



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

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

Telephone: +86 (0) 20 82155555

Fax: +86 (0) 20 82075058

Email: ee.guangzhou@sgs.com

Report No.: GZEM181200012802

Page: 1 of 106

FCC ID: PUU-CSWONBLXWF1

TEST REPORT

Application No.: GZEM1812000128CR
Applicant: GE Lighting
Address of Applicant: Nele park, Cleveland, OH 44112
Manufacturer: GE Lighting
Address of Manufacturer: Nele park, Cleveland, OH 44112
Factory: Nanchang Innotech Technology Co., Ltd
Address of Factory: No.399, Rule Lake Avenue, Nanchang Airport Economic Zone, Nanchang, China
Equipment Under Test (EUT):
FCC ID: PUU-CSWONBLXWF1
EUT Name: Smart Switch
Model No.: CSWONBLPW1, CSWONBLTWF1
Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: GE
Standard(s): 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2018-12-26
Date of Test: 2019-01-14 to 2019-01-16
Date of Issue: 2019-03-01

Test Result:

* 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.

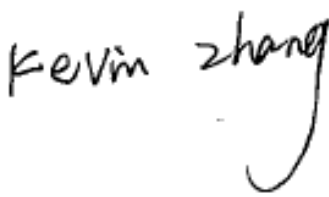


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-a-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. No.198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.com.cn
Guangzhou Branch: SGS-CSTC 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

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

Authorized for issue by:			
Tested By		2019-01-14 to 2019-01-16	
Checked By		2019-01-18	



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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
 Guangzhou Branch: SGS (Guangzhou) 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) 82075068 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

■ Declaration of EUT Family Grouping:

Model No.:CSWONBLPWF1, CSWONBLTWF1

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference on the button and LED indicator.

The model CSWONBLPWF1 has one button and two white LED. The model CSWONBLTWF1 gas two buttons and one white LED.

Model CSWONBLPWF1 and CSWONBLTWF1 have the same Wi-Fi and Bluetooth modules.

Therefore only one model CSWONBLTWF1 was tested in this report.



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

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

SGS-CSTC Standards Technical Services Co., Ltd. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663
中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 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 Environment Parameter.....	6
4.3 Description of Support Units	8
4.4 Measurement Uncertainty.....	8
4.5 Test Location	8
4.6 Test Facility.....	9
4.7 Deviation from Standards	10
4.8 Abnormalities from Standard Conditions	10
5 Equipment List.....	11
6 Radio Spectrum Technical Requirement	15
6.1 Antenna Requirement.....	15
6.1.1 Test Requirement:	15
6.1.2 Conclusion.....	15
7 Radio Spectrum Matter Test Results.....	16
7.1 Conducted Emissions at AC Power Line (150kHz-30MHz).....	16
7.1.1 E.U.T. Operation.....	17
7.1.2 Test Setup Diagram.....	17
7.1.3 Measurement Procedure and Data	17
7.2 Minimum 6dB Bandwidth	20
7.2.1 E.U.T. Operation.....	20
7.2.2 Test Setup Diagram.....	20
7.2.3 Measurement Procedure and Data	20
7.3 Conducted Peak Output Power	21
7.3.1 E.U.T. Operation.....	22
7.3.2 Test Setup Diagram.....	22
7.3.3 Measurement Procedure and Data	22
7.4 Power Spectrum Density	23
7.4.1 E.U.T. Operation.....	23
7.4.2 Test Setup Diagram.....	23
7.4.3 Measurement Procedure and Data	23
7.5 Conducted Band Edges Measurement.....	24
7.5.1 E.U.T. Operation.....	25
7.5.2 Test Setup Diagram.....	25
7.5.3 Measurement Procedure and Data	25
7.6 Conducted Spurious Emissions.....	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-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

7.6.1	E.U.T. Operation.....	27
7.6.2	Test Setup Diagram.....	27
7.6.3	Measurement Procedure and Data	27
7.7	Radiated Emissions which fall in the restricted bands.....	28
7.7.1	E.U.T. Operation.....	29
7.7.2	Test Setup Diagram.....	29
7.7.3	Measurement Procedure and Data	31
7.8	Radiated Spurious Emissions.....	40
7.8.1	E.U.T. Operation.....	40
7.8.2	Test Setup Diagram.....	41
7.8.3	Measurement Procedure and Data	43
8	Appendix	60
8.1	Appendix 15.247	60



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

4 General Information

4.1 Details of E.U.T.

Power Supply:	AC 120V 60Hz
Test Voltage:	AC 120V 60Hz
Cable:	GROUND cable (unshielded, 20cm) NEUTRAL cable (unshielded, 20cm) LINE cable (unshielded, 20cm) LOAD cable (unshielded, 20cm)
Antenna Gain	0.2dBi
Antenna Type	Integrated 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):11 802.11n(HT40):7
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz

4.2 Environment Parameter

Environment Parameter	Selected Values During Tests	
Relative Humidity	Ambient	
Value	Temperature(°C)	Voltage(V)
TNVN	25	120
TLVN	0	120
THVN	50	120

Note:

VN: Normal Voltage
TN: Normal Temperature
TL: Low Extreme Test Temperature
TH: High Extreme Test Temperature



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
No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: SGS (China) 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) 82075068 sgs.china@sgs.com

Operation Frequency each of channel (802.11b/g/n HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	5	2432MHz	9	2452MHz		
2	2417MHz	6	2437MHz	10	2457MHz		
3	2422MHz	7	2442MHz	11	2462MHz		
4	2427MHz	8	2447MHz				

Operation Frequency each of channel(802.11n HT40)					
Channel	Frequency	Channel	Frequency	Channel	Frequency
3	2422MHz	6	2437MHz	9	2452MHz
4	2427MHz	7	2442MHz		
5	2432MHz	8	2447MHz		

Using test software was control EUT work in continuous transmitter and receiver mode. And select test channel as below:

For 802.11b/g/n (HT20):

Channel	Frequency
The lowest channel (CH1)	2412MHz
The middle channel (CH7)	2442MHz
The highest channel (CH13)	2462MHz

For 802.11n (HT40):

Channel	Frequency
The lowest channel (CH3)	2422MHz
The middle channel (CH7)	2442MHz
The highest channel (CH11)	2452MHz



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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.com.cn
Guangzhou Branch: 8007000000/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.: GZEM181200012802

Page: 8 of 104

4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPad air	Apple	A1474	
Router	NETGEAR	DGN2200	REF. No.SEA2200

4.4 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	$\pm 3\%$

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech 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-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
No.198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.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

4.6 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-1)

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

● 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, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE 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-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
No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com
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) 82075068 sgs.china@sgs.com



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

Report No.: GZEM181200012802
Page: 10 of 104

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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

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

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch, CMAA, CNAS, ILAC-APAC Laboratory

No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com
中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com



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

Report No.: GZEM181200012802

Page: 11 of 104

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	2018-01-19	2019-01-18
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

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

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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.com.cn
Guangzhou Branch: No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Conducted Band Edges Measurement					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer	AgilentTechnologies	N9020A	SEM004-10	2018-03-10	2019-03-09
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 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

Conducted Spurious Emissions					
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-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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.com.cn
Guangzhou Branch: CMAA, CNAS, CEEC 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

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	2018-01-19	2019-01-18
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2018-01-19	2019-01-18
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
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	2018-02-24	2019-02-23
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2018-01-19	2019-01-18
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-07	2020-01-08
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	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



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
No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: SGS/EMC 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) 82075068 sgs.china@sgs.com

Radiated Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2018-01-19	2019-01-18
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2018-01-19	2019-01-18
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
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	2018-02-24	2019-02-23
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2018-01-19	2019-01-18
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-07	2020-01-08
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	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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com sgs.china@sgs.com
Guangzhou Branch: No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663
中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068

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 0.2dBi.

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(dBμV)	
	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-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

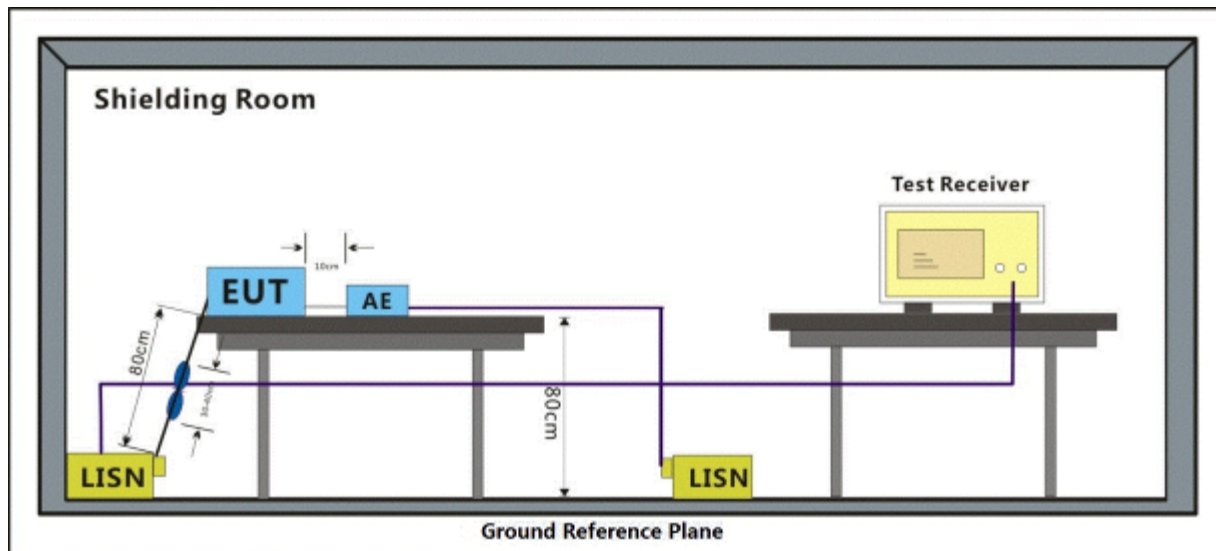
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.1 °C Humidity: 58.7 % RH Atmospheric Pressure: 1020 mbar

Test mode c:Normal Working_Keep the EUT in communication with other device.

7.1.2 Test Setup Diagram

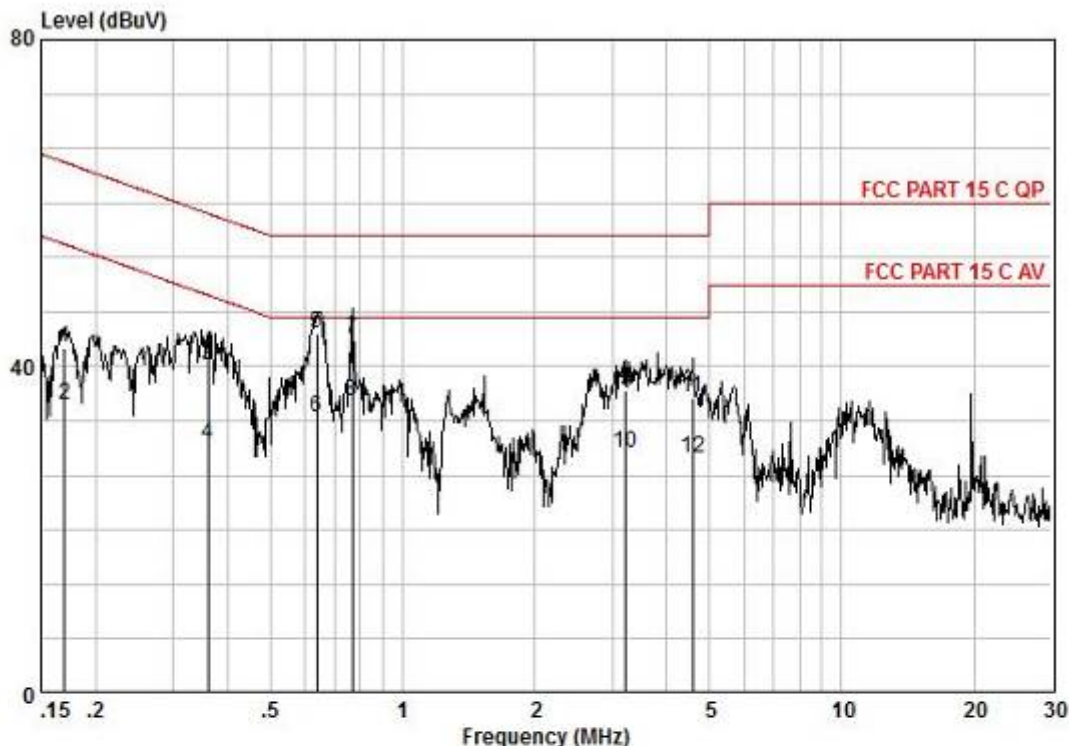


7.1.3 Measurement Procedure and Data

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

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

Mode:c; Line:Live Line



Pol :LIVE
No :
Model :

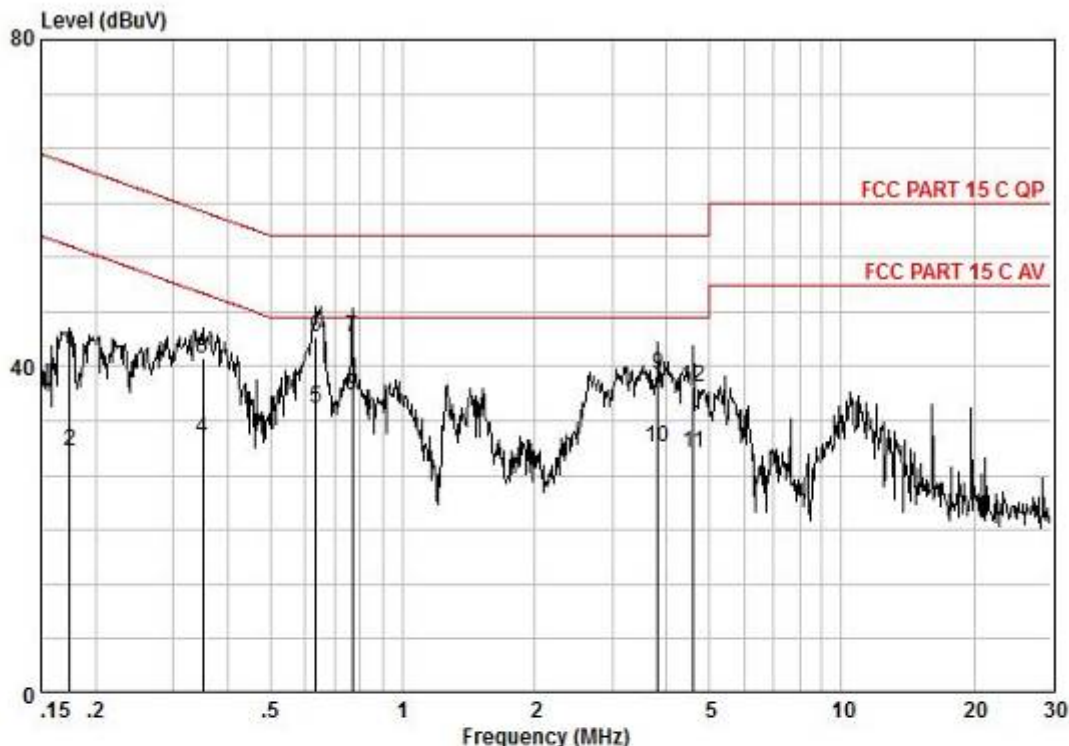
Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.17	32.62	0.10	9.53	42.25	64.99	-22.74	QP
0.17	25.61	0.10	9.53	35.24	54.99	-19.75	AVERAGE
0.36	30.39	0.16	9.64	40.19	58.74	-18.54	QP
0.36	20.65	0.16	9.64	30.45	48.74	-18.28	AVERAGE
0.64	34.13	0.23	9.62	43.99	56.00	-12.01	QP
0.64	23.95	0.23	9.62	33.81	46.00	-12.19	AVERAGE
0.77	33.51	0.26	9.62	43.39	56.00	-12.61	QP
0.77	25.94	0.26	9.62	35.82	46.00	-10.18	AVERAGE
3.22	26.90	0.56	9.62	37.08	56.00	-18.92	QP
3.22	19.29	0.56	9.62	29.47	46.00	-16.53	AVERAGE
4.57	25.87	0.67	9.63	36.17	56.00	-19.83	QP
4.57	18.48	0.67	9.63	28.78	46.00	-17.22	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-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

Mode:c; 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
0.17	31.95	0.10	9.49	41.54	64.72	-23.18	QP
0.17	20.07	0.10	9.49	29.66	54.72	-25.06	AVERAGE
0.35	31.36	0.16	9.57	41.09	58.96	-17.87	QP
0.35	21.48	0.16	9.57	31.21	48.96	-17.75	AVERAGE
0.63	25.13	0.23	9.58	34.94	46.00	-11.06	AVERAGE
0.63	33.85	0.23	9.58	43.66	56.00	-12.34	QP
0.77	33.69	0.26	9.59	43.54	56.00	-12.46	QP
0.77	26.62	0.26	9.59	36.47	46.00	-9.53	AVERAGE
3.82	28.88	0.61	9.58	39.08	56.00	-16.92	QP
3.82	19.97	0.61	9.58	30.17	46.00	-15.83	AVERAGE
4.60	19.09	0.67	9.60	29.37	46.00	-16.63	AVERAGE
4.60	27.21	0.67	9.60	37.49	56.00	-18.51	QP



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

No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com
中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 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

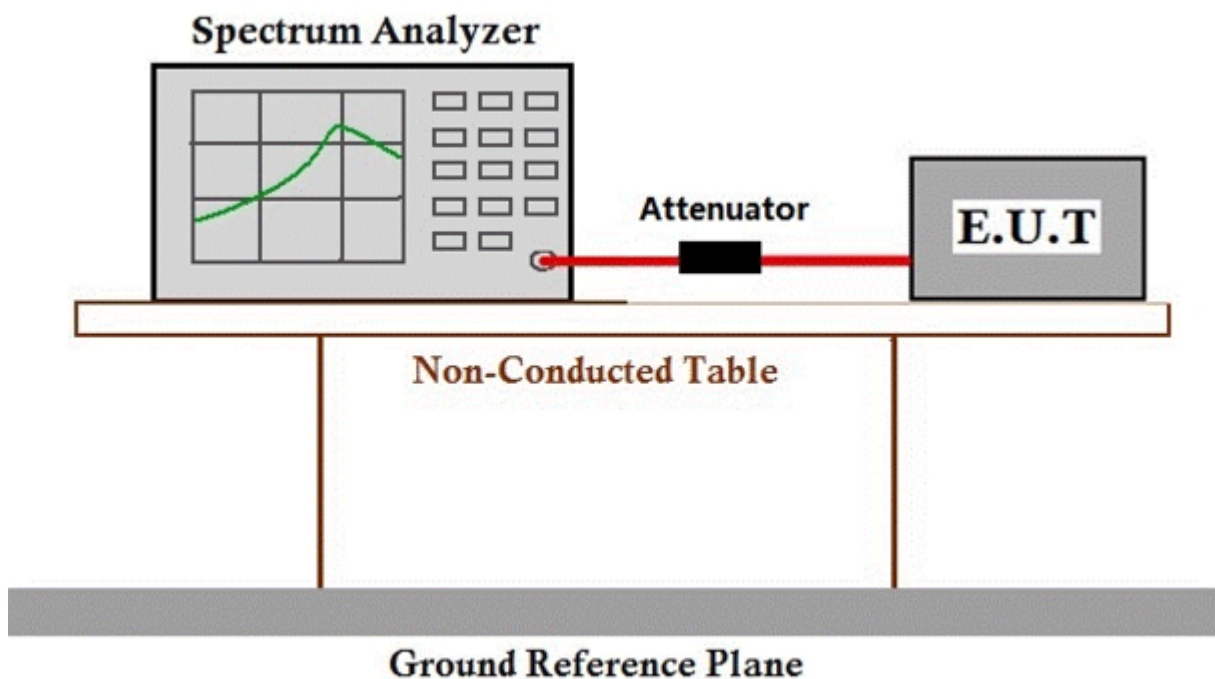
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 49.3 % 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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). 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

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

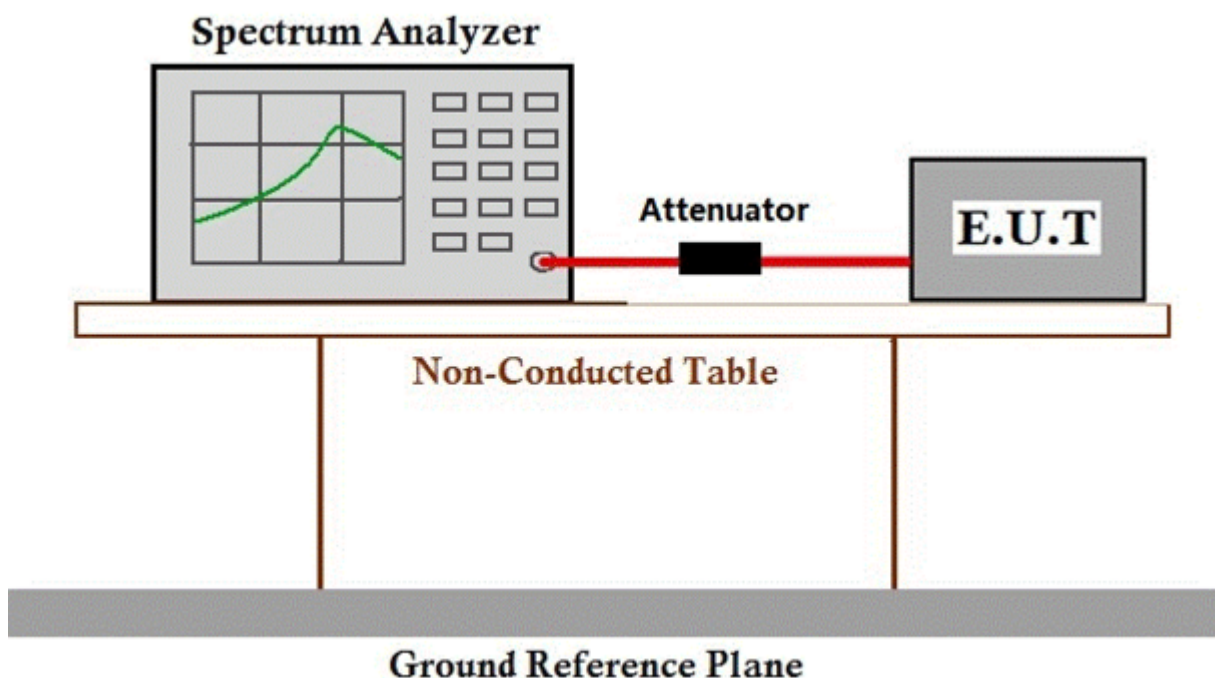
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 49.3 % 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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). 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

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

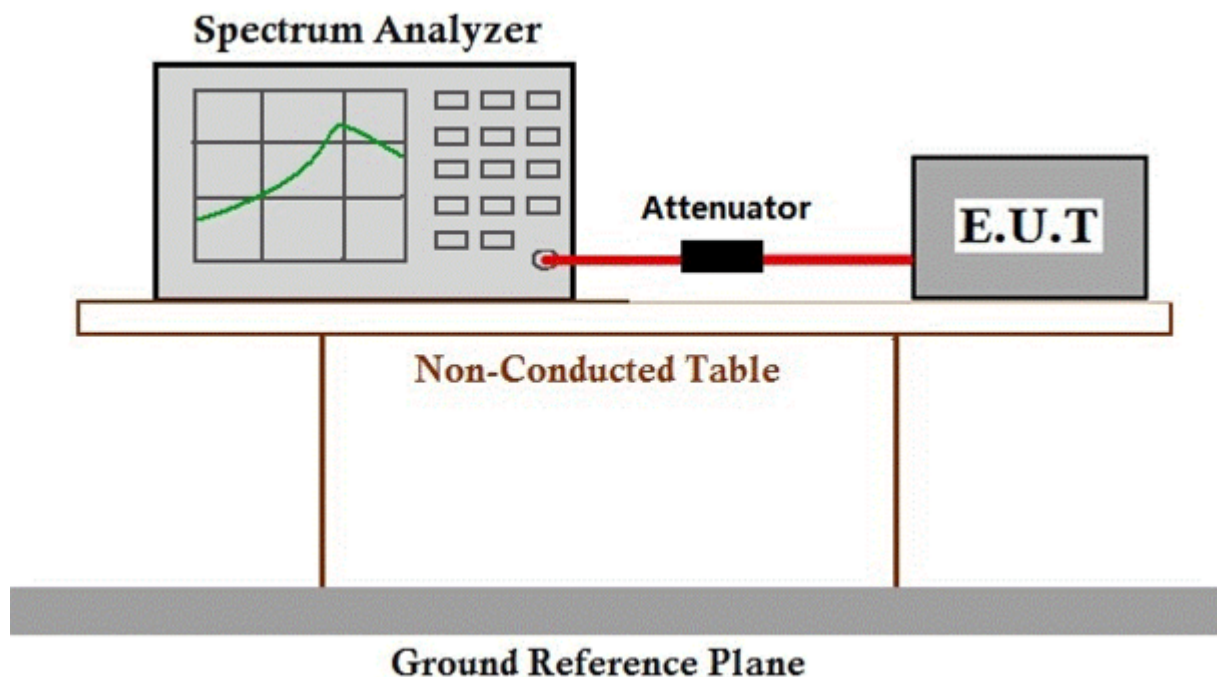
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 49.3 % 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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). 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

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-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

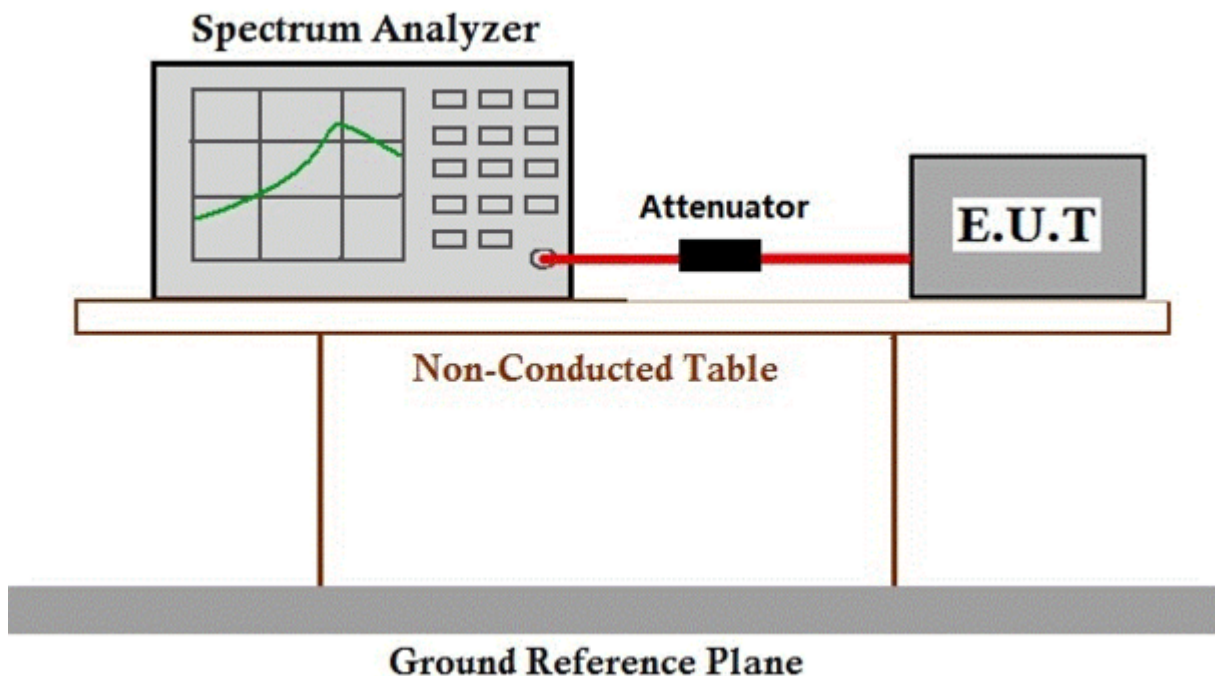
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 49.3 % 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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). 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

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-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

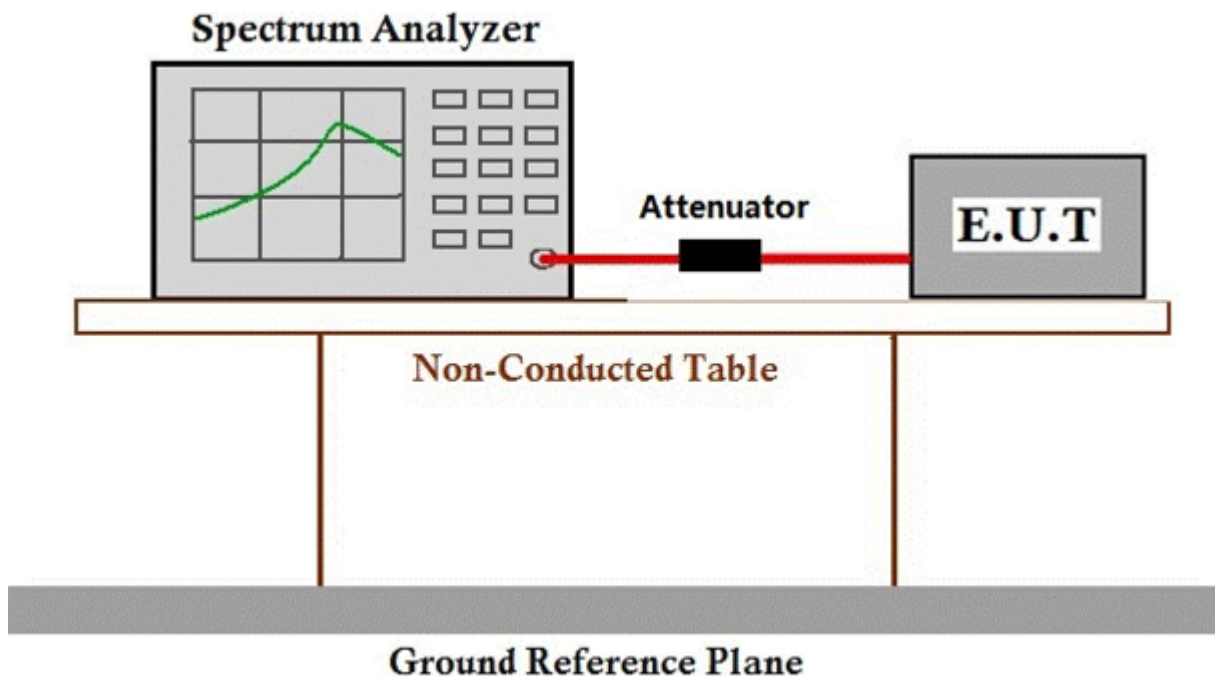
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 49.3 % 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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). 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

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.



7.7.1 E.U.T. Operation

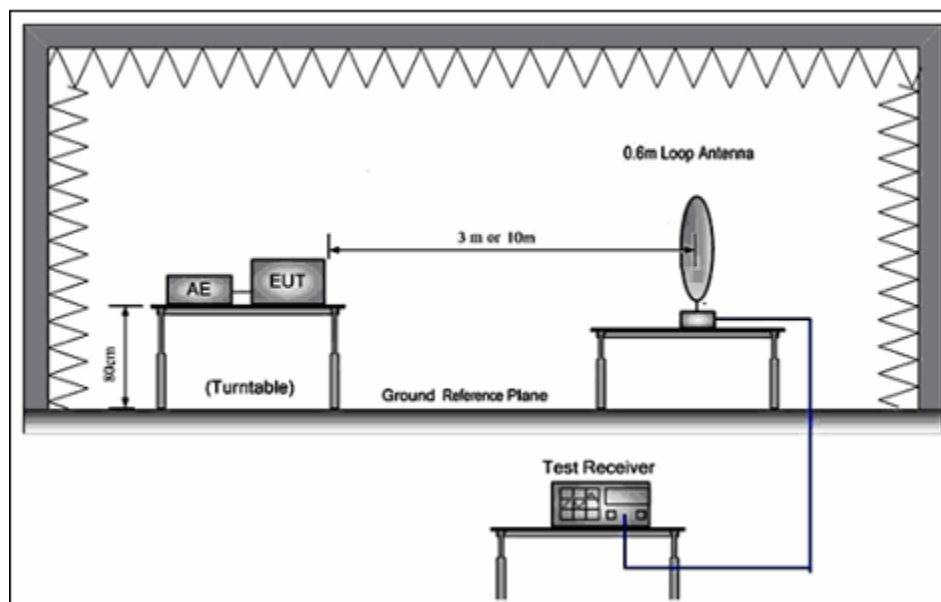
Operating Environment:

Temperature: 23 °C Humidity: 65.4 % RH Atmospheric Pressure: 1020 mbar

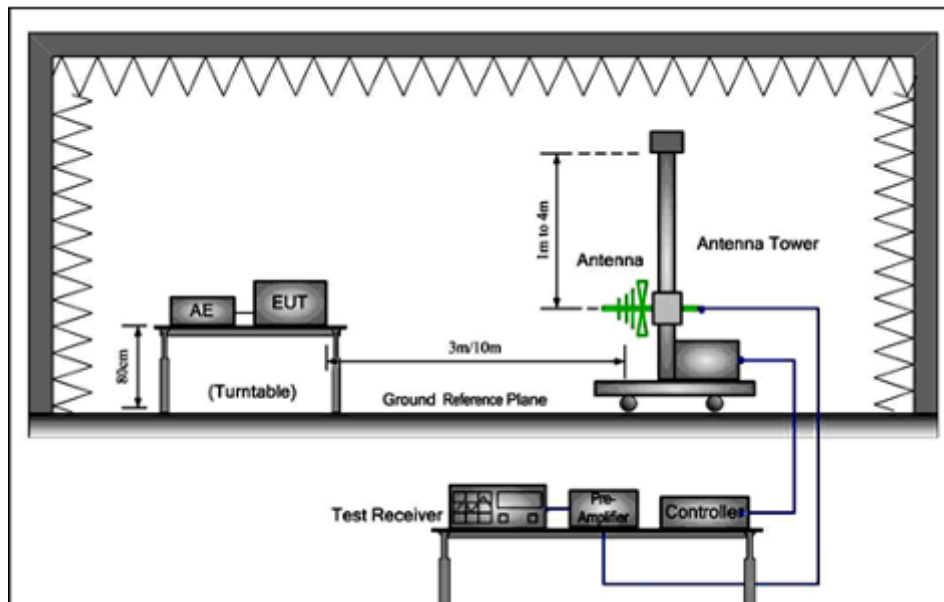
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.7.2 Test Setup Diagram

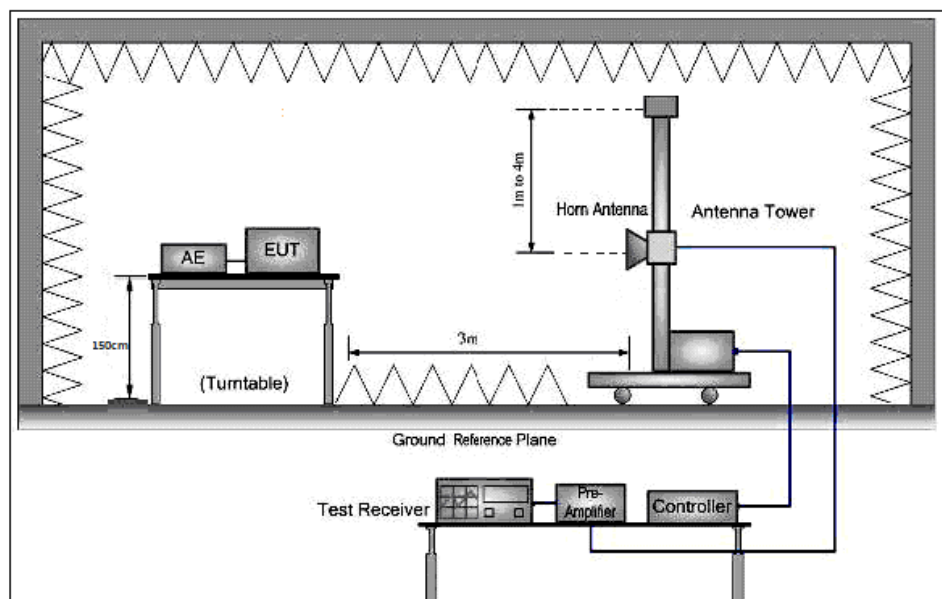
9kHz to 30MHz



30MHz to 1GHz



Above 1GHz



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-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
No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.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; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	34.64	26.25	5.03	37.44	28.48	54.00	-25.52 HORIZONTAL Average
2	2310.000	47.54	26.25	5.03	37.44	41.38	74.00	-32.62 HORIZONTAL Peak
3	2390.000	40.33	26.43	4.88	37.42	34.22	54.00	-19.78 HORIZONTAL Average
4	2390.000	55.23	26.43	4.88	37.42	49.12	74.00	-24.88 HORIZONTAL Peak
5	2483.500	33.55	26.58	5.23	37.40	27.96	54.00	-26.04 HORIZONTAL Average
6	2483.500	49.66	26.58	5.23	37.40	44.07	74.00	-29.93 HORIZONTAL Peak
7	2500.000	30.01	26.60	4.95	37.39	24.17	54.00	-29.83 HORIZONTAL Average
8	2500.000	47.45	26.60	4.95	37.39	41.61	74.00	-32.39 HORIZONTAL Peak

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	35.81	26.25	5.03	37.44	29.65	54.00	-24.35 VERTICAL Average
2	2310.000	49.91	26.25	5.03	37.44	43.75	74.00	-30.25 VERTICAL Peak
3	2390.000	37.35	26.43	4.88	37.42	31.24	54.00	-22.76 VERTICAL Average
4	2390.000	51.51	26.43	4.88	37.42	45.40	74.00	-28.60 VERTICAL Peak
5	2483.500	33.13	26.58	5.23	37.40	27.54	54.00	-26.46 VERTICAL Average
6	2483.500	49.60	26.58	5.23	37.40	44.01	74.00	-29.99 VERTICAL Peak
7	2500.000	34.91	26.60	4.95	37.39	29.07	54.00	-24.93 VERTICAL Average
8	2500.000	48.89	26.60	4.95	37.39	43.05	74.00	-30.95 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-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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: 85007000/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) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	38.51	26.25	5.03	37.44	32.35	54.00	-21.65 HORIZONTAL Average
2	2310.000	49.72	26.25	5.03	37.44	43.56	74.00	-30.44 HORIZONTAL Peak
3	2390.000	37.16	26.43	4.88	37.42	31.05	54.00	-22.95 HORIZONTAL Average
4	2390.000	53.85	26.43	4.88	37.42	47.74	74.00	-26.26 HORIZONTAL Peak
5	2483.500	39.48	26.58	5.23	37.40	33.89	54.00	-20.11 HORIZONTAL Average
6	2483.500	53.63	26.58	5.23	37.40	48.04	74.00	-25.96 HORIZONTAL Peak
7	2500.000	38.60	26.60	4.95	37.39	32.76	54.00	-21.24 HORIZONTAL Average
8	2500.000	52.75	26.60	4.95	37.39	46.91	74.00	-27.09 HORIZONTAL Peak

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	35.11	26.25	5.03	37.44	28.95	54.00	-25.05 VERTICAL Average
2	2310.000	47.44	26.25	5.03	37.44	41.28	74.00	-32.72 VERTICAL Peak
3	2390.000	37.01	26.43	4.88	37.42	30.90	54.00	-23.10 VERTICAL Average
4	2390.000	51.64	26.43	4.88	37.42	45.53	74.00	-28.47 VERTICAL Peak
5	2483.500	37.83	26.58	5.23	37.40	32.24	54.00	-21.76 VERTICAL Average
6	2483.500	52.48	26.58	5.23	37.40	46.89	74.00	-27.11 VERTICAL Peak
7	2500.000	36.23	26.60	4.95	37.39	30.39	54.00	-23.61 VERTICAL Average
8	2500.000	53.24	26.60	4.95	37.39	47.40	74.00	-26.60 VERTICAL Peak



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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	36.63	26.25	5.03	37.44	30.47	54.00	-23.53 HORIZONTAL Average
2	2310.000	52.08	26.25	5.03	37.44	45.92	74.00	-28.08 HORIZONTAL Peak
3	2390.000	47.62	26.43	4.88	37.42	41.51	54.00	-12.49 HORIZONTAL Average
4	2390.000	65.90	26.43	4.88	37.42	59.79	74.00	-14.21 HORIZONTAL Peak
5	2483.500	39.56	26.58	5.23	37.40	33.97	54.00	-20.03 HORIZONTAL Average
6	2483.500	54.61	26.58	5.23	37.40	49.02	74.00	-24.98 HORIZONTAL Peak
7	2500.000	39.01	26.60	4.95	37.39	33.17	54.00	-20.83 HORIZONTAL Average
8	2500.000	51.15	26.60	4.95	37.39	45.31	74.00	-28.69 HORIZONTAL Peak

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	30.40	26.25	5.03	37.44	24.24	54.00	-29.76 VERTICAL Average
2	2310.000	45.94	26.25	5.03	37.44	39.78	74.00	-34.22 VERTICAL Peak
3	2390.000	44.38	26.43	4.88	37.42	38.27	54.00	-15.73 VERTICAL Average
4	2390.000	55.90	26.43	4.88	37.42	49.79	74.00	-24.21 VERTICAL Peak
5	2483.500	31.98	26.58	5.23	37.40	26.39	54.00	-27.61 VERTICAL Average
6	2483.500	49.34	26.58	5.23	37.40	43.75	74.00	-30.25 VERTICAL Peak
7	2500.000	31.78	26.60	4.95	37.39	25.94	54.00	-28.06 VERTICAL Average
8	2500.000	45.33	26.60	4.95	37.39	39.49	74.00	-34.51 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-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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: 85007000/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) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	34.49	26.25	5.03	37.44	28.33	54.00	-25.67 HORIZONTAL Average
2	2310.000	47.42	26.25	5.03	37.44	41.26	74.00	-32.74 HORIZONTAL Peak
3	2390.000	40.45	26.43	4.88	37.42	34.34	54.00	-19.66 HORIZONTAL Average
4	2390.000	54.85	26.43	4.88	37.42	48.74	74.00	-25.26 HORIZONTAL Peak
5	2483.500	50.58	26.58	5.23	37.40	44.99	54.00	-9.01 HORIZONTAL Average
6	2483.500	62.48	26.58	5.23	37.40	56.89	74.00	-17.11 HORIZONTAL Peak
7	2500.000	39.74	26.60	4.95	37.39	33.90	54.00	-20.10 HORIZONTAL Average
8	2500.000	53.61	26.60	4.95	37.39	47.77	74.00	-26.23 HORIZONTAL Peak

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	31.04	26.25	5.03	37.44	24.88	54.00	-29.12 VERTICAL Average
2	2310.000	46.13	26.25	5.03	37.44	39.97	74.00	-34.03 VERTICAL Peak
3	2390.000	35.70	26.43	4.88	37.42	29.59	54.00	-24.41 VERTICAL Average
4	2390.000	49.86	26.43	4.88	37.42	43.75	74.00	-30.25 VERTICAL Peak
5	2483.500	45.55	26.58	5.23	37.40	39.96	54.00	-14.04 VERTICAL Average
6	2483.500	60.32	26.58	5.23	37.40	54.73	74.00	-19.27 VERTICAL Peak
7	2500.000	39.31	26.60	4.95	37.39	33.47	54.00	-20.53 VERTICAL Average
8	2500.000	52.83	26.60	4.95	37.39	46.99	74.00	-27.01 VERTICAL Peak



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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	34.60	26.25	5.03	37.44	28.44	54.00	-25.56 HORIZONTAL Average
2	2310.000	48.89	26.25	5.03	37.44	42.73	74.00	-31.27 HORIZONTAL Peak
3	2390.000	48.87	26.43	4.88	37.42	42.76	54.00	-11.24 HORIZONTAL Average
4	2390.000	67.75	26.43	4.88	37.42	61.64	74.00	-12.36 HORIZONTAL Peak
5	2483.500	36.54	26.58	5.23	37.40	30.95	54.00	-23.05 HORIZONTAL Average
6	2483.500	53.32	26.58	5.23	37.40	47.73	74.00	-26.27 HORIZONTAL Peak
7	2500.000	35.12	26.60	4.95	37.39	29.28	54.00	-24.72 HORIZONTAL Average
8	2500.000	50.43	26.60	4.95	37.39	44.59	74.00	-29.41 HORIZONTAL Peak

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	32.76	26.25	5.03	37.44	26.60	54.00	-27.40 VERTICAL Average
2	2310.000	47.94	26.25	5.03	37.44	41.78	74.00	-32.22 VERTICAL Peak
3	2390.000	44.24	26.43	4.88	37.42	38.13	54.00	-15.87 VERTICAL Average
4	2390.000	61.99	26.43	4.88	37.42	55.88	74.00	-18.12 VERTICAL Peak
5	2483.500	36.52	26.58	5.23	37.40	30.93	54.00	-23.07 VERTICAL Average
6	2483.500	53.30	26.58	5.23	37.40	47.71	74.00	-26.29 VERTICAL Peak
7	2500.000	34.20	26.60	4.95	37.39	28.36	54.00	-25.64 VERTICAL Average
8	2500.000	48.62	26.60	4.95	37.39	42.78	74.00	-31.22 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-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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: 85007000/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) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	33.47	26.25	5.03	37.44	27.31	54.00	-26.69 HORIZONTAL Average
2	2310.000	47.82	26.25	5.03	37.44	41.66	74.00	-32.34 HORIZONTAL Peak
3	2390.000	38.85	26.43	4.88	37.42	32.74	54.00	-21.26 HORIZONTAL Average
4	2390.000	55.48	26.43	4.88	37.42	49.37	74.00	-24.63 HORIZONTAL Peak
5	2483.500	51.45	26.58	5.23	37.40	45.86	54.00	-8.14 HORIZONTAL Average
6	2483.500	64.49	26.58	5.23	37.40	58.90	74.00	-15.10 HORIZONTAL Peak
7	2500.000	38.79	26.60	4.95	37.39	32.95	54.00	-21.05 HORIZONTAL Average
8	2500.000	53.16	26.60	4.95	37.39	47.32	74.00	-26.68 HORIZONTAL Peak

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	31.14	26.25	5.03	37.44	24.98	54.00	-29.02 VERTICAL Average
2	2310.000	47.04	26.25	5.03	37.44	40.88	74.00	-33.12 VERTICAL Peak
3	2390.000	36.54	26.43	4.88	37.42	30.43	54.00	-23.57 VERTICAL Average
4	2390.000	50.79	26.43	4.88	37.42	44.68	74.00	-29.32 VERTICAL Peak
5	2483.500	50.25	26.58	5.23	37.40	44.66	54.00	-9.34 VERTICAL Average
6	2483.500	62.48	26.58	5.23	37.40	56.89	74.00	-17.11 VERTICAL Peak
7	2500.000	37.63	26.60	4.95	37.39	31.79	54.00	-22.21 VERTICAL Average
8	2500.000	52.71	26.60	4.95	37.39	46.87	74.00	-27.13 VERTICAL Peak



Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	33.25	26.25	5.03	37.44	27.09	54.00	-26.91 HORIZONTAL Average
2	2310.000	48.97	26.25	5.03	37.44	42.81	74.00	-31.19 HORIZONTAL Peak
3	2390.000	43.14	26.43	4.88	37.42	37.03	54.00	-16.97 HORIZONTAL Average
4	2390.000	57.74	26.43	4.88	37.42	51.63	74.00	-22.37 HORIZONTAL Peak
5	2483.500	37.95	26.58	5.23	37.40	32.36	54.00	-21.64 HORIZONTAL Average
6	2483.500	53.00	26.58	5.23	37.40	47.41	74.00	-26.59 HORIZONTAL Peak
7	2500.000	37.77	26.60	4.95	37.39	31.93	54.00	-22.07 HORIZONTAL Average
8	2500.000	50.59	26.60	4.95	37.39	44.75	74.00	-29.25 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	34.46	26.25	5.03	37.44	28.30	54.00	-25.70 VERTICAL Average
2	2310.000	48.23	26.25	5.03	37.44	42.07	74.00	-31.93 VERTICAL Peak
3	2390.000	41.33	26.43	4.88	37.42	35.22	54.00	-18.78 VERTICAL Average
4	2390.000	52.79	26.43	4.88	37.42	46.68	74.00	-27.32 VERTICAL Peak
5	2483.500	35.29	26.58	5.23	37.40	29.70	54.00	-24.30 VERTICAL Average
6	2483.500	52.93	26.58	5.23	37.40	47.34	74.00	-26.66 VERTICAL Peak
7	2500.000	34.66	26.60	4.95	37.39	28.82	54.00	-25.18 VERTICAL Average
8	2500.000	49.48	26.60	4.95	37.39	43.64	74.00	-30.36 VERTICAL Peak



Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	33.66	26.25	5.03	37.44	27.50	54.00	-26.50 HORIZONTAL Average
2	2310.000	47.74	26.25	5.03	37.44	41.58	74.00	-32.42 HORIZONTAL Peak
3	2390.000	41.12	26.43	4.88	37.42	35.01	54.00	-18.99 HORIZONTAL Average
4	2390.000	54.50	26.43	4.88	37.42	48.39	74.00	-25.61 HORIZONTAL Peak
5	2483.500	41.65	26.58	5.23	37.40	36.06	54.00	-17.94 HORIZONTAL Average
6	2483.500	57.20	26.58	5.23	37.40	51.61	74.00	-22.39 HORIZONTAL Peak
7	2500.000	37.12	26.60	4.95	37.39	31.28	54.00	-22.72 HORIZONTAL Average
8	2500.000	53.52	26.60	4.95	37.39	47.68	74.00	-26.32 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	32.65	26.25	5.03	37.44	26.49	54.00	-27.51 VERTICAL Average
2	2310.000	46.05	26.25	5.03	37.44	39.89	74.00	-34.11 VERTICAL Peak
3	2390.000	37.32	26.43	4.88	37.42	31.21	54.00	-22.79 VERTICAL Average
4	2390.000	51.08	26.43	4.88	37.42	44.97	74.00	-29.03 VERTICAL Peak
5	2483.500	40.32	26.58	5.23	37.40	34.73	54.00	-19.27 VERTICAL Average
6	2483.500	54.98	26.58	5.23	37.40	49.39	74.00	-24.61 VERTICAL Peak
7	2500.000	37.72	26.60	4.95	37.39	31.88	54.00	-22.12 VERTICAL Average
8	2500.000	52.16	26.60	4.95	37.39	46.32	74.00	-27.68 VERTICAL Peak



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.

7.8.1 E.U.T. Operation

Operating Environment:

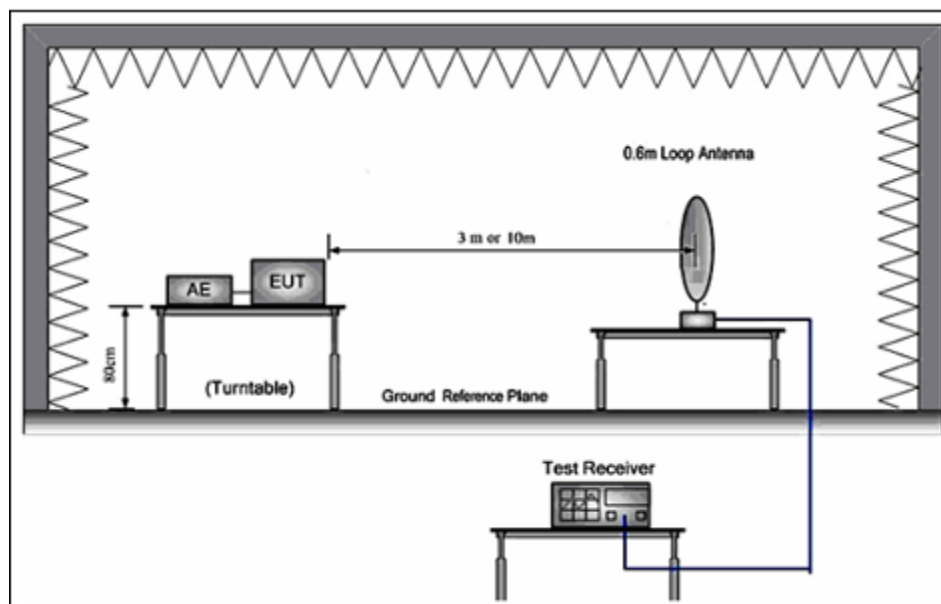
Temperature: 23 °C Humidity: 65.4 % RH Atmospheric Pressure: 1020 mbar

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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

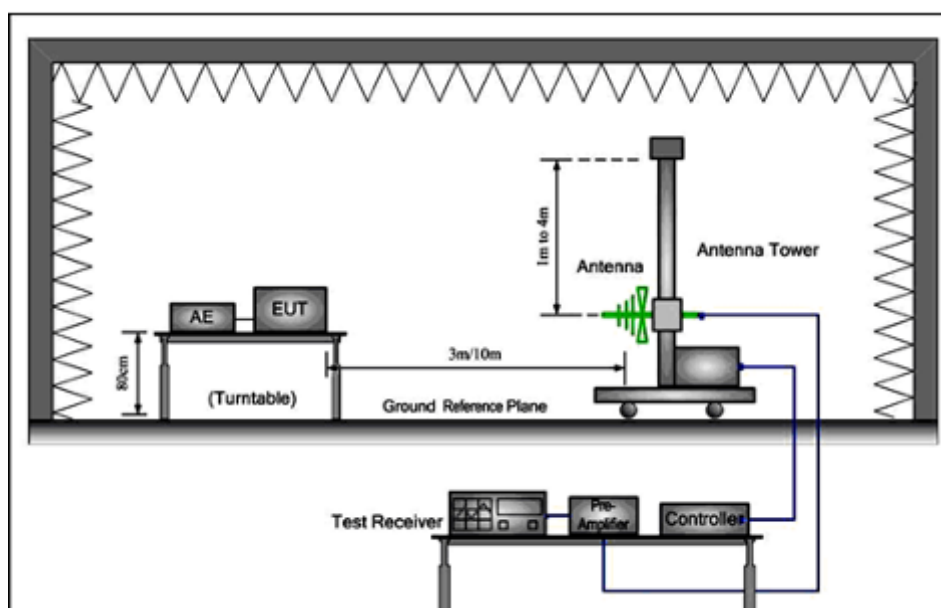


7.8.2 Test Setup Diagram

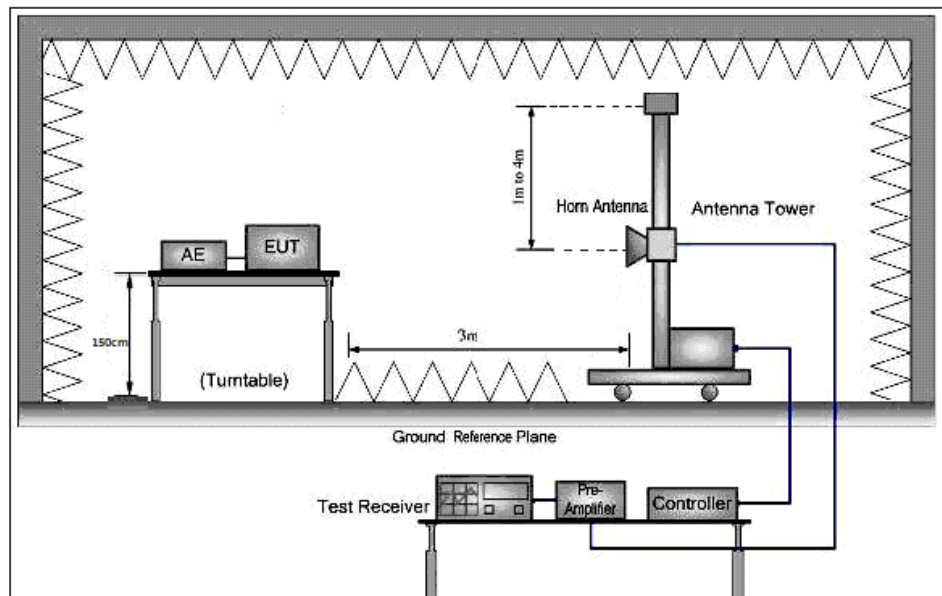
9kHz to 30MHz



30MHz to 1GHz



Above 1GHz



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



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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	32.864	22.76	12.29	0.16	22.26	12.95	40.00 -27.05 HORIZONTAL
2	46.178	23.25	12.89	0.69	24.55	12.28	40.00 -27.72 HORIZONTAL
3	180.649	29.23	12.67	1.34	28.09	15.15	43.50 -28.35 HORIZONTAL
4	586.844	28.39	20.43	1.95	29.28	21.49	46.00 -24.51 HORIZONTAL
5	810.265	28.12	22.80	2.76	28.62	25.06	46.00 -20.94 HORIZONTAL
6	919.287	27.28	24.16	3.74	28.43	26.75	46.00 -19.25 HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3801.333	29.46	29.01	7.89	36.92	29.44	54.00 -24.56 HORIZONTAL
2	3801.333	45.31	29.01	7.89	36.92	45.29	74.00 -28.71 HORIZONTAL
3	4824.030	50.76	30.82	6.01	36.94	50.65	54.00 -3.35 HORIZONTAL
4	4824.030	56.85	30.82	6.01	36.94	56.74	74.00 -17.26 HORIZONTAL
5	7236.122	29.96	35.55	7.35	36.93	35.93	54.00 -18.07 HORIZONTAL
6	7236.122	44.18	35.55	7.35	36.93	50.15	74.00 -23.85 HORIZONTAL
7	8688.480	23.94	36.25	7.94	36.96	31.17	54.00 -22.83 HORIZONTAL
8	8688.480	43.92	36.25	7.94	36.96	51.15	74.00 -22.85 HORIZONTAL
9	9648.257	29.87	37.54	8.18	37.08	38.51	54.00 -15.49 HORIZONTAL
10	9648.257	45.53	37.54	8.18	37.08	54.17	74.00 -19.83 HORIZONTAL
11	12060.270	26.14	39.46	10.71	37.17	39.14	54.00 -14.86 HORIZONTAL
12	12060.270	42.33	39.46	10.71	37.17	55.33	74.00 -18.67 HORIZONTAL



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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: CN.GZEM181200012802 Laboratory 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	47.492	27.11	12.94	0.65	24.67	16.03	40.00 -23.97 VERTICAL
2	101.644	28.70	9.71	0.85	27.19	12.07	43.50 -31.43 VERTICAL
3	163.755	27.27	13.29	1.28	28.09	13.75	43.50 -29.75 VERTICAL
4	543.274	30.38	19.23	2.17	29.70	22.08	46.00 -23.92 VERTICAL
5	684.745	29.05	21.33	2.22	28.86	23.74	46.00 -22.26 VERTICAL
6	890.728	29.07	23.92	2.87	28.01	27.85	46.00 -18.15 VERTICAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3141.145	33.12	27.90	5.65	37.02	29.65	54.00 -24.35 VERTICAL
2	3141.145	46.34	27.90	5.65	37.02	42.87	74.00 -31.13 VERTICAL
3	4823.910	50.19	30.82	6.01	36.94	50.08	54.00 -3.92 VERTICAL
4	4823.910	56.00	30.82	6.01	36.94	55.89	74.00 -18.11 VERTICAL
5	6213.441	28.63	33.09	6.93	36.99	31.66	54.00 -22.34 VERTICAL
6	6213.441	44.23	33.09	6.93	36.99	47.26	74.00 -26.74 VERTICAL
7	7236.038	32.42	35.55	7.35	36.93	38.39	54.00 -15.61 VERTICAL
8	7236.038	45.23	35.55	7.35	36.93	51.20	74.00 -22.80 VERTICAL
9	9648.257	43.90	37.54	8.18	37.08	52.54	54.00 -3.46 VERTICAL
10	9648.257	48.82	37.54	8.18	37.08	57.46	74.00 -16.54 VERTICAL
11	12060.610	28.04	39.46	10.71	37.17	41.04	54.00 -12.96 VERTICAL
12	12060.610	41.37	39.46	10.71	37.17	54.37	74.00 -19.63 VERTICAL



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.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: 85007000/EEC Laboratory 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3790.361	30.52	28.97	7.83	36.92	30.40	54.00 -23.60 HORIZONTAL
2	3790.361	44.53	28.97	7.83	36.92	44.41	74.00 -29.59 HORIZONTAL
3	4884.043	49.86	30.95	6.86	36.95	50.72	54.00 -3.28 HORIZONTAL
4	4884.043	54.20	30.95	6.86	36.95	55.06	74.00 -18.94 HORIZONTAL
5	5934.778	32.25	32.26	7.32	37.00	34.83	54.00 -19.17 HORIZONTAL
6	5934.778	46.48	32.26	7.32	37.00	49.06	74.00 -24.94 HORIZONTAL
7	7326.945	31.92	35.74	7.39	36.92	38.13	54.00 -15.87 HORIZONTAL
8	7326.945	43.37	35.74	7.39	36.92	49.58	74.00 -24.42 HORIZONTAL
9	9768.450	30.66	37.74	8.37	37.09	39.68	54.00 -14.32 HORIZONTAL
10	9768.450	43.26	37.74	8.37	37.09	52.28	74.00 -21.72 HORIZONTAL
11	12210.250	26.79	39.21	10.98	37.06	39.92	54.00 -14.08 HORIZONTAL
12	12210.250	41.06	39.21	10.98	37.06	54.19	74.00 -19.81 HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3801.333	31.85	29.01	7.89	36.92	31.83	54.00 -22.17 VERTICAL
2	3801.333	45.38	29.01	7.89	36.92	45.36	74.00 -28.64 VERTICAL
3	4884.040	50.07	30.95	6.86	36.95	50.93	54.00 -3.07 VERTICAL
4	4884.040	55.44	30.95	6.86	36.95	56.30	74.00 -17.70 VERTICAL
5	7326.806	28.21	35.74	7.39	36.92	34.42	54.00 -19.58 VERTICAL
6	7326.806	44.41	35.74	7.39	36.92	50.62	74.00 -23.38 VERTICAL
7	8440.945	28.91	36.13	8.06	36.93	36.17	54.00 -17.83 VERTICAL
8	8440.945	44.51	36.13	8.06	36.93	51.77	74.00 -22.23 VERTICAL
9	9768.603	27.35	37.74	8.37	37.09	36.37	54.00 -17.63 VERTICAL
10	9768.603	44.79	37.74	8.37	37.09	53.81	74.00 -20.19 VERTICAL
11	12210.540	27.44	39.21	10.98	37.06	40.57	54.00 -13.43 VERTICAL
12	12210.540	41.02	39.21	10.98	37.06	54.15	74.00 -19.85 VERTICAL



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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase		
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB		
1	3823.371	31.15	29.08	7.83	36.91	31.15	54.00	-22.85	HORIZONTAL
2	3823.371	45.12	29.08	7.83	36.91	45.12	74.00	-28.88	HORIZONTAL
3	4924.721	49.22	31.01	7.49	36.95	50.77	54.00	-3.23	HORIZONTAL
4	4924.721	51.50	31.01	7.49	36.95	53.05	74.00	-20.95	HORIZONTAL
5	7386.516	30.36	35.85	7.42	36.92	36.71	54.00	-17.29	HORIZONTAL
6	7386.516	43.92	35.85	7.42	36.92	50.27	74.00	-23.73	HORIZONTAL
7	8738.852	28.22	36.30	7.98	36.96	35.54	54.00	-18.46	HORIZONTAL
8	8738.852	44.26	36.30	7.98	36.96	51.58	74.00	-22.42	HORIZONTAL
9	9848.420	29.48	37.82	8.46	37.09	38.67	54.00	-15.33	HORIZONTAL
10	9848.420	43.68	37.82	8.46	37.09	52.87	74.00	-21.13	HORIZONTAL
11	12310.850	25.84	39.03	11.10	36.97	39.00	54.00	-15.00	HORIZONTAL
12	12310.850	40.13	39.03	11.10	36.97	53.29	74.00	-20.71	HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase		
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB		
1	3834.438	31.89	29.12	7.80	36.91	31.90	54.00	-22.10	VERTICAL
2	3834.438	44.98	29.12	7.80	36.91	44.99	74.00	-29.01	VERTICAL
3	4924.721	49.43	31.01	7.49	36.95	50.98	54.00	-3.02	VERTICAL
4	4924.721	54.32	31.01	7.49	36.95	55.87	74.00	-18.13	VERTICAL
5	7386.914	31.09	35.85	7.42	36.92	37.44	54.00	-16.56	VERTICAL
6	7386.914	44.16	35.85	7.42	36.92	50.51	74.00	-23.49	VERTICAL
7	9047.272	30.67	36.57	8.29	37.02	38.51	54.00	-15.49	VERTICAL
8	9047.272	44.30	36.57	8.29	37.02	52.14	74.00	-21.86	VERTICAL
9	9848.312	29.71	37.82	8.46	37.09	38.90	54.00	-15.10	VERTICAL
10	9848.312	44.33	37.82	8.46	37.09	53.52	74.00	-20.48	VERTICAL
11	12310.220	27.29	39.03	11.10	36.97	40.45	54.00	-13.55	VERTICAL
12	12310.220	41.15	39.03	11.10	36.97	54.31	74.00	-19.69	VERTICAL



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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	40.702	22.80	12.62	0.62	23.76	12.28	40.00 -27.72 HORIZONTAL
2	65.803	24.88	11.30	0.67	25.42	11.43	40.00 -28.57 HORIZONTAL
3	179.386	28.52	12.71	1.34	28.08	14.49	43.50 -29.01 HORIZONTAL
4	541.373	28.87	19.15	2.19	29.73	20.48	46.00 -25.52 HORIZONTAL
5	658.836	29.01	21.14	2.12	28.84	23.43	46.00 -22.57 HORIZONTAL
6	893.857	29.23	23.95	2.86	27.97	28.07	46.00 -17.93 HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3495.691	32.90	27.90	5.93	36.95	29.78	54.00 -24.22 HORIZONTAL
2	3495.691	46.63	27.90	5.93	36.95	43.51	74.00 -30.49 HORIZONTAL
3	4824.962	45.77	30.82	6.01	36.94	45.66	54.00 -8.34 HORIZONTAL
4	4824.962	50.50	30.82	6.01	36.94	50.39	74.00 -23.61 HORIZONTAL
5	7236.474	32.65	35.55	7.35	36.93	38.62	54.00 -15.38 HORIZONTAL
6	7236.474	44.31	35.55	7.35	36.93	50.28	74.00 -23.72 HORIZONTAL
7	8319.836	31.09	36.22	8.15	36.92	38.54	54.00 -15.46 HORIZONTAL
8	8319.836	44.36	36.22	8.15	36.92	51.81	74.00 -22.19 HORIZONTAL
9	9648.916	31.06	37.54	8.18	37.08	39.70	54.00 -14.30 HORIZONTAL
10	9648.916	45.64	37.54	8.18	37.08	54.28	74.00 -19.72 HORIZONTAL
11	12060.850	27.79	39.46	10.71	37.17	40.79	54.00 -13.21 HORIZONTAL
12	12060.850	42.09	39.46	10.71	37.17	55.09	74.00 -18.91 HORIZONTAL



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.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: 85007000/EEC Laboratory 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	30.000	23.73	12.20	0.05	21.45	14.53	40.00	-25.47	VERTICAL
2	46.503	23.59	12.90	0.68	24.57	12.60	40.00	-27.40	VERTICAL
3	163.755	28.14	13.29	1.28	28.09	14.62	43.50	-28.88	VERTICAL
4	568.613	29.97	20.10	1.95	29.30	22.72	46.00	-23.28	VERTICAL
5	724.261	29.33	21.66	3.56	29.53	25.02	46.00	-20.98	VERTICAL
6	890.728	28.71	23.92	2.87	28.01	27.49	46.00	-18.51	VERTICAL

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

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3924.135	29.39	29.35	7.47	36.91	29.30	54.00	-24.70	VERTICAL
2	3924.135	44.86	29.35	7.47	36.91	44.77	74.00	-29.23	VERTICAL
3	4824.962	45.53	30.82	6.01	36.94	45.42	54.00	-8.58	VERTICAL
4	4824.962	49.39	30.82	6.01	36.94	49.28	74.00	-24.72	VERTICAL
5	7236.527	28.42	35.55	7.35	36.93	34.39	54.00	-19.61	VERTICAL
6	7236.527	43.98	35.55	7.35	36.93	49.95	74.00	-24.05	VERTICAL
7	8416.584	28.94	36.15	8.07	36.93	36.23	54.00	-17.77	VERTICAL
8	8416.584	44.44	36.15	8.07	36.93	51.73	74.00	-22.27	VERTICAL
9	9648.018	28.80	37.54	8.18	37.08	37.44	54.00	-16.56	VERTICAL
10	9648.018	43.93	37.54	8.18	37.08	52.57	74.00	-21.43	VERTICAL
11	12060.240	27.59	39.46	10.71	37.17	40.59	54.00	-13.41	VERTICAL
12	12060.240	41.87	39.46	10.71	37.17	54.87	74.00	-19.13	VERTICAL



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.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: SGS (China) 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) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	3823.371	29.97	29.08	7.83	36.91	29.97	54.00	-24.03 HORIZONTAL
2	3823.371	44.45	29.08	7.83	36.91	44.45	74.00	-29.55 HORIZONTAL
3	4884.151	47.44	30.95	6.86	36.95	48.30	54.00	-5.70 HORIZONTAL
4	4884.151	51.41	30.95	6.86	36.95	52.27	74.00	-21.73 HORIZONTAL
5	7326.527	29.92	35.74	7.39	36.92	36.13	54.00	-17.87 HORIZONTAL
6	7326.527	43.64	35.74	7.39	36.92	49.85	74.00	-24.15 HORIZONTAL
7	8943.274	27.95	36.47	8.18	37.00	35.60	54.00	-18.40 HORIZONTAL
8	8943.274	43.51	36.47	8.18	37.00	51.16	74.00	-22.84 HORIZONTAL
9	9768.916	31.40	37.74	8.37	37.09	40.42	54.00	-13.58 HORIZONTAL
10	9768.916	45.47	37.74	8.37	37.09	54.49	74.00	-19.51 HORIZONTAL
11	12210.350	28.27	39.21	10.98	37.06	41.40	54.00	-12.60 HORIZONTAL
12	12210.350	40.99	39.21	10.98	37.06	54.12	74.00	-19.88 HORIZONTAL

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

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3890.255	31.98	29.27	7.61	36.91	31.95	54.00	-22.05	VERTICAL
2	3890.255	44.70	29.27	7.61	36.91	44.67	74.00	-29.33	VERTICAL
3	4884.151	35.20	30.95	6.86	36.95	36.06	54.00	-17.94	VERTICAL
4	4884.151	48.71	30.95	6.86	36.95	49.57	74.00	-24.43	VERTICAL
5	7326.092	28.82	35.74	7.39	36.92	35.03	54.00	-18.97	VERTICAL
6	7326.092	43.40	35.74	7.39	36.92	49.61	74.00	-24.39	VERTICAL
7	8489.882	26.03	36.10	8.03	36.94	33.22	54.00	-20.78	VERTICAL
8	8489.882	44.58	36.10	8.03	36.94	51.77	74.00	-22.23	VERTICAL
9	9768.916	29.43	37.74	8.37	37.09	38.45	54.00	-15.55	VERTICAL
10	9768.916	44.89	37.74	8.37	37.09	53.91	74.00	-20.09	VERTICAL
11	12210.100	27.79	39.21	10.98	37.06	40.92	54.00	-13.08	VERTICAL
12	12210.100	41.29	39.21	10.98	37.06	54.42	74.00	-19.58	VERTICAL



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/terms-and-conditions.aspx>, and for electronic format documents, subject to terms and conditions for electronic documents at <http://www.sgs.com/en/terms-and-conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and limitation of damages in the General Conditions of Service and in the Document.aspx. The 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
 No.138 Keshu Road, Shijiazhuang City, Hebei Province, China 510662 | (86-20) 82155555 | (86-20) 82075068 | www.sgs.com

中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 1 (86-20) 82155555 1 (86-20) 82075058 sqs.china@sqs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase		
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB		
1	3958.309	28.99	29.42	7.35	36.90	28.86	54.00	-25.14	HORIZONTAL
2	3958.309	44.88	29.42	7.35	36.90	44.75	74.00	-29.25	HORIZONTAL
3	4924.721	32.13	31.01	7.49	36.95	33.68	54.00	-20.32	HORIZONTAL
4	4924.721	47.87	31.01	7.49	36.95	49.42	74.00	-24.58	HORIZONTAL
5	7386.516	27.13	35.85	7.42	36.92	33.48	54.00	-20.52	HORIZONTAL
6	7386.516	42.75	35.85	7.42	36.92	49.10	74.00	-24.90	HORIZONTAL
7	8764.146	26.79	36.33	8.00	36.97	34.15	54.00	-19.85	HORIZONTAL
8	8764.146	43.55	36.33	8.00	36.97	50.91	74.00	-23.09	HORIZONTAL
9	9848.221	26.67	37.82	8.46	37.09	35.86	54.00	-18.14	HORIZONTAL
10	9848.221	42.83	37.82	8.46	37.09	52.02	74.00	-21.98	HORIZONTAL
11	12310.580	26.87	39.03	11.10	36.97	40.03	54.00	-13.97	HORIZONTAL
12	12310.580	40.91	39.03	11.10	36.97	54.07	74.00	-19.93	HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase		
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB		
1	3790.361	31.14	28.97	7.83	36.92	31.02	54.00	-22.98	VERTICAL
2	3790.361	45.41	28.97	7.83	36.92	45.29	74.00	-28.71	VERTICAL
3	4924.721	35.50	31.01	7.49	36.95	37.05	54.00	-16.95	VERTICAL
4	4924.721	48.39	31.01	7.49	36.95	49.94	74.00	-24.06	VERTICAL
5	7386.015	30.10	35.85	7.42	36.92	36.45	54.00	-17.55	VERTICAL
6	7386.015	43.85	35.85	7.42	36.92	50.20	74.00	-23.80	VERTICAL
7	8995.123	29.27	36.50	8.24	37.01	37.00	54.00	-17.00	VERTICAL
8	8995.123	44.49	36.50	8.24	37.01	52.22	74.00	-21.78	VERTICAL
9	9848.221	29.03	37.82	8.46	37.09	38.22	54.00	-15.78	VERTICAL
10	9848.221	43.88	37.82	8.46	37.09	53.07	74.00	-20.93	VERTICAL
11	12310.740	28.15	39.03	11.10	36.97	41.31	54.00	-12.69	VERTICAL
12	12310.740	41.03	39.03	11.10	36.97	54.19	74.00	-19.81	VERTICAL



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.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: Science Park, EEC Laboratory 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	39.715	22.35	12.60	0.60	23.65	11.90	40.00 -28.10 HORIZONTAL
2	53.318	24.52	12.78	0.59	24.97	12.92	40.00 -27.08 HORIZONTAL
3	132.685	27.55	12.66	0.98	28.17	13.02	43.50 -30.48 HORIZONTAL
4	180.649	29.30	12.67	1.34	28.09	15.22	43.50 -28.28 HORIZONTAL
5	622.890	29.11	20.74	2.10	29.21	22.74	46.00 -23.26 HORIZONTAL
6	887.610	29.43	23.90	2.88	28.06	28.15	46.00 -17.85 HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3856.668	30.86	29.19	7.73	36.91	30.87	54.00 -23.13 HORIZONTAL
2	3856.668	45.31	29.19	7.73	36.91	45.32	74.00 -28.68 HORIZONTAL
3	4824.962	31.50	30.82	6.01	36.94	31.39	54.00 -22.61 HORIZONTAL
4	4824.962	47.78	30.82	6.01	36.94	47.67	74.00 -26.33 HORIZONTAL
5	6737.207	28.89	34.70	7.18	36.97	33.80	54.00 -20.20 HORIZONTAL
6	6737.207	43.42	34.70	7.18	36.97	48.33	74.00 -25.67 HORIZONTAL
7	7236.102	29.82	35.55	7.35	36.93	35.79	54.00 -18.21 HORIZONTAL
8	7236.102	45.10	35.55	7.35	36.93	51.07	74.00 -22.93 HORIZONTAL
9	9648.925	27.65	37.54	8.18	37.08	36.29	54.00 -17.71 HORIZONTAL
10	9648.925	43.79	37.54	8.18	37.08	52.43	74.00 -21.57 HORIZONTAL
11	12060.350	26.29	39.46	10.71	37.17	39.29	54.00 -14.71 HORIZONTAL
12	12060.350	42.68	39.46	10.71	37.17	55.68	74.00 -18.32 HORIZONTAL



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. No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch: 85007000/EEC Laboratory 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	46.503	25.44	12.90	0.68	24.57	14.45	40.00 -25.55 VERTICAL
2	60.069	24.03	12.20	0.58	25.23	11.58	40.00 -28.42 VERTICAL
3	180.649	30.02	12.67	1.34	28.09	15.94	43.50 -27.56 VERTICAL
4	582.743	29.68	20.36	1.91	29.22	22.73	46.00 -23.27 VERTICAL
5	729.358	30.51	21.73	3.47	29.46	26.25	46.00 -19.75 VERTICAL
6	938.833	29.43	24.39	3.62	28.22	29.22	46.00 -16.78 VERTICAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	4824.962	44.22	30.82	6.01	36.94	44.11	54.00 -9.89 VERTICAL
2	4824.962	49.26	30.82	6.01	36.94	49.15	74.00 -24.85 VERTICAL
3	5813.812	30.11	32.17	7.46	37.00	32.74	54.00 -21.26 VERTICAL
4	5813.812	44.11	32.17	7.46	37.00	46.74	74.00 -27.26 VERTICAL
5	7236.172	29.19	35.55	7.35	36.93	35.16	54.00 -18.84 VERTICAL
6	7236.172	43.97	35.55	7.35	36.93	49.94	74.00 -24.06 VERTICAL
7	8440.945	28.27	36.13	8.06	36.93	35.53	54.00 -18.47 VERTICAL
8	8440.945	44.69	36.13	8.06	36.93	51.95	74.00 -22.05 VERTICAL
9	9648.221	28.77	37.54	8.18	37.08	37.41	54.00 -16.59 VERTICAL
10	9648.221	44.81	37.54	8.18	37.08	53.45	74.00 -20.55 VERTICAL
11	12060.270	26.95	39.46	10.71	37.17	39.95	54.00 -14.05 VERTICAL
12	12060.270	41.09	39.46	10.71	37.17	54.09	74.00 -19.91 VERTICAL



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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3823.371	33.51	29.08	7.83	36.91	33.51	54.00 -20.49 HORIZONTAL
2	3823.371	44.52	29.08	7.83	36.91	44.52	74.00 -29.48 HORIZONTAL
3	4884.043	41.57	30.95	6.86	36.95	42.43	54.00 -11.57 HORIZONTAL
4	4884.043	47.18	30.95	6.86	36.95	48.04	74.00 -25.96 HORIZONTAL
5	6835.278	30.72	34.89	7.21	36.96	35.86	54.00 -18.14 HORIZONTAL
6	6835.278	43.87	34.89	7.21	36.96	49.01	74.00 -24.99 HORIZONTAL
7	7326.463	31.15	35.74	7.39	36.92	37.36	54.00 -16.64 HORIZONTAL
8	7326.463	43.67	35.74	7.39	36.92	49.88	74.00 -24.12 HORIZONTAL
9	9768.689	30.53	37.74	8.37	37.09	39.55	54.00 -14.45 HORIZONTAL
10	9768.689	44.33	37.74	8.37	37.09	53.35	74.00 -20.65 HORIZONTAL
11	12210.760	26.14	39.21	10.98	37.06	39.27	54.00 -14.73 HORIZONTAL
12	12210.760	40.61	39.21	10.98	37.06	53.74	74.00 -20.26 HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	4133.699	30.63	29.62	6.79	36.90	30.14	54.00 -23.86 VERTICAL
2	4133.699	45.93	29.62	6.79	36.90	45.44	74.00 -28.56 VERTICAL
3	4884.043	44.77	30.95	6.86	36.95	45.63	54.00 -8.37 VERTICAL
4	4884.043	48.85	30.95	6.86	36.95	49.71	74.00 -24.29 VERTICAL
5	7326.122	30.13	35.74	7.39	36.92	36.34	54.00 -17.66 VERTICAL
6	7326.122	43.91	35.74	7.39	36.92	50.12	74.00 -23.88 VERTICAL
7	9648.399	28.00	37.54	8.18	37.08	36.64	54.00 -17.36 VERTICAL
8	9648.399	42.92	37.54	8.18	37.08	51.56	74.00 -22.44 VERTICAL
9	10545.010	26.76	39.05	9.58	37.12	38.27	54.00 -15.73 VERTICAL
10	10545.010	40.24	39.05	9.58	37.12	51.75	74.00 -22.25 VERTICAL
11	12210.220	28.24	39.21	10.98	37.06	41.37	54.00 -12.63 VERTICAL
12	12210.220	41.61	39.21	10.98	37.06	54.74	74.00 -19.26 VERTICAL



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
 No.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	4098.010	30.91	29.58	6.92	36.90	30.51	54.00 -23.49 HORIZONTAL
2	4098.010	45.33	29.58	6.92	36.90	44.93	74.00 -29.07 HORIZONTAL
3	4924.721	32.59	31.01	7.49	36.95	34.14	54.00 -19.86 HORIZONTAL
4	4924.721	46.39	31.01	7.49	36.95	47.94	74.00 -26.06 HORIZONTAL
5	6974.982	32.53	35.08	7.27	36.94	37.94	54.00 -16.06 HORIZONTAL
6	6974.982	44.28	35.08	7.27	36.94	49.69	74.00 -24.31 HORIZONTAL
7	7386.882	30.10	35.85	7.42	36.92	36.45	54.00 -17.55 HORIZONTAL
8	7386.882	43.57	35.85	7.42	36.92	49.92	74.00 -24.08 HORIZONTAL
9	9848.789	30.60	37.82	8.46	37.09	39.79	54.00 -14.21 HORIZONTAL
10	9848.789	43.42	37.82	8.46	37.09	52.61	74.00 -21.39 HORIZONTAL
11	12310.220	27.09	39.03	11.10	36.97	40.25	54.00 -13.75 HORIZONTAL
12	12310.220	42.60	39.03	11.10	36.97	55.76	74.00 -18.24 HORIZONTAL

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

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3790.361	29.99	28.97	7.83	36.92	29.87	54.00 -24.13 VERTICAL
2	3790.361	44.82	28.97	7.83	36.92	44.70	74.00 -29.30 VERTICAL
3	4924.721	32.26	31.01	7.49	36.95	33.81	54.00 -20.19 VERTICAL
4	4924.721	47.72	31.01	7.49	36.95	49.27	74.00 -24.73 VERTICAL
5	6835.278	28.93	34.89	7.21	36.96	34.07	54.00 -19.93 VERTICAL
6	6835.278	43.47	34.89	7.21	36.96	48.61	74.00 -25.39 VERTICAL
7	7386.020	30.03	35.85	7.42	36.92	36.38	54.00 -17.62 VERTICAL
8	7386.020	42.63	35.85	7.42	36.92	48.98	74.00 -25.02 VERTICAL
9	9848.724	28.65	37.82	8.46	37.09	37.84	54.00 -16.16 VERTICAL
10	9848.724	43.23	37.82	8.46	37.09	52.42	74.00 -21.58 VERTICAL
11	12310.380	25.87	39.03	11.10	36.97	39.03	54.00 -14.97 VERTICAL
12	12310.380	40.31	39.03	11.10	36.97	53.47	74.00 -20.53 VERTICAL



Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	39.715	21.98	12.60	0.60	23.65	11.53	40.00 -28.47 HORIZONTAL
2	50.057	23.68	13.00	0.60	24.87	12.41	40.00 -27.59 HORIZONTAL
3	153.200	27.97	13.32	1.22	28.11	14.40	43.50 -29.10 HORIZONTAL
4	180.649	29.40	12.67	1.34	28.09	15.32	43.50 -28.18 HORIZONTAL
5	661.151	29.02	21.16	2.13	28.85	23.46	46.00 -22.54 HORIZONTAL
6	922.516	29.16	24.20	3.72	28.40	28.68	46.00 -17.32 HORIZONTAL

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3901.516	29.75	29.30	7.56	36.91	29.70	54.00 -24.30 HORIZONTAL
2	3901.516	44.61	29.30	7.56	36.91	44.56	74.00 -29.44 HORIZONTAL
3	4844.975	31.72	30.88	6.31	36.94	31.97	54.00 -22.03 HORIZONTAL
4	4844.975	45.95	30.88	6.31	36.94	46.20	74.00 -27.80 HORIZONTAL
5	7266.144	26.43	35.60	7.36	36.92	32.47	54.00 -21.53 HORIZONTAL
6	7266.144	42.97	35.60	7.36	36.92	49.01	74.00 -24.99 HORIZONTAL
7	8343.918	28.76	36.20	8.13	36.92	36.17	54.00 -17.83 HORIZONTAL
8	8343.918	44.06	36.20	8.13	36.92	51.47	74.00 -22.53 HORIZONTAL
9	9648.717	28.63	37.54	8.18	37.08	37.27	54.00 -16.73 HORIZONTAL
10	9648.717	43.34	37.54	8.18	37.08	51.98	74.00 -22.02 HORIZONTAL
11	12110.220	26.45	39.37	10.82	37.15	39.49	54.00 -14.51 HORIZONTAL
12	12110.220	40.51	39.37	10.82	37.15	53.55	74.00 -20.45 HORIZONTAL



Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	46.503	24.96	12.90	0.68	24.57	13.97	40.00	-26.03	VERTICAL
2	64.887	27.44	11.50	0.65	25.38	14.21	40.00	-25.79	VERTICAL
3	151.067	28.32	13.29	1.19	28.12	14.68	43.50	-28.82	VERTICAL
4	462.346	29.39	17.73	2.00	29.47	19.65	46.00	-26.35	VERTICAL
5	694.417	29.96	21.38	2.25	28.87	24.72	46.00	-21.28	VERTICAL
6	916.069	29.36	24.13	3.60	28.35	28.74	46.00	-17.26	VERTICAL

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4133.699	30.78	29.62	6.79	36.90	30.29	54.00	-23.71	VERTICAL
2	4133.699	45.75	29.62	6.79	36.90	45.26	74.00	-28.74	VERTICAL
3	4844.993	31.83	30.88	6.31	36.94	32.08	54.00	-21.92	VERTICAL
4	4844.993	44.32	30.88	6.31	36.94	44.57	74.00	-29.43	VERTICAL
5	7266.806	26.88	35.60	7.36	36.92	32.92	54.00	-21.08	VERTICAL
6	7266.806	43.15	35.60	7.36	36.92	49.19	74.00	-24.81	VERTICAL
7	8200.463	27.58	36.35	8.25	36.91	35.27	54.00	-18.73	VERTICAL
8	8200.463	43.53	36.35	8.25	36.91	51.22	74.00	-22.78	VERTICAL
9	9688.430	28.86	37.61	8.25	37.08	37.64	54.00	-16.36	VERTICAL
10	9688.430	44.89	37.61	8.25	37.08	53.67	74.00	-20.33	VERTICAL
11	12110.850	26.69	39.37	10.82	37.12	39.76	54.00	-14.24	VERTICAL
12	12110.850	41.07	39.37	10.82	37.12	54.14	74.00	-19.86	VERTICAL



Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3757.637	32.29	28.82	7.65	36.92	31.84	54.00 -22.16 HORIZONTAL
2	3757.637	45.32	28.82	7.65	36.92	44.87	74.00 -29.13 HORIZONTAL
3	4884.721	30.94	30.95	6.86	36.95	31.80	54.00 -22.20 HORIZONTAL
4	4884.721	46.17	30.95	6.86	36.95	47.03	74.00 -26.97 HORIZONTAL
5	6717.762	28.08	34.65	7.18	36.97	32.94	54.00 -21.06 HORIZONTAL
6	6717.762	44.17	34.65	7.18	36.97	49.03	74.00 -24.97 HORIZONTAL
7	7326.102	29.78	35.74	7.39	36.92	35.99	54.00 -18.01 HORIZONTAL
8	7326.102	43.72	35.74	7.39	36.92	49.93	74.00 -24.07 HORIZONTAL
9	9768.991	29.83	37.74	8.37	37.09	38.85	54.00 -15.15 HORIZONTAL
10	9768.991	44.28	37.74	8.37	37.09	53.30	74.00 -20.70 HORIZONTAL
11	12210.420	26.21	39.21	10.98	37.06	39.34	54.00 -14.66 HORIZONTAL
12	12210.420	40.42	39.21	10.98	37.06	53.55	74.00 -20.45 HORIZONTAL

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3890.255	32.35	29.27	7.61	36.91	32.32	54.00 -21.68 VERTICAL
2	3890.255	44.61	29.27	7.61	36.91	44.58	74.00 -29.42 VERTICAL
3	4884.982	34.07	30.95	6.86	36.95	34.93	54.00 -19.07 VERTICAL
4	4884.982	47.66	30.95	6.86	36.95	48.52	74.00 -25.48 VERTICAL
5	7386.461	29.12	35.85	7.42	36.92	35.47	54.00 -18.53 VERTICAL
6	7386.461	43.87	35.85	7.42	36.92	50.22	74.00 -23.78 VERTICAL
7	8738.852	28.82	36.30	7.98	36.96	36.14	54.00 -17.86 VERTICAL
8	8738.852	44.50	36.30	7.98	36.96	51.82	74.00 -22.18 VERTICAL
9	9768.800	29.97	37.74	8.37	37.09	38.99	54.00 -15.01 VERTICAL
10	9768.800	43.61	37.74	8.37	37.09	52.63	74.00 -21.37 VERTICAL
11	12210.350	26.93	39.21	10.98	37.06	40.06	54.00 -13.94 VERTICAL
12	12210.350	40.73	39.21	10.98	37.06	53.86	74.00 -20.14 VERTICAL



Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	4904.977	33.66	30.97	7.07	36.95	34.75	54.00 -19.25 HORIZONTAL
2	4904.977	45.88	30.97	7.07	36.95	46.97	74.00 -27.03 HORIZONTAL
3	6231.427	27.08	33.19	6.93	36.99	30.21	54.00 -23.79 HORIZONTAL
4	6231.427	44.07	33.19	6.93	36.99	47.20	74.00 -26.80 HORIZONTAL
5	7356.788	27.66	35.78	7.40	36.92	33.92	54.00 -20.08 HORIZONTAL
6	7356.788	43.96	35.78	7.40	36.92	50.22	74.00 -23.78 HORIZONTAL
7	8416.584	28.05	36.15	8.07	36.93	35.34	54.00 -18.66 HORIZONTAL
8	8416.584	43.54	36.15	8.07	36.93	50.83	74.00 -23.17 HORIZONTAL
9	9808.916	28.34	37.79	8.41	37.09	37.45	54.00 -16.55 HORIZONTAL
10	9808.916	44.94	37.79	8.41	37.09	54.05	74.00 -19.95 HORIZONTAL
11	12260.270	26.53	39.15	11.02	37.03	39.67	54.00 -14.33 HORIZONTAL
12	12260.270	41.59	39.15	11.02	37.03	54.73	74.00 -19.27 HORIZONTAL

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	3801.333	32.87	29.01	7.89	36.92	32.85	54.00 -21.15 VERTICAL
2	3801.333	45.59	29.01	7.89	36.92	45.57	74.00 -28.43 VERTICAL
3	4904.151	32.73	30.97	7.07	36.95	33.82	54.00 -20.18 VERTICAL
4	4904.151	46.38	30.97	7.07	36.95	47.47	74.00 -26.53 VERTICAL
5	7356.516	29.75	35.78	7.40	36.92	36.01	54.00 -17.99 VERTICAL
6	7356.516	43.58	35.78	7.40	36.92	49.84	74.00 -24.16 VERTICAL
7	8319.836	29.99	36.22	8.15	36.92	37.44	54.00 -16.56 VERTICAL
8	8319.836	44.41	36.22	8.15	36.92	51.86	74.00 -22.14 VERTICAL
9	9808.257	29.48	37.79	8.41	37.09	38.59	54.00 -15.41 VERTICAL
10	9808.257	41.70	37.79	8.41	37.09	50.81	74.00 -23.19 VERTICAL
11	12260.700	27.09	39.15	11.02	37.03	40.23	54.00 -13.77 VERTICAL
12	12260.700	40.08	39.15	11.02	37.03	53.22	74.00 -20.78 VERTICAL



8 Appendix

8.1 Appendix 15.247

1.6dB Bandwidth

Test Mode	Test Channel	Ant	OBW[MHz]	EBW[MHz]	Limit	Verdict
11B	2412	Ant1	13.358	8.616	0.5	PASS
11B	2442	Ant1	13.327	8.622	0.5	PASS
11B	2462	Ant1	13.350	8.619	0.5	PASS
11G	2412	Ant1	16.415	16.39	0.5	PASS
11G	2442	Ant1	16.431	16.40	0.5	PASS
11G	2462	Ant1	16.434	16.40	0.5	PASS
11N20SISO	2412	Ant1	17.583	16.70	0.5	PASS
11N20SISO	2442	Ant1	17.595	17.30	0.5	PASS
11N20SISO	2462	Ant1	17.599	17.08	0.5	PASS
11N40SISO	2422	Ant1	35.957	35.46	0.5	PASS
11N40SISO	2442	Ant1	36.003	35.33	0.5	PASS
11N40SISO	2452	Ant1	36.008	35.68	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-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.130 Mahe Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075068 www.sgs.com.cn
Guangzhou Branch of SGS-CSTC EEC Laboratory 中国·广州·经济技术开发区科学城科珠路130号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075068 sgs.china@sgs.com