

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technological Development District, Guangzhou, China 510663

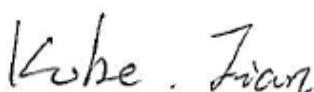
Telephone: +86 (0) 20 82155555
Fax: +86 (0) 20 82075059
Email: ee.guangzhou@sgs.com

Report No.: GZEM190301118702
Page: 1 of 113
FCC ID: 2ATUMIVIDE

TEST REPORT

Application No.:	GZEM1903011187CR
Applicant:	Gastronomy Plus Ltd
Address of Applicant:	Central Barn, Hornby Road, Claughton, Lancaster City, Lancashire Province, England
Manufacturer:	Chitco Industrial Co., Limited
Address of Manufacturer:	328#, Bldg A, tong'an, No.30 hangkong Rd E, sanwei, xixiang, bao'an district, shenzhen, PRC
Factory:	Chitco Industrial Co., Limited
Address of Factory:	328#, Bldg A, tong'an, No.30 hangkong Rd E, sanwei, xixiang, bao'an district, shenzhen, PRC
Equipment Under Test (EUT):	
FCC ID: 2ATUMIVIDE	
EUT Name:	Sous Vide Circulator
Model No.:	ivide
Trade Mark:	Sousvide toos.com
Standard(s) :	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2019-03-11
Date of Test:	2019-03-12 to 2019-03-18
Date of Issue:	2019-09-23
Test Result:	Pass*

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



Kobe Jian

Lab Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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

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

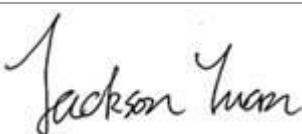
SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch Inspection & Testing Services EEC Laboratory. 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



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

Report No.: GZEM190301118702
Page: 2 of 113

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-09-23		Original

Authorized for issue by:			
Tested By		 Jackson Yuan	2019-03-12 to 2019-03-18
		Jackson_Yuan /Project Engineer	Date
Checked By		 Ricky Liu	2019-03-22
		Ricky_Liu /Reviewer	Date



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-Dокумент.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: (86-20) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch EEC Laboratory

No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass

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

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

3 Contents

	Page
1 Cover Page	1
2 Test Summary	3
3 Contents	4
4 General Information	6
4.1 Details of E.U.T	6
4.2 Description of Support Units	6
4.3 Measurement Uncertainty	7
4.4 Test Location	7
4.5 Test Facility	8
4.6 Deviation from Standards	9
4.7 Abnormalities from Standard Conditions	9
5 Equipment List	10
6 Radio Spectrum Technical Requirement	14
6.1 Antenna Requirement	14
6.1.1 Test Requirement:	14
6.1.2 Conclusion	14
7 Radio Spectrum Matter Test Results	15
7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)	15
7.1.1 E.U.T. Operation	16
7.1.2 Test Setup Diagram	16
7.1.3 Measurement Procedure and Data	16
7.2 Minimum 6dB Bandwidth	19
7.2.1 E.U.T. Operation	19
7.2.2 Test Setup Diagram	19
7.2.3 Measurement Procedure and Data	19
7.3 Conducted Peak Output Power	20
7.3.1 E.U.T. Operation	21
7.3.2 Test Setup Diagram	21
7.3.3 Measurement Procedure and Data	21
7.4 Power Spectrum Density	22
7.4.1 E.U.T. Operation	22
7.4.2 Test Setup Diagram	22
7.4.3 Measurement Procedure and Data	22
7.5 Conducted Band Edges Measurement	23
7.5.1 E.U.T. Operation	24
7.5.2 Test Setup Diagram	24
7.5.3 Measurement Procedure and Data	24
7.6 Conducted Spurious Emissions	25
7.6.1 E.U.T. Operation	26



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-Docment.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: (86-20) 8307 1443, or email: CN.Doccheck@sgs.com

7.6.2	Test Setup Diagram.....	26
7.6.3	Measurement Procedure and Data	26
7.7	Radiated Emissions which fall in the restricted bands.....	27
7.7.1	E.U.T. Operation.....	28
7.7.2	Test Setup Diagram.....	28
7.7.3	Measurement Procedure and Data	29
7.8	Radiated Spurious Emissions	36
7.8.1	E.U.T. Operation.....	37
7.8.2	Test Setup Diagram.....	37
7.8.3	Measurement Procedure and Data	38
8	Appendix	51
8.1	Appendix 15.247	51



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-Dокумент.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

4 General Information

4.1 Details of E.U.T.

Power Supply:	AC 120V, 50/60Hz
Rated Power:	800W, 1000W, 1200W (tested in this report)
Test Voltage:	AC 120V, 60Hz
Cable:	AC mains (unshielded, 1.3m)
Antenna Gain	0 dBi
Antenna Type	PCB Antenna
Channel Spacing	5MHz
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels	802.11b/g/n(HT20):11
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz
Software	ESP
Power setting	0.00

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
NoteBook	Apple	A1370	C02GR7BPDJYD
BT test board	SGS EMC	RF 07	RF 07



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

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch SGS-CSTC Standards Technical Services Co., Ltd. is a member of the SGS Group. SGS is a registered trademark of SGS Group. All other trademarks and service marks are the property of their respective owners.

No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn

中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 5.5 \times 10^{-8}$
2	Duty cycle	$\pm 0.57\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF Conducted power	$\pm 0.68\text{dB}$
5	RF Power Density	$\pm 1.50\text{dB}$
6	Conducted Spurious Emissions	$\pm 1.04\text{dB}$
7	RF Radiated Power	$\pm 4.5\text{dB}$ (below 1GHz)
		$\pm 4.8\text{dB}$ (above 1GHz)
8	Radiated Spurious Emission Test	$\pm 4.5\text{dB}$ (30MHz-1GHz)
		$\pm 4.8\text{dB}$ (1GHz-18GHz)
9	Temperature	$\pm 0.4^\circ\text{C}$
10	Humidity	$\pm 1.3\%$
11	Supply Voltages	$\pm 1.5\%$
12	Time	$\pm 3\%$

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

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

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch Inspection & Testing Services EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

4.5 Test Facility

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

● **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

● **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

● **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

● **FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

● **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

● **Industry Canada (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

● **VCCI (Registration No.: R-12460, C-12584, G-10449 and T-11179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-10449 and T-11179 respectively.

● **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IEC60068-2-27 and Rules of procedure IEC60068-2-27, and the relevant IEC60068-2-27 CB-Scheme Operational documents.



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



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

Report No.: GZEM190301118702
Page: 9 of 113

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-e-Dокумент.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: (86-20) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Inspection & Testing Services EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	Zhong Yu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Netwok	R&S	ENV216	EMC0118	2019-01-11	2020-01-10
LISN	R&S	ENV216	EMC2135	2018-09-21	2019-09-20
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	2018-11-19	2019-11-18
Coaxial Cable	HangTianXing	2m	EMC0107	2017-07-23	2019-07-22
Voltage Probe	SGS	N/A	EMC0106	2018-04-04	2020-04-03
Conical Metal Housing	SGS-EMC	N/A	EMC0167	2018-04-19	2020-04-18
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A

Minimum 6dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS	0.8M	EMC2136	2017-11-02	2019-11-01
MI CABLE	SGS	0.8M	EMC2137	2017-11-02	2019-11-01

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS	0.8M	EMC2136	2017-11-02	2019-11-01
MI CABLE	SGS	0.8M	EMC2137	2017-11-02	2019-11-01

Power Spectrum Density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch EEC Laboratory

No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

MI CABLE	SGS	0.8M	EMC2136	2017-11-02	2019-11-01
MI CABLE	SGS	0.8M	EMC2137	2017-11-02	2019-11-01

Conducted Band Edges Measurement

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer	AgilentTechnologies	N9020A	SEM004-10	2019-02-24	2020-02-23
ESG Vector Signal Generator	Keysight	E4438C	SEM006-03	2018-04-10	2019-04-10
EXG Analog Signal Generator	AgilentTechnologies	N5171B	SEM006-04	2017-07-26	2020-07-25
Power Meter	AgilentTechnologies	U2021XA_Ch2	SEM009-02	2018-09-20	2019-09-19
Power Meter	AgilentTechnologies	U2021XA_Ch3	SEM009-03	2018-09-20	2019-09-19
EXA Signal Analzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS	0.8M	EMC2136	2017-11-02	2019-11-01
MI CABLE	SGS	0.8M	EMC2137	2017-11-02	2019-11-01

Conducted Spurious Emissions

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS	0.8M	EMC2136	2017-11-02	2019-11-01
MI CABLE	SGS	0.8M	EMC2137	2017-11-02	2019-11-01

Radiated Emissions which fall in the restricted bands

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2019-01-20	2020-01-19
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2019-01-20	2020-01-19
Chamber cable	HangTianXing	N/A	EMC0542	2017-06-30	2019-06-30
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9160	EMC2025	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6112B	EMC0524	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna 1GHz-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2016-09-09	2019-09-08

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



SGS-CSTC Standards Technical Services Co., Ltd.
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2019-01-07	2020-01-08
Amplifier	HP	8447F	EMC2065	2018-06-01	2019-05-31
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2018-11-19	2019-11-18
Active Loop Antenna	EMCO	6502	EMC0523	2018-03-05	2020-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2019-01-11	2020-01-10
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-11	2020-01-10
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2017-06-18	2019-06-18
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2019-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2018-11-19	2019-11-18
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2018-11-19	2019-11-18
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKMESS-ELEKTRONIK	VULB 9168	SEM003-18	2016-06-29	2019-06-28
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

Radiated Spurious Emissions

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2019-01-20	2020-01-19
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2019-01-20	2020-01-19
Chamber cable	HangTianXing	N/A	EMC0542	2017-06-30	2019-06-30
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKMESS-ELEKTRONIK	VULB 9160	EMC2025	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6112B	EMC0524	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna 1GHz-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2016-09-09	2019-09-08
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2019-01-07	2020-01-08
Amplifier	HP	8447F	EMC2065	2018-06-01	2019-05-31
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2018-11-19	2019-11-18
Active Loop Antenna	EMCO	6502	EMC0523	2018-03-05	2020-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2019-01-11	2020-01-10
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-11	2020-01-10
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2017-06-18	2019-06-18
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2019-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2018-11-19	2019-11-18

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>, 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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



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

Report No.: GZEM190301118702
Page: 13 of 113

EXA Signal Analyzer	Keysight	N9010A	EMC2138	2018-11-19	2019-11-18
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2016-06-29	2019-06-28
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2018-07-20	2019-07-19
DMM	Fluke	73	EMC0007	2018-07-19	2019-07-18

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Inspection & Testing Services EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(c)

6.1.2 Conclusion

Standard Requirement:

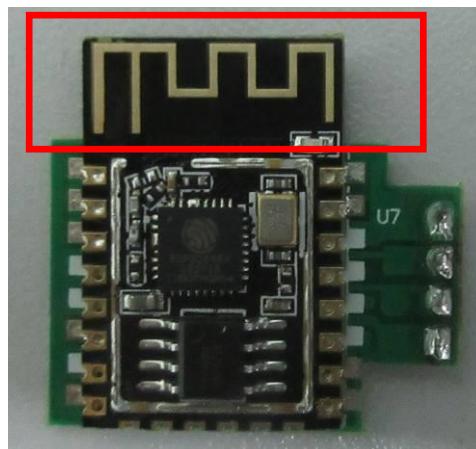
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit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

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.



Test result: The unit does meet the FCC requirements.



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

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch, China • Guangzhou • Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
SGS-CSTC Standards Technical Services Co., Ltd. China • Guangzhou • Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

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

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

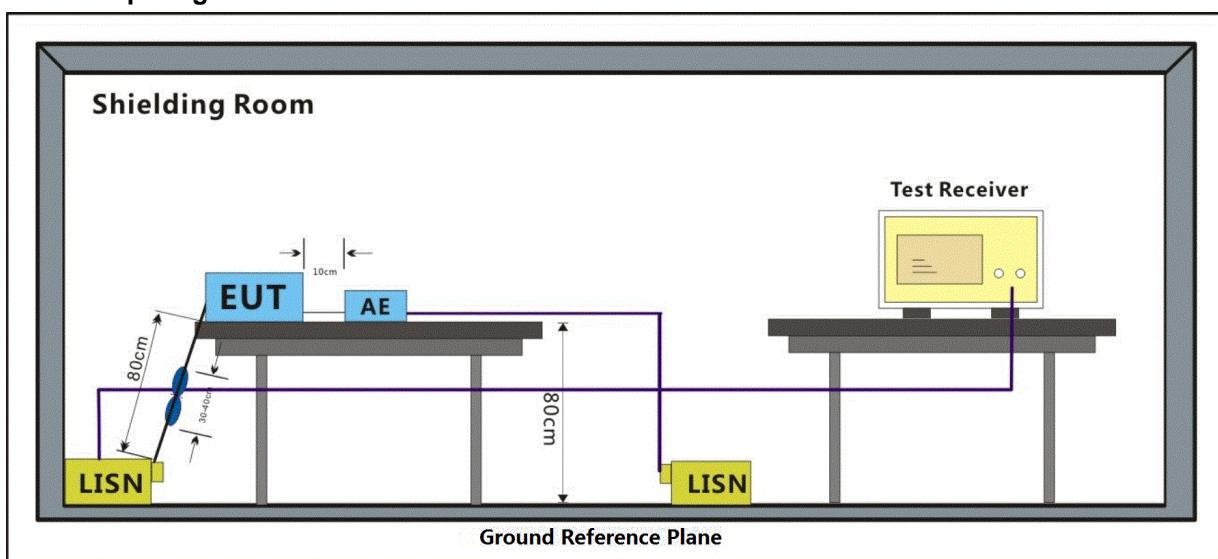
SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C Humidity: 58.4 % RH Atmospheric Pressure: 1020 mbar
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.1.2 Test Setup Diagram



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 $50\text{ohm}/50\mu\text{H} + 50\text{ohm}$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

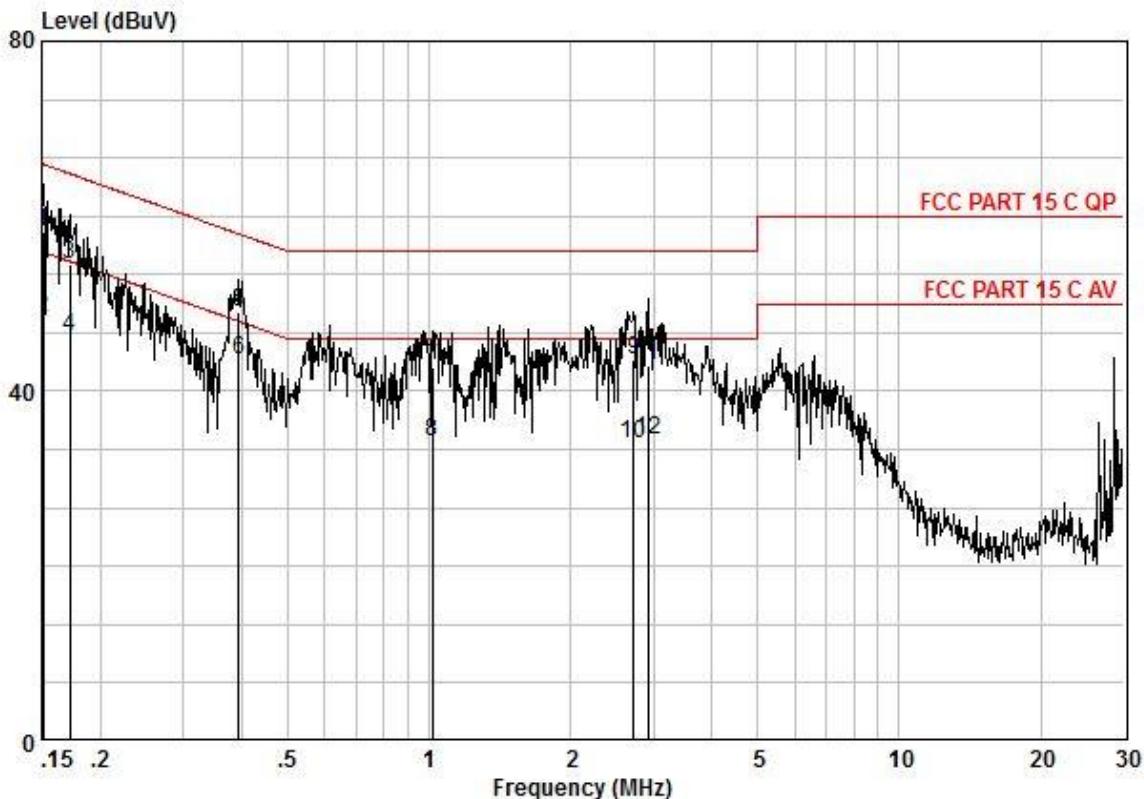
Remark: LISN=Read Level+ Cable Loss+ LISN Factor

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-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 any information contained hereon reflects the Company's findings at the time of its intervention and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute 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 or 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,



Mode:b; Line:Live Line



Pol :LIVE
No :
Model :

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.15	48.34	0.10	9.67	58.11	65.96	-7.85	QP
0.15	38.59	0.10	9.67	48.36	55.96	-7.60	AVERAGE
0.17	44.73	0.10	9.66	54.49	64.86	-10.37	QP
0.17	36.49	0.10	9.66	46.25	54.86	-8.61	AVERAGE
0.39	39.20	0.10	9.66	48.96	57.99	-9.03	QP
0.39	33.90	0.10	9.66	43.66	47.99	-4.33	AVERAGE
1.02	33.02	0.10	9.67	42.79	56.00	-13.21	QP
1.02	24.55	0.10	9.67	34.32	46.00	-11.68	AVERAGE
2.72	33.79	0.18	9.69	43.66	56.00	-12.34	QP
2.72	24.14	0.18	9.69	34.01	46.00	-11.99	AVERAGE
2.92	33.12	0.19	9.69	43.00	56.00	-13.00	QP
2.92	24.61	0.19	9.69	34.49	46.00	-11.51	AVERAGE

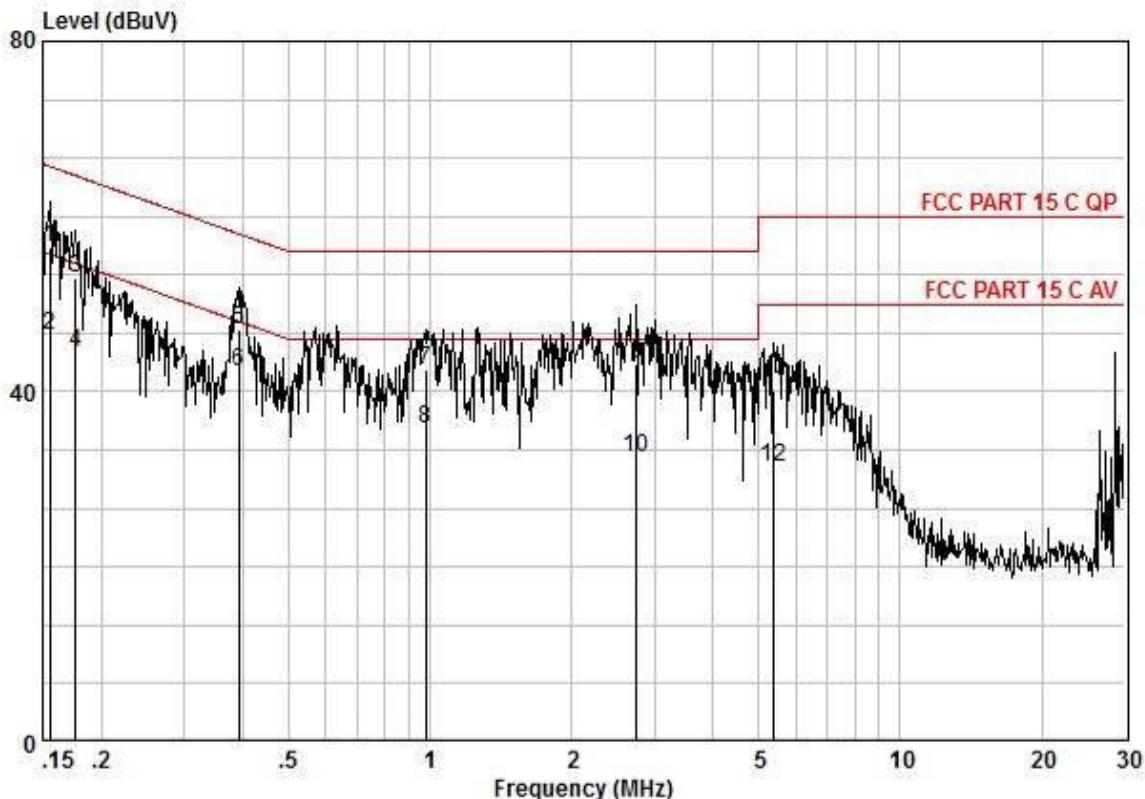
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch EEC Laboratory
No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Line:Neutral Line



Pol : NEUTRAL
No :
Model :

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.16	46.78	0.10	9.59	56.47	65.69	-9.23	QP
0.16	36.64	0.10	9.59	46.33	55.69	-9.37	AVERAGE
0.18	43.17	0.10	9.60	52.87	64.68	-11.81	QP
0.18	34.85	0.10	9.60	44.55	54.68	-10.13	AVERAGE
0.39	37.46	0.10	9.59	47.15	58.03	-10.88	QP
0.39	32.50	0.10	9.59	42.19	48.03	-5.84	AVERAGE
0.98	32.87	0.10	9.61	42.58	56.00	-13.42	QP
0.98	25.99	0.10	9.61	35.70	46.00	-10.30	AVERAGE
2.75	33.45	0.18	9.62	43.25	56.00	-12.75	QP
2.75	22.75	0.18	9.62	32.55	46.00	-13.45	AVERAGE
5.39	30.31	0.20	9.66	40.17	60.00	-19.83	QP
5.39	21.52	0.20	9.66	31.38	50.00	-18.62	AVERAGE

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

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

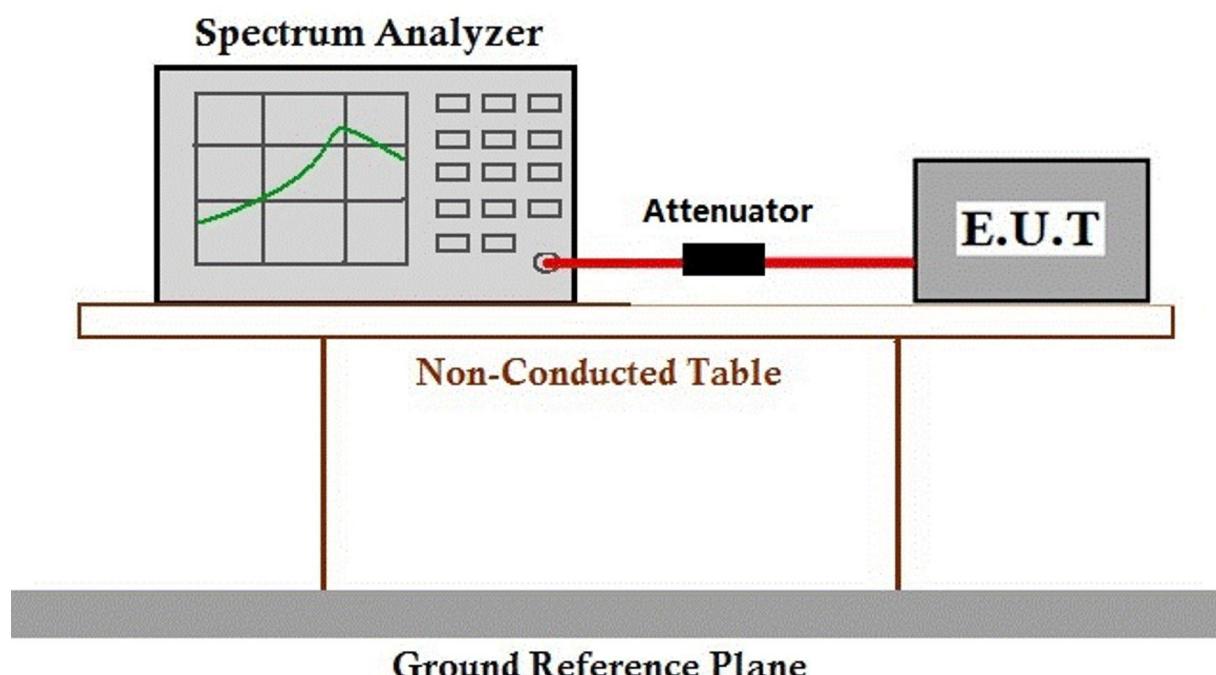
7.2 Minimum 6dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.247a(2)
Test Method: ANSI C63.10 (2013) Section 11.8.1
Limit: ≥ 500 kHz

7.2.1 E.U.T. Operation

Operating Environment:
Temperature: 23.9 °C Humidity: 66.3 % RH Atmospheric Pressure: 1020 mbar
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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

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

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Inspection & Testing Services EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

7.3 Conducted Peak Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)

Test Method: ANSI C63.10 (2013) Section 11.9.1

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq$ hopping channels < 50
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital 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-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

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Inspection & Testing Services EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

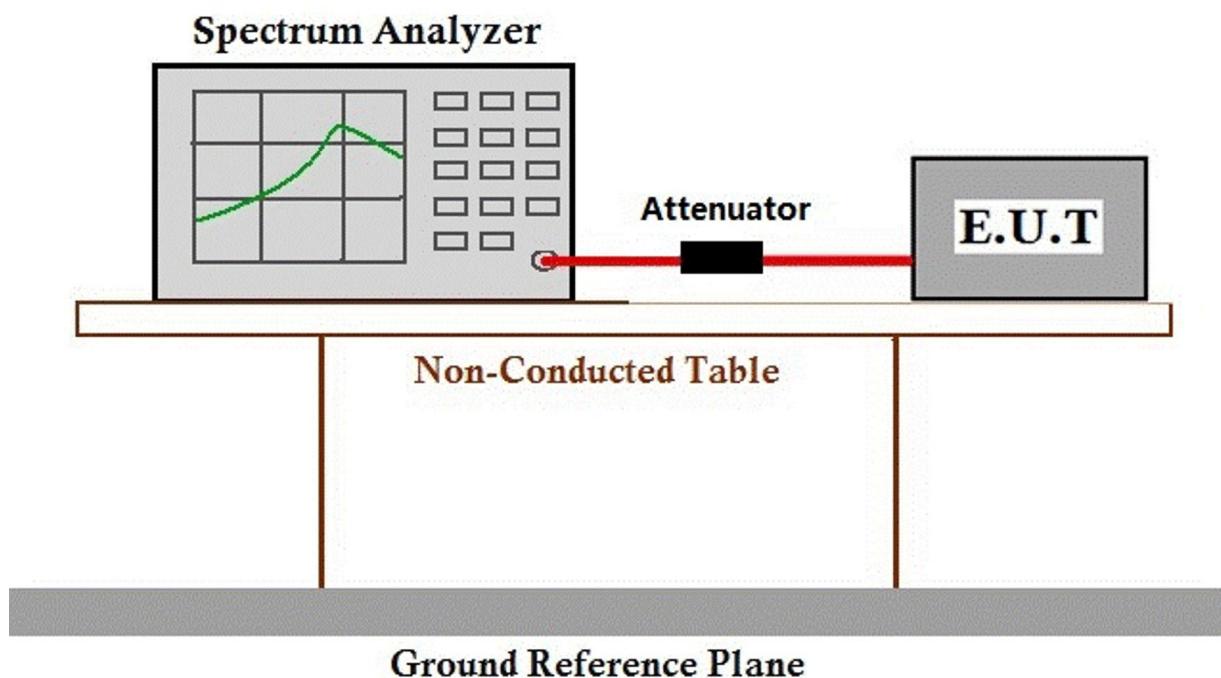
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 23.9 °C Humidity: 66.2 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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: (86-20) 8307 1443, or email: CN.Doccheck@sgs.com

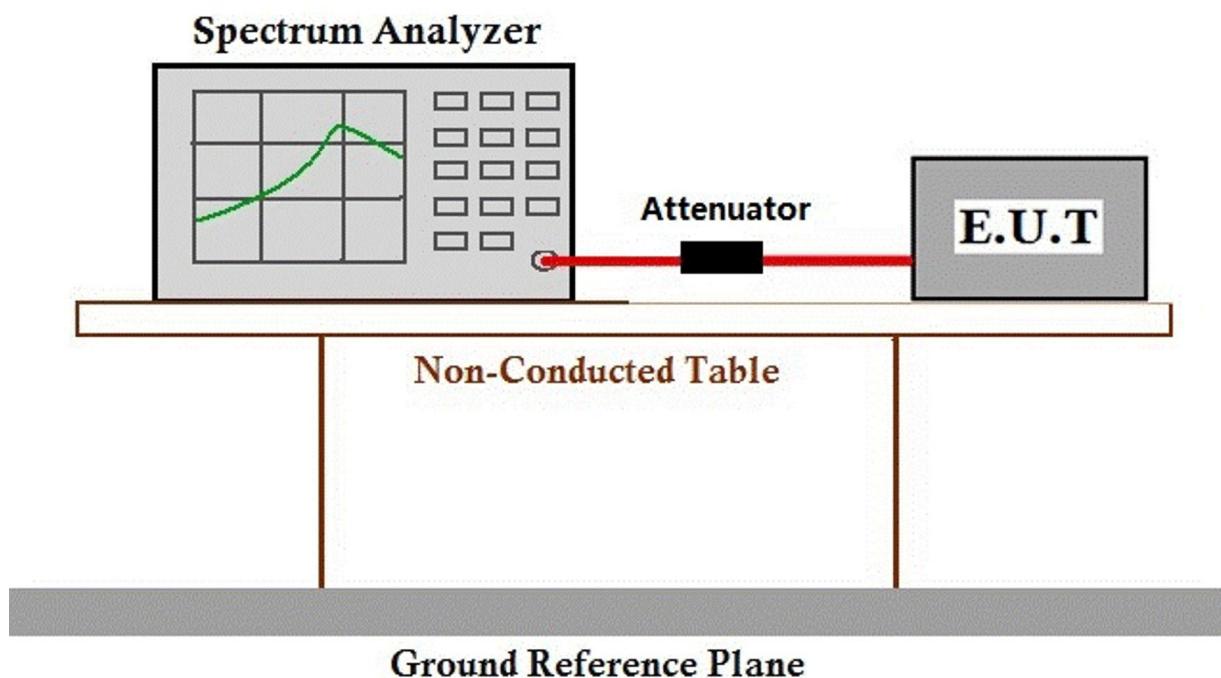
7.4 Power Spectrum Density

Test Requirement 47 CFR Part 15, Subpart C 15.247(e)
Test Method: ANSI C63.10 (2013) Section 11.10.2
Limit: $\leq 8\text{dBm}$ in any 3 kHz band during any time interval of continuous transmission

7.4.1 E.U.T. Operation

Operating Environment:
Temperature: 23.9 °C Humidity: 66.3 % RH Atmospheric Pressure: 1020 mbar
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.4.2 Test Setup Diagram



7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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



7.5 Conducted Band Edges Measurement

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.13.3.2
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))



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

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

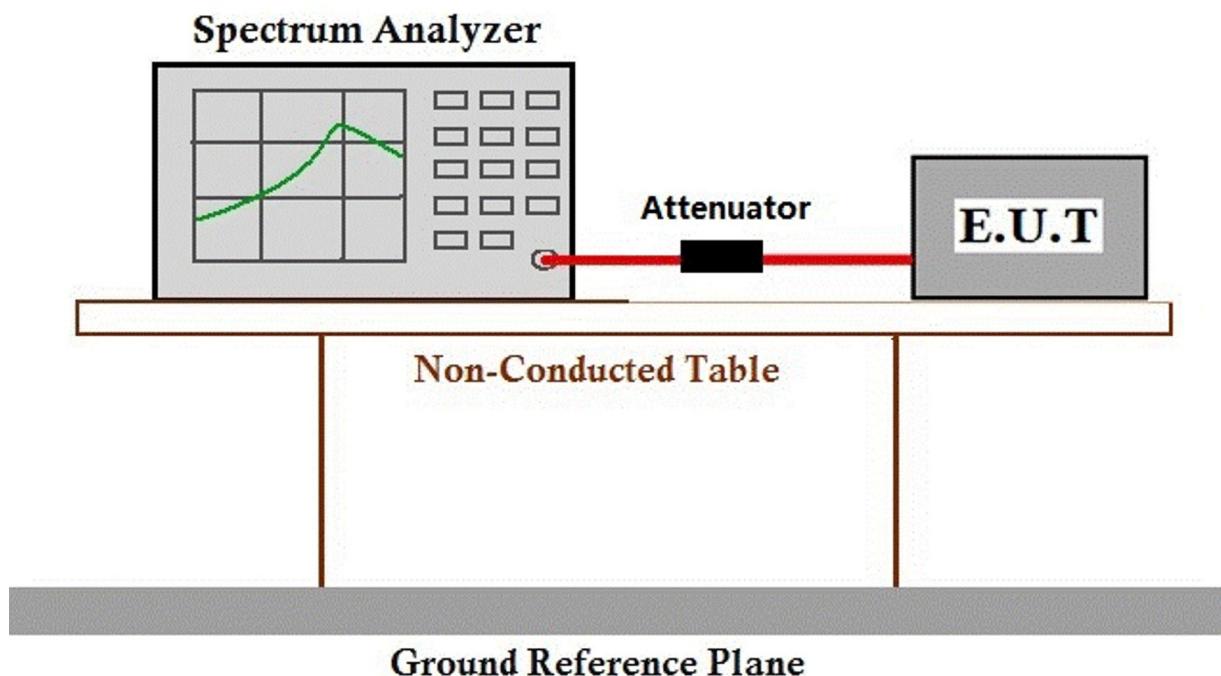
SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Inspection & Testing Services EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 23.9 °C Humidity: 66.3 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.5.2 Test Setup Diagram**7.5.3 Measurement Procedure and Data**

The detailed test data see: Appendix 15.247

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch SGS-CSTC Standards Technical Services Co., Ltd. is a member of the SGS Group. SGS is a registered trademark of SGS Group. All rights reserved.

7.6 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.11
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))



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

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

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Inspection & Testing Services EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

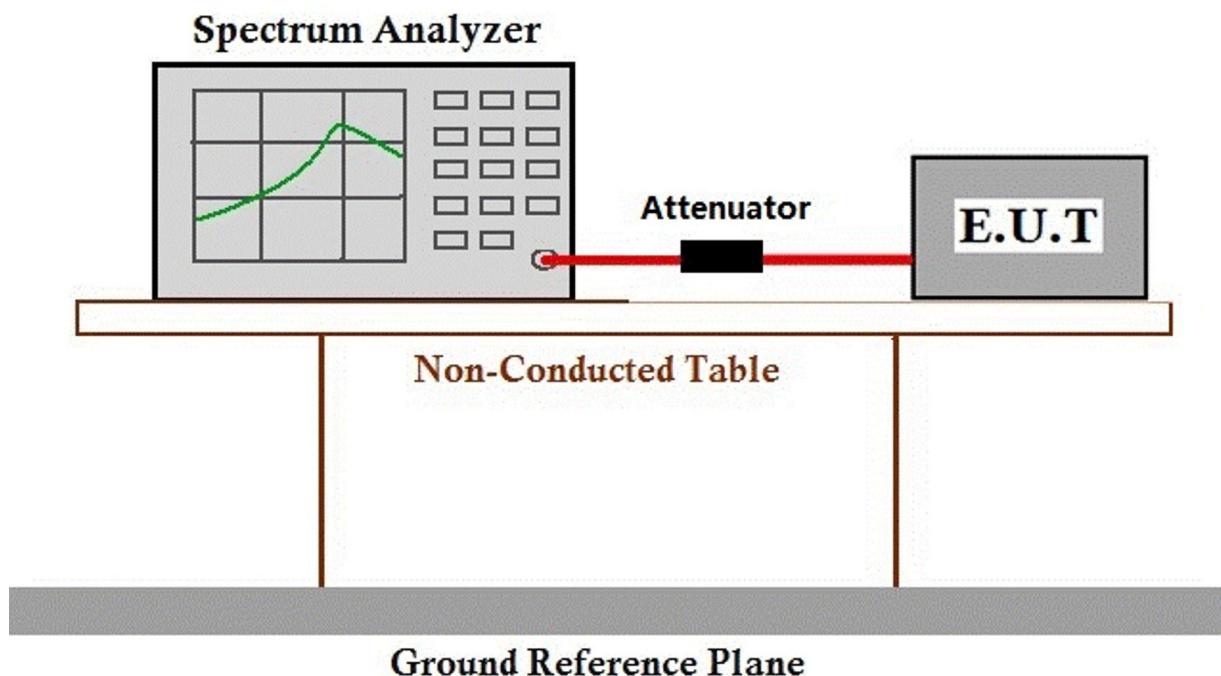
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 23.9 °C Humidity: 66.3 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.6.2 Test Setup Diagram



7.6.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch SGS-CSTC Standards Technical Services Co., Ltd. is a member of SGS Group. SGS is a registered trademark of SGS Group.

No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

7.7 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.247(d)

Test Method: ANSI C63.10 (2013) Section 6.10.5

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
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 9-90kHz, 110-490kHz and 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-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 22.1 °C Humidity: 58.2 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.7.2 Test Setup Diagram

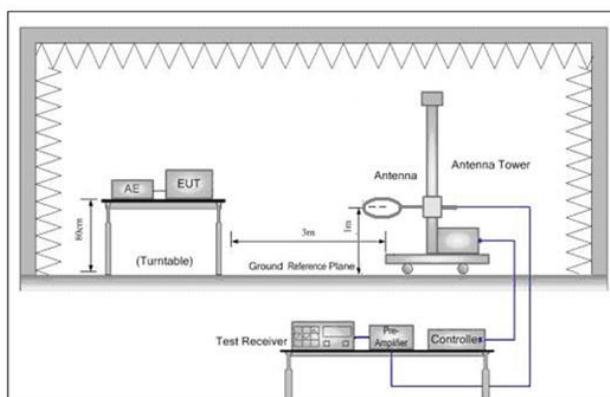


Figure 1. Below 30MHz

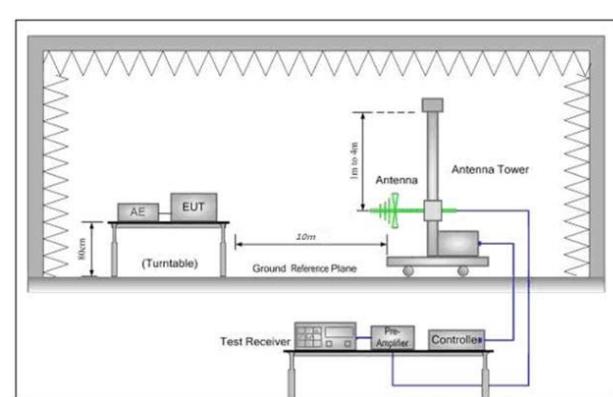


Figure 2. 30MHz to 1GHz

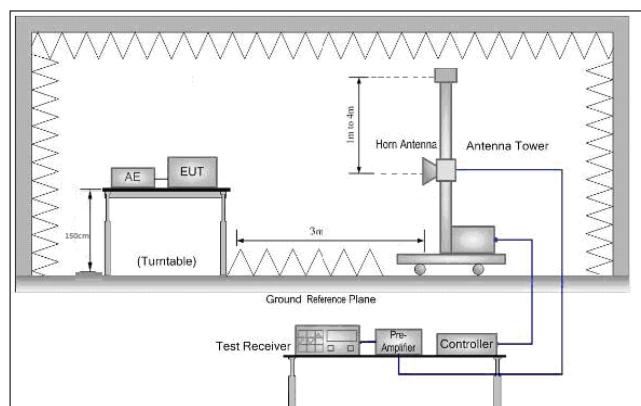


Figure 3. Above 1 GHz

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: (86-20) 8307 1443, or email: CN.Doccheck@sgs.com



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Inspection & Testing Services EEC Laboratory
No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

7.7.3 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. 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.
- e. 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.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. 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.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Level=Read Level + Antenna Factor + Cable Loss - 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 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

Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	36.29	26.25	5.03	37.44	30.13	54.00	-23.87 HORIZONTAL Average
2	2310.000	47.69	26.25	5.03	37.44	41.53	74.00	-32.47 HORIZONTAL Peak
3	2386.580	59.43	26.43	4.88	37.42	53.32	54.00	-0.68 HORIZONTAL Average
4	2386.580	68.78	26.43	4.88	37.42	62.67	74.00	-11.33 HORIZONTAL Peak
5	2483.500	38.49	26.58	5.23	37.40	32.90	54.00	-21.10 HORIZONTAL Average
6	2483.500	50.29	26.58	5.23	37.40	44.70	74.00	-29.30 HORIZONTAL Peak
7	2500.000	35.73	26.60	4.95	37.39	29.89	54.00	-24.11 HORIZONTAL Average
8	2500.000	49.77	26.60	4.95	37.39	43.93	74.00	-30.07 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	31.32	26.25	5.03	37.44	25.16	54.00	-28.84 VERTICAL Average
2	2310.000	44.80	26.25	5.03	37.44	38.64	74.00	-35.36 VERTICAL Peak
3	2386.463	42.69	26.43	4.88	37.42	36.58	54.00	-17.42 VERTICAL Average
4	2386.463	56.60	26.43	4.88	37.42	50.49	74.00	-23.51 VERTICAL Peak
5	2483.500	31.43	26.58	5.23	37.40	25.84	54.00	-28.16 VERTICAL Average
6	2483.500	46.30	26.58	5.23	37.40	40.71	74.00	-33.29 VERTICAL Peak
7	2500.000	32.56	26.60	4.95	37.39	26.72	54.00	-27.28 VERTICAL Average
8	2500.000	45.13	26.60	4.95	37.39	39.29	74.00	-34.71 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	34.32	26.25	5.03	37.44	28.16	54.00	-25.84 HORIZONTAL Average
2	2310.000	48.62	26.25	5.03	37.44	42.46	74.00	-31.54 HORIZONTAL Peak
3	2390.000	41.36	26.43	4.88	37.42	35.25	54.00	-18.75 HORIZONTAL Average
4	2390.000	52.67	26.43	4.88	37.42	46.56	74.00	-27.44 HORIZONTAL Peak
5	2483.500	48.42	26.58	5.23	37.40	42.83	54.00	-11.17 HORIZONTAL Average
6	2483.500	60.47	26.58	5.23	37.40	54.88	74.00	-19.12 HORIZONTAL Peak
7	2500.000	39.13	26.60	4.95	37.39	33.29	54.00	-20.71 HORIZONTAL Average
8	2500.000	52.12	26.60	4.95	37.39	46.28	74.00	-27.72 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	30.56	26.25	5.03	37.44	24.40	54.00	-29.60 VERTICAL Average
2	2310.000	45.05	26.25	5.03	37.44	38.89	74.00	-35.11 VERTICAL Peak
3	2390.000	33.46	26.43	4.88	37.42	27.35	54.00	-26.65 VERTICAL Average
4	2390.000	46.22	26.43	4.88	37.42	40.11	74.00	-33.89 VERTICAL Peak
5	2483.500	33.73	26.58	5.23	37.40	28.14	54.00	-25.86 VERTICAL Average
6	2483.500	48.04	26.58	5.23	37.40	42.45	74.00	-31.55 VERTICAL Peak
7	2500.000	33.06	26.60	4.95	37.39	27.22	54.00	-26.78 VERTICAL Average
8	2500.000	45.44	26.60	4.95	37.39	39.60	74.00	-34.40 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn Guangzhou Branch Inspection & Testing Services EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	39.77	26.25	5.03	37.44	33.61	54.00	-20.39 HORIZONTAL Average
2	2310.000	52.58	26.25	5.03	37.44	46.42	74.00	-27.58 HORIZONTAL Peak
3	2390.000	51.22	26.43	4.88	37.42	45.11	54.00	-8.89 HORIZONTAL Average
4	2390.000	67.65	26.43	4.88	37.42	61.54	74.00	-12.46 HORIZONTAL Peak
5	2483.500	47.09	26.58	5.23	37.40	41.50	54.00	-12.50 HORIZONTAL Average
6	2483.500	59.73	26.58	5.23	37.40	54.14	74.00	-19.86 HORIZONTAL Peak
7	2500.000	43.84	26.60	4.95	37.39	38.00	54.00	-16.00 HORIZONTAL Average
8	2500.000	59.15	26.60	4.95	37.39	53.31	74.00	-20.69 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	31.44	26.25	5.03	37.44	25.28	54.00	-28.72 VERTICAL Average
2	2310.000	44.86	26.25	5.03	37.44	38.70	74.00	-35.30 VERTICAL Peak
3	2390.000	42.34	26.43	4.88	37.42	36.23	54.00	-17.77 VERTICAL Average
4	2390.000	57.64	26.43	4.88	37.42	51.53	74.00	-22.47 VERTICAL Peak
5	2483.500	36.00	26.58	5.23	37.40	30.41	54.00	-23.59 VERTICAL Average
6	2483.500	51.06	26.58	5.23	37.40	45.47	74.00	-28.53 VERTICAL Peak
7	2500.000	34.24	26.60	4.95	37.39	28.40	54.00	-25.60 VERTICAL Average
8	2500.000	48.91	26.60	4.95	37.39	43.07	74.00	-30.93 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn Guangzhou Branch Inspection & Testing Services EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	37.61	26.25	5.03	37.44	31.45	54.00	-22.55 HORIZONTAL Average
2	2310.000	50.61	26.25	5.03	37.44	44.45	74.00	-29.55 HORIZONTAL Peak
3	2390.000	48.41	26.43	4.88	37.42	42.30	54.00	-11.70 HORIZONTAL Average
4	2390.000	62.30	26.43	4.88	37.42	56.19	74.00	-17.81 HORIZONTAL Peak
5	2483.500	50.90	26.58	5.23	37.40	45.31	54.00	-8.69 HORIZONTAL Average
6	2483.500	68.95	26.58	5.23	37.40	63.36	74.00	-10.64 HORIZONTAL Peak
7	2500.000	50.77	26.60	4.95	37.39	44.93	54.00	-9.07 HORIZONTAL Average
8	2500.000	65.04	26.60	4.95	37.39	59.20	74.00	-14.80 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	32.35	26.25	5.03	37.44	26.19	54.00	-27.81 VERTICAL Average
2	2310.000	46.07	26.25	5.03	37.44	39.91	74.00	-34.09 VERTICAL Peak
3	2390.000	41.01	26.43	4.88	37.42	34.90	54.00	-19.10 VERTICAL Average
4	2390.000	50.69	26.43	4.88	37.42	44.58	74.00	-29.42 VERTICAL Peak
5	2483.500	46.62	26.58	5.23	37.40	41.03	54.00	-12.97 VERTICAL Average
6	2483.500	59.13	26.58	5.23	37.40	53.54	74.00	-20.46 VERTICAL Peak
7	2500.000	43.22	26.60	4.95	37.39	37.38	54.00	-16.62 VERTICAL Average
8	2500.000	54.45	26.60	4.95	37.39	48.61	74.00	-25.39 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	38.88	26.25	5.03	37.44	32.72	54.00	-21.28 HORIZONTAL Average
2	2310.000	50.94	26.25	5.03	37.44	44.78	74.00	-29.22 HORIZONTAL Peak
3	2390.000	49.82	26.43	4.88	37.42	43.71	54.00	-10.29 HORIZONTAL Average
4	2390.000	64.37	26.43	4.88	37.42	58.26	74.00	-15.74 HORIZONTAL Peak
5	2483.500	44.54	26.58	5.23	37.40	38.95	54.00	-15.05 HORIZONTAL Average
6	2483.500	57.87	26.58	5.23	37.40	52.28	74.00	-21.72 HORIZONTAL Peak
7	2500.000	42.63	26.60	4.95	37.39	36.79	54.00	-17.21 HORIZONTAL Average
8	2500.000	55.77	26.60	4.95	37.39	49.93	74.00	-24.07 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	32.54	26.25	5.03	37.44	26.38	54.00	-27.62 VERTICAL Average
2	2310.000	44.65	26.25	5.03	37.44	38.49	74.00	-35.51 VERTICAL Peak
3	2390.000	42.45	26.43	4.88	37.42	36.34	54.00	-17.66 VERTICAL Average
4	2390.000	52.95	26.43	4.88	37.42	46.84	74.00	-27.16 VERTICAL Peak
5	2483.500	36.42	26.58	5.23	37.40	30.83	54.00	-23.17 VERTICAL Average
6	2483.500	49.80	26.58	5.23	37.40	44.21	74.00	-29.79 VERTICAL Peak
7	2500.000	32.49	26.60	4.95	37.39	26.65	54.00	-27.35 VERTICAL Average
8	2500.000	46.70	26.60	4.95	37.39	40.86	74.00	-33.14 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	37.96	26.25	5.03	37.44	31.80	54.00	-22.20 HORIZONTAL Average
2	2310.000	49.82	26.25	5.03	37.44	43.66	74.00	-30.34 HORIZONTAL Peak
3	2390.000	49.72	26.43	4.88	37.42	43.61	54.00	-10.39 HORIZONTAL Average
4	2390.000	60.48	26.43	4.88	37.42	54.37	74.00	-19.63 HORIZONTAL Peak
5	2483.500	52.98	26.58	5.23	37.40	47.39	54.00	-6.61 HORIZONTAL Average
6	2483.500	67.01	26.58	5.23	37.40	61.42	74.00	-12.58 HORIZONTAL Peak
7	2500.000	49.09	26.60	4.95	37.39	43.25	54.00	-10.75 HORIZONTAL Average
8	2500.000	62.23	26.60	4.95	37.39	56.39	74.00	-17.61 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	32.08	26.25	5.03	37.44	25.92	54.00	-28.08 VERTICAL Average
2	2310.000	45.12	26.25	5.03	37.44	38.96	74.00	-35.04 VERTICAL Peak
3	2390.000	38.10	26.43	4.88	37.42	31.99	54.00	-22.01 VERTICAL Average
4	2390.000	50.93	26.43	4.88	37.42	44.82	74.00	-29.18 VERTICAL Peak
5	2483.500	41.97	26.58	5.23	37.40	36.38	54.00	-17.62 VERTICAL Average
6	2483.500	55.83	26.58	5.23	37.40	50.24	74.00	-23.76 VERTICAL Peak
7	2500.000	40.15	26.60	4.95	37.39	34.31	54.00	-19.69 VERTICAL Average
8	2500.000	52.17	26.60	4.95	37.39	46.33	74.00	-27.67 VERTICAL Peak

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



7.8 Radiated Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.247(d)

Test Method: ANSI C63.10 (2013) Section 6.4,6.5,6.6

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
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 9-90kHz, 110-490kHz and 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-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 22.1 °C Humidity: 58.1 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20). Only the data of worst case is recorded in the report.

7.8.2 Test Setup Diagram

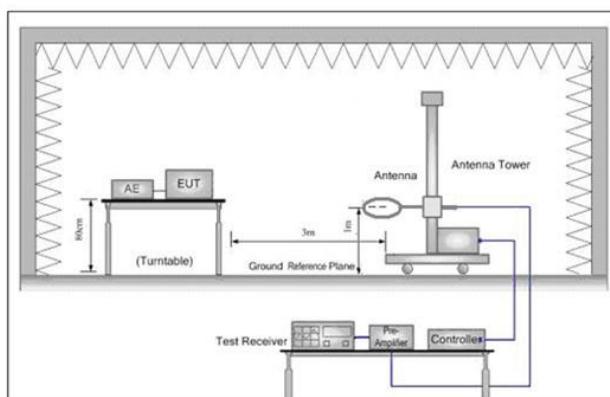


Figure 1. Below 30MHz

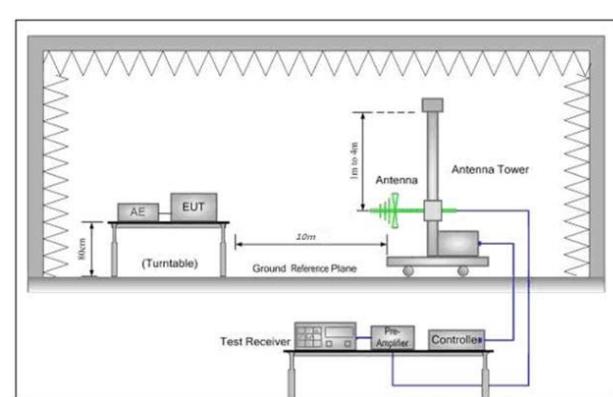


Figure 2. 30MHz to 1GHz

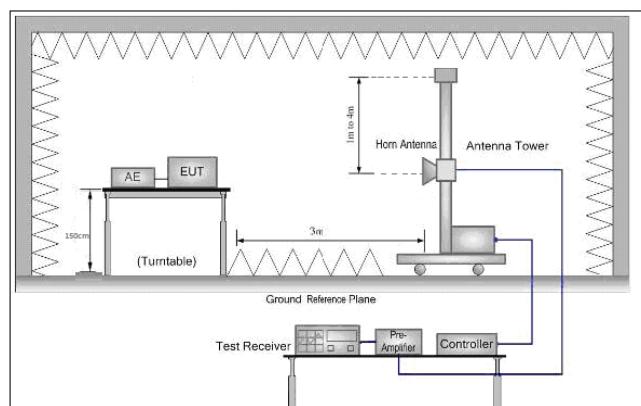


Figure 3. Above 1 GHz

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: (86-20) 8307 1443, or email: CN.Doccheck@sgs.com



7.8.3 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. 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.
- e. 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.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. 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.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
- 3) Scan from 9kHz to 25GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown



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

Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	32.634	35.14	12.28	0.15	29.80	17.77	40.00	-22.23 HORIZONTAL QP
2	69.357	41.69	10.86	0.71	29.42	23.84	40.00	-16.16 HORIZONTAL QP
3	120.277	34.71	11.52	0.92	29.40	17.75	43.50	-25.75 HORIZONTAL QP
4	176.269	29.92	12.79	1.33	29.40	14.64	43.50	-28.86 HORIZONTAL QP
5	605.659	30.52	20.63	2.10	29.50	23.75	46.00	-22.25 HORIZONTAL QP
6	878.322	30.74	23.80	2.91	28.90	28.55	46.00	-17.45 HORIZONTAL QP

Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	3214.623	35.20	27.90	5.91	37.01	32.00	54.00	-22.00 HORIZONTAL Average
2	3214.623	47.39	27.90	5.91	37.01	44.19	74.00	-29.81 HORIZONTAL Peak
3	4824.721	32.80	30.82	6.01	36.94	32.69	54.00	-21.31 HORIZONTAL Average
4	4824.721	45.75	30.82	6.01	36.94	45.64	74.00	-28.36 HORIZONTAL Peak
5	7236.015	32.74	35.55	7.35	36.93	38.71	54.00	-15.29 HORIZONTAL Average
6	7236.015	45.27	35.55	7.35	36.93	51.24	74.00	-22.76 HORIZONTAL Peak
7	8663.404	30.06	36.22	7.95	36.96	37.27	54.00	-16.73 HORIZONTAL Average
8	8663.404	44.97	36.22	7.95	36.96	52.18	74.00	-21.82 HORIZONTAL Peak
9	9648.789	30.34	37.54	8.18	37.08	38.98	54.00	-15.02 HORIZONTAL Average
10	9648.789	44.31	37.54	8.18	37.08	52.95	74.00	-21.05 HORIZONTAL Peak
11	12060.620	28.96	39.46	10.71	37.17	41.96	54.00	-12.04 HORIZONTAL Average
12	12060.620	41.28	39.46	10.71	37.17	54.28	74.00	-19.72 HORIZONTAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor					
				dB	dB	dBuV/m	dBuV/m	dB	
1	30.962	30.55	12.22	0.07	29.83	13.01	40.00	-26.99	VERTICAL QP
2	47.492	30.22	12.94	0.65	29.51	14.30	40.00	-25.70	VERTICAL QP
3	121.123	31.01	11.57	0.92	29.40	14.10	43.50	-29.40	VERTICAL QP
4	159.225	28.69	13.40	1.26	29.40	13.95	43.50	-29.55	VERTICAL QP
5	734.491	28.48	21.80	3.36	29.42	24.22	46.00	-21.78	VERTICAL QP
6	935.546	28.70	24.35	3.64	28.30	28.39	46.00	-17.61	VERTICAL QP

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor					
				dB	dB	dBuV/m	dBuV/m	dB	
1	3725.195	32.18	28.64	7.42	36.92	31.32	54.00	-22.68	VERTICAL Average
2	3725.195	45.64	28.64	7.42	36.92	44.78	74.00	-29.22	VERTICAL Peak
3	4824.062	37.43	30.82	6.01	36.94	37.32	54.00	-16.68	VERTICAL Average
4	4824.062	46.71	30.82	6.01	36.94	46.60	74.00	-27.40	VERTICAL Peak
5	7236.741	31.87	35.55	7.35	36.93	37.84	54.00	-16.16	VERTICAL Average
6	7236.741	44.57	35.55	7.35	36.93	50.54	74.00	-23.46	VERTICAL Peak
7	8638.399	30.53	36.20	7.96	36.95	37.74	54.00	-16.26	VERTICAL Average
8	8638.399	44.52	36.20	7.96	36.95	51.73	74.00	-22.27	VERTICAL Peak
9	9648.018	29.38	37.54	8.18	37.08	38.02	54.00	-15.98	VERTICAL Average
10	9648.018	45.04	37.54	8.18	37.08	53.68	74.00	-20.32	VERTICAL Peak
11	12060.100	27.31	39.46	10.71	37.17	40.31	54.00	-13.69	VERTICAL Average
12	12060.100	40.45	39.46	10.71	37.17	53.45	74.00	-20.55	VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:middle

Freq	ReadAntenna		Cable		Preamp		Limit	Over	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor	Level	Line					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB		
1	3746.792	32.78	28.76	7.58	36.92	32.20	54.00	-21.80	HORIZONTAL	Average	
2	3746.792	44.36	28.76	7.58	36.92	43.78	74.00	-30.22	HORIZONTAL	Peak	
3	4884.948	32.30	30.95	6.86	36.95	33.16	54.00	-20.84	HORIZONTAL	Average	
4	4884.948	46.18	30.95	6.86	36.95	47.04	74.00	-26.96	HORIZONTAL	Peak	
5	5898.442	30.64	32.24	7.42	37.00	33.30	54.00	-20.70	HORIZONTAL	Average	
6	5898.442	44.11	32.24	7.42	37.00	46.77	74.00	-27.23	HORIZONTAL	Peak	
7	7326.015	29.18	35.74	7.39	36.92	35.39	54.00	-18.61	HORIZONTAL	Average	
8	7326.015	44.31	35.74	7.39	36.92	50.52	74.00	-23.48	HORIZONTAL	Peak	
9	9768.257	29.03	37.74	8.37	37.09	38.05	54.00	-15.95	HORIZONTAL	Average	
10	9768.257	44.53	37.74	8.37	37.09	53.55	74.00	-20.45	HORIZONTAL	Peak	
11	12210.270	27.56	39.21	10.98	37.06	40.69	54.00	-13.31	HORIZONTAL	Average	
12	12210.270	41.59	39.21	10.98	37.06	54.72	74.00	-19.28	HORIZONTAL	Peak	

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:middle

Freq	ReadAntenna		Cable		Preamp		Level	Line	Over Limit	Over Pol/Phase	Remark
	Level	Factor	Loss	Factor	Level	Level					
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB				
1	3790.361	31.23	28.97	7.83	36.92	31.11	54.00	-22.89	VERTICAL	Average	
2	3790.361	44.10	28.97	7.83	36.92	43.98	74.00	-30.02	VERTICAL	Peak	
3	4884.977	31.72	30.95	6.86	36.95	32.58	54.00	-21.42	VERTICAL	Average	
4	4884.977	45.94	30.95	6.86	36.95	46.80	74.00	-27.20	VERTICAL	Peak	
5	7326.052	32.76	35.74	7.39	36.92	38.97	54.00	-15.03	VERTICAL	Average	
6	7326.052	44.22	35.74	7.39	36.92	50.43	74.00	-23.57	VERTICAL	Peak	
7	8789.516	31.71	36.35	8.02	36.97	39.11	54.00	-14.89	VERTICAL	Average	
8	8789.516	44.63	36.35	8.02	36.97	52.03	74.00	-21.97	VERTICAL	Peak	
9	9768.497	30.03	37.74	8.37	37.09	39.05	54.00	-14.95	VERTICAL	Average	
10	9768.497	44.66	37.74	8.37	37.09	53.68	74.00	-20.32	VERTICAL	Peak	
11	12210.280	28.30	39.21	10.98	37.06	41.43	54.00	-12.57	VERTICAL	Average	
12	12210.280	40.78	39.21	10.98	37.06	53.91	74.00	-20.09	VERTICAL	Peak	

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-Dокумент.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,

Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	4027.554	33.37	29.52	7.17	36.90	33.16	54.00	-20.84 HORIZONTAL Average
2	4027.554	45.15	29.52	7.17	36.90	44.94	74.00	-29.06 HORIZONTAL Peak
3	4924.490	30.25	31.01	7.49	36.95	31.80	54.00	-22.20 HORIZONTAL Average
4	4924.490	45.20	31.01	7.49	36.95	46.75	74.00	-27.25 HORIZONTAL Peak
5	7386.015	29.72	35.85	7.42	36.92	36.07	54.00	-17.93 HORIZONTAL Average
6	7386.015	44.03	35.85	7.42	36.92	50.38	74.00	-23.62 HORIZONTAL Peak
7	8764.146	29.03	36.33	8.00	36.97	36.39	54.00	-17.61 HORIZONTAL Average
8	8764.146	44.22	36.33	8.00	36.97	51.58	74.00	-22.42 HORIZONTAL Peak
9	9848.880	29.94	37.82	8.46	37.09	39.13	54.00	-14.87 HORIZONTAL Average
10	9848.880	44.37	37.82	8.46	37.09	53.56	74.00	-20.44 HORIZONTAL Peak
11	12310.740	27.54	39.03	11.10	36.97	40.70	54.00	-13.30 HORIZONTAL Average
12	12310.740	41.49	39.03	11.10	36.97	54.65	74.00	-19.35 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	4924.497	33.31	31.01	7.49	36.95	34.86	54.00	-19.14 VERTICAL Average
2	4924.497	44.70	31.01	7.49	36.95	46.25	74.00	-27.75 VERTICAL Peak
3	6285.695	30.63	33.51	6.95	36.99	34.10	54.00	-19.90 VERTICAL Average
4	6285.695	44.58	33.51	6.95	36.99	48.05	74.00	-25.95 VERTICAL Peak
5	7386.309	29.85	35.85	7.42	36.92	36.20	54.00	-17.80 VERTICAL Average
6	7386.309	44.21	35.85	7.42	36.92	50.56	74.00	-23.44 VERTICAL Peak
7	8789.516	31.83	36.35	8.02	36.97	39.23	54.00	-14.77 VERTICAL Average
8	8789.516	45.06	36.35	8.02	36.97	52.46	74.00	-21.54 VERTICAL Peak
9	9848.151	29.26	37.82	8.46	37.09	38.45	54.00	-15.55 VERTICAL Average
10	9848.151	44.59	37.82	8.46	37.09	53.78	74.00	-20.22 VERTICAL Peak
11	12310.220	26.49	39.03	11.10	36.97	39.65	54.00	-14.35 VERTICAL Average
12	12310.220	41.32	39.03	11.10	36.97	54.48	74.00	-19.52 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	31.071	31.52	12.23	0.08	29.83	14.00	40.00	-26.00 HORIZONTAL QP
2	39.715	28.44	12.60	0.60	29.58	12.06	40.00	-27.94 HORIZONTAL QP
3	48.502	28.83	12.97	0.63	29.51	12.92	40.00	-27.08 HORIZONTAL QP
4	120.277	29.80	11.52	0.92	29.40	12.84	43.50	-30.66 HORIZONTAL QP
5	169.005	26.87	13.08	1.31	29.40	11.86	43.50	-31.64 HORIZONTAL QP
6	432.546	40.86	16.89	1.85	29.86	29.74	46.00	-16.26 HORIZONTAL QP

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	4824.888	32.35	30.82	6.01	36.94	32.24	54.00	-21.76 HORIZONTAL Average
2	4824.888	46.70	30.82	6.01	36.94	46.59	74.00	-27.41 HORIZONTAL Peak
3	5830.640	32.01	32.19	7.45	37.00	34.65	54.00	-19.35 HORIZONTAL Average
4	5830.640	44.70	32.19	7.45	37.00	47.34	74.00	-26.66 HORIZONTAL Peak
5	7236.015	32.51	35.55	7.35	36.93	38.48	54.00	-15.52 HORIZONTAL Average
6	7236.015	46.21	35.55	7.35	36.93	52.18	74.00	-21.82 HORIZONTAL Peak
7	8764.146	31.20	36.33	8.00	36.97	38.56	54.00	-15.44 HORIZONTAL Average
8	8764.146	44.21	36.33	8.00	36.97	51.57	74.00	-22.43 HORIZONTAL Peak
9	9648.221	31.76	37.54	8.18	37.08	40.40	54.00	-13.60 HORIZONTAL Average
10	9648.221	44.50	37.54	8.18	37.08	53.14	74.00	-20.86 HORIZONTAL Peak
11	12010.130	28.48	39.50	10.67	37.20	41.45	54.00	-12.55 HORIZONTAL Average
12	12010.130	41.20	39.50	10.67	37.20	54.17	74.00	-19.83 HORIZONTAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



**SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch**

Report No.: GZEM190301118702
Page: 44 of 113

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable		Preamp		Level	Line	Over	Limit	Over
	Level	Factor	Loss	Factor	Level	Line					
MHz	dBuV	dB/m		dB	dB	dBuV/m	dBuV/m		dB		
31.180	30.50	12.23	0.08	29.83	12.98	40.00	-27.02	VERTICAL	QP		
53.318	30.38	12.78	0.59	29.49	14.26	40.00	-25.74	VERTICAL	QP		
119.436	33.49	11.48	0.92	29.40	16.49	43.50	-27.01	VERTICAL	QP		
180.649	29.65	12.67	1.34	29.40	14.26	43.50	-29.24	VERTICAL	QP		
636.134	29.48	20.86	2.10	29.49	22.95	46.00	-23.05	VERTICAL	QP		
890.728	29.37	23.92	2.87	28.75	27.41	46.00	-18.59	VERTICAL	QP		

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable		Preamp		Level	Line	Limit	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor	Level	Line						
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB	dB		
1	4824.058	32.25	30.82	6.01	36.94	32.14	54.00	-21.86	VERTICAL	Average		
2	4824.058	45.95	30.82	6.01	36.94	45.84	74.00	-28.16	VERTICAL	Peak		
3	5932.638	32.87	32.26	7.32	37.00	35.45	54.00	-18.55	VERTICAL	Average		
4	5932.638	44.02	32.26	7.32	37.00	46.60	74.00	-27.40	VERTICAL	Peak		
5	7236.309	31.49	35.55	7.35	36.93	37.46	54.00	-16.54	VERTICAL	Average		
6	7236.309	44.37	35.55	7.35	36.93	50.34	74.00	-23.66	VERTICAL	Peak		
7	8663.404	29.48	36.22	7.95	36.96	36.69	54.00	-17.31	VERTICAL	Average		
8	8663.404	44.62	36.22	7.95	36.96	51.83	74.00	-22.17	VERTICAL	Peak		
9	9648.588	31.24	37.54	8.18	37.08	39.88	54.00	-14.12	VERTICAL	Average		
10	9648.588	44.21	37.54	8.18	37.08	52.85	74.00	-21.15	VERTICAL	Peak		
11	12060.350	28.34	39.46	10.71	37.17	41.34	54.00	-12.66	VERTICAL	Average		
12	12114.350	41.41	39.37	10.82	37.12	54.48	74.00	-19.52	VERTICAL	Peak		

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-Dокумент.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.

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.



Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:middle

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor					
1	3779.422	33.06	28.92	7.78	36.92	32.84	54.00	-21.16	HORIZONTAL Average
2	3779.422	44.13	28.92	7.78	36.92	43.91	74.00	-30.09	HORIZONTAL Peak
3	4884.058	32.75	30.95	6.86	36.95	33.61	54.00	-20.39	HORIZONTAL Average
4	4884.058	45.45	30.95	6.86	36.95	46.31	74.00	-27.69	HORIZONTAL Peak
5	7326.144	31.14	35.74	7.39	36.92	37.35	54.00	-16.65	HORIZONTAL Average
6	7326.144	43.52	35.74	7.39	36.92	49.73	74.00	-24.27	HORIZONTAL Peak
7	8588.607	30.89	36.16	7.98	36.95	38.08	54.00	-15.92	HORIZONTAL Average
8	8588.607	44.63	36.16	7.98	36.95	51.82	74.00	-22.18	HORIZONTAL Peak
9	9768.497	29.45	37.74	8.37	37.09	38.47	54.00	-15.53	HORIZONTAL Average
10	9768.497	44.80	37.74	8.37	37.09	53.82	74.00	-20.18	HORIZONTAL Peak
11	12210.950	29.52	39.21	10.98	37.06	42.65	54.00	-11.35	HORIZONTAL Average
12	12210.950	41.07	39.21	10.98	37.06	54.20	74.00	-19.80	HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:middle

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor					
1	3801.333	30.74	29.01	7.89	36.92	30.72	54.00	-23.28	VERTICAL Average
2	3801.333	43.69	29.01	7.89	36.92	43.67	74.00	-30.33	VERTICAL Peak
3	4884.490	32.32	30.95	6.86	36.95	33.18	54.00	-20.82	VERTICAL Average
4	4884.490	44.34	30.95	6.86	36.95	45.20	74.00	-28.80	VERTICAL Peak
5	7326.461	31.28	35.74	7.39	36.92	37.49	54.00	-16.51	VERTICAL Average
6	7326.461	43.87	35.74	7.39	36.92	50.08	74.00	-23.92	VERTICAL Peak
7	8319.836	31.70	36.22	8.15	36.92	39.15	54.00	-14.85	VERTICAL Average
8	8319.836	43.79	36.22	8.15	36.92	51.24	74.00	-22.76	VERTICAL Peak
9	9768.430	29.04	37.74	8.37	37.09	38.06	54.00	-15.94	VERTICAL Average
10	9768.430	44.35	37.74	8.37	37.09	53.37	74.00	-20.63	VERTICAL Peak
11	12210.760	28.99	39.21	10.98	37.06	42.12	54.00	-11.88	VERTICAL Average
12	12210.760	41.01	39.21	10.98	37.06	54.14	74.00	-19.86	VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	3252.005	39.88	27.90	5.83	37.00	36.61	54.00	-17.39 HORIZONTAL Average
2	3252.005	49.80	27.90	5.83	37.00	46.53	74.00	-27.47 HORIZONTAL Peak
3	4924.300	32.96	31.01	7.49	36.95	34.51	54.00	-19.49 HORIZONTAL Average
4	4924.300	43.34	31.01	7.49	36.95	44.89	74.00	-29.11 HORIZONTAL Peak
5	7386.150	31.77	35.85	7.42	36.92	38.12	54.00	-15.88 HORIZONTAL Average
6	7386.150	43.62	35.85	7.42	36.92	49.97	74.00	-24.03 HORIZONTAL Peak
7	8489.882	31.67	36.10	8.03	36.94	38.86	54.00	-15.14 HORIZONTAL Average
8	8489.882	45.05	36.10	8.03	36.94	52.24	74.00	-21.76 HORIZONTAL Peak
9	9848.018	30.36	37.82	8.46	37.09	39.55	54.00	-14.45 HORIZONTAL Average
10	9848.018	44.29	37.82	8.46	37.09	53.48	74.00	-20.52 HORIZONTAL Peak
11	12310.710	28.51	39.03	11.10	36.97	41.67	54.00	-12.33 HORIZONTAL Average
12	12310.710	40.68	39.03	11.10	36.97	53.84	74.00	-20.16 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	3856.668	34.41	29.19	7.73	36.91	34.42	54.00	-19.58 VERTICAL Average
2	3856.668	44.21	29.19	7.73	36.91	44.22	74.00	-29.78 VERTICAL Peak
3	4924.307	34.32	31.01	7.49	36.95	35.87	54.00	-18.13 VERTICAL Average
4	4924.307	44.71	31.01	7.49	36.95	46.26	74.00	-27.74 VERTICAL Peak
5	7386.052	31.27	35.85	7.42	36.92	37.62	54.00	-16.38 VERTICAL Average
6	7386.052	43.79	35.85	7.42	36.92	50.14	74.00	-23.86 VERTICAL Peak
7	8789.516	34.47	36.35	8.02	36.97	41.87	54.00	-12.13 VERTICAL Average
8	8789.516	44.73	36.35	8.02	36.97	52.13	74.00	-21.87 VERTICAL Peak
9	9848.151	30.82	37.82	8.46	37.09	40.01	54.00	-13.99 VERTICAL Average
10	9848.151	44.56	37.82	8.46	37.09	53.75	74.00	-20.25 VERTICAL Peak
11	12310.100	28.60	39.03	11.10	36.97	41.76	54.00	-12.24 VERTICAL Average
12	12310.100	42.03	39.03	11.10	36.97	55.19	74.00	-18.81 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch, China • Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch, China • Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com
SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch, China • Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	30.962	31.21	12.22	0.07	29.83	13.67	40.00	-26.33 HORIZONTAL QP
2	48.502	32.58	12.97	0.63	29.51	16.67	40.00	-23.33 HORIZONTAL QP
3	121.976	30.03	11.62	0.93	29.40	13.18	43.50	-30.32 HORIZONTAL QP
4	139.851	36.09	13.10	1.03	29.40	20.82	43.50	-22.68 HORIZONTAL QP
5	560.693	29.29	19.90	2.01	29.54	21.66	46.00	-24.34 HORIZONTAL QP
6	815.968	29.84	22.86	2.78	29.33	26.15	46.00	-19.85 HORIZONTAL QP

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	3214.623	33.49	27.90	5.91	37.01	30.29	54.00	-23.71 HORIZONTAL Average
2	3214.623	47.44	27.90	5.91	37.01	44.24	74.00	-29.76 HORIZONTAL Peak
3	4824.058	32.73	30.82	6.01	36.94	32.62	54.00	-21.38 HORIZONTAL Average
4	4824.058	45.88	30.82	6.01	36.94	45.77	74.00	-28.23 HORIZONTAL Peak
5	7236.015	29.22	35.55	7.35	36.93	35.19	54.00	-18.81 HORIZONTAL Average
6	7236.015	44.71	35.55	7.35	36.93	50.68	74.00	-23.32 HORIZONTAL Peak
7	8663.404	29.89	36.22	7.95	36.96	37.10	54.00	-16.90 HORIZONTAL Average
8	8663.404	44.63	36.22	7.95	36.96	51.84	74.00	-22.16 HORIZONTAL Peak
9	9768.151	31.86	37.74	8.37	37.09	40.88	54.00	-13.12 HORIZONTAL Average
10	9768.151	44.56	37.74	8.37	37.09	53.58	74.00	-20.42 HORIZONTAL Peak
11	12210.280	26.93	39.21	10.98	37.06	40.06	54.00	-13.94 HORIZONTAL Average
12	12210.280	40.80	39.21	10.98	37.06	53.93	74.00	-20.07 HORIZONTAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	31.955	30.99	12.25	0.11	29.81	13.54	40.00	-26.46 VERTICAL QP
2	40.135	26.82	12.60	0.61	29.57	10.46	40.00	-29.54 VERTICAL QP
3	53.882	27.31	12.73	0.59	29.49	11.14	40.00	-28.86 VERTICAL QP
4	121.976	30.70	11.62	0.93	29.40	13.85	43.50	-29.65 VERTICAL QP
5	178.133	28.09	12.74	1.34	29.40	12.77	43.50	-30.73 VERTICAL QP
6	878.322	29.69	23.80	2.91	28.90	27.50	46.00	-18.50 VERTICAL QP

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	3958.309	30.33	29.42	7.35	36.90	30.20	54.00	-23.80 VERTICAL Average
2	3958.309	44.04	29.42	7.35	36.90	43.91	74.00	-30.09 VERTICAL Peak
3	4824.993	33.46	30.85	6.15	36.94	33.52	54.00	-20.48 VERTICAL Average
4	4824.993	46.48	30.85	6.15	36.94	46.54	74.00	-27.46 VERTICAL Peak
5	7236.038	30.50	35.55	7.35	36.93	36.47	54.00	-17.53 VERTICAL Average
6	7236.038	44.15	35.55	7.35	36.93	50.12	74.00	-23.88 VERTICAL Peak
7	8688.480	31.63	36.25	7.94	36.96	38.86	54.00	-15.14 VERTICAL Average
8	8688.480	44.46	36.25	7.94	36.96	51.69	74.00	-22.31 VERTICAL Peak
9	9648.349	32.22	37.54	8.18	37.08	40.86	54.00	-13.14 VERTICAL Average
10	9648.349	45.37	37.54	8.18	37.08	54.01	74.00	-19.99 VERTICAL Peak
11	12060.950	28.99	39.46	10.71	37.17	41.99	54.00	-12.01 VERTICAL Average
12	12060.950	42.23	39.46	10.71	37.17	55.23	74.00	-18.77 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:middle

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor					
1	3790.361	31.92	28.97	7.83	36.92	31.80	54.00	-22.20	HORIZONTAL Average
2	3790.361	45.24	28.97	7.83	36.92	45.12	74.00	-28.88	HORIZONTAL Peak
3	4884.977	33.77	30.95	6.86	36.95	34.63	54.00	-19.37	HORIZONTAL Average
4	4884.977	46.21	30.95	6.86	36.95	47.07	74.00	-26.93	HORIZONTAL Peak
5	7326.172	29.25	35.74	7.39	36.92	35.46	54.00	-18.54	HORIZONTAL Average
6	7326.172	43.61	35.74	7.39	36.92	49.82	74.00	-24.18	HORIZONTAL Peak
7	8224.200	29.63	36.33	8.23	36.92	37.27	54.00	-16.73	HORIZONTAL Average
8	8224.200	44.47	36.33	8.23	36.92	52.11	74.00	-21.89	HORIZONTAL Peak
9	9768.221	29.78	37.74	8.37	37.09	38.80	54.00	-15.20	HORIZONTAL Average
10	9768.221	44.59	37.74	8.37	37.09	53.61	74.00	-20.39	HORIZONTAL Peak
11	12210.100	27.11	39.21	10.98	37.06	40.24	54.00	-13.76	HORIZONTAL Average
12	12210.100	41.00	39.21	10.98	37.06	54.13	74.00	-19.87	HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:middle

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor					
1	3757.637	31.98	28.82	7.65	36.92	31.53	54.00	-22.47	VERTICAL Average
2	3757.637	44.32	28.82	7.65	36.92	43.87	74.00	-30.13	VERTICAL Peak
3	4884.007	30.61	30.95	6.86	36.95	31.47	54.00	-22.53	VERTICAL Average
4	4884.007	44.98	30.95	6.86	36.95	45.84	74.00	-28.16	VERTICAL Peak
5	6640.542	29.99	34.49	7.15	36.97	34.66	54.00	-19.34	VERTICAL Average
6	6640.542	43.72	34.49	7.15	36.97	48.39	74.00	-25.61	VERTICAL Peak
7	7326.005	31.99	35.74	7.39	36.92	38.20	54.00	-15.80	VERTICAL Average
8	7326.005	44.01	35.74	7.39	36.92	50.22	74.00	-23.78	VERTICAL Peak
9	9768.221	28.19	37.74	8.37	37.09	37.21	54.00	-16.79	VERTICAL Average
10	9768.221	43.45	37.74	8.37	37.09	52.47	74.00	-21.53	VERTICAL Peak
11	12310.740	27.94	39.03	11.10	36.97	41.10	54.00	-12.90	VERTICAL Average
12	12310.740	41.09	39.03	11.10	36.97	54.25	74.00	-19.75	VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch EEC Laboratory 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	3252.005	36.34	27.90	5.83	37.00	33.07	54.00	-20.93 HORIZONTAL Average
2	3252.005	49.48	27.90	5.83	37.00	46.21	74.00	-27.79 HORIZONTAL Peak
3	4924.993	32.64	31.01	7.49	36.95	34.19	54.00	-19.81 HORIZONTAL Average
4	4924.993	44.98	31.01	7.49	36.95	46.53	74.00	-27.47 HORIZONTAL Peak
5	7386.006	32.50	35.85	7.42	36.92	38.85	54.00	-15.15 HORIZONTAL Average
6	7386.006	45.07	35.85	7.42	36.92	51.42	74.00	-22.58 HORIZONTAL Peak
7	8416.584	31.00	36.15	8.07	36.93	38.29	54.00	-15.71 HORIZONTAL Average
8	8416.584	44.57	36.15	8.07	36.93	51.86	74.00	-22.14 HORIZONTAL Peak
9	9848.880	30.43	37.82	8.46	37.09	39.62	54.00	-14.38 HORIZONTAL Average
10	9848.880	43.31	37.82	8.46	37.09	52.50	74.00	-21.50 HORIZONTAL Peak
11	12310.250	27.21	39.03	11.10	36.97	40.37	54.00	-13.63 HORIZONTAL Average
12	12310.250	41.74	39.03	11.10	36.97	54.90	74.00	-19.10 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:High

Freq	ReadAntenna		Cable Preamp		Limit Level	Line Limit	Over Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
				dB	dB	dBuV/m	dBuV/m	dB
1	3177.672	33.96	27.90	5.86	37.01	30.71	54.00	-23.29 VERTICAL Average
2	3177.672	45.87	27.90	5.86	37.01	42.62	74.00	-31.38 VERTICAL Peak
3	4924.977	30.86	31.01	7.49	36.95	32.41	54.00	-21.59 VERTICAL Average
4	4924.977	44.89	31.01	7.49	36.95	46.44	74.00	-27.56 VERTICAL Peak
5	7386.006	30.58	35.85	7.42	36.92	36.93	54.00	-17.07 VERTICAL Average
6	7386.006	44.51	35.85	7.42	36.92	50.86	74.00	-23.14 VERTICAL Peak
7	8738.852	32.82	36.30	7.98	36.96	40.14	54.00	-13.86 VERTICAL Average
8	8738.852	45.06	36.30	7.98	36.96	52.38	74.00	-21.62 VERTICAL Peak
9	9848.684	31.89	37.82	8.46	37.09	41.08	54.00	-12.92 VERTICAL Average
10	9848.684	44.83	37.82	8.46	37.09	54.02	74.00	-19.98 VERTICAL Peak
11	12310.580	27.04	39.03	11.10	36.97	40.20	54.00	-13.80 VERTICAL Average
12	12310.580	41.37	39.03	11.10	36.97	54.53	74.00	-19.47 VERTICAL Peak

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



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch, China • Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch, China • Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com
SGS-CSTC Standards Technical Services Co., Ltd. No.198 Kezhi Road, Scientific Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
Guangzhou Branch, China • Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

8 Appendix

8.1 Appendix 15.247

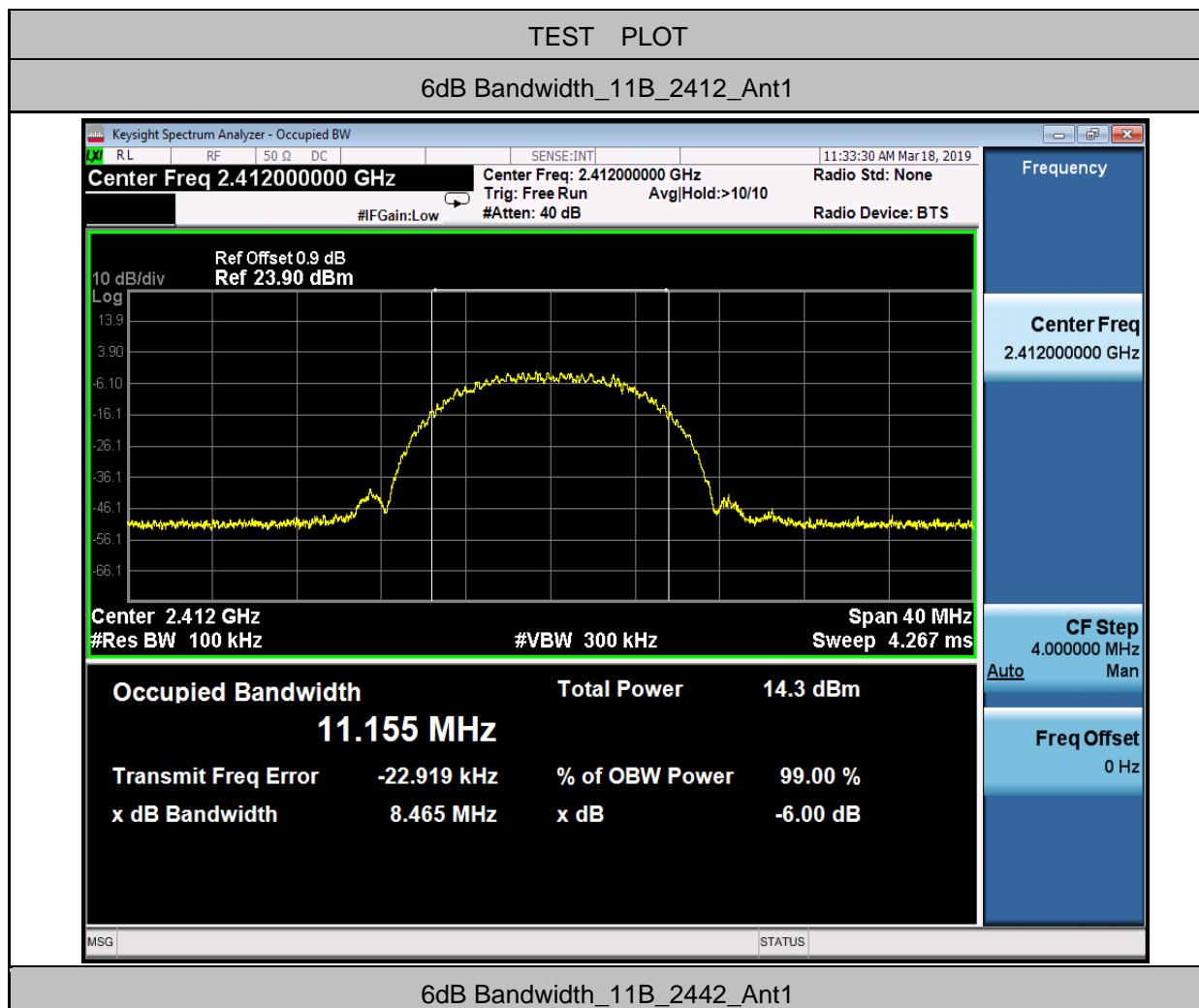
1.6dB Bandwidth

Test Mode	Test Channel	Ant	6dB Bandwidth [MHz]	Limit	Verdict
11B	2412	Ant1	8.465	0.5	PASS
11B	2442	Ant1	8.459	0.5	PASS
11B	2462	Ant1	8.469	0.5	PASS
11G	2412	Ant1	16.39	0.5	PASS
11G	2442	Ant1	16.40	0.5	PASS
11G	2462	Ant1	16.39	0.5	PASS
11N20SISO	2412	Ant1	17.46	0.5	PASS
11N20SISO	2442	Ant1	17.48	0.5	PASS
11N20SISO	2462	Ant1	17.48	0.5	PASS



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-Dокумент.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.

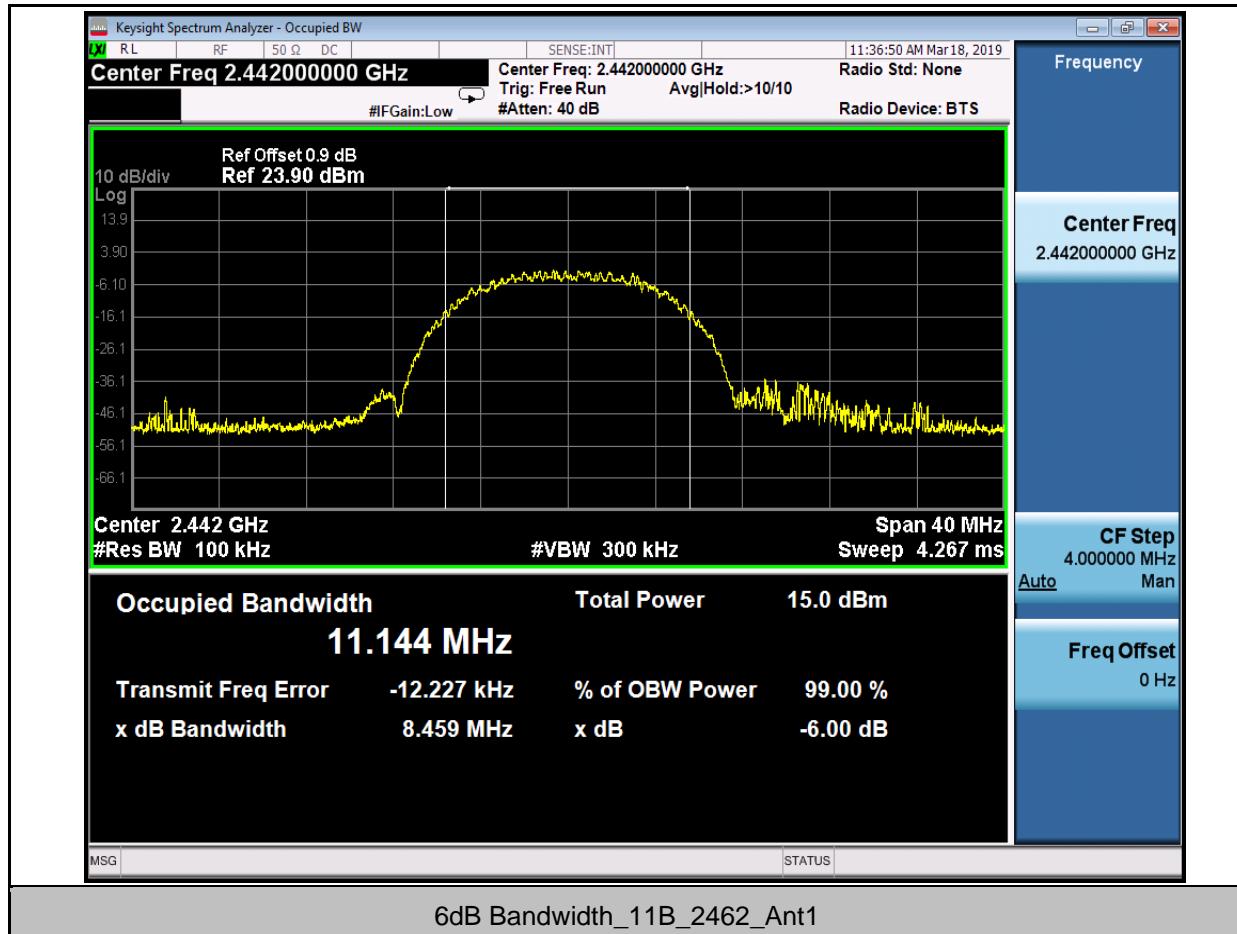
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com



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-Dокумент.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.

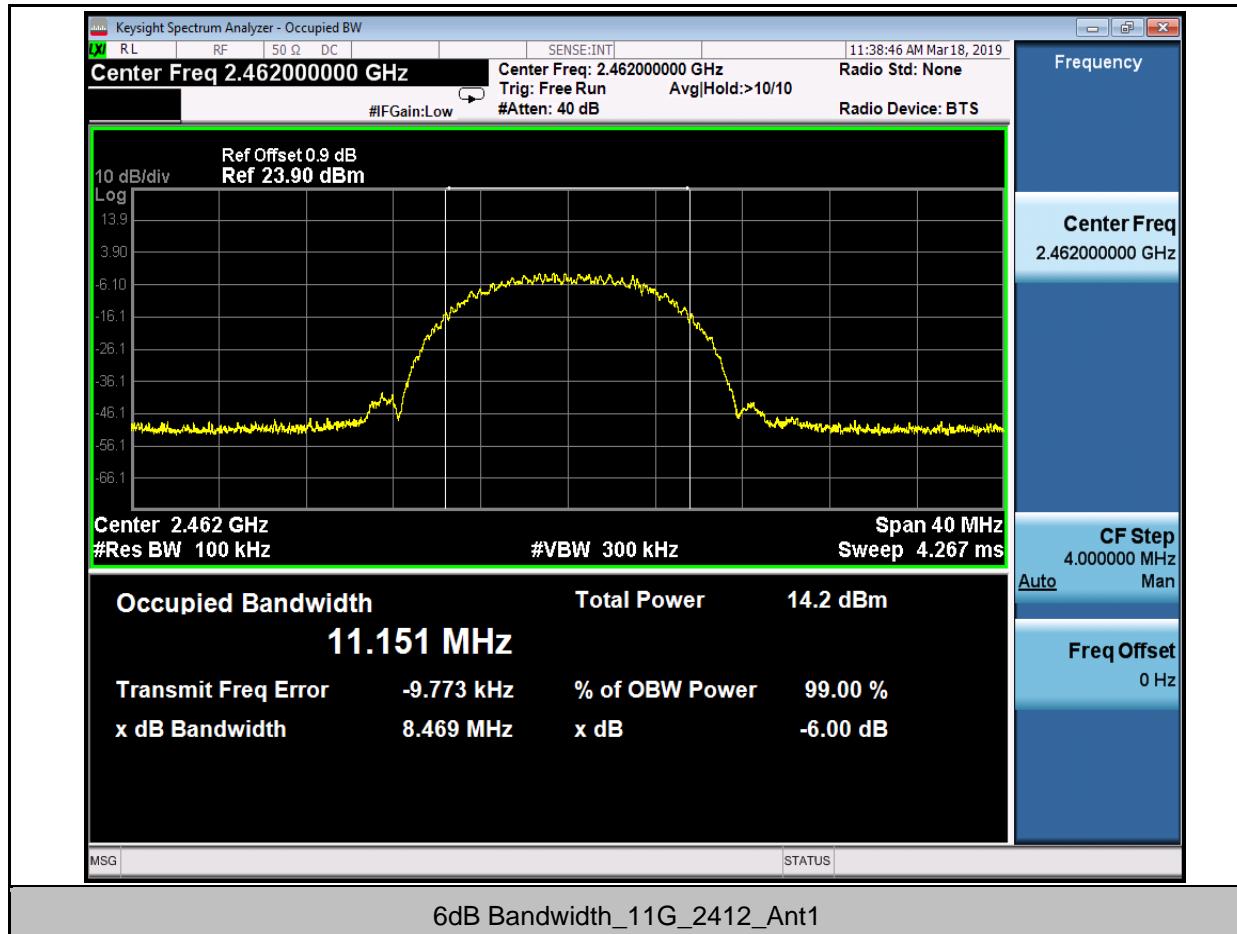
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com





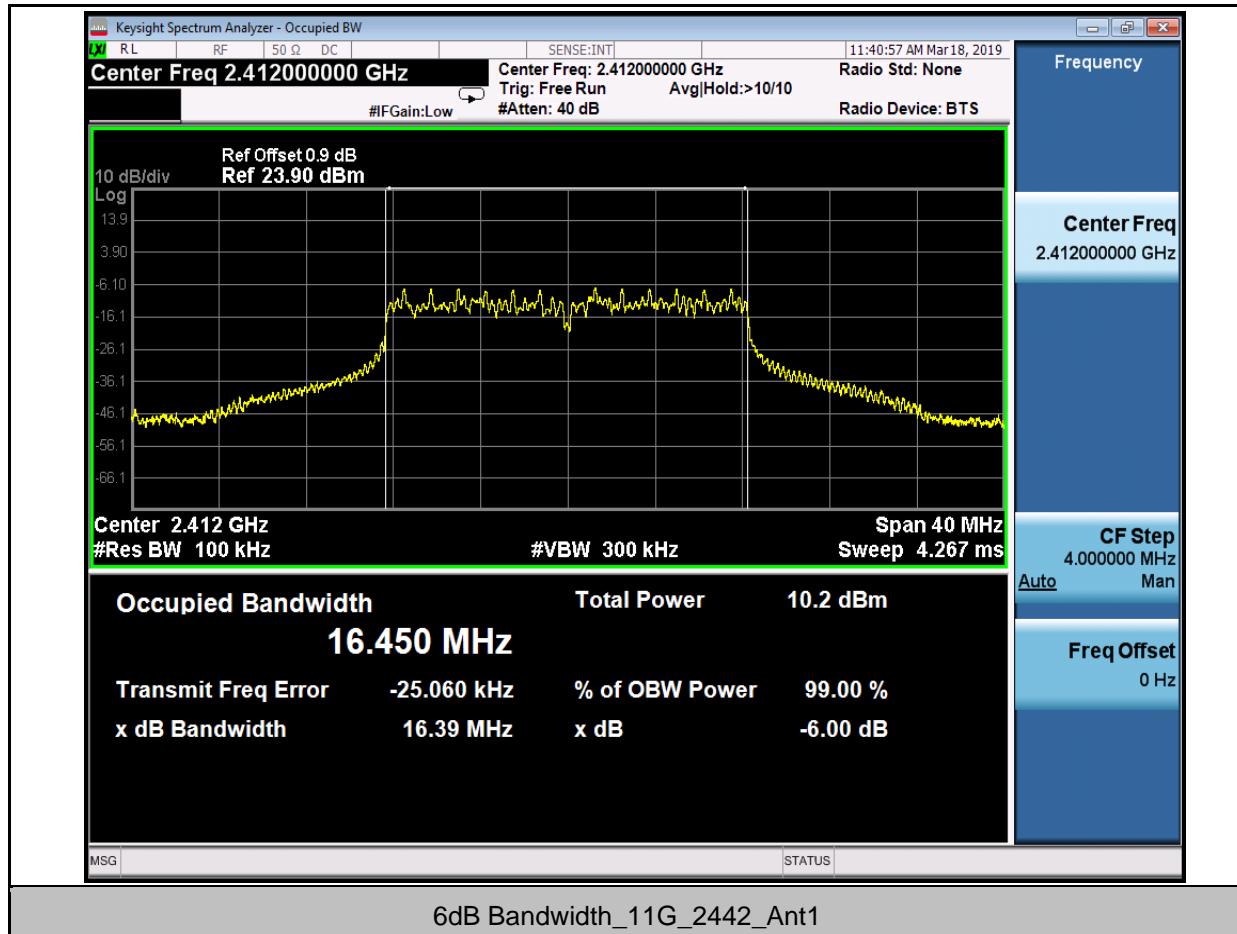
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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



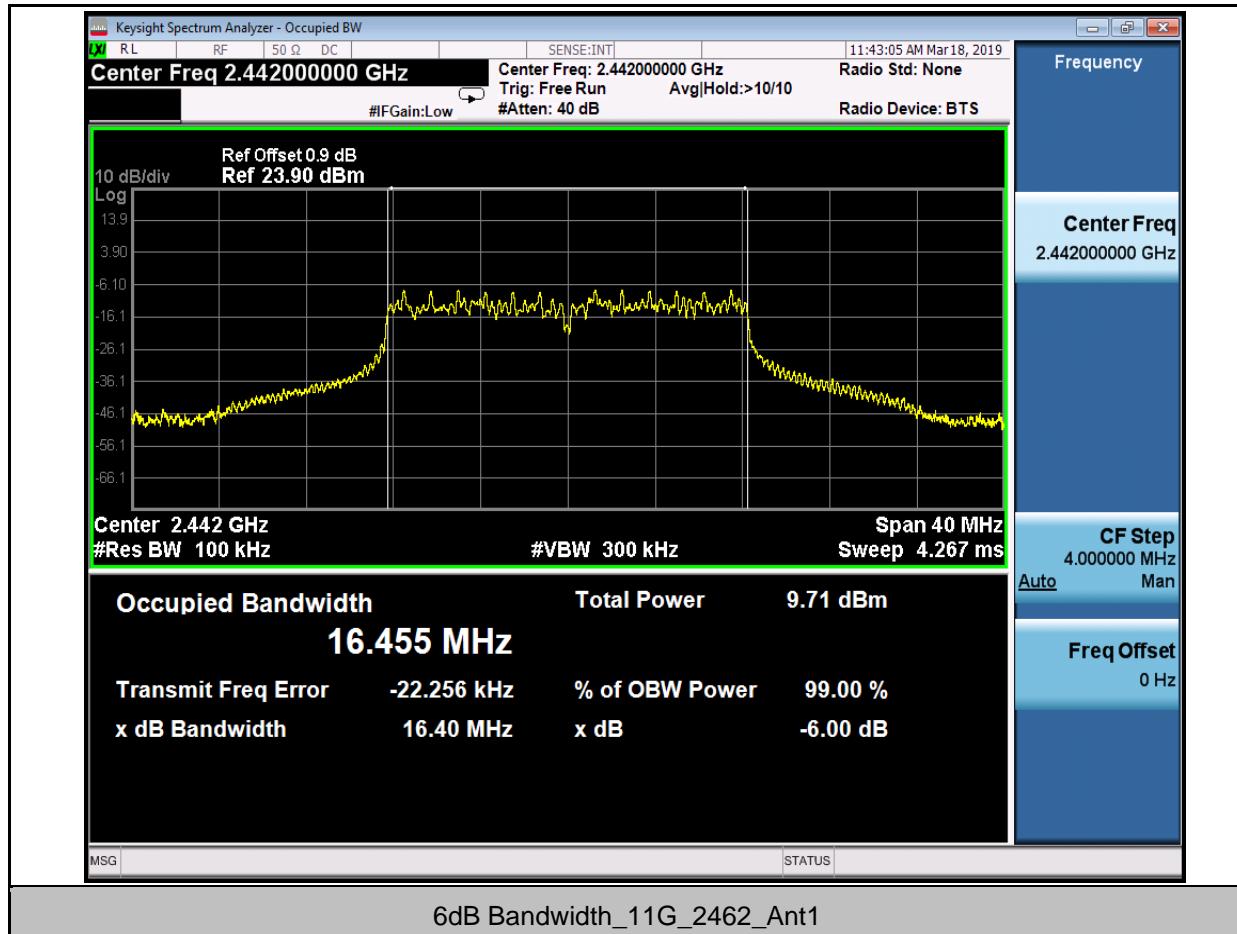
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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



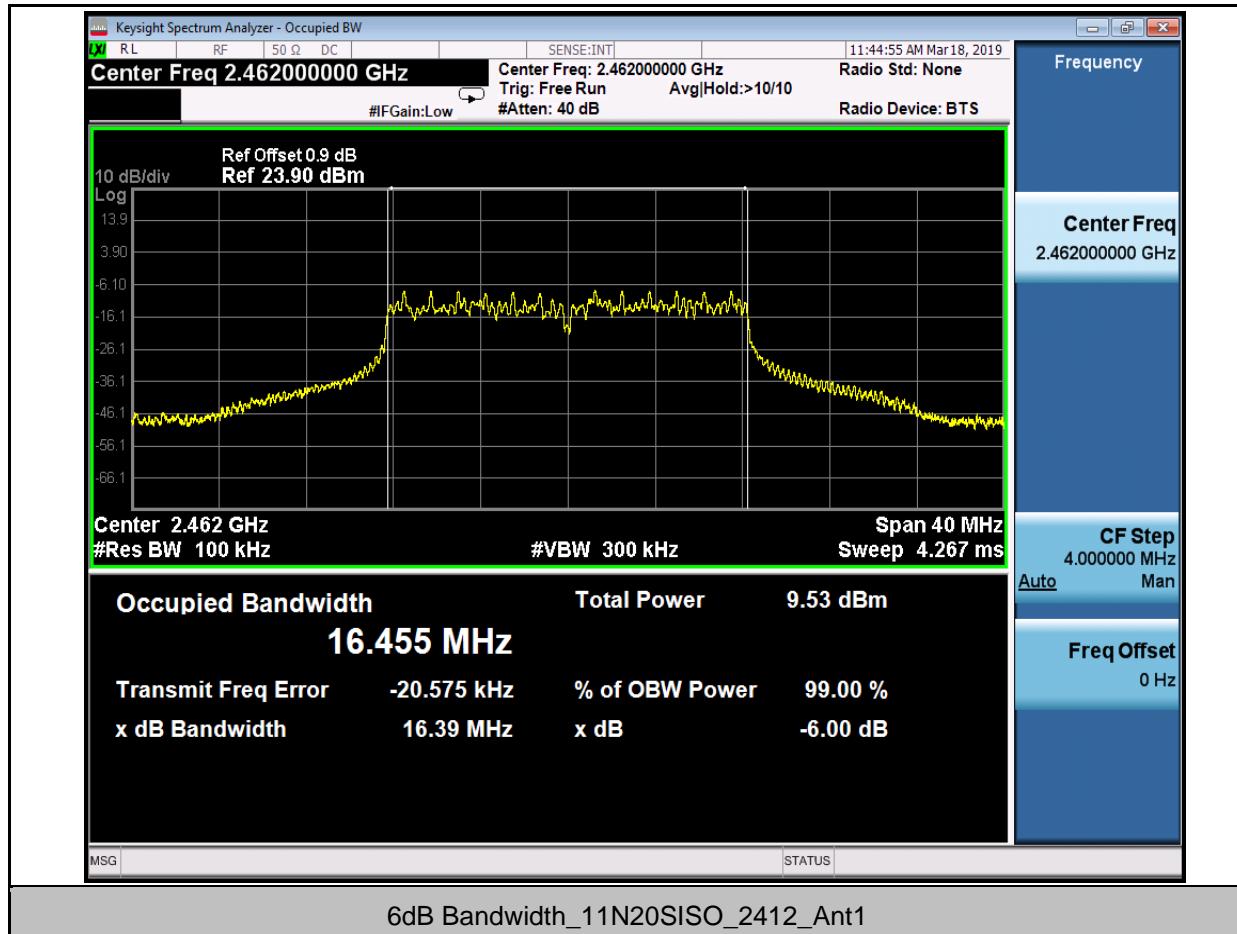
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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



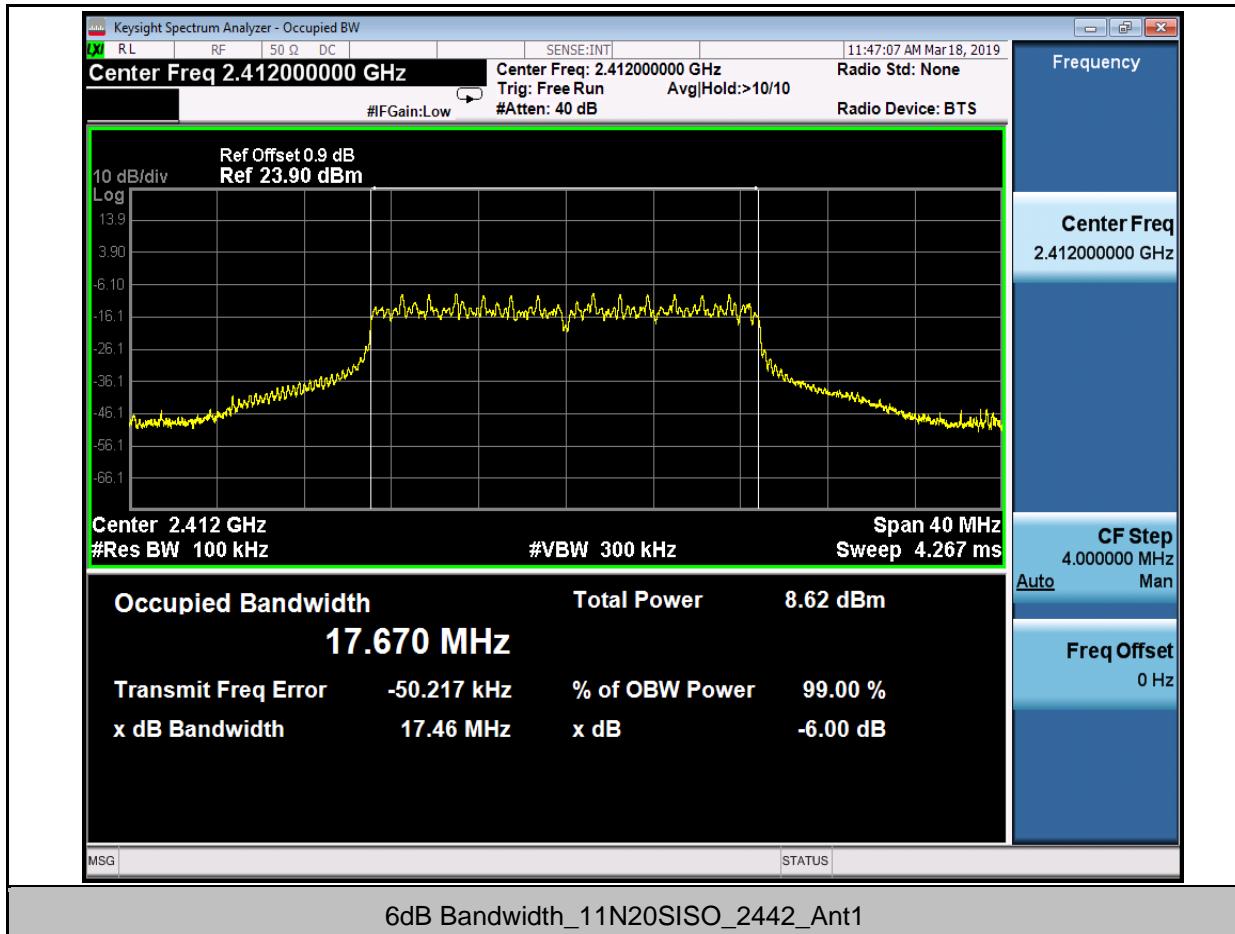
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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



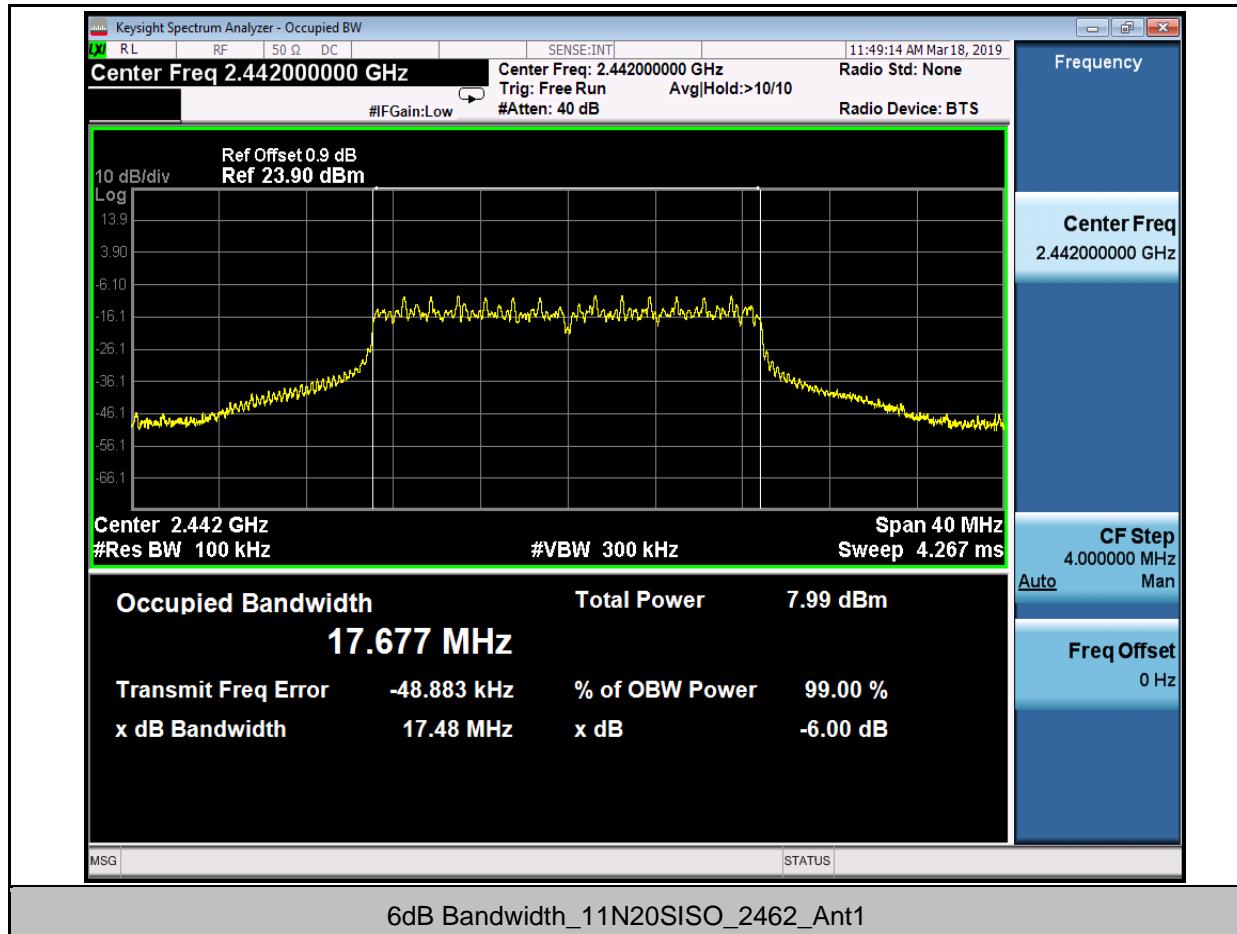
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Dокумент.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: (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn or email: CN.Doccheck@sgs.com



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-Dокумент.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.

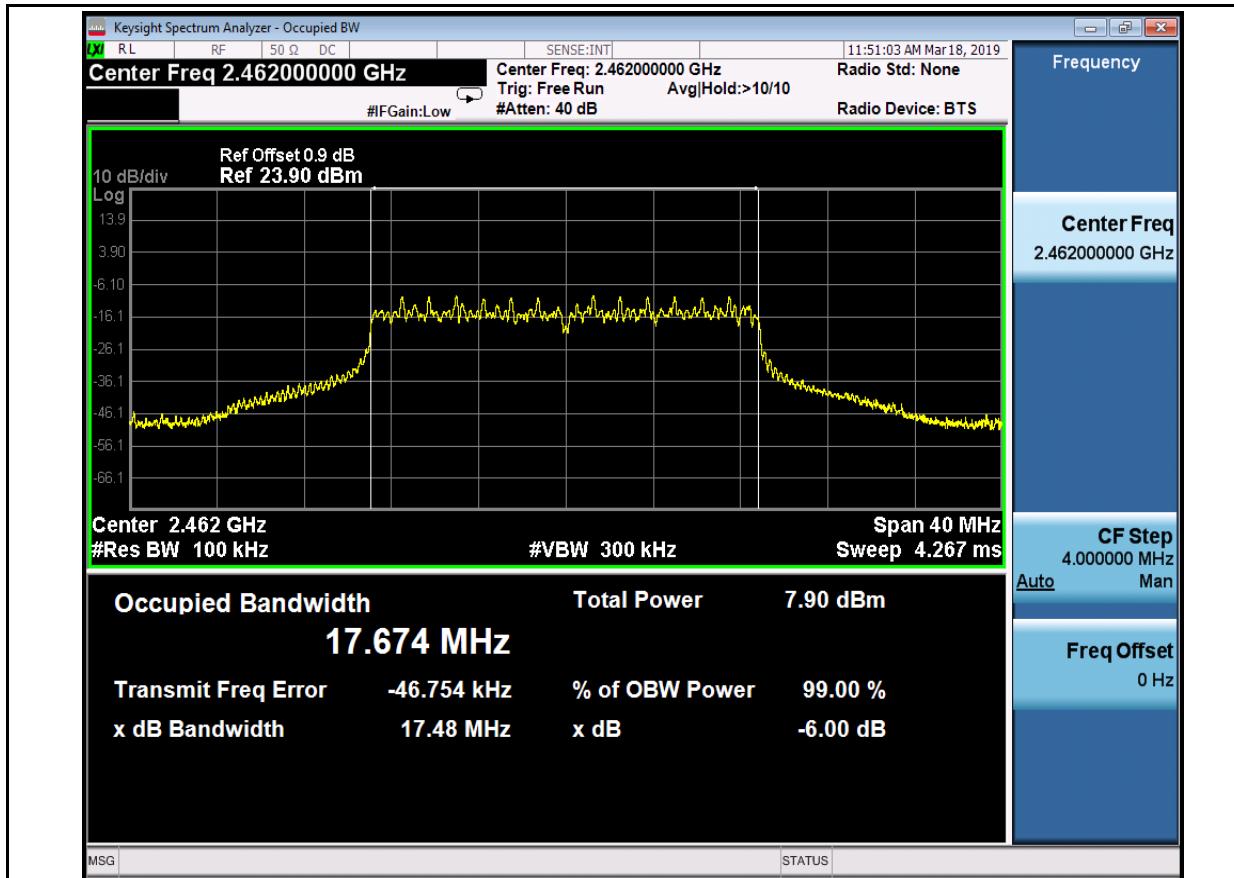
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn, or email: CN.Doccheck@sgs.com



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-Dокумент.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





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

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn or email: CN.Doccheck@sgs.com