

TEST REPORT

Application No.: SZEM2004003014CR
Applicant: Harman International Industries, Inc.
Address of Applicant: 8500 Balboa Boulevard, Northridge, California, 91329, United States
Manufacturer: Harman International Industries, Inc.
Address of Manufacturer: 8500 Balboa Boulevard, Northridge, California, 91329, United States
Factory: Consonic Electroacoustic Technology Co., Ltd
Address of Factory: No.151, Shipai Section, Dongyuan Avenue, Shipai Town, Dongguan, City, Guangdong Province, P.R.China

Equipment Under Test (EUT):

EUT Name: Bluetooth Headset
Model No.: CLUB PRO+ TWS
FCC ID: APICLUBPROTWS
Trade Mark: JBL
Standard(s) : 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2020-04-23
Date of Test: 2020-04-28 to 2020-05-28
Date of Issue: 2020-07-02

Test Result:

Pass*

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

Keny Xu

Keny Xu
 EMC Laboratory Manager



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

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-07-02		Original

Authorized for issue by:			
			
		Benson Wang /Project Engineer	
			
		Eric Fu /Reviewer	



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

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(b)(4)	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 15.205 & 15.209	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 15.205 & 15.209	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-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) 83071443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch, China SGS-CSTC Laboratory

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

3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	6
4.1 DETAILS OF E.U.T.	6
4.2 DESCRIPTION OF SUPPORT UNITS	6
4.3 MEASUREMENT UNCERTAINTY	6
4.4 TEST LOCATION.....	7
4.5 TEST FACILITY.....	7
4.6 DEVIATION FROM STANDARDS.....	7
4.7 ABNORMALITIES FROM STANDARD CONDITIONS	7
5 EQUIPMENT LIST.....	8
6 RADIO SPECTRUM TECHNICAL REQUIREMENT	13
6.1 ANTENNA REQUIREMENT	13
6.1.1 Test Requirement:	13
6.1.2 Conclusion	13
7 RADIO SPECTRUM MATTER TEST RESULTS.....	14
7.1 CONDUCTED EMISSIONS AT AC POWER LINE (150kHz-30MHz).....	14
7.1.1 E.U.T. Operation	15
7.1.2 Test Setup Diagram.....	15
7.1.3 Measurement Procedure and Data.....	16
7.2 MINIMUM 6DB BANDWIDTH.....	25
7.2.1 E.U.T. Operation	26
7.2.2 Test Setup Diagram.....	26
7.2.3 Measurement Procedure and Data.....	26
7.3 CONDUCTED PEAK OUTPUT POWER.....	27
7.3.1 E.U.T. Operation	28
7.3.2 Test Setup Diagram.....	28
7.3.3 Measurement Procedure and Data.....	28
7.4 POWER SPECTRUM DENSITY.....	29
7.4.1 E.U.T. Operation	30
7.4.2 Test Setup Diagram.....	30
7.4.3 Measurement Procedure and Data.....	30
7.5 CONDUCTED BAND EDGES MEASUREMENT.....	31
7.5.1 E.U.T. Operation	32
7.5.2 Test Setup Diagram.....	32
7.5.3 Measurement Procedure and Data.....	32
7.6 CONDUCTED SPURIOUS EMISSIONS.....	33
7.6.1 E.U.T. Operation	34
7.6.2 Test Setup Diagram.....	34



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.
Shenzhen Branch • 科技园中区M-10栋一号楼

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号楼 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

7.6.3	Measurement Procedure and Data.....	34
7.7	RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS	35
7.7.1	E.U.T. Operation	36
7.7.2	Test Setup Diagram.....	36
7.7.3	Measurement Procedure and Data.....	37
7.8	RADIATED SPURIOUS EMISSIONS	54
7.8.1	E.U.T. Operation	55
7.8.2	Test Setup Diagram.....	56
7.8.3	Measurement Procedure and Data.....	57
8	PHOTOGRAPHS.....	94
8.1	TEST SETUP.....	94
8.2	EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS).....	94
9	APPENDIX.....	95
9.1	APPENDIX 15.247 – LEFT EARBUDS.....	95
9.2	APPENDIX 15.247 – RIGHT EARBUDS	119-142



4 General Information

4.1 Details of E.U.T.

Power Supply:	Left earbuds: Li-Ion Polymer Battery 3.7V 55mAh (Charge by travel case) Right earbuds: Li-Ion Polymer Battery 3.7V 55mAh (Charge by travel case) travel case with backup battery: Li-Ion Polymer Battery 3.7V 660mAh (Charged by type-C port or Wireless charging)
Cable:	Type-c cable: 26cm unshielded
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.1
Data Rate:	Support BLE 1M/bit and 2M/bit
Channel Spacing:	2MHz
Modulation Type:	GFSK
Number of Channels:	40
Antenna Type:	Integral antenna
Antenna Gain:	Left earbuds: -1.41dBi; Right earbuds: -1.43dBi

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	SAMSUNG	EP-TA200	N/A

4.3 Measurement Uncertainty

Item	Measurement Uncertainty
Radio Frequency	$\pm 7.25 \times 10^{-8}$
Duty cycle	$\pm 0.37\%$
Conduction emission	$\pm 3.0\text{dB}$ (150kHz to 30MHz)
RF conducted power	$\pm 0.75\text{dB}$
RF power density	$\pm 2.84\text{dB}$
Conducted Spurious emissions	$\pm 0.75\text{dB}$
RF Radiated power	$\pm 4.5\text{dB}$ (Below 1GHz)
	$\pm 4.8\text{dB}$ (Above 1GHz)
Radiated Spurious emission test	$\pm 4.5\text{dB}$ (Below 1GHz)
	$\pm 4.8\text{dB}$ (Above 1GHz)
Temperature test	$\pm 1^\circ\text{C}$
Humidity test	$\pm 3\%$
Supply voltages	$\pm 1\%$
Time	$\pm 3\%$

4.4 Test Location

All tests were performed at:

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

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

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

No tests were sub-contracted.

4.5 Test Facility

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

- **A2LA (Certificate No. 3816.01)**

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

- **VCCI**

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

- **FCC –Designation Number: CN1178**

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

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

- **Innovation, Science and Economic Development Canada**

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

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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

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

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2019-06-13	2022-06-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2019-07-11	2020-07-10
LISN	Rohde & Schwarz	ENV216	SEM007-01	2019-09-24	2020-09-23
LISN	ETS-LINDGREN	3816/2	SEM007-02	2020-04-01	2021-03-31
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2020-03-24	2021-03-23

Minimum 6dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27



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

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

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

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

Power Spectrum Density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

Conducted Band Edges Measurement					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27



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.
Shenzhen Branch / CSTC Laboratory

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

Conducted Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019-07-11	2020-07-10
EXA Spectrum Analyzer	AgilentTechnologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08
Horn Antenna	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2020-04-01	2021-03-31
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-04-01	2021-03-31
DC Power Supply	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-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 and certificate, please contact us at telephone: (86-755) 83071443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch • CSTC Laboratory

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

Radiated Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019-07-11	2020-07-10
EXA Spectrum Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08
Horn Antenna	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2020-04-01	2021-03-31
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-04-01	2021-03-31
DC Power Supply	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21

Radiated Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018-03-31	2021-03-30
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2019-07-11	2020-07-10
MXE EMI receiver	KEYSIGHT	N9038A	SEM004-16	2019-12-16	2020-12-15
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-18	2019-08-08	2022-08-07
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2019-04-10	2020-04-09
				2020-04-09	2021-04-08

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2019-09-26	2020-09-25
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2019-09-26	2020-09-25
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2019-09-26	2020-09-25
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-04-07	2021-04-06



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-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.
 Shenzhen Branch / 深圳分公司 / 检验测试实验室

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

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

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 Left earbuds: -1.41dBi Right earbuds: -1.43dBi.

Antenna location: Refer to internal photo.

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

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (SGS-CSTC Laboratory)

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

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C Humidity: 58.3 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case: n:TX mode(Left earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

o:TX mode(Right earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

p:TX mode(Left earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

q:TX mode(Right earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

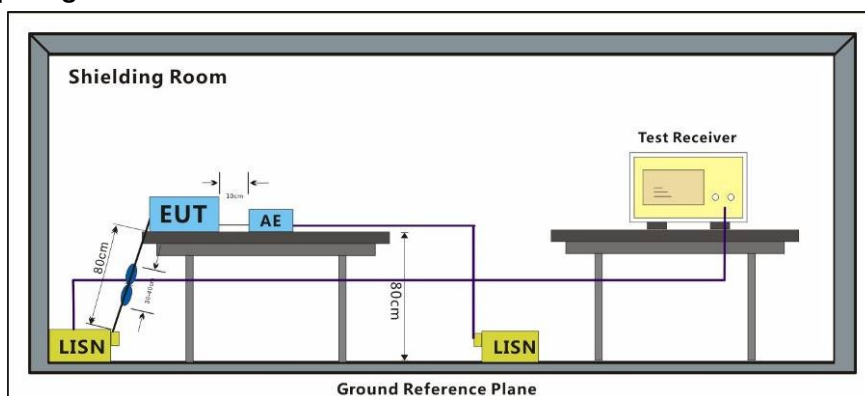
The worst case for final test: n:TX mode(Left earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

o:TX mode(Right earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

p:TX mode(Left earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

q:TX mode(Right earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

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

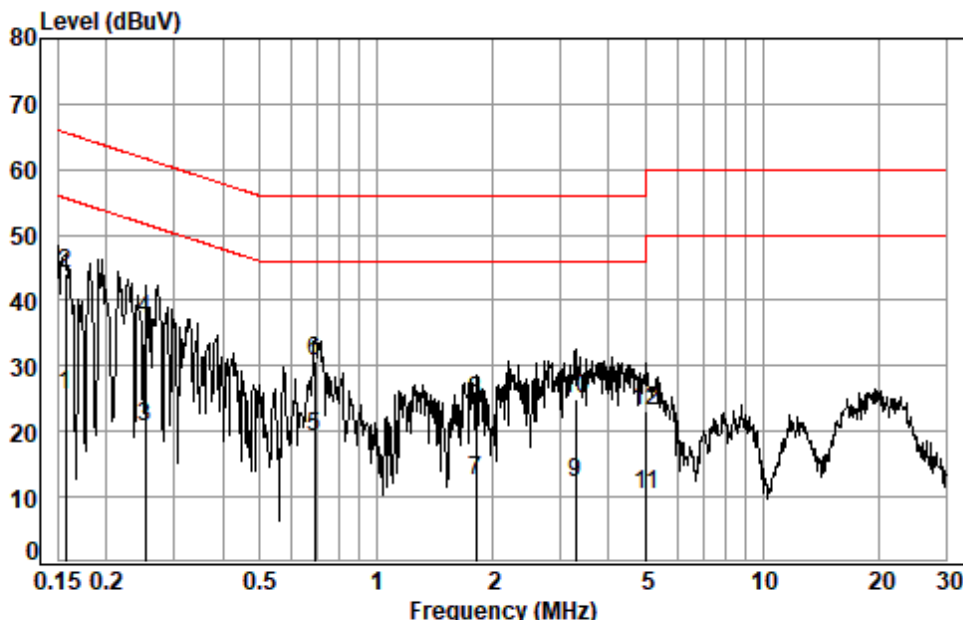


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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

Mode:n; Line:Live Line



Site : Shielding Room

Condition: Line

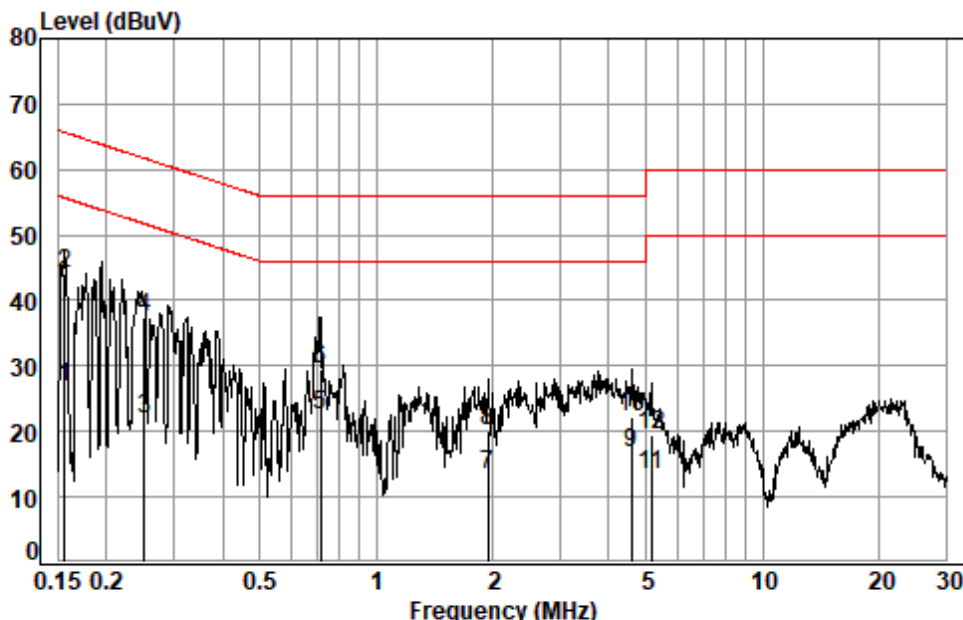
Job No. : 03014CR

Test mode: n

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1573	0.01	9.59	16.09	25.69	55.60	-29.91	Average
2	0.1573	0.01	9.59	34.43	44.03	65.60	-21.57	QP
3	0.2521	0.03	9.59	10.98	20.60	51.69	-31.09	Average
4	0.2521	0.03	9.59	27.59	37.21	61.69	-24.48	QP
5	0.6936	0.07	9.60	9.45	19.12	46.00	-26.88	Average
6	0.6936	0.07	9.60	21.02	30.69	56.00	-25.31	QP
7	1.8096	0.15	9.62	2.56	12.33	46.00	-33.67	Average
8	1.8096	0.15	9.62	14.88	24.65	56.00	-31.35	QP
9	3.2756	0.16	9.66	2.43	12.25	46.00	-33.75	Average
10	3.2756	0.16	9.66	15.00	24.82	56.00	-31.18	QP
11	5.0046	0.17	9.67	0.55	10.39	50.00	-39.61	Average
12	5.0046	0.17	9.67	13.43	23.27	60.00	-36.73	QP



Mode:n; Line:Neutral Line



Site : Shielding Room

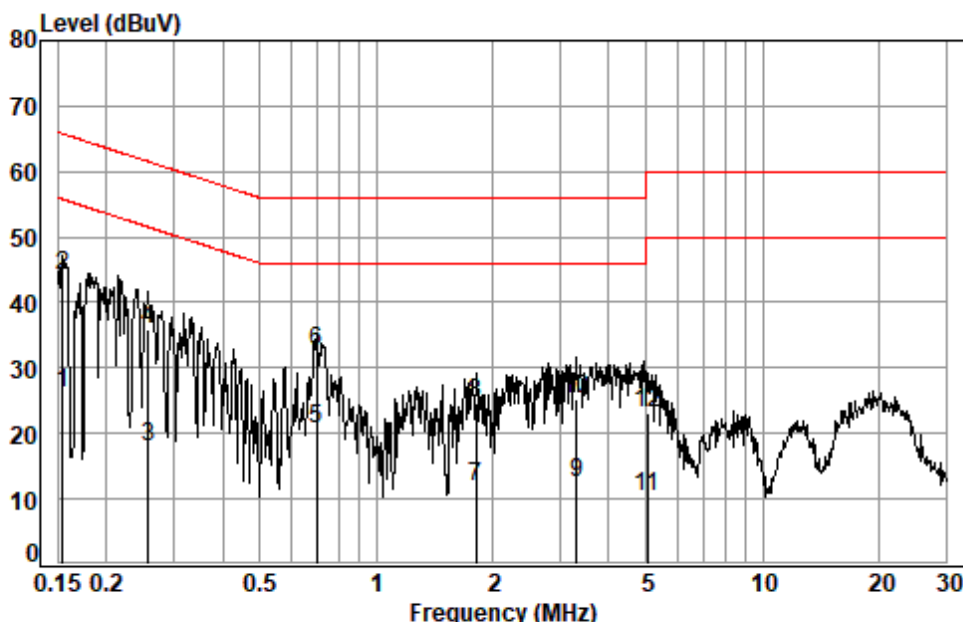
Condition: Neutral

Job No. : 03014CR

Test mode: n

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1565	0.01	9.55	17.26	26.82	55.65	-28.83	Average
2	0.1565	0.01	9.55	34.43	43.99	65.65	-21.66	QP
3	0.2508	0.03	9.54	12.48	22.05	51.73	-29.68	Average
4	0.2508	0.03	9.54	27.85	37.42	61.73	-24.31	QP
5	0.7160	0.08	9.55	12.92	22.55	46.00	-23.45	Average
6	0.7160	0.08	9.55	19.81	29.44	56.00	-26.56	QP
7	1.9489	0.16	9.56	3.75	13.47	46.00	-32.53	Average
8	1.9489	0.16	9.56	10.33	20.05	56.00	-35.95	QP
9	4.5736	0.17	9.62	7.04	16.83	46.00	-29.17	Average
10	4.5736	0.17	9.62	12.50	22.29	56.00	-33.71	QP
11	5.1390	0.17	9.63	3.62	13.42	50.00	-36.58	Average
12	5.1390	0.17	9.63	9.80	19.60	60.00	-40.40	QP

Mode:o; Line:Live Line

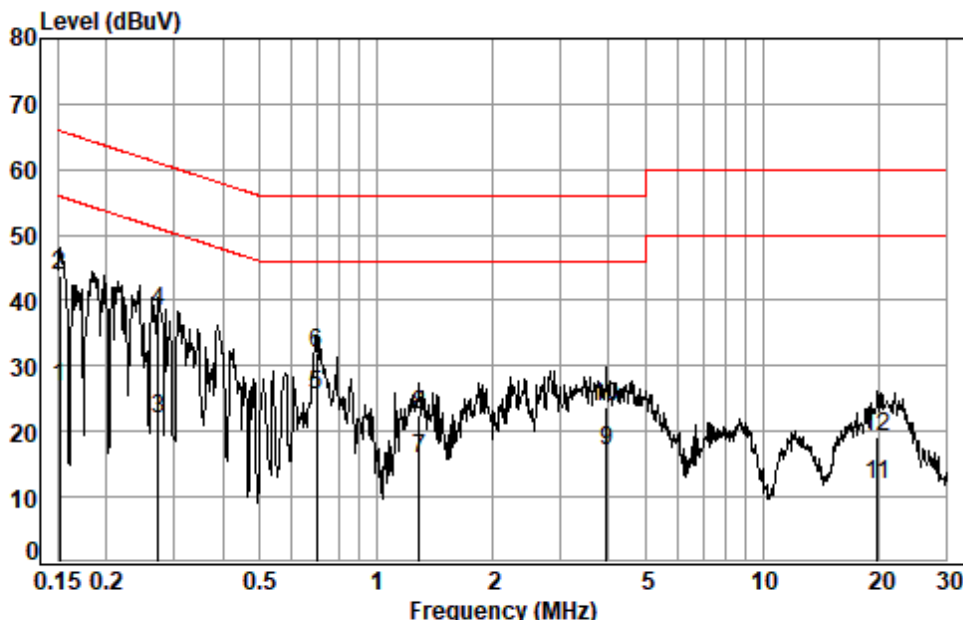


Site : Shielding Room
Condition: Line
Job No. : 03014CR
Test mode: o

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1540	0.01	9.59	16.42	26.02	55.78	-29.76	Average
2	0.1540	0.01	9.59	34.52	44.12	65.78	-21.66	QP
3	0.2575	0.03	9.59	8.47	18.09	51.51	-33.42	Average
4	0.2575	0.03	9.59	26.23	35.85	61.51	-25.66	QP
5	0.7010	0.07	9.60	10.87	20.54	46.00	-25.46	Average
6	0.7010	0.07	9.60	22.74	32.41	56.00	-23.59	QP
7	1.8096	0.15	9.62	2.18	11.95	46.00	-34.05	Average
8	1.8096	0.15	9.62	14.79	24.56	56.00	-31.44	QP
9	3.3105	0.16	9.66	2.53	12.35	46.00	-33.65	Average
10	3.3105	0.16	9.66	15.34	25.16	56.00	-30.84	QP
11	5.0312	0.17	9.67	0.61	10.45	50.00	-39.55	Average
12	5.0312	0.17	9.67	13.25	23.09	60.00	-36.91	QP



Mode:o; Line:Neutral Line



Site : Shielding Room

Condition: Neutral

Job No. : 03014CR

Test mode: o

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1516	0.01	9.55	17.30	26.86	55.91	-29.05	Average
2	0.1516	0.01	9.55	34.22	43.78	65.91	-22.13	QP
3	0.2730	0.04	9.54	12.38	21.96	51.03	-29.07	Average
4	0.2730	0.04	9.54	28.75	38.33	61.03	-22.70	QP
5	0.7010	0.07	9.55	15.90	25.52	46.00	-20.48	Average
6	0.7010	0.07	9.55	22.28	31.90	56.00	-24.10	QP
7	1.2892	0.12	9.55	6.10	15.77	46.00	-30.23	Average
8	1.2892	0.12	9.55	12.72	22.39	56.00	-33.61	QP
9	3.9430	0.16	9.60	7.29	17.05	46.00	-28.95	Average
10	3.9430	0.16	9.60	13.96	23.72	56.00	-32.28	QP
11	19.8445	0.24	10.62	0.95	11.81	50.00	-38.19	Average
12	19.8445	0.24	10.62	8.17	19.03	60.00	-40.97	QP



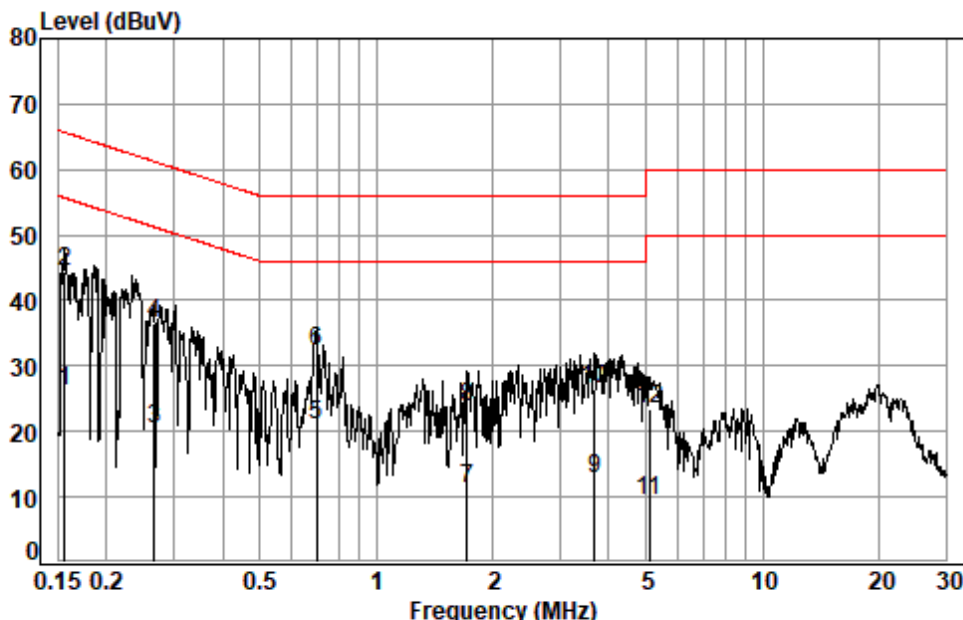
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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

Mode:p; Line:Live Line



Site : Shielding Room

Condition: Line

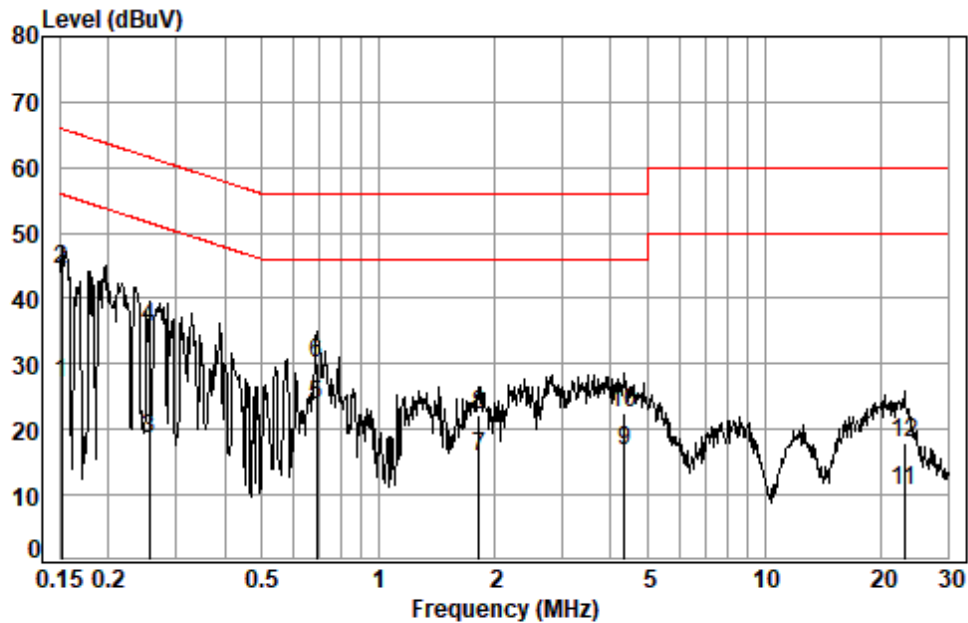
Job No. : 03014CR

Test mode: p

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1565	0.01	9.59	16.46	26.06	55.65	-29.59	Average
2	0.1565	0.01	9.59	34.79	44.39	65.65	-21.26	QP
3	0.2658	0.03	9.59	10.69	20.31	51.25	-30.94	Average
4	0.2658	0.03	9.59	26.90	36.52	61.25	-24.73	QP
5	0.7010	0.07	9.60	11.34	21.01	46.00	-24.99	Average
6	0.7010	0.07	9.60	22.72	32.39	56.00	-23.61	QP
7	1.7162	0.14	9.61	1.53	11.28	46.00	-34.72	Average
8	1.7162	0.14	9.61	13.93	23.68	56.00	-32.32	QP
9	3.6806	0.16	9.66	2.90	12.72	46.00	-33.28	Average
10	3.6806	0.16	9.66	16.50	26.32	56.00	-29.68	QP
11	5.0848	0.17	9.67	-0.32	9.52	50.00	-40.48	Average
12	5.0848	0.17	9.67	13.71	23.55	60.00	-36.45	QP



Mode:p; Line:Neutral Line



Site : Shielding Room

Condition: Neutral

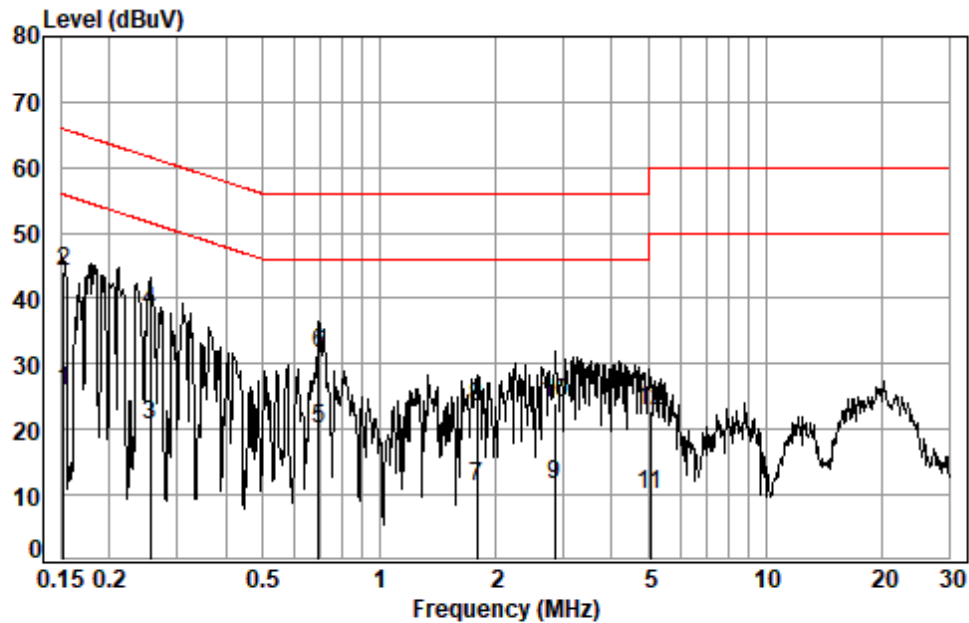
Job No. : 03014CR

Test mode: p

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1516	0.01	9.55	17.53	27.09	55.91	-28.82	Average
2	0.1516	0.01	9.55	34.71	44.27	65.91	-21.64	QP
3	0.2548	0.03	9.54	9.05	18.62	51.60	-32.98	Average
4	0.2548	0.03	9.54	25.98	35.55	61.60	-26.05	QP
5	0.6936	0.07	9.55	13.97	23.59	46.00	-22.41	Average
6	0.6936	0.07	9.55	20.43	30.05	56.00	-25.95	QP
7	1.8192	0.15	9.56	6.15	15.86	46.00	-30.14	Average
8	1.8192	0.15	9.56	12.54	22.25	56.00	-33.75	QP
9	4.3376	0.16	9.61	7.00	16.77	46.00	-29.23	Average
10	4.3376	0.16	9.61	12.82	22.59	56.00	-33.41	QP
11	23.0181	0.25	10.61	-0.15	10.71	50.00	-39.29	Average
12	23.0181	0.25	10.61	7.10	17.96	60.00	-42.04	QP



Mode:q; Line:Live Line



Site : Shielding Room

Condition: Line

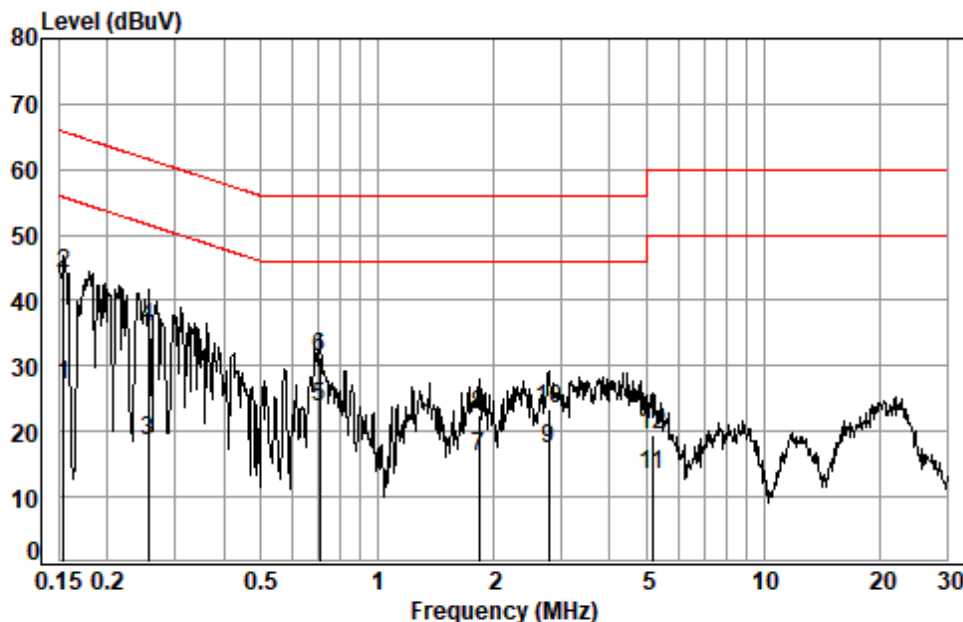
Job No. : 03014CR

Test mode: q

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1524	0.01	9.59	16.33	25.93	55.87	-29.94	Average
2	0.1524	0.01	9.59	34.54	44.14	65.87	-21.73	QP
3	0.2548	0.03	9.59	11.08	20.70	51.60	-30.90	Average
4	0.2548	0.03	9.59	28.39	38.01	61.60	-23.59	QP
5	0.6973	0.07	9.60	10.41	20.08	46.00	-25.92	Average
6	0.6973	0.07	9.60	21.90	31.57	56.00	-24.43	QP
7	1.7905	0.15	9.62	1.40	11.17	46.00	-34.83	Average
8	1.7905	0.15	9.62	13.53	23.30	56.00	-32.70	QP
9	2.8541	0.16	9.66	1.70	11.52	46.00	-34.48	Average
10	2.8541	0.16	9.66	14.10	23.92	56.00	-32.08	QP
11	5.0312	0.17	9.67	0.12	9.96	50.00	-40.04	Average
12	5.0312	0.17	9.67	13.07	22.91	60.00	-37.09	QP



Mode:q; Line:Neutral Line



Site : Shielding Room

Condition: Neutral

Job No. : 03014CR

Test mode: q

	Freq	Cable Loss	LISN Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.1540	0.01	9.55	17.43	26.99	55.78	Average
2	0.1540	0.01	9.55	34.68	44.24	65.78	QP
3	0.2562	0.03	9.54	8.99	18.56	51.56	Average
4	0.2562	0.03	9.54	26.43	36.00	61.56	QP
5	0.7084	0.08	9.55	14.21	23.84	46.00	Average
6	0.7084	0.08	9.55	21.56	31.19	56.00	QP
7	1.8288	0.15	9.56	6.51	16.22	46.00	Average
8	1.8288	0.15	9.56	12.77	22.48	56.00	QP
9	2.7794	0.16	9.58	7.45	17.19	46.00	Average
10	2.7794	0.16	9.58	13.66	23.40	56.00	QP
11	5.1390	0.17	9.63	3.52	13.32	50.00	Average
12	5.1390	0.17	9.63	9.55	19.35	60.00	QP



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: 27.4 °C Humidity: 41.1 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

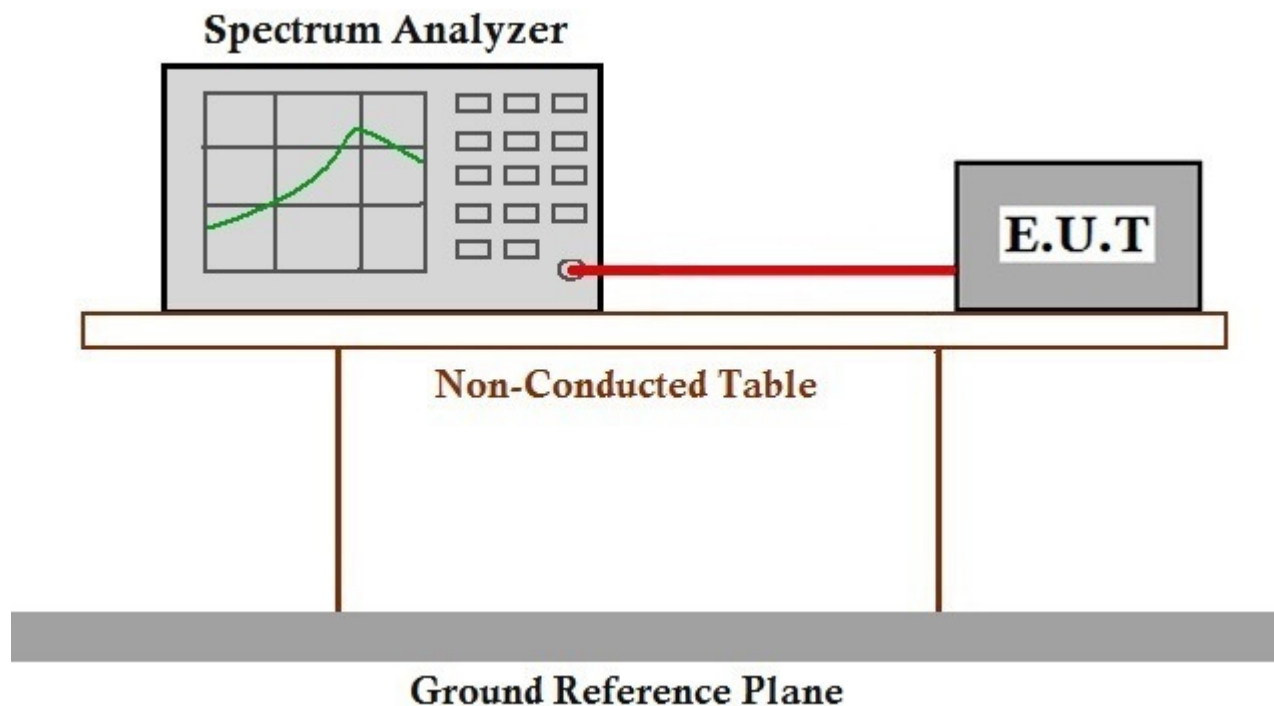
The worst case for final test: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

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

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 27.4 °C Humidity: 41.1 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

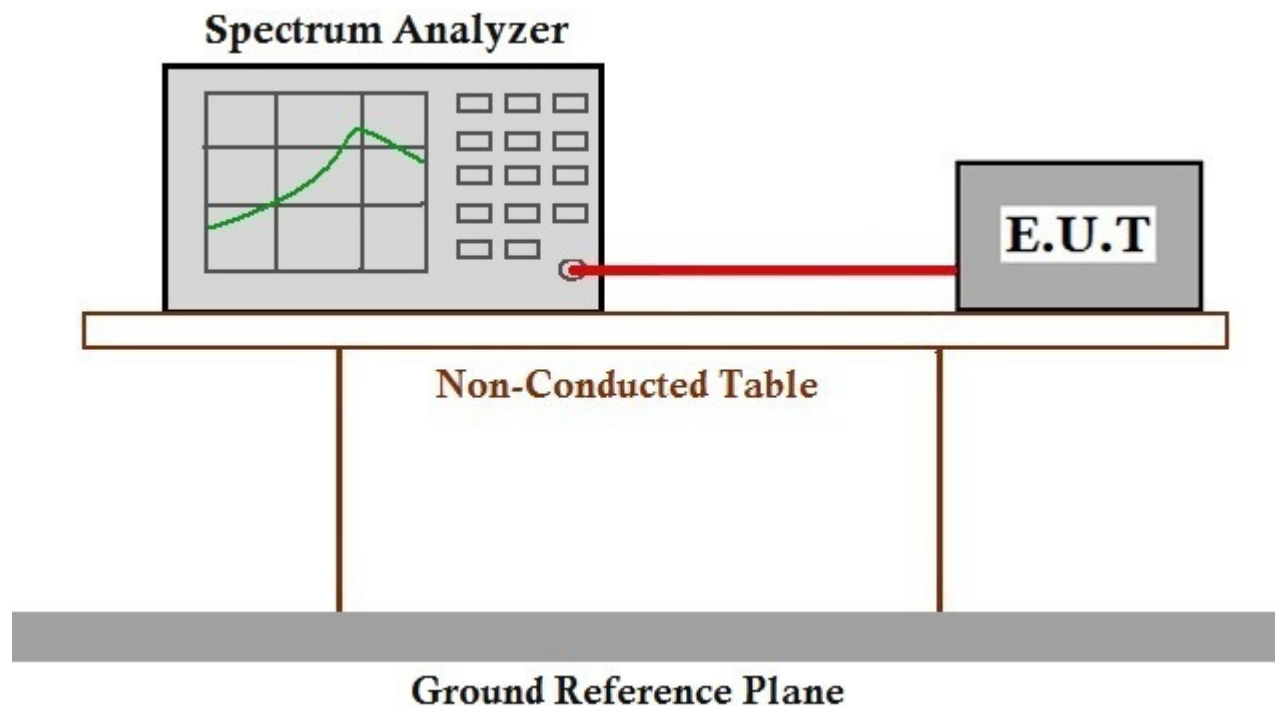
The worst case for final test: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

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: 27.4 °C Humidity: 41.1 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

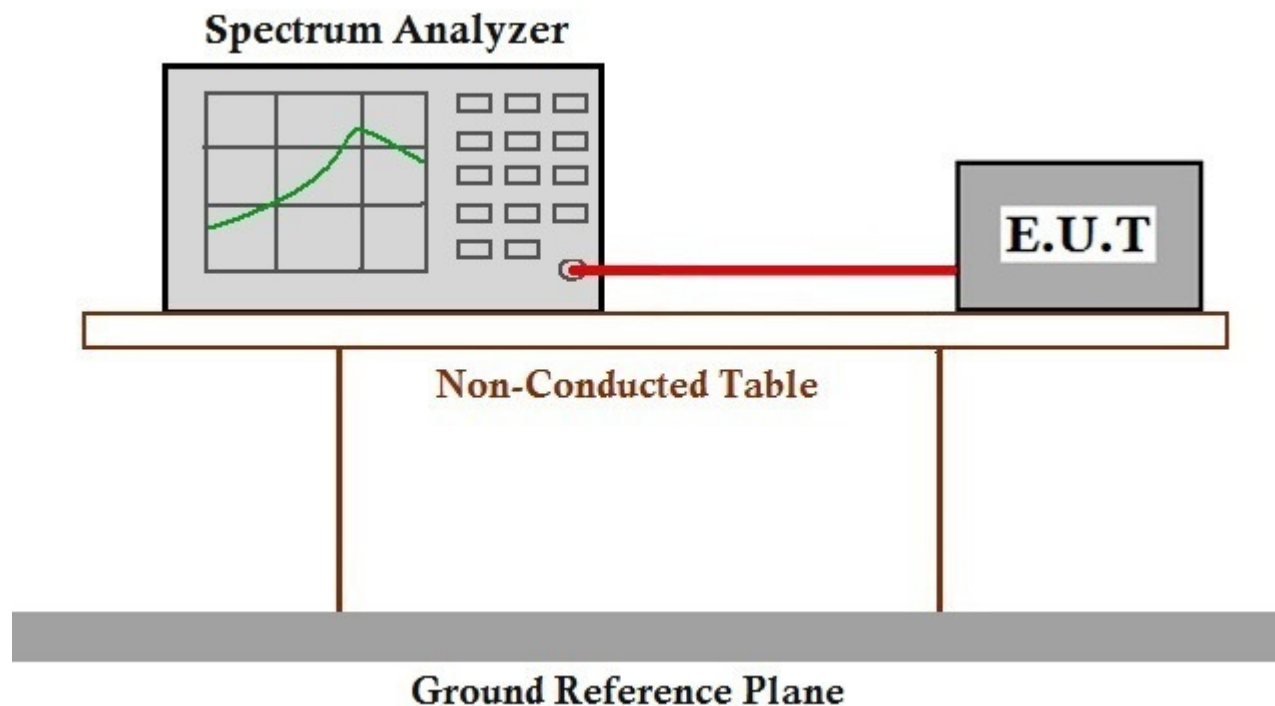
The worst case for final test: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

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))



7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 27.4 °C Humidity: 41 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

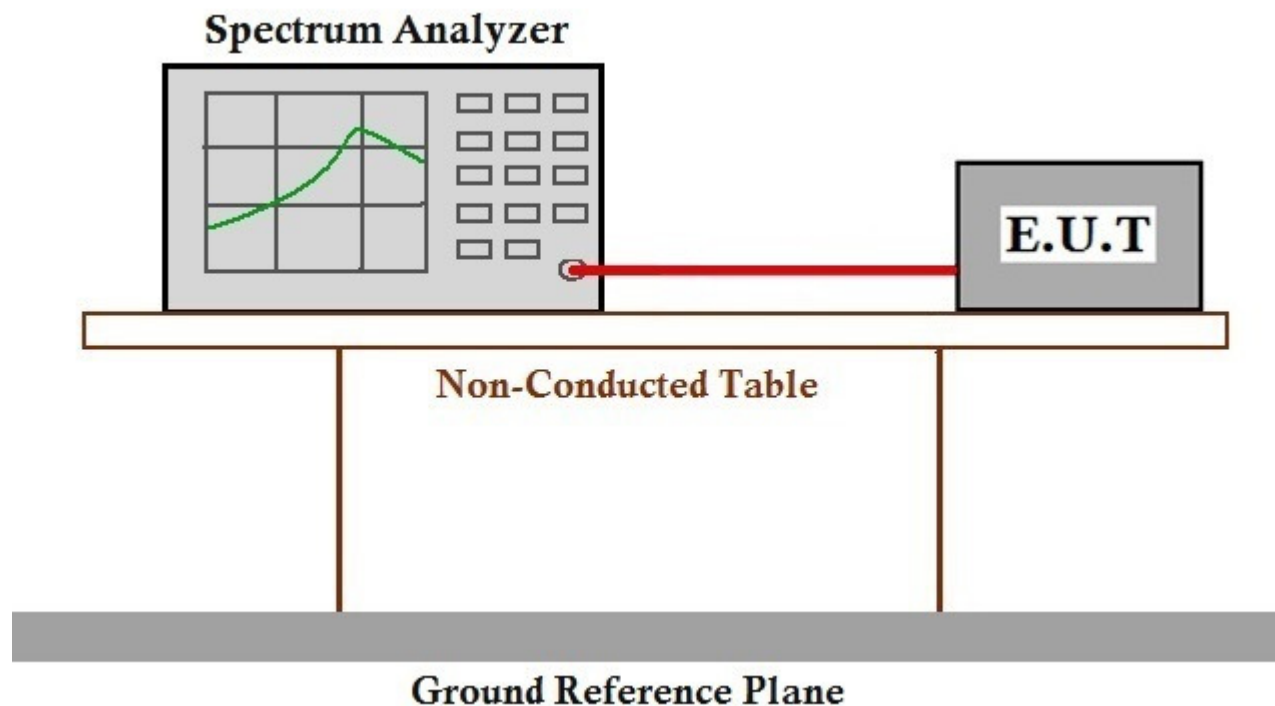
The worst case for final test: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

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))



7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 27.4 °C Humidity: 41.1 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

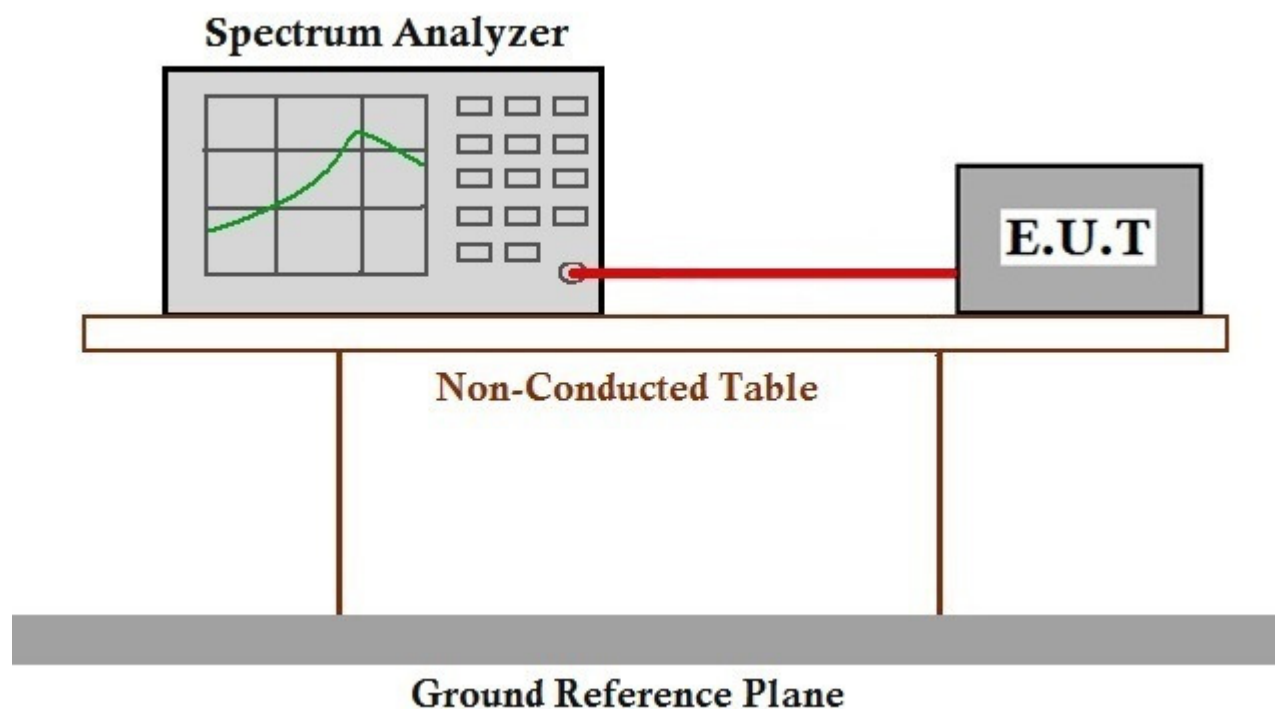
The worst case for final test: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

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 15.205 & 15.209

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (SGS-CSTC Laboratory)

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

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 23 °C Humidity: 52 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case:

d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

n:TX mode(Left earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

o:TX mode(Right earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

p:TX mode(Left earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

q:TX mode(Right earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

The worst case for final test:

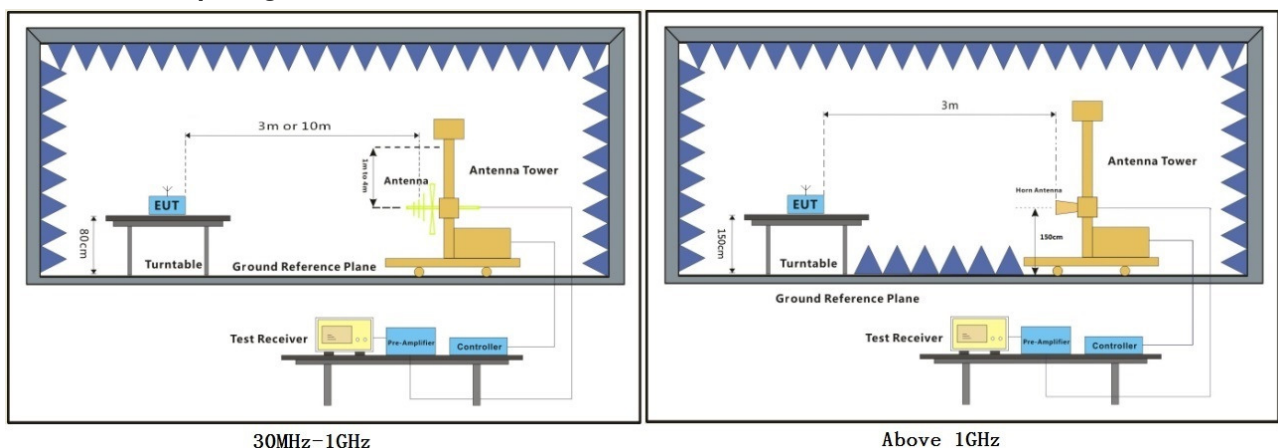
n:TX mode(Left earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

o:TX mode(Right earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

p:TX mode(Left earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

q:TX mode(Right earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

7.7.2 Test Setup Diagram



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.

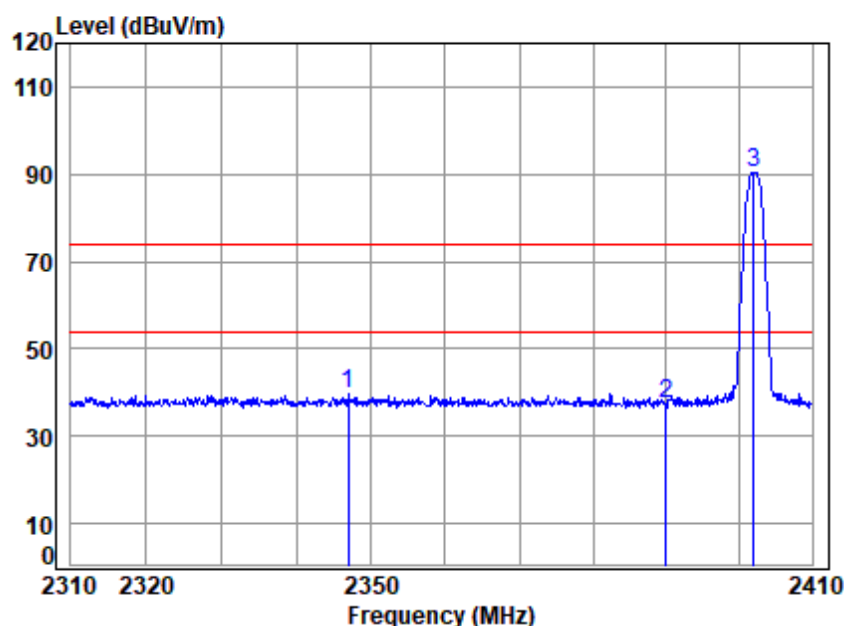


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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

Mode:n; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

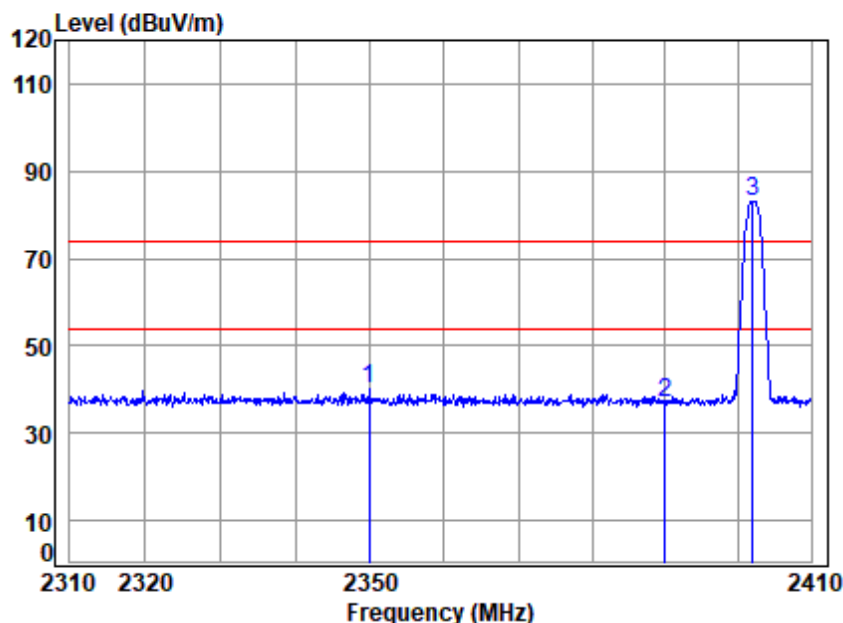


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE1M L

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2347.004	3.97	28.45	40.95	48.41	39.88	74.00	-34.12	peak
2	2390.000	3.69	28.52	40.97	45.99	37.23	74.00	-36.77	peak
3 *	2402.000	3.63	28.54	40.98	99.08	90.27	74.00	16.27	peak



Mode:n; Polarization:Vertical; Modulation:GFSK; ; Channel:Low

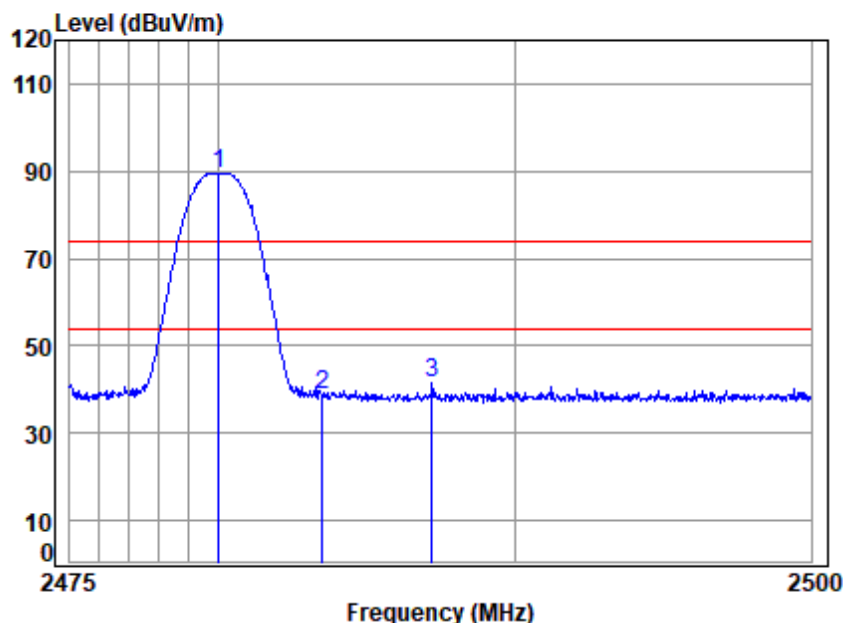


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE1M L

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2349.890	3.95	28.45	40.96	48.86	40.30	74.00	-33.70	peak
2	2390.000	3.69	28.52	40.97	45.89	37.13	74.00	-36.87	peak
3 *	2402.000	3.63	28.54	40.98	91.81	83.00	74.00	9.00	peak



Mode:n; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

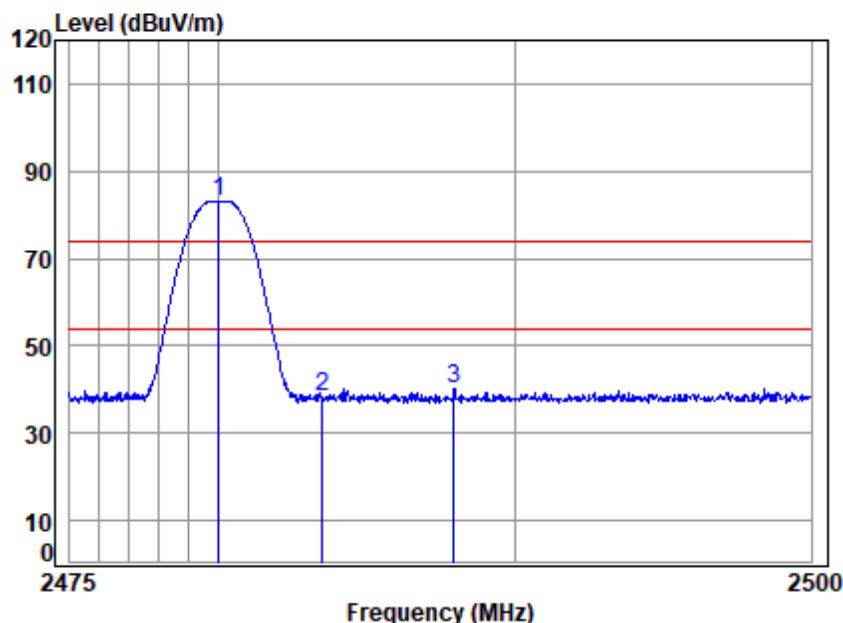


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE1M L

		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 * 2480.000	3.99	28.67	41.01	97.86	89.51	74.00	15.51	peak
2 2483.500	4.01	28.67	41.01	47.28	38.95	74.00	-35.05	peak
3 2487.194	4.02	28.68	41.01	49.81	41.50	74.00	-32.50	peak



Mode:n; Polarization:Vertical; Modulation:GFSK; ; Channel:High

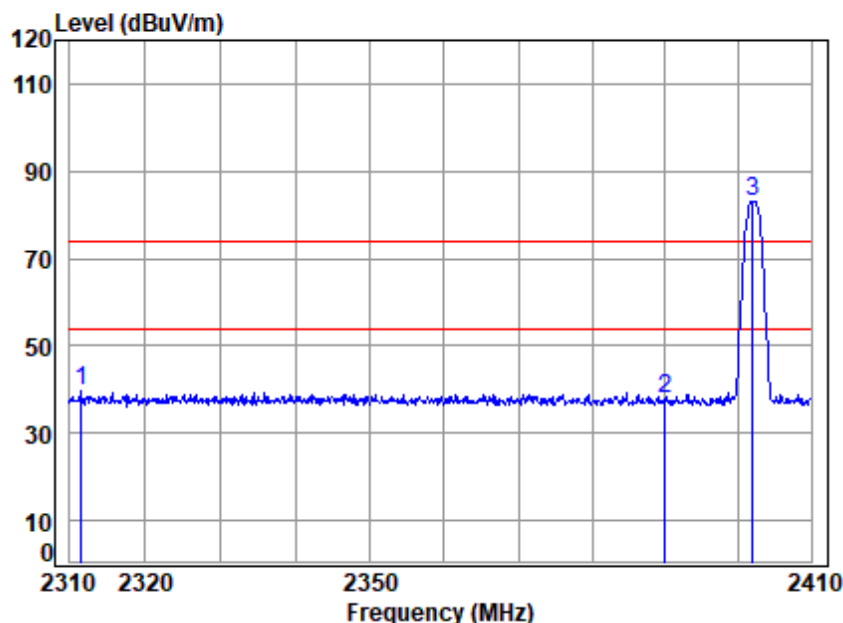


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE1M L

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 * 2480.000	3.99	28.67	41.01	91.54	83.19	74.00	9.19 peak
2 2483.500	4.01	28.67	41.01	46.82	38.49	74.00	-35.51 peak
3 2487.919	4.03	28.68	41.01	48.39	40.09	74.00	-33.91 peak



Mode:o; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

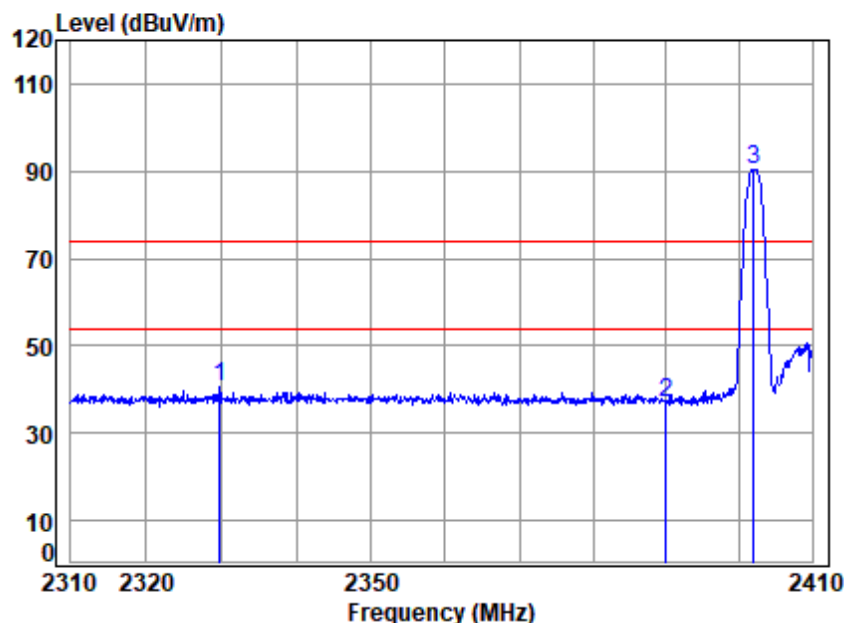


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE1M R

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2311.469	4.21	28.38	40.94	47.85	39.50	74.00	-34.50	peak
2	2390.000	3.69	28.52	40.97	46.50	37.74	74.00	-36.26	peak
3 *	2402.000	3.63	28.54	40.98	91.79	82.98	74.00	8.98	peak



Mode:o; Polarization:Vertical; Modulation:GFSK; ; Channel:Low

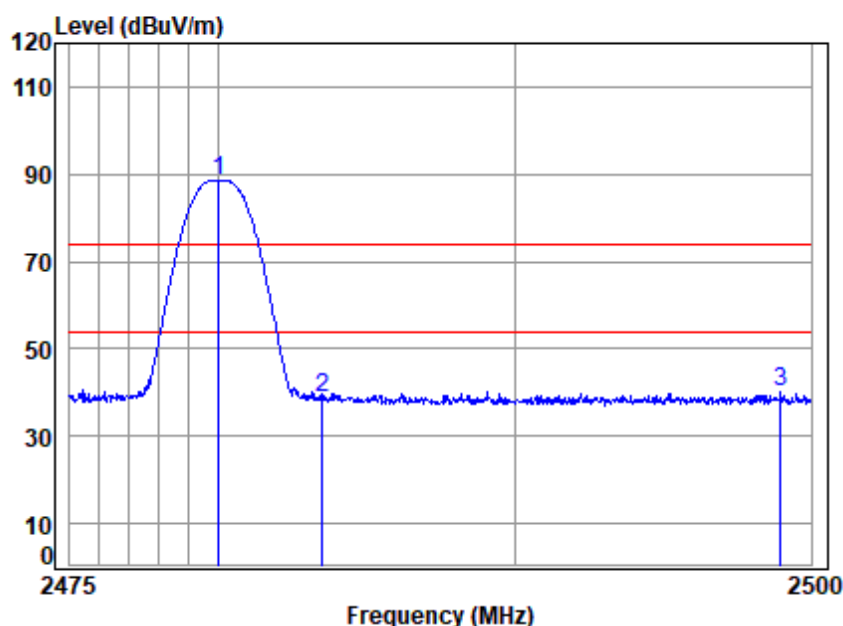


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE1M R

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2329.761	4.09	28.42	40.95	49.18	40.74	74.00	-33.26	peak
2	2390.000	3.69	28.52	40.97	45.82	37.06	74.00	-36.94	peak
3 *	2402.000	3.63	28.54	40.98	99.13	90.32	74.00	16.32	peak



Mode:o; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

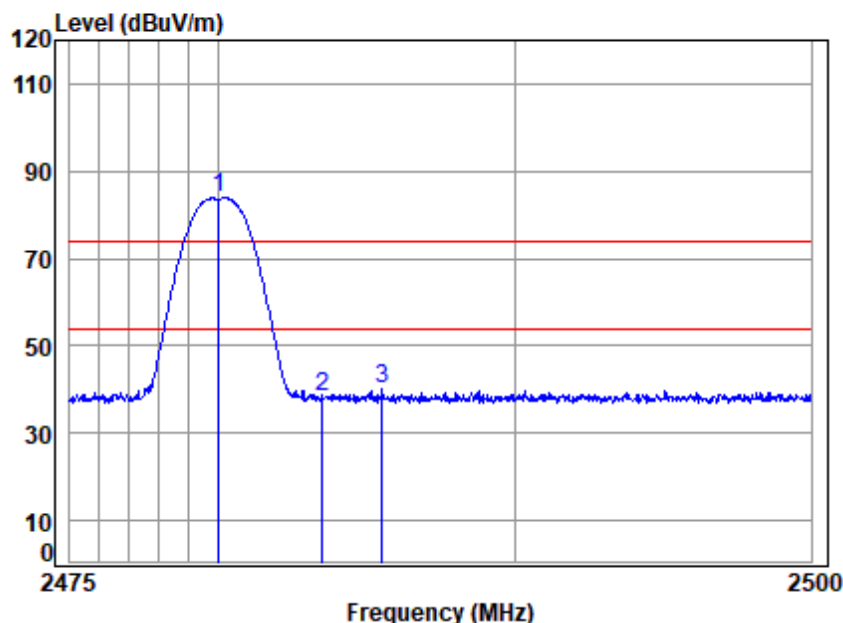


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE1M R

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2480.000	3.99	28.67	41.01	96.86	88.51	74.00	14.51	peak
2	2483.500	4.01	28.67	41.01	47.31	38.98	74.00	-35.02	peak
3	2498.970	4.08	28.70	41.02	48.35	40.11	74.00	-33.89	peak



Mode:o; Polarization:Vertical; Modulation:GFSK; ; Channel:High

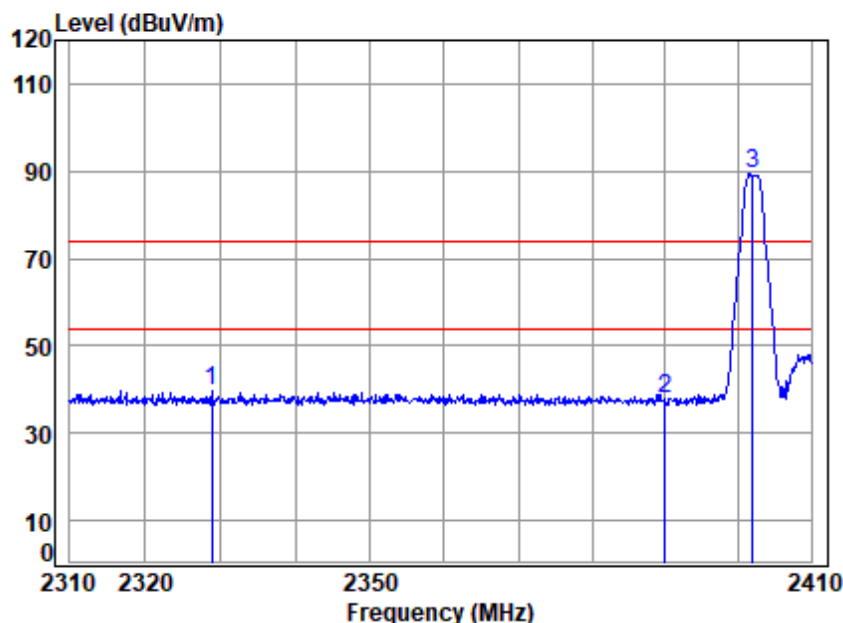


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE1M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2480.000	3.99	28.67	41.01	92.11	83.76	74.00	9.76	peak
2	2483.500	4.01	28.67	41.01	46.78	38.45	74.00	-35.55	peak
3	2485.519	4.01	28.68	41.01	48.46	40.14	74.00	-33.86	peak



Mode:p; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

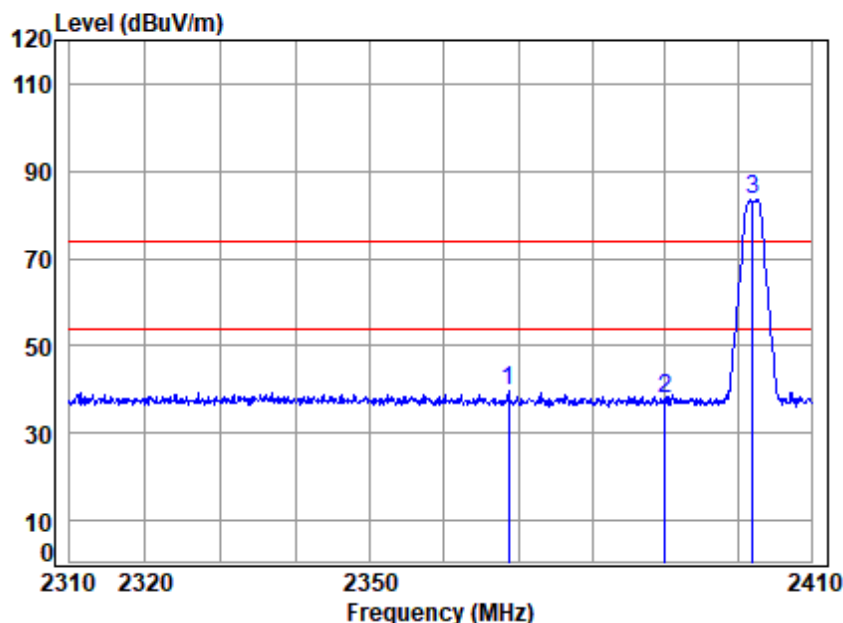


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE2M L

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2328.774	4.09	28.41	40.95	48.01	39.56	74.00	-34.44	peak
2	2390.000	3.69	28.52	40.97	46.82	38.06	74.00	-35.94	peak
3 *	2402.000	3.63	28.54	40.98	98.07	89.26	74.00	15.26	peak



Mode:p; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



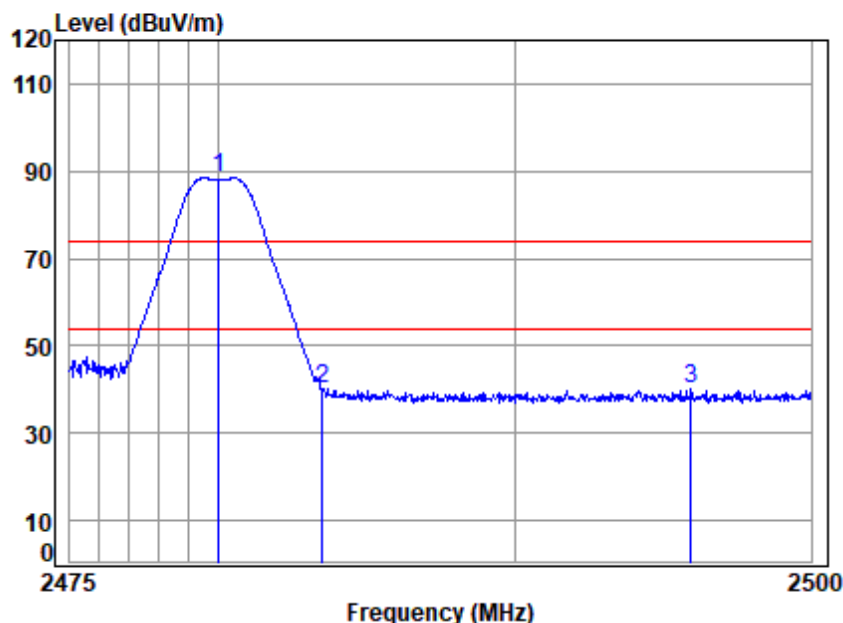
Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE2M L

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2368.688	3.83	28.48	40.96	48.14	39.49	74.00	-34.51	peak
2	2390.000	3.69	28.52	40.97	46.43	37.67	74.00	-36.33	peak
3 *	2402.000	3.63	28.54	40.98	92.22	83.41	74.00	9.41	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 and certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

Mode:p; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

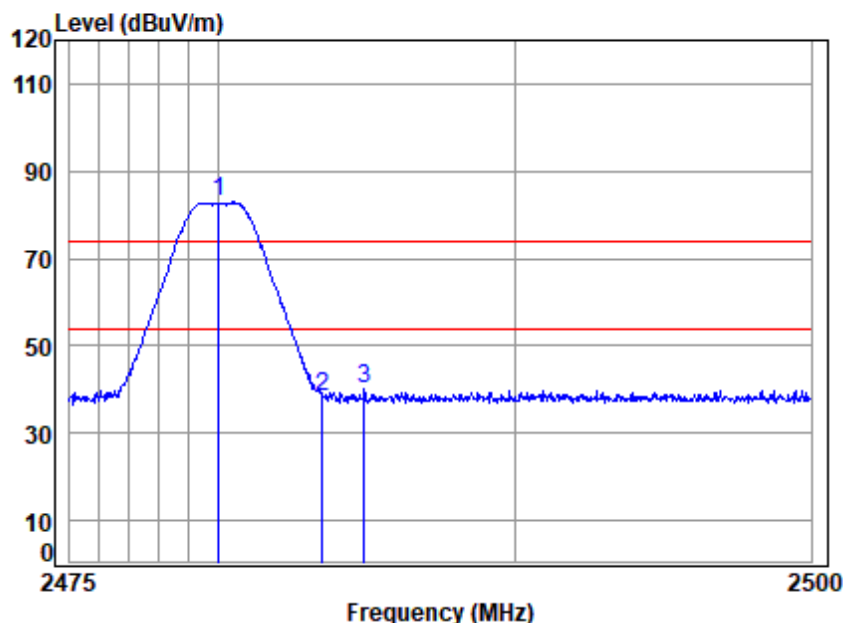


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE2M L

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2480.000	3.99	28.67	41.01	96.83	88.48	74.00	14.48	peak
2	2483.500	4.01	28.67	41.01	48.36	40.03	74.00	-33.97	peak
3	2495.933	4.06	28.69	41.02	48.47	40.20	74.00	-33.80	peak



Mode:p; Polarization:Vertical; Modulation:GFSK; ; Channel:High

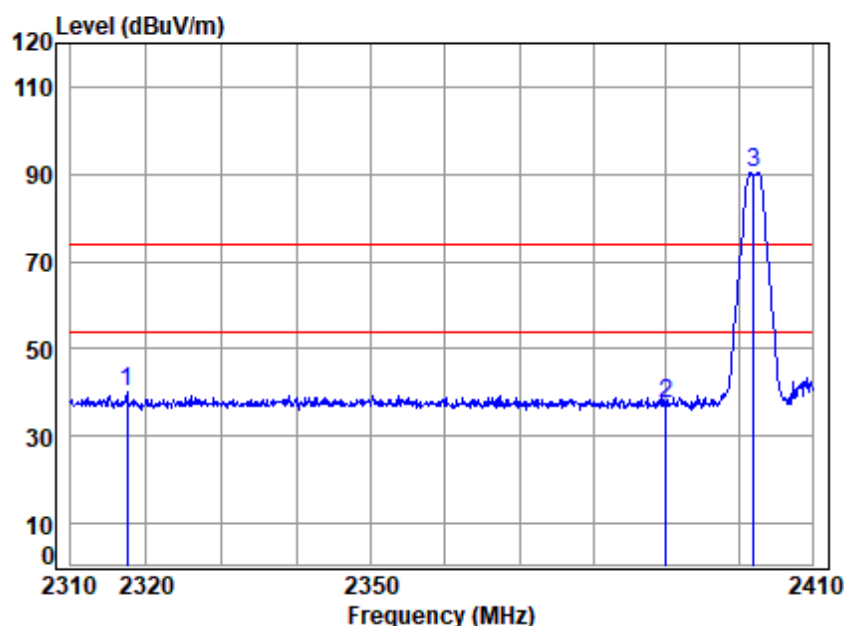


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE2M L

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2480.000	3.99	28.67	41.01	91.17	82.82	74.00	8.82	peak
2	2483.500	4.01	28.67	41.01	46.56	38.23	74.00	-35.77	peak
3	2484.895	4.01	28.68	41.01	48.51	40.19	74.00	-33.81	peak



Mode:q; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

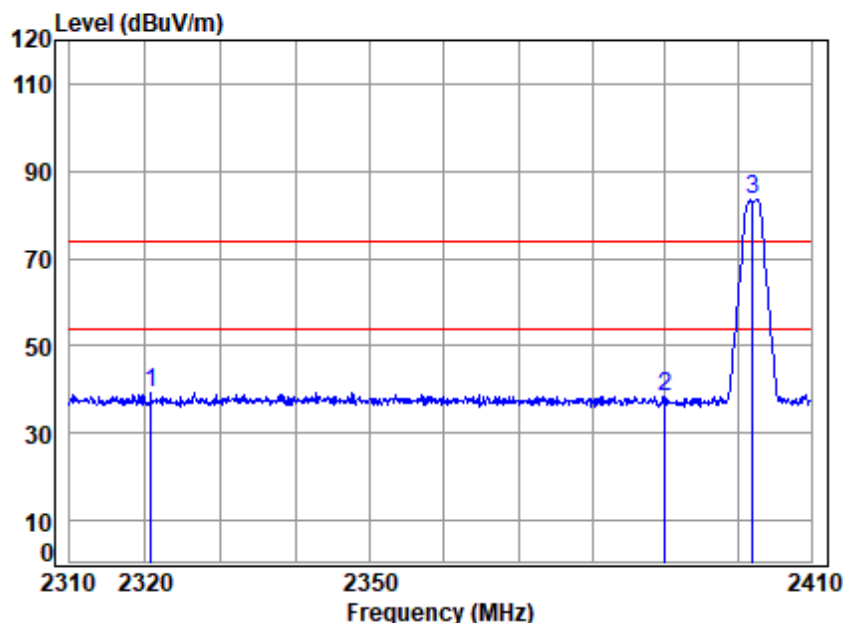


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE2M R

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2317.452	4.17	28.39	40.94	48.42	40.04	74.00	-33.96	peak
2	2390.000	3.69	28.52	40.97	46.10	37.34	74.00	-36.66	peak
3 *	2402.000	3.63	28.54	40.98	99.10	90.29	74.00	16.29	peak



Mode:q; Polarization:Vertical; Modulation:GFSK; ; Channel:Low

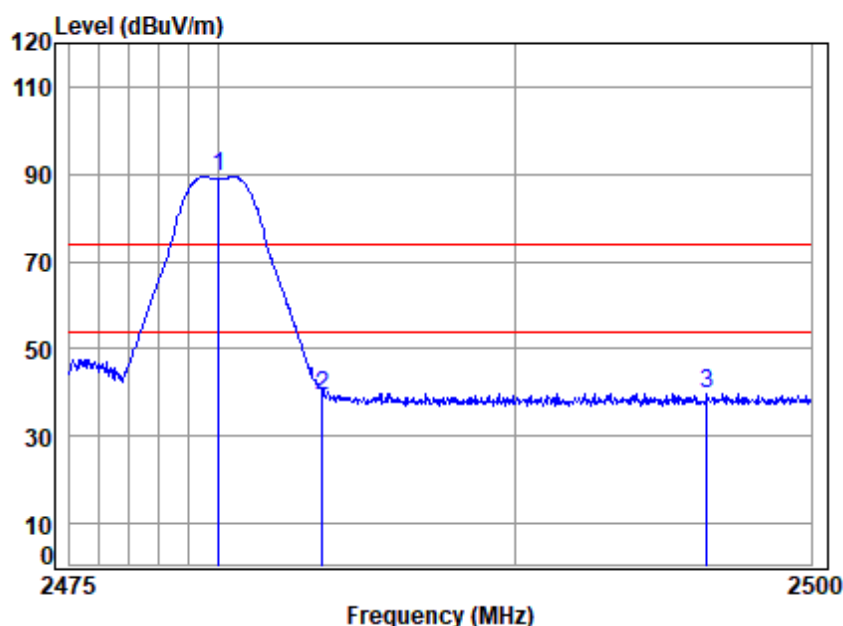


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 Band edge
Note : BLE2M R

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2320.695	4.15	28.40	40.94	47.58	39.19	74.00	-34.81	peak
2	2390.000	3.69	28.52	40.97	46.87	38.11	74.00	-35.89	peak
3 *	2402.000	3.63	28.54	40.98	92.53	83.72	74.00	9.72	peak



Mode:q; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

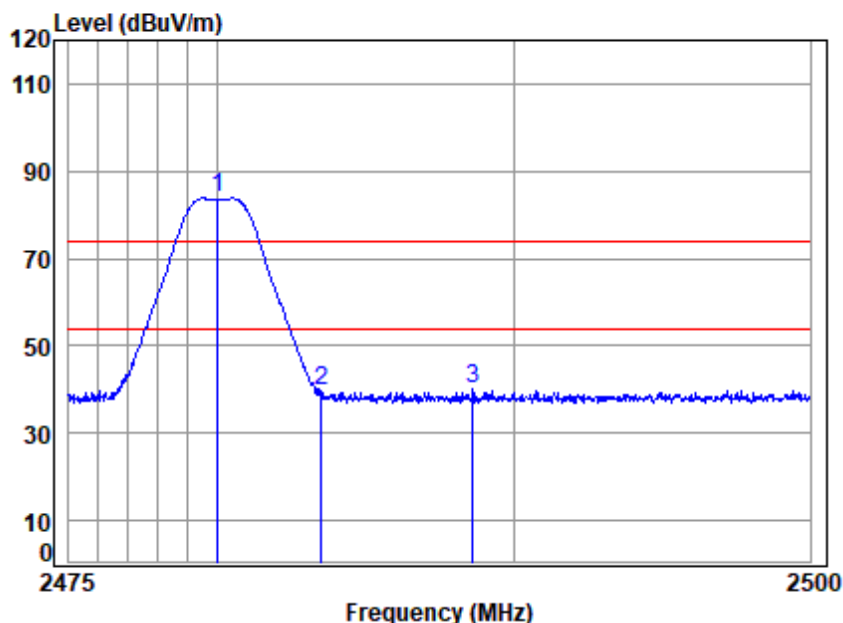


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE2M R

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2480.000	3.99	28.67	41.01	97.82	89.47	74.00	15.47	peak
2	2483.500	4.01	28.67	41.01	47.63	39.30	74.00	-34.70	peak
3	2496.485	4.06	28.69	41.02	48.19	39.92	74.00	-34.08	peak



Mode:q; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 Band edge
Note : BLE2M R

		Cable	Ant	Preamp	Read	Limit	Over	
Freq		Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz		dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 *	2480.000	3.99	28.67	41.01	92.14	83.79	74.00	9.79 peak
2	2483.500	4.01	28.67	41.01	47.95	39.62	74.00	-34.38 peak
3	2488.594	4.03	28.68	41.01	48.26	39.96	74.00	-34.04 peak



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (China) EMC Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-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.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

7.8 Radiated Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

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

Measurement Distance: 10m(Below 1GHz) and 3m(Above 1GHz)

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: 51 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case: d:TX mode(Left earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

i:TX mode(Right earbuds 1M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

j:TX mode(Left earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation.

k:TX mode(Right earbuds 2M/bit of BLE)_Keep the EUT in continuously transmitting mode with GFSK modulation

n:TX mode(Left earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

o:TX mode(Right earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

p:TX mode(Left earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

q:TX mode(Right earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

The worst case for final test:

n:TX mode(Left earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

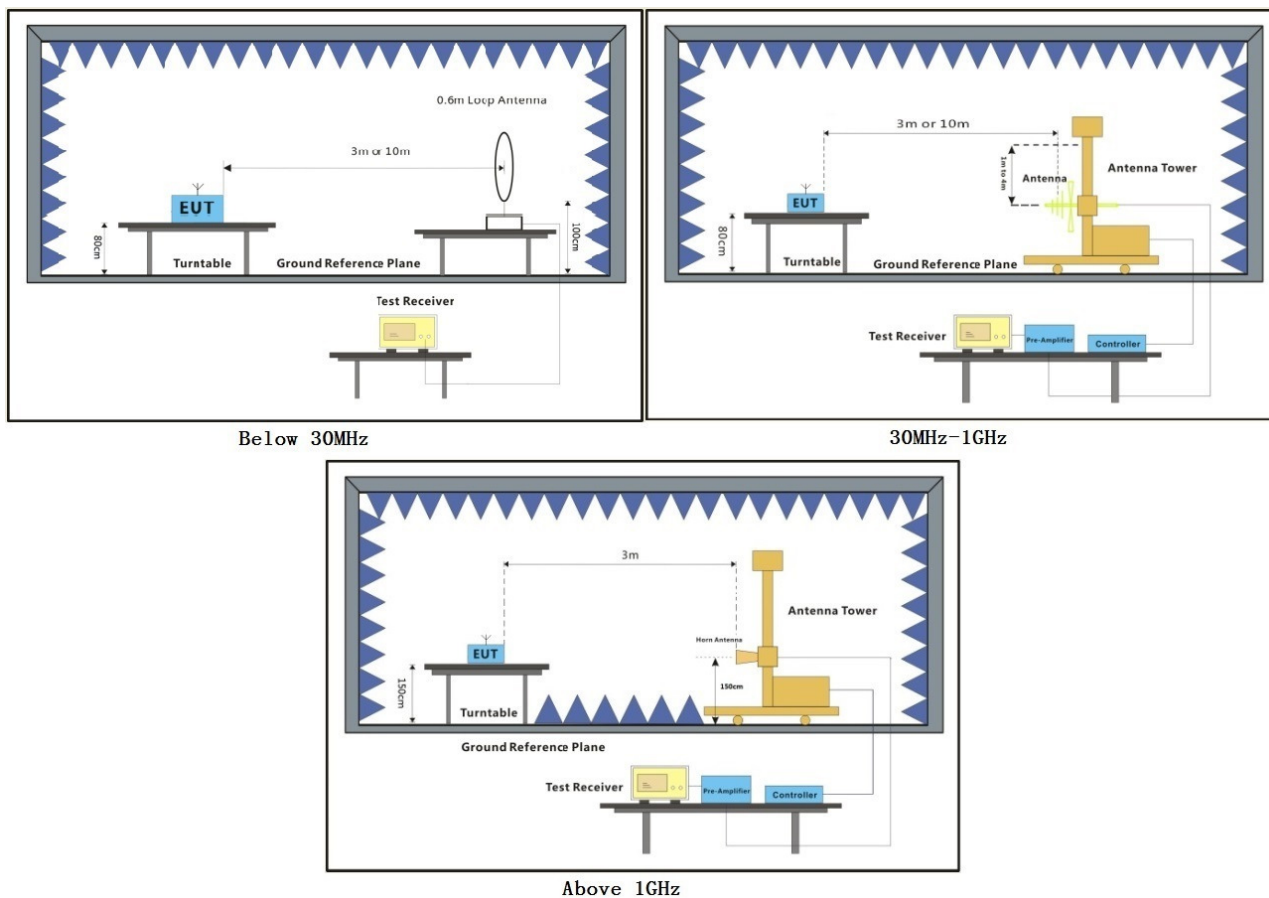
o:TX mode(Right earbuds 1M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

p:TX mode(Left earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.

q:TX mode(Right earbuds 2M/bit of BLE)+charging_Keep the EUT in continuously transmitting mode with GFSK modulation and being charged.



7.8.2 Test Setup Diagram



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 in the report.



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

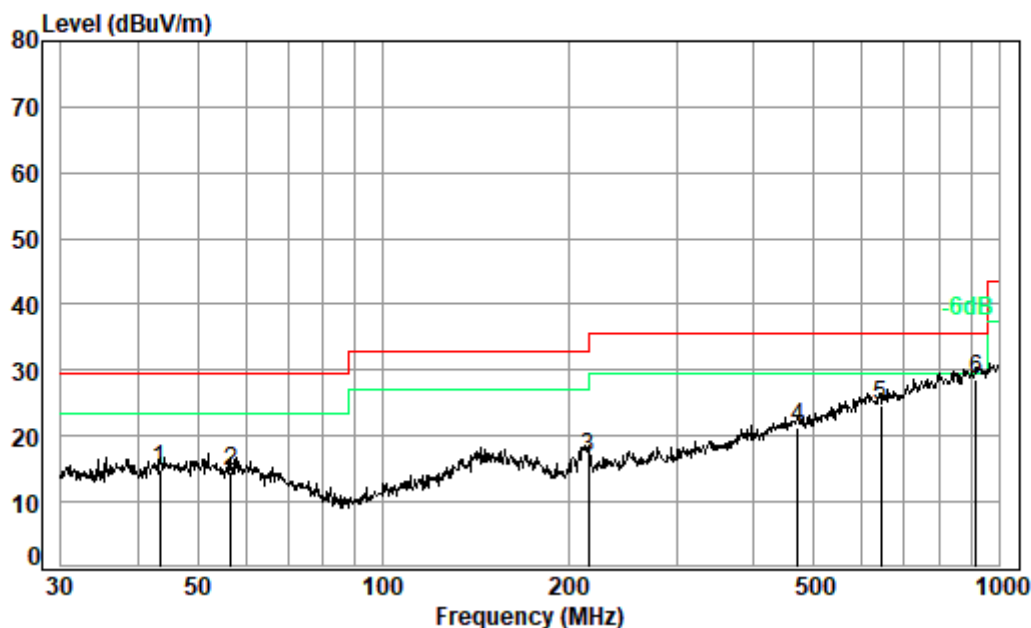
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (SGS-CSTC Laboratory)

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

30MHz~1GHz

QP value:

Mode: n; Polarization: Horizontal;



Condition: 10m HORIZONTAL

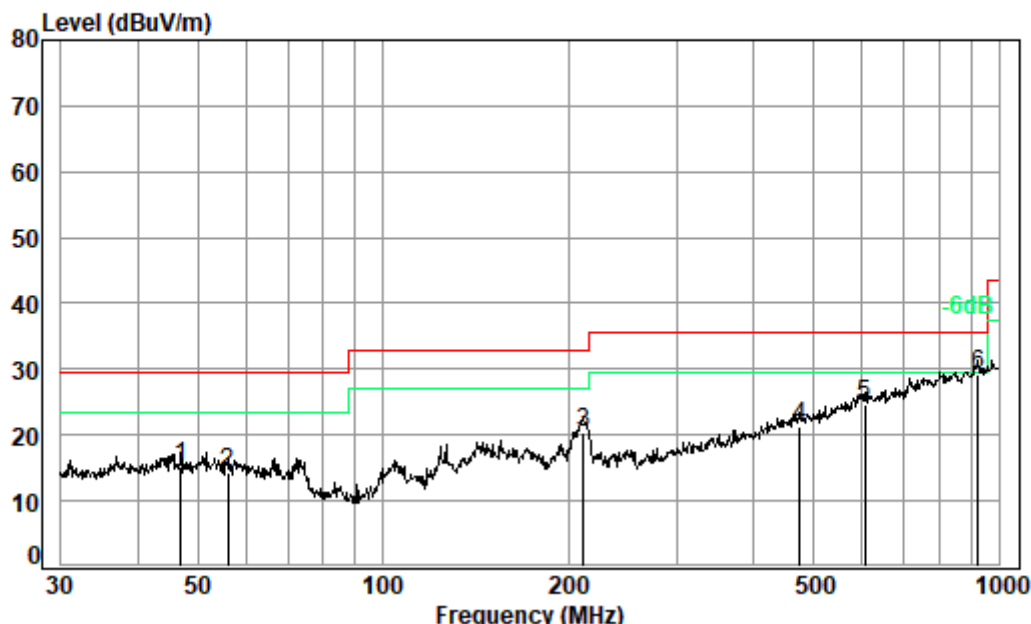
Job No. : 03014CR

Test Mode: n

		Ant	Preamp	Cable	Read	Limit	Over	
	Freq	Factor	Factor	Loss	Level	Level	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	43.353	20.33	32.44	0.95	26.02	14.86	29.50	-14.64 QP
2	56.593	19.56	32.43	1.02	26.51	14.66	29.50	-14.84 QP
3	215.268	16.00	32.29	1.73	31.22	16.66	33.00	-16.34 QP
4	472.176	23.70	32.37	2.81	27.01	21.15	35.60	-14.45 QP
5	642.861	26.36	32.13	3.19	27.19	24.61	35.60	-10.99 QP
6 pp	919.287	29.78	31.42	3.44	26.68	28.48	35.60	-7.12 QP



Mode :n; Polarization: Vertical



Condition: 10m VERTICAL

Job No. : 03014CR

Test Mode: n

	Ant Freq	Preamp Factor	Cable Factor	Cable Loss	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	46.995	20.35	32.45	0.97	26.44	15.31	29.50	-14.19	QP
2	56.001	19.50	32.44	1.02	26.33	14.41	29.50	-15.09	QP
3	211.527	16.00	32.29	1.70	35.12	20.53	33.00	-12.47	QP
4	475.499	23.70	32.38	2.82	27.26	21.40	35.60	-14.20	QP
5	605.659	26.33	32.04	3.16	27.14	24.59	35.60	-11.01	QP
6 pp	925.756	29.80	31.38	3.45	27.33	29.20	35.60	-6.40	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.
Shenzhen Branch Laboratory

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

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

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

Note:

L_3 : Level @ 3m distance. Unit: $\mu\text{V/m}$;

L_{10} : Level @ 10m distance. Unit: $\mu\text{V/m}$;

D_3 : 3m distance. Unit: m

D_{10} : 10m distance. Unit: m

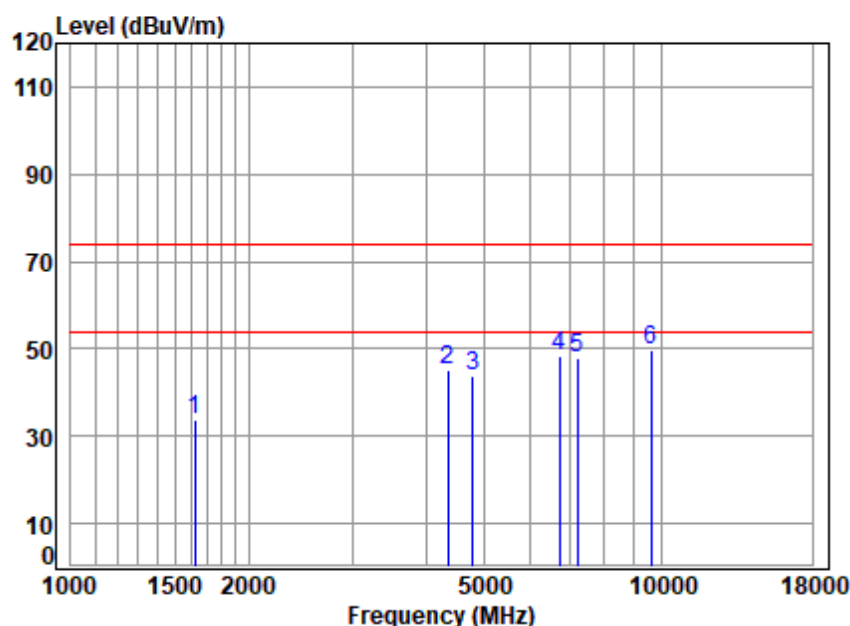
The level at 3m test distance is below:

Mode n:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m ($\mu\text{V/m}$)	Level @ 3m ($\mu\text{V/m}$)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
47.00	15.31	5.83	19.43	25.77	40.00	-14.23	V
56.00	14.41	5.25	17.51	24.87	40.00	-15.13	V
211.53	20.53	10.63	35.43	30.99	43.50	-12.51	V
475.50	21.40	11.75	39.16	31.86	46.00	-14.14	V
605.66	24.59	16.96	56.54	35.05	46.00	-10.95	V
925.76	29.20	28.84	96.13	39.66	46.00	-6.34	V
46.35	14.86	5.53	18.45	25.32	40.00	-14.68	H
56.59	14.66	5.41	18.03	25.12	40.00	-14.88	H
215.27	16.66	6.81	22.69	27.12	43.50	-16.38	H
472.18	21.15	11.42	38.05	31.61	46.00	-14.39	H
642.86	24.61	17.00	56.67	35.07	46.00	-10.93	H
919.29	28.48	26.55	88.49	38.94	46.00	-7.06	H

Above 1GHz

Mode:n; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

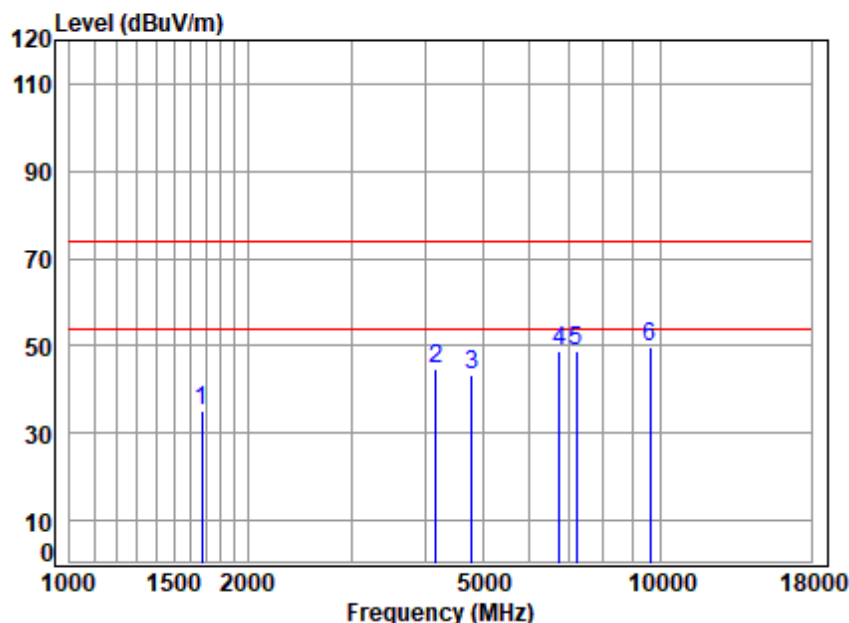


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE1M L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1620.431	3.03	26.34	40.58	45.12	33.91	74.00	-40.09	peak
2	4354.454	6.51	33.35	42.44	47.67	45.09	74.00	-28.91	peak
3	4804.000	6.80	33.97	42.77	45.78	43.78	74.00	-30.22	peak
4	6717.762	8.28	35.73	41.83	46.10	48.28	74.00	-25.72	peak
5	7206.000	8.44	36.07	41.58	44.81	47.74	74.00	-26.26	peak
6	9608.000	9.17	37.67	38.57	41.29	49.56	74.00	-24.44	peak



Mode:n; Polarization:Vertical; Modulation:GFSK; ; Channel:Low

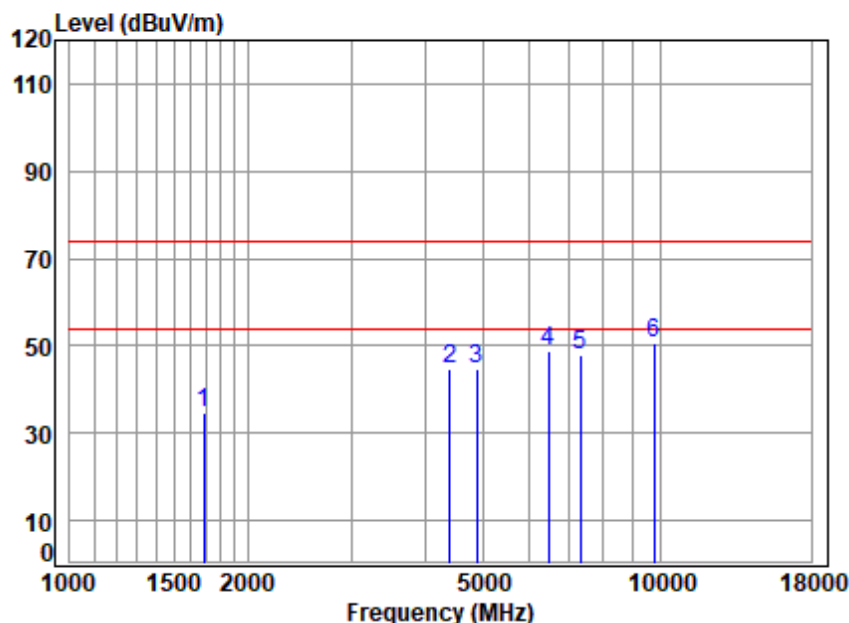


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE1M L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1672.779	3.21	26.56	40.62	45.88	35.03	74.00	-38.97	peak
2	4169.698	6.09	33.02	42.30	47.93	44.74	74.00	-29.26	peak
3	4804.000	6.80	33.97	42.77	45.48	43.48	74.00	-30.52	peak
4	6756.708	8.14	35.76	41.81	46.88	48.97	74.00	-25.03	peak
5	7206.000	8.44	36.07	41.58	45.90	48.83	74.00	-25.17	peak
6	9608.000	9.17	37.67	38.57	41.29	49.56	74.00	-24.44	peak



Mode:n; Polarization:Horizontal; Modulation:GFSK; ; Channel:middle

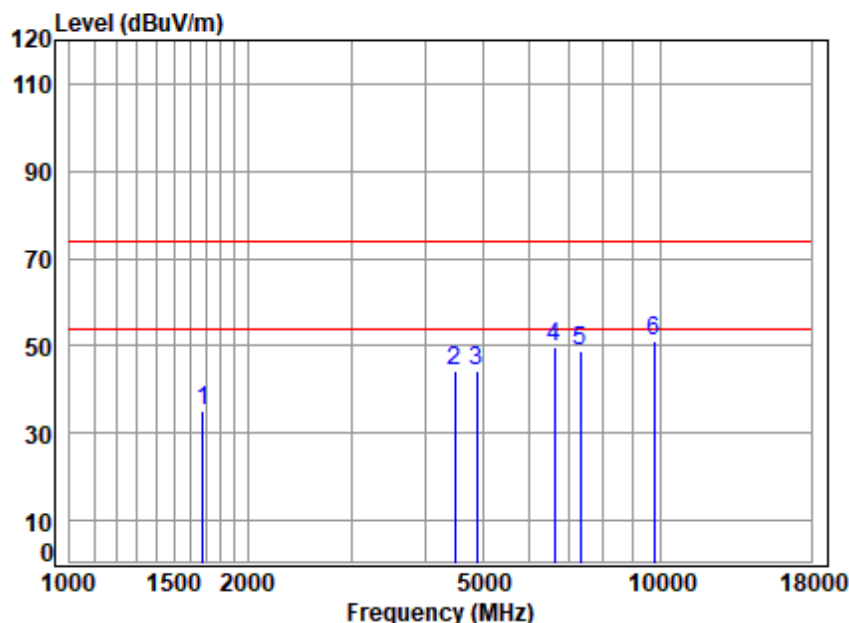


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE1M L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1687.347	3.27	26.62	40.62	45.37	34.64	74.00	-39.36	peak
2	4405.090	6.67	33.44	42.48	47.17	44.80	74.00	-29.20	peak
3	4880.000	7.02	34.06	42.82	46.65	44.91	74.00	-29.09	peak
4	6470.026	7.50	35.57	41.97	47.77	48.87	74.00	-25.13	peak
5	7323.000	8.36	36.16	41.52	44.87	47.87	74.00	-26.13	peak
6	9764.000	9.30	37.76	38.34	42.00	50.72	74.00	-23.28	peak



Mode:n; Polarization:Vertical; Modulation:GFSK; ; Channel:middle

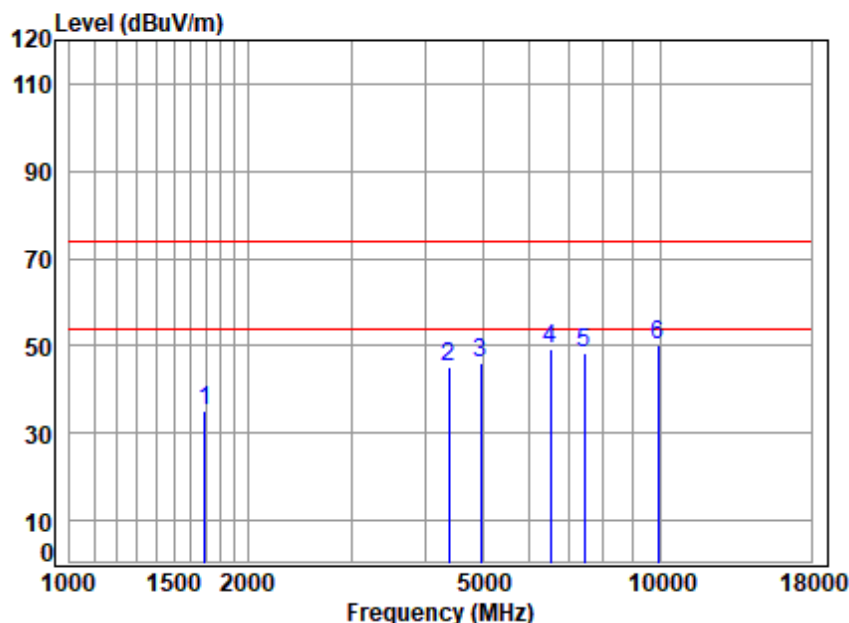


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE1M L

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1682.477	3.25	26.60	40.62	45.93	35.16	74.00	-38.84	peak
2	4495.125	6.39	33.59	42.55	46.89	44.32	74.00	-29.68	peak
3	4880.000	7.02	34.06	42.82	46.15	44.41	74.00	-29.59	peak
4	6621.375	8.07	35.67	41.88	47.81	49.67	74.00	-24.33	peak
5	7323.000	8.36	36.16	41.52	45.97	48.97	74.00	-25.03	peak
6	9764.000	9.30	37.76	38.34	42.52	51.24	74.00	-22.76	peak



Mode:n; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

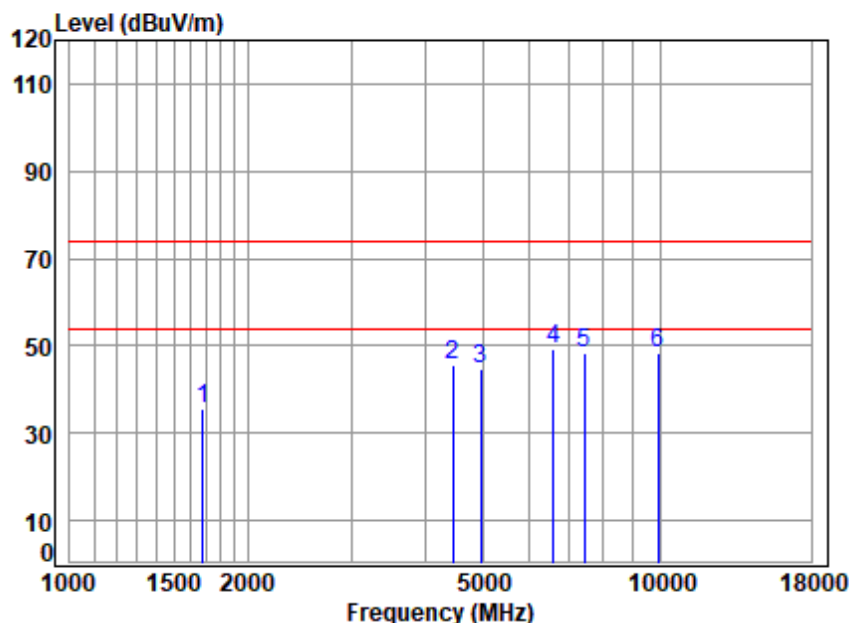


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE1M L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1692.231	3.28	26.64	40.63	45.75	35.04	74.00	-38.96	peak
2	4392.376	6.66	33.42	42.47	47.54	45.15	74.00	-28.85	peak
3	4960.000	7.02	34.15	42.87	47.67	45.97	74.00	-28.03	peak
4	6507.536	7.47	35.60	41.95	48.11	49.23	74.00	-24.77	peak
5	7440.000	8.10	36.25	41.46	45.30	48.19	74.00	-25.81	peak
6	9920.000	8.96	37.85	38.12	41.55	50.24	74.00	-23.76	peak



Mode:n; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE1M L

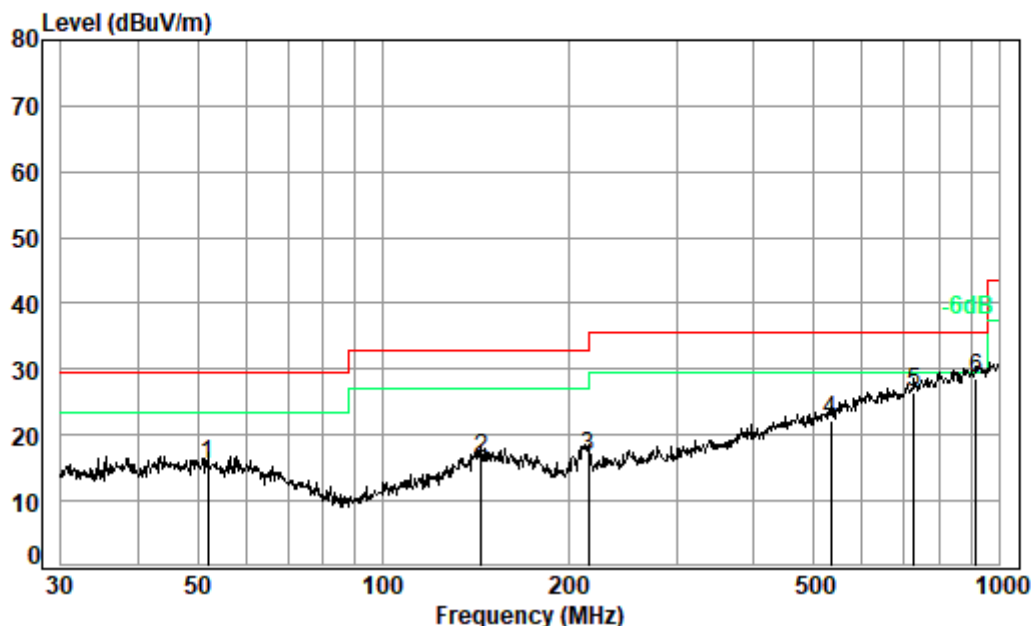
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1682.477	3.25	26.60	40.62	46.41	35.64	74.00	-38.36	peak
2	4456.315	6.51	33.53	42.52	48.32	45.84	74.00	-28.16	peak
3	4960.000	7.02	34.15	42.87	46.42	44.72	74.00	-29.28	peak
4	6602.265	8.00	35.66	41.89	47.41	49.18	74.00	-24.82	peak
5	7440.000	8.10	36.25	41.46	45.62	48.51	74.00	-25.49	peak
6	9920.000	8.96	37.85	38.12	39.83	48.52	74.00	-25.48	peak



30MHz~1GHz

QP value:

Mode: o; Polarization: Horizontal;



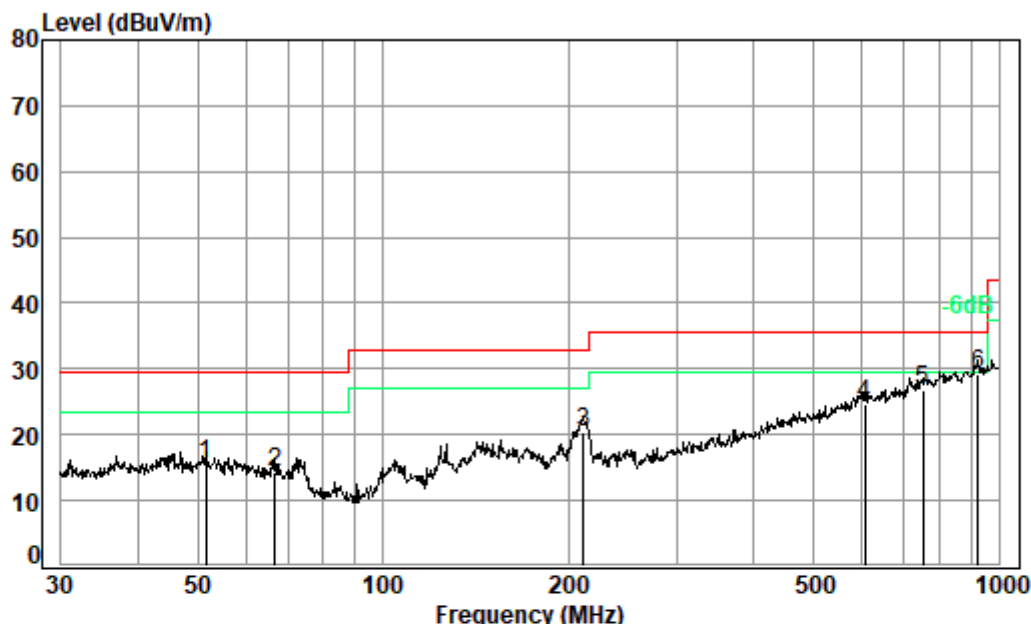
Condition: 10m HORIZONTAL

Job No. : 03014CR

Test Mode: o

		Ant	Preamp	Cable	Read	Limit	Over	
	Freq	Factor	Factor	Loss	Level	Level	Line	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	52.025	19.90	32.45	1.00	26.98	15.43	29.50	-14.07 QP
2	144.335	19.92	32.30	1.45	27.21	16.28	33.00	-16.72 QP
3	215.268	16.00	32.29	1.73	31.22	16.66	33.00	-16.34 QP
4	533.832	24.44	32.31	3.07	27.11	22.31	35.60	-13.29 QP
5	729.358	27.88	32.15	3.26	27.56	26.55	35.60	-9.05 QP
6 pp	919.287	29.78	31.42	3.44	26.68	28.48	35.60	-7.12 QP

Mode :o; Polarization: Vertical



Condition: 10m VERTICAL

Job No. : 03014CR

Test Mode: o

	Ant Freq	Preamp Factor	Cable Factor	Cable Loss	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	51.662	19.97	32.45	1.00	26.88	15.40	29.50	-14.10	QP
2	66.733	18.15	32.40	1.07	27.55	14.37	29.50	-15.13	QP
3	211.527	16.00	32.29	1.70	35.12	20.53	33.00	-12.47	QP
4	605.659	26.33	32.04	3.16	27.14	24.59	35.60	-11.01	QP
5	752.743	28.30	32.07	3.27	27.17	26.67	35.60	-8.93	QP
6 pp	925.756	29.80	31.38	3.45	27.33	29.20	35.60	-6.40	QP



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

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

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (SGS-CSTC Laboratory)

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

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

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

Note:

L_3 : Level @ 3m distance. Unit: $\mu\text{V/m}$;

L_{10} : Level @ 10m distance. Unit: $\mu\text{V/m}$;

D_3 : 3m distance. Unit: m

D_{10} : 10m distance. Unit: m

The level at 3m test distance is below:

Mode o:

Frequency (MHz)	Level 10m (dBuV/m)	Level @ 10m ($\mu\text{V/m}$)	Level @ 3m ($\mu\text{V/m}$)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
51.66	15.40	5.89	19.63	25.86	40.00	-14.14	V
66.73	14.37	5.23	17.43	24.83	40.00	-15.17	V
211.53	20.53	10.63	35.43	30.99	43.50	-12.51	V
605.66	24.59	16.96	56.54	35.05	46.00	-10.95	V
752.74	26.67	21.55	71.84	37.13	46.00	-8.87	V
925.76	29.20	28.84	96.13	39.66	46.00	-6.34	V
52.03	15.43	5.91	19.70	25.89	40.00	-14.11	H
144.34	16.28	6.52	21.72	26.74	43.50	-16.76	H
215.27	16.66	6.81	22.69	27.12	43.50	-16.38	H
533.83	22.31	13.05	43.49	32.77	46.00	-13.23	H
729.36	26.55	21.26	70.86	37.01	46.00	-8.99	H
919.29	28.48	26.55	88.49	38.94	46.00	-7.06	H



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.

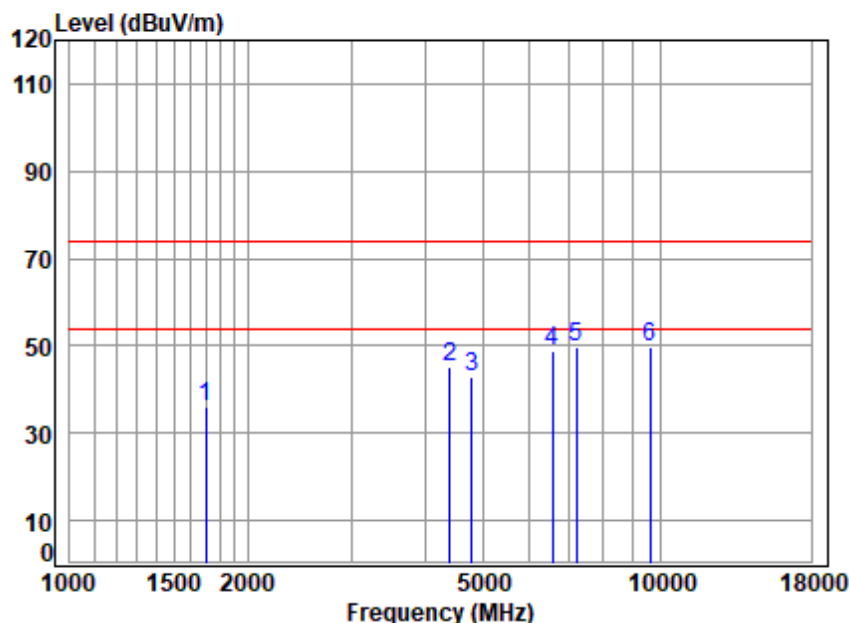
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (China) SGS-CSTC Laboratory

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

Above 1GHz

Mode:o; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

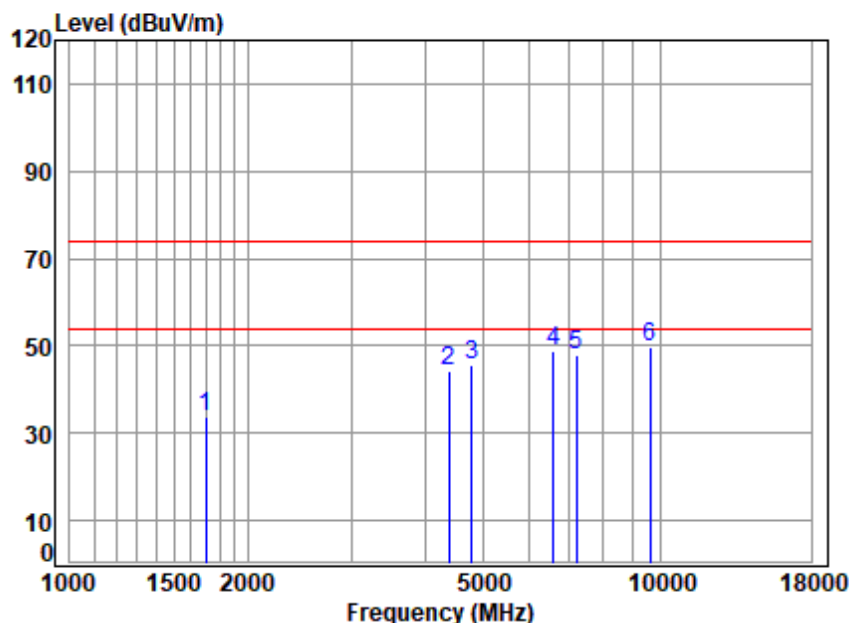


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE1M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1697.129	3.30	26.66	40.63	46.78	36.11	74.00	-37.89	peak
2	4405.090	6.67	33.44	42.48	47.67	45.30	74.00	-28.70	peak
3	4804.000	6.80	33.97	42.77	44.81	42.81	74.00	-31.19	peak
4	6564.209	7.79	35.64	41.92	47.20	48.71	74.00	-25.29	peak
5	7206.000	8.44	36.07	41.58	46.98	49.91	74.00	-24.09	peak
6	9608.000	9.17	37.67	38.57	41.25	49.52	74.00	-24.48	peak



Mode:o; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



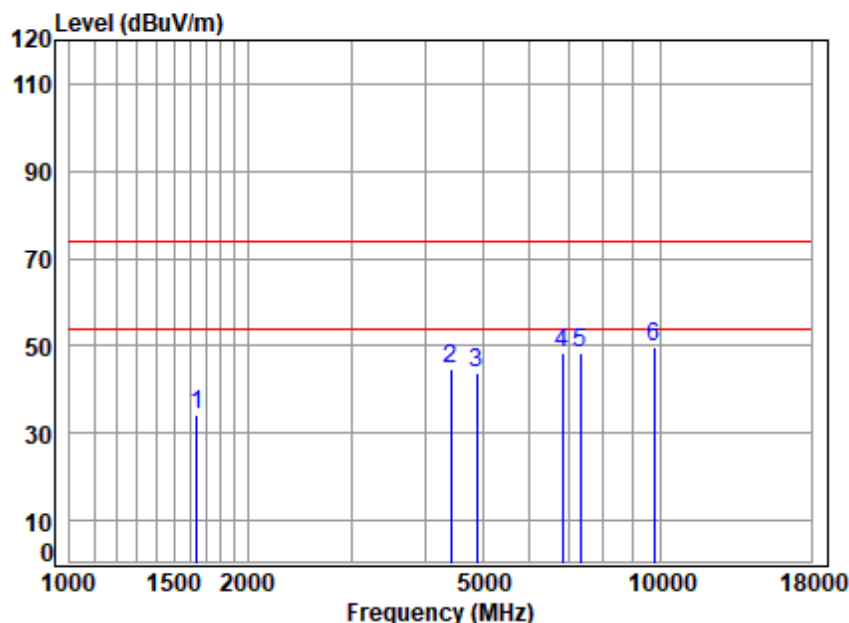
Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE1M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1697.129	3.30	26.66	40.63	44.53	33.86	74.00	-40.14	peak
2	4392.376	6.66	33.42	42.47	46.72	44.33	74.00	-29.67	peak
3	4804.000	6.80	33.97	42.77	47.81	45.81	74.00	-28.19	peak
4	6602.265	8.00	35.66	41.89	46.83	48.60	74.00	-25.40	peak
5	7206.000	8.44	36.07	41.58	45.20	48.13	74.00	-25.87	peak
6	9608.000	9.17	37.67	38.57	41.46	49.73	74.00	-24.27	peak



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
Attention: To check the authenticity of testing / inspection report and certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

Mode:o; Polarization:Horizontal; Modulation:GFSK; ; Channel:middle

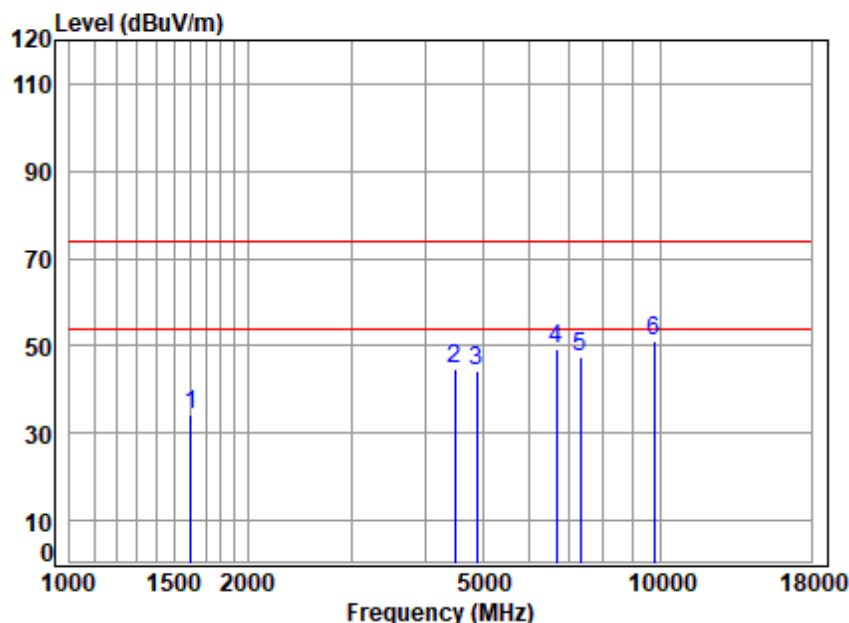


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE1M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1644.019	3.11	26.44	40.60	45.26	34.21	74.00	-39.79	peak
2	4417.841	6.63	33.46	42.49	46.98	44.58	74.00	-29.42	peak
3	4880.000	7.02	34.06	42.82	45.73	43.99	74.00	-30.01	peak
4	6835.278	7.93	35.80	41.77	46.63	48.59	74.00	-25.41	peak
5	7323.000	8.36	36.16	41.52	45.19	48.19	74.00	-25.81	peak
6	9764.000	9.30	37.76	38.34	41.02	49.74	74.00	-24.26	peak



Mode:o; Polarization:Vertical; Modulation:GFSK; ; Channel:middle

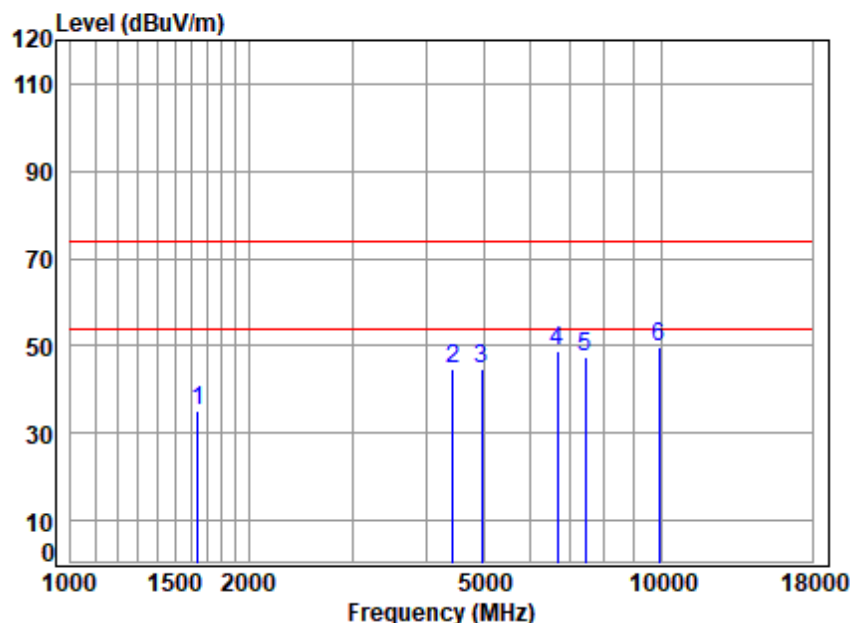


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE1M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1606.441	2.97	26.28	40.57	45.72	34.40	74.00	-39.60	peak
2	4495.125	6.39	33.59	42.55	47.14	44.57	74.00	-29.43	peak
3	4880.000	7.02	34.06	42.82	46.10	44.36	74.00	-29.64	peak
4	6679.040	8.27	35.71	41.85	47.14	49.27	74.00	-24.73	peak
5	7323.000	8.36	36.16	41.52	44.61	47.61	74.00	-26.39	peak
6	9764.000	9.30	37.76	38.34	42.52	51.24	74.00	-22.76	peak



Mode:o; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

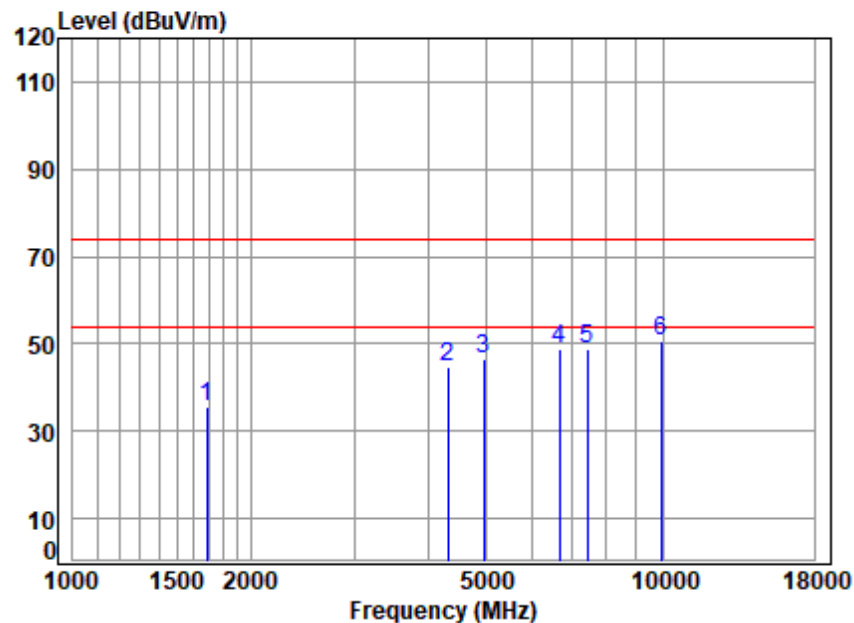


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE1M R

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1639.274	3.09	26.42	40.59	46.42	35.34	74.00	-38.66	peak
2	4443.453	6.55	33.50	42.51	46.98	44.52	74.00	-29.48	peak
3	4960.000	7.02	34.15	42.87	46.57	44.87	74.00	-29.13	peak
4	6679.040	8.27	35.71	41.85	46.68	48.81	74.00	-25.19	peak
5	7440.000	8.10	36.25	41.46	44.74	47.63	74.00	-26.37	peak
6	9920.000	8.96	37.85	38.12	40.86	49.55	74.00	-24.45	peak



Mode:o; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE1M R

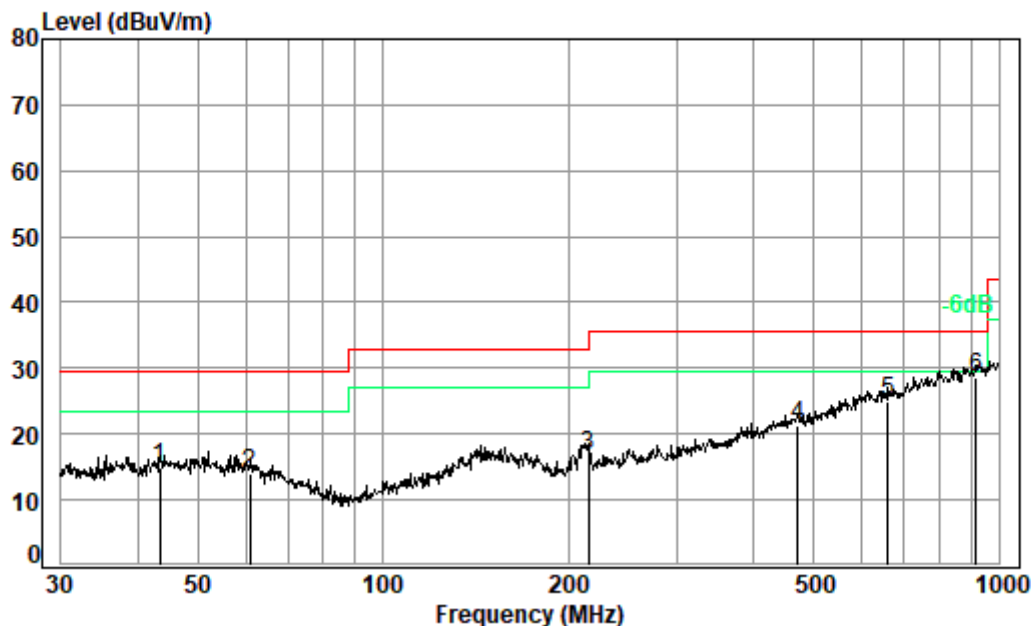
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1687.347	3.27	26.62	40.62	46.13	35.40	74.00	-38.60	peak
2	4316.859	6.37	33.28	42.41	47.70	44.94	74.00	-29.06	peak
3	4960.000	7.02	34.15	42.87	48.02	46.32	74.00	-27.68	peak
4	6659.763	8.21	35.70	41.86	46.60	48.65	74.00	-25.35	peak
5	7440.000	8.10	36.25	41.46	45.93	48.82	74.00	-25.18	peak
6	9920.000	8.96	37.85	38.12	41.74	50.43	74.00	-23.57	peak



30MHz~1GHz

QP value:

Mode: p; Polarization: Horizontal;



Condition: 10m HORIZONTAL

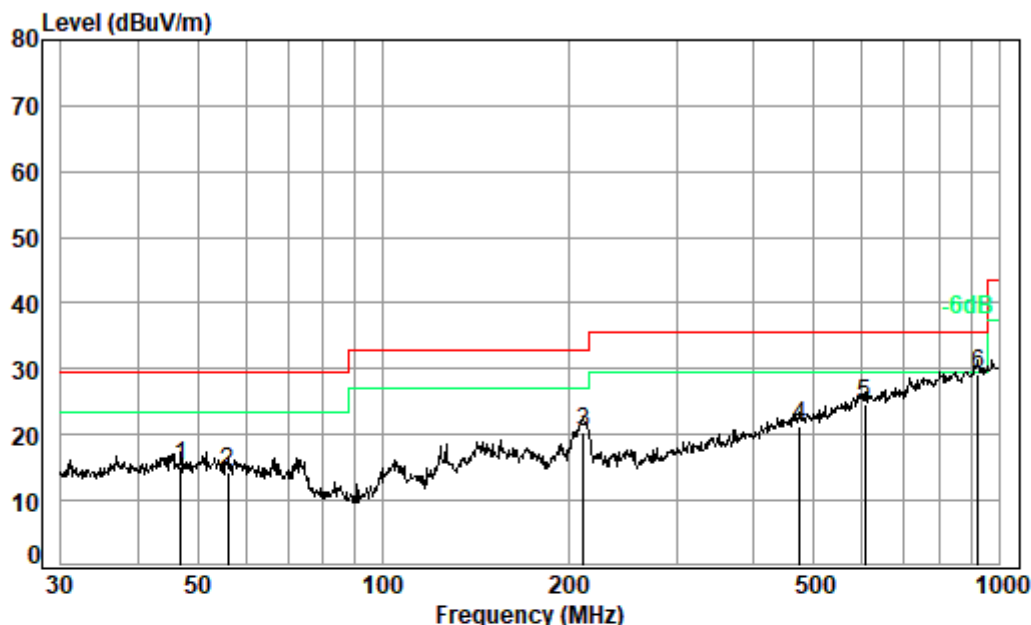
Job No. : 03014CR

Test Mode: p

		Ant	Preamp	Cable	Read	Limit	Over	
	Freq	Factor	Factor	Loss	Level	Level	Line	Limit Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	43.353	20.33	32.44	0.95	26.02	14.86	29.50	-14.64 QP
2	60.918	19.10	32.42	1.04	26.40	14.12	29.50	-15.38 QP
3	215.268	16.00	32.29	1.73	31.22	16.66	33.00	-16.34 QP
4	472.176	23.70	32.37	2.81	27.01	21.15	35.60	-14.45 QP
5	661.151	26.52	32.17	3.21	27.37	24.93	35.60	-10.67 QP
6 pp	919.287	29.78	31.42	3.44	26.68	28.48	35.60	-7.12 QP



Mode :p; Polarization: Vertical



Condition: 10m VERTICAL

Job No. : 03014CR

Test Mode: p

	Freq	Ant Factor	Preamp Factor	Cable Loss	Read Level	Level	Limit	Over	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	46.995	20.35	32.45	0.97	26.44	15.31	29.50	-14.19	QP
2	56.001	19.50	32.44	1.02	26.33	14.41	29.50	-15.09	QP
3	211.527	16.00	32.29	1.70	35.12	20.53	33.00	-12.47	QP
4	475.499	23.70	32.38	2.82	27.26	21.40	35.60	-14.20	QP
5	605.659	26.33	32.04	3.16	27.14	24.59	35.60	-11.01	QP
6 pp	925.756	29.80	31.38	3.45	27.33	29.20	35.60	-6.40	QP



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

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

Note:

L_3 : Level @ 3m distance. Unit: $\mu\text{V/m}$;

L_{10} : Level @ 10m distance. Unit: $\mu\text{V/m}$;

D_3 : 3m distance. Unit: m

D_{10} : 10m distance. Unit: m

The level at 3m test distance is below:

Mode p:

Frequency (MHz)	Level 10m (dBuV/m)	Level @ 10m ($\mu\text{V/m}$)	Level @ 3m ($\mu\text{V/m}$)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
47.00	15.31	5.83	19.43	25.77	40.00	-14.23	V
56.00	14.41	5.25	17.51	24.87	40.00	-15.13	V
211.53	20.53	10.63	35.43	30.99	43.50	-12.51	V
475.50	21.40	11.75	39.16	31.86	46.00	-14.14	V
605.66	24.59	16.96	56.54	35.05	46.00	-10.95	V
925.76	29.20	28.84	96.13	39.66	46.00	-6.34	V
43.35	14.86	5.53	18.45	25.32	40.00	-14.68	H
60.92	14.12	5.08	16.94	24.58	40.00	-15.42	H
215.27	16.66	6.81	22.69	27.12	43.50	-16.38	H
472.18	21.15	11.42	38.05	31.61	46.00	-14.39	H
661.15	24.93	17.64	58.80	35.39	46.00	-10.61	H
919.29	28.48	26.55	88.49	38.94	46.00	-7.06	H



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.

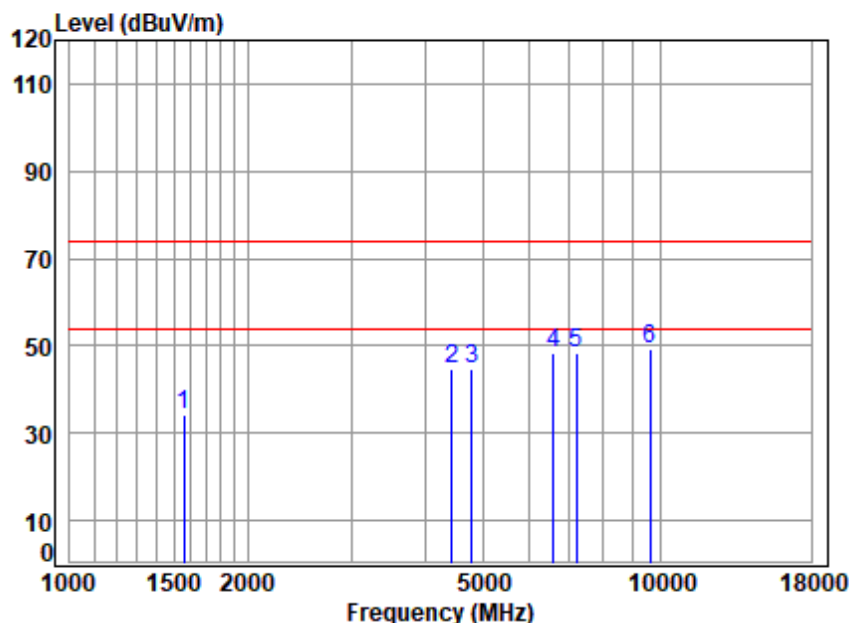
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (China) SGS-CSTC Laboratory

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

Above 1GHz

Mode:p; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

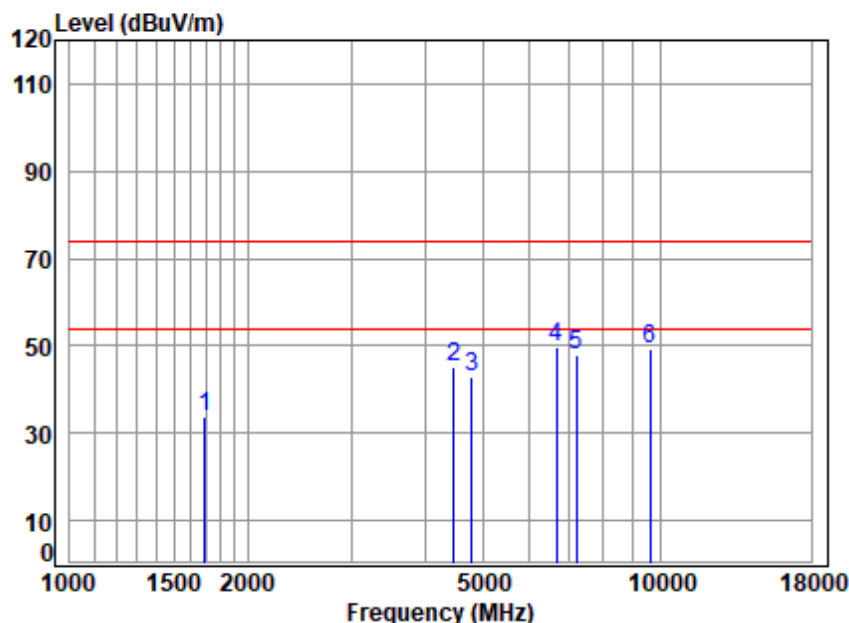


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE2M L

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1560.673	2.97	26.08	40.55	45.59	34.09	74.00	-39.91	peak
2	4430.628	6.59	33.48	42.50	47.00	44.57	74.00	-29.43	peak
3	4804.000	6.80	33.97	42.77	46.57	44.57	74.00	-29.43	peak
4	6602.265	8.00	35.66	41.89	46.75	48.52	74.00	-25.48	peak
5	7206.000	8.44	36.07	41.58	45.23	48.16	74.00	-25.84	peak
6	9608.000	9.17	37.67	38.57	40.96	49.23	74.00	-24.77	peak



Mode:p; Polarization:Vertical; Modulation:GFSK; ; Channel:Low

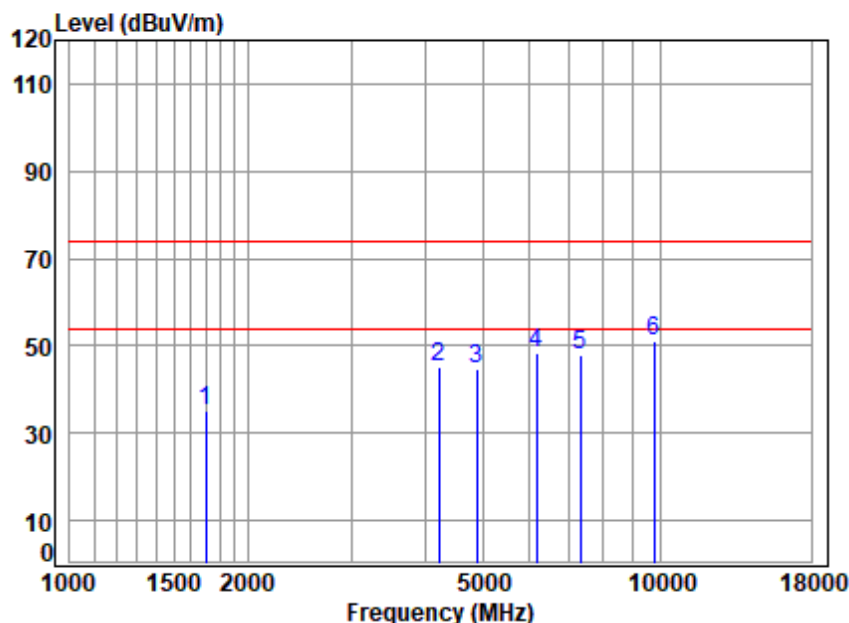


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE2M L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1692.231	3.28	26.64	40.63	44.51	33.80	74.00	-40.20	peak
2	4469.214	6.47	33.55	42.53	47.88	45.37	74.00	-28.63	peak
3	4804.000	6.80	33.97	42.77	44.84	42.84	74.00	-31.16	peak
4	6679.040	8.27	35.71	41.85	47.39	49.52	74.00	-24.48	peak
5	7206.000	8.44	36.07	41.58	44.97	47.90	74.00	-26.10	peak
6	9608.000	9.17	37.67	38.57	41.11	49.38	74.00	-24.62	peak



Mode:p; Polarization:Horizontal; Modulation:GFSK; ; Channel:middle

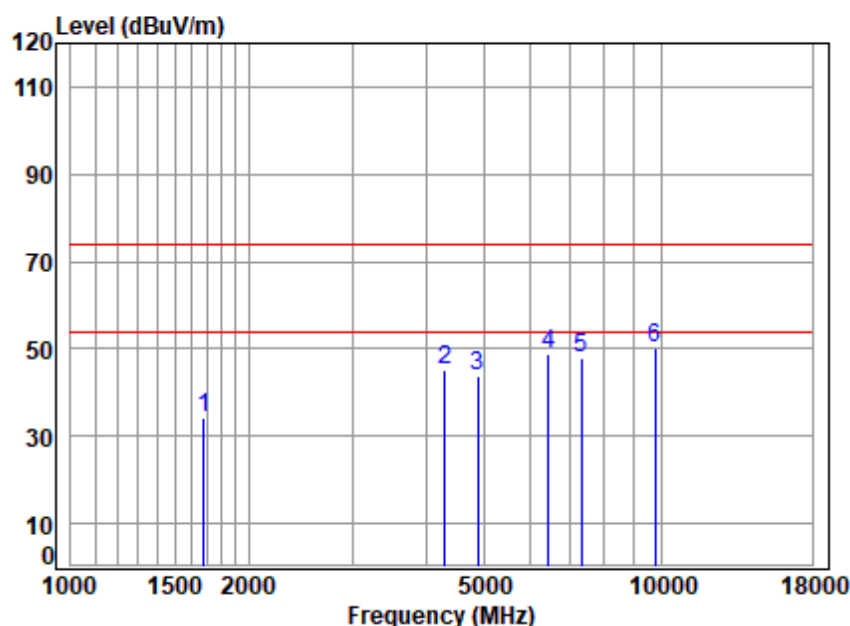


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE2M L

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1697.129	3.30	26.66	40.63	45.95	35.28	74.00	-38.72	peak
2	4218.186	6.16	33.11	42.33	48.28	45.22	74.00	-28.78	peak
3	4880.000	7.02	34.06	42.82	46.34	44.60	74.00	-29.40	peak
4	6159.797	7.57	35.26	42.15	47.79	48.47	74.00	-25.53	peak
5	7323.000	8.36	36.16	41.52	44.92	47.92	74.00	-26.08	peak
6	9764.000	9.30	37.76	38.34	42.19	50.91	74.00	-23.09	peak



Mode:p; Polarization:Vertical; Modulation:GFSK; ; Channel:middle

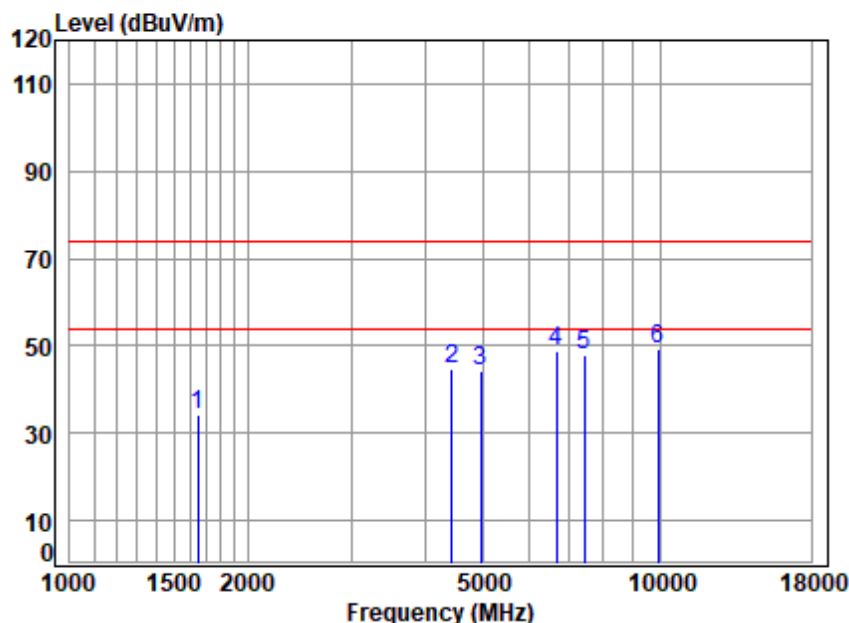


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE2M L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1677.621	3.23	26.58	40.62	44.91	34.10	74.00	-39.90	peak
2	4304.400	6.32	33.26	42.40	47.97	45.15	74.00	-28.85	peak
3	4880.000	7.02	34.06	42.82	45.37	43.63	74.00	-30.37	peak
4	6451.353	7.54	35.55	41.98	47.85	48.96	74.00	-25.04	peak
5	7323.000	8.36	36.16	41.52	45.07	48.07	74.00	-25.93	peak
6	9764.000	9.30	37.76	38.34	41.47	50.19	74.00	-23.81	peak



Mode:p; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

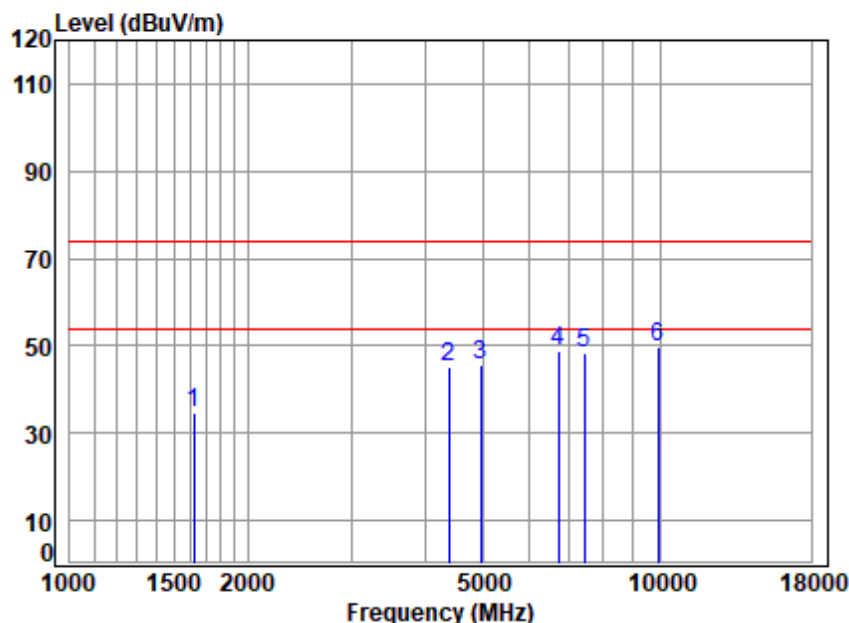


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE2M L

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1648.778	3.13	26.46	40.60	45.29	34.28	74.00	-39.72	peak
2	4430.628	6.59	33.48	42.50	47.08	44.65	74.00	-29.35	peak
3	4960.000	7.02	34.15	42.87	45.94	44.24	74.00	-29.76	peak
4	6679.040	8.27	35.71	41.85	46.77	48.90	74.00	-25.10	peak
5	7440.000	8.10	36.25	41.46	45.24	48.13	74.00	-25.87	peak
6	9920.000	8.96	37.85	38.12	40.37	49.06	74.00	-24.94	peak



Mode:p; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE2M L

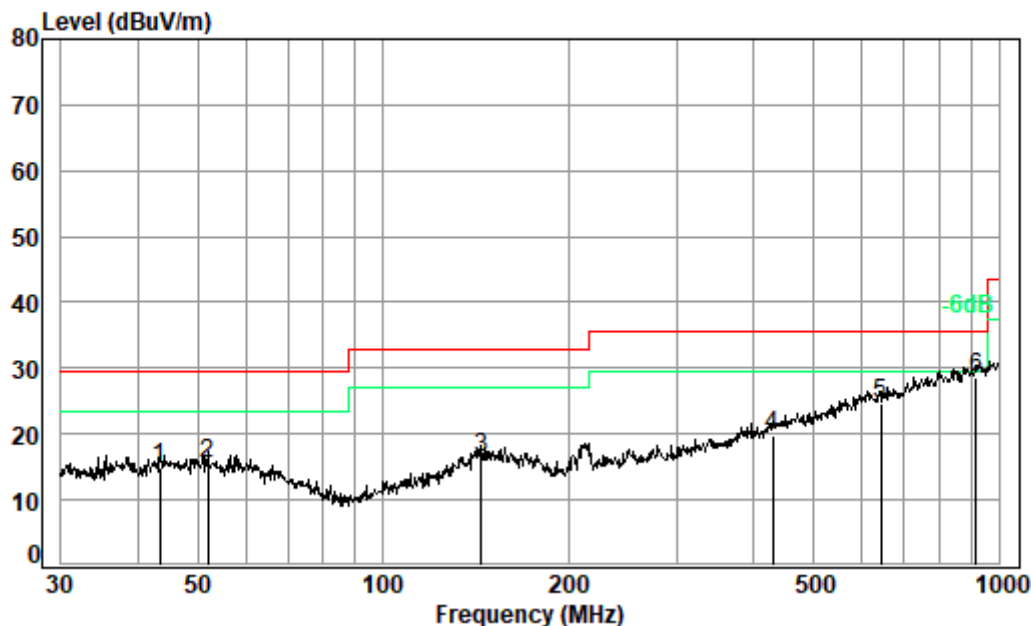
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1620.431	3.03	26.34	40.58	45.79	34.58	74.00	-39.42	peak
2	4379.699	6.61	33.39	42.46	47.72	45.26	74.00	-28.74	peak
3	4960.000	7.02	34.15	42.87	47.10	45.40	74.00	-28.60	peak
4	6717.762	8.28	35.73	41.83	46.78	48.96	74.00	-25.04	peak
5	7440.000	8.10	36.25	41.46	45.34	48.23	74.00	-25.77	peak
6	9920.000	8.96	37.85	38.12	41.23	49.92	74.00	-24.08	peak



30MHz~1GHz

QP value:

Mode: q; Polarization: Horizontal;



Condition: 10m HORIZONTAL

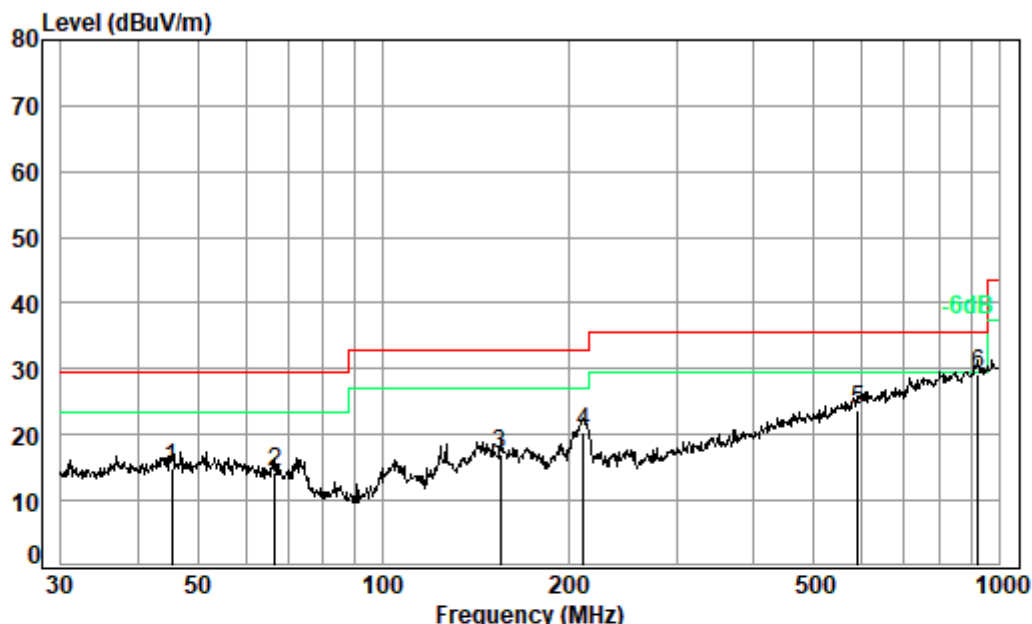
Job No. : 03014CR

Test Mode: q

		Ant	Preamp	Cable	Read	Limit	Over	
	Freq	Factor	Factor	Loss	Level	Level	Line	Limit Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	43.353	20.33	32.44	0.95	26.02	14.86	29.50	-14.64 QP
2	52.025	19.90	32.45	1.00	26.98	15.43	29.50	-14.07 QP
3	144.335	19.92	32.30	1.45	27.21	16.28	33.00	-16.72 QP
4	429.523	22.68	32.21	2.64	26.78	19.89	35.60	-15.71 QP
5	642.861	26.36	32.13	3.19	27.19	24.61	35.60	-10.99 QP
6 pp	919.287	29.78	31.42	3.44	26.68	28.48	35.60	-7.12 QP



Mode :q; Polarization: Vertical



Condition: 10m VERTICAL

Job No. : 03014CR

Test Mode: q

	Ant Freq	Preamp Factor	Cable Factor	Cable Loss	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	45.375	20.44	32.45	0.96	25.96	14.91	29.50	-14.59	QP
2	66.733	18.15	32.40	1.07	27.55	14.37	29.50	-15.13	QP
3	154.821	20.00	32.30	1.49	27.90	17.09	33.00	-15.91	QP
4	211.527	16.00	32.29	1.70	35.12	20.53	33.00	-12.47	QP
5	590.974	25.74	32.07	3.16	26.97	23.80	35.60	-11.80	QP
6 pp	925.756	29.80	31.38	3.45	27.33	29.20	35.60	-6.40	QP



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

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.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

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

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

Note:

L_3 : Level @ 3m distance. Unit: $\mu\text{V/m}$;

L_{10} : Level @ 10m distance. Unit: $\mu\text{V/m}$;

D_3 : 3m distance. Unit: m

D_{10} : 10m distance. Unit: m

The level at 3m test distance is below:

Mode p:

Frequency (MHz)	Level 10m (dBuV/m)	Level @ 10m ($\mu\text{V/m}$)	Level @ 3m ($\mu\text{V/m}$)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
45.38	14.91	5.57	18.55	25.37	40.00	-14.63	V
66.73	14.37	5.23	17.43	24.83	40.00	-15.17	V
154.82	17.09	7.15	23.84	27.55	43.50	-15.95	V
211.53	20.53	10.63	35.43	30.99	43.50	-12.51	V
590.97	23.80	15.49	51.63	34.26	46.00	-11.74	V
925.76	29.20	28.84	96.13	39.66	46.00	-6.34	V
43.35	14.86	5.53	18.45	25.32	40.00	-14.68	H
52.03	15.43	5.91	19.70	25.89	40.00	-14.11	H
144.34	16.28	6.52	21.72	26.74	43.50	-16.76	H
429.52	19.89	9.87	32.91	30.35	46.00	-15.65	H
642.86	24.61	17.00	56.67	35.07	46.00	-10.93	H
919.29	28.48	26.55	88.49	38.94	46.00	-7.06	H



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.

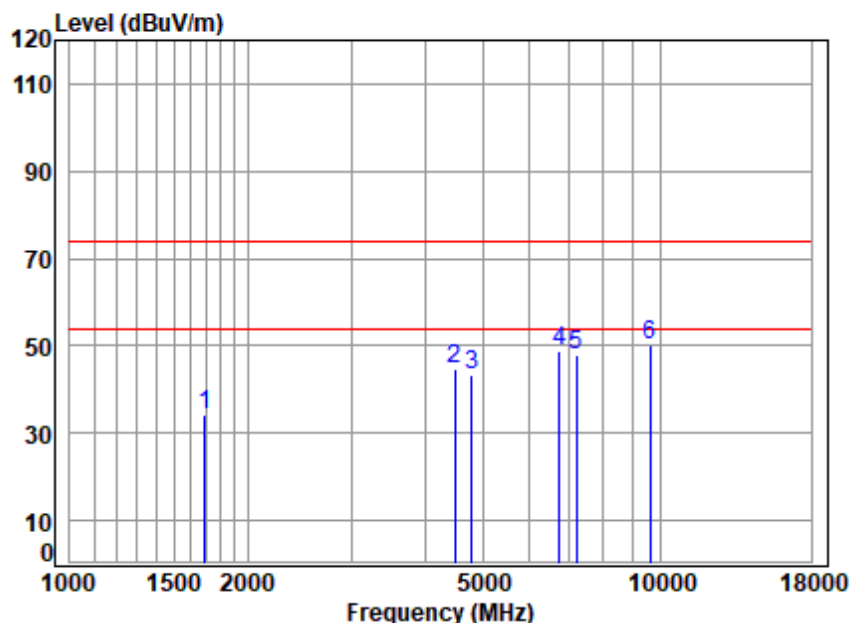
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (China) SGS-CSTC Laboratory

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

Above 1GHz

Mode:q; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low

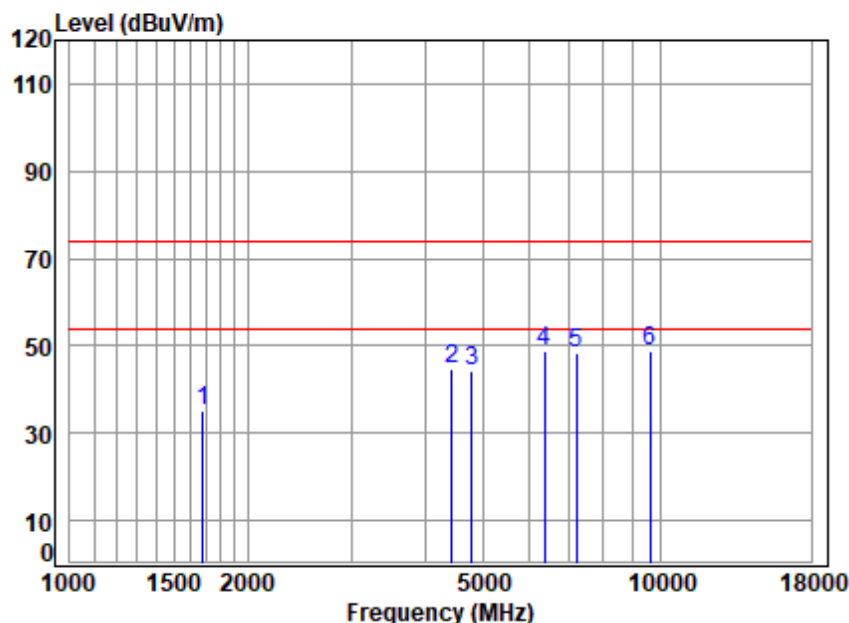


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE2M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1692.231	3.28	26.64	40.63	44.80	34.09	74.00	-39.91	peak
2	4482.150	6.43	33.57	42.54	47.29	44.75	74.00	-29.25	peak
3	4804.000	6.80	33.97	42.77	45.56	43.56	74.00	-30.44	peak
4	6756.708	8.14	35.76	41.81	46.59	48.68	74.00	-25.32	peak
5	7206.000	8.44	36.07	41.58	45.09	48.02	74.00	-25.98	peak
6	9608.000	9.17	37.67	38.57	41.96	50.23	74.00	-23.77	peak



Mode:q; Polarization:Vertical; Modulation:GFSK; ; Channel:Low

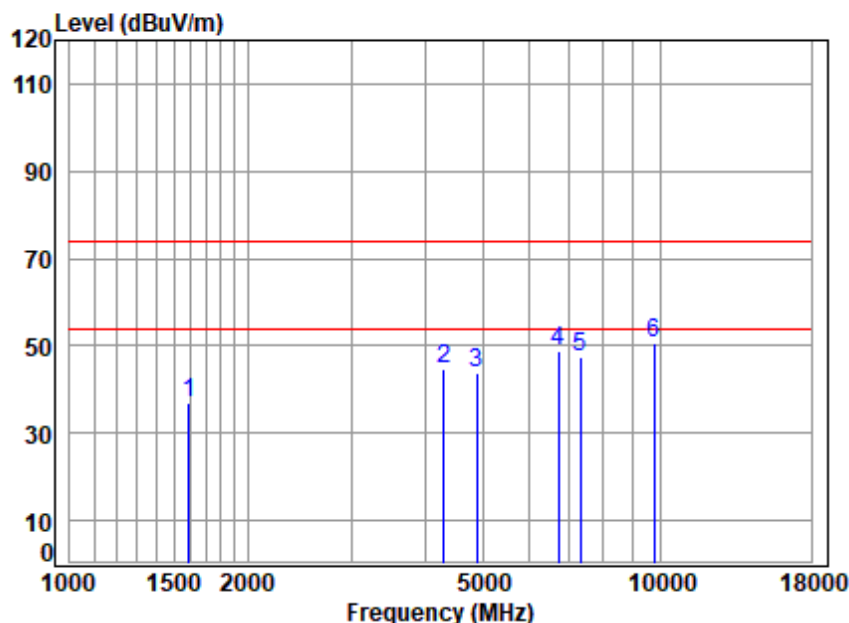


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2402 TX SE
Note : BLE2M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1677.621	3.23	26.58	40.62	46.12	35.31	74.00	-38.69	peak
2	4430.628	6.59	33.48	42.50	47.21	44.78	74.00	-29.22	peak
3	4804.000	6.80	33.97	42.77	46.31	44.31	74.00	-29.69	peak
4	6377.195	7.56	35.48	42.02	47.89	48.91	74.00	-25.09	peak
5	7206.000	8.44	36.07	41.58	45.36	48.29	74.00	-25.71	peak
6	9608.000	9.17	37.67	38.57	40.72	48.99	74.00	-25.01	peak



Mode:q; Polarization:Horizontal; Modulation:GFSK; ; Channel:middle

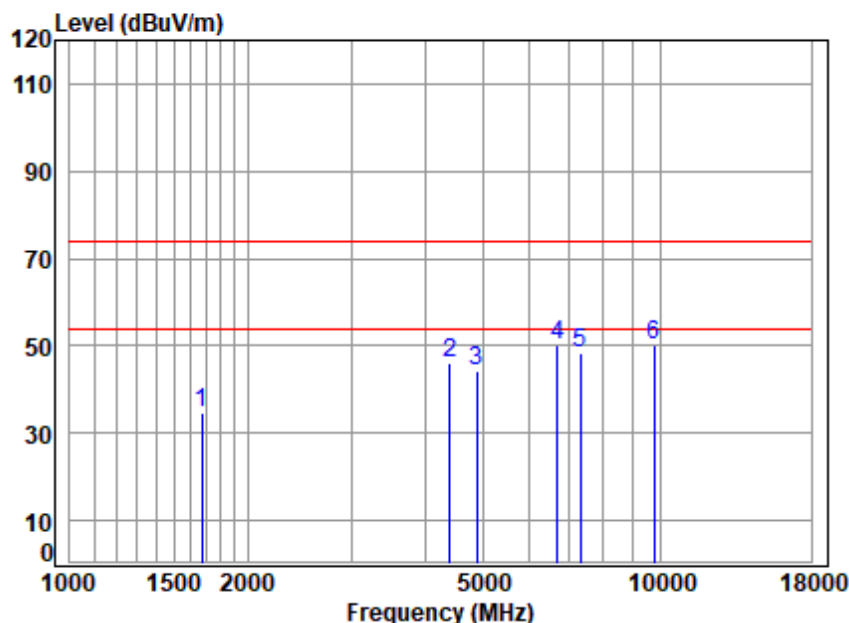


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE2M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1592.571	2.95	26.22	40.57	48.55	37.15	74.00	-36.85	peak
2	4304.400	6.32	33.26	42.40	47.49	44.67	74.00	-29.33	peak
3	4880.000	7.02	34.06	42.82	45.61	43.87	74.00	-30.13	peak
4	6717.762	8.28	35.73	41.83	46.58	48.76	74.00	-25.24	peak
5	7323.000	8.36	36.16	41.52	44.58	47.58	74.00	-26.42	peak
6	9764.000	9.30	37.76	38.34	41.81	50.53	74.00	-23.47	peak



Mode:q; Polarization:Vertical; Modulation:GFSK; ; Channel:middle

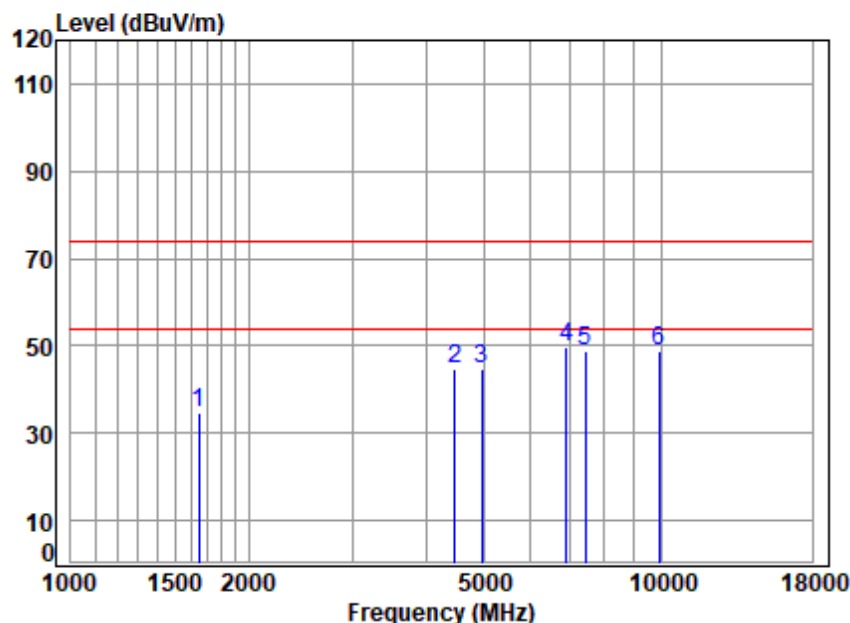


Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2440 TX SE
Note : BLE2M R

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1672.779	3.21	26.56	40.62	45.42	34.57	74.00	-39.43	peak
2	4405.090	6.67	33.44	42.48	48.44	46.07	74.00	-27.93	peak
3	4880.000	7.02	34.06	42.82	45.98	44.24	74.00	-29.76	peak
4	6698.373	8.34	35.72	41.84	47.76	49.98	74.00	-24.02	peak
5	7323.000	8.36	36.16	41.52	45.18	48.18	74.00	-25.82	peak
6	9764.000	9.30	37.76	38.34	41.34	50.06	74.00	-23.94	peak



Mode:q; Polarization:Horizontal; Modulation:GFSK; ; Channel:High

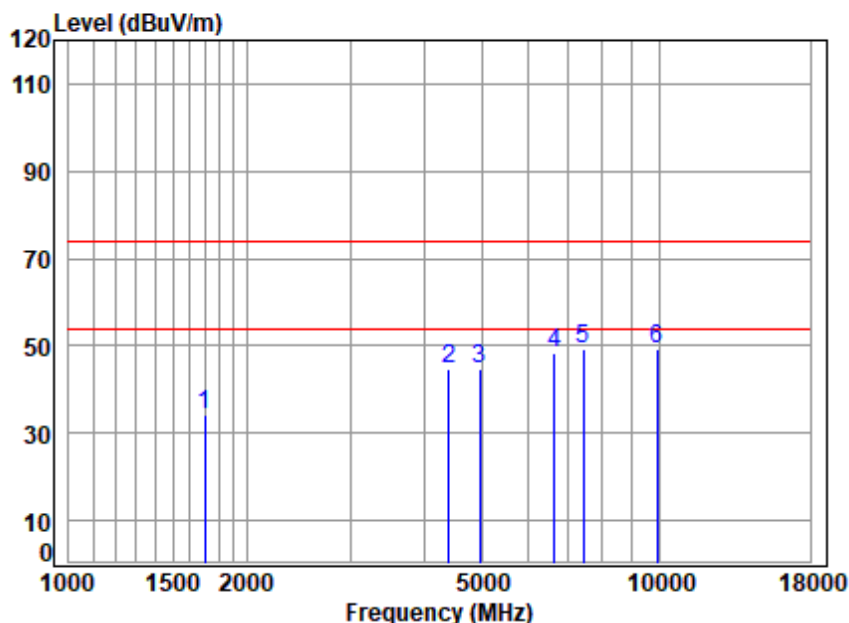


Site : chamber
Condition: 3m HORIZONTAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE2M R

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1648.778	3.13	26.46	40.60	45.88	34.87	74.00	-39.13	peak
2	4469.214	6.47	33.55	42.53	47.29	44.78	74.00	-29.22	peak
3	4960.000	7.02	34.15	42.87	46.50	44.80	74.00	-29.20	peak
4	6914.763	7.83	35.85	41.73	47.58	49.53	74.00	-24.47	peak
5	7440.000	8.10	36.25	41.46	45.94	48.83	74.00	-25.17	peak
6	9920.000	8.96	37.85	38.12	40.21	48.90	74.00	-25.10	peak



Mode;q; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 03014CR/03015CR
Mode : 2480 TX SE
Note : BLE2M R

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1697.129	3.30	26.66	40.63	45.09	34.42	74.00	-39.58	peak
2	4405.090	6.67	33.44	42.48	47.07	44.70	74.00	-29.30	peak
3	4960.000	7.02	34.15	42.87	46.54	44.84	74.00	-29.16	peak
4	6640.542	8.14	35.69	41.87	46.29	48.25	74.00	-25.75	peak
5	7440.000	8.10	36.25	41.46	46.26	49.15	74.00	-24.85	peak
6	9920.000	8.96	37.85	38.12	40.38	49.07	74.00	-24.93	peak



8 Photographs

8.1 Test Setup

Please refer to setup photo.

8.2 EUT Constructional Details (EUT Photos)

Please refer to external and internal photos for details.



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

9 Appendix

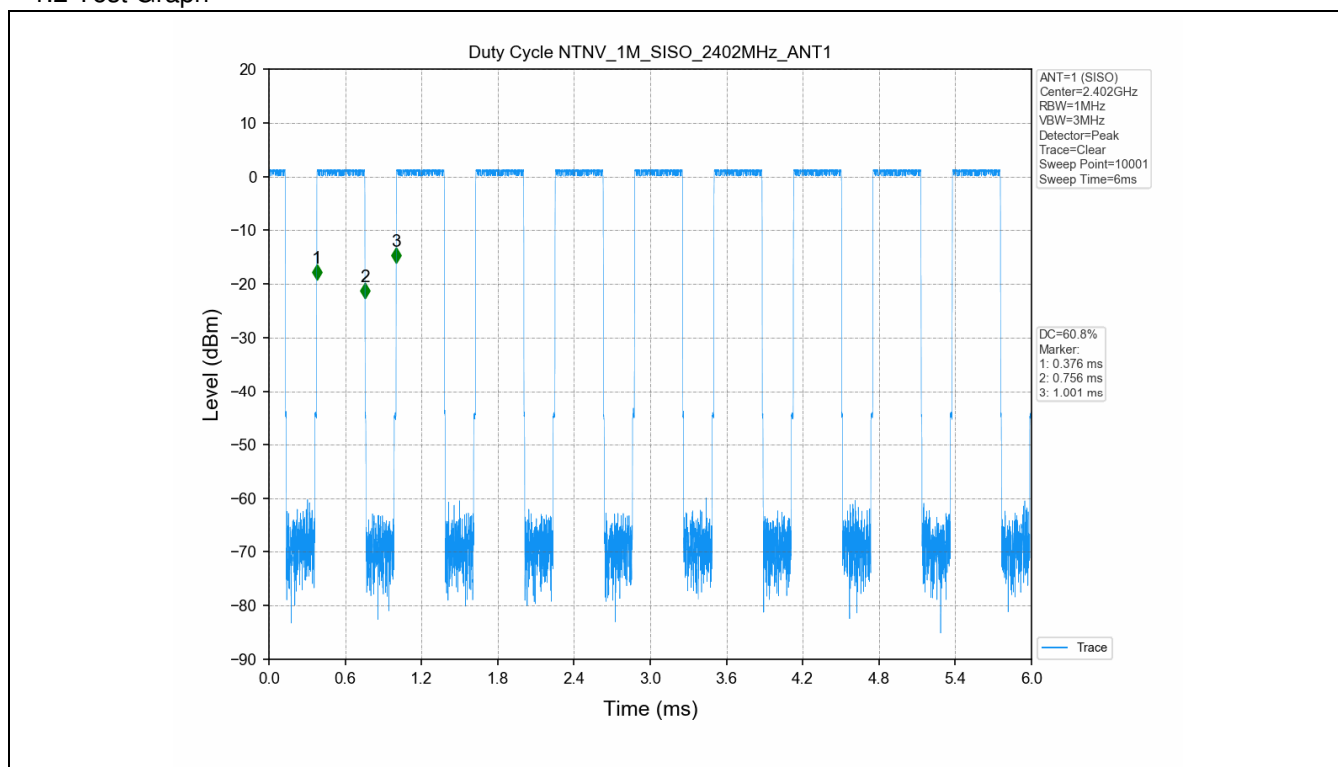
9.1 Appendix 15.247 – Left earbuds

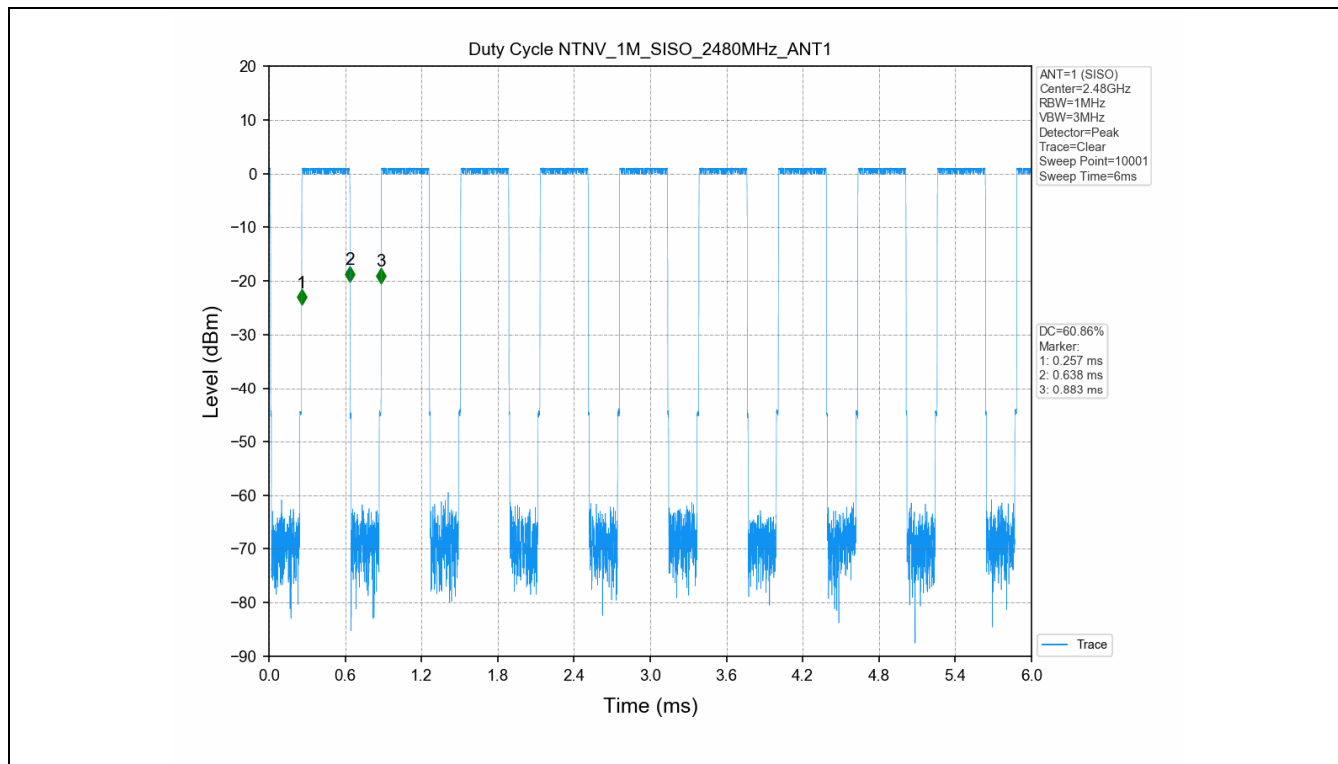
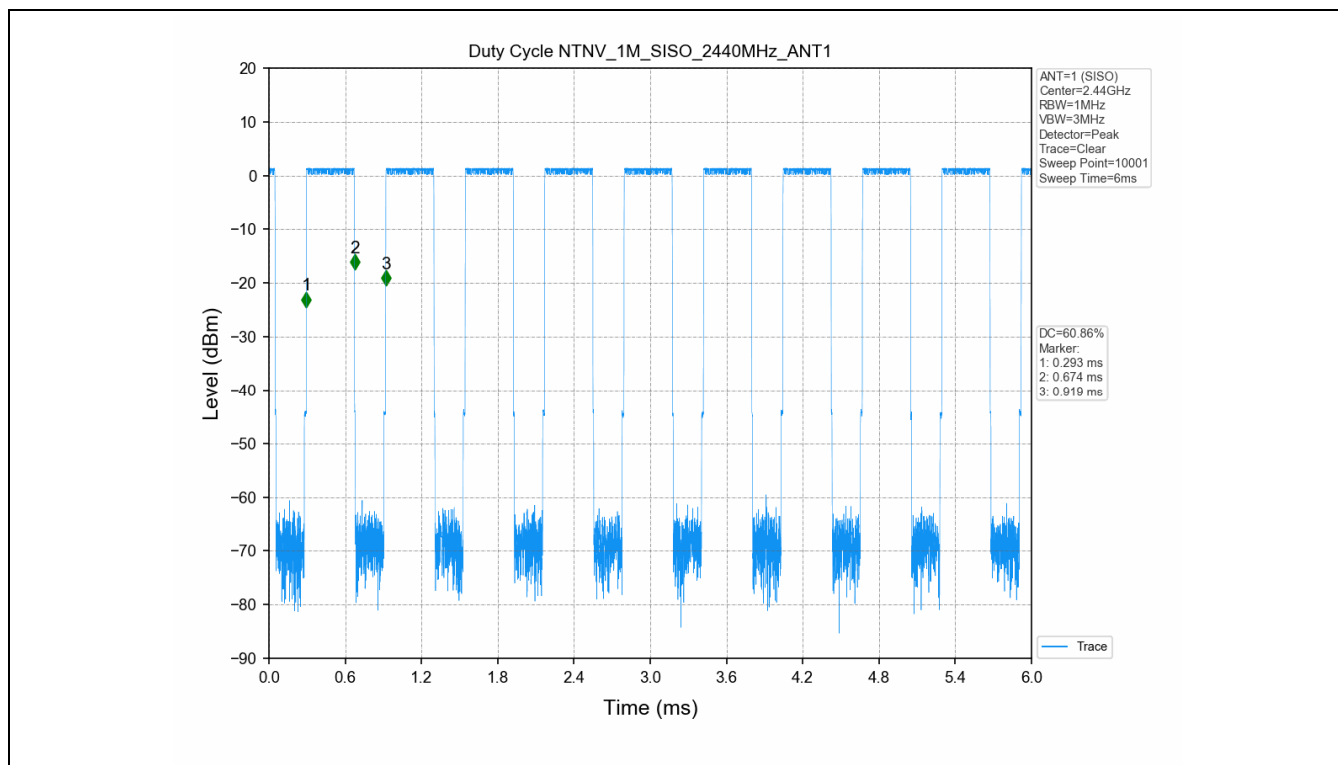
1. Duty Cycle

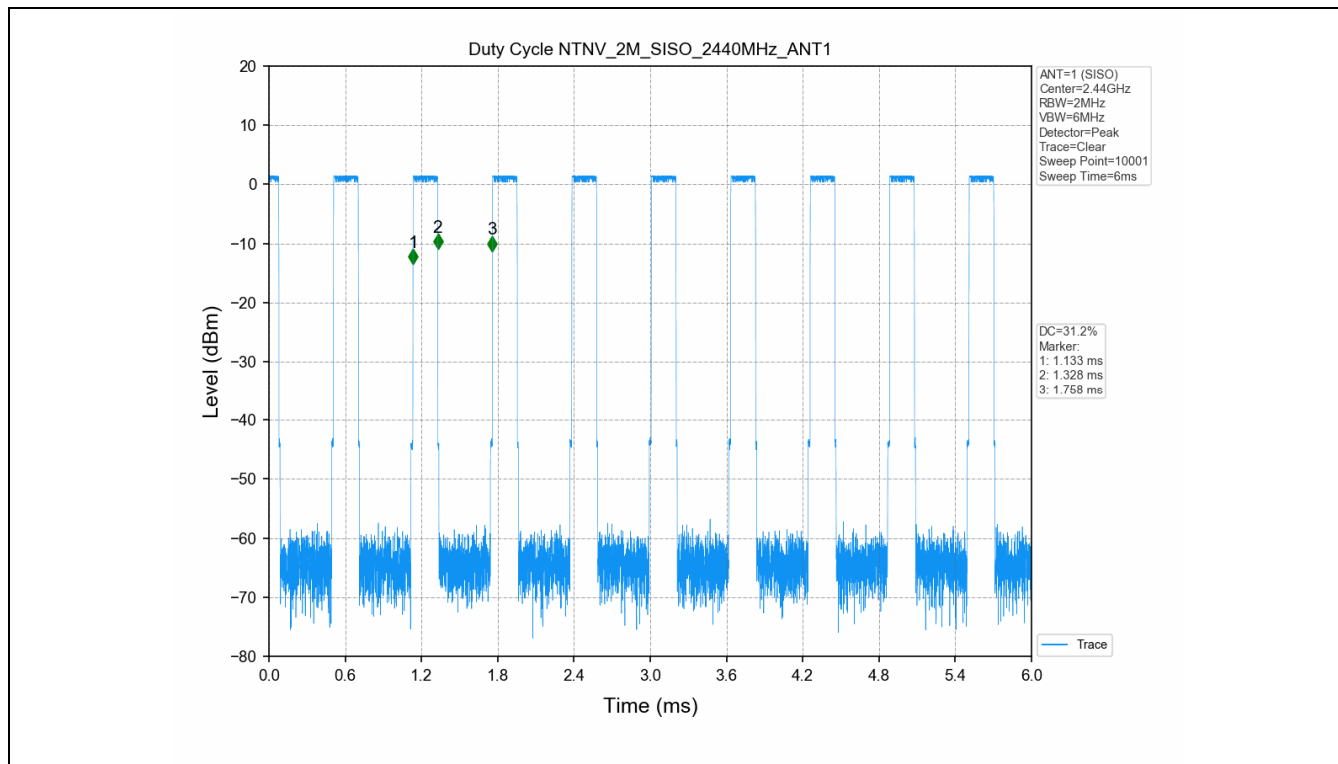
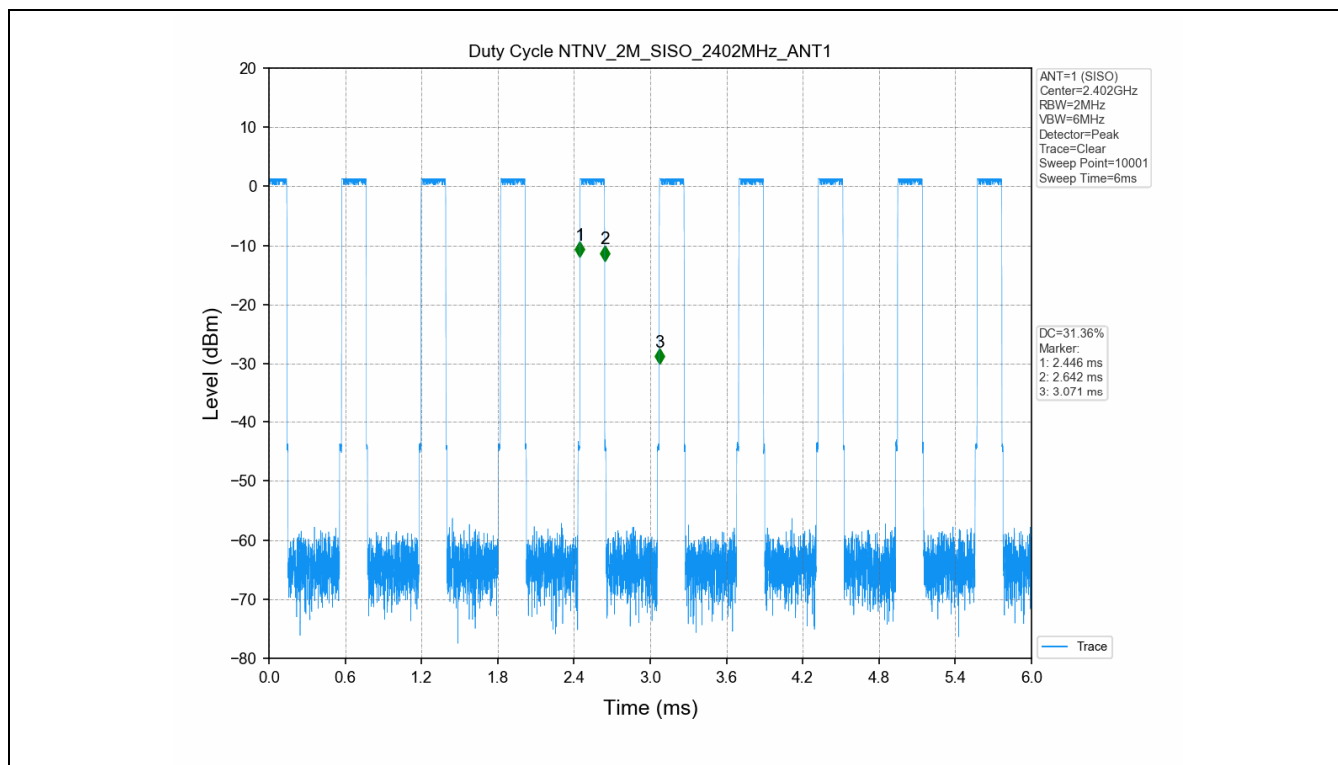
1.1 Test Result

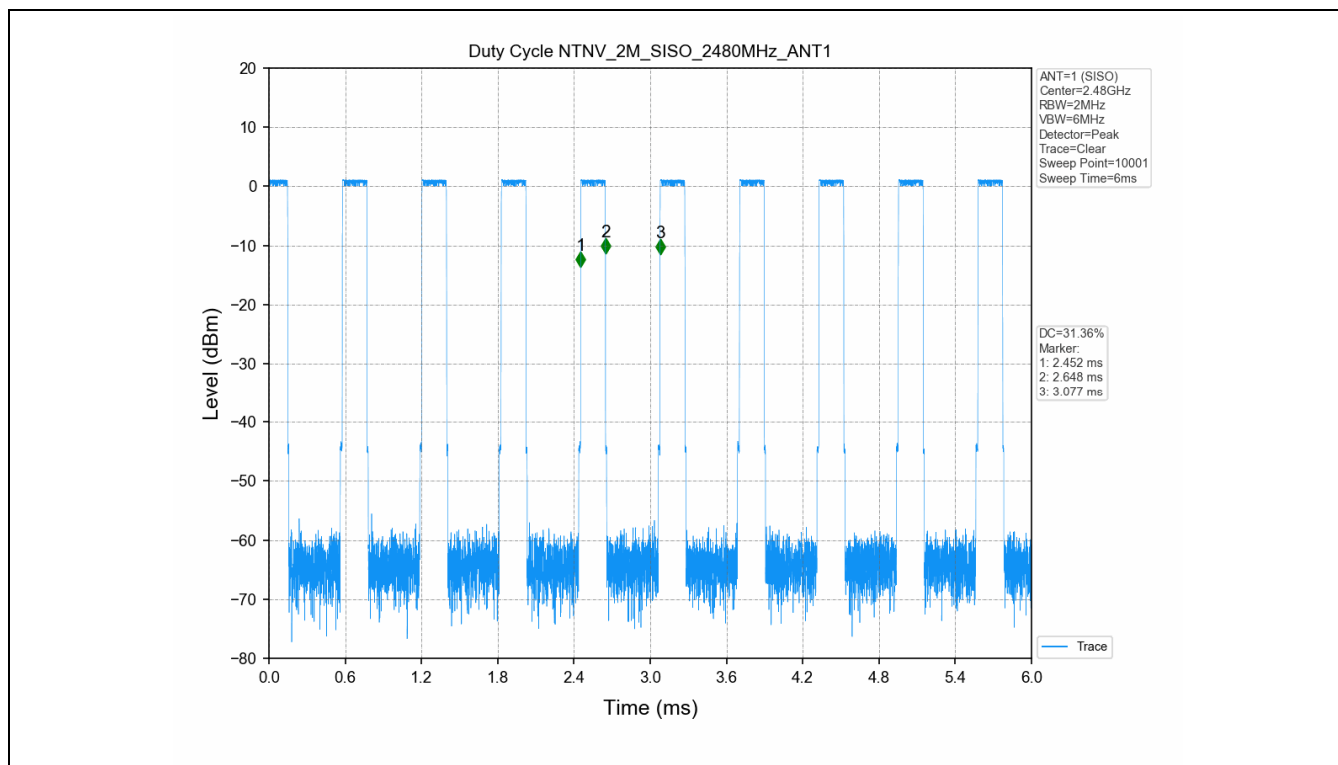
Test Mode	Channel Frequency(MHz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
1M	2402	SISO	1	0.380	0.625	60.80	2.16
	2440	SISO	1	0.381	0.626	60.86	2.16
	2480	SISO	1	0.381	0.626	60.86	2.16
2M	2402	SISO	1	0.196	0.625	31.36	5.04
	2440	SISO	1	0.195	0.625	31.20	5.06
	2480	SISO	1	0.196	0.625	31.36	5.04

1.2 Test Graph









2. Bandwidth

2.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth	Verdict
				Test Result (MHz)	
1M	2402	SISO	1	0.717	PASS
	2440	SISO	1	0.716	PASS
	2480	SISO	1	0.716	PASS
2M	2402	SISO	1	1.239	PASS
	2440	SISO	1	1.246	PASS
	2480	SISO	1	1.249	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
1M	2402	SISO	1	1.043	Only for Report Use
	2440	SISO	1	1.042	Only for Report Use
	2480	SISO	1	1.042	Only for Report Use
2M	2402	SISO	1	2.068	Only for Report Use
	2440	SISO	1	2.067	Only for Report Use
	2480	SISO	1	2.067	Only for Report Use



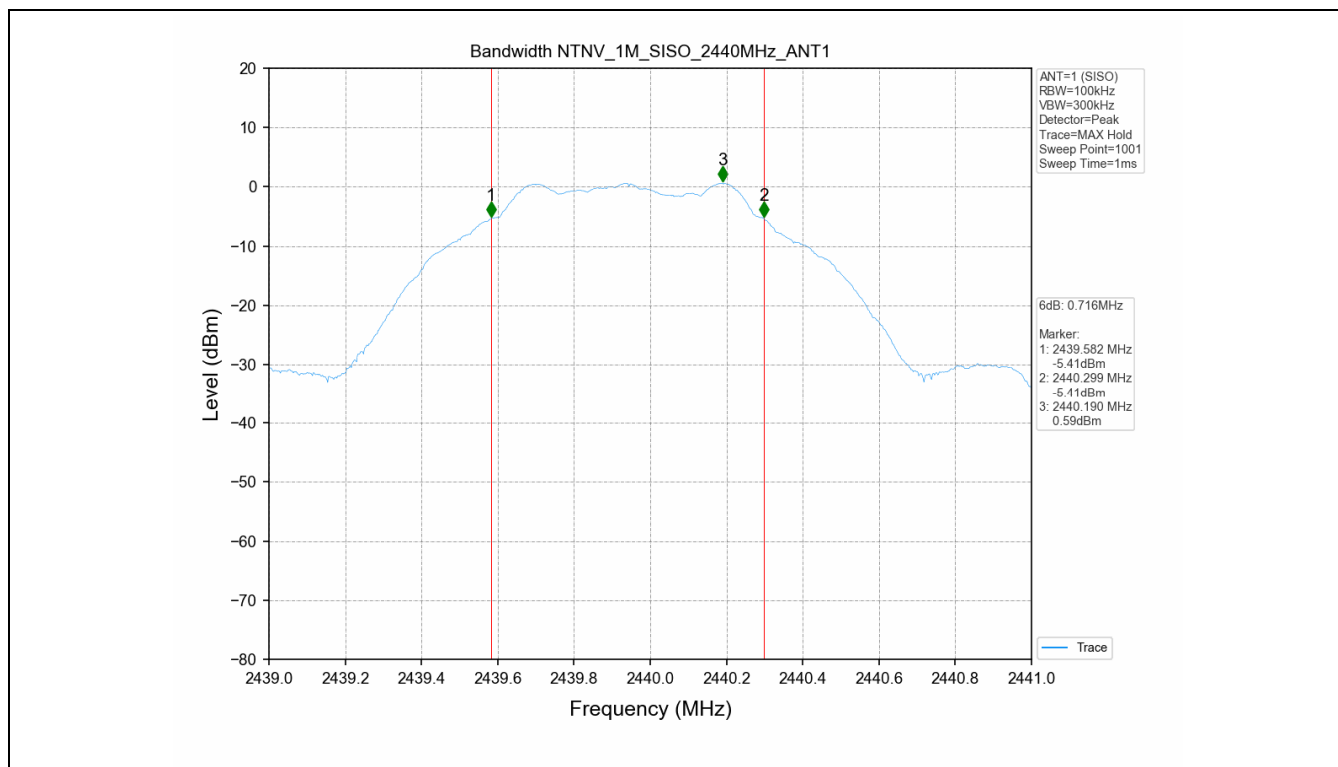
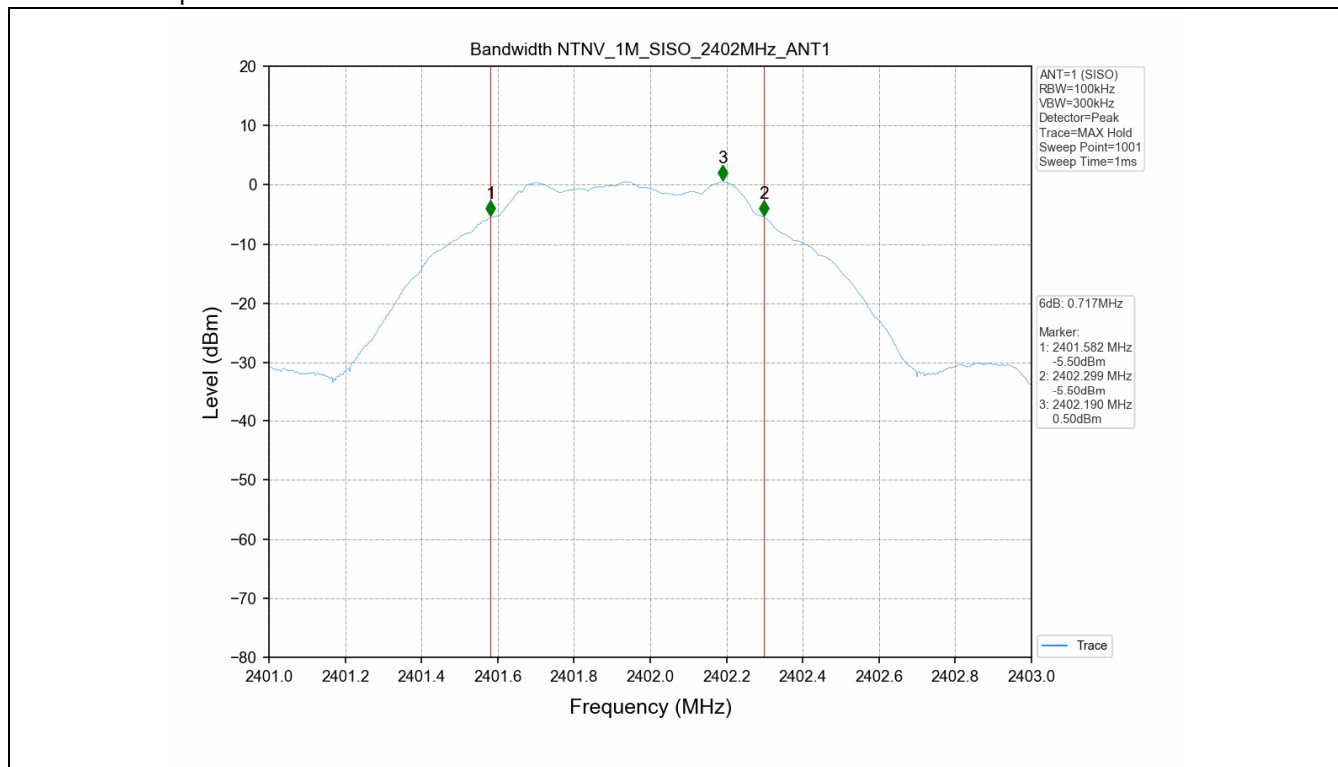
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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

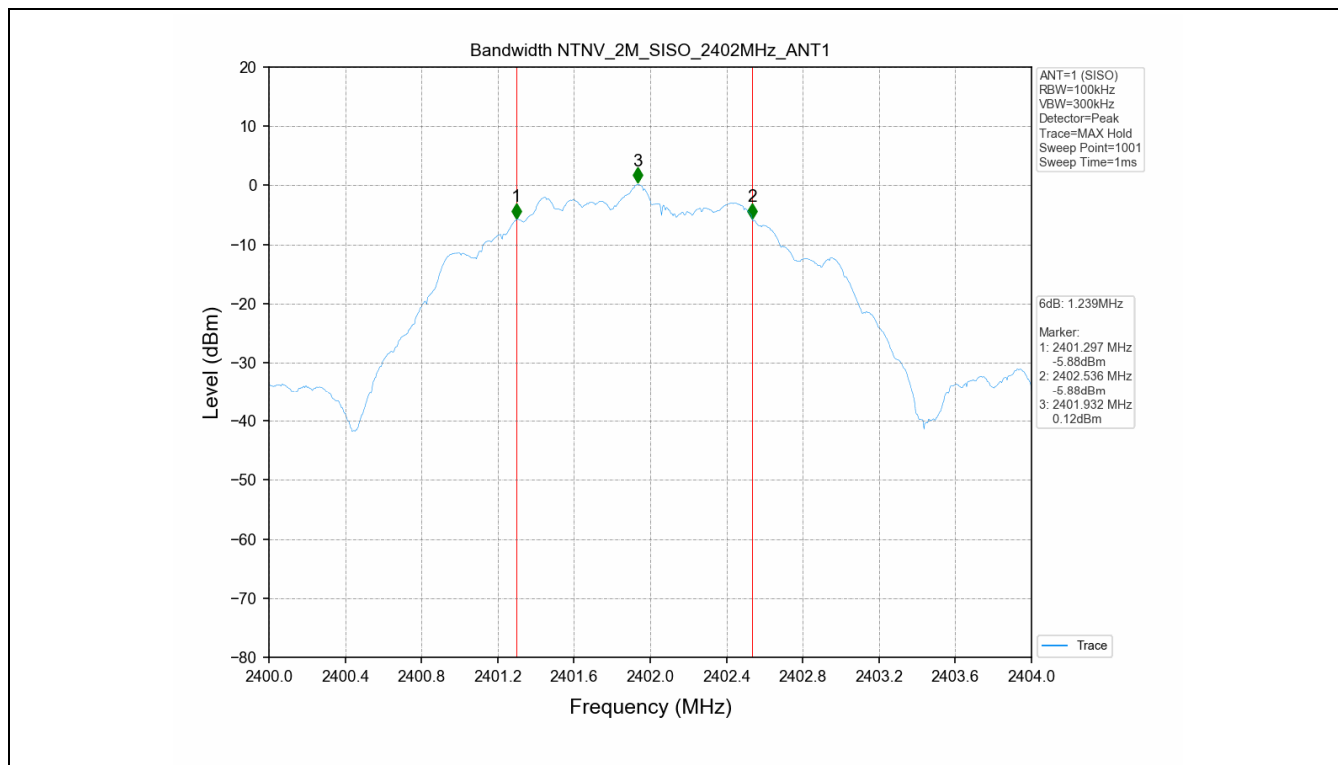
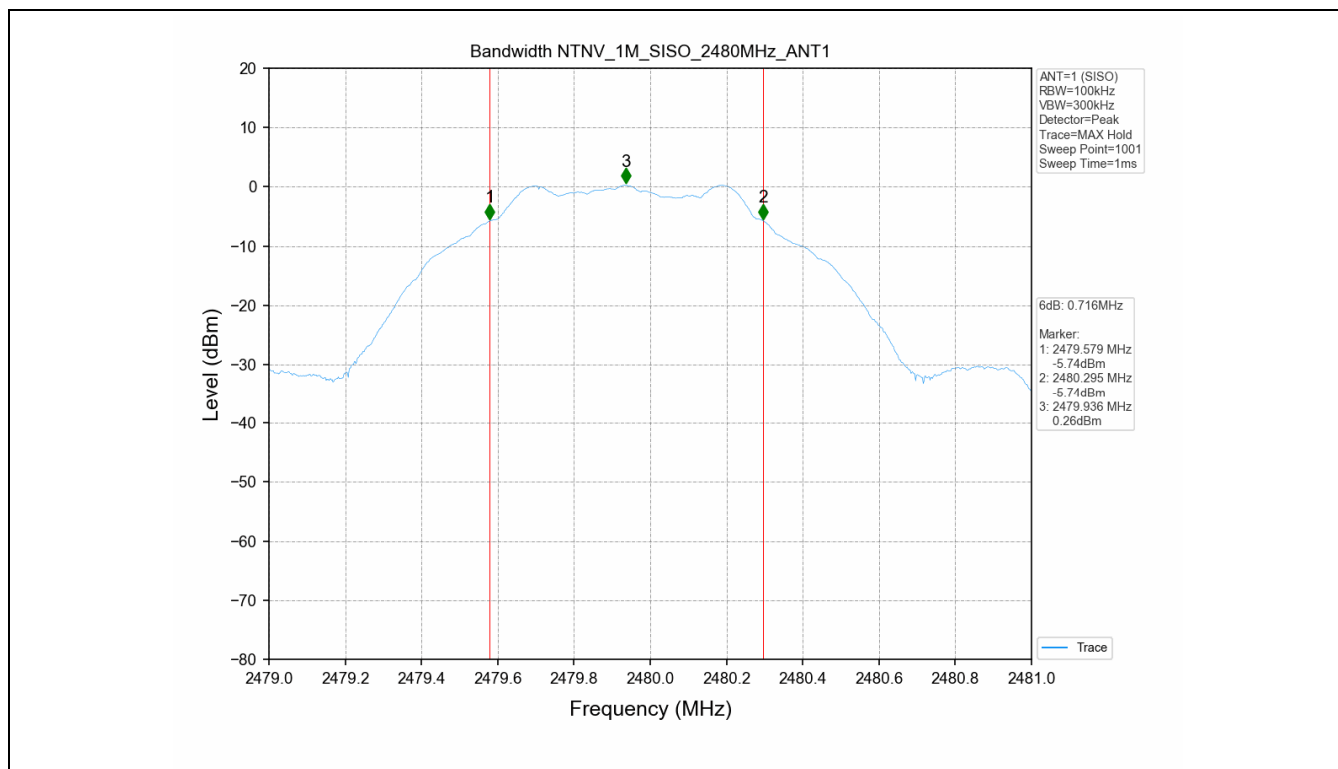
2.2 Test Graph - 6dB Bandwidth

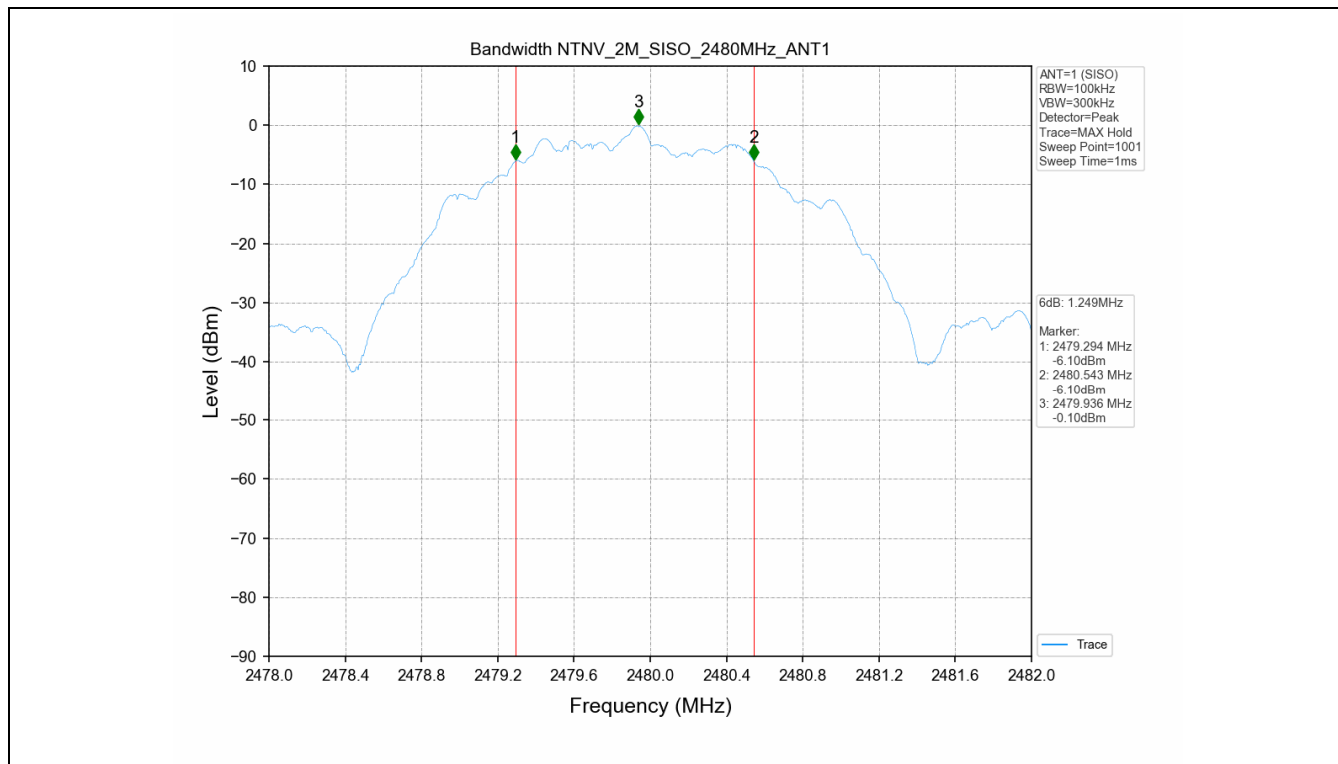
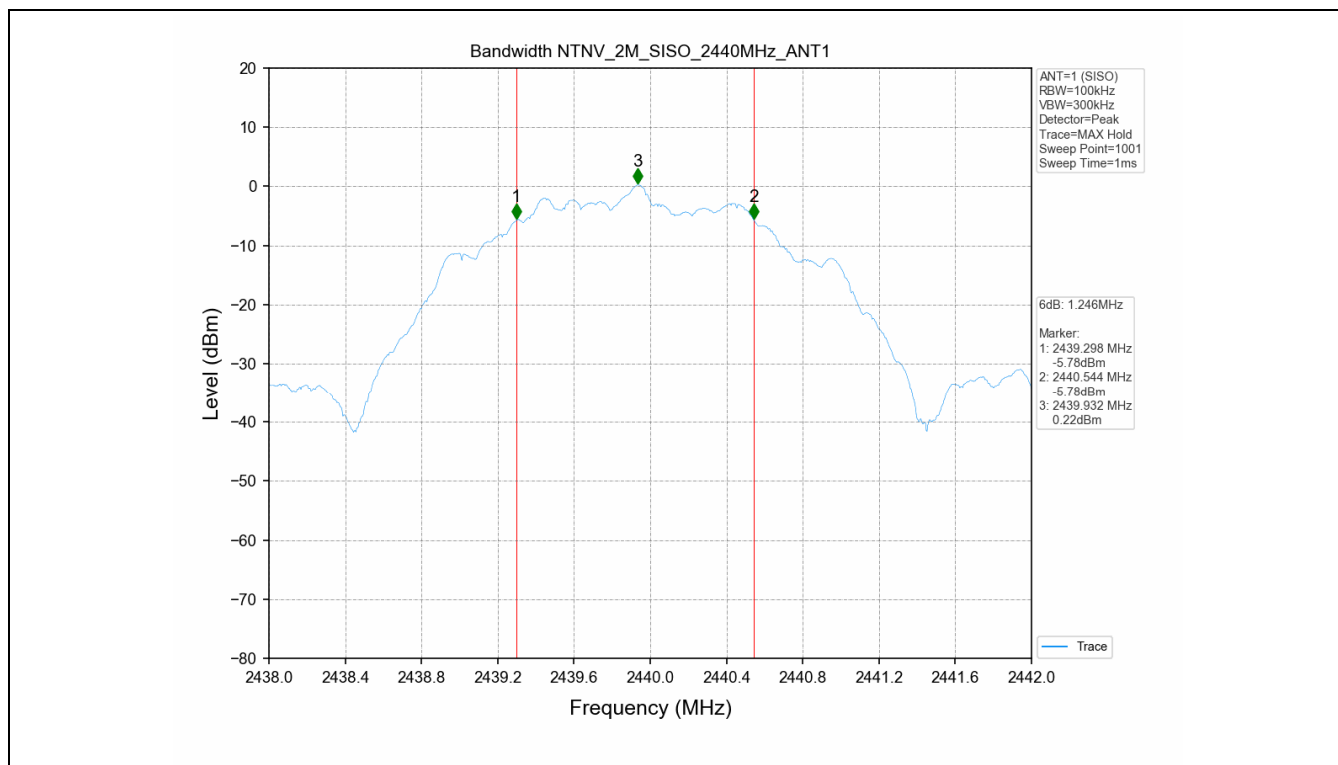


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

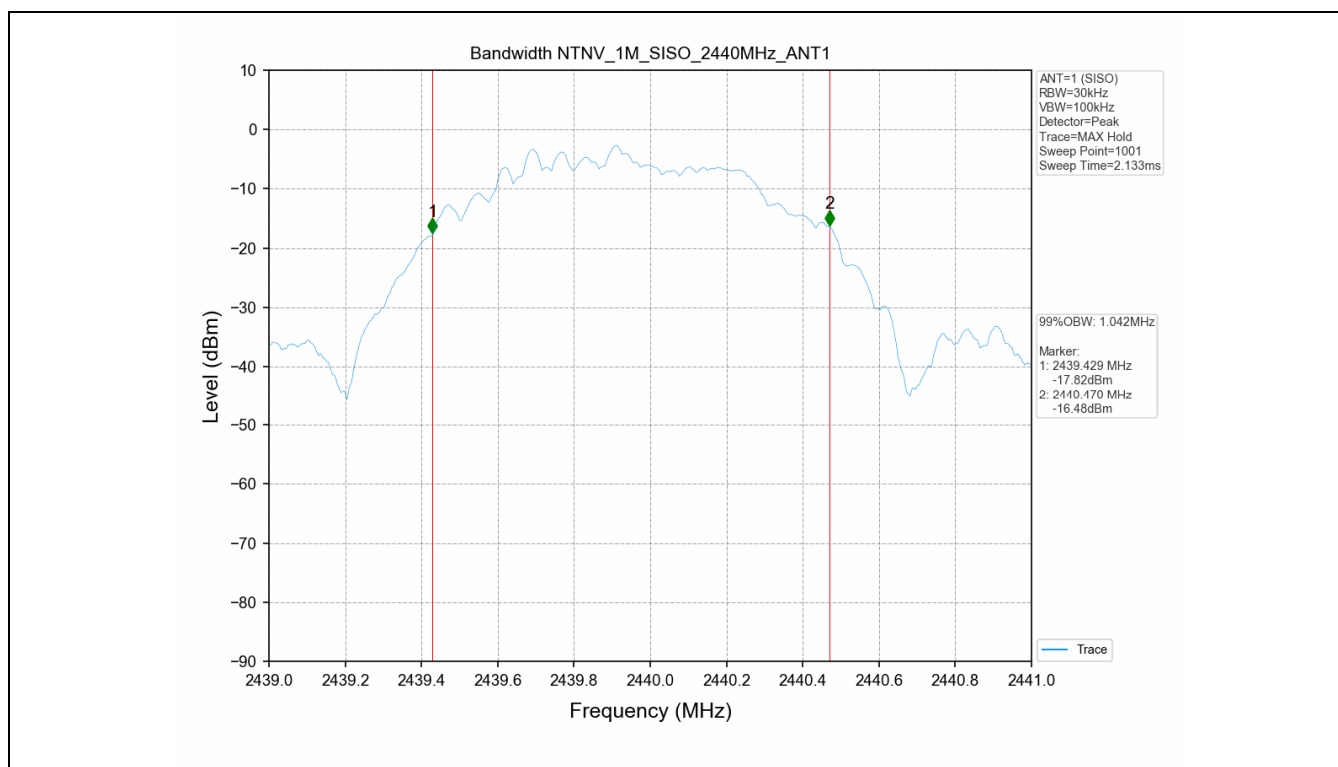
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

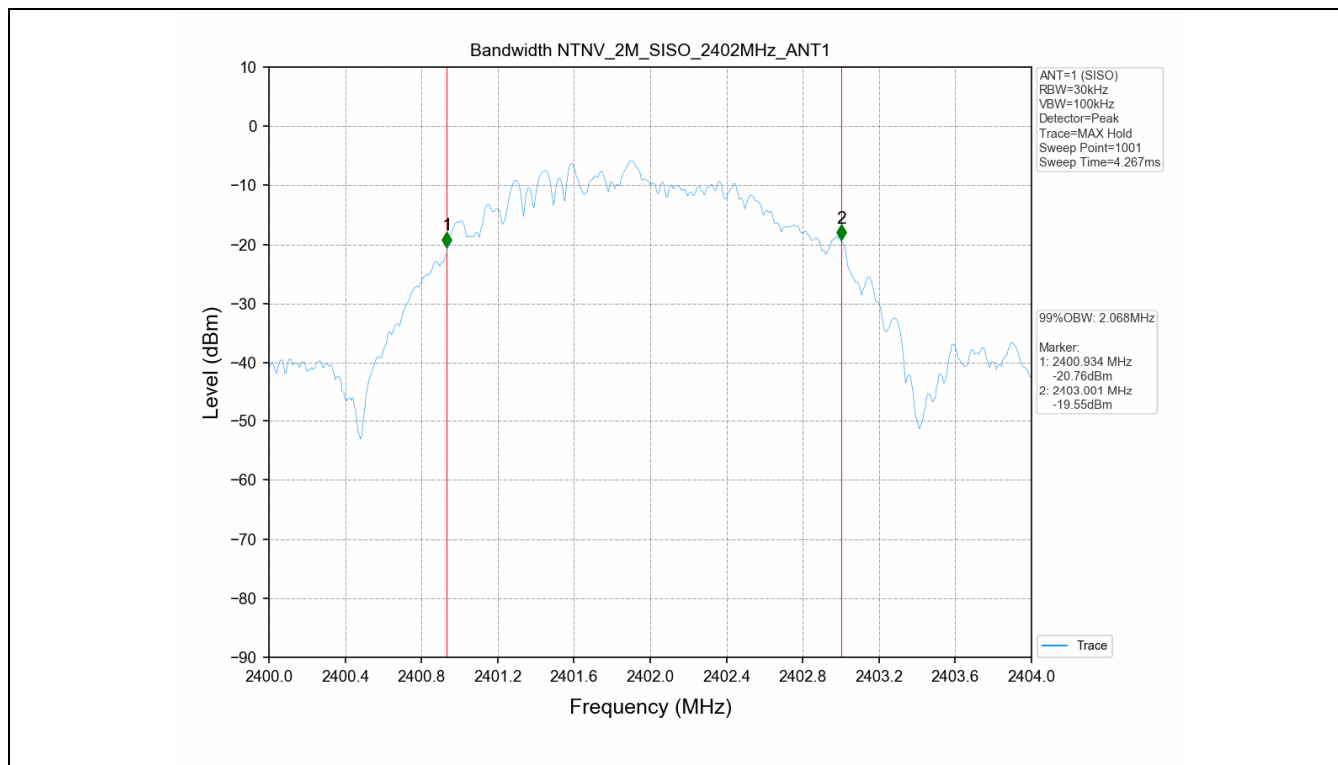
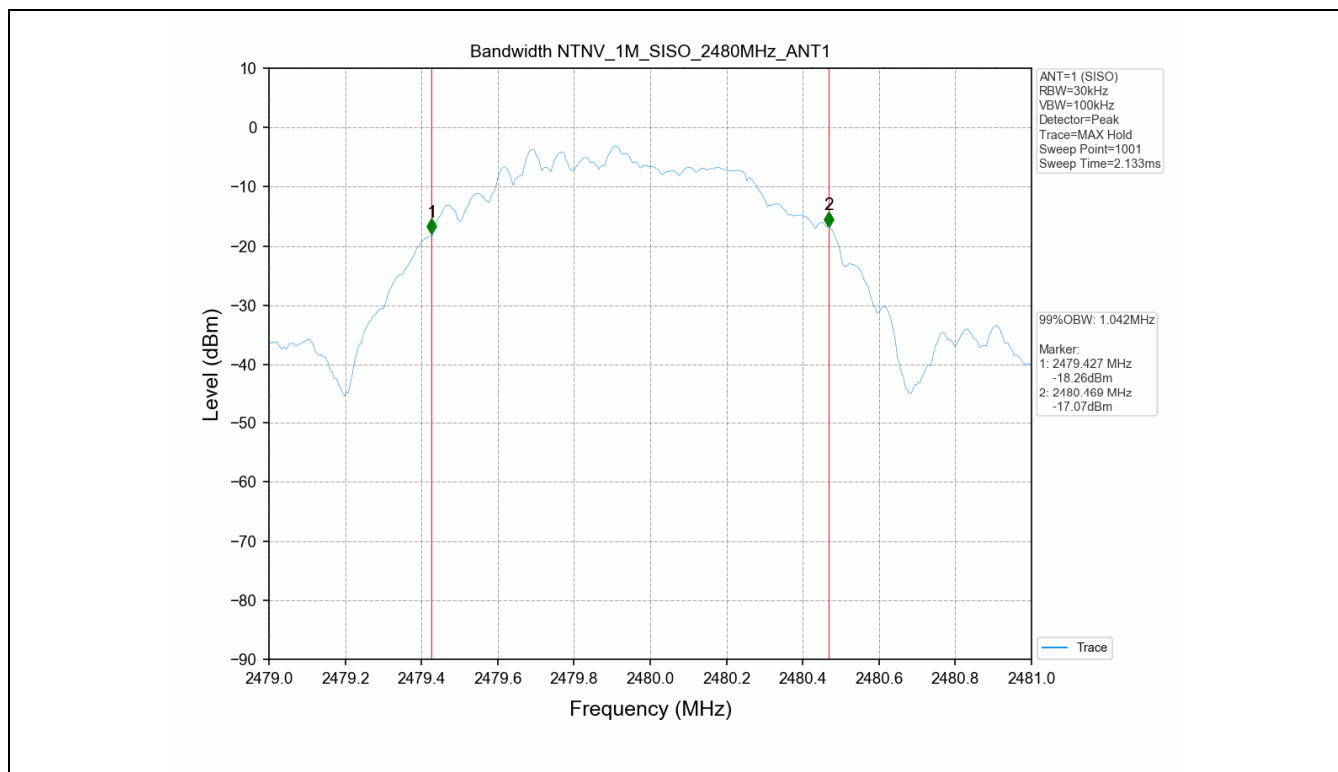
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

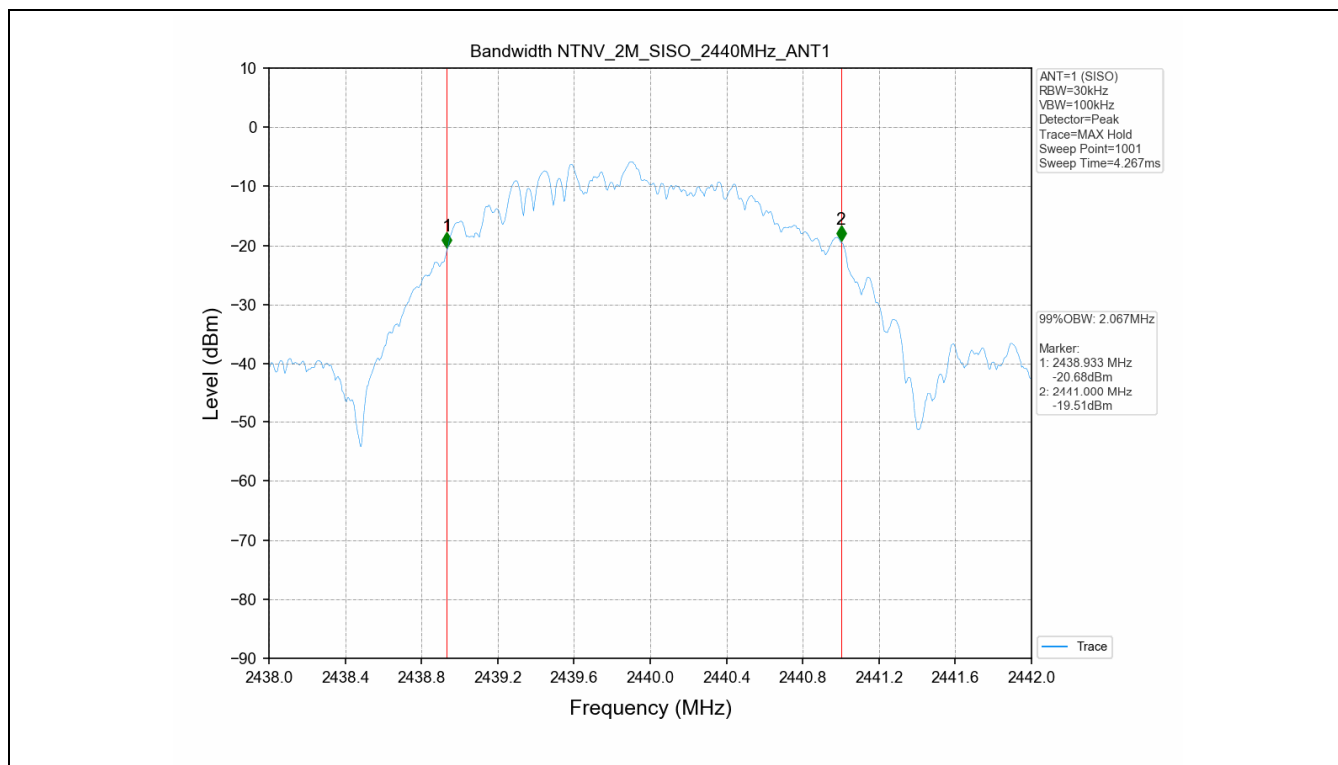




2.3 Test Graph - 99% Occupied Bandwidth







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.
Shenzhen Branch

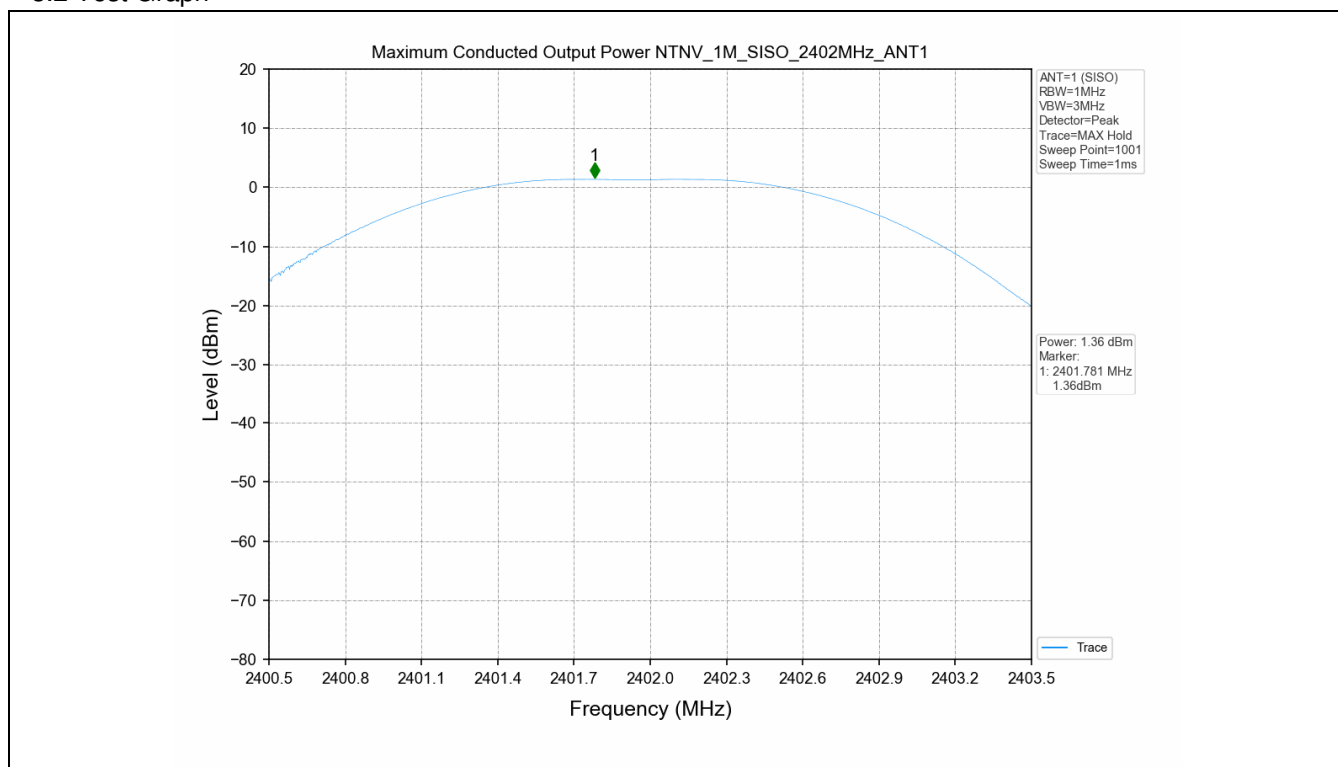
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

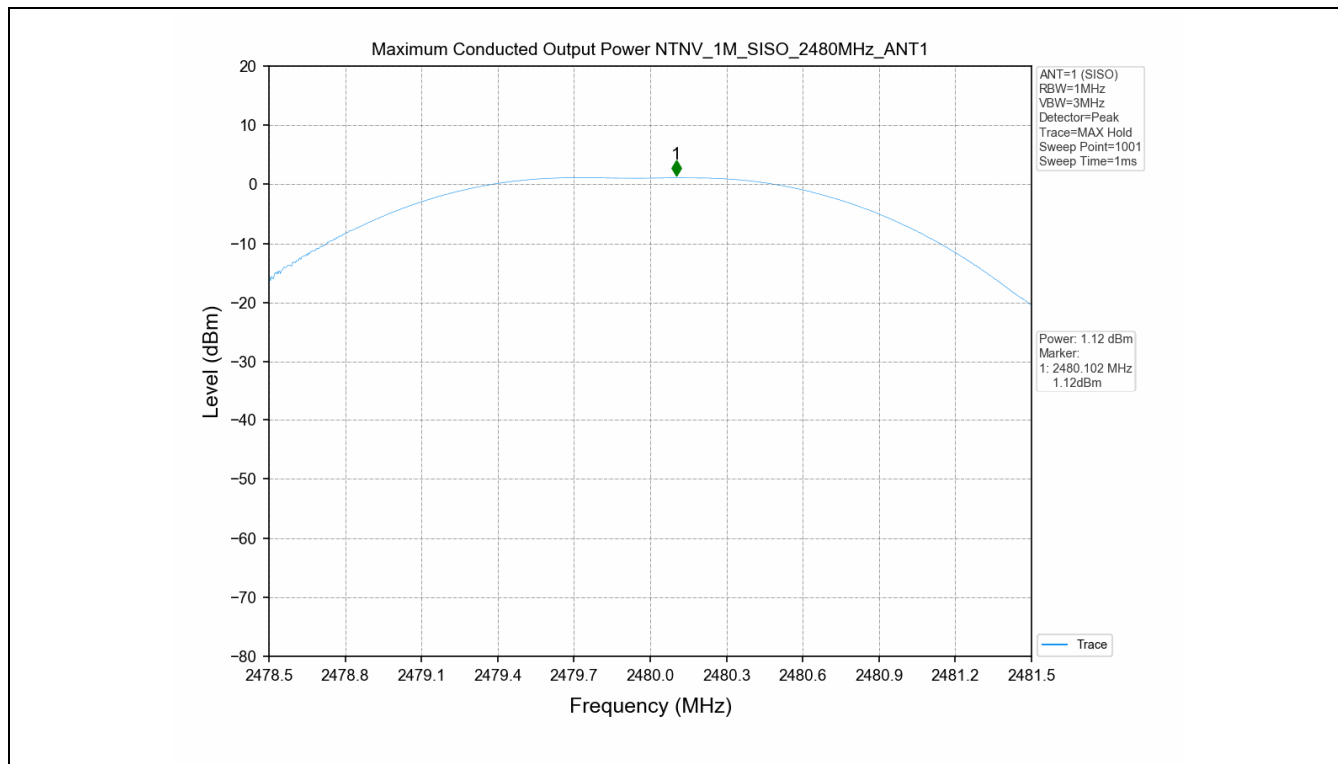
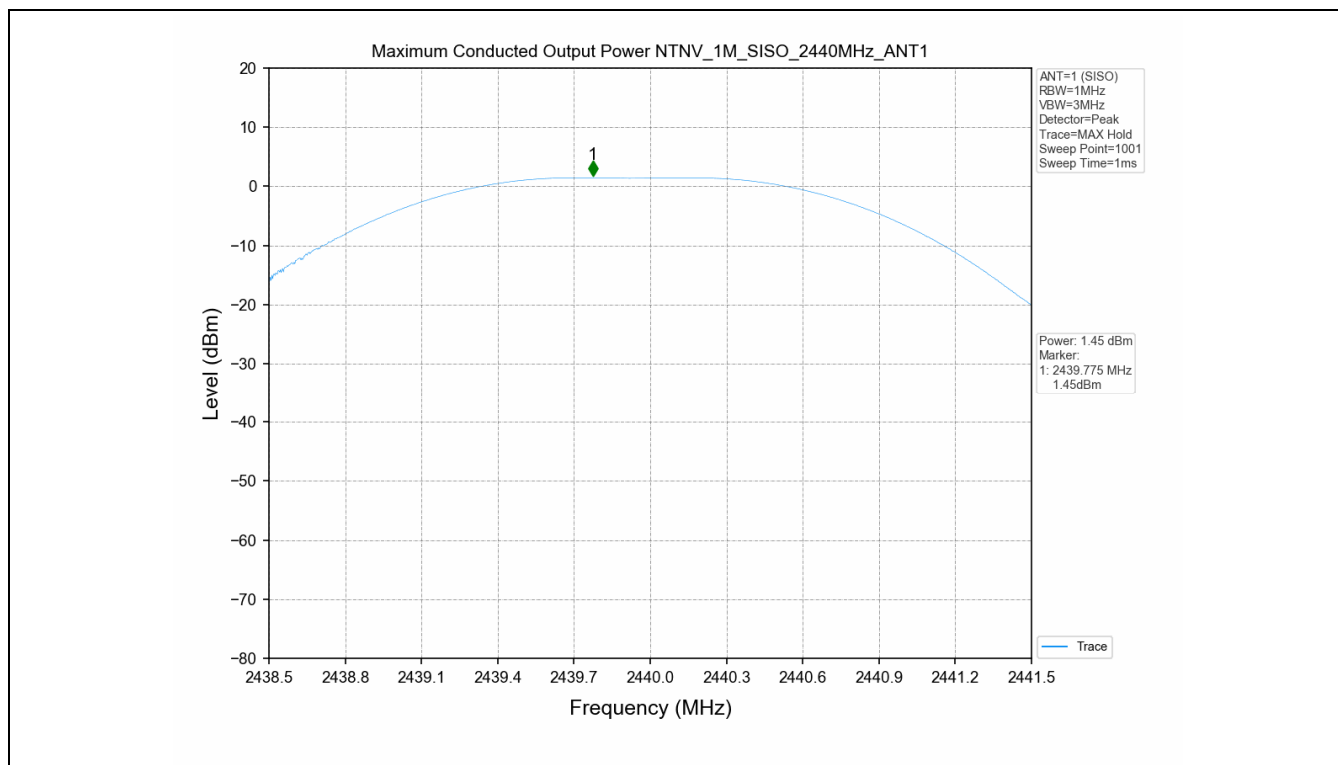
3. Maximum Conducted Output Power

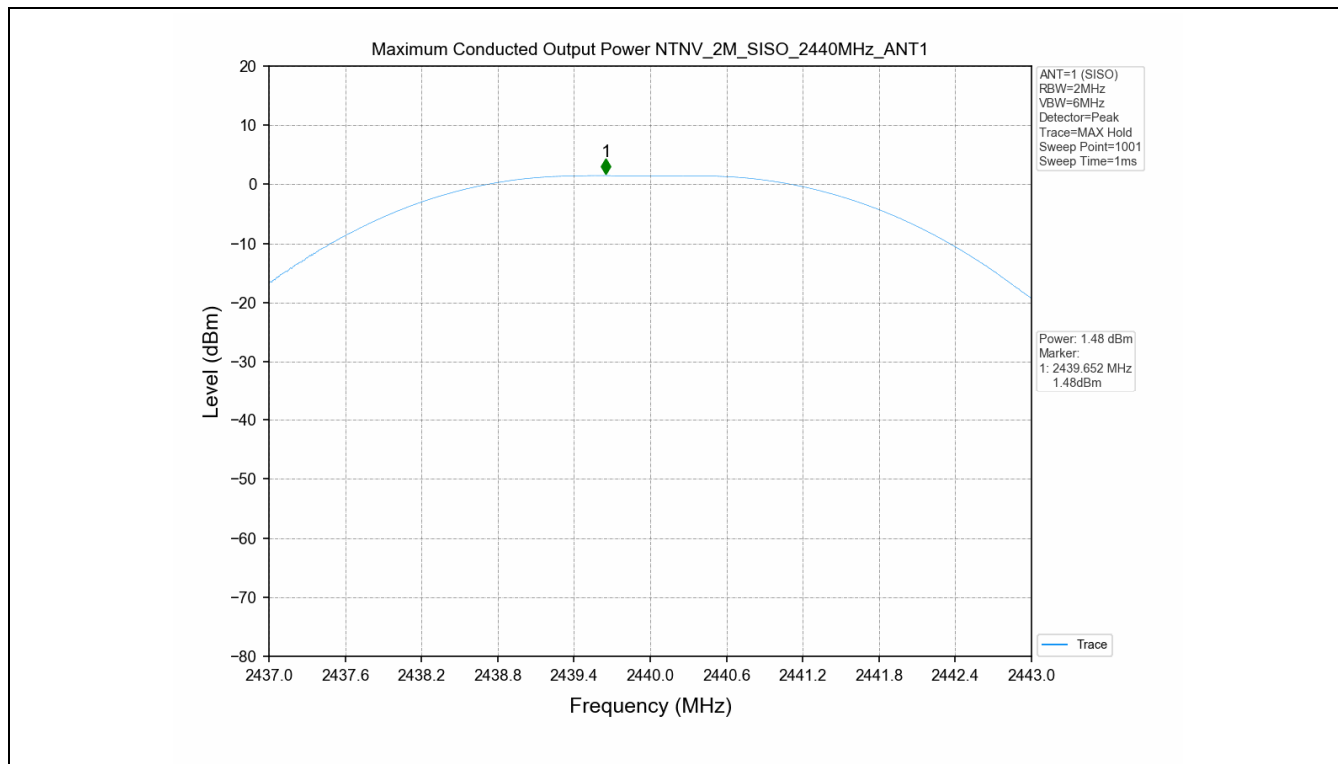
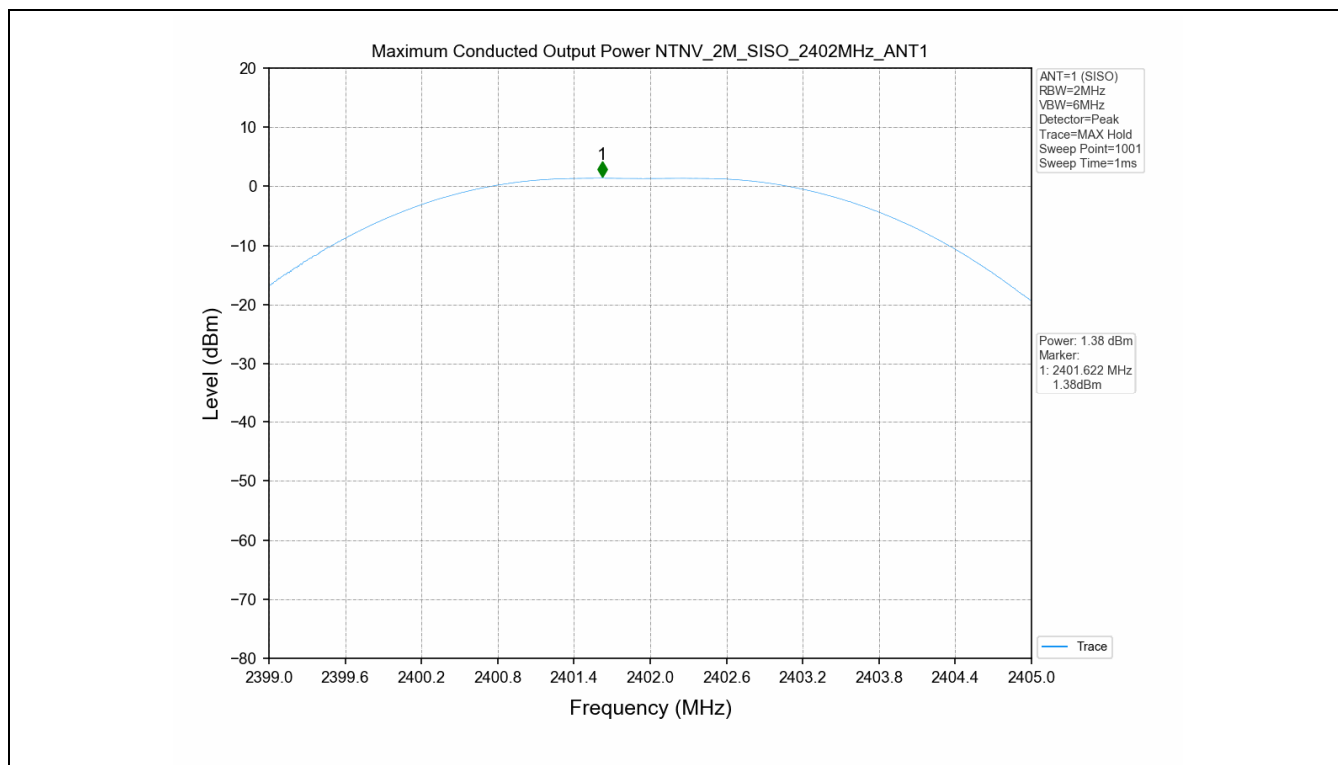
3.1 Test Result

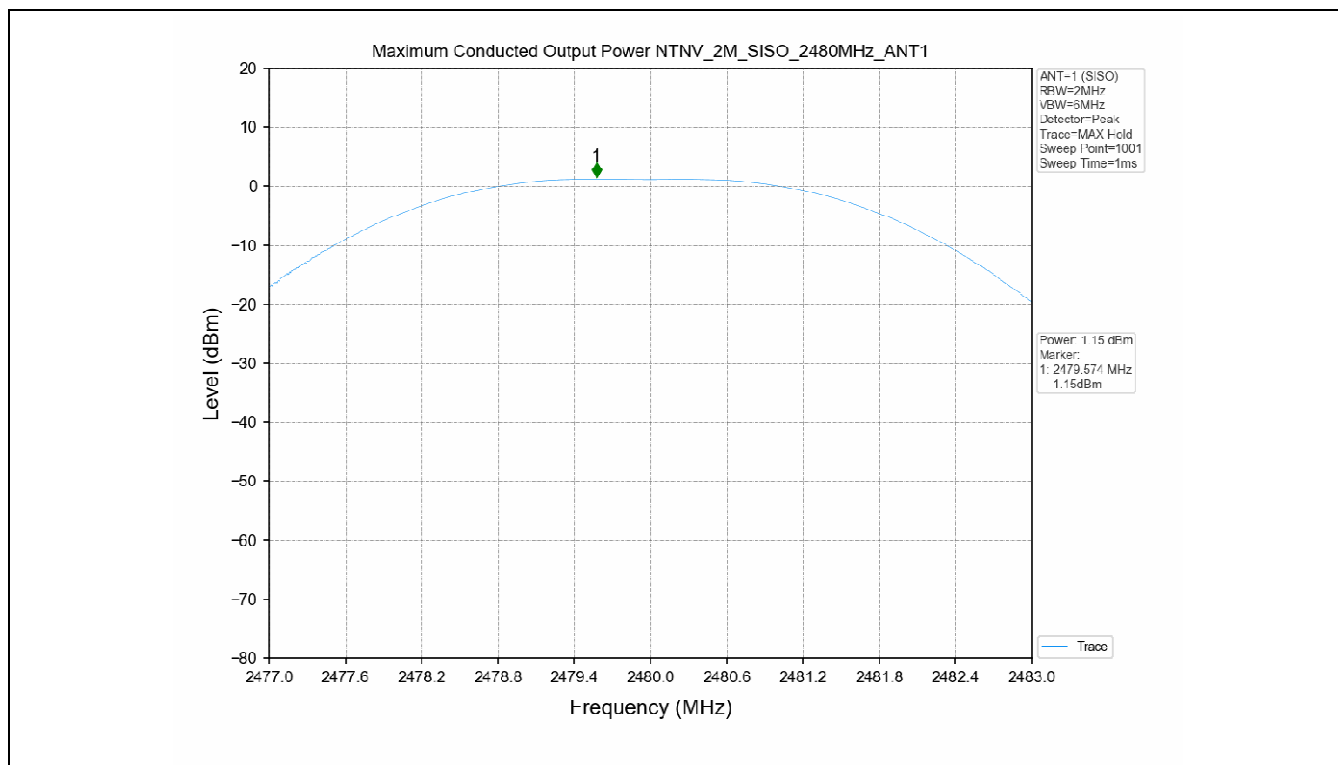
Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
1M	2402	SISO	1.36	30	PASS
	2440	SISO	1.45	30	PASS
	2480	SISO	1.12	30	PASS
2M	2402	SISO	1.38	30	PASS
	2440	SISO	1.48	30	PASS
	2480	SISO	1.15	30	PASS

3.2 Test Graph







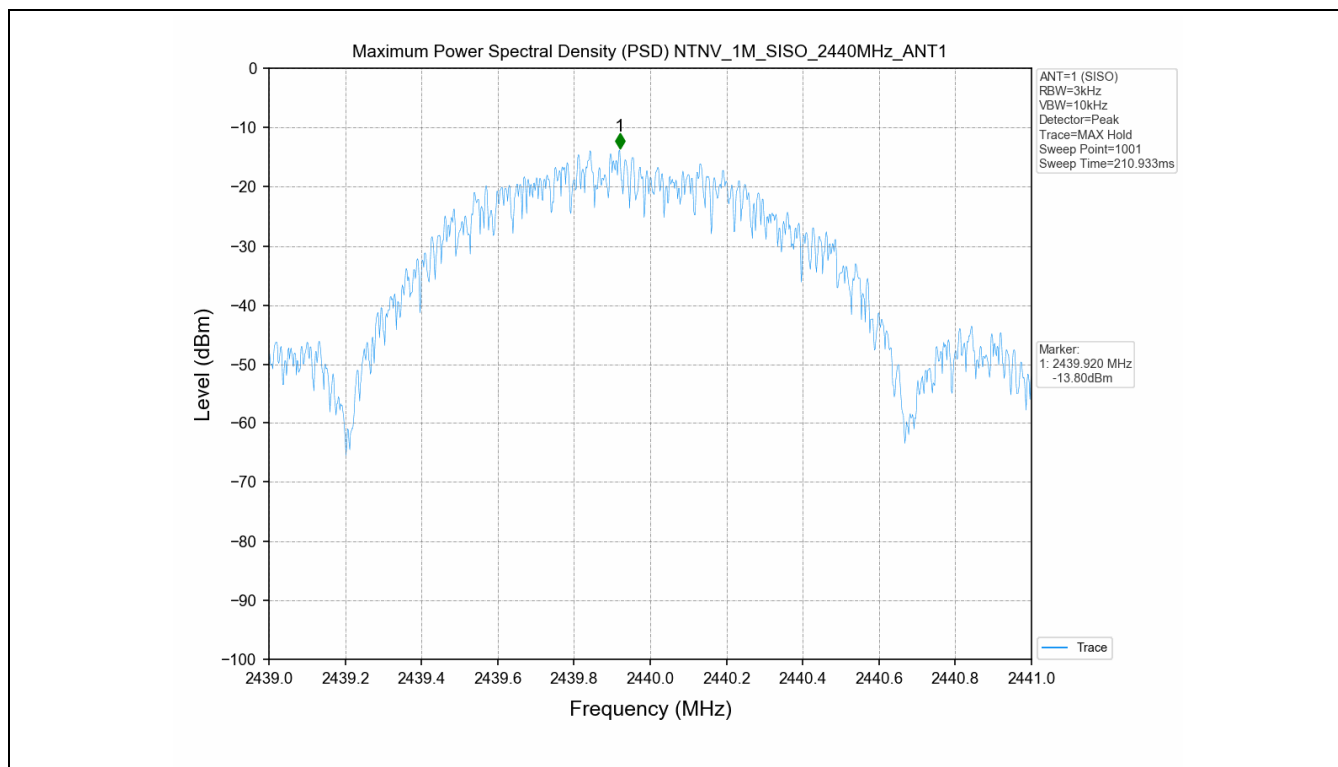
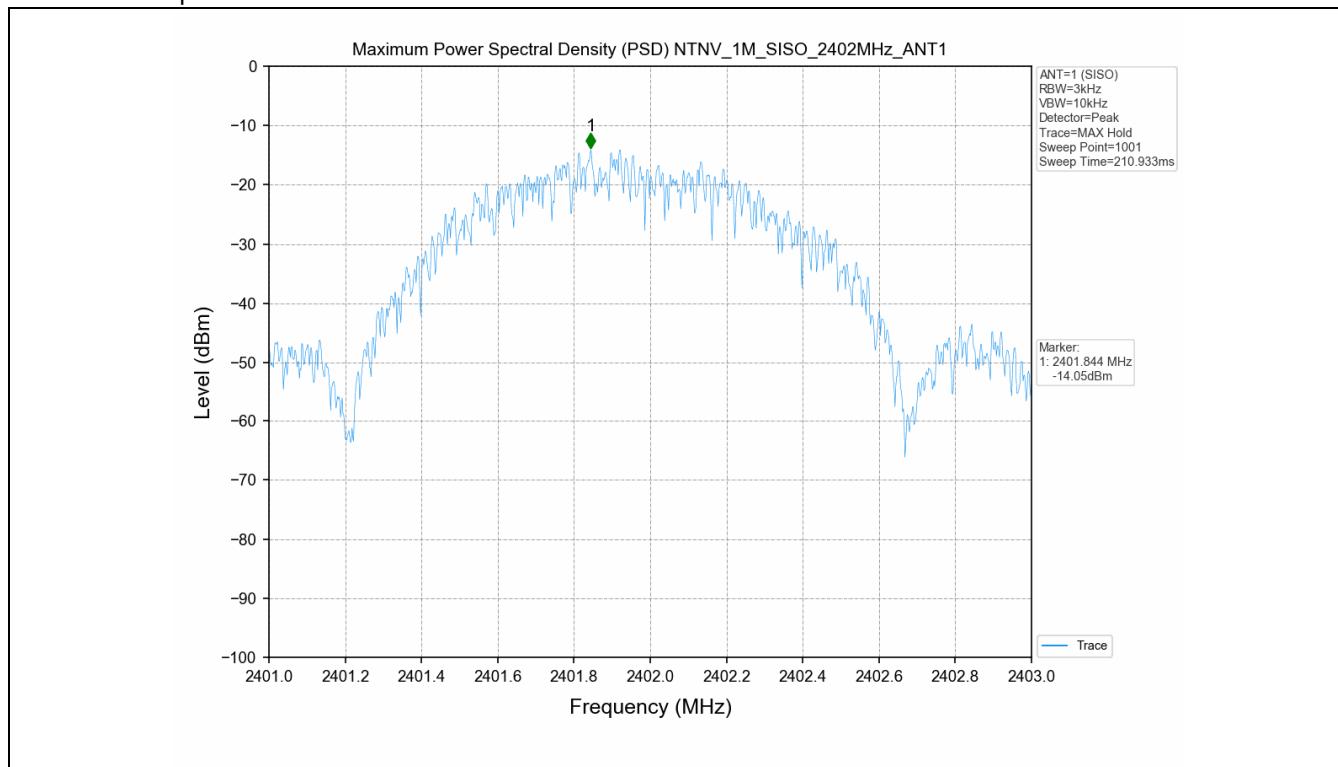


4. Maximum Power Spectral Density (PSD)

4.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/3KHz)	Limits (dBm/3kHz)	Verdict
			Ant 1		
1M	2402	SISO	-14.05	≤8	PASS
	2440	SISO	-13.80	≤8	PASS
	2480	SISO	-14.18	≤8	PASS
2M	2402	SISO	-16.15	≤8	PASS
	2440	SISO	-16.07	≤8	PASS
	2480	SISO	-16.55	≤8	PASS

4.2 Test Graph

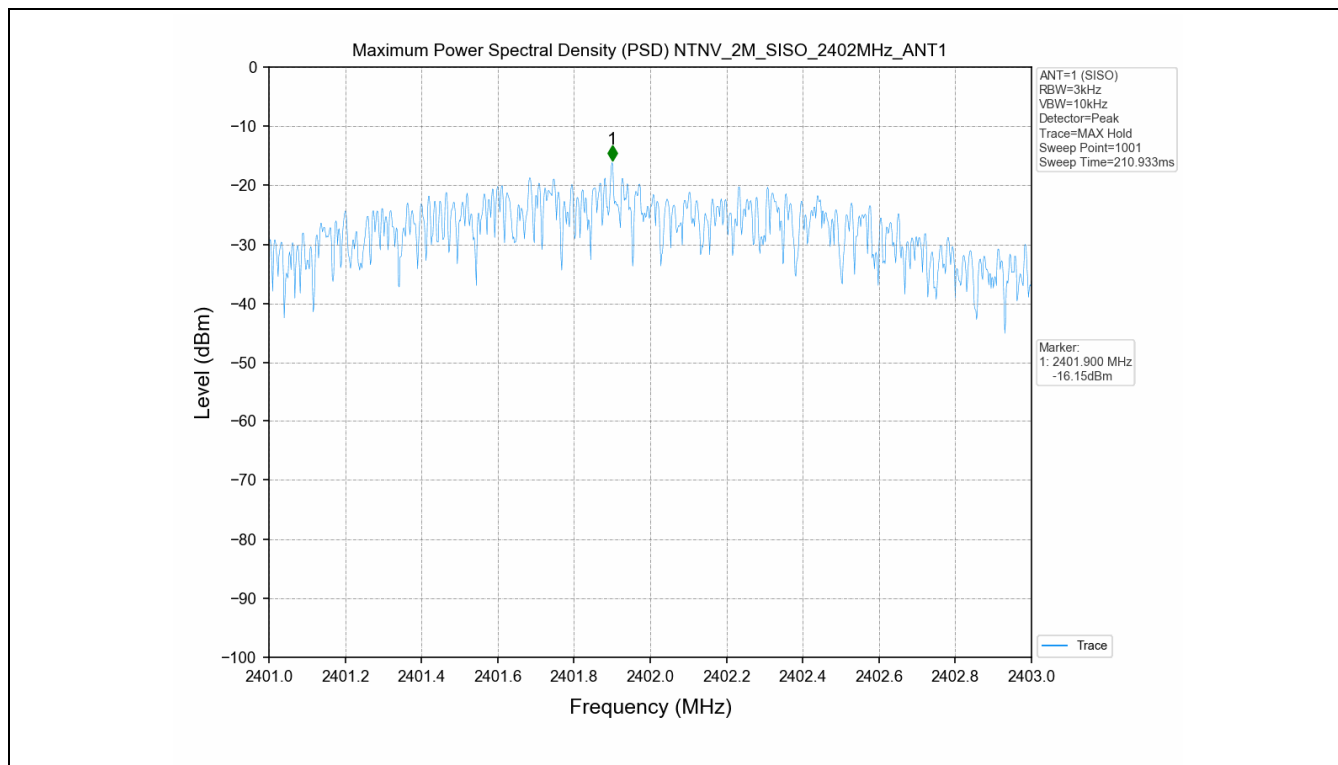
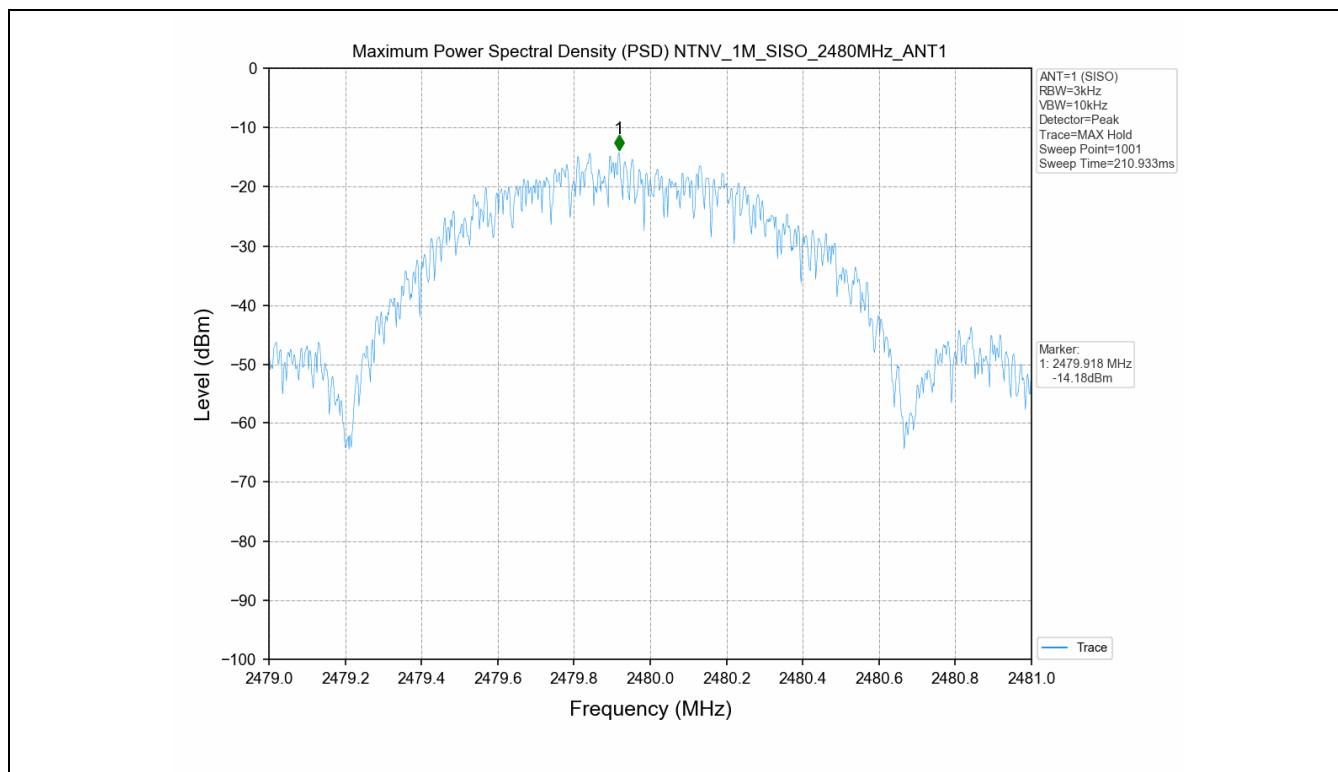


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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

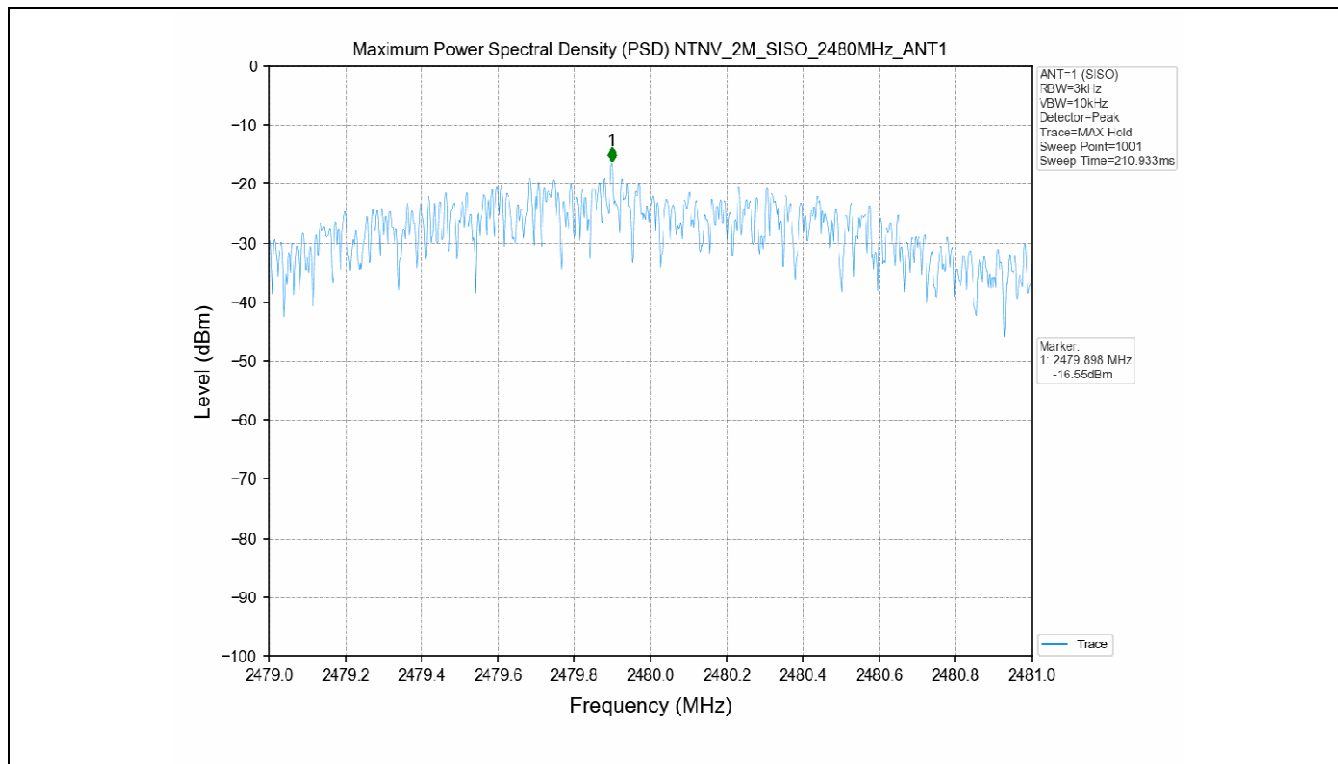
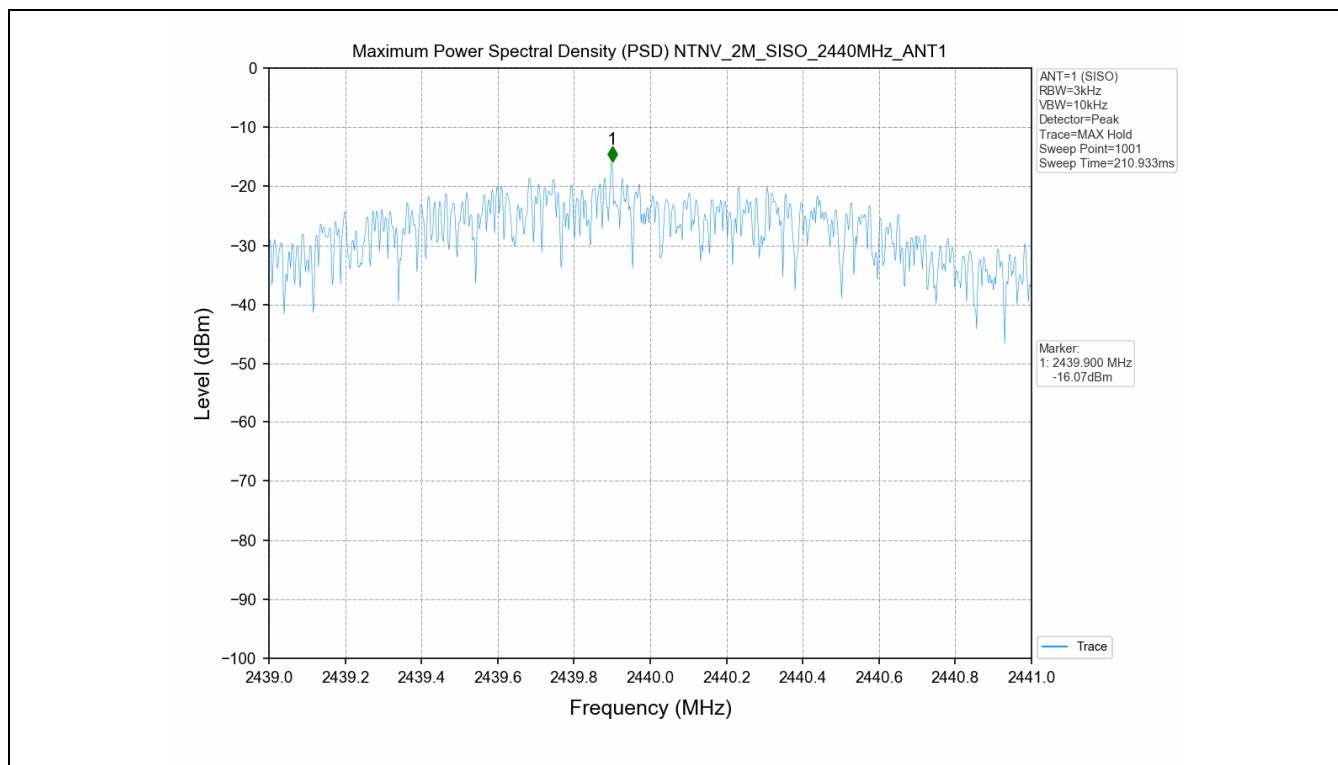


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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

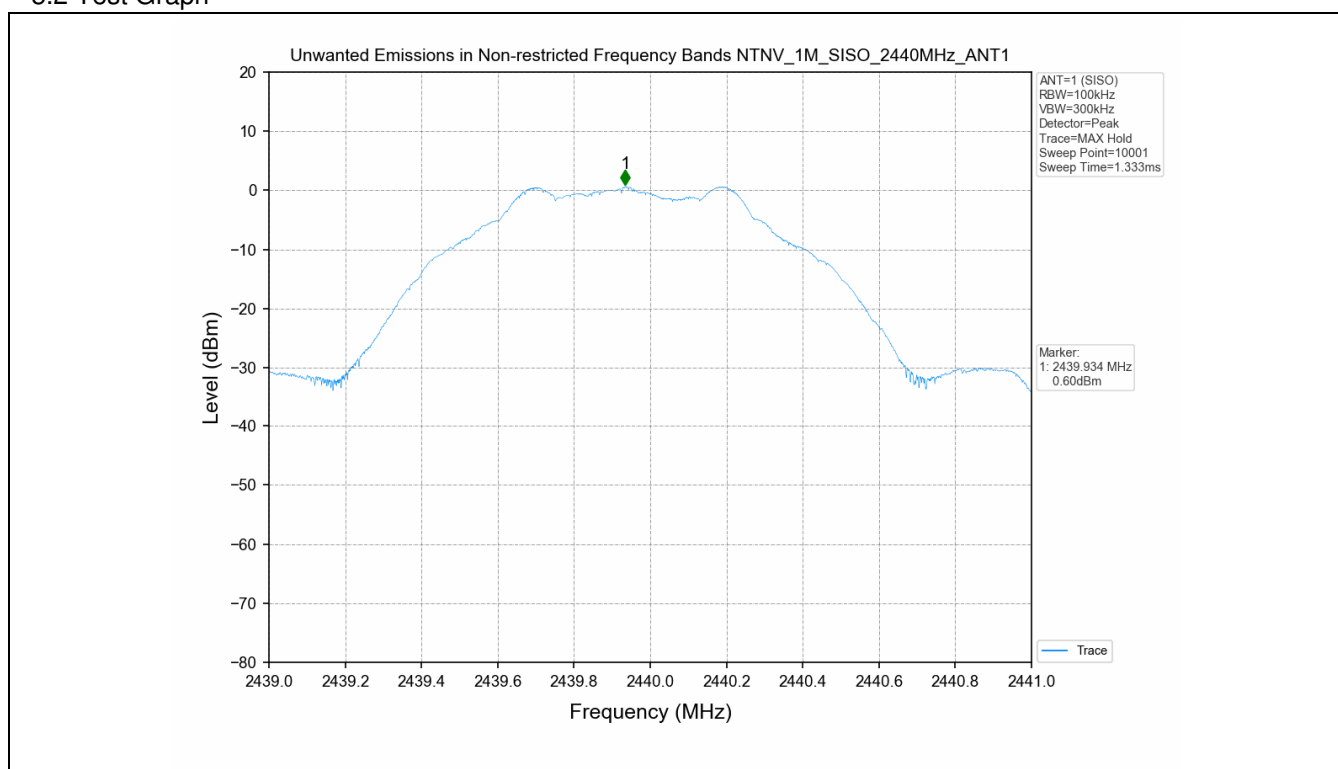


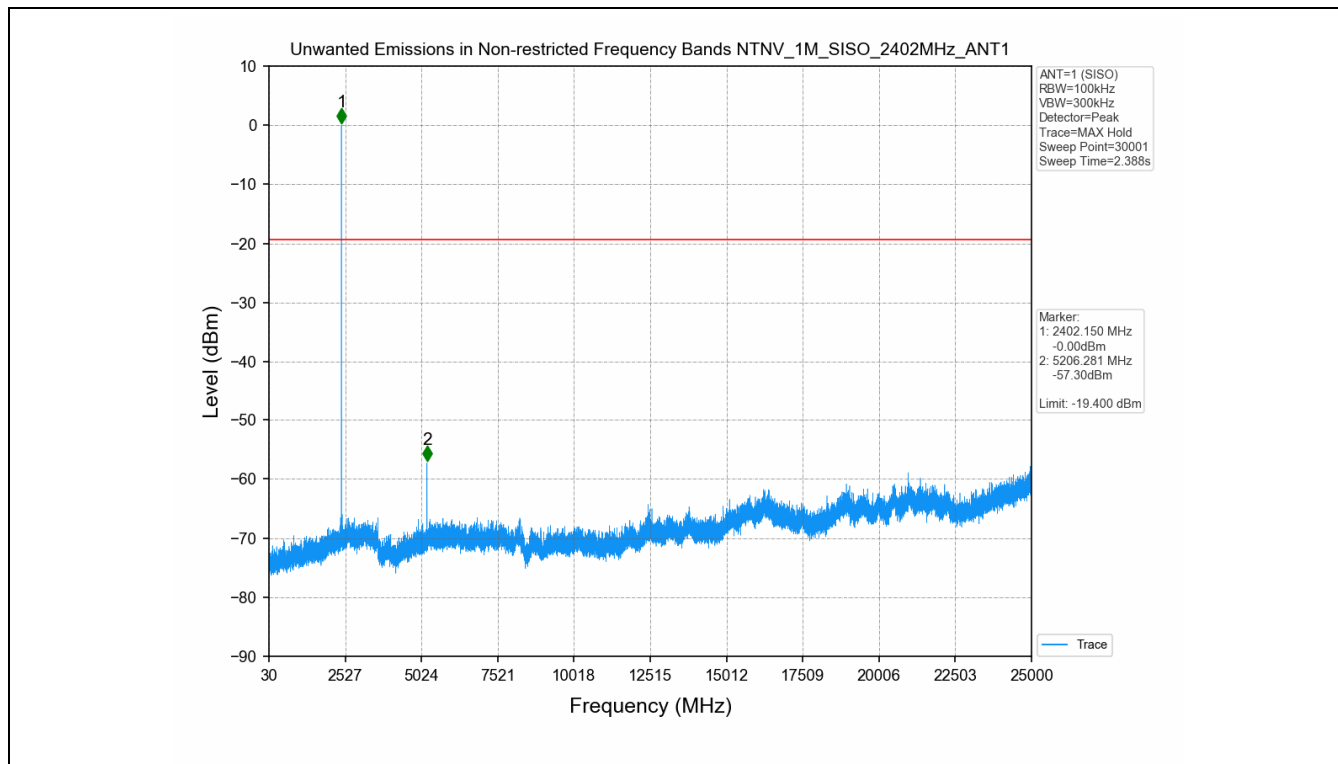
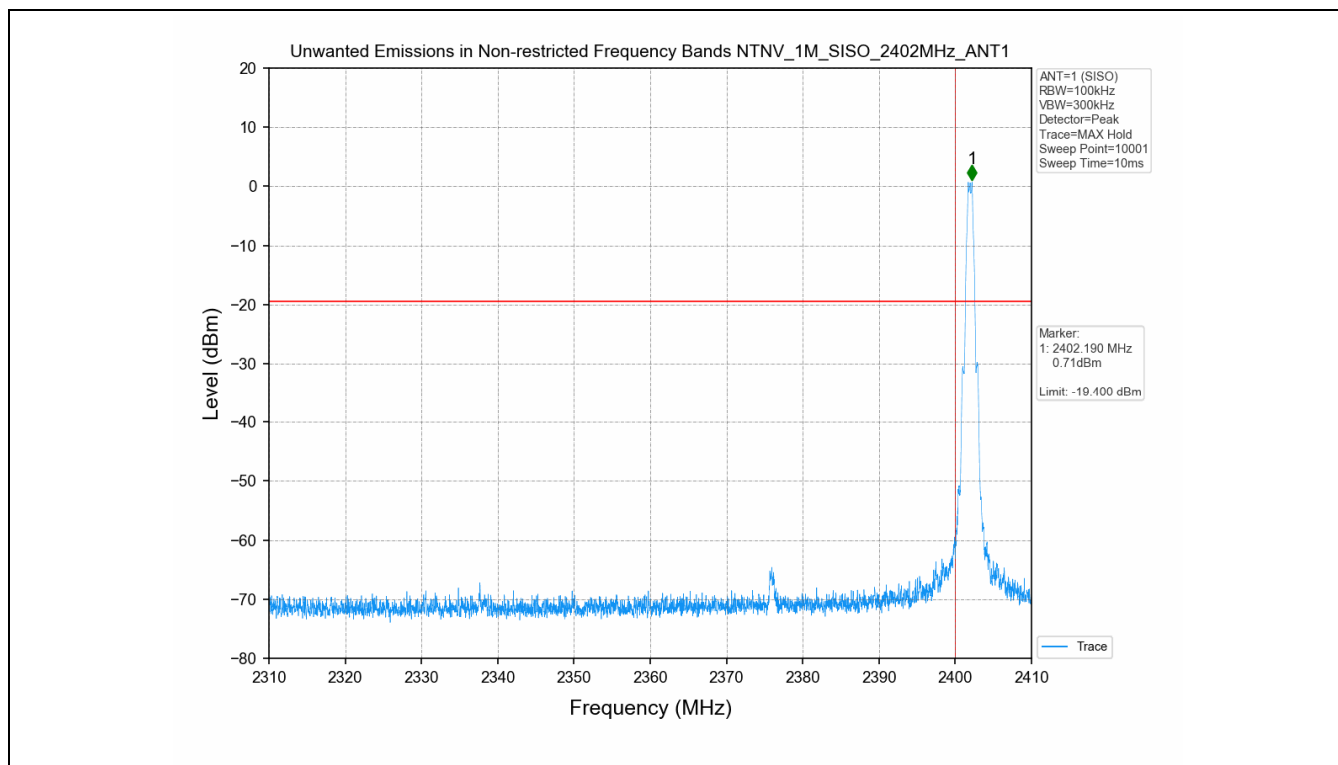
5. Unwanted Emissions in Non-restricted Frequency Bands

5.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
1M	2402	SISO	1	Refer to test graph	-19.40	PASS
	2440	SISO	1	Refer to test graph	-19.40	PASS
	2480	SISO	1	Refer to test graph	-19.40	PASS
2M	2402	SISO	1	Refer to test graph	-19.76	PASS
	2440	SISO	1	Refer to test graph	-19.76	PASS
	2480	SISO	1	Refer to test graph	-19.76	PASS

5.2 Test Graph



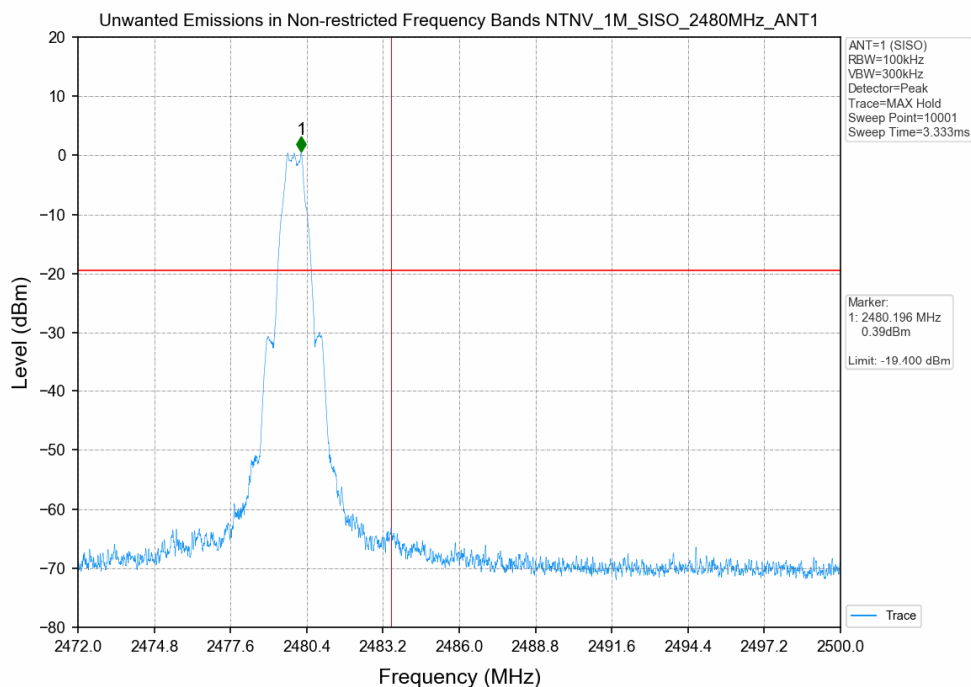
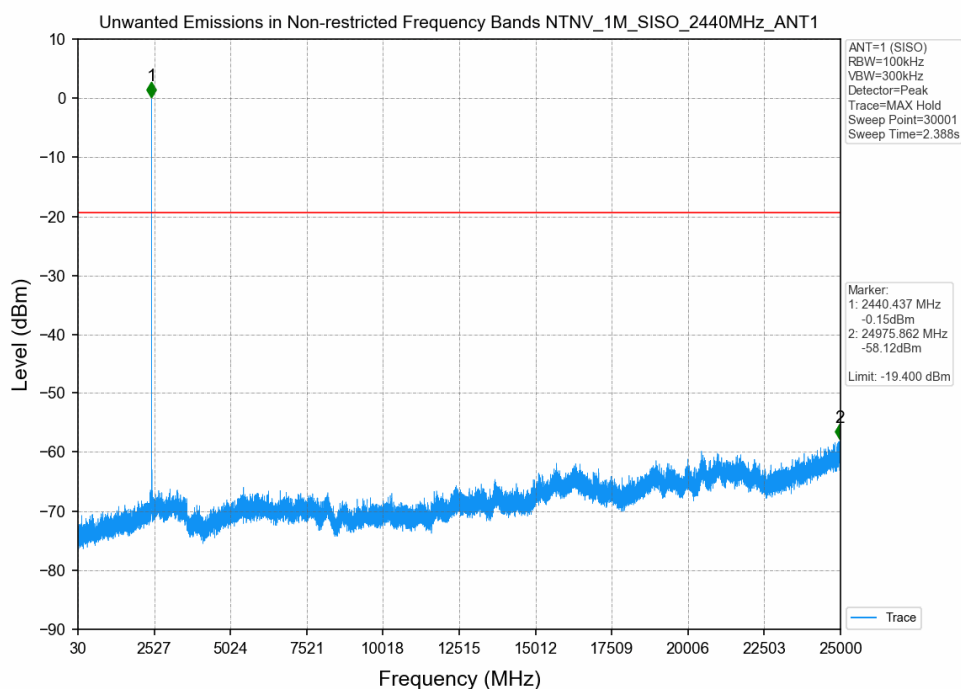


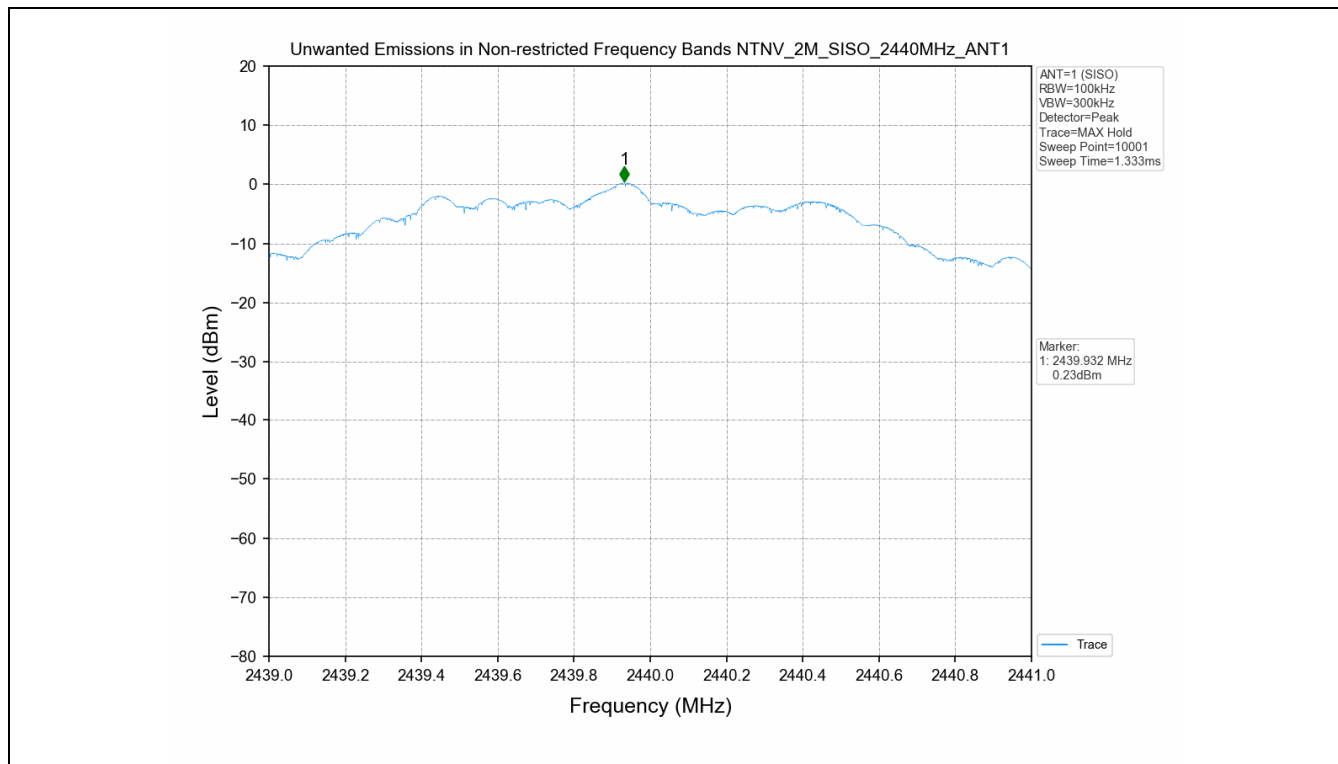
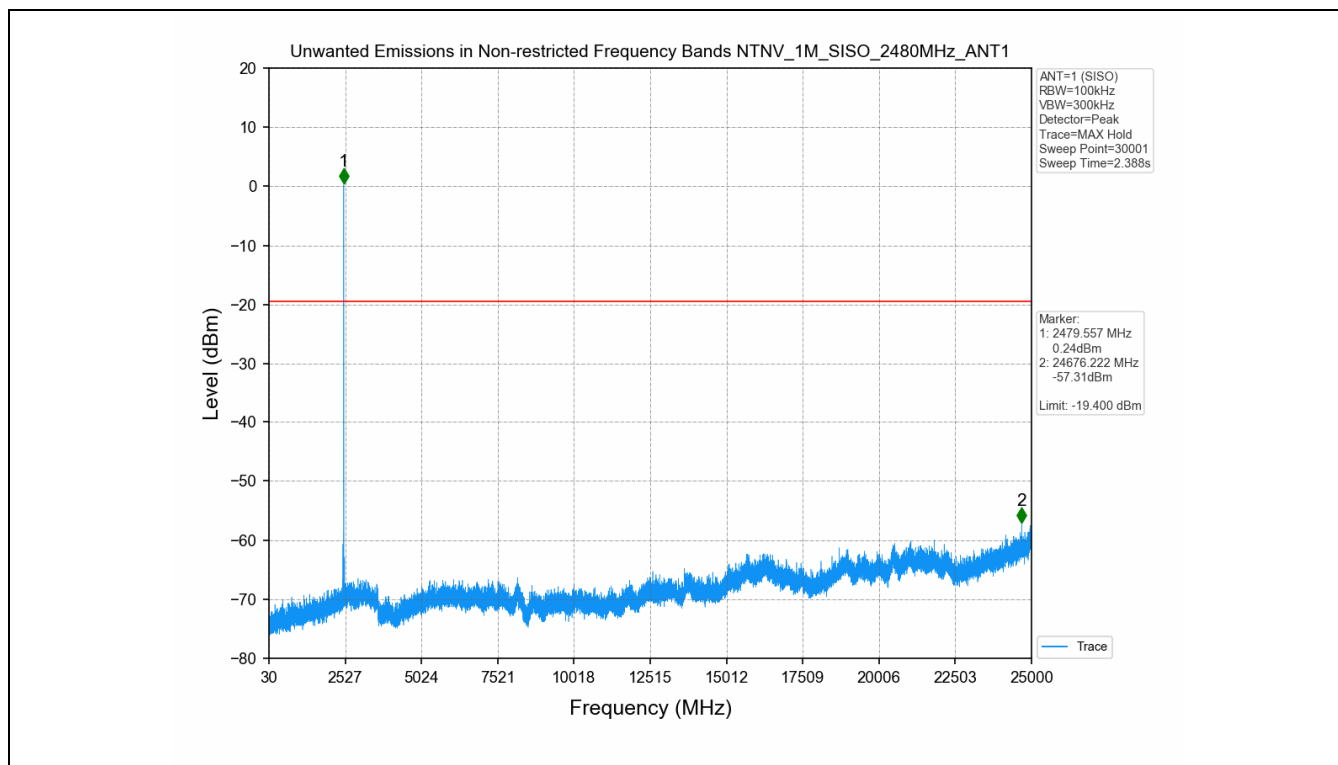
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

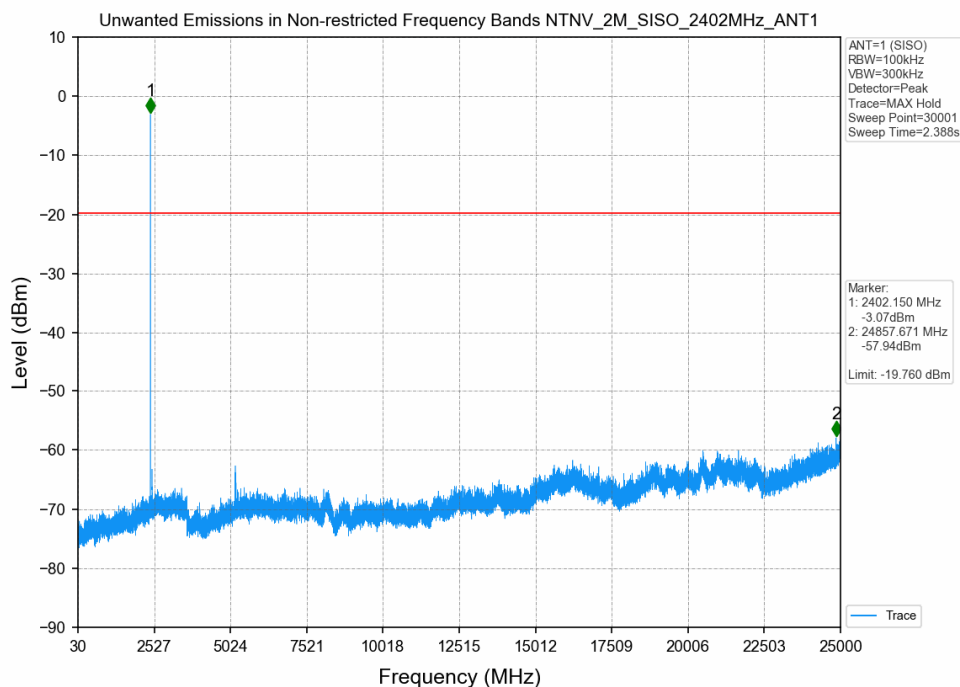
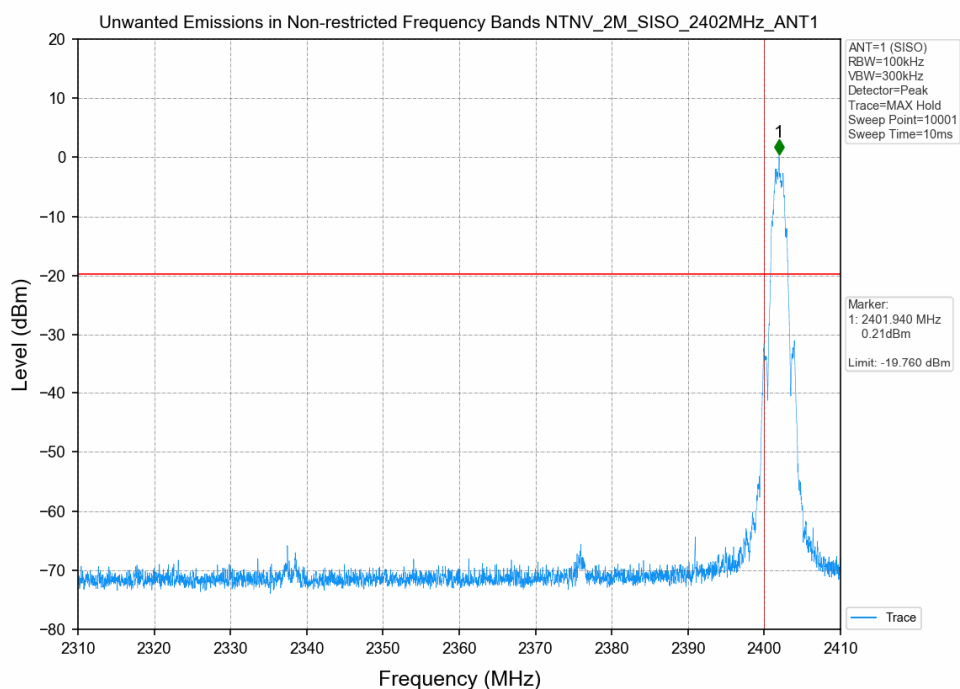
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

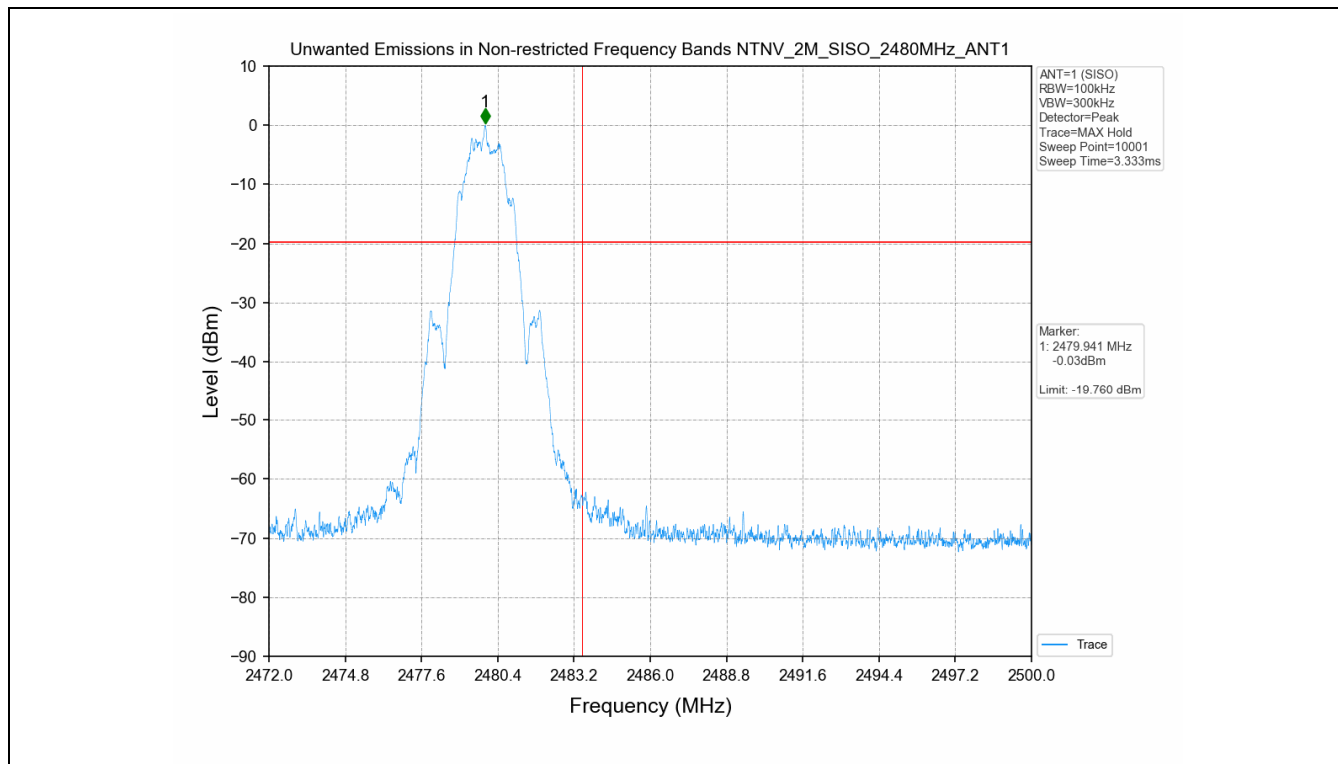
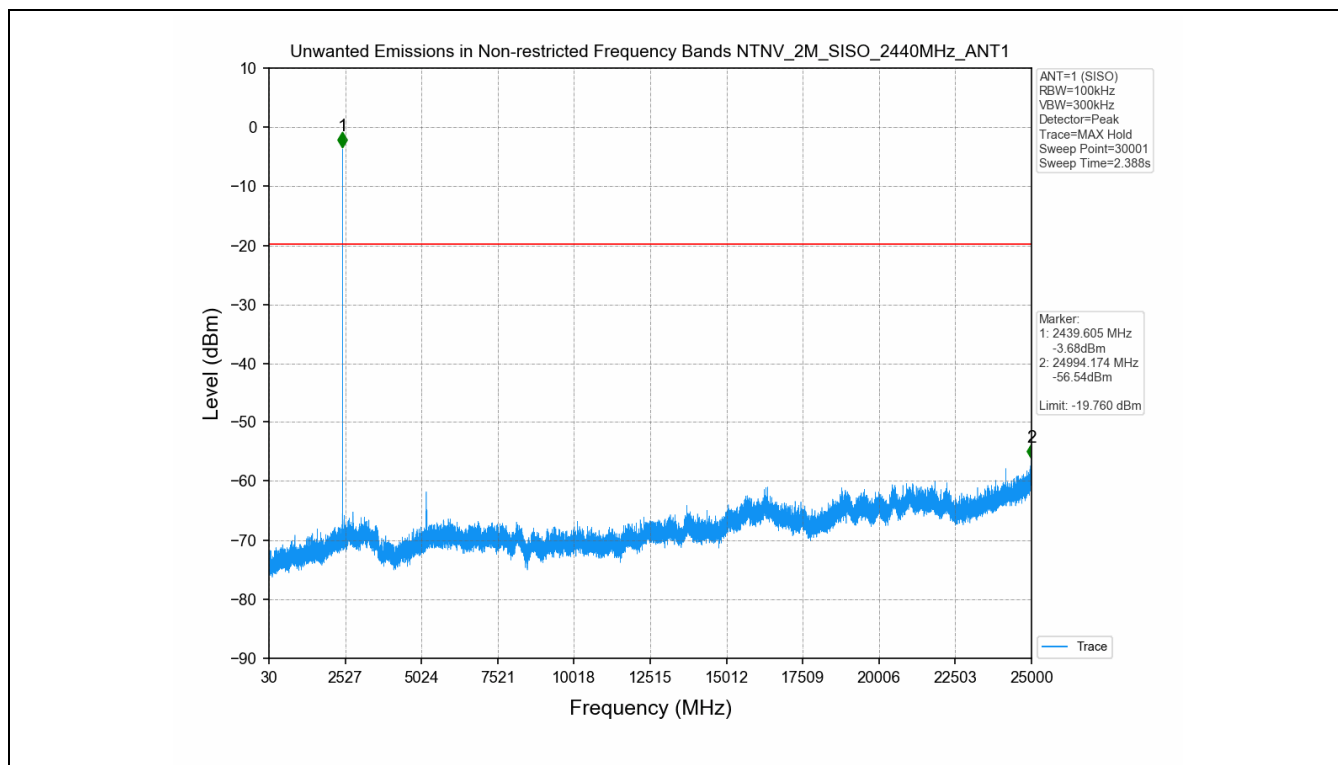
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

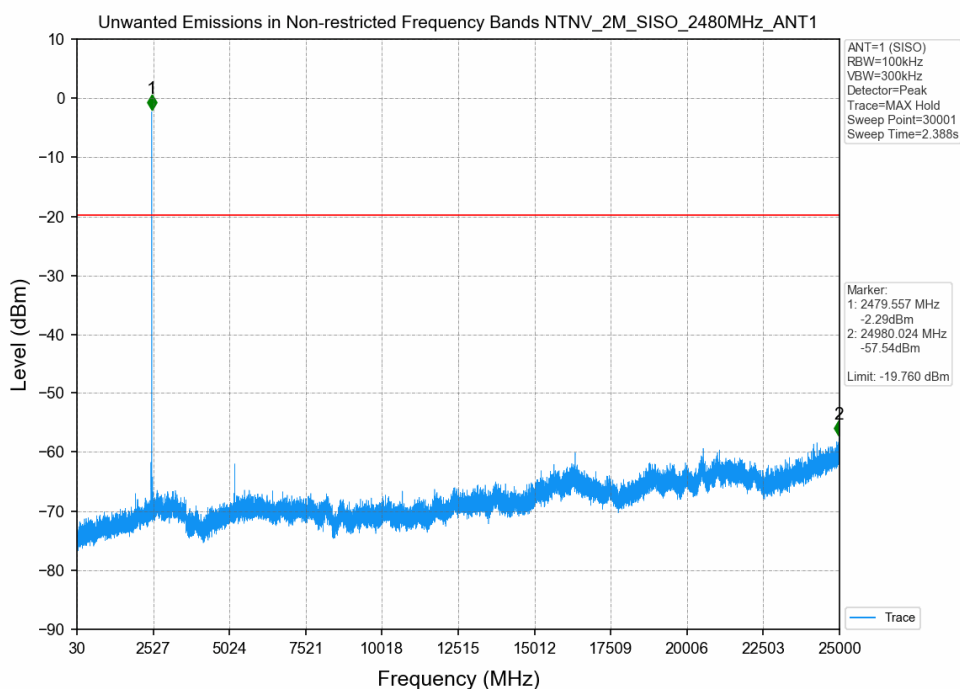
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com











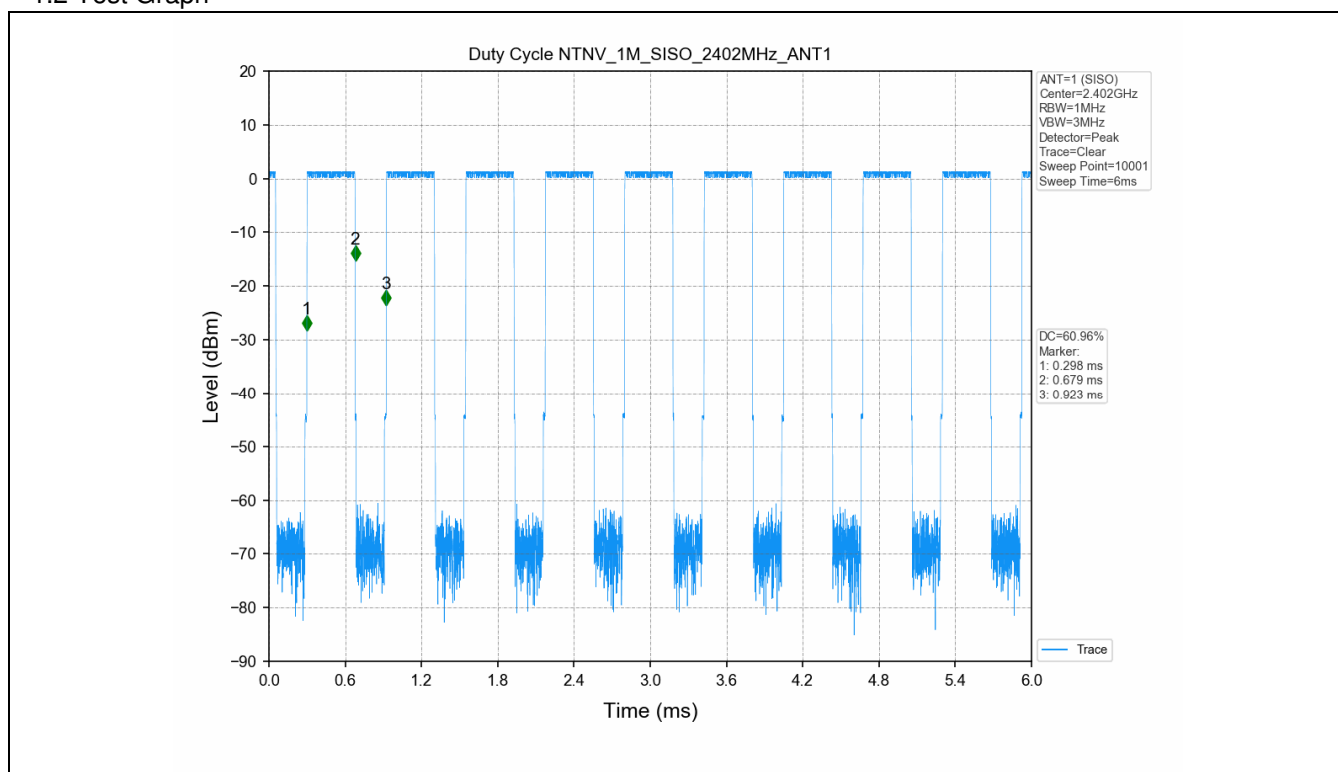
9.2 Appendix 15.247 – Right earbuds

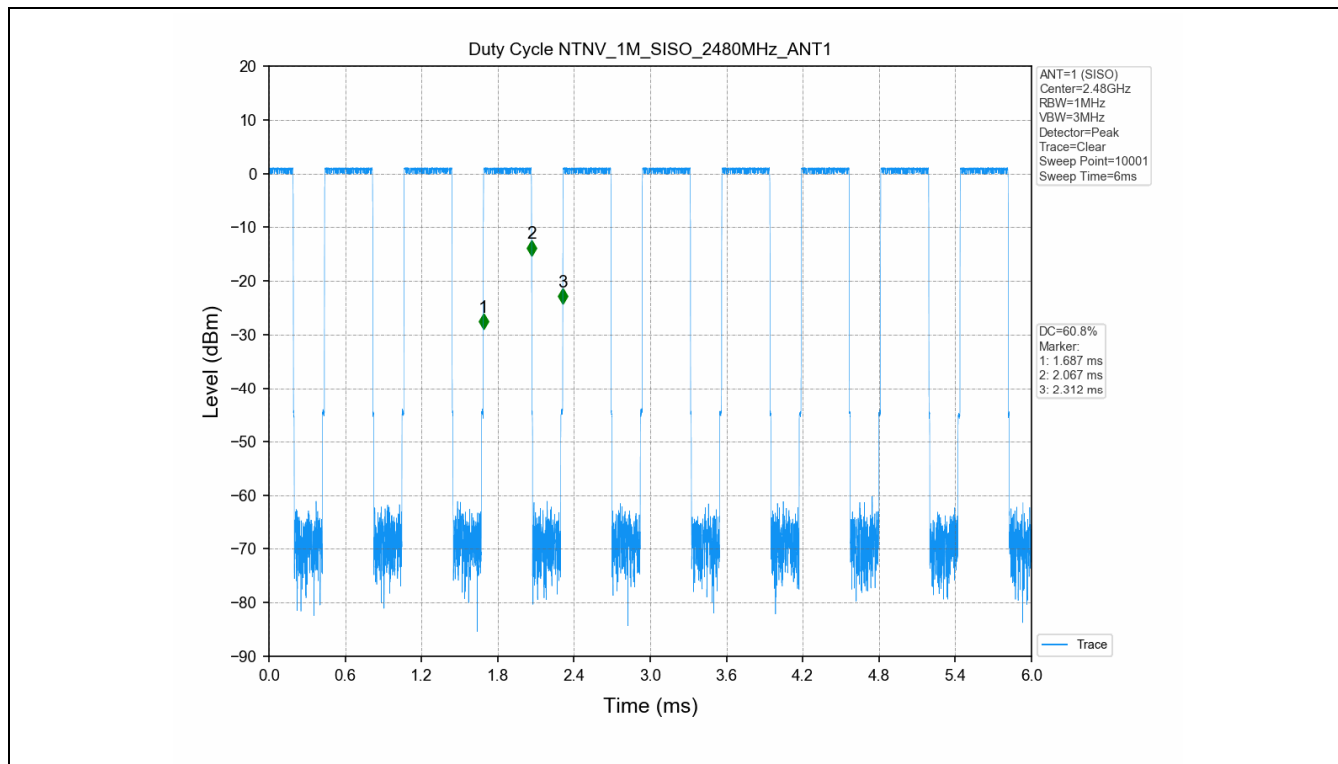
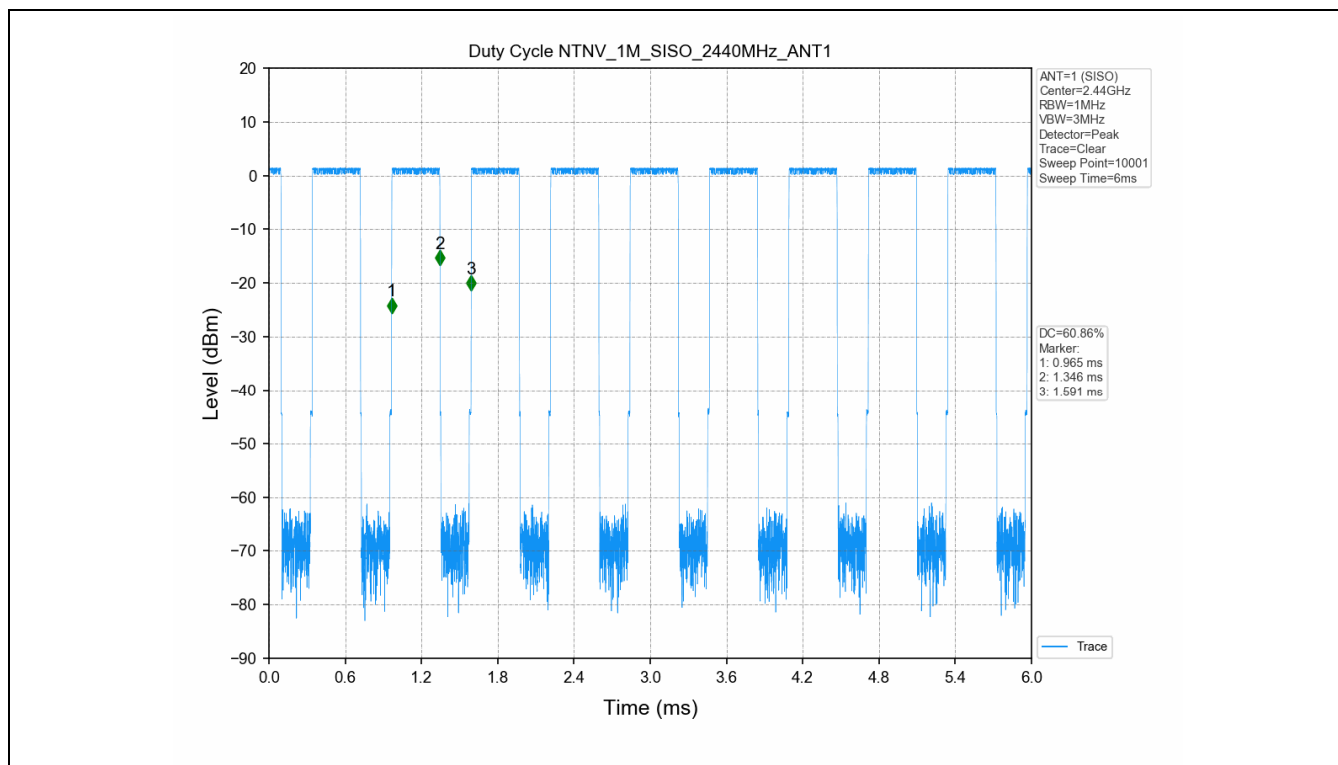
1. Duty Cycle

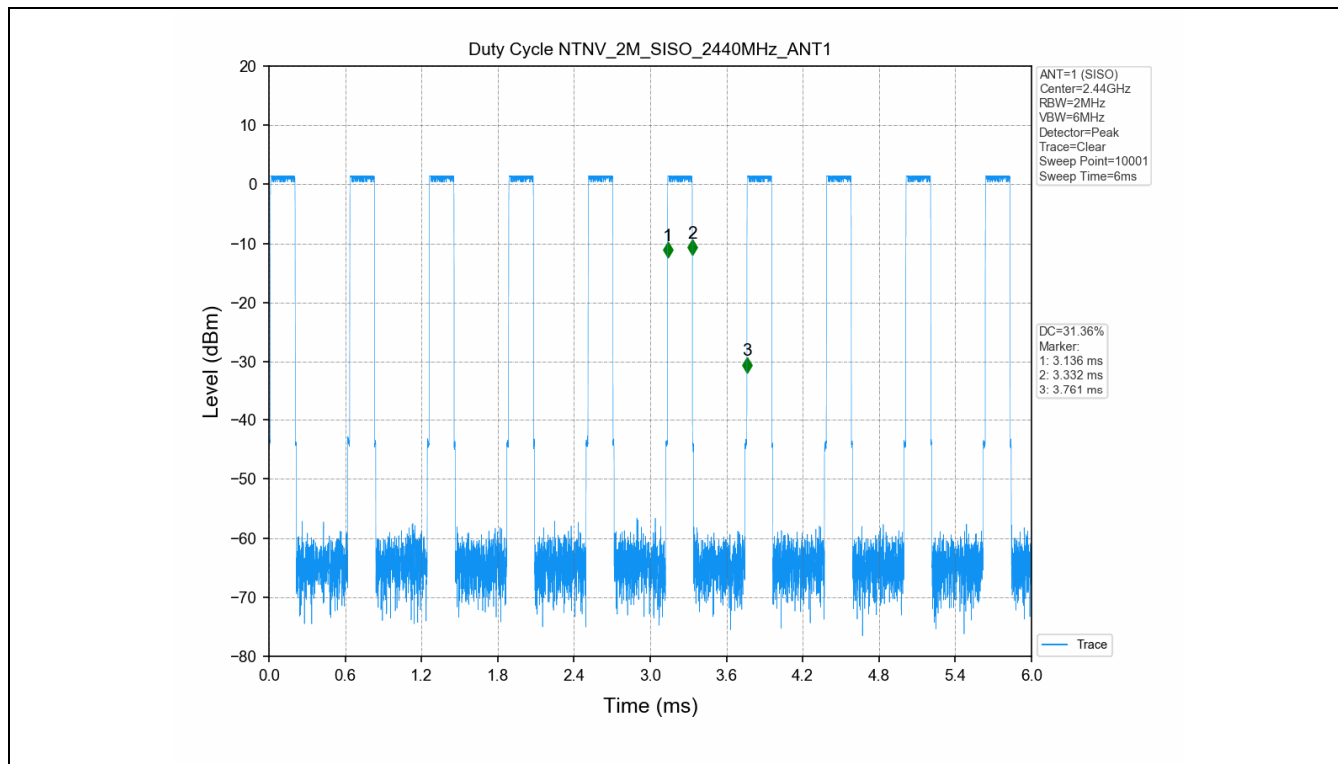
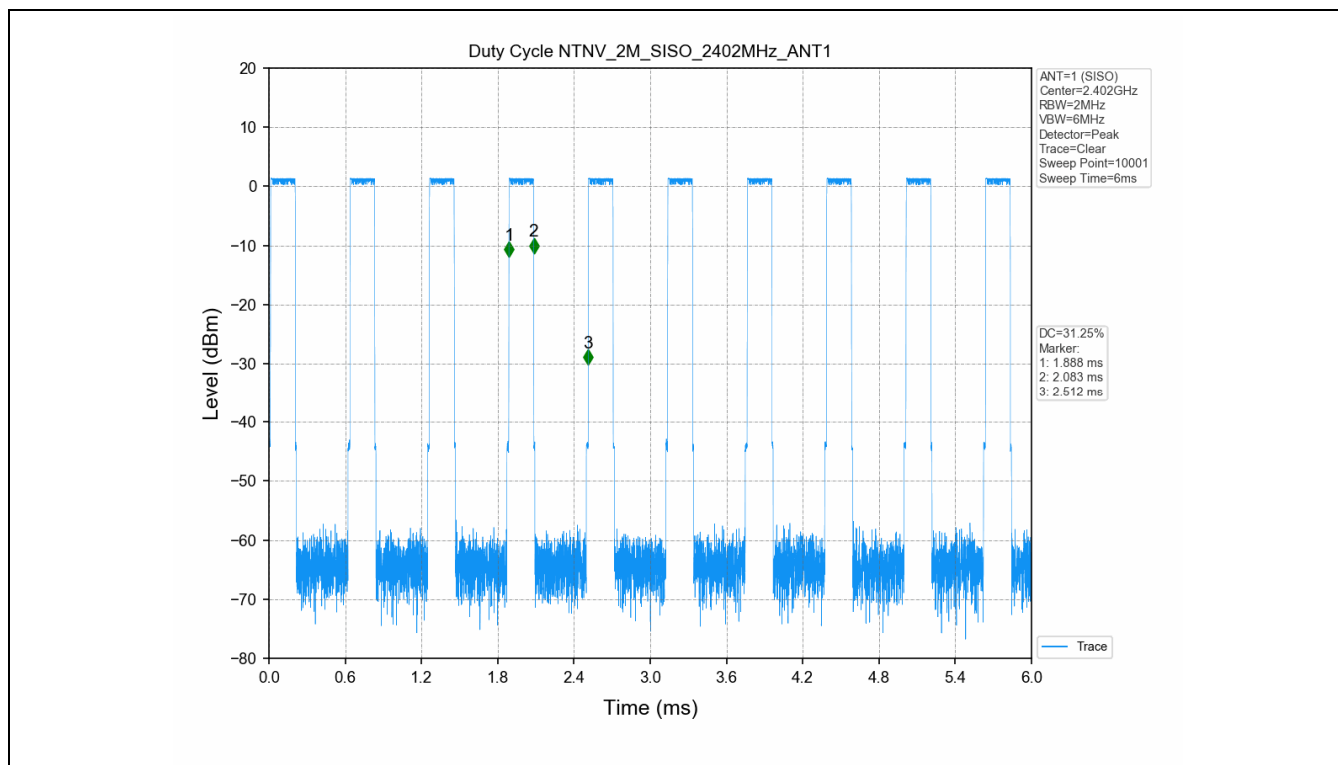
1.1 Test Result

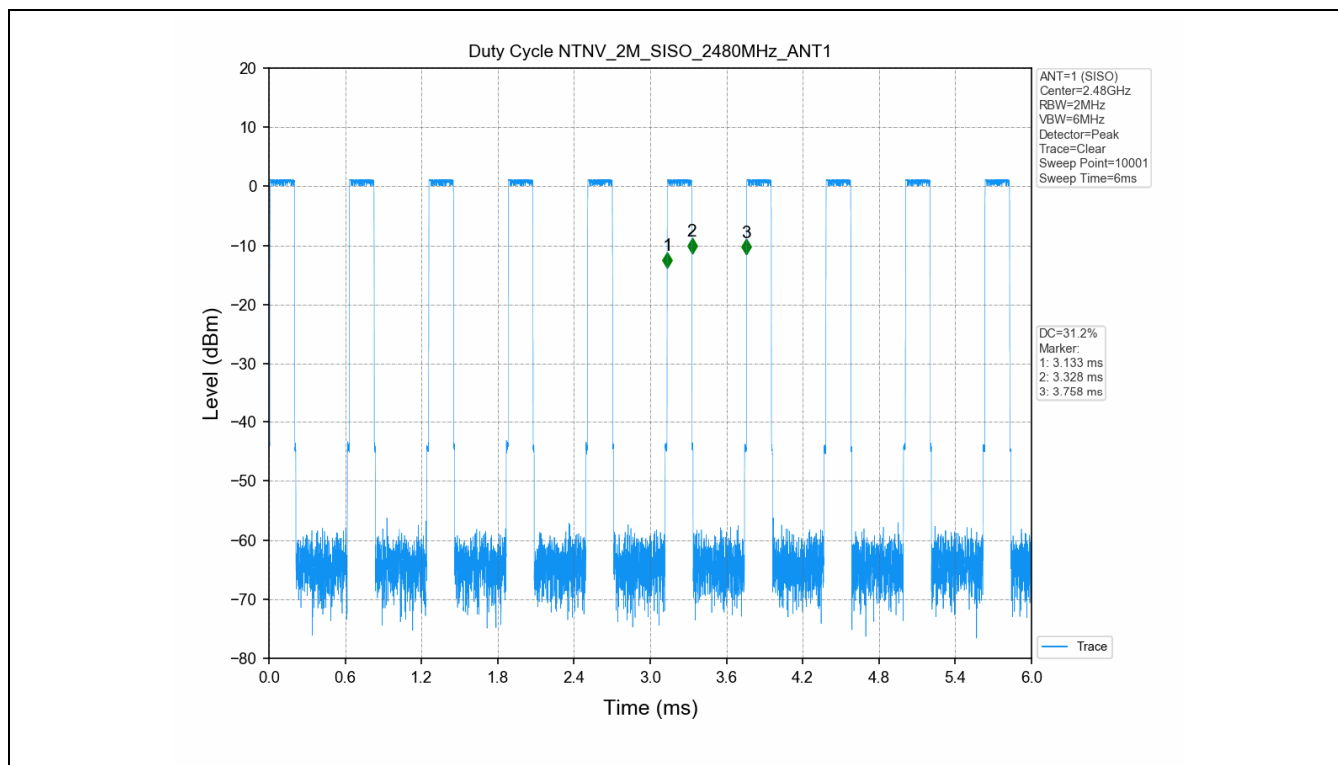
Test Mode	Channel Frequency(MHz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
1M	2402	SISO	1	0.381	0.625	60.96	2.15
	2440	SISO	1	0.381	0.626	60.86	2.16
	2480	SISO	1	0.380	0.625	60.80	2.16
2M	2402	SISO	1	0.195	0.624	31.25	5.05
	2440	SISO	1	0.196	0.625	31.36	5.04
	2480	SISO	1	0.195	0.625	31.20	5.06

1.2 Test Graph









2. Bandwidth

2.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth	Verdict
				Test Result (MHz)	
1M	2402	SISO	1	0.717	PASS
	2440	SISO	1	0.715	PASS
	2480	SISO	1	0.716	PASS
2M	2402	SISO	1	1.251	PASS
	2440	SISO	1	1.244	PASS
	2480	SISO	1	1.247	PASS

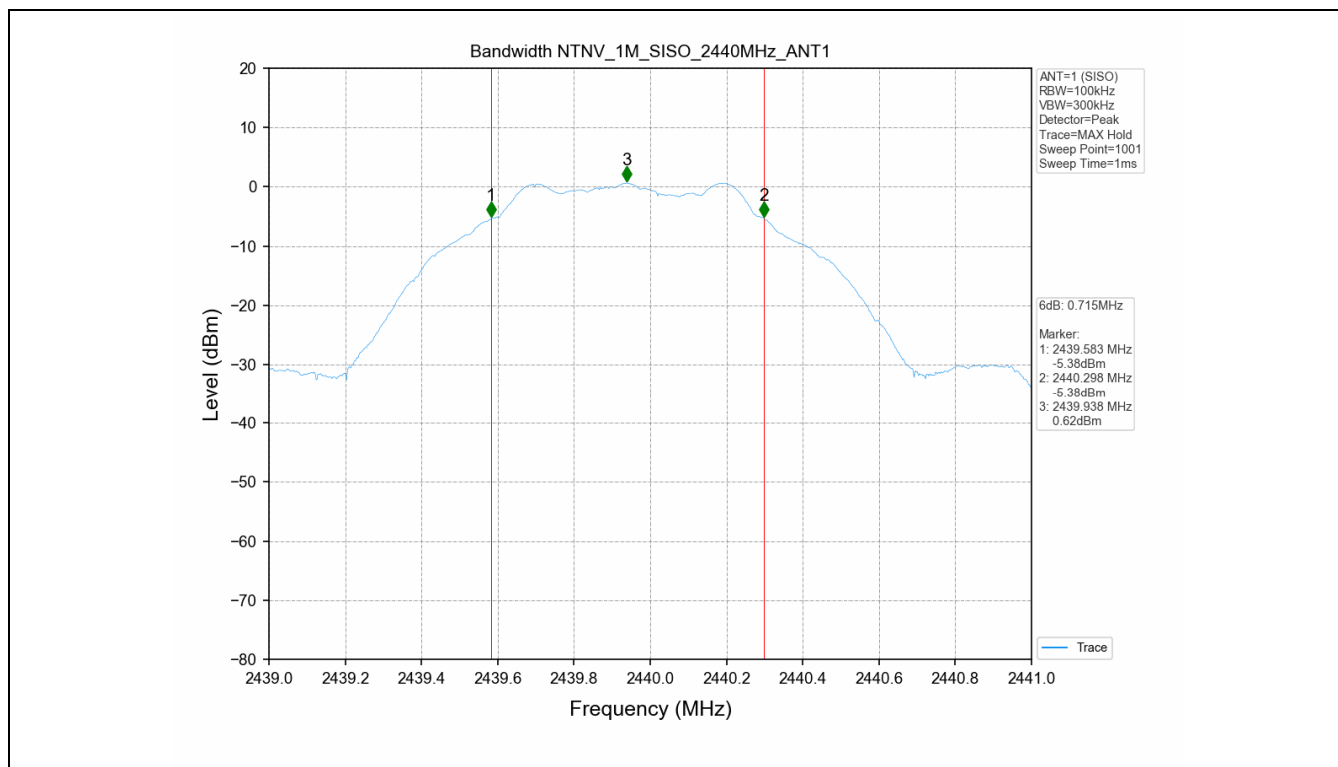
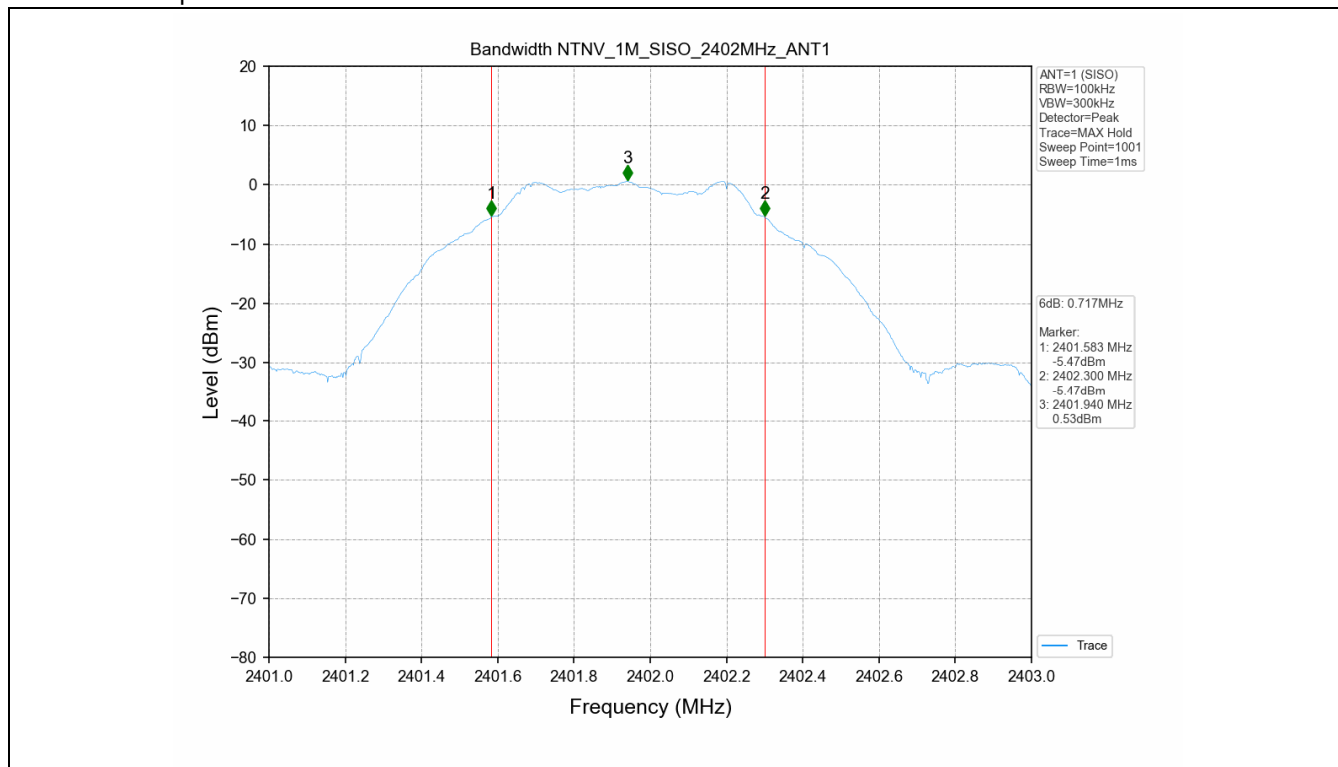
Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
1M	2402	SISO	1	1.043	Only for Report Use
	2440	SISO	1	1.041	Only for Report Use
	2480	SISO	1	1.042	Only for Report Use
2M	2402	SISO	1	2.068	Only for Report Use
	2440	SISO	1	2.067	Only for Report Use
	2480	SISO	1	2.066	Only for Report Use



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) 83071443, or email: CN.Doccheck@sgs.com
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

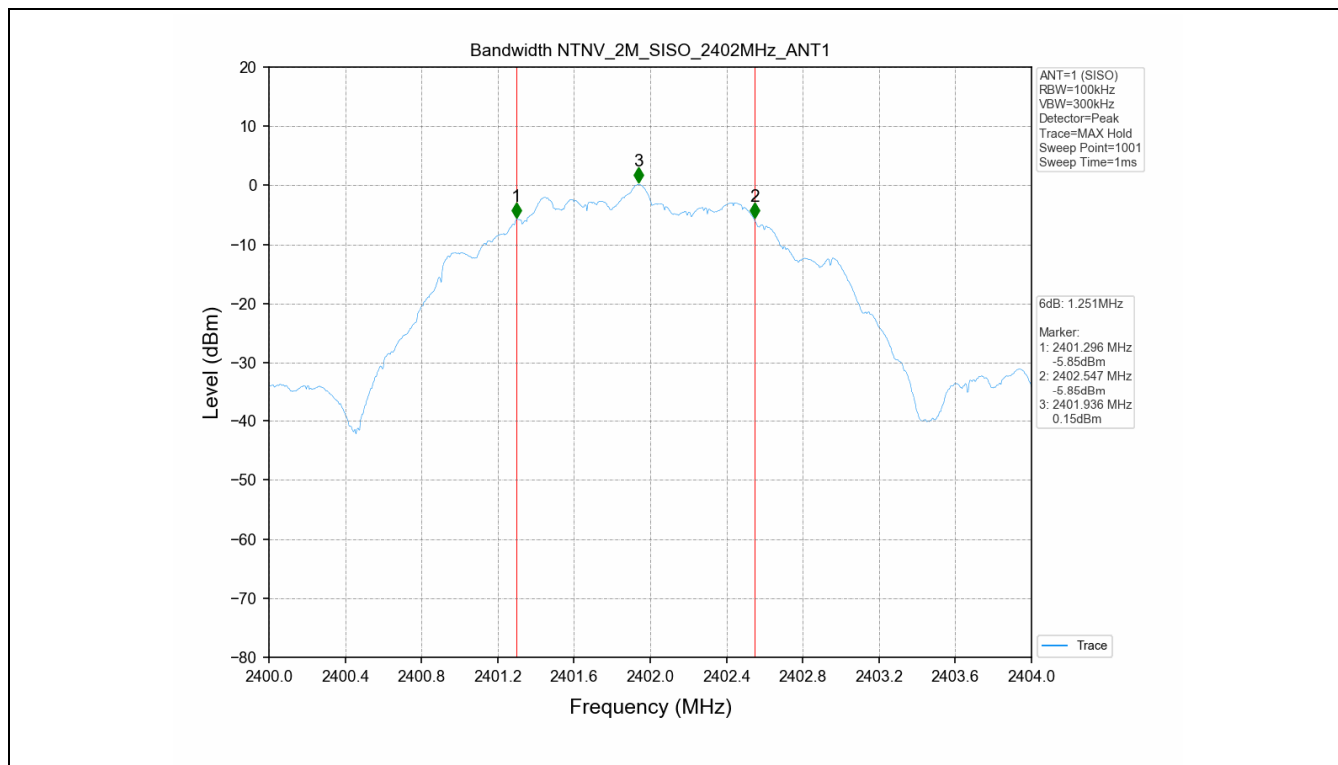
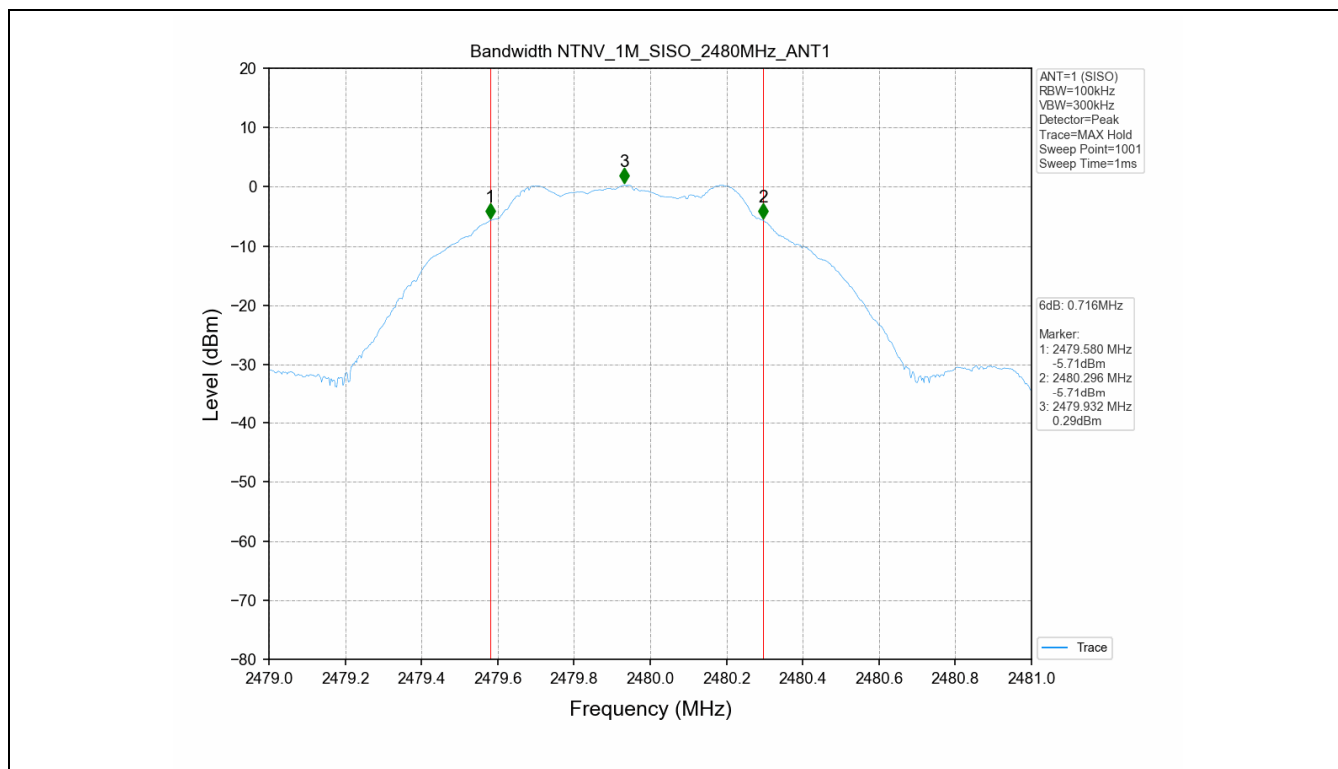
2.2 Test Graph - 6dB Bandwidth

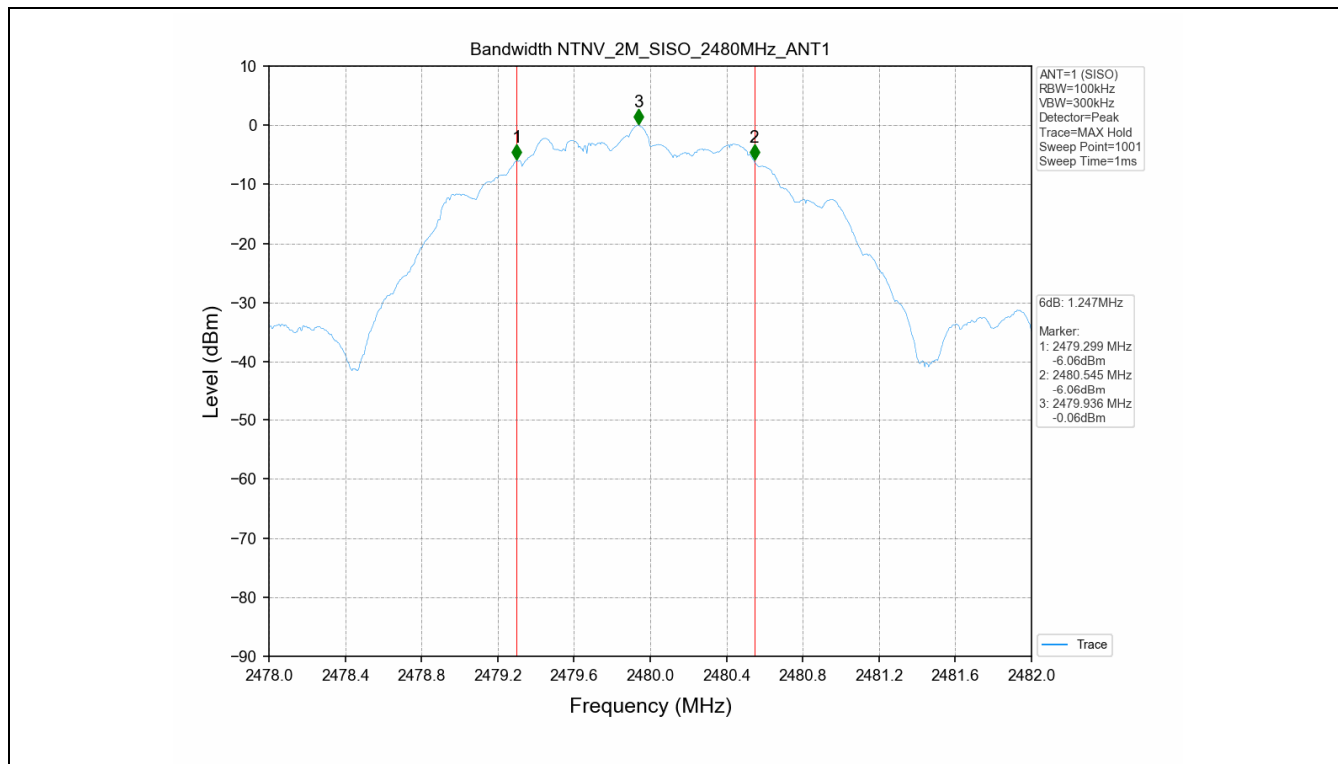
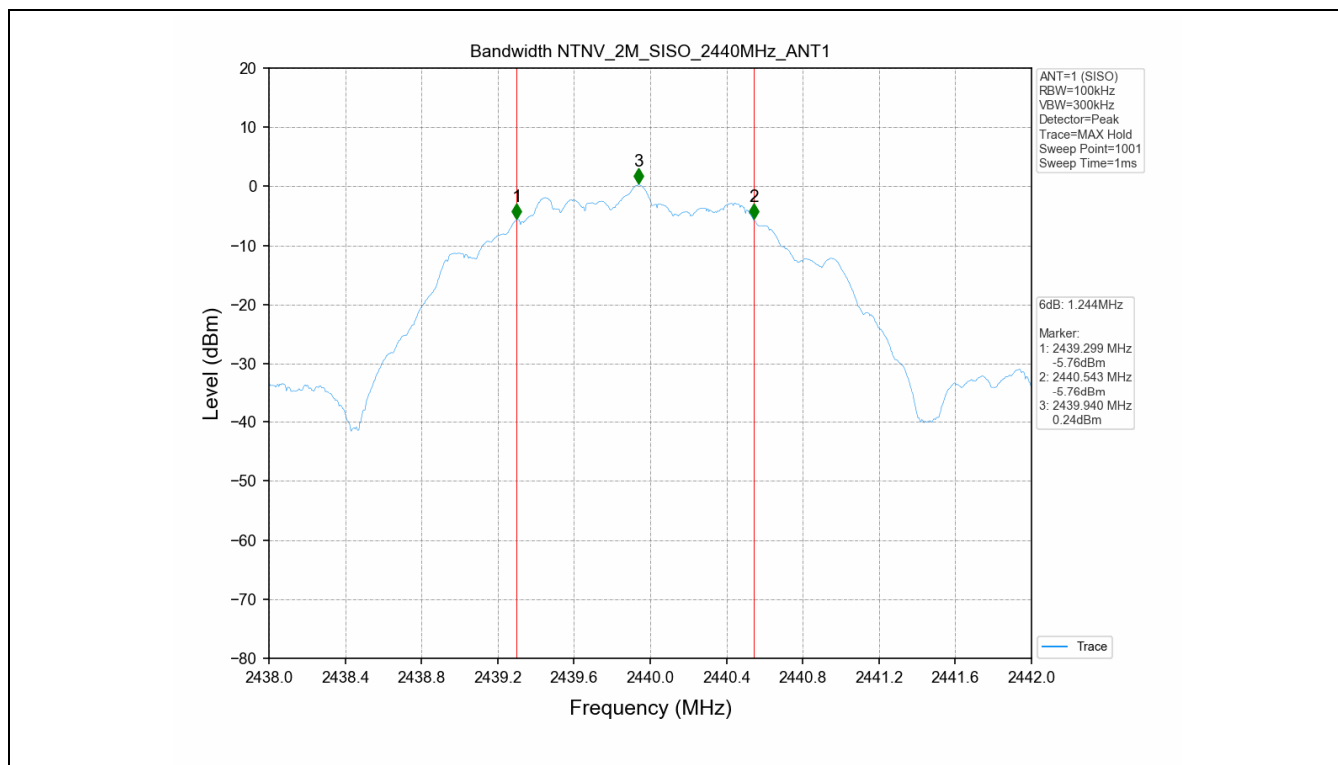


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

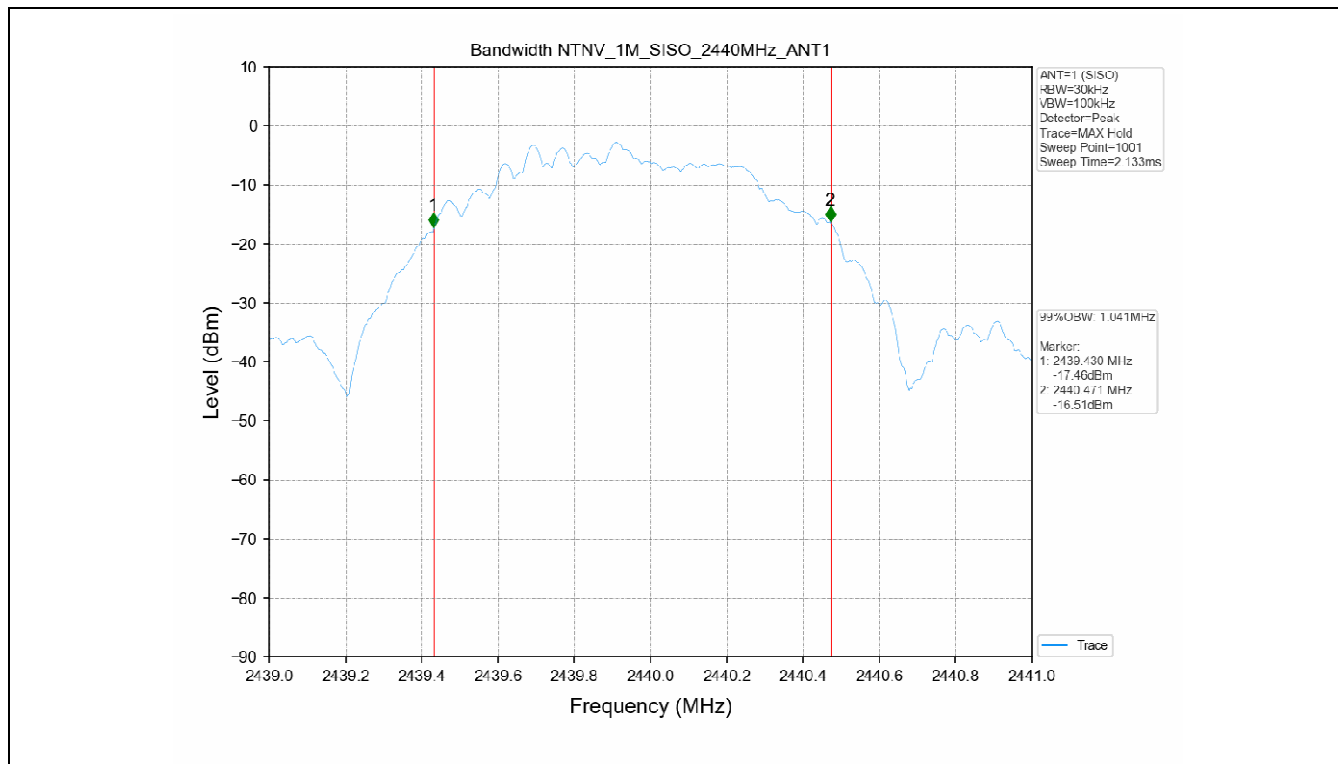
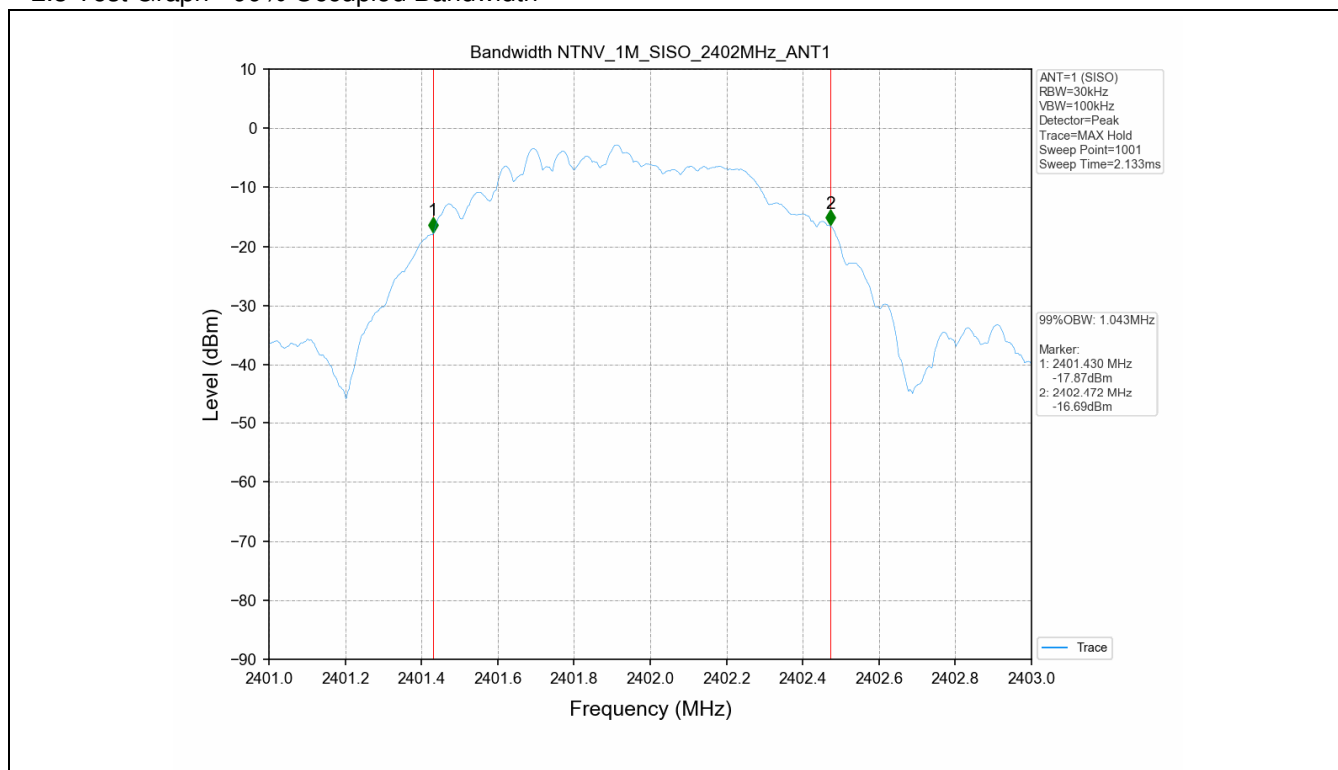
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

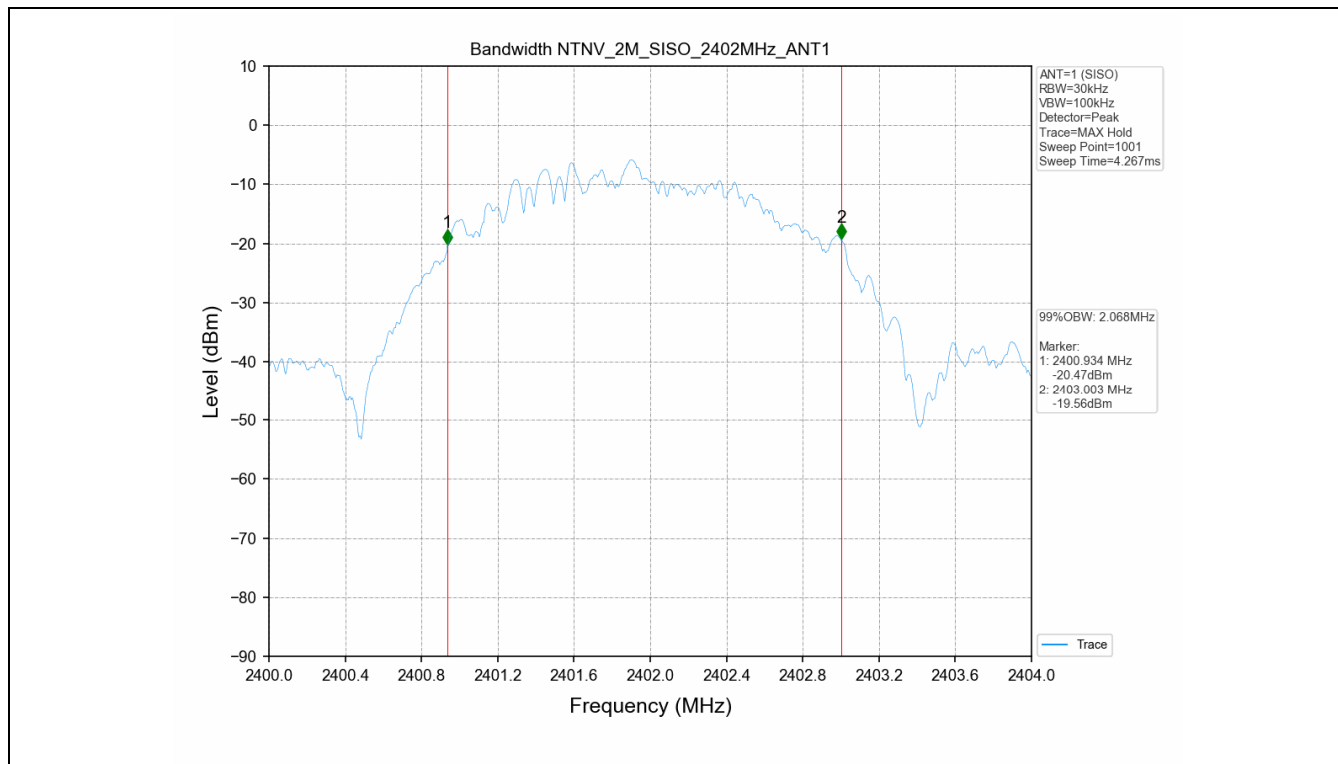
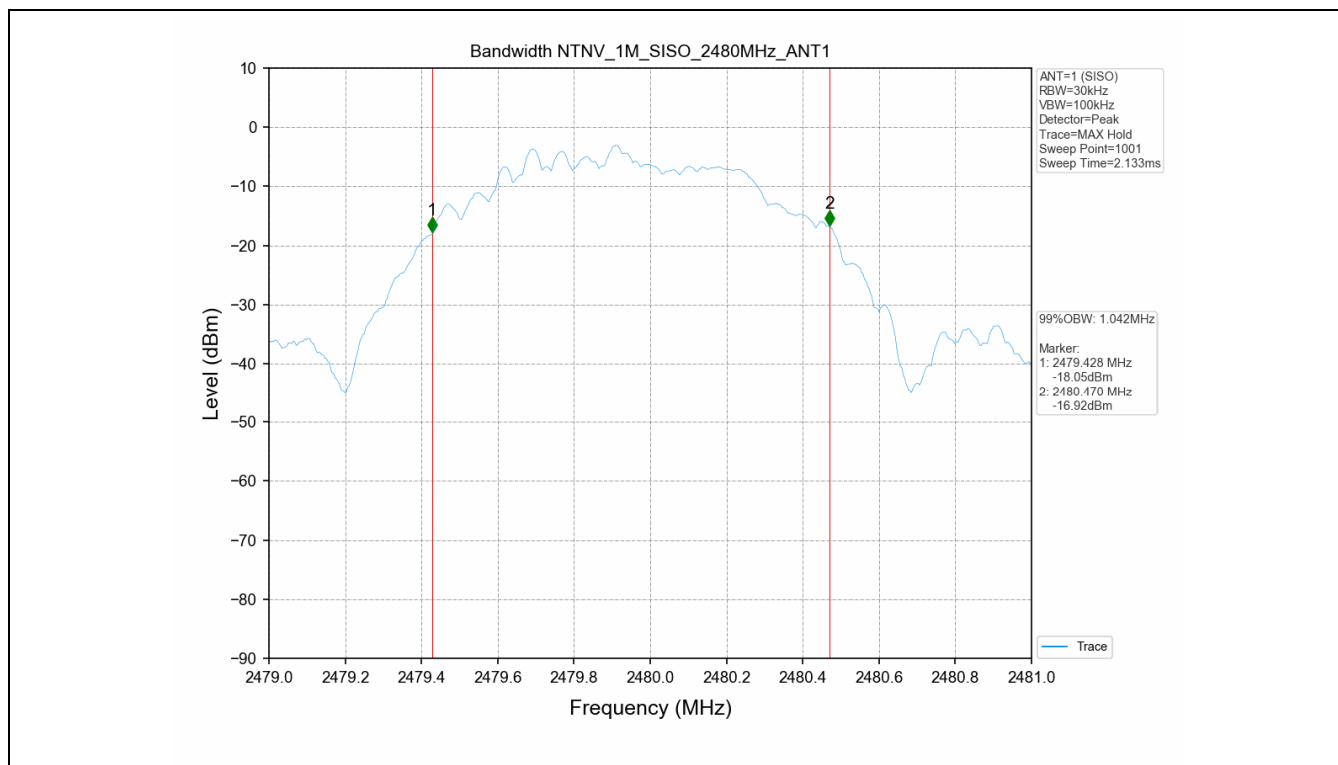
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

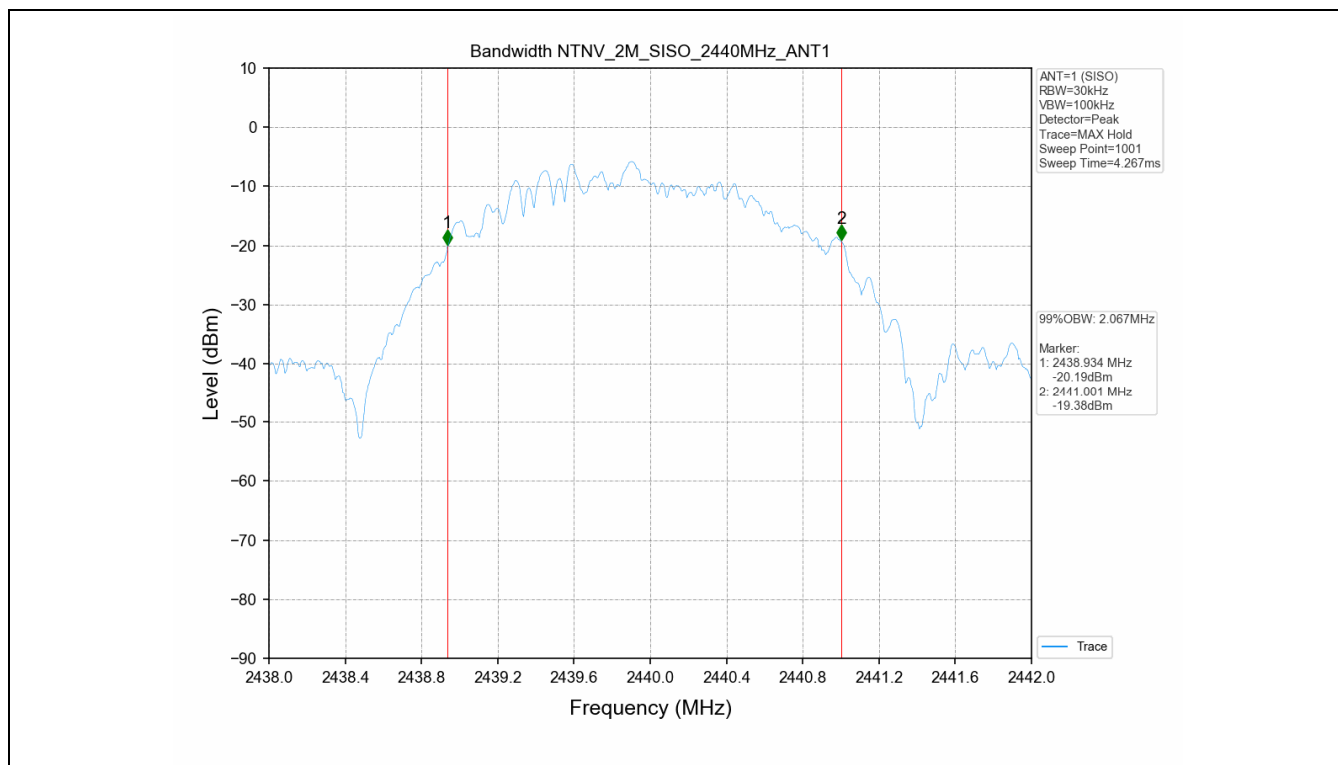




2.3 Test Graph - 99% Occupied Bandwidth





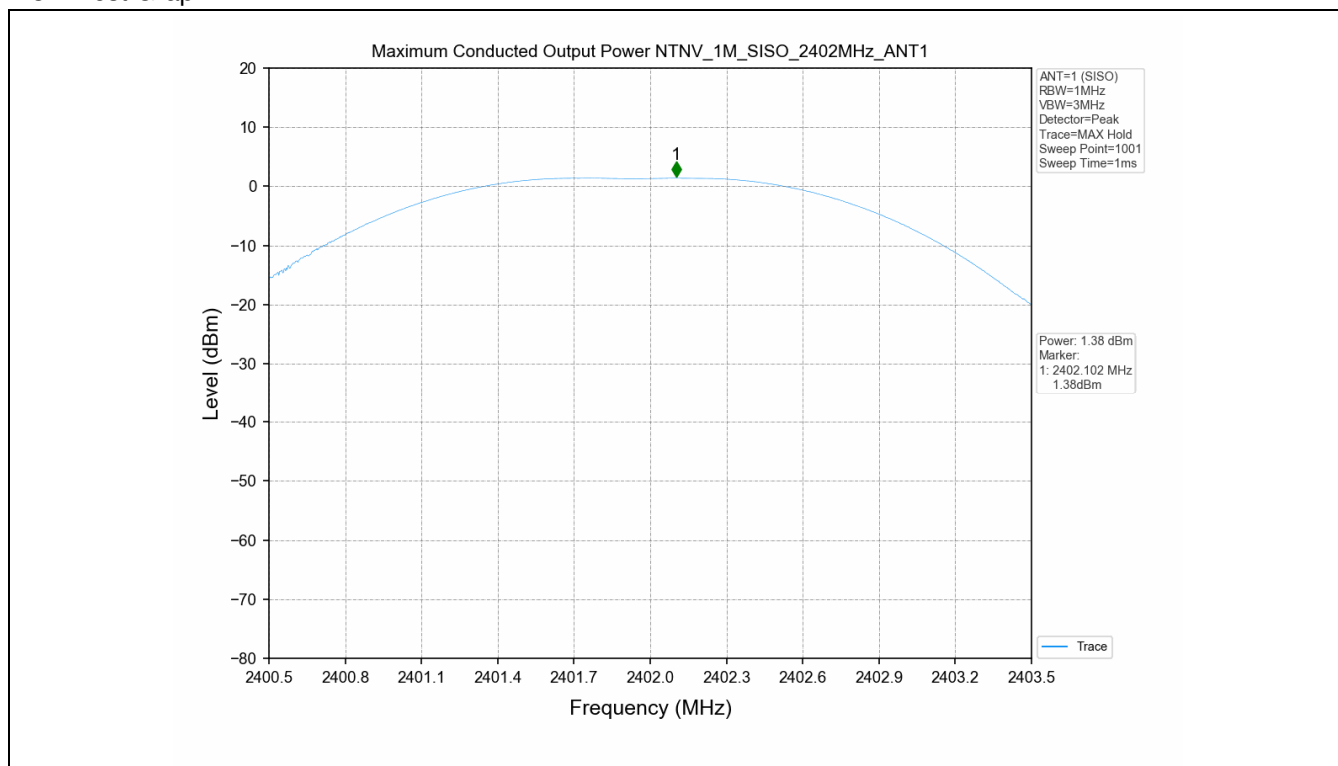


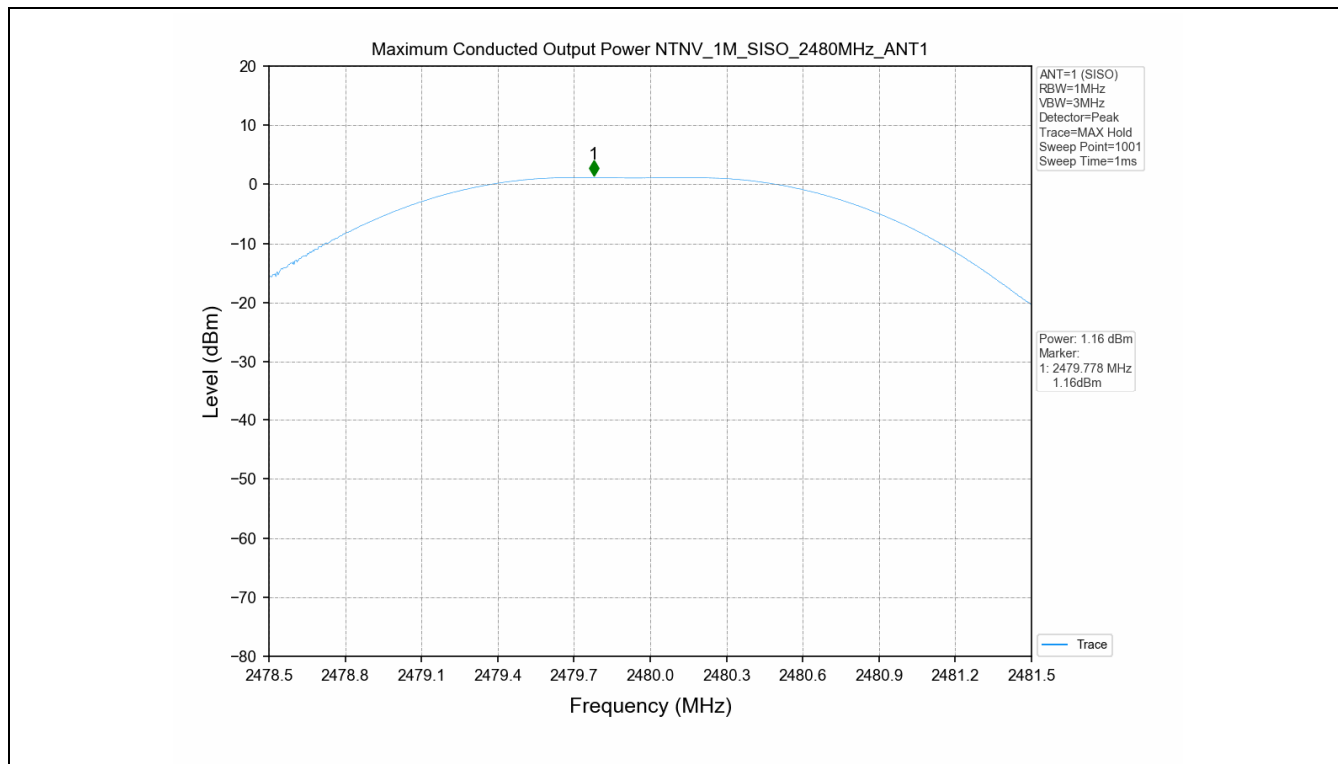
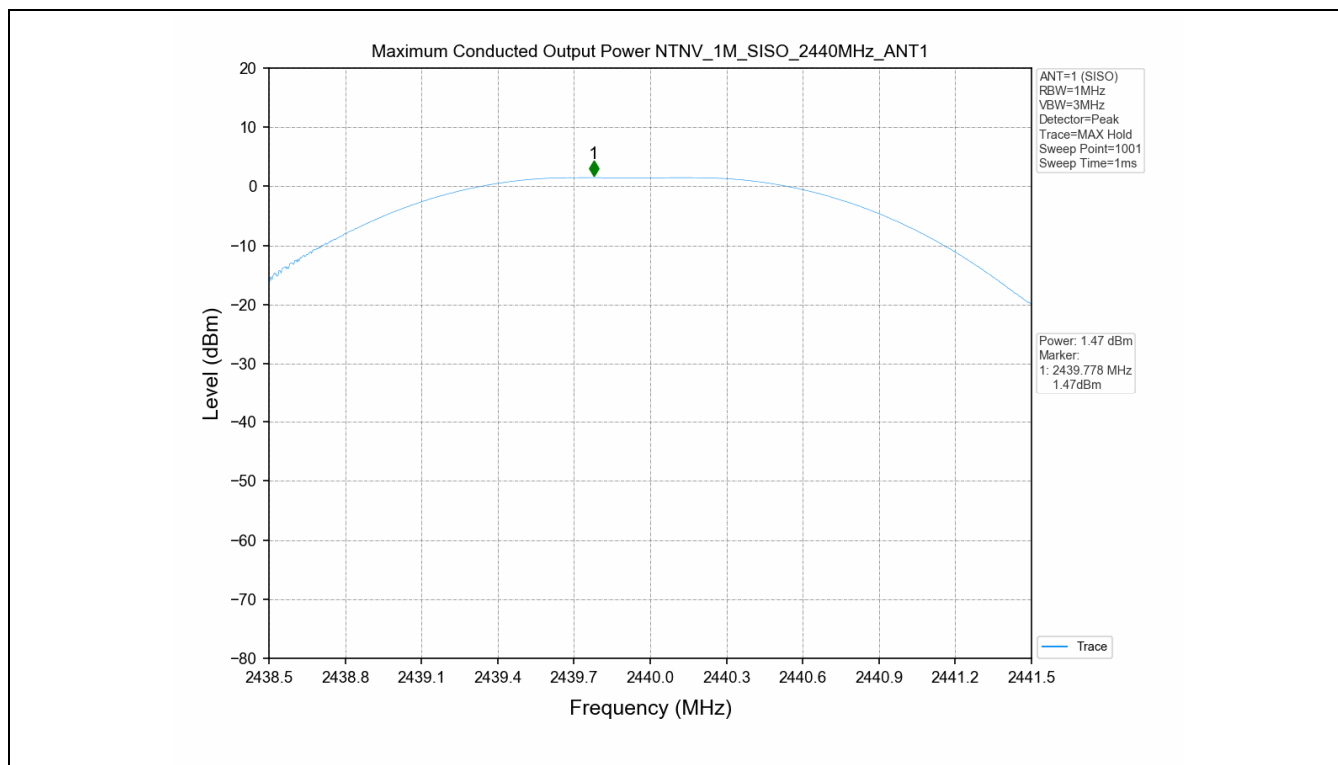
3. Maximum Conducted Output Power

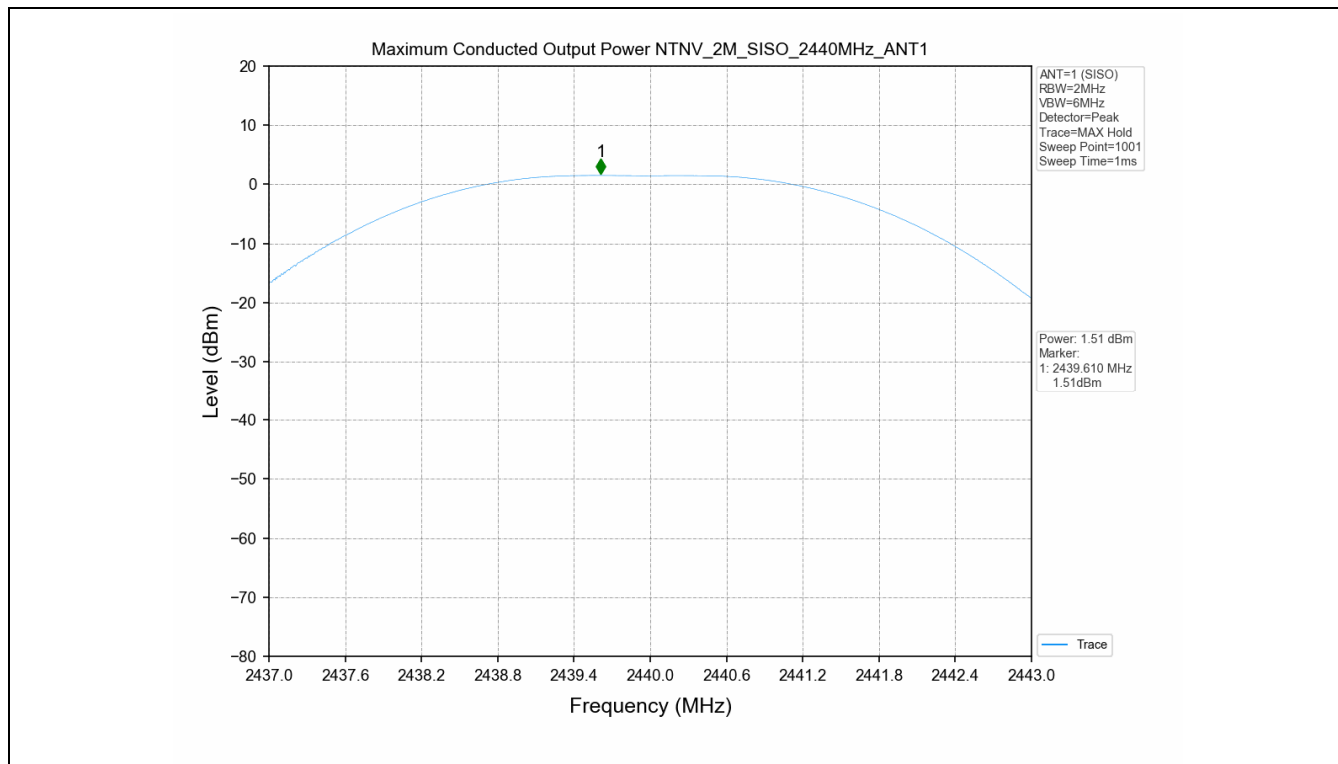
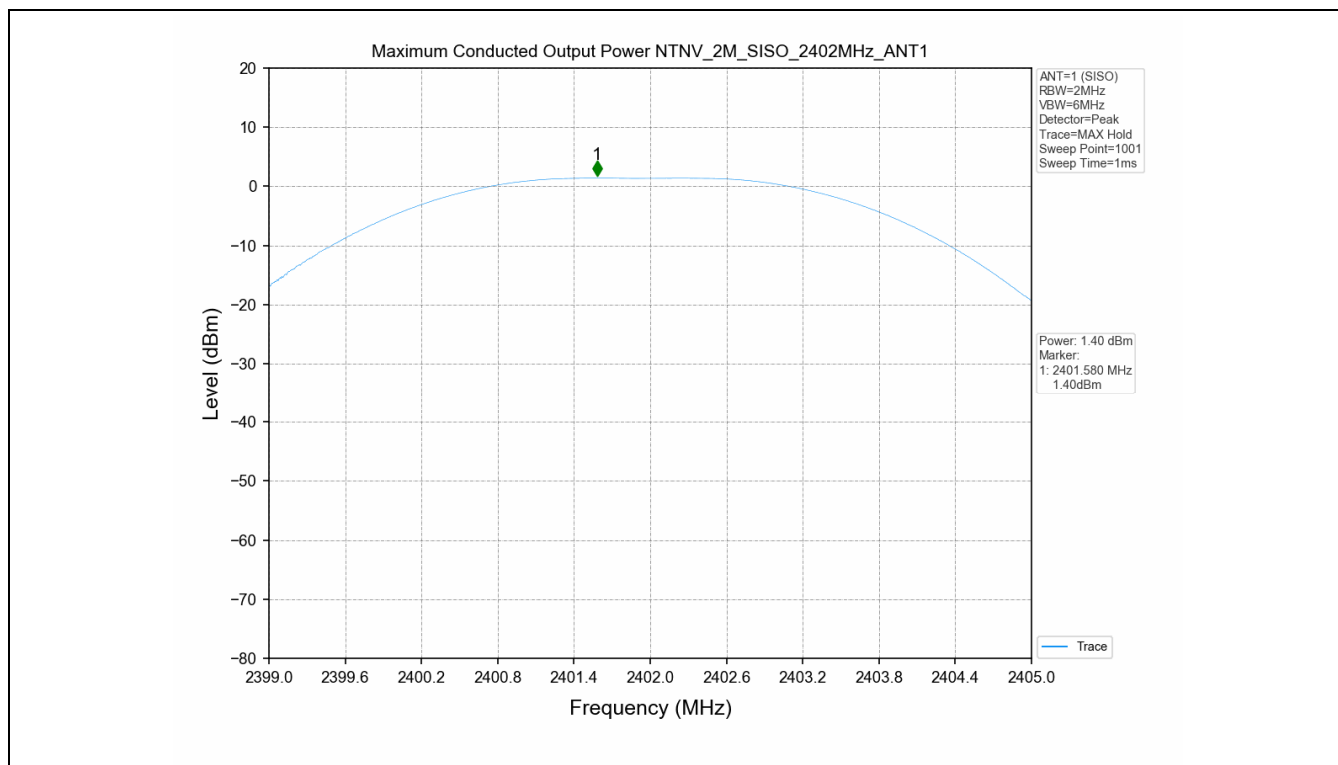
3.1 Test Result

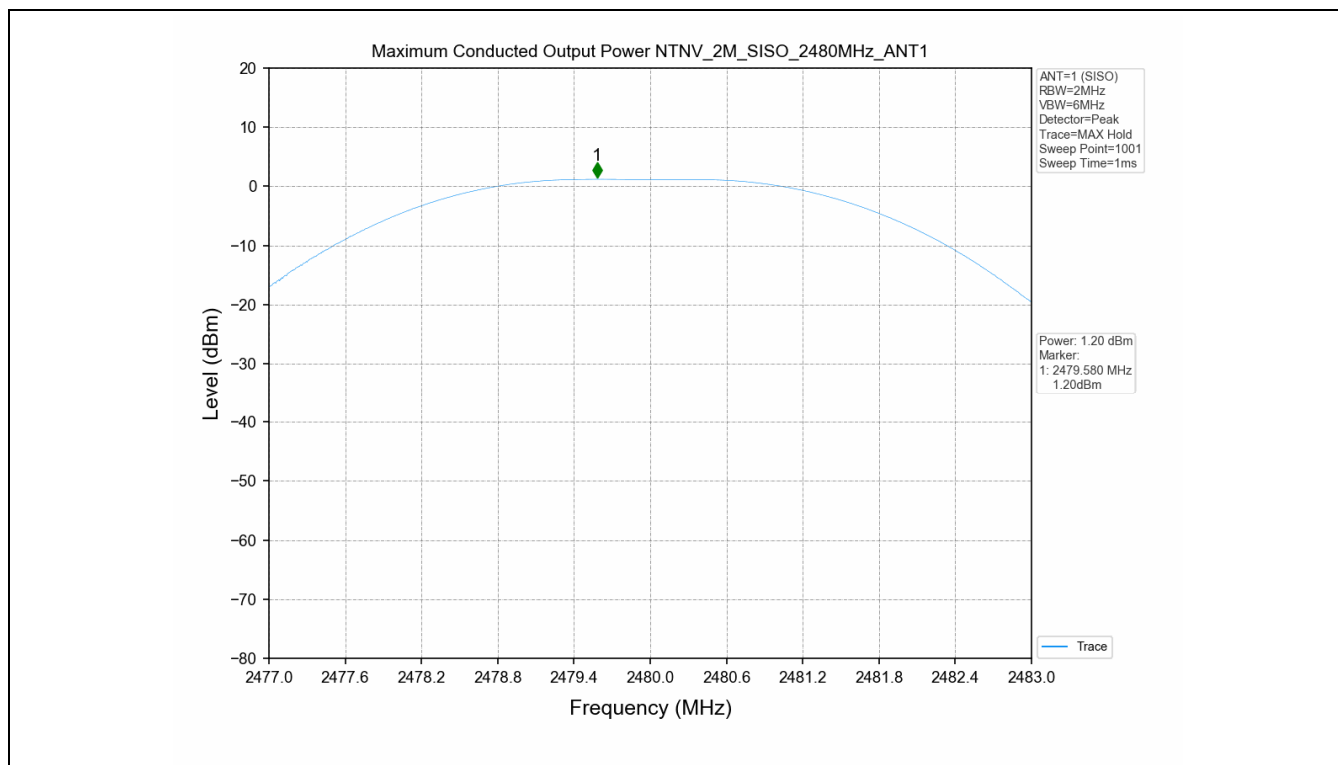
Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
1M	2402	SISO	1.38	30	PASS
	2440	SISO	1.47	30	PASS
	2480	SISO	1.16	30	PASS
2M	2402	SISO	1.40	30	PASS
	2440	SISO	1.51	30	PASS
	2480	SISO	1.20	30	PASS

3.2 Test Graph







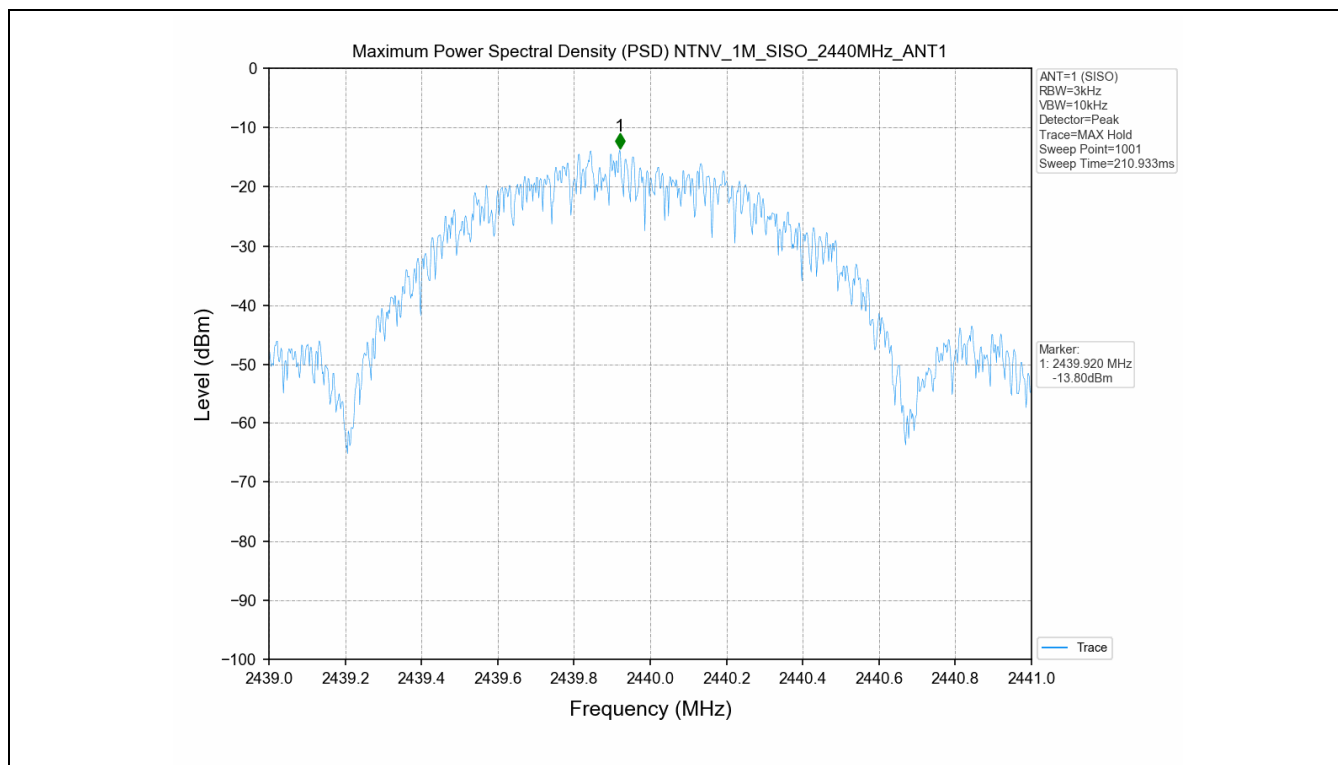
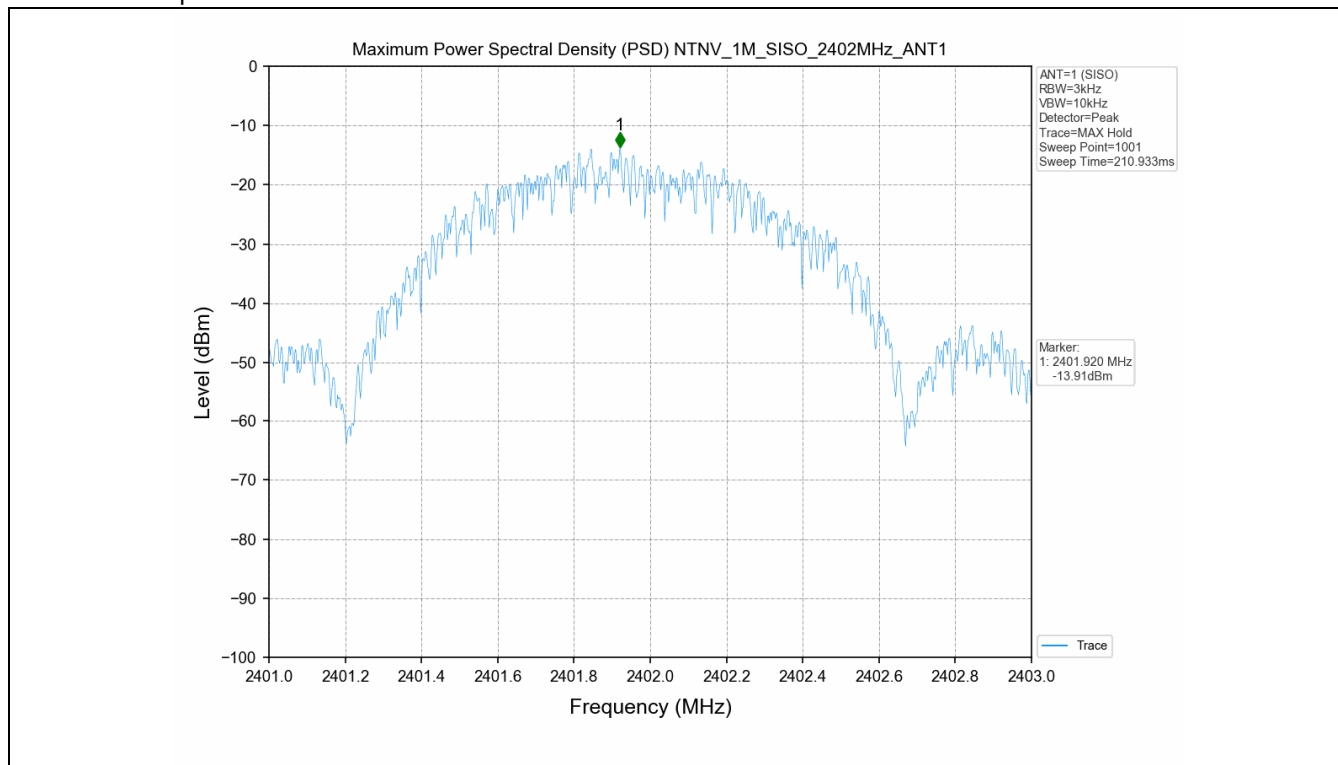


4. Maximum Power Spectral Density (PSD)

4.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/3KHz)	Limits (dBm/3kHz)	Verdict
			Ant 1		
1M	2402	SISO	-13.91	≤8	PASS
	2440	SISO	-13.80	≤8	PASS
	2480	SISO	-14.23	≤8	PASS
2M	2402	SISO	-16.16	≤8	PASS
	2440	SISO	-16.06	≤8	PASS
	2480	SISO	-16.35	≤8	PASS

4.2 Test Graph

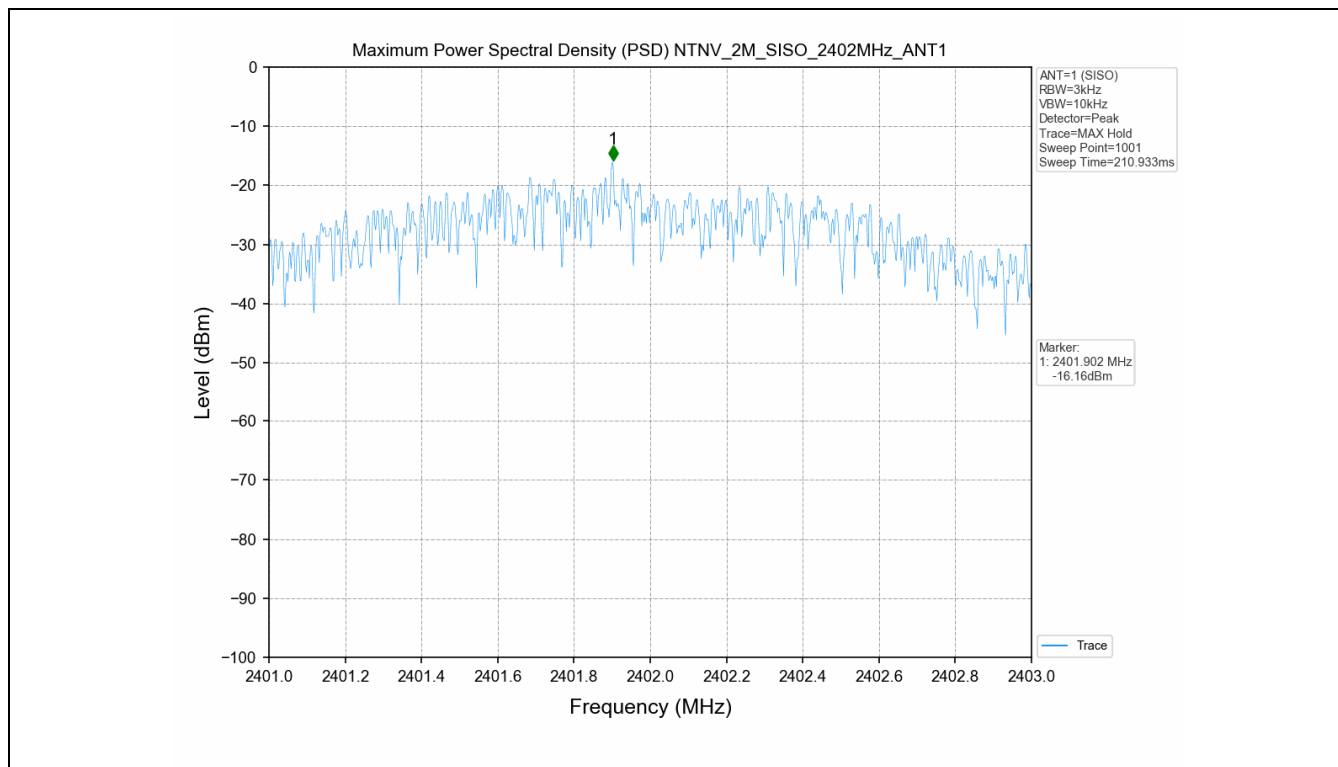
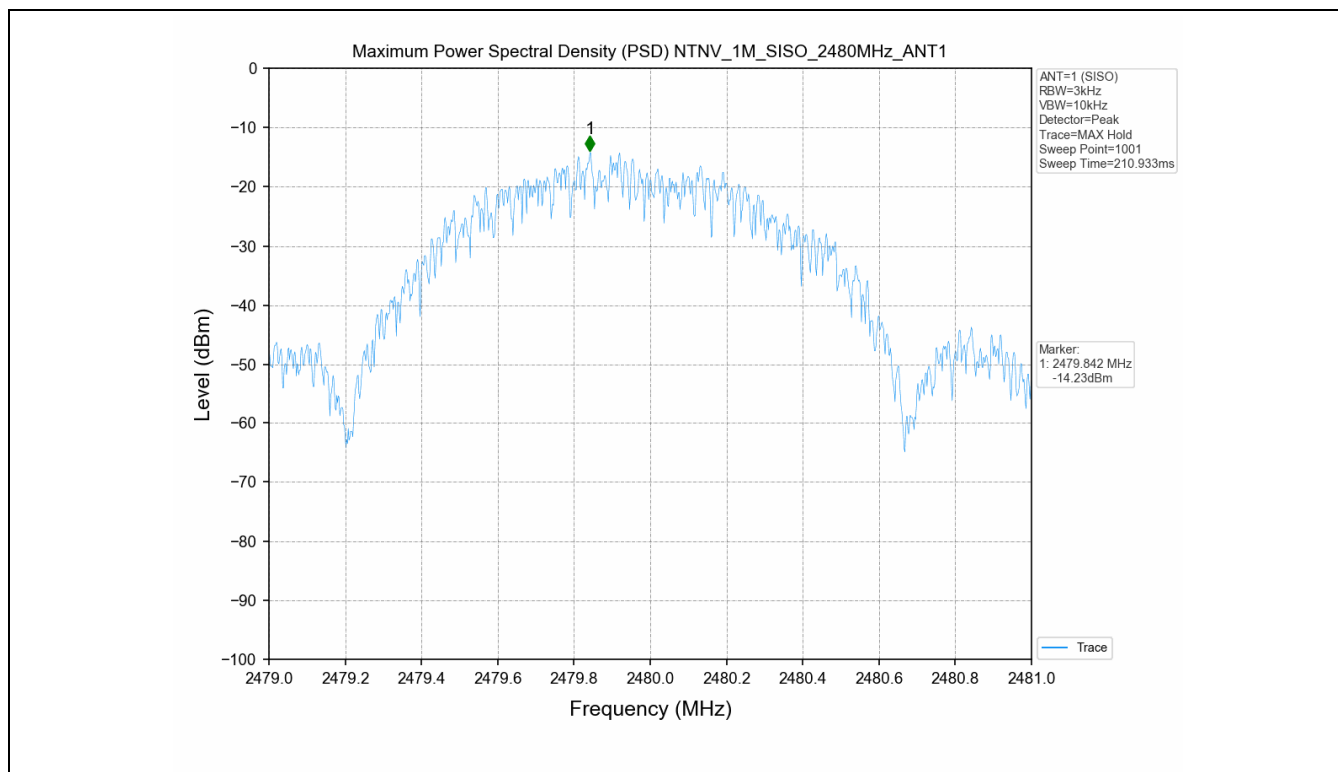


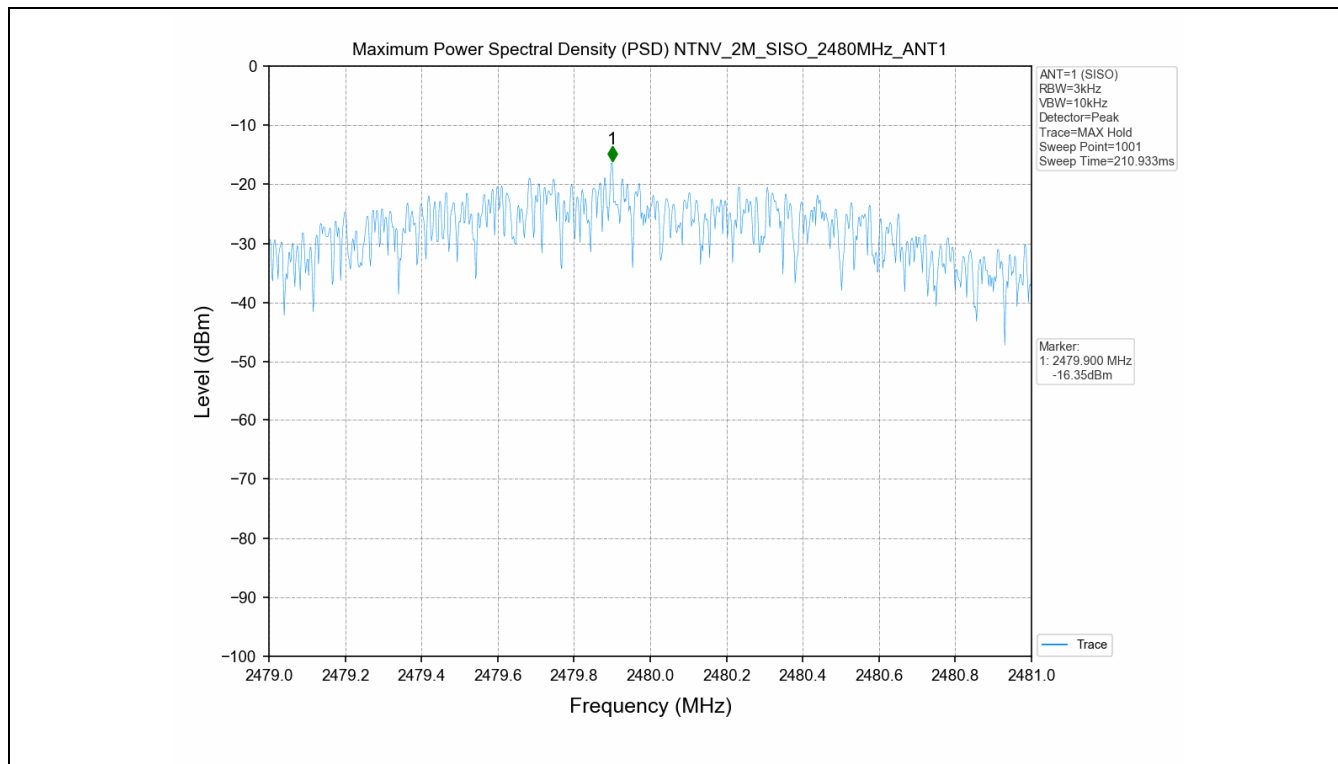
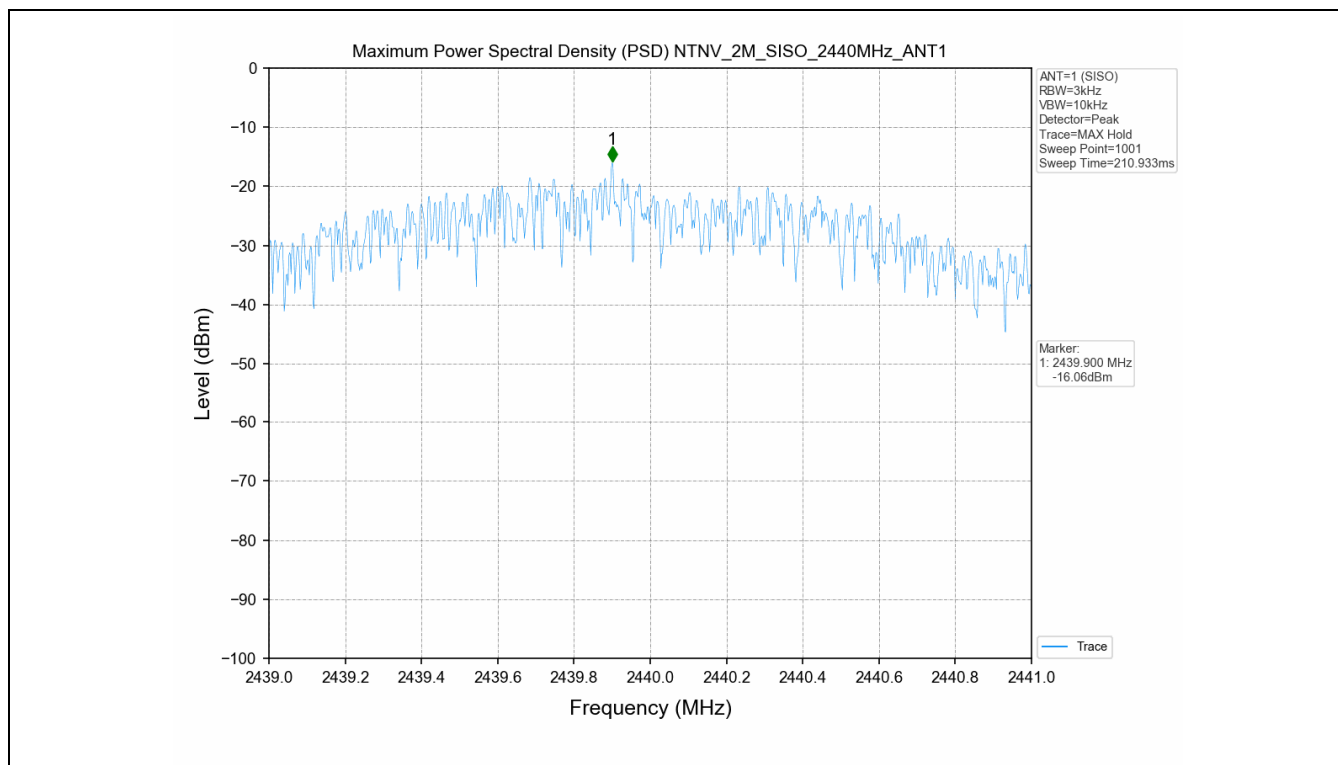
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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





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.
Shenzhen Branch

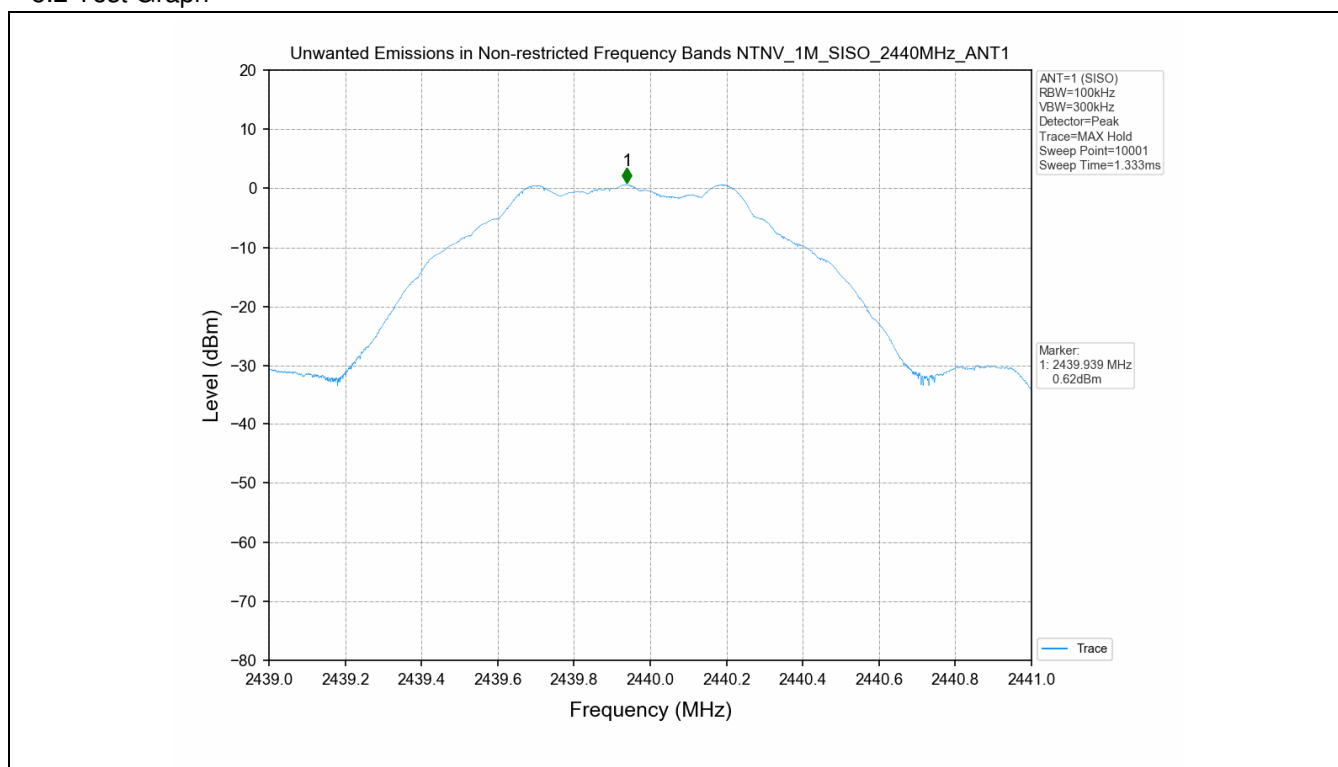
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

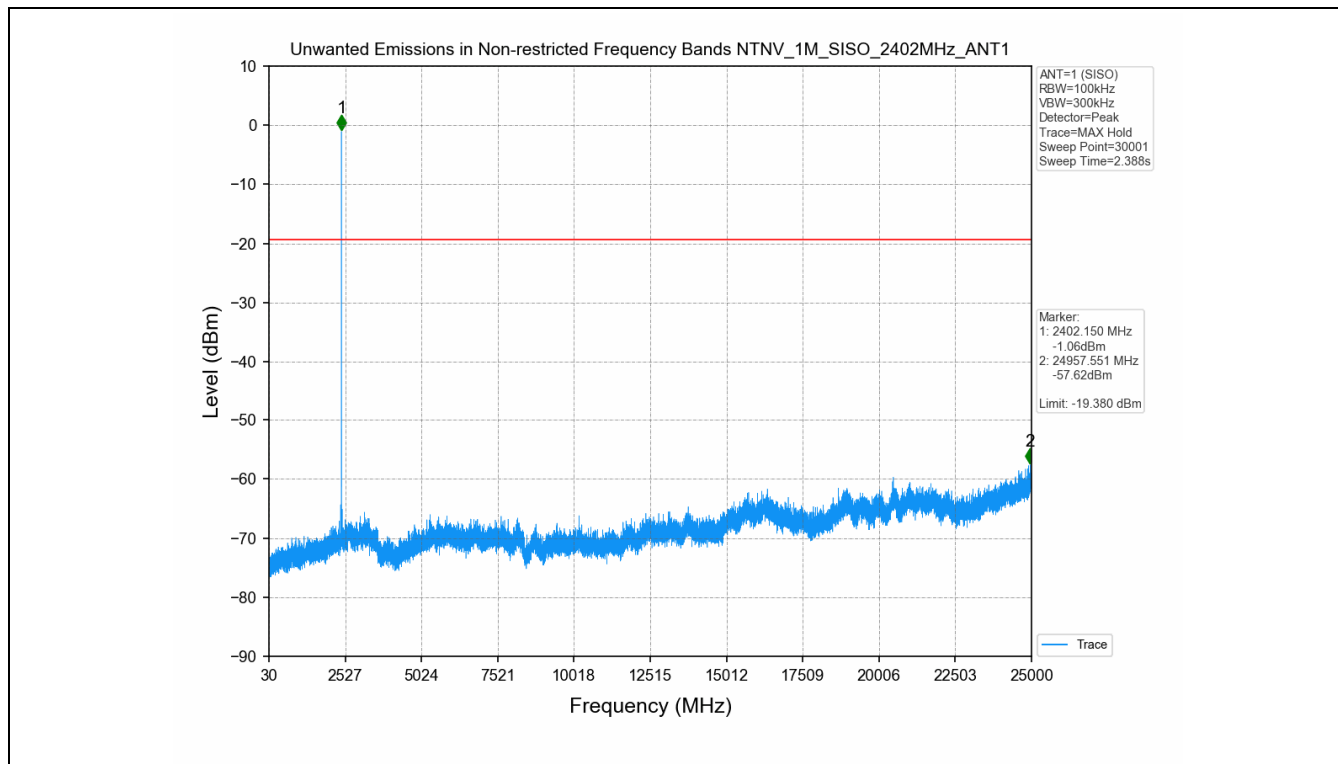
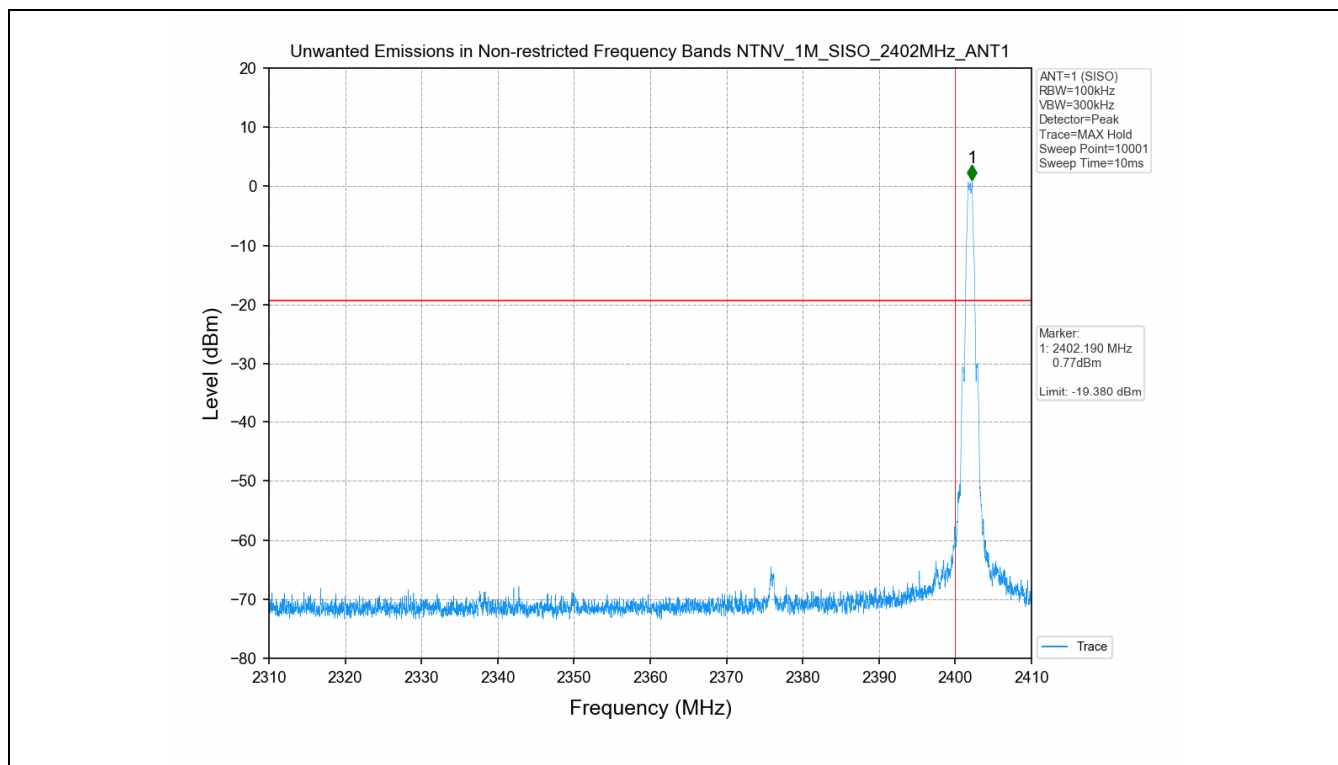
5. Unwanted Emissions in Non-restricted Frequency Bands

5.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
1M	2402	SISO	1	Refer to test graph	-19.38	PASS
	2440	SISO	1	Refer to test graph	-19.38	PASS
	2480	SISO	1	Refer to test graph	-19.38	PASS
2M	2402	SISO	1	Refer to test graph	-19.72	PASS
	2440	SISO	1	Refer to test graph	-19.72	PASS
	2480	SISO	1	Refer to test graph	-19.72	PASS

5.2 Test Graph



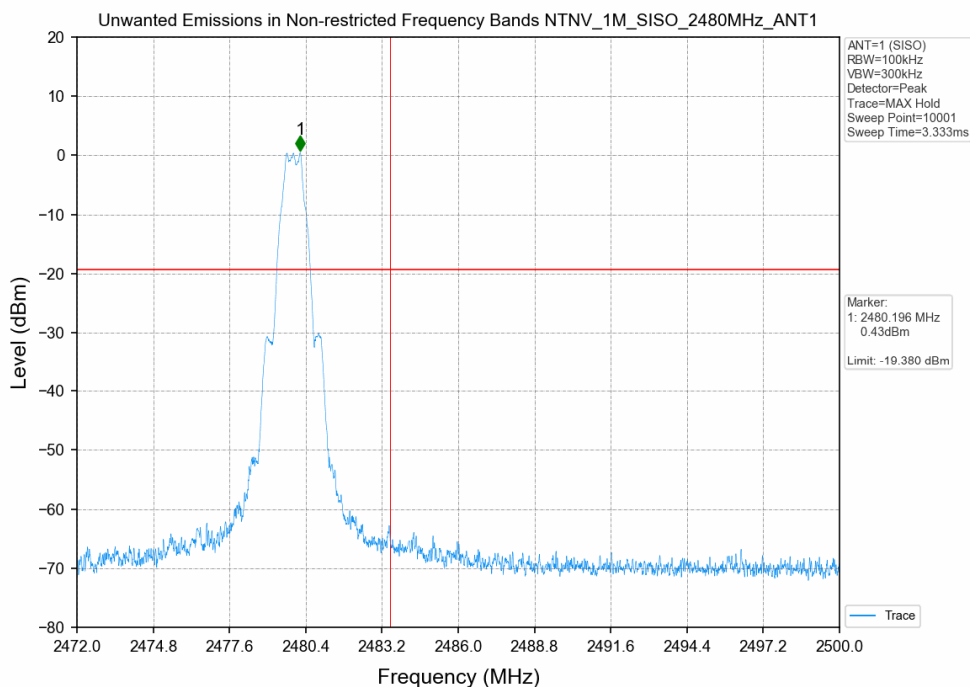
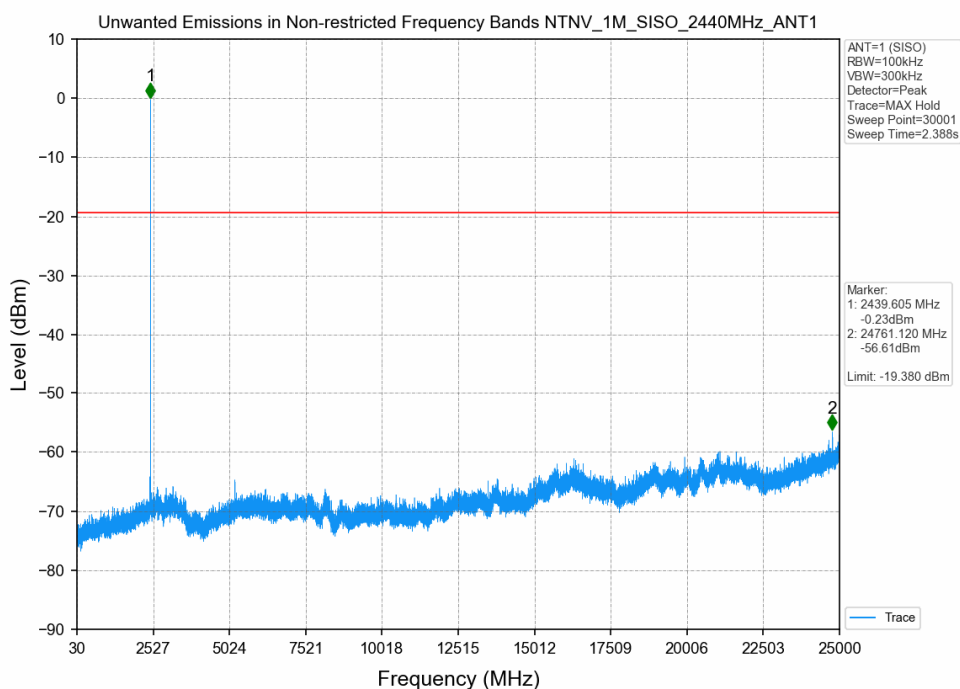


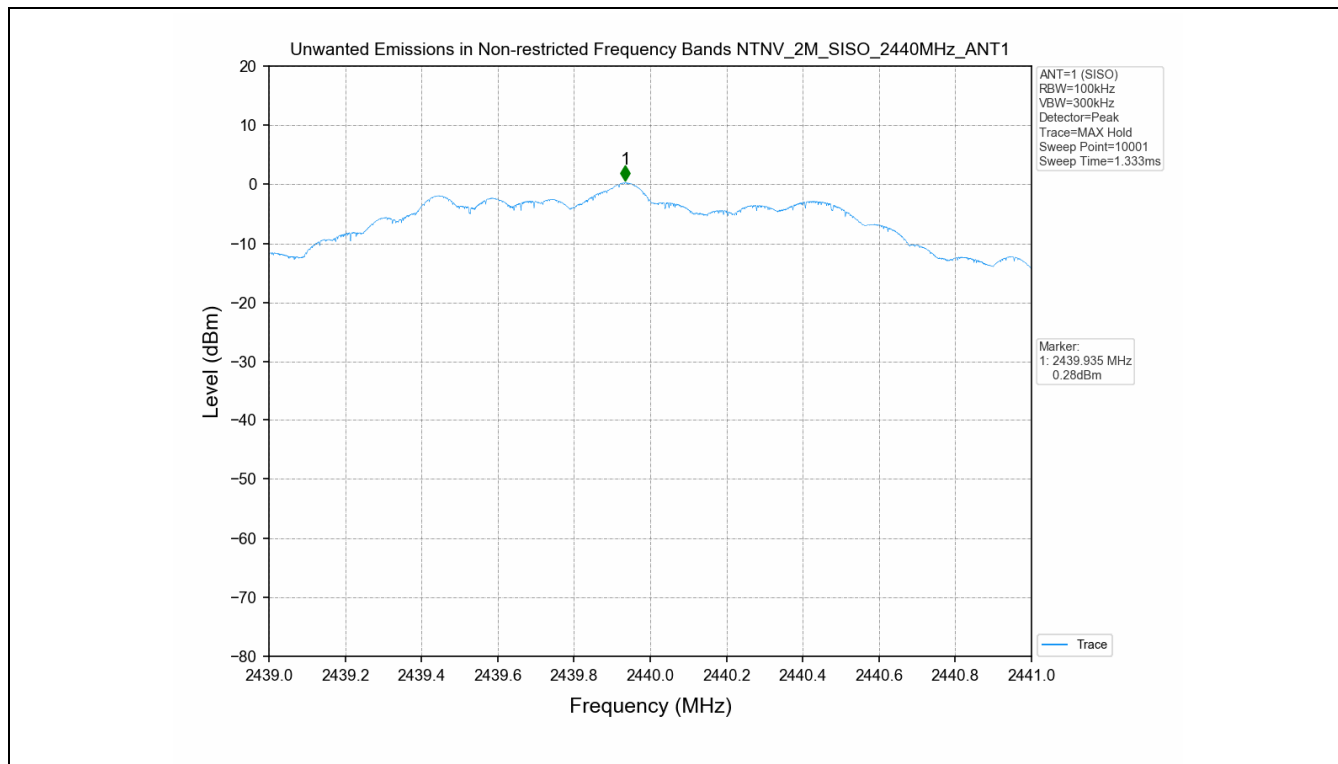
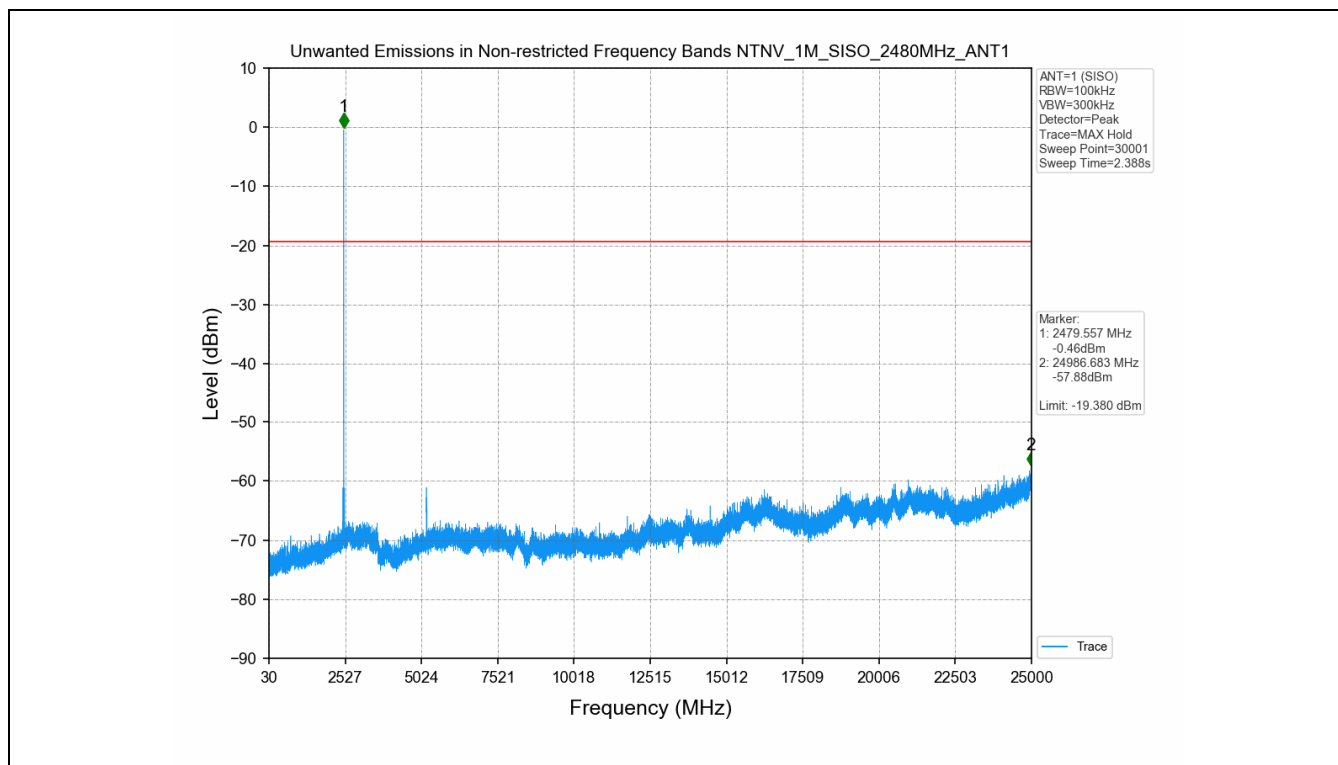
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

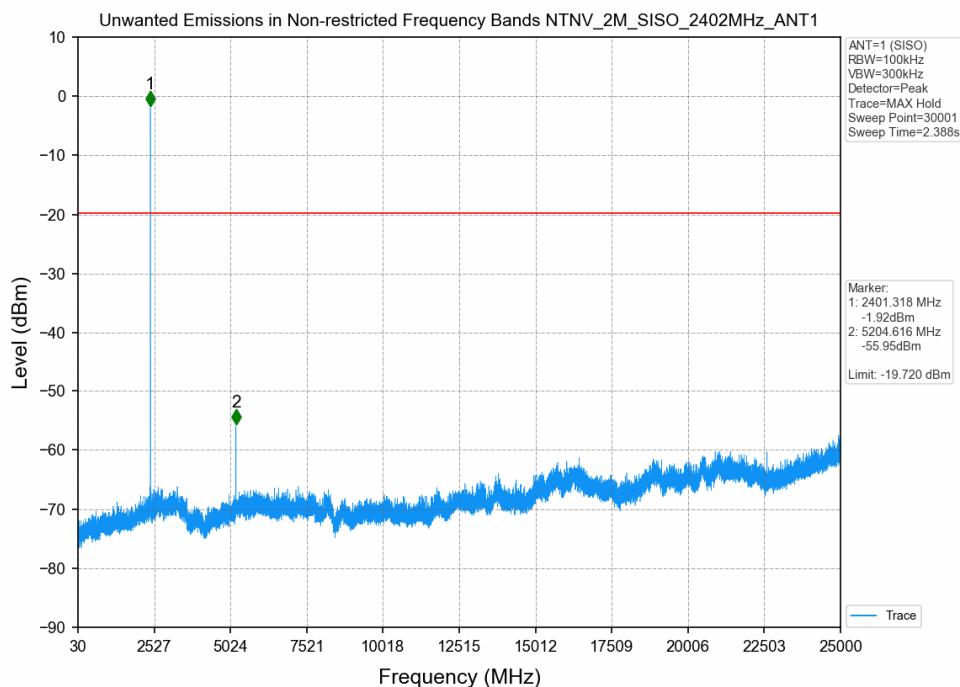
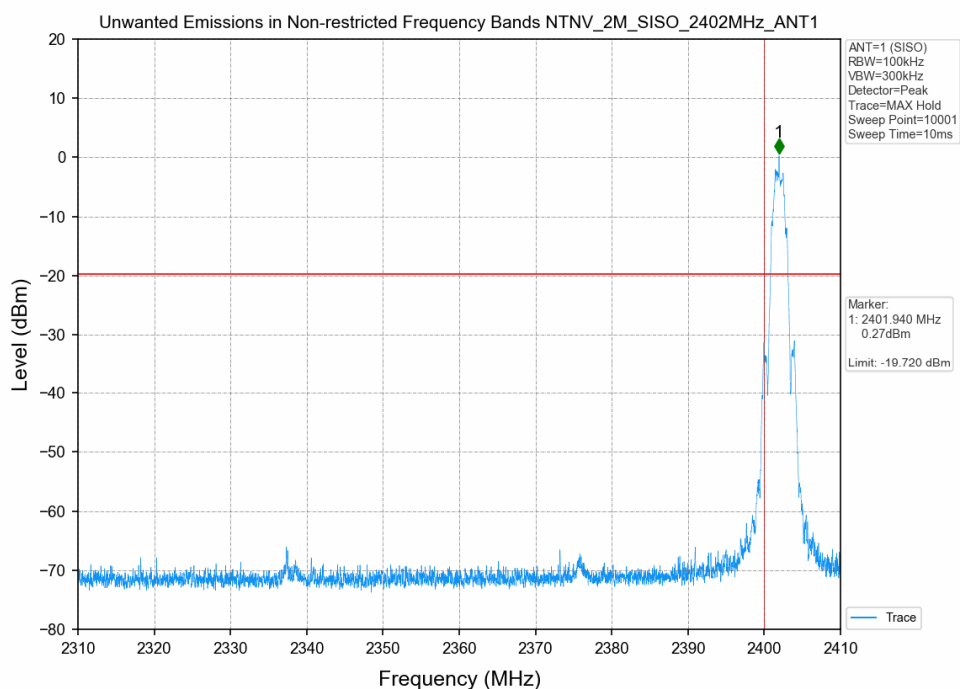
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

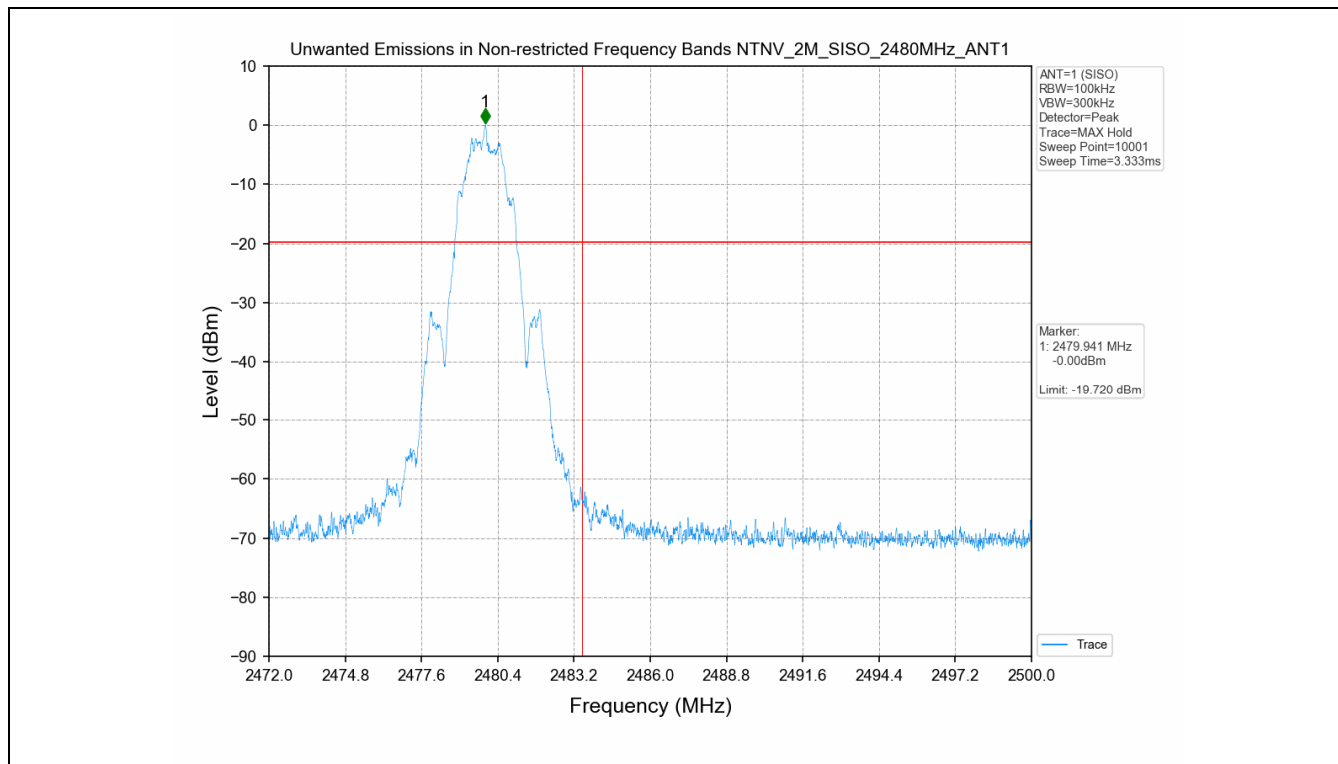
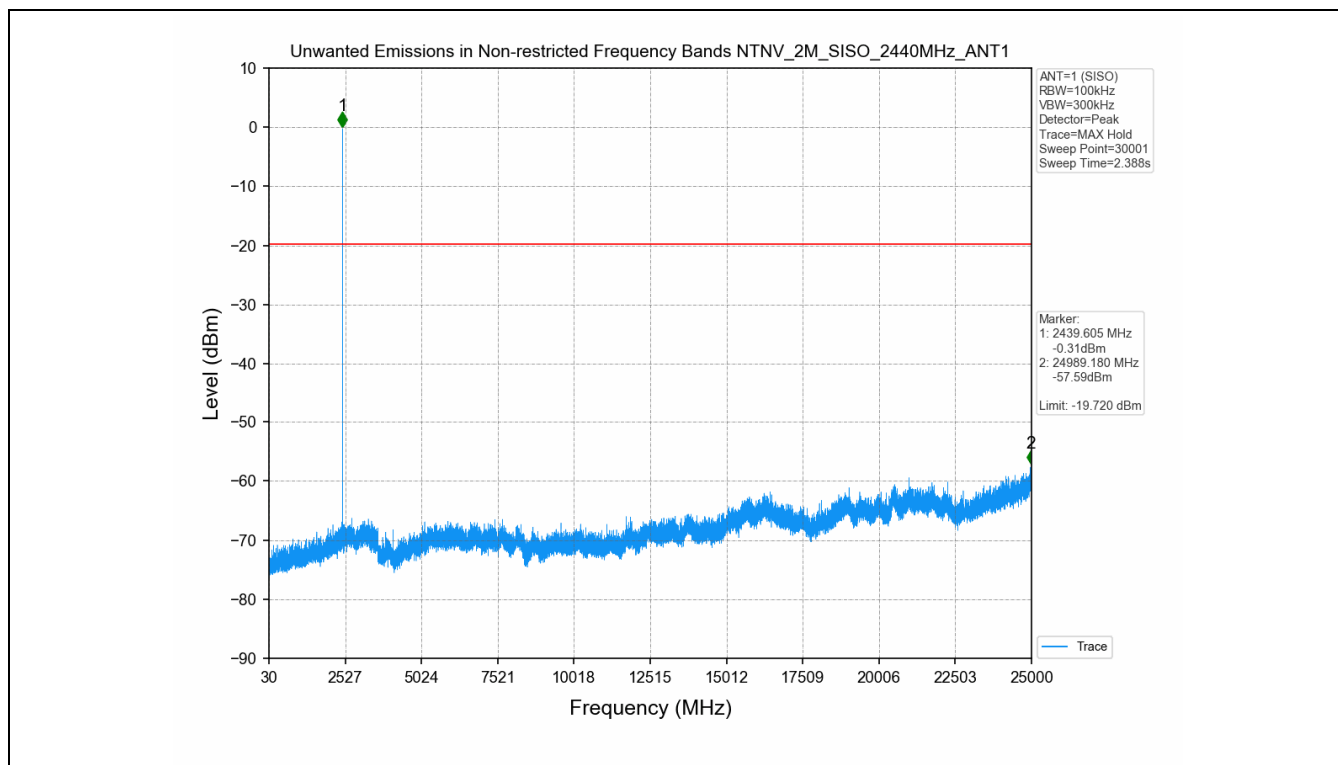
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (China) EMC Laboratory

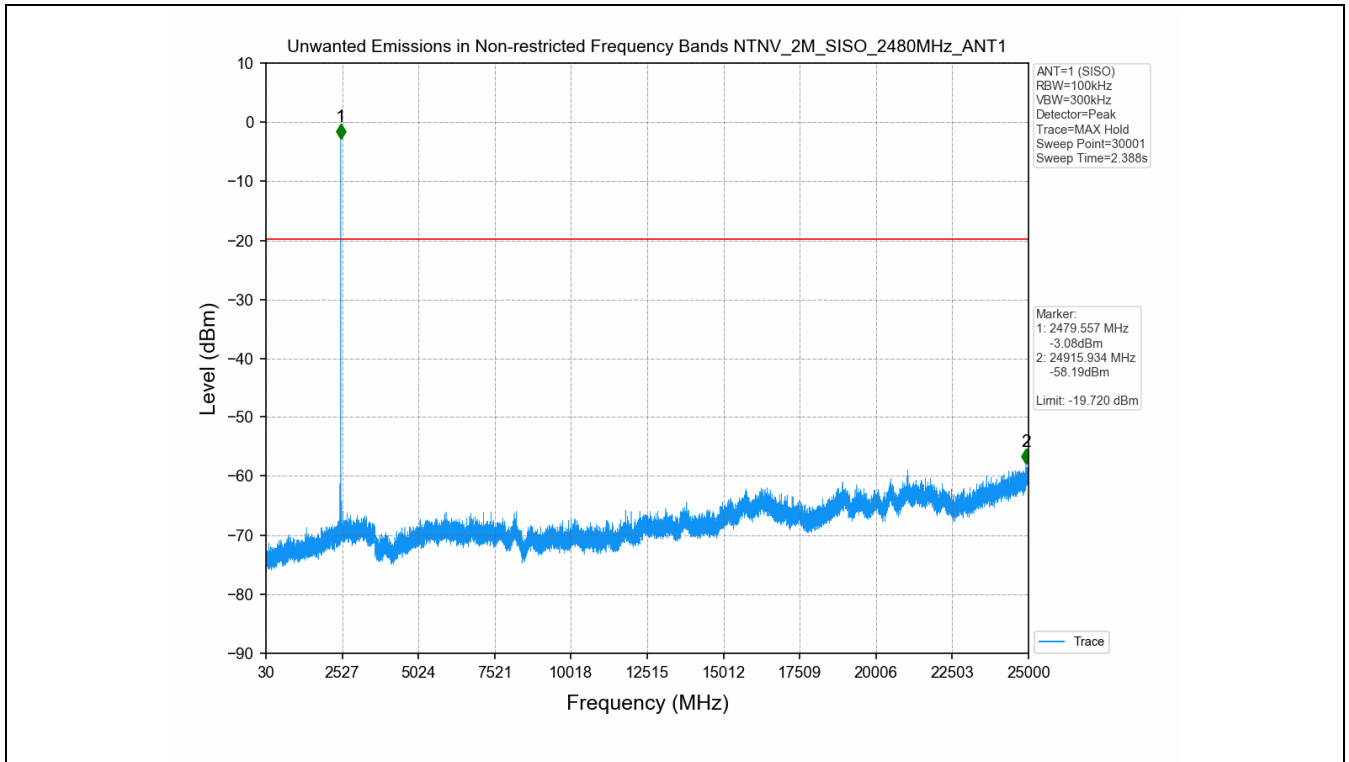
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com











- End of the Report -

