and the PC+USB cable1				
	g: Telecom Idle+BT+WLAN +GPS Rx+playing MP4 (SD card) +earphone1+battery+Cable1+adapter1				
	h: Telecom Idle+BT+WLAN +GPS Rx+playing MP4 (SD card) +earphone1+battery+Cable1+adapter2				
	i: Telecom Idle+BT+WLAN +GPS Rx+camera (Front) +earphone+battery+Cable1+ Cable1+adapter2				
	j: Telecom Idle+BT+WLAN +GPS Rx+camera (Back) +earphone+battery+Cable1+adapter2				

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.



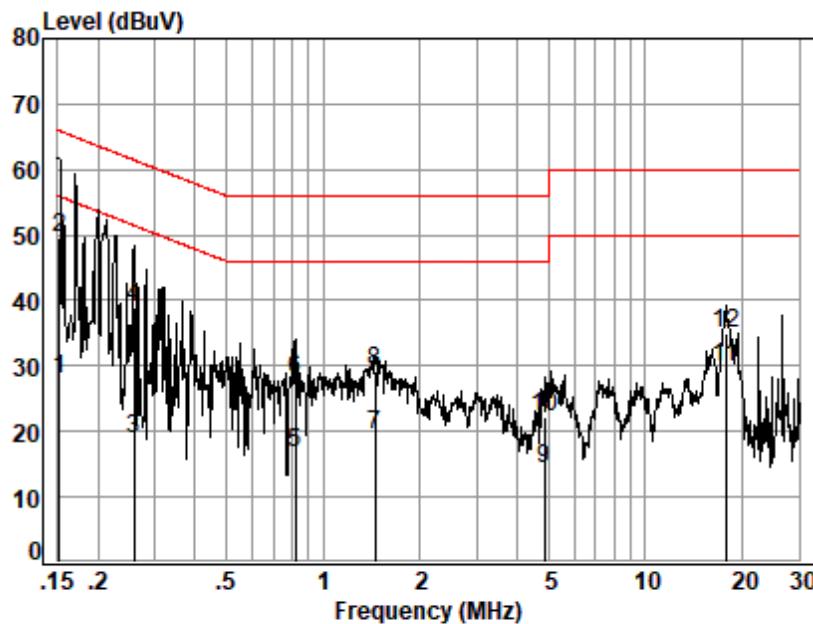
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch | ESD Testing Center | IEC Laboratory

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

Mode:e; Line:Live Line



Site : Shielding Room
Condition: Line
Job No. : 16957CR
Test mode: e

Freq	Cable	LISN	Read	Limit	Over	Remark	
	Loss	Factor	Level				
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.1516	0.01	9.66	18.39	28.06	55.91	-27.85 Average
2	0.1516	0.01	9.66	39.81	49.48	65.91	-16.43 QP
3	0.2589	0.03	9.67	9.15	18.85	51.47	-32.62 Average
4	0.2589	0.03	9.67	29.11	38.81	61.47	-22.66 QP
5	0.8174	0.08	9.74	6.91	16.73	46.00	-29.27 Average
6	0.8174	0.08	9.74	18.10	27.92	56.00	-28.08 QP
7	1.4485	0.13	9.73	9.62	19.48	46.00	-26.52 Average
8	1.4485	0.13	9.73	19.21	29.07	56.00	-26.93 QP
9	4.8738	0.17	9.74	4.43	14.34	46.00	-31.66 Average
10	4.8738	0.17	9.74	12.15	22.06	56.00	-33.94 QP
11	17.7549	0.23	10.18	19.51	29.92	50.00	-20.08 Average
12	17.7549	0.23	10.18	24.64	35.05	60.00	-24.95 QP

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

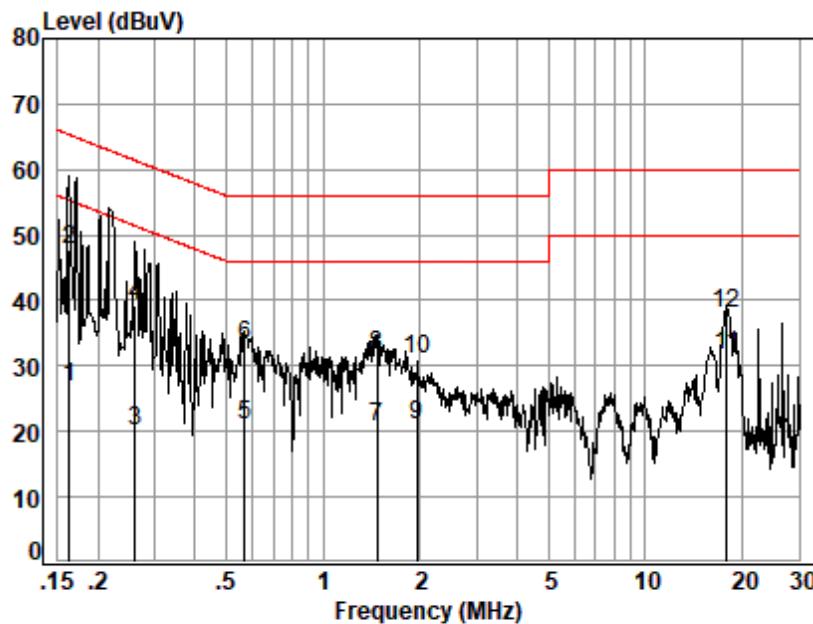
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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

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

Mode:e; Line:Neutral Line



Site : Shielding Room
 Condition: Neutral
 Job No. : 16957CR
 Test mode: e

Freq	Cable	LISN	Read	Limit	Over	Remark	
	Loss	Factor	Level	Level	Line		
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.1624	0.01	9.64	17.26	26.91	55.34	-28.43 Average
2	0.1624	0.01	9.64	38.04	47.69	65.34	-17.65 QP
3	0.2603	0.03	9.64	10.55	20.22	51.42	-31.20 Average
4	0.2603	0.03	9.64	29.44	39.11	61.42	-22.31 QP
5	0.5701	0.07	9.64	11.21	20.92	46.00	-25.08 Average
6	0.5701	0.07	9.64	23.29	33.00	56.00	-23.00 QP
7	1.4718	0.13	9.70	10.94	20.77	46.00	-25.23 Average
8	1.4718	0.13	9.70	21.73	31.56	56.00	-24.44 QP
9	1.9593	0.16	9.69	11.25	21.10	46.00	-24.90 Average
10	1.9593	0.16	9.69	21.29	31.14	56.00	-24.86 QP
11	17.9441	0.23	10.21	21.22	31.66	50.00	-18.34 Average
12	17.9441	0.23	10.21	27.55	37.99	60.00	-22.01 QP

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

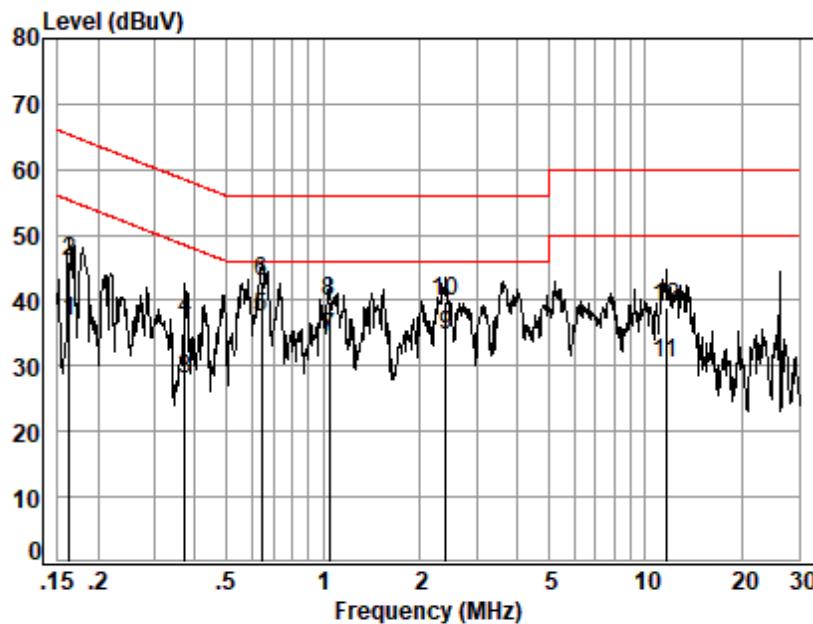
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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

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

Mode:g; Line:Live Line



Site : Shielding Room
Condition: Line
Job No. : 16957CR
Test mode: g

Freq	Cable	LISN	Read	Limit	Over	Remark	
	Loss	Factor	Level				
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.1633	0.01	9.66	27.13	36.80	55.30	-18.50 Average
2	0.1633	0.01	9.66	36.34	46.01	65.30	-19.29 QP
3	0.3712	0.05	9.67	18.13	27.85	48.47	-20.62 Average
4	0.3712	0.05	9.67	27.46	37.18	58.47	-21.29 QP
5	0.6440	0.07	9.67	27.60	37.34	46.00	-8.66 Average
6	0.6440	0.07	9.67	33.16	42.90	56.00	-13.10 QP
7	1.0430	0.09	9.74	24.51	34.34	46.00	-11.66 Average
8	1.0430	0.09	9.74	29.87	39.70	56.00	-16.30 QP
9	2.3962	0.16	9.71	24.75	34.62	46.00	-11.38 Average
10	2.3962	0.16	9.71	30.05	39.92	56.00	-16.08 QP
11	11.6208	0.18	10.04	20.23	30.45	50.00	-19.55 Average
12	11.6208	0.18	10.04	28.67	38.89	60.00	-21.11 QP

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

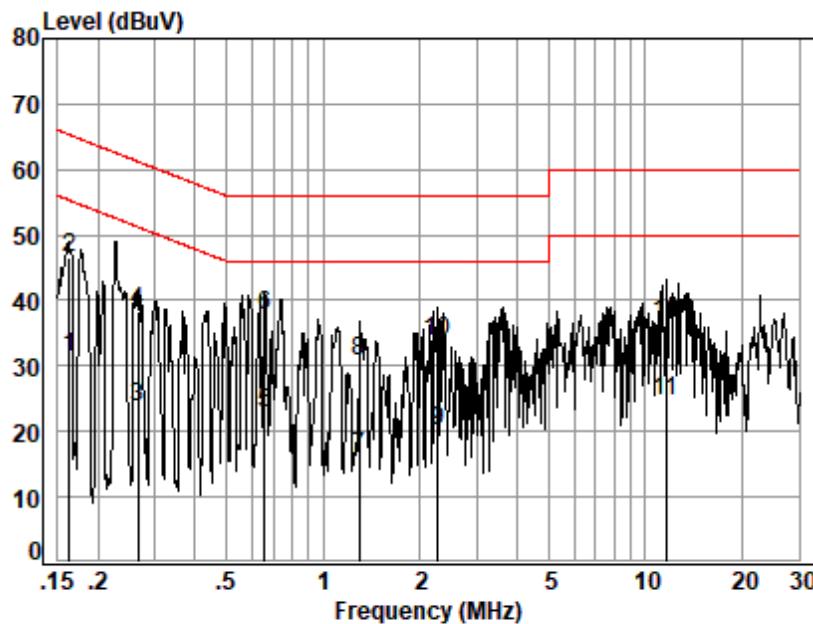
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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

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

Mode:g; Line:Neutral Line



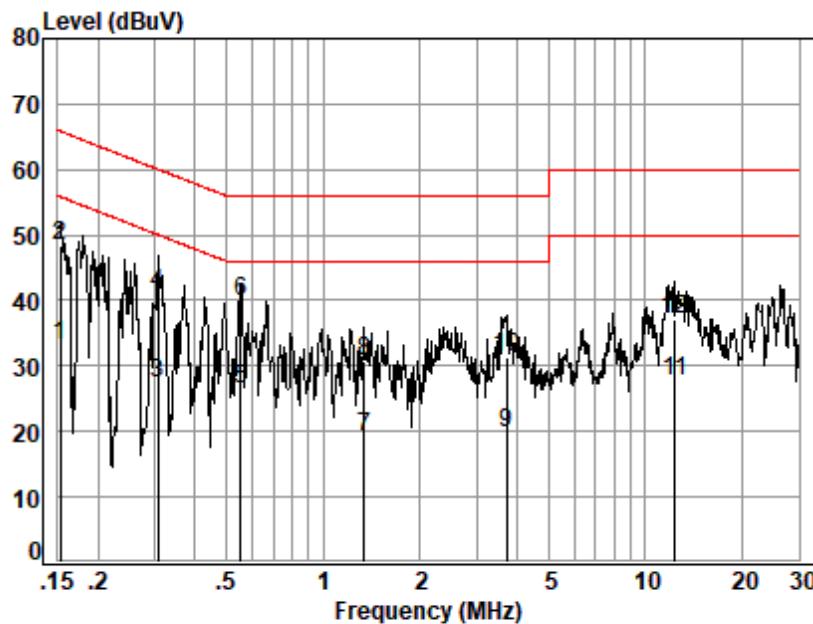
Site : Shielding Room
 Condition: Neutral
 Job No. : 16957CR
 Test mode: g

Freq	Cable	LISN	Read	Limit	Over	Remark
	Loss	Factor	Level	Level	Line	
	MHz	dB	dB	dBuV	dBuV	dB
1	0.1624	0.01	9.64	21.57	31.22	55.34 -24.12 Average
2	0.1624	0.01	9.64	36.75	46.40	65.34 -18.94 QP
3	0.2658	0.03	9.64	13.97	23.64	51.25 -27.61 Average
4	0.2658	0.03	9.64	28.68	38.35	61.25 -22.90 QP
5	0.6578	0.07	9.65	13.05	22.77	46.00 -23.23 Average
6	0.6578	0.07	9.65	27.86	37.58	56.00 -18.42 QP
7	1.2960	0.12	9.70	6.27	16.09	46.00 -29.91 Average
8	1.2960	0.12	9.70	21.03	30.85	56.00 -25.15 QP
9	2.2726	0.16	9.68	10.09	19.93	46.00 -26.07 Average
10	2.2726	0.16	9.68	24.00	33.84	56.00 -22.16 QP
11	11.6208	0.18	10.04	14.36	24.58	50.00 -25.42 Average
12	11.6208	0.18	10.04	26.36	36.58	60.00 -23.42 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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

Mode:h; Line:Live Line



Site : Shielding Room
 Condition: Line
 Job No. : 16957CR
 Test mode: h

Freq	Cable	LISN	Read	Limit	Over	Remark	
	Loss	Factor	Level	Level	Line		
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.1524	0.01	9.66	23.41	33.08	55.87	-22.79 Average
2	0.1524	0.01	9.66	38.73	48.40	65.87	-17.47 QP
3	0.3067	0.04	9.67	17.55	27.26	50.06	-22.80 Average
4	0.3067	0.04	9.67	31.41	41.12	60.06	-18.94 QP
5	0.5552	0.06	9.67	16.61	26.34	46.00	-19.66 Average
6	0.5552	0.06	9.67	29.97	39.70	56.00	-16.30 QP
7	1.3379	0.12	9.73	9.16	19.01	46.00	-26.99 Average
8	1.3379	0.12	9.73	20.83	30.68	56.00	-25.32 QP
9	3.7001	0.16	9.72	9.77	19.65	46.00	-26.35 Average
10	3.7001	0.16	9.72	21.49	31.37	56.00	-24.63 QP
11	12.3837	0.19	10.11	17.29	27.59	50.00	-22.41 Average
12	12.3837	0.19	10.11	26.76	37.06	60.00	-22.94 QP

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

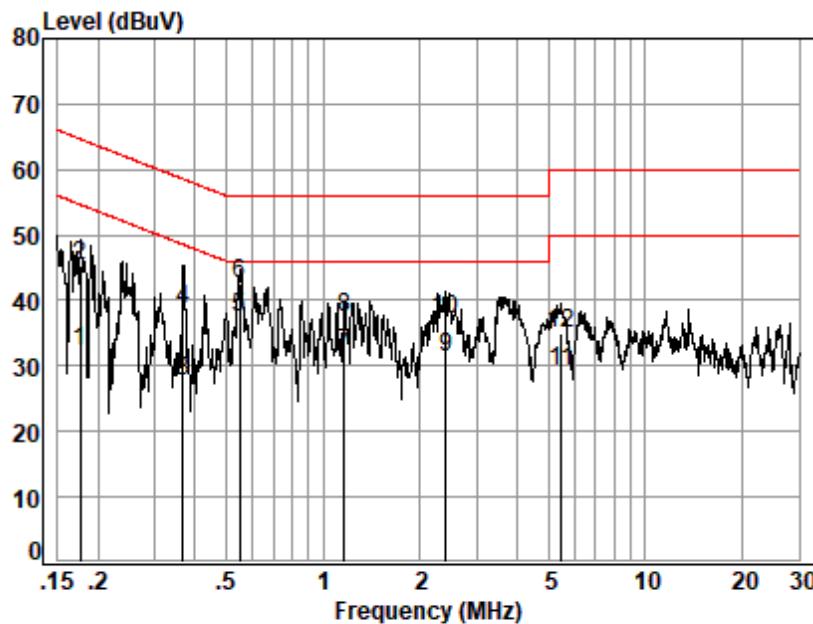
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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

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

Mode:h; Line:Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 16957CR
Test mode: h

Freq	Cable	LISN	Read	Limit	Over	Remark
	Loss	Factor	Level	Level	Line	
	MHz	dB	dB	dBuV	dBuV	dB
1	0.1768	0.02	9.64	22.62	32.28	54.64 -22.36 Average
2	0.1768	0.02	9.64	35.58	45.24	64.64 -19.40 QP
3	0.3673	0.05	9.64	18.05	27.74	48.56 -20.82 Average
4	0.3673	0.05	9.64	29.05	38.74	58.56 -19.82 QP
5	0.5523	0.06	9.64	27.84	37.54	46.00 -8.46 Average
6	0.5523	0.06	9.64	32.75	42.45	56.00 -13.55 QP
7	1.1657	0.10	9.70	22.03	31.83	46.00 -14.17 Average
8	1.1657	0.10	9.70	27.73	37.53	56.00 -18.47 QP
9	2.4090	0.16	9.68	21.61	31.45	46.00 -14.55 Average
10	2.4090	0.16	9.68	27.33	37.17	56.00 -18.83 QP
11	5.4763	0.17	9.72	19.21	29.10	50.00 -20.90 Average
12	5.4763	0.17	9.72	25.06	34.95	60.00 -25.05 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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

6.2 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014

Frequency Range: 30MHz to 1GHz

Measurement Distance: 3m

Limit:

30MHz -88MHz 40.0(dB μ V/m) quasi-peak

88MHz-216MHz 43.5(dB μ V/m) quasi-peak

216MHz-960MHz 46.0(dB μ V/m) quasi-peak

960MHz-1000MHz 54.0(dB μ V/m) quasi-peak

Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to1000MHz

6.2.1 E.U.T. Operation

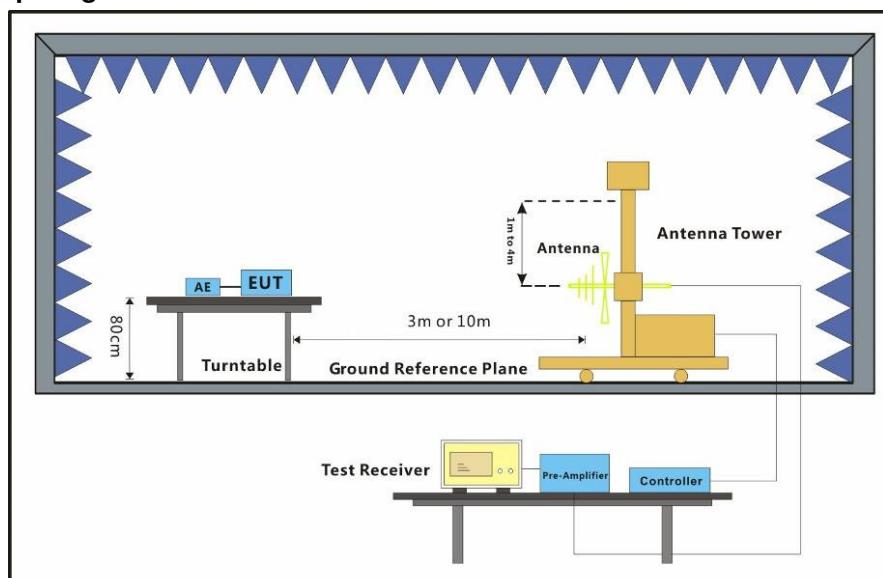
Operating Environment:

Temperature: 25.4 °C Humidity: 51 % RH Atmospheric Pressure: 1005 mbar

The worst case f: Transfer data between the EUT and the PC+USB cable2

for final test: h: Telecom Idle+BT+WLAN +GPS Rx+playing MP4 (SD card)
+earphone1+battery+ Cable1+adapter2

6.2.2 Test Setup Diagram



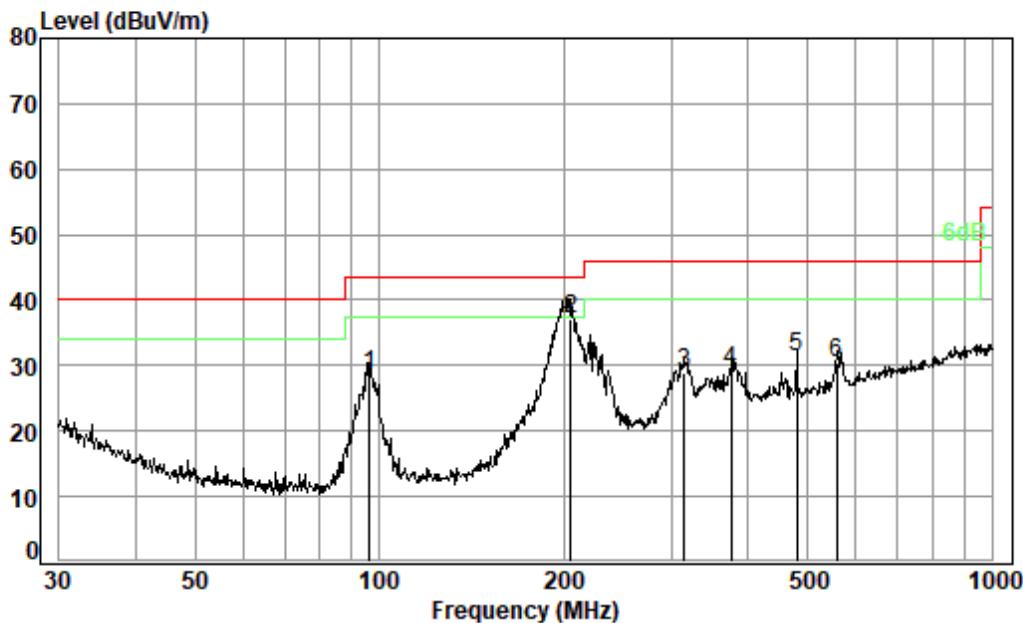
6.2.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

Mode:f; Polarization:Horizontal



Condition: 3m HORIZONTAL

Job No. : 16957CR

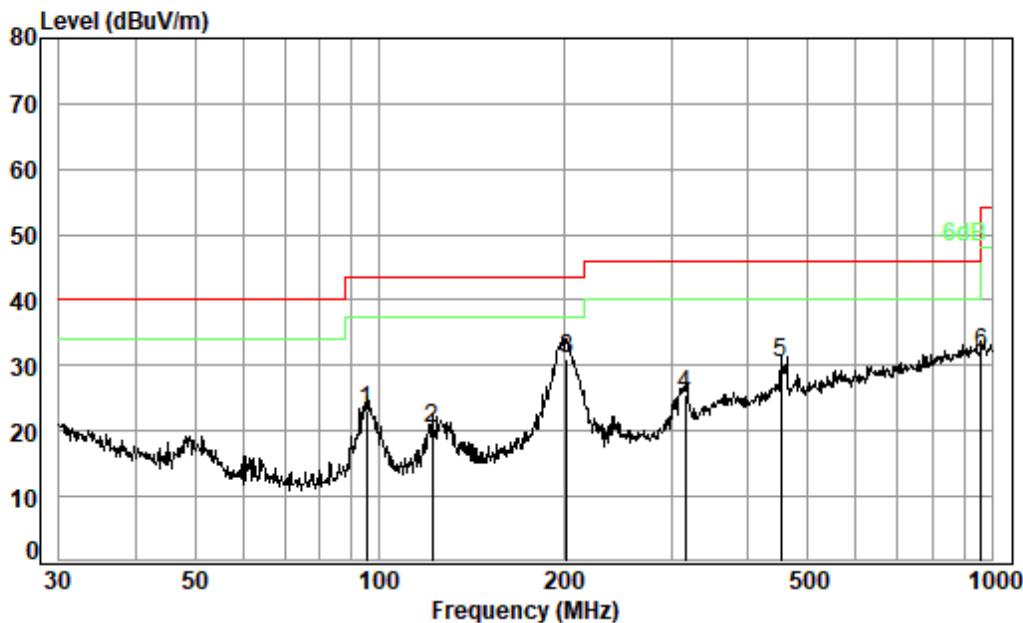
Test mode: f

Freq	Cable Loss	Ant Factor	Preamp Factor	Read	Limit Line	Over Limit	
				Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	96.44	1.17	13.69	27.64	41.25	28.47	43.50 -15.03
2 pp	205.68	1.43	16.71	27.15	46.25	37.24	43.50 -6.26
3	314.38	1.95	20.06	26.98	33.99	29.02	46.00 -16.98
4	375.94	2.13	21.80	27.31	32.64	29.26	46.00 -16.74
5	480.53	2.53	24.21	27.76	32.35	31.33	46.00 -14.67
6	558.73	2.66	25.82	28.04	29.94	30.38	46.00 -15.62

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

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

Mode:f; Polarization:Vertical



Condition: 3m VERTICAL

Job No. : 16957CR

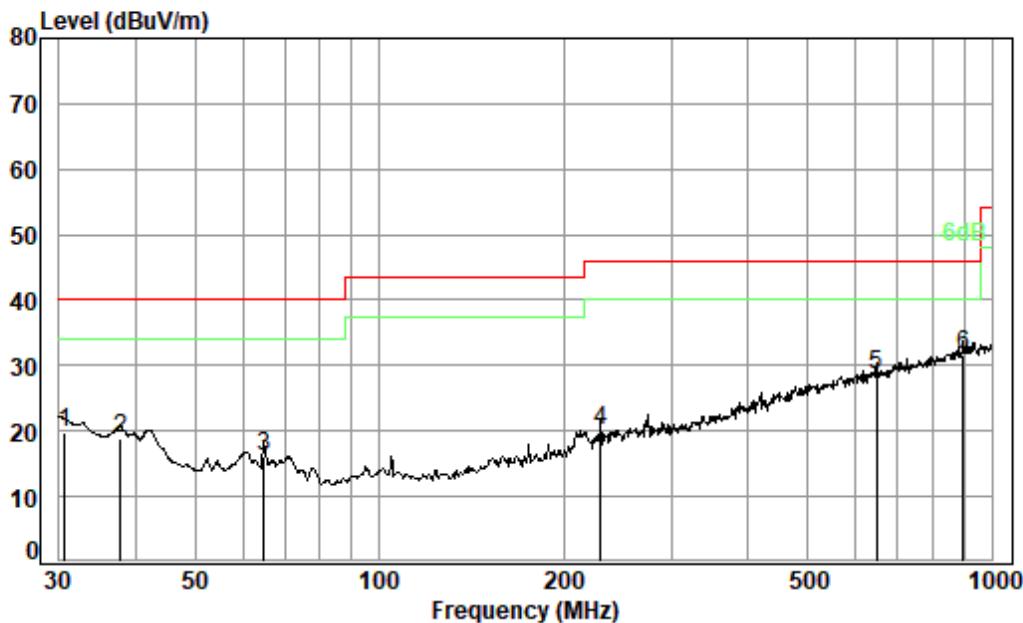
Test mode: f

Freq	Cable	Ant	Preamp	Read	Limit	Over		
	Loss	Factor	Factor	Level			Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	95.43	1.16	13.60	27.64	36.05	23.17	43.50	-20.33
2	121.98	1.26	13.16	27.50	33.58	20.50	43.50	-23.00
3 pp	202.10	1.41	16.58	27.16	40.35	31.18	43.50	-12.32
4	315.48	1.95	20.09	26.98	30.47	25.53	46.00	-20.47
5	452.72	2.42	23.62	27.65	32.15	30.54	46.00	-15.46
6	962.16	3.66	30.12	27.05	25.15	31.88	54.00	-22.12

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

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

Mode:h; Polarization:Horizontal



Condition: 3m Horizontal

Job No. : 16957CR

Test mode: h

Freq	Cable	Ant	Preamp	Read	Limit	Over	
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	30.64	0.60	22.13	27.73	24.79	19.79	40.00 -20.21
2	37.81	0.60	18.48	27.71	27.55	18.92	40.00 -21.08
3	64.89	0.80	13.00	27.67	29.98	16.11	40.00 -23.89
4	230.10	1.57	18.03	27.07	27.47	20.00	46.00 -26.00
5	647.39	2.80	27.24	28.05	26.47	28.46	46.00 -17.54
6 pp	897.00	3.59	29.76	27.30	25.65	31.70	46.00 -14.30

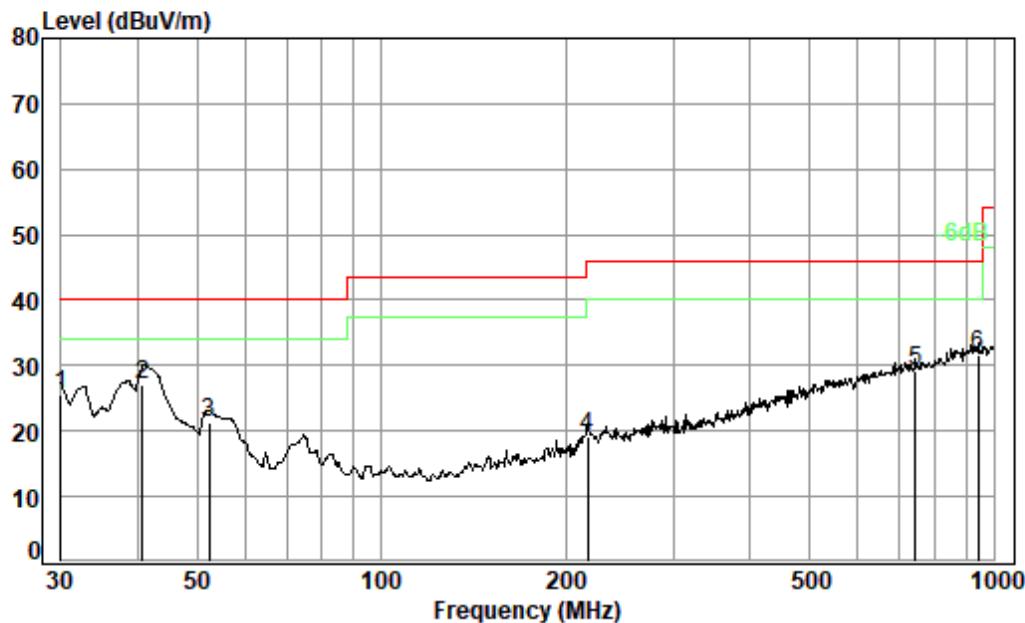
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch | ETL Certified | EEC Laboratory

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

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

Mode:h; Polarization:Vertical



Condition: 3m VERTICAL

Job No. : 16957CR

Test mode: h

Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit		Over Limit
					Level	Line	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	30.00	0.60	22.50	27.73	30.05	25.42	40.00 -14.58
2 pp	40.70	0.62	17.24	27.71	37.04	27.19	40.00 -12.81
3	52.39	0.80	13.94	27.69	34.15	21.20	40.00 -18.80
4	217.54	1.50	17.12	27.11	27.66	19.17	46.00 -26.83
5	744.87	3.04	28.18	27.83	25.66	29.05	46.00 -16.95
6	942.13	3.64	30.02	27.13	25.00	31.53	46.00 -14.47

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

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com



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

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

6.3 Radiated Emissions (above 1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014

Frequency Range: Above 1GHz

Measurement Distance: 3m

Limit:

Above 1GHz 74(dB μ V/m) peak, 54(dB μ V/m) average

Detector: Peak for pre-scan (1000kHz resolution bandwidth) 1000M to18000MHz

6.3.1 E.U.T. Operation

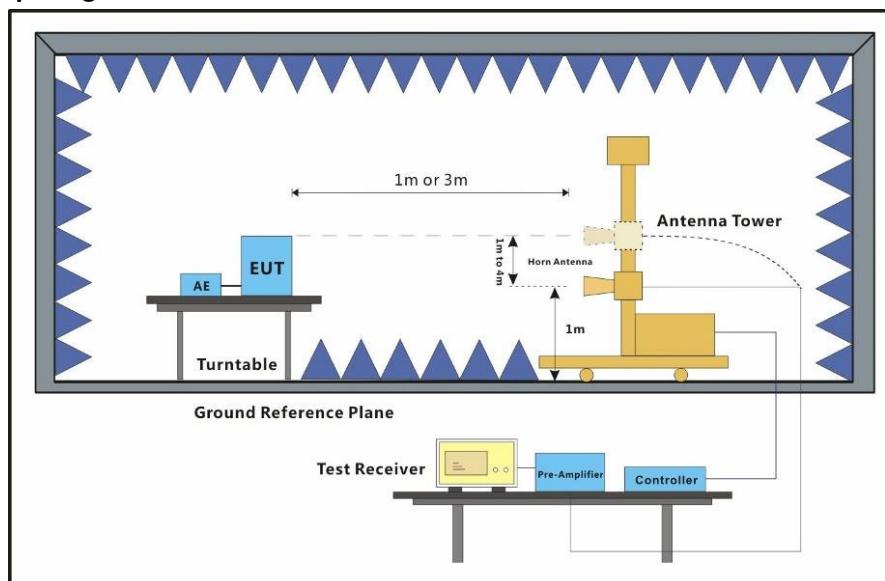
Operating Environment:

Temperature: 23.3 °C Humidity: 56.2 % RH Atmospheric Pressure: 1005 mbar

The worst case e: Transfer data between the EUT and the PC+USB cable1

for final test: j: Telecom Idle+BT+WLAN +GPS Rx+camera (Back) +earphone+battery+Cable1+adapter2

6.3.2 Test Setup Diagram



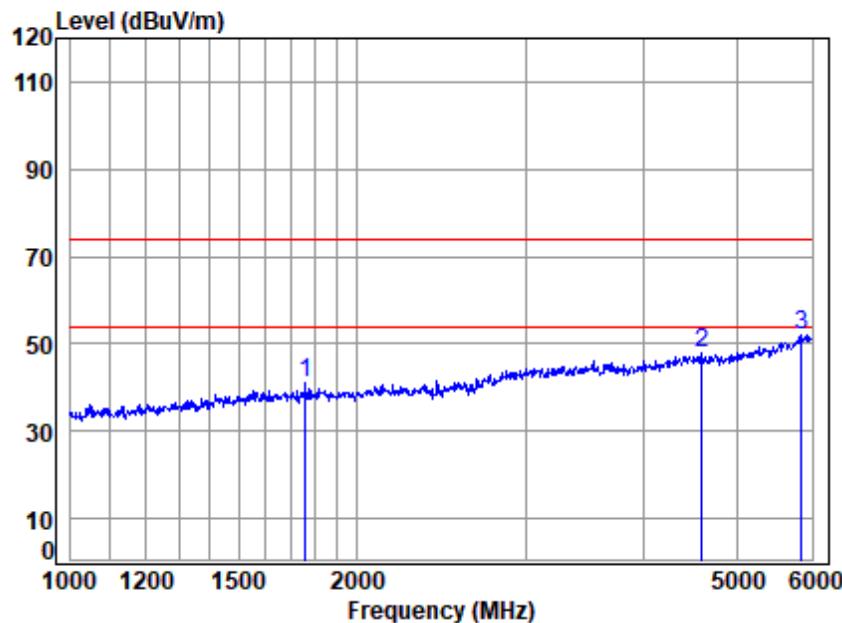
6.3.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

Mode:e; Polarization:Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No : 16957CR
Mode : e

Freq	Cable Loss	Ant Factor	Preamp Factor	Read	Limit Line	Over Limit	Remark
				Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1761.553	5.16	26.92	40.87	49.85	41.06	74.00	-32.94 Peak
2 4602.405	7.67	33.73	43.41	49.82	47.81	74.00	-26.19 Peak
3 5851.364	10.07	34.96	42.96	50.15	52.22	74.00	-21.78 Peak

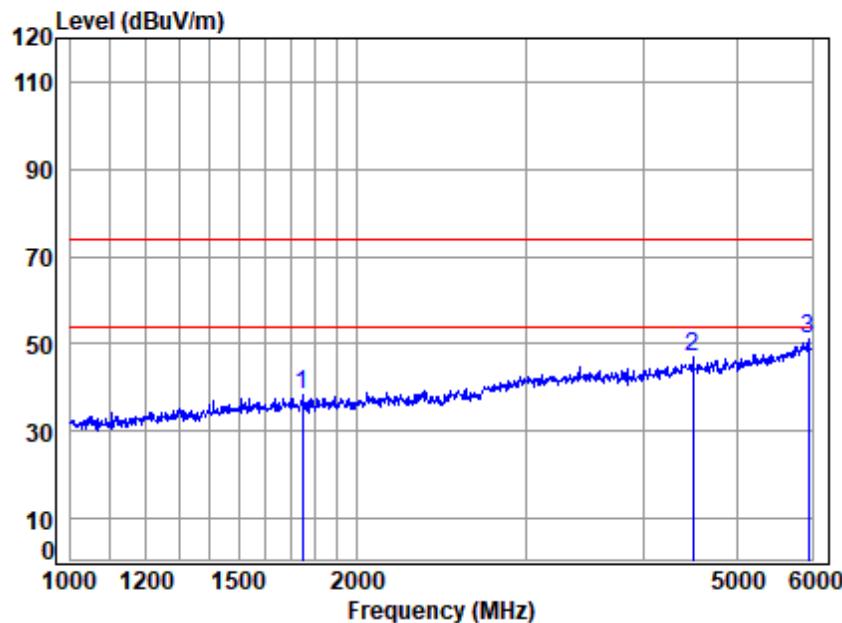
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services Laboratory

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

Mode:e; Polarization:Vertical



Site : chamber
Condition: 3m VERTICAL
Job No : 16957CR
Mode : e

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	MHz	Loss	Factor	Level	Level	Line	
1	1748.973	5.17	26.87	40.86	47.26	38.44	74.00 -35.56 Peak
2	4496.441	7.56	33.59	43.30	49.25	47.10	74.00 -26.90 Peak
3	5946.487	10.39	35.05	42.88	48.47	51.03	74.00 -22.97 Peak

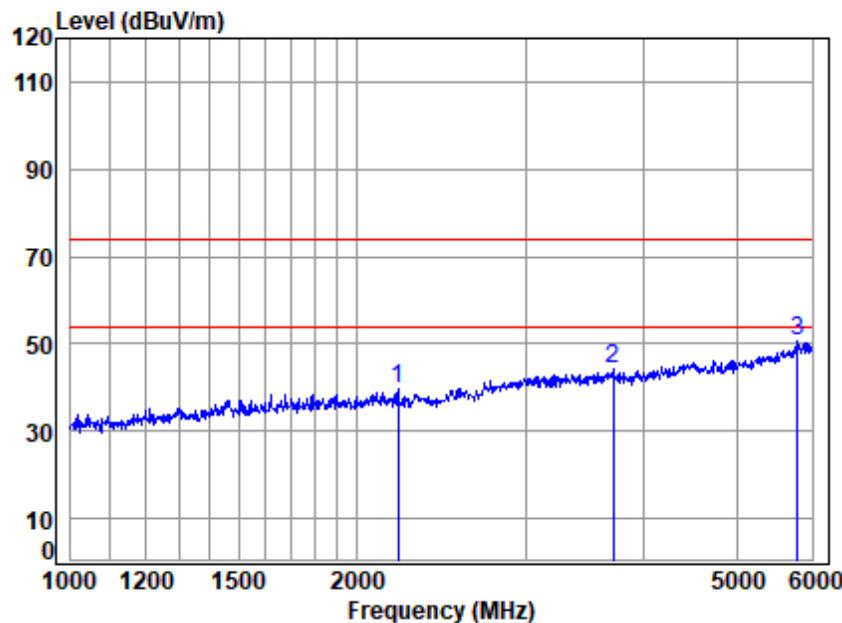
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

Mode:j; Polarization:Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No : 16957CR
Mode : j

	Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
		MHz	Loss	Factor	Level	dBuV	dBuV/m	dBuV/m	
1	2203.762	5.21	28.19	41.09	47.19	39.50	74.00	-34.50	Peak
2	3711.989	6.69	32.14	42.40	47.88	44.31	74.00	-29.69	Peak
3	5799.177	9.90	34.90	43.01	48.83	50.62	74.00	-23.38	Peak

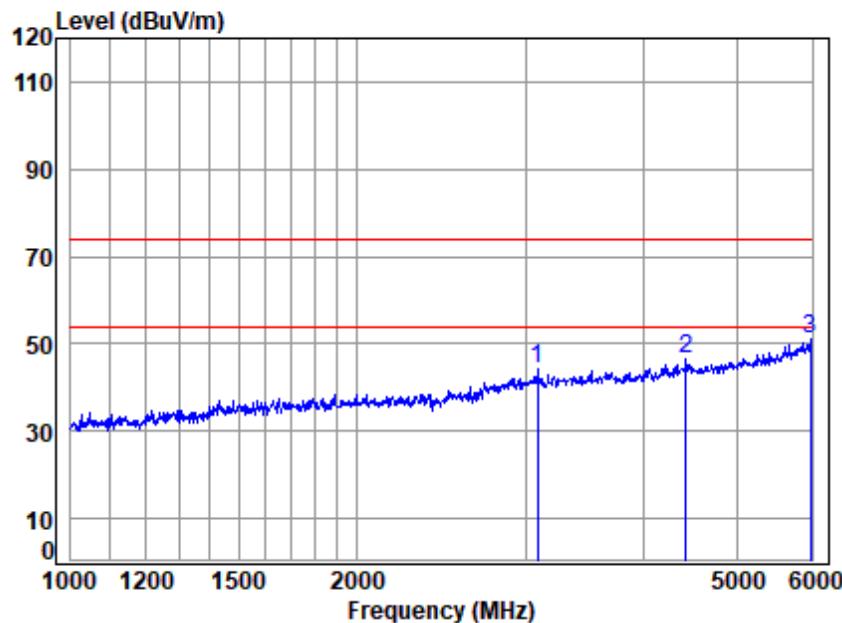
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services Laboratory

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

Mode:j; Polarization:Vertical



Site : chamber
Condition: 3m VERTICAL
Job No : 16957CR
Mode : j

Freq	Cable Loss	Ant Factor	Preamp Factor	Read	Limit Line	Over Limit	Remark		
				dB	dB/m	dB	dBuV	dBuV/m	dBuV/m
1	3091.970	6.07	31.06	41.54	48.70	44.29	74.00	-29.71	Peak
2	4424.514	7.48	33.47	43.23	49.01	46.73	74.00	-27.27	Peak
3	5978.538	10.50	35.08	42.85	48.27	51.00	74.00	-23.00	Peak

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Inspection & Testing Services Laboratory

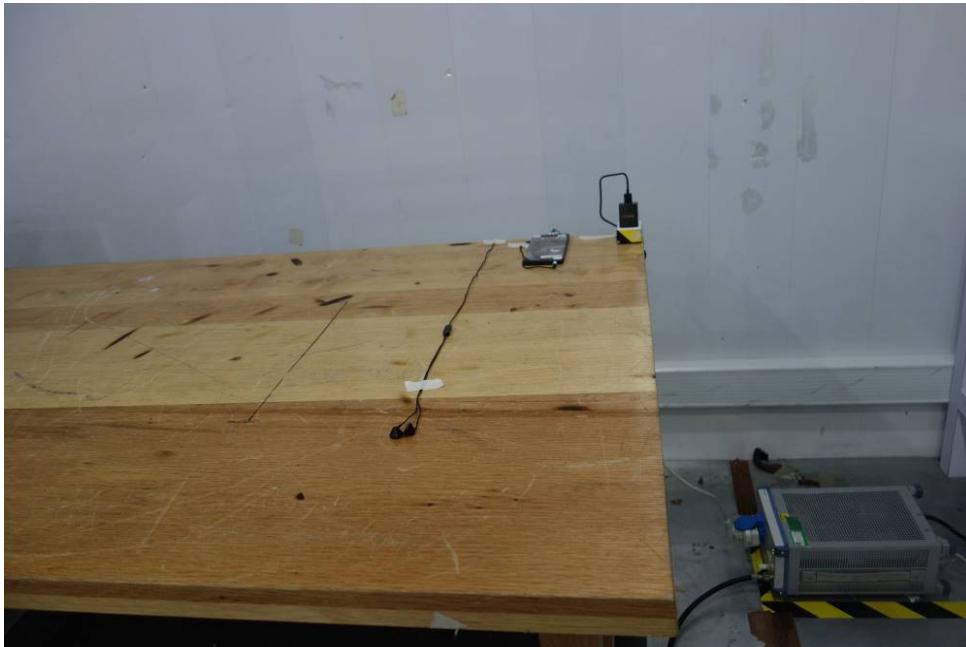
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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

7 Photographs

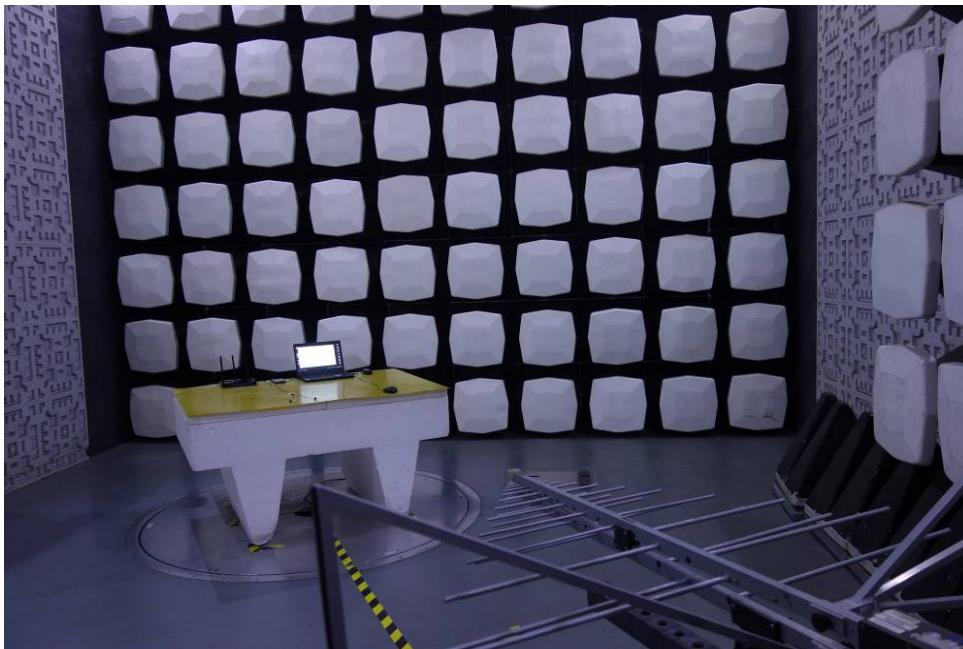
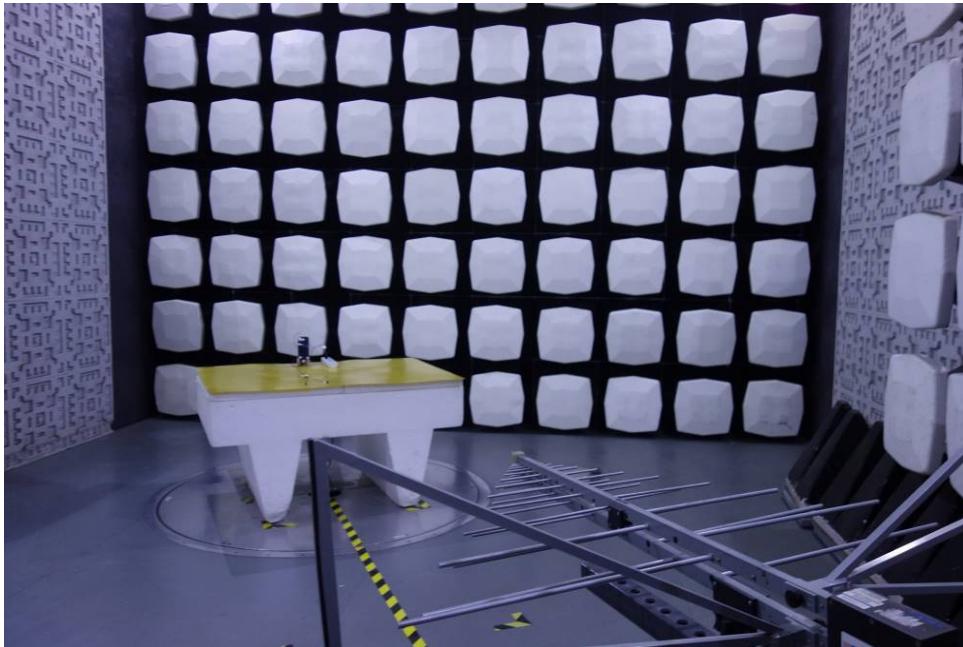
7.1 Conducted Emissions at Mains Terminals (150kHz-30MHz) Test Setup



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

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

7.2 Radiated Emissions (30MHz-1GHz) Test Setup



7.3 EUT Constructional Details (EUT Photos)

Refer to Appendix A - Photographs of EUT Constructional Details for ZR/2019/60026.

- End of the Report -



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch | Inspection & Testing Service | EEC Laboratory

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

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 83071443, 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
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