



TEST REPORT

Application No.: SZEM2012012652CR
Applicant: KanDao Technology Co., Ltd.
Address of Applicant: 201 Sino-Steel building, Maqueling Industrial District, Maling Area, Yuehai Street, Nanshan, Shenzhen
Manufacturer: KanDao Technology Co., Ltd.
Address of Manufacturer: 201 Sino-Steel building, Maqueling Industrial District, Maling Area, Yuehai Street, Nanshan, Shenzhen
Factory: SKY LIGHT ELECTRONIC (SHENZHEN) LIMITED
Address of Factory: 1F-2F OF NO.9, 1F-5F OF NO.8, ANTUOSHAN HIGH-TECH. INDUSTRIAL PARK, SHAER COMMUNITY, SHAJING STREET, BAO'AN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE

Equipment Under Test (EUT):
EUT Name: Kandao Meeting Pro 360 Conferencing Camera
Model No.: MT0822
Trade Mark: KanDao
FCC ID: 2ATPV-KDMT
Standard(s) : 47 CFR Part 15, Subpart E 15.407
Date of Receipt: 2020-12-10
Date of Test: 2020-12-14 to 2020-12-25
Date of Issue: 2020-12-25

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu

Keny Xu
EMC Laboratory Manager



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

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-12-25		Original

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

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	47 CFR Part 15, Subpart E 15.407	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	47 CFR Part 15, Subpart E 15.407	KDB 789033 II B 1	KDB 789033 D02 II B 1	Pass
99% Bandwidth	47 CFR Part 15, Subpart E 15.407	KDB 789033 II D	N/A	Pass
26dB Emission bandwidth	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II C 1	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Maximum Conducted output power	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II E	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Peak Power spectrum density	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II F	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Radiated Emissions	47 CFR Part 15, Subpart E 15.407	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	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Frequency Stability	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.407 (g)	Pass



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4 General Information

4.1 Details of E.U.T.

Rated voltage:	AC 120V
Test voltage:	AC 120V
Power adapter:	Adapter1 Model No: ASSA112w-P60W20 Input: AC 100-240V 50/60Hz 1.5A Output: DC 5V 3A or 9V 3A or 12V 3A or 15V 3A or 20V 3A Adapter2 Model No.: P0571-BZ Input: AC 100-240V 50/60Hz 1.5A PD Output: 60W(5V 3A, 9V 3A, 12V 3A, 15V 3A, 20V 3A)
Antenna Type:	PIFA Antenna
Antenna Gain:	3.0dBi

Operation Frequency	Band	Mode	Frequency Range(MHz)	Number of channels
	Band 1	802.11a/n(HT20)/ac(HT20)	5180-5240	4
		802.11n(HT40)/ac(HT40)	5190-5230	2
		802.11ac(HT80)	5210	1
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)			
Channel Spacing:	802.11a/n(HT20)/ac(HT20): 20MHz 802.11n(HT40)/ac(HT40): 40MHz 802.11ac(HT80): 80MHz			

4.2 Cable

Cable	Length	Shielding	Core
HDMI Cable	1.0m	Shielded	With-Core
Type-C Cable	3.0m	Shielded	Non-Core

4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--

The EUT has been tested as an independent unit.

4.4 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	$\pm 3\%$
Maximum Conducted output power	$\pm 0.75\text{dB}$
Peak Power spectrum density	$\pm 2.84\text{dB}$
Radiated Emissions	$\pm 4.8\text{dB}$
Radiated Emissions which fall in the restricted bands	$\pm 4.5\text{dB}$ (below 1GHz); $\pm 4.8\text{dB}$ (above 1GHz);
Frequency Stability	$\pm 7.25 \times 10^{-8}$

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.

4.5 Test Location

All tests were performed at:

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

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

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

No tests were sub-contracted.

4.6 Test Facility

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

• **A2LA (Certificate No. 3816.01)**

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

• **VCCI**

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

• **FCC –Designation Number: CN1178**

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

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

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

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

CAB identifier: CN0006.

IC#: 4620C.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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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	WEINSCHL 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

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
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

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
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

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
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A



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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

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
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

Radiated Spurious Emissions

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
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
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2020-11-14	2023-11-13
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-04-01	2021-03-31

Radiated Emissions (30MHz-1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-07-19	2023-07-18
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
MXE EMI receiver	KEYSIGHT	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



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Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
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
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2020-11-14	2023-11-13
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	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
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

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
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



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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 uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 3dBi.

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)

6.2.1 Conclusion

standard Requirement:

The device shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure. A description on how this is done shall accompany the application for equipment certification. Note that this is not intended to prohibit transmission of control or signalling information or the use of repetitive codes where required by the technology.

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(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

7.1.1 E.U.T. Operation

Operating Environment:

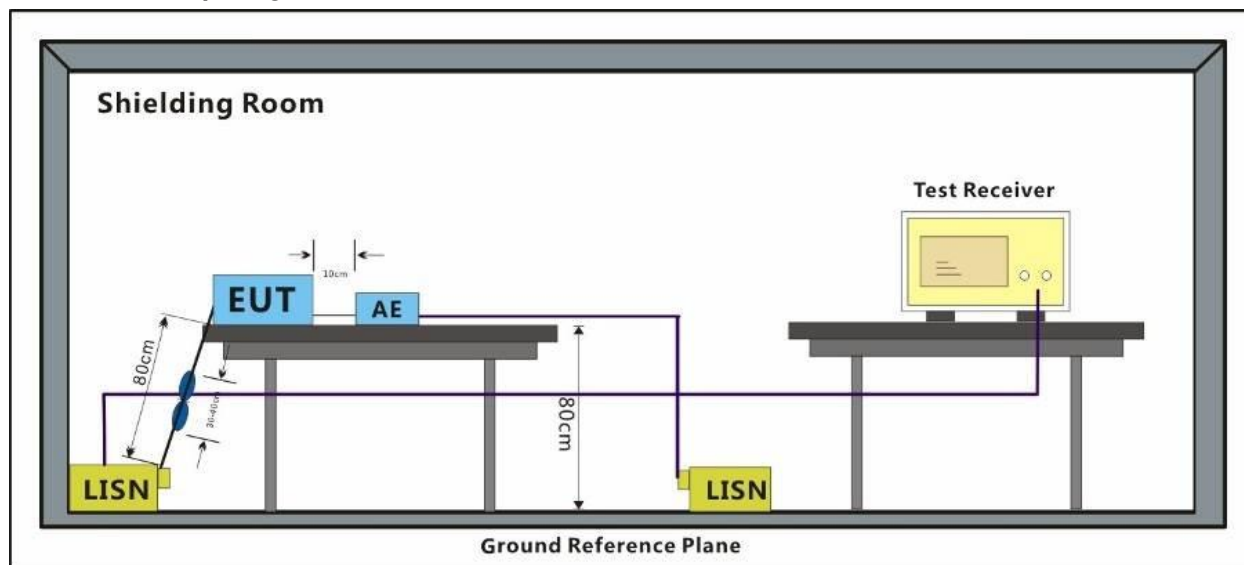
Temperature: 23.2 °C Humidity: 46.1 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.



7.1.3 Test Setup Diagram



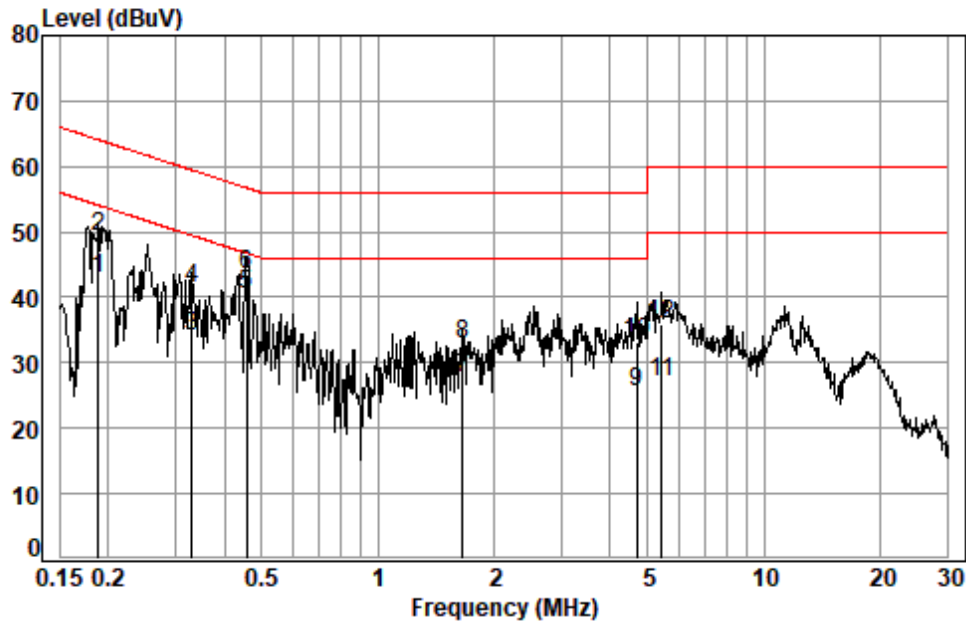
7.1.4 Measurement Procedure and Data

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

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

Adapter1

Test Mode: 04

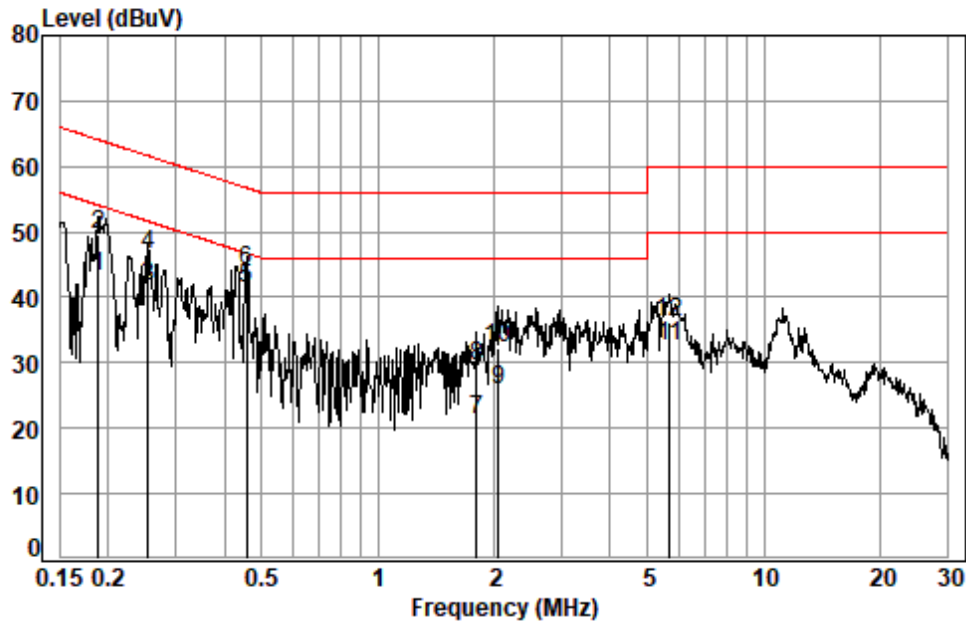


Site : Shielding Room
Condition: Line
Job No. : 12652CR
Test mode: 04
Adapter : #1

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1884	0.03	9.72	33.04	42.79	54.11	-11.32	Average
2	0.1884	0.03	9.72	39.46	49.21	64.11	-14.90	QP
3	0.3303	0.06	9.75	24.13	33.94	49.44	-15.50	Average
4	0.3303	0.06	9.75	31.68	41.49	59.44	-17.95	QP
5	0.4564	0.07	9.77	30.68	40.52	46.76	-6.24	Average
6	0.4564	0.07	9.77	33.54	43.38	56.76	-13.38	QP
7	1.6537	0.12	9.80	17.78	27.70	46.00	-18.30	Average
8	1.6537	0.12	9.80	22.98	32.90	56.00	-23.10	QP
9	4.6964	0.16	9.92	15.44	25.52	46.00	-20.48	Average
10	4.6964	0.16	9.92	23.18	33.26	56.00	-22.74	QP
11	5.4474	0.16	9.96	17.10	27.22	50.00	-22.78	Average
12	5.4474	0.16	9.96	25.68	35.80	60.00	-24.20	QP



Test Mode: 04



Site : Shielding Room
Condition: Neutral
Job No. : 12652CR
Test mode: 04
Adapter : #1

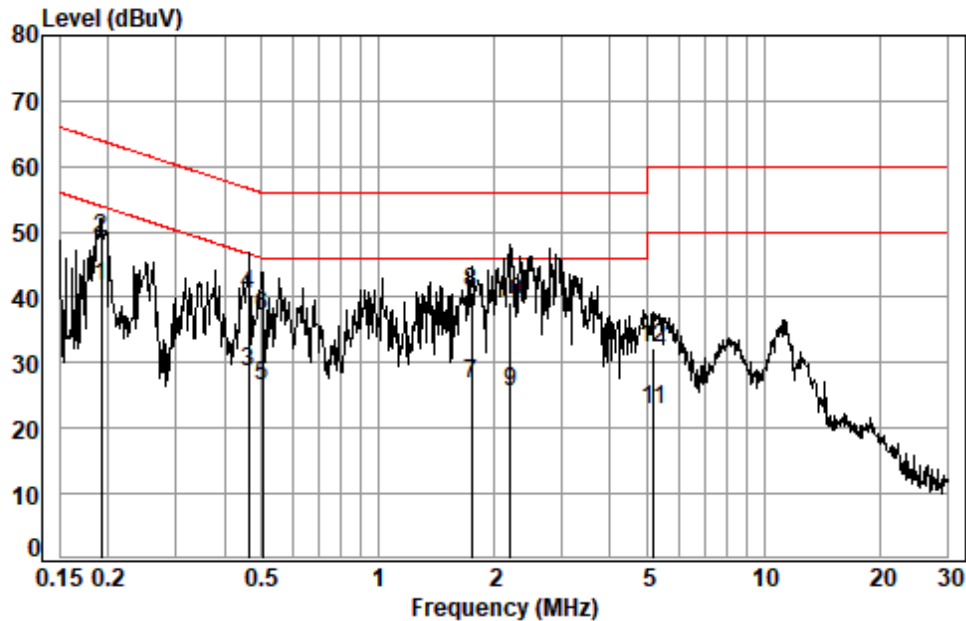
	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1884	0.03	9.72	33.46	43.21	54.11	-10.90	Average
2	0.1884	0.03	9.72	39.76	49.51	64.11	-14.60	QP
3	0.2535	0.05	9.73	32.02	41.80	51.64	-9.84	Average
4	0.2535	0.05	9.73	36.75	46.53	61.64	-15.11	QP
5	0.4564	0.07	9.76	31.40	41.23	46.76	-5.53	Average
6	0.4564	0.07	9.76	34.14	43.97	56.76	-12.79	QP
7	1.8000	0.12	9.80	11.35	21.27	46.00	-24.73	Average
8	1.8000	0.12	9.80	19.46	29.38	56.00	-26.62	QP
9	2.0549	0.13	9.81	15.91	25.85	46.00	-20.15	Average
10	2.0549	0.13	9.81	22.43	32.37	56.00	-23.63	QP
11	5.7135	0.16	9.97	22.56	32.69	50.00	-17.31	Average
12	5.7135	0.16	9.97	26.19	36.32	60.00	-23.68	QP



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Adapter2

Test Mode: 04



Site : Shielding Room
Condition: Line
Job No. : 12652CR
Test mode: 04
Adapter : #2

	Freq	Cable Loss	LISN Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.1924	0.04	9.72	31.98	41.74	53.93	Average
2	0.1924	0.04	9.72	39.23	48.99	63.93	QP
3	0.4637	0.07	9.77	18.89	28.73	46.63	Average
4	0.4637	0.07	9.77	30.56	40.40	56.63	QP
5	0.5020	0.07	9.77	16.76	26.60	46.00	Average
6	0.5020	0.07	9.77	27.31	37.15	56.00	QP
7	1.7529	0.12	9.81	16.95	26.88	46.00	Average
8	1.7529	0.12	9.81	30.82	40.75	56.00	QP
9	2.2015	0.13	9.81	15.51	25.45	46.00	Average
10	2.2015	0.13	9.81	29.15	39.09	56.00	QP
11	5.1937	0.16	9.94	12.64	22.74	50.00	Average
12	5.1937	0.16	9.94	22.24	32.34	60.00	QP

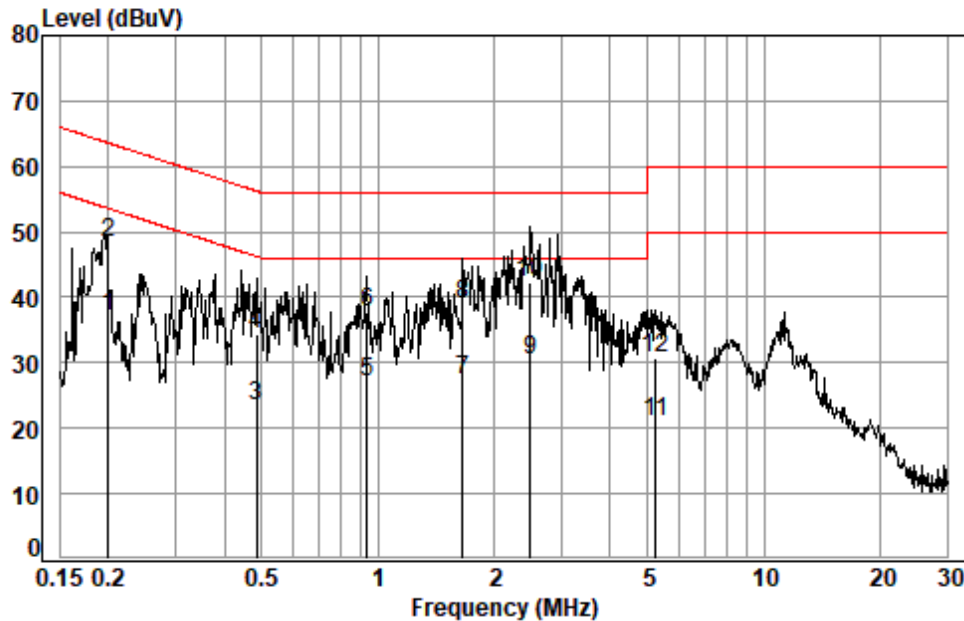


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Test Mode: 04



Site : Shielding Room
Condition: Neutral
Job No. : 12652CR
Test mode: 04
Adapter : #2

	Freq	Cable Loss	LISN Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.1997	0.04	9.72	27.44	37.20	53.62	-16.42 Average
2	0.1997	0.04	9.72	38.70	48.46	63.62	-15.16 QP
3	0.4863	0.07	9.76	13.48	23.31	46.23	-22.92 Average
4	0.4863	0.07	9.76	24.65	34.48	56.23	-21.75 QP
5	0.9381	0.10	9.78	17.24	27.12	46.00	-18.88 Average
6	0.9381	0.10	9.78	27.93	37.81	56.00	-18.19 QP
7	1.6625	0.12	9.80	17.57	27.49	46.00	-18.51 Average
8	1.6625	0.12	9.80	29.07	38.99	56.00	-17.01 QP
9	2.4868	0.13	9.82	20.61	30.56	46.00	-15.44 Average
10	2.4868	0.13	9.82	32.41	42.36	56.00	-13.64 QP
11	5.2491	0.16	9.95	10.80	20.91	50.00	-29.09 Average
12	5.2491	0.16	9.95	20.66	30.77	60.00	-29.23 QP



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7.2 Duty Cycle

Test Requirement KDB 789033 D02 II B 1

Test Method: KDB 789033 D02 II B 1

7.2.1 E.U.T. Operation

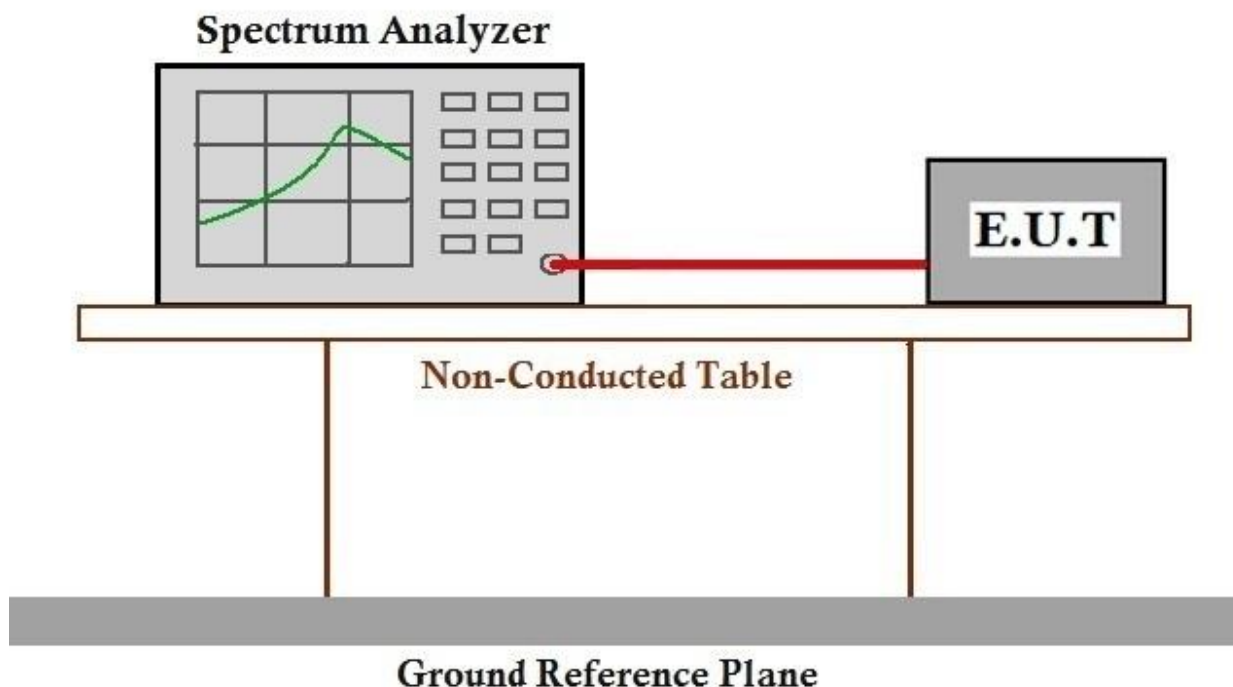
Operating Environment:

Temperature: 23.5 °C Humidity: 52.6 % RH Atmospheric Pressure: 1000 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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7.3 99% Bandwidth

Test Requirement N/A(for report only)
Test Method: KDB 789033 II D

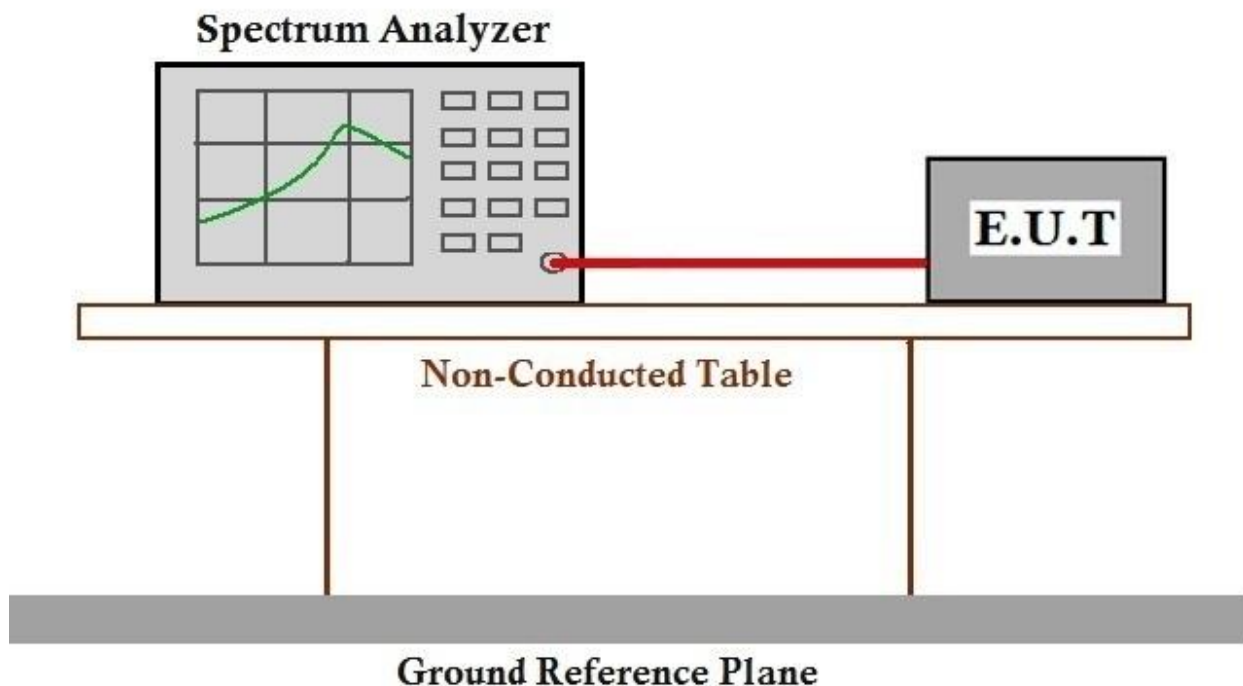
7.3.1 E.U.T. Operation

Operating Environment:
Temperature: 23.5 °C Humidity: 52.6 % RH Atmospheric Pressure: 1000 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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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: 23.5 °C

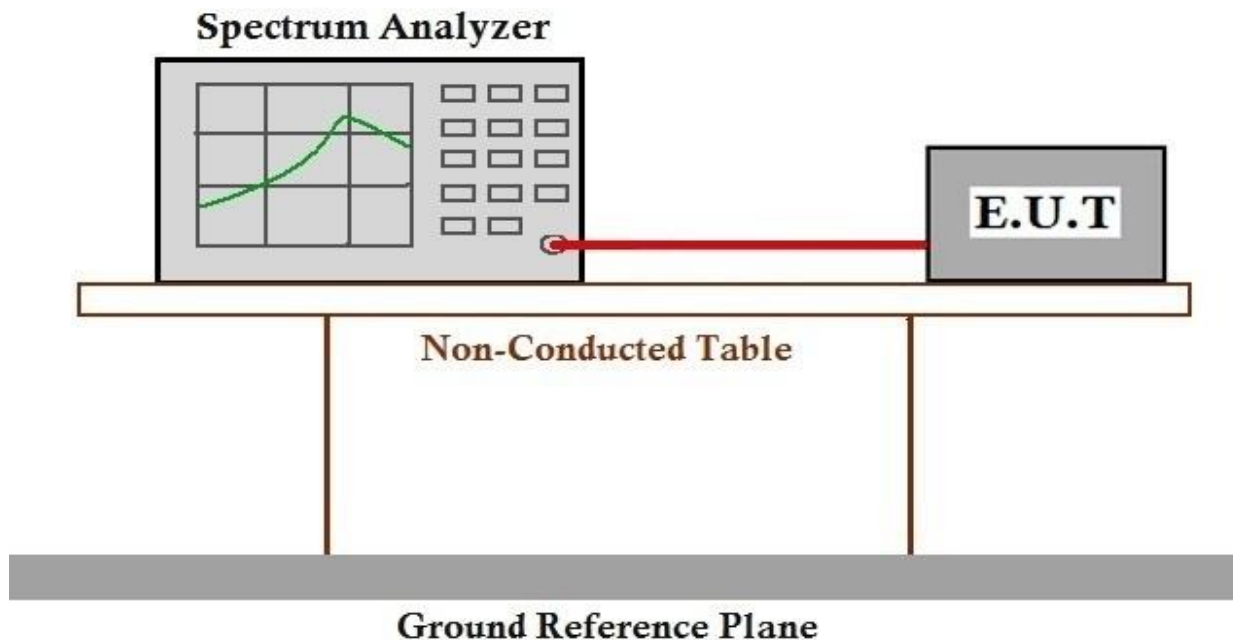
Humidity: 52.6 % RH

Atmospheric Pressure: 1000 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

Please Refer To Appendix For Details

7.5 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.

7.5.1 E.U.T. Operation

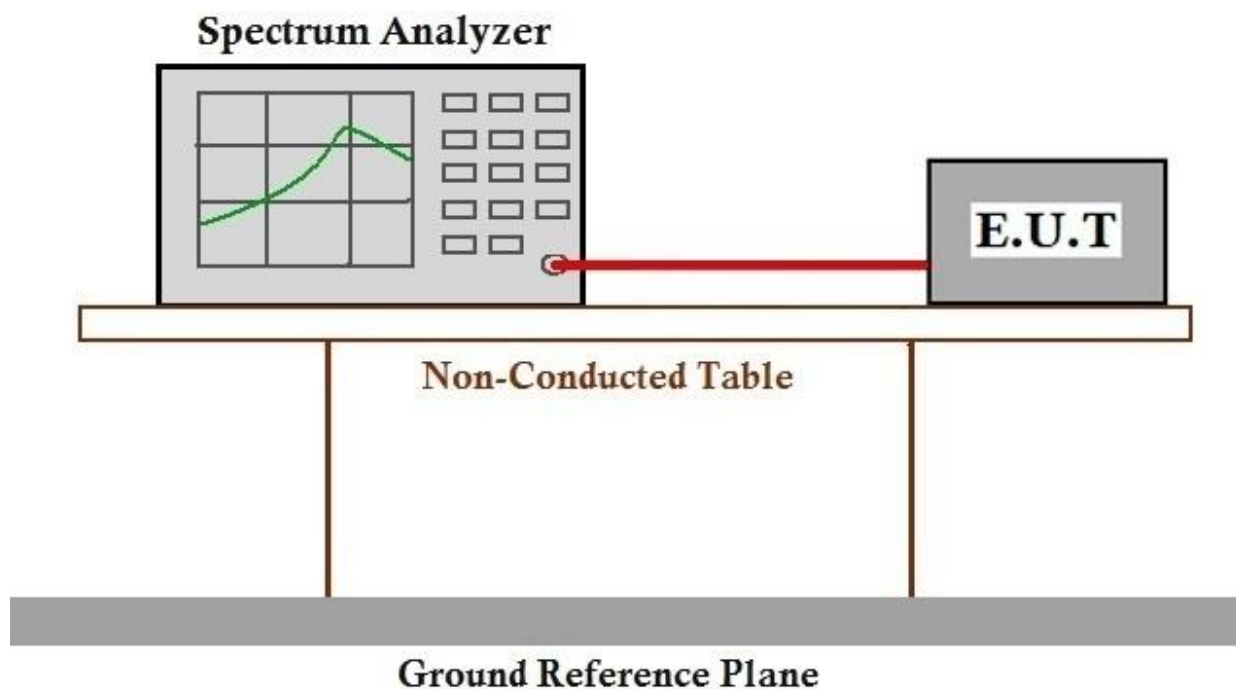
Operating Environment:

Temperature: 23.5 °C Humidity: 52.6 % RH Atmospheric Pressure: 1000 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Please Refer To Appendix For Details

7.6 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.

7.6.1 E.U.T. Operation

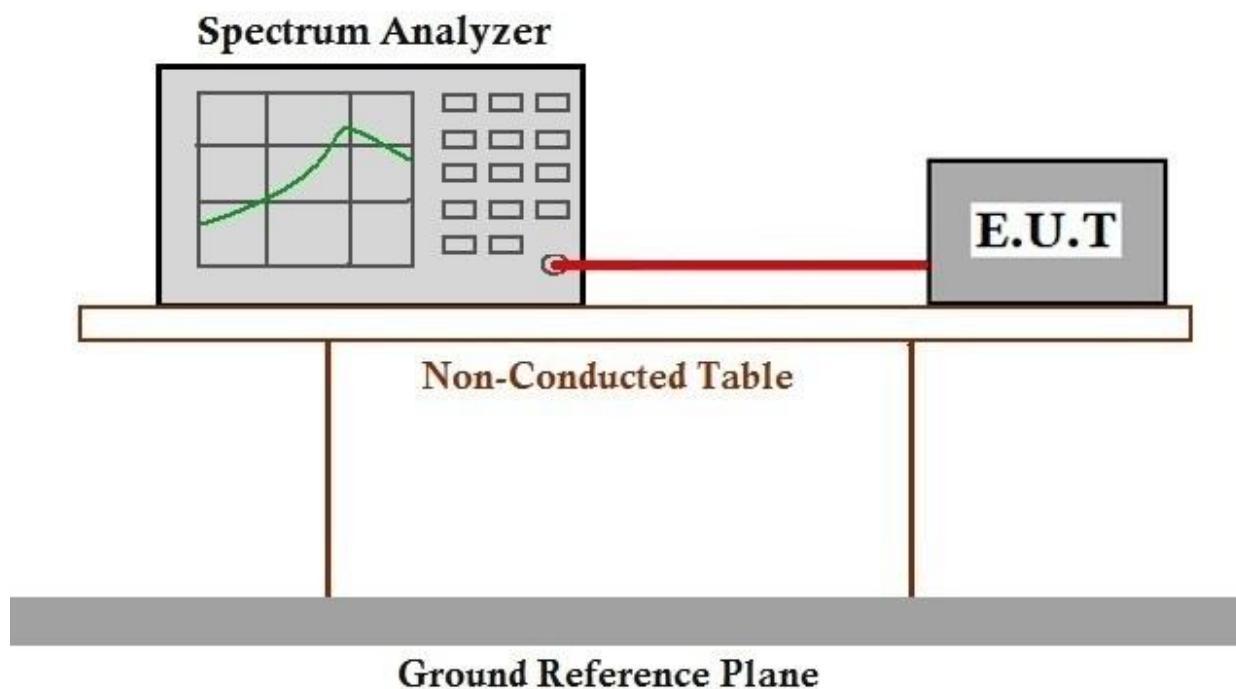
Operating Environment:

Temperature: 23.5 °C Humidity: 52.6 % RH Atmospheric Pressure: 1000 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer To Appendix For Details

7.7 Radiated Emissions

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)
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

* Frequency in CFR 15.205 Restricted Band.

Note: Frequency in non-Restricted Band:

(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.

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 21.9 °C

Humidity: 57.2 % RH

Atmospheric Pressure: 1010 mbar



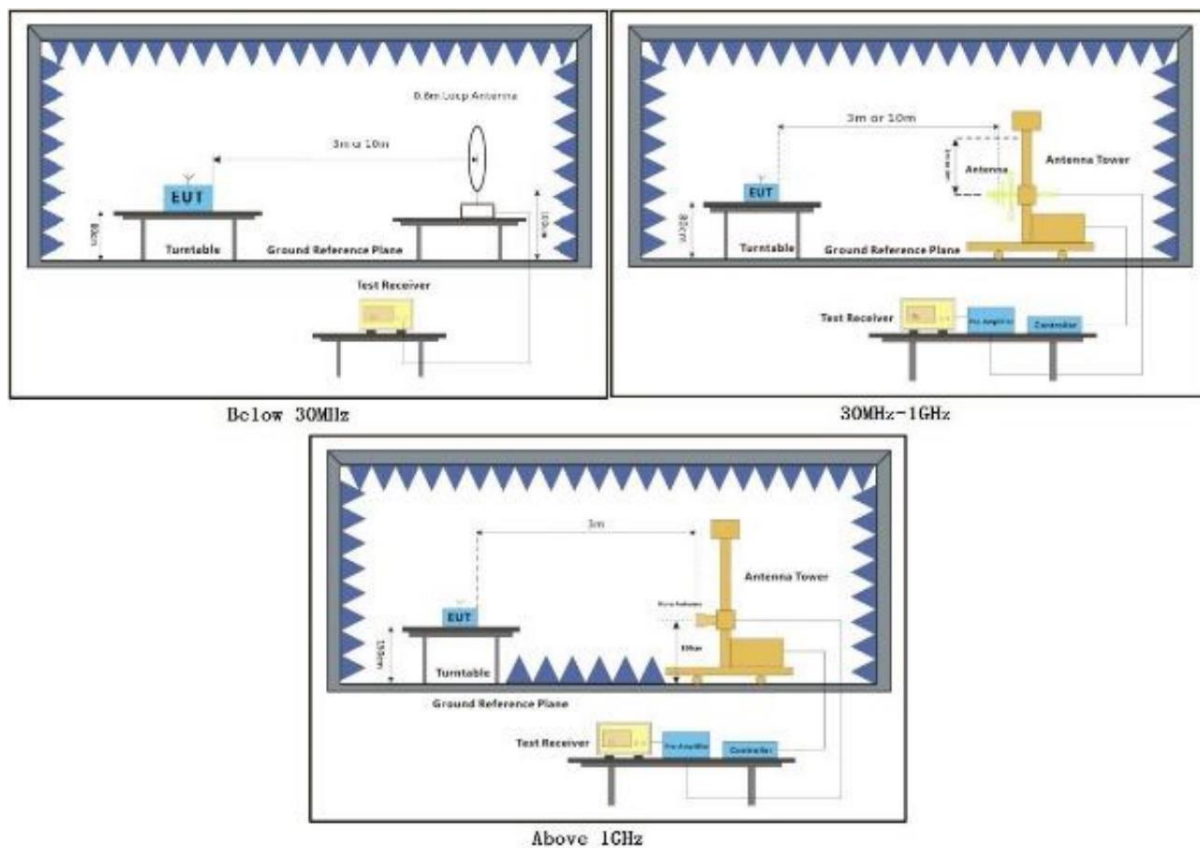
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7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

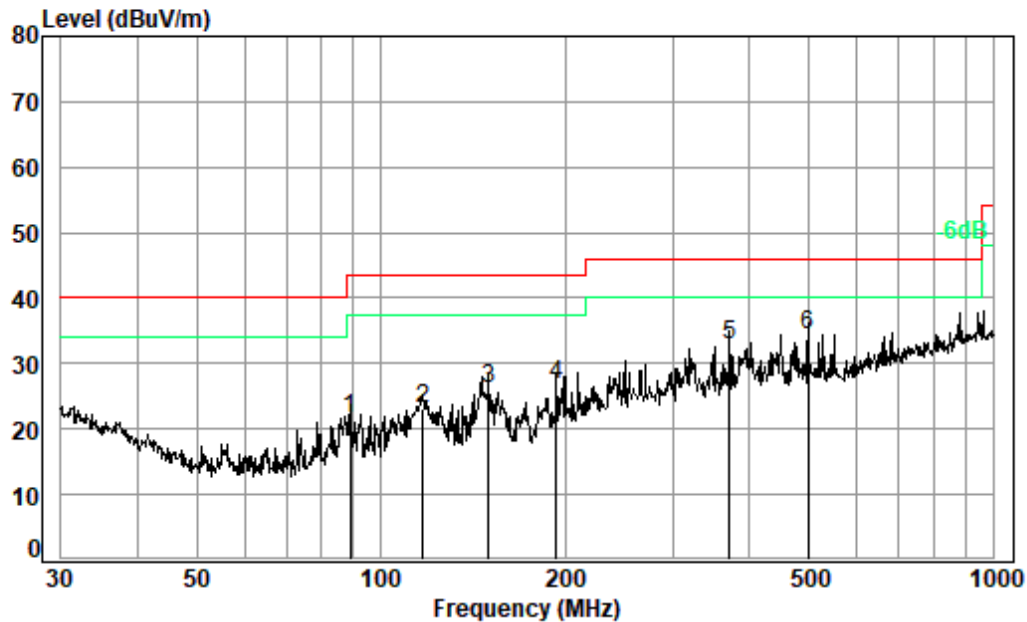
- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which 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.

Adapter1

Test Mode: 04; Polarity: Horizontal



Condition: 3m HORIZONTAL

Job No. : 12652CR

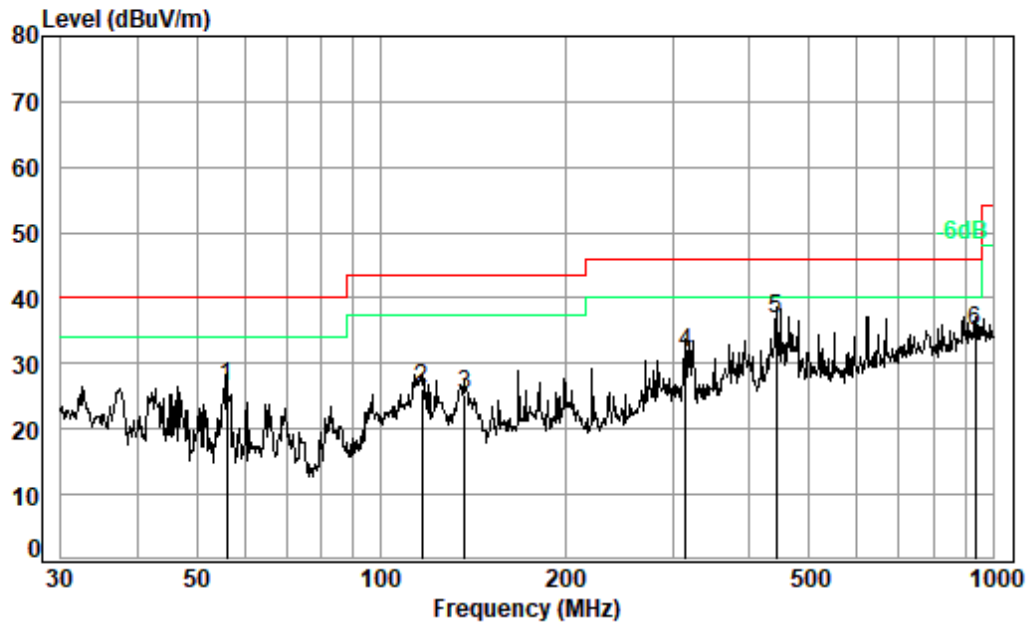
Test Mode: 04

: 1#

	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	89.28	1.29	13.03	27.62	34.89	21.59	43.50	-21.91	QP
2	116.95	1.12	13.21	27.50	36.34	23.17	43.50	-20.33	QP
3	150.01	1.16	14.70	27.34	37.76	26.28	43.50	-17.22	QP
4	193.77	1.20	15.61	27.16	37.04	26.69	43.50	-16.81	QP
5	370.70	2.22	22.20	27.25	35.72	32.89	46.00	-13.11	QP
6 pp	499.42	2.50	24.11	27.80	35.43	34.24	46.00	-11.76	QP



Test Mode: 04; Polarity: Vertical



Condition: 3m VERTICAL

Job No. : 12652CR

Test Mode: 04

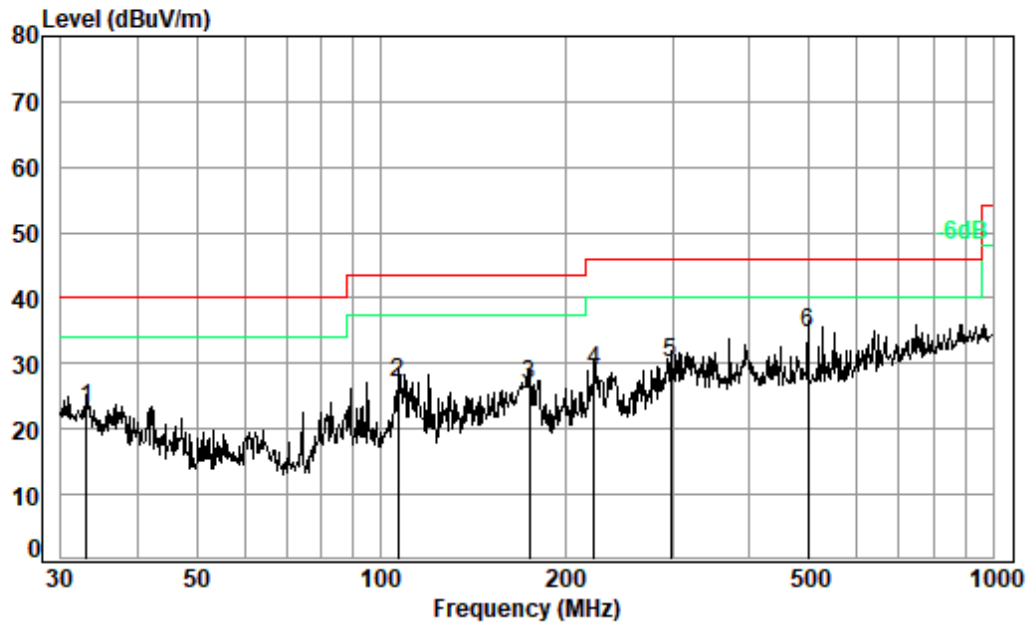
: 1#

	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	56.00	0.76	12.90	27.67	40.58	26.57	40.00	-13.43	QP
2	116.54	1.12	13.24	27.51	39.45	26.30	43.50	-17.20	QP
3	136.94	1.15	13.13	27.40	38.42	25.30	43.50	-18.20	QP
4	314.38	2.05	19.58	26.96	37.04	31.71	46.00	-14.29	QP
5 pp	443.29	2.39	22.47	27.58	39.41	36.69	46.00	-9.31	QP
6	935.55	3.54	29.20	26.98	29.34	35.10	46.00	-10.90	QP



Adapter2

Test Mode: 04; Polarity: Horizontal



Condition: 3m HORIZONTAL

Job No. : 12652CR

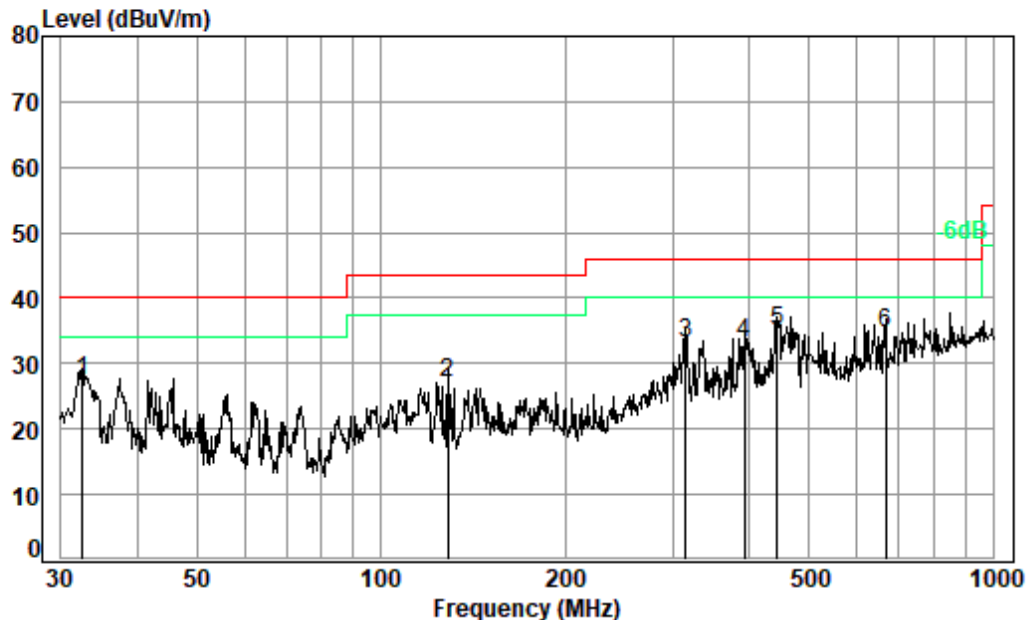
Test Mode: 04

: 2#

	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	33.09	0.63	21.17	27.73	29.17	23.24	40.00	-16.76	QP
2	106.76	1.11	13.79	27.57	39.82	27.15	43.50	-16.35	QP
3	175.04	1.18	15.50	27.23	37.39	26.84	43.50	-16.66	QP
4	222.95	1.41	16.95	27.07	37.57	28.86	46.00	-17.14	QP
5	297.22	1.98	18.88	26.88	36.10	30.08	46.00	-15.92	QP
6 pp	499.42	2.50	24.11	27.80	35.84	34.65	46.00	-11.35	QP



Test Mode: 04; Polarity: Vertical



Condition: 3m VERTICAL

Job No. : 12652CR

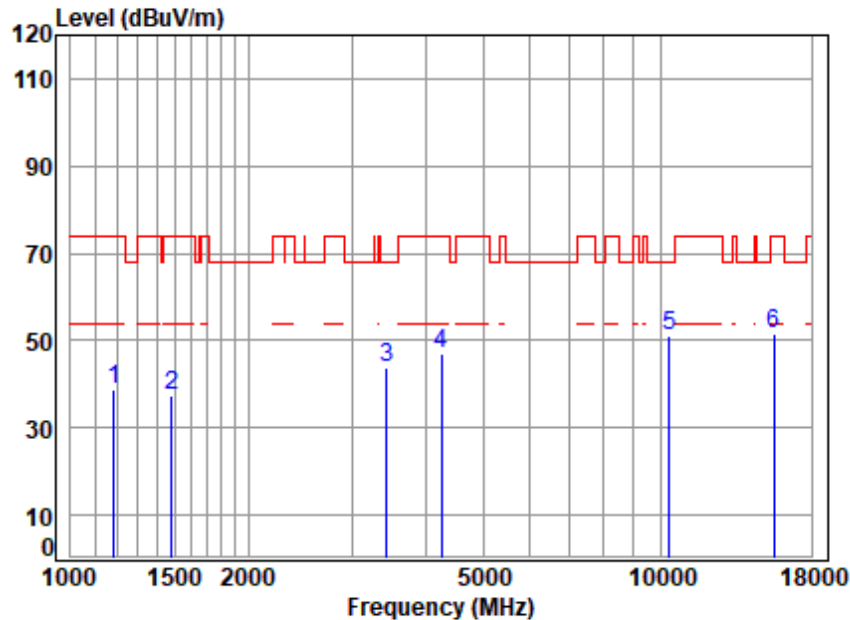
Test Mode: 04

: 2#

	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	32.52	0.63	21.34	27.73	33.09	27.33	40.00	-12.67	QP
2	128.56	1.14	12.57	27.44	40.86	27.13	43.50	-16.37	QP
3	314.38	2.05	19.58	26.96	38.47	33.14	46.00	-12.86	QP
4	392.10	2.28	22.17	27.36	35.95	33.04	46.00	-12.96	QP
5 pp	444.85	2.40	22.54	27.59	37.78	35.13	46.00	-10.87	QP
6	668.14	2.84	27.04	27.98	32.86	34.76	46.00	-11.24	QP



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

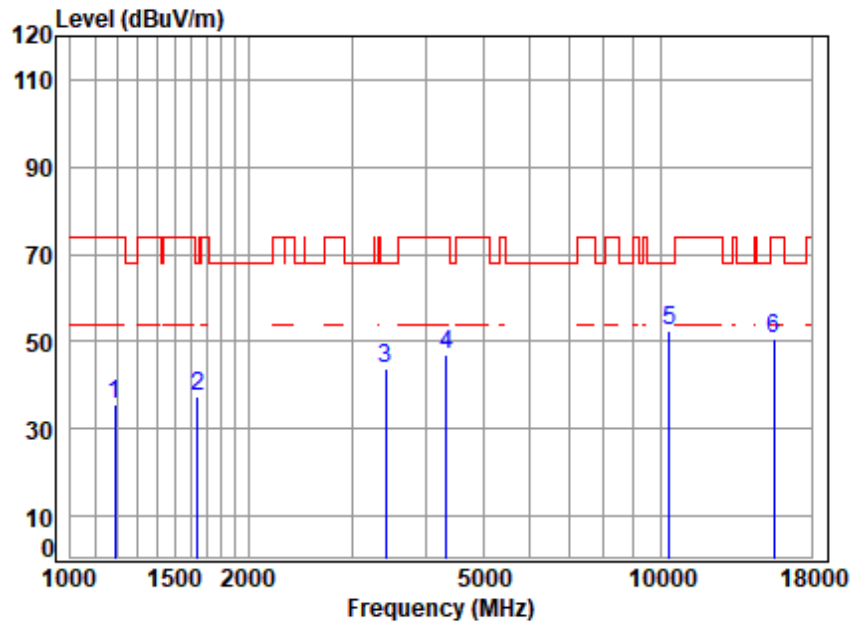


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 TX RSE
Note : 5G WIFI 11A

		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	1185.936	2.74	24.53	39.75	51.35	38.87	74.00	-35.13	peak
2	1485.841	3.24	25.75	39.94	48.54	37.59	74.00	-36.41	peak
3	3435.590	5.44	31.60	41.03	48.00	44.01	68.20	-24.19	peak
4	4254.921	6.53	33.17	41.65	48.72	46.77	74.00	-27.23	peak
5	10360.000	10.57	37.76	37.29	40.05	51.09	68.20	-17.11	peak
6	15540.000	13.97	40.72	40.38	37.25	51.56	74.00	-22.44	peak



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

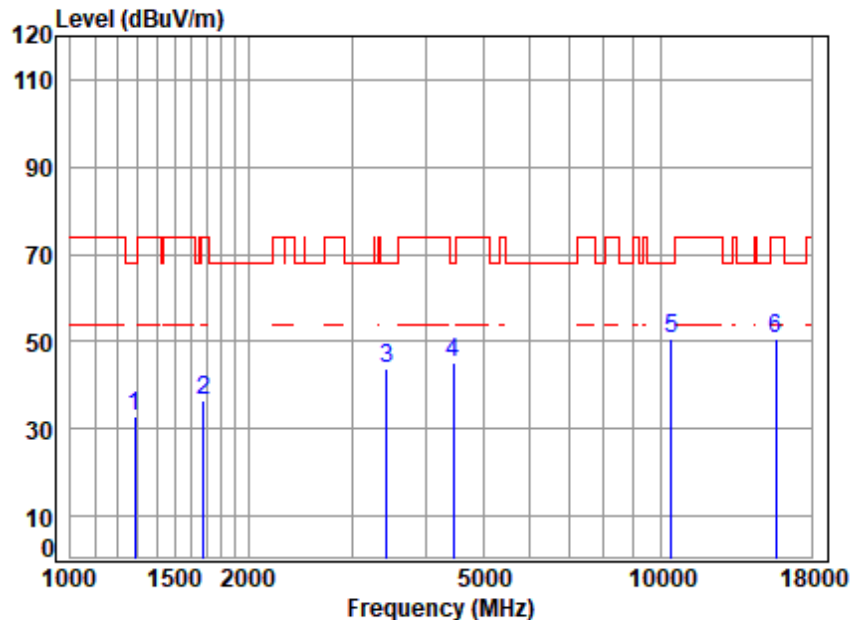


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	39.75	48.12	35.65	74.00	-38.35	peak
2	1639.274	3.38	26.42	40.03	47.79	37.56	68.20	-30.64	peak
3	3425.675	5.43	31.59	41.02	47.76	43.76	68.20	-24.44	peak
4	4341.886	6.61	33.33	41.73	48.71	46.92	74.00	-27.08	peak
5	10360.000	10.57	37.76	37.29	41.31	52.35	68.20	-15.85	peak
6	15540.000	13.97	40.72	40.38	36.31	50.62	74.00	-23.38	peak



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

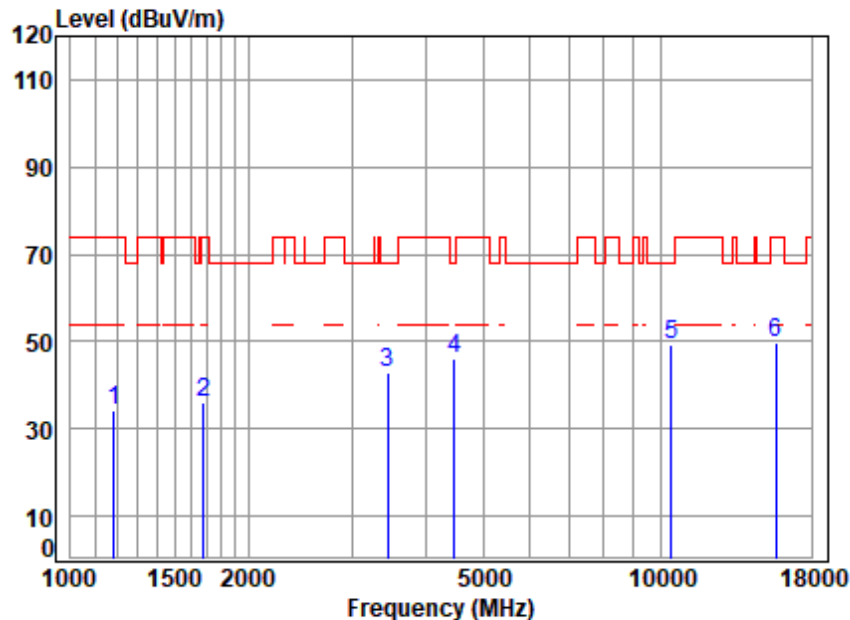


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5220 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1285.904	2.92	24.96	39.82	44.97	33.03	68.20	-35.17	peak
2	1677.621	3.41	26.58	40.05	46.55	36.49	74.00	-37.51	peak
3	3435.590	5.44	31.60	41.03	47.77	43.78	68.20	-24.42	peak
4	4456.315	6.72	33.53	41.84	46.61	45.02	68.20	-23.18	peak
5	10440.000	10.55	37.72	37.34	39.90	50.83	68.20	-17.37	peak
6	15660.000	14.02	40.80	40.44	36.19	50.57	74.00	-23.43	peak



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

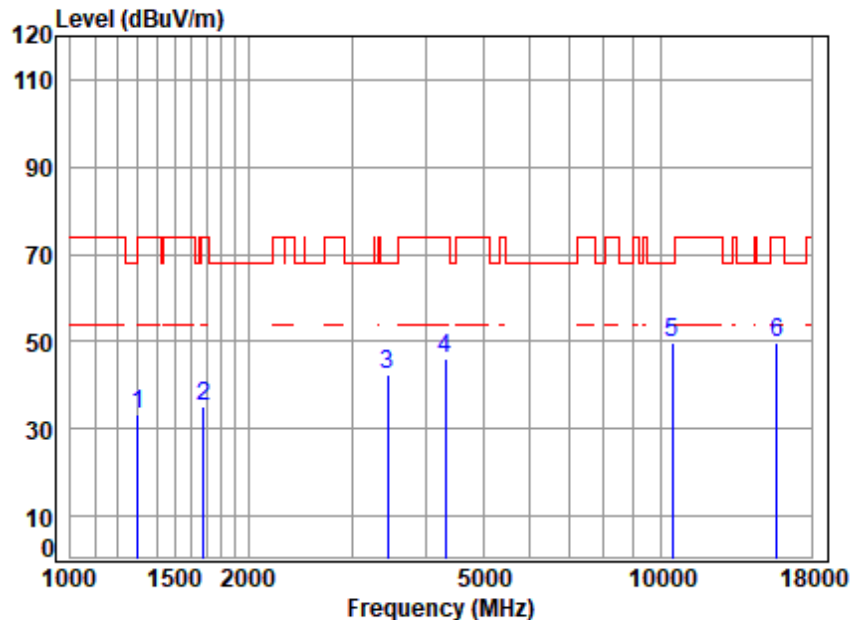


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5220 TX RSE
Note : 5G WIFI 11A

		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	1182.513	2.73	24.51	39.75	46.62	34.11	74.00	-39.89	peak
2	1677.621	3.41	26.58	40.05	45.97	35.91	74.00	-38.09	peak
3	3445.535	5.45	31.62	41.04	46.81	42.84	68.20	-25.36	peak
4	4469.214	6.73	33.55	41.85	47.71	46.14	68.20	-22.06	peak
5	10440.000	10.55	37.72	37.34	38.23	49.16	68.20	-19.04	peak
6	15660.000	14.02	40.80	40.44	35.40	49.78	74.00	-24.22	peak



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

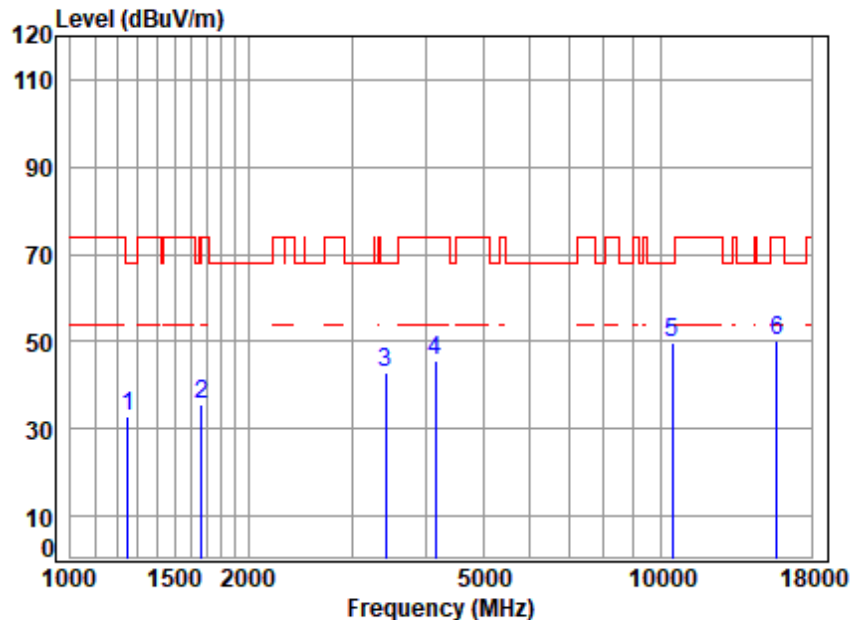


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1300.858	2.94	25.03	39.83	45.29	33.43	74.00	-40.57	peak
2	1677.621	3.41	26.58	40.05	45.17	35.11	74.00	-38.89	peak
3	3445.535	5.45	31.62	41.04	46.22	42.25	68.20	-25.95	peak
4	4316.859	6.59	33.28	41.71	47.74	45.90	74.00	-28.10	peak
5	10480.000	10.54	37.71	37.36	38.76	49.65	68.20	-18.55	peak
6	15720.000	14.04	40.83	40.47	35.31	49.71	74.00	-24.29	peak



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1249.269	2.85	24.81	39.79	45.11	32.98	68.20	-35.22	peak
2	1667.951	3.40	26.54	40.04	45.79	35.69	74.00	-38.31	peak
3	3425.675	5.43	31.59	41.02	46.75	42.75	68.20	-25.45	peak
4	4157.664	6.44	33.00	41.56	47.54	45.42	74.00	-28.58	peak
5	10480.000	10.54	37.71	37.36	38.71	49.60	68.20	-18.60	peak
6	15720.000	14.04	40.83	40.47	35.86	50.26	74.00	-23.74	peak

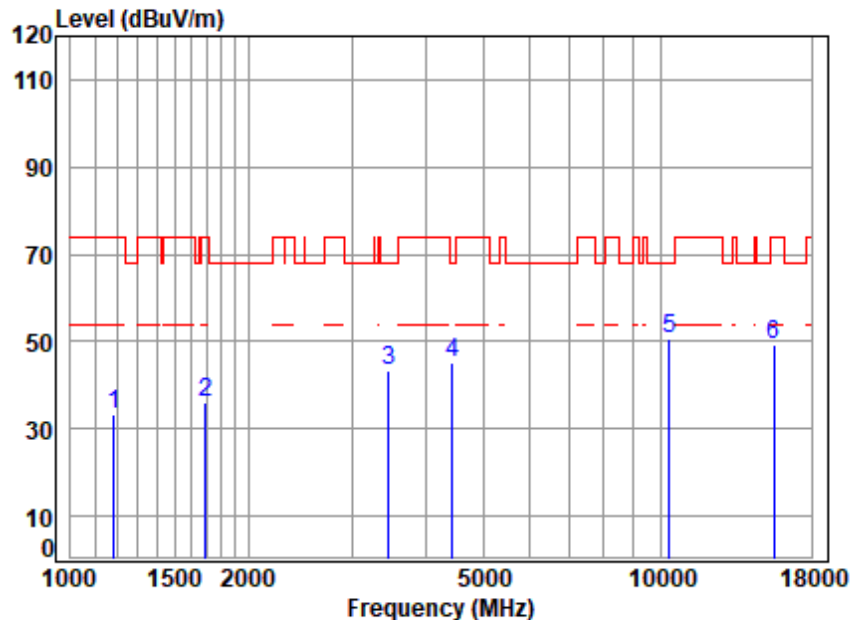


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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low

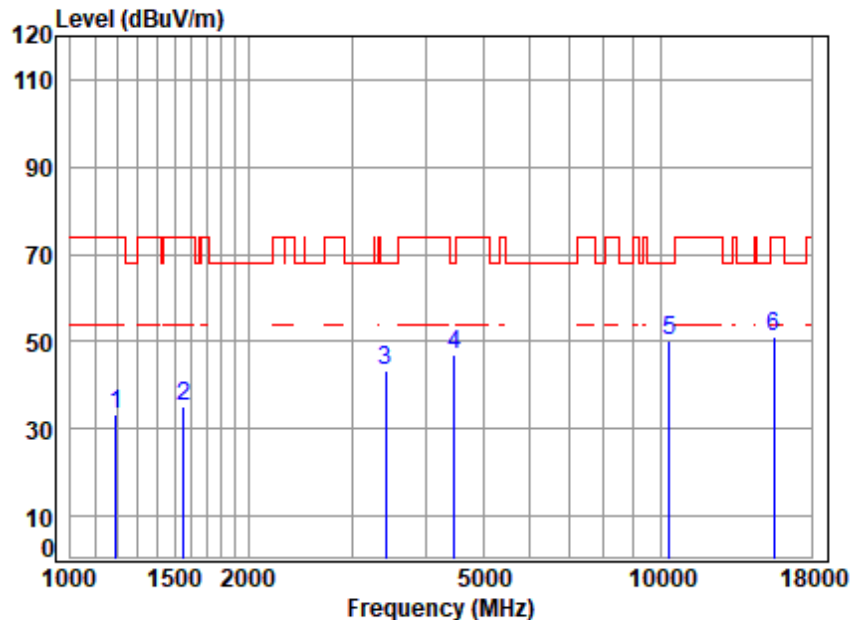


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	39.75	45.65	33.17	74.00	-40.83	peak
2	1692.231	3.42	26.64	40.06	46.19	36.19	74.00	-37.81	peak
3	3455.508	5.47	31.63	41.04	47.18	43.24	68.20	-24.96	peak
4	4443.453	6.71	33.50	41.82	46.92	45.31	68.20	-22.89	peak
5	10360.000	10.57	37.76	37.29	39.80	50.84	68.20	-17.36	peak
6	15540.000	13.97	40.72	40.38	34.82	49.13	74.00	-24.87	peak



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

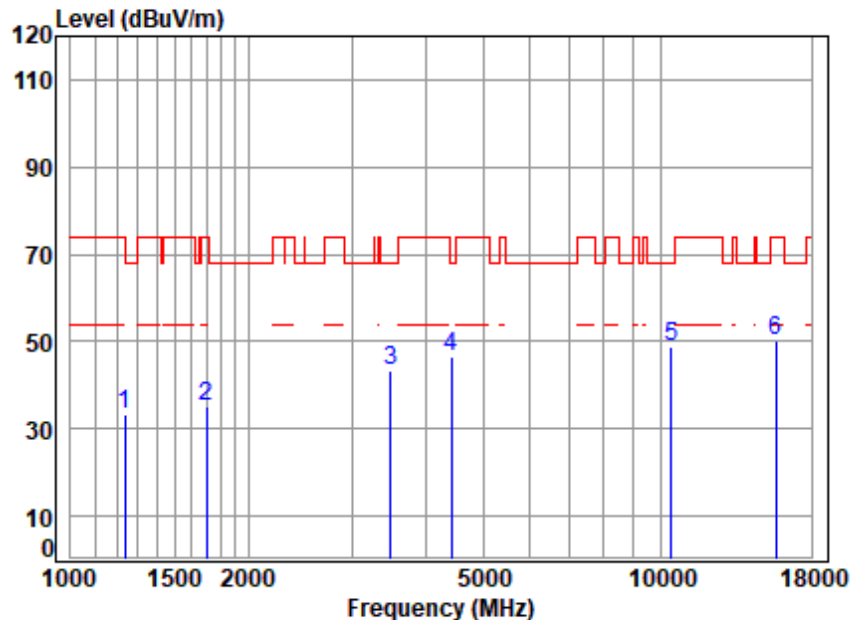


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 TX RSE
Note : 5G WIFI 11N20

		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	1192.811	2.75	24.56	39.75	45.87	33.43	74.00	-40.57	peak
2	1556.169	3.31	26.06	39.98	45.74	35.13	74.00	-38.87	peak
3	3415.787	5.42	31.57	41.02	47.45	43.42	68.20	-24.78	peak
4	4469.214	6.73	33.55	41.85	48.51	46.94	68.20	-21.26	peak
5	10360.000	10.57	37.76	37.29	39.31	50.35	68.20	-17.85	peak
6	15540.000	13.97	40.72	40.38	36.83	51.14	74.00	-22.86	peak



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



Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5220 TX RSE
Note : 5G WIFI 11N20

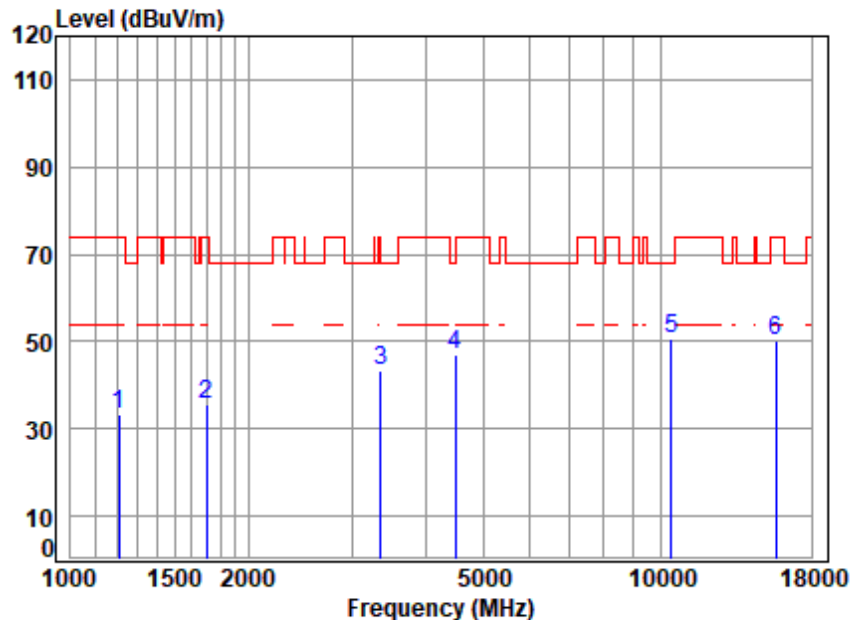
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1234.909	2.83	24.74	39.78	45.40	33.19	74.00	-40.81	peak
2	1697.129	3.43	26.66	40.06	45.12	35.15	74.00	-38.85	peak
3	3485.601	5.50	31.68	41.07	47.04	43.15	68.20	-25.05	peak
4	4417.841	6.68	33.46	41.80	48.02	46.36	68.20	-21.84	peak
5	10440.000	10.55	37.72	37.34	38.07	49.00	68.20	-19.20	peak
6	15660.000	14.02	40.80	40.44	35.95	50.33	74.00	-23.67	peak



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

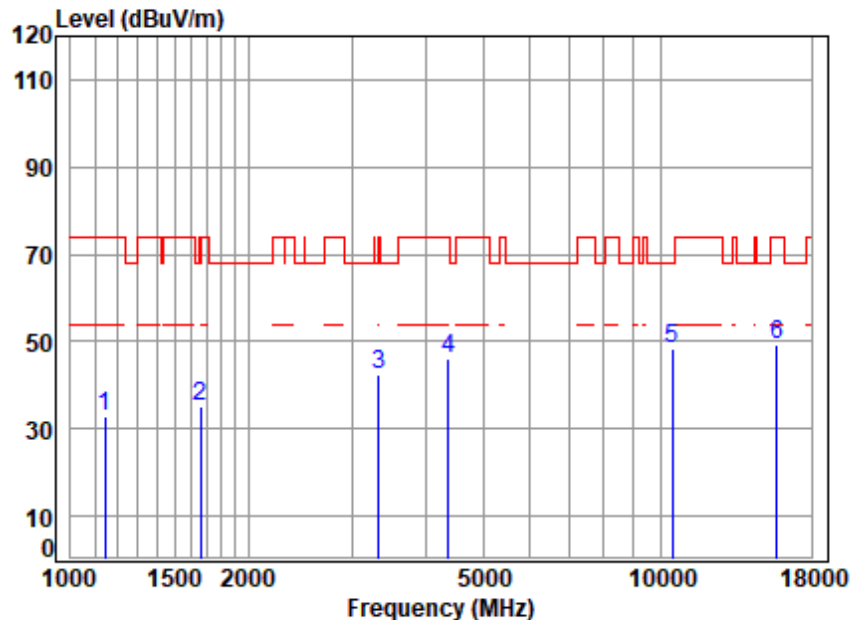


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5220 TX RSE
Note : 5G WIFI 11N20

		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	1206.682	2.78	24.62	39.76	45.77	33.41	74.00	-40.59	peak
2	1697.129	3.43	26.66	40.06	45.69	35.72	74.00	-38.28	peak
3	3357.061	5.34	31.48	40.97	47.44	43.29	74.00	-30.71	peak
4	4482.150	6.74	33.57	41.86	48.53	46.98	68.20	-21.22	peak
5	10440.000	10.55	37.72	37.34	39.77	50.70	68.20	-17.50	peak
6	15660.000	14.02	40.80	40.44	35.84	50.22	74.00	-23.78	peak



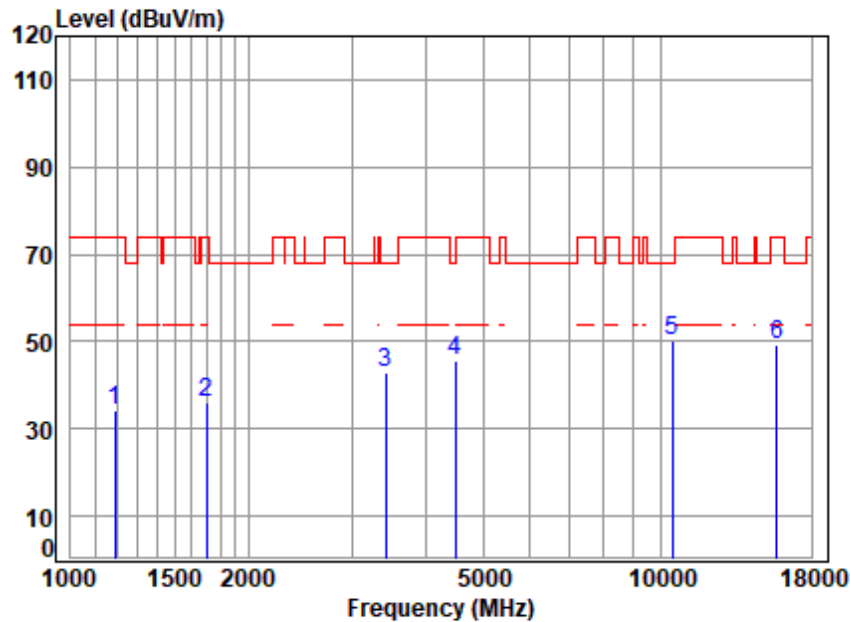
Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
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	1142.201	2.66	24.32	39.72	45.57	32.83	74.00	-41.17	peak
2	1658.337	3.40	26.50	40.04	45.17	35.03	68.20	-33.17	peak
3	3328.077	5.30	31.44	40.95	46.78	42.57	68.20	-25.63	peak
4	4367.058	6.64	33.37	41.75	47.87	46.13	74.00	-27.87	peak
5	10480.000	10.54	37.71	37.36	37.43	48.32	68.20	-19.88	peak
6	15720.000	14.04	40.83	40.47	35.06	49.46	74.00	-24.54	peak

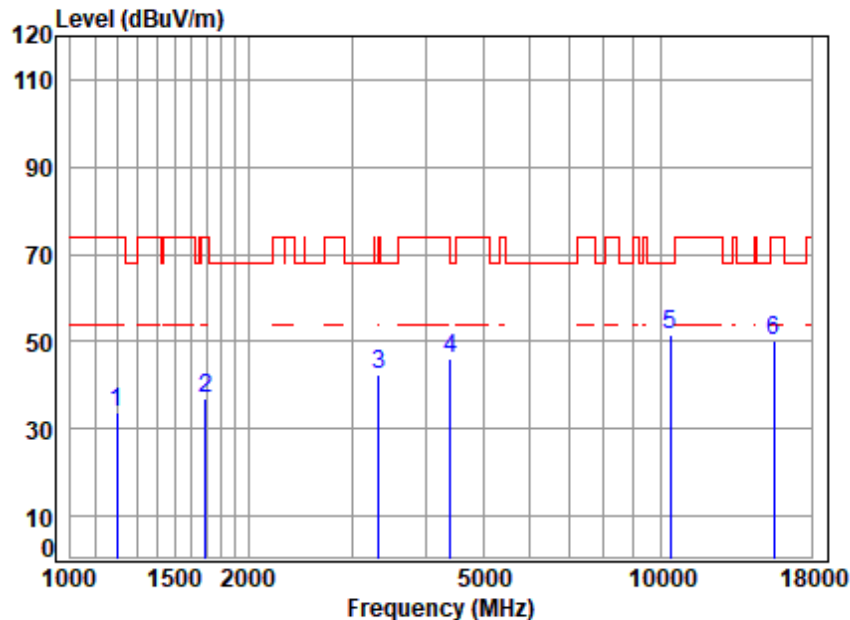
Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	39.75	46.49	34.02	74.00	-39.98	peak
2	1697.129	3.43	26.66	40.06	45.95	35.98	74.00	-38.02	peak
3	3425.675	5.43	31.59	41.02	47.10	43.10	68.20	-25.10	peak
4	4482.150	6.74	33.57	41.86	47.19	45.64	68.20	-22.56	peak
5	10480.000	10.54	37.71	37.36	39.26	50.15	68.20	-18.05	peak
6	15720.000	14.04	40.83	40.47	34.96	49.36	74.00	-24.64	peak

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

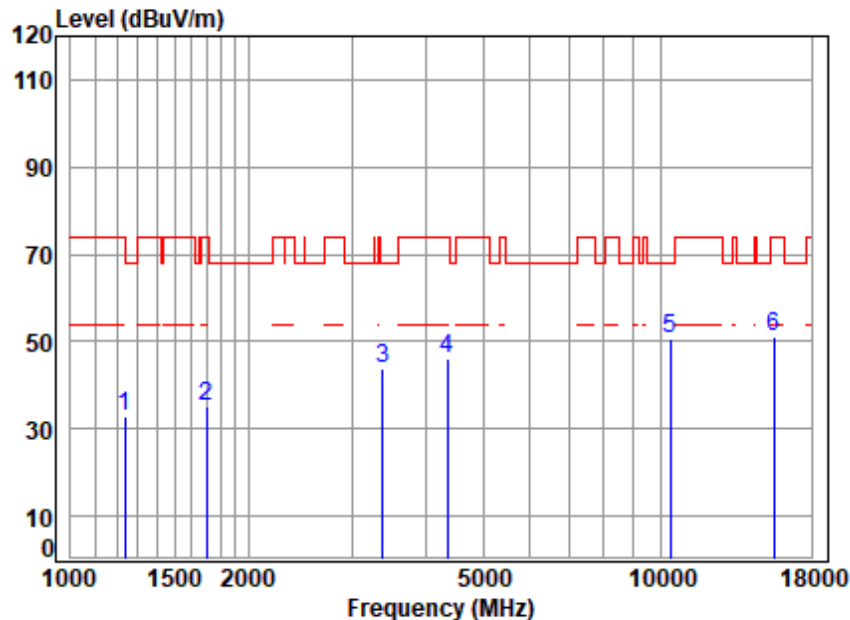


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5190 TX RSE
Note : 5G WIFI 11N40

		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	1196.264	2.76	24.57	39.76	46.16	33.73	74.00	-40.27	peak
2	1692.231	3.42	26.64	40.06	46.80	36.80	74.00	-37.20	peak
3	3328.077	5.30	31.44	40.95	46.43	42.22	68.20	-25.98	peak
4	4405.090	6.67	33.44	41.79	47.55	45.87	68.20	-22.33	peak
5	10380.000	10.57	37.75	37.30	40.66	51.68	68.20	-16.52	peak
6	15570.000	13.98	40.74	40.40	36.04	50.36	74.00	-23.64	peak



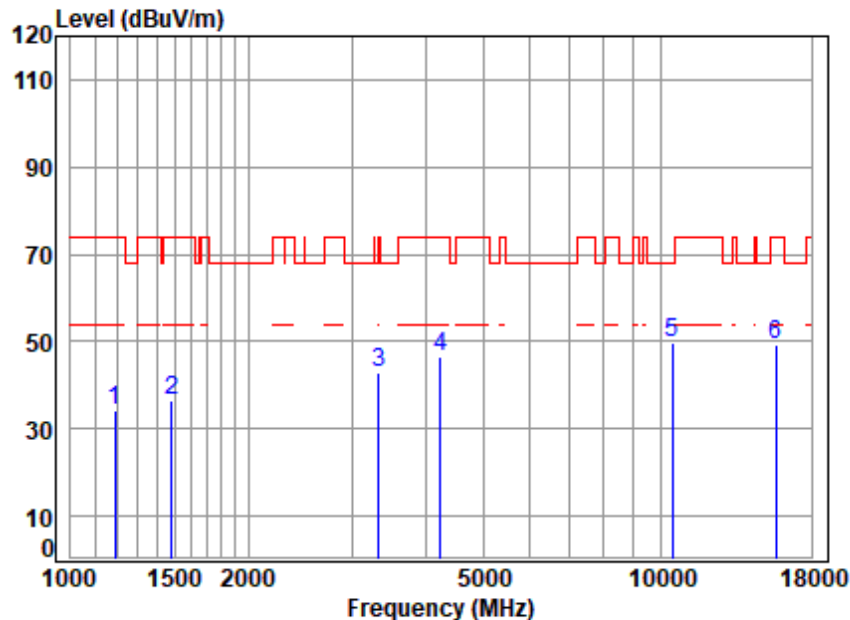
Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
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	1234.909	2.83	24.74	39.78	44.84	32.63	74.00	-41.37	peak
2	1697.129	3.43	26.66	40.06	45.21	35.24	74.00	-38.76	peak
3	3376.523	5.37	31.51	40.99	47.85	43.74	68.20	-24.46	peak
4	4354.454	6.63	33.35	41.74	47.62	45.86	74.00	-28.14	peak
5	10380.000	10.57	37.75	37.30	39.74	50.76	68.20	-17.44	peak
6	15570.000	13.98	40.74	40.40	36.70	51.02	74.00	-22.98	peak

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



Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5230 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	39.75	46.68	34.21	74.00	-39.79	peak
2	1485.841	3.24	25.75	39.94	47.24	36.29	74.00	-37.71	peak
3	3328.077	5.30	31.44	40.95	46.92	42.71	68.20	-25.49	peak
4	4230.396	6.51	33.13	41.63	48.59	46.60	74.00	-27.40	peak
5	10460.000	10.54	37.72	37.35	39.01	49.92	68.20	-18.28	peak
6	15690.000	14.03	40.82	40.45	34.80	49.20	74.00	-24.80	peak

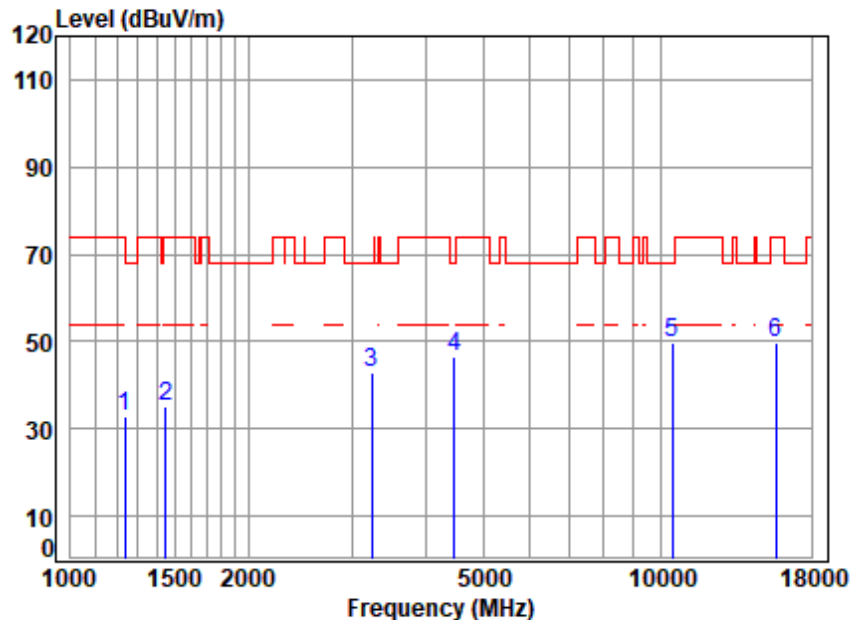


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Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

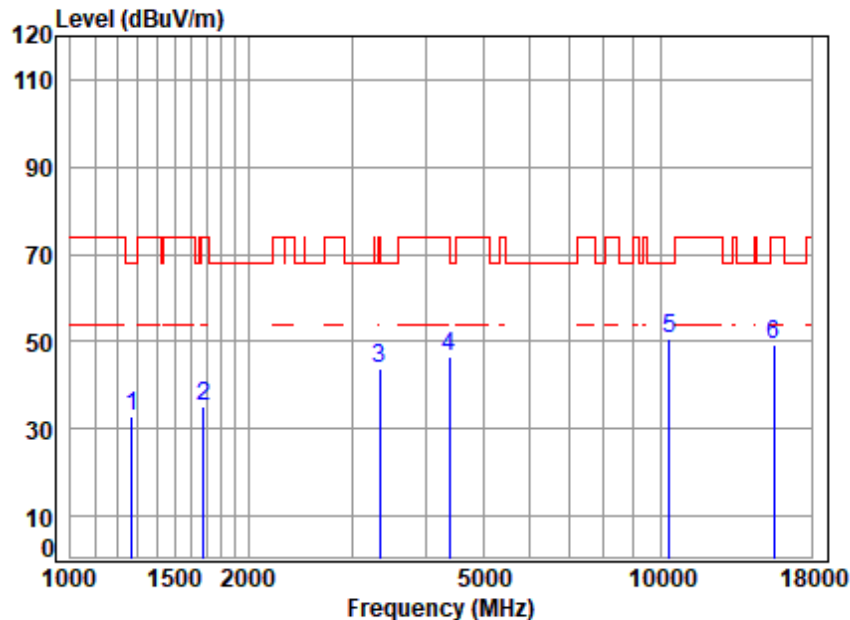


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5230 TX RSE
Note : 5G WIFI 11N40

		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	1238.483	2.83	24.76	39.79	45.06	32.86	74.00	-41.14	peak
2	1447.688	3.18	25.61	39.92	46.47	35.34	74.00	-38.66	peak
3	3242.619	5.19	31.30	40.89	47.36	42.96	68.20	-25.24	peak
4	4469.214	6.73	33.55	41.85	47.93	46.36	68.20	-21.84	peak
5	10460.000	10.54	37.72	37.35	38.99	49.90	68.20	-18.30	peak
6	15690.000	14.03	40.82	40.45	35.51	49.91	74.00	-24.09	peak



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



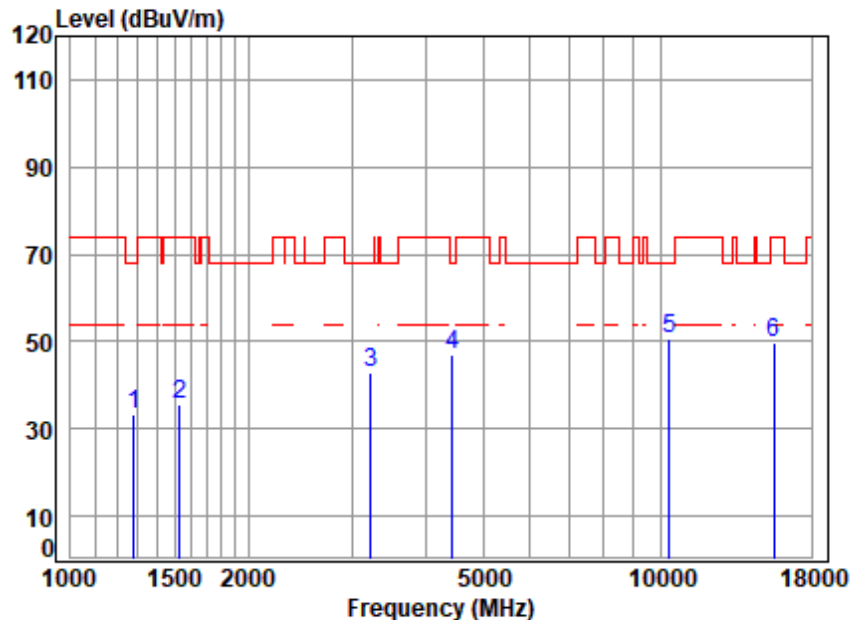
Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 TX RSE
Note : 5G WIFI 11AC20

		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	1271.123	2.89	24.90	39.81	44.99	32.97	68.20	-35.23	peak
2	1682.477	3.42	26.60	40.05	45.21	35.18	74.00	-38.82	peak
3	3337.710	5.32	31.45	40.96	48.13	43.94	74.00	-30.06	peak
4	4392.376	6.66	33.42	41.78	48.04	46.34	74.00	-27.66	peak
5	10360.000	10.57	37.76	37.29	39.72	50.76	68.20	-17.44	peak
6	15540.000	13.97	40.72	40.38	34.95	49.26	74.00	-24.74	peak



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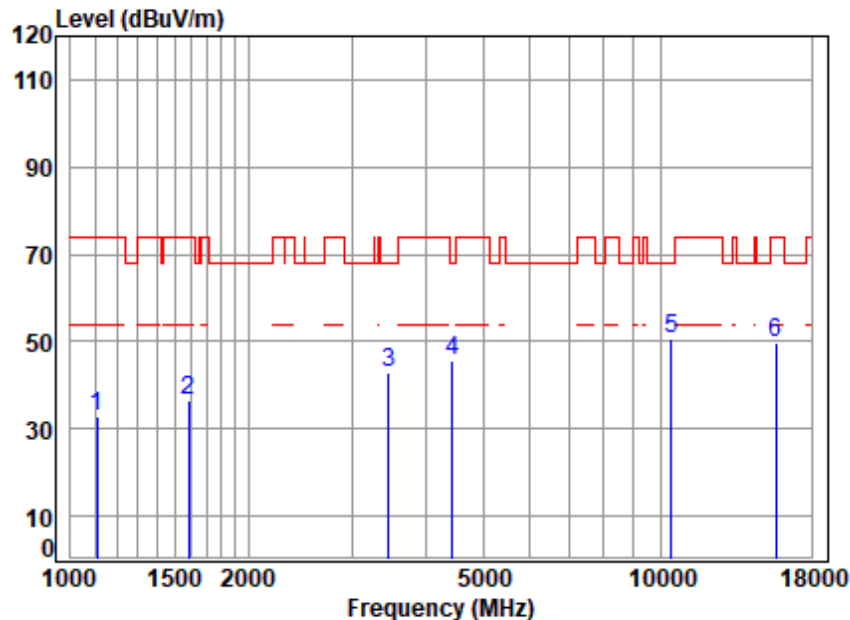
Test Mode: 04; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: Low



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
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	1282.193	2.91	24.95	39.82	45.12	33.16	68.20	-35.04	peak
2	1529.414	3.29	25.94	39.97	46.41	35.67	74.00	-38.33	peak
3	3223.928	5.17	31.27	40.88	47.19	42.75	68.20	-25.45	peak
4	4443.453	6.71	33.50	41.82	48.46	46.85	68.20	-21.35	peak
5	10360.000	10.57	37.76	37.29	39.83	50.87	68.20	-17.33	peak
6	15540.000	13.97	40.72	40.38	35.40	49.71	74.00	-24.29	peak

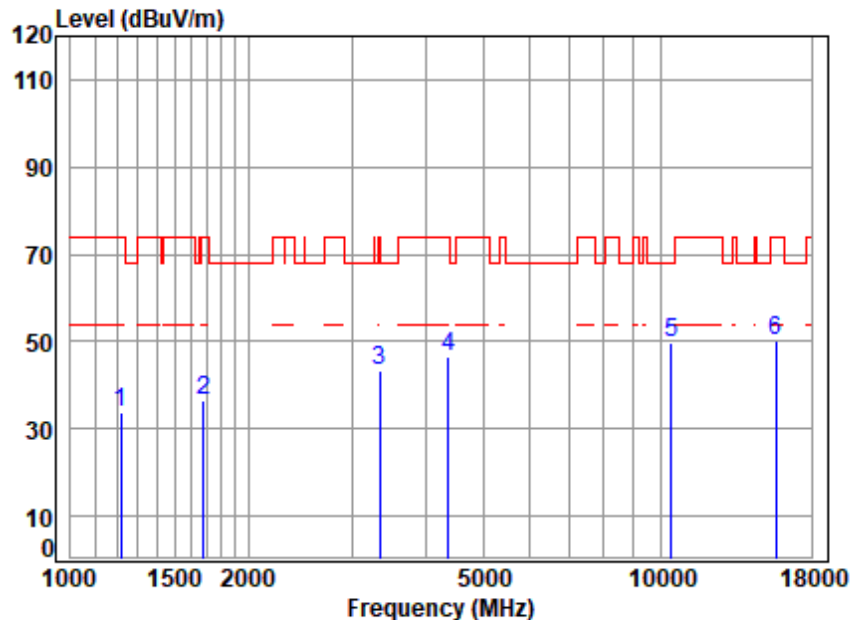
Test Mode: 04; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: middle



Site : chamber
 Condition: 3m HORIZONTAL
 Job No : 12652CR
 Mode : 5220 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	1109.660	2.59	24.16	39.69	45.63	32.69	74.00	-41.31	peak
2	1587.975	3.34	26.20	40.00	46.85	36.39	74.00	-37.61	peak
3	3465.510	5.48	31.65	41.05	46.65	42.73	68.20	-25.47	peak
4	4443.453	6.71	33.50	41.82	47.46	45.85	68.20	-22.35	peak
5	10440.000	10.55	37.72	37.34	39.84	50.77	68.20	-17.43	peak
6	15660.000	14.02	40.80	40.44	35.45	49.83	74.00	-24.17	peak

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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5220 TX RSE
Note : 5G WIFI 11AC20

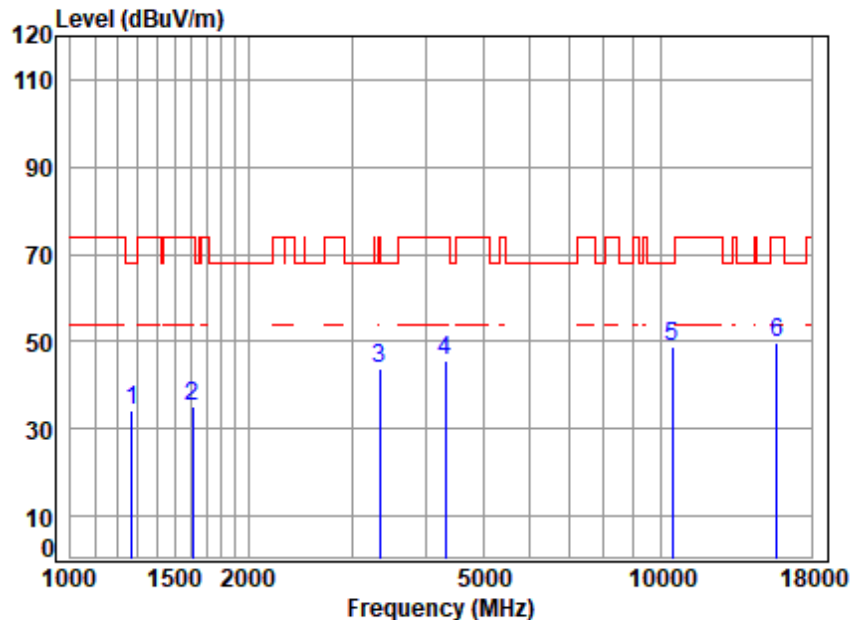
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1217.190	2.80	24.67	39.77	46.02	33.72	74.00	-40.28	peak
2	1677.621	3.41	26.58	40.05	46.45	36.39	74.00	-37.61	peak
3	3347.371	5.33	31.47	40.97	47.42	43.25	74.00	-30.75	peak
4	4367.058	6.64	33.37	41.75	48.18	46.44	74.00	-27.56	peak
5	10440.000	10.55	37.72	37.34	38.64	49.57	68.20	-18.63	peak
6	15660.000	14.02	40.80	40.44	35.93	50.31	74.00	-23.69	peak



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

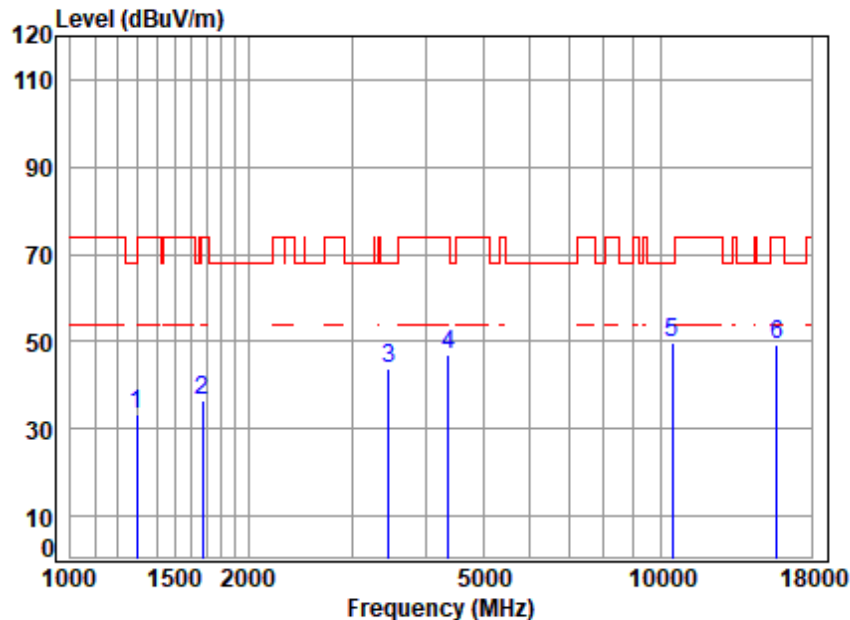


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 TX RSE
Note : 5G WIFI 11AC20

		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	1271.123	2.89	24.90	39.81	46.16	34.14	68.20	-34.06	peak
2	1611.091	3.36	26.30	40.01	45.57	35.22	74.00	-38.78	peak
3	3347.371	5.33	31.47	40.97	48.03	43.86	74.00	-30.14	peak
4	4316.859	6.59	33.28	41.71	47.41	45.57	74.00	-28.43	peak
5	10480.000	10.54	37.71	37.36	37.74	48.63	68.20	-19.57	peak
6	15720.000	14.04	40.83	40.47	35.24	49.64	74.00	-24.36	peak



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

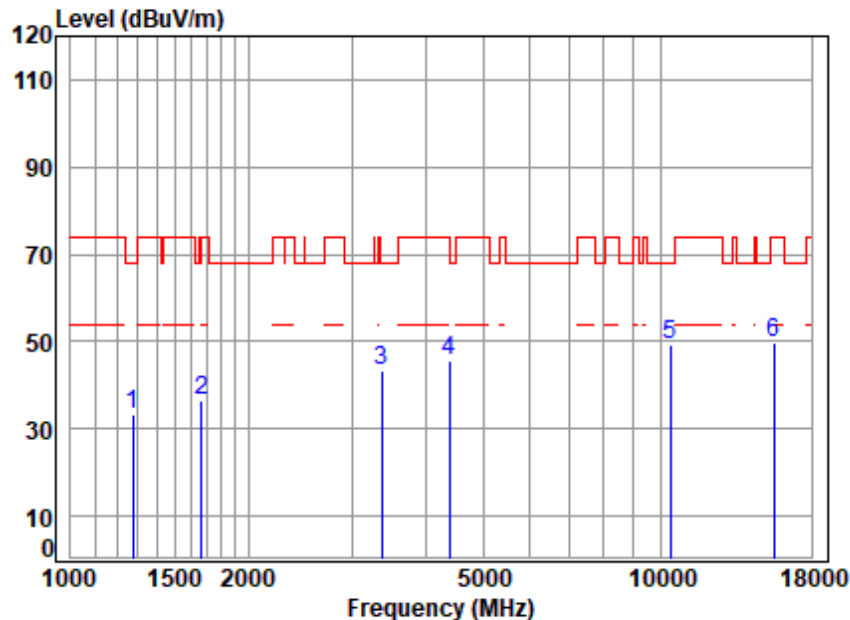


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 TX RSE
Note : 5G WIFI 11AC20

	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	1293.359	2.93	25.00	39.82	45.28	33.39	68.20	-34.81	peak
2	1672.779	3.41	26.56	40.05	46.76	36.68	74.00	-37.32	peak
3	3455.508	5.47	31.63	41.04	47.83	43.89	68.20	-24.31	peak
4	4367.058	6.64	33.37	41.75	48.79	47.05	74.00	-26.95	peak
5	10480.000	10.54	37.71	37.36	38.95	49.84	68.20	-18.36	peak
6	15720.000	14.04	40.83	40.47	34.73	49.13	74.00	-24.87	peak



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



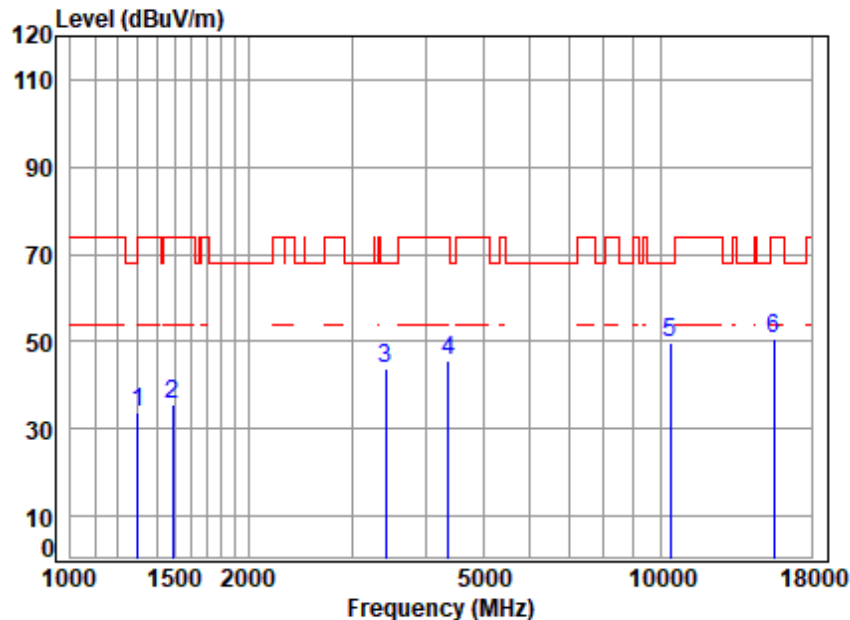
Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5190 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1274.802	2.90	24.92	39.81	45.34	33.35	68.20	-34.85	peak
2	1667.951	3.40	26.54	40.04	46.62	36.52	74.00	-37.48	peak
3	3366.778	5.35	31.50	40.98	47.62	43.49	68.20	-24.71	peak
4	4392.376	6.66	33.42	41.78	47.26	45.56	74.00	-28.44	peak
5	10380.000	10.57	37.75	37.30	38.06	49.08	68.20	-19.12	peak
6	15570.000	13.98	40.74	40.40	35.41	49.73	74.00	-24.27	peak



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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: Low

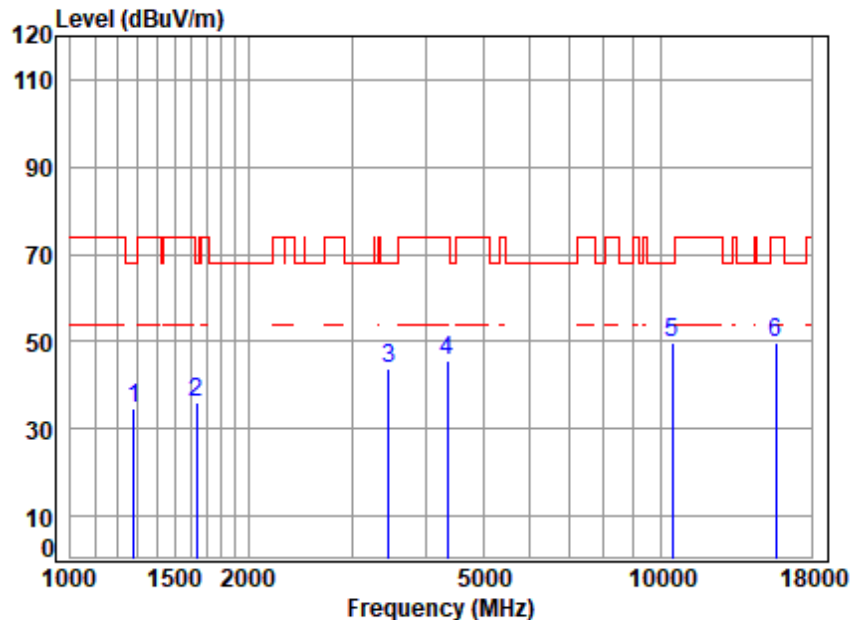


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5190 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1300.858	2.94	25.03	39.83	45.75	33.89	74.00	-40.11	peak
2	1490.142	3.25	25.76	39.95	46.69	35.75	74.00	-38.25	peak
3	3415.787	5.42	31.57	41.02	47.96	43.93	68.20	-24.27	peak
4	4367.058	6.64	33.37	41.75	47.59	45.85	74.00	-28.15	peak
5	10380.000	10.57	37.75	37.30	38.50	49.52	68.20	-18.68	peak
6	15570.000	13.98	40.74	40.40	36.33	50.65	74.00	-23.35	peak



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

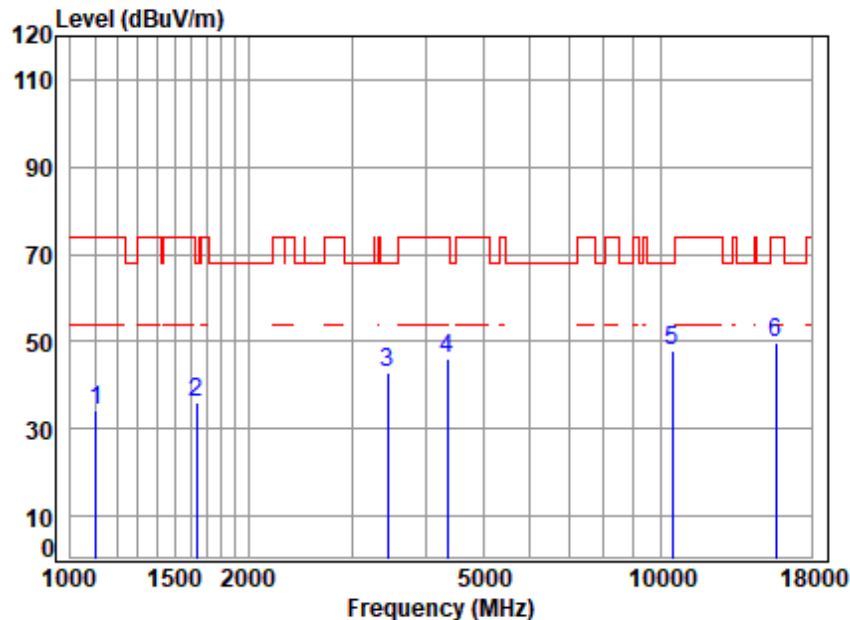


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5230 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1282.193	2.91	24.95	39.82	46.75	34.79	68.20	-33.41	peak
2	1634.543	3.38	26.40	40.03	46.19	35.94	68.20	-32.26	peak
3	3465.510	5.48	31.65	41.05	47.82	43.90	68.20	-24.30	peak
4	4354.454	6.63	33.35	41.74	47.51	45.75	74.00	-28.25	peak
5	10460.000	10.54	37.72	37.35	39.01	49.92	68.20	-18.28	peak
6	15690.000	14.03	40.82	40.45	35.45	49.85	74.00	-24.15	peak



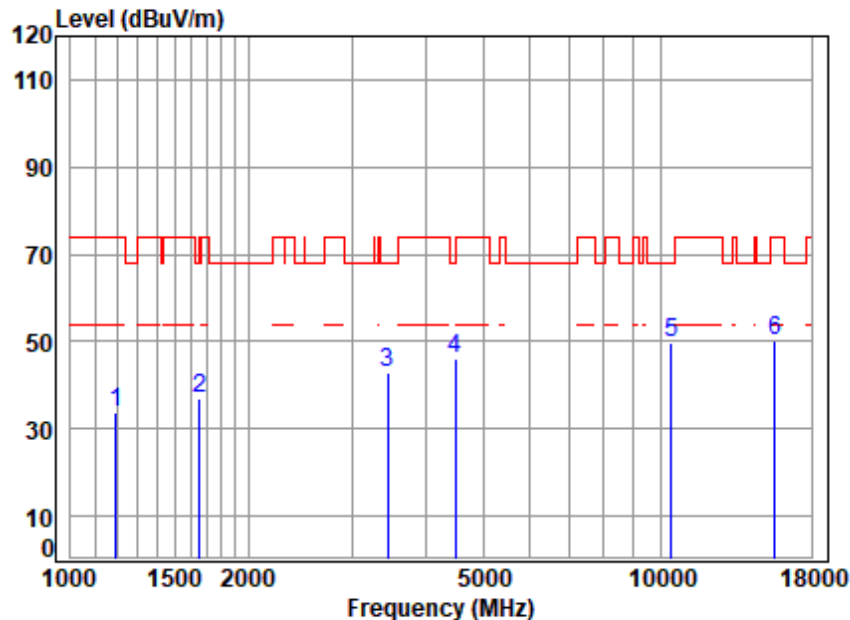
Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5230 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1106.457	2.58	24.15	39.69	47.02	34.06	74.00	-39.94	peak
2	1634.543	3.38	26.40	40.03	46.22	35.97	68.20	-32.23	peak
3	3445.535	5.45	31.62	41.04	46.77	42.80	68.20	-25.40	peak
4	4354.454	6.63	33.35	41.74	47.83	46.07	74.00	-27.93	peak
5	10460.000	10.54	37.72	37.35	37.07	47.98	68.20	-20.22	peak
6	15690.000	14.03	40.82	40.45	35.32	49.72	74.00	-24.28	peak

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

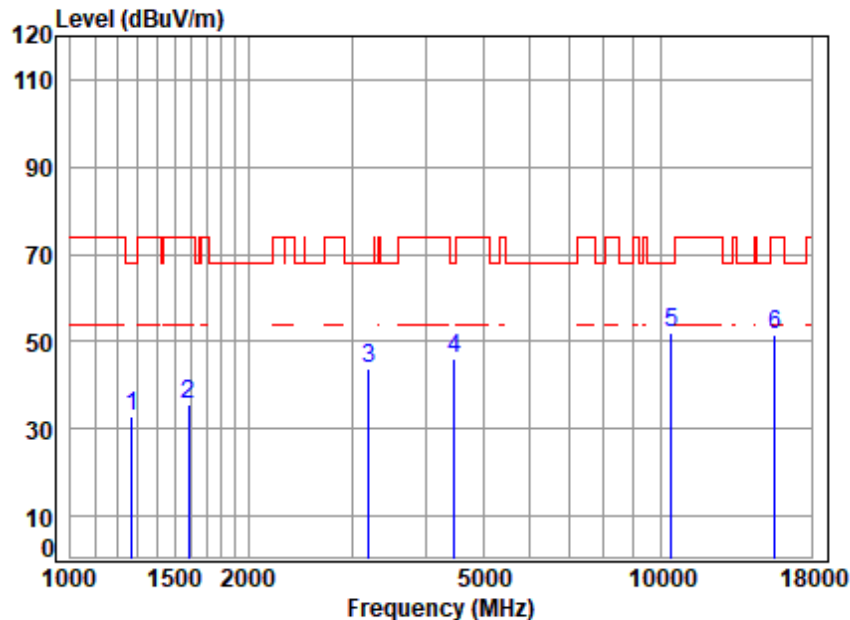


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5210 TX RSE
Note : 5G WIFI 11AC80

		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	1192.811	2.75	24.56	39.75	46.18	33.74	74.00	-40.26	peak
2	1653.550	3.39	26.48	40.04	46.95	36.78	68.20	-31.42	peak
3	3445.535	5.45	31.62	41.04	46.69	42.72	68.20	-25.48	peak
4	4495.125	6.76	33.59	41.87	47.69	46.17	68.20	-22.03	peak
5	10420.000	10.56	37.73	37.33	38.72	49.68	68.20	-18.52	peak
6	15630.000	14.01	40.78	40.42	35.83	50.20	74.00	-23.80	peak



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5210 TX RSE
Note : 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1271.123	2.89	24.90	39.81	45.00	32.98	68.20	-35.22	peak
2	1583.392	3.33	26.18	40.00	46.10	35.61	74.00	-38.39	peak
3	3196.094	5.13	31.23	40.85	48.34	43.85	68.20	-24.35	peak
4	4469.214	6.73	33.55	41.85	47.68	46.11	68.20	-22.09	peak
5	10420.000	10.56	37.73	37.33	41.00	51.96	68.20	-16.24	peak
6	15630.000	14.01	40.78	40.42	37.22	51.59	74.00	-22.41	peak



7.8 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.

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C

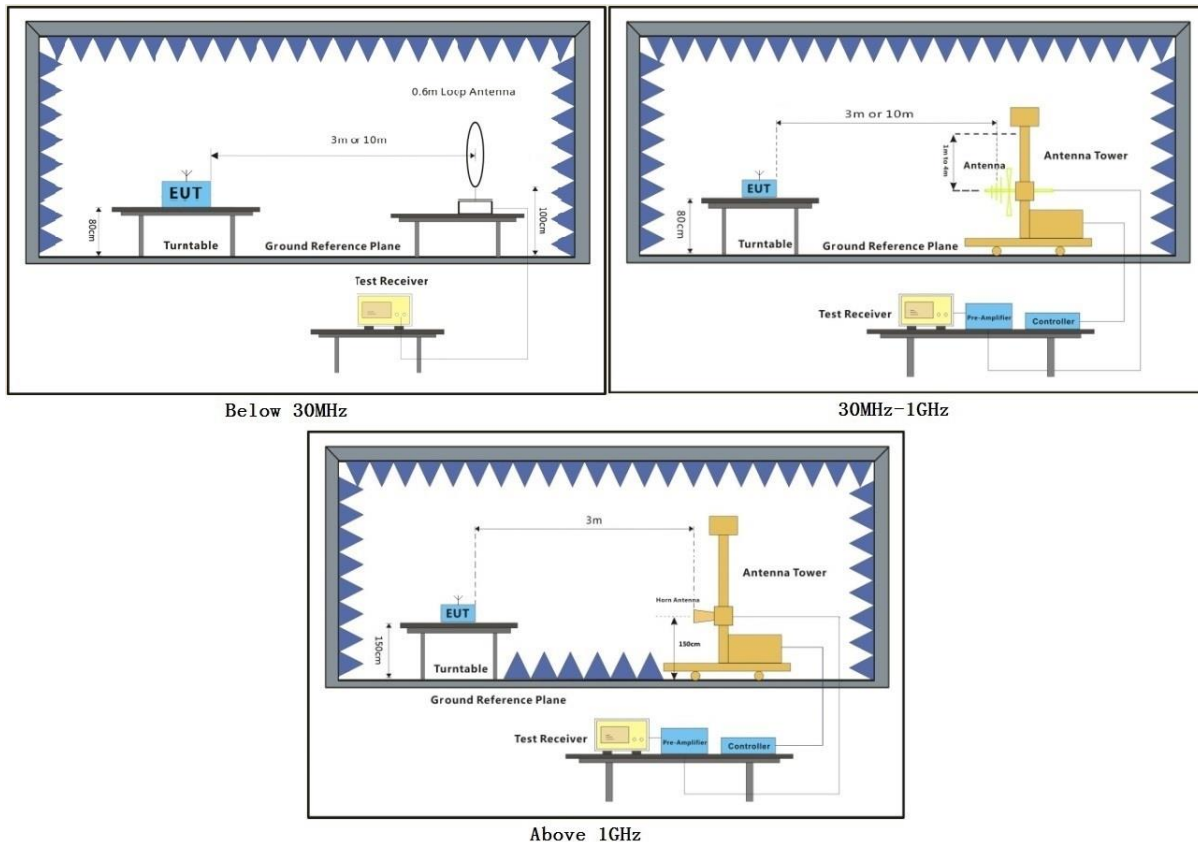
Humidity: 45.3 % RH

Atmospheric Pressure: 1010 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.8.3 Test Setup Diagram

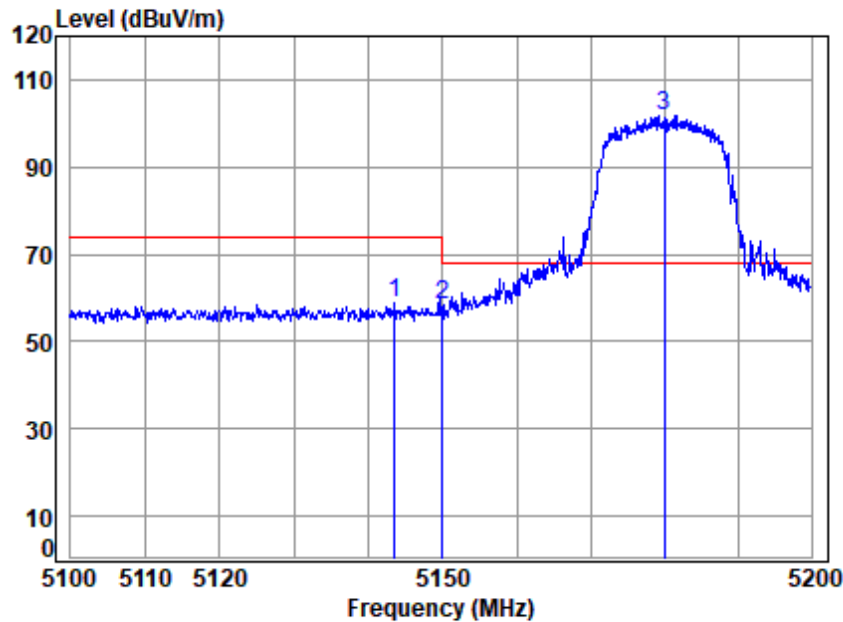


7.8.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 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: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

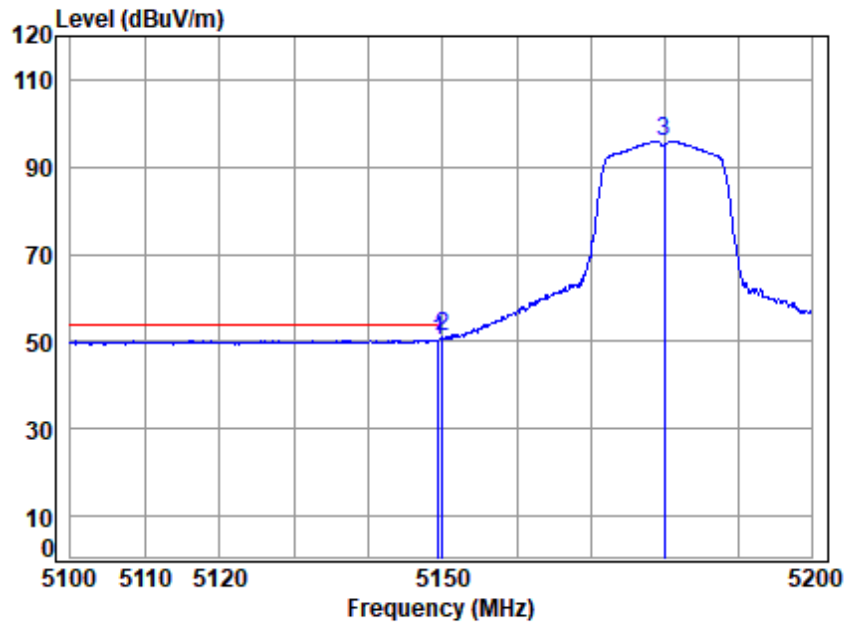


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11A

		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	5143.561	7.56	34.32	42.32	59.35	58.91	74.00	-15.09	peak
2	5149.980	7.57	34.32	42.32	58.63	58.20	74.00	-15.80	peak
3 *	5180.000	7.63	34.35	42.32	102.31	101.97	68.20	33.77	peak



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

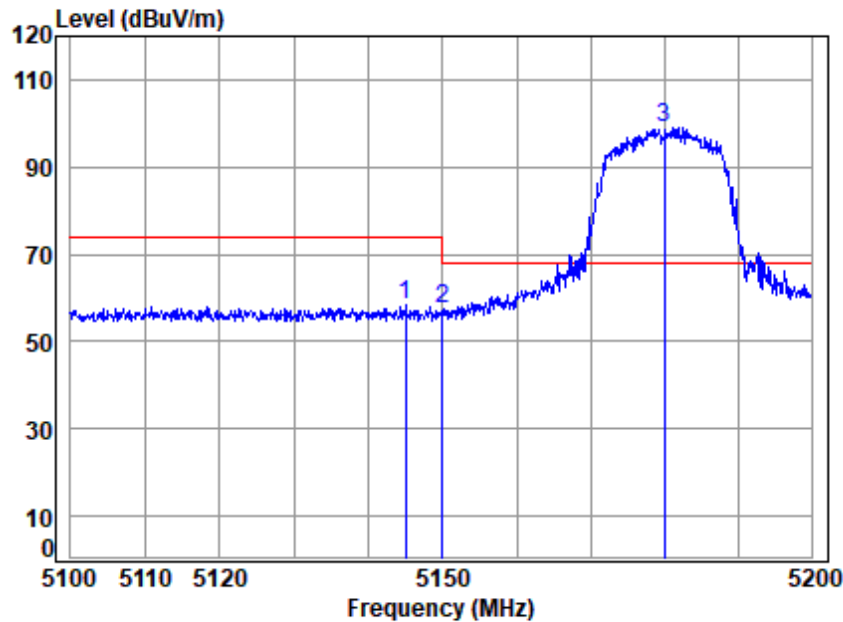


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11A

		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	5149.357	7.57	34.32	42.32	50.79	50.36	54.00	-3.64	Average
2	5149.980	7.57	34.32	42.32	51.38	50.95	54.00	-3.05	Average
3	5180.000	7.63	34.35	42.32	96.29	95.95	-----	-----	Average



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 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	5144.959	7.56	34.32	42.32	58.72	58.28	74.00	-15.72	Peak
2	5149.980	7.57	34.32	42.32	57.85	57.42	74.00	-16.58	Peak
3 *	5180.000	7.63	34.35	42.32	99.48	99.14	68.20	30.94	Peak



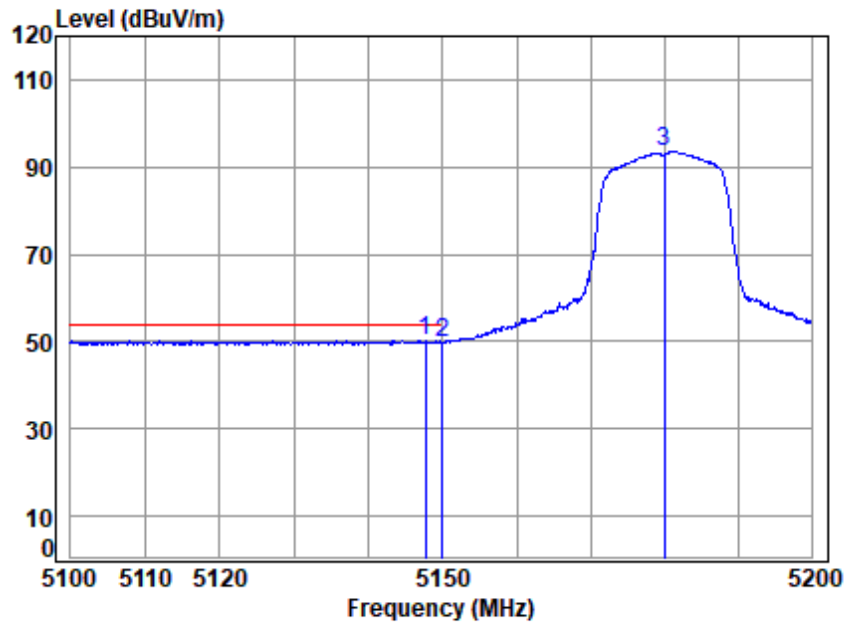
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Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

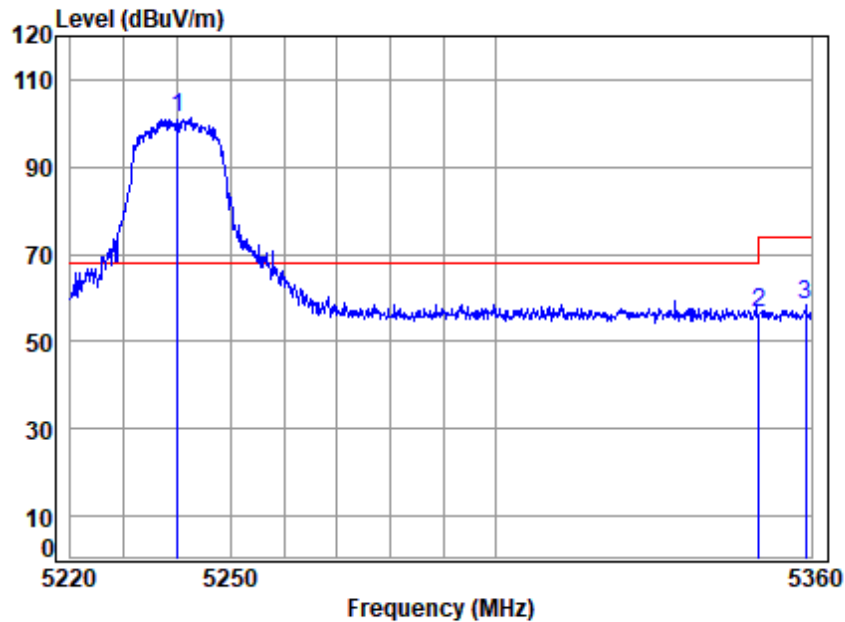


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11A

		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	5147.658	7.57	34.32	42.32	50.56	50.13	54.00	-3.87	Average
2	5149.980	7.57	34.32	42.32	50.35	49.92	54.00	-4.08	Average
3	5180.000	7.63	34.35	42.32	93.99	93.65	-----	-----	Average



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

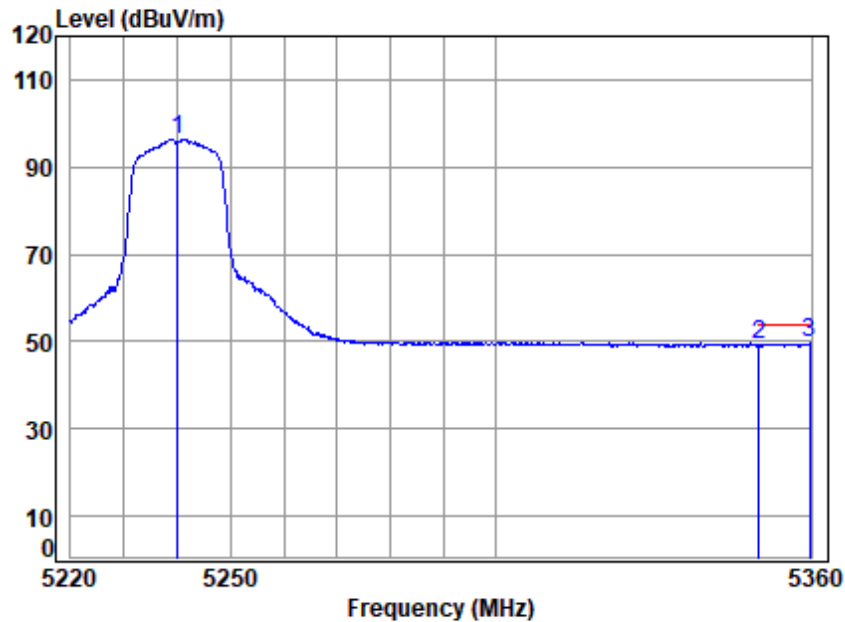


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11A

	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	101.39	101.19	68.20	32.99	peak
2 5350.020	7.92	34.48	42.34	56.71	56.77	74.00	-17.23	peak
3 5359.007	7.94	34.49	42.34	58.13	58.22	74.00	-15.78	peak



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

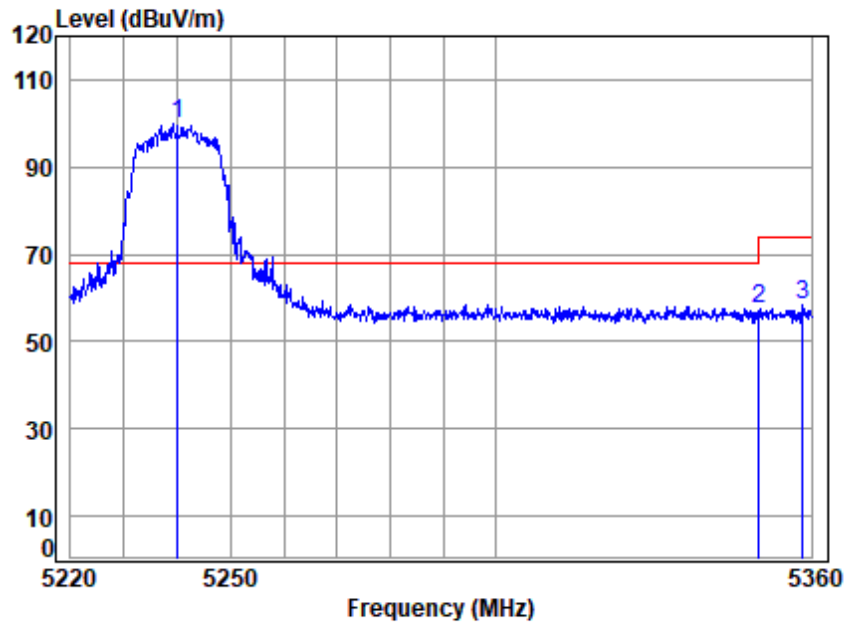


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11A

		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	96.64	96.44	-----	----- Average
2	5350.020	7.92	34.48	42.34	49.27	49.33	54.00	-4.67 Average
3	5359.716	7.94	34.49	42.34	49.53	49.62	54.00	-4.38 Average



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 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	100.22	100.02	68.20	31.82	Peak
2	5350.020	7.92	34.48	42.34	57.54	57.60	74.00	-16.40	Peak
3	5358.440	7.94	34.49	42.34	58.38	58.47	74.00	-15.53	Peak

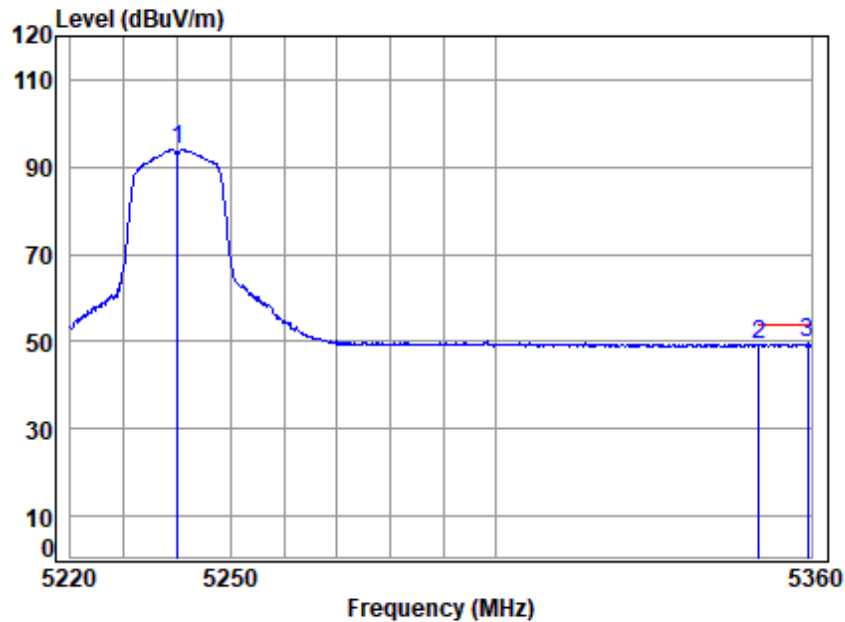


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Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

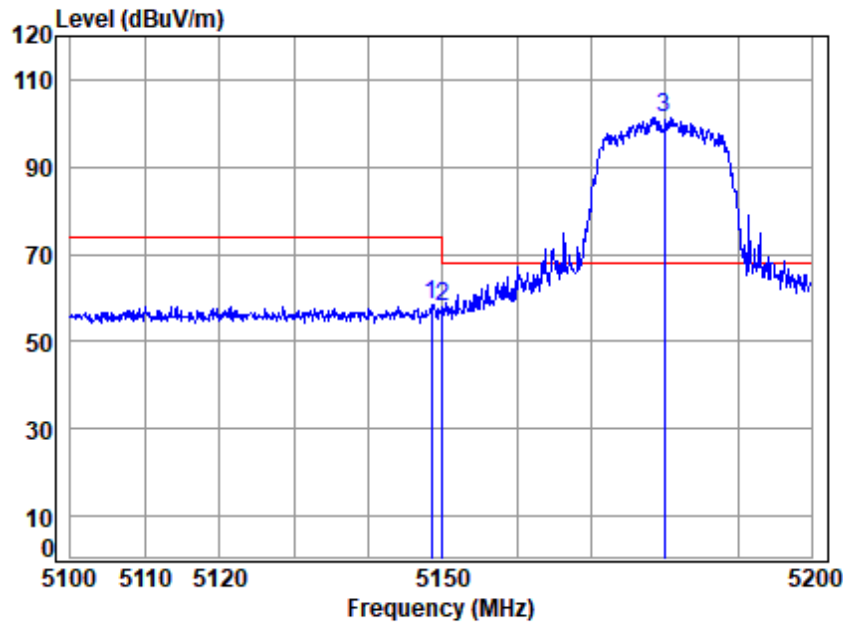


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11A

		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	94.22	94.02	-----	----- Average
2	5350.020	7.92	34.48	42.34	49.19	49.25	54.00	-4.75 Average
3	5359.291	7.94	34.49	42.34	49.45	49.54	54.00	-4.46 Average



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

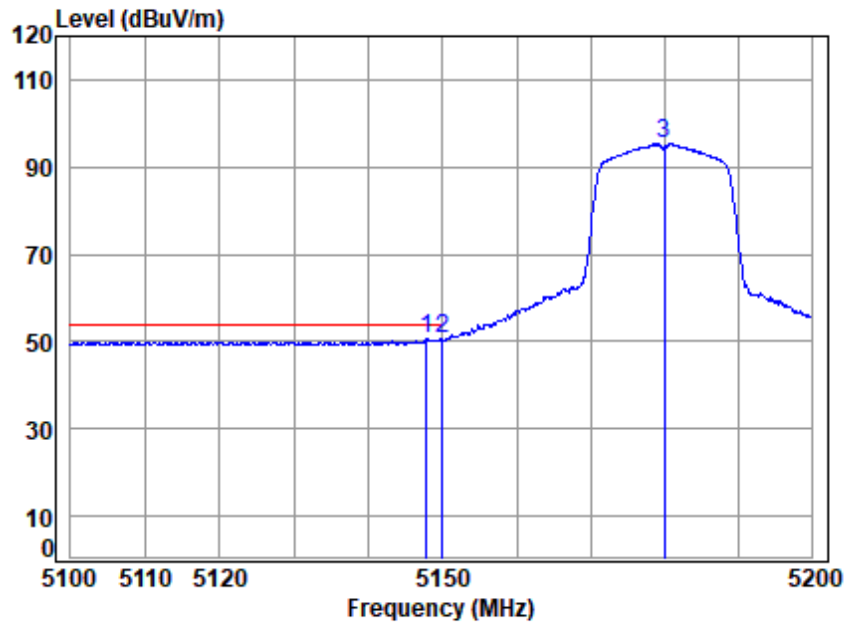


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11N20

		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	5148.458	7.57	34.32	42.32	58.83	58.40	74.00	-15.60	peak
2	5149.980	7.57	34.32	42.32	58.48	58.05	74.00	-15.95	peak
3 *	5180.000	7.63	34.35	42.32	101.56	101.22	68.20	33.02	peak



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

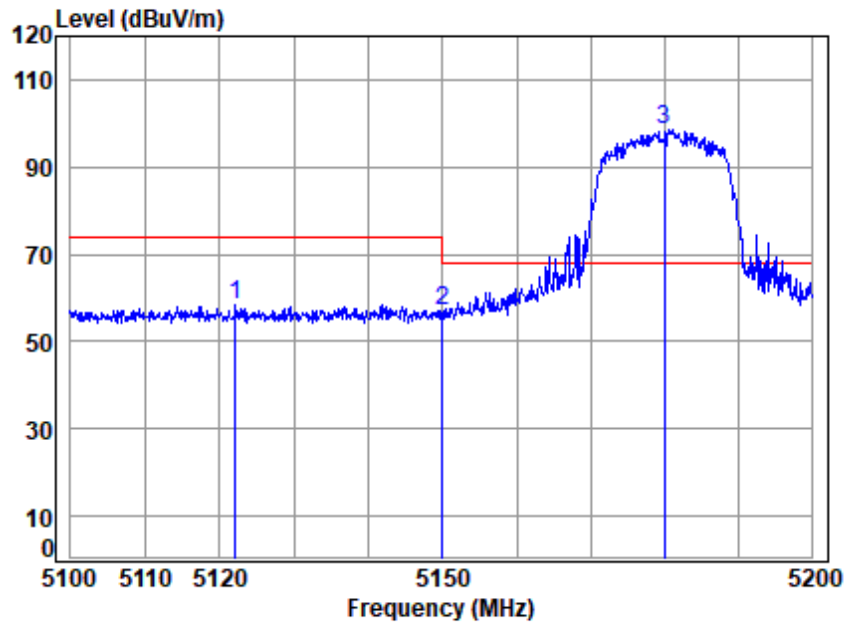


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11N20

		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	5147.857	7.57	34.32	42.32	50.93	50.50	54.00	-3.50	Average
2	5149.980	7.57	34.32	42.32	50.93	50.50	54.00	-3.50	Average
3	5180.000	7.63	34.35	42.32	95.55	95.21	-----	-----	Average



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

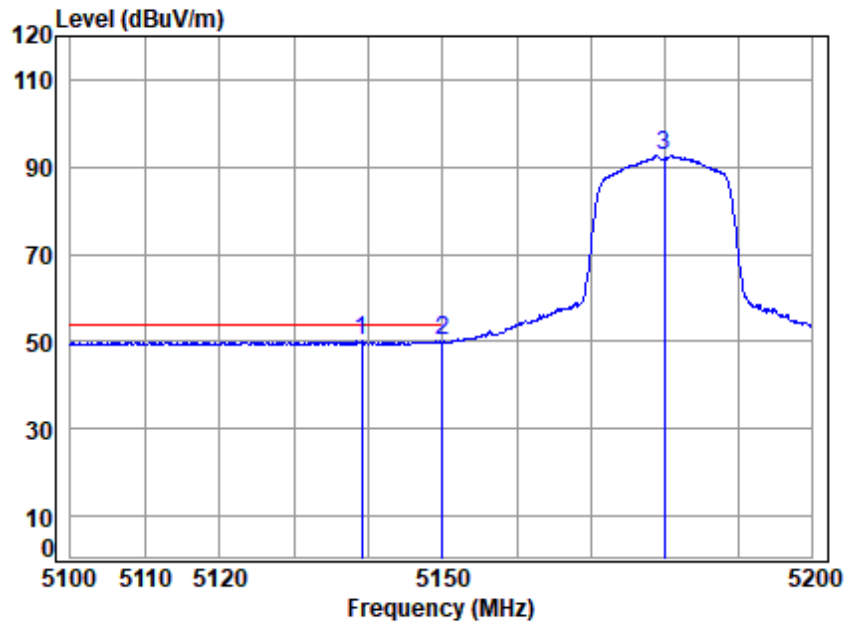


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11N20

		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	5122.132	7.52	34.30	42.31	59.03	58.54	74.00	-15.46	Peak
2	5149.980	7.57	34.32	42.32	57.56	57.13	74.00	-16.87	Peak
3 *	5180.000	7.63	34.35	42.32	98.76	98.42	68.20	30.22	Peak



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

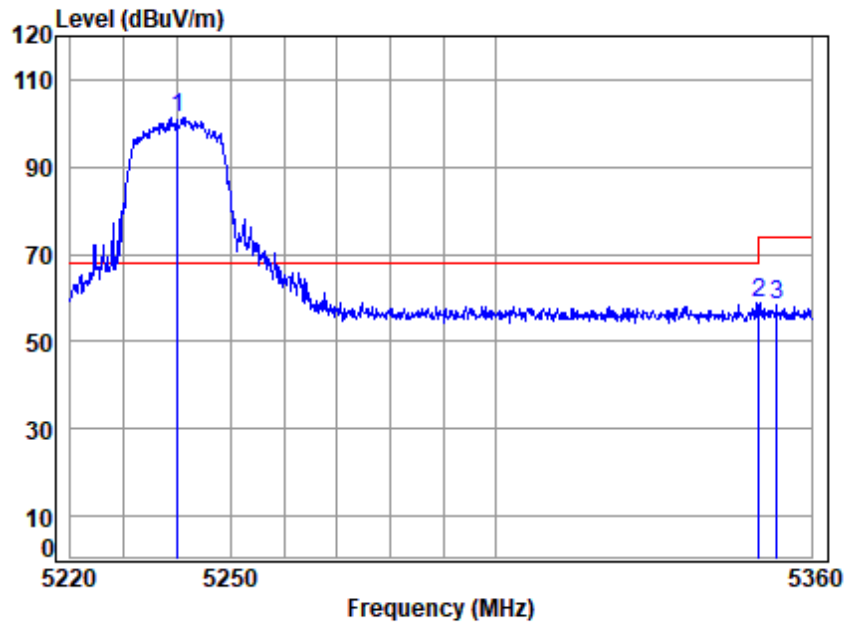


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11N20

		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	5139.068	7.55	34.32	42.32	50.73	50.28	54.00	-3.72	Average
2	5149.980	7.57	34.32	42.32	50.63	50.20	54.00	-3.80	Average
3	5180.000	7.63	34.35	42.32	92.96	92.62	-----	-----	Average



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

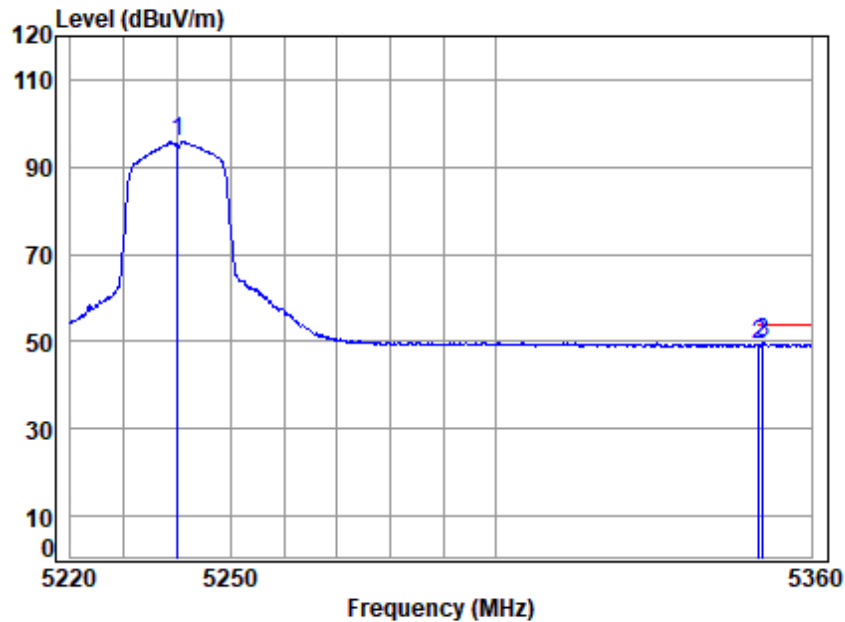


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11N20

	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	101.62	101.42	68.20	33.22	peak
2 5350.020	7.92	34.48	42.34	58.83	58.89	74.00	-15.11	peak
3 5353.337	7.93	34.49	42.34	58.47	58.55	74.00	-15.45	peak



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

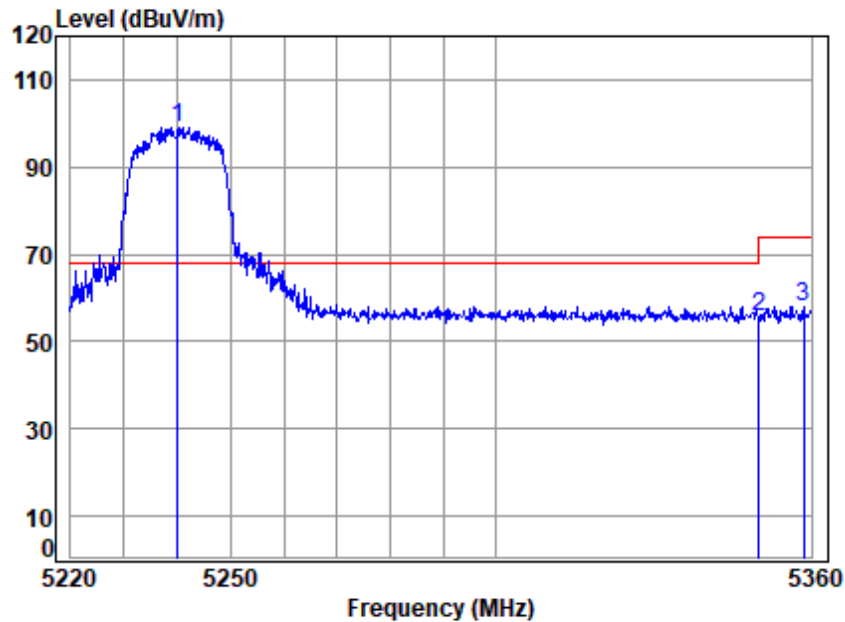


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11N20

		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	96.03	95.83	-----	----- Average
2	5350.020	7.92	34.48	42.34	49.13	49.19	54.00	-4.81 Average
3	5350.787	7.93	34.48	42.34	49.47	49.54	54.00	-4.46 Average



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 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	99.36	99.16	68.20	30.96	Peak
2	5350.020	7.92	34.48	42.34	55.39	55.45	74.00	-18.55	Peak
3	5358.582	7.94	34.49	42.34	57.79	57.88	74.00	-16.12	Peak

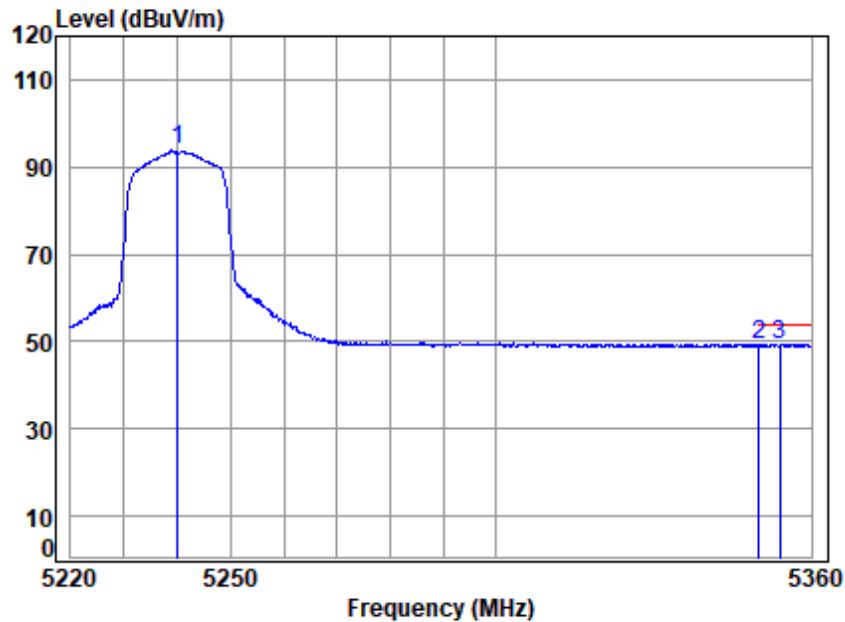


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Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 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	94.04	93.84	-----	----- Average
2	5350.020	7.92	34.48	42.34	48.99	49.05	54.00	-4.95 Average
3	5353.903	7.93	34.49	42.34	49.32	49.40	54.00	-4.60 Average

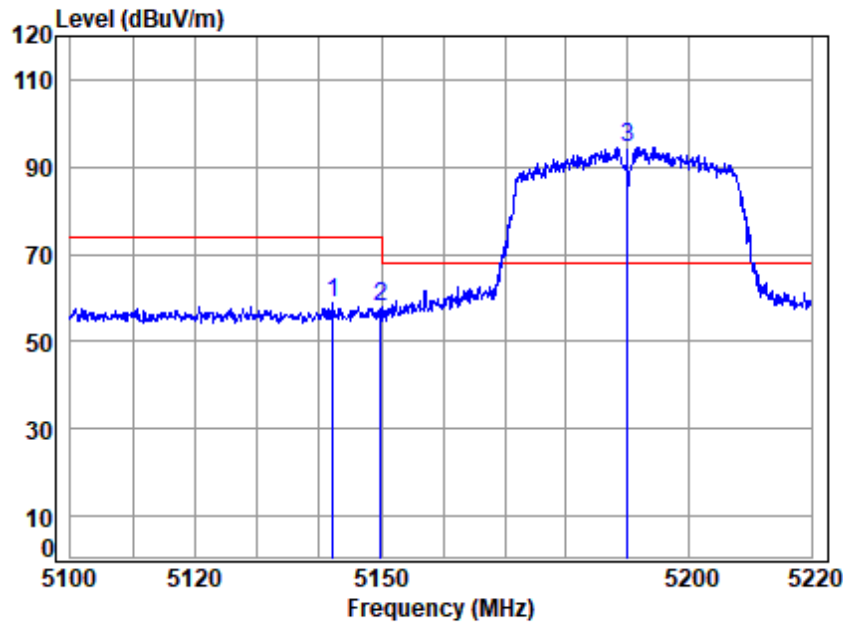


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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

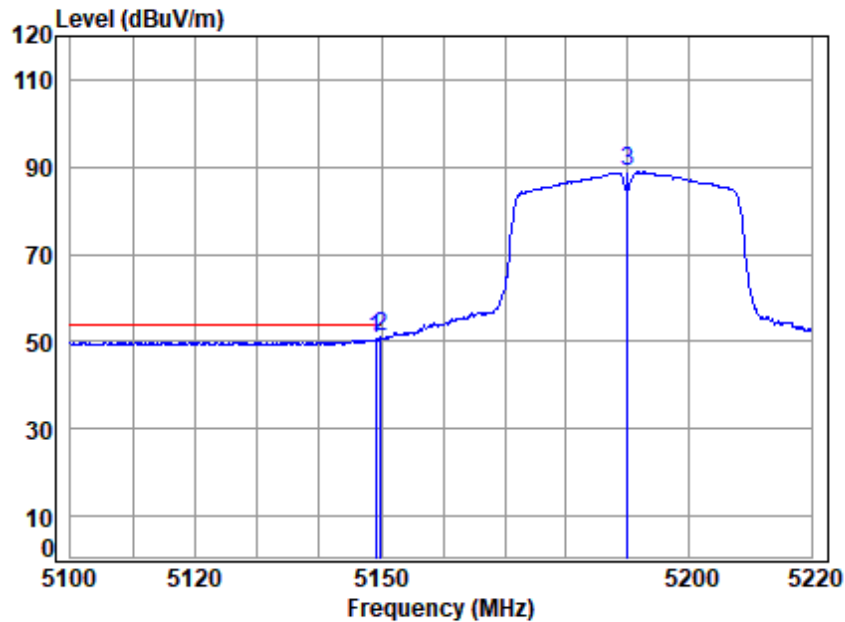


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11N40
: P=13

		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	5142.161	7.56	34.32	42.32	59.22	58.78	74.00	-15.22	peak
2	5149.980	7.57	34.32	42.32	58.60	58.17	74.00	-15.83	peak
3 *	5190.000	7.64	34.36	42.32	94.86	94.54	68.20	26.34	peak



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

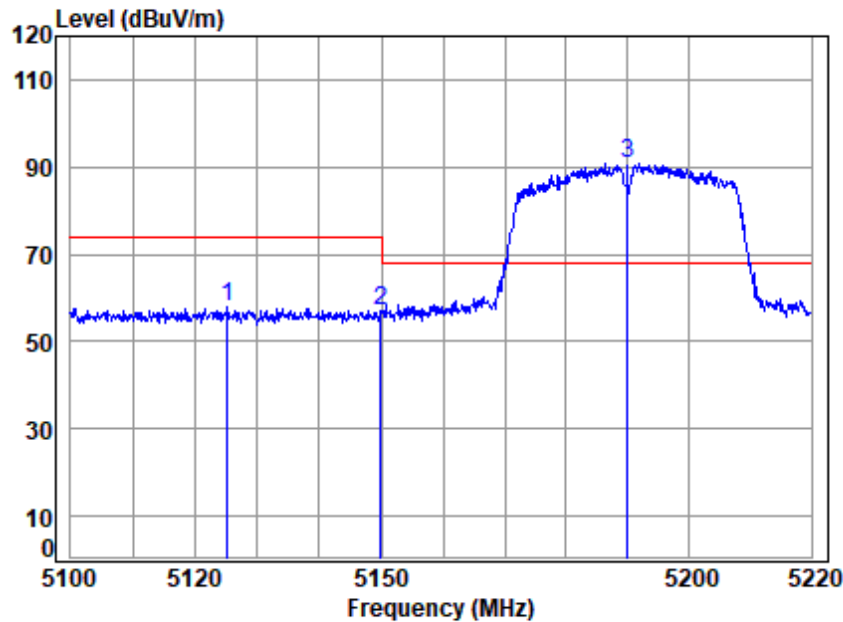


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11N40
: P=13

		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	5149.102	7.57	34.32	42.32	50.95	50.52	54.00	-3.48 Average
2	5149.980	7.57	34.32	42.32	51.41	50.98	54.00	-3.02 Average
3	5190.000	7.64	34.36	42.32	89.20	88.88	-----	----- Average



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

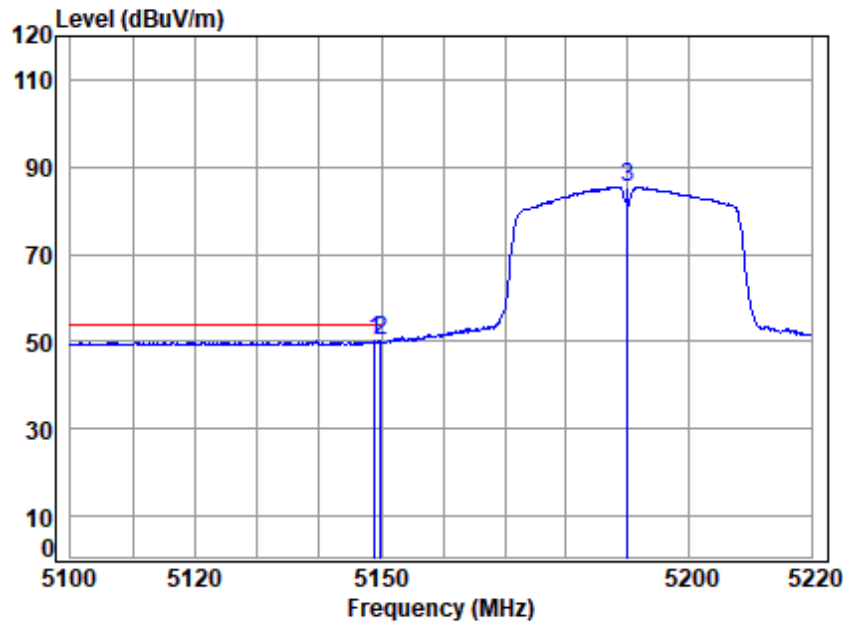


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11N40
: P=13

		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	5125.208	7.53	34.30	42.31	58.26	57.78	74.00	-16.22	Peak
2	5149.980	7.57	34.32	42.32	57.69	57.26	74.00	-16.74	Peak
3 *	5190.000	7.64	34.36	42.32	91.19	90.87	68.20	22.67	Peak



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

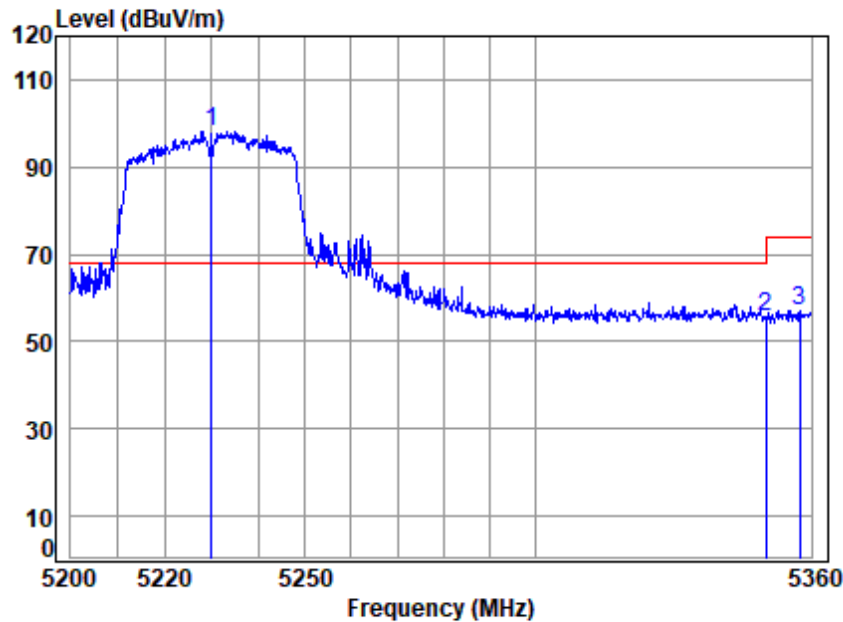


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11N40
: P=13

		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	5148.863	7.57	34.32	42.32	50.58	50.15	54.00	-3.85	Average
2	5149.980	7.57	34.32	42.32	50.49	50.06	54.00	-3.94	Average
3	5190.000	7.64	34.36	42.32	85.80	85.48	-----	-----	Average



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



Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 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	98.53	98.32	68.20	30.12	peak
2	5350.020	7.92	34.48	42.34	55.75	55.81	74.00	-18.19	peak
3	5357.402	7.94	34.49	42.34	57.09	57.18	74.00	-16.82	peak

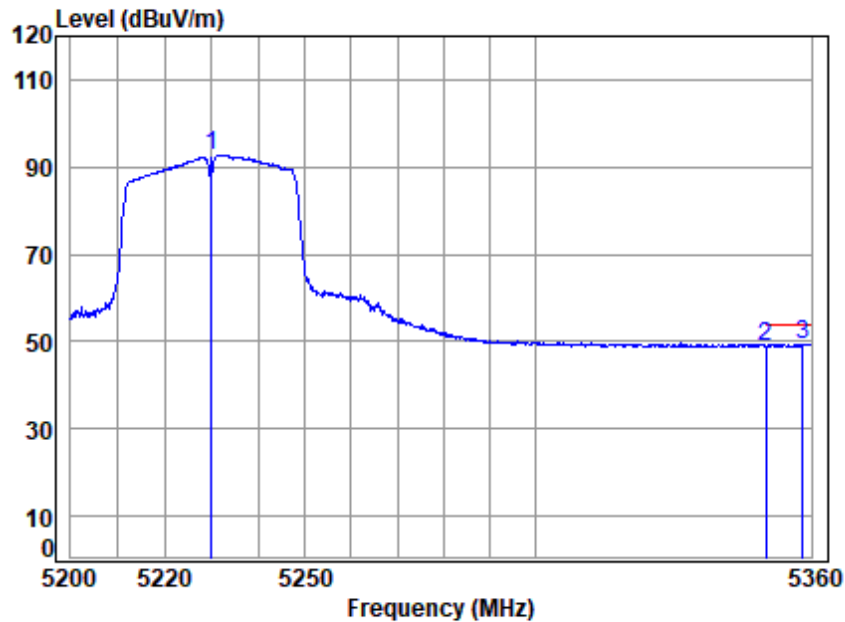


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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High

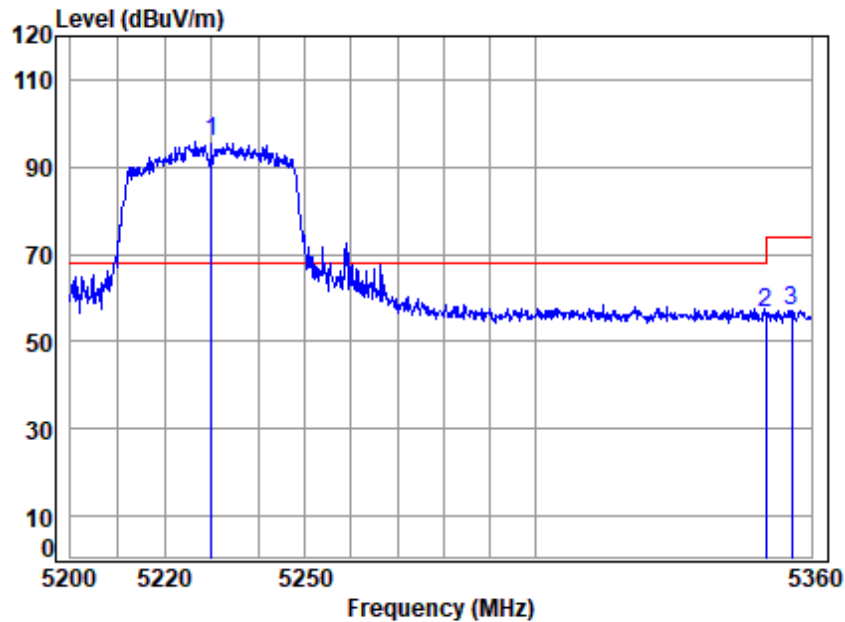


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 11N40

		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	92.96	92.75	-----	----- Average
2	5350.020	7.92	34.48	42.34	48.90	48.96	54.00	-5.04 Average
3	5358.051	7.94	34.49	42.34	49.34	49.43	54.00	-4.57 Average



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

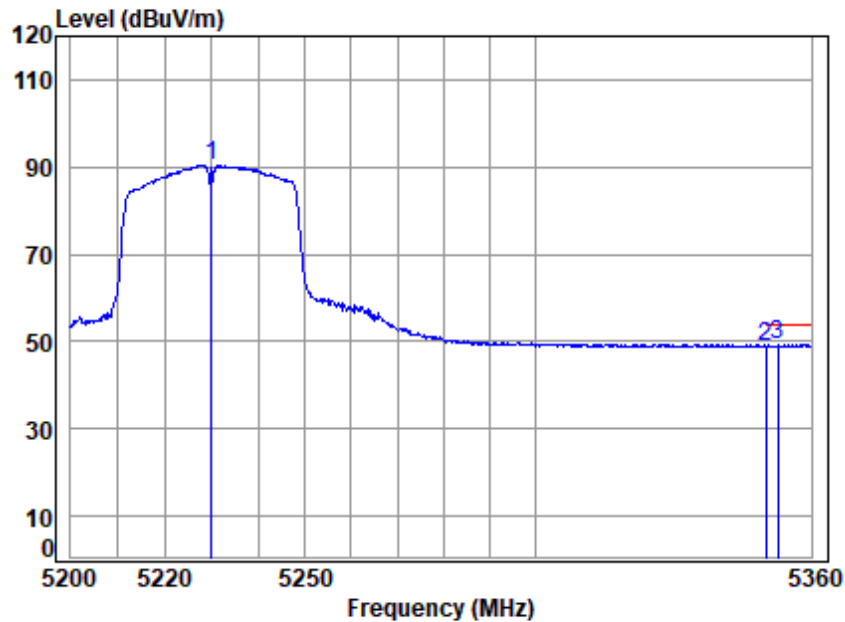


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 11N40

	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	96.03	95.82	68.20	27.62	Peak
2 5350.020	7.92	34.48	42.34	56.36	56.42	74.00	-17.58	Peak
3 5355.778	7.93	34.49	42.34	57.09	57.17	74.00	-16.83	Peak



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



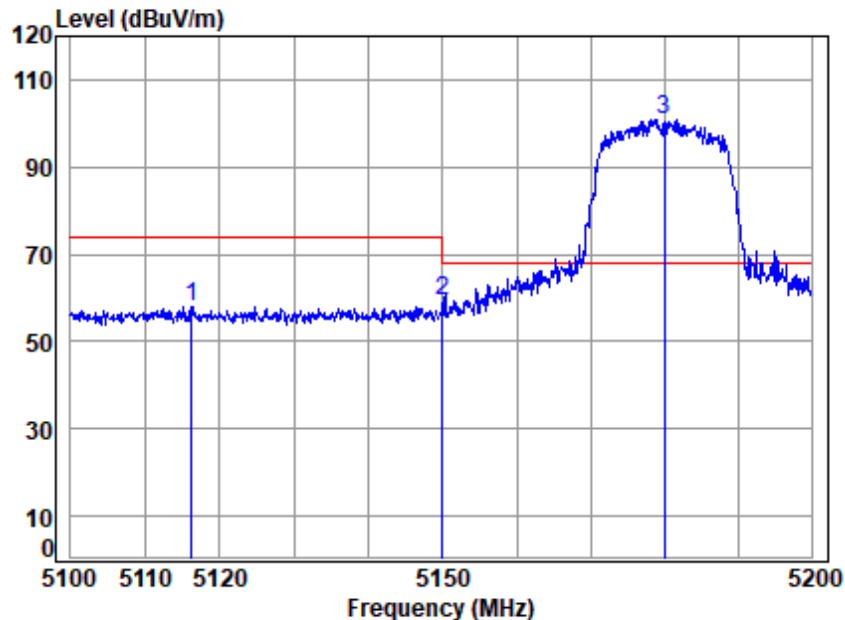
Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 11N40

		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	90.60	90.39	-----	-----	Average
2	5350.020	7.92	34.48	42.34	48.89	48.95	54.00	-5.05	Average
3	5352.695	7.93	34.49	42.34	49.13	49.21	54.00	-4.79	Average



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

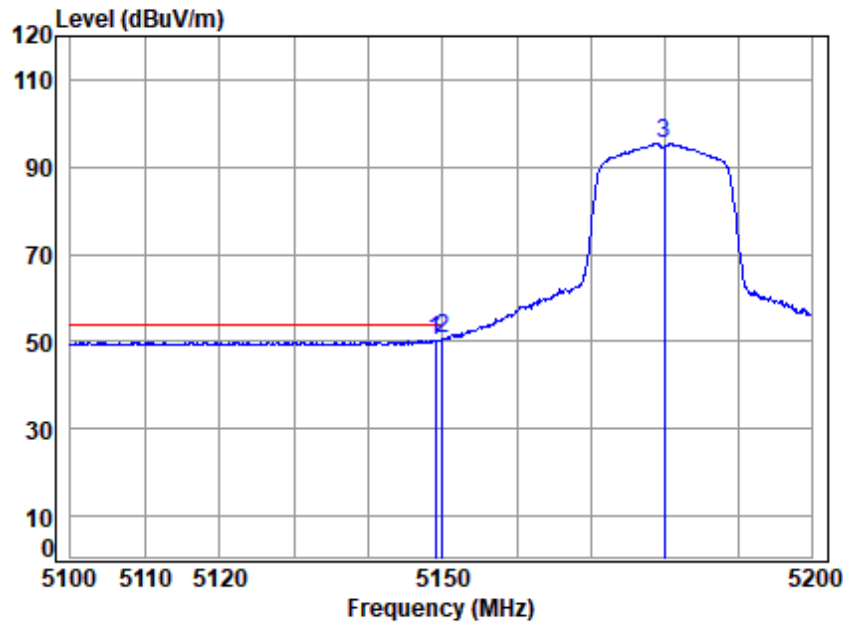


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11AC20

		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	5116.267	7.51	34.30	42.31	58.54	58.04	74.00	-15.96	peak
2	5149.980	7.57	34.32	42.32	59.91	59.48	74.00	-14.52	peak
3 *	5180.000	7.63	34.35	42.32	101.31	100.97	68.20	32.77	peak



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

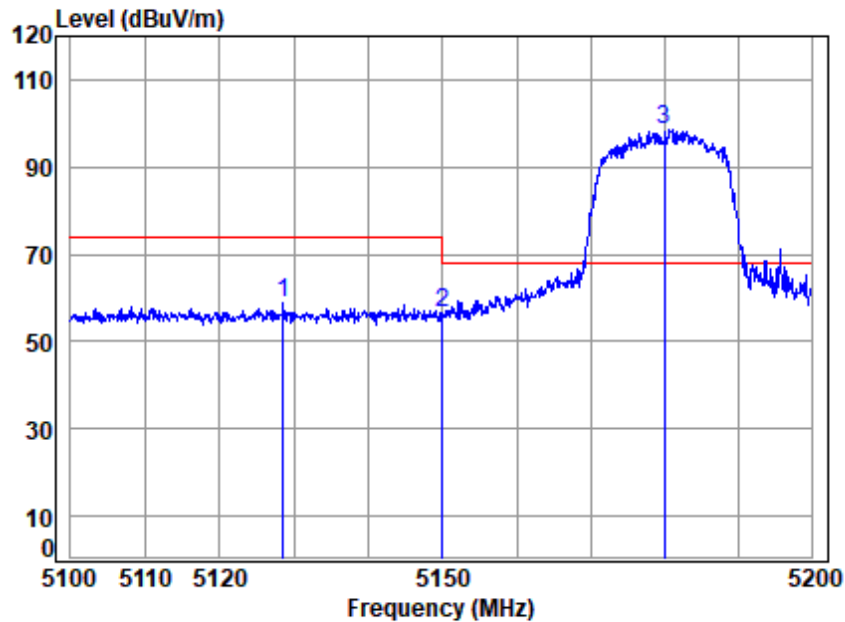


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11AC20

		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	5149.057	7.57	34.32	42.32	50.83	50.40	54.00	-3.60	Average
2	5149.980	7.57	34.32	42.32	51.26	50.83	54.00	-3.17	Average
3	5180.000	7.63	34.35	42.32	95.69	95.35	-----	-----	Average



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

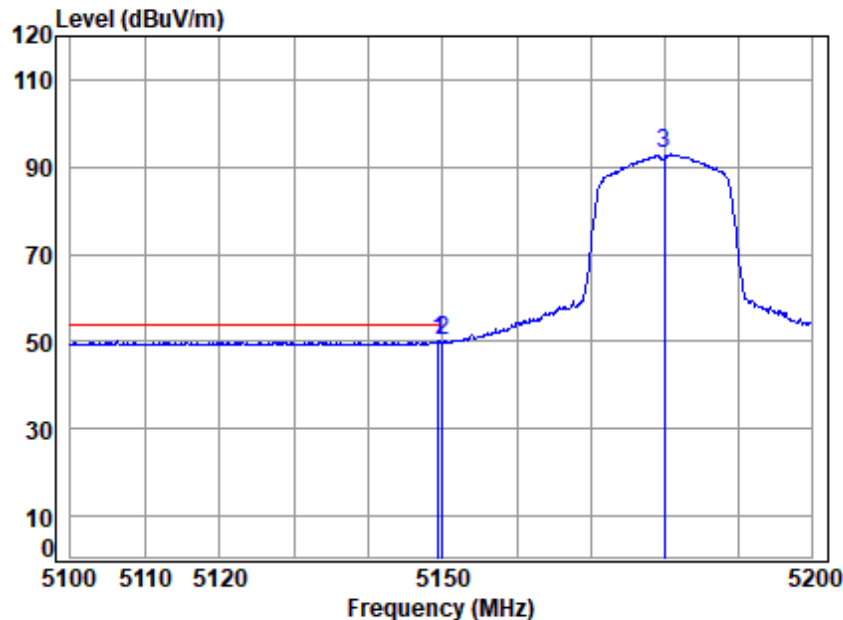


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11AC20

		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	5128.501	7.53	34.31	42.31	59.20	58.73	74.00	-15.27	Peak
2	5149.980	7.57	34.32	42.32	57.04	56.61	74.00	-17.39	Peak
3 *	5180.000	7.63	34.35	42.32	98.80	98.46	68.20	30.26	Peak



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

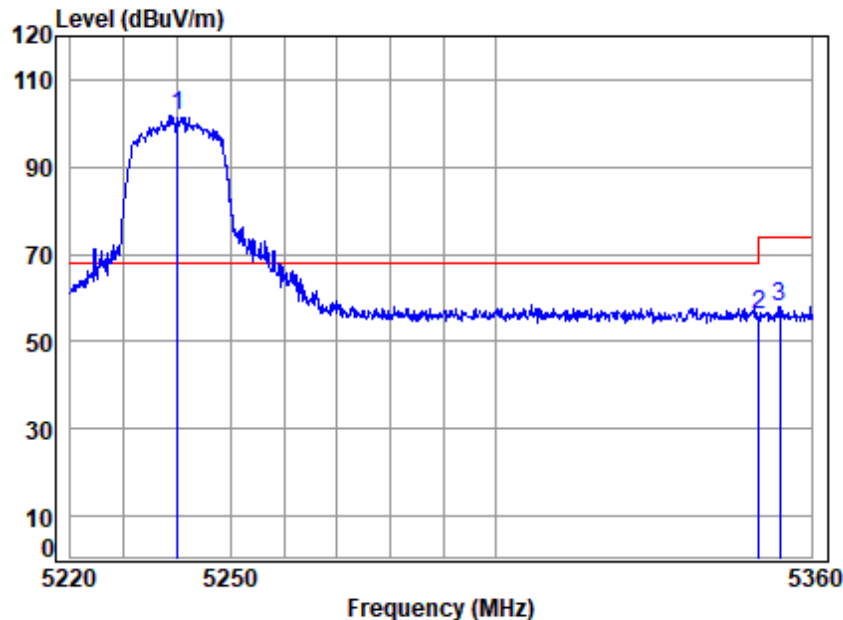


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5180 Band edge
: WIFI 5G 11AC20

		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	5149.458	7.57	34.32	42.32	50.51	50.08	54.00	-3.92	Average
2	5149.980	7.57	34.32	42.32	50.52	50.09	54.00	-3.91	Average
3	5180.000	7.63	34.35	42.32	93.22	92.88	-----	-----	Average



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

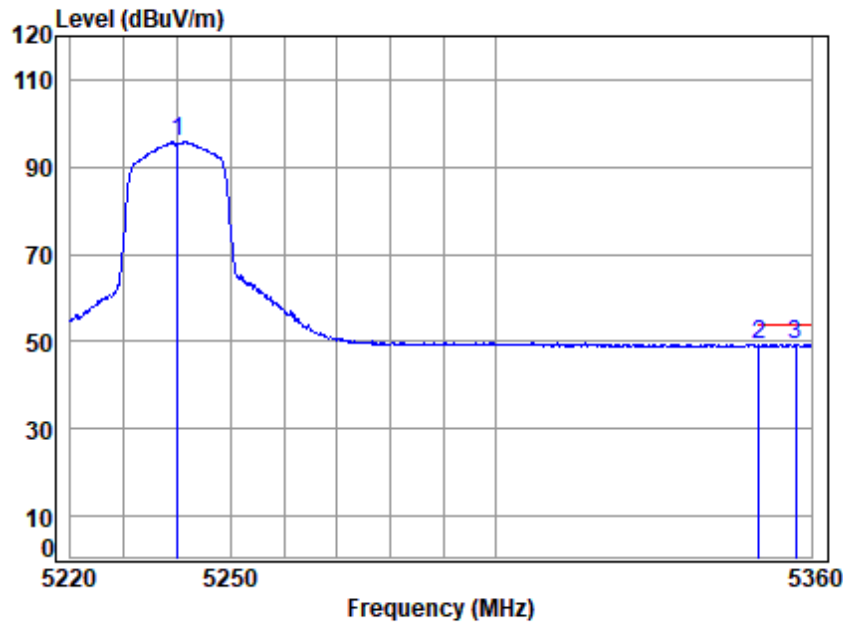


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11AC20

	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	101.78	101.58	68.20	33.38 peak
2 5350.020	7.92	34.48	42.34	56.21	56.27	74.00	-17.73 peak
3 5354.045	7.93	34.49	42.34	57.97	58.05	74.00	-15.95 peak



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

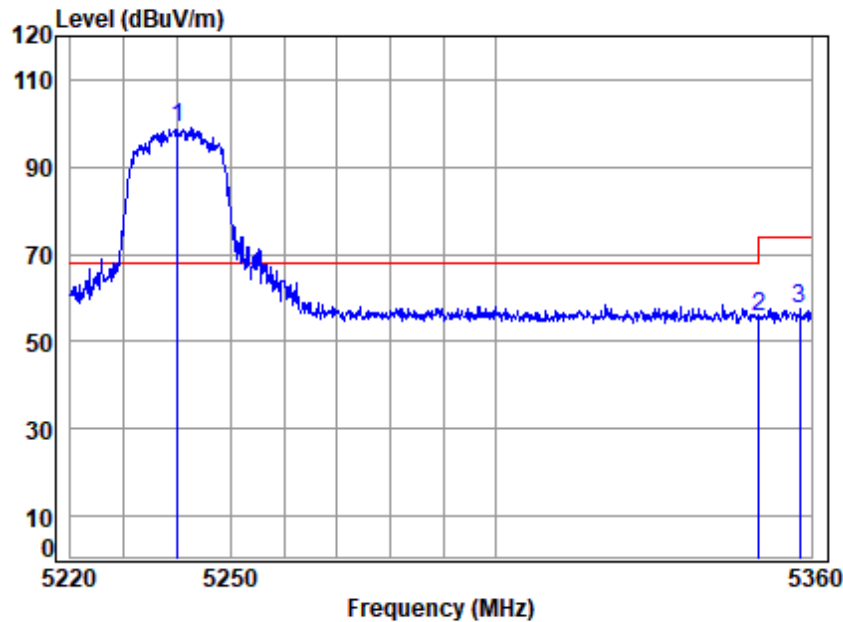


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11AC20

		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	96.02	95.82	-----	-----	Average
2	5350.020	7.92	34.48	42.34	49.00	49.06	54.00	-4.94	Average
3	5357.022	7.94	34.49	42.34	49.39	49.48	54.00	-4.52	Average



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 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	99.24	99.04	68.20	30.84	Peak
2 5350.020	7.92	34.48	42.34	55.80	55.86	74.00	-18.14	Peak
3 5357.873	7.94	34.49	42.34	57.23	57.32	74.00	-16.68	Peak



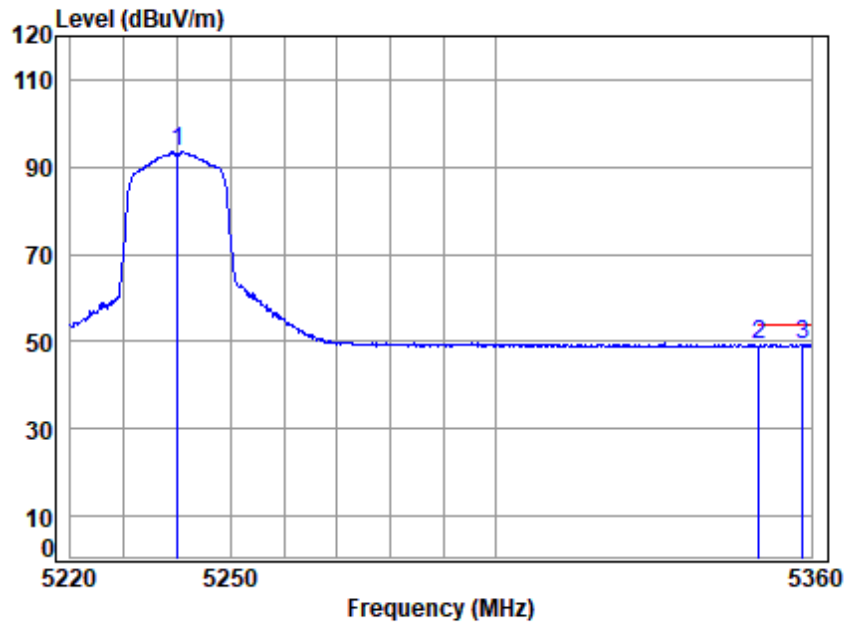
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Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



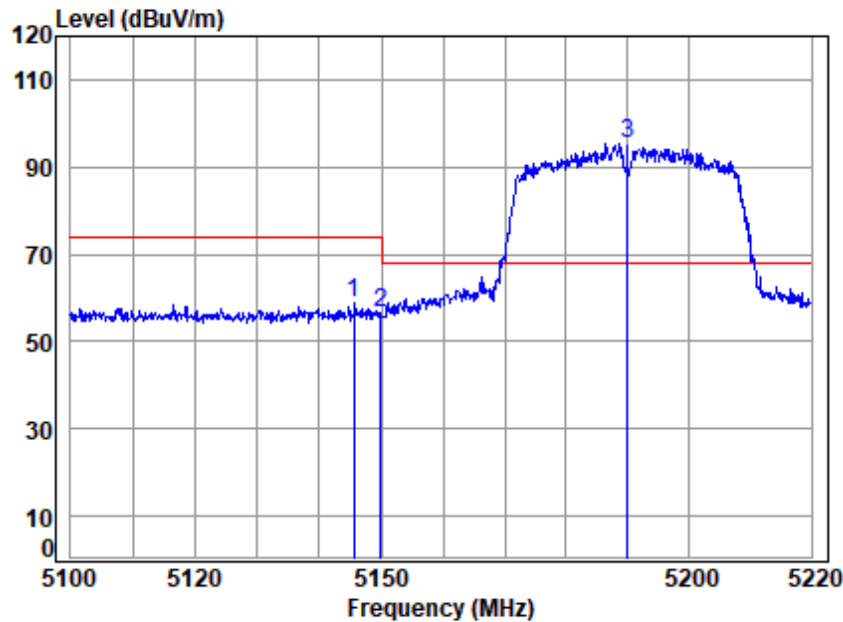
Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5240 Band edge
: WIFI 5G 11AC20

		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	93.70	93.50	-----	----- Average
2	5350.020	7.92	34.48	42.34	48.99	49.05	54.00	-4.95 Average
3	5358.440	7.94	34.49	42.34	49.38	49.47	54.00	-4.53 Average



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

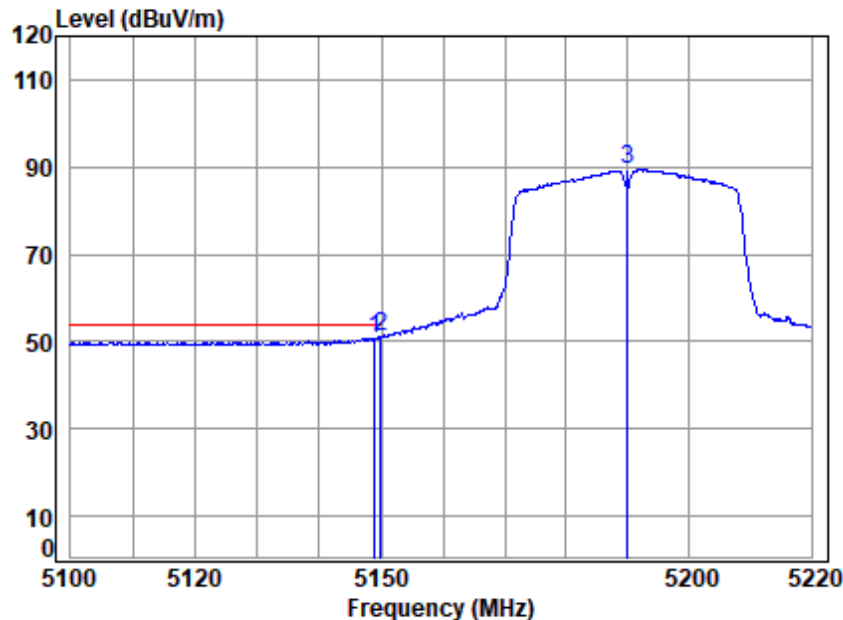


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11AC40
: P=14

		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	5145.630	7.57	34.32	42.32	59.44	59.01	74.00	-14.99	peak
2	5149.980	7.57	34.32	42.32	57.01	56.58	74.00	-17.42	peak
3 *	5190.000	7.64	34.36	42.32	95.59	95.27	68.20	27.07	peak



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

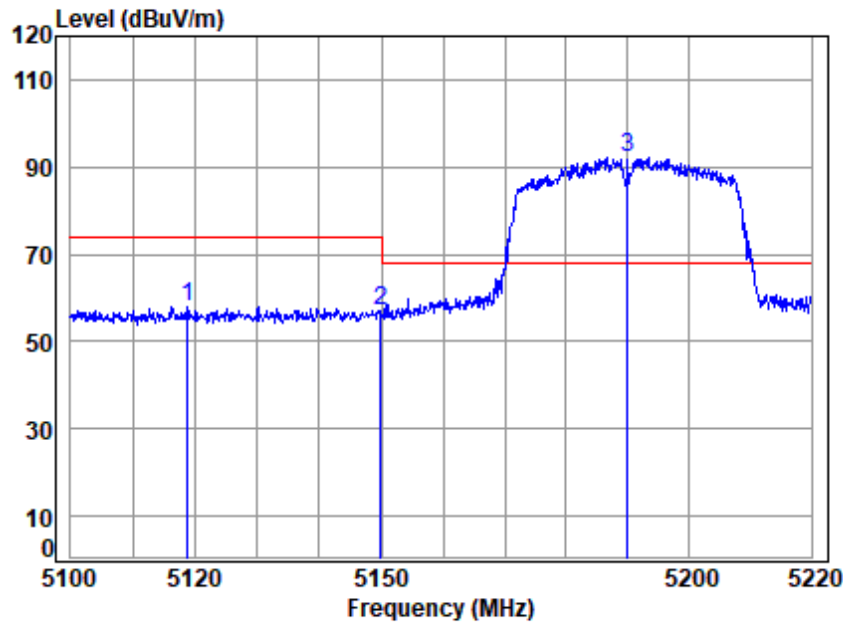


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11AC40
: P=14

		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	5148.982	7.57	34.32	42.32	51.22	50.79	54.00	-3.21 Average
2	5149.980	7.57	34.32	42.32	51.66	51.23	54.00	-2.77 Average
3	5190.000	7.64	34.36	42.32	89.78	89.46	-----	----- Average



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

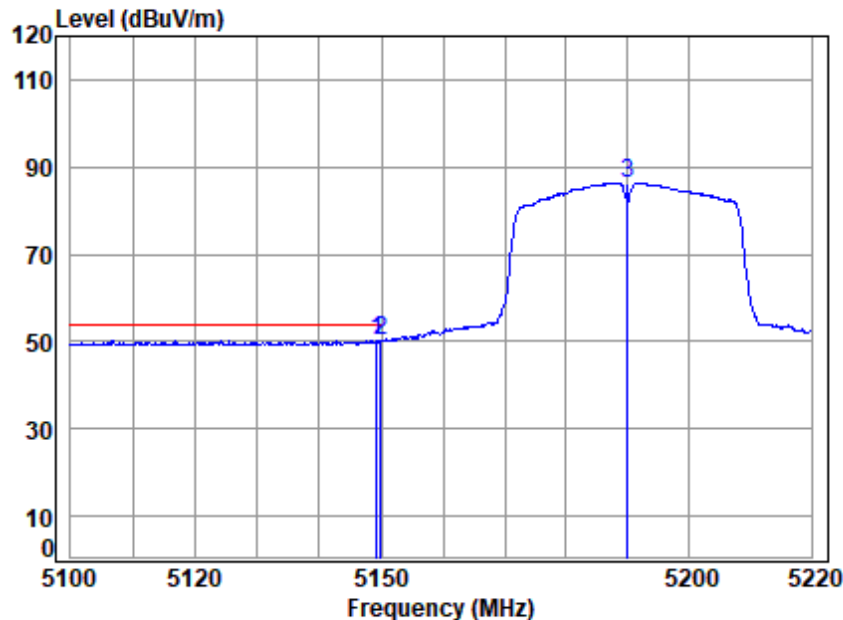


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11AC40
: P=14

		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	5118.775	7.52	34.30	42.31	58.57	58.08	74.00	-15.92	Peak
2	5149.980	7.57	34.32	42.32	57.61	57.18	74.00	-16.82	Peak
3 *	5190.000	7.64	34.36	42.32	92.68	92.36	68.20	24.16	Peak



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

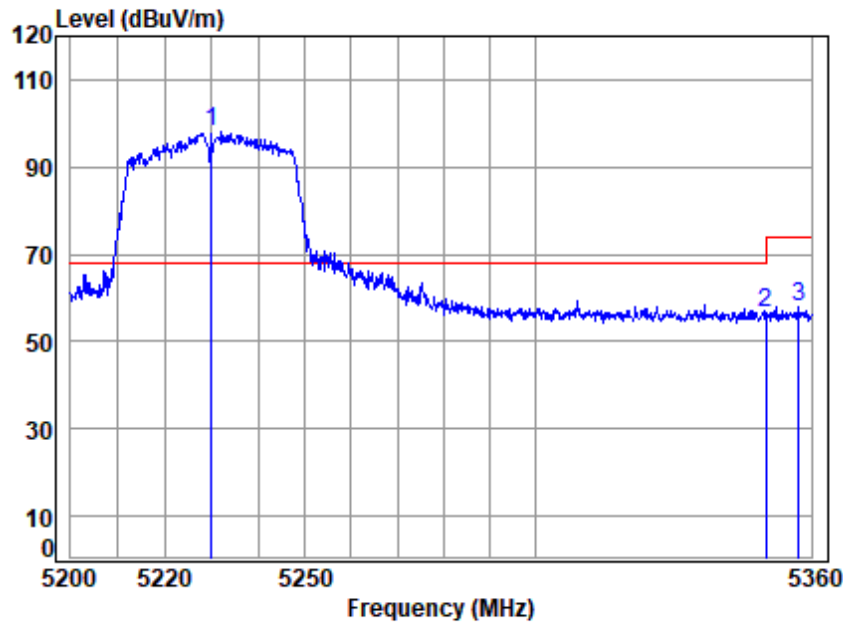


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5190 Band edge
: WIFI 5G 11AC40
: P=14

		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	50.61	50.18	54.00	-3.82	Average
2	5149.980	7.57	34.32	42.32	50.66	50.23	54.00	-3.77	Average
3	5190.000	7.64	34.36	42.32	86.72	86.40	-----	-----	Average



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

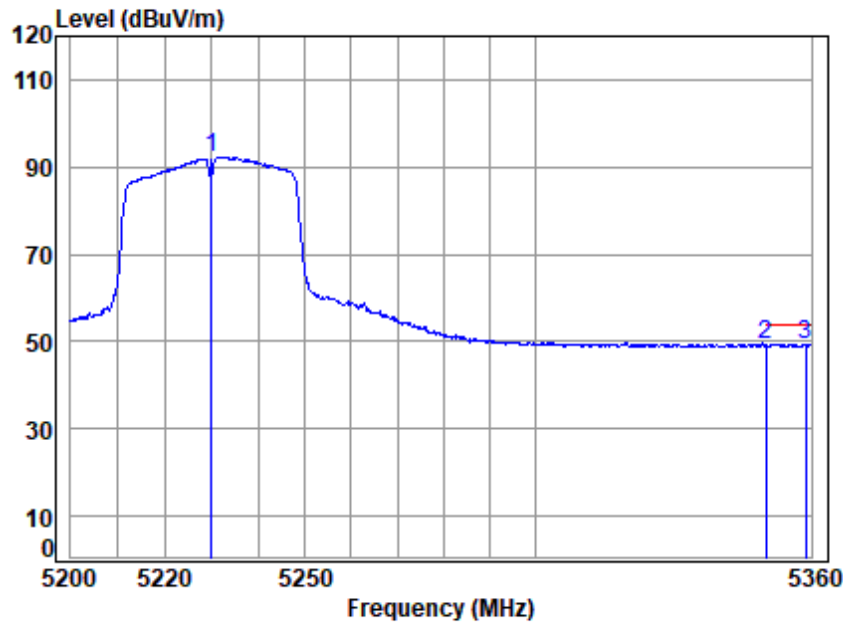


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 11AC40

	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	98.14	97.93	68.20	29.73	peak
2 5350.020	7.92	34.48	42.34	56.67	56.73	74.00	-17.27	peak
3 5357.239	7.94	34.49	42.34	57.94	58.03	74.00	-15.97	peak



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

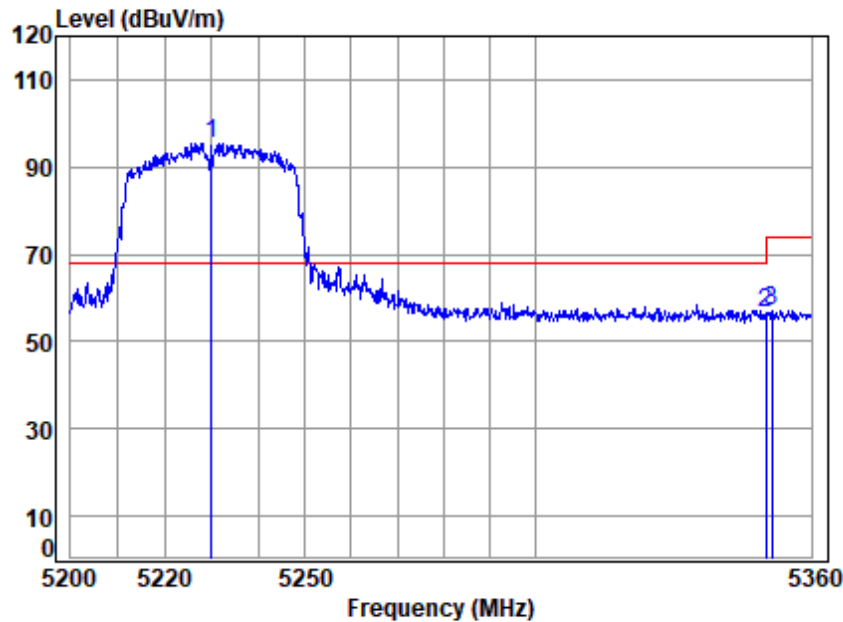


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 11AC40

		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	92.54	92.33	-----	----- Average
2	5350.020	7.92	34.48	42.34	49.35	49.41	54.00	-4.59 Average
3	5358.701	7.94	34.49	42.34	49.40	49.49	54.00	-4.51 Average



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 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	95.53	95.32	68.20	27.12	Peak
2 5350.020	7.92	34.48	42.34	56.34	56.40	74.00	-17.60	Peak
3 5351.398	7.93	34.49	42.34	57.12	57.20	74.00	-16.80	Peak



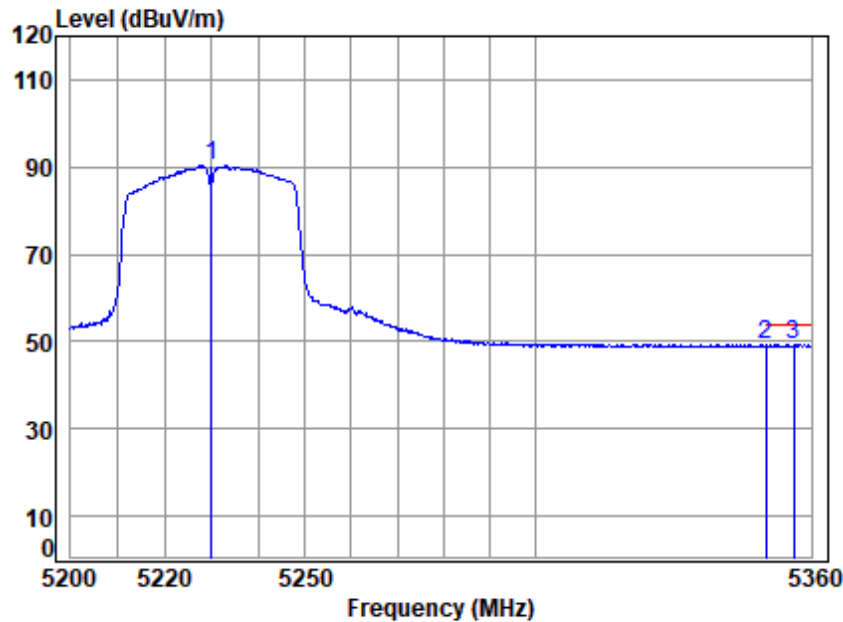
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Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High

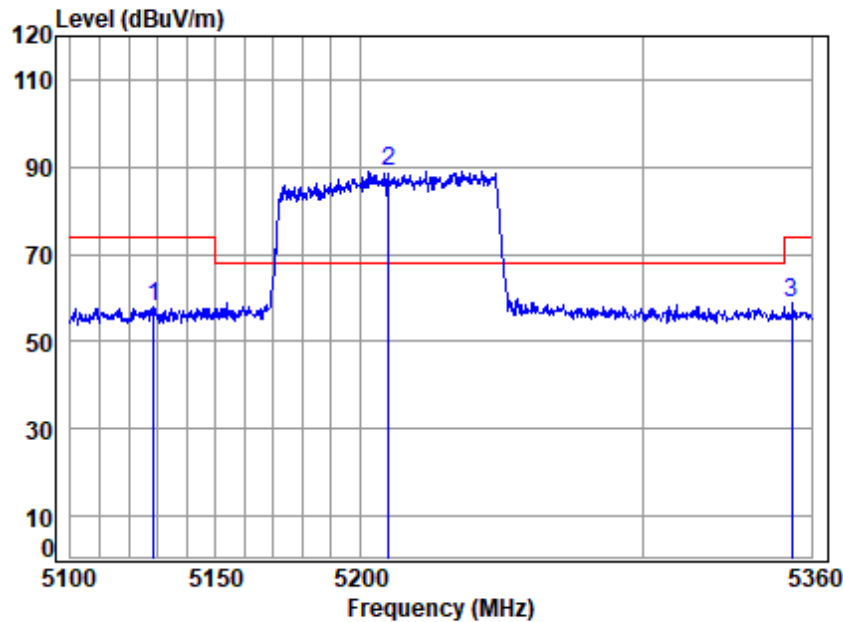


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5230 Band edge
: WIFI 5G 11AC40

		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	90.44	90.23	-----	-----	Average
2	5350.020	7.92	34.48	42.34	49.14	49.20	54.00	-4.80	Average
3	5356.265	7.94	34.49	42.34	49.21	49.30	54.00	-4.70	Average



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

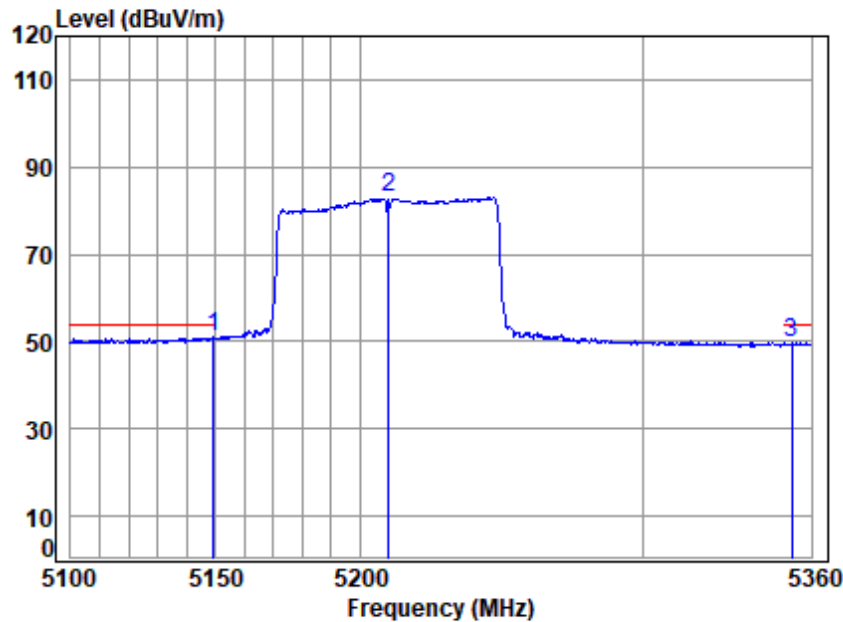


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5210 Band edge
: WIFI 5G 11AC80
: P=11

		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	5128.736	7.53	34.31	42.31	58.39	57.92	74.00	-16.08	peak
2 *	5210.000	7.68	34.37	42.32	89.28	89.01	68.20	20.81	peak
3	5353.075	7.93	34.49	42.34	58.72	58.80	74.00	-15.20	peak



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

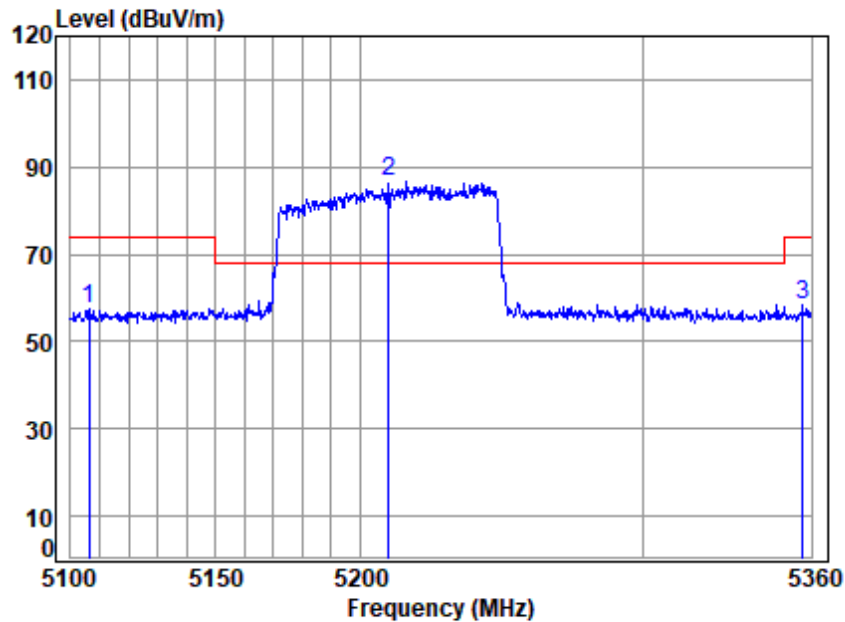


Site : chamber
Condition: 3m HORIZONTAL
Job No : 12652CR
Mode : 5210 Band edge
: WIFI 5G 11AC80
: P=11

		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	5149.178	7.57	34.32	42.32	51.36	50.93	54.00	-3.07	Average
2	5210.000	7.68	34.37	42.32	83.23	82.96	-----	-----	Average
3	5353.075	7.93	34.49	42.34	49.54	49.62	54.00	-4.38	Average



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

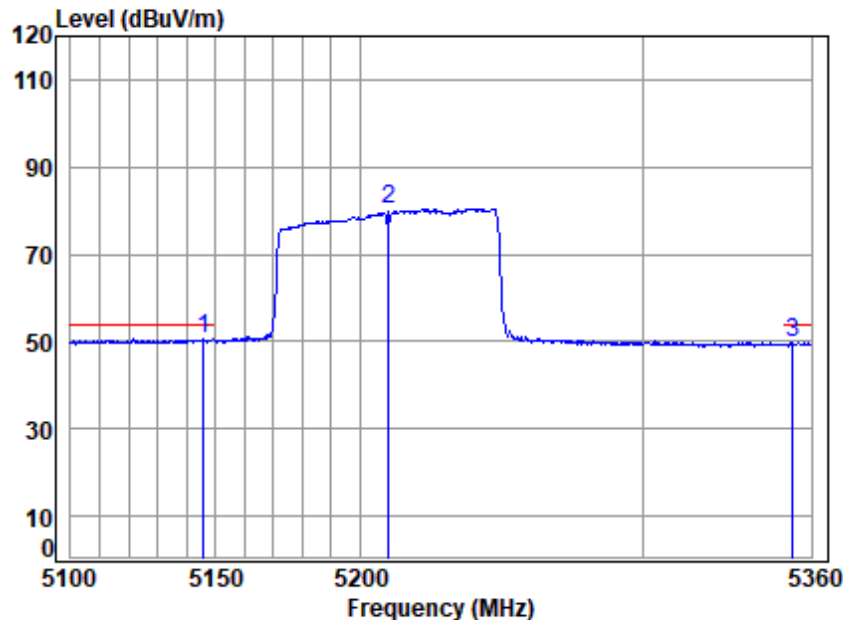


Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5210 Band edge
: WIFI 5G 11AC80
: P=11

		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	5106.344	7.49	34.29	42.31	58.14	57.61	74.00	-16.39	Peak
2 *	5210.000	7.68	34.37	42.32	86.80	86.53	68.20	18.33	Peak
3	5356.803	7.94	34.49	42.34	58.28	58.37	74.00	-15.63	Peak



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



Site : chamber
Condition: 3m VERTICAL
Job No : 12652CR
Mode : 5210 Band edge
: WIFI 5G 11AC80
: P=11

		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	5145.851	7.57	34.32	42.32	51.26	50.83	54.00	-3.17	Average
2	5210.000	7.68	34.37	42.32	80.75	80.48	-----	-----	Average
3	5353.341	7.93	34.49	42.34	49.77	49.85	54.00	-4.15	Average



7.9 Frequency Stability

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

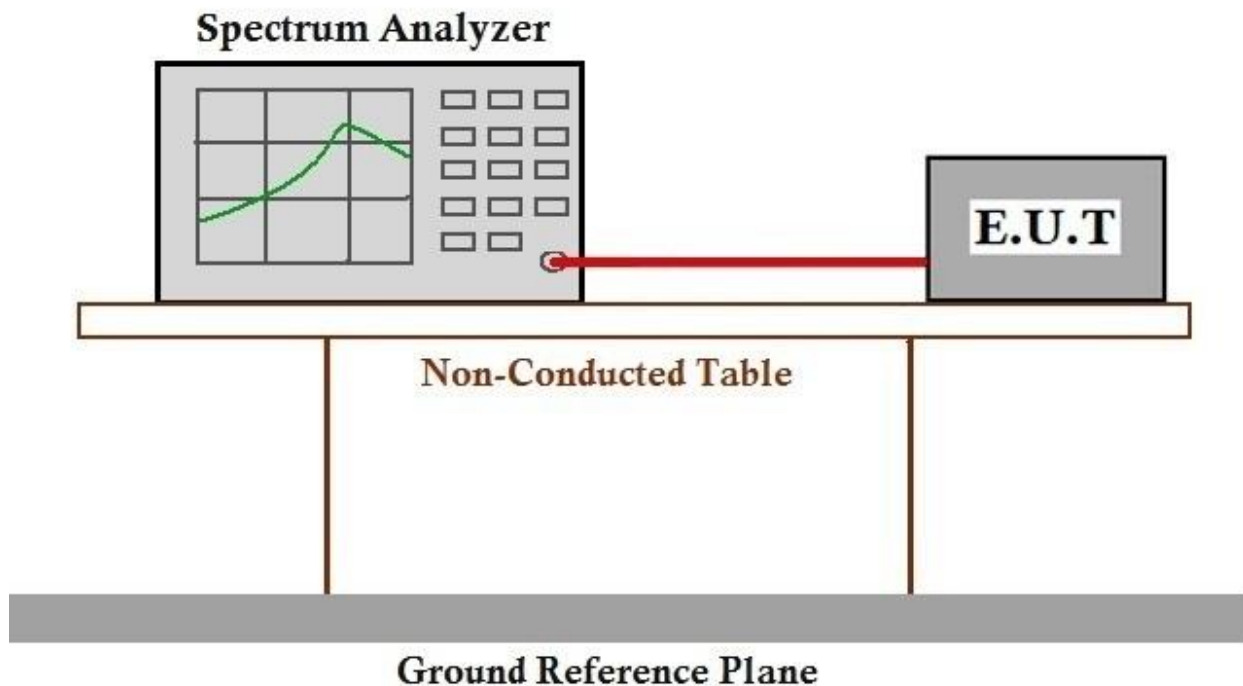
7.9.1 E.U.T. Operation

Operating Environment:
Temperature: 21.5 °C Humidity: 56.8 % RH Atmospheric Pressure: 1000 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	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.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

Please Refer To Appendix For Details

8 Test Setup Photo

Please refer to setup photos.

9 EUT Constructional Details (EUT Photos)

Please Refer to external and internal photos for details.



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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	1.360	1.396	97.42	0.11
	5200	SISO	1	1.360	1.396	97.42	0.11
	5240	SISO	1	1.361	1.397	97.42	0.11
802.11n(HT20)	5180	SISO	1	1.299	1.335	97.30	0.12
	5200	SISO	1	1.299	1.335	97.30	0.12
	5240	SISO	1	1.299	1.336	97.23	0.12
802.11n(HT40)	5190	SISO	1	0.618	0.653	94.64	0.24
	5230	SISO	1	0.618	0.652	94.79	0.23
802.11ac(VHT20)	5180	SISO	1	1.312	1.348	97.33	0.12
	5200	SISO	1	1.311	1.348	97.26	0.12
	5240	SISO	1	1.312	1.348	97.33	0.12
802.11ac(VHT40)	5190	SISO	1	0.622	0.656	94.82	0.23
	5230	SISO	1	0.622	0.657	94.67	0.24
802.11ac(VHT80)	5210	SISO	1	0.324	0.360	90.00	0.46



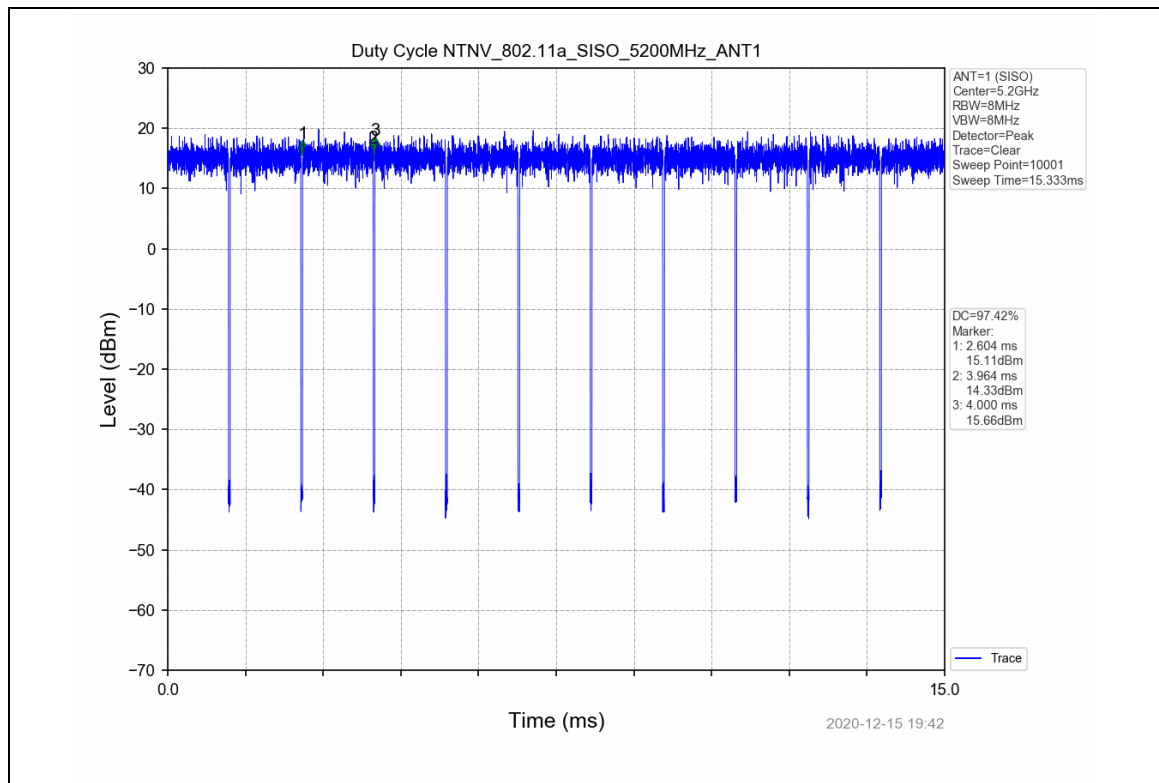
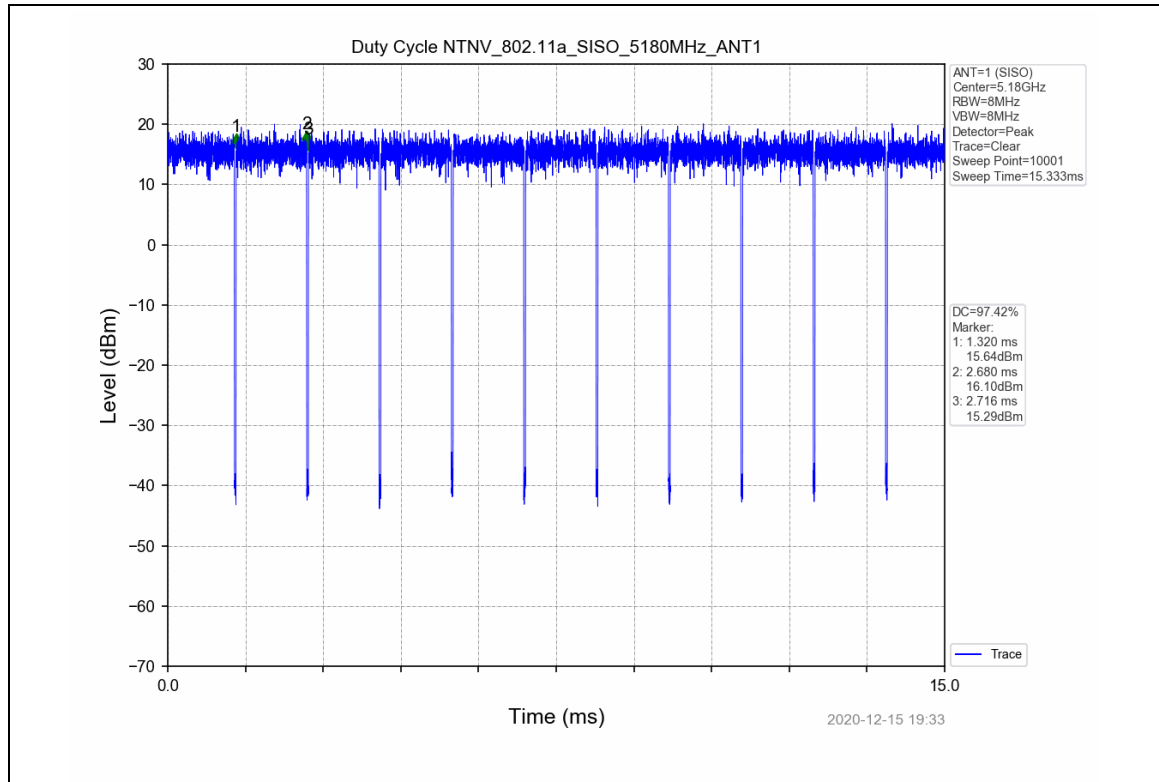
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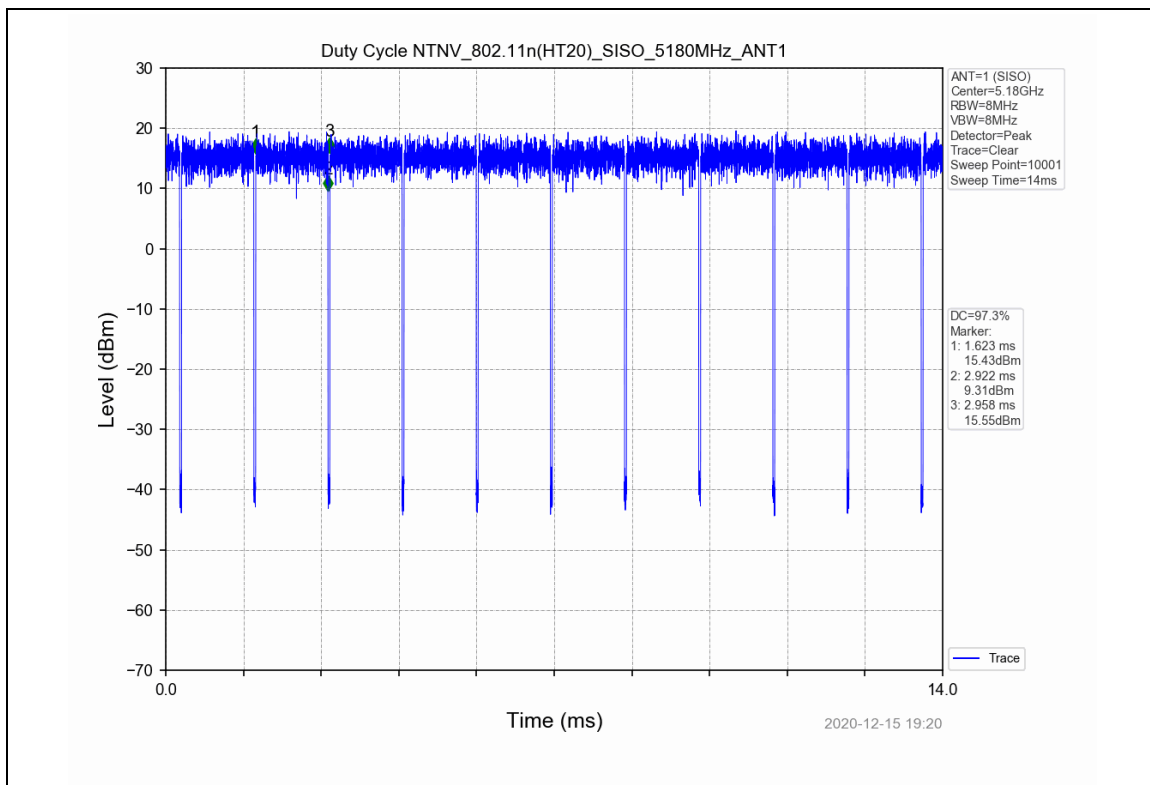
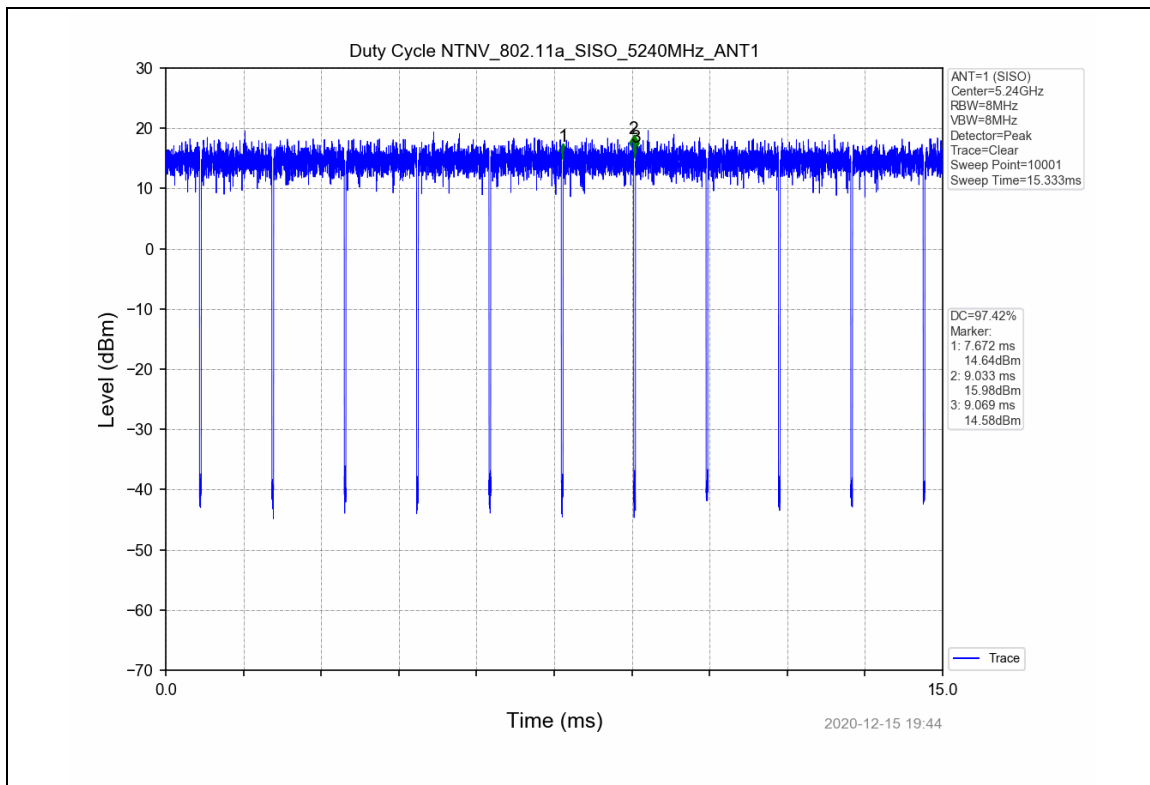
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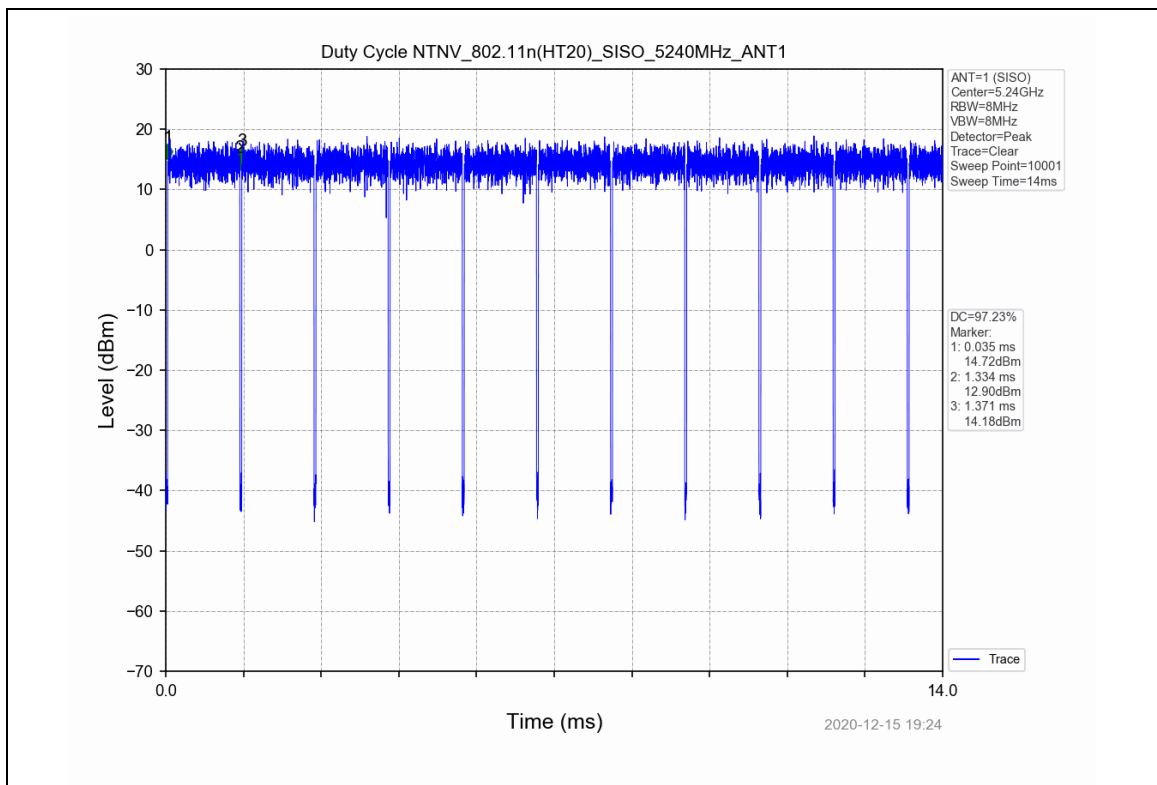
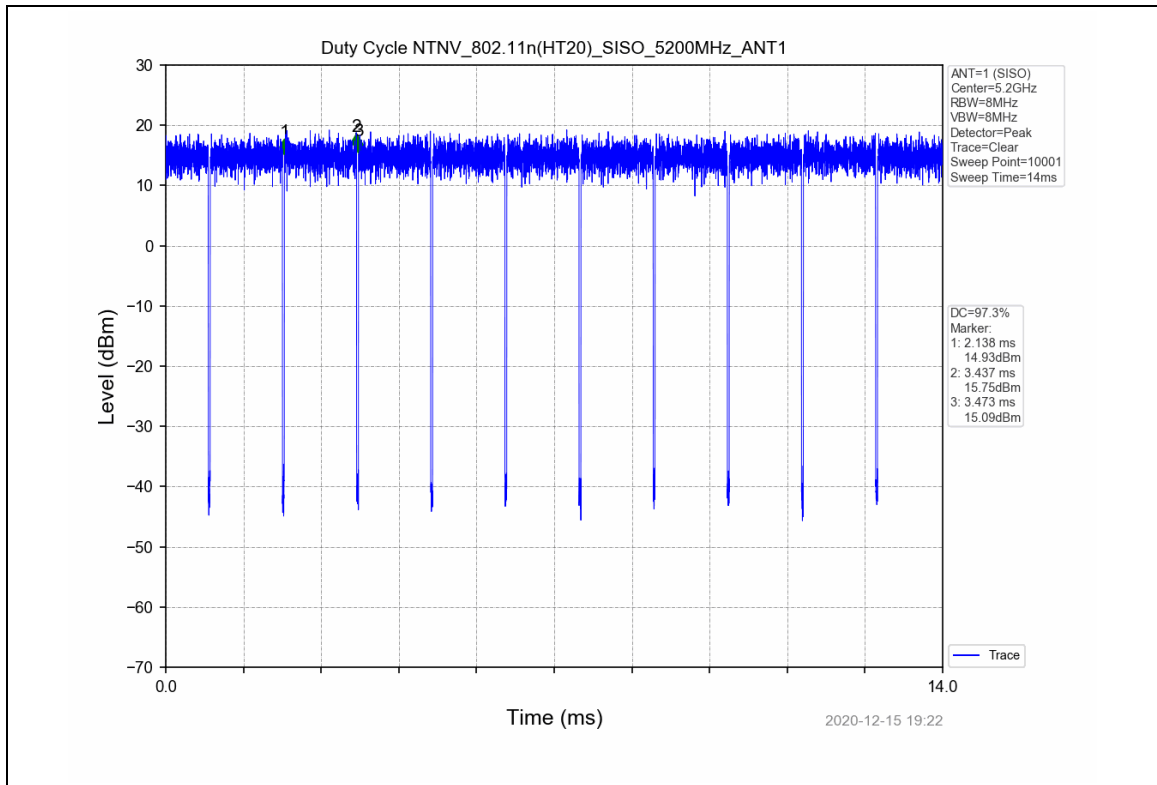
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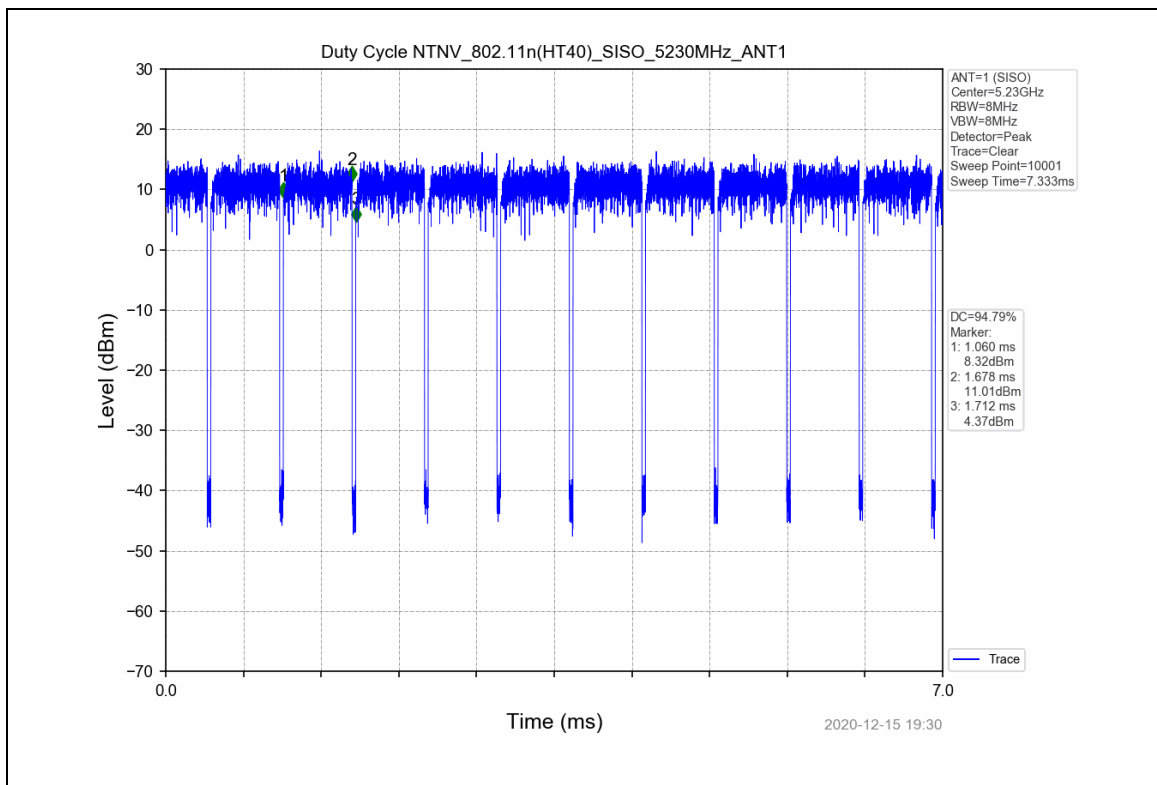
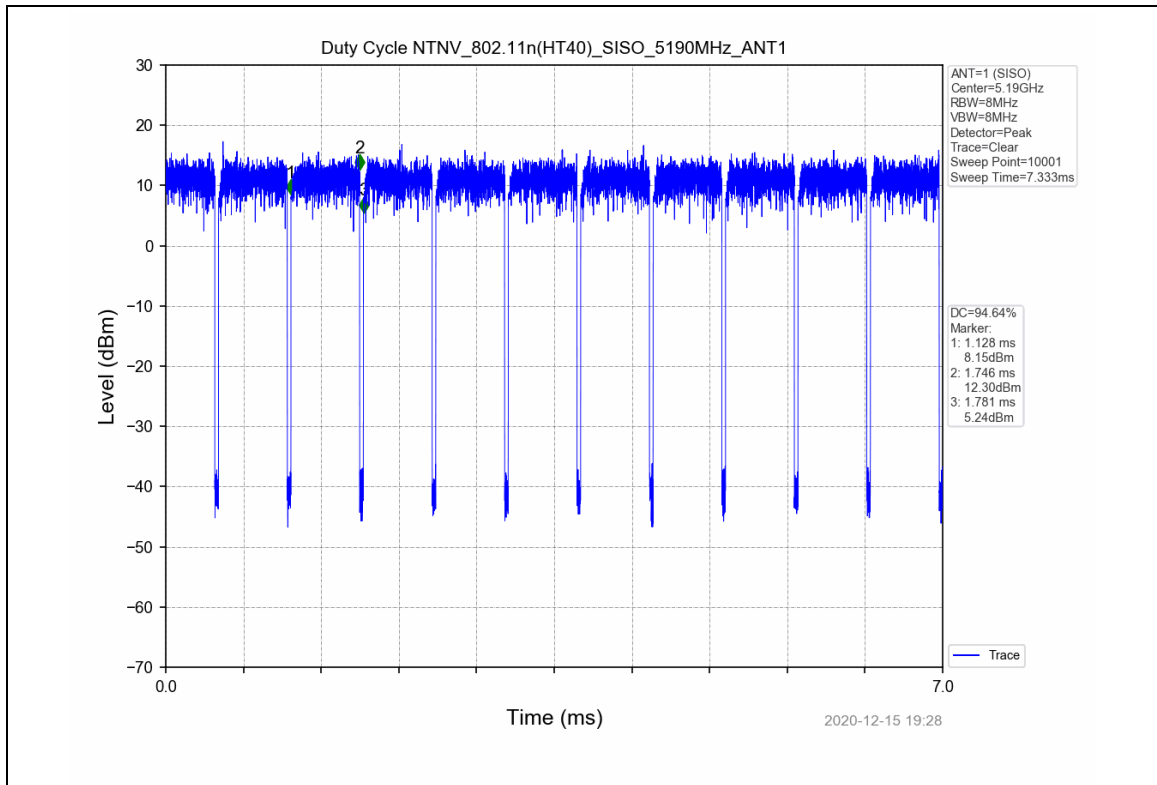
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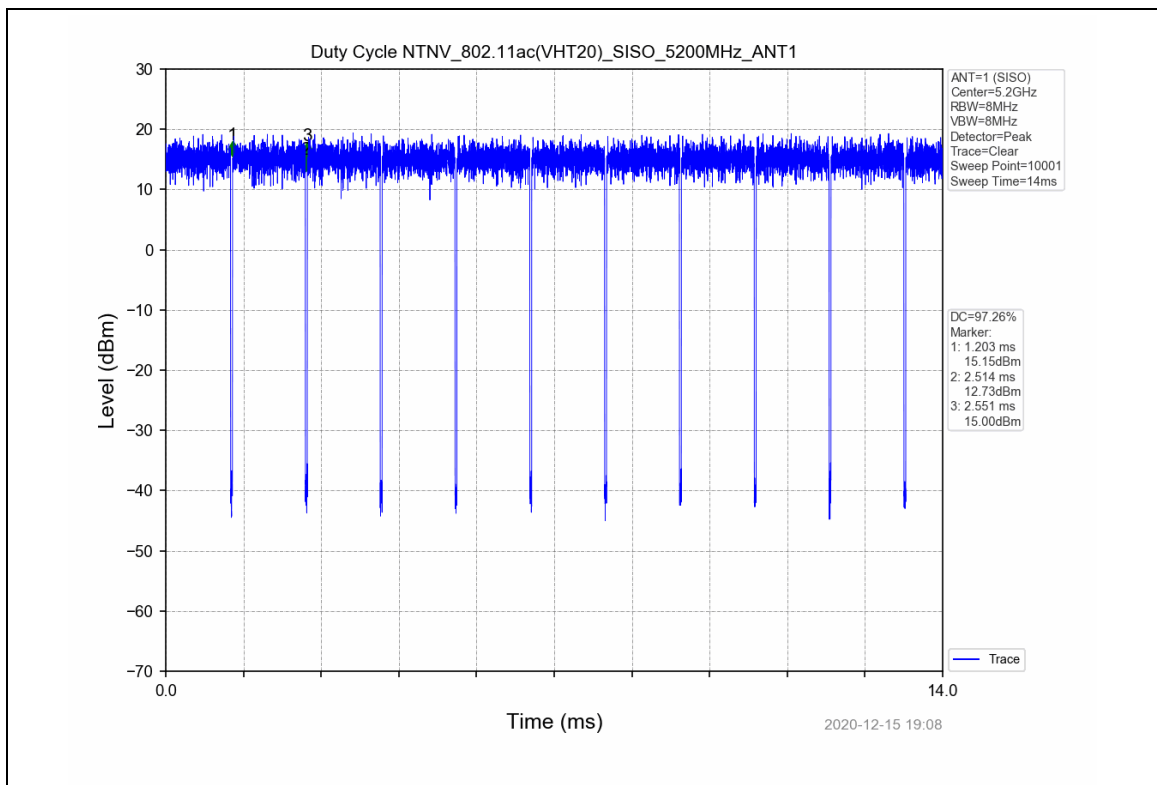
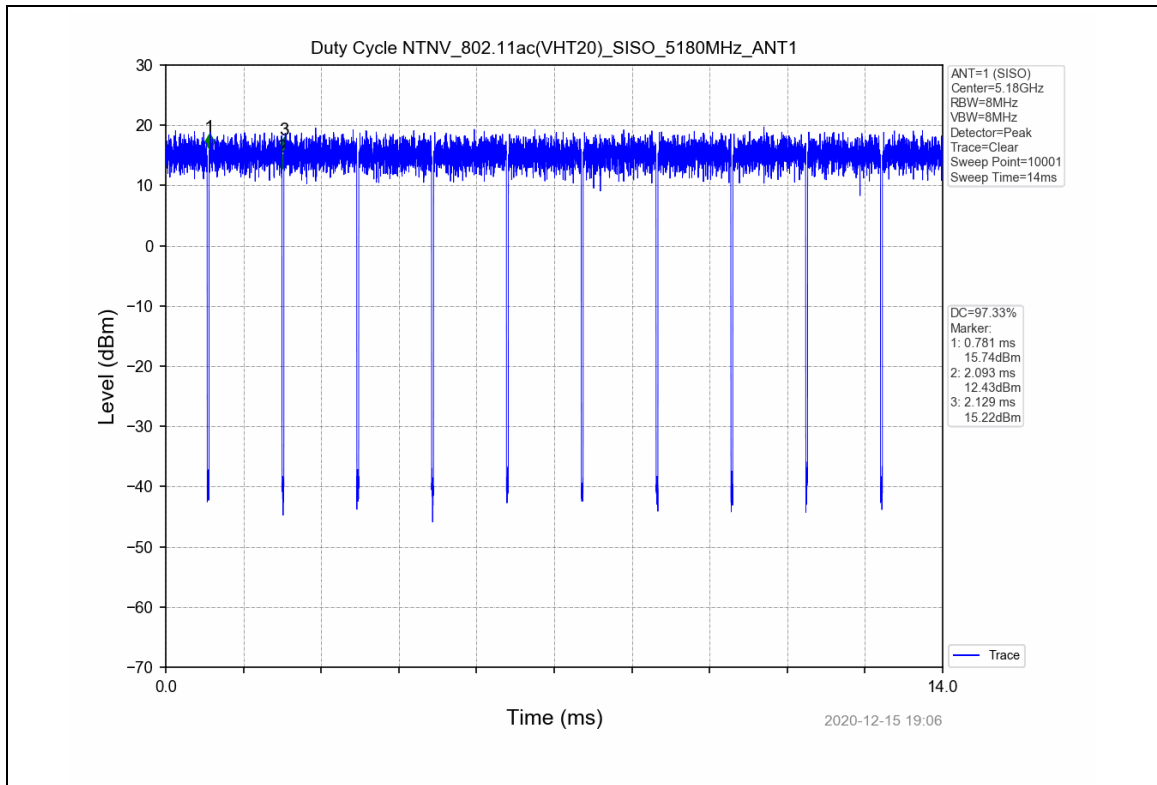
1.2 Test Graph

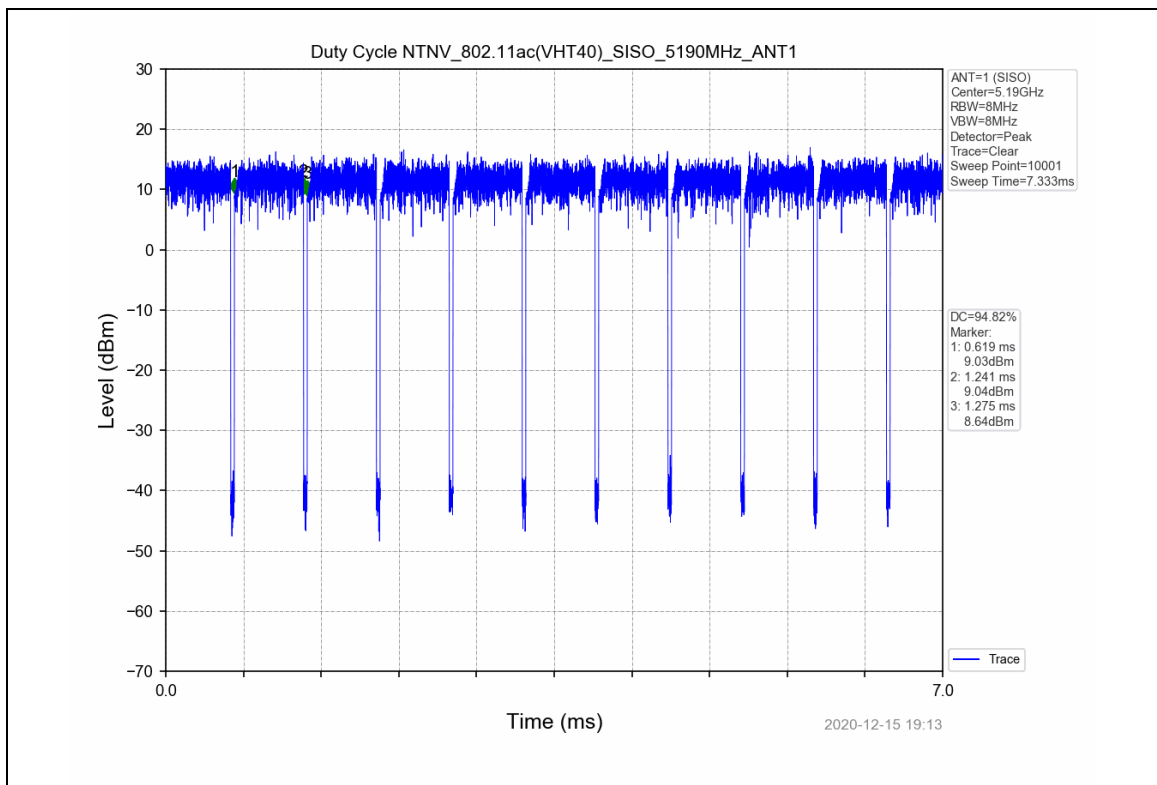
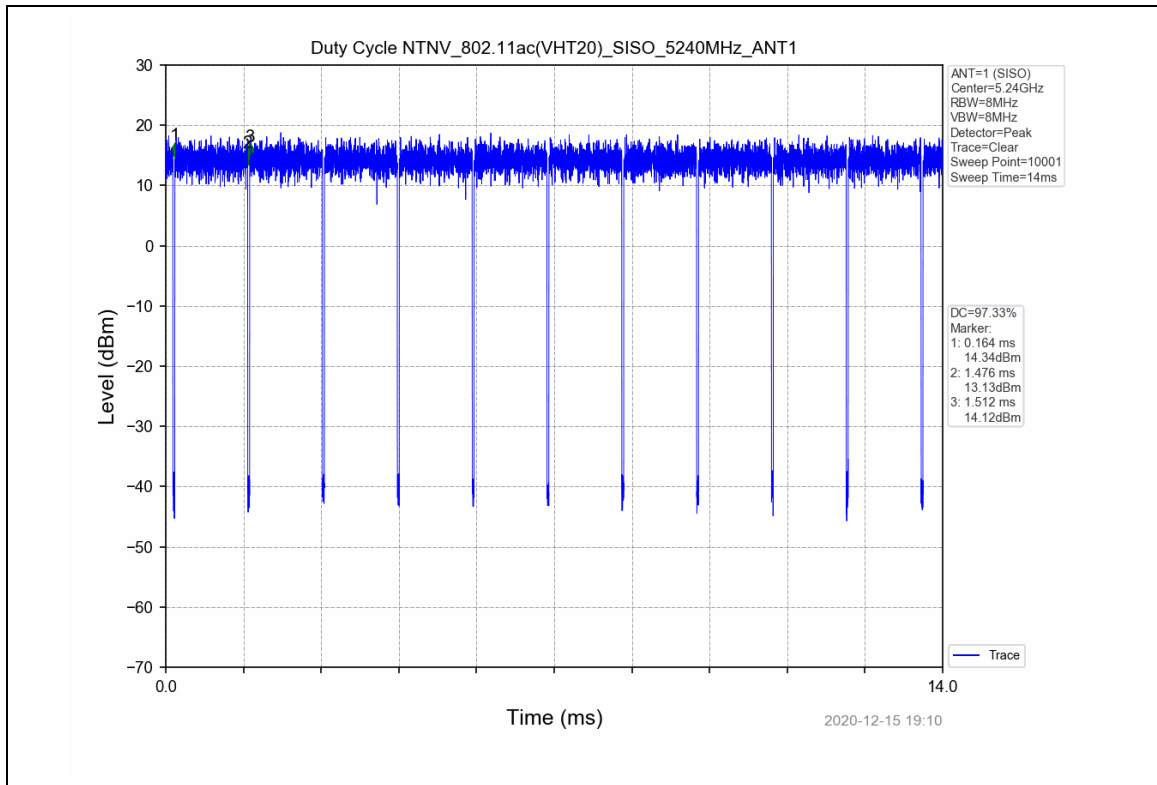


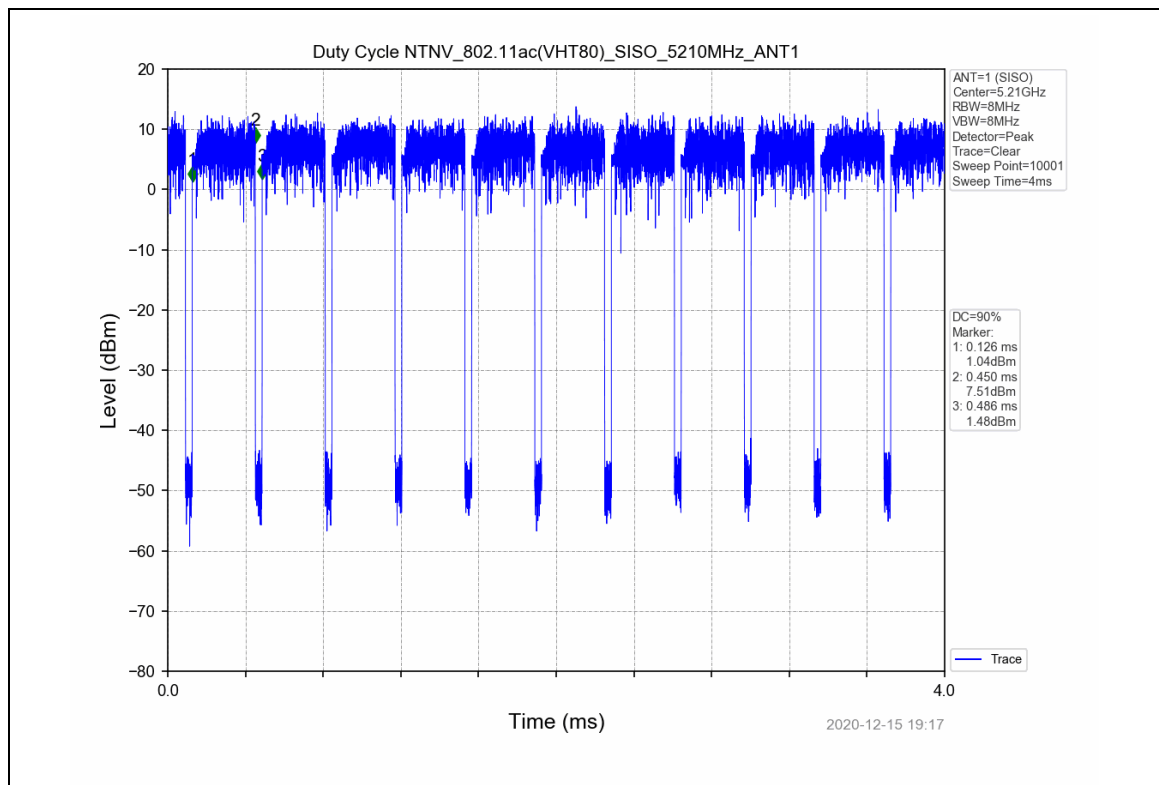
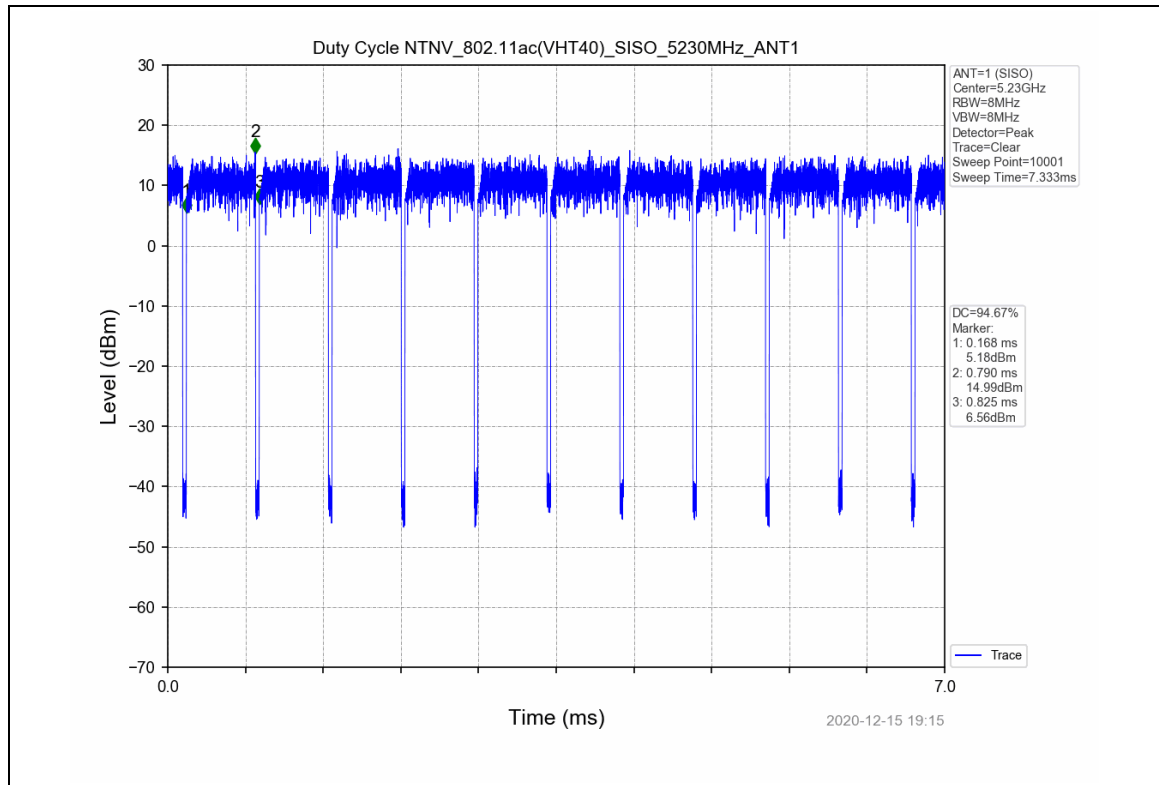














2. Bandwidth

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	19.916	Only for Report Use	PASS
	5200	SISO	1	20.114	Only for Report Use	PASS
	5240	SISO	1	20.261	Only for Report Use	PASS
802.11n(HT20)	5180	SISO	1	20.037	Only for Report Use	PASS
	5200	SISO	1	19.994	Only for Report Use	PASS
	5240	SISO	1	19.987	Only for Report Use	PASS
802.11n(HT40)	5190	SISO	1	41.909	Only for Report Use	PASS
	5230	SISO	1	40.199	Only for Report Use	PASS
802.11ac(VHT20)	5180	SISO	1	19.892	Only for Report Use	PASS
	5200	SISO	1	20.253	Only for Report Use	PASS
	5240	SISO	1	20.214	Only for Report Use	PASS
802.11ac(VHT40)	5190	SISO	1	40.836	Only for Report Use	PASS
	5230	SISO	1	40.366	Only for Report Use	PASS
802.11ac(VHT80)	5210	SISO	1	84.806	Only for Report Use	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
802.11a	5180	SISO	1	16.657	Only for Report Use
	5200	SISO	1	16.657	Only for Report Use
	5240	SISO	1	16.609	Only for Report Use
802.11n(HT20)	5180	SISO	1	17.669	Only for Report Use
	5200	SISO	1	17.663	Only for Report Use
	5240	SISO	1	17.618	Only for Report Use
802.11n(HT40)	5190	SISO	1	36.323	Only for Report Use
	5230	SISO	1	36.387	Only for Report Use
802.11ac(VHT20)	5180	SISO	1	17.599	Only for Report Use



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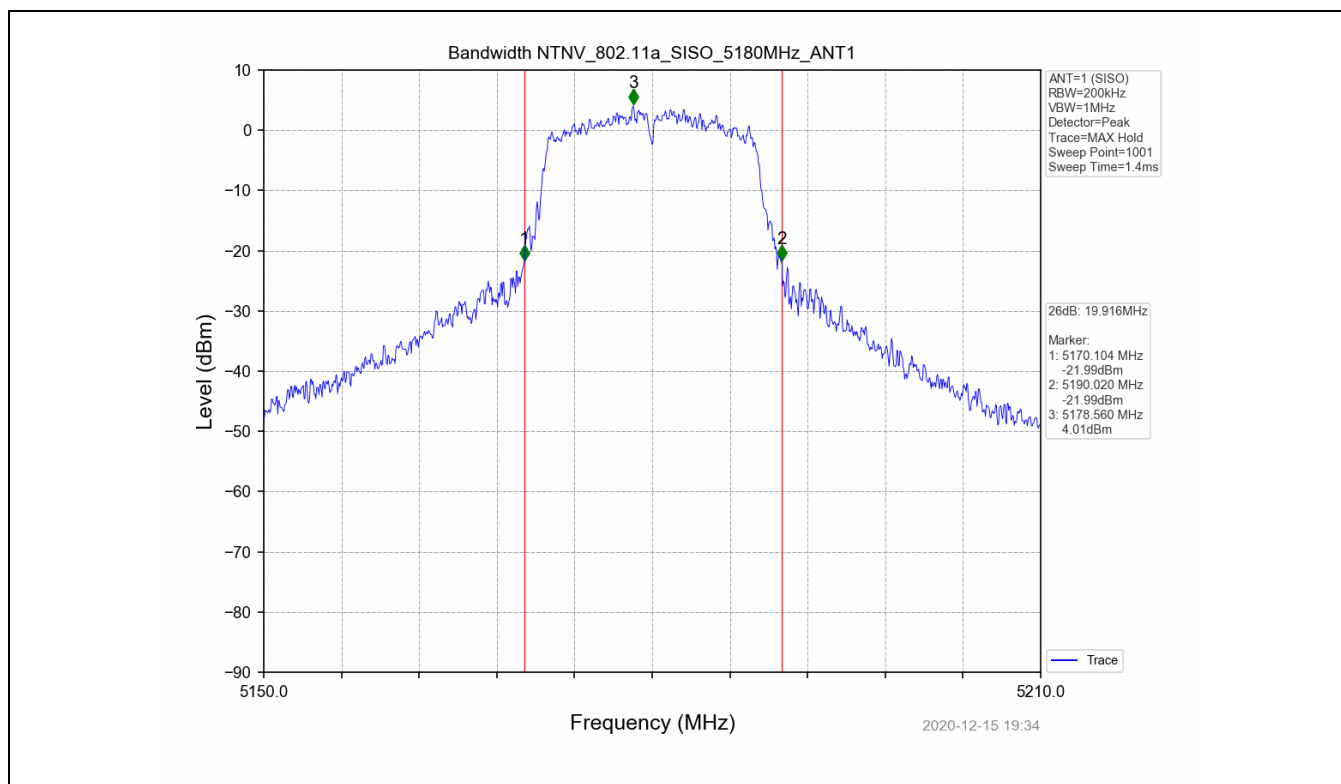
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	5200	SISO	1	17.629	Only for Report Use
	5240	SISO	1	17.613	Only for Report Use
802.11ac(VHT40)	5190	SISO	1	36.237	Only for Report Use
	5230	SISO	1	36.204	Only for Report Use
802.11ac(VHT80)	5210	SISO	1	75.893	Only for Report Use

2.2 Test Graph - Emission Bandwidth



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