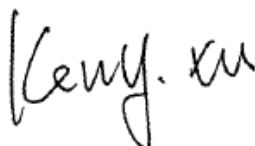


TEST REPORT

Application No.: SZEM2103002456CR
Applicant: UBTECH ROBOTICS CORP LTD
Address of Applicant: 16th and 22ND Floor, block C1 Nanshan I Park, NO.1001 Xueyuan Road, Nanshan District, Shenzhen City, 518055, P.R.CHINA
Manufacturer: UBTECH ROBOTICS CORP LTD
Address of Manufacturer: 16th and 22ND Floor, block C1 Nanshan I Park, NO.1001 Xueyuan Road, Nanshan District, Shenzhen City, 518055, P.R.CHINA
Factory: UBTECH ROBOTICS CORP LTD BAOAN BRANCH
Address of Factory: 1-2Floor, Block B, Huilongda Industry Park, Shilongzai, Shiyan Street, Baoan District, Shenzhen City, P.R.CHINA
Equipment Under Test (EUT):
EUT Name: ADIBOT-S
Model No.: ADAS101
Trade Mark: UBTECH
FCC ID: 2AHJX-ADAS101S
Standard(s) : 47 CFR Part 15, Subpart E 15.407
Date of Receipt: 2021-03-05
Date of Test: 2021-03-09 to 2021-03-23
Date of Issue: 2021-03-23

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

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



Keny Xu
EMC Laboratory Manager



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

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-03-23		Original

Authorized for issue by:				
		Leo Li		
		Leo Li/Project Engineer		
		Eric Fu		
		Eric Fu/Reviewer		



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-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 E 15.407	N/A	47 CFR Part 15, Subpart C 15.203	Pass
Transmission in the Absence of Data		N/A	47 CFR Part 15, Subpart C 15.407 (c)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207 & 15.407 b(6)	Pass
Duty Cycle		KDB 789033 II B 1	KDB 789033 D02 II B 1	Pass
99% Bandwidth		KDB 789033 II D	N/A	Pass
26dB Emission bandwidth		KDB 789033 D02 II C 1	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band)		KDB 789033 D02 II C 2	47 CFR Part 15, Subpart C 15.407 (e)	Pass
Maximum Conducted output power		KDB 789033 D02 II E	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Peak Power spectrum density		KDB 789033 D02 II F	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Radiated Emissions (Below 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Radiated Emissions (Above 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Radiated Emissions which fall in the restricted bands		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Frequency Stability		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.407 (g)	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

3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	6
4.1 DETAILS OF E.U.T.	6
4.2 DESCRIPTION OF SUPPORT UNITS	6
4.3 MEASUREMENT UNCERTAINTY	7
4.4 TEST LOCATION	8
4.5 TEST FACILITY	8
4.6 DEVIATION FROM STANDARDS	8
4.7 ABNORMALITIES FROM STANDARD CONDITIONS	8
5 EQUIPMENT LIST	9
6 RADIO SPECTRUM TECHNICAL REQUIREMENT	14
6.1 ANTENNA REQUIREMENT	14
6.1.1 Test Requirement:	14
6.1.2 Conclusion	14
6.2 TRANSMISSION IN THE ABSENCE OF DATA	15
6.2.1 Test Requirement:	15
6.2.2 Conclusion	15
7 RADIO SPECTRUM MATTER TEST RESULTS	16
7.1 CONDUCTED EMISSIONS AT AC POWER LINE (150kHz-30MHz)	16
7.1.1 E.U.T. Operation	16
7.1.2 Test Mode Description	16
7.1.3 Test Setup Diagram	17
7.1.4 Measurement Procedure and Data	17
7.2 DUTY CYCLE	20
7.2.1 E.U.T. Operation	20
7.2.2 Test Mode Description	20
7.2.3 Test Setup Diagram	21
7.2.4 Measurement Procedure and Data	21
7.3 99% BANDWIDTH	22
7.3.1 E.U.T. Operation	22
7.3.2 Test Mode Description	22
7.3.3 Test Setup Diagram	23
7.3.4 Measurement Procedure and Data	23
7.4 26dB EMISSION BANDWIDTH	24
7.4.1 E.U.T. Operation	24
7.4.2 Test Mode Description	24
7.4.3 Test Setup Diagram	25
7.4.4 Measurement Procedure and Data	25



7.5	MINIMUM 6 DB BANDWIDTH (5.725-5.85 GHZ BAND)	26
7.5.1	E.U.T. Operation	26
7.5.2	Test Mode Description	26
7.5.3	Test Setup Diagram	26
7.5.4	Measurement Procedure and Data	26
7.6	MAXIMUM CONDUCTED OUTPUT POWER	27
7.6.1	E.U.T. Operation	27
7.6.2	Test Mode Description	27
7.6.3	Test Setup Diagram	28
7.6.4	Measurement Procedure and Data	28
7.7	PEAK POWER SPECTRUM DENSITY	29
7.7.1	E.U.T. Operation	29
7.7.2	Test Mode Description	29
7.7.3	Test Setup Diagram	30
7.7.4	Measurement Procedure and Data	30
7.8	RADIATED EMISSIONS (BELOW 1GHz)	31
7.8.1	E.U.T. Operation	31
7.8.2	Test Mode Description	31
7.8.3	Test Setup Diagram	32
7.8.4	Measurement Procedure and Data	33
7.9	RADIATED EMISSIONS (ABOVE 1GHz)	38
7.9.1	E.U.T. Operation	39
7.9.2	Test Mode Description	39
7.9.3	Test Setup Diagram	39
7.9.4	Measurement Procedure and Data	40
7.10	RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS	97
7.10.1	E.U.T. Operation	98
7.10.2	Test Mode Description	98
7.10.3	Test Setup Diagram	98
7.10.4	Measurement Procedure and Data	99
7.11	FREQUENCY STABILITY	166
7.11.1	E.U.T. Operation	166
7.11.2	Test Mode Description	166
7.11.3	Test Setup Diagram	167
7.11.4	Measurement Procedure and Data	167
8	TEST SETUP PHOTO	168
9	EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	168
10	APPENDIX	169



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

4 General Information

4.1 Details of E.U.T.

Power supply:	AC 120V/60Hz		
AC cable:	800cm unshielded		
Operation Frequency (20MHz):	U-NII-1: 5180-5240MHz; U-NII-3: 5745-5825MHz		
Operation Frequency (40MHz):	U-NII-1: 5190-5230MHz; U-NII-3: 5755-5795MHz		
Operation Frequency (80MHz):	U-NII-1: 5210MHz; U-NII-3: 5775MHz		
Channel Spacing:	802.11a/n(HT20)/ac(HT20): 20MHz; 802.11n(HT40)/ac(HT40): 40MHz; 802.11ac(HT80): 80MHz		
Antenna Type:	FPC Antenna		
Antenna Gain:	ANT1: 5.1dBi; ANT2: 5.1dBi		
Operation Frequency:	Band	Mode	Frequency Range(MHz)
	UNII Band I	IEEE 802.11a	5180-5240
		IEEE 802.11n/ac 20MHz	5180-5240
		IEEE 802.11n/ac 40MHz	5190-5230
		IEEE 802.11ac 80MHz	5210
	UNII Band III	IEEE 802.11a	5745-5825
		IEEE 802.11n/ac 20MHz	5745-5825
		IEEE 802.11n/ac 40MHz	5755-5795
		IEEE 802.11ac 80MHz	5775
	Number of channels		
Type of Modulation:	IEEE 802.11a: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11n: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11ac: OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)		
Remark:	Two Antennas can simultaneous transmit WIFI signal at 802.11n(HT20), 802.11n(HT40), 802.11ac(HT20), 802.11ac(HT40), 802.11ac(HT80) modes.		

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--
The EUT has been tested as an independent unit.			

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	$\pm 3.0\text{dB}$ (150kHz to 30MHz)
Duty Cycle	$\pm 0.37\%$
99% Bandwidth	$\pm 3\%$
26dB Emission bandwidth	$\pm 3\%$
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	$\pm 3\%$
Maximum Conducted output power	$\pm 0.75\text{dB}$
Peak Power spectrum density	$\pm 2.84\text{dB}$
Radiated Emissions (Above 1GHz)	$\pm 4.8\text{dB}$
Radiated Emissions which fall in the restricted bands	$\pm 4.5\text{dB}$ (below 1GHz); $\pm 4.8\text{dB}$ (above 1GHz);
Frequency Stability	$\pm 7.25 \times 10^{-8}$
Radiated Emissions (Below 1GHz)	$\pm 4.5\text{dB}$

Remark:

The U_{lab} (lab Uncertainty) is less than U_{CISPR} (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

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.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

5 Equipment List

Conducted Emissions at 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
EMI Test Receiver	Rohde&Schwarz	ESCI	SEM004-02	2020-03-24	2021-03-23
Switch	WEINSCHEL ENGINEERING	1506A	SEN009-01	N/A	N/A
Matching Pad	anzac	PT-75	SEN009-02	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020-07-10	2021-07-09
LISN	Rohde&Schwarz	ENV216	SEM007-01	2020-09-23	2021-09-22
LISN	ETS-LINDGREN	3816/2	SEM007-02	2020-04-01	2021-03-31

Duty Cycle					
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
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

99% 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
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

26dB Emission 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
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24



Minimum 6 dB bandwidth (5.725-5.85 GHz band)					
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
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

Maximum Conducted 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
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24



Peak 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
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

Radiated Emissions (Above 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-27	2021-03-26
				2021-03-26	2024-03-25
EXA Signal 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
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09

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	2018-03-27	2021-03-26
				2021-03-26	2024-03-25
EXA Signal 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
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09



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

Frequency Stability					
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
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-07-19	2023-07-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2020-11-02	2021-11-01
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-02	2019-05-24	2022-05-23
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2020-04-01	2021-03-31
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020-07-10	2021-07-09

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-04-07	2021-04-06



6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

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 use an unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

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.

This requirement does not apply to carrier current devices or to devices operated under the provisions of §§ 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site.

However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 5.1dBi for both ANT 1 and ANT 2.

Antenna location: Refer to internal photo.



6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 15.407 (c)

6.2.2 Conclusion

Standard Requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

Applicants shall include in their application for equipment authorization a description of how this requirement is met.

EUT Details:

WIFI chip support automatically discontinue transmission in case of either absence of information to transmit or operational failure, if the chip detect absence of information to transmit or operational failure, it will be automatically shut off.



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 & 15.407 b(6)
Test Method: ANSI C63.10 (2013) Section 6.2
Limit:

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

7.1.1 E.U.T. Operation

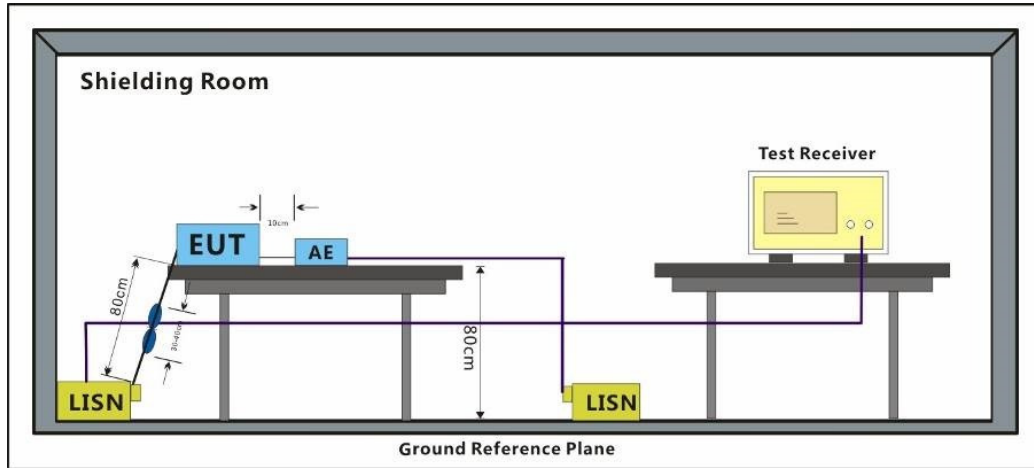
Operating Environment:
Temperature: 21.0 °C Humidity: 52.3 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Pre-scan	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.1.3 Test Setup Diagram



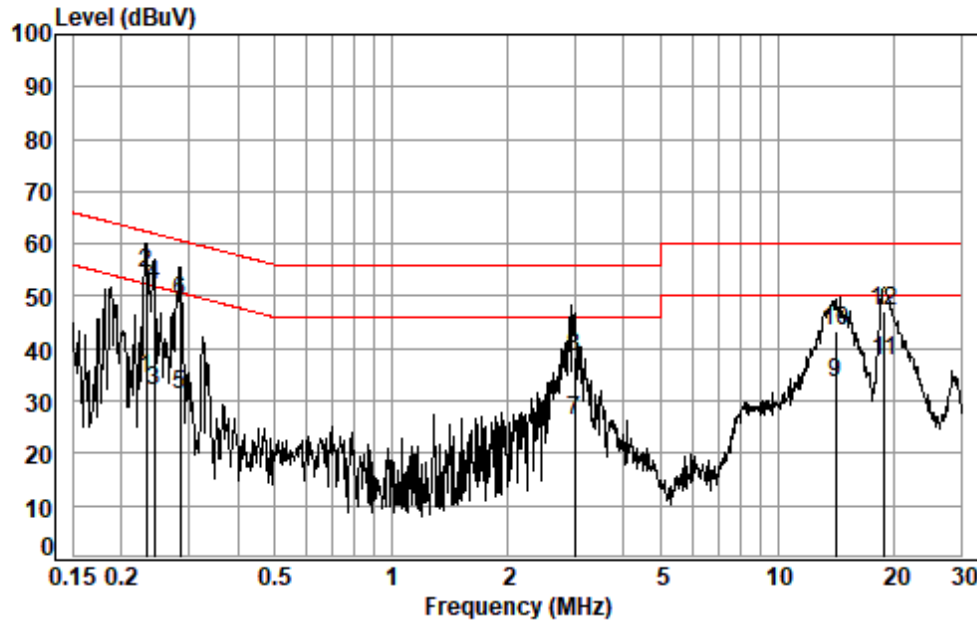
7.1.4 Measurement Procedure and Data

- 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 + 50hm 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



Test Mode: 03; Line: Live line

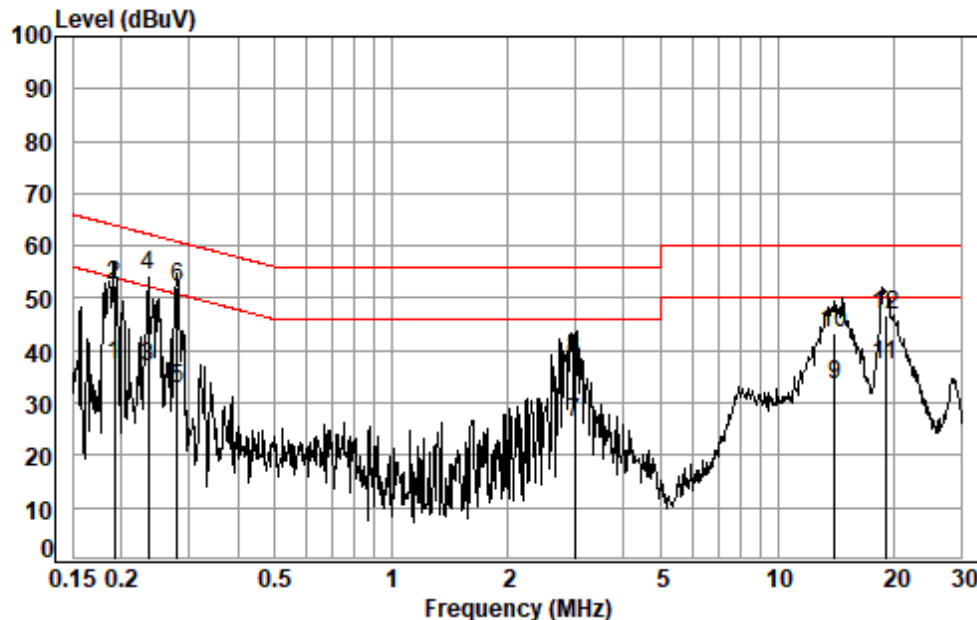


Site : Shielding Room
Condition: Line
Job No. : 02456CR
Test mode: 03

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.2316	0.04	9.65	24.53	34.22	52.39	-18.17	Average
2	0.2316	0.04	9.65	44.82	54.51	62.39	-7.88	QP
3	0.2429	0.04	9.65	22.22	31.91	52.00	-20.09	Average
4	0.2429	0.04	9.65	42.30	51.99	62.00	-10.01	QP
5	0.2848	0.05	9.66	21.45	31.16	50.68	-19.52	Average
6	0.2848	0.05	9.66	39.38	49.09	60.68	-11.59	QP
7	2.9796	0.14	9.71	16.53	26.38	46.00	-19.62	Average
8	2.9796	0.14	9.71	28.43	38.28	56.00	-17.72	QP
9	14.1376	0.16	9.96	23.49	33.61	50.00	-16.39	Average
10	14.1376	0.16	9.96	33.20	43.32	60.00	-16.68	QP
11	18.9205	0.17	9.93	27.44	37.54	50.00	-12.46	Average
12	18.9205	0.17	9.93	36.94	47.04	60.00	-12.96	QP



Test Mode: 03; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 02456CR
Test mode: 03

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1924	0.04	9.63	27.58	37.25	53.93	-16.68	Average
2	0.1924	0.04	9.63	42.76	52.43	63.93	-11.50	QP
3	0.2353	0.04	9.64	27.38	37.06	52.26	-15.20	Average
4	0.2353	0.04	9.64	44.63	54.31	62.26	-7.95	QP
5	0.2788	0.05	9.65	23.06	32.76	50.85	-18.09	Average
6	0.2788	0.05	9.65	42.47	52.17	60.85	-8.68	QP
7	2.9780	0.14	9.70	16.48	26.32	46.00	-19.68	Average
8	2.9780	0.14	9.70	28.52	38.36	56.00	-17.64	QP
9	14.0629	0.16	9.99	23.31	33.46	50.00	-16.54	Average
10	14.0629	0.16	9.99	33.01	43.16	60.00	-16.84	QP
11	19.0210	0.17	9.97	27.03	37.17	50.00	-12.83	Average
12	19.0210	0.17	9.97	36.63	46.77	60.00	-13.23	QP



7.2 Duty Cycle

Test Requirement KDB 789033 D02 II B 1
Test Method: KDB 789033 II B 1

7.2.1 E.U.T. Operation

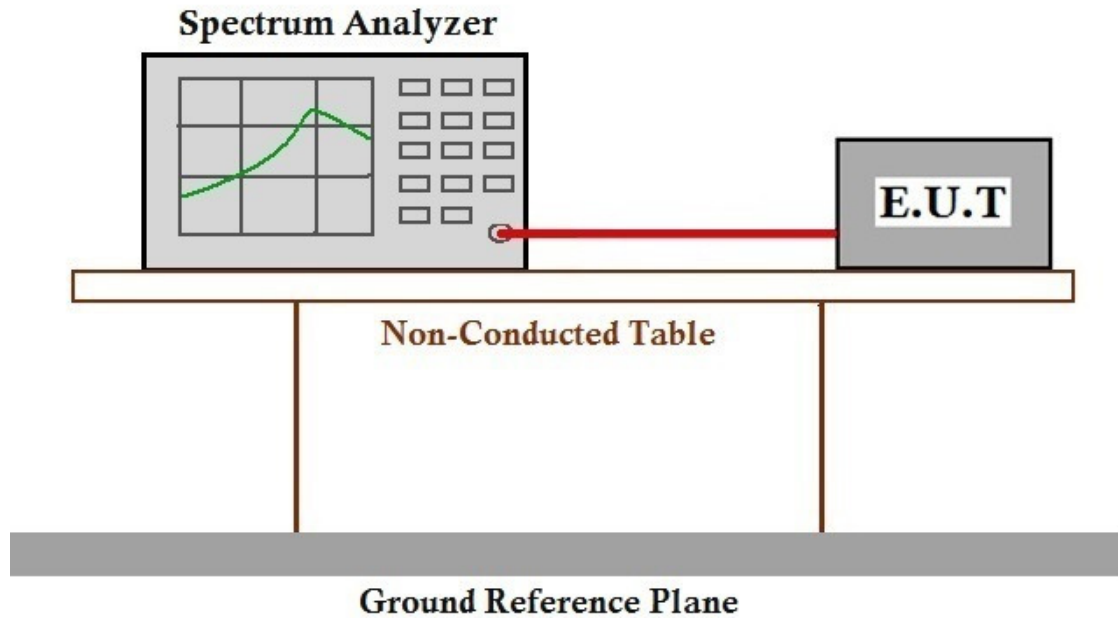
Operating Environment:
Temperature: 21.1 °C Humidity: 39.8 % RH Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

Please Refer To Appendix For Details



7.3 99% Bandwidth

Test Requirement N/A
Test Method: KDB 789033 II D

7.3.1 E.U.T. Operation

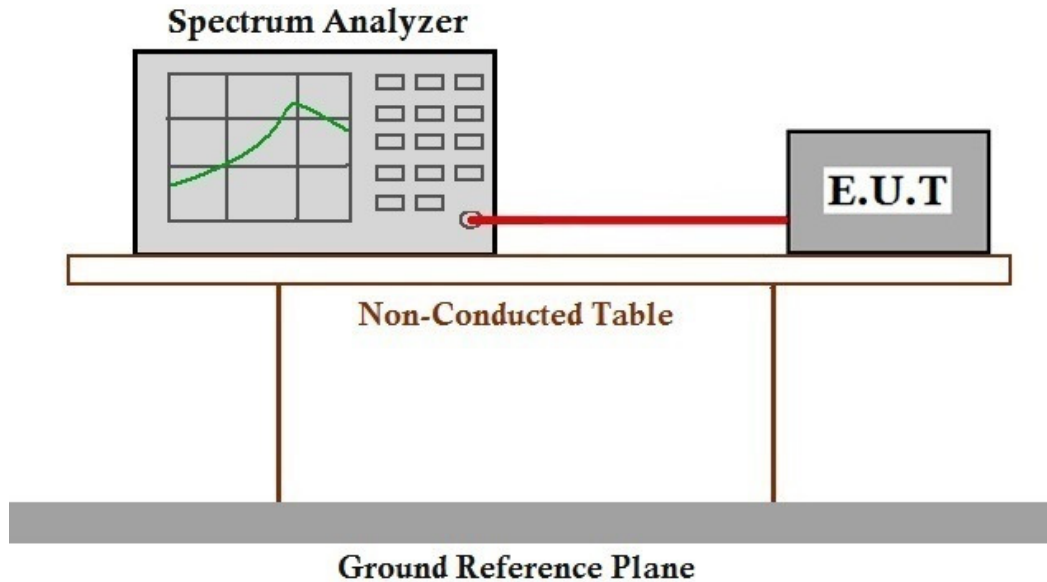
Operating Environment:
Temperature: 21.1 °C Humidity: 39.8 % RH Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

Please Refer To Appendix For Details



7.4 26dB Emission bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)
Test Method: KDB 789033 D02 II C 1

7.4.1 E.U.T. Operation

Operating Environment:

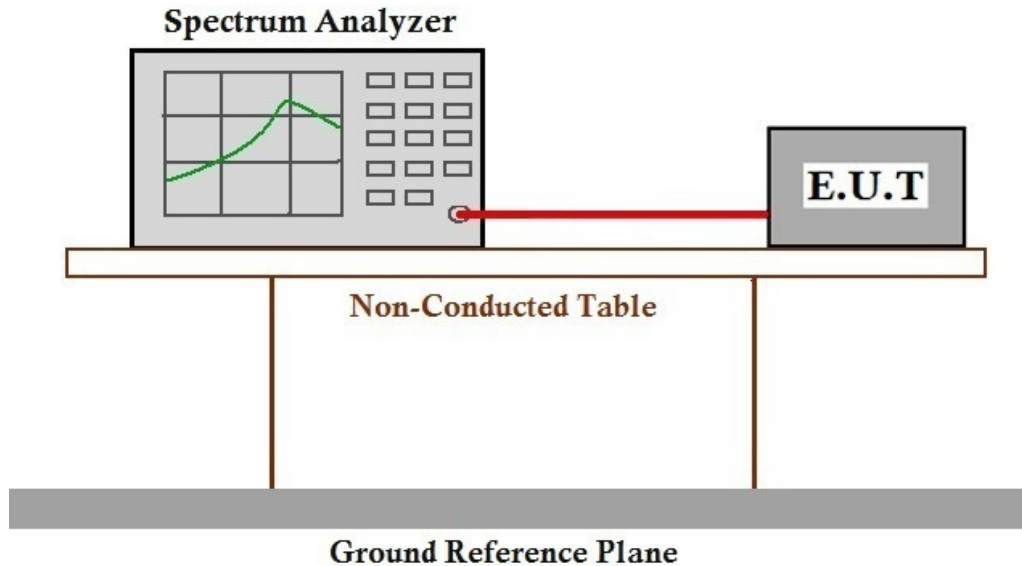
Temperature: 21.1 °C Humidity: 39.8 % RH Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

Please Refer To Appendix For Details



7.5 Minimum 6 dB bandwidth (5.725-5.85 GHz band)

Test Requirement 47 CFR Part 15, Subpart C 15.407 (e)

Test Method: KDB 789033 D02 II C 2

Limit:

Frequency band(MHz)	Limit
5725-5850	≥500 kHz

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 21.1 °C

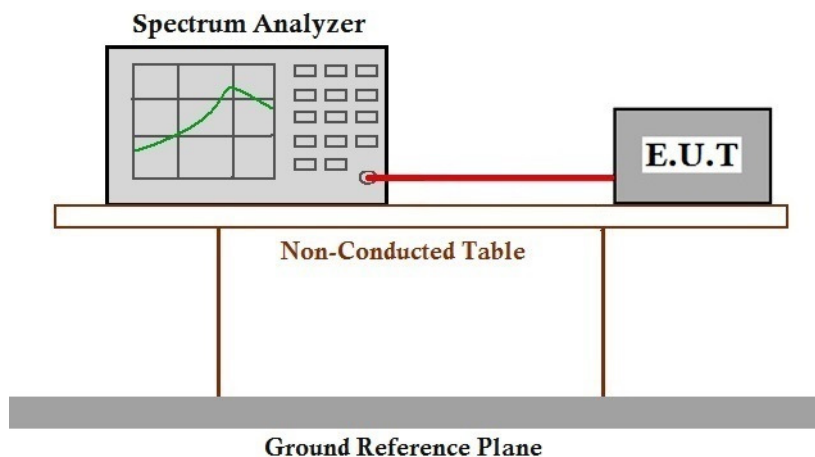
Humidity: 39.8 % RH

Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Please Refer To Appendix 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

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

7.6 Maximum Conducted output power

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II E

Limit:

Frequency band(MHz)	Limit
5150-5250	≤1W(30dBm) for master device
	≤250mW(24dBm) for client device
5250-5350	≤250mW(24dBm) for client device or 11dBm+10logB*
5470-5725	≤250mW(24dBm) for client device or 11dBm+10logB*
5725-5850	≤1W(30dBm)
Remark:	* Where B is the 26dB emission bandwidth in MHz. The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

7.6.1 E.U.T. Operation

Operating Environment:

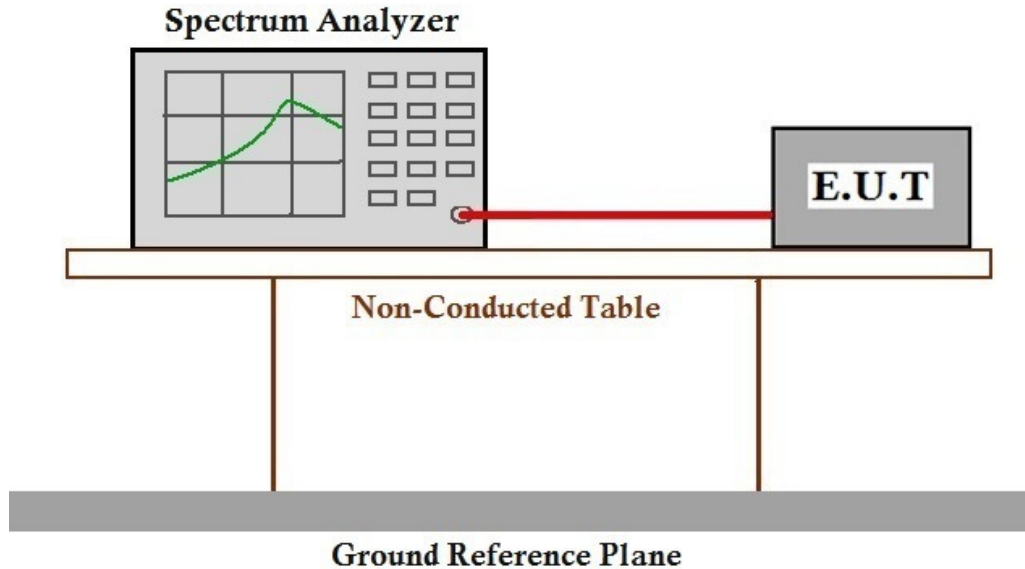
Temperature: 21.1 °C Humidity: 39.8 % RH Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer To Appendix For Details



7.7 Peak Power spectrum density

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II F

Limit:

Frequency band(MHz)	Limit
5150-5250	≤17dBm in 1MHz for master device
	≤11dBm in 1MHz for client device
5250-5350	≤11dBm in 1MHz for client device
5470-5725	≤11dBm in 1MHz for client device
5725-5850	≤30dBm in 500 kHz
Remark:	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 21.1 °C

Humidity: 39.8 % RH

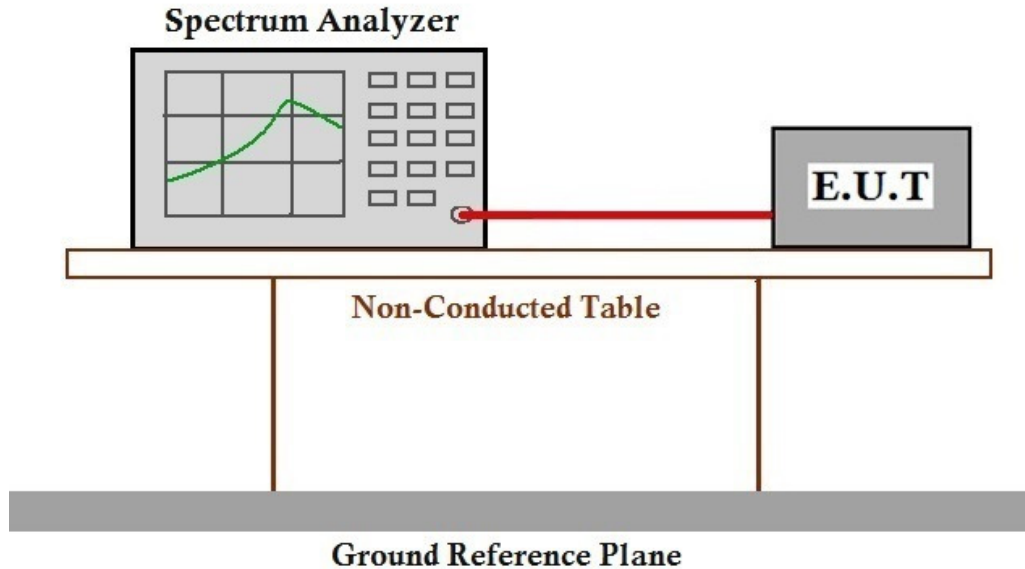
Atmospheric Pressure: 1010 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer To Appendix For Details



7.8 Radiated Emissions (Below 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)
Test Method: KDB 789033 D02 II G
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
960-1000	500	3

7.8.1 E.U.T. Operation

Operating Environment:

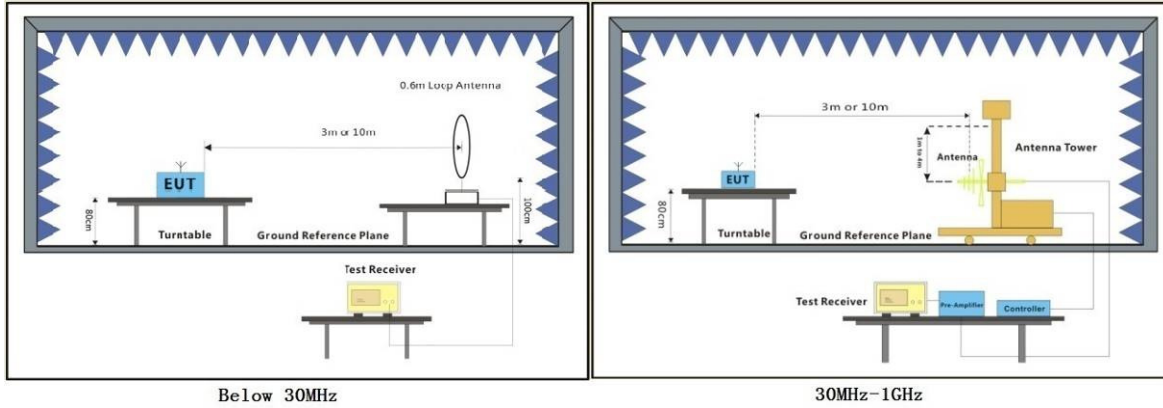
Temperature: 23.2 °C Humidity: 51.3 % RH Atmospheric Pressure: 1010 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

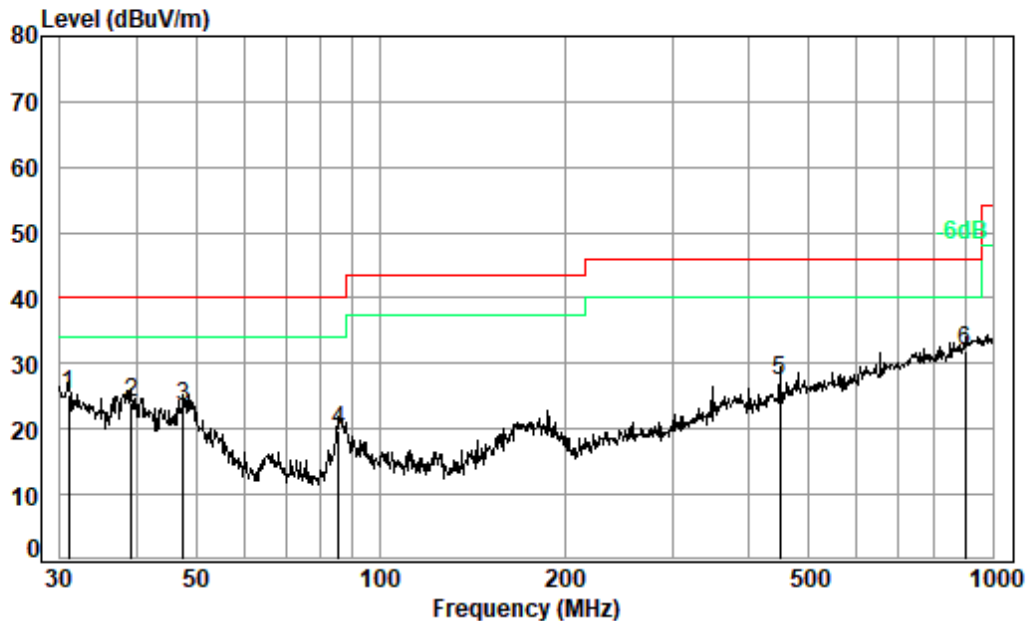
- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.
3. Scan from 9kHz to 30MHz, the disturbance 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. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



Test Mode: 03; Polarity: Horizontal



Condition: 3m HORIZONTAL

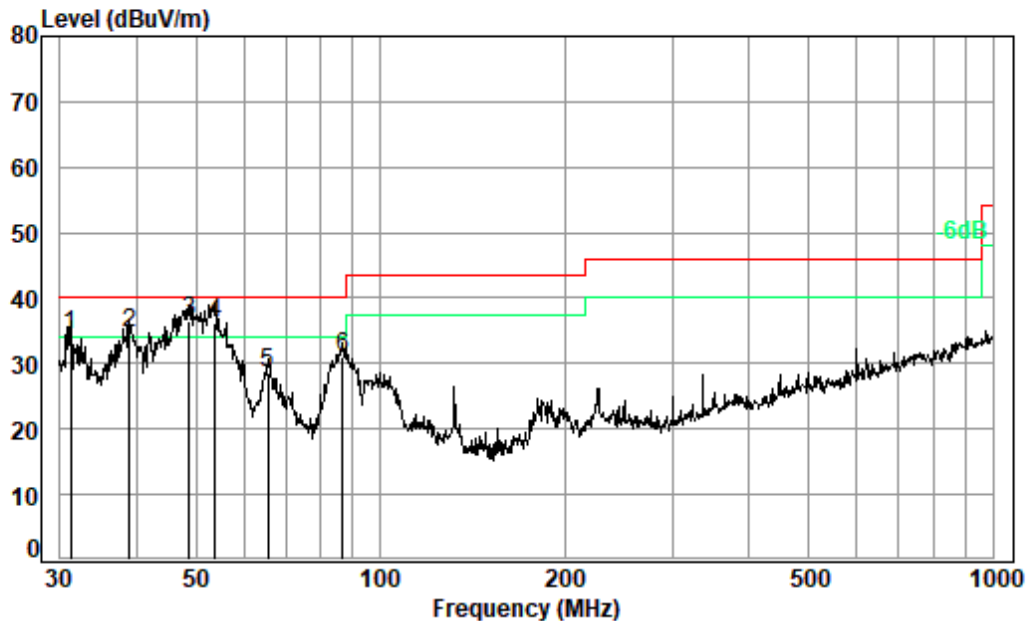
Job No. : 02456CR

Test Mode: 03

	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	30.96	0.61	22.27	27.73	30.21	25.36	40.00	-14.64	QP
2	39.30	0.69	18.41	27.71	32.71	24.10	40.00	-15.90	QP
3	47.66	0.70	14.77	27.69	35.55	23.33	40.00	-16.67	QP
4	85.60	1.26	12.46	27.63	33.82	19.91	40.00	-20.09	QP
5	449.56	2.40	22.78	27.61	29.79	27.36	46.00	-18.64	QP
6 pp	900.15	3.50	28.90	27.16	26.76	32.00	46.00	-14.00	QP



Test Mode: 03; Polarity: Vertical



Condition: 3m VERTICAL

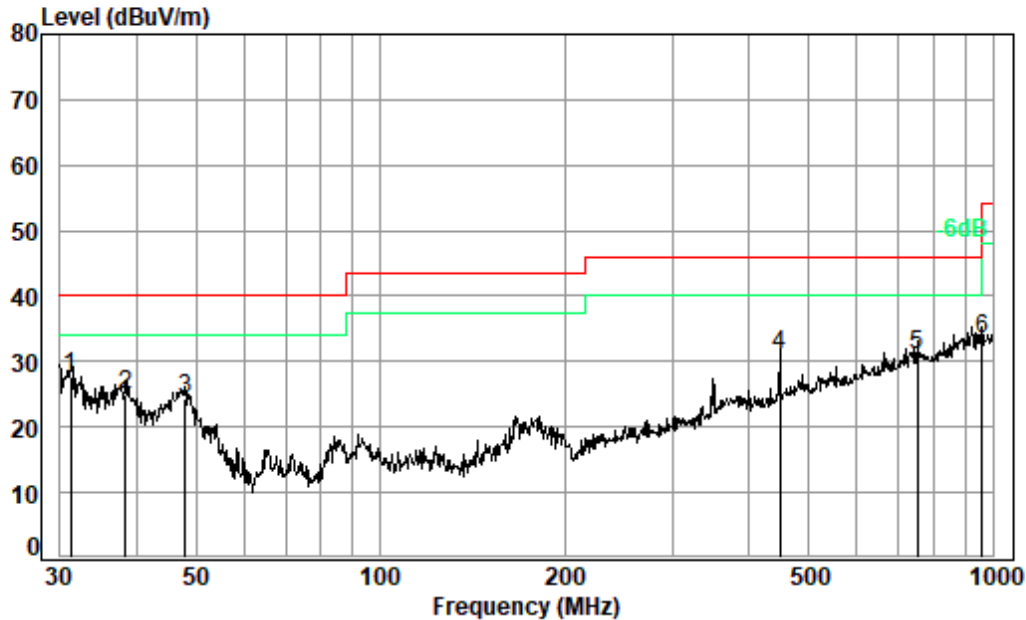
Job No. : 02456CR

Test Mode: 03

	Freq	Cable	Ant	Preamp	Read	Limit	Over	
	MHz	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	31.18	0.61	22.10	27.73	39.50	34.48	40.00	-5.52 QP
2	39.02	0.69	18.58	27.71	43.02	34.58	40.00	-5.42 QP
3 pp	48.84	0.70	14.39	27.68	49.08	36.49	40.00	-3.51 QP
4	53.69	0.74	13.50	27.67	49.59	36.16	40.00	-3.84 QP
5	65.57	0.80	12.78	27.65	42.71	28.64	40.00	-11.36 QP
6	86.81	1.27	12.66	27.62	44.73	31.04	40.00	-8.96 QP



Test Mode: 04; Polarity: Horizontal



Condition: 3m HORIZONTAL

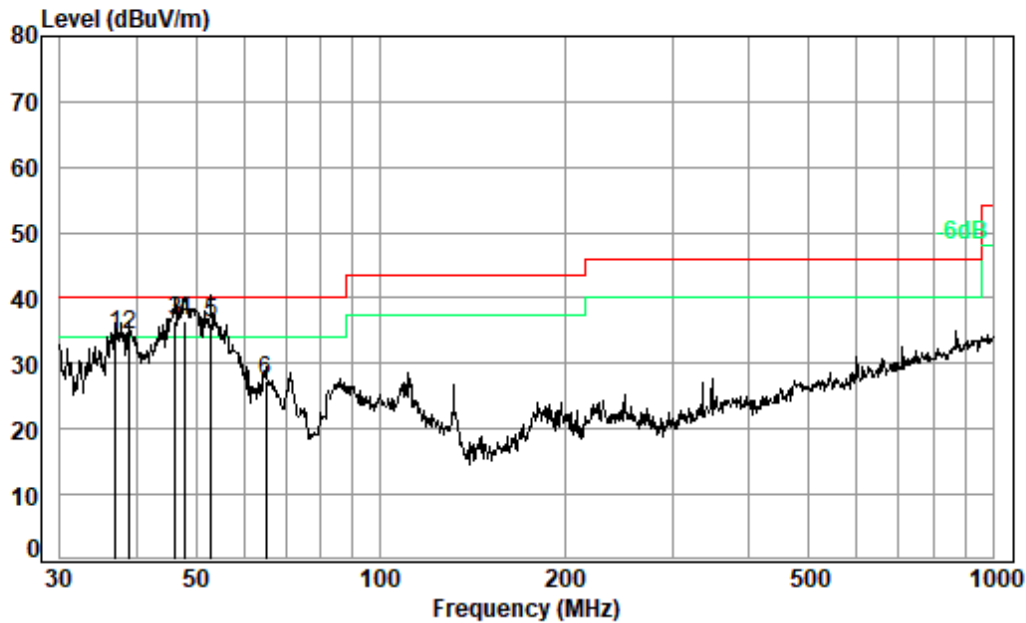
Job No. : 02456CR

Test Mode: 04

	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 pp	31.18	0.61	22.10	27.73	32.57	27.55	40.00	-12.45	QP
2	38.35	0.69	18.99	27.71	33.08	25.05	40.00	-14.95	QP
3	47.99	0.70	14.60	27.69	36.65	24.26	40.00	-15.74	QP
4	449.56	2.40	22.78	27.61	33.32	30.89	46.00	-15.11	QP
5	752.74	3.12	27.94	27.81	27.90	31.15	46.00	-14.85	QP
6	958.79	3.56	29.48	26.86	27.22	33.40	46.00	-12.60	QP



Test Mode: 04; Polarity: Vertical



Condition: 3m VERTICAL

Job No. : 02456CR

Test Mode: 04

	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	37.02	0.67	19.44	27.71	41.86	34.26	40.00	-5.74	QP
2	38.89	0.69	18.66	27.71	42.75	34.39	40.00	-5.61	QP
3 pp	46.34	0.70	15.43	27.69	47.96	36.40	40.00	-3.60	QP
4	47.99	0.70	14.60	27.69	48.78	36.39	40.00	-3.61	QP
5	52.95	0.73	13.50	27.68	49.69	36.24	40.00	-3.76	QP
6	65.11	0.80	12.76	27.65	41.62	27.53	40.00	-12.47	QP



7.9 Radiated Emissions (Above 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1GHz	500	3

*(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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.

7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C

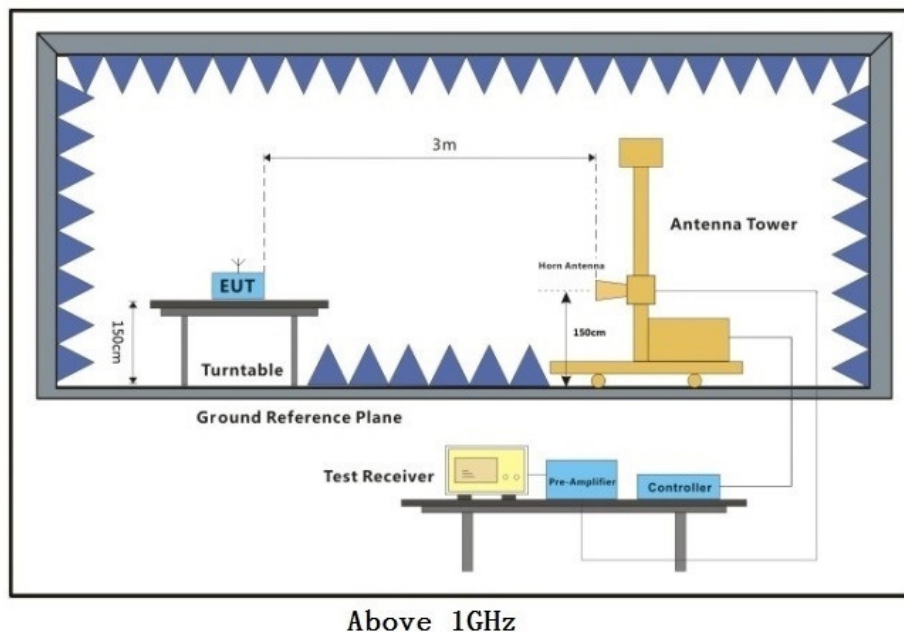
Humidity: 56.3 % RH

Atmospheric Pressure: 1010 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

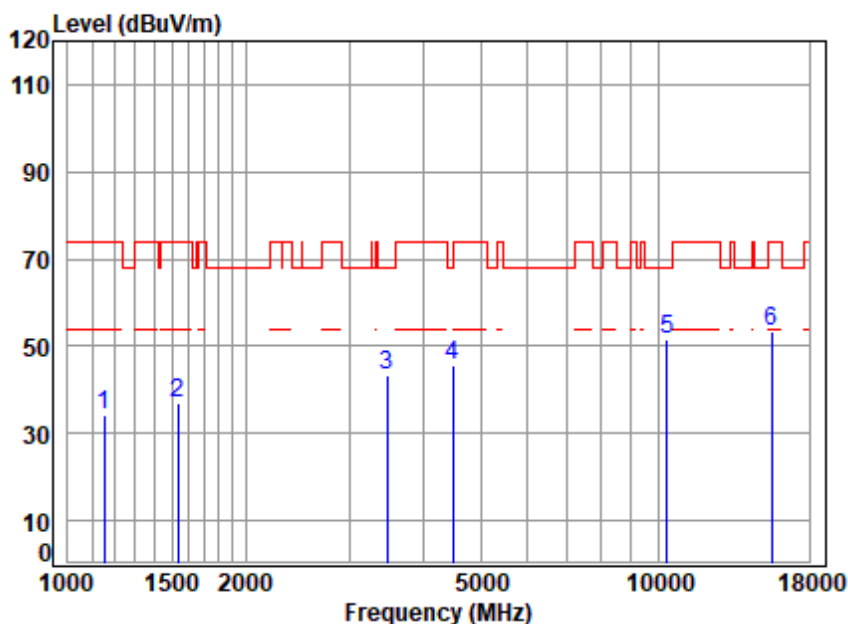
- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 18GHz to 40GHz, the disturbance above 18GHz 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.
3. As shown in this section, 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.
4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

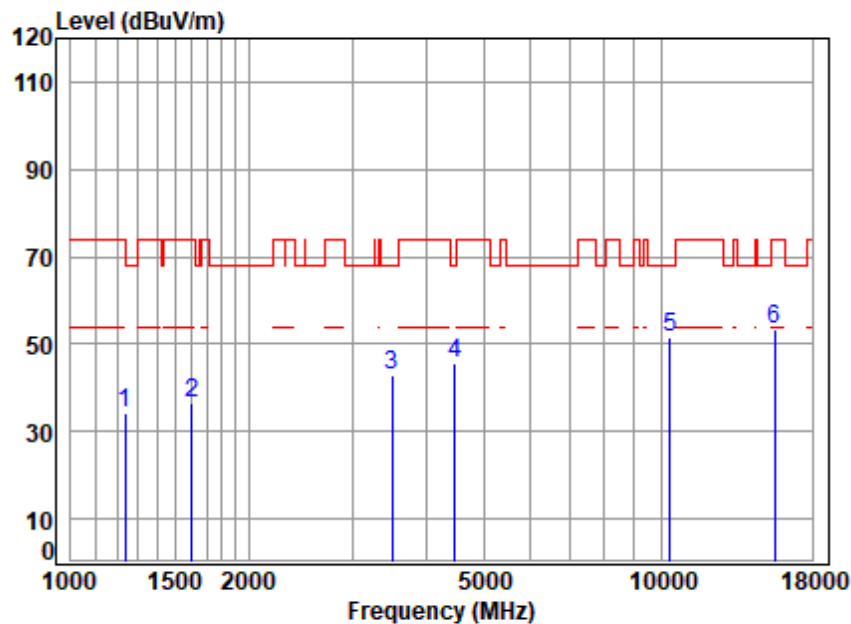


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 TX RSE
Note : 5G WIFI 11A

	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 1152.148	2.67	24.37	39.72	46.95	34.27	74.00	-39.73 peak
2 1538.281	3.29	25.98	39.97	47.75	37.05	74.00	-36.95 peak
3 3475.541	5.49	31.66	41.06	47.06	43.15	68.20	-25.05 peak
4 4482.150	6.74	33.57	41.86	47.23	45.68	68.20	-22.52 peak
5 10360.000	10.57	37.76	37.29	40.30	51.34	68.20	-16.86 peak
6 15540.000	13.97	40.72	40.38	39.01	53.32	74.00	-20.68 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

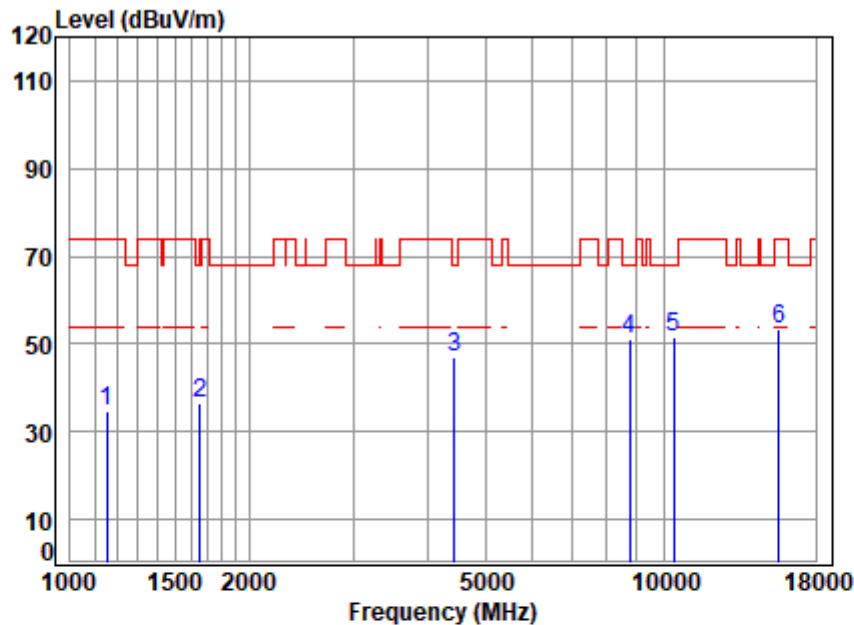


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 TX RSE
Note : 5G WIFI 11A

	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 1238.483	2.83	24.76	39.79	46.44	34.24	74.00	-39.76 peak
2 1601.804	3.35	26.26	40.01	46.85	36.45	74.00	-37.55 peak
3 3495.691	5.51	31.69	41.07	46.57	42.70	68.20	-25.50 peak
4 4469.214	6.73	33.55	41.85	47.09	45.52	68.20	-22.68 peak
5 10360.000	10.57	37.76	37.29	40.43	51.47	68.20	-16.73 peak
6 15540.000	13.97	40.72	40.38	39.24	53.55	74.00	-20.45 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

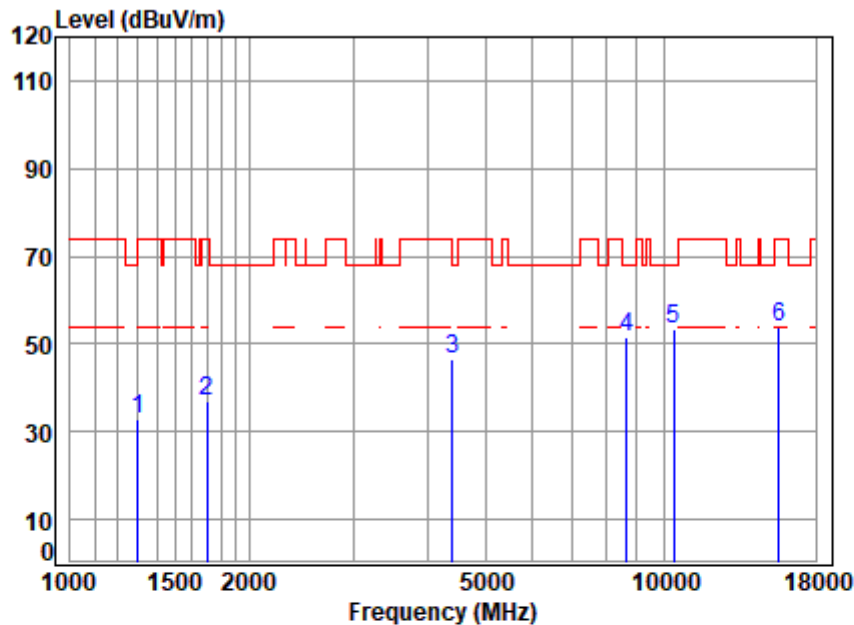


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5200 TX RSE
Note : 5G WIFI 11A

	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	1152.148	2.67	24.37	39.72	47.57	34.89	74.00	-39.11	peak
2	1653.550	3.39	26.48	40.04	46.74	36.57	68.20	-31.63	peak
3	4443.453	6.71	33.50	41.82	48.49	46.88	68.20	-21.32	peak
4	8764.146	10.21	37.11	39.29	43.05	51.08	68.20	-17.12	peak
5	10400.000	10.56	37.74	37.32	40.49	51.47	68.20	-16.73	peak
6	15600.000	13.99	40.76	40.41	39.24	53.58	74.00	-20.42	peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

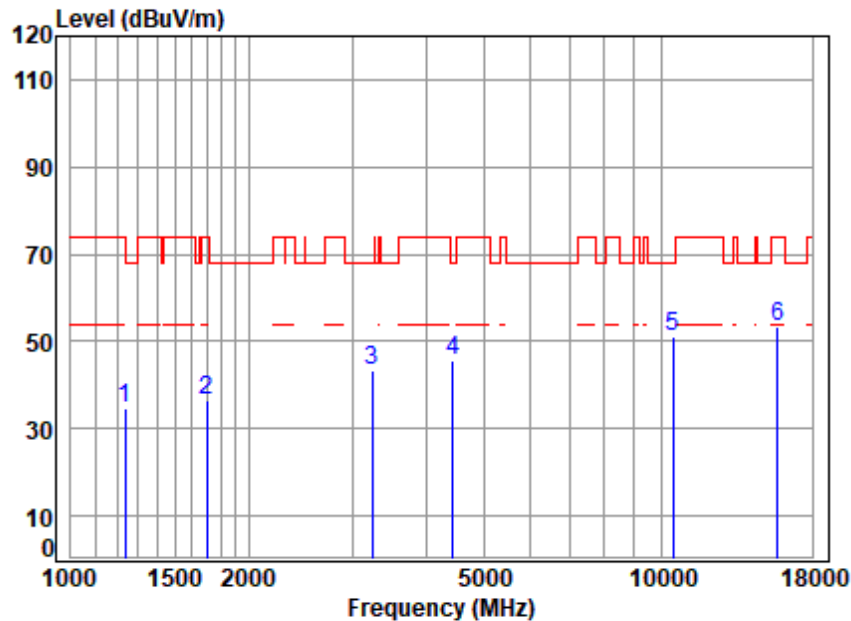


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5200 TX RSE
Note : 5G WIFI 11A

	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	1300.858	2.94	25.03	39.83	44.93	33.07	74.00	-40.93	peak
2	1697.129	3.43	26.66	40.06	46.95	36.98	74.00	-37.02	peak
3	4405.090	6.67	33.44	41.79	48.21	46.53	68.20	-21.67	peak
4	8663.404	10.17	37.07	39.48	43.73	51.49	68.20	-16.71	peak
5	10400.000	10.56	37.74	37.32	42.23	53.21	68.20	-14.99	peak
6	15600.000	13.99	40.76	40.41	39.34	53.68	74.00	-20.32	peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High

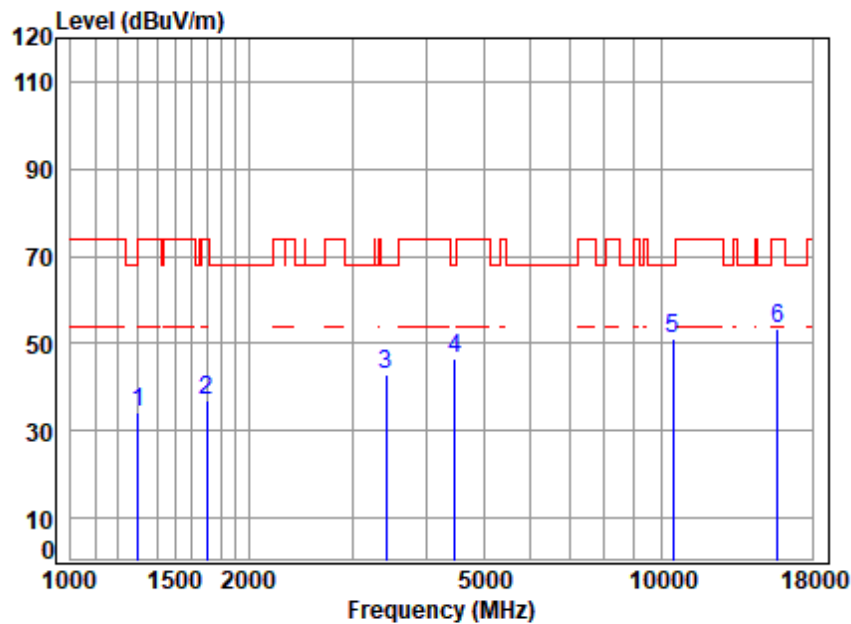


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamplifier Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1234.909	2.83	24.74	39.78	47.00	34.79	74.00	-39.21	peak
2	1702.042	3.43	26.68	40.06	46.59	36.64	74.00	-37.36	peak
3	3242.619	5.19	31.30	40.89	47.79	43.39	68.20	-24.81	peak
4	4430.628	6.70	33.48	41.81	47.40	45.77	68.20	-22.43	peak
5	10480.000	10.54	37.71	37.36	40.00	50.89	68.20	-17.31	peak
6	15720.000	14.04	40.83	40.47	38.87	53.27	74.00	-20.73	peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

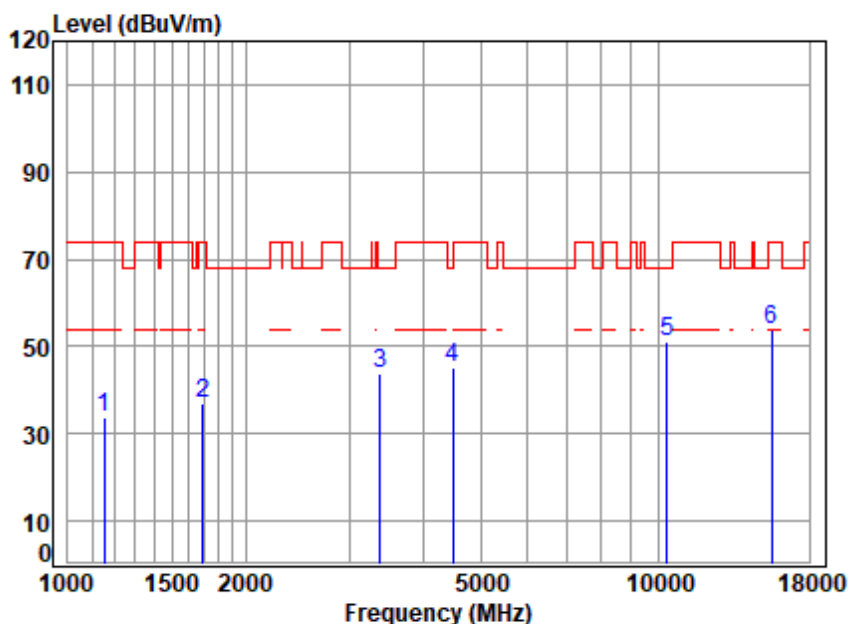


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 TX RSE
Note : 5G WIFI 11A

	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	1300.858	2.94	25.03	39.83	46.20	34.34	74.00 -39.66 peak
2	1702.042	3.43	26.68	40.06	47.04	37.09	74.00 -36.91 peak
3	3415.787	5.42	31.57	41.02	47.02	42.99	68.20 -25.21 peak
4	4469.214	6.73	33.55	41.85	48.23	46.66	68.20 -21.54 peak
5	10480.000	10.54	37.71	37.36	40.42	51.31	68.20 -16.89 peak
6	15720.000	14.04	40.83	40.47	39.13	53.53	74.00 -20.47 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

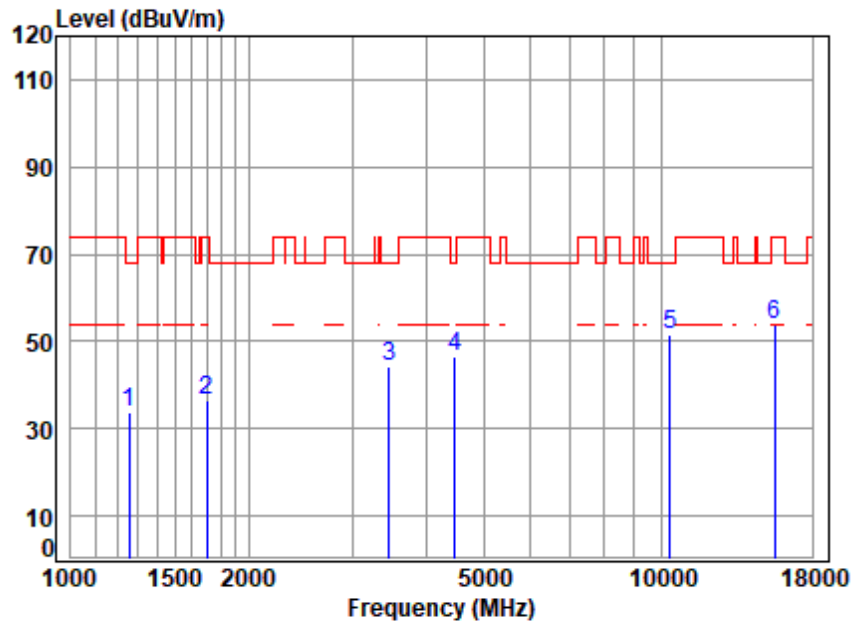


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 TX RSE
Note : 5G WIFI 11N20

	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 1152.148	2.67	24.37	39.72	46.38	33.70	74.00	-40.30 peak
2 1692.231	3.42	26.64	40.06	46.76	36.76	74.00	-37.24 peak
3 3386.297	5.38	31.53	40.99	48.01	43.93	68.20	-24.27 peak
4 4482.150	6.74	33.57	41.86	46.82	45.27	68.20	-22.93 peak
5 10360.000	10.57	37.76	37.29	39.94	50.98	68.20	-17.22 peak
6 15540.000	13.97	40.72	40.38	39.30	53.61	74.00	-20.39 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

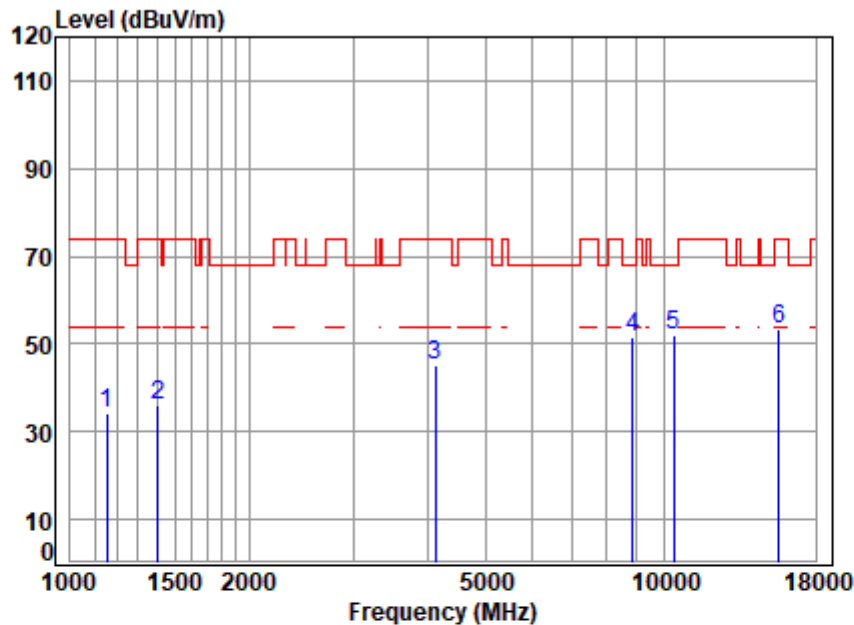


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 TX RSE
Note : 5G WIFI 11N20

	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	1256.512	2.87	24.84	39.80	45.83	33.74	68.20 -34.46 peak
2	1697.129	3.43	26.66	40.06	46.44	36.47	74.00 -37.53 peak
3	3465.510	5.48	31.65	41.05	47.98	44.06	68.20 -24.14 peak
4	4469.214	6.73	33.55	41.85	47.94	46.37	68.20 -21.83 peak
5	10360.000	10.57	37.76	37.29	40.71	51.75	68.20 -16.45 peak
6	15540.000	13.97	40.72	40.38	39.44	53.75	74.00 -20.25 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

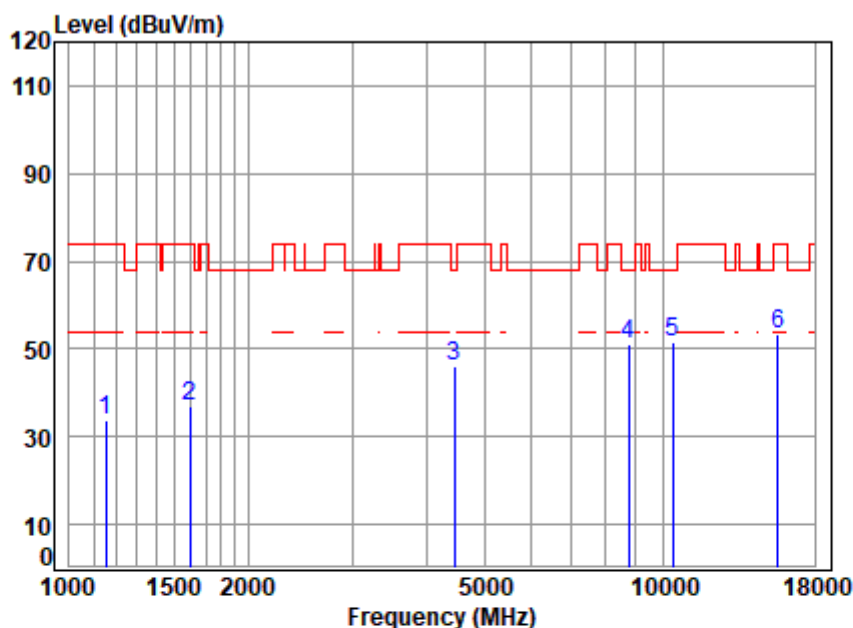


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5200 TX RSE
Note : 5G WIFI 11N20

	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	1152.148	2.67	24.37	39.72	47.10	34.42	74.00	-39.58	peak
2	1406.443	3.12	25.45	39.90	47.28	35.95	74.00	-38.05	peak
3	4121.768	6.40	32.93	41.52	47.58	45.39	74.00	-28.61	peak
4	8866.062	10.25	37.15	39.10	43.46	51.76	68.20	-16.44	peak
5	10400.000	10.56	37.74	37.32	41.14	52.12	68.20	-16.08	peak
6	15600.000	13.99	40.76	40.41	38.99	53.33	74.00	-20.67	peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

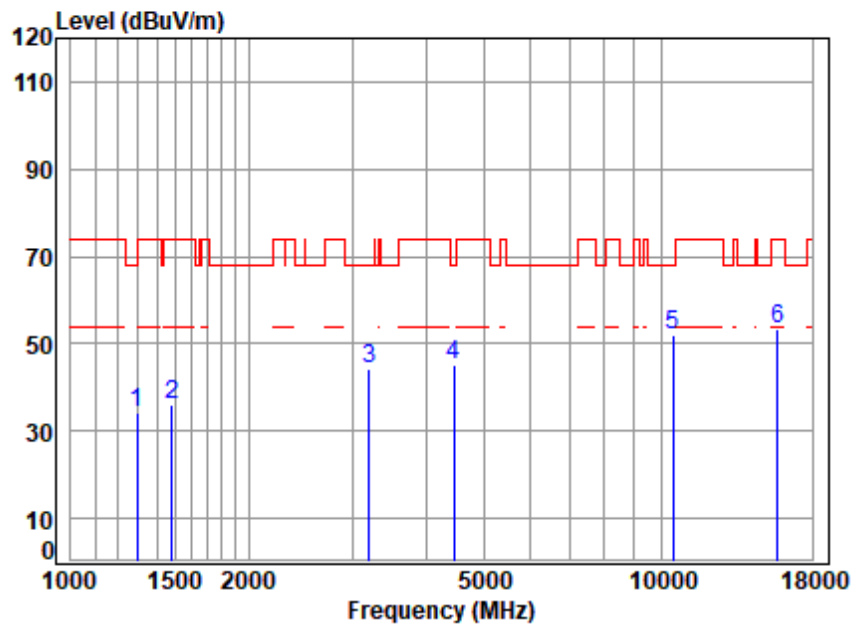


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5200 TX RSE
Note : 5G WIFI 11N20

	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	1152.148	2.67	24.37	39.72	46.62	33.94	74.00	-40.06	peak
2	1597.181	3.35	26.24	40.01	47.16	36.74	74.00	-37.26	peak
3	4456.315	6.72	33.53	41.84	47.88	46.29	68.20	-21.91	peak
4	8764.146	10.21	37.11	39.29	43.02	51.05	68.20	-17.15	peak
5	10400.000	10.56	37.74	37.32	40.44	51.42	68.20	-16.78	peak
6	15600.000	13.99	40.76	40.41	39.15	53.49	74.00	-20.51	peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

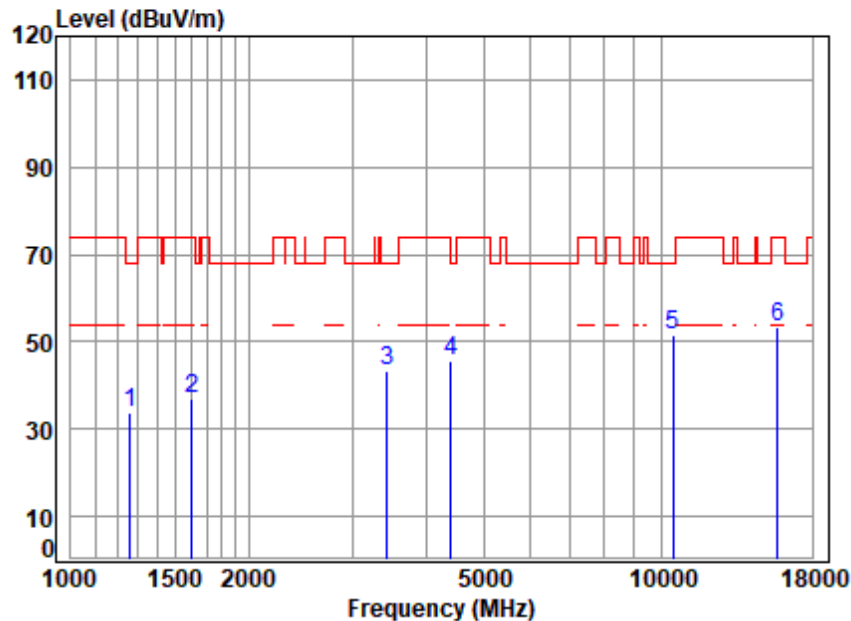


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 TX RSE
Note : 5G WIFI 11N20

	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 1297.103	2.94	25.01	39.83	46.11	34.23	68.20	-33.97 peak
2 1481.553	3.23	25.73	39.94	46.85	35.87	74.00	-38.13 peak
3 3196.094	5.13	31.23	40.85	48.82	44.33	68.20	-23.87 peak
4 4456.315	6.72	33.53	41.84	46.87	45.28	68.20	-22.92 peak
5 10480.000	10.54	37.71	37.36	40.91	51.80	68.20	-16.40 peak
6 15720.000	14.04	40.83	40.47	38.91	53.31	74.00	-20.69 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

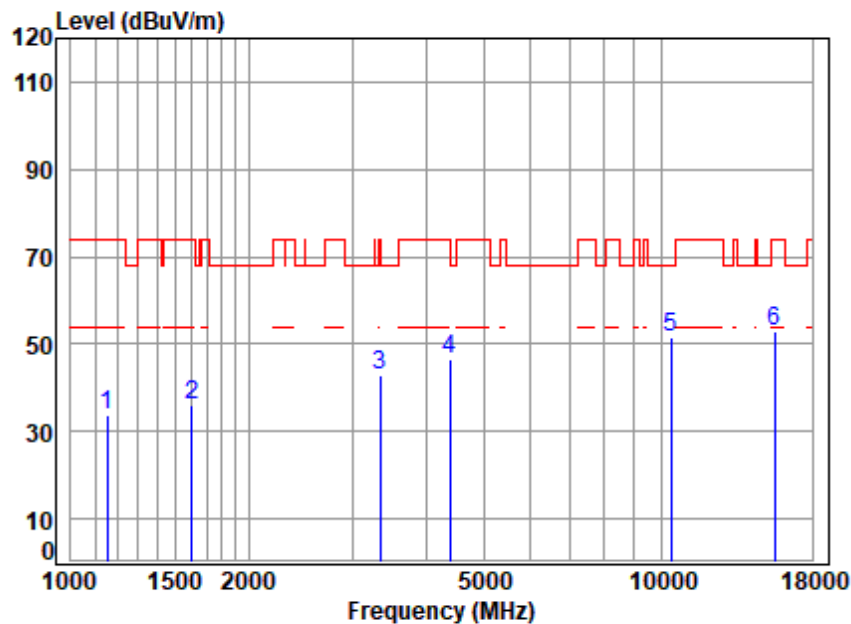


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 TX RSE
Note : 5G WIFI 11N20

	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 1260.149	2.87	24.85	39.80	45.81	33.73	68.20	-34.47 peak
2 1601.804	3.35	26.26	40.01	47.58	37.18	74.00	-36.82 peak
3 3435.590	5.44	31.60	41.03	47.26	43.27	68.20	-24.93 peak
4 4405.090	6.67	33.44	41.79	47.15	45.47	68.20	-22.73 peak
5 10480.000	10.54	37.71	37.36	40.64	51.53	68.20	-16.67 peak
6 15720.000	14.04	40.83	40.47	38.79	53.19	74.00	-20.81 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

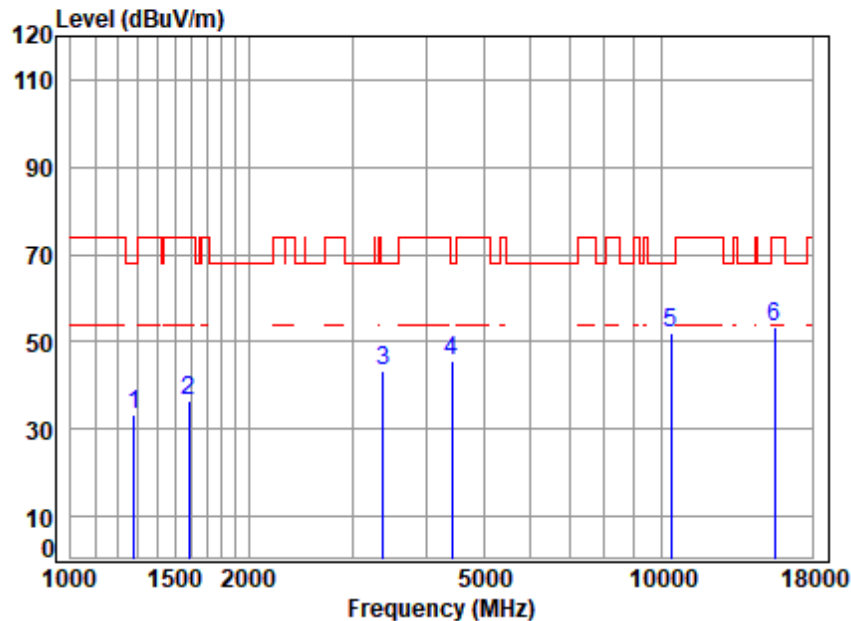


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5190 TX RSE
Note : 5G WIFI 11N40

	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 1152.148	2.67	24.37	39.72	46.46	33.78	74.00	-40.22 peak
2 1601.804	3.35	26.26	40.01	46.32	35.92	74.00	-38.08 peak
3 3337.710	5.32	31.45	40.96	47.23	43.04	74.00	-30.96 peak
4 4379.699	6.65	33.39	41.77	48.37	46.64	74.00	-27.36 peak
5 10380.000	10.57	37.75	37.30	40.65	51.67	68.20	-16.53 peak
6 15570.000	13.98	40.74	40.40	38.68	53.00	74.00	-21.00 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

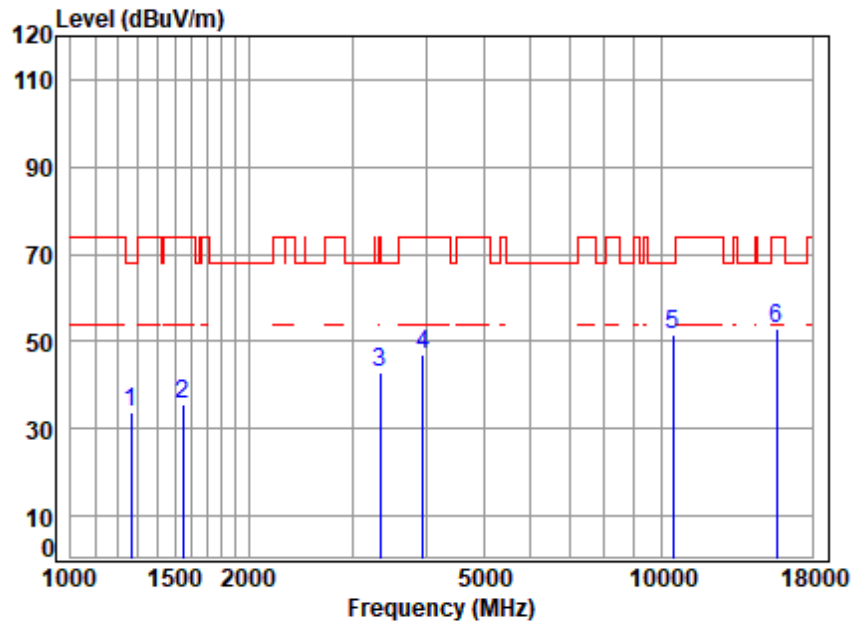


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5190 TX RSE
Note : 5G WIFI 11N40

		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	1282.193	2.91	24.95	39.82	45.19	33.23	68.20	-34.97 peak
2	1587.975	3.34	26.20	40.00	47.18	36.72	74.00	-37.28 peak
3	3386.297	5.38	31.53	40.99	47.48	43.40	68.20	-24.80 peak
4	4417.841	6.68	33.46	41.80	47.13	45.47	68.20	-22.73 peak
5	10380.000	10.57	37.75	37.30	40.81	51.83	68.20	-16.37 peak
6	15570.000	13.98	40.74	40.40	39.01	53.33	74.00	-20.67 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High

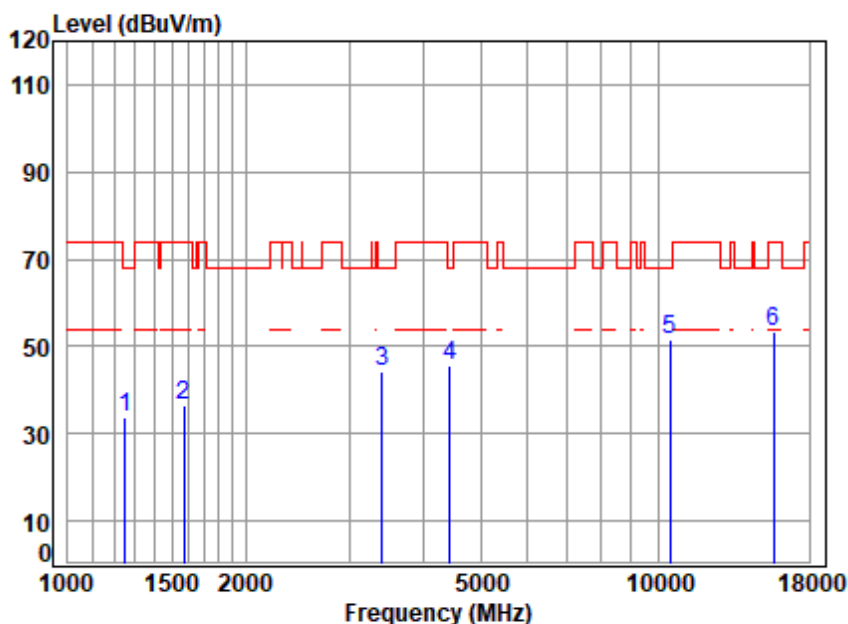


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5230 TX RSE
Note : 5G WIFI 11N40

	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 1267.454	2.89	24.89	39.81	45.76	33.73	68.20	-34.47 peak
2 1547.199	3.30	26.02	39.98	46.19	35.53	74.00	-38.47 peak
3 3337.710	5.32	31.45	40.96	47.20	43.01	74.00	-30.99 peak
4 3946.885	6.20	32.60	41.37	49.43	46.86	74.00	-27.14 peak
5 10460.000	10.54	37.72	37.35	40.83	51.74	68.20	-16.46 peak
6 15690.000	14.03	40.82	40.45	38.51	52.91	74.00	-21.09 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

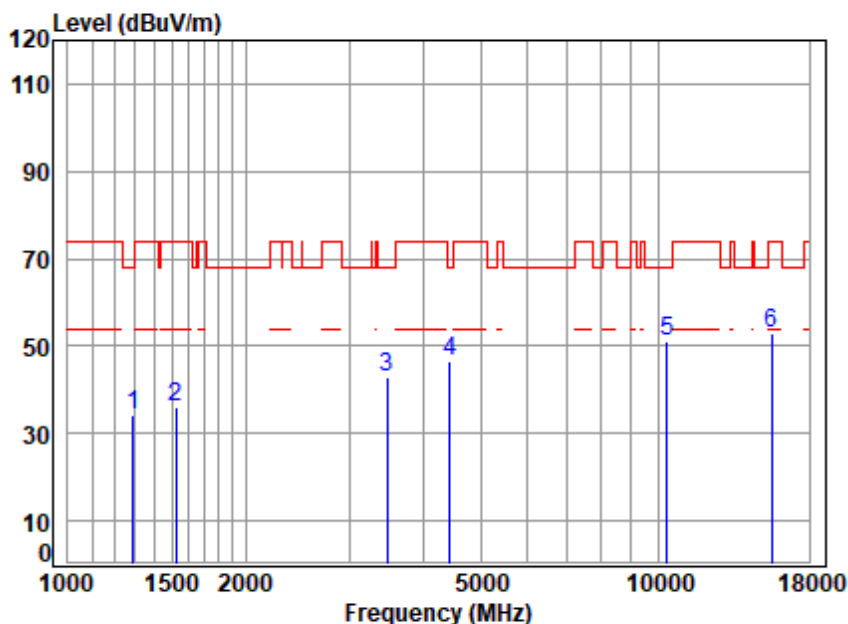


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5230 TX RSE
Note : 5G WIFI 11N40

	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 1249.269	2.85	24.81	39.79	46.10	33.97	68.20	-34.23 peak
2 1574.265	3.33	26.14	39.99	46.89	36.37	74.00	-37.63 peak
3 3405.929	5.40	31.56	41.01	48.22	44.17	68.20	-24.03 peak
4 4430.628	6.70	33.48	41.81	47.37	45.74	68.20	-22.46 peak
5 10460.000	10.54	37.72	37.35	40.45	51.36	68.20	-16.84 peak
6 15690.000	14.03	40.82	40.45	38.80	53.20	74.00	-20.80 peak



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: Low

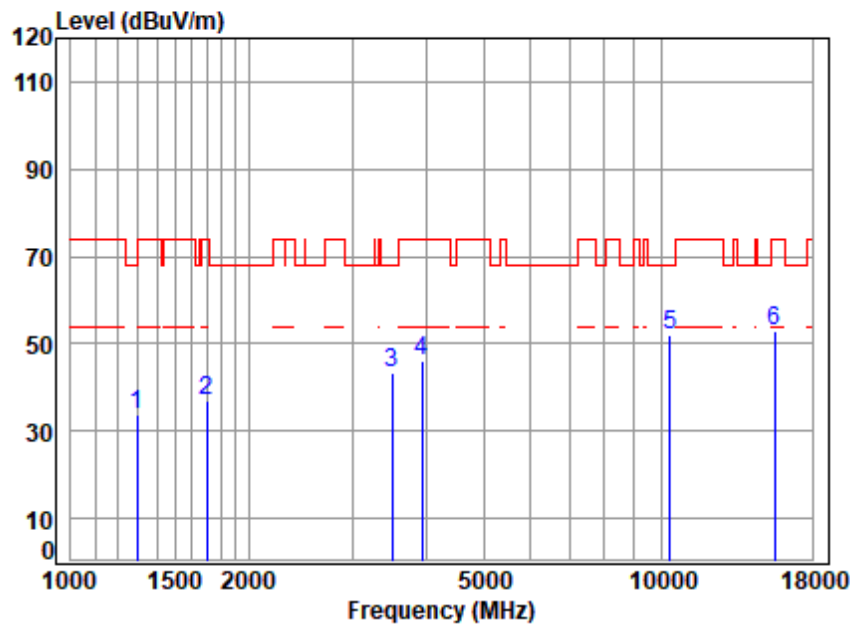


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 TX RSE
Note : 5G WIFI 11AC20

	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 1289.627	2.92	24.98	39.82	46.28	34.36	68.20	-33.84 peak
2 1525.000	3.28	25.91	39.97	46.67	35.89	74.00	-38.11 peak
3 3475.541	5.49	31.66	41.06	46.94	43.03	68.20	-25.17 peak
4 4443.453	6.71	33.50	41.82	48.16	46.55	68.20	-21.65 peak
5 10360.000	10.57	37.76	37.29	40.27	51.31	68.20	-16.89 peak
6 15540.000	13.97	40.72	40.38	38.51	52.82	74.00	-21.18 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low

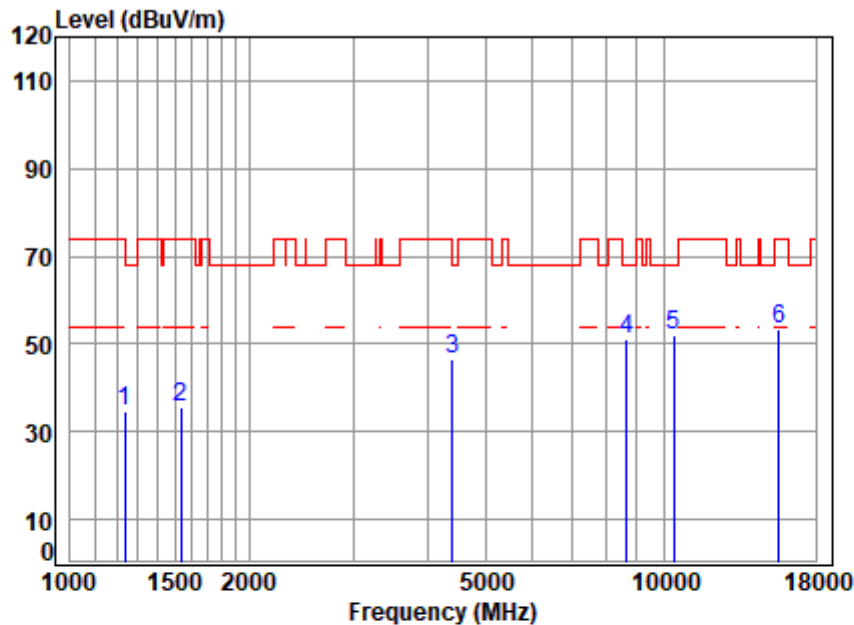


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 TX RSE
Note : 5G WIFI 11AC20

	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	1297.103	2.94	25.01	39.83	45.51	33.63	68.20 -34.57 peak
2	1697.129	3.43	26.66	40.06	47.05	37.08	74.00 -36.92 peak
3	3495.691	5.51	31.69	41.07	47.06	43.19	68.20 -25.01 peak
4	3935.493	6.19	32.58	41.36	48.70	46.11	74.00 -27.89 peak
5	10360.000	10.57	37.76	37.29	41.00	52.04	68.20 -16.16 peak
6	15540.000	13.97	40.72	40.38	38.52	52.83	74.00 -21.17 peak



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: middle

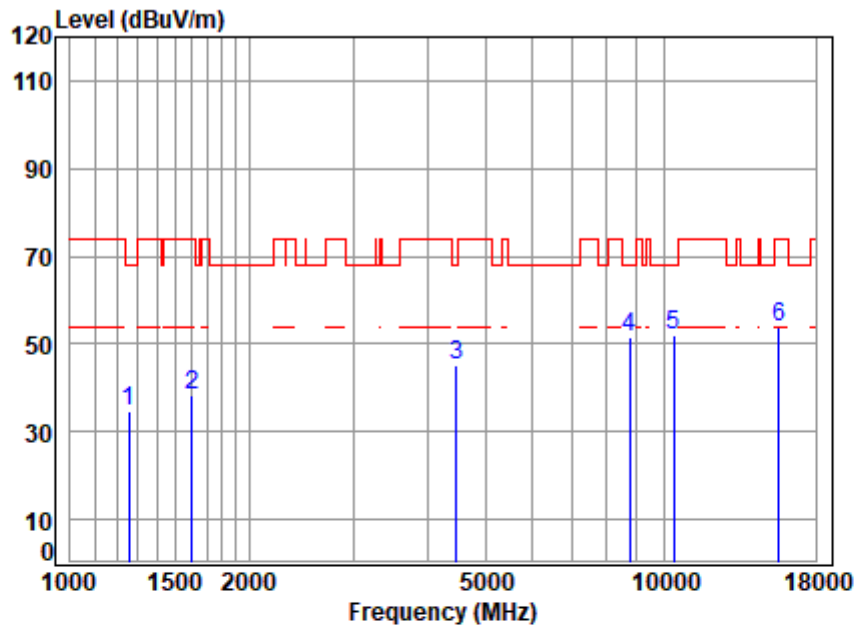


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5200 TX RSE
Note : 5G WIFI 11AC20

	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	1238.483	2.83	24.76	39.79	46.89	34.69	74.00	-39.31	peak
2	1538.281	3.29	25.98	39.97	46.45	35.75	74.00	-38.25	peak
3	4405.090	6.67	33.44	41.79	48.03	46.35	68.20	-21.85	peak
4	8638.399	10.16	37.06	39.53	43.42	51.11	68.20	-17.09	peak
5	10400.000	10.56	37.74	37.32	40.90	51.88	68.20	-16.32	peak
6	15600.000	13.99	40.76	40.41	39.02	53.36	74.00	-20.64	peak



Test Mode: 03; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: middle

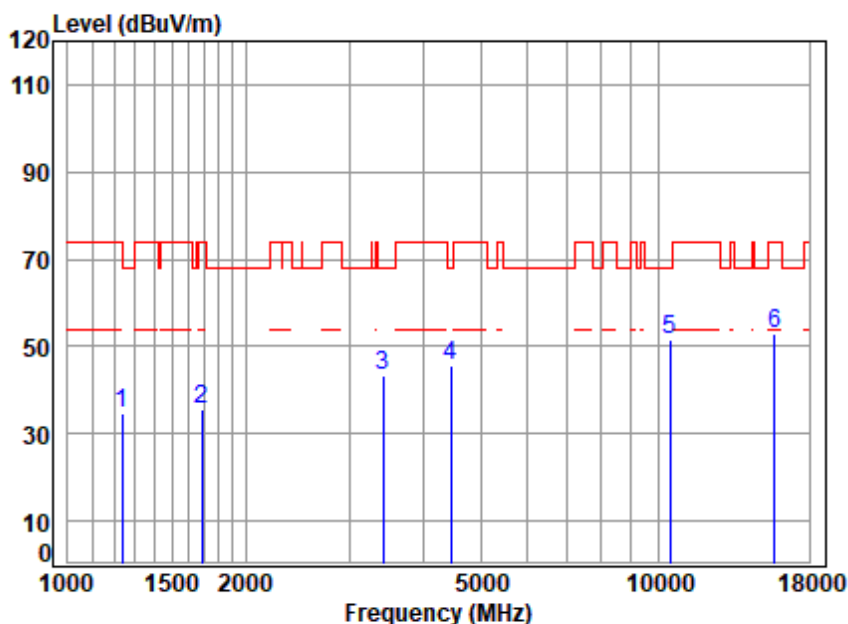


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5200 TX RSE
Note : 5G WIFI 11AC20

	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	1256.512	2.87	24.84	39.80	46.76	34.67	68.20	-33.53	peak
2	1601.804	3.35	26.26	40.01	48.67	38.27	74.00	-35.73	peak
3	4469.214	6.73	33.55	41.85	46.65	45.08	68.20	-23.12	peak
4	8764.146	10.21	37.11	39.29	43.46	51.49	68.20	-16.71	peak
5	10400.000	10.56	37.74	37.32	41.00	51.98	68.20	-16.22	peak
6	15600.000	13.99	40.76	40.41	39.35	53.69	74.00	-20.31	peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

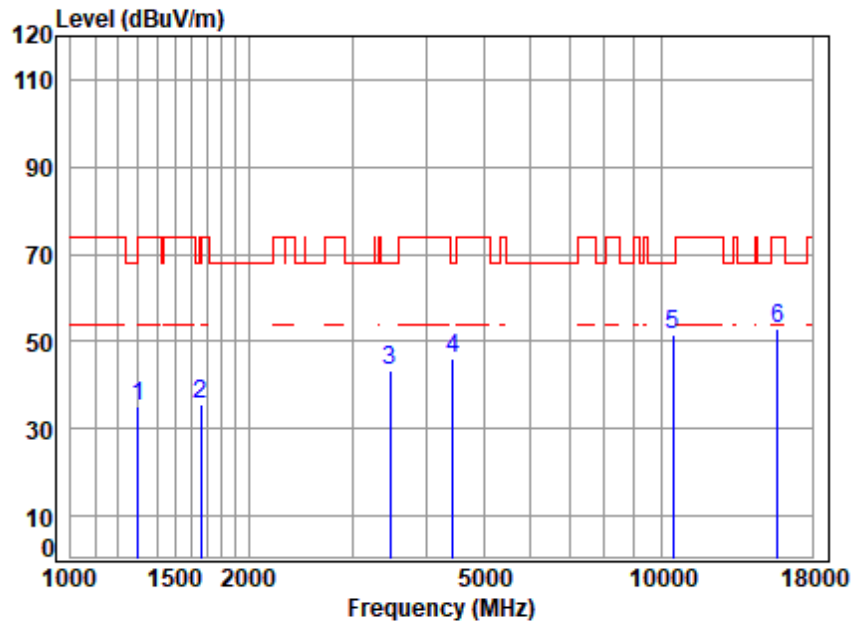


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 TX RSE
Note : 5G WIFI 11AC20

	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 1238.483	2.83	24.76	39.79	47.06	34.86	74.00	-39.14 peak
2 1687.347	3.42	26.62	40.05	45.72	35.71	74.00	-38.29 peak
3 3415.787	5.42	31.57	41.02	47.59	43.56	68.20	-24.64 peak
4 4456.315	6.72	33.53	41.84	47.13	45.54	68.20	-22.66 peak
5 10480.000	10.54	37.71	37.36	40.69	51.58	68.20	-16.62 peak
6 15720.000	14.04	40.83	40.47	38.39	52.79	74.00	-21.21 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

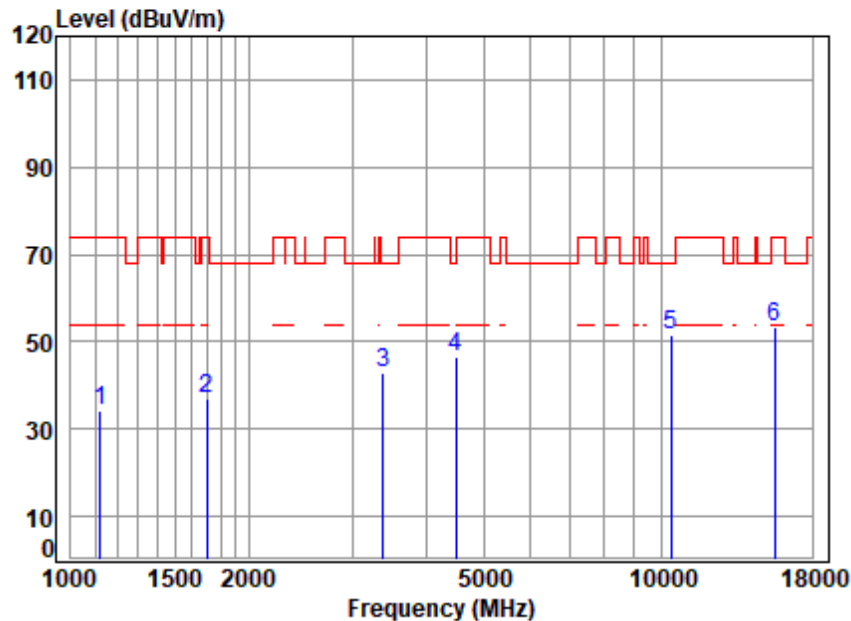


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 TX RSE
Note : 5G WIFI 11AC20

	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	1300.858	2.94	25.03	39.83	46.97	35.11	74.00 -38.89 peak
2	1663.137	3.40	26.52	40.04	45.93	35.81	74.00 -38.19 peak
3	3475.541	5.49	31.66	41.06	47.42	43.51	68.20 -24.69 peak
4	4430.628	6.70	33.48	41.81	47.61	45.98	68.20 -22.22 peak
5	10480.000	10.54	37.71	37.36	40.72	51.61	68.20 -16.59 peak
6	15720.000	14.04	40.83	40.47	38.43	52.83	74.00 -21.17 peak



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 40MHz; Channel: Low

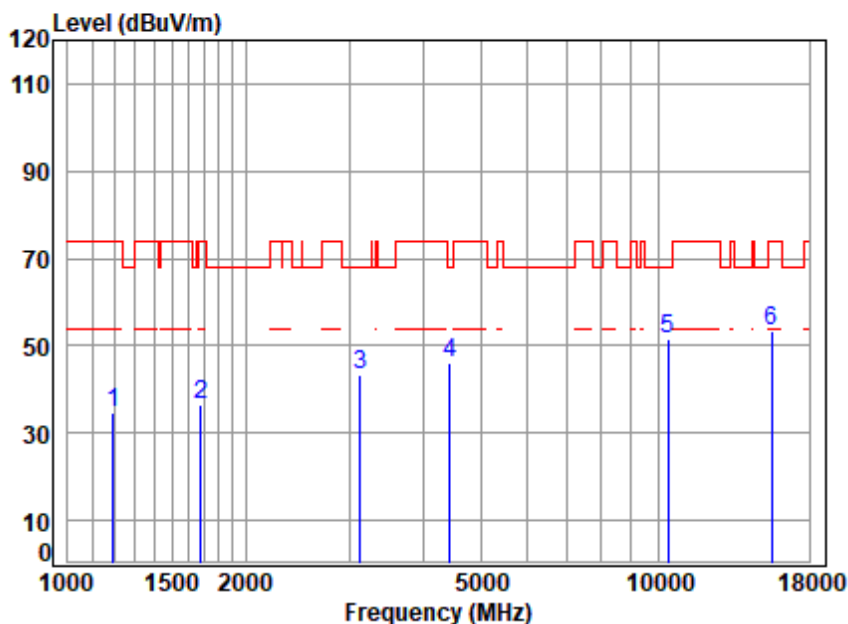


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5190 TX RSE
Note : 5G WIFI 11AC40

	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 1122.563	2.62	24.23	39.70	46.99	34.14	74.00	-39.86 peak
2 1697.129	3.43	26.66	40.06	46.73	36.76	74.00	-37.24 peak
3 3386.297	5.38	31.53	40.99	47.12	43.04	68.20	-25.16 peak
4 4482.150	6.74	33.57	41.86	47.95	46.40	68.20	-21.80 peak
5 10380.000	10.57	37.75	37.30	40.50	51.52	68.20	-16.68 peak
6 15570.000	13.98	40.74	40.40	39.10	53.42	74.00	-20.58 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low

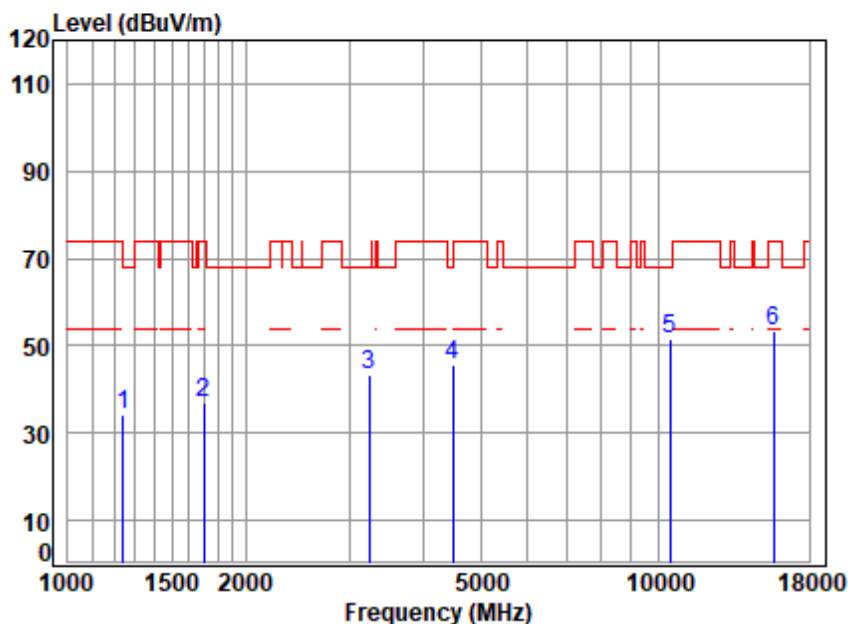


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5190 TX RSE
Note : 5G WIFI 11AC40

	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 1192.811	2.75	24.56	39.75	46.97	34.53	74.00	-39.47 peak
2 1677.621	3.41	26.58	40.05	46.77	36.71	74.00	-37.29 peak
3 3123.039	5.03	31.11	40.80	47.93	43.27	68.20	-24.93 peak
4 4443.453	6.71	33.50	41.82	47.87	46.26	68.20	-21.94 peak
5 10380.000	10.57	37.75	37.30	40.52	51.54	68.20	-16.66 peak
6 15570.000	13.98	40.74	40.40	39.12	53.44	74.00	-20.56 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

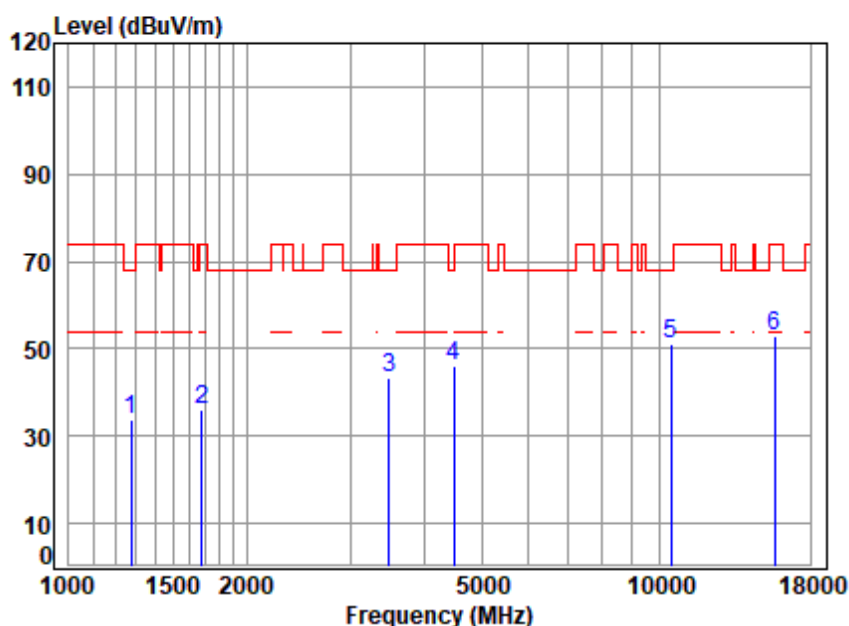


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5230 TX RSE
Note : 5G WIFI 11AC40

	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 1242.068	2.84	24.78	39.79	46.38	34.21	68.20	-33.99 peak
2 1697.129	3.43	26.66	40.06	46.76	36.79	74.00	-37.21 peak
3 3242.619	5.19	31.30	40.89	47.81	43.41	68.20	-24.79 peak
4 4482.150	6.74	33.57	41.86	47.18	45.63	68.20	-22.57 peak
5 10460.000	10.54	37.72	37.35	40.86	51.77	68.20	-16.43 peak
6 15690.000	14.03	40.82	40.45	38.78	53.18	74.00	-20.82 peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



```
Site      : chamber
Condition: 3m VERTICAL
Job No    : 02456CR
Mode      : 5230 TX RSE
Note      : 5G WIFI 11AC40
```

	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	1274.802	2.90	24.92	39.81	45.86	33.87	68.20	-34.33	peak
2	1682.477	3.42	26.60	40.05	45.88	35.85	74.00	-38.15	peak
3	3485.601	5.50	31.68	41.07	47.35	43.46	68.20	-24.74	peak
4	4495.125	6.76	33.59	41.87	47.73	46.21	68.20	-21.99	peak
5	10460.000	10.54	37.72	37.35	40.30	51.21	68.20	-16.99	peak
6	15690.000	14.03	40.82	40.45	38.31	52.71	74.00	-21.29	peak



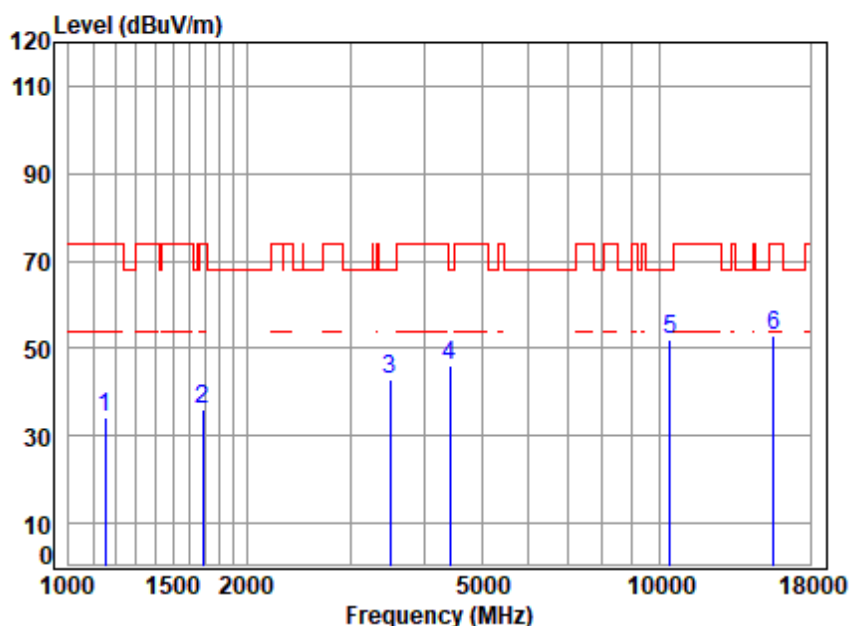
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service, printed in full and available on request or available at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for 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 Company does not show the results of the analysis and the test results are valid for a retention period of 30 days.

Attention: To check the authenticity of testing/inpection report & certificate, please contact us at telephone: (86-755) 8307 1443.

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

Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



```
Site      : chamber
Condition: 3m HORIZONTAL
Job No    : 02456CR
Mode      : 5210 TX RSE
Note      : 5G WIFI 11AC80
```

	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	1152.148	2.67	24.37	39.72	47.12	34.44	74.00	-39.56	peak
2	1687.347	3.42	26.62	40.05	45.89	35.88	74.00	-38.12	peak
3	3495.691	5.51	31.69	41.07	46.87	43.00	68.20	-25.20	peak
4	4417.841	6.68	33.46	41.80	47.54	45.88	68.20	-22.32	peak
5	10420.000	10.56	37.73	37.33	40.96	51.92	68.20	-16.28	peak
6	15630.000	14.01	40.78	40.42	38.48	52.85	74.00	-21.15	peak



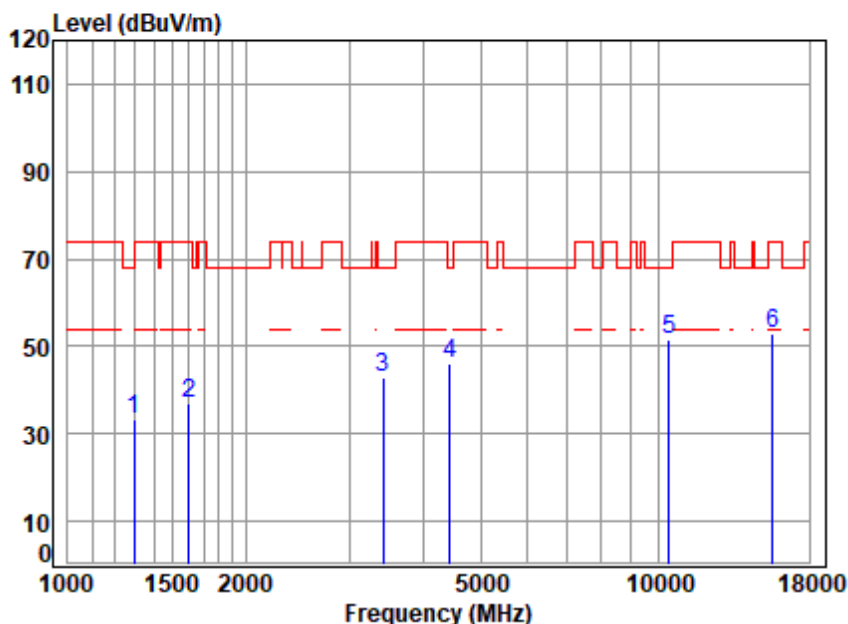
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service, printed in full and available on request or available at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for 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 data and charts shown on this report are the property of SGS and shall remain its confidential information for 30 days.

Attention: To check the authenticity of testing/inpection report & certificate, please contact us at telephone: (86-755) 8307 1443.

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

Test Mode: 03; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 80MHz; Channel: middle

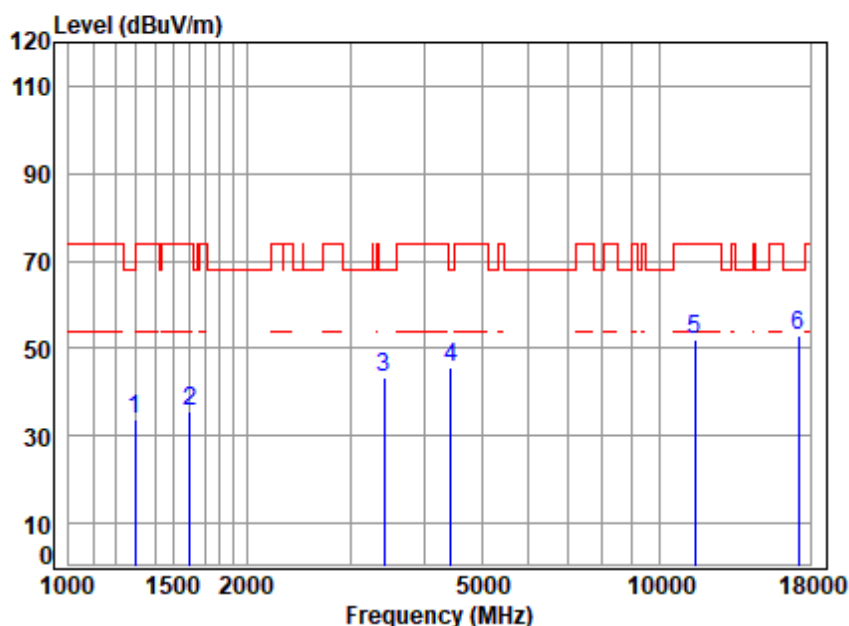


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5210 TX RSE
Note : 5G WIFI 11AC80

	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 1297.103	2.94	25.01	39.83	45.28	33.40	68.20	-34.80 peak
2 1606.441	3.35	26.28	40.01	47.50	37.12	74.00	-36.88 peak
3 3415.787	5.42	31.57	41.02	46.91	42.88	68.20	-25.32 peak
4 4430.628	6.70	33.48	41.81	47.80	46.17	68.20	-22.03 peak
5 10420.000	10.56	37.73	37.33	40.53	51.49	68.20	-16.71 peak
6 15630.000	14.01	40.78	40.42	38.76	53.13	74.00	-20.87 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



```
Site      : chamber
Condition: 3m HORIZONTAL
Job No    : 02456CR
Mode      : 5745 TX RSE
Note      : 5G WIFI 11A
```

	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	1297.103	2.94	25.01	39.83	45.43	33.55	68.20	-34.65	peak
2	1601.804	3.35	26.26	40.01	46.18	35.78	74.00	-38.22	peak
3	3415.787	5.42	31.57	41.02	47.48	43.45	68.20	-24.75	peak
4	4430.628	6.70	33.48	41.81	47.09	45.46	68.20	-22.74	peak
5	11490.000	11.62	37.90	37.86	40.14	51.80	74.00	-22.20	peak
6	17235.000	14.09	42.74	40.28	36.28	52.83	68.20	-15.37	peak



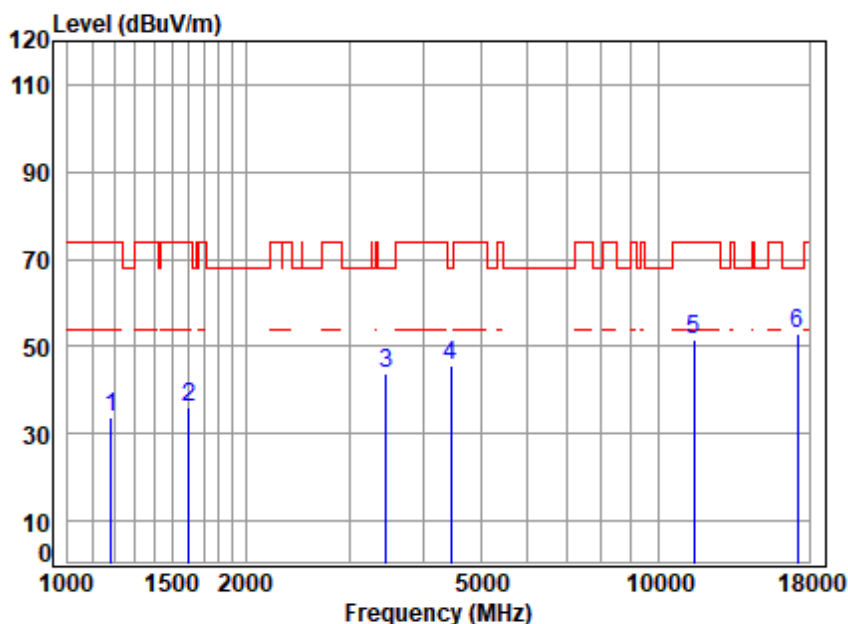
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service, printed in full and available on request at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents 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 data and charts shown on this document are the property of SGS and shall remain its property for a retention period of 30 days.

Attention: To check the authenticity of testing/inpection report & certificate, please contact us at telephone: (86-755) 8307 1443.

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Center EEC Laboratory.

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 sas.china@sas.com

Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

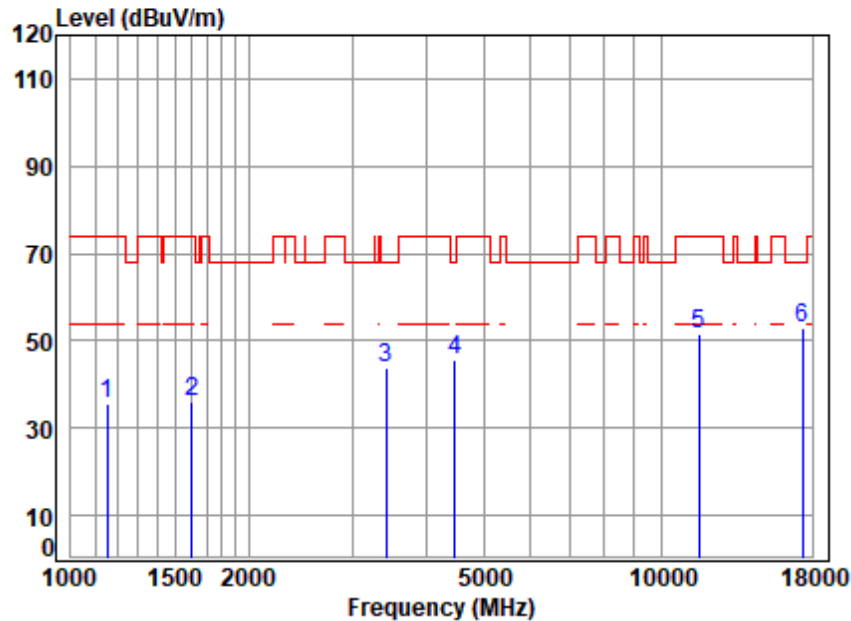


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5745 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1185.936	2.74	24.53	39.75	46.24	33.76	74.00	-40.24 peak
2	1601.804	3.35	26.26	40.01	46.64	36.24	74.00	-37.76 peak
3	3465.510	5.48	31.65	41.05	47.61	43.69	68.20	-24.51 peak
4	4456.315	6.72	33.53	41.84	47.39	45.80	68.20	-22.40 peak
5	11490.000	11.62	37.90	37.86	39.99	51.65	74.00	-22.35 peak
6	17235.000	14.09	42.74	40.28	36.41	52.96	68.20	-15.24 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

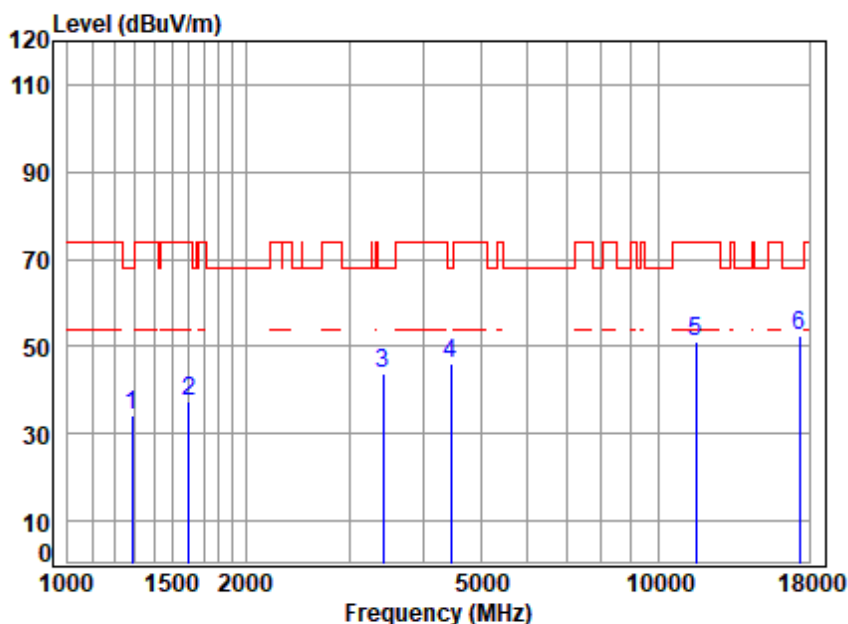


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5785 TX RSE
Note : 5G WIFI 11A

	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	1152.148	2.67	24.37	39.72	48.42	35.74	74.00 -38.26 peak
2	1601.804	3.35	26.26	40.01	46.67	36.27	74.00 -37.73 peak
3	3415.787	5.42	31.57	41.02	47.90	43.87	68.20 -24.33 peak
4	4469.214	6.73	33.55	41.85	47.26	45.69	68.20 -22.51 peak
5	11570.000	11.72	37.87	37.90	39.71	51.40	74.00 -22.60 peak
6	17355.000	14.06	42.81	40.25	36.35	52.97	68.20 -15.23 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

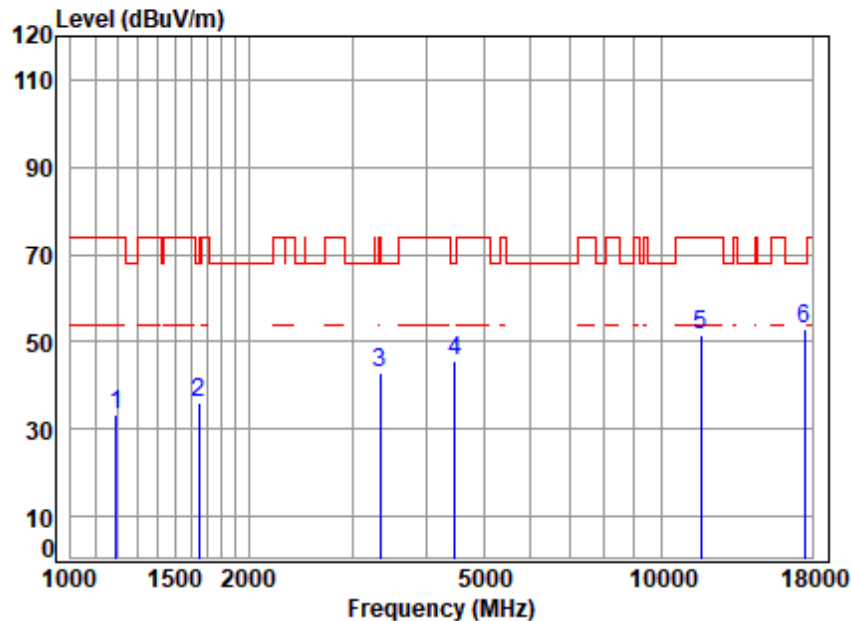


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5785 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1285.904	2.92	24.96	39.82	46.04	34.10	68.20	-34.10	peak
2	1601.804	3.35	26.26	40.01	47.60	37.20	74.00	-36.80	peak
3	3425.675	5.43	31.59	41.02	47.67	43.67	68.20	-24.53	peak
4	4456.315	6.72	33.53	41.84	47.63	46.04	68.20	-22.16	peak
5	11570.000	11.72	37.87	37.90	39.52	51.21	74.00	-22.79	peak
6	17355.000	14.06	42.81	40.25	36.02	52.64	68.20	-15.56	peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High

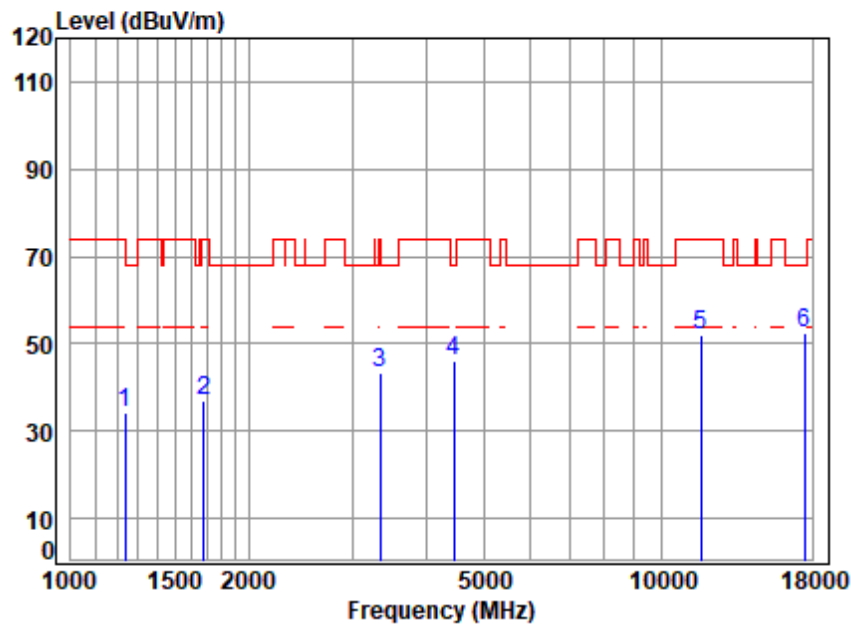


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5825 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1192.811	2.75	24.56	39.75	45.92	33.48	74.00	-40.52	peak
2	1648.778	3.39	26.46	40.03	46.06	35.88	68.20	-32.32	peak
3	3347.371	5.33	31.47	40.97	46.90	42.73	74.00	-31.27	peak
4	4469.214	6.73	33.55	41.85	47.35	45.78	68.20	-22.42	peak
5	11650.000	11.82	37.84	37.94	40.01	51.73	74.00	-22.27	peak
6	17475.000	14.02	42.89	40.23	36.35	53.03	68.20	-15.17	peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

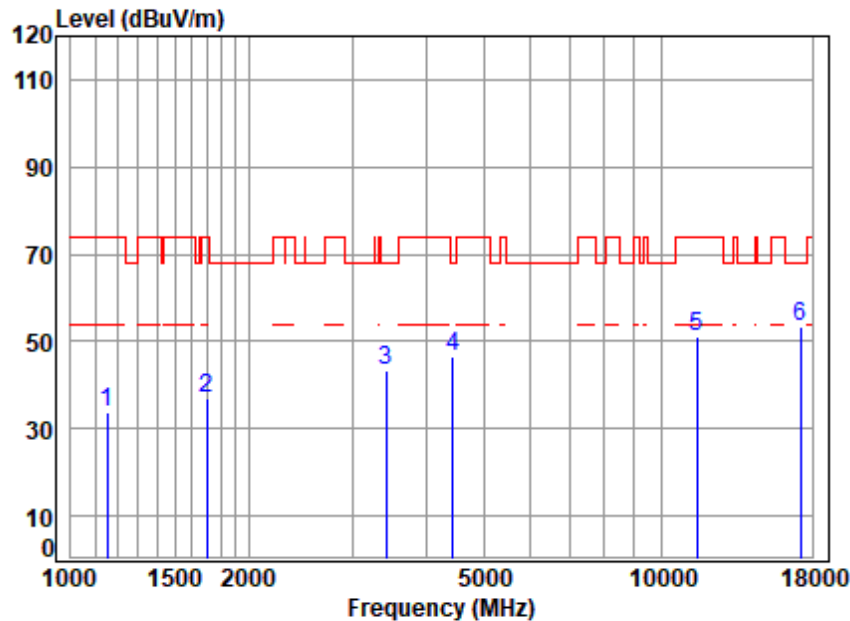


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5825 TX RSE
Note : 5G WIFI 11A

	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 1238.483	2.83	24.76	39.79	46.43	34.23	74.00	-39.77 peak
2 1677.621	3.41	26.58	40.05	46.89	36.83	74.00	-37.17 peak
3 3337.710	5.32	31.45	40.96	47.58	43.39	74.00	-30.61 peak
4 4456.315	6.72	33.53	41.84	47.59	46.00	68.20	-22.20 peak
5 11650.000	11.82	37.84	37.94	40.09	51.81	74.00	-22.19 peak
6 17475.000	14.02	42.89	40.23	35.66	52.34	68.20	-15.86 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

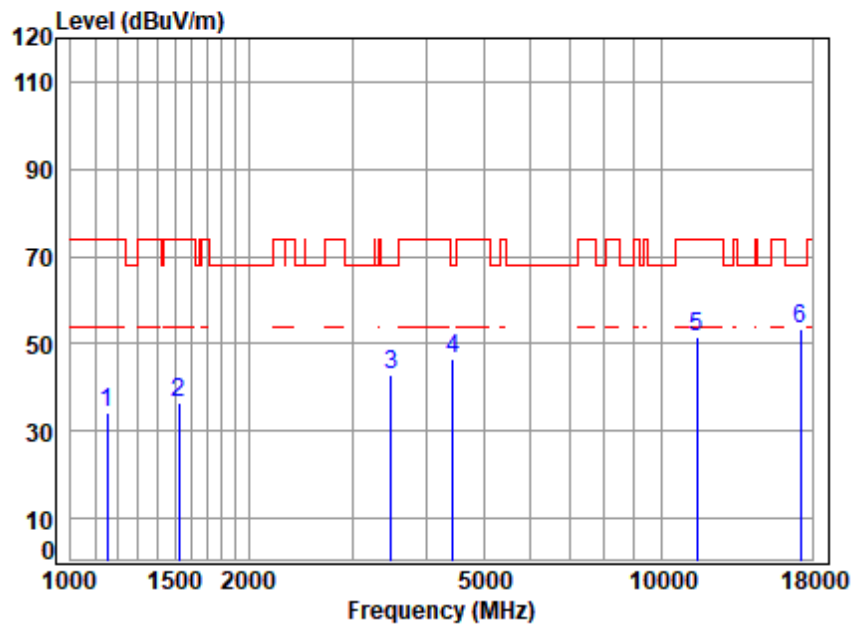


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5745 TX RSE
Note : 5G WIFI 11N20

	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 1152.148	2.67	24.37	39.72	46.40	33.72	74.00	-40.28 peak
2 1702.042	3.43	26.68	40.06	46.72	36.77	74.00	-37.23 peak
3 3425.675	5.43	31.59	41.02	47.33	43.33	68.20	-24.87 peak
4 4430.628	6.70	33.48	41.81	48.20	46.57	68.20	-21.63 peak
5 11490.000	11.62	37.90	37.86	39.35	51.01	74.00	-22.99 peak
6 17235.000	14.09	42.74	40.28	36.70	53.25	68.20	-14.95 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

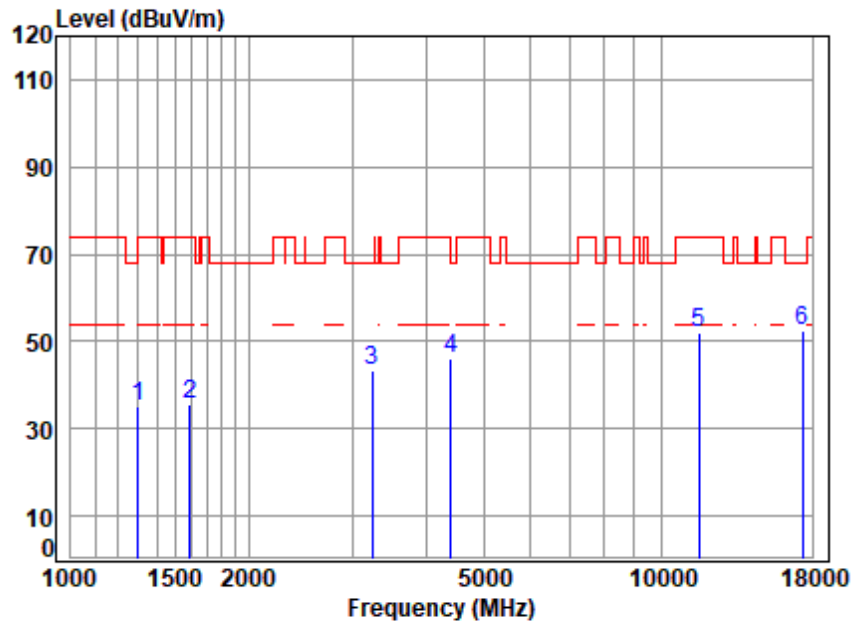


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5745 TX RSE
Note : 5G WIFI 11N20

	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	1152.148	2.67	24.37	39.72	46.84	34.16	74.00 -39.84 peak
2	1525.000	3.28	25.91	39.97	47.44	36.66	74.00 -37.34 peak
3	3485.601	5.50	31.68	41.07	46.97	43.08	68.20 -25.12 peak
4	4430.628	6.70	33.48	41.81	48.03	46.40	68.20 -21.80 peak
5	11490.000	11.62	37.90	37.86	39.97	51.63	74.00 -22.37 peak
6	17235.000	14.09	42.74	40.28	36.87	53.42	68.20 -14.78 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

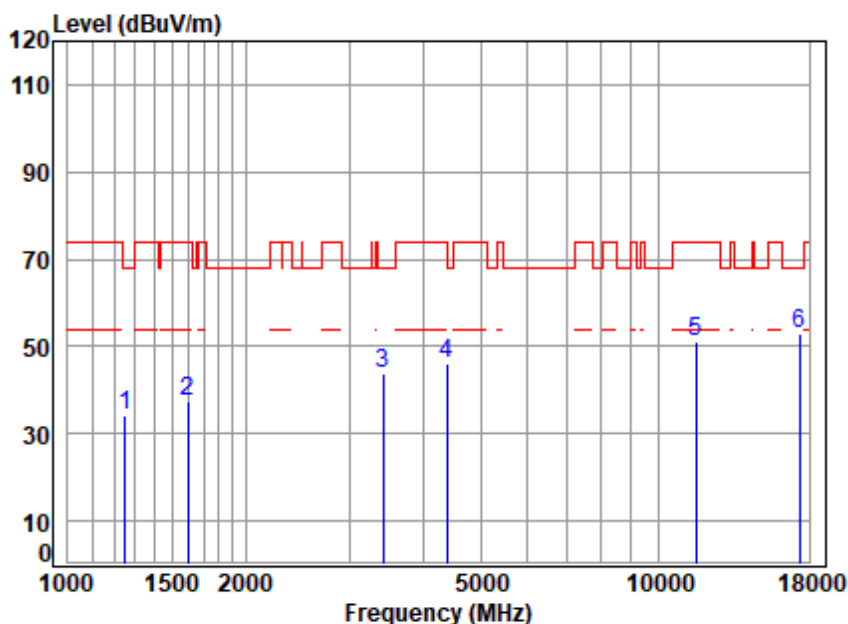


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5785 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1300.858	2.94	25.03	39.83	47.17	35.31	74.00	-38.69 peak
2	1592.571	3.34	26.22	40.00	46.19	35.75	74.00	-38.25 peak
3	3233.260	5.18	31.29	40.88	47.61	43.20	68.20	-25.00 peak
4	4405.090	6.67	33.44	41.79	47.79	46.11	68.20	-22.09 peak
5	11570.000	11.72	37.87	37.90	40.39	52.08	74.00	-21.92 peak
6	17355.000	14.06	42.81	40.25	35.97	52.59	68.20	-15.61 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

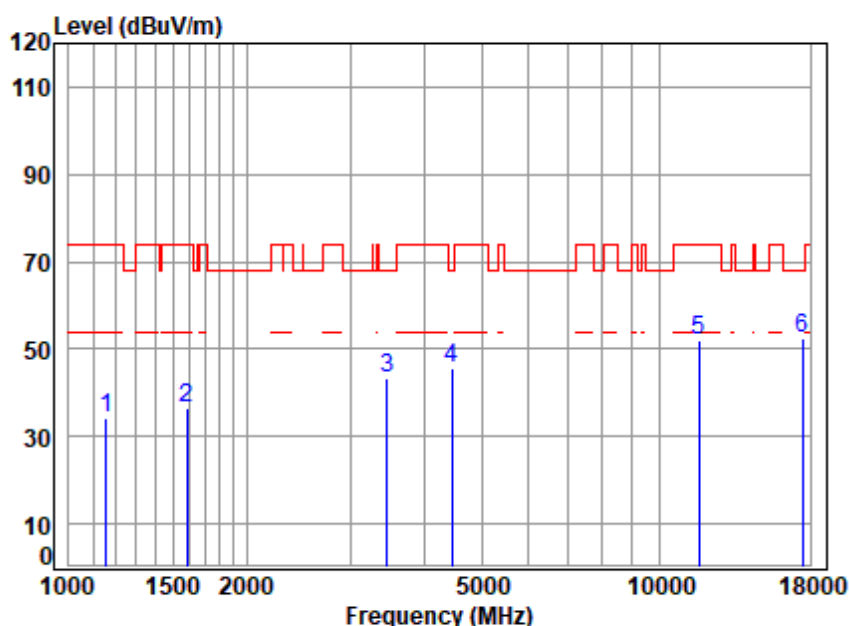


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5785 TX RSE
Note : 5G WIFI 11N20

	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	1252.885	2.86	24.82	39.80	46.18	34.06	68.20 -34.14 peak
2	1597.181	3.35	26.24	40.01	47.63	37.21	74.00 -36.79 peak
3	3415.787	5.42	31.57	41.02	47.79	43.76	68.20 -24.44 peak
4	4392.376	6.66	33.42	41.78	47.81	46.11	74.00 -27.89 peak
5	11570.000	11.72	37.87	37.90	39.23	50.92	74.00 -23.08 peak
6	17355.000	14.06	42.81	40.25	36.37	52.99	68.20 -15.21 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5825 TX RSE
Note : 5G WIFI 11N20

	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	1158.828	2.69	24.40	39.73	46.76	34.12	74.00	-39.88	peak
2	1583.392	3.33	26.18	40.00	46.89	36.40	74.00	-37.60	peak
3	3455.508	5.47	31.63	41.04	47.42	43.48	68.20	-24.72	peak
4	4456.315	6.72	33.53	41.84	47.08	45.49	68.20	-22.71	peak
5	11650.000	11.82	37.84	37.94	40.17	51.89	74.00	-22.11	peak
6	17475.000	14.02	42.89	40.23	35.83	52.51	68.20	-15.69	peak



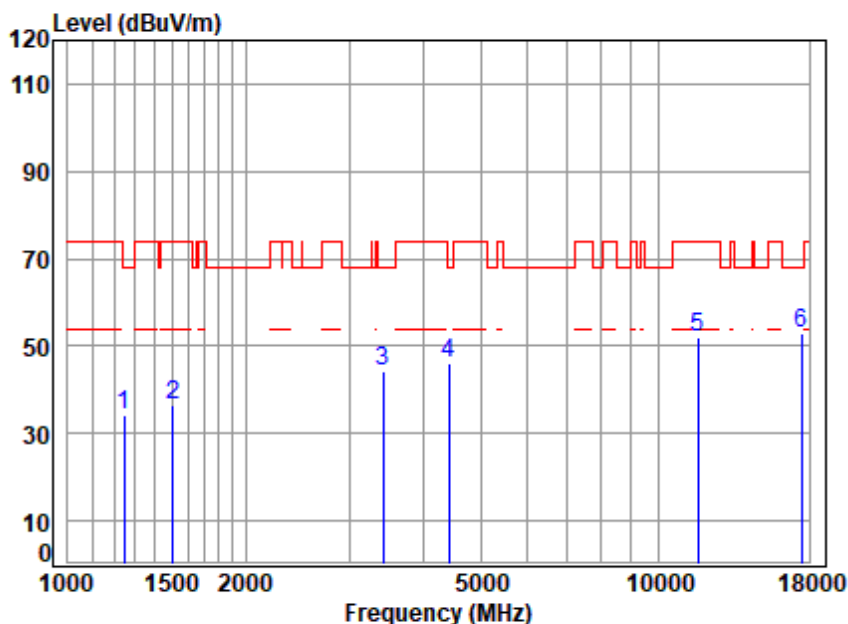
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed on the reverse, available on request at <http://www.sgs.com/en/Terms-and-Conditions.aspx>, and for electronic format documents, subject to Terms and Conditions for Electronic 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 expiration date of this document will render it void and null and any such use will be prosecuted. For all other information, 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.

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

Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

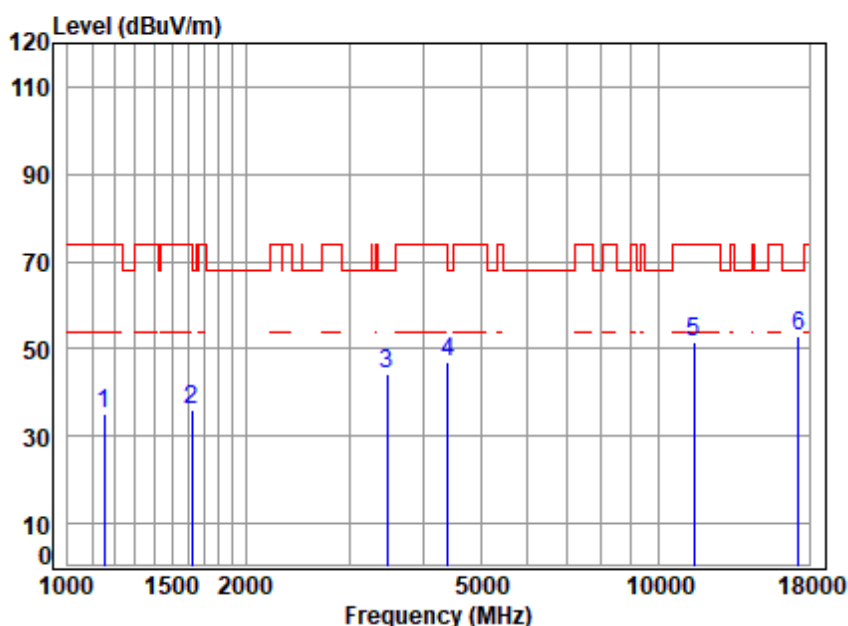


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5825 TX RSE
Note : 5G WIFI 11N20

	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	1245.663	2.85	24.79	39.79	46.25	34.10	68.20 -34.10 peak
2	1507.470	3.27	25.83	39.96	47.14	36.28	74.00 -37.72 peak
3	3415.787	5.42	31.57	41.02	48.06	44.03	68.20 -24.17 peak
4	4417.841	6.68	33.46	41.80	47.55	45.89	68.20 -22.31 peak
5	11650.000	11.82	37.84	37.94	40.25	51.97	74.00 -22.03 peak
6	17475.000	14.02	42.89	40.23	36.22	52.90	68.20 -15.30 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



```
Site      : chamber
Condition: 3m HORIZONTAL
Job No    : 02456CR
Mode      : 5755 TX RSE
Note      : 5G WIFI 11N40
```

	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	1152.148	2.67	24.37	39.72	47.89	35.21	74.00	-38.79	peak
2	1620.431	3.36	26.34	40.02	46.46	36.14	74.00	-37.86	peak
3	3475.541	5.49	31.66	41.06	48.03	44.12	68.20	-24.08	peak
4	4405.090	6.67	33.44	41.79	48.48	46.80	68.20	-21.40	peak
5	11510.000	11.64	37.90	37.87	39.78	51.45	74.00	-22.55	peak
6	17265.000	14.08	42.76	40.28	36.31	52.87	68.20	-15.33	peak



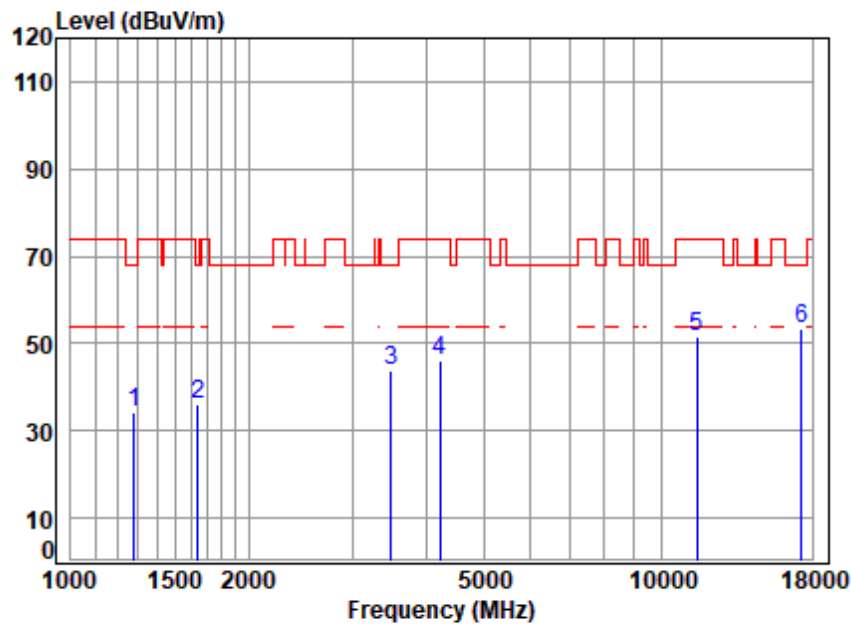
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service, printed in full and available on request at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents 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 data and charts shown on this report are the property of SGS and shall remain its confidential information for 30 days.

Attention: To check the authenticity of testing/inpection report & certificate, please contact us at telephone: (86-755) 8307 1443.

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

Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

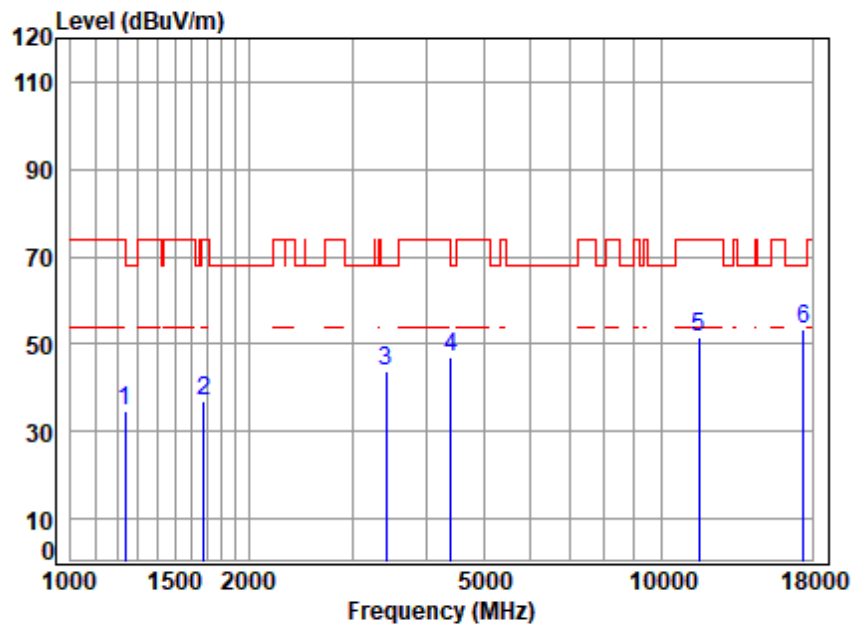


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5755 TX RSE
Note : 5G WIFI 11N40

	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	1282.193	2.91	24.95	39.82	46.20	34.24	68.20 -33.96 peak
2	1644.019	3.38	26.44	40.03	46.36	36.15	68.20 -32.05 peak
3	3485.601	5.50	31.68	41.07	47.62	43.73	68.20 -24.47 peak
4	4218.186	6.50	33.11	41.61	47.92	45.92	74.00 -28.08 peak
5	11510.000	11.64	37.90	37.87	39.89	51.56	74.00 -22.44 peak
6	17265.000	14.08	42.76	40.28	36.76	53.32	68.20 -14.88 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High

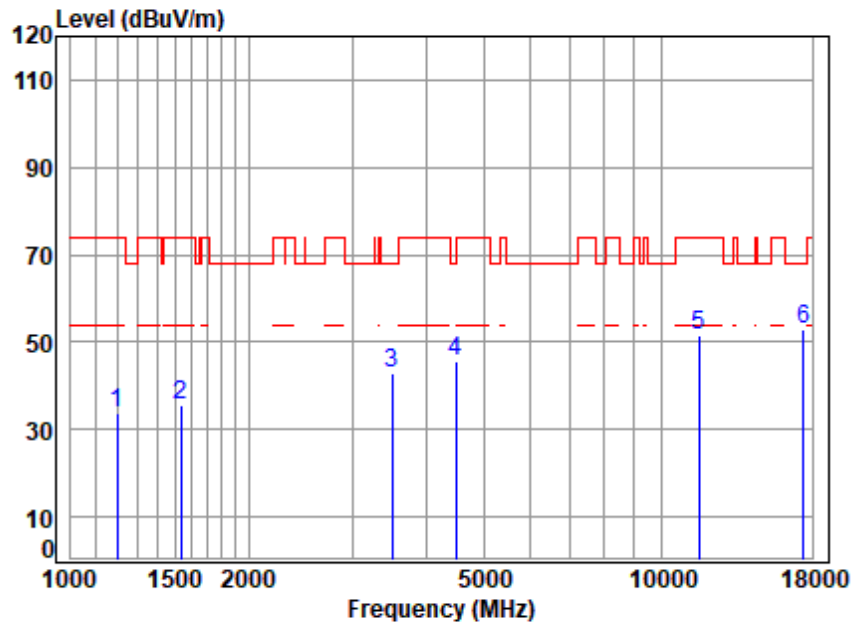


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5795 TX RSE
Note : 5G WIFI 11N40

	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	1238.483	2.83	24.76	39.79	46.66	34.46	74.00	-39.54	peak
2	1682.477	3.42	26.60	40.05	46.97	36.94	74.00	-37.06	peak
3	3425.675	5.43	31.59	41.02	47.89	43.89	68.20	-24.31	peak
4	4405.090	6.67	33.44	41.79	48.83	47.15	68.20	-21.05	peak
5	11590.000	11.74	37.86	37.91	39.68	51.37	74.00	-22.63	peak
6	17385.000	14.05	42.83	40.25	36.69	53.32	68.20	-14.88	peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

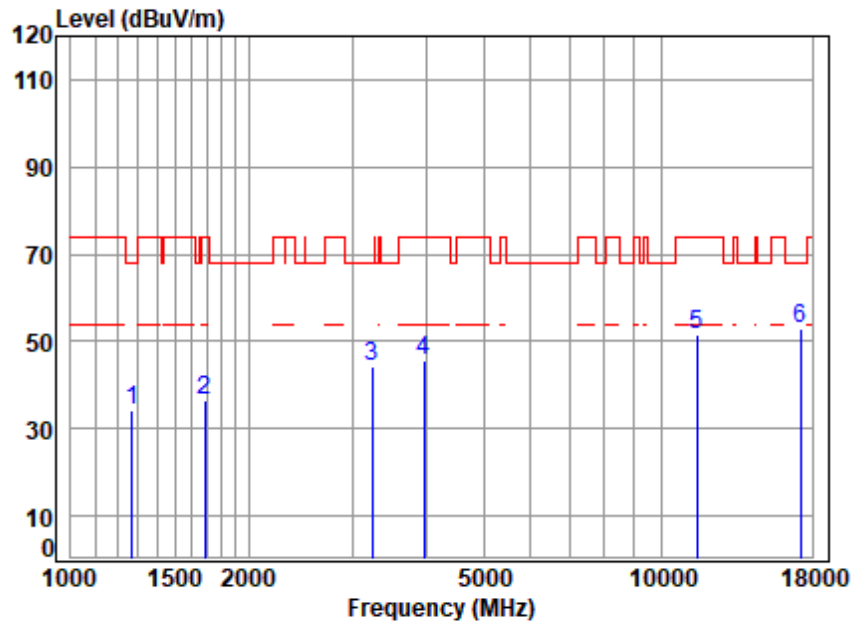


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5795 TX RSE
Note : 5G WIFI 11N40

	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 1196.264	2.76	24.57	39.76	46.09	33.66	74.00	-40.34 peak
2 1533.841	3.29	25.96	39.97	46.50	35.78	74.00	-38.22 peak
3 3495.691	5.51	31.69	41.07	46.90	43.03	68.20	-25.17 peak
4 4482.150	6.74	33.57	41.86	47.30	45.75	68.20	-22.45 peak
5 11590.000	11.74	37.86	37.91	39.99	51.68	74.00	-22.32 peak
6 17385.000	14.05	42.83	40.25	36.40	53.03	68.20	-15.17 peak



Test Mode: 04; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: Low

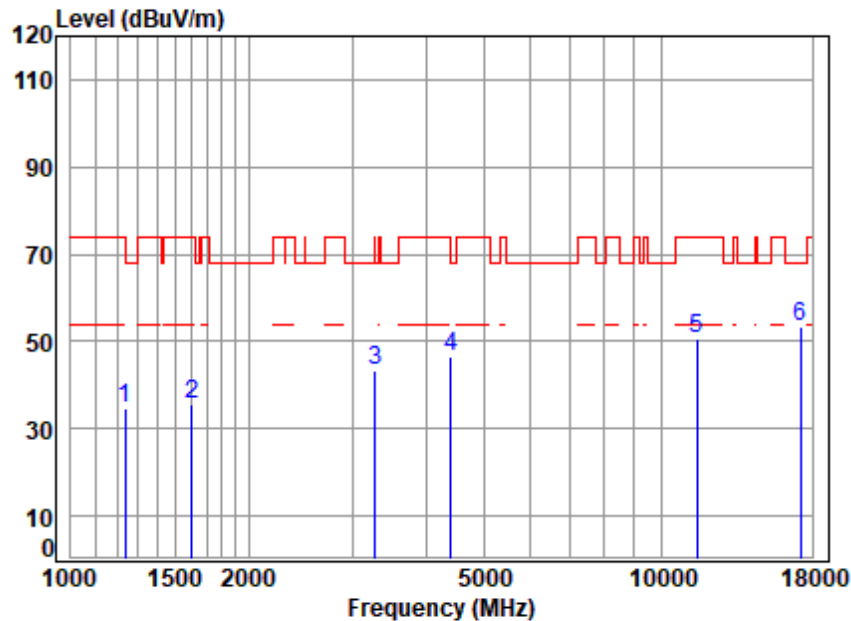


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5745 TX RSE
Note : 5G WIFI 11AC20

	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 1271.123	2.89	24.90	39.81	46.13	34.11	68.20	-34.09 peak
2 1687.347	3.42	26.62	40.05	46.29	36.28	74.00	-37.72 peak
3 3242.619	5.19	31.30	40.89	48.75	44.35	68.20	-23.85 peak
4 3958.309	6.22	32.62	41.37	48.36	45.83	74.00	-28.17 peak
5 11490.000	11.62	37.90	37.86	39.80	51.46	74.00	-22.54 peak
6 17235.000	14.09	42.74	40.28	36.55	53.10	68.20	-15.10 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low

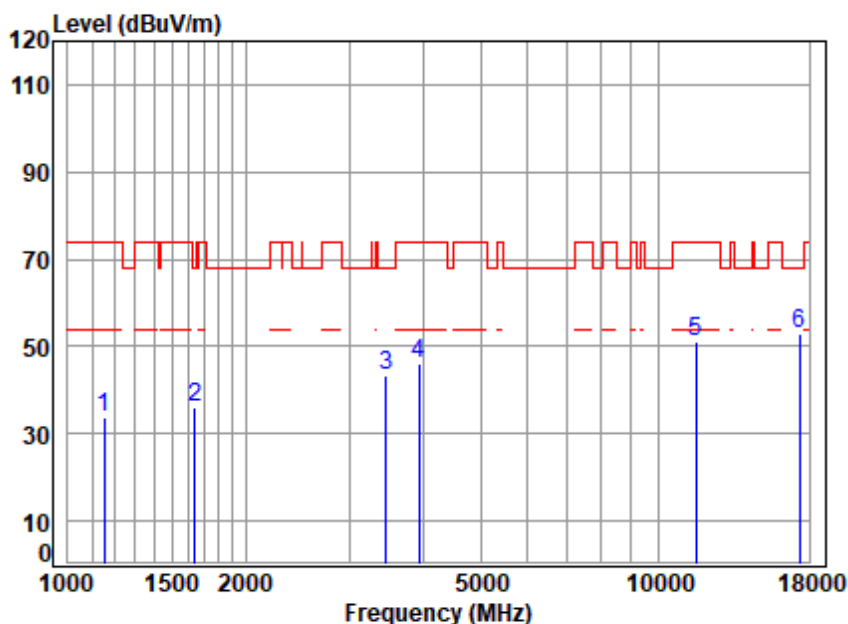


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5745 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1234.909	2.83	24.74	39.78	47.01	34.80	74.00	-39.20 peak
2	1601.804	3.35	26.26	40.01	45.99	35.59	74.00	-38.41 peak
3	3280.326	5.24	31.36	40.92	47.72	43.40	68.20	-24.80 peak
4	4405.090	6.67	33.44	41.79	48.04	46.36	68.20	-21.84 peak
5	11490.000	11.62	37.90	37.86	39.05	50.71	74.00	-23.29 peak
6	17235.000	14.09	42.74	40.28	36.73	53.28	68.20	-14.92 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle

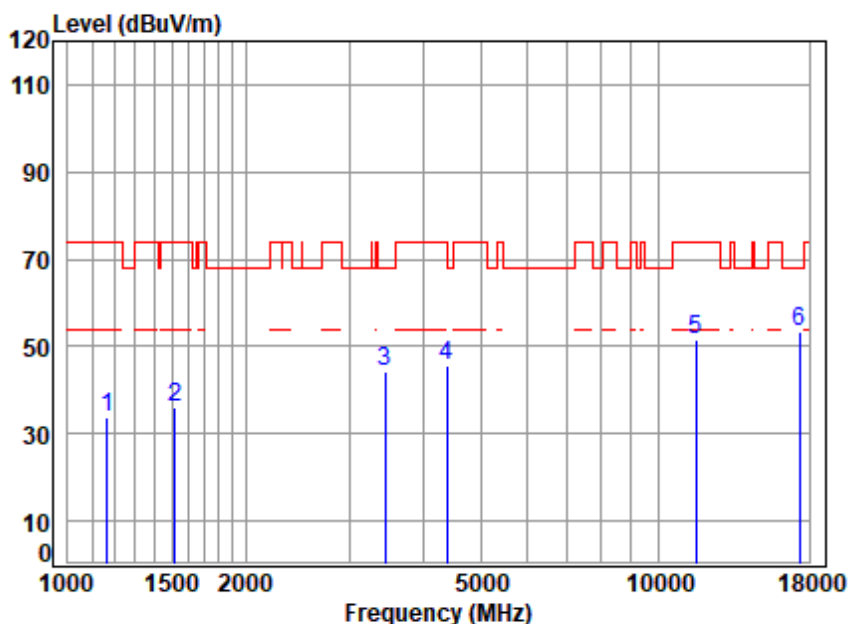


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5785 TX RSE
Note : 5G WIFI 11AC20

	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	1152.148	2.67	24.37	39.72	46.39	33.71	74.00 -40.29 peak
2	1644.019	3.38	26.44	40.03	46.06	35.85	68.20 -32.35 peak
3	3455.508	5.47	31.63	41.04	47.12	43.18	68.20 -25.02 peak
4	3935.493	6.19	32.58	41.36	48.64	46.05	74.00 -27.95 peak
5	11570.000	11.72	37.87	37.90	39.50	51.19	74.00 -22.81 peak
6	17355.000	14.06	42.81	40.25	36.39	53.01	68.20 -15.19 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle

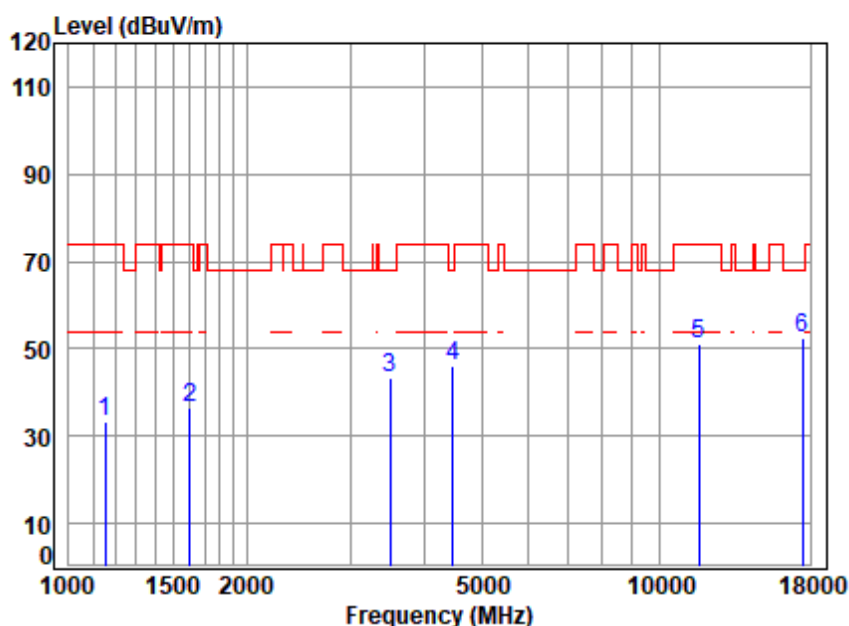


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5785 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1165.546	2.70	24.43	39.73	46.26	33.66	74.00	-40.34 peak
2	1520.598	3.28	25.89	39.96	46.97	36.18	74.00	-37.82 peak
3	3445.535	5.45	31.62	41.04	48.18	44.21	68.20	-23.99 peak
4	4379.699	6.65	33.39	41.77	47.17	45.44	74.00	-28.56 peak
5	11570.000	11.72	37.87	37.90	39.82	51.51	74.00	-22.49 peak
6	17355.000	14.06	42.81	40.25	36.78	53.40	68.20	-14.80 peak



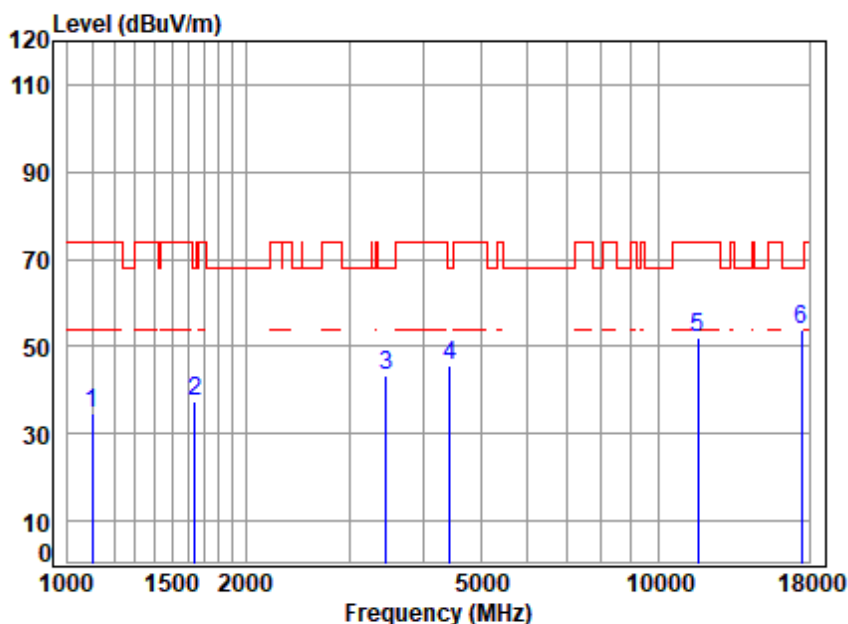
Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5825 TX RSE
Note : 5G WIFI 11AC20

	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	1152.148	2.67	24.37	39.72	46.19	33.51	74.00	-40.49	peak
2	1601.804	3.35	26.26	40.01	46.96	36.56	74.00	-37.44	peak
3	3495.691	5.51	31.69	41.07	47.28	43.41	68.20	-24.79	peak
4	4469.214	6.73	33.55	41.85	47.69	46.12	68.20	-22.08	peak
5	11650.000	11.82	37.84	37.94	39.58	51.30	74.00	-22.70	peak
6	17475.000	14.02	42.89	40.23	35.89	52.57	68.20	-15.63	peak

Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

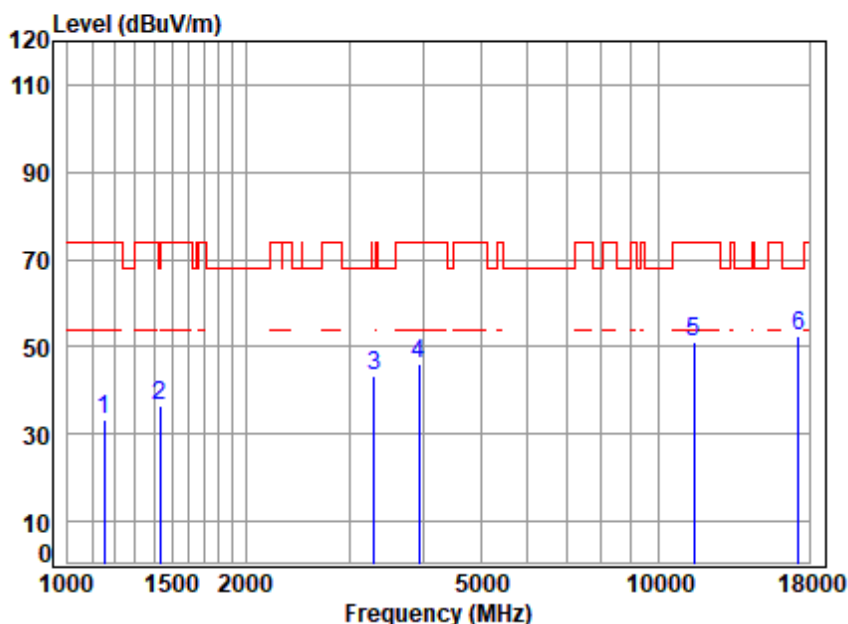


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5825 TX RSE
Note : 5G WIFI 11AC20

	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 1100.079	2.57	24.12	39.68	47.48	34.49	74.00	-39.51 peak
2 1639.274	3.38	26.42	40.03	47.81	37.58	68.20	-30.62 peak
3 3455.508	5.47	31.63	41.04	47.45	43.51	68.20	-24.69 peak
4 4443.453	6.71	33.50	41.82	47.39	45.78	68.20	-22.42 peak
5 11650.000	11.82	37.84	37.94	40.51	52.23	74.00	-21.77 peak
6 17475.000	14.02	42.89	40.23	37.01	53.69	68.20	-14.51 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low

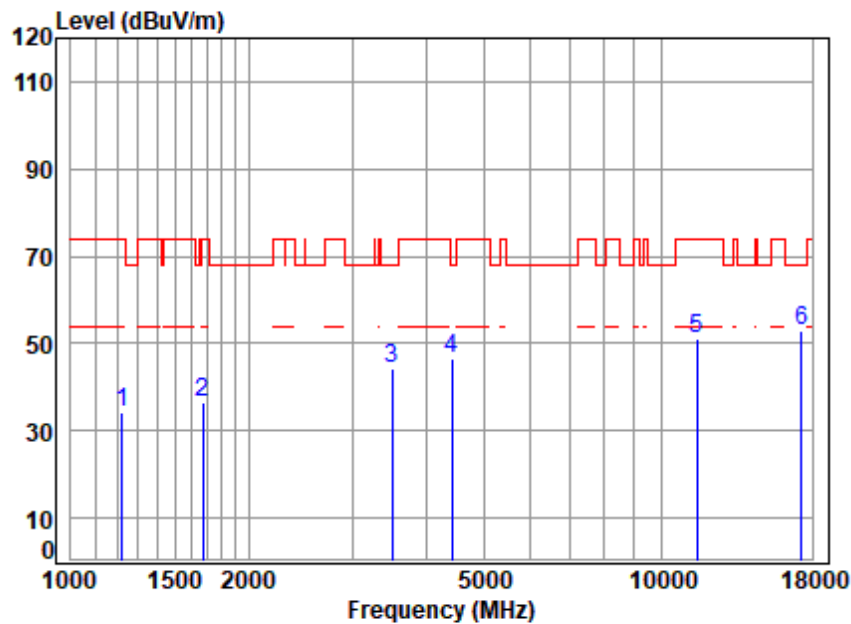


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5755 TX RSE
Note : 5G WIFI 11AC40

	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	1152.148	2.67	24.37	39.72	46.08	33.40	74.00	-40.60	peak
2	1435.189	3.16	25.56	39.91	47.51	36.32	74.00	-37.68	peak
3	3299.344	5.27	31.39	40.93	47.82	43.55	68.20	-24.65	peak
4	3935.493	6.19	32.58	41.36	48.66	46.07	74.00	-27.93	peak
5	11510.000	11.64	37.90	37.87	39.57	51.24	74.00	-22.76	peak
6	17265.000	14.08	42.76	40.28	36.03	52.59	68.20	-15.61	peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low

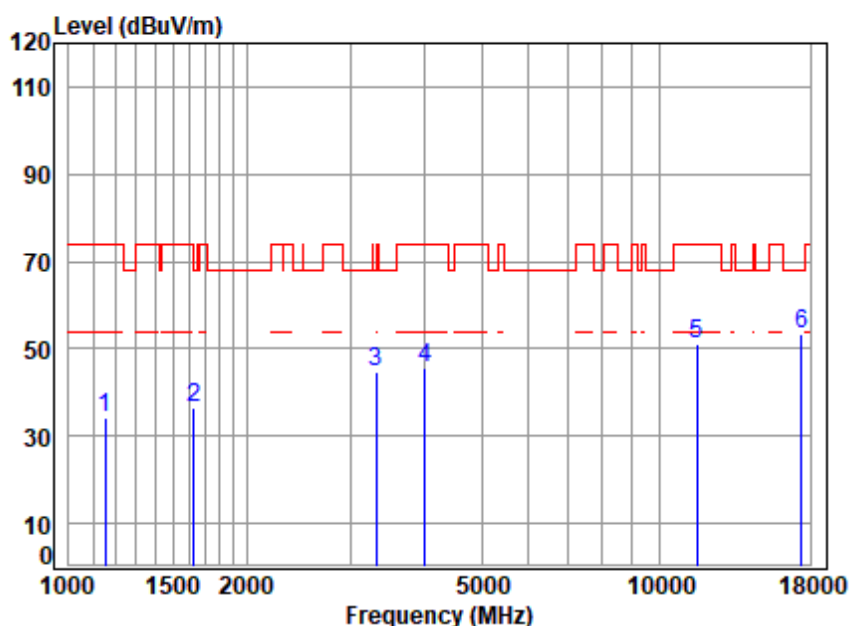


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5755 TX RSE
Note : 5G WIFI 11AC40

	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	1220.714	2.80	24.68	39.77	46.58	34.29	74.00 -39.71 peak
2	1672.779	3.41	26.56	40.05	46.65	36.57	74.00 -37.43 peak
3	3495.691	5.51	31.69	41.07	48.18	44.31	68.20 -23.89 peak
4	4417.841	6.68	33.46	41.80	48.39	46.73	68.20 -21.47 peak
5	11510.000	11.64	37.90	37.87	39.42	51.09	74.00 -22.91 peak
6	17265.000	14.08	42.76	40.28	36.39	52.95	68.20 -15.25 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



```
Site      : chamber
Condition: 3m HORIZONTAL
Job No    : 02456CR
Mode      : 5795 TX RSE
Note      : 5G WIFI 11AC40
```

	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	1152.148	2.67	24.37	39.72	46.84	34.16	74.00	-39.84	peak
2	1629.825	3.37	26.38	40.02	46.64	36.37	68.20	-31.83	peak
3	3318.471	5.29	31.42	40.95	48.78	44.54	68.20	-23.66	peak
4	4004.339	6.28	32.71	41.40	47.84	45.43	74.00	-28.57	peak
5	11590.000	11.74	37.86	37.91	39.47	51.16	74.00	-22.84	peak
6	17385.000	14.05	42.83	40.25	36.55	53.18	68.20	-15.02	peak



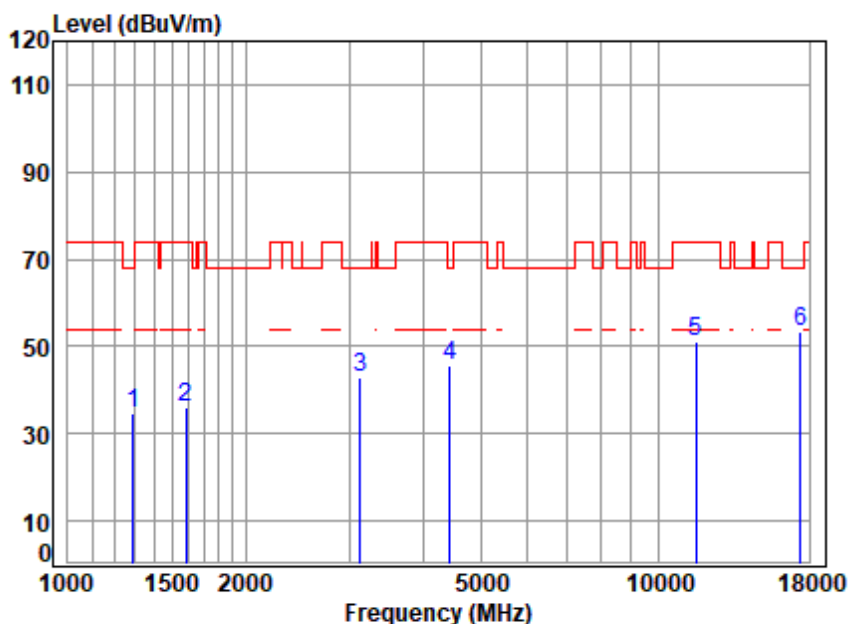
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed on the reverse, available on request at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and for electronic format documents, subject to Terms and Conditions for Electronic 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 expiration of the validity of this document is strictly prohibited and may result in severe legal action. Any other otherwise stated 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.

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Center EEC 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 sgsg.china@sgs.com

Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

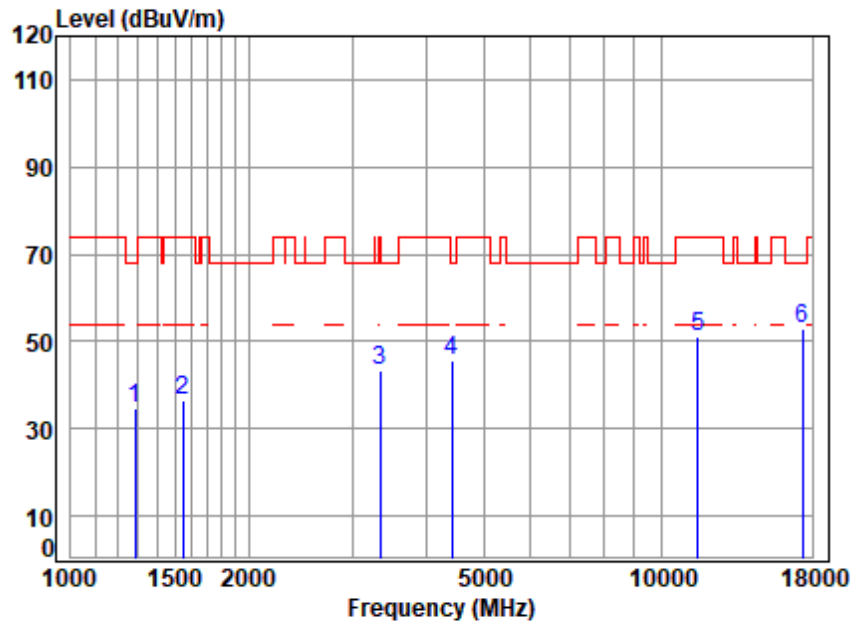


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5795 TX RSE
Note : 5G WIFI 11AC40

	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	1289.627	2.92	24.98	39.82	46.72	34.80	68.20 -33.40 peak
2	1587.975	3.34	26.20	40.00	46.57	36.11	74.00 -37.89 peak
3	3123.039	5.03	31.11	40.80	47.34	42.68	68.20 -25.52 peak
4	4443.453	6.71	33.50	41.82	47.21	45.60	68.20 -22.60 peak
5	11590.000	11.74	37.86	37.91	39.25	50.94	74.00 -23.06 peak
6	17385.000	14.05	42.83	40.25	36.55	53.18	68.20 -15.02 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle

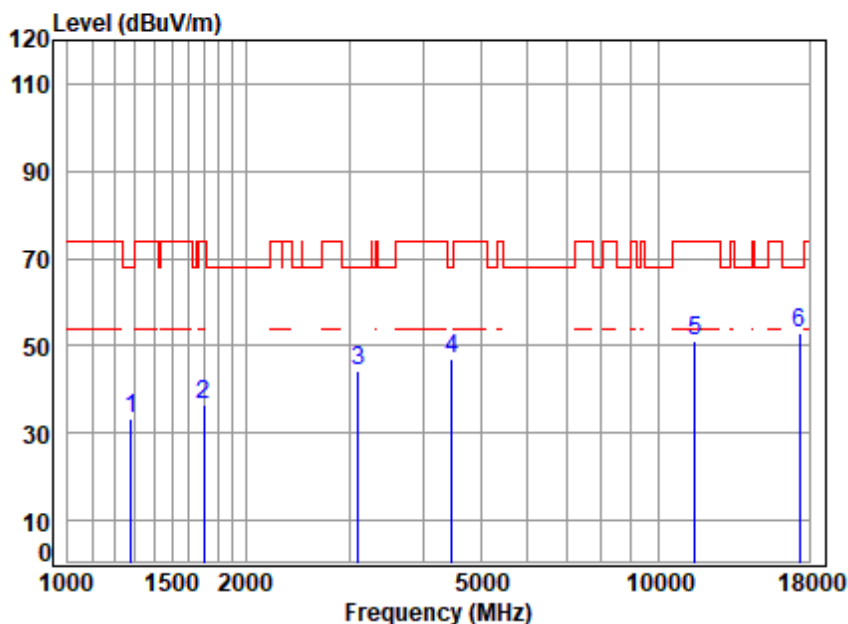


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5775 TX RSE
Note : 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1285.904	2.92	24.96	39.82	46.46	34.52	68.20	-33.68 peak
2	1547.199	3.30	26.02	39.98	47.35	36.69	74.00	-37.31 peak
3	3347.371	5.33	31.47	40.97	47.49	43.32	74.00	-30.68 peak
4	4417.841	6.68	33.46	41.80	47.06	45.40	68.20	-22.80 peak
5	11550.000	11.69	37.88	37.89	39.38	51.06	74.00	-22.94 peak
6	17325.000	14.07	42.80	40.26	36.44	53.05	68.20	-15.15 peak



Test Mode: 04; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 80MHz; Channel: middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5775 TX RSE
Note : 5G WIFI 11AC80

	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 1278.492	2.91	24.93	39.81	45.12	33.15	68.20	-35.05 peak
2 1702.042	3.43	26.68	40.06	46.33	36.38	74.00	-37.62 peak
3 3105.037	5.01	31.08	40.78	49.15	44.46	68.20	-23.74 peak
4 4469.214	6.73	33.55	41.85	48.77	47.20	68.20	-21.00 peak
5 11550.000	11.69	37.88	37.89	39.37	51.05	74.00	-22.95 peak
6 17325.000	14.07	42.80	40.26	36.29	52.90	68.20	-15.30 peak



7.10 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)
Test Method: KDB 789033 D02 II G
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

*(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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.



7.10.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C

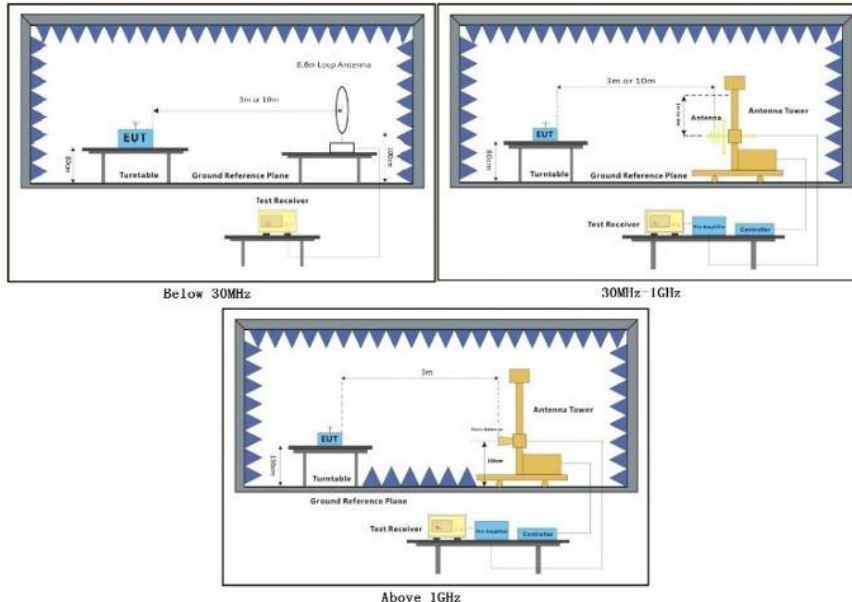
Humidity: 56.3 % RH

Atmospheric Pressure: 1010 mbar

7.10.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.10.3 Test Setup Diagram



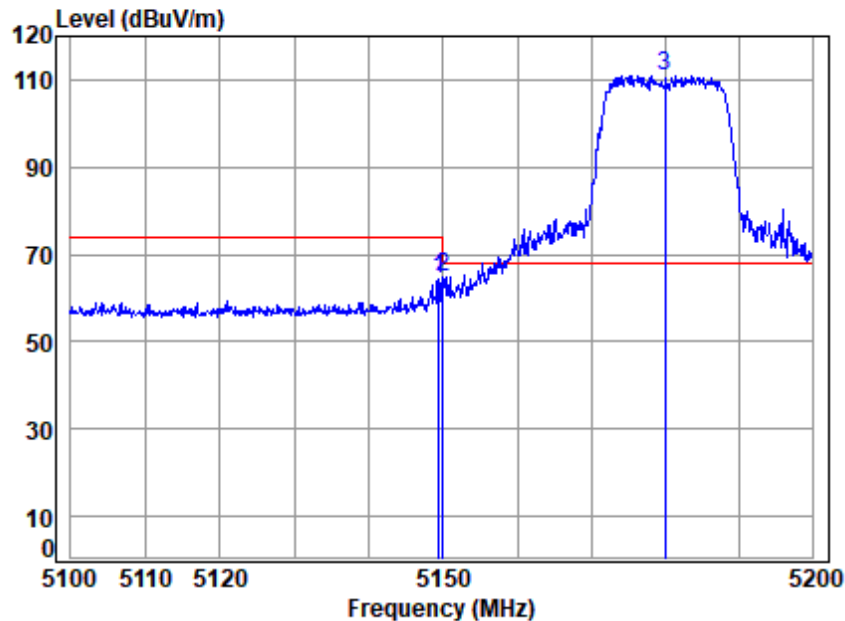
7.10.4 Measurement Procedure and Data

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



Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

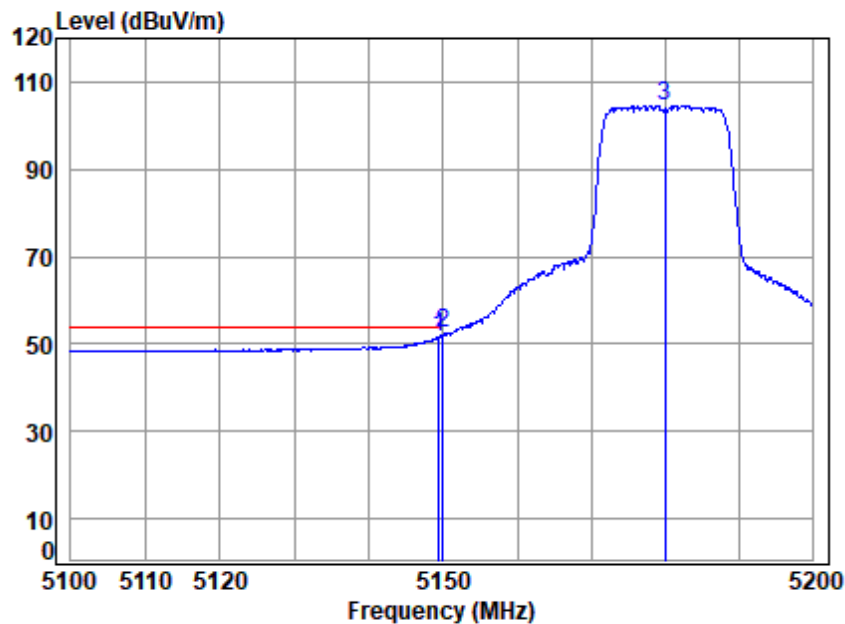


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11A

		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	5149.458	7.57	34.32	42.32	64.57	64.14	74.00	-9.86 peak
2	5149.980	7.57	34.32	42.32	65.11	64.68	74.00	-9.32 peak
3 *	5180.000	7.63	34.35	42.32	111.17	110.83	68.20	42.63 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

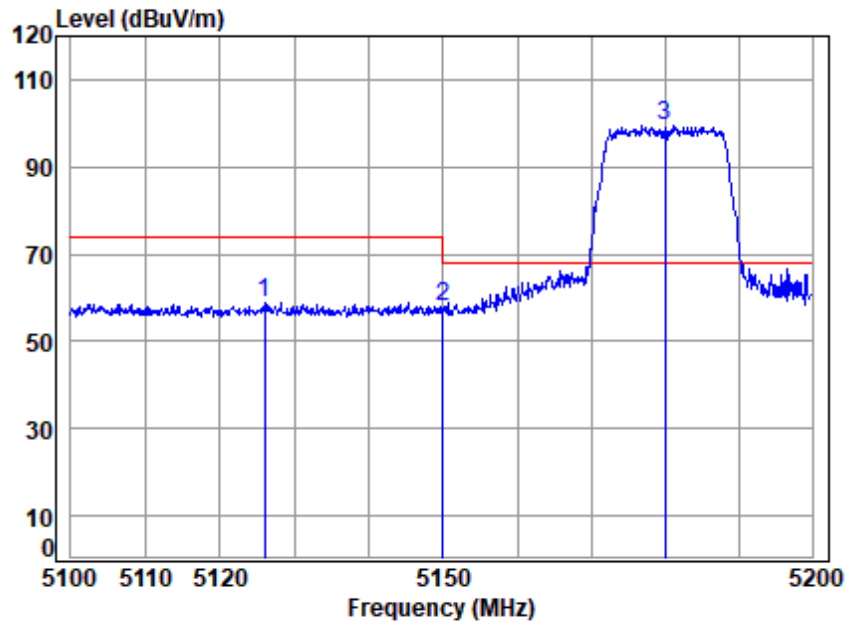


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11A

		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	5149.458	7.57	34.32	42.32	52.04	51.61	54.00	-2.39 Average
2	5149.980	7.57	34.32	42.32	52.70	52.27	54.00	-1.73 Average
3	5180.000	7.63	34.35	42.32	104.80	104.46	-----	----- Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

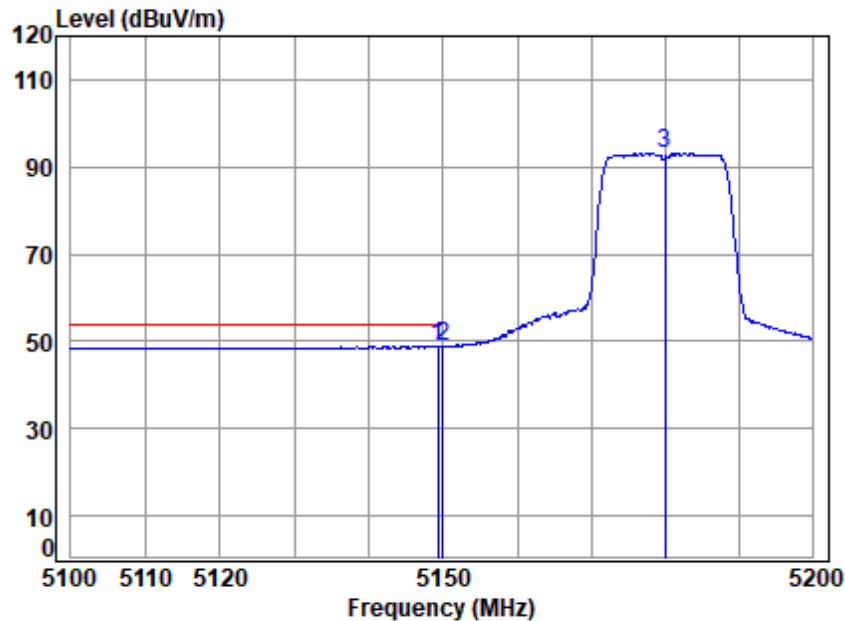


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11A

		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	5125.913	7.53	34.30	42.31	59.17	58.69	74.00	-15.31 Peak
2	5149.980	7.57	34.32	42.32	58.35	57.92	74.00	-16.08 Peak
3 *	5180.000	7.63	34.35	42.32	99.89	99.55	68.20	31.35 Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

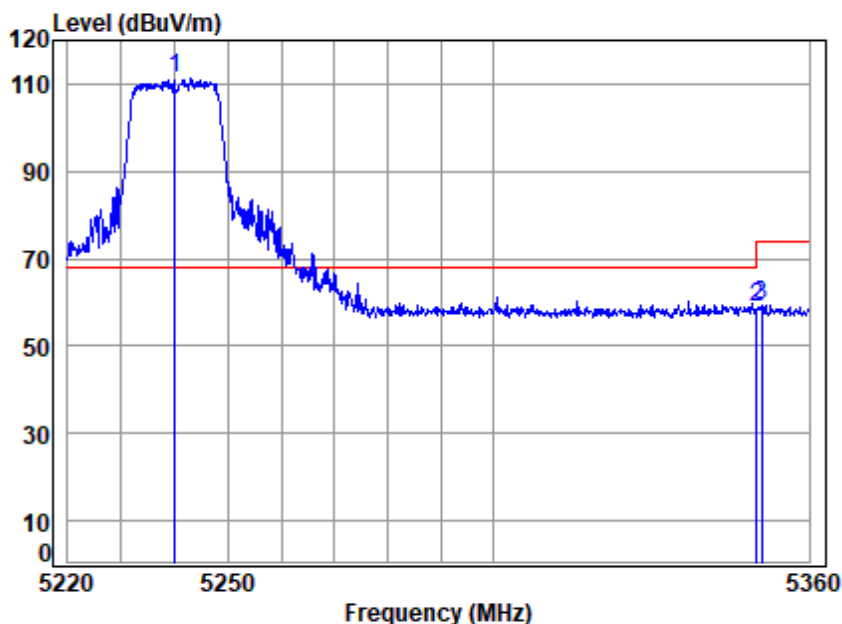


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11A

		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	5149.257	7.57	34.32	42.32	49.28	48.85	54.00	-5.15 Average
2	5149.980	7.57	34.32	42.32	49.30	48.87	54.00	-5.13 Average
3	5180.000	7.63	34.35	42.32	93.38	93.04	-----	----- Average



Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High

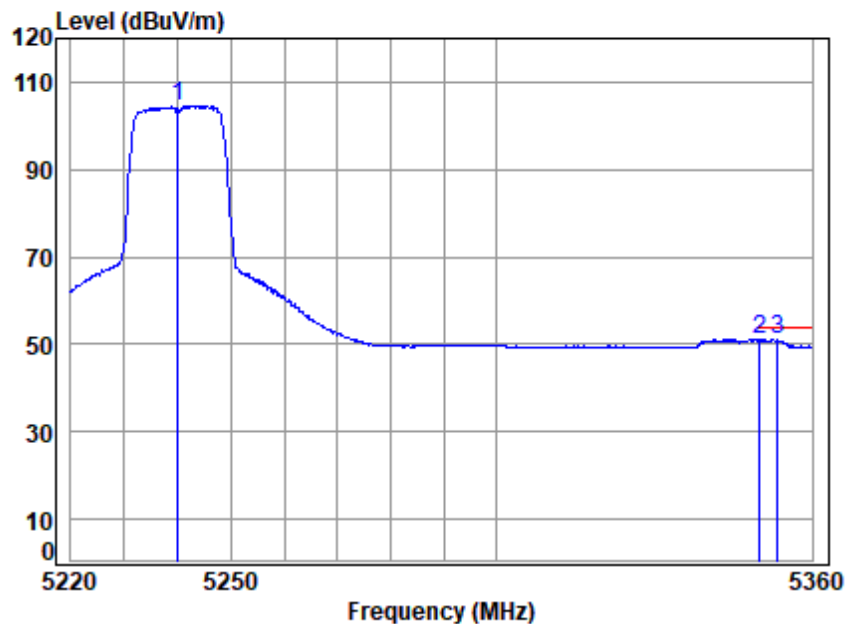


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11A

	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 * 5240.000	7.73	34.40	42.33	111.44	111.24	68.20	43.04 peak
2 5350.020	7.92	34.48	42.34	58.61	58.67	74.00	-15.33 peak
3 5350.929	7.93	34.48	42.34	59.37	59.44	74.00	-14.56 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High

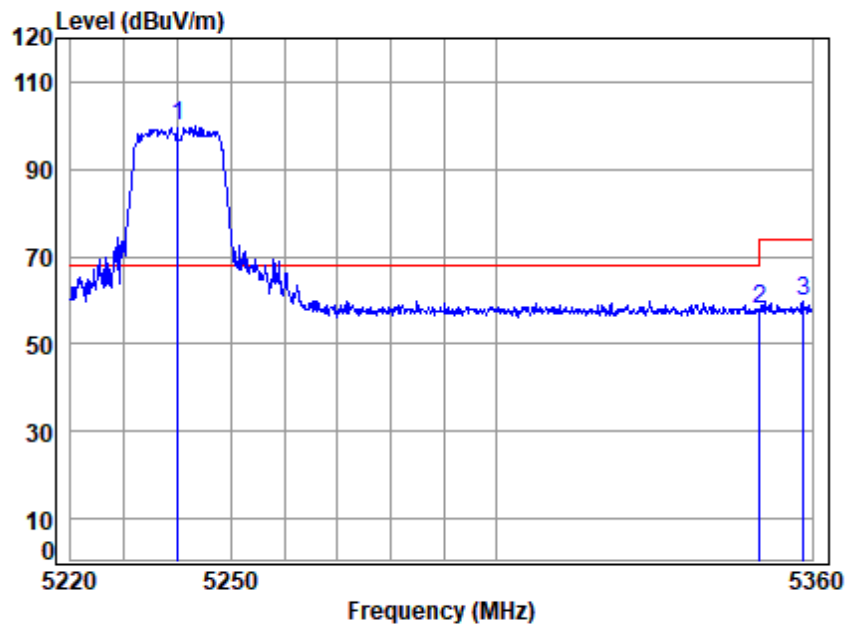


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11A

		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	5240.000	7.73	34.40	42.33	104.69	104.49	-----	----- Average
2	5350.020	7.92	34.48	42.34	50.85	50.91	54.00	-3.09 Average
3	5353.337	7.93	34.49	42.34	50.96	51.04	54.00	-2.96 Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



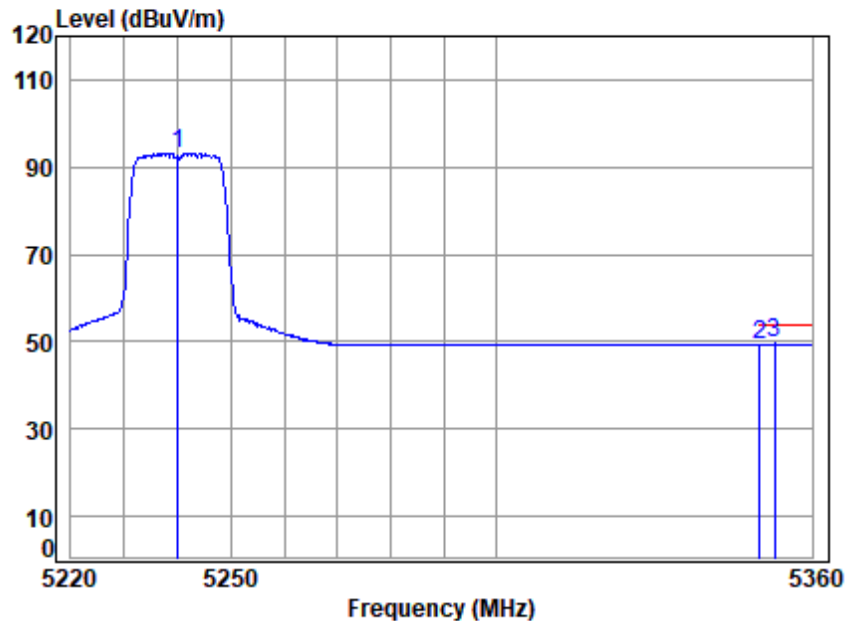
Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11A

	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 * 5240.000	7.73	34.40	42.33	99.99	99.79	68.20	31.59 Peak
2 5350.020	7.92	34.48	42.34	57.98	58.04	74.00	-15.96 Peak
3 5358.440	7.94	34.49	42.34	59.48	59.57	74.00	-14.43 Peak



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

Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

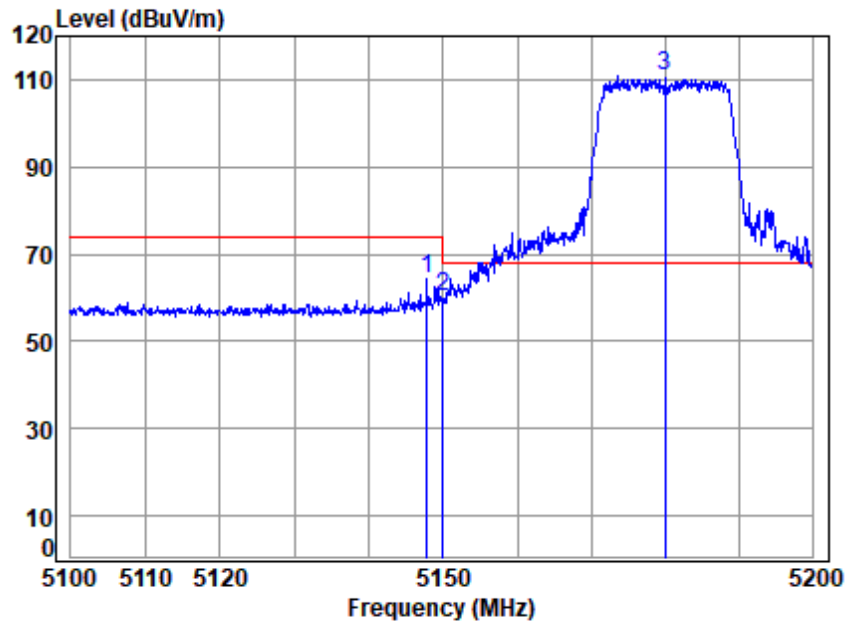


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5240.000	7.73	34.40	42.33	93.25	93.05	-----	----- Average
2 5350.020	7.92	34.48	42.34	49.42	49.48	54.00	-4.52 Average
3 5352.912	7.93	34.49	42.34	49.44	49.52	54.00	-4.48 Average



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

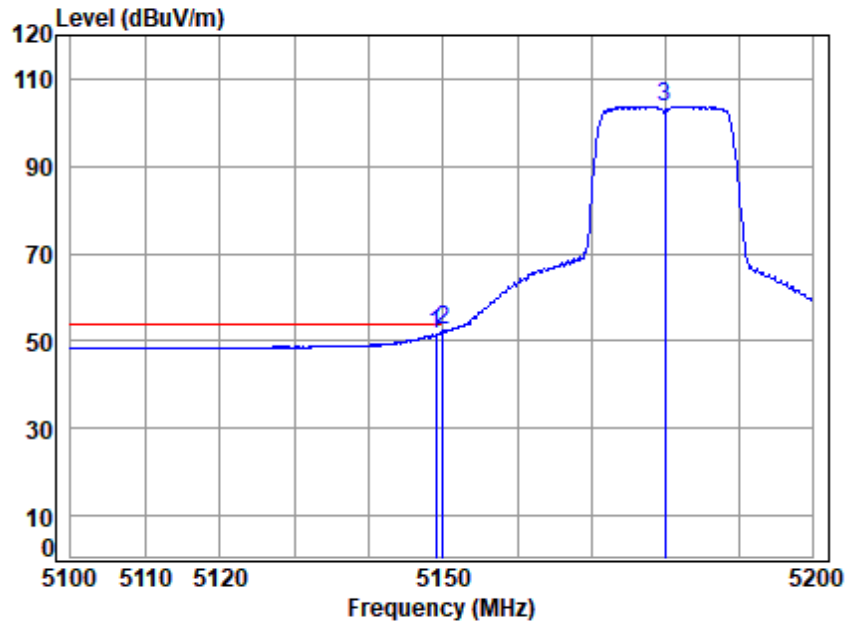


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11N20

		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	5147.758	7.57	34.32	42.32	64.60	64.17	74.00	-9.83 peak
2	5149.980	7.57	34.32	42.32	60.61	60.18	74.00	-13.82 peak
3 *	5180.000	7.63	34.35	42.32	111.19	110.85	68.20	42.65 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

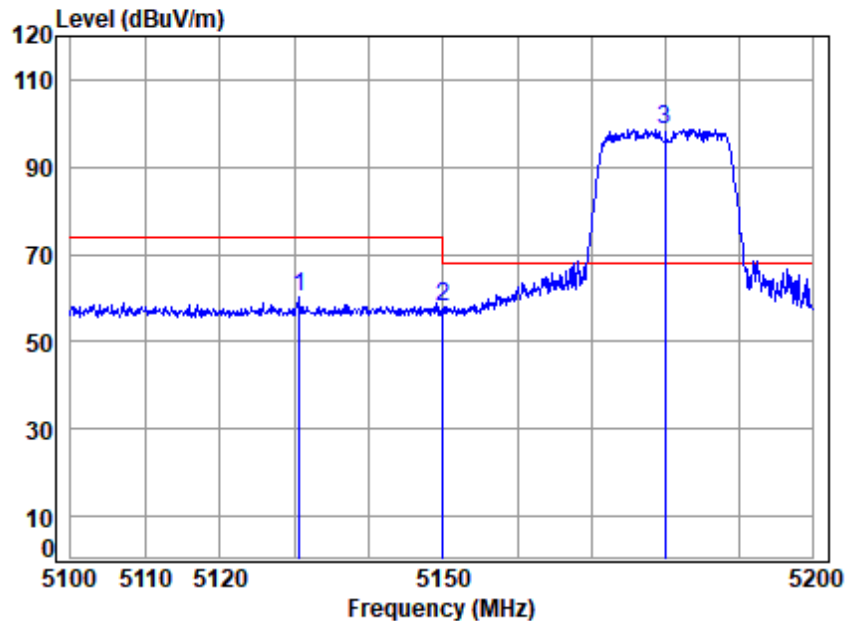


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11N20

		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	5149.057	7.57	34.32	42.32	52.14	51.71	54.00	-2.29 Average
2	5149.980	7.57	34.32	42.32	52.74	52.31	54.00	-1.69 Average
3	5180.000	7.63	34.35	42.32	104.13	103.79	-----	----- Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

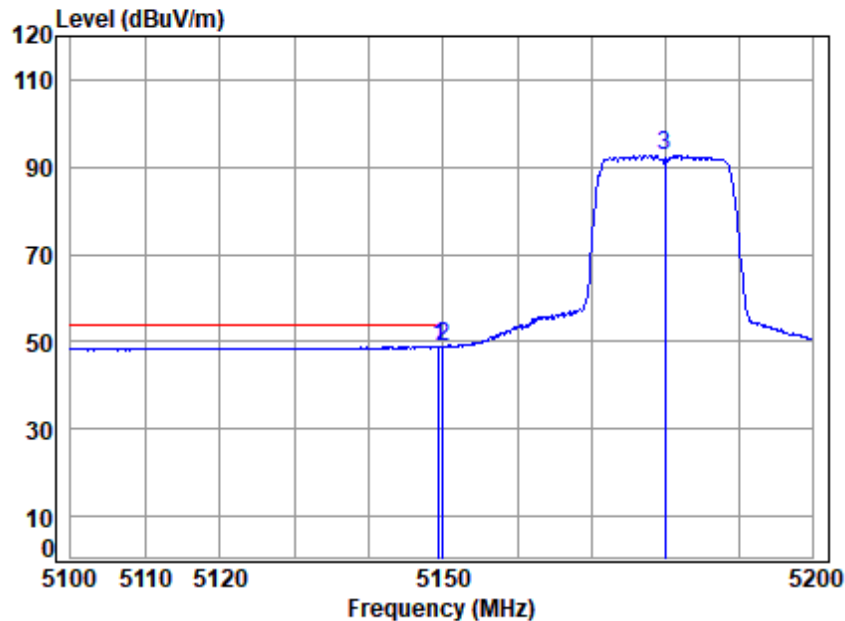


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11N20

	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 5130.693	7.54	34.31	42.31	60.68	60.22	74.00	-13.78 Peak
2 5149.980	7.57	34.32	42.32	58.20	57.77	74.00	-16.23 Peak
3 * 5180.000	7.63	34.35	42.32	99.05	98.71	68.20	30.51 Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

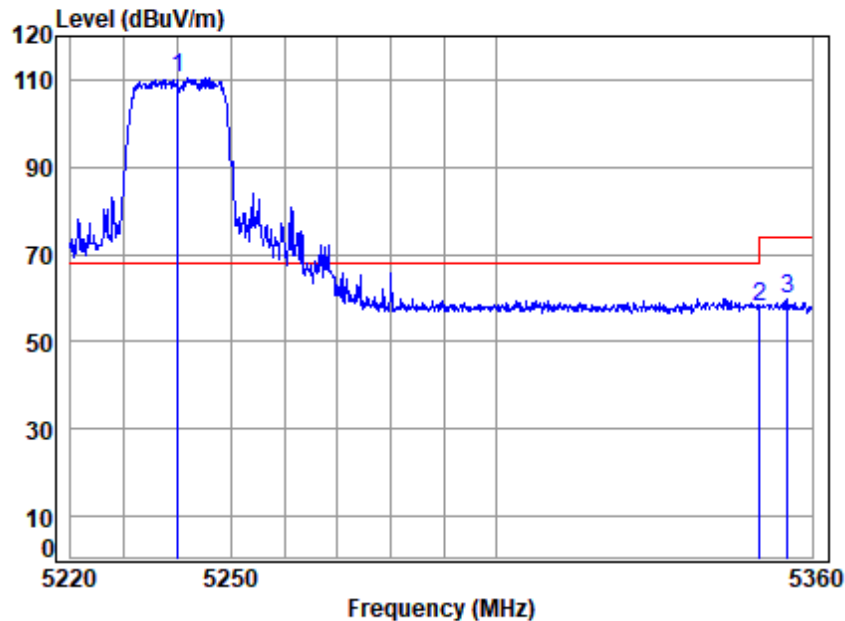


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11N20

		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	5149.458	7.57	34.32	42.32	49.22	48.79	54.00	-5.21 Average
2	5149.980	7.57	34.32	42.32	49.38	48.95	54.00	-5.05 Average
3	5180.000	7.63	34.35	42.32	92.87	92.53	-----	----- Average



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

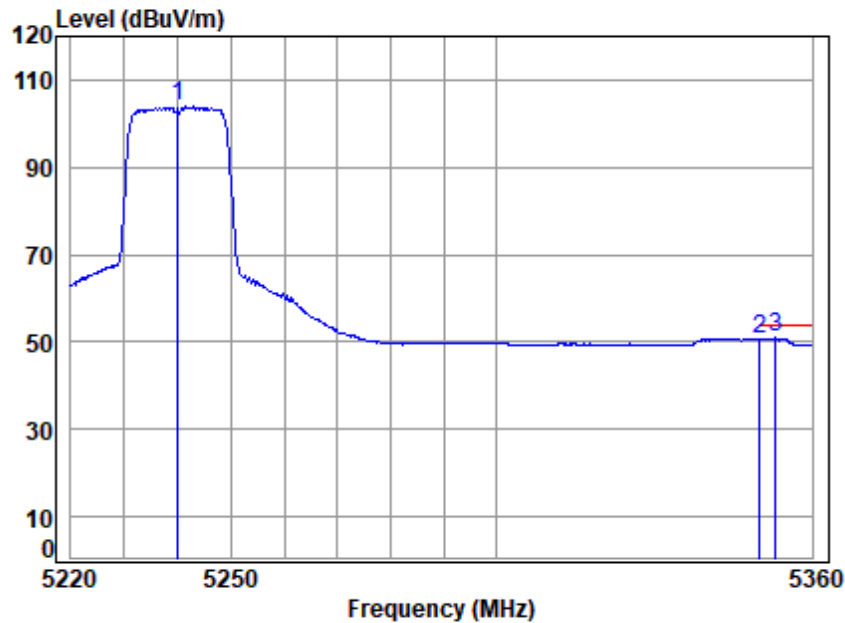


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11N20

	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 * 5240.000	7.73	34.40	42.33	110.70	110.50	68.20	42.30	peak
2 5350.020	7.92	34.48	42.34	58.02	58.08	74.00	-15.92	peak
3 5355.321	7.93	34.49	42.34	59.60	59.68	74.00	-14.32	peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

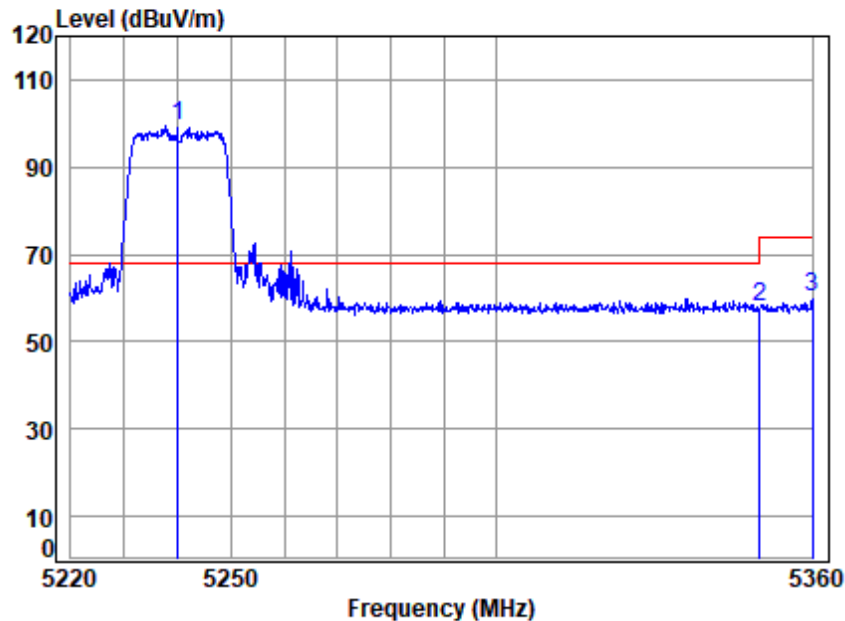


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11N20

		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	5240.000	7.73	34.40	42.33	104.01	103.81	-----	----- Average
2	5350.020	7.92	34.48	42.34	50.68	50.74	54.00	-3.26 Average
3	5353.053	7.93	34.49	42.34	50.81	50.89	54.00	-3.11 Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

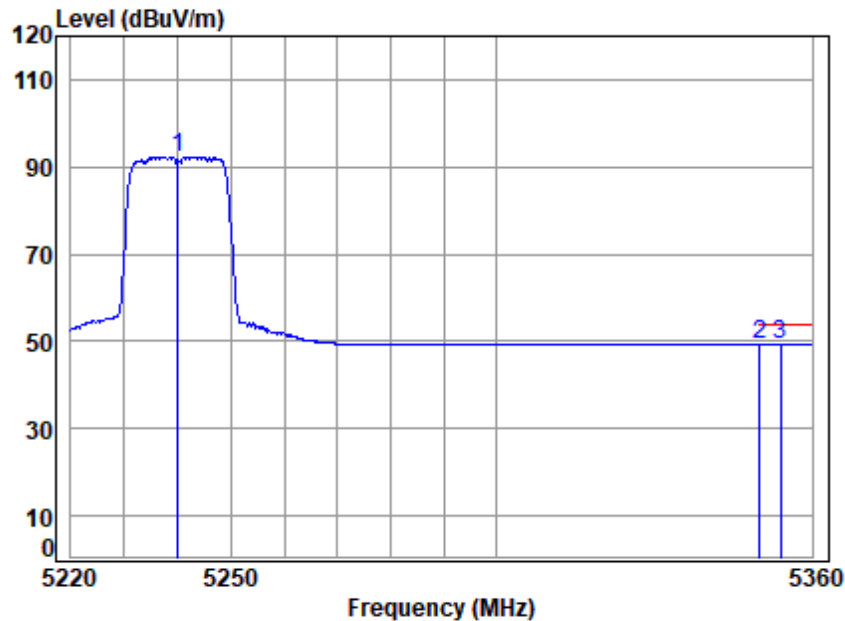


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11N20

	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 * 5240.000	7.73	34.40	42.33	99.57	99.37	68.20	31.17 Peak
2 5350.020	7.92	34.48	42.34	58.09	58.15	74.00	-15.85 Peak
3 5360.000	7.94	34.49	42.34	59.96	60.05	74.00	-13.95 Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

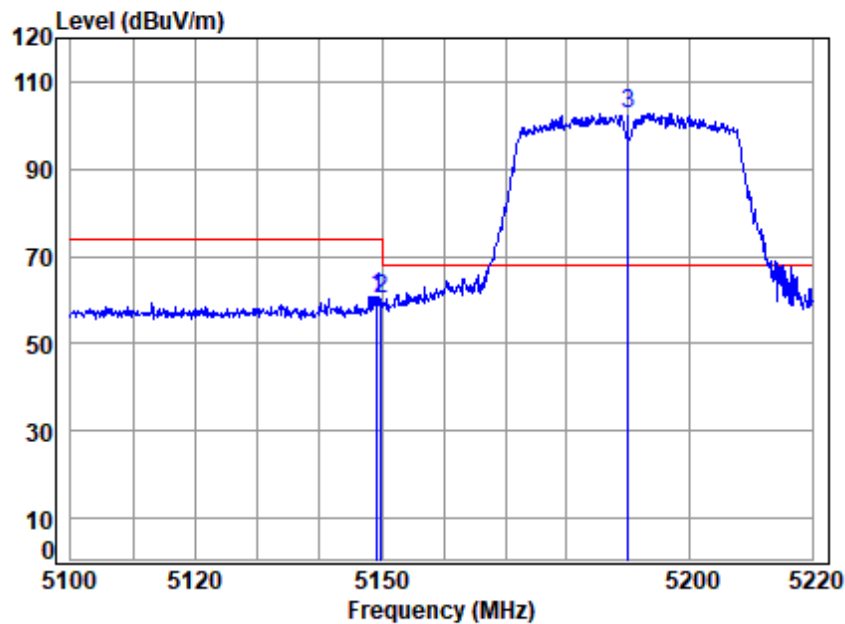


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5240.000	7.73	34.40	42.33	92.55	92.35	-----	-----
2 5350.020	7.92	34.48	42.34	49.34	49.40	54.00	-4.60
3 5354.045	7.93	34.49	42.34	49.42	49.50	54.00	-4.50



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

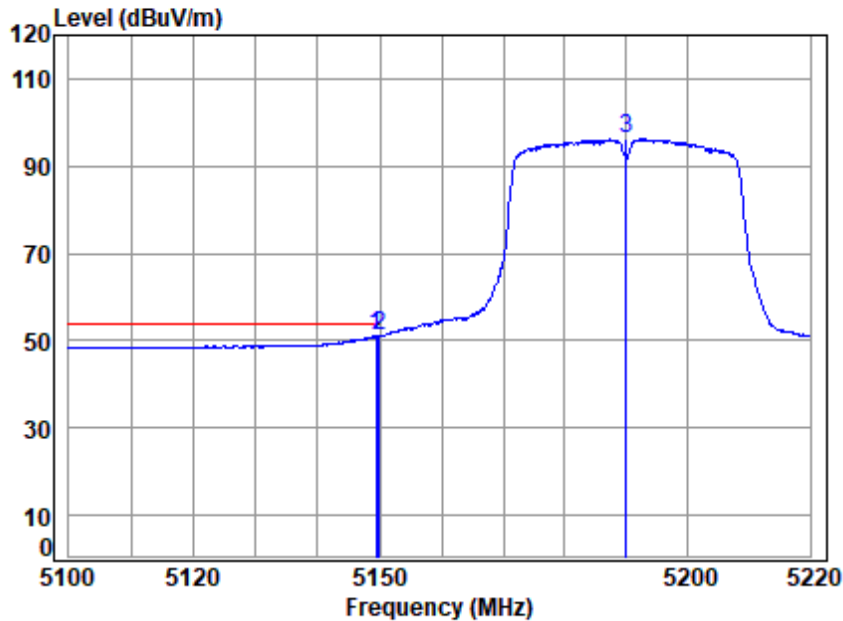


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11N40

		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	5149.222	7.57	34.32	42.32	61.32	60.89	74.00	-13.11 peak
2	5149.980	7.57	34.32	42.32	60.46	60.03	74.00	-13.97 peak
3 *	5190.000	7.64	34.36	42.32	103.10	102.78	68.20	34.58 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

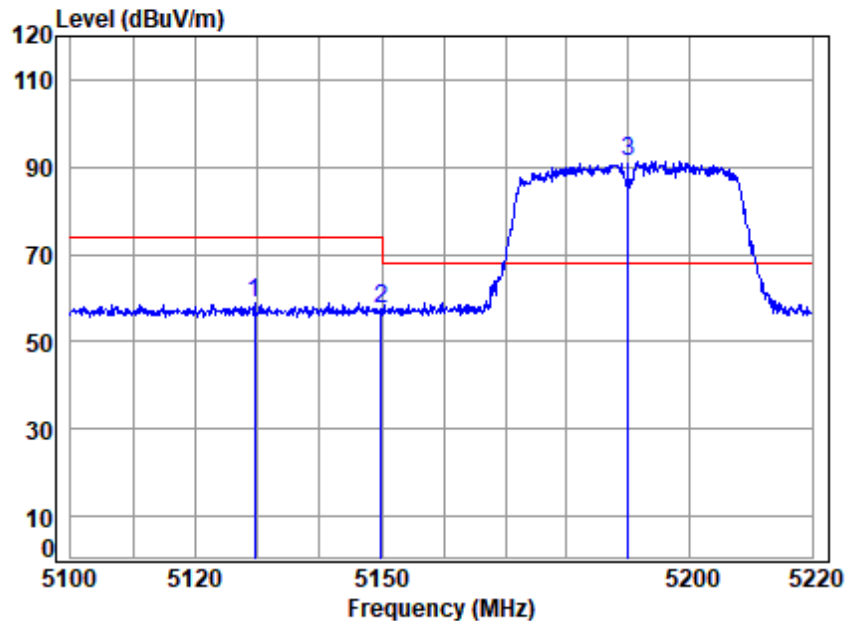


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11N40

	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	5149.461	7.57	34.32	42.32	51.62	51.19	54.00	-2.81	Average
2	5149.980	7.57	34.32	42.32	51.67	51.24	54.00	-2.76	Average
3	5190.000	7.64	34.36	42.32	96.45	96.13	-----	-----	Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

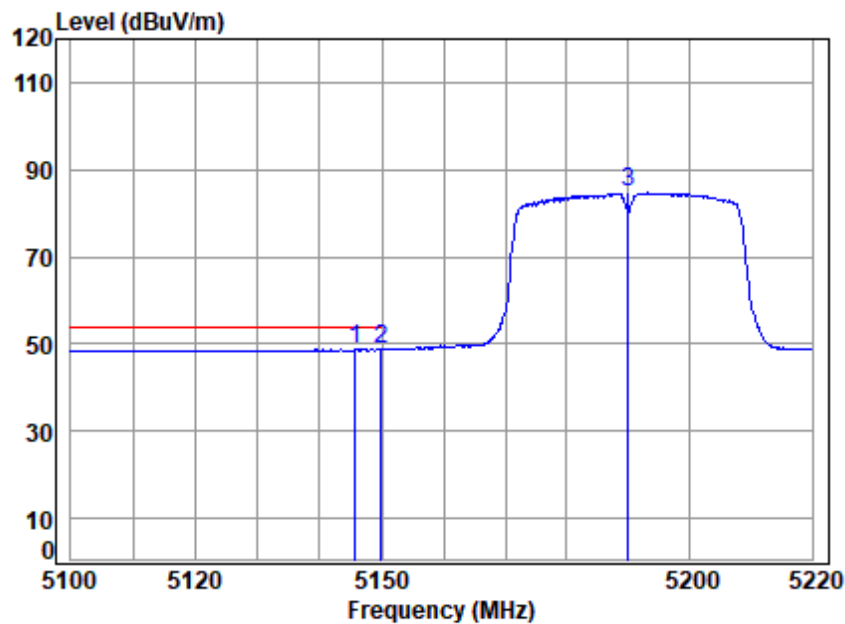


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11N40

	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 5129.500	7.54	34.31	42.31	59.49	59.03	74.00	-14.97 Peak
2 5149.980	7.57	34.32	42.32	58.10	57.67	74.00	-16.33 Peak
3 * 5190.000	7.64	34.36	42.32	91.73	91.41	68.20	23.21 Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

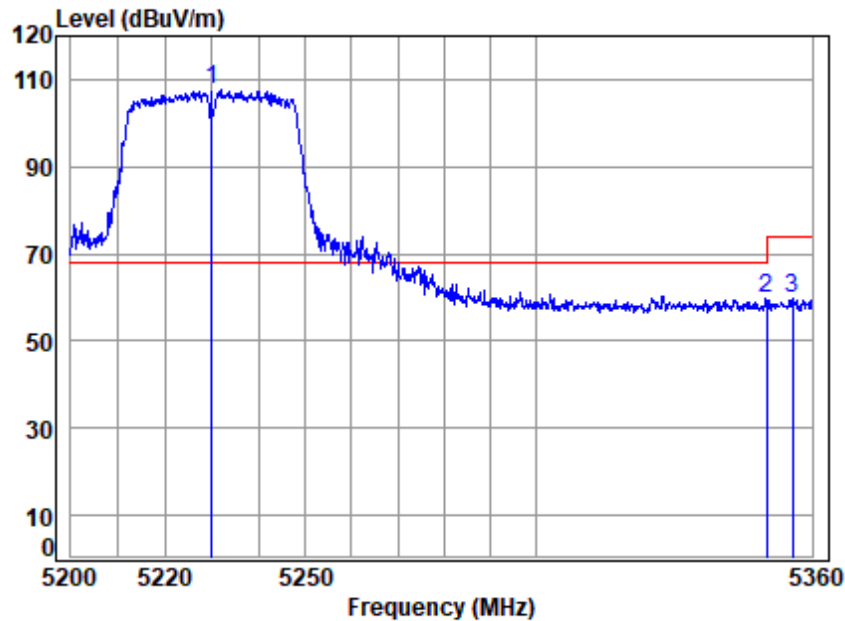


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11N40

		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	5145.750	7.57	34.32	42.32	49.14	48.71	54.00	-5.29 Average
2	5149.980	7.57	34.32	42.32	49.12	48.69	54.00	-5.31 Average
3	5190.000	7.64	34.36	42.32	85.01	84.69	-----	----- Average



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High

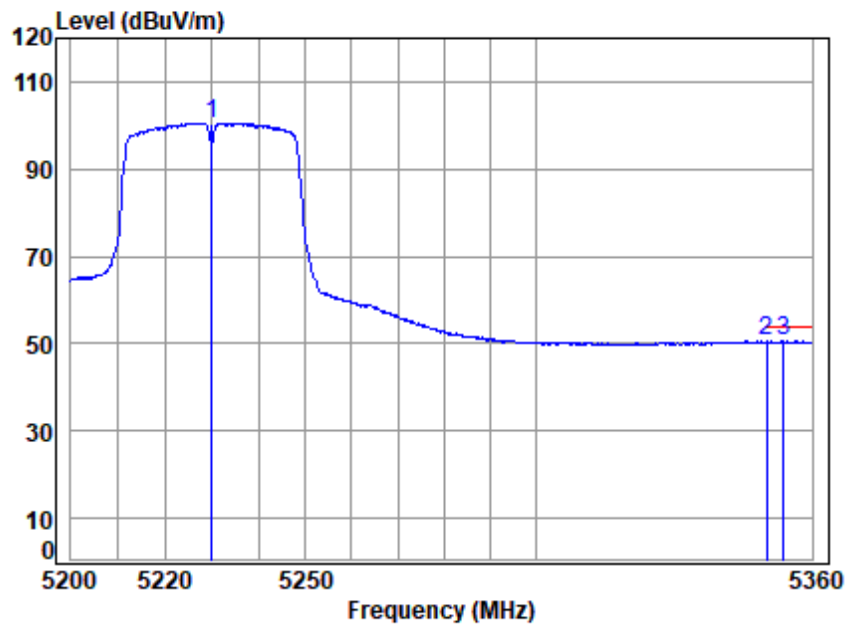


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11N40

	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 * 5230.000	7.72	34.39	42.32	107.70	107.49	68.20	39.29	peak
2 5350.020	7.92	34.48	42.34	59.53	59.59	74.00	-14.41	peak
3 5355.778	7.93	34.49	42.34	59.85	59.93	74.00	-14.07	peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High

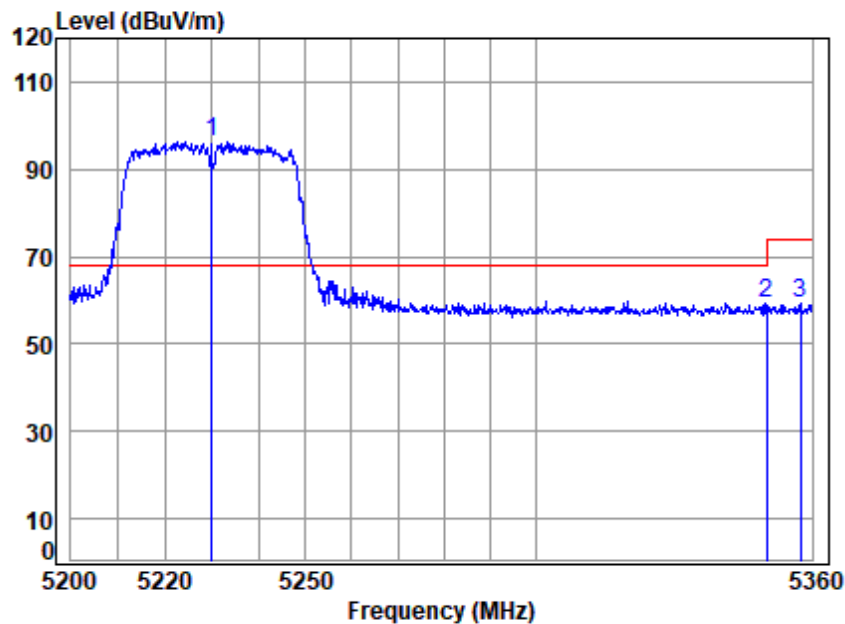


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11N40

		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	5230.000	7.72	34.39	42.32	100.76	100.55	-----	----- Average
2	5350.020	7.92	34.48	42.34	50.48	50.54	54.00	-3.46 Average
3	5353.669	7.93	34.49	42.34	50.42	50.50	54.00	-3.50 Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

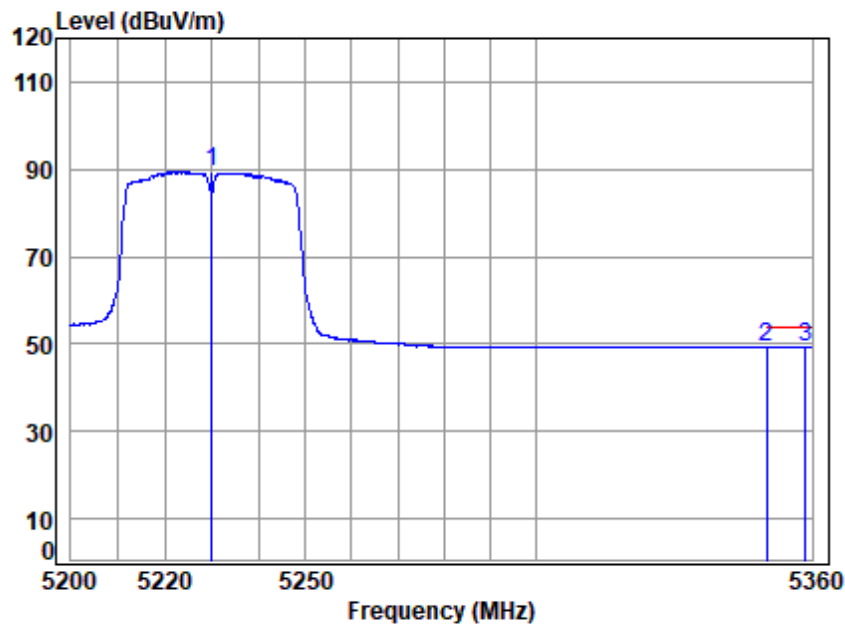


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11N40

	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 * 5230.000	7.72	34.39	42.32	96.56	96.35	68.20	28.15	Peak
2 5350.020	7.92	34.48	42.34	59.36	59.42	74.00	-14.58	Peak
3 5357.402	7.94	34.49	42.34	59.18	59.27	74.00	-14.73	Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

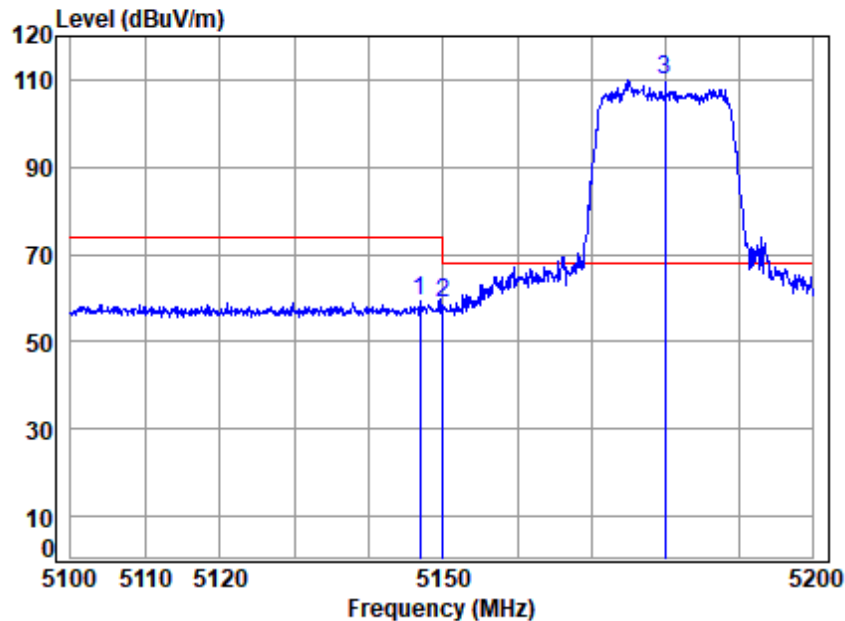


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11N40

		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	5230.000	7.72	34.39	42.32	89.59	89.38	-----	----- Average
2	5350.020	7.92	34.48	42.34	49.33	49.39	54.00	-4.61 Average
3	5358.538	7.94	34.49	42.34	49.38	49.47	54.00	-4.53 Average



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: Low

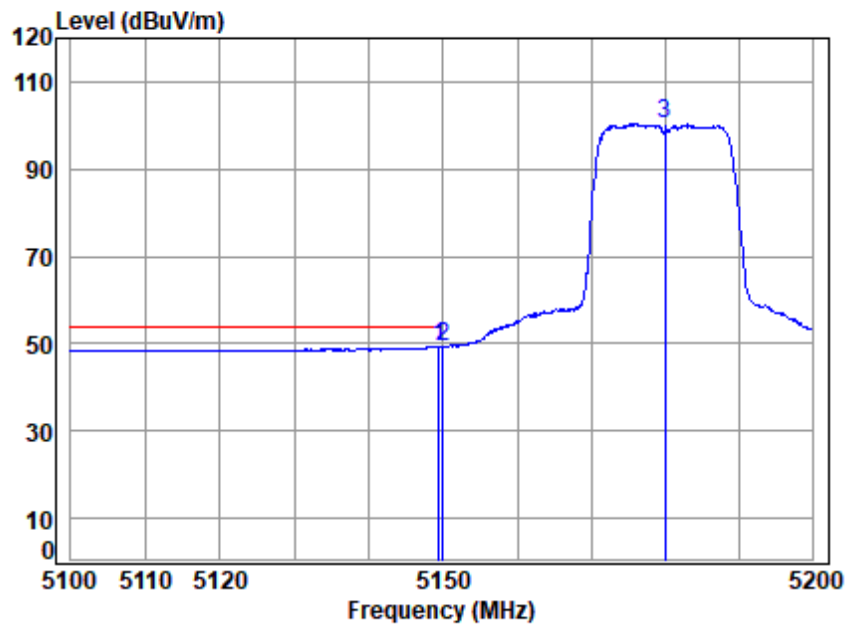


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

	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 5146.858	7.57	34.32	42.32	59.52	59.09	74.00	-14.91 peak
2 5149.980	7.57	34.32	42.32	59.16	58.73	74.00	-15.27 peak
3 * 5180.000	7.63	34.35	42.32	110.45	110.11	68.20	41.91 peak



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: Low

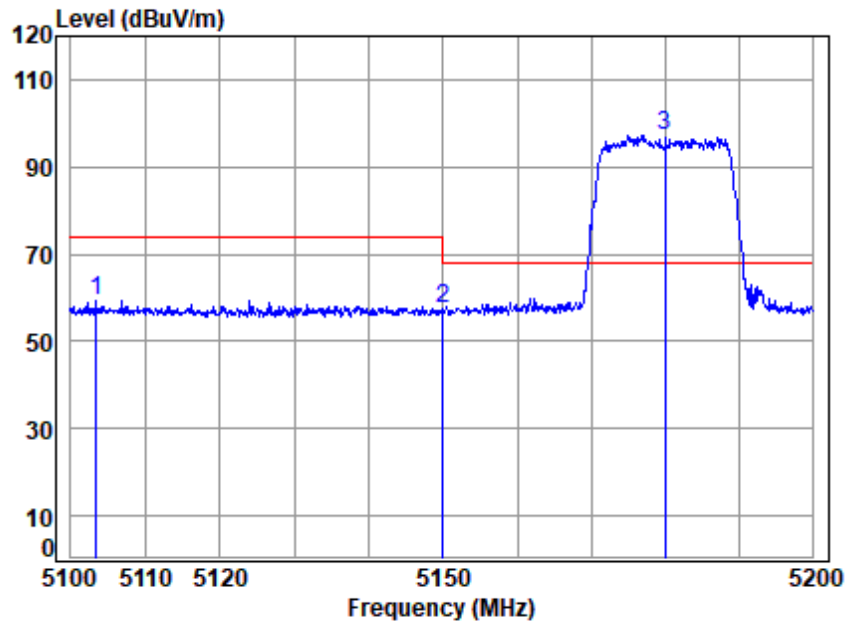


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

		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	5149.357	7.57	34.32	42.32	49.74	49.31	54.00	-4.69 Average
2	5149.980	7.57	34.32	42.32	49.91	49.48	54.00	-4.52 Average
3	5180.000	7.63	34.35	42.32	100.94	100.60	-----	----- Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low

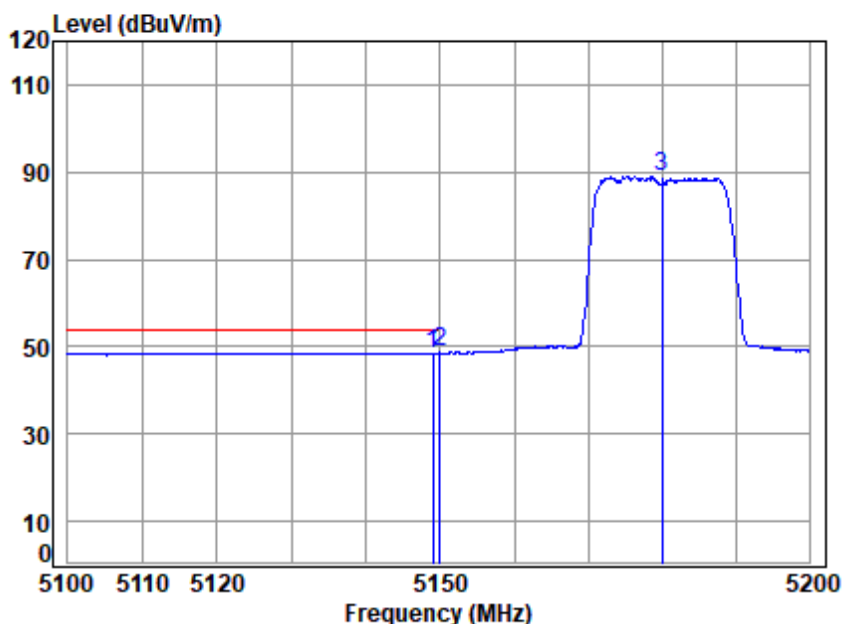


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

		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	5103.368	7.49	34.29	42.31	59.90	59.37	74.00	-14.63 Peak
2	5149.980	7.57	34.32	42.32	57.72	57.29	74.00	-16.71 Peak
3 *	5180.000	7.63	34.35	42.32	97.62	97.28	68.20	29.08 Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low

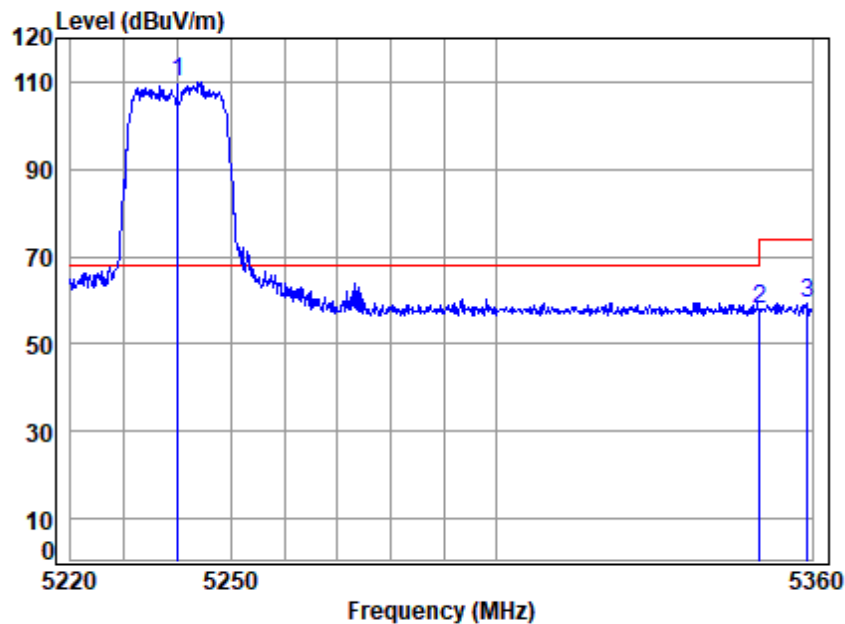


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

		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	5148.958	7.57	34.32	42.32	49.02	48.59	54.00	-5.41 Average
2	5149.980	7.57	34.32	42.32	49.06	48.63	54.00	-5.37 Average
3	5180.000	7.63	34.35	42.32	89.34	89.00	-----	----- Average



Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

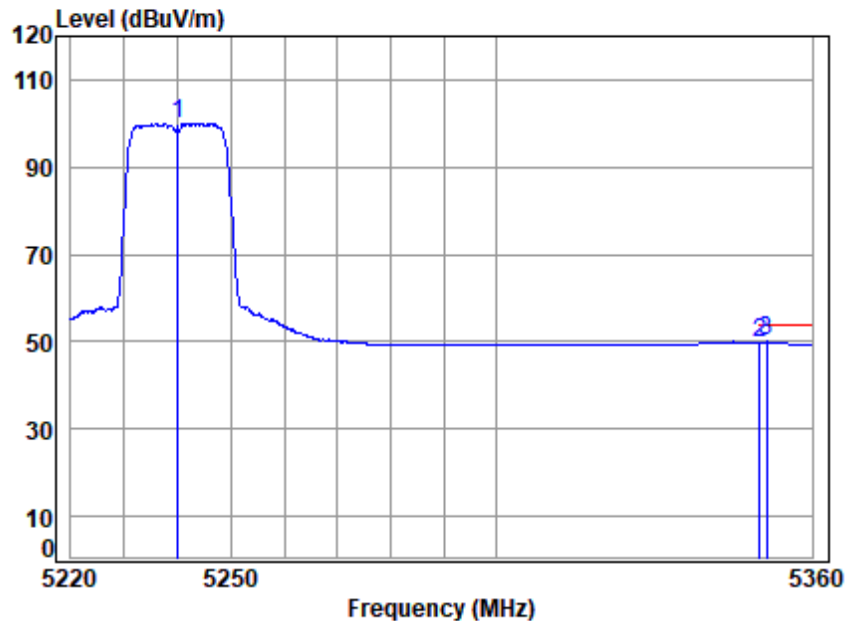


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

	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 * 5240.000	7.73	34.40	42.33	110.37	110.17	68.20	41.97 peak
2 5350.020	7.92	34.48	42.34	58.06	58.12	74.00	-15.88 peak
3 5359.149	7.94	34.49	42.34	59.24	59.33	74.00	-14.67 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

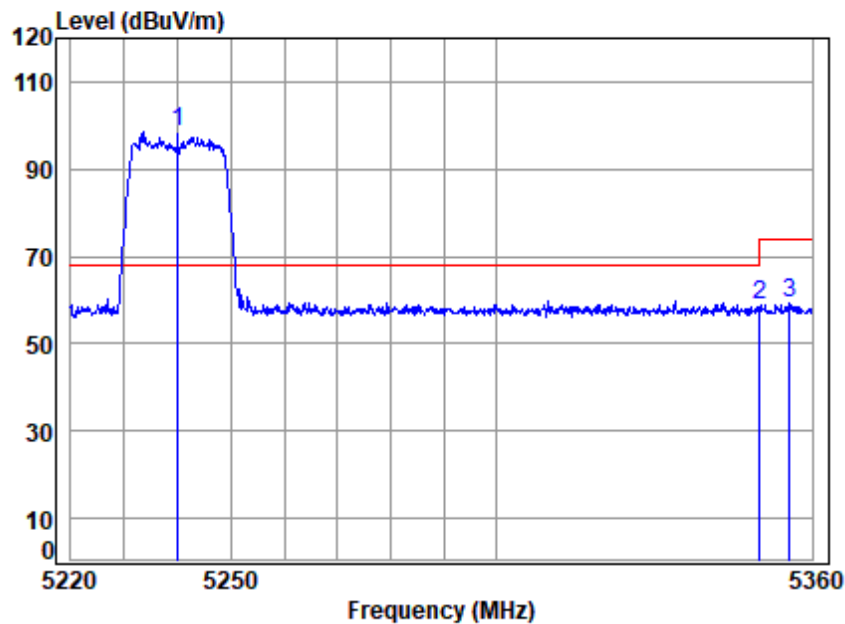


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5240.000	7.73	34.40	42.33	100.32	100.12	-----	-----
2 5350.020	7.92	34.48	42.34	49.75	49.81	54.00	-4.19
3 5351.354	7.93	34.49	42.34	49.90	49.98	54.00	-4.02
							Average
							Average
							Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

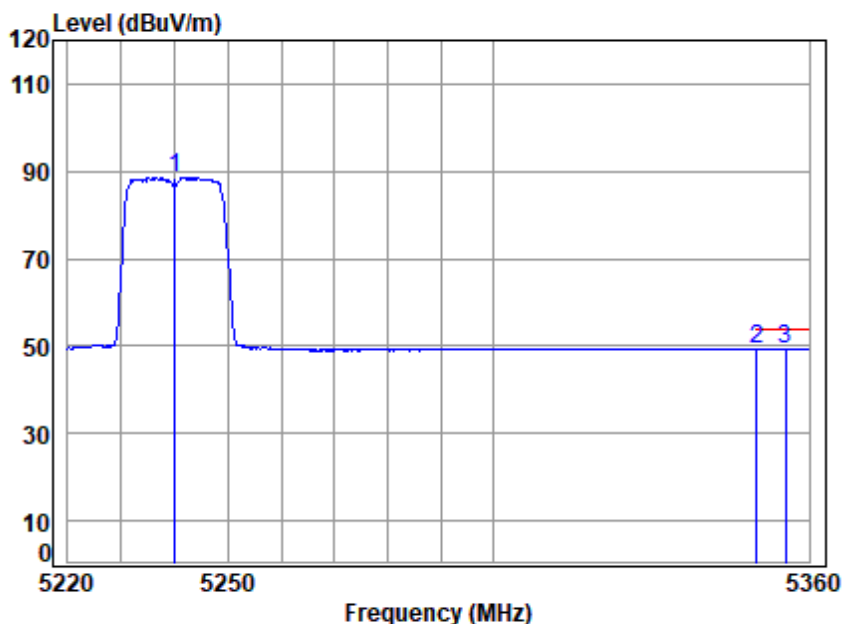


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

	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 * 5240.000	7.73	34.40	42.33	98.55	98.35	68.20	30.15	Peak
2 5350.020	7.92	34.48	42.34	58.79	58.85	74.00	-15.15	Peak
3 5355.746	7.93	34.49	42.34	59.41	59.49	74.00	-14.51	Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

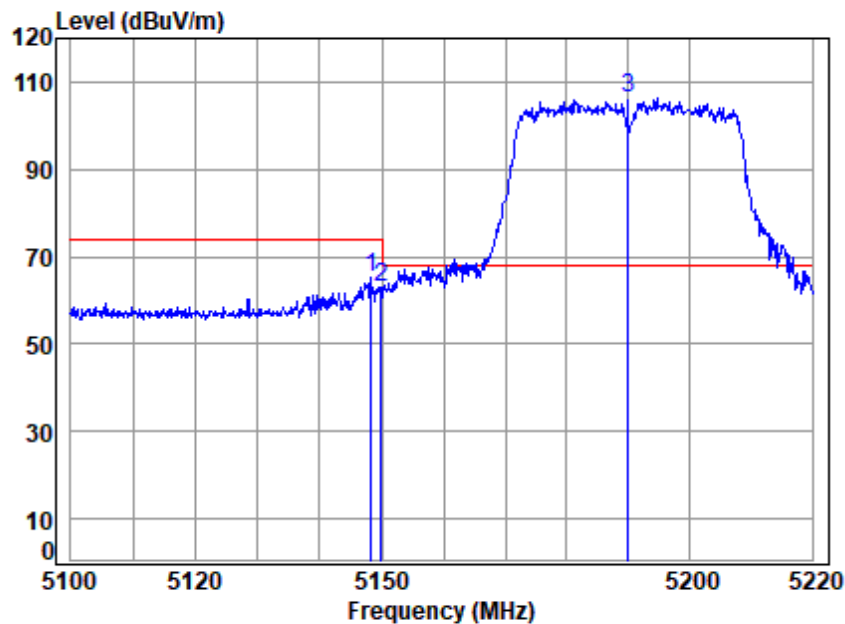


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5240.000	7.73	34.40	42.33	88.84	88.64	-----	-----
2 5350.020	7.92	34.48	42.34	49.22	49.28	54.00	-4.72
3 5355.462	7.93	34.49	42.34	49.32	49.40	54.00	-4.60



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 40MHz; Channel: Low

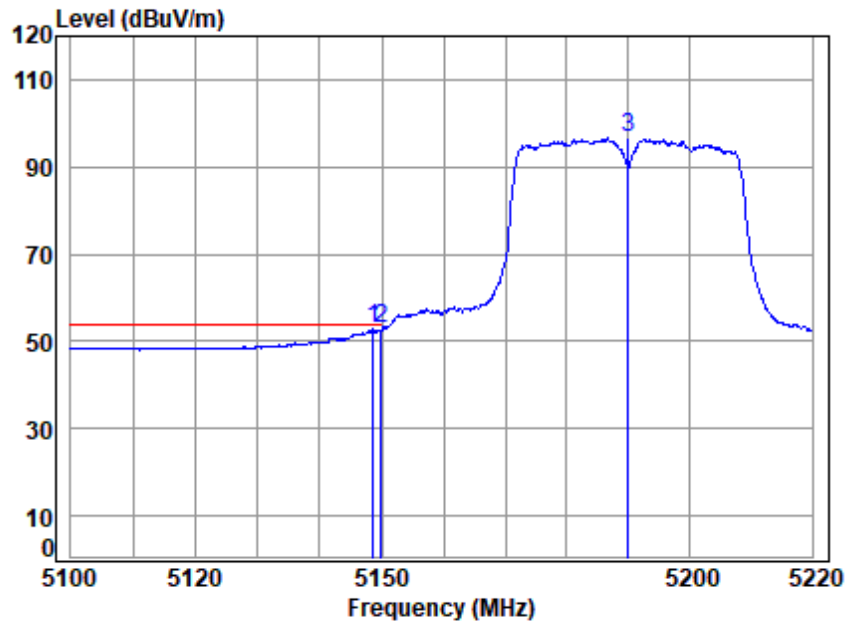


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

	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	5148.264	7.57	34.32	42.32	65.67	65.24	74.00	-8.76	peak
2	5149.980	7.57	34.32	42.32	63.36	62.93	74.00	-11.07	peak
3 *	5190.000	7.64	34.36	42.32	106.44	106.12	68.20	37.92	peak



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 40MHz; Channel: Low

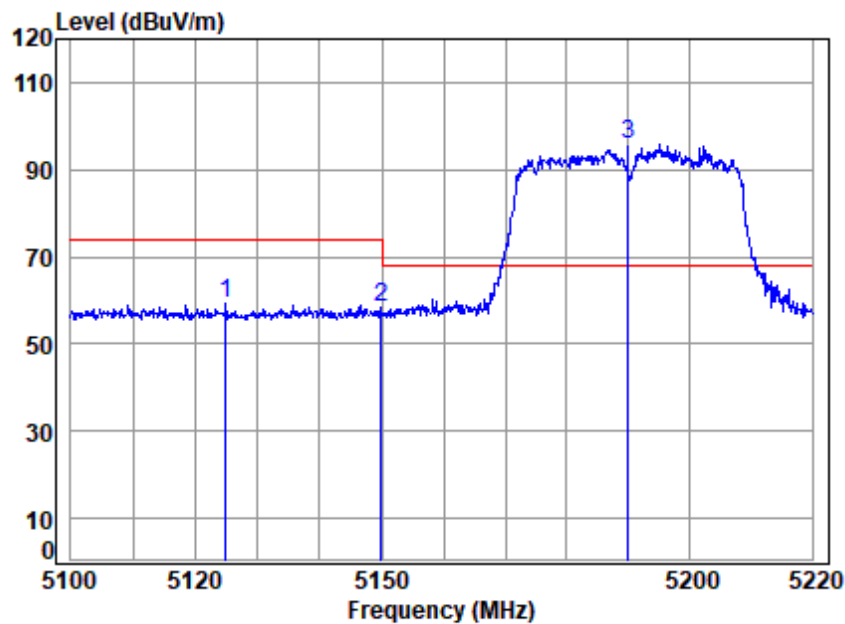


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

		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	5148.623	7.57	34.32	42.32	53.13	52.70	54.00	-1.30 Average
2	5149.980	7.57	34.32	42.32	53.53	53.10	54.00	-0.90 Average
3	5190.000	7.64	34.36	42.32	96.84	96.52	-----	----- Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low

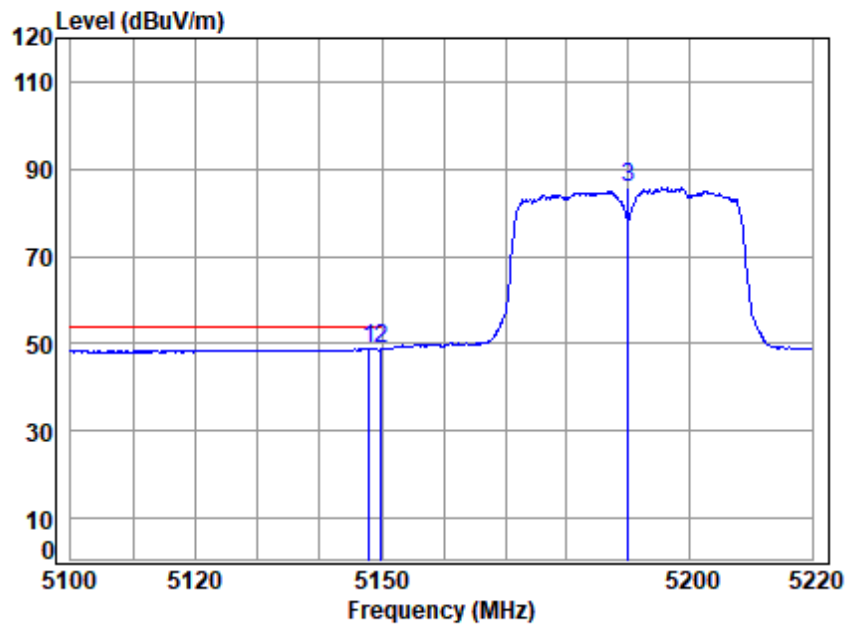


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

	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 5124.850	7.53	34.30	42.31	59.88	59.40	74.00	-14.60 Peak
2 5149.980	7.57	34.32	42.32	59.02	58.59	74.00	-15.41 Peak
3 * 5190.000	7.64	34.36	42.32	96.00	95.68	68.20	27.48 Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low

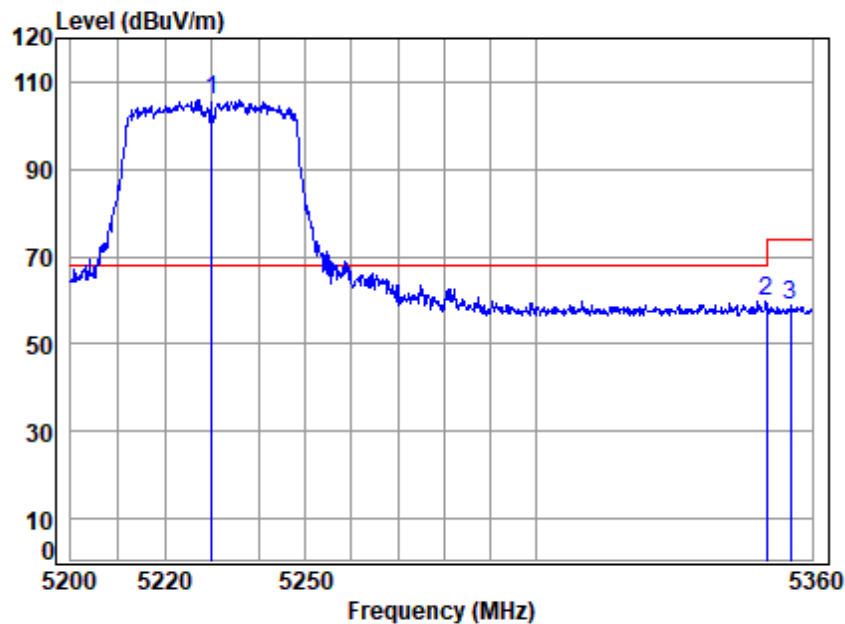


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5147.905	7.57	34.32	42.32	49.15	48.72	54.00	-5.28 Average
2	5149.980	7.57	34.32	42.32	49.12	48.69	54.00	-5.31 Average
3	5190.000	7.64	34.36	42.32	85.95	85.63	-----	----- Average



Test Mode: 03; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 40MHz; Channel: High

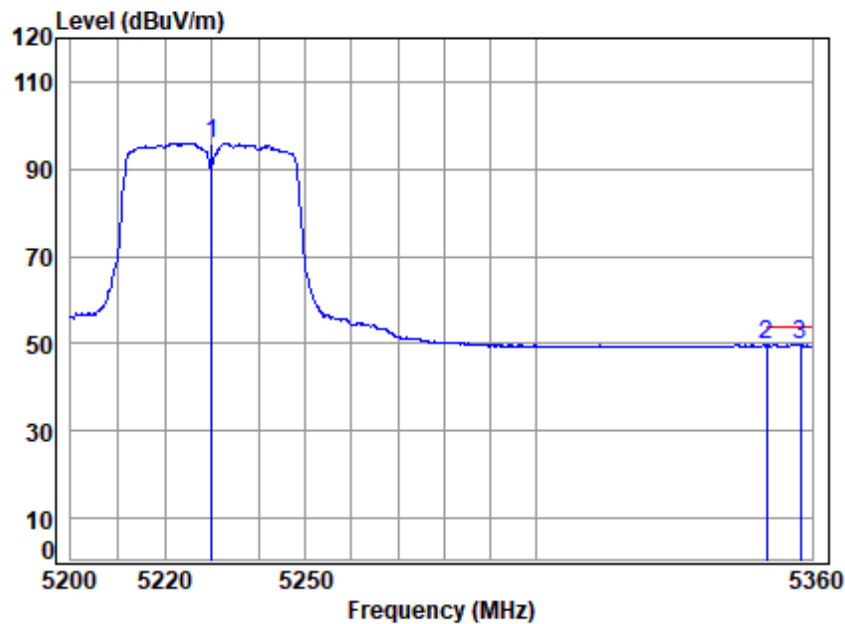


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

	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 * 5230.000	7.72	34.39	42.32	106.25	106.04	68.20	37.84	peak
2 5350.020	7.92	34.48	42.34	59.83	59.89	74.00	-14.11	peak
3 5355.292	7.93	34.49	42.34	58.58	58.66	74.00	-15.34	peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

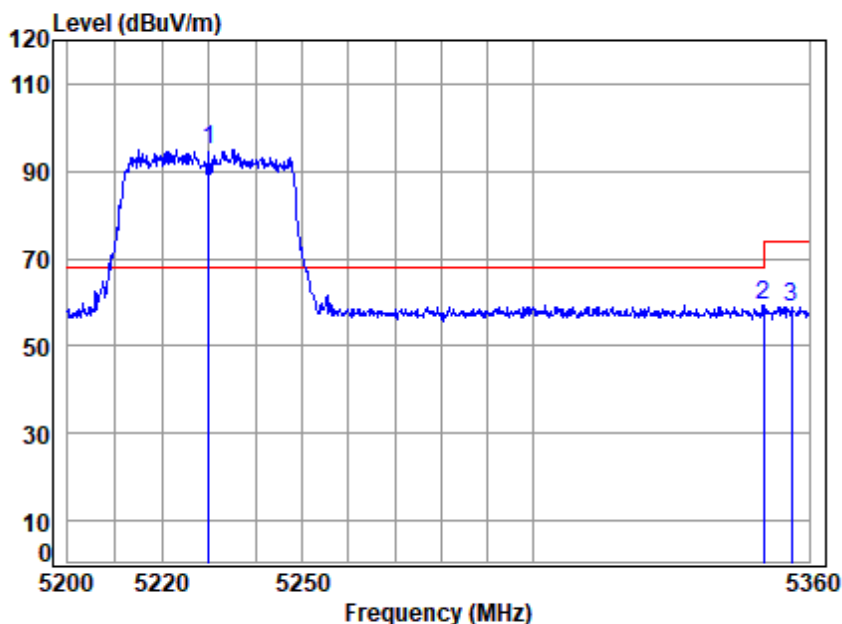


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

		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	5230.000	7.72	34.39	42.32	96.19	95.98	-----	----- Average
2	5350.020	7.92	34.48	42.34	49.51	49.57	54.00	-4.43 Average
3	5357.564	7.94	34.49	42.34	49.58	49.67	54.00	-4.33 Average



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

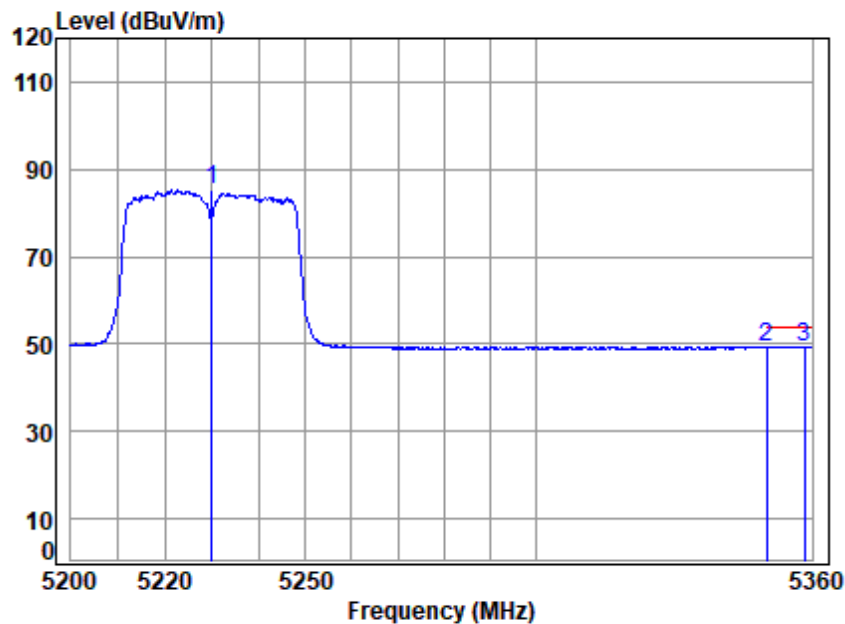


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

	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 * 5230.000	7.72	34.39	42.32	95.13	94.92	68.20	26.72	Peak
2 5350.020	7.92	34.48	42.34	59.20	59.26	74.00	-14.74	Peak
3 5356.265	7.94	34.49	42.34	58.94	59.03	74.00	-14.97	Peak



Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

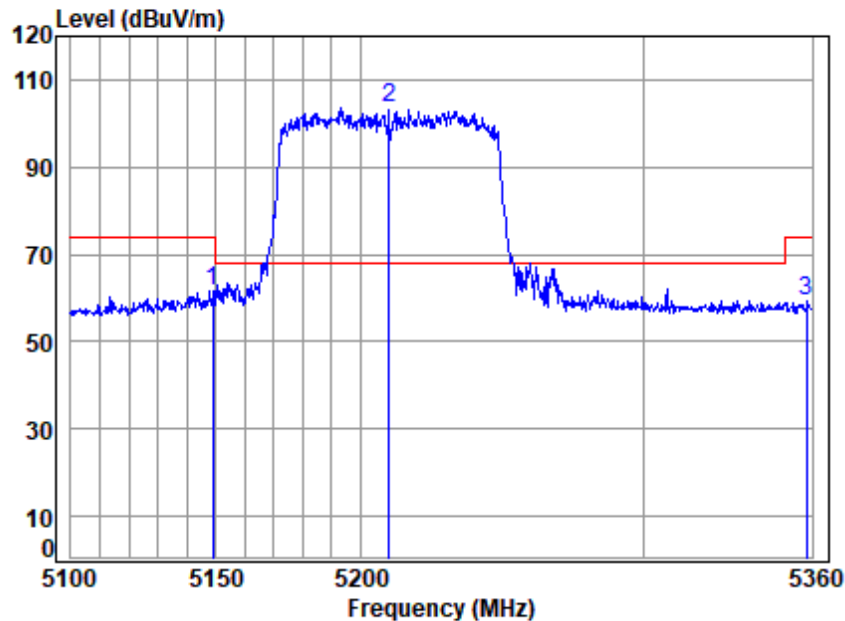


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

		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	5230.000	7.72	34.39	42.32	85.34	85.13	-----	----- Average
2	5350.020	7.92	34.48	42.34	49.17	49.23	54.00	-4.77 Average
3	5358.376	7.94	34.49	42.34	49.24	49.33	54.00	-4.67 Average



Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle

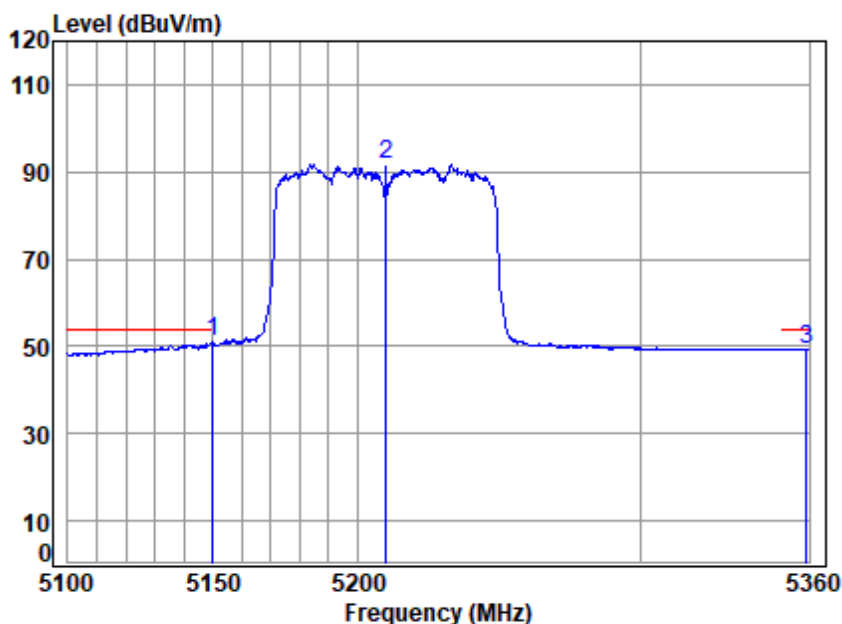


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

	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 5148.922	7.57	34.32	42.32	62.25	61.82	74.00	-12.18 peak
2 * 5210.000	7.68	34.37	42.32	103.70	103.43	68.20	35.23 peak
3 5358.135	7.94	34.49	42.34	59.14	59.23	74.00	-14.77 peak



Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle

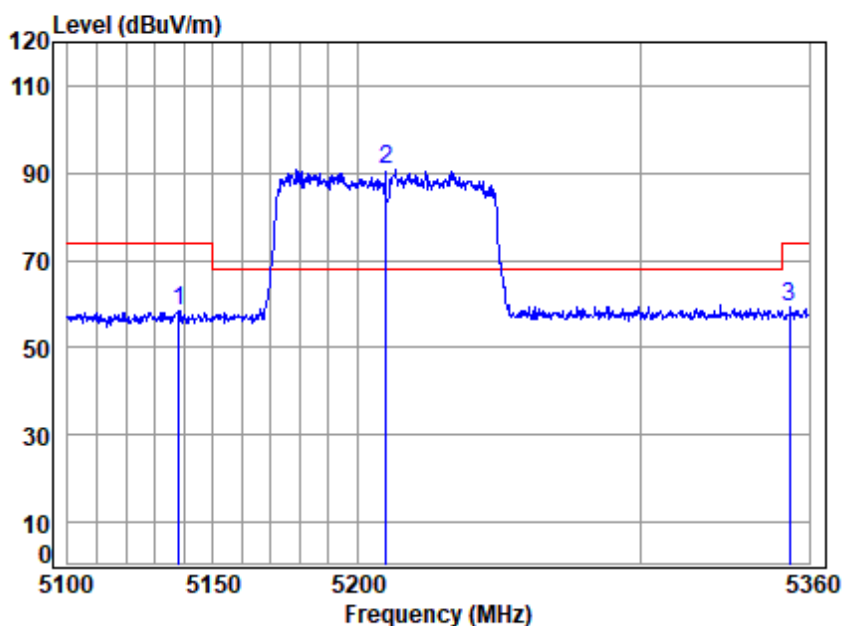


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

	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 5149.947	7.57	34.32	42.32	51.49	51.06	54.00	-2.94 Average
2 5210.000	7.68	34.37	42.32	92.20	91.93	-----	----- Average
3 5358.934	7.94	34.49	42.34	49.37	49.46	54.00	-4.54 Average



Test Mode: 03; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 80MHz; Channel: middle

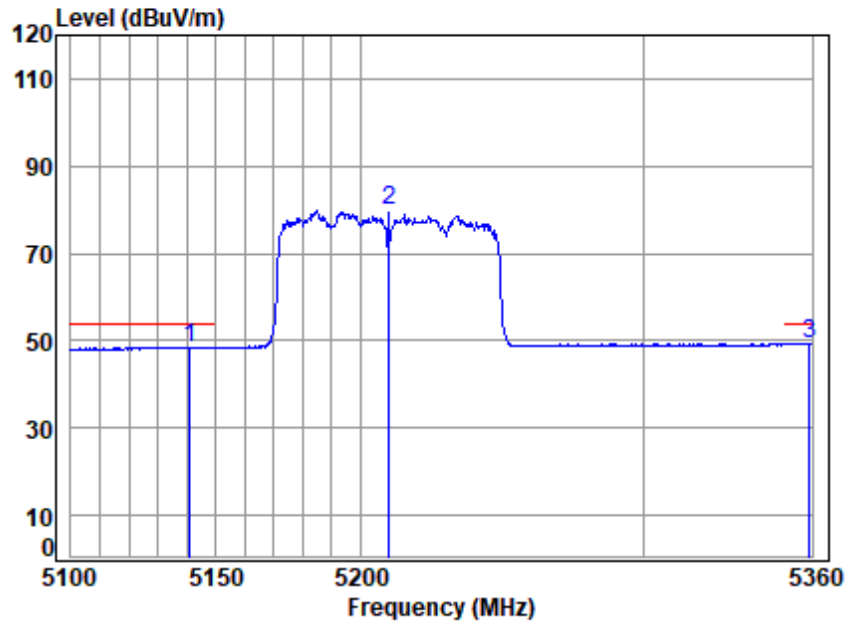


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

	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 5138.181	7.55	34.31	42.31	59.07	58.62	74.00	-15.38 Peak
2 * 5210.000	7.68	34.37	42.32	91.03	90.76	68.20	22.56 Peak
3 5353.075	7.93	34.49	42.34	59.41	59.49	74.00	-14.51 Peak



Test Mode: 03; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 80MHz; Channel: middle

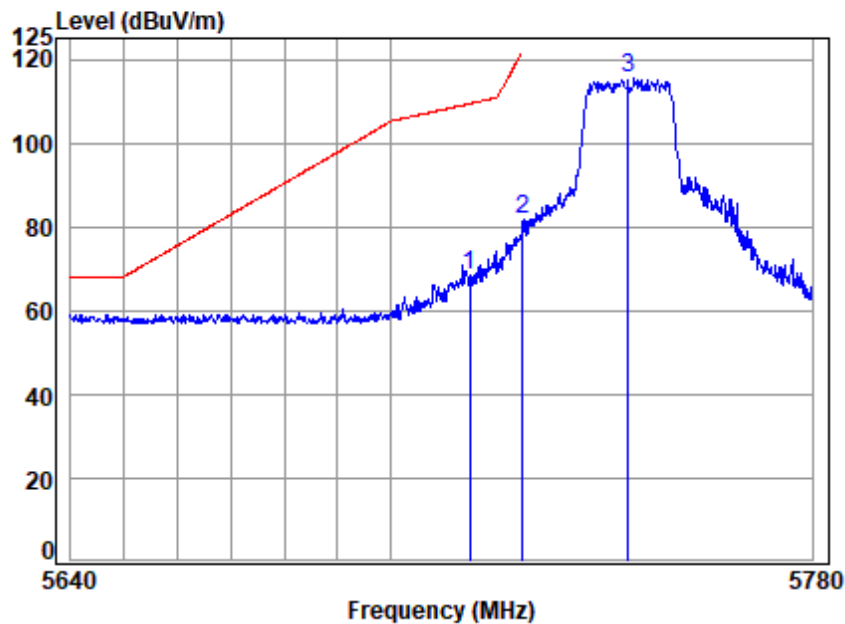


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

		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	5140.992	7.56	34.32	42.32	48.98	48.54	54.00	-5.46 Average
2	5210.000	7.68	34.37	42.32	79.99	79.72	-----	----- Average
3	5359.201	7.94	34.49	42.34	49.19	49.28	54.00	-4.72 Average



Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

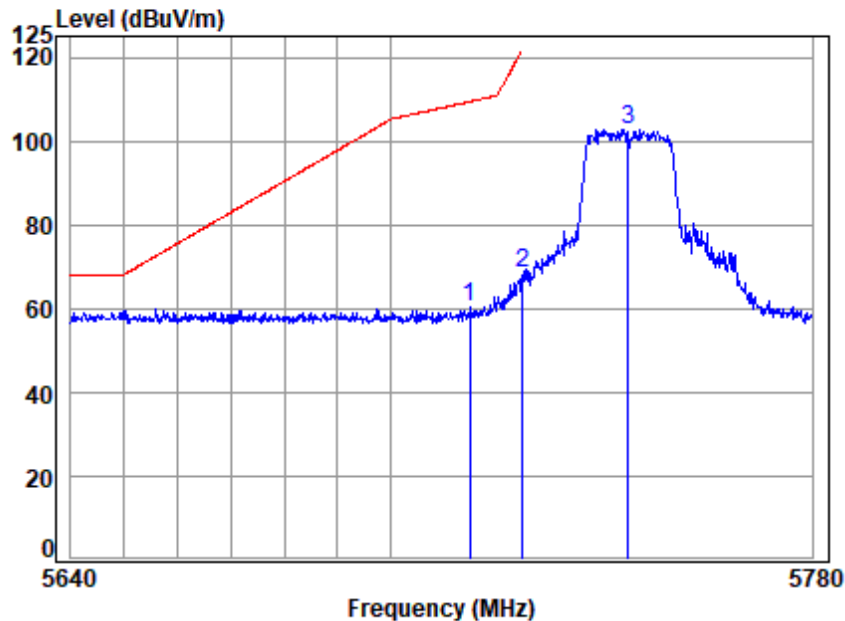


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5745 Band edge
: 5G WIFI 11A

		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	5715.000	8.22	34.82	42.37	67.80	68.47	109.40	-40.93 peak
2	5725.000	8.22	34.83	42.37	81.16	81.84	122.20	-40.36 peak
3	5745.000	8.22	34.85	42.38	114.80	115.49	-----	----- peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

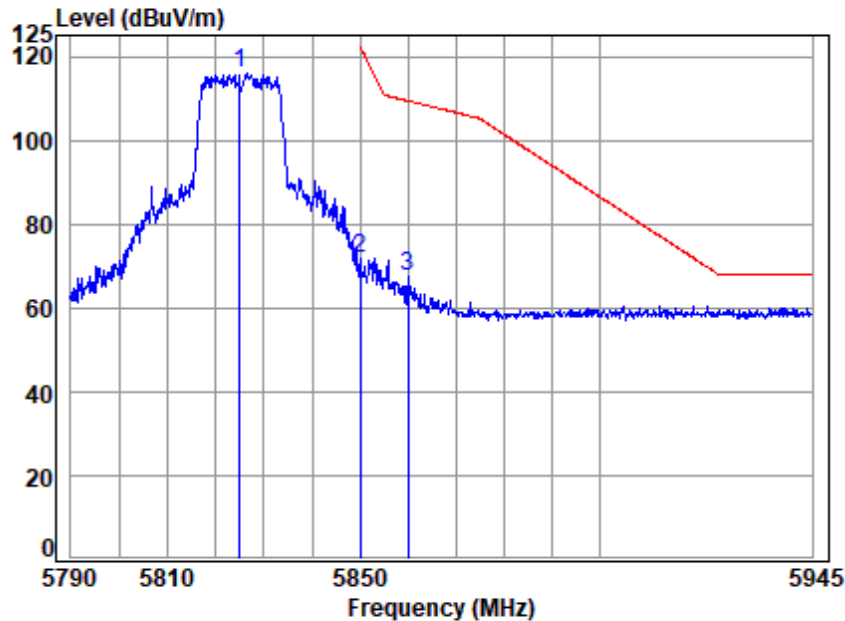


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5745 Band edge
: 5G WIFI 11A

		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	5715.000	8.22	34.82	42.37	59.55	60.22	109.40	-49.18 peak
2	5725.000	8.22	34.83	42.37	67.74	68.42	122.20	-53.78 peak
3	5745.000	8.22	34.85	42.38	102.16	102.85	-----	----- peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High

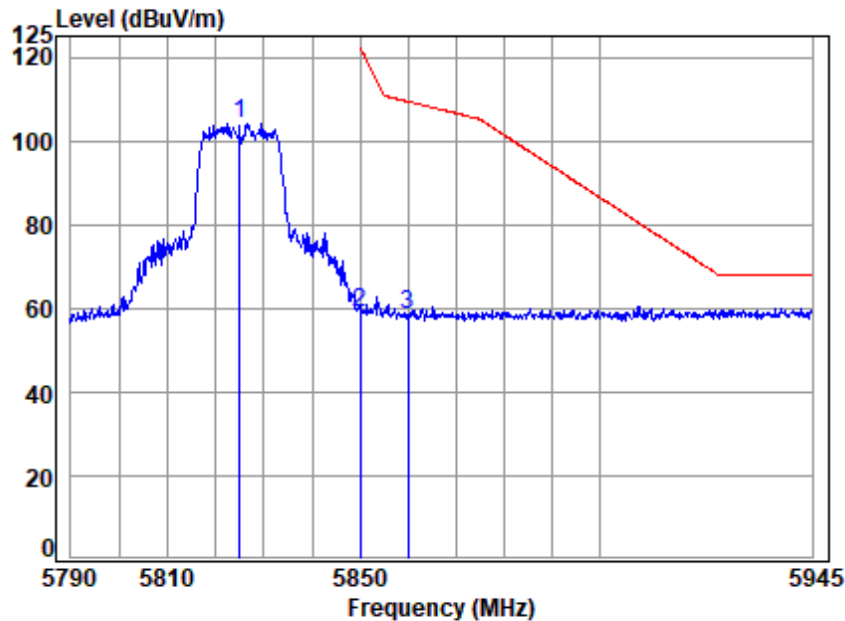


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5825 Band edge
: 5G WIFI 11A

		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	5825.000	8.23	34.93	42.38	115.03	115.81	-----	----- peak
2	5850.000	8.24	34.95	42.39	70.90	71.70	122.20	-50.50 peak
3	5860.000	8.24	34.96	42.39	66.83	67.64	109.40	-41.76 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

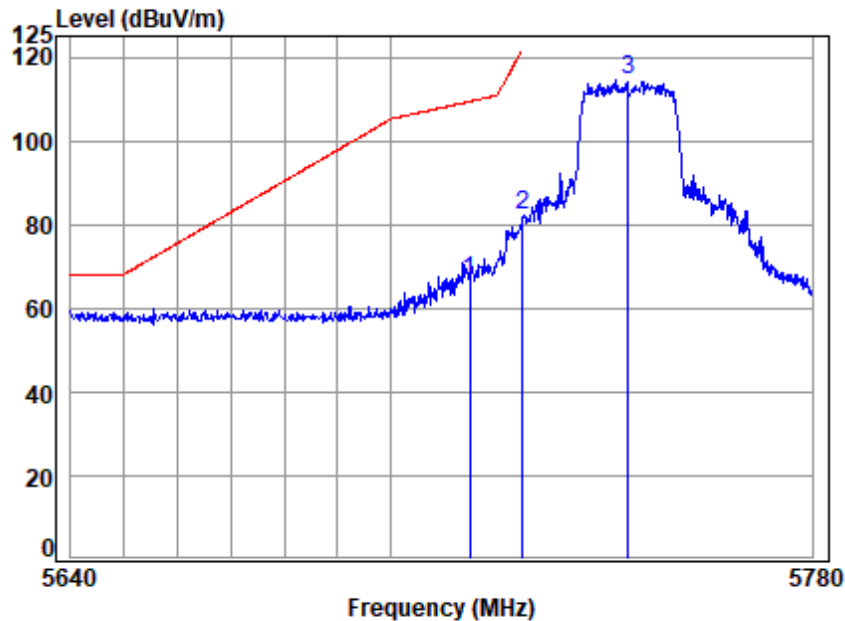


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5825 Band edge
: 5G WIFI 11A

	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 5825.000	8.23	34.93	42.38	103.42	104.20	-----	----- peak
2 5850.000	8.24	34.95	42.39	58.34	59.14	122.20	-63.06 peak
3 5860.000	8.24	34.96	42.39	57.80	58.61	109.40	-50.79 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

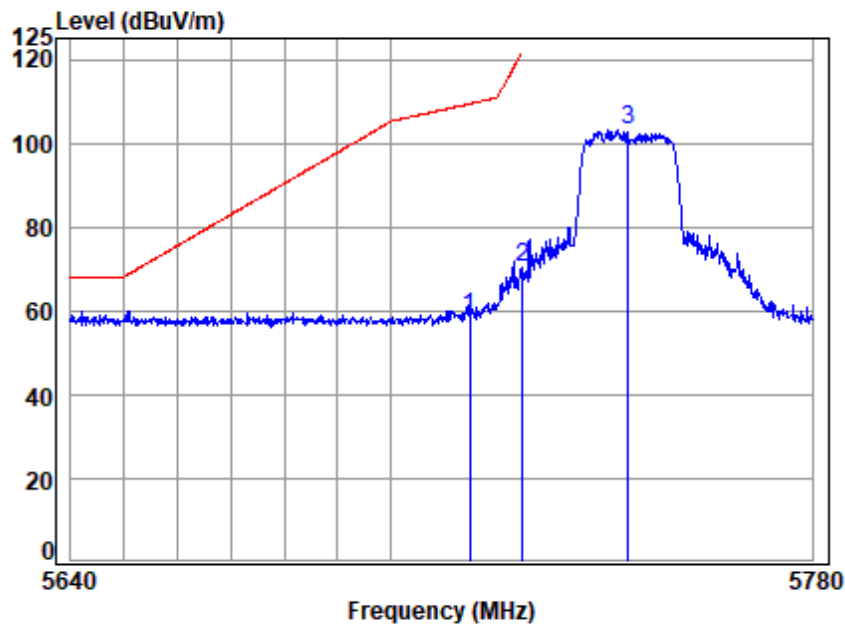


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5745 Band edge
: 5G WIFI 11N20

		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	5715.000	8.22	34.82	42.37	65.84	66.51	109.40	-42.89 peak
2	5725.000	8.22	34.83	42.37	81.76	82.44	122.20	-39.76 peak
3	5745.000	8.22	34.85	42.38	114.04	114.73	-----	----- peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

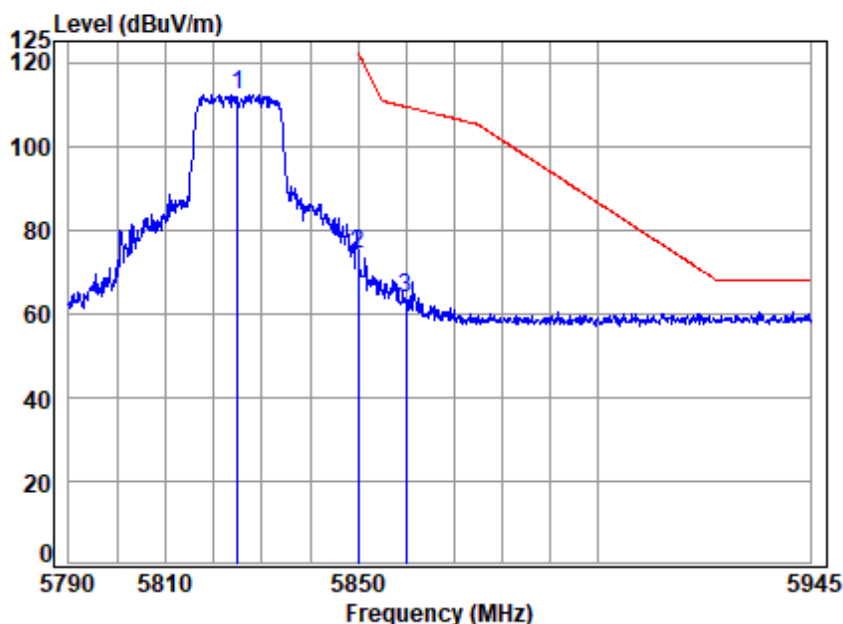


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5745 Band edge
: 5G WIFI 11N20

		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	5715.000	8.22	34.82	42.37	57.78	58.45	109.40	-50.95 peak
2	5725.000	8.22	34.83	42.37	69.90	70.58	122.20	-51.62 peak
3	5745.000	8.22	34.85	42.38	102.22	102.91	-----	----- peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

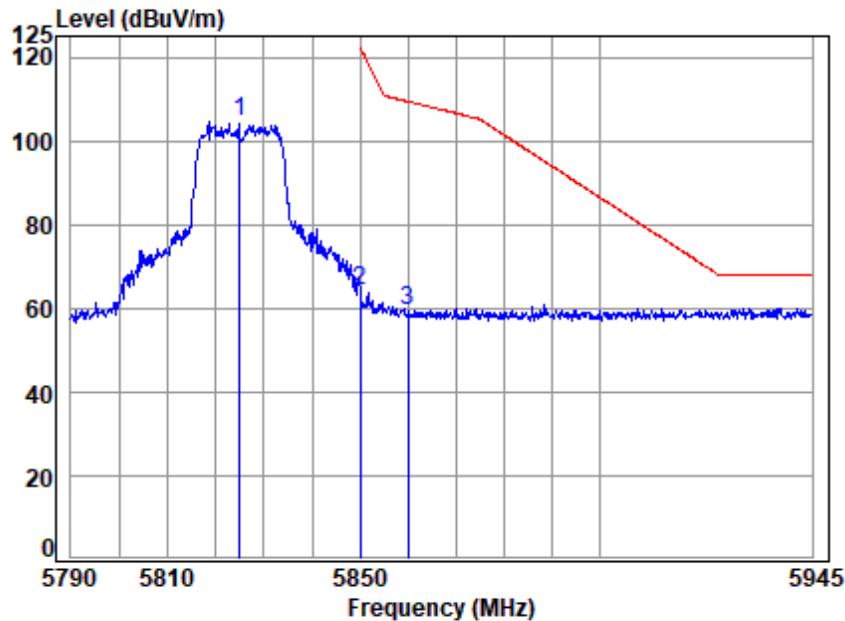


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5825 Band edge
: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5825.000	8.23	34.93	42.38	111.58	112.36	-----	----- peak
2 5850.000	8.24	34.95	42.39	73.57	74.37	122.20	-47.83 peak
3 5860.000	8.24	34.96	42.39	62.83	63.64	109.40	-45.76 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

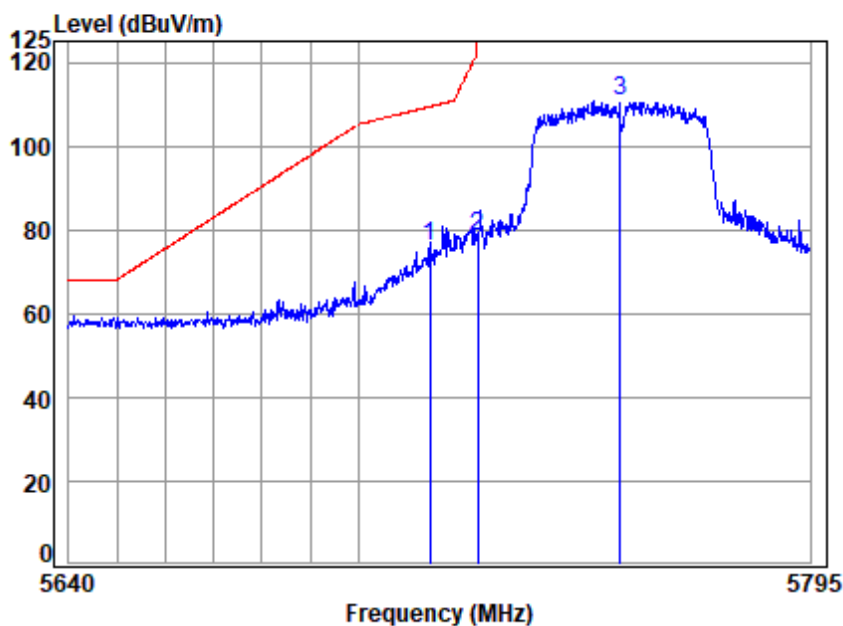


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5825 Band edge
: 5G WIFI 11N20

		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	5825.000	8.23	34.93	42.38	103.55	104.33	-----	----- peak
2	5850.000	8.24	34.95	42.39	63.39	64.19	122.20	-58.01 peak
3	5860.000	8.24	34.96	42.39	58.65	59.46	109.40	-49.94 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

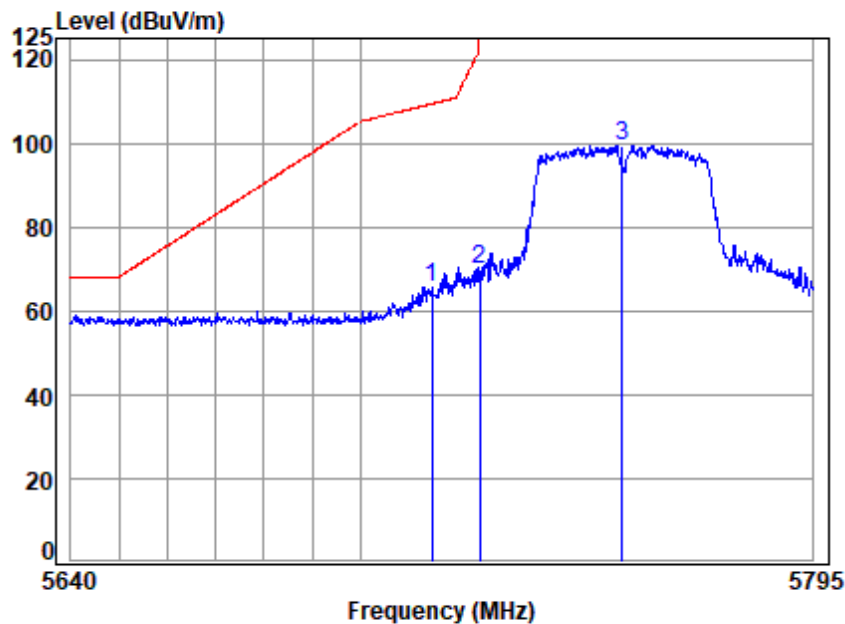


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5755 Band edge
: 5G WIFI 11N40

		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	5715.000	8.22	34.82	42.37	75.42	76.09	109.40	-33.31 peak
2	5725.000	8.22	34.83	42.37	77.80	78.48	122.20	-43.72 peak
3	5755.000	8.22	34.86	42.38	110.03	110.73	-----	----- peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

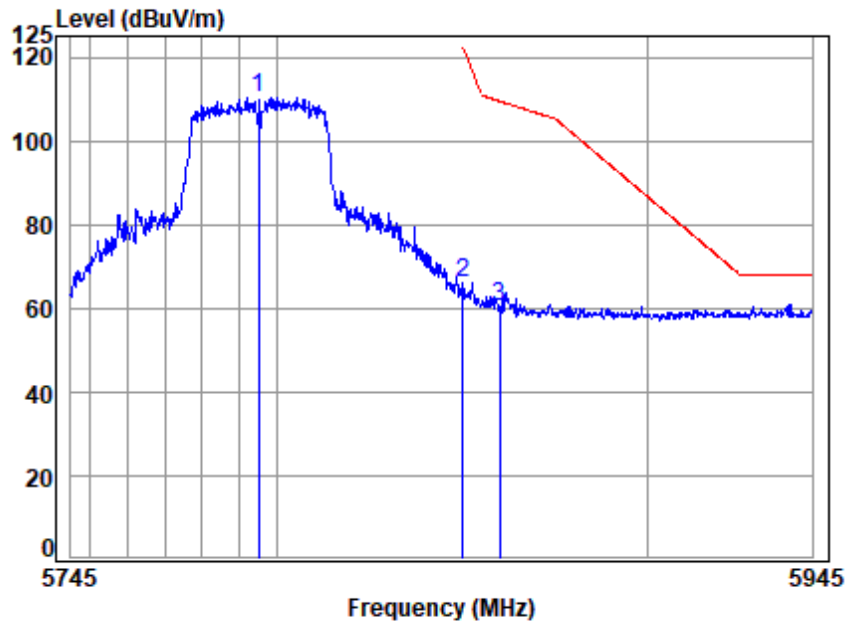


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5755 Band edge
: 5G WIFI 11N40

	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 5715.000	8.22	34.82	42.37	64.77	65.44	109.40	-43.96 peak
2 5725.000	8.22	34.83	42.37	69.41	70.09	122.20	-52.11 peak
3 5755.000	8.22	34.86	42.38	98.75	99.45	-----	----- peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High

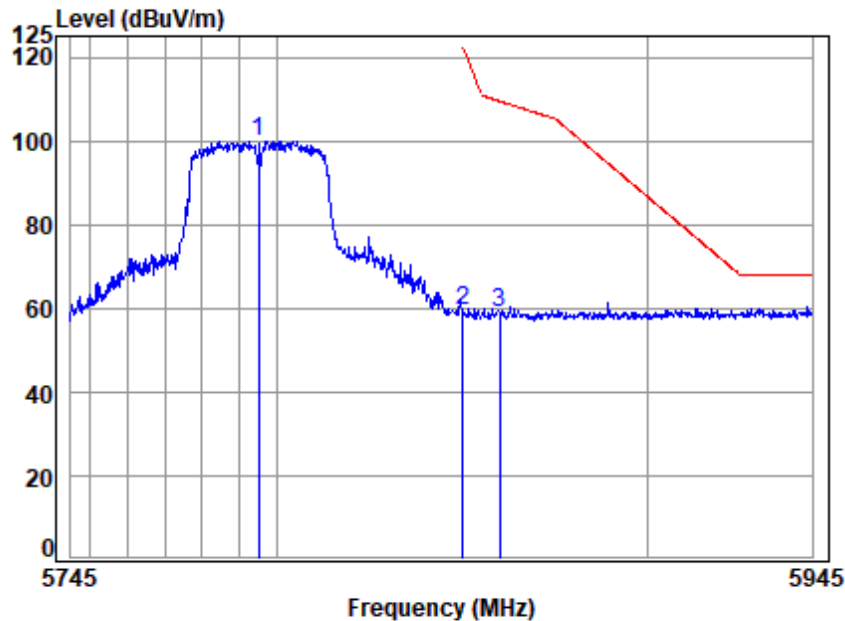


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5795 Band edge
: 5G WIFI 11N40

		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	5795.000	8.23	34.90	42.38	109.70	110.45	-----	----- peak
2	5850.000	8.24	34.95	42.39	65.44	66.24	122.20	-55.96 peak
3	5860.000	8.24	34.96	42.39	59.34	60.15	109.40	-49.25 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

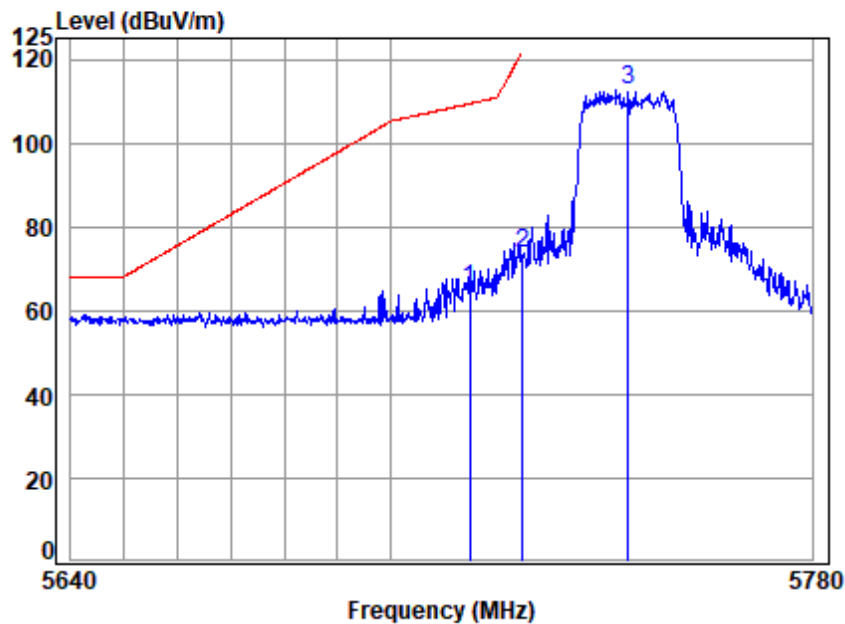


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5795 Band edge
: 5G WIFI 11N40

	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 5795.000	8.23	34.90	42.38	99.14	99.89	-----	----- peak
2 5850.000	8.24	34.95	42.39	58.39	59.19	122.20	-63.01 peak
3 5860.000	8.24	34.96	42.39	58.33	59.14	109.40	-50.26 peak



Test Mode: 04; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: Low

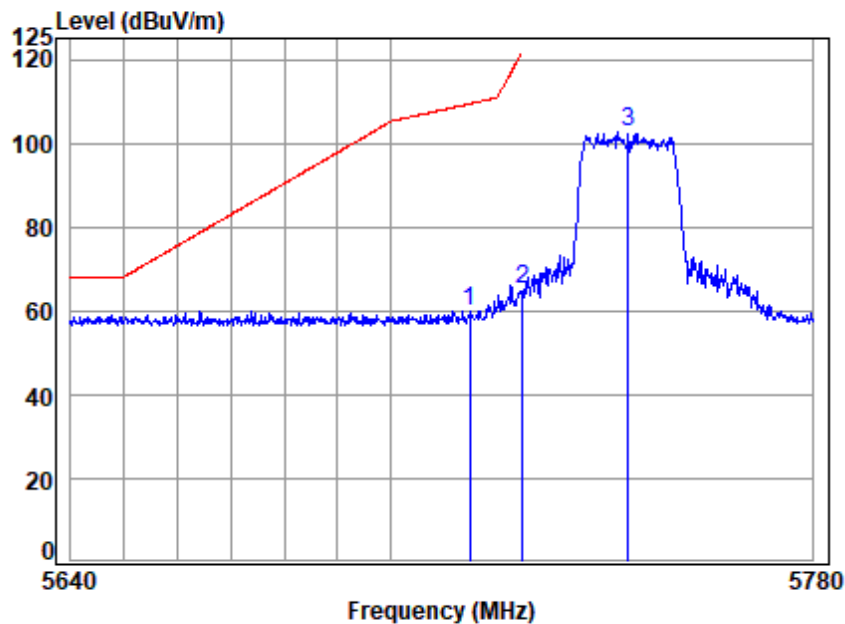


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5745 Band edge
: 5G WIFI 11AC20

		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	5715.000	8.22	34.82	42.37	64.64	65.31	109.40	-44.09 peak
2	5725.000	8.22	34.83	42.37	72.76	73.44	122.20	-48.76 peak
3	5745.000	8.22	34.85	42.38	112.05	112.74	-----	----- peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low

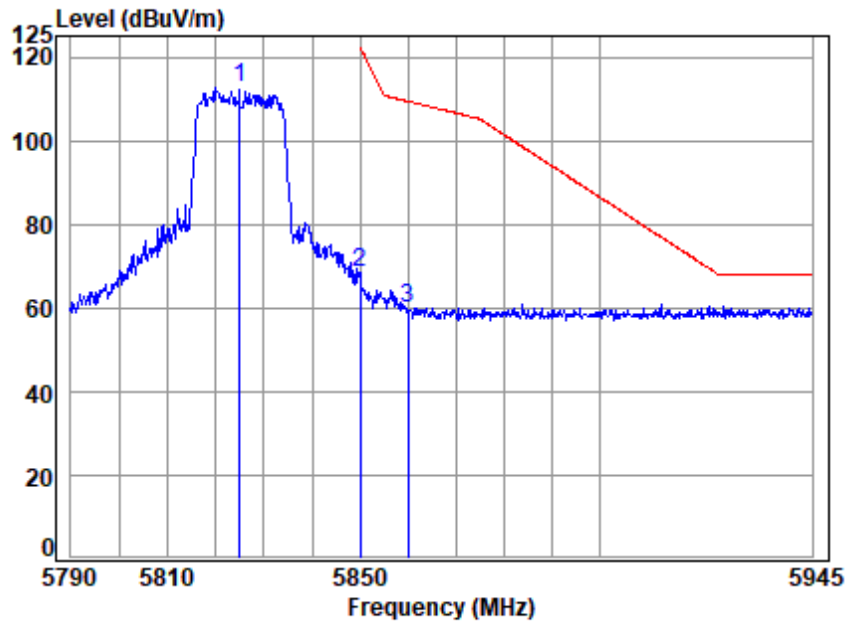


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5745 Band edge
: 5G WIFI 11AC20

		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	5715.000	8.22	34.82	42.37	59.44	60.11	109.40	-49.29 peak
2	5725.000	8.22	34.83	42.37	64.35	65.03	122.20	-57.17 peak
3	5745.000	8.22	34.85	42.38	101.81	102.50	-----	----- peak



Test Mode: 04; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: High

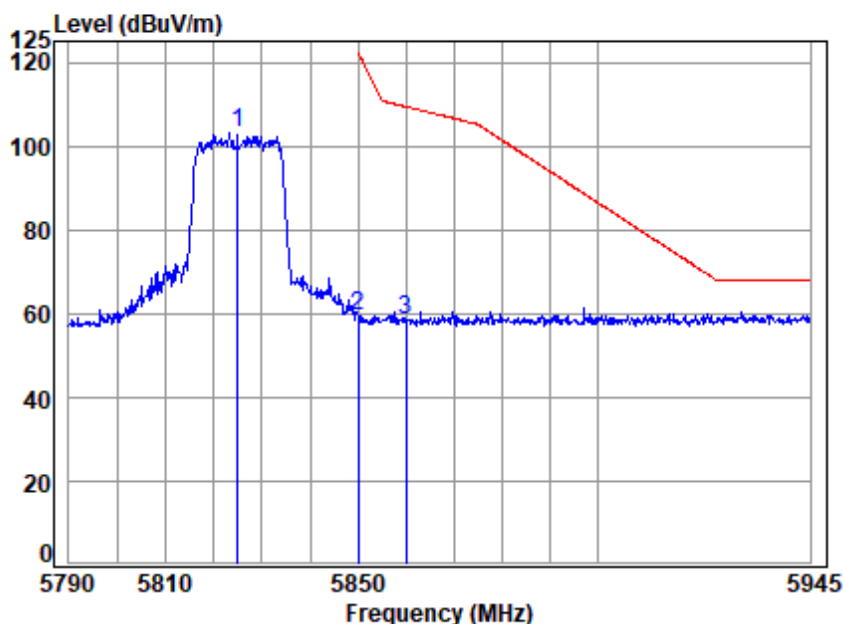


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5825 Band edge
: 5G WIFI 11AC20

		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	5825.000	8.23	34.93	42.38	111.86	112.64	-----	----- peak
2	5850.000	8.24	34.95	42.39	67.78	68.58	122.20	-53.62 peak
3	5860.000	8.24	34.96	42.39	59.10	59.91	109.40	-49.49 peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High

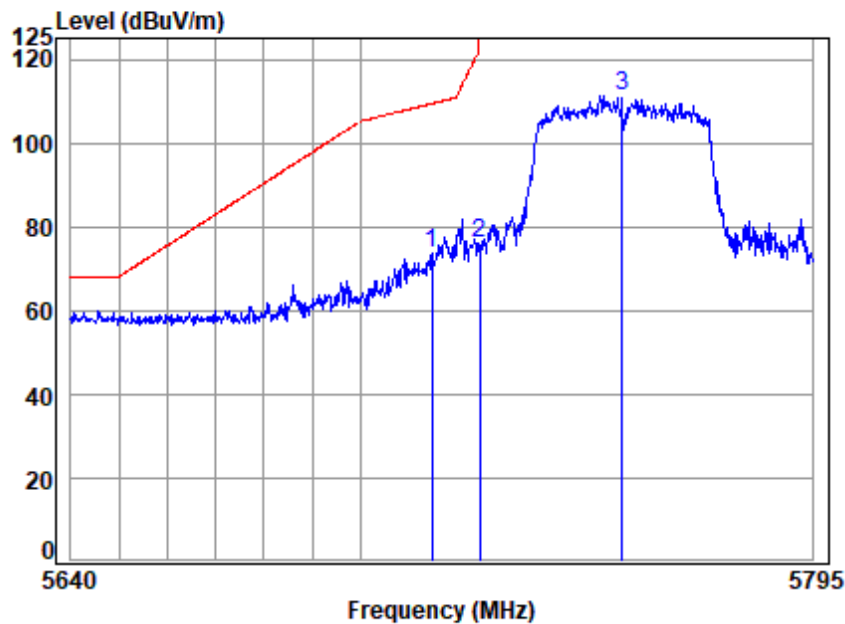


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5825 Band edge
: 5G WIFI 11AC20

	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 5825.000	8.23	34.93	42.38	102.46	103.24	-----	----- peak
2 5850.000	8.24	34.95	42.39	58.80	59.60	122.20	-62.60 peak
3 5860.000	8.24	34.96	42.39	57.85	58.66	109.40	-50.74 peak



Test Mode: 04; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 40MHz; Channel: Low

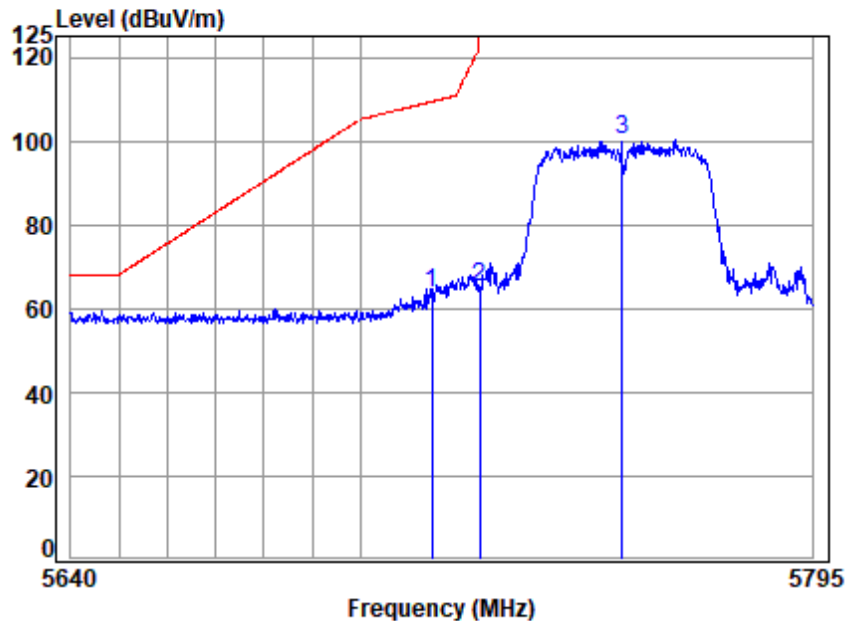


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5755 Band edge
: 5G WIFI 11AC40

		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	5715.000	8.22	34.82	42.37	73.16	73.83	109.40	-35.57 peak
2	5725.000	8.22	34.83	42.37	75.16	75.84	122.20	-46.36 peak
3	5755.000	8.22	34.86	42.38	110.48	111.18	-----	----- peak



Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low

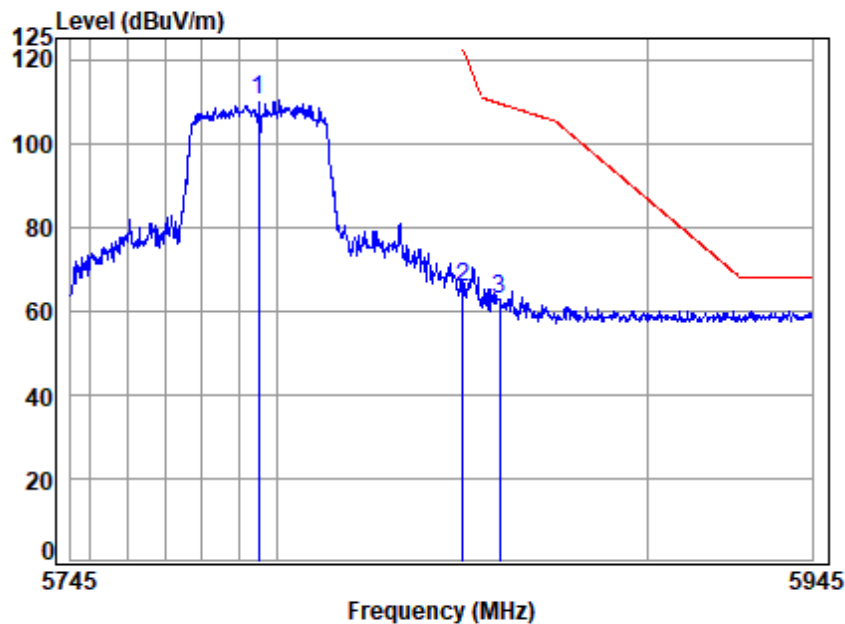


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5755 Band edge
: 5G WIFI 11AC40

		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 5715.000	8.22	34.82	42.37	63.07	63.74	109.40	-45.66	peak
2 5725.000	8.22	34.83	42.37	64.62	65.30	122.20	-56.90	peak
3 5755.000	8.22	34.86	42.38	99.47	100.17	-----	-----	peak



Test Mode: 04; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 40MHz; Channel: High



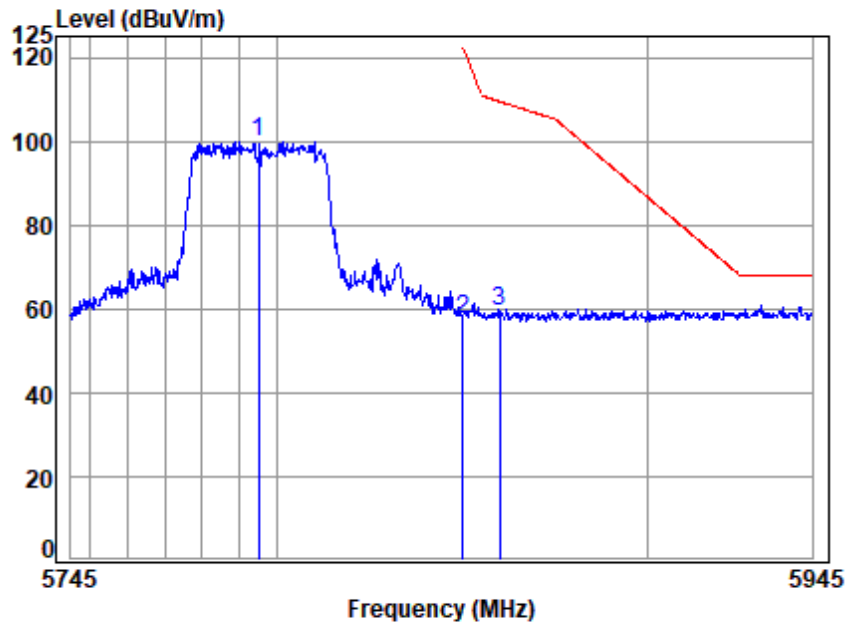
Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5795 Band edge
: 5G WIFI 11AC40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5795.000	8.23	34.90	42.38	109.51	110.26	-----	-----
2 5850.000	8.24	34.95	42.39	64.60	65.40	122.20	-56.80
3 5860.000	8.24	34.96	42.39	62.02	62.83	109.40	-46.57



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

Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

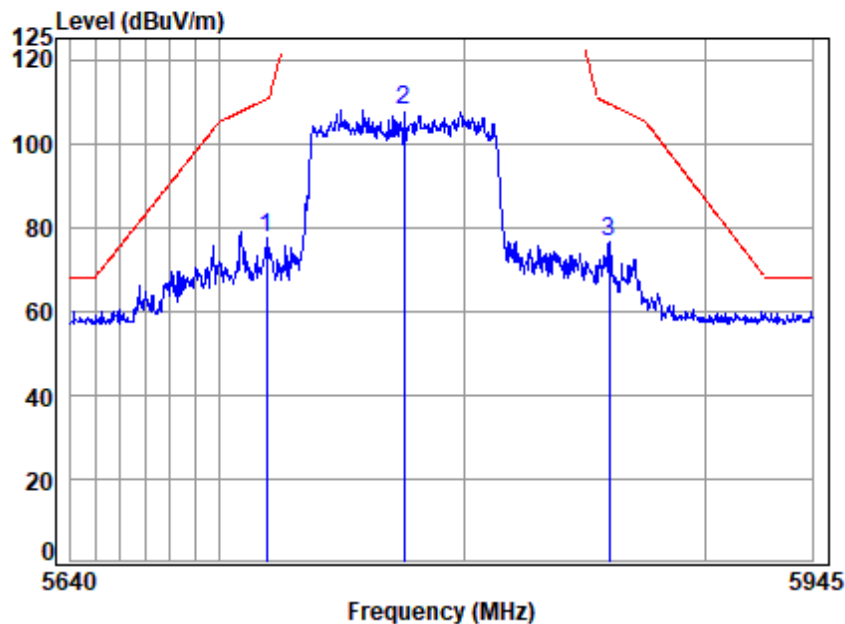


Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5795 Band edge
: 5G WIFI 11AC40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5795.000	8.23	34.90	42.38	99.13	99.88	-----	----- peak
2 5850.000	8.24	34.95	42.39	56.85	57.65	122.20	-64.55 peak
3 5860.000	8.24	34.96	42.39	58.69	59.50	109.40	-49.90 peak



Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle

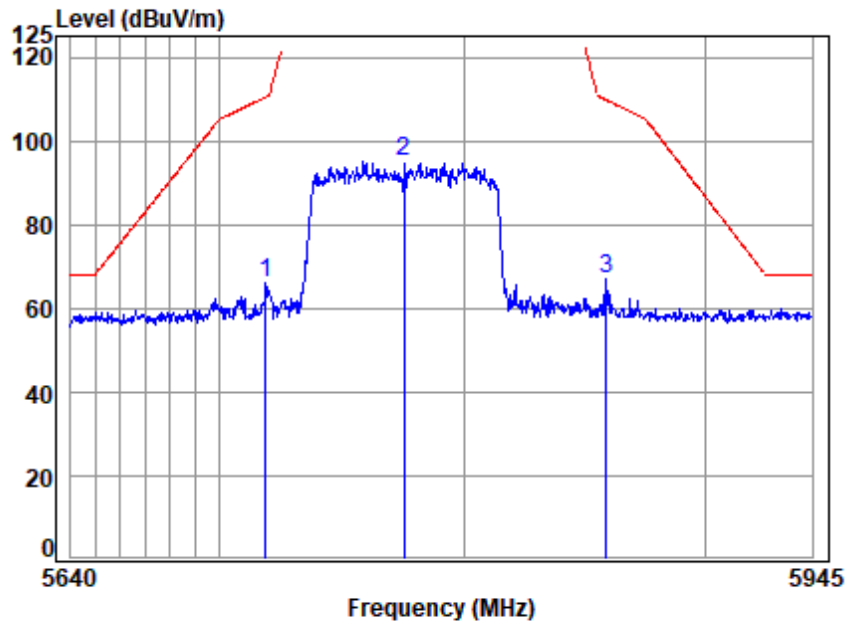


Site : chamber
Condition: 3m HORIZONTAL
Job No : 02456CR
Mode : 5775 Band edge
: 5G WIFI 11AC80

	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 5718.966	8.22	34.82	42.37	76.96	77.63	110.51	-32.88 peak
2 5775.000	8.22	34.88	42.38	107.01	107.73	-----	----- peak
3 5859.826	8.24	34.96	42.39	75.95	76.76	109.45	-32.69 peak



Test Mode: 04; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 80MHz; Channel: middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02456CR
Mode : 5775 Band edge
: 5G WIFI 11AC80

		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	5718.665	8.22	34.82	42.37	65.26	65.93	110.43	-44.50 peak
2	5775.000	8.22	34.88	42.38	94.33	95.05	-----	----- peak
3	5858.900	8.24	34.96	42.39	66.06	66.87	109.71	-42.84 peak



7.11 Frequency Stability

Test Requirement 47 CFR Part 15, Subpart C 15.407 (g)
Test Method: ANSI C63.10 (2013) Section 6.8

7.11.1 E.U.T. Operation

Operating Environment:

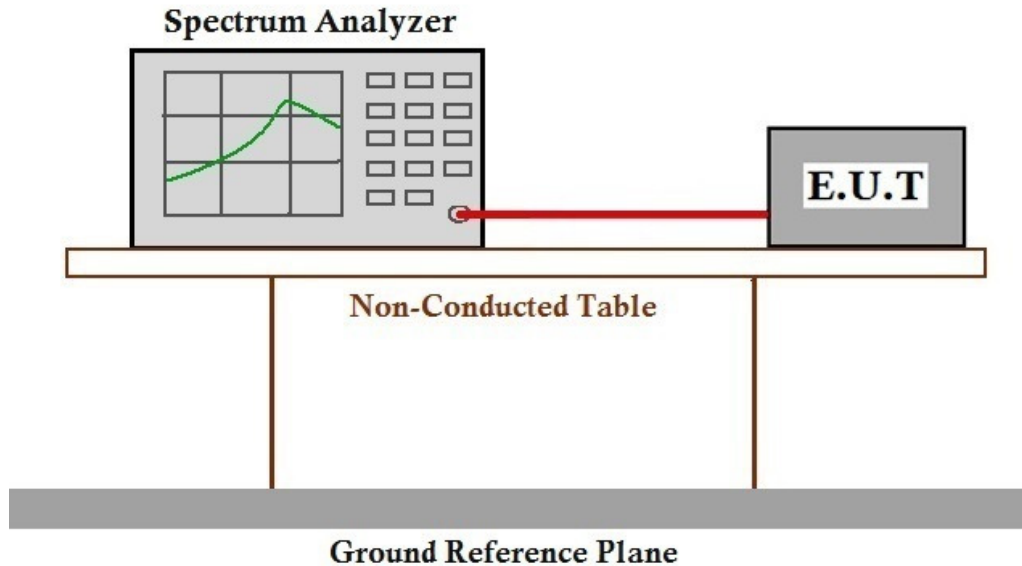
Temperature: 21.1 °C Humidity: 39.8 % RH Atmospheric Pressure: 1010 mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode (U-NII-1) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.11.3 Test Setup Diagram



7.11.4 Measurement Procedure and Data

Please Refer To Appendix For Details



8 Test Setup Photo

Refer to Setup Photos

9 EUT Constructional Details (EUT Photos)

Refer to EUT External and Internal photos



10 Appendix

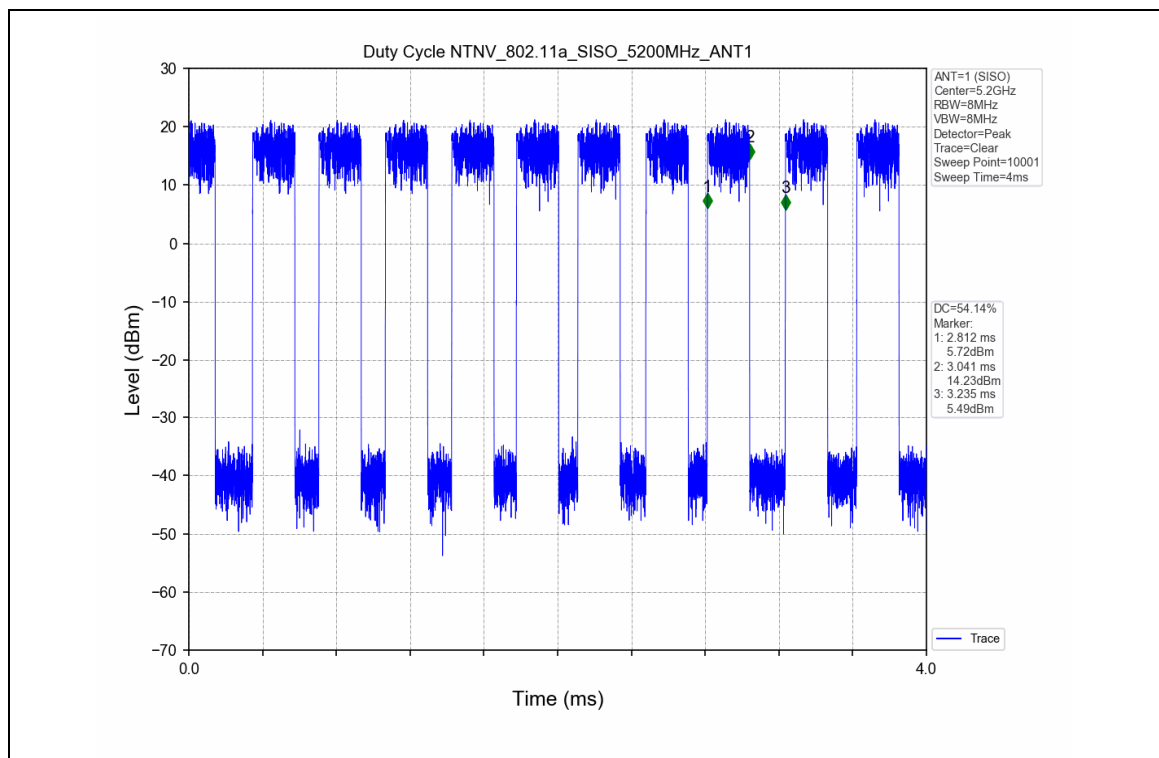
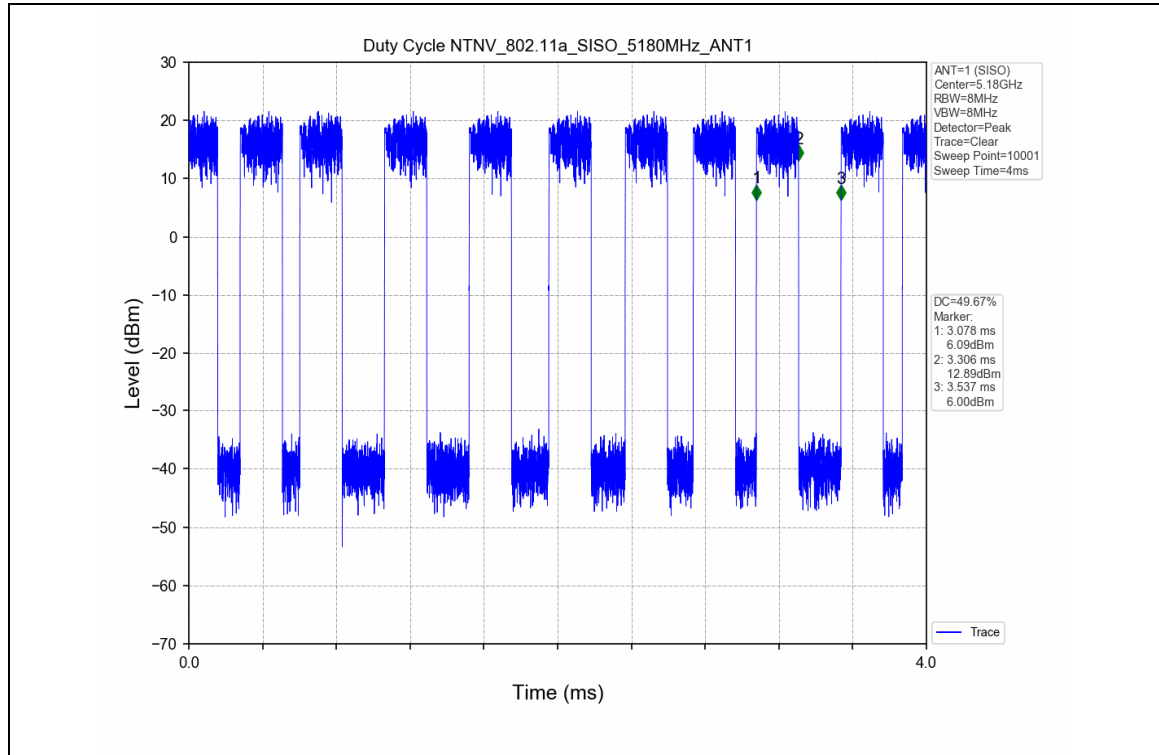
Appendix for 15.407

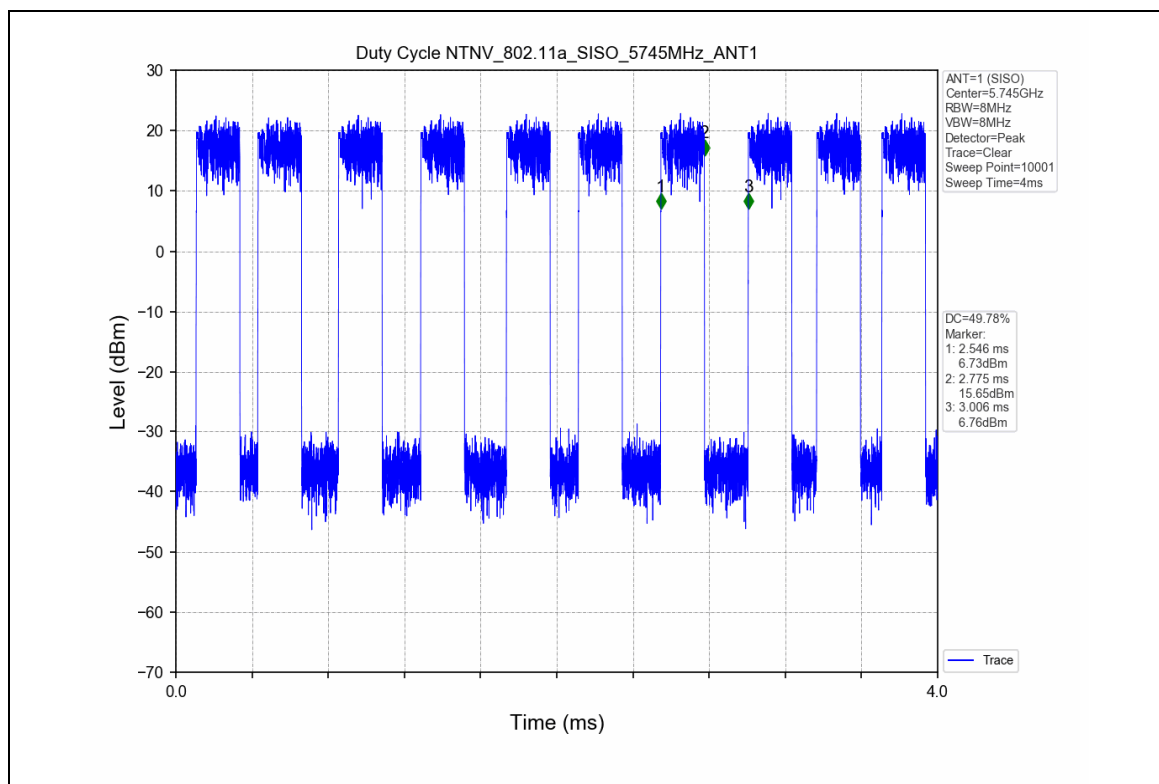
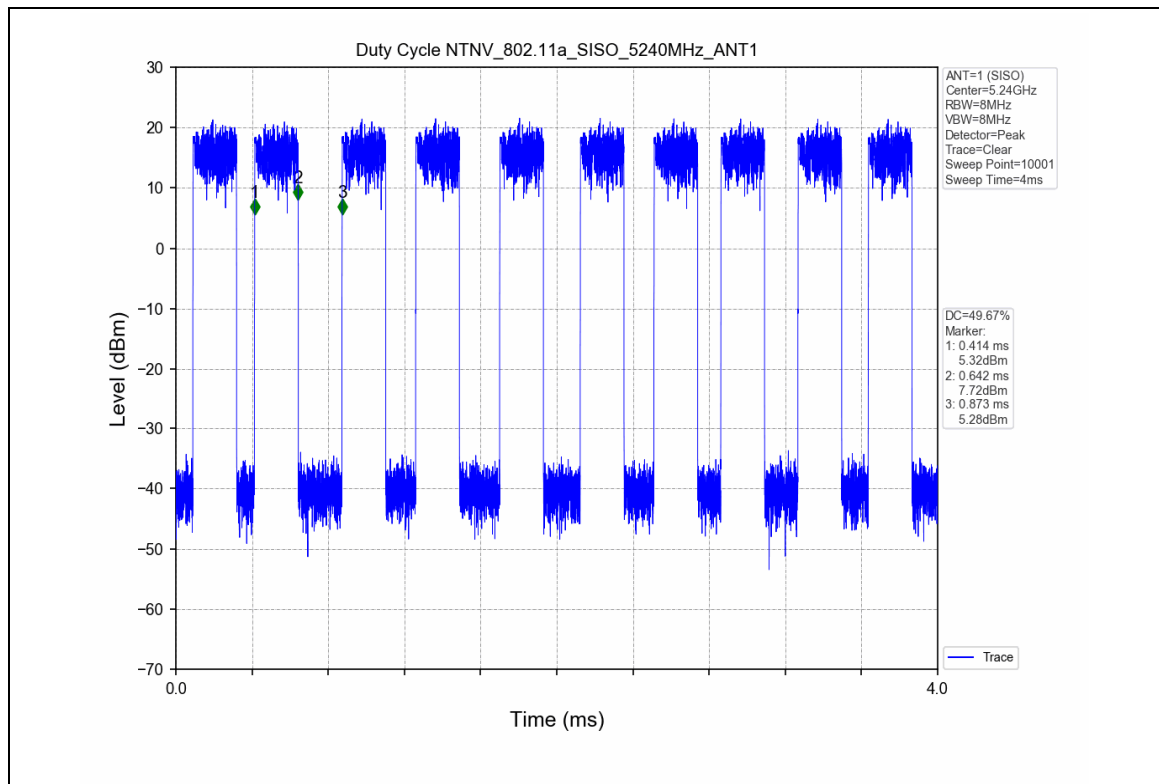
1. Duty Cycle

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)
802.11a	5180	SISO	1	0.228	0.459	49.67	3.04
	5200	SISO	1	0.229	0.423	54.14	2.66
	5240	SISO	1	0.228	0.459	49.67	3.04
	5745	SISO	1	0.229	0.460	49.78	3.03
	5785	SISO	1	0.229	0.459	49.89	3.02
	5825	SISO	1	0.228	0.450	50.67	2.95
802.11n(HT20)	5180	MIMO	1	0.248	0.479	51.77	2.86
	5200	MIMO	1	0.228	0.459	49.67	3.04
	5240	MIMO	1	0.228	0.450	50.67	2.95
	5745	MIMO	1	0.228	0.460	49.57	3.05
	5785	MIMO	1	0.228	0.459	49.67	3.04
	5825	MIMO	1	0.228	0.459	49.67	3.04
802.11n(HT40)	5190	MIMO	1	0.229	0.459	49.89	3.02
	5230	MIMO	1	0.129	0.359	35.93	4.45
	5755	MIMO	1	0.229	0.450	50.89	2.93
	5795	MIMO	1	0.128	0.359	35.65	4.48
802.11ac(VHT20)	5180	MIMO	1	0.200	0.455	43.96	3.57
	5200	MIMO	1	0.201	0.438	45.89	3.38
	5240	MIMO	1	0.200	0.455	43.96	3.57
	5745	MIMO	1	0.200	0.428	46.73	3.30
	5785	MIMO	1	0.229	0.459	49.89	3.02
	5825	MIMO	1	0.201	0.455	44.18	3.55
802.11ac(VHT40)	5190	MIMO	1	0.117	0.362	32.32	4.91
	5230	MIMO	1	0.116	0.368	31.52	5.01
	5755	MIMO	1	0.117	0.335	34.93	4.57
	5795	MIMO	1	0.117	0.371	31.54	5.01
802.11ac(VHT80)	5210	MIMO	1	0.229	0.450	50.89	2.93
	5775	MIMO	1	0.073	0.300	24.33	6.14

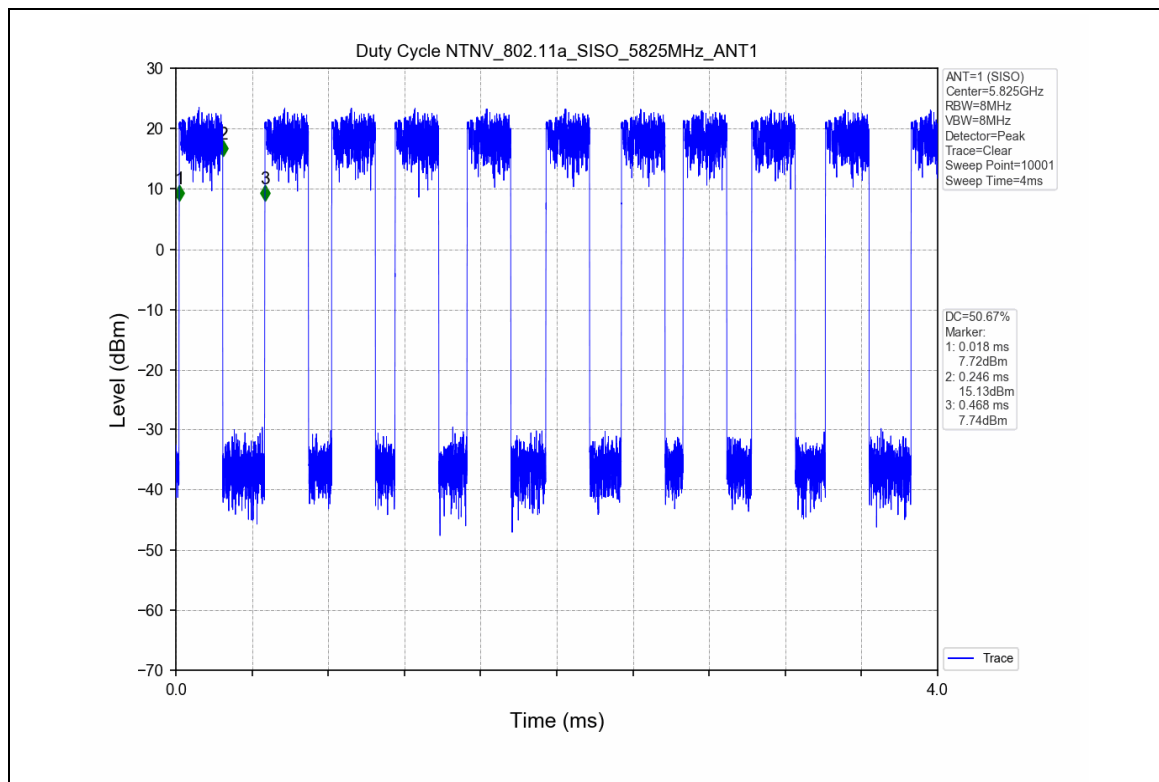
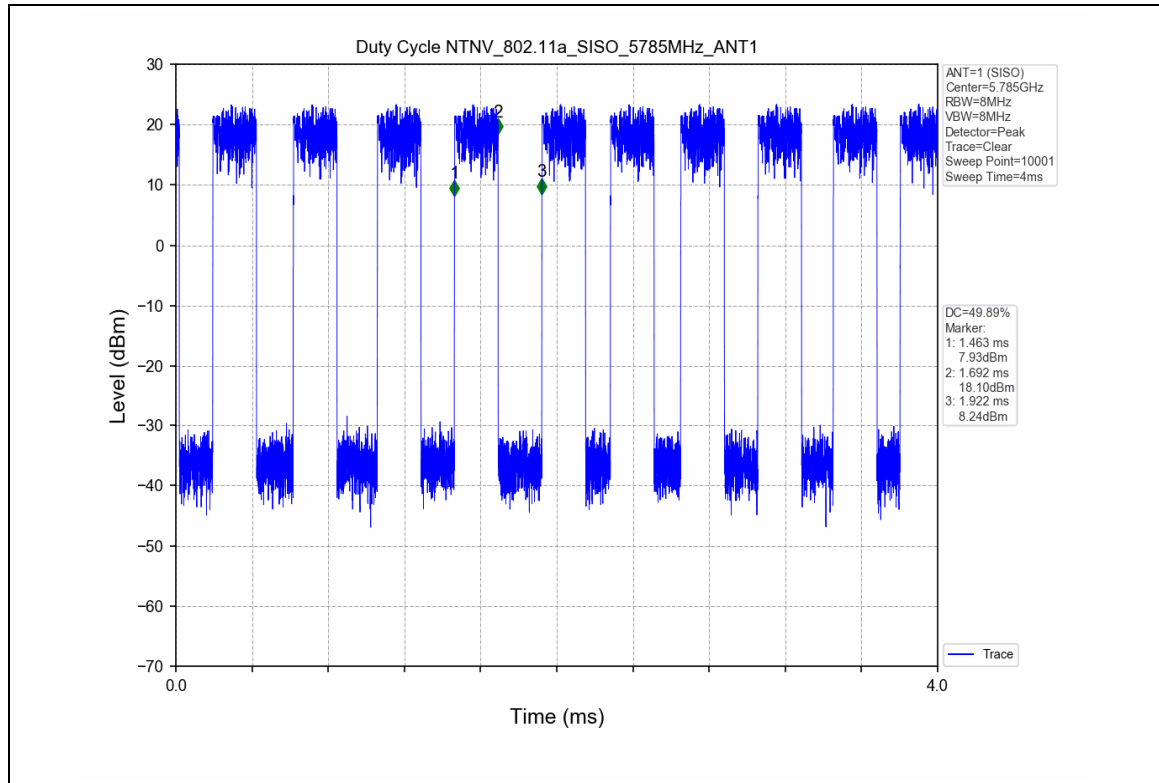
1.2 Test Graph

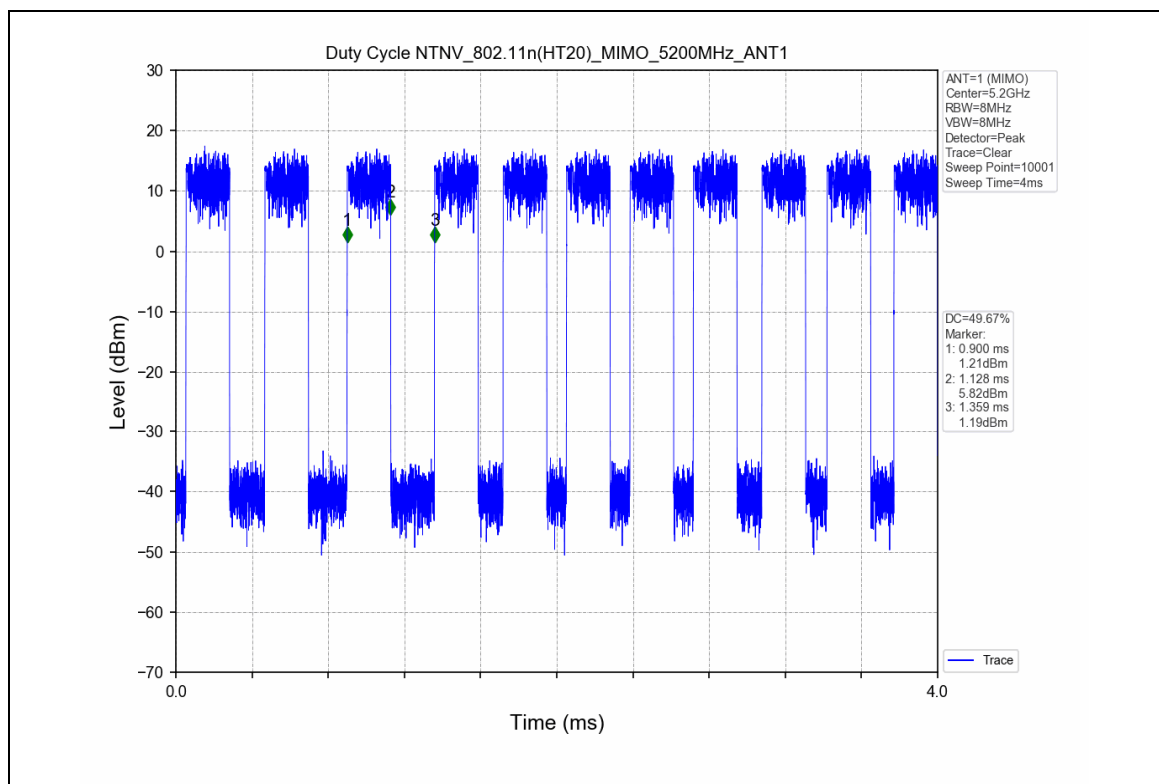
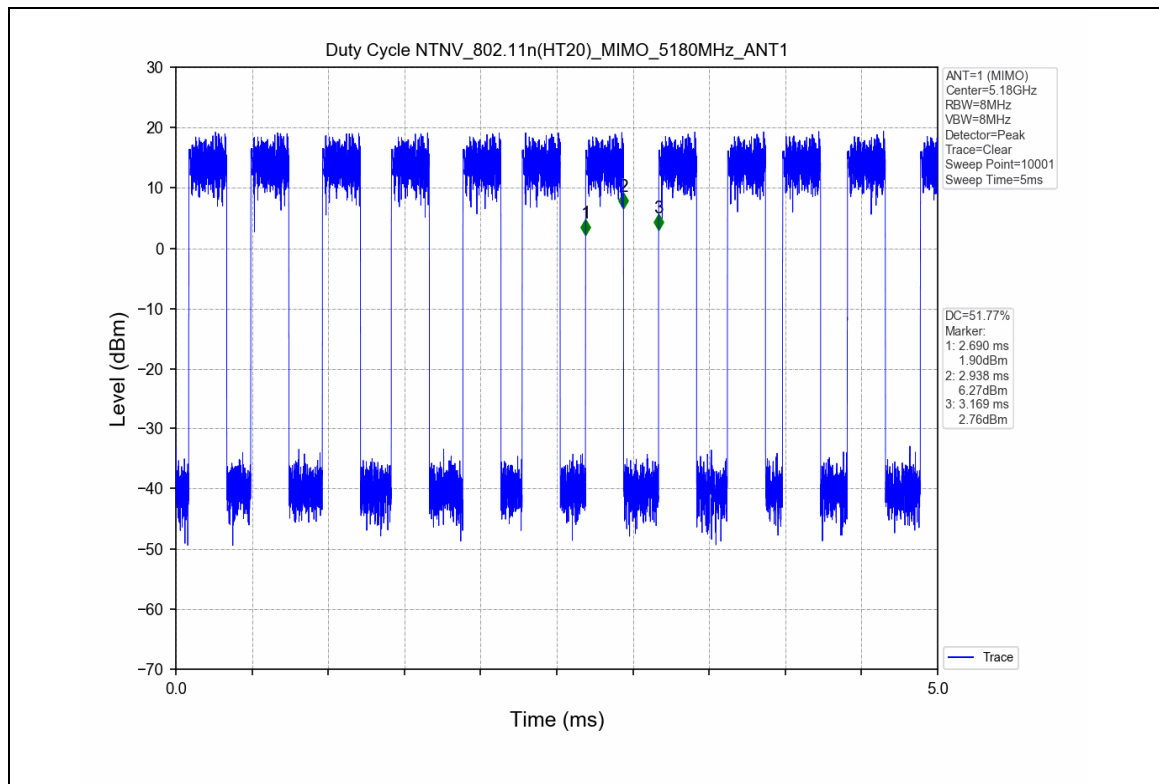




Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

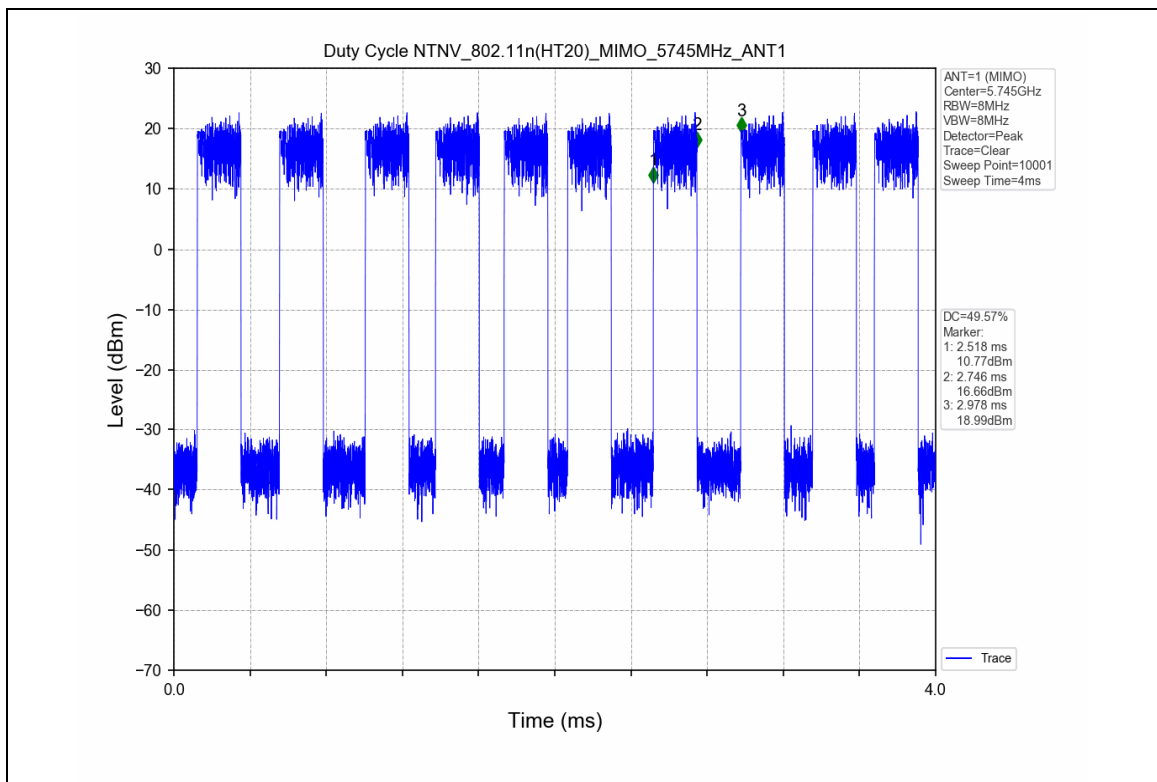
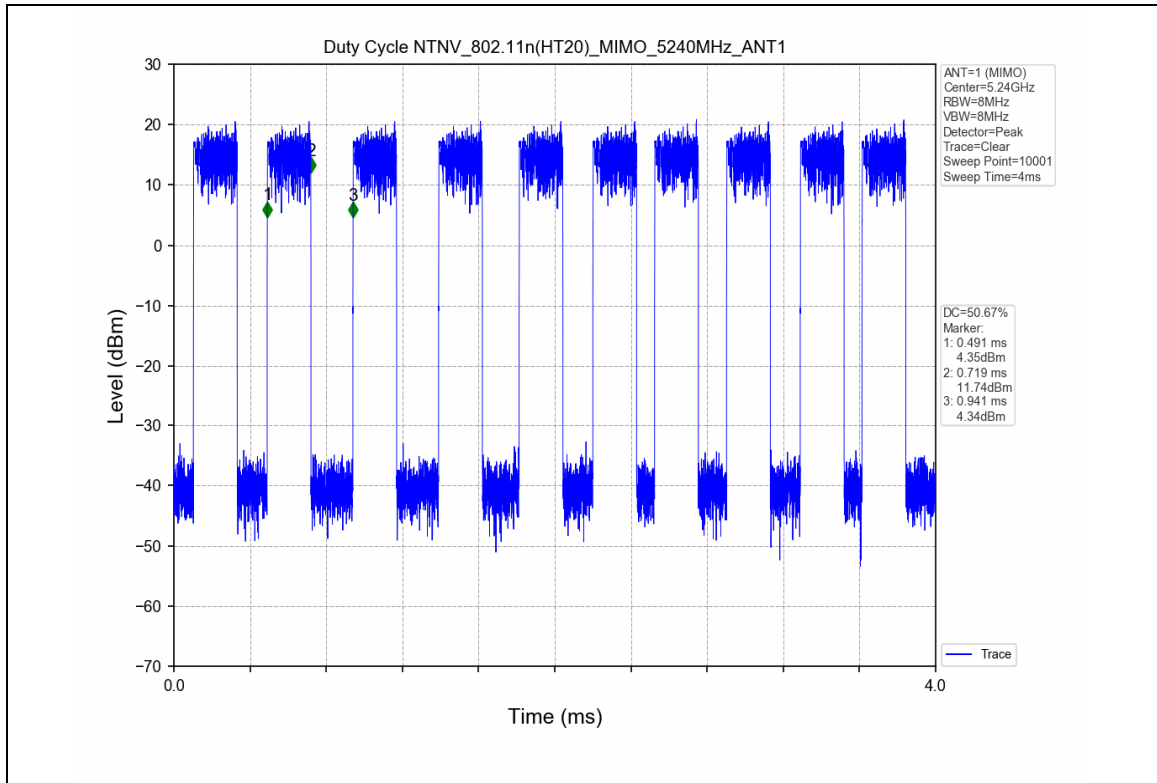
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

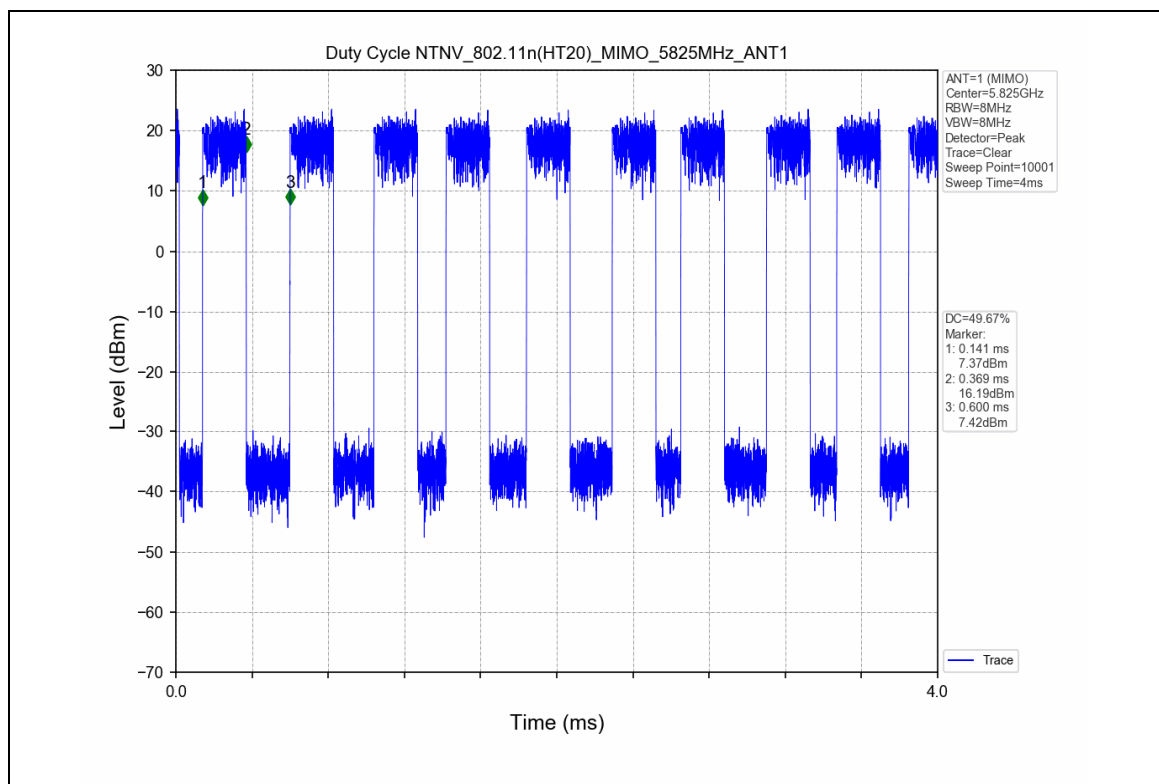
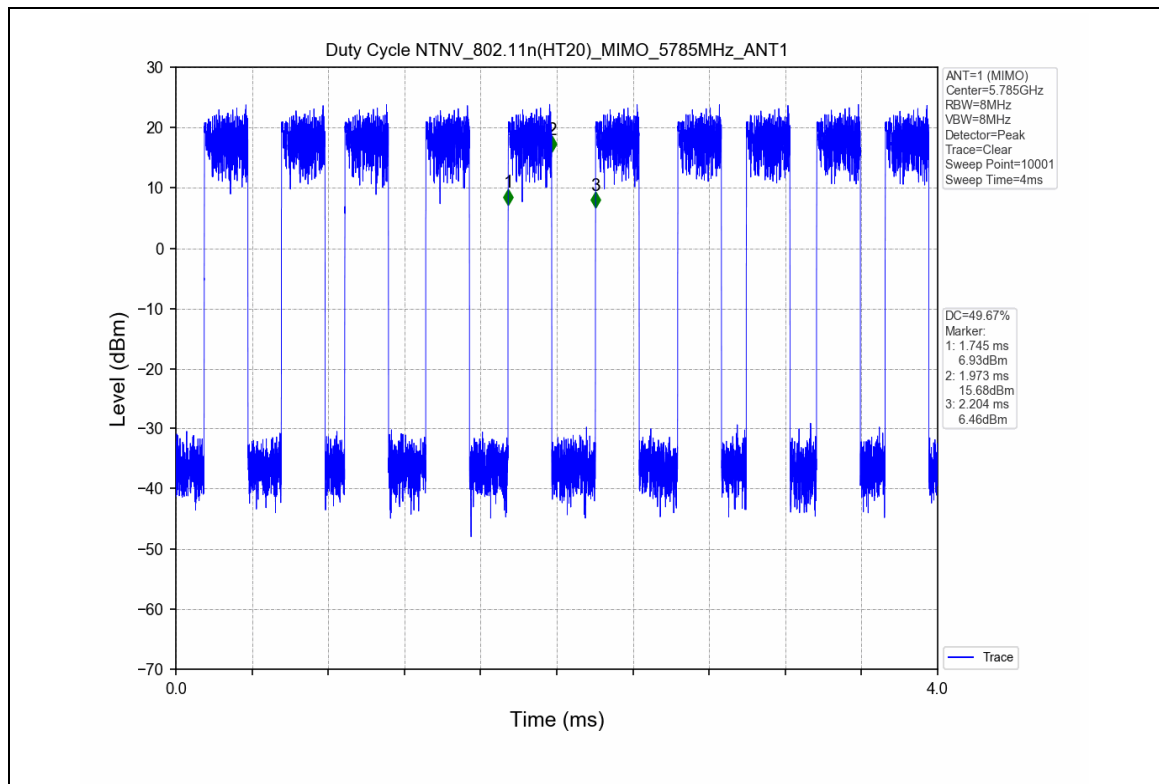




Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

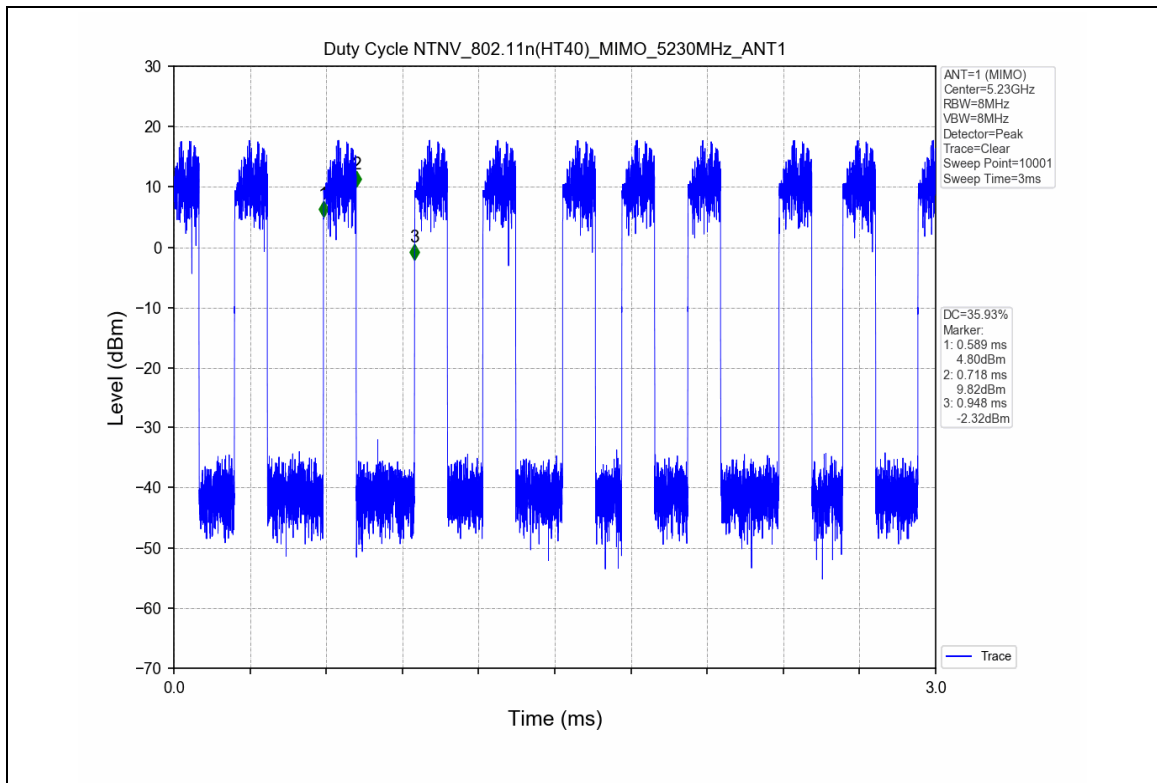
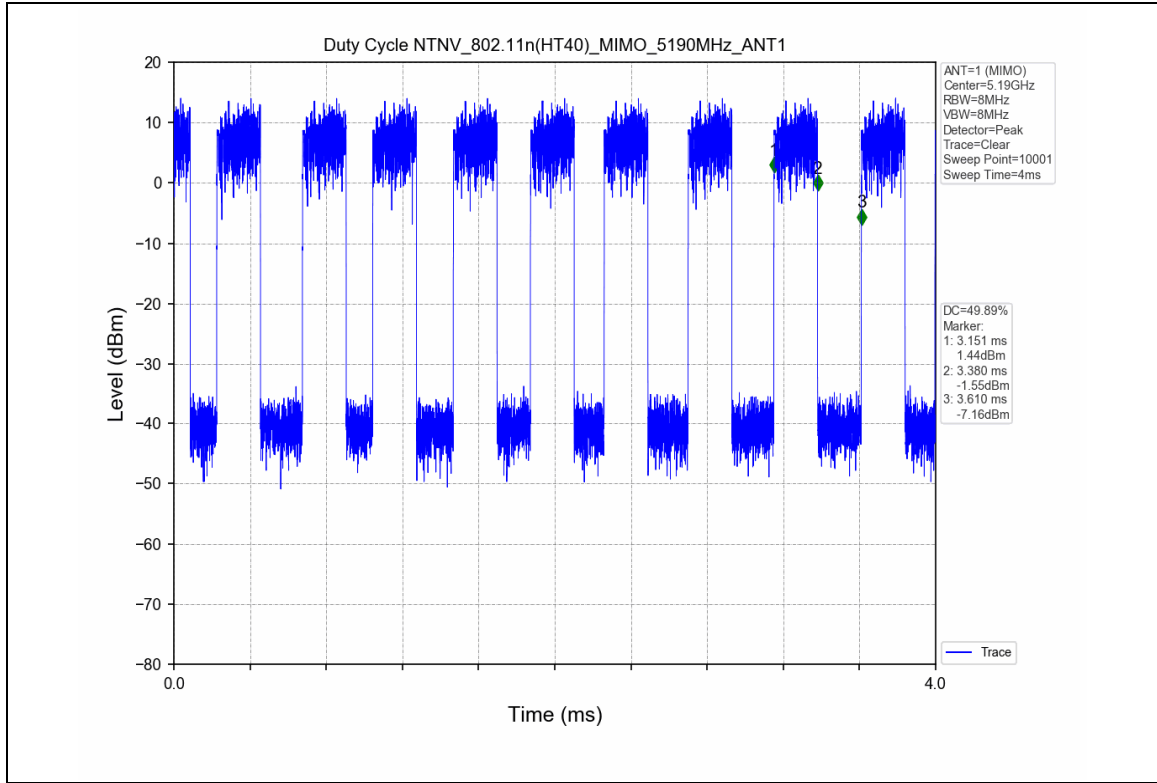
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com





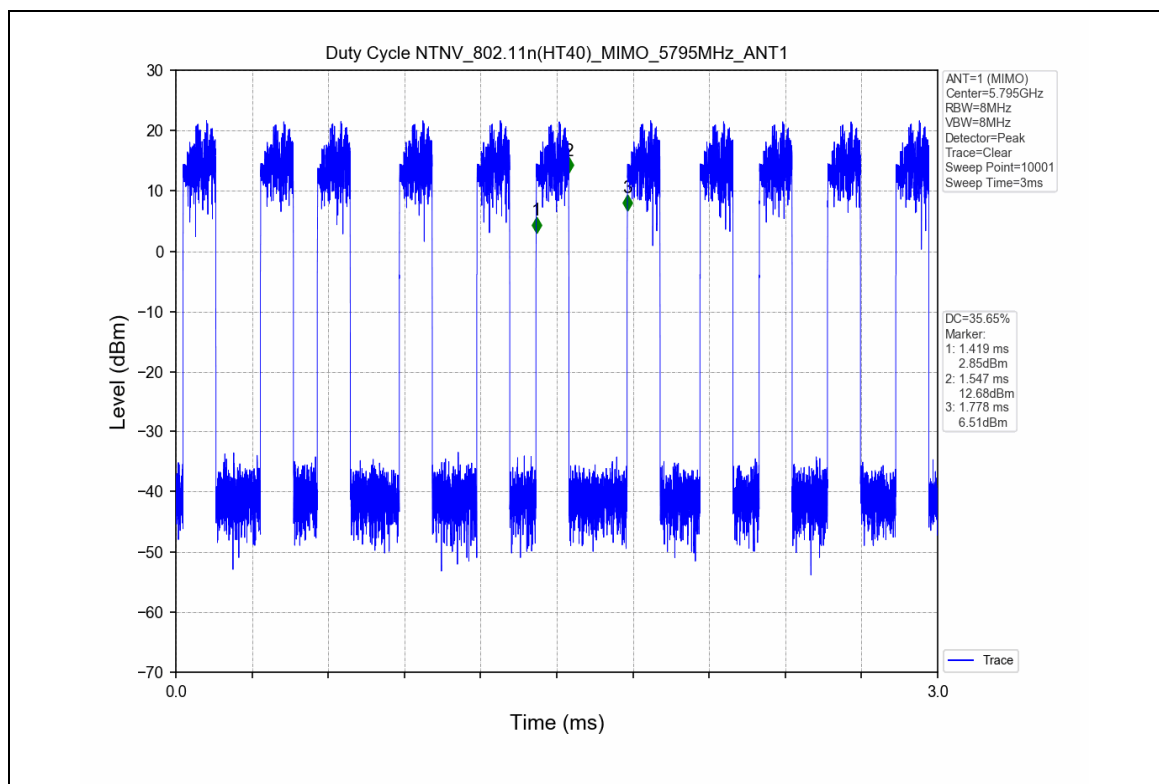
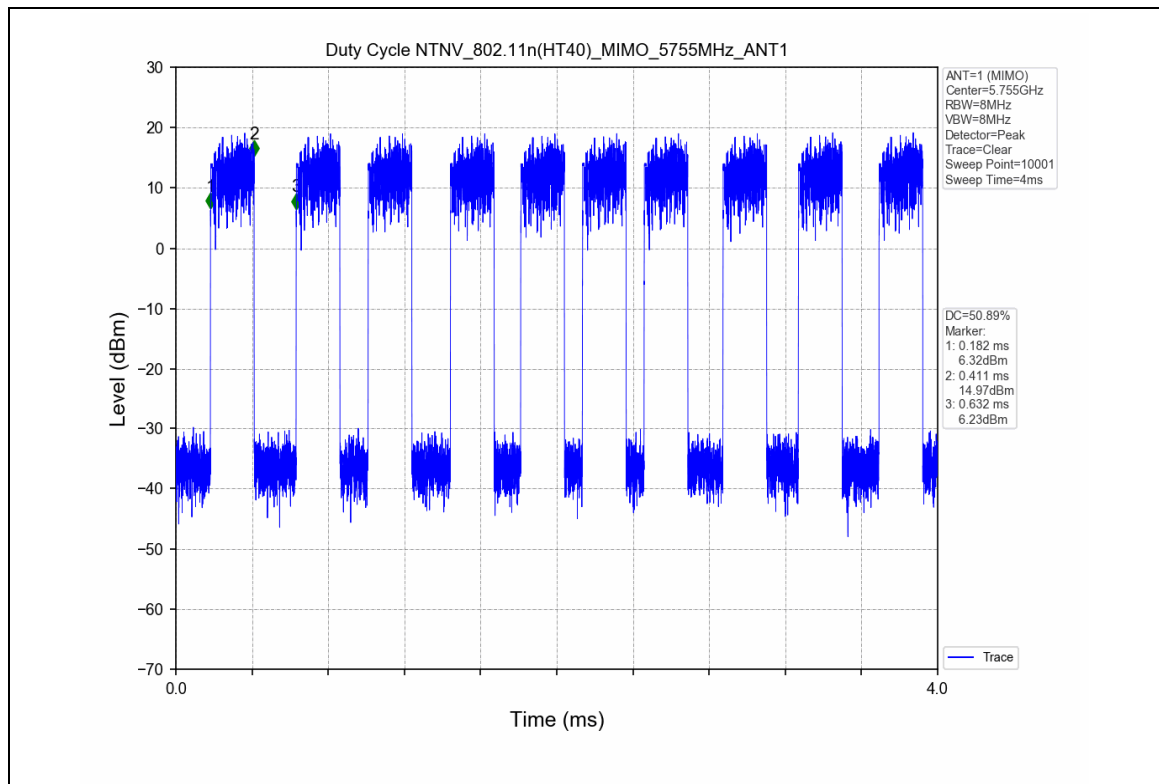
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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



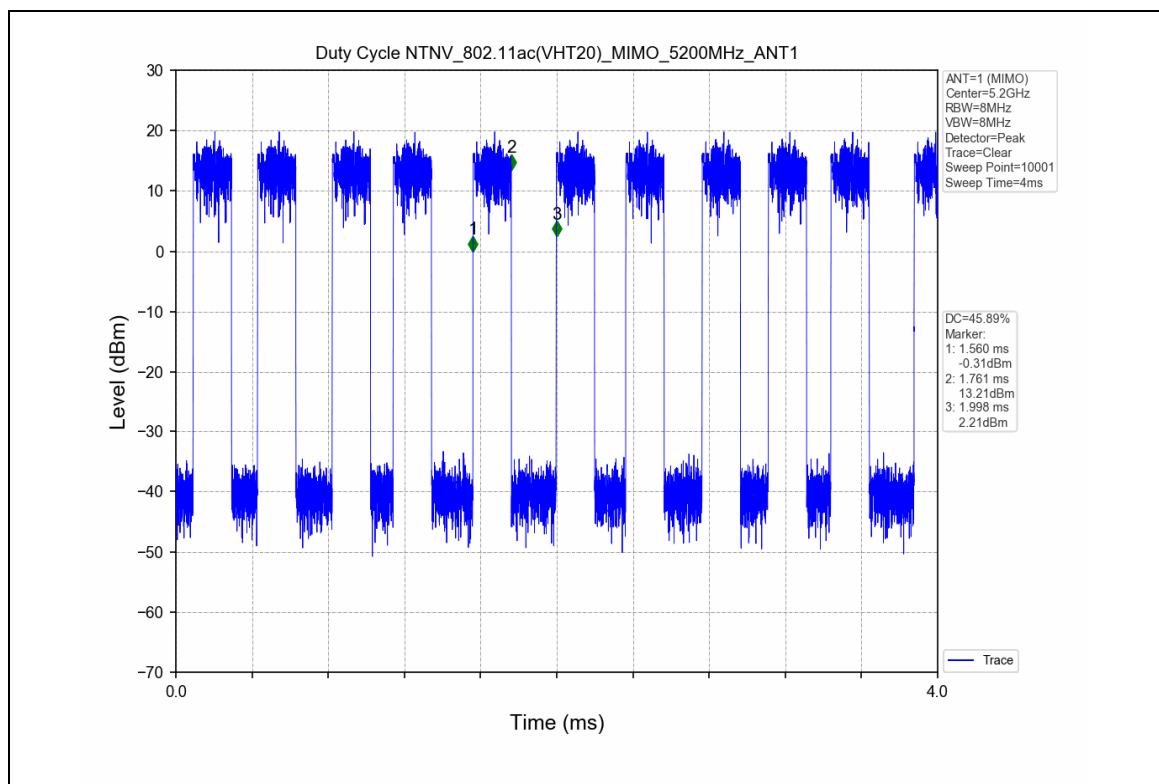
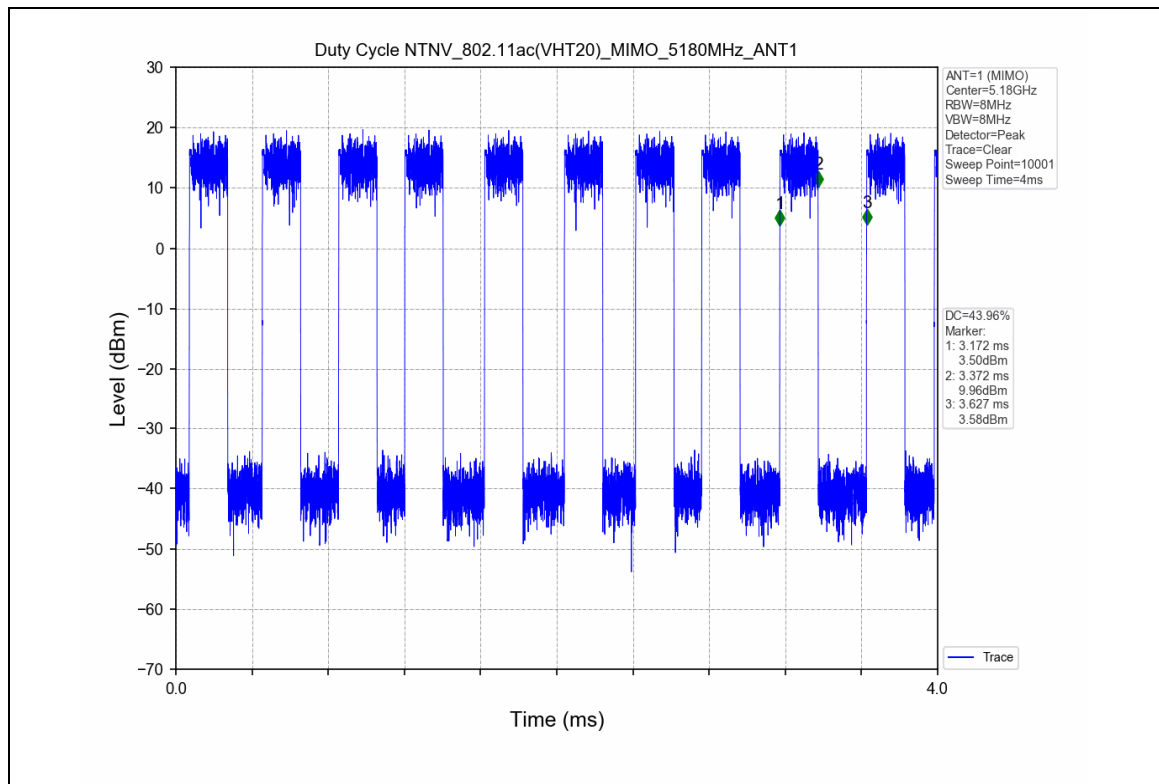
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

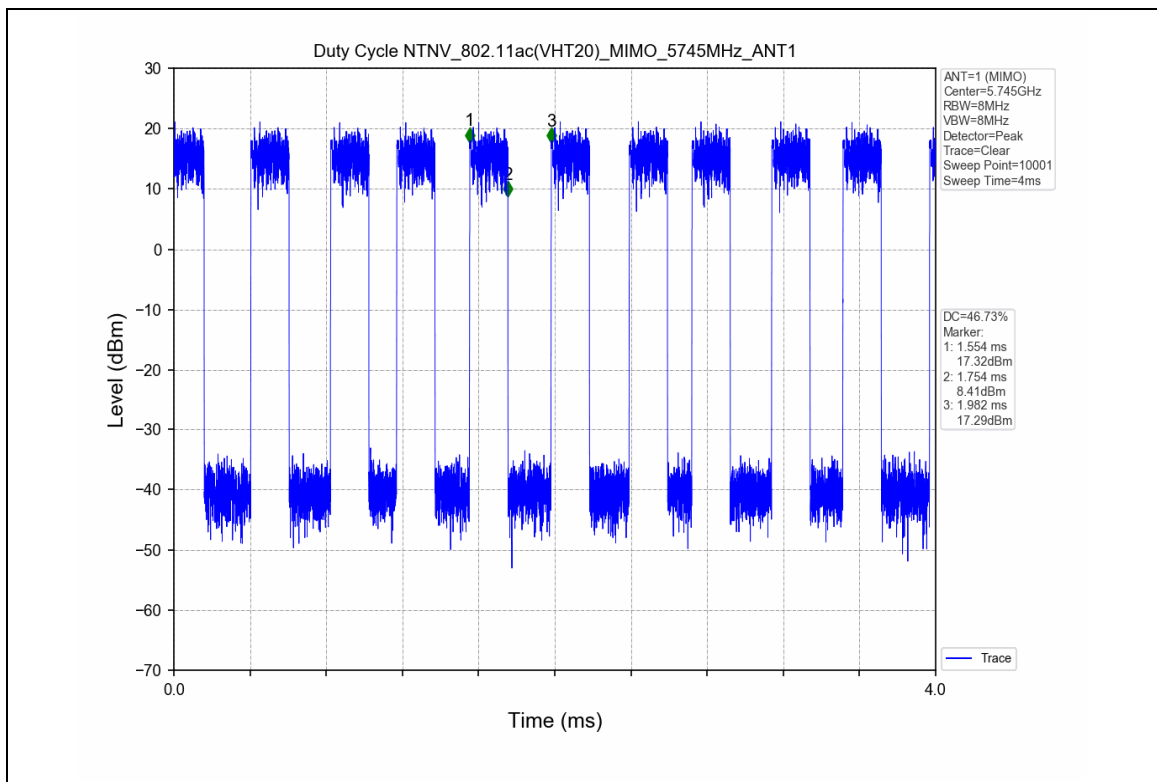
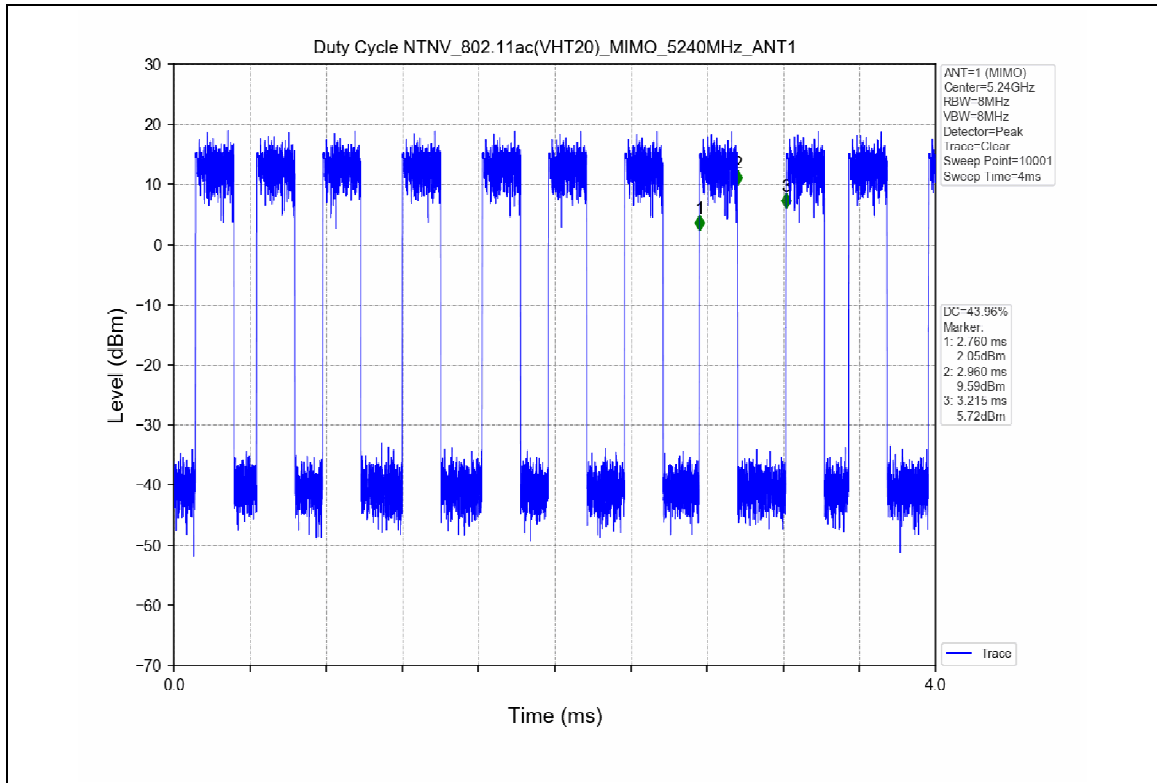
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

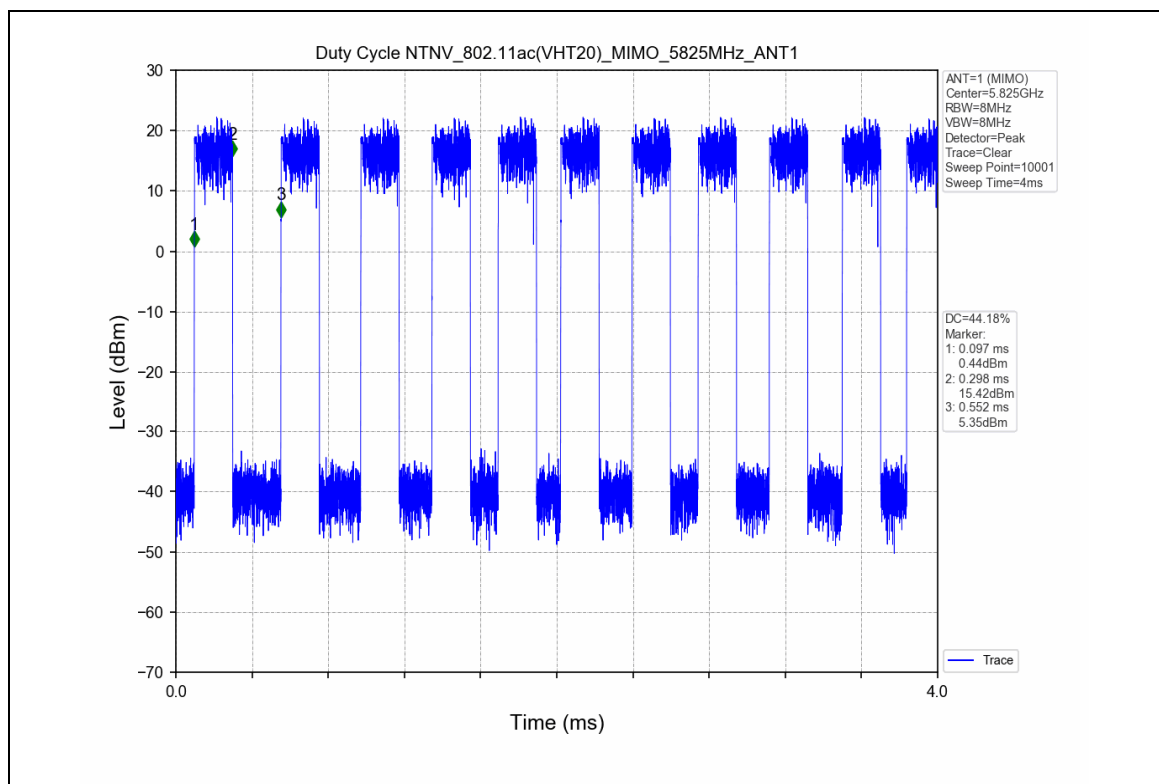
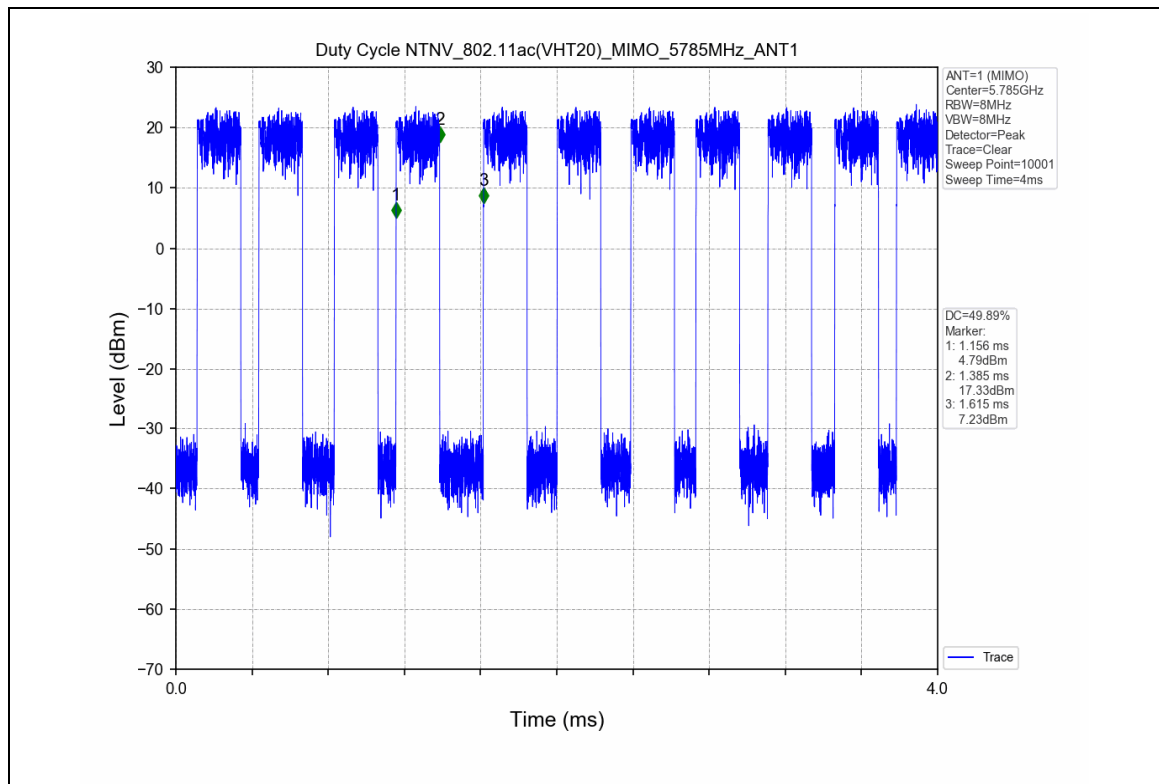


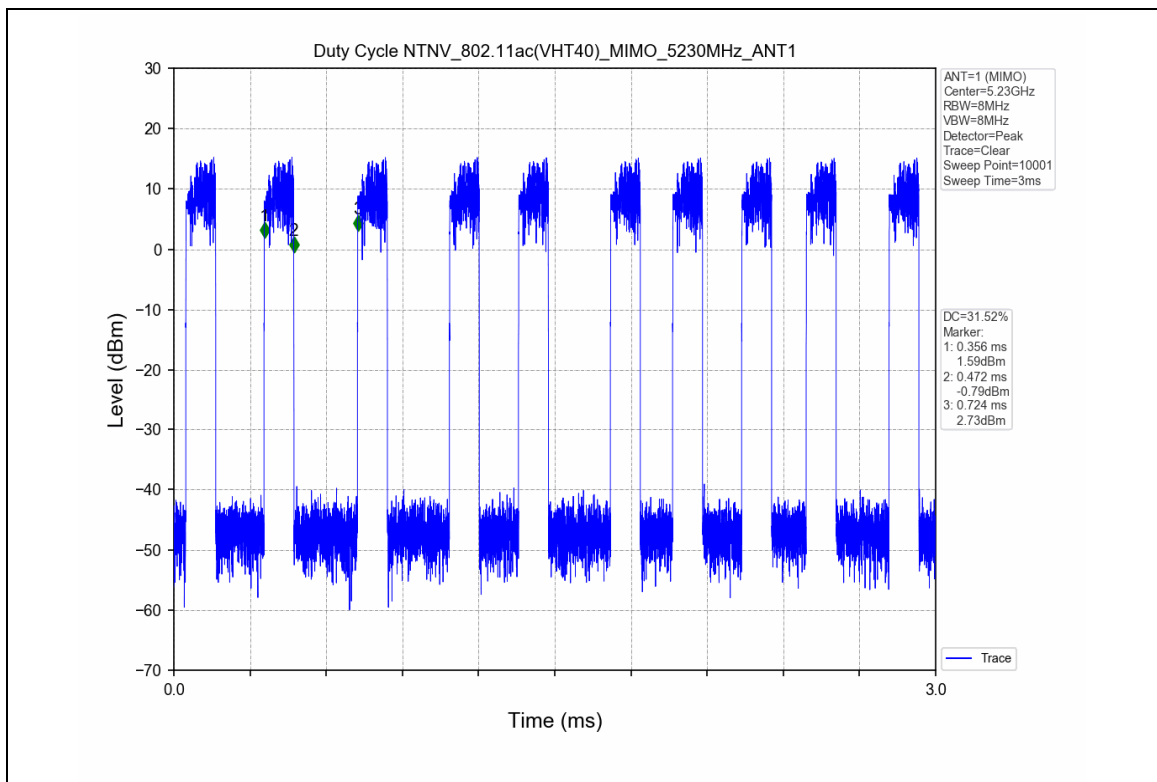
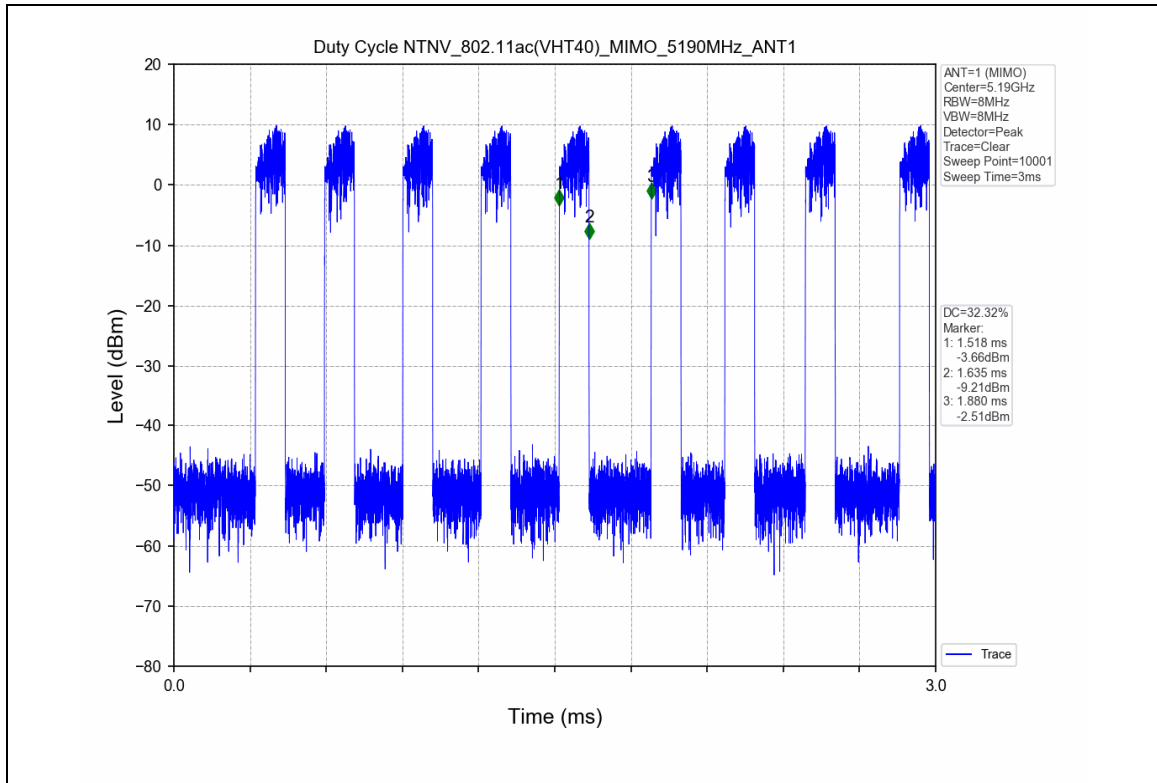
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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



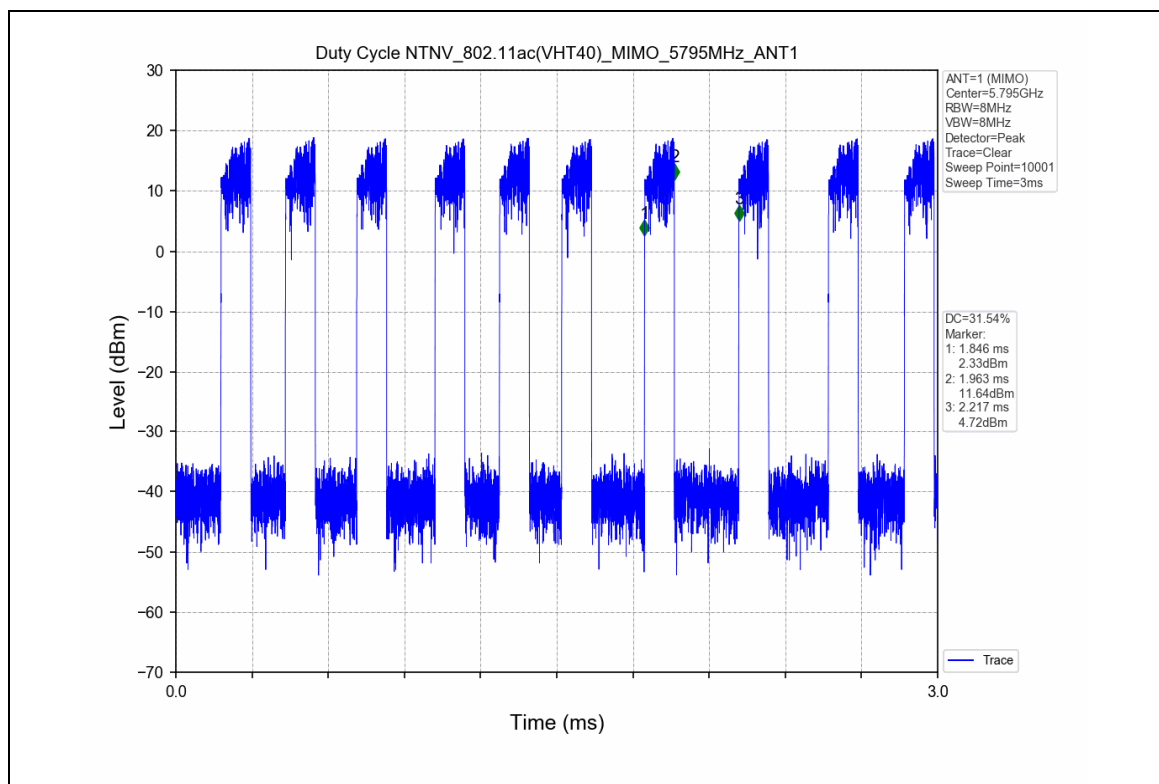
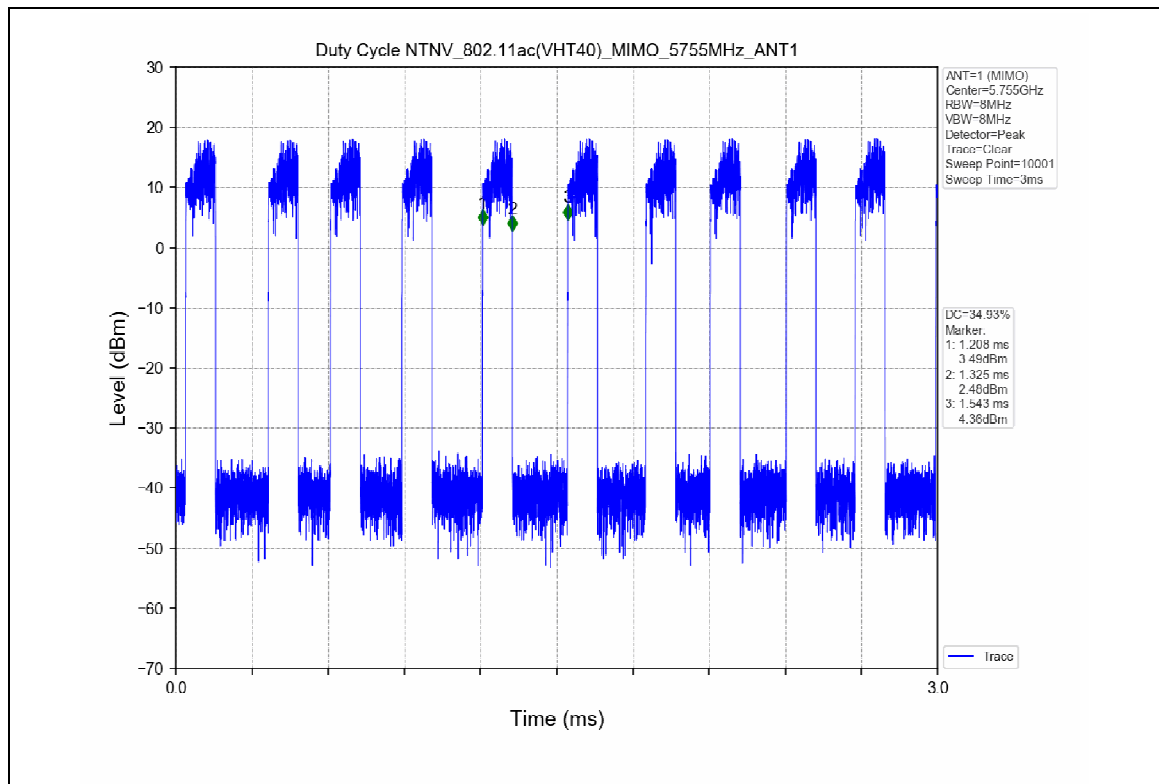






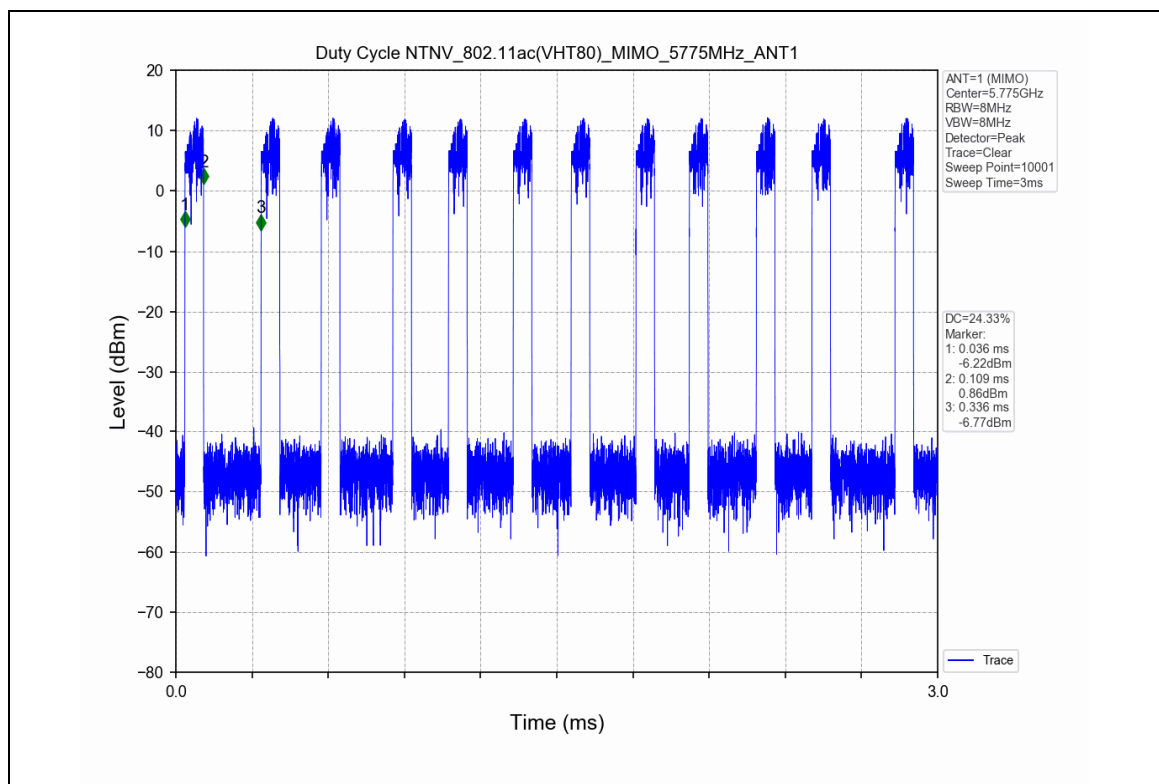
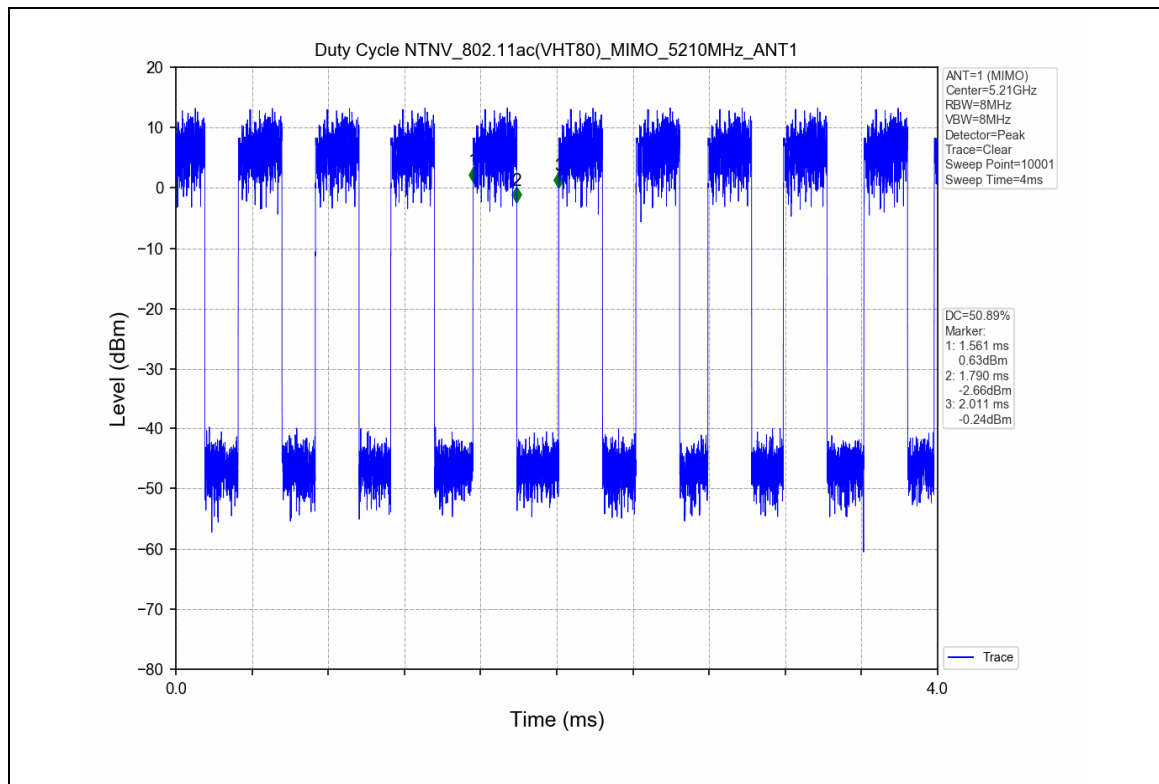
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic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

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



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

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



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

2.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	Emission Bandwidth		Verdict
				Test Result (MHz)	Limits (MHz)	
802.11a	5180	SISO	1	19.248	Only for Report Use	PASS
	5200	SISO	1	19.260	Only for Report Use	PASS
	5240	SISO	1	19.323	Only for Report Use	PASS
802.11n(HT20)	5180	MIMO	1	18.192	Only for Report Use	PASS
	5200	MIMO	1	18.021	Only for Report Use	PASS
	5240	MIMO	1	19.238	Only for Report Use	PASS
802.11n(HT40)	5190	MIMO	1	40.564	Only for Report Use	PASS
	5230	MIMO	1	40.626	Only for Report Use	PASS
802.11ac(VHT20)	5180	MIMO	1	19.362	Only for Report Use	PASS
	5200	MIMO	1	19.314	Only for Report Use	PASS
	5240	MIMO	1	19.213	Only for Report Use	PASS
802.11ac(VHT40)	5190	MIMO	1	40.229	Only for Report Use	PASS
	5230	MIMO	1	41.448	Only for Report Use	PASS
802.11ac(VHT80)	5210	MIMO	1	81.049	Only for Report Use	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	Emission Bandwidth		Verdict
				Test Result (MHz)	Limits (MHz)	
802.11a	5745	SISO	1	17.703	≥0.5	PASS
	5785	SISO	1	17.654	≥0.5	PASS
	5825	SISO	1	17.574	≥0.5	PASS
802.11n(HT20)	5745	MIMO	1	17.744	≥0.5	PASS
	5785	MIMO	1	17.739	≥0.5	PASS
	5825	MIMO	1	17.743	≥0.5	PASS
802.11n(HT40)	5755	MIMO	1	35.669	≥0.5	PASS
	5795	MIMO	1	35.517	≥0.5	PASS
802.11ac(VHT20)	5745	MIMO	1	17.660	≥0.5	PASS
	5785	MIMO	1	17.390	≥0.5	PASS
	5825	MIMO	1	17.692	≥0.5	PASS
802.11ac(VHT40)	5755	MIMO	1	35.354	≥0.5	PASS
	5795	MIMO	1	35.544	≥0.5	PASS
802.11ac(VHT80)	5775	MIMO	1	75.417	≥0.5	PASS



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

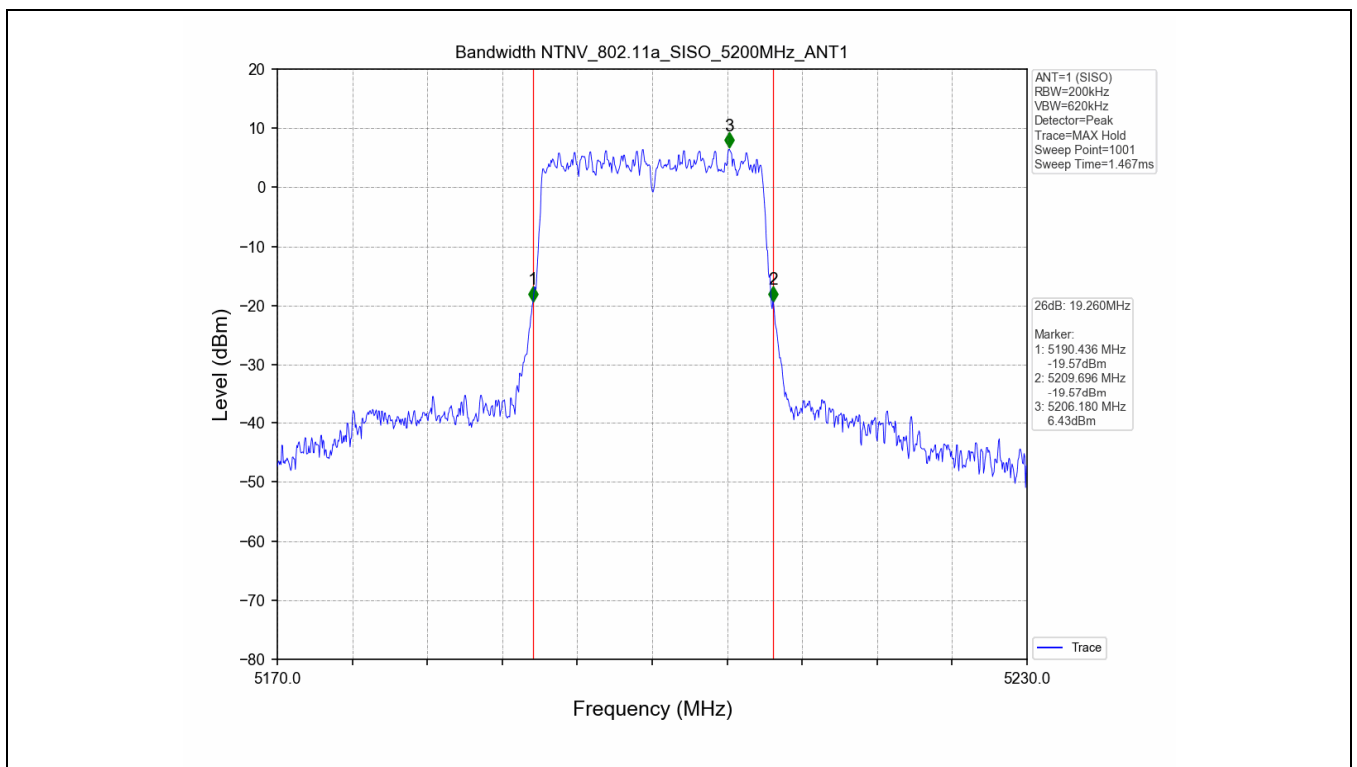
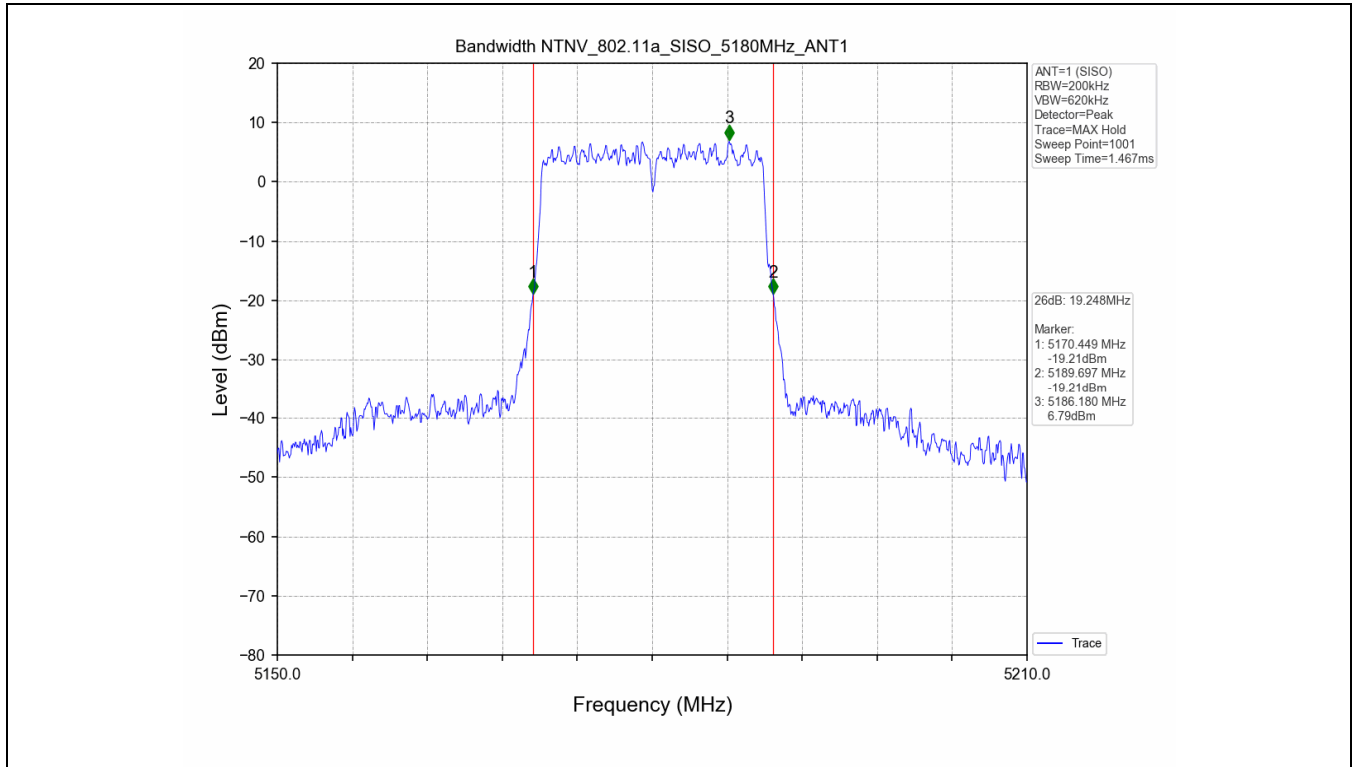
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch, EMC Laboratory

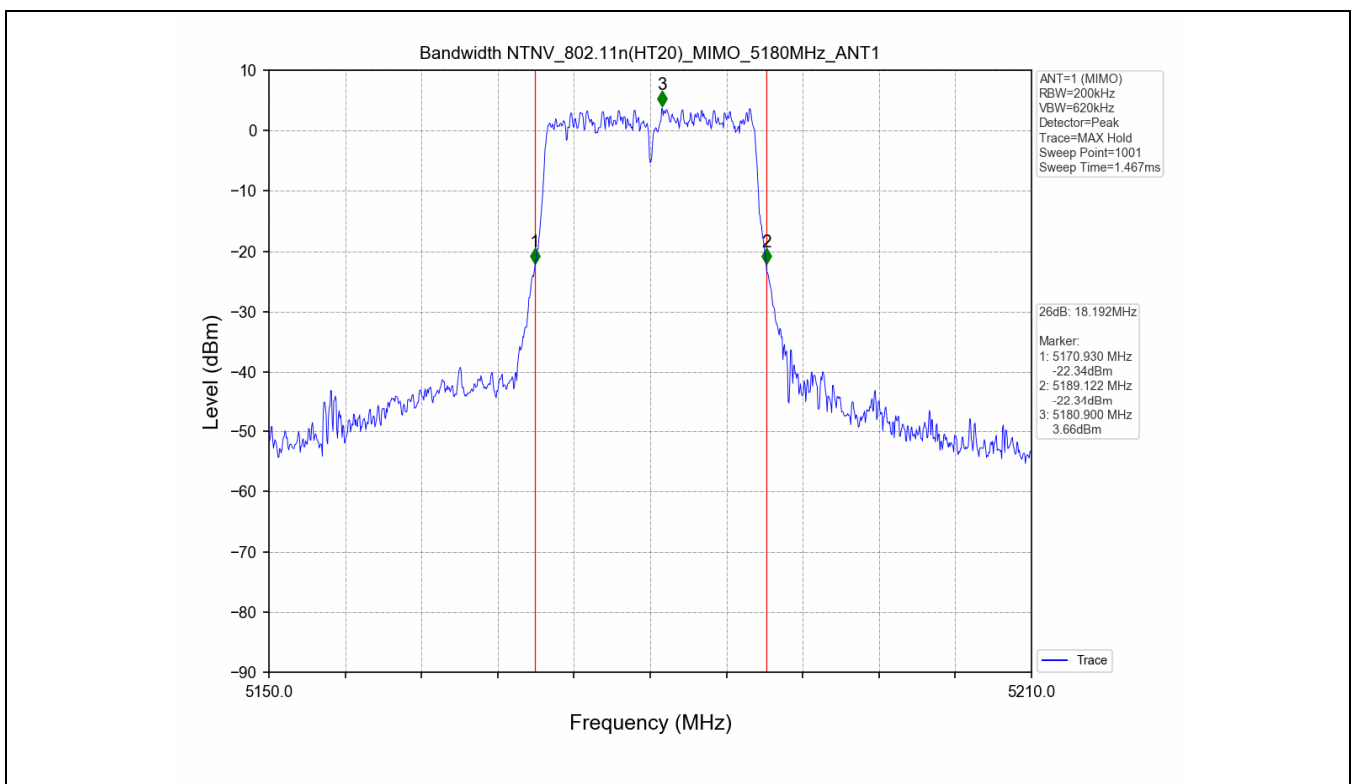
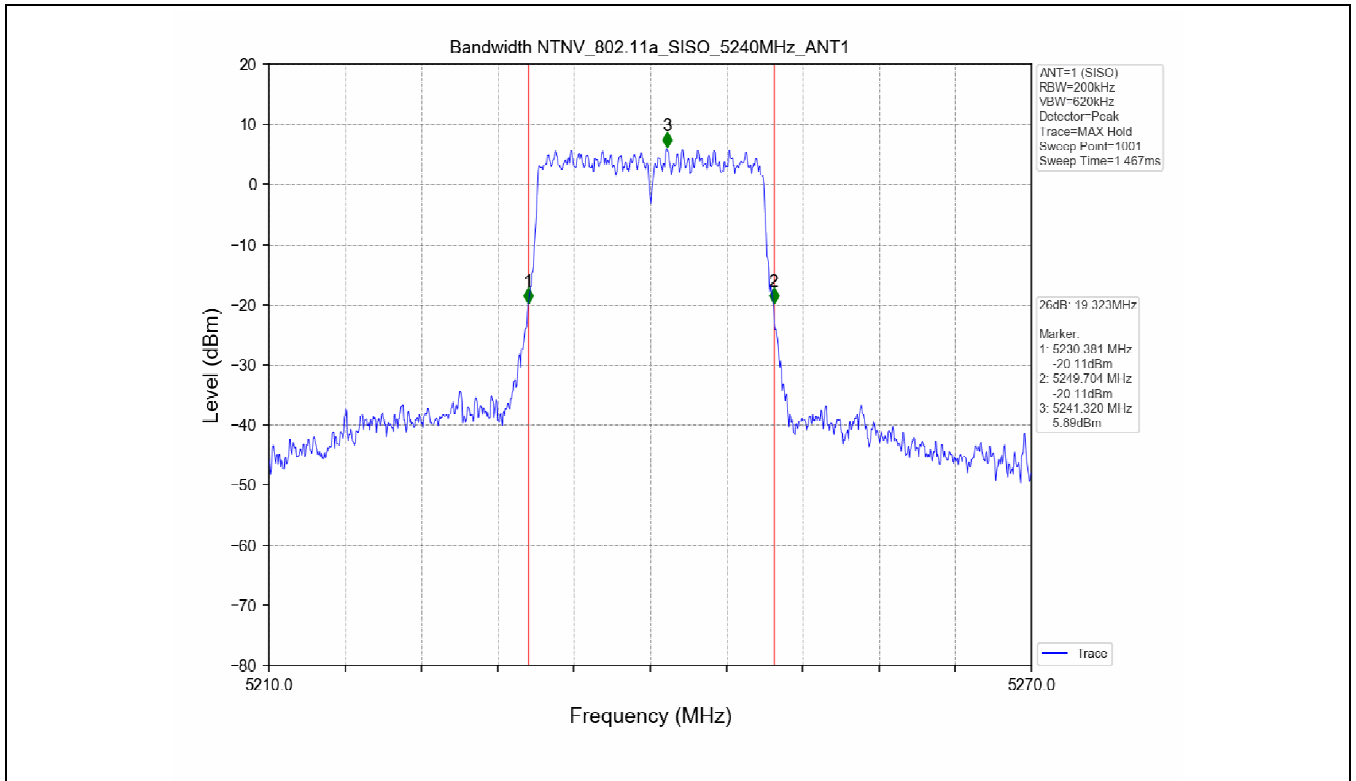
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
802.11a	5180	SISO	1	17.665	Only for Report Use
	5200	SISO	1	17.687	Only for Report Use
	5240	SISO	1	17.693	Only for Report Use
	5745	SISO	1	17.724	Only for Report Use
	5785	SISO	1	17.752	Only for Report Use
	5825	SISO	1	17.793	Only for Report Use
802.11n(HT20)	5180	MIMO	1	16.478	Only for Report Use
	5200	MIMO	1	16.507	Only for Report Use
	5240	MIMO	1	17.742	Only for Report Use
	5745	MIMO	1	17.721	Only for Report Use
	5785	MIMO	1	17.731	Only for Report Use
	5825	MIMO	1	17.754	Only for Report Use
802.11n(HT40)	5190	MIMO	1	36.684	Only for Report Use
	5230	MIMO	1	36.574	Only for Report Use
	5755	MIMO	1	36.917	Only for Report Use
	5795	MIMO	1	36.936	Only for Report Use
802.11ac(VHT20)	5180	MIMO	1	17.703	Only for Report Use
	5200	MIMO	1	17.684	Only for Report Use
	5240	MIMO	1	17.741	Only for Report Use
	5745	MIMO	1	17.699	Only for Report Use
	5785	MIMO	1	17.678	Only for Report Use
	5825	MIMO	1	17.733	Only for Report Use
802.11ac(VHT40)	5190	MIMO	1	36.221	Only for Report Use
	5230	MIMO	1	36.812	Only for Report Use
	5755	MIMO	1	36.651	Only for Report Use
	5795	MIMO	1	36.524	Only for Report Use
802.11ac(VHT80)	5210	MIMO	1	75.542	Only for Report Use
	5775	MIMO	1	75.712	Only for Report Use



2.2 Test Graph - Emission 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

