TEST REPORT

Application No.:	SZEM2004002299CR
Applicant:	Echelon Fitness Multimedia LLC
Address of Applicant:	6011 Century Oaks Drive, Chattanoog, Tennessee 37416 United States
Manufacturer:	SHENZHEN KINSTONE D&T DEVELOP CO., LTD
Address of Manufacturer:	5F, A2B, XinJianXing Tech Industrial Park, Fengxin Road, Lou Cun, Gongming Street, Guangming New Dist., Shenzhen, China
Factory:	SHENZHEN KINSTONE D&T DEVELOP CO., LTD
Address of Factory:	5F, A2B, XinJianXing Tech Industrial Park, Fengxin Road, Lou Cun, Gongming Street, Guangming New Dist., Shenzhen, China
Equipment Under Test (EUT):	
EUT Name:	ECHELON 21.5 INCH SCREEN
Model No.:	ECHKIN215
Trade Mark:	ECHELON
FCC ID:	2AWD4-KS215A
Standard(s) :	47 CFR Part 15, Subpart E 15.407
Date of Receipt:	2020-04-08
Date of Test:	2020-04-09 to 2020-06-24
Date of Issue:	2020-06-30
Test Result:	**Pass***

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

Keny Xu
EMC Laboratory Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2020-06-30		Original

Authorized for issue by:				
				
		Calvin Weng /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

N/A: Not applicable

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
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
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II C 2	47 CFR Part 15, Subpart C 15.407 (e)	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

N/A: Not applicable

Remark:1. For the 802.11n(HT20 & HT40 mode), 802.11ac(VHT20,VHT40,VHT80), two antennas can transmit at the same time.

For 802.11a mode, ant1 is worst case for radiated emission test, and both antennas are transmitting for radiated emission test for other mode.

2. all the conducted RF test include offset value for cable loss.
3. in this report, directional gain=1.6+10*log(2)=4.61dBi.

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4 General Information

4.1 Details of E.U.T.

Power Supply:	DC12V/5000mA by power adapter Adapter input: AC100-240V, 50/60Hz, 1.5A Adapter model: JHD-AD065C-120500	
Cable:	Power adapter cable: 2m unshielded cable without ferrite core	
Operation Frequency:	Band	Mode / Frequency Range(MHz) / Number of channels
	UNII Band I	IEEE 802.11a/n20/ac20 — 5180-5240 — 4
		IEEE 802.11n40/ac40 — 5190-5230 — 2
		IEEE 802.11ac80 — 5210 — 1
	UNII Band III	IEEE 802.11a/n20/ac20 — 5745-5825 — 5
		IEEE 802.11n40/ac40 — 5755-5795 — 2
		IEEE 802.11ac80 — 5775 — 1
Type of Modulation:	802.11a/n: OFDM(BPSK/QPSK/16QAM/64QAM) 802.11ac: OFDM(BPSK/QPSK/16QAM/64QAM/256QAM)	
TPC Function:	Not support	
Antenna Type:	Ant1: PIFA antenna; Ant2: PIFA antenna	
Antenna Gain:	Ant1:1.6dBi; Ant2:1.6dBi	
S/N:	ECHKS21500000	
Software version:	Android 9.0	
Hardware version:	AD-Z33P-V1.0	

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 7.25 x 10^{-8}
2	Duty cycle	± 0.37%
3	Occupied Bandwidth	± 3%
4	RF conducted power	± 0.75dB
5	RF power density	± 2.84dB
6	Conducted Spurious emissions	± 0.75dB
7	Radiated Spurious emission test	± 4.5dB (Below 1GHz)
		± 4.8dB (Above 1GHz)
8	Temperature test	± 1℃
9	Humidity test	± 3%
10	Supply voltages	± 1.5%
11	Time	± 3%

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4.4 Test Location

All tests were performed at:

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

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

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

No tests were sub-contracted.

4.5 Test Facility

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

• **A2LA (Certificate No. 3816.01)**

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

• **VCCI**

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

• **FCC –Designation Number: CN1178**

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

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

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

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

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

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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
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2019-07-11	2020-07-10
LISN	Rohde & Schwarz	ENV216	SEM007-01	2019-09-24	2020-09-23
LISN	ETS-LINDGREN	3816/2	SEM007-02	2020-04-01	2021-03-31
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2020-03-24	2021-03-23

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	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

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	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

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Minimum 6 dB bandwidth (5.725-5.85 GHz band)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

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	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

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	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23

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Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27

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

Radiated Spurious Emissions					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-08-05	2020-08-04
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2019-07-11	2020-07-10
MXE EMI receiver	KEYSIGHT	N9038A	SEM004-15	2019-12-16	2020-12-15
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26
Pre-amplifier	Agilent Technologies	8447D	SEM005-01	2020-04-01	2021-03-31
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019-07-11	2020-07-10
EXA Spectrum Analyzer	AgilentTechnologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08
Horn Antenna	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16

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Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2020-04-01	2021-03-31
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-04-01	2021-03-31
DC Power Supply	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21

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

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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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an 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 1.6dBi.

6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 15.407 (c)

6.2.2 Conclusion

Standard Requirement:

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

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

EUT Details:

WIFI chip (BCM43598) 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.		

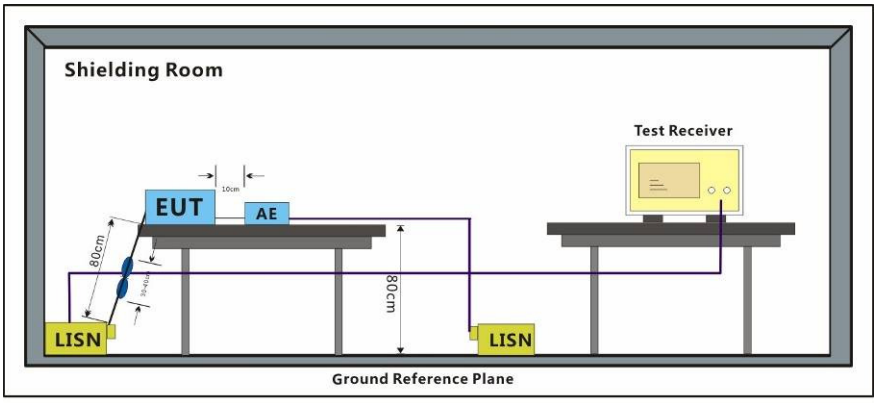
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.6 °C Humidity: 57.5 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
The worst case for final test:	e:TX mode (Band 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.

7.1.2 Test Setup Diagram



7.1.3 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

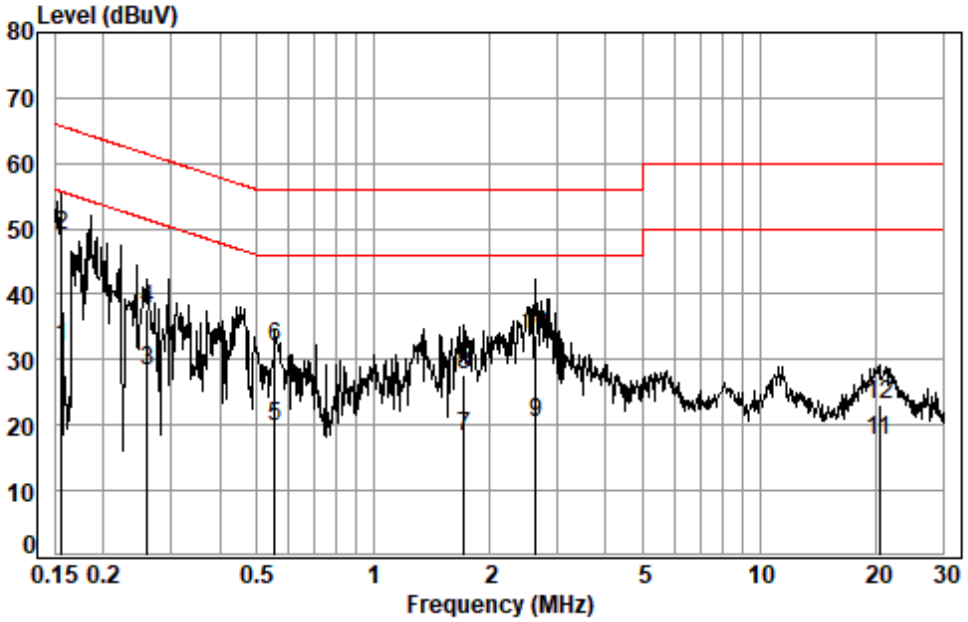
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

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

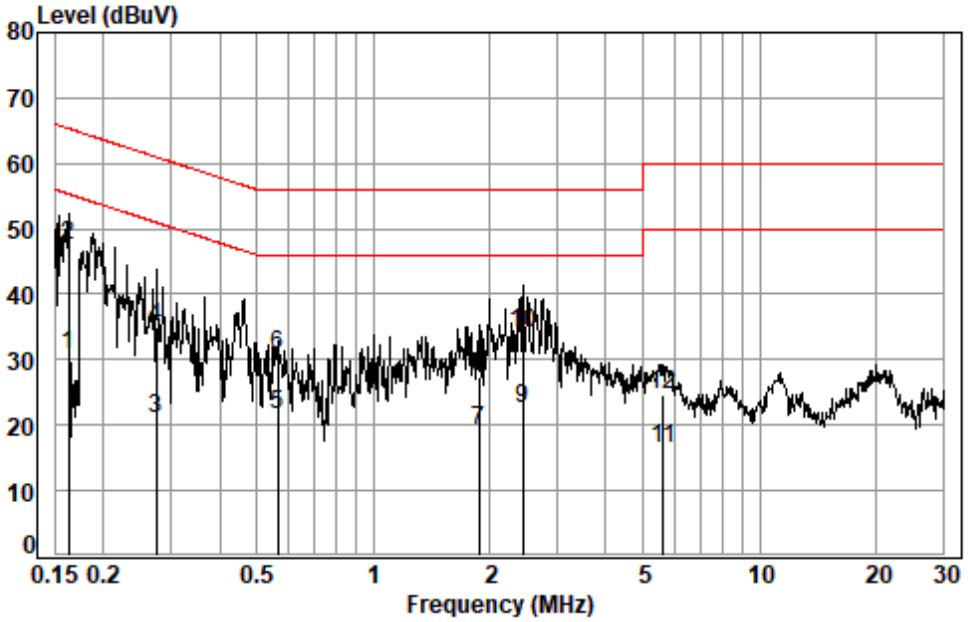
Mode:e; Line:Live Line



Site : Shielding Room
Condition: Line
Job No. : 02299CR
Test mode: e

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1565	0.01	9.59	22.41	32.01	55.65	-23.64	Average
2	0.1565	0.01	9.59	39.33	48.93	65.65	-16.72	QP
3	0.2603	0.03	9.59	18.69	28.31	51.42	-23.11	Average
4	0.2603	0.03	9.59	28.06	37.68	61.42	-23.74	QP
5	0.5552	0.06	9.60	10.02	19.68	46.00	-26.32	Average
6	0.5552	0.06	9.60	22.36	32.02	56.00	-23.98	QP
7	1.7162	0.14	9.61	8.43	18.18	46.00	-27.82	Average
8	1.7162	0.14	9.61	17.93	27.68	56.00	-28.32	QP
9	2.6360	0.16	9.65	10.62	20.43	46.00	-25.57	Average
10	2.6360	0.16	9.65	23.88	33.69	56.00	-22.31	QP
11	20.4855	0.24	10.63	6.86	17.73	50.00	-32.27	Average
12	20.4855	0.24	10.63	12.24	23.11	60.00	-36.89	QP

Mode:e; Line:Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 02299CR
Test mode: e

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1624	0.01	9.55	21.14	30.70	55.34	-24.64	Average
2	0.1624	0.01	9.55	37.79	47.35	65.34	-17.99	QP
3	0.2744	0.04	9.54	11.38	20.96	50.98	-30.02	Average
4	0.2744	0.04	9.54	25.52	35.10	60.98	-25.88	QP
5	0.5671	0.07	9.55	11.92	21.54	46.00	-24.46	Average
6	0.5671	0.07	9.55	20.97	30.59	56.00	-25.41	QP
7	1.8779	0.15	9.56	9.41	19.12	46.00	-26.88	Average
8	1.8779	0.15	9.56	17.72	27.43	56.00	-28.57	QP
9	2.4346	0.16	9.57	12.75	22.48	46.00	-23.52	Average
10	2.4346	0.16	9.57	24.37	34.10	56.00	-21.90	QP
11	5.6234	0.17	9.65	6.61	16.43	50.00	-33.57	Average
12	5.6234	0.17	9.65	14.87	24.69	60.00	-35.31	QP

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7.2 99% Bandwidth

Test Requirement N/A

Test Method: KDB 789033 II D

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.8 °C Humidity: 34.5 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
The worst case for final test:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

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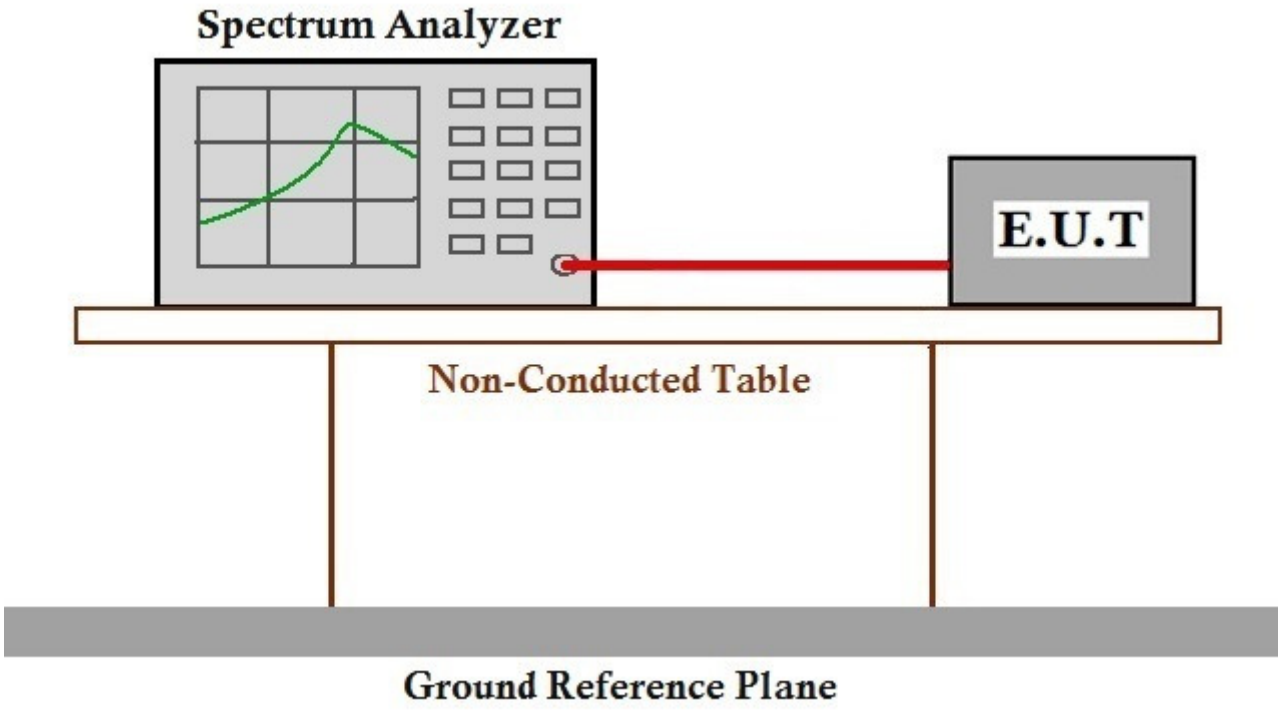
7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

7.3 26dB Emission bandwidth

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

Test Method: KDB 789033 D02 II C 1

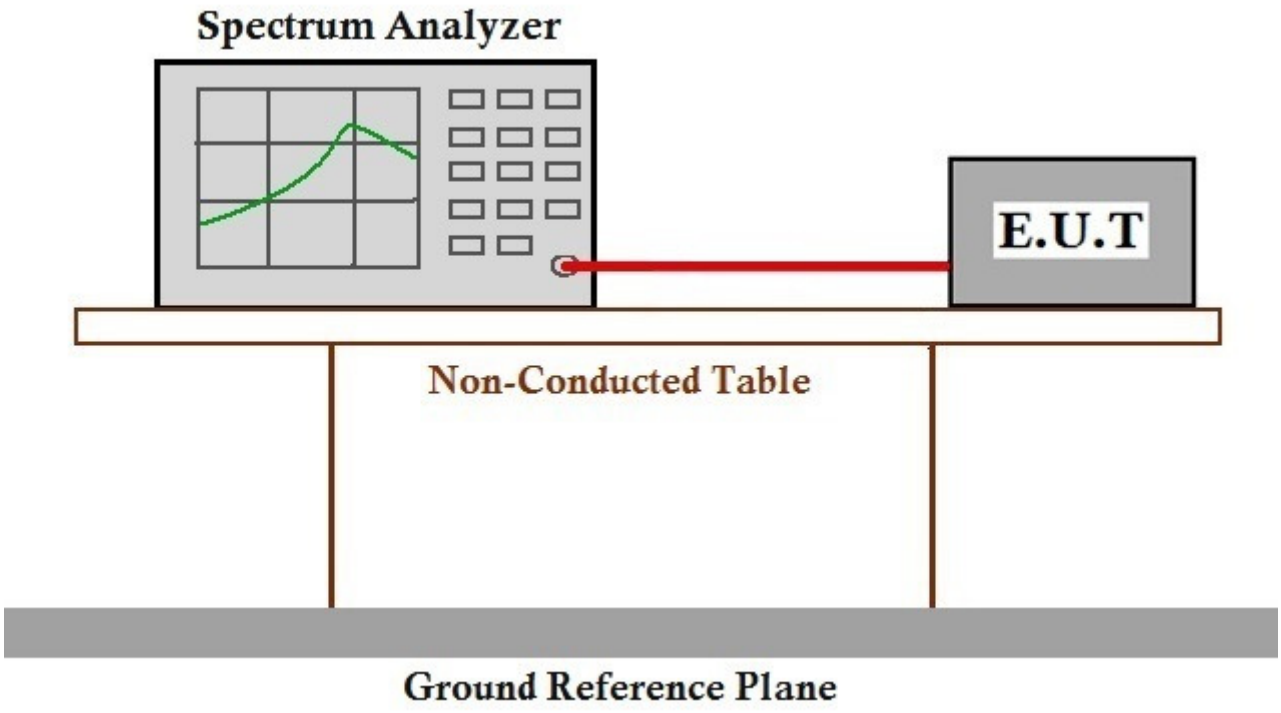
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24.8 °C Humidity: 34.5 % RH Atmospheric Pressure: 1015 mbar

Test mode f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

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

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

Test Method: KDB 789033 D02 II C 2

Limit: ≥500 kHz

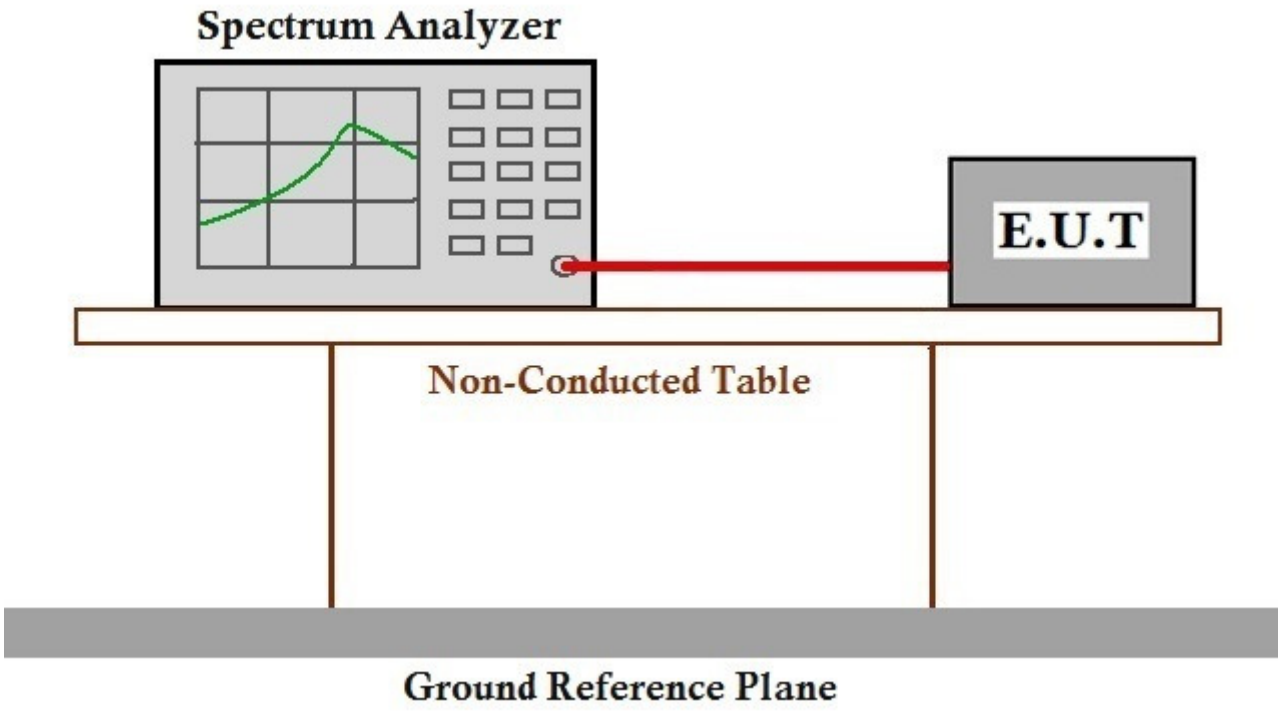
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24.8 °C Humidity: 34.5 % RH Atmospheric Pressure: 1015 mbar

Test mode f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.4.2 Test Setup Diagram



7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

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.

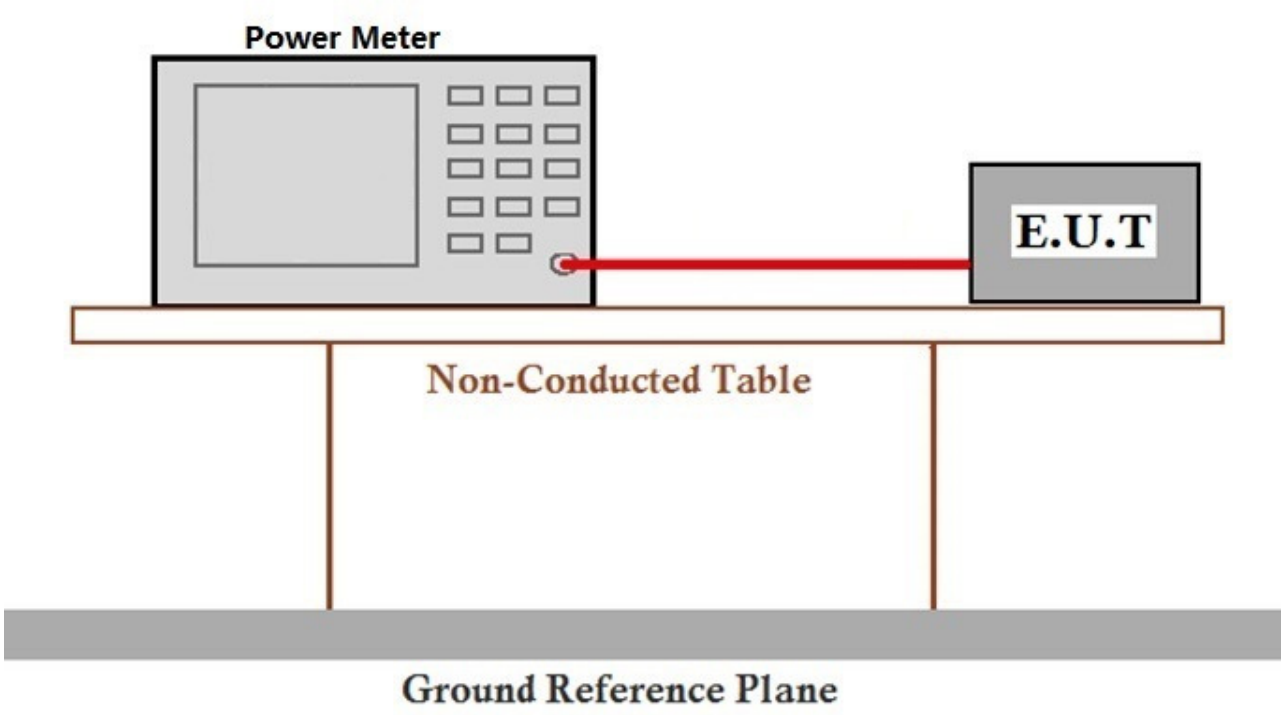
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 24.8 °C Humidity: 34.5 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
The worst case for final test:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.5.2 Test Setup Diagram



7.5.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

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.

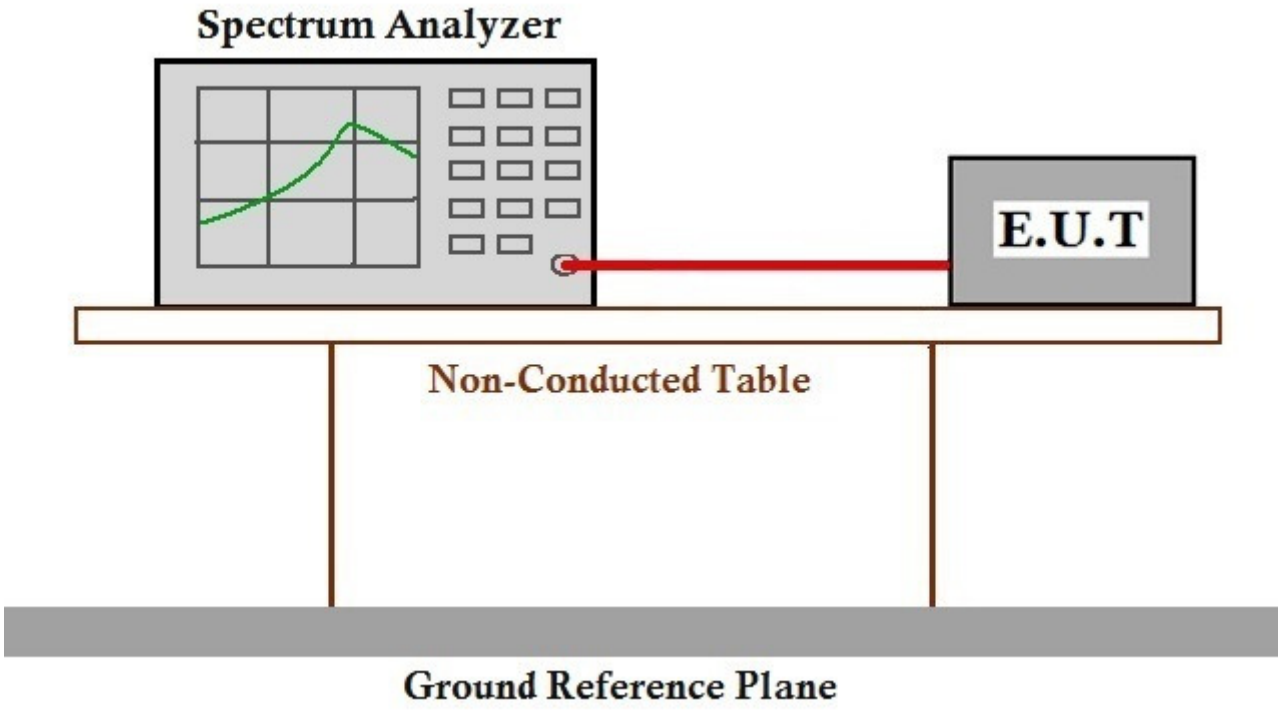
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 24.8 °C Humidity: 34.5 % RH Atmospheric Pressure: 1015 mbar

Pretest these modes to find the worst case:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
The worst case for final test:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.6.2 Test Setup Diagram



7.6.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

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:

Limit:

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 (68.2dBuV/m).
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 (68.2dBuV/m).
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 (68.2dBuV/m).
For transmitters operating in the 5.725-5.85 GHz band:	(i) All emissions shall be limited to a level of –27 dBm/MHz (68.2dBuV/m) at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz (105.2dBuV/m) 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 (110.8dBuV/m) 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 (122.2dBuV/m) at the band edge.

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

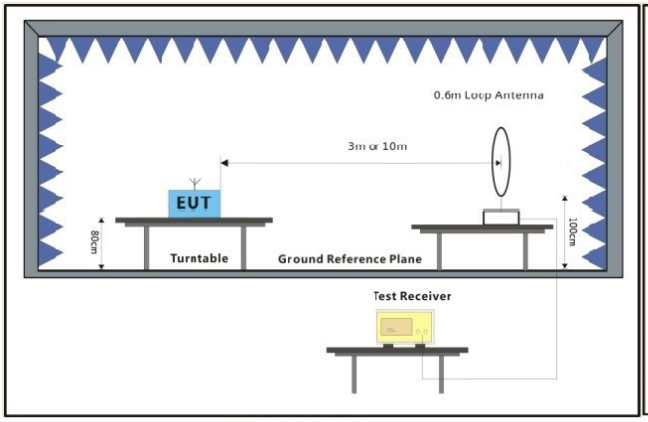
7.7.1 E.U.T. Operation

Operating Environment:

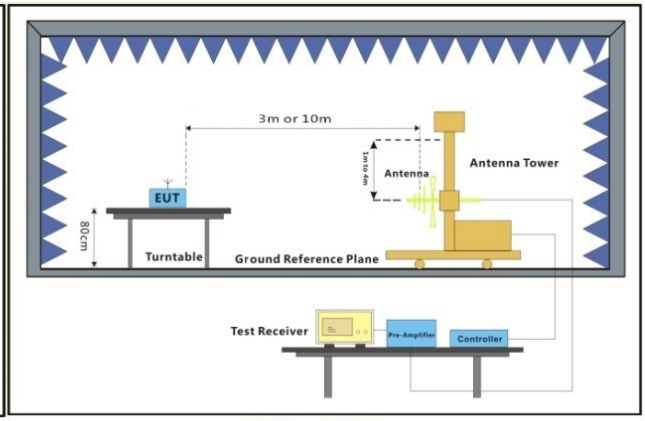
Temperature:	25 °C	Humidity:	45 % RH	Atmospheric Pressure:	1015 mbar

Pretest these modes to find the worst case:	e:TX mode (Band 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.
	f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
The worst case for final test:	e:TX mode (Band 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.

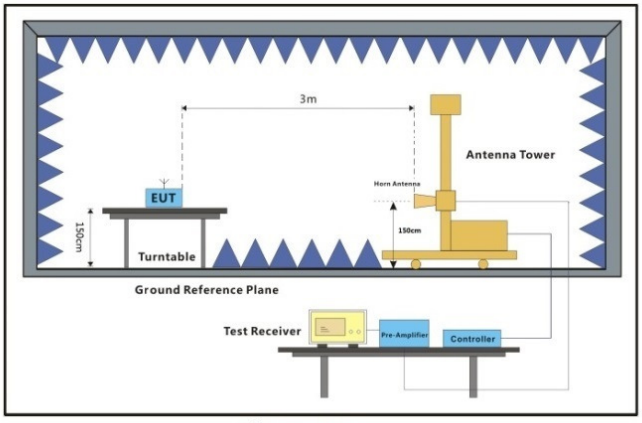
7.7.2 Test Setup Diagram



Below 30MHz



30MHz-1GHz



Above 1GHz

7.7.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.

3. Scan from 9kHz to 40GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

4. 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.

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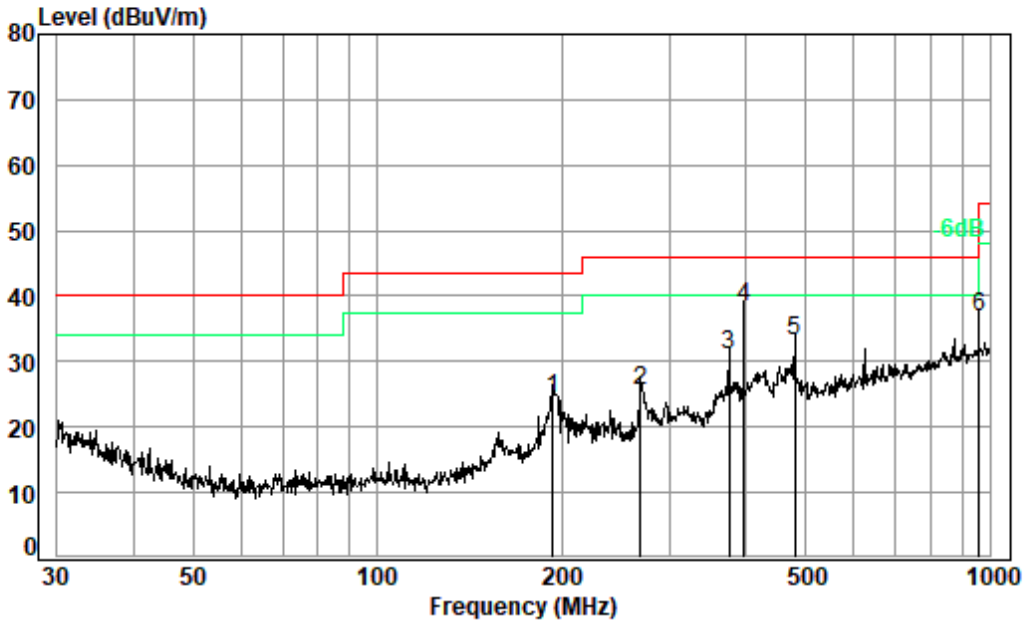
Below 1GHz

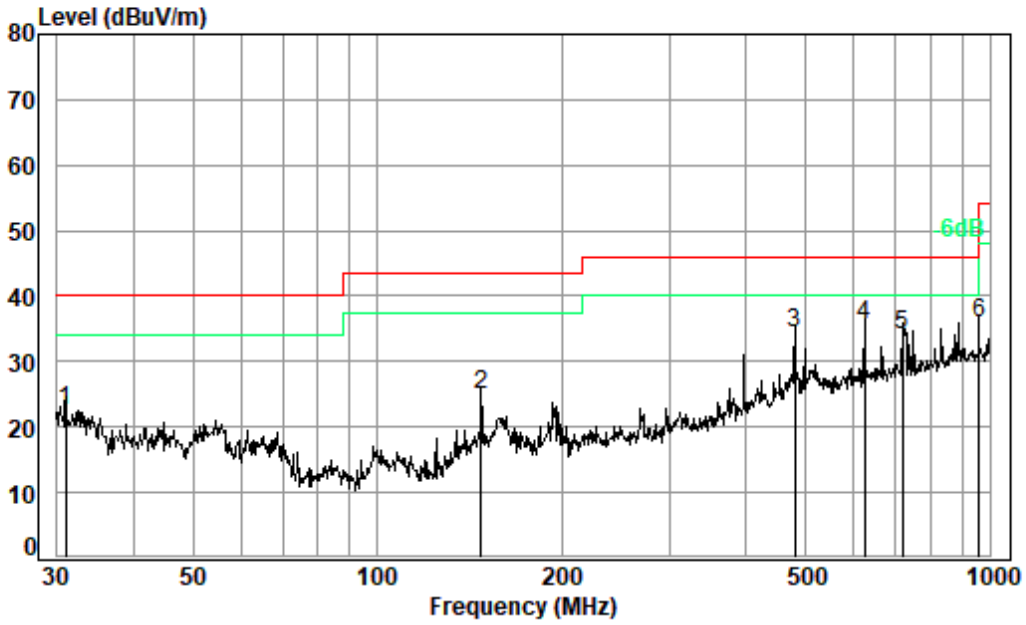
Mode:e; Polarization:Horizontal;



Condition: 3m HORIZONTAL
Job No. : 02299CR
Test mode: e

	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	193.77	1.39	16.32	27.19	33.87	24.39	43.50	-19.11	QP
2	268.49	1.76	18.97	26.97	31.81	25.57	46.00	-20.43	QP
3	374.62	2.13	21.76	27.30	34.50	31.09	46.00	-14.91	QP
4 pp	396.24	2.19	22.31	27.40	41.21	38.31	46.00	-7.69	QP
5	480.53	2.53	24.21	27.76	34.20	33.18	46.00	-12.82	QP
6	958.79	3.66	30.10	27.06	30.18	36.88	46.00	-9.12	QP

Mode:e; Polarization:Vertical;



Condition: 3m VERTICAL
Job No. : 02299CR
Test mode: e

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.96	0.60	21.95	27.73	27.84	22.66	40.00	-17.34	QP
2	147.92	1.31	14.44	27.37	36.66	25.04	43.50	-18.46	QP
3	480.53	2.53	24.21	27.76	35.49	34.47	46.00	-11.53	QP
4	625.08	2.75	26.95	28.11	34.04	35.63	46.00	-10.37	QP
5	719.20	2.96	28.02	27.89	30.91	34.00	46.00	-12.00	QP
6 pp	958.79	3.66	30.10	27.06	29.25	35.95	46.00	-10.05	QP

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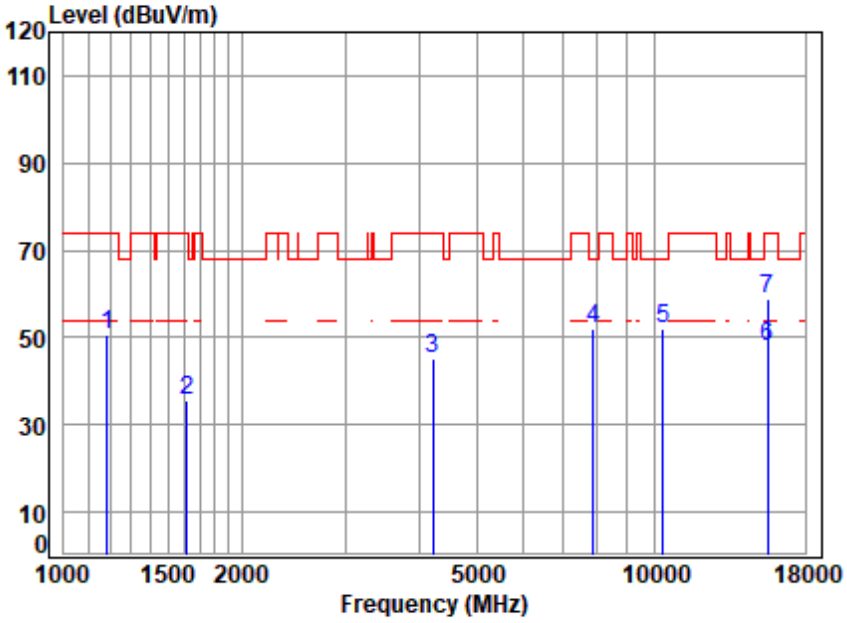
Above 1GHz

Mode:e; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.43	50.43	74.00	-23.57	peak
2	1615.754	3.36	26.32	40.58	46.30	35.40	74.00	-38.60	peak
3	4218.186	6.50	33.11	42.33	47.73	45.01	74.00	-28.99	peak
4	7875.254	9.32	36.60	41.26	47.33	51.99	68.20	-16.21	peak
5	10360.000	10.57	37.76	38.17	41.75	51.91	68.20	-16.29	peak
6	15540.000	13.97	40.72	40.58	33.94	48.05	54.00	-5.95	Average
7	15540.000	13.97	40.72	40.58	44.94	59.05	74.00	-14.95	peak

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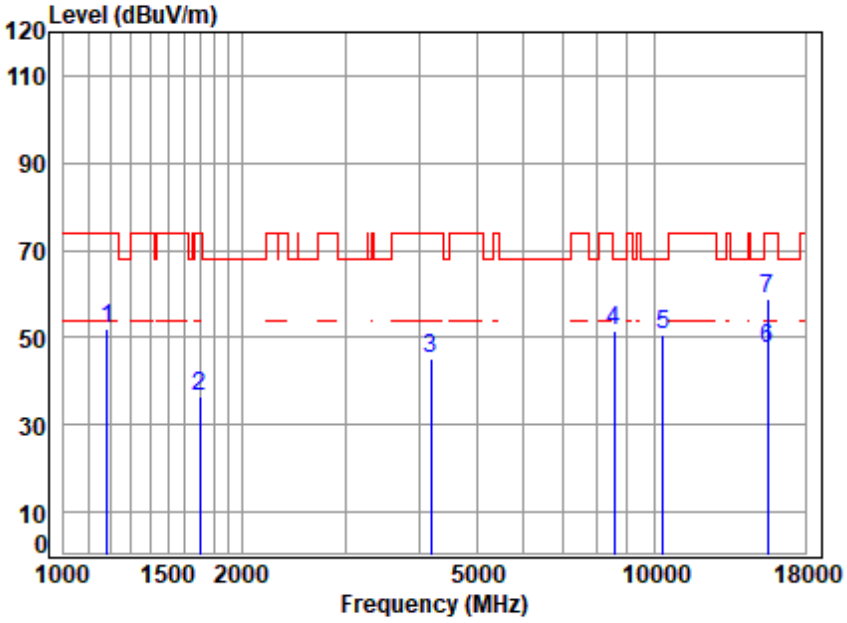
Mode:e; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.82	51.82	74.00	-22.18	peak
2	1702.042	3.43	26.68	40.63	46.92	36.40	74.00	-37.60	peak
3	4181.768	6.46	33.04	42.31	47.99	45.18	74.00	-28.82	peak
4	8563.818	10.13	37.03	40.22	44.54	51.48	68.20	-16.72	peak
5	10360.000	10.57	37.76	38.17	40.56	50.72	68.20	-17.48	peak
6	15540.000	13.97	40.72	40.58	33.12	47.23	54.00	-6.77	Average
7	15540.000	13.97	40.72	40.58	44.61	58.72	74.00	-15.28	peak

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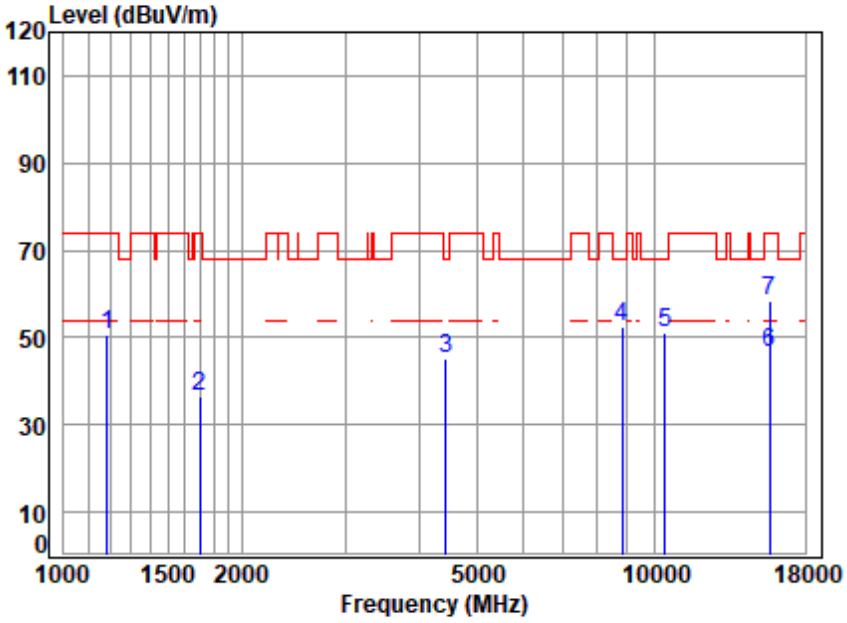
Mode:e; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5220 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.50	50.50	74.00	-23.50	peak
2	1702.042	3.43	26.68	40.63	47.21	36.69	74.00	-37.31	peak
3	4430.628	6.70	33.48	42.50	47.51	45.19	68.20	-23.01	peak
4	8814.957	10.23	37.13	39.81	44.97	52.52	68.20	-15.68	peak
5	10440.000	10.55	37.72	38.21	41.07	51.13	68.20	-17.07	peak
6	15660.000	14.02	40.80	40.58	32.51	46.75	54.00	-7.25	Average
7	15660.000	14.02	40.80	40.58	44.28	58.52	74.00	-15.48	peak

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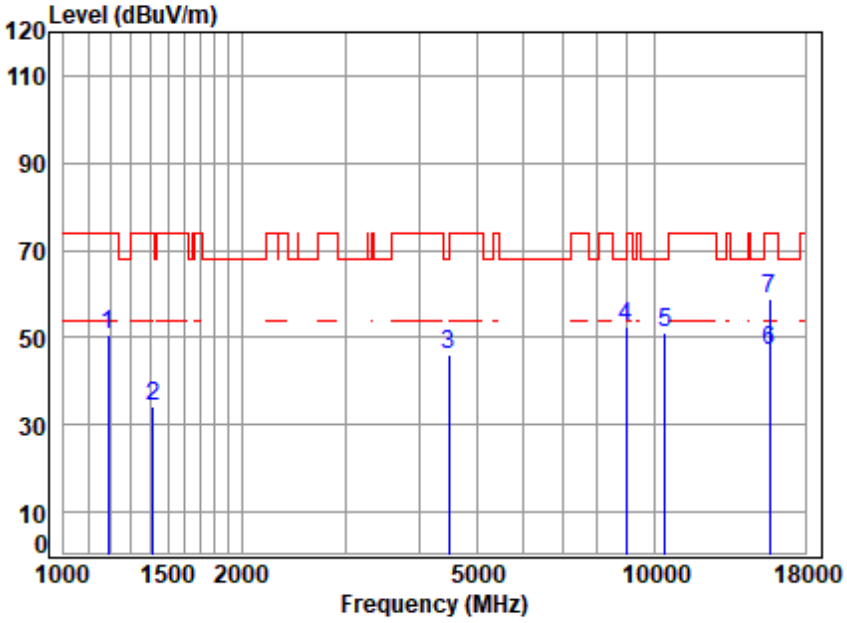
Mode:e; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5220 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	63.55	50.56	74.00	-23.44	peak
2	1418.692	3.14	25.50	40.45	46.18	34.37	74.00	-39.63	peak
3	4495.125	6.76	33.59	42.55	48.26	46.06	68.20	-22.14	peak
4	8943.274	10.28	37.18	39.60	44.48	52.34	68.20	-15.86	peak
5	10440.000	10.55	37.72	38.21	40.94	51.00	68.20	-17.20	peak
6	15660.000	14.02	40.80	40.58	32.78	47.02	54.00	-6.98	Average
7	15660.000	14.02	40.80	40.58	44.41	58.65	74.00	-15.35	peak

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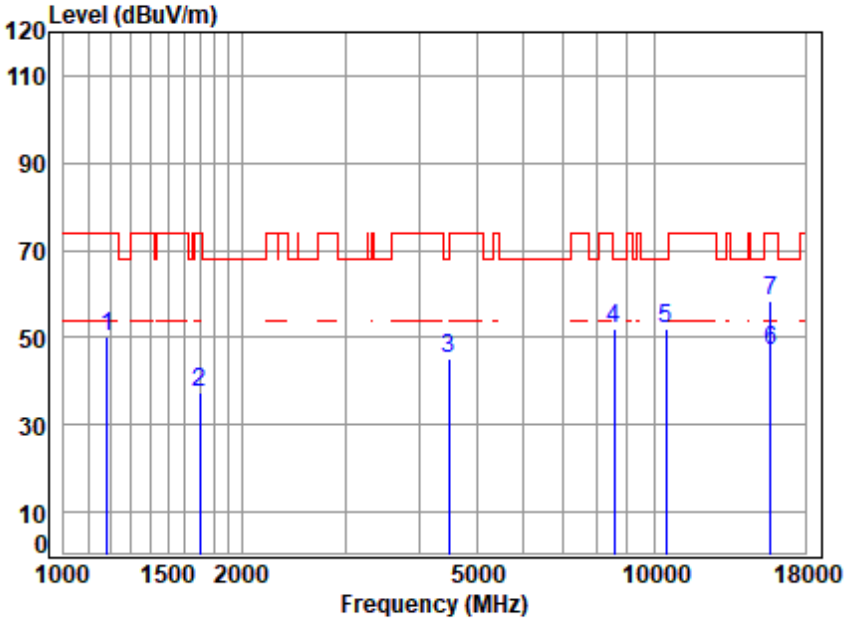
Mode:e; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.10	50.10	74.00	-23.90	peak
2	1697.129	3.43	26.66	40.63	47.99	37.45	74.00	-36.55	peak
3	4482.150	6.74	33.57	42.54	47.46	45.23	68.20	-22.97	peak
4	8539.102	10.12	37.02	40.26	44.98	51.86	68.20	-16.34	peak
5	10480.000	10.54	37.71	38.23	42.21	52.23	68.20	-15.97	peak
6	15720.000	14.04	40.83	40.57	32.82	47.12	54.00	-6.88	Average
7	15720.000	14.04	40.83	40.57	43.96	58.26	74.00	-15.74	peak

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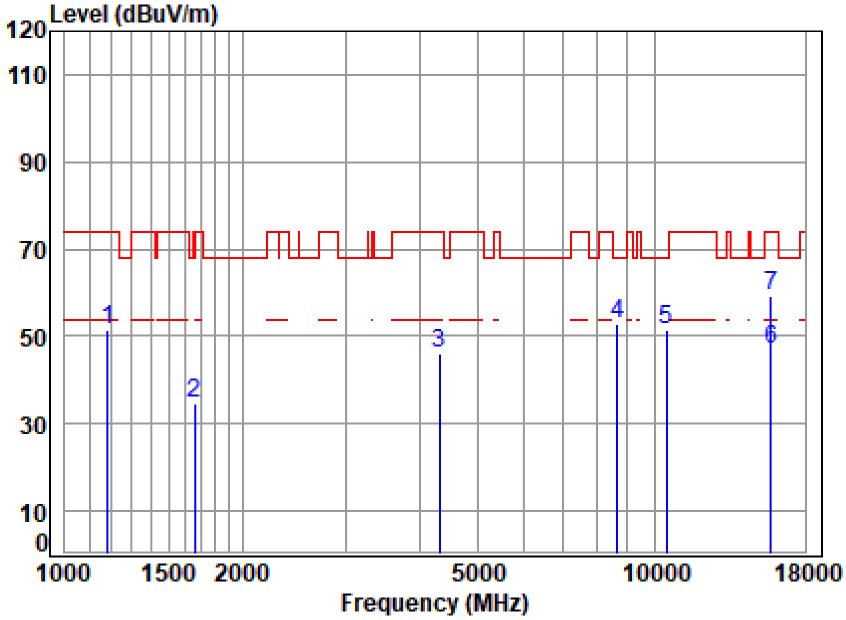
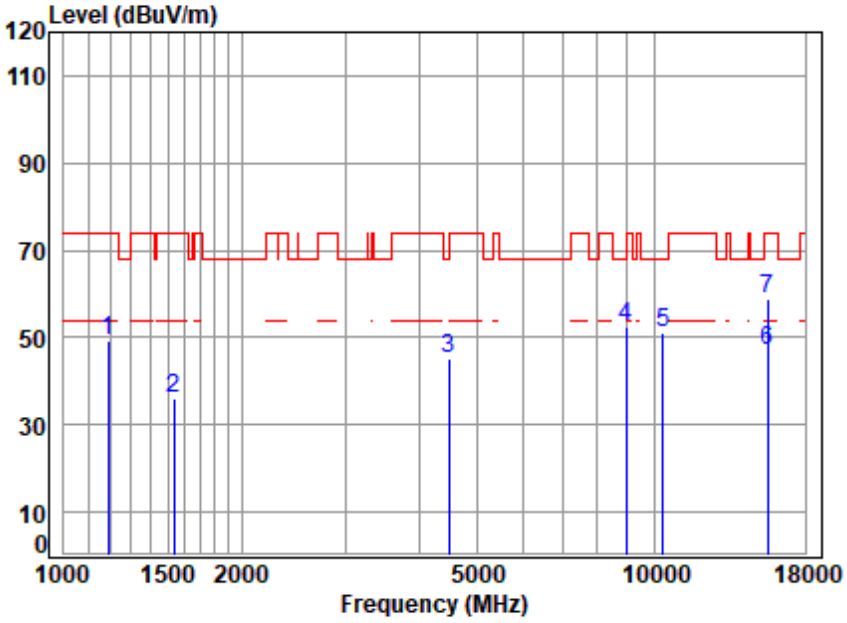
Mode:e; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.39	51.39	74.00	-22.61	peak
2	1663.137	3.40	26.52	40.61	45.52	34.83	74.00	-39.17	peak
3	4316.859	6.59	33.28	42.41	48.50	45.96	74.00	-28.04	peak
4	8663.404	10.17	37.07	40.06	45.55	52.73	68.20	-15.47	peak
5	10480.000	10.54	37.71	38.23	41.54	51.56	68.20	-16.64	peak
6	15720.000	14.04	40.83	40.57	32.85	47.15	54.00	-6.85	Average
7	15720.000	14.04	40.83	40.57	44.96	59.26	74.00	-14.74	peak

Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	62.08	49.09	74.00	-24.91	peak
2	1538.281	3.29	25.98	40.53	47.18	35.92	74.00	-38.08	peak
3	4482.150	6.74	33.57	42.54	47.33	45.10	68.20	-23.10	peak
4	8969.161	10.29	37.19	39.56	44.72	52.64	68.20	-15.56	peak
5	10360.000	10.57	37.76	38.17	41.11	51.27	68.20	-16.93	peak
6	15540.000	13.97	40.72	40.58	33.10	47.21	54.00	-6.79	Average
7	15540.000	13.97	40.72	40.58	44.66	58.77	74.00	-15.23	peak

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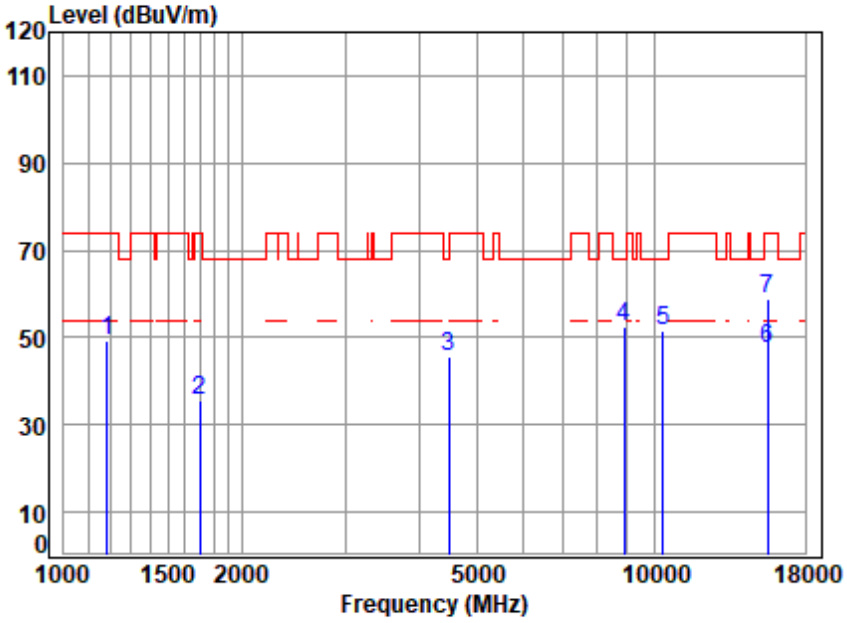
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	62.07	49.07	74.00	-24.93	peak
2	1697.129	3.43	26.66	40.63	46.11	35.57	74.00	-38.43	peak
3	4482.150	6.74	33.57	42.54	47.84	45.61	68.20	-22.59	peak
4	8891.725	10.26	37.16	39.68	44.69	52.43	68.20	-15.77	peak
5	10360.000	10.57	37.76	38.17	41.46	51.62	68.20	-16.58	peak
6	15540.000	13.97	40.72	40.58	33.14	47.25	54.00	-6.75	Average
7	15540.000	13.97	40.72	40.58	44.94	59.05	74.00	-14.95	peak

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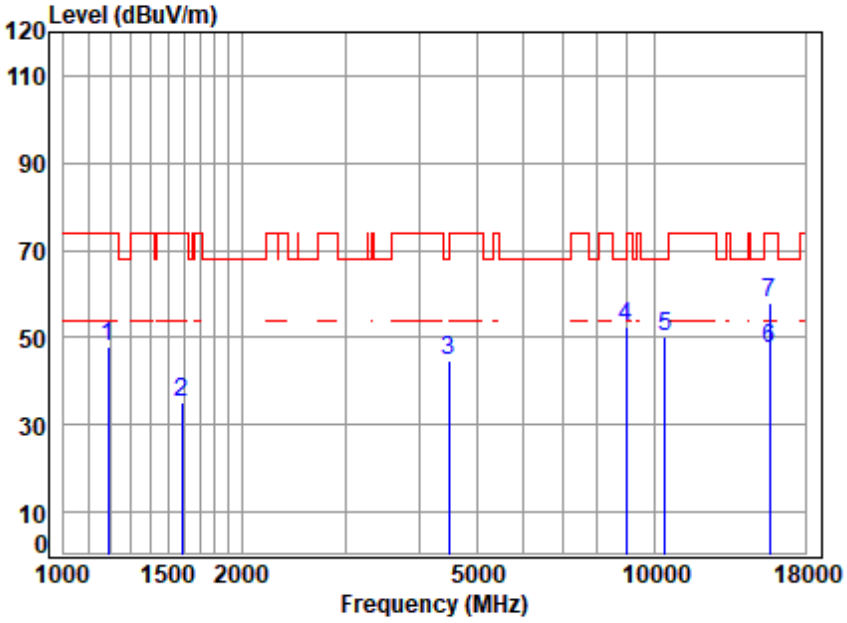
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5220 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	61.07	48.08	74.00	-25.92	peak
2	1583.392	3.33	26.18	40.56	46.01	34.96	74.00	-39.04	peak
3	4482.150	6.74	33.57	42.54	47.08	44.85	68.20	-23.35	peak
4	8943.274	10.28	37.18	39.60	44.48	52.34	68.20	-15.86	peak
5	10440.000	10.55	37.72	38.21	40.22	50.28	68.20	-17.92	peak
6	15660.000	14.02	40.80	40.58	32.99	47.23	54.00	-6.77	Average
7	15660.000	14.02	40.80	40.58	43.82	58.06	74.00	-15.94	peak

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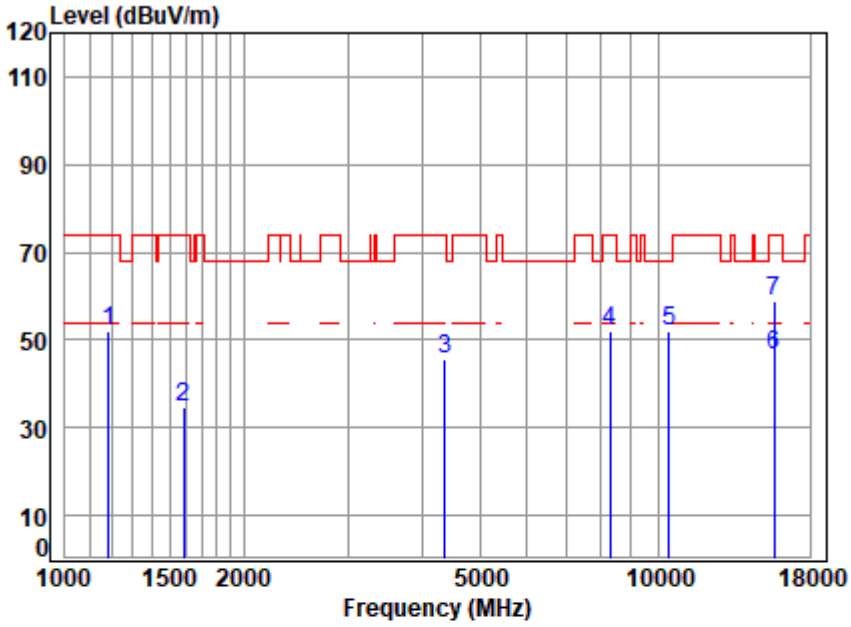
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5220 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	65.09	52.09	74.00	-21.91	peak
2	1583.392	3.33	26.18	40.56	45.85	34.80	74.00	-39.20	peak
3	4367.058	6.64	33.37	42.45	48.14	45.70	74.00	-28.30	peak
4	8295.823	9.83	36.88	40.68	46.04	52.07	74.00	-21.93	peak
5	10440.000	10.55	37.72	38.21	41.94	52.00	68.20	-16.20	peak
6	15660.000	14.02	40.80	40.58	32.33	46.57	54.00	-7.43	Average
7	15660.000	14.02	40.80	40.58	44.56	58.80	74.00	-15.20	peak

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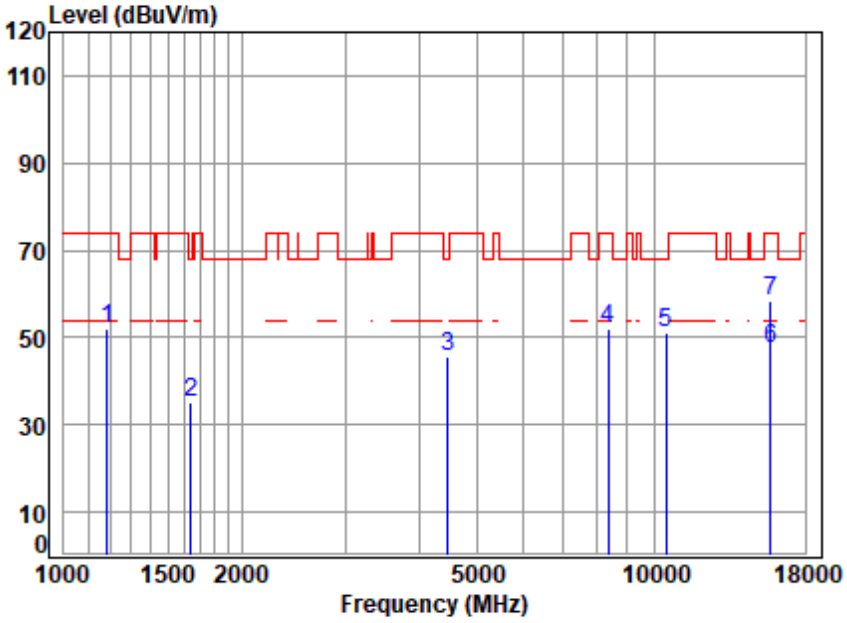
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	65.01	52.01	74.00	-21.99	peak
2	1644.019	3.38	26.44	40.60	45.89	35.11	68.20	-33.09	peak
3	4469.214	6.73	33.55	42.53	47.76	45.51	68.20	-22.69	peak
4	8343.918	9.89	36.91	40.60	45.93	52.13	74.00	-21.87	peak
5	10480.000	10.54	37.71	38.23	41.03	51.05	68.20	-17.15	peak
6	15720.000	14.04	40.83	40.57	33.11	47.41	54.00	-6.59	Average
7	15720.000	14.04	40.83	40.57	44.06	58.36	74.00	-15.64	peak

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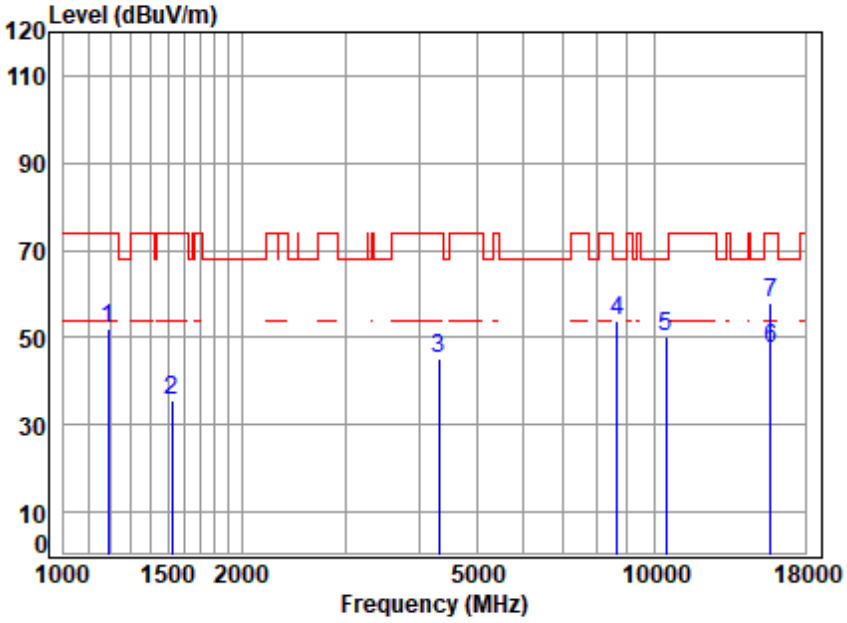
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	65.17	52.18	74.00	-21.82	peak
2	1525.000	3.28	25.91	40.52	46.72	35.39	74.00	-38.61	peak
3	4316.859	6.59	33.28	42.41	47.88	45.34	74.00	-28.66	peak
4	8663.404	10.17	37.07	40.06	46.75	53.93	68.20	-14.27	peak
5	10480.000	10.54	37.71	38.23	40.33	50.35	68.20	-17.85	peak
6	15720.000	14.04	40.83	40.57	33.05	47.35	54.00	-6.65	Average
7	15720.000	14.04	40.83	40.57	43.75	58.05	74.00	-15.95	peak

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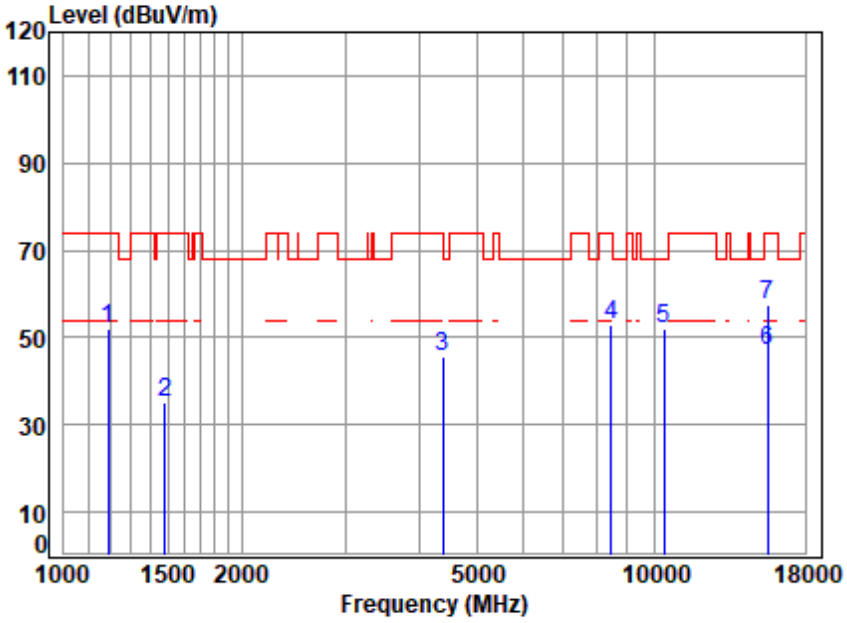
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5190 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.90	51.91	74.00	-22.09	peak
2	1481.553	3.23	25.73	40.49	46.85	35.32	74.00	-38.68	peak
3	4392.376	6.66	33.42	42.47	48.24	45.85	74.00	-28.15	peak
4	8465.379	10.05	36.98	40.39	46.45	53.09	74.00	-20.91	peak
5	10380.000	10.57	37.75	38.18	41.69	51.83	68.20	-16.37	peak
6	15570.000	13.98	40.74	40.58	32.74	46.88	54.00	-7.12	Average
7	15570.000	13.98	40.74	40.58	43.20	57.34	74.00	-16.66	peak

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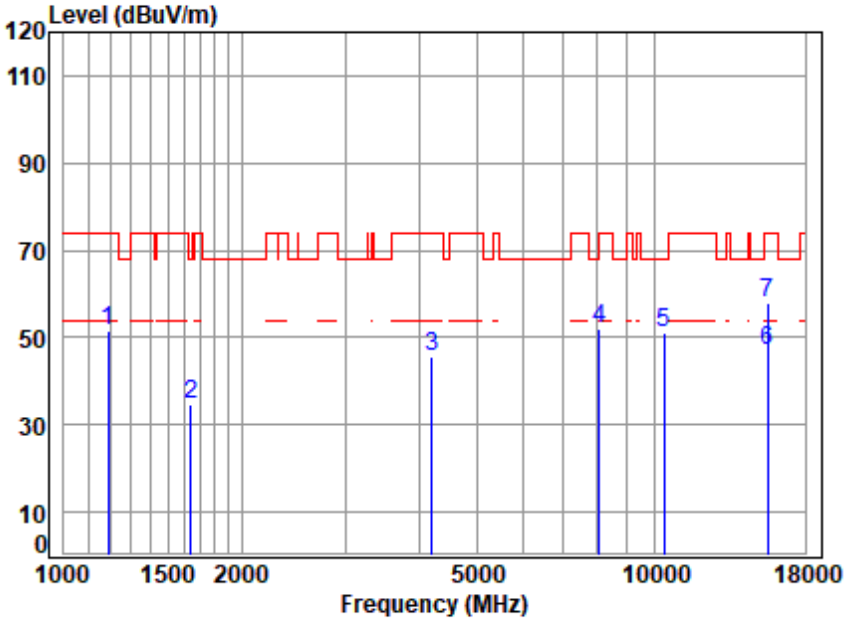
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5190 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.39	51.40	74.00	-22.60	peak
2	1644.019	3.38	26.44	40.60	45.36	34.58	68.20	-33.62	peak
3	4206.011	6.48	33.08	42.32	48.53	45.77	74.00	-28.23	peak
4	8082.804	9.54	36.75	41.05	46.64	51.88	74.00	-22.12	peak
5	10380.000	10.57	37.75	38.18	40.74	50.88	68.20	-17.32	peak
6	15570.000	13.98	40.74	40.58	32.95	47.09	54.00	-6.91	Average
7	15570.000	13.98	40.74	40.58	43.89	58.03	74.00	-15.97	peak

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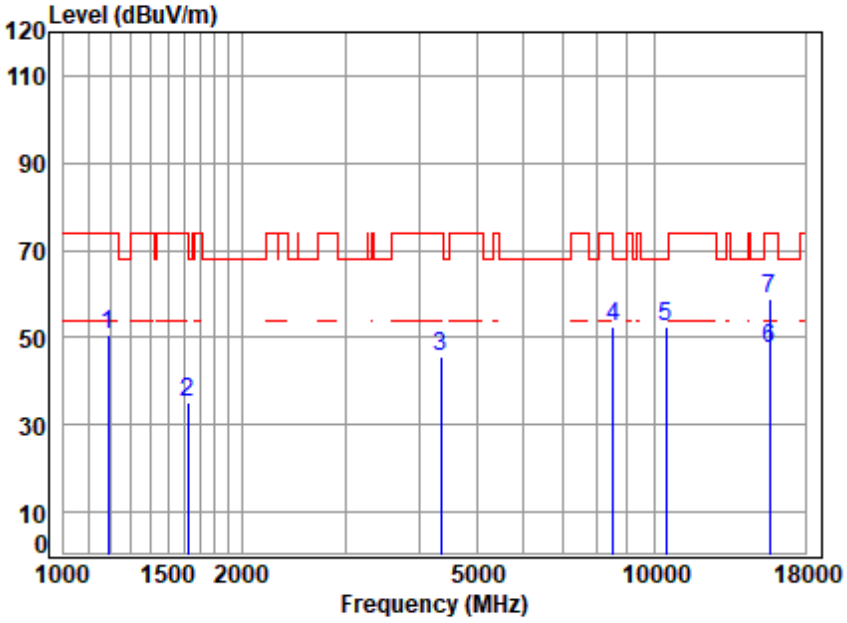
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5230 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	63.53	50.54	74.00	-23.46	peak
2	1620.431	3.36	26.34	40.58	46.03	35.15	74.00	-38.85	peak
3	4354.454	6.63	33.35	42.44	48.13	45.67	74.00	-28.33	peak
4	8514.456	10.11	37.01	40.31	45.88	52.69	68.20	-15.51	peak
5	10460.000	10.54	37.72	38.22	42.27	52.31	68.20	-15.89	peak
6	15690.000	14.03	40.82	40.58	33.09	47.36	54.00	-6.64	Average
7	15690.000	14.03	40.82	40.58	44.59	58.86	74.00	-15.14	peak

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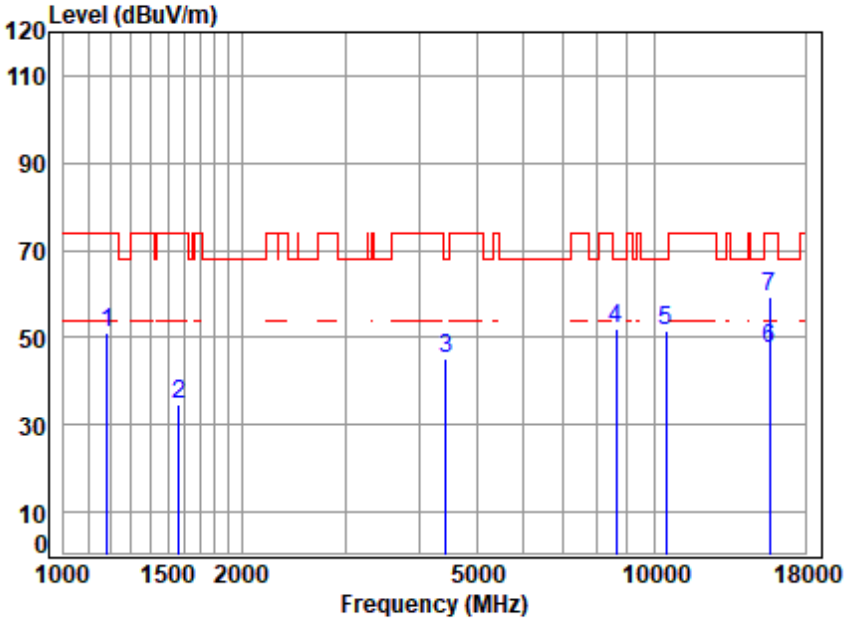
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5230 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.32	51.32	74.00	-22.68	peak
2	1565.191	3.32	26.10	40.55	46.03	34.90	74.00	-39.10	peak
3	4430.628	6.70	33.48	42.50	47.30	44.98	68.20	-23.22	peak
4	8613.468	10.15	37.05	40.14	44.98	52.04	68.20	-16.16	peak
5	10460.000	10.54	37.72	38.22	41.67	51.71	68.20	-16.49	peak
6	15690.000	14.03	40.82	40.58	33.15	47.42	54.00	-6.58	Average
7	15690.000	14.03	40.82	40.58	45.01	59.28	74.00	-14.72	peak

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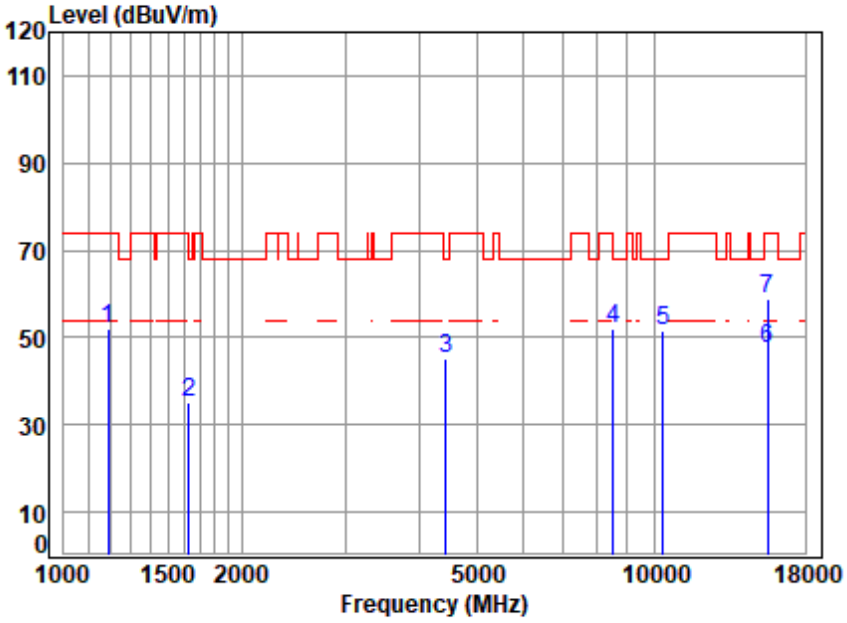
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	65.07	52.08	74.00	-21.92	peak
2	1629.825	3.37	26.38	40.59	46.04	35.20	68.20	-33.00	peak
3	4443.453	6.71	33.50	42.51	47.58	45.28	68.20	-22.92	peak
4	8514.456	10.11	37.01	40.31	45.18	51.99	68.20	-16.21	peak
5	10360.000	10.57	37.76	38.17	41.40	51.56	68.20	-16.64	peak
6	15540.000	13.97	40.72	40.58	33.13	47.24	54.00	-6.76	Average
7	15540.000	13.97	40.72	40.58	44.80	58.91	74.00	-15.09	peak

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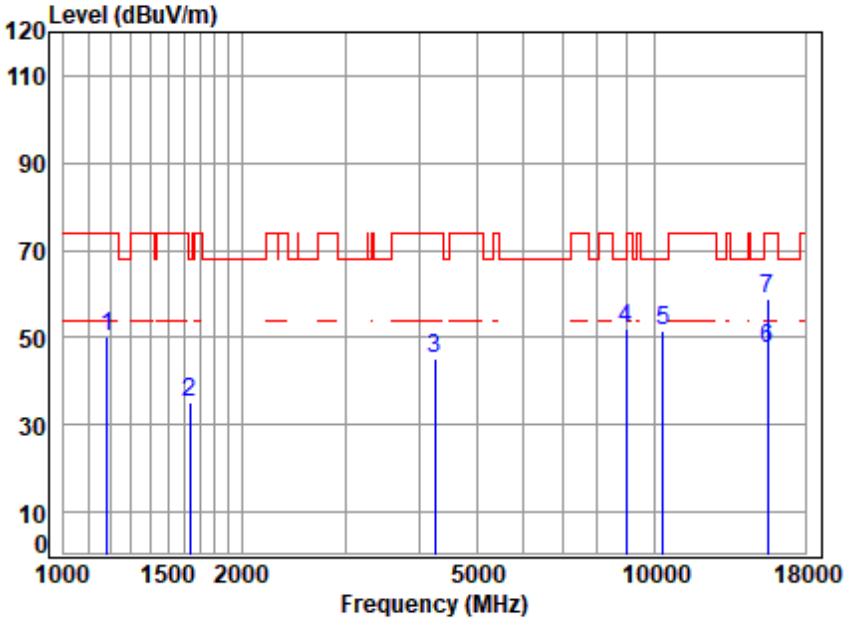
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.36	50.36	74.00	-23.64	peak
2	1634.543	3.38	26.40	40.59	45.79	34.98	68.20	-33.22	peak
3	4254.921	6.53	33.17	42.36	47.75	45.09	74.00	-28.91	peak
4	8969.161	10.29	37.19	39.56	44.13	52.05	68.20	-16.15	peak
5	10360.000	10.57	37.76	38.17	41.30	51.46	68.20	-16.74	peak
6	15540.000	13.97	40.72	40.58	33.51	47.62	54.00	-6.38	Average
7	15540.000	13.97	40.72	40.58	44.76	58.87	74.00	-15.13	peak

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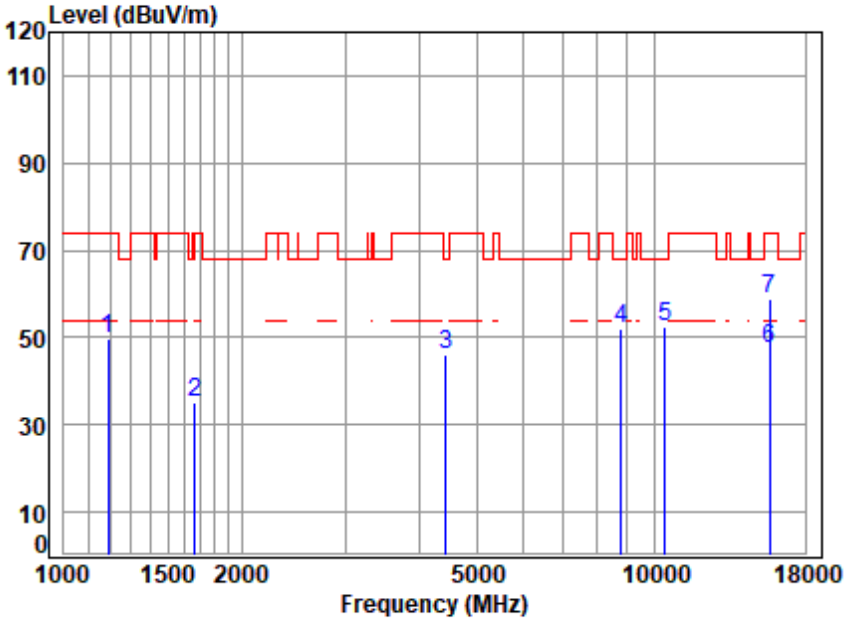
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5220 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	62.65	49.66	74.00	-24.34	peak
2	1667.951	3.40	26.54	40.61	46.02	35.35	74.00	-38.65	peak
3	4443.453	6.71	33.50	42.51	48.58	46.28	68.20	-21.92	peak
4	8789.516	10.22	37.12	39.85	44.63	52.12	68.20	-16.08	peak
5	10440.000	10.55	37.72	38.21	42.59	52.65	68.20	-15.55	peak
6	15660.000	14.02	40.80	40.58	33.30	47.54	54.00	-6.46	Average
7	15660.000	14.02	40.80	40.58	44.62	58.86	74.00	-15.14	peak

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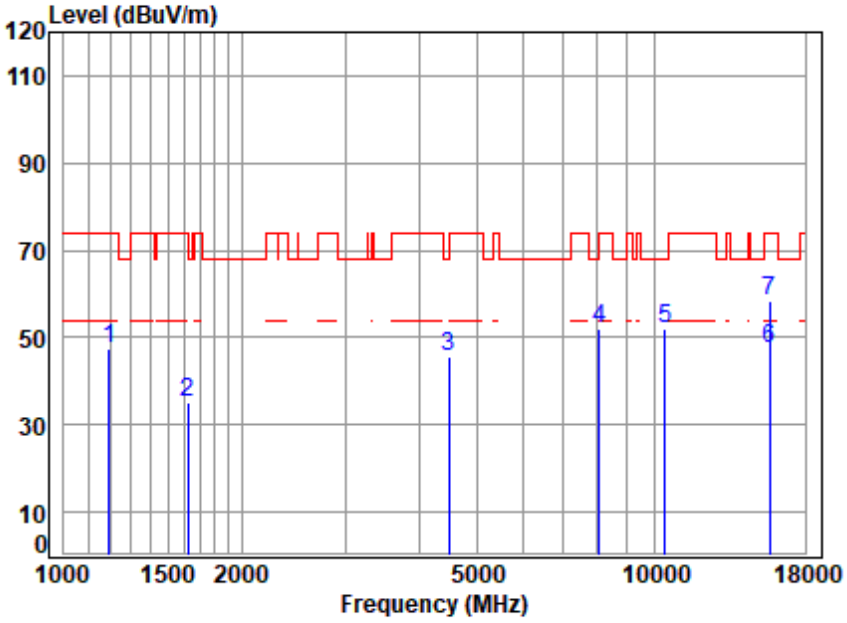
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5220 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1192.811	2.75	24.56	40.28	60.63	47.66	74.00	-26.34	peak
2	1625.121	3.37	26.36	40.59	46.18	35.32	74.00	-38.68	peak
3	4482.150	6.74	33.57	42.54	48.04	45.81	68.20	-22.39	peak
4	8082.804	9.54	36.75	41.05	46.86	52.10	74.00	-21.90	peak
5	10440.000	10.55	37.72	38.21	41.91	51.97	68.20	-16.23	peak
6	15660.000	14.02	40.80	40.58	33.08	47.32	54.00	-6.68	Average
7	15660.000	14.02	40.80	40.58	44.24	58.48	74.00	-15.52	peak

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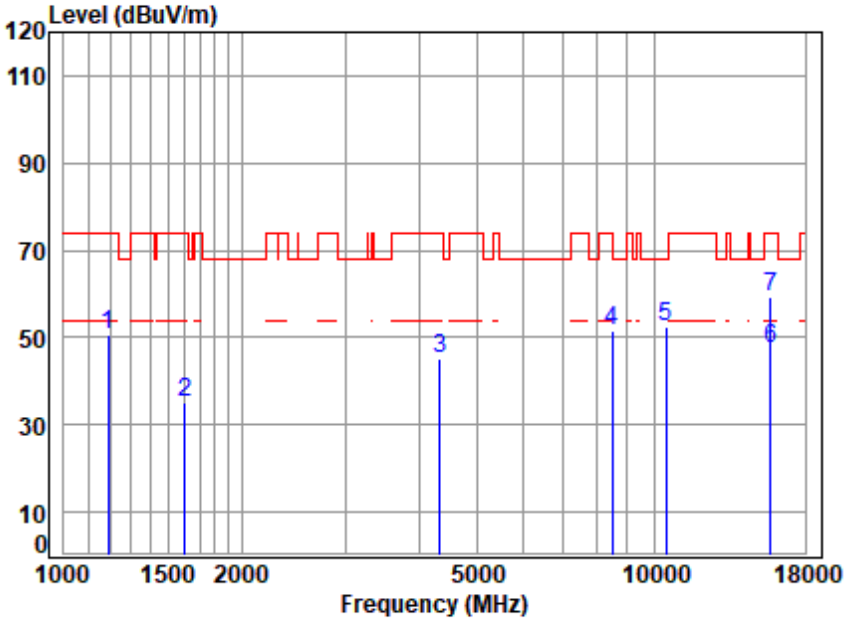
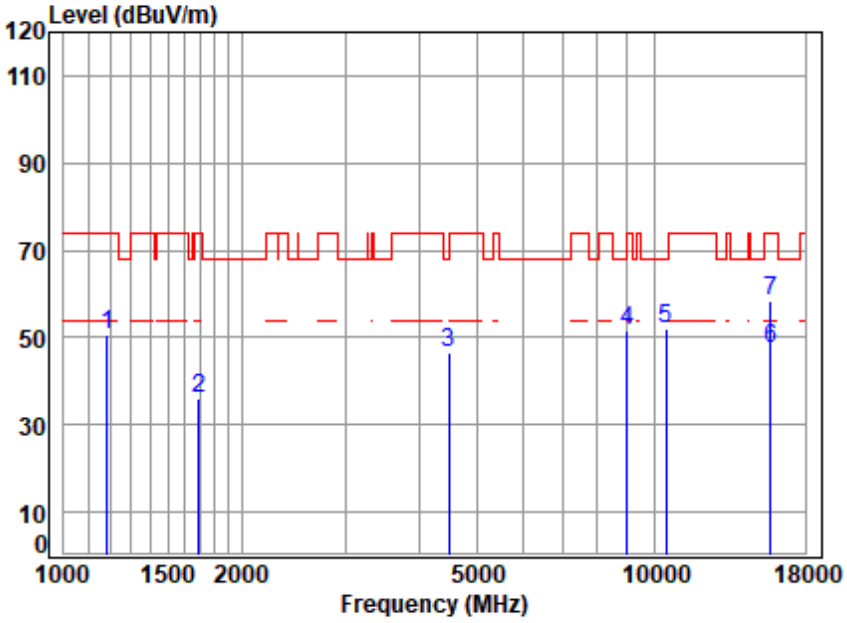
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	63.60	50.61	74.00	-23.39	peak
2	1601.804	3.35	26.26	40.57	46.32	35.36	74.00	-38.64	peak
3	4329.354	6.60	33.30	42.42	47.57	45.05	74.00	-28.95	peak
4	8489.882	10.09	36.99	40.35	44.90	51.63	74.00	-22.37	peak
5	10480.000	10.54	37.71	38.23	42.27	52.29	68.20	-15.91	peak
6	15720.000	14.04	40.83	40.57	32.95	47.25	54.00	-6.75	Average
7	15720.000	14.04	40.83	40.57	44.95	59.25	74.00	-14.75	peak

Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.60	50.60	74.00	-23.40	peak
2	1692.231	3.42	26.64	40.63	46.80	36.23	74.00	-37.77	peak
3	4495.125	6.76	33.59	42.55	48.55	46.35	68.20	-21.85	peak
4	8995.123	10.30	37.20	39.52	43.78	51.76	68.20	-16.44	peak
5	10480.000	10.54	37.71	38.23	41.95	51.97	68.20	-16.23	peak
6	15720.000	14.04	40.83	40.57	33.34	47.64	54.00	-6.36	Average
7	15720.000	14.04	40.83	40.57	44.21	58.51	74.00	-15.49	peak

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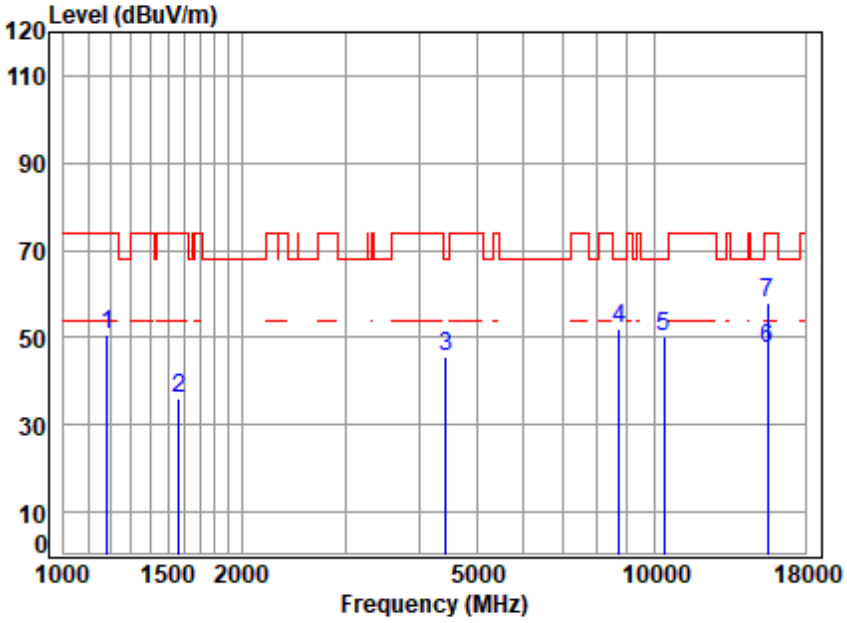
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5190 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.56	50.56	74.00	-23.44	peak
2	1565.191	3.32	26.10	40.55	47.19	36.06	74.00	-37.94	peak
3	4430.628	6.70	33.48	42.50	47.73	45.41	68.20	-22.79	peak
4	8713.630	10.19	37.09	39.97	44.86	52.17	68.20	-16.03	peak
5	10380.000	10.57	37.75	38.18	40.23	50.37	68.20	-17.83	peak
6	15570.000	13.98	40.74	40.58	33.39	47.53	54.00	-6.47	Average
7	15570.000	13.98	40.74	40.58	43.89	58.03	74.00	-15.97	peak

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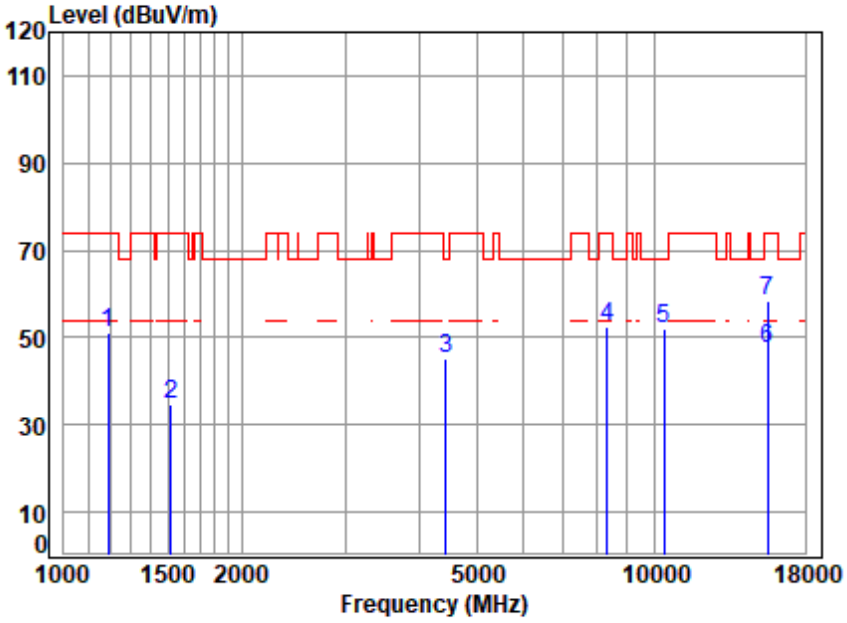
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5190 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	63.95	50.96	74.00	-23.04	peak
2	1516.210	3.27	25.87	40.52	46.01	34.63	74.00	-39.37	peak
3	4430.628	6.70	33.48	42.50	47.41	45.09	68.20	-23.11	peak
4	8319.836	9.86	36.89	40.64	46.59	52.70	74.00	-21.30	peak
5	10380.000	10.57	37.75	38.18	41.79	51.93	68.20	-16.27	peak
6	15570.000	13.98	40.74	40.58	33.49	47.63	54.00	-6.37	Average
7	15570.000	13.98	40.74	40.58	44.32	58.46	74.00	-15.54	peak

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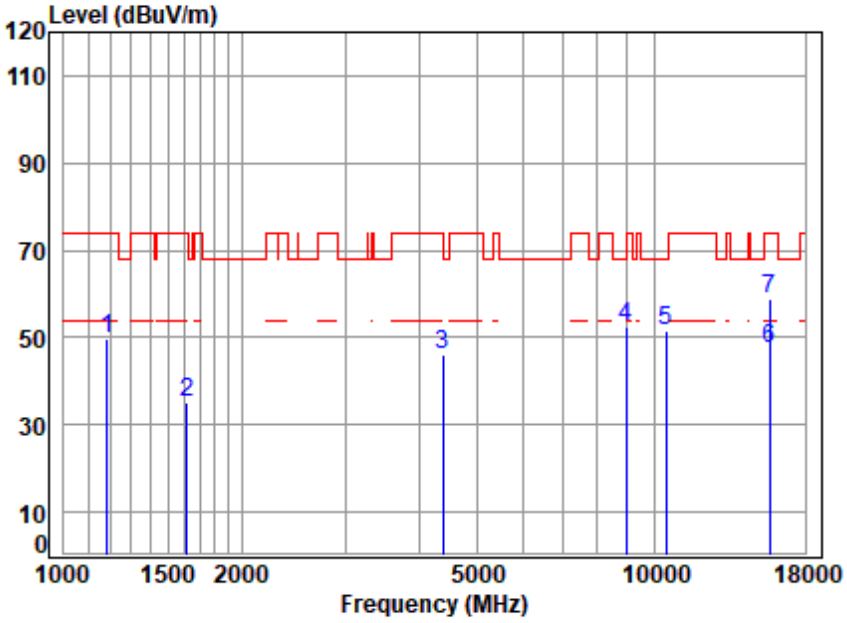
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5230 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	62.73	49.73	74.00	-24.27	peak
2	1615.754	3.36	26.32	40.58	45.97	35.07	74.00	-38.93	peak
3	4379.699	6.65	33.39	42.46	48.59	46.17	74.00	-27.83	peak
4	8943.274	10.28	37.18	39.60	44.48	52.34	68.20	-15.86	peak
5	10460.000	10.54	37.72	38.22	41.58	51.62	68.20	-16.58	peak
6	15690.000	14.03	40.82	40.58	33.35	47.62	54.00	-6.38	Average
7	15690.000	14.03	40.82	40.58	44.46	58.73	74.00	-15.27	peak

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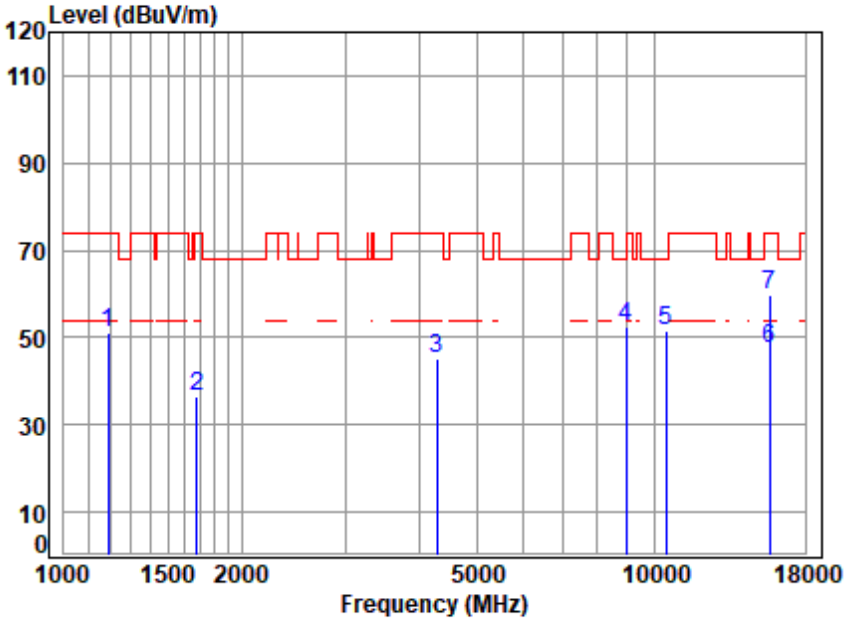
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5230 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.19	51.20	74.00	-22.80	peak
2	1682.477	3.42	26.60	40.62	46.91	36.31	74.00	-37.69	peak
3	4279.589	6.56	33.22	42.38	47.56	44.96	74.00	-29.04	peak
4	8969.161	10.29	37.19	39.56	44.47	52.39	68.20	-15.81	peak
5	10460.000	10.54	37.72	38.22	41.47	51.51	68.20	-16.69	peak
6	15690.000	14.03	40.82	40.58	33.25	47.52	54.00	-6.48	Average
7	15690.000	14.03	40.82	40.58	45.39	59.66	74.00	-14.34	peak

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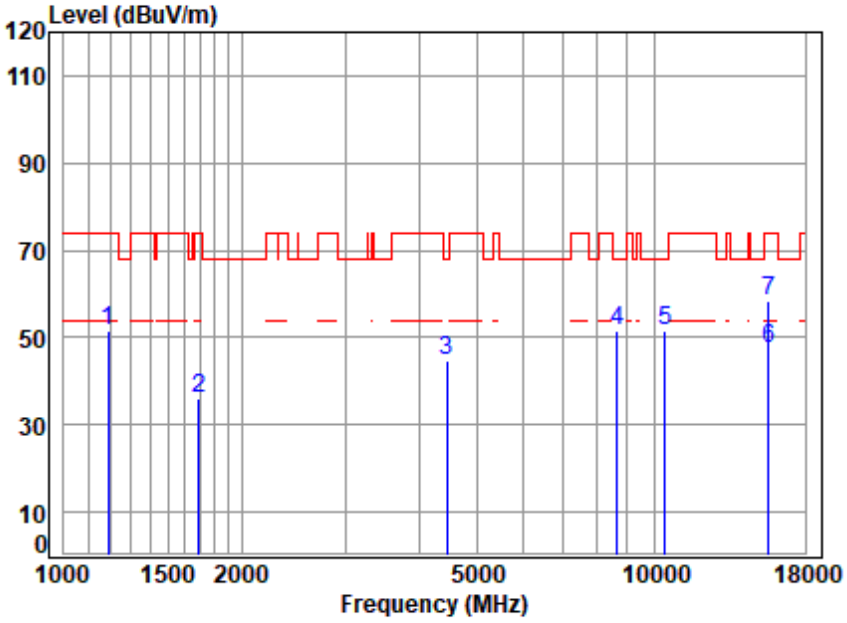
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5210 TX RSE
Note : 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.45	51.46	74.00	-22.54	peak
2	1692.231	3.42	26.64	40.63	46.72	36.15	74.00	-37.85	peak
3	4456.315	6.72	33.53	42.52	46.90	44.63	68.20	-23.57	peak
4	8663.404	10.17	37.07	40.06	44.32	51.50	68.20	-16.70	peak
5	10420.000	10.56	37.73	38.20	41.54	51.63	68.20	-16.57	peak
6	15630.000	14.01	40.78	40.58	33.18	47.39	54.00	-6.61	Average
7	15630.000	14.01	40.78	40.58	44.19	58.40	74.00	-15.60	peak

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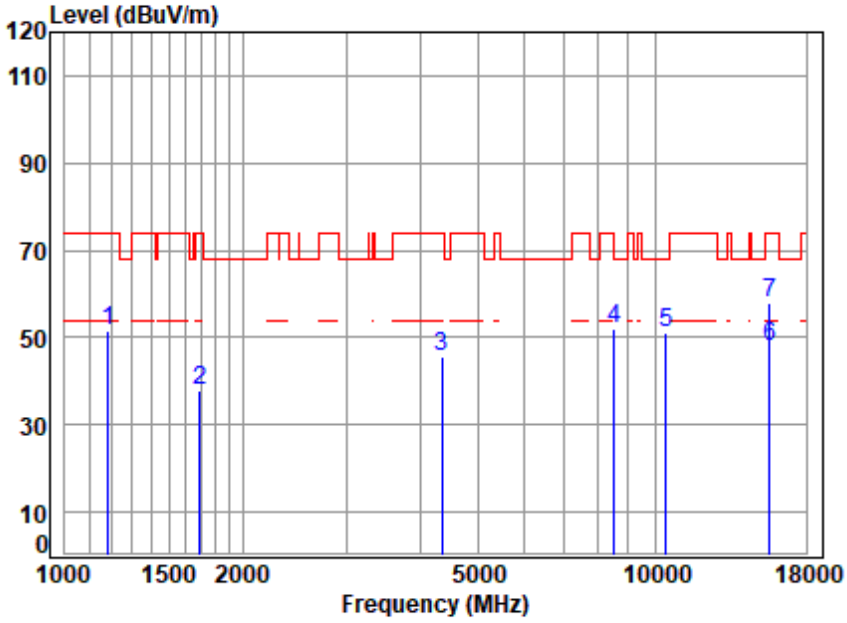
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5210 TX RSE
Note : 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.64	51.64	74.00	-22.36	peak
2	1692.231	3.42	26.64	40.63	48.33	37.76	74.00	-36.24	peak
3	4354.454	6.63	33.35	42.44	48.24	45.78	74.00	-28.22	peak
4	8514.456	10.11	37.01	40.31	45.02	51.83	68.20	-16.37	peak
5	10420.000	10.56	37.73	38.20	41.05	51.14	68.20	-17.06	peak
6	15630.000	14.01	40.78	40.58	33.61	47.82	54.00	-6.18	Average
7	15630.000	14.01	40.78	40.58	43.65	57.86	74.00	-16.14	peak

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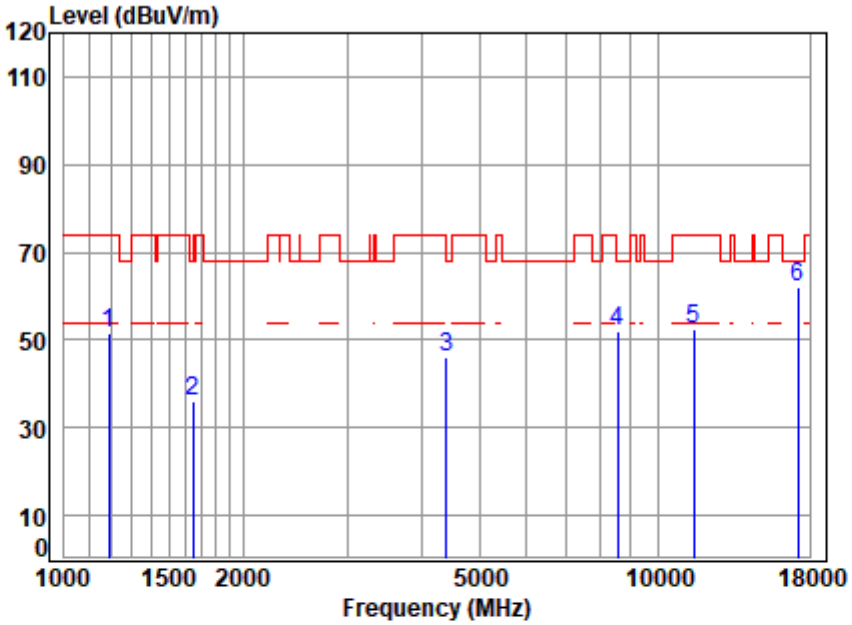
Mode:f; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5745 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.40	51.41	74.00	-22.59	peak
2	1648.778	3.39	26.46	40.60	46.60	35.85	68.20	-32.35	peak
3	4405.090	6.67	33.44	42.48	48.58	46.21	68.20	-21.99	peak
4	8563.818	10.13	37.03	40.22	45.16	52.10	68.20	-16.10	peak
5	11490.000	11.62	37.90	38.69	41.86	52.69	74.00	-21.31	peak
6	17235.000	14.09	42.74	40.52	45.54	61.85	68.20	-6.35	peak

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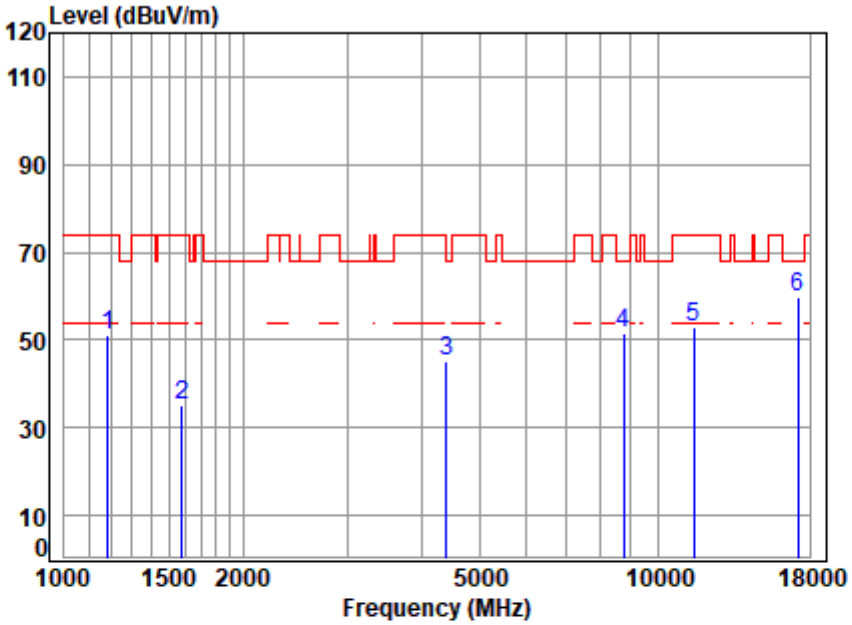
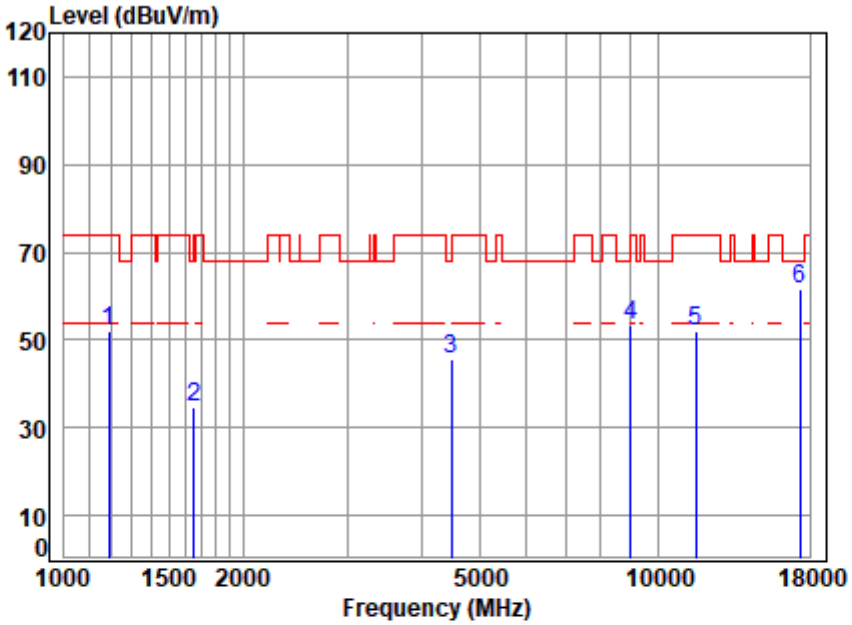
Mode:f; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5745 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.04	51.04	74.00	-22.96	peak
2	1578.822	3.33	26.16	40.56	46.14	35.07	74.00	-38.93	peak
3	4405.090	6.67	33.44	42.48	47.74	45.37	68.20	-22.83	peak
4	8738.852	10.20	37.10	39.93	44.37	51.74	68.20	-16.46	peak
5	11490.000	11.62	37.90	38.69	41.94	52.77	74.00	-21.23	peak
6	17235.000	14.09	42.74	40.52	43.54	59.85	68.20	-8.35	peak

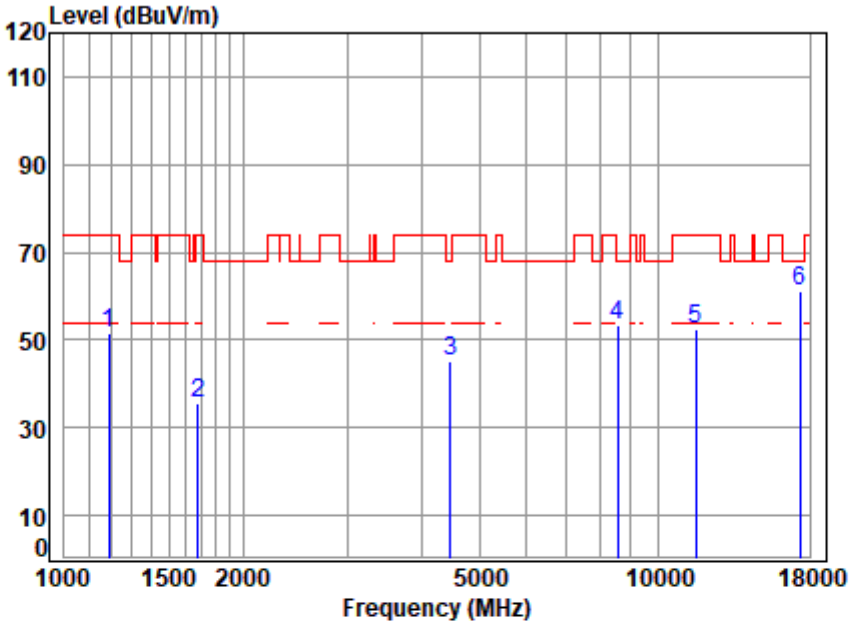
Mode:f; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5785 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	65.10	52.11	74.00	-21.89	peak
2	1653.550	3.39	26.48	40.60	45.63	34.90	68.20	-33.30	peak
3	4495.125	6.76	33.59	42.55	47.60	45.40	68.20	-22.80	peak
4	8995.123	10.30	37.20	39.52	45.25	53.23	68.20	-14.97	peak
5	11570.000	11.72	37.87	38.72	41.16	52.03	74.00	-21.97	peak
6	17355.000	14.06	42.81	40.52	45.22	61.57	68.20	-6.63	peak

Mode:f; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5785 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.66	51.67	74.00	-22.33	peak
2	1677.621	3.41	26.58	40.62	46.19	35.56	74.00	-38.44	peak
3	4469.214	6.73	33.55	42.53	47.37	45.12	68.20	-23.08	peak
4	8539.102	10.12	37.02	40.26	46.66	53.54	68.20	-14.66	peak
5	11570.000	11.72	37.87	38.72	41.48	52.35	74.00	-21.65	peak
6	17355.000	14.06	42.81	40.52	44.95	61.30	68.20	-6.90	peak

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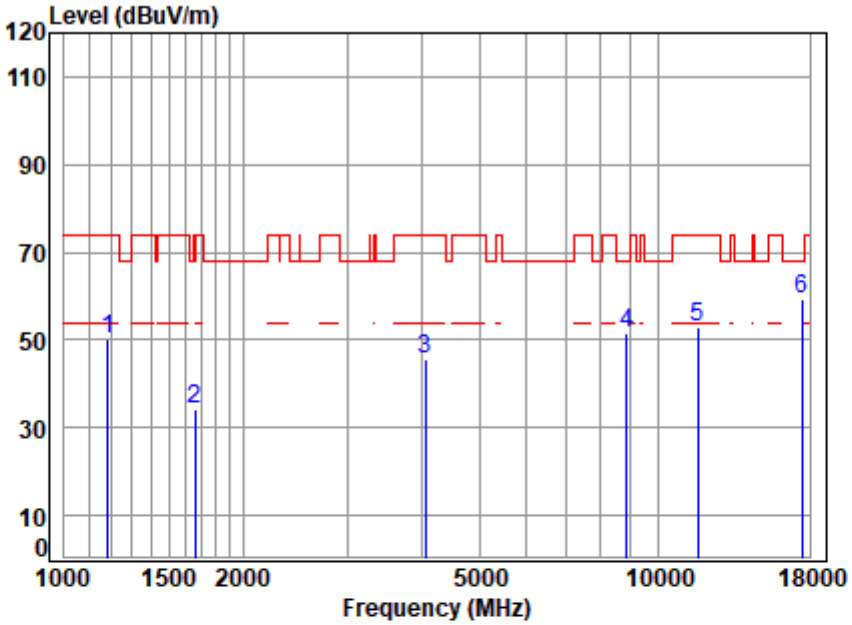
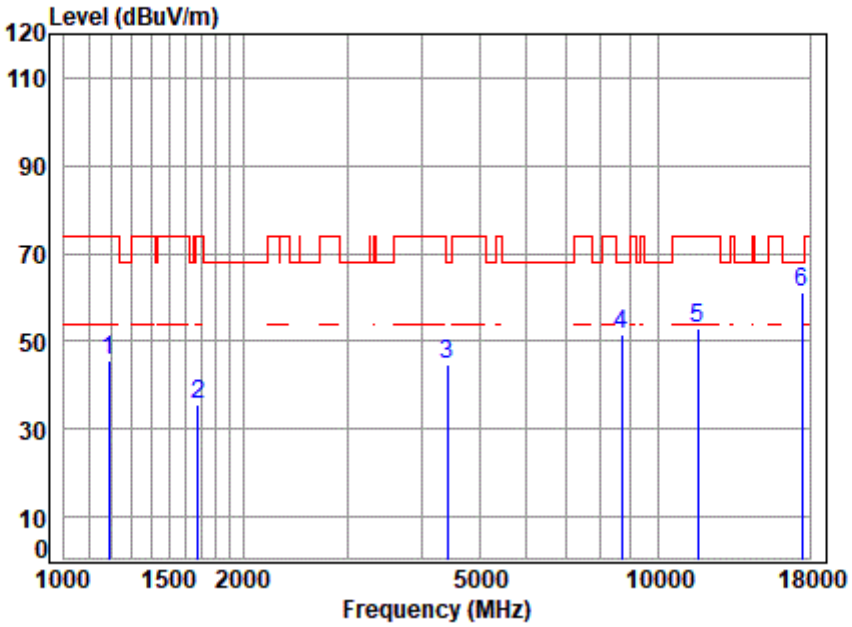
Mode:f; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5825 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.17	50.17	74.00	-23.83	peak
2	1663.137	3.40	26.52	40.61	45.09	34.40	74.00	-39.60	peak
3	4062.629	6.34	32.82	42.21	48.87	45.82	74.00	-28.18	peak
4	8840.473	10.24	37.14	39.77	44.10	51.71	68.20	-16.49	peak
5	11650.000	11.82	37.84	38.75	42.12	53.03	74.00	-20.97	peak
6	17475.000	14.02	42.89	40.52	42.76	59.15	68.20	-9.05	peak

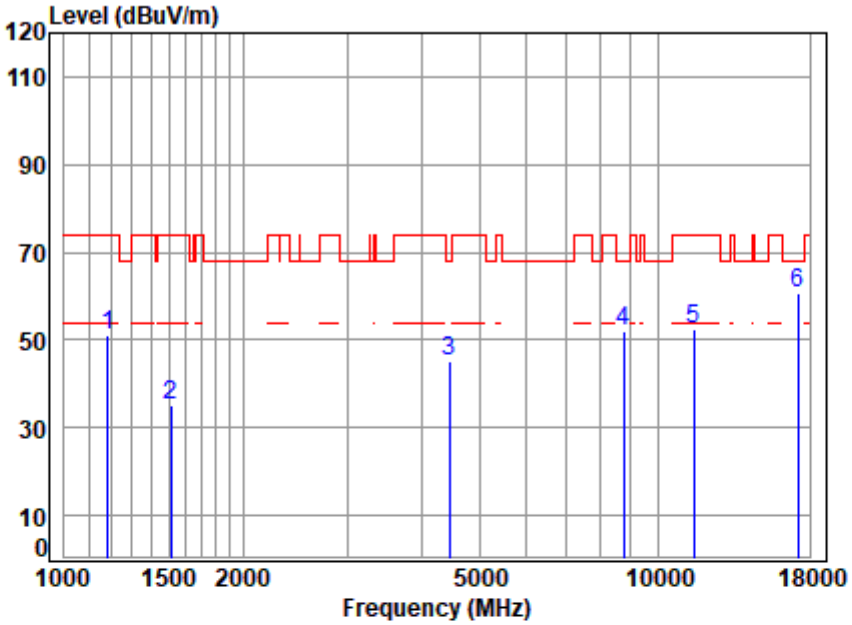
Mode:f; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5825 TX RSE
Note : 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.811	2.75	24.56	40.28	58.59	45.62	74.00	-28.38	peak
2	1681.427	3.42	26.60	40.62	46.07	35.47	74.00	-38.53	peak
3	4412.841	6.68	33.46	42.49	47.02	44.67	68.20	-23.53	peak
4	8670.404	10.17	37.07	40.06	44.43	51.61	68.20	-16.59	peak
5	11650.000	11.82	37.84	38.75	42.94	53.85	74.00	-20.15	peak
6	17475.000	14.02	42.89	40.52	44.55	60.94	68.20	-7.26	peak

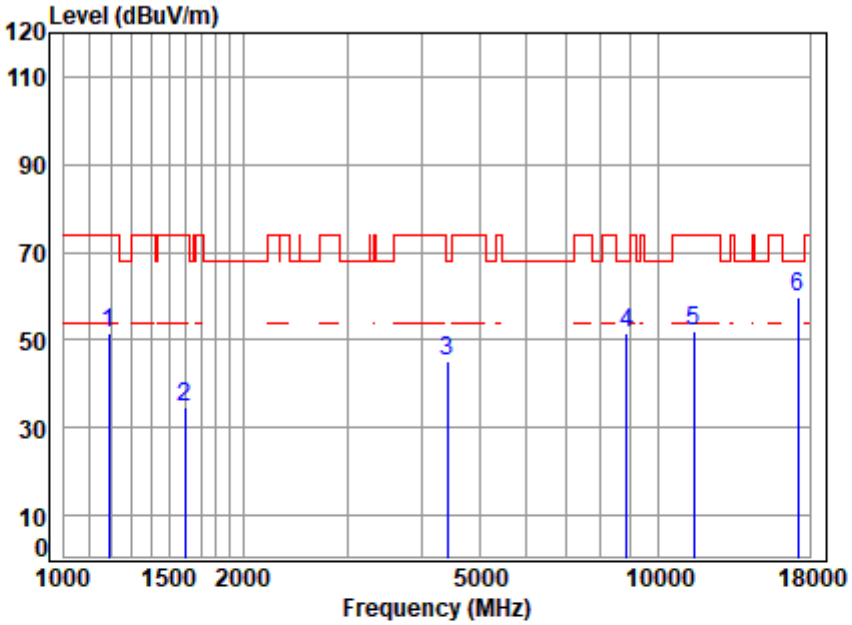
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5745 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.96	50.96	74.00	-23.04	peak
2	1511.833	3.27	25.85	40.51	46.75	35.36	74.00	-38.64	peak
3	4456.315	6.72	33.53	42.52	47.49	45.22	68.20	-22.98	peak
4	8738.852	10.20	37.10	39.93	44.56	51.93	68.20	-16.27	peak
5	11490.000	11.62	37.90	38.69	41.51	52.34	74.00	-21.66	peak
6	17235.000	14.09	42.74	40.52	44.29	60.60	68.20	-7.60	peak

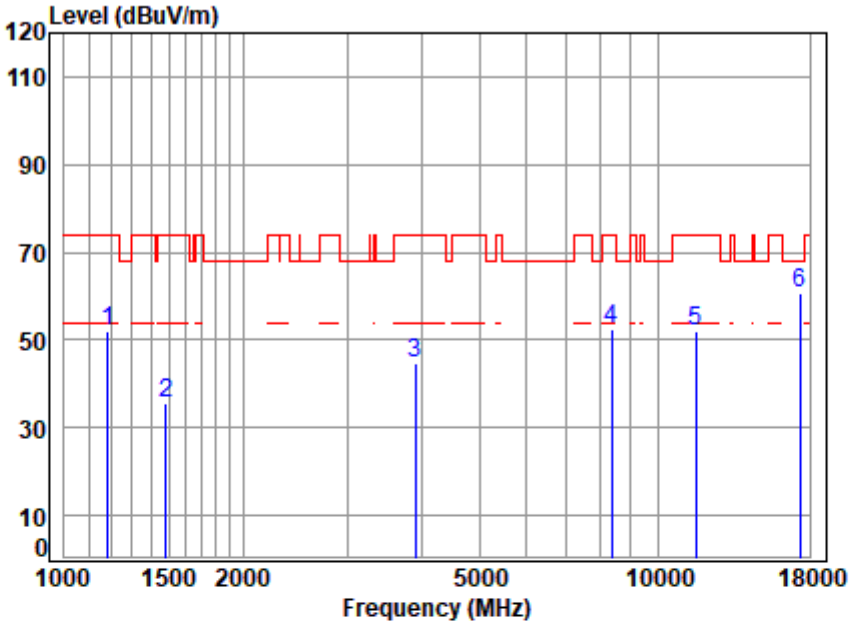
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5745 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.39	51.40	74.00	-22.60	peak
2	1597.181	3.35	26.24	40.57	45.62	34.64	74.00	-39.36	peak
3	4417.841	6.68	33.46	42.49	47.71	45.36	68.20	-22.84	peak
4	8840.473	10.24	37.14	39.77	44.15	51.76	68.20	-16.44	peak
5	11490.000	11.62	37.90	38.69	40.97	51.80	74.00	-22.20	peak
6	17235.000	14.09	42.74	40.52	43.62	59.93	68.20	-8.27	peak

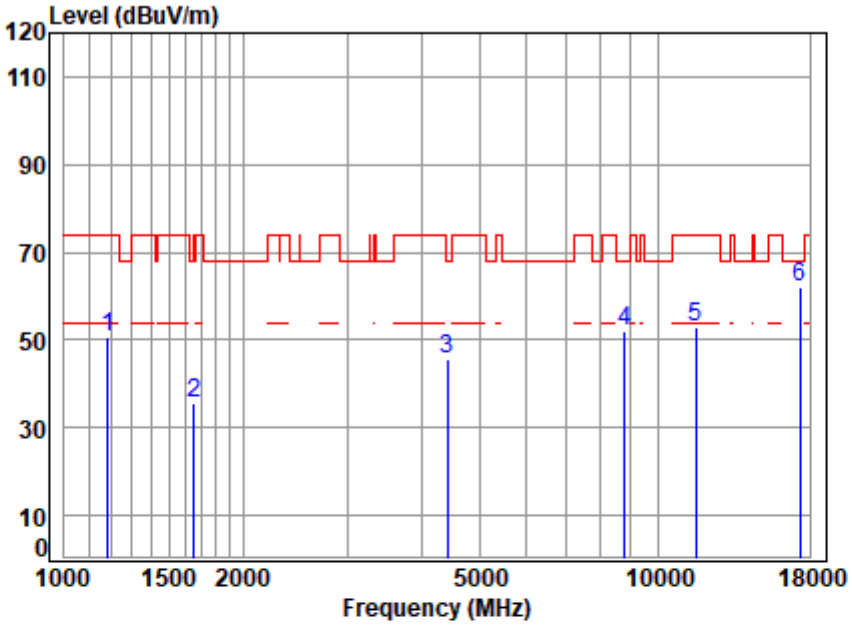
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5785 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	65.05	52.05	74.00	-21.95	peak
2	1481.553	3.23	25.73	40.49	47.05	35.52	74.00	-38.48	peak
3	3901.516	6.14	32.51	42.07	48.22	44.80	74.00	-29.20	peak
4	8368.069	9.92	36.92	40.55	46.13	52.42	74.00	-21.58	peak
5	11570.000	11.72	37.87	38.72	41.28	52.15	74.00	-21.85	peak
6	17355.000	14.06	42.81	40.52	44.48	60.83	68.20	-7.37	peak

Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5785 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.82	50.82	74.00	-23.18	peak
2	1653.550	3.39	26.48	40.60	46.16	35.43	68.20	-32.77	peak
3	4417.841	6.68	33.46	42.49	48.08	45.73	68.20	-22.47	peak
4	8789.516	10.22	37.12	39.85	44.59	52.08	68.20	-16.12	peak
5	11570.000	11.72	37.87	38.72	42.24	53.11	74.00	-20.89	peak
6	17355.000	14.06	42.81	40.52	45.49	61.84	68.20	-6.36	peak

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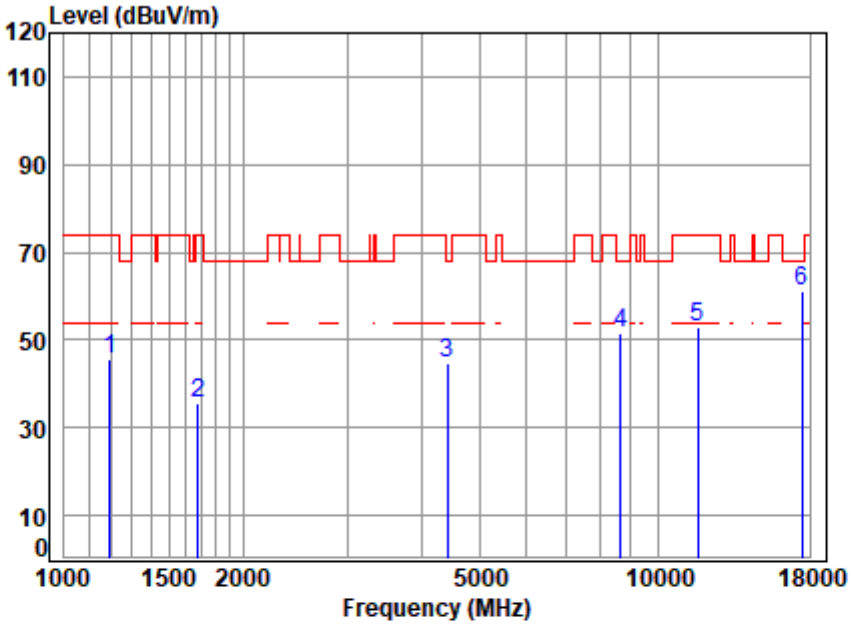
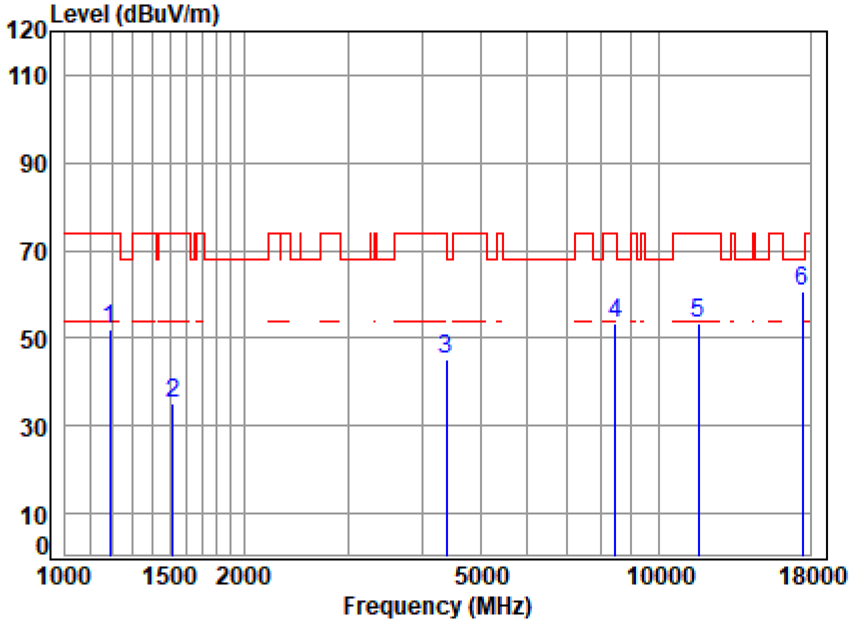
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5825 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1192.811	2.75	24.56	40.28	58.59	45.62	74.00	-28.38	peak
2	1682.477	3.42	26.60	40.62	46.07	35.47	74.00	-38.53	peak
3	4417.841	6.68	33.46	42.49	47.02	44.67	68.20	-23.53	peak
4	8663.404	10.17	37.07	40.06	44.43	51.61	68.20	-16.59	peak
5	11650.000	11.82	37.84	38.75	42.14	53.05	74.00	-20.95	peak
6	17475.000	14.02	42.89	40.52	44.55	60.94	68.20	-7.26	peak

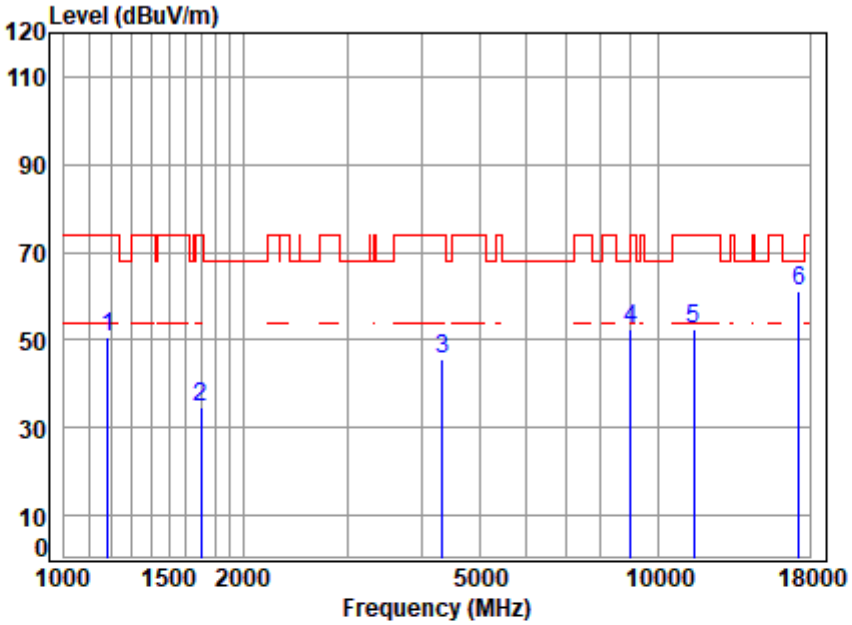
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5825 TX RSE
Note : 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.81	51.82	74.00	-22.18	peak
2	1520.598	3.28	25.89	40.52	46.41	35.06	74.00	-38.94	peak
3	4392.376	6.66	33.42	42.47	47.46	45.07	74.00	-28.93	peak
4	8465.379	10.05	36.98	40.39	46.58	53.22	74.00	-20.78	peak
5	11650.000	11.82	37.84	38.75	42.70	53.61	74.00	-20.39	peak
6	17475.000	14.02	42.89	40.52	44.45	60.84	68.20	-7.36	peak

Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5755 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.73	50.73	74.00	-23.27	peak
2	1702.042	3.43	26.68	40.63	45.40	34.88	74.00	-39.12	peak
3	4329.354	6.60	33.30	42.42	47.98	45.46	74.00	-28.54	peak
4	8995.123	10.30	37.20	39.52	44.60	52.58	68.20	-15.62	peak
5	11510.000	11.64	37.90	38.69	41.48	52.33	74.00	-21.67	peak
6	17265.000	14.08	42.76	40.52	44.96	61.28	68.20	-6.92	peak

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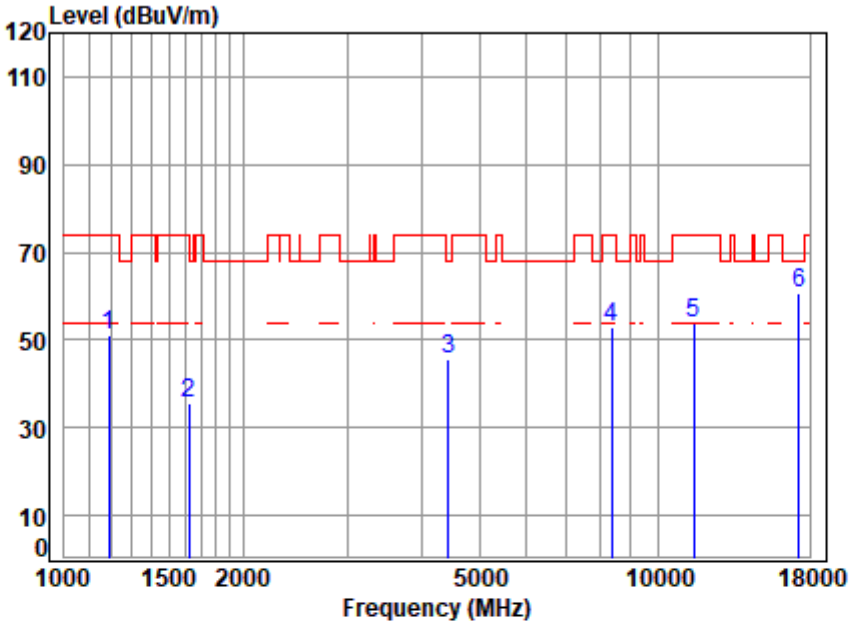
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5755 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	63.91	50.92	74.00	-23.08	peak
2	1620.431	3.36	26.34	40.58	46.29	35.41	74.00	-38.59	peak
3	4430.628	6.70	33.48	42.50	47.81	45.49	68.20	-22.71	peak
4	8368.069	9.92	36.92	40.55	46.56	52.85	74.00	-21.15	peak
5	11510.000	11.64	37.90	38.69	42.90	53.75	74.00	-20.25	peak
6	17265.000	14.08	42.76	40.52	44.43	60.75	68.20	-7.45	peak

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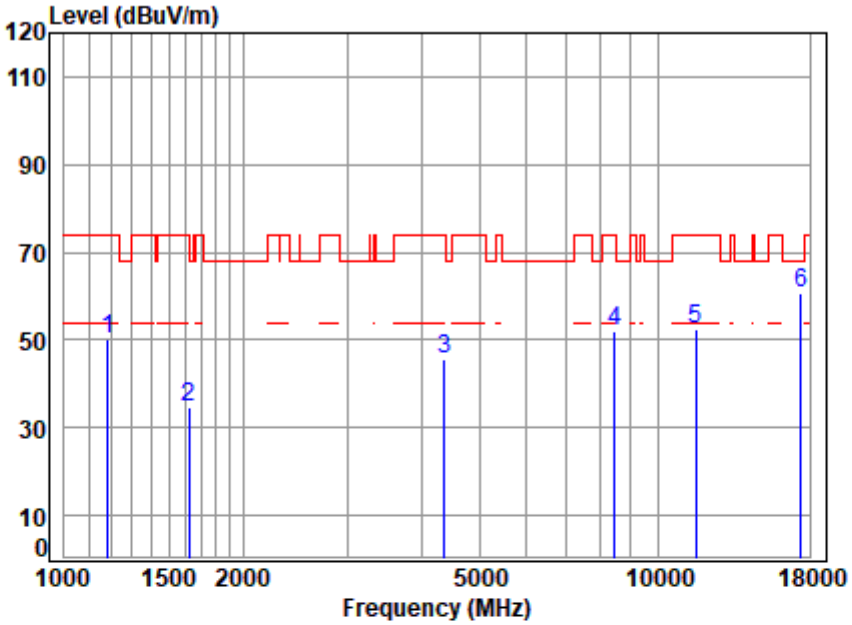
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5795 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	63.21	50.21	74.00	-23.79	peak
2	1625.121	3.37	26.36	40.59	45.61	34.75	74.00	-39.25	peak
3	4367.058	6.64	33.37	42.45	48.07	45.63	74.00	-28.37	peak
4	8465.379	10.05	36.98	40.39	45.35	51.99	74.00	-22.01	peak
5	11590.000	11.74	37.86	38.73	41.83	52.70	74.00	-21.30	peak
6	17385.000	14.05	42.83	40.52	44.26	60.62	68.20	-7.58	peak

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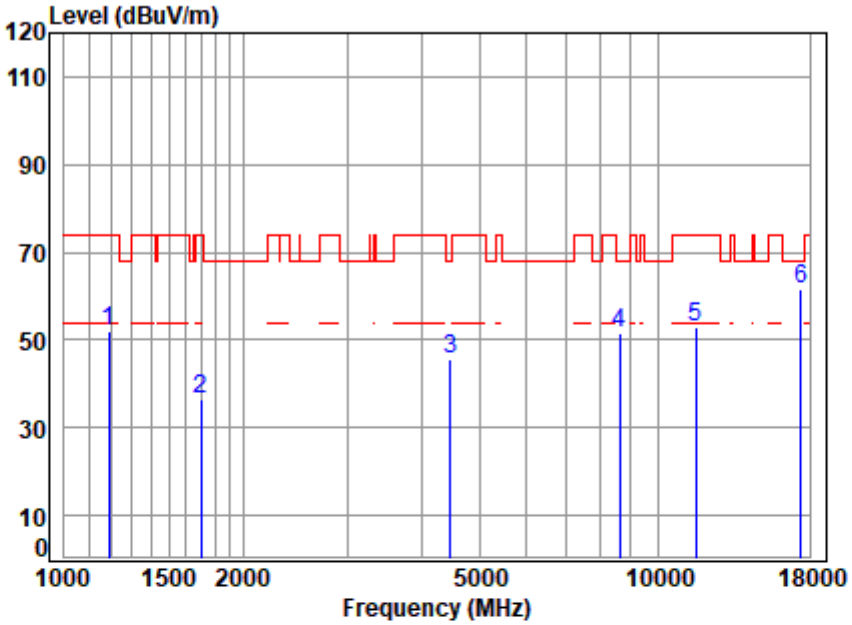
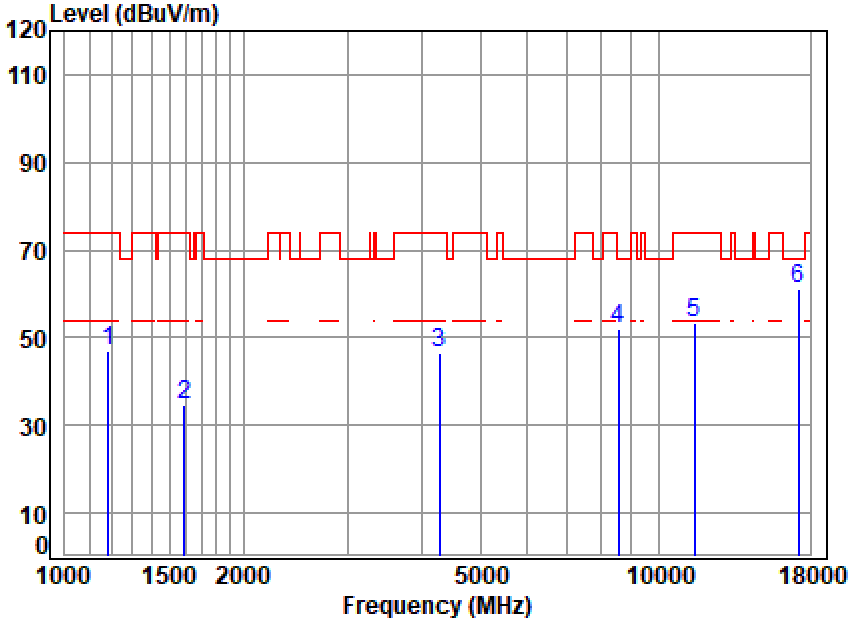
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5795 TX RSE
Note : 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	65.21	52.22	74.00	-21.78	peak
2	1702.042	3.43	26.68	40.63	46.92	36.40	74.00	-37.60	peak
3	4469.214	6.73	33.55	42.53	47.74	45.49	68.20	-22.71	peak
4	8613.468	10.15	37.05	40.14	44.65	51.71	68.20	-16.49	peak
5	11590.000	11.74	37.86	38.73	42.19	53.06	74.00	-20.94	peak
6	17385.000	14.05	42.83	40.52	45.21	61.57	68.20	-6.63	peak

Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5745 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	59.86	46.86	74.00	-27.14	peak
2	1592.571	3.34	26.22	40.57	45.83	34.82	74.00	-39.18	peak
3	4291.977	6.57	33.24	42.39	49.33	46.75	74.00	-27.25	peak
4	8563.818	10.13	37.03	40.22	45.20	52.14	68.20	-16.06	peak
5	11490.000	11.62	37.90	38.69	42.62	53.45	74.00	-20.55	peak
6	17235.000	14.09	42.74	40.52	44.92	61.23	68.20	-6.97	peak

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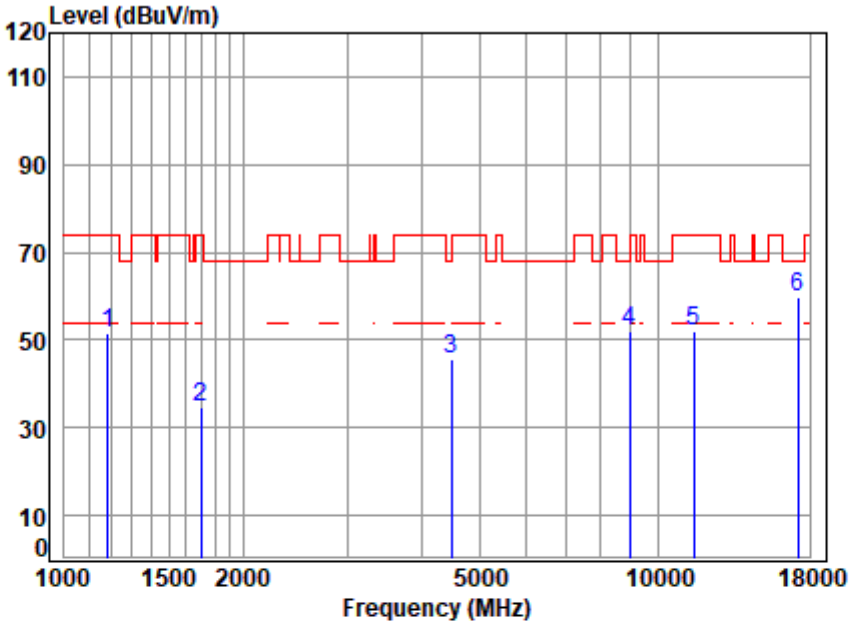
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5745 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.75	51.75	74.00	-22.25	peak
2	1702.042	3.43	26.68	40.63	45.08	34.56	74.00	-39.44	peak
3	4495.125	6.76	33.59	42.55	48.03	45.83	68.20	-22.37	peak
4	8969.161	10.29	37.19	39.56	43.89	51.81	68.20	-16.39	peak
5	11490.000	11.62	37.90	38.69	41.13	51.96	74.00	-22.04	peak
6	17235.000	14.09	42.74	40.52	43.65	59.96	68.20	-8.24	peak

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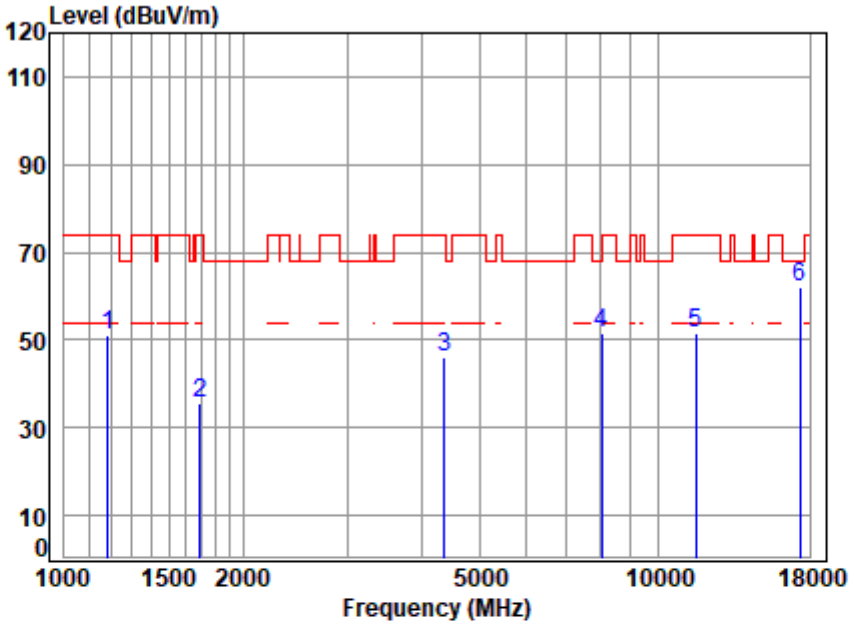
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5785 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.18	51.18	74.00	-22.82	peak
2	1692.231	3.42	26.64	40.63	46.08	35.51	74.00	-38.49	peak
3	4367.058	6.64	33.37	42.45	48.47	46.03	74.00	-27.97	peak
4	8036.214	9.47	36.72	41.14	46.54	51.59	74.00	-22.41	peak
5	11570.000	11.72	37.87	38.72	40.82	51.69	74.00	-22.31	peak
6	17355.000	14.06	42.81	40.52	45.81	62.16	68.20	-6.04	peak

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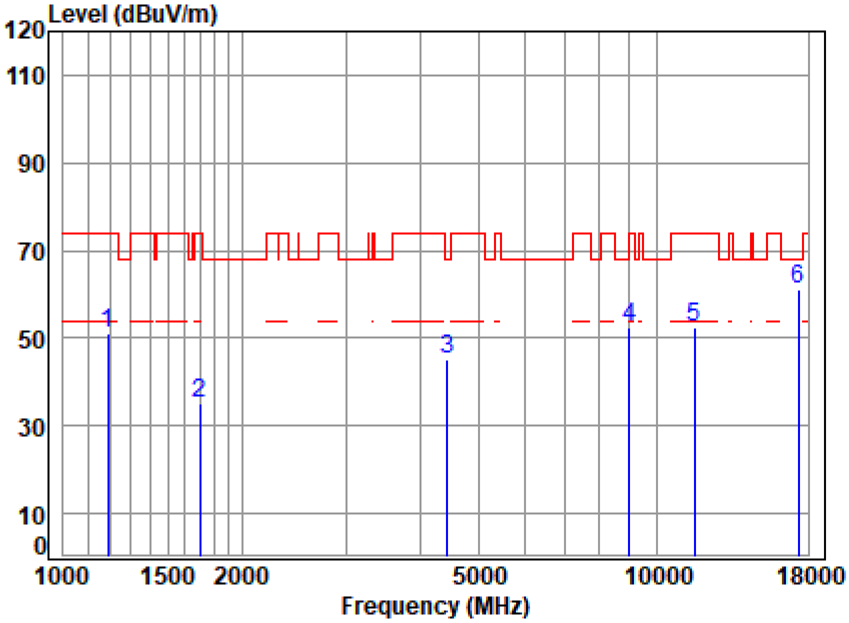
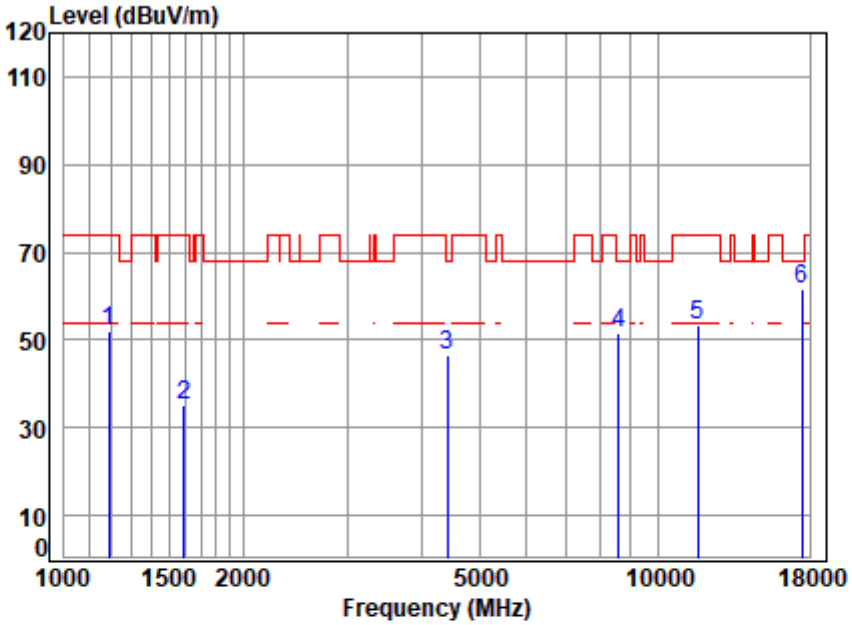
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5785 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.30	51.31	74.00	-22.69	peak
2	1702.042	3.43	26.68	40.63	45.50	34.98	74.00	-39.02	peak
3	4443.453	6.71	33.50	42.51	47.38	45.08	68.20	-23.12	peak
4	8995.123	10.30	37.20	39.52	44.58	52.56	68.20	-15.64	peak
5	11570.000	11.72	37.87	38.72	41.83	52.70	74.00	-21.30	peak
6	17355.000	14.06	42.81	40.52	44.68	61.03	68.20	-7.17	peak

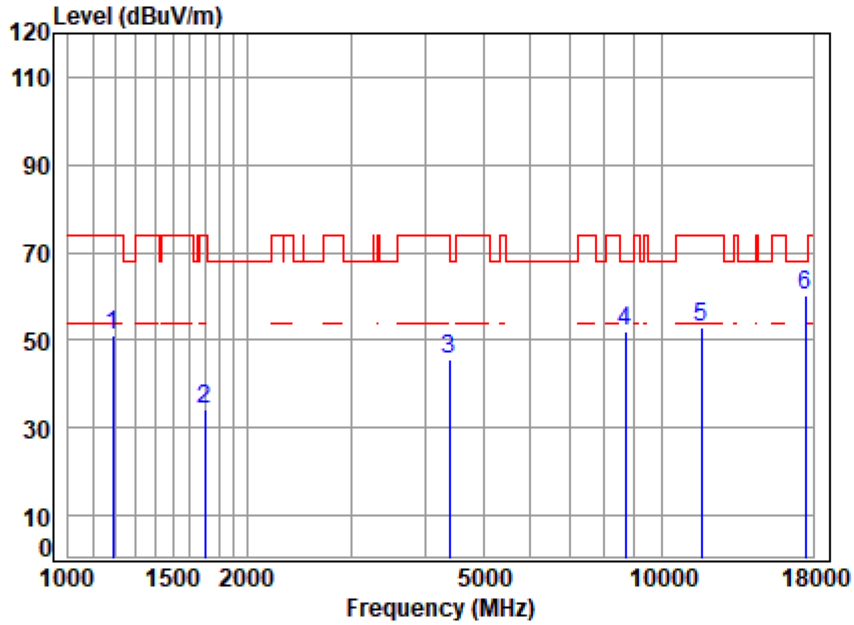
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5825 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	65.01	52.02	74.00	-21.98	peak
2	1592.571	3.34	26.22	40.57	46.01	35.00	74.00	-39.00	peak
3	4417.841	6.68	33.46	42.49	48.91	46.56	68.20	-21.64	peak
4	8588.607	10.14	37.04	40.18	44.63	51.63	68.20	-16.57	peak
5	11650.000	11.82	37.84	38.75	42.66	53.57	74.00	-20.43	peak
6	17475.000	14.02	42.89	40.52	45.37	61.76	68.20	-6.44	peak

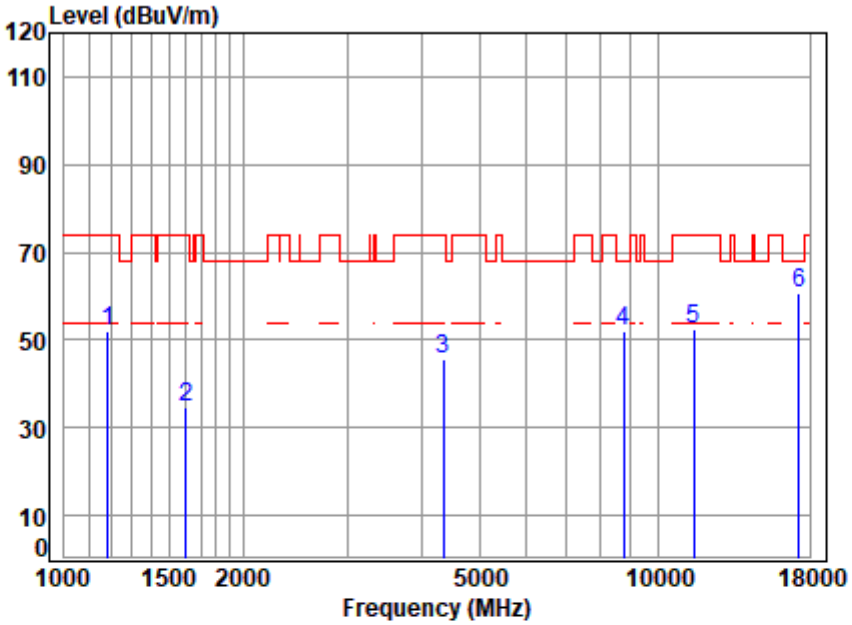
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5825 TX RSE
Note : 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	64.03	51.04	74.00	-22.96	peak
2	1697.129	3.43	26.66	40.63	44.89	34.35	74.00	-39.65	peak
3	4379.699	6.65	33.39	42.46	48.09	45.67	74.00	-28.33	peak
4	8688.480	10.18	37.08	40.02	44.67	51.91	68.20	-16.29	peak
5	11650.000	11.82	37.84	38.75	42.11	53.02	74.00	-20.98	peak
6	17475.000	14.02	42.89	40.52	43.75	60.14	68.20	-8.06	peak

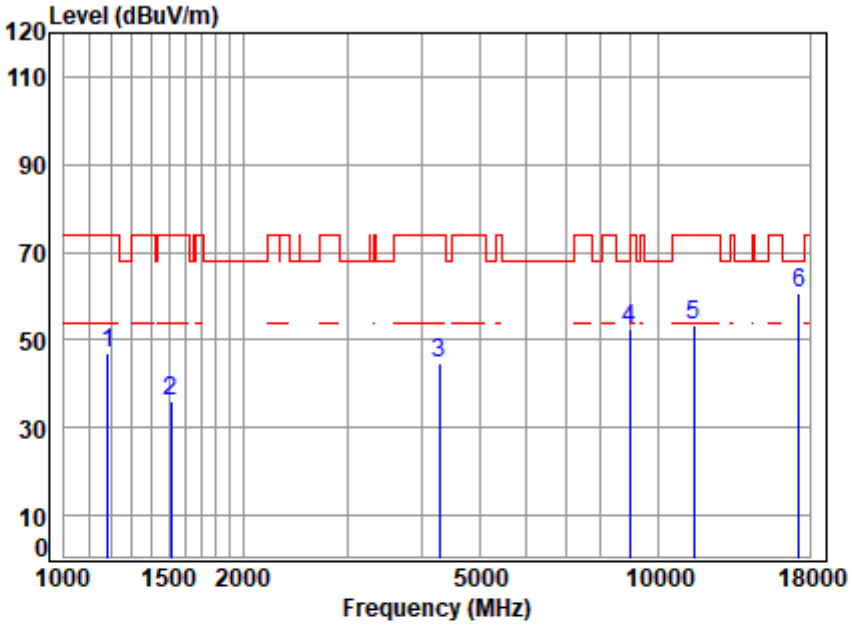
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5755 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.92	51.92	74.00	-22.08	peak
2	1601.804	3.35	26.26	40.57	45.84	34.88	74.00	-39.12	peak
3	4354.454	6.63	33.35	42.44	47.99	45.53	74.00	-28.47	peak
4	8764.146	10.21	37.11	39.89	44.55	51.98	68.20	-16.22	peak
5	11510.000	11.64	37.90	38.69	41.48	52.33	74.00	-21.67	peak
6	17265.000	14.08	42.76	40.52	44.57	60.89	68.20	-7.31	peak

Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5755 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	60.14	47.14	74.00	-26.86	peak
2	1511.833	3.27	25.85	40.51	47.64	36.25	74.00	-37.75	peak
3	4291.977	6.57	33.24	42.39	47.31	44.73	74.00	-29.27	peak
4	8943.274	10.28	37.18	39.60	44.50	52.36	68.20	-15.84	peak
5	11510.000	11.64	37.90	38.69	42.48	53.33	74.00	-20.67	peak
6	17265.000	14.08	42.76	40.52	44.22	60.54	68.20	-7.66	peak

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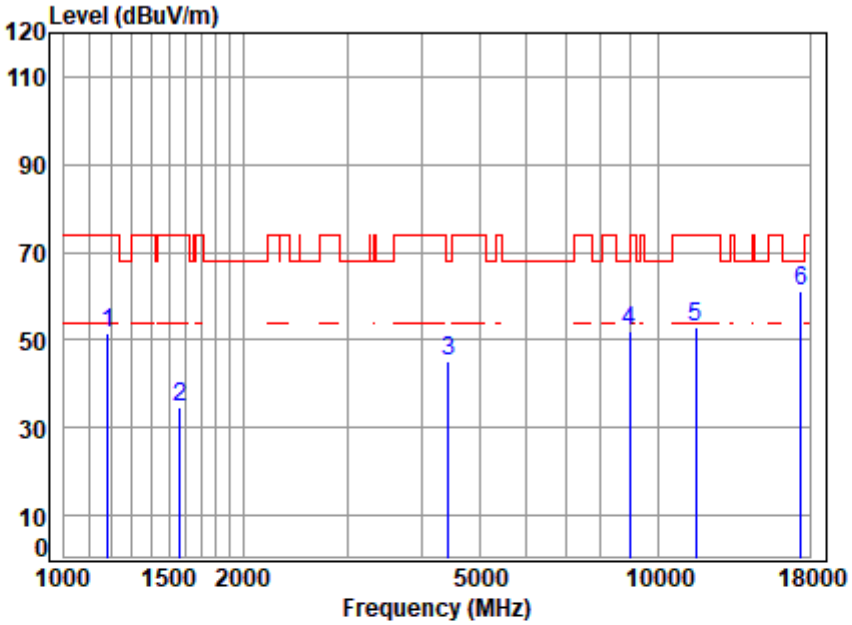
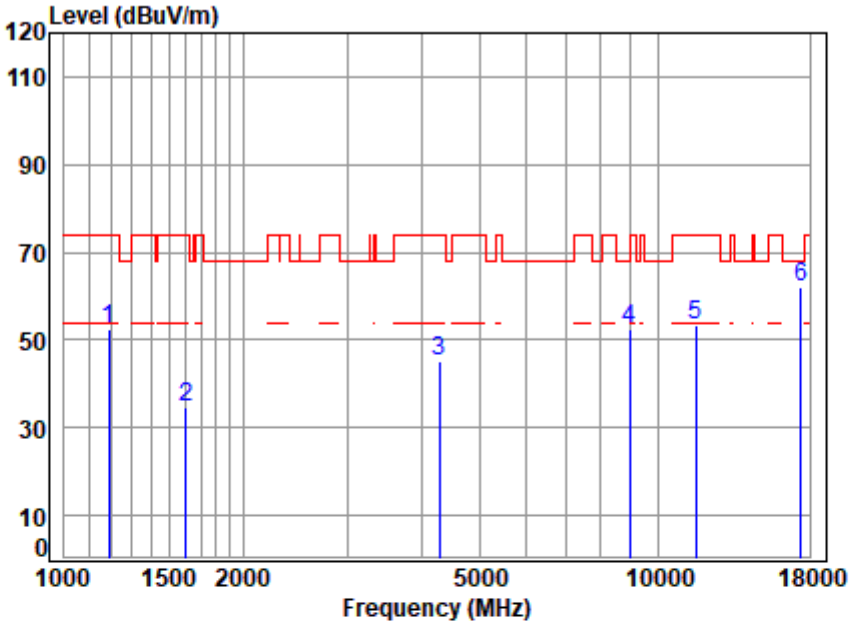
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5795 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.41	51.41	74.00	-22.59	peak
2	1565.191	3.32	26.10	40.55	45.85	34.72	74.00	-39.28	peak
3	4430.628	6.70	33.48	42.50	47.67	45.35	68.20	-22.85	peak
4	8943.274	10.28	37.18	39.60	44.21	52.07	68.20	-16.13	peak
5	11590.000	11.74	37.86	38.73	42.13	53.00	74.00	-21.00	peak
6	17385.000	14.05	42.83	40.52	44.86	61.22	68.20	-6.98	peak

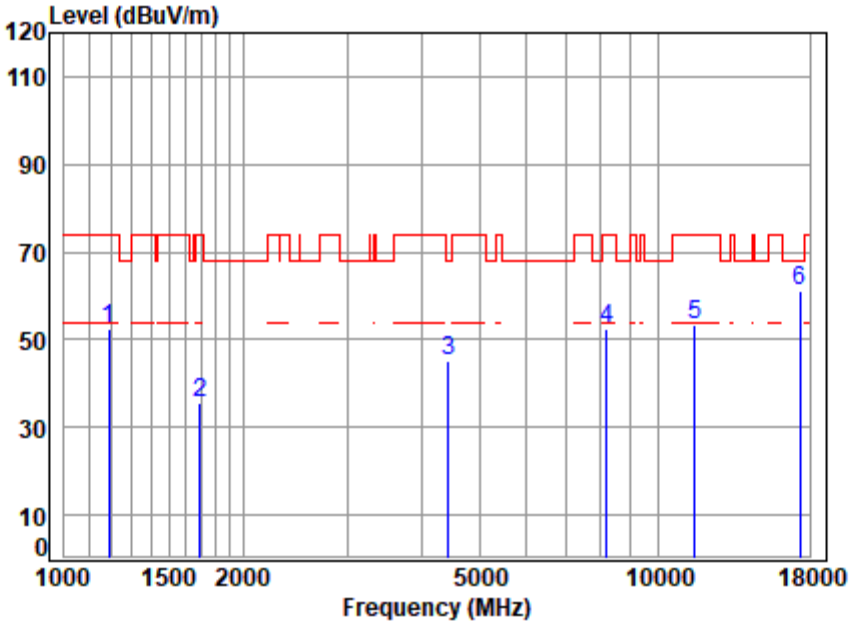
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5795 TX RSE
Note : 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	65.65	52.66	74.00	-21.34	peak
2	1606.441	3.35	26.28	40.57	45.60	34.66	74.00	-39.34	peak
3	4279.589	6.56	33.22	42.38	47.79	45.19	74.00	-28.81	peak
4	8943.274	10.28	37.18	39.60	44.42	52.28	68.20	-15.92	peak
5	11590.000	11.74	37.86	38.73	42.41	53.28	74.00	-20.72	peak
6	17385.000	14.05	42.83	40.52	45.48	61.84	68.20	-6.36	peak

Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5775 TX RSE
Note : 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2.74	24.54	40.27	65.34	52.35	74.00	-21.65	peak
2	1692.231	3.42	26.64	40.63	46.31	35.74	74.00	-38.26	peak
3	4430.628	6.70	33.48	42.50	47.27	44.95	68.20	-23.25	peak
4	8200.463	9.70	36.82	40.85	46.60	52.27	74.00	-21.73	peak
5	11550.000	11.69	37.88	38.71	42.30	53.16	74.00	-20.84	peak
6	17325.000	14.07	42.80	40.52	44.68	61.03	68.20	-7.17	peak

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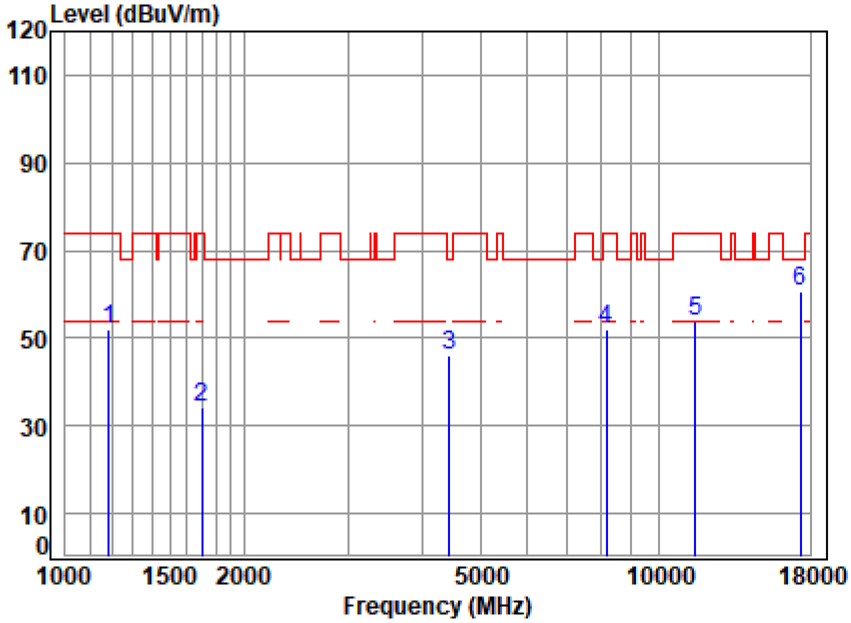
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5775 TX RSE
Note : 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	2.74	24.53	40.27	64.92	51.92	74.00	-22.08	peak
2	1697.129	3.43	26.66	40.63	44.91	34.37	74.00	-39.63	peak
3	4443.453	6.71	33.50	42.51	48.41	46.11	68.20	-22.09	peak
4	8176.795	9.67	36.81	40.89	46.29	51.88	74.00	-22.12	peak
5	11550.000	11.69	37.88	38.71	42.85	53.71	74.00	-20.29	peak
6	17325.000	14.07	42.80	40.52	44.31	60.66	68.20	-7.54	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
Measurement Distance: 3m
Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

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 (68.2dBuV/m).
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 (68.2dBuV/m).
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 (68.2dBuV/m).
For transmitters operating in the 5.725-5.85 GHz band:	(i) All emissions shall be limited to a level of –27 dBm/MHz (68.2dBuV/m) at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz (105.2dBuV/m) 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 (110.8dBuV/m) 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 (122.2dBuV/m) at the band edge.

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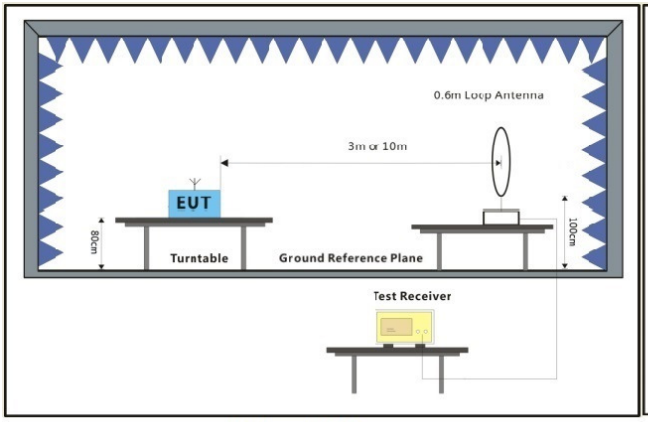
7.8.1 E.U.T. Operation

Operating Environment:

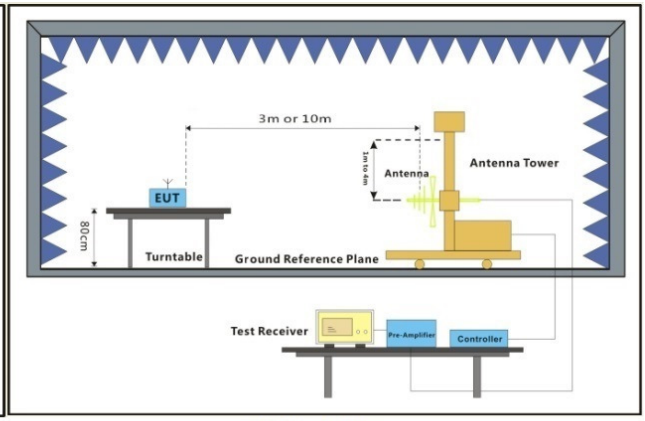
Temperature: 23 °C Humidity: 52.4 % RH Atmospheric Pressure: 1010 mbar

Pretest these modes to find the worst case:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
The worst case for final test:	e:TX mode (Band 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. f:TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

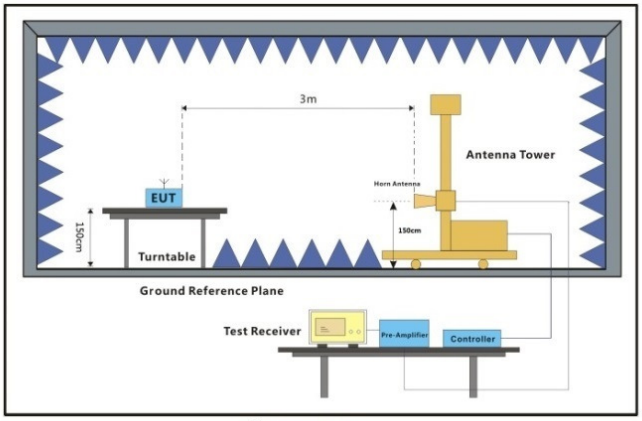
7.8.2 Test Setup Diagram



Below 30MHz



30MHz-1GHz



Above 1GHz

7.8.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

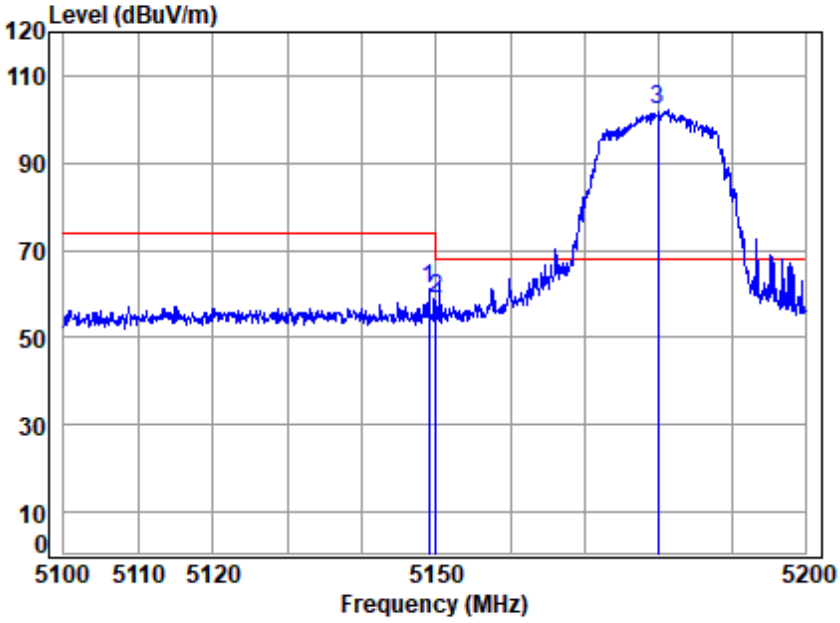
h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

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

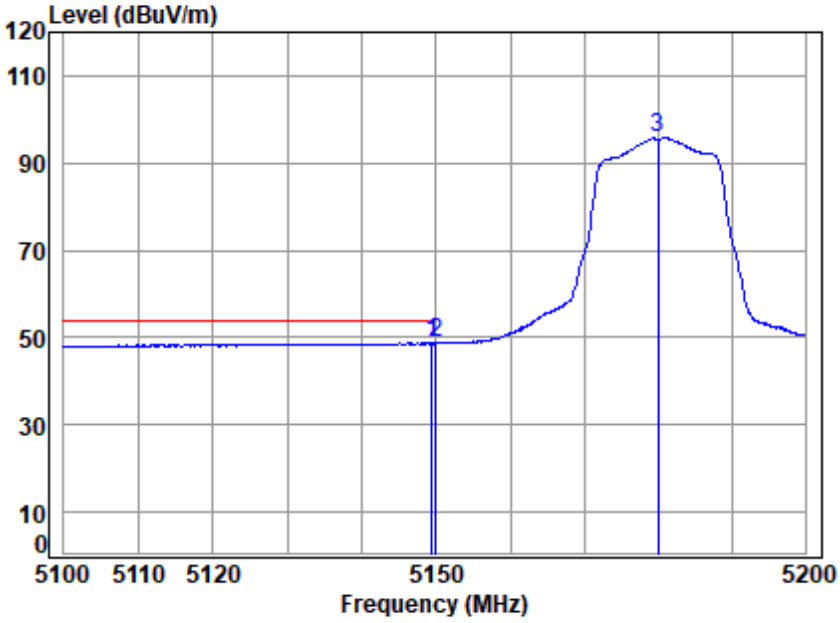
Mode:e; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.958	7.57	34.32	42.79	62.24	61.34	74.00	-12.66	peak
2	5149.980	7.57	34.32	42.79	59.85	58.95	74.00	-15.05	peak
3 *	5180.000	7.63	34.35	42.77	102.87	102.08	68.20	33.88	peak

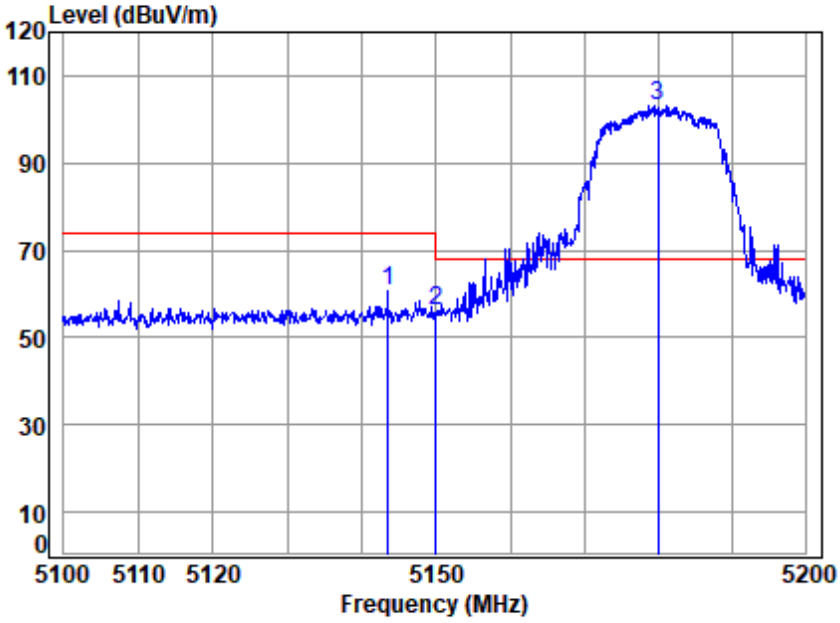
Mode:e; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.357	7.57	34.32	42.79	49.61	48.71	54.00	-5.29	Average
2	5149.980	7.57	34.32	42.79	49.66	48.76	54.00	-5.24	Average
3	5180.000	7.63	34.35	42.77	96.61	95.82	------	------	Average

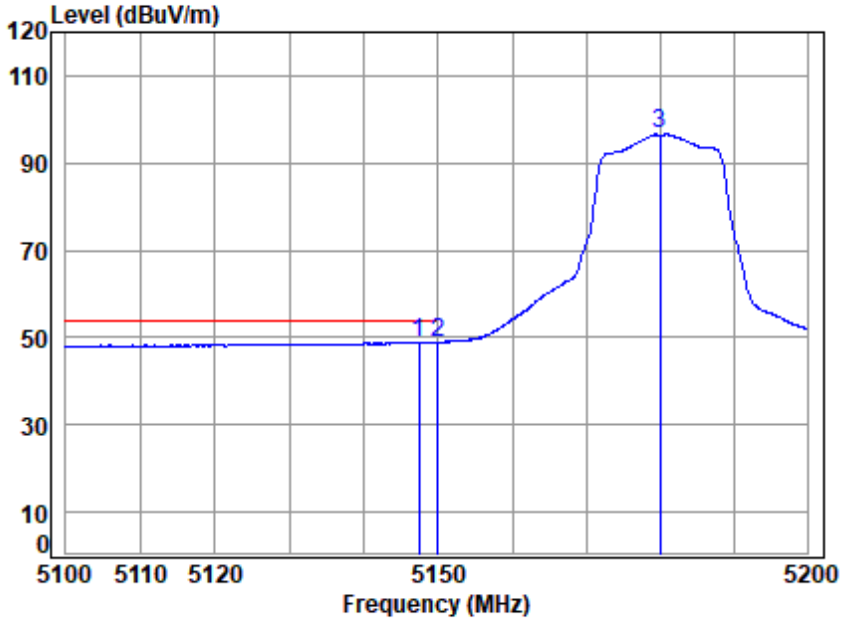
Mode:e; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5143.461	7.56	34.32	42.80	61.53	60.61	74.00	-13.39	peak
2	5149.980	7.57	34.32	42.79	57.19	56.29	74.00	-17.71	peak
3 *	5180.000	7.63	34.35	42.77	104.02	103.23	68.20	35.03	peak

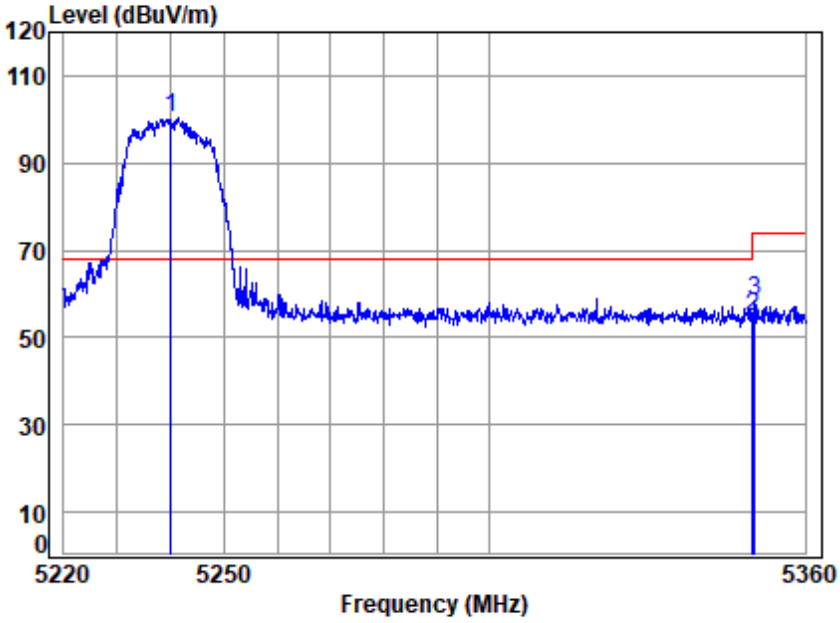
Mode:e; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.358	7.57	34.32	42.79	49.88	48.98	54.00	-5.02	Average
2	5149.980	7.57	34.32	42.79	49.92	49.02	54.00	-4.98	Average
3	5180.000	7.63	34.35	42.77	97.42	96.63	------	------	Average

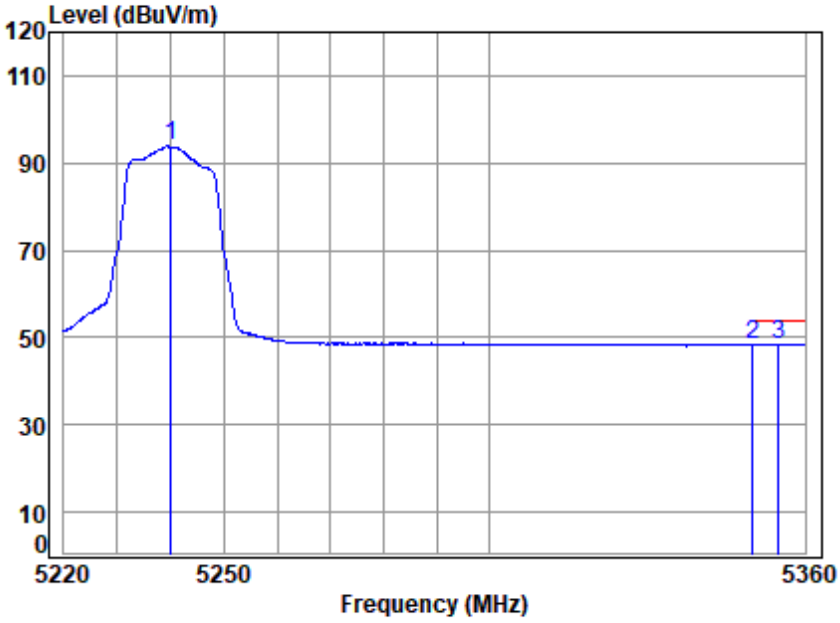
Mode:e; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11A

		Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	*	5240.000	7.73	34.40	42.73	100.76	100.16	68.20	31.96	peak
2		5350.020	7.92	34.48	42.66	54.89	54.63	74.00	-19.37	peak
3		5350.362	7.93	34.48	42.66	58.63	58.38	74.00	-15.62	peak

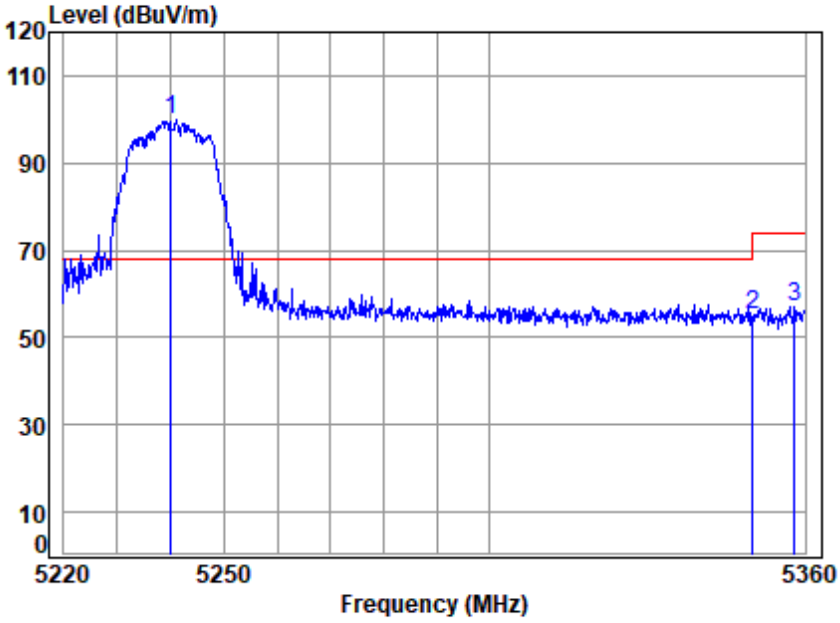
Mode:e; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5240.000	7.73	34.40	42.73	94.43	93.83	------	------	Average
2	5350.020	7.92	34.48	42.66	48.54	48.28	54.00	-5.72	Average
3	5354.896	7.93	34.49	42.65	48.70	48.47	54.00	-5.53	Average

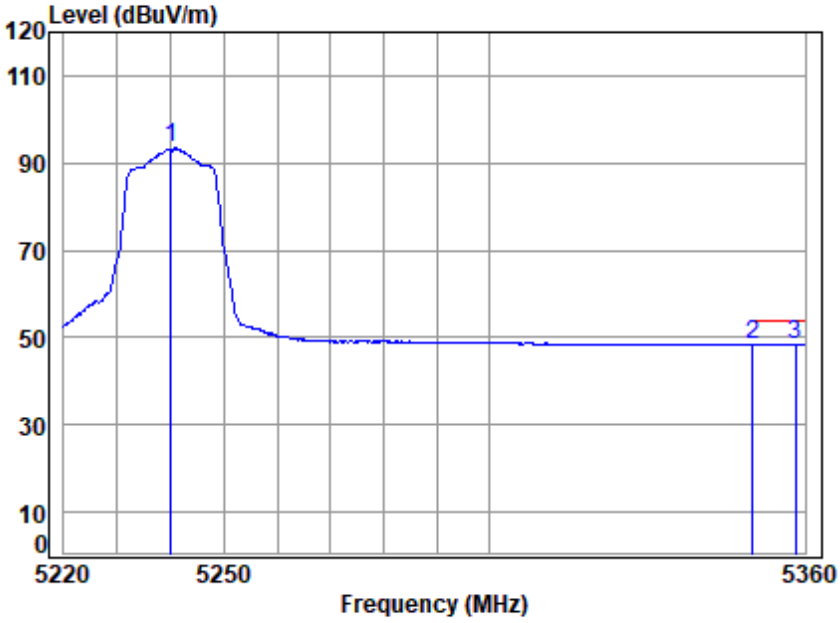
Mode:e; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11A

		Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	*	5240.000	7.73	34.40	42.73	100.40	99.80	68.20	31.60	peak
2		5350.020	7.92	34.48	42.66	55.55	55.29	74.00	-18.71	peak
3		5358.014	7.94	34.49	42.65	57.31	57.09	74.00	-16.91	peak

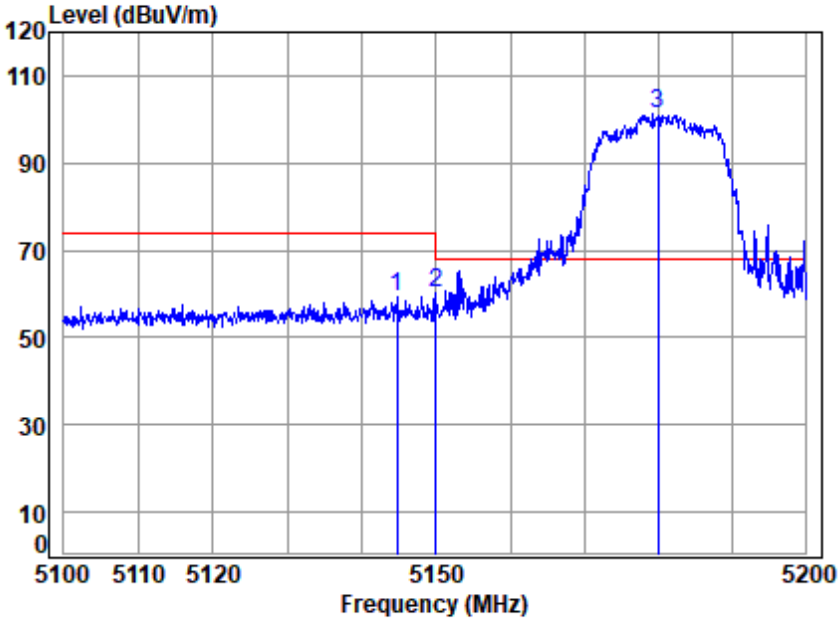
Mode:e; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5240.000	7.73	34.40	42.73	93.93	93.33	------	------	Average
2	5350.020	7.92	34.48	42.66	48.63	48.37	54.00	-5.63	Average
3	5358.156	7.94	34.49	42.65	48.67	48.45	54.00	-5.55	Average

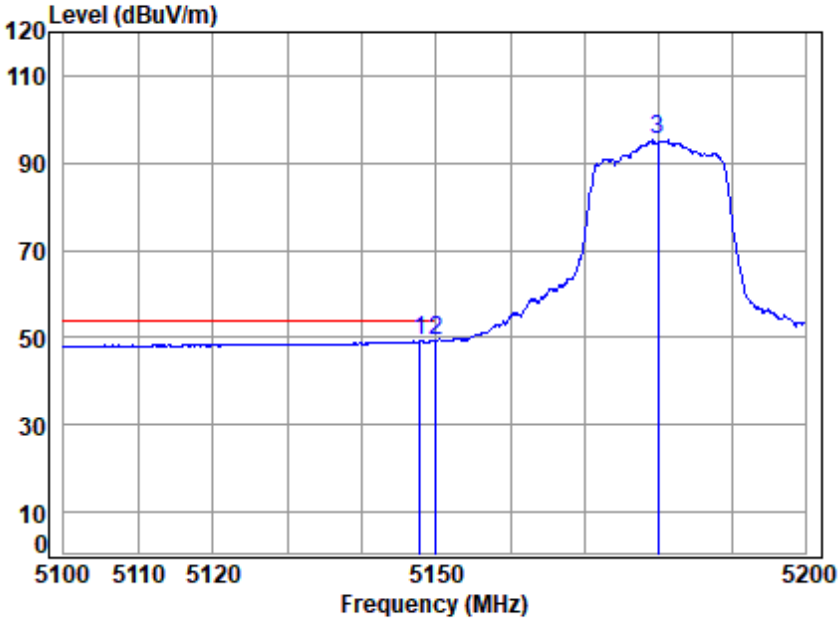
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5144.660	7.56	34.32	42.80	60.36	59.44	74.00	-14.56	peak
2	5149.980	7.57	34.32	42.79	61.04	60.14	74.00	-13.86	peak
3 *	5180.000	7.63	34.35	42.77	101.86	101.07	68.20	32.87	peak

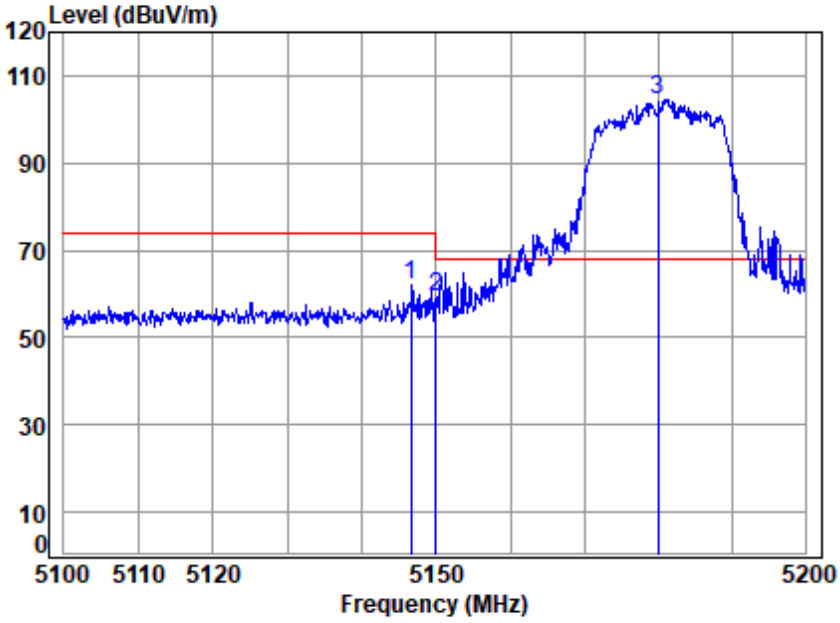
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.758	7.57	34.32	42.79	50.14	49.24	54.00	-4.76	Average
2	5149.980	7.57	34.32	42.79	50.31	49.41	54.00	-4.59	Average
3	5180.000	7.63	34.35	42.77	95.96	95.17	------	------	Average

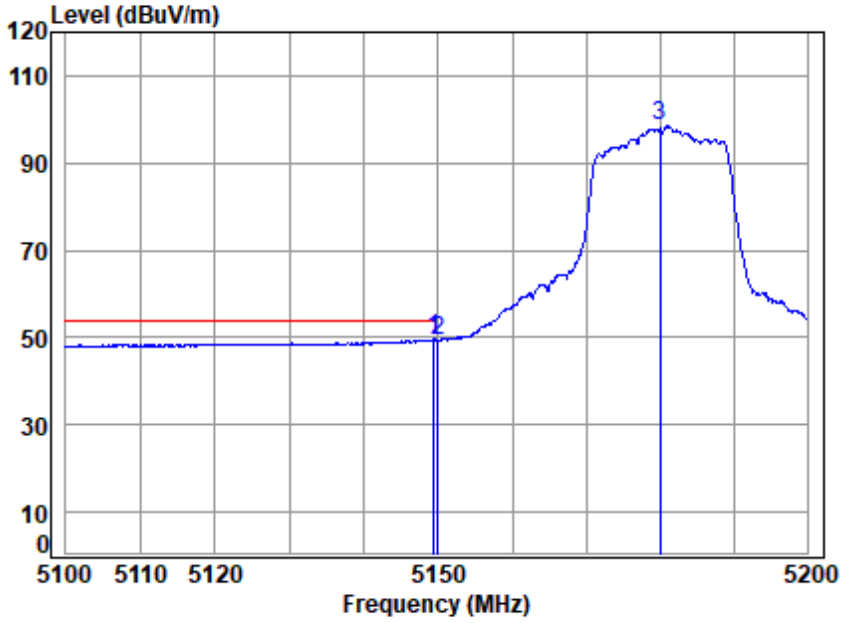
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5146.658	7.57	34.32	42.80	63.02	62.11	74.00	-11.89	peak
2	5149.980	7.57	34.32	42.79	60.05	59.15	74.00	-14.85	peak
3 *	5180.000	7.63	34.35	42.77	105.45	104.66	68.20	36.46	peak

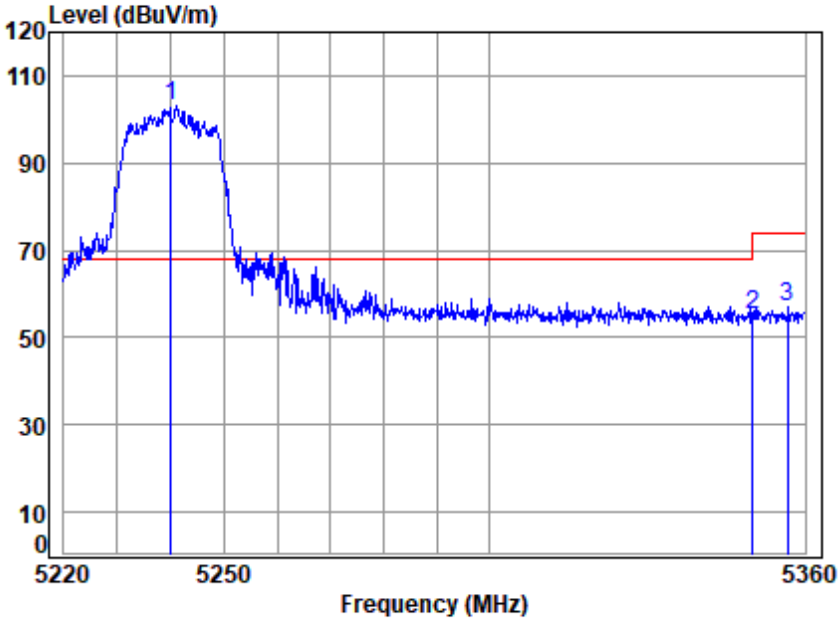
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.458	7.57	34.32	42.79	50.48	49.58	54.00	-4.42	Average
2	5149.980	7.57	34.32	42.79	50.35	49.45	54.00	-4.55	Average
3	5180.000	7.63	34.35	42.77	99.17	98.38	------	------	Average

Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	5240.000	7.73	34.40	42.73	103.51	102.91	68.20	34.71	peak
2	5350.020	7.92	34.48	42.66	55.51	55.25	74.00	-18.75	peak
3	5356.738	7.94	34.49	42.65	57.41	57.19	74.00	-16.81	peak

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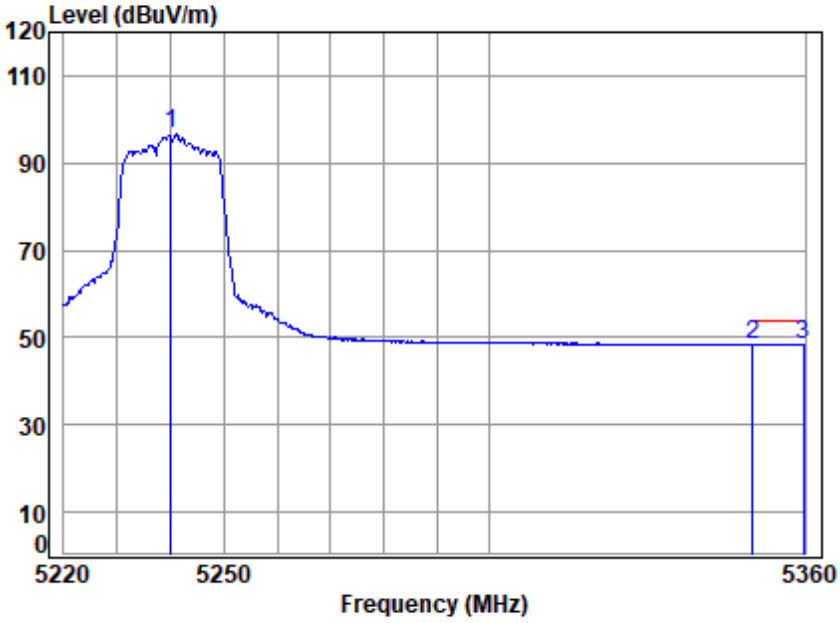
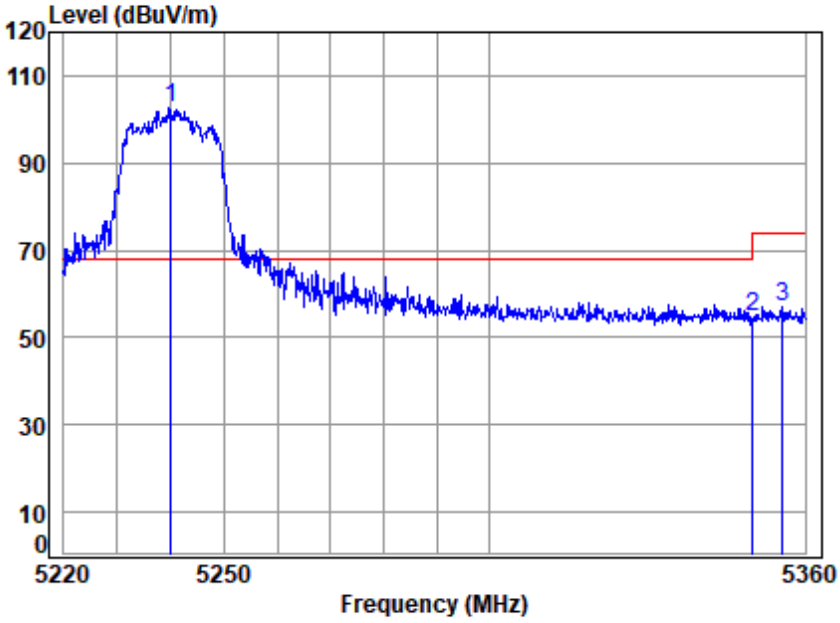
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5240.000	7.73	34.40	42.73	97.17	96.57	------	------	Average
2	5350.020	7.92	34.48	42.66	48.58	48.32	54.00	-5.68	Average
3	5359.716	7.94	34.49	42.65	48.62	48.40	54.00	-5.60	Average

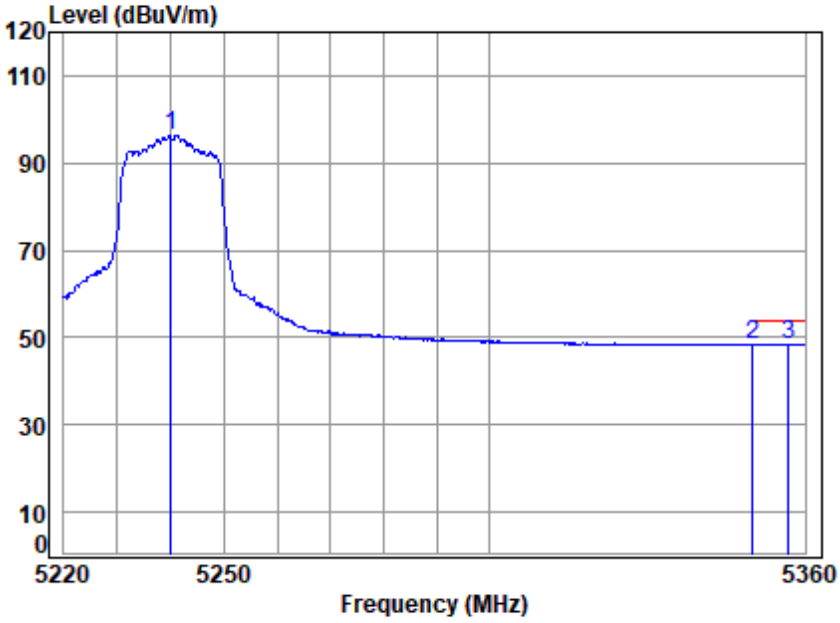
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	5240.000	7.73	34.40	42.73	103.24	102.64	68.20	34.44	peak
2	5350.020	7.92	34.48	42.66	55.09	54.83	74.00	-19.17	peak
3	5355.746	7.93	34.49	42.65	57.46	57.23	74.00	-16.77	peak

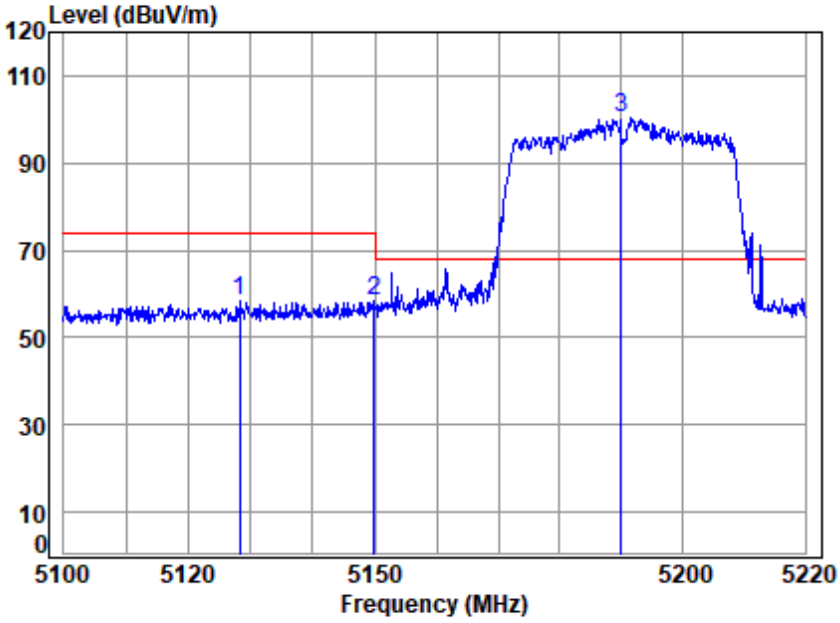
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5240.000	7.73	34.40	42.73	97.02	96.42	------	------	Average
2	5350.020	7.92	34.48	42.66	48.52	48.26	54.00	-5.74	Average
3	5356.880	7.94	34.49	42.65	48.66	48.44	54.00	-5.56	Average

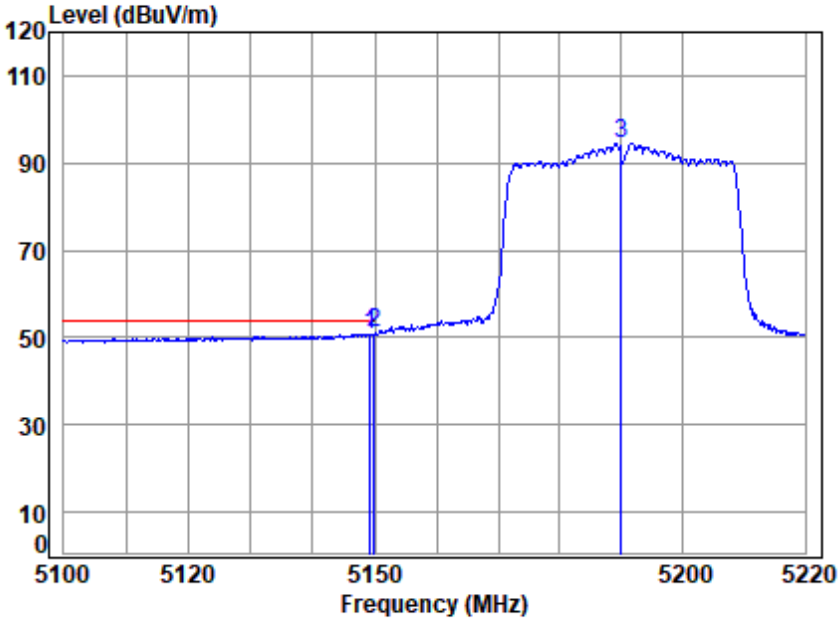
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5128.188	7.53	34.31	42.81	59.25	58.28	74.00	-15.72	peak
2	5149.980	7.57	34.32	42.79	59.48	58.58	74.00	-15.42	peak
3 *	5190.000	7.64	34.36	42.77	101.15	100.38	68.20	32.18	peak

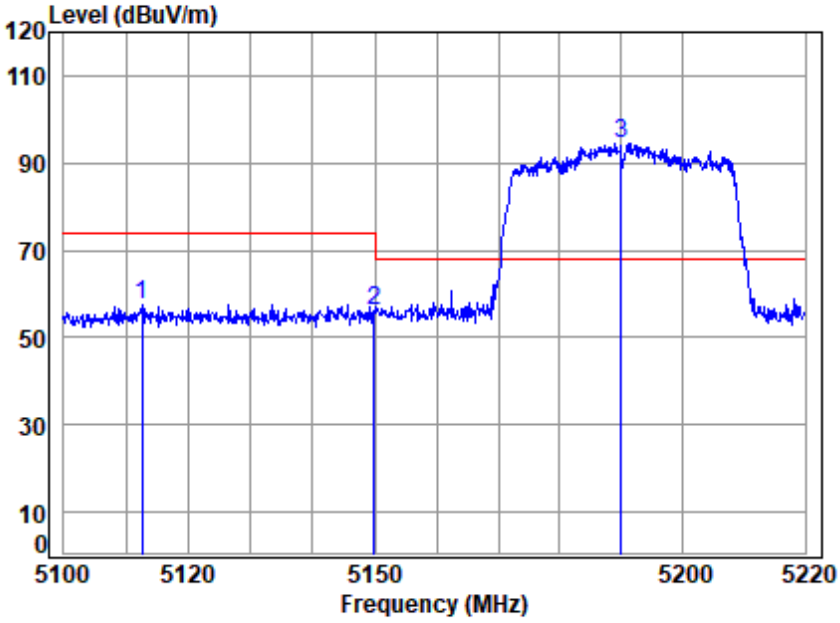
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.222	7.57	34.32	42.79	51.76	50.86	54.00	-3.14	Average
2	5149.980	7.57	34.32	42.79	51.90	51.00	54.00	-3.00	Average
3	5190.000	7.64	34.36	42.77	95.24	94.47	------	------	Average

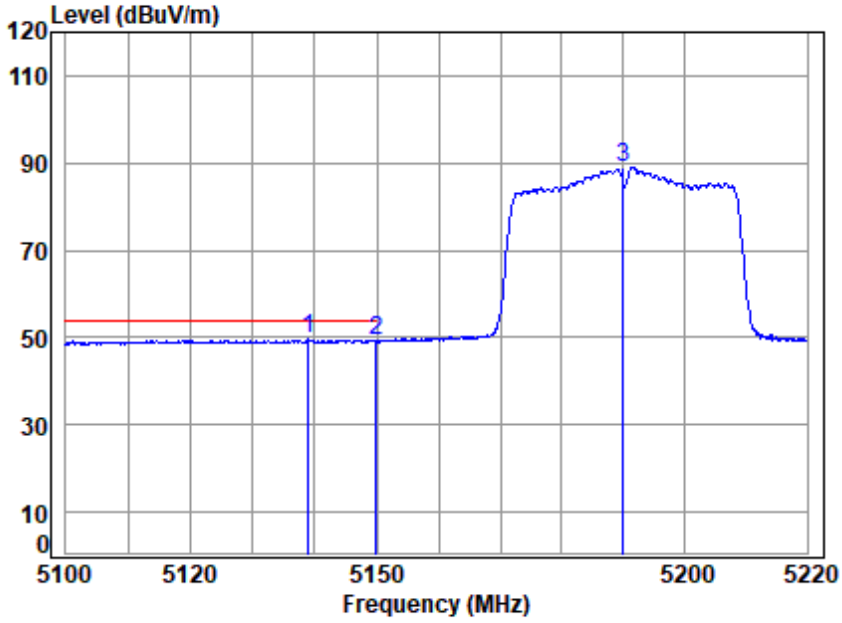
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5112.588	7.51	34.29	42.82	58.69	57.67	74.00	-16.33	peak
2	5149.980	7.57	34.32	42.79	57.17	56.27	74.00	-17.73	peak
3 *	5190.000	7.64	34.36	42.77	95.21	94.44	68.20	26.24	peak

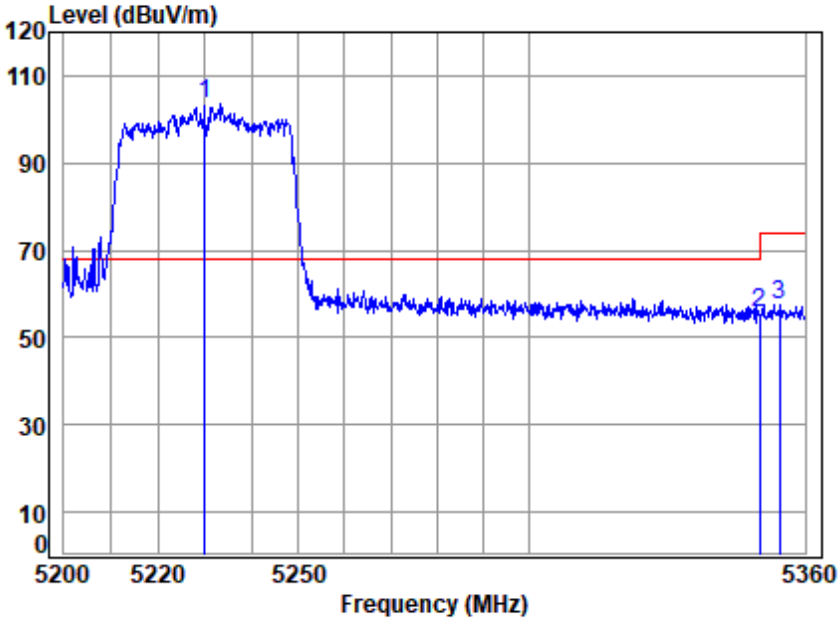
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5138.933	7.55	34.32	42.80	50.45	49.52	54.00	-4.48	Average
2	5149.980	7.57	34.32	42.79	50.19	49.29	54.00	-4.71	Average
3	5190.000	7.64	34.36	42.77	89.81	89.04	------	------	Average

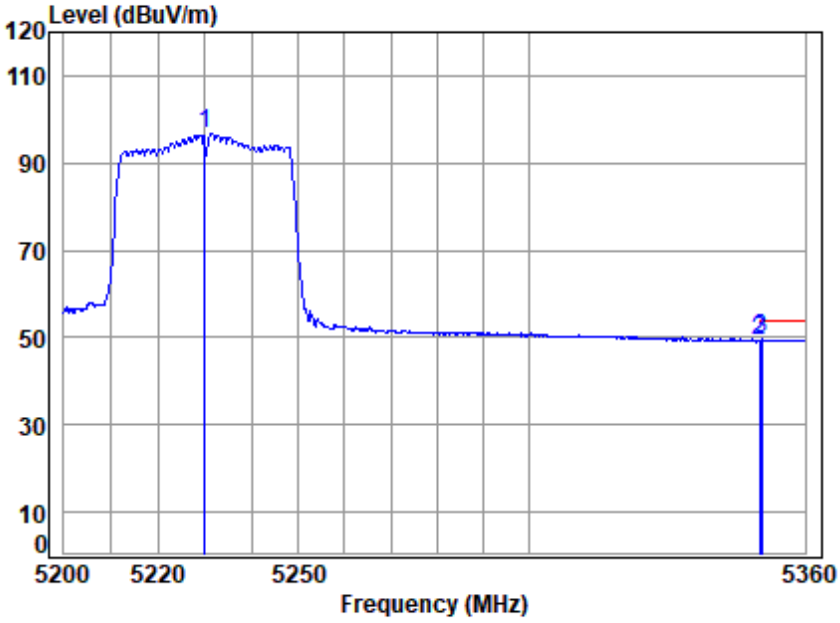
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11N40

		Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	*	5230.000	7.72	34.39	42.74	104.35	103.72	68.20	35.52	peak
2		5350.020	7.92	34.48	42.66	56.06	55.80	74.00	-18.20	peak
3		5354.480	7.93	34.49	42.65	57.68	57.45	74.00	-16.55	peak

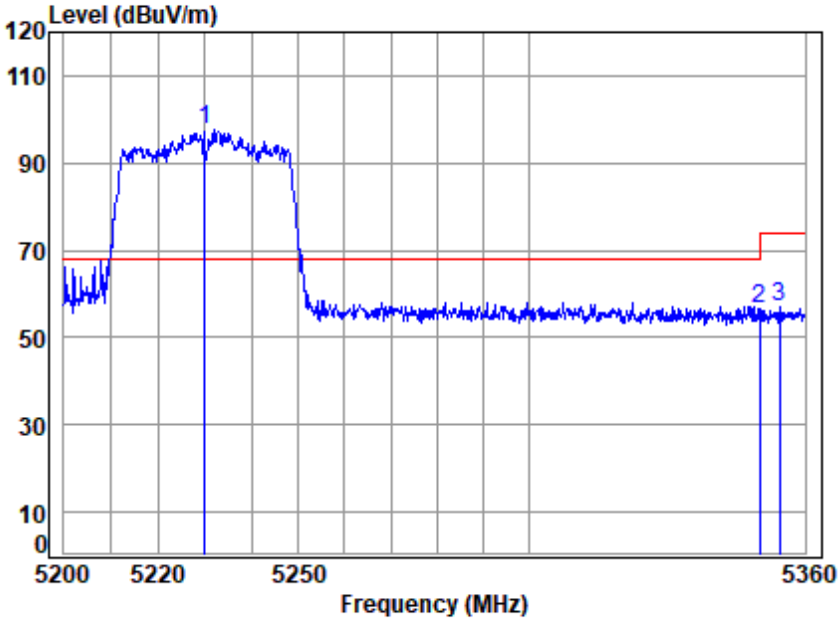
Mode:e; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5230.000	7.72	34.39	42.74	97.47	96.84	------	------	Average
2	5350.020	7.92	34.48	42.66	49.56	49.30	54.00	-4.70	Average
3	5350.587	7.93	34.48	42.65	49.82	49.58	54.00	-4.42	Average

Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11N40

		Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	*	5230.000	7.72	34.39	42.74	98.49	97.86	68.20	29.66	peak
2		5350.020	7.92	34.48	42.66	56.62	56.36	74.00	-17.64	peak
3		5354.480	7.93	34.49	42.65	57.18	56.95	74.00	-17.05	peak

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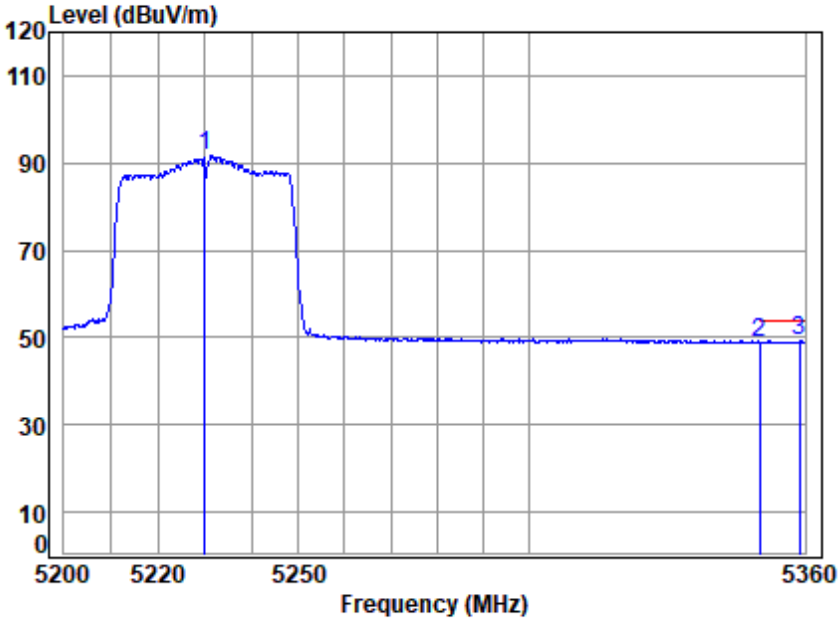
Mode:e; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5230.000	7.72	34.39	42.74	92.17	91.54	------	------	Average
2	5350.020	7.92	34.48	42.66	49.12	48.86	54.00	-5.14	Average
3	5358.863	7.94	34.49	42.65	49.49	49.27	54.00	-4.73	Average

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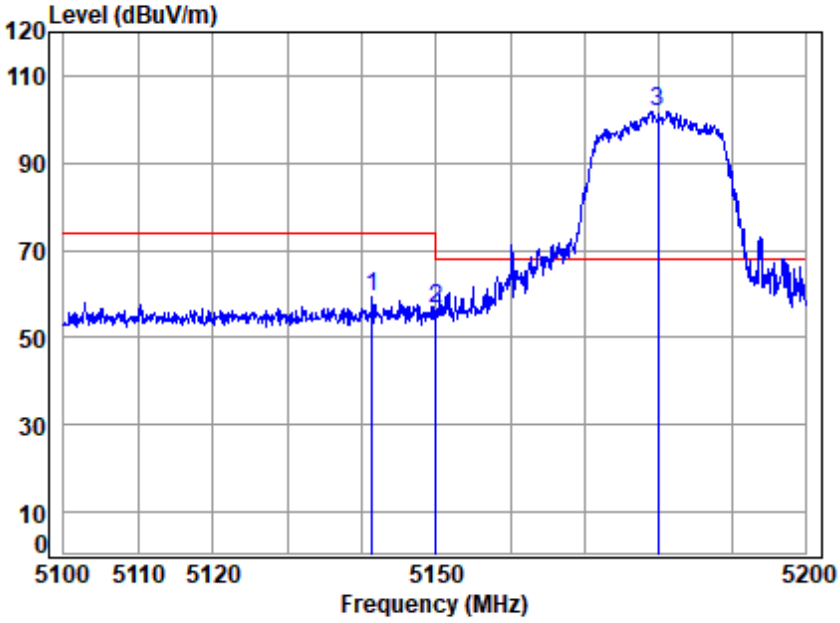
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5141.364	7.56	34.32	42.80	60.41	59.49	74.00	-14.51	peak
2	5149.980	7.57	34.32	42.79	57.43	56.53	74.00	-17.47	peak
3 *	5180.000	7.63	34.35	42.77	102.68	101.89	68.20	33.69	peak

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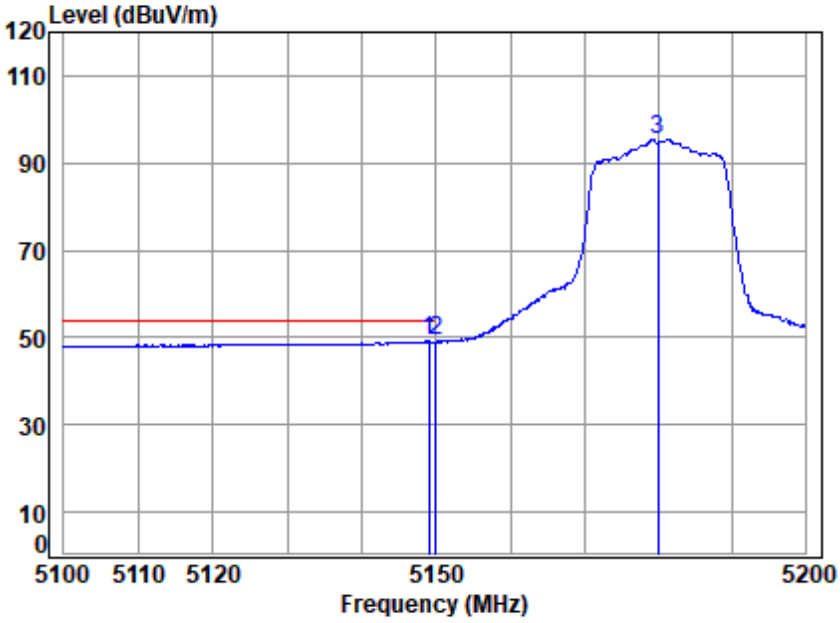
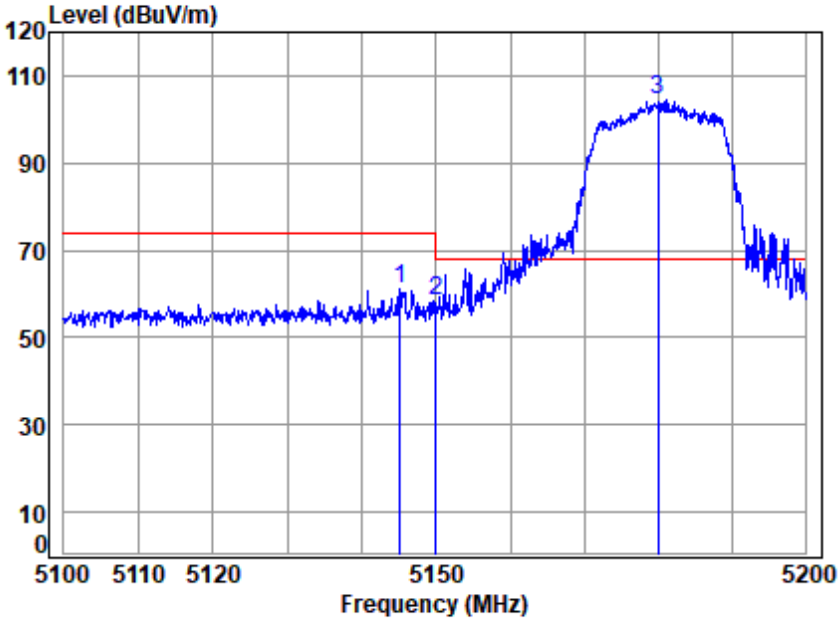
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.057	7.57	34.32	42.79	50.04	49.14	54.00	-4.86	Average
2	5149.980	7.57	34.32	42.79	50.00	49.10	54.00	-4.90	Average
3	5180.000	7.63	34.35	42.77	96.10	95.31	------	------	Average

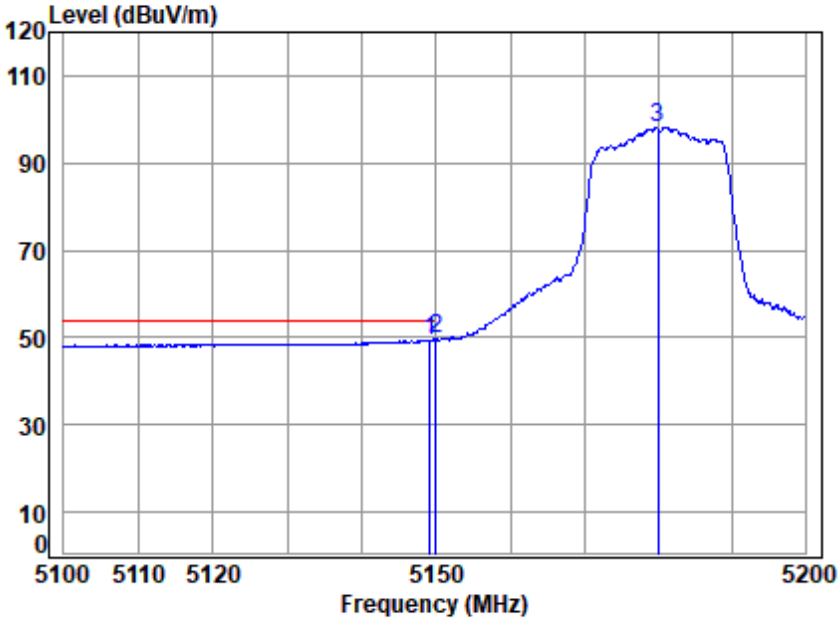
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5145.159	7.56	34.32	42.80	62.27	61.35	74.00	-12.65	peak
2	5149.980	7.57	34.32	42.79	59.49	58.59	74.00	-15.41	peak
3 *	5180.000	7.63	34.35	42.77	105.50	104.71	68.20	36.51	peak

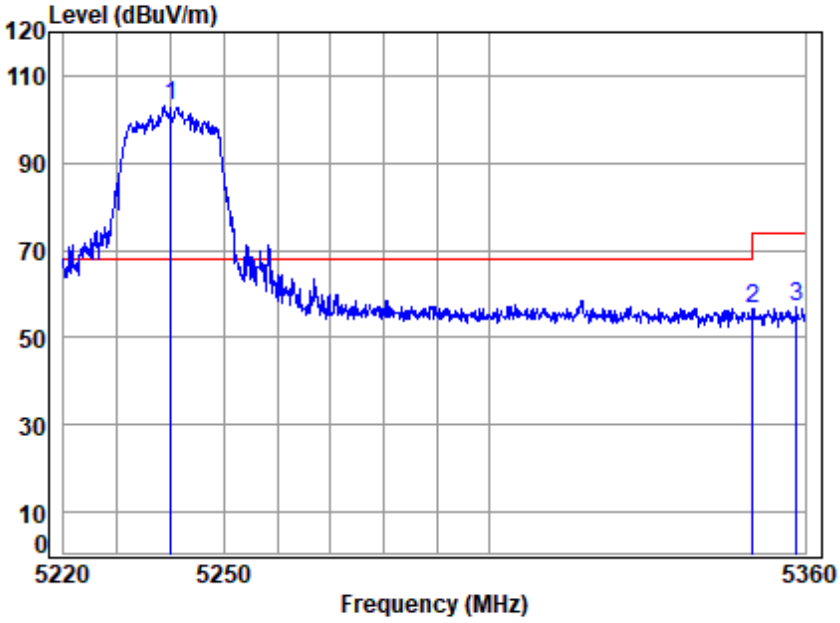
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5180 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.157	7.57	34.32	42.79	50.34	49.44	54.00	-4.56	Average
2	5149.980	7.57	34.32	42.79	50.55	49.65	54.00	-4.35	Average
3	5180.000	7.63	34.35	42.77	99.11	98.32	------	------	Average

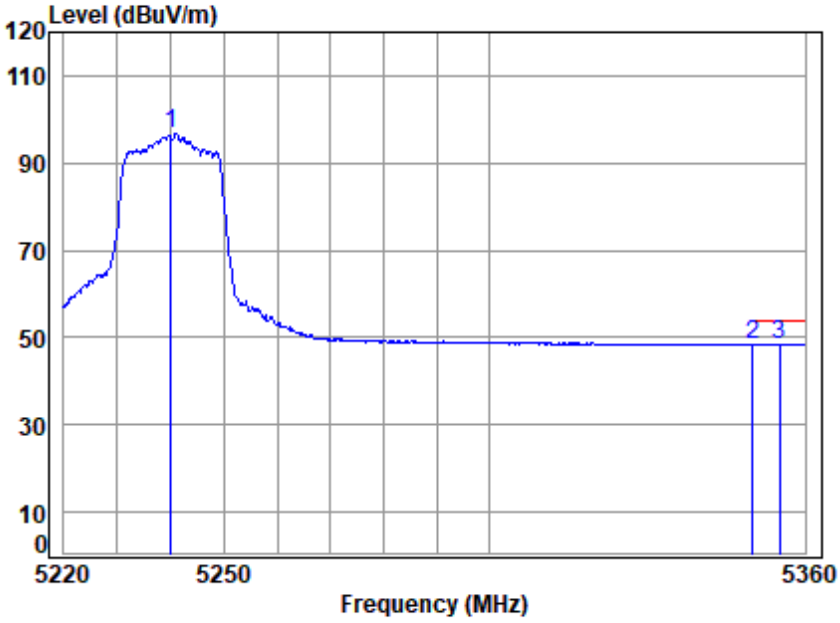
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

		Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	*	5240.000	7.73	34.40	42.73	103.73	103.13	68.20	34.93	peak
2		5350.020	7.92	34.48	42.66	57.06	56.80	74.00	-17.20	peak
3		5358.298	7.94	34.49	42.65	57.04	56.82	74.00	-17.18	peak

Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5240.000	7.73	34.40	42.73	97.31	96.71	------	------	Average
2	5350.020	7.92	34.48	42.66	48.63	48.37	54.00	-5.63	Average
3	5355.179	7.93	34.49	42.65	48.70	48.47	54.00	-5.53	Average

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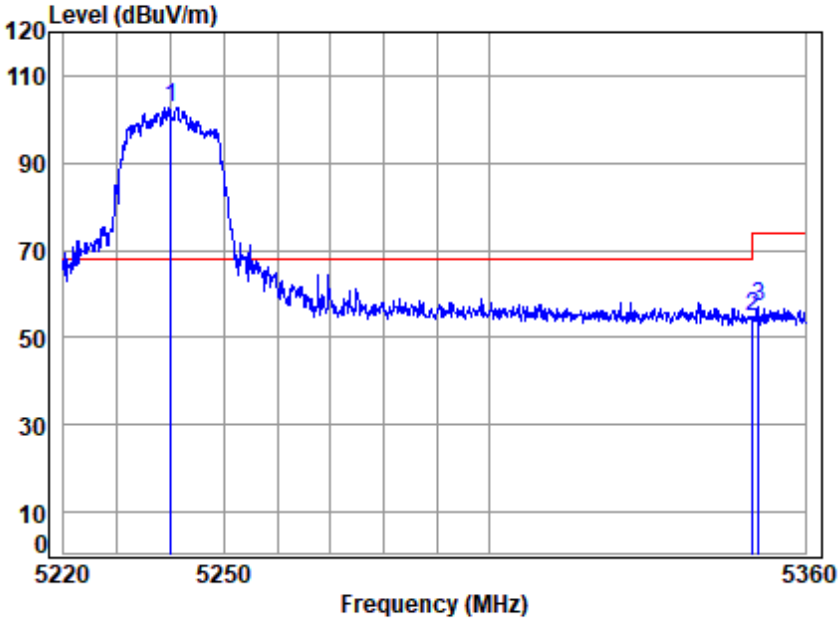
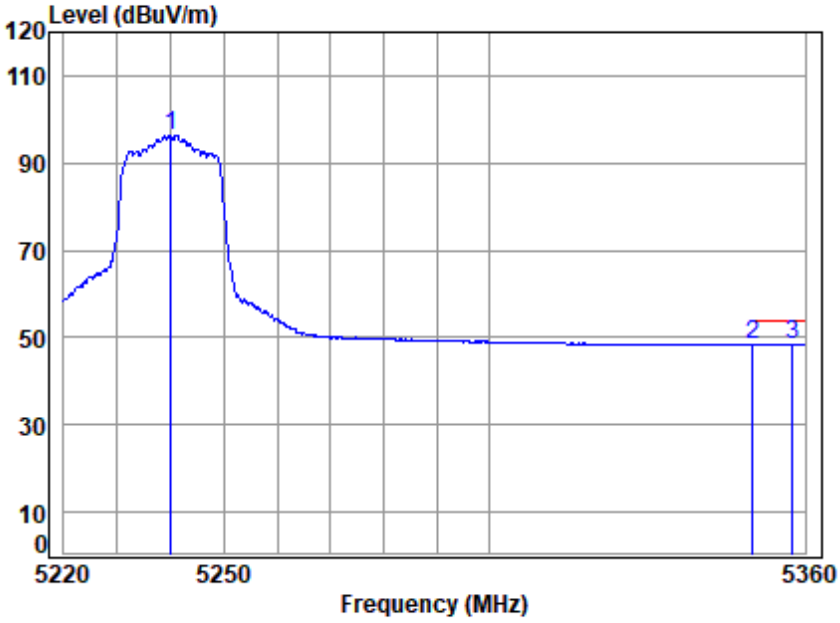
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	5240.000	7.73	34.40	42.73	103.38	102.78	68.20	34.58	peak
2	5350.020	7.92	34.48	42.66	55.03	54.77	74.00	-19.23	peak
3	5351.212	7.93	34.48	42.65	57.05	56.81	74.00	-17.19	peak

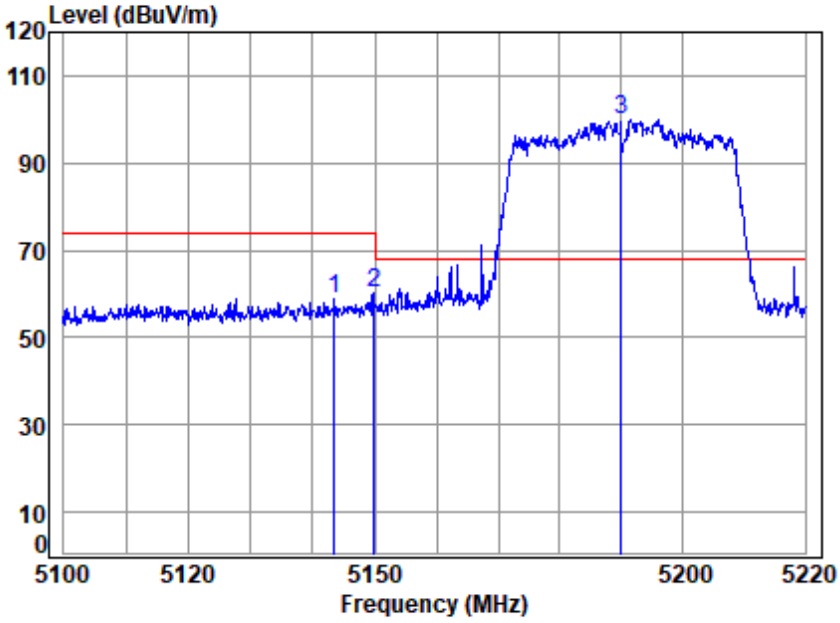
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5240 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5240.000	7.73	34.40	42.73	96.95	96.35	------	------	Average
2	5350.020	7.92	34.48	42.66	48.47	48.21	54.00	-5.79	Average
3	5357.589	7.94	34.49	42.65	48.61	48.39	54.00	-5.61	Average

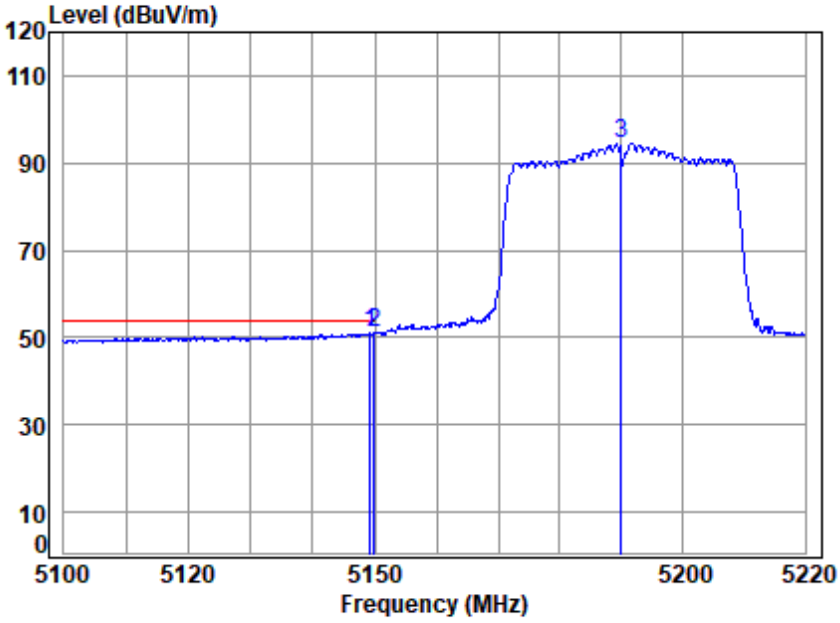
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5143.477	7.56	34.32	42.80	59.84	58.92	74.00	-15.08	peak
2	5149.980	7.57	34.32	42.79	60.98	60.08	74.00	-13.92	peak
3 *	5190.000	7.64	34.36	42.77	100.91	100.14	68.20	31.94	peak

Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.222	7.57	34.32	42.79	51.78	50.88	54.00	-3.12	Average
2	5149.980	7.57	34.32	42.79	52.12	51.22	54.00	-2.78	Average
3	5190.000	7.64	34.36	42.77	95.40	94.63	------	------	Average

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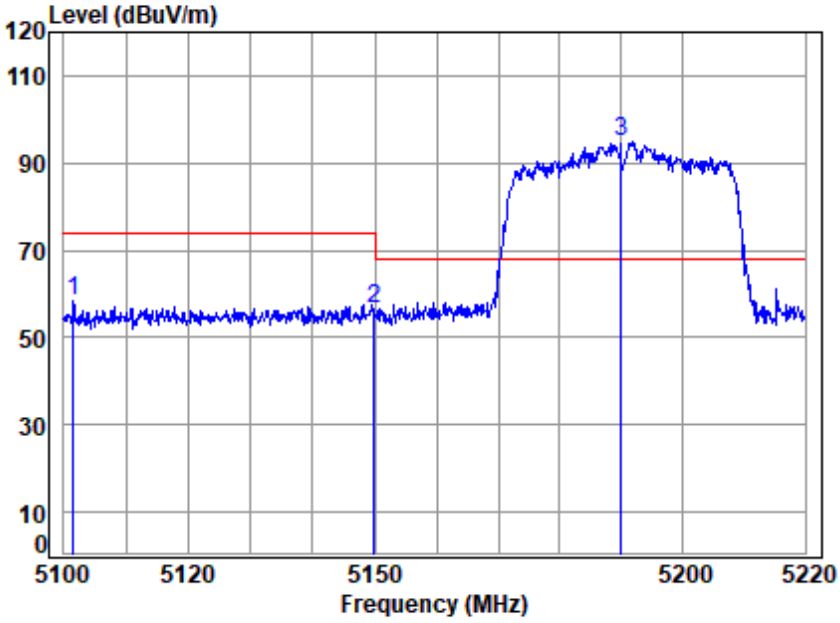
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5101.542	7.49	34.28	42.83	59.50	58.44	74.00	-15.56	peak
2	5149.980	7.57	34.32	42.79	57.44	56.54	74.00	-17.46	peak
3 *	5190.000	7.64	34.36	42.77	95.45	94.68	68.20	26.48	peak

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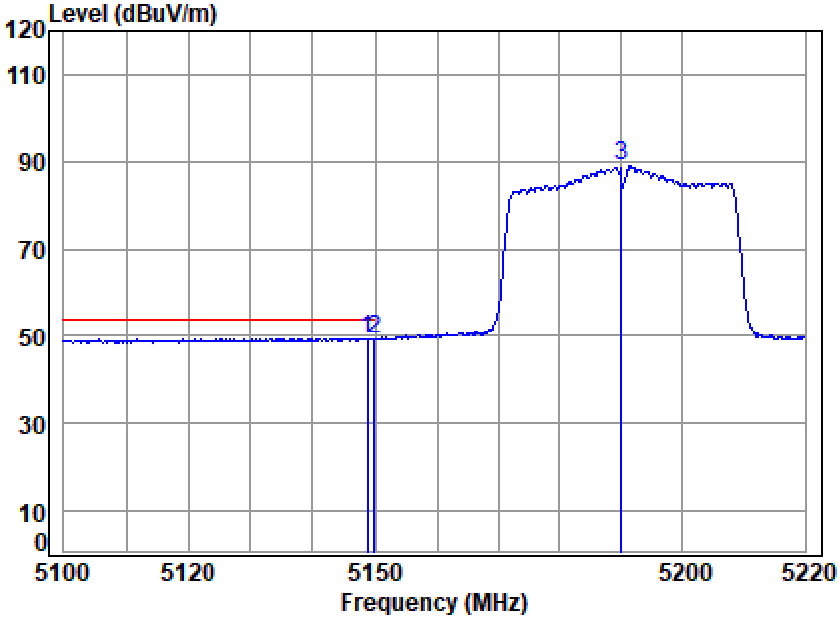
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5190 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.743	7.57	34.32	42.79	50.37	49.47	54.00	-4.53	Average
2	5149.980	7.57	34.32	42.79	50.33	49.43	54.00	-4.57	Average
3	5190.000	7.64	34.36	42.77	89.62	88.85	------	------	Average

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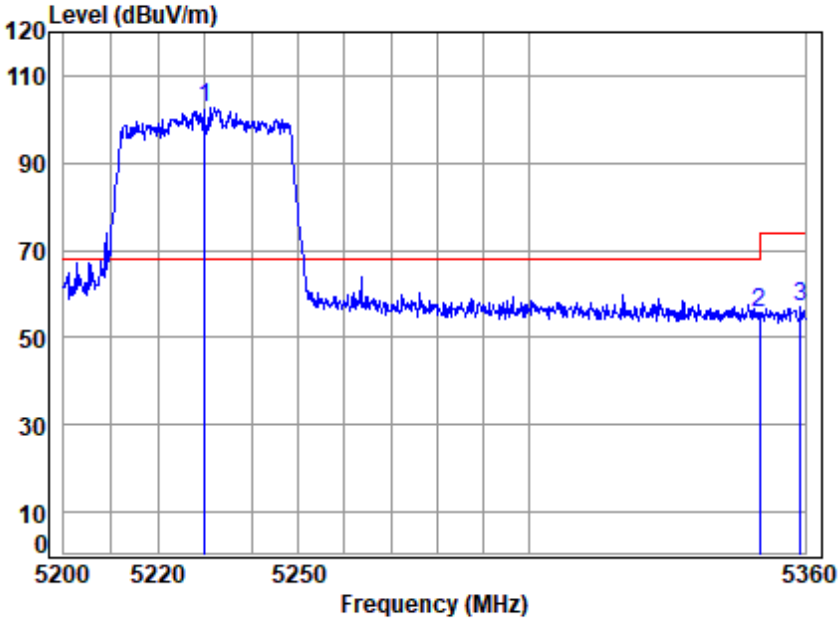
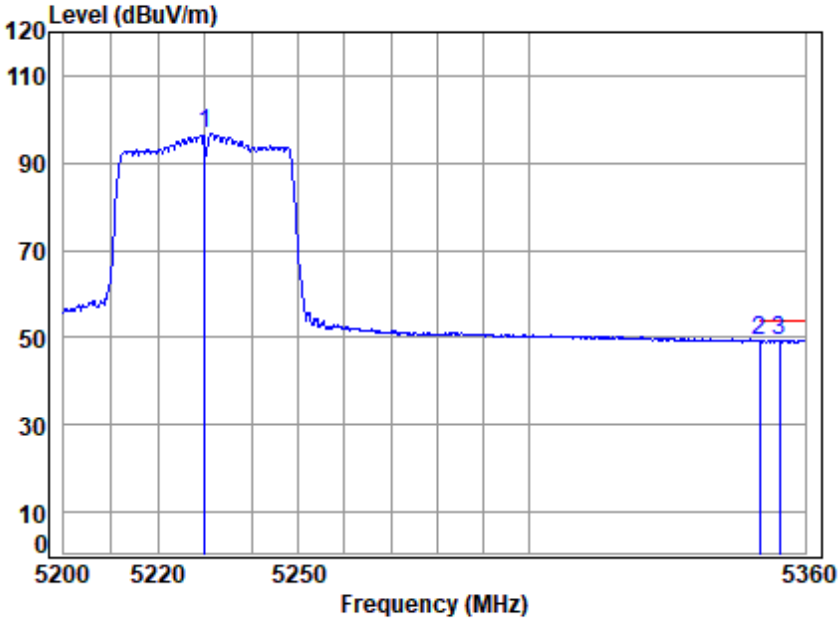
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	5230.000	7.72	34.39	42.74	103.17	102.54	68.20	34.34	peak
2	5350.020	7.92	34.48	42.66	55.80	55.54	74.00	-18.46	peak
3	5359.025	7.94	34.49	42.65	57.13	56.91	74.00	-17.09	peak

Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5230.000	7.72	34.39	42.74	97.48	96.85	------	------	Average
2	5350.020	7.92	34.48	42.66	49.39	49.13	54.00	-4.87	Average
3	5354.480	7.93	34.49	42.65	49.69	49.46	54.00	-4.54	Average

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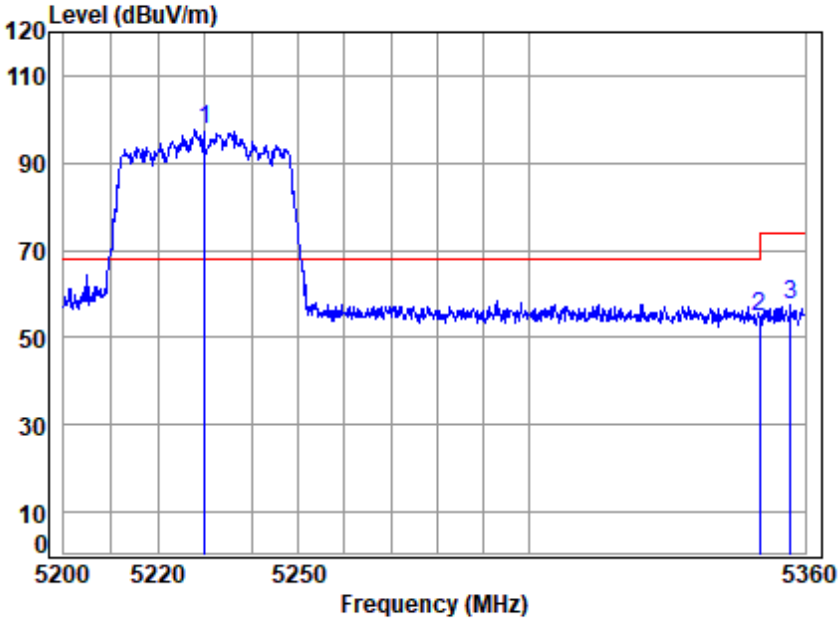
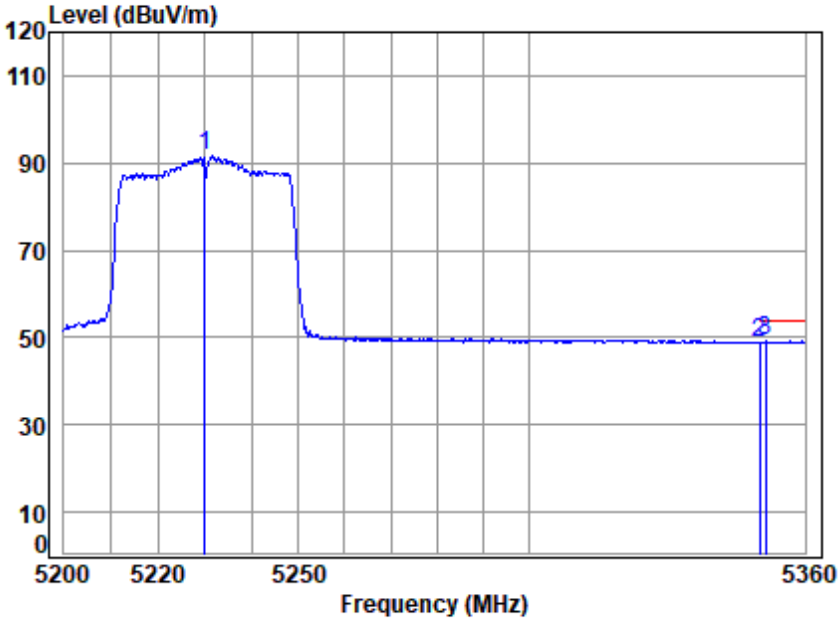
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	5230.000	7.72	34.39	42.74	98.26	97.63	68.20	29.43	peak
2	5350.020	7.92	34.48	42.66	55.01	54.75	74.00	-19.25	peak
3	5356.915	7.94	34.49	42.65	57.50	57.28	74.00	-16.72	peak

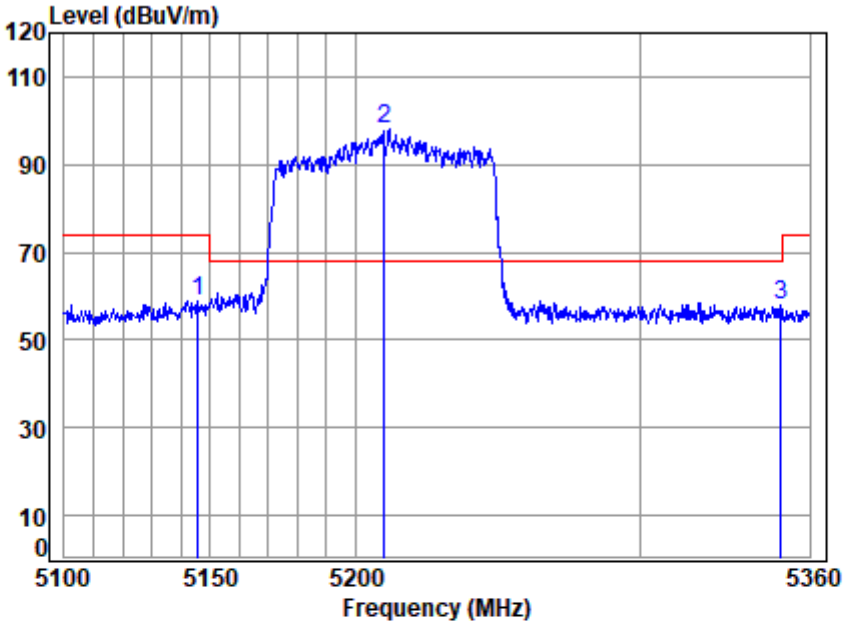
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5230 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5230.000	7.72	34.39	42.74	92.15	91.52	------	------	Average
2	5350.020	7.92	34.48	42.66	49.29	49.03	54.00	-4.97	Average
3	5351.398	7.93	34.49	42.65	49.49	49.26	54.00	-4.74	Average

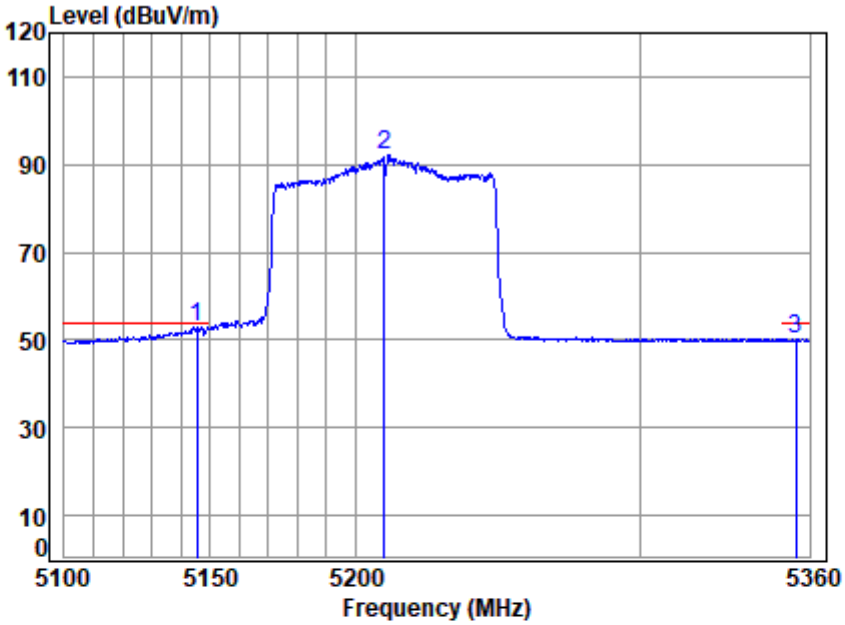
Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5145.595	7.57	34.32	42.80	59.67	58.76	74.00	-15.24	peak
2 *	5210.000	7.68	34.37	42.75	98.69	97.99	68.20	29.79	peak
3	5349.882	7.92	34.48	42.66	58.01	57.75	68.20	-10.45	peak

Mode:e; Polarization:Horizontal; Modulation:802.11ac; bandwidth:80MHz; Channel: middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5145.339	7.56	34.32	42.80	53.76	52.84	54.00	-1.16	Average
2	5210.000	7.68	34.37	42.75	92.72	92.02	------	------	Average
3	5355.205	7.93	34.49	42.65	50.36	50.13	54.00	-3.87	Average

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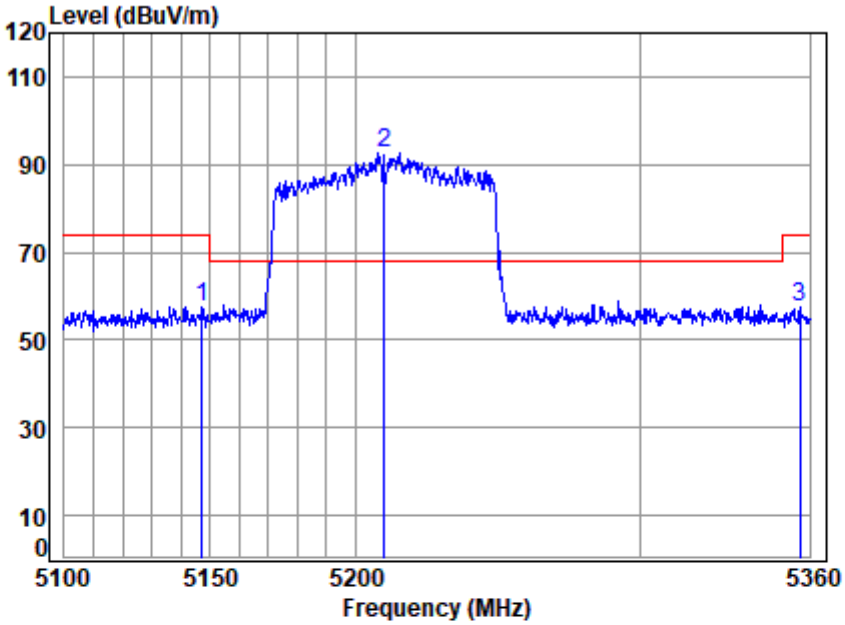
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:80MHz; Channel: middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.130	7.57	34.32	42.80	58.56	57.65	74.00	-16.35	peak
2 *	5210.000	7.68	34.37	42.75	93.12	92.42	68.20	24.22	peak
3	5356.537	7.94	34.49	42.65	57.70	57.48	74.00	-16.52	peak

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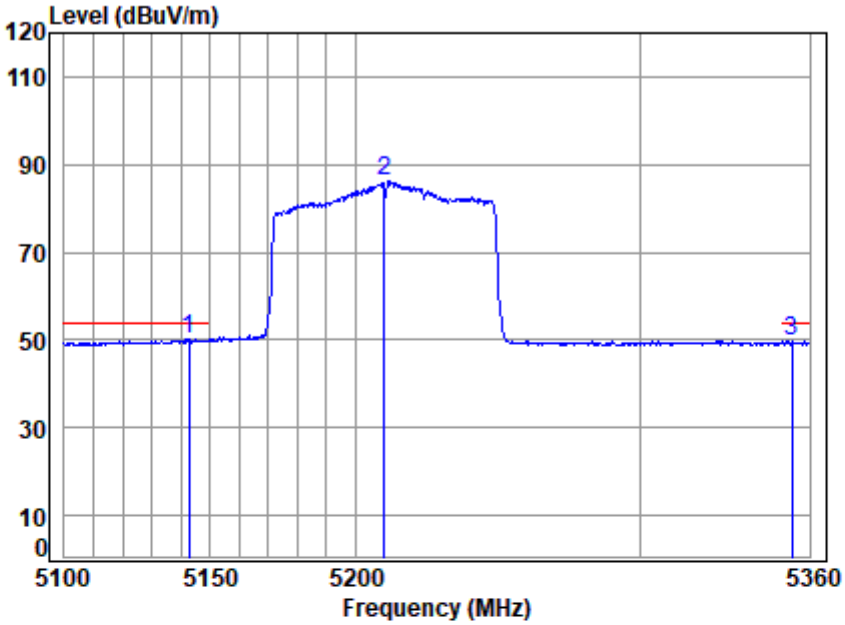
Mode:e; Polarization:Vertical; Modulation:802.11ac; bandwidth:80MHz; Channel: middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5210 Band edge
: 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5142.526	7.56	34.32	42.80	51.03	50.11	54.00	-3.89	Average
2	5210.000	7.68	34.37	42.75	87.12	86.42	------	------	Average
3	5353.607	7.93	34.49	42.65	49.92	49.69	54.00	-4.31	Average

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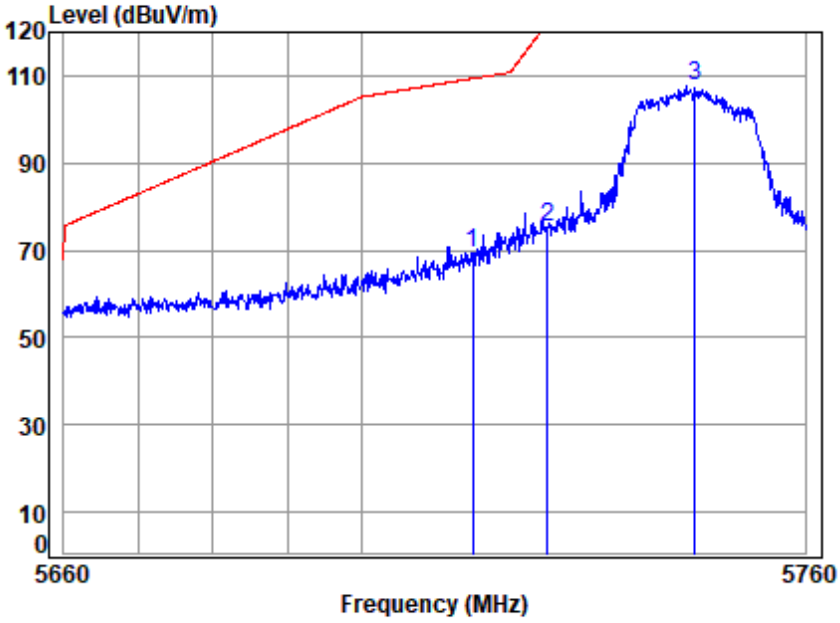
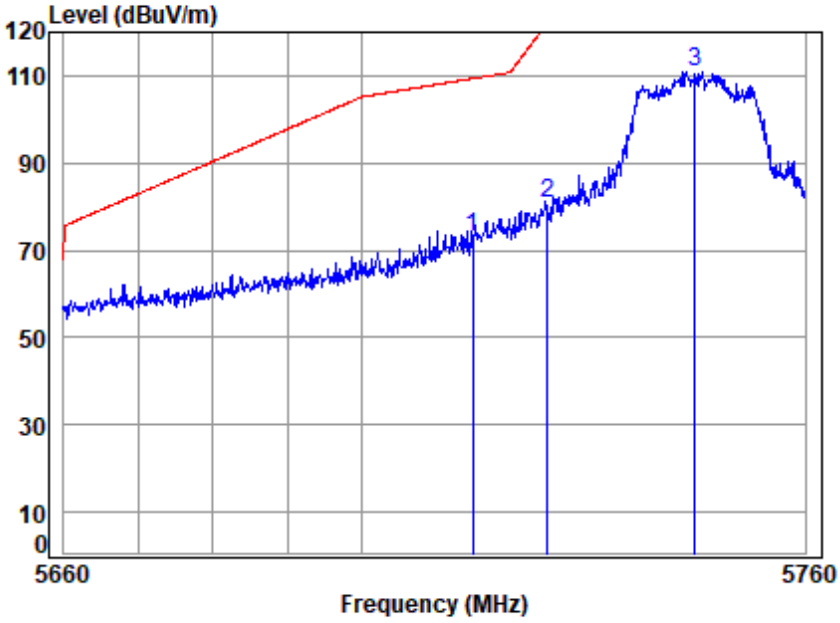
Mode:f; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5745 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	68.88	69.50	109.40	-39.90	peak
2	5725.000	8.22	34.83	42.41	74.65	75.29	122.20	-46.91	peak
3	5745.000	8.22	34.85	42.40	106.85	107.52	------	------	peak

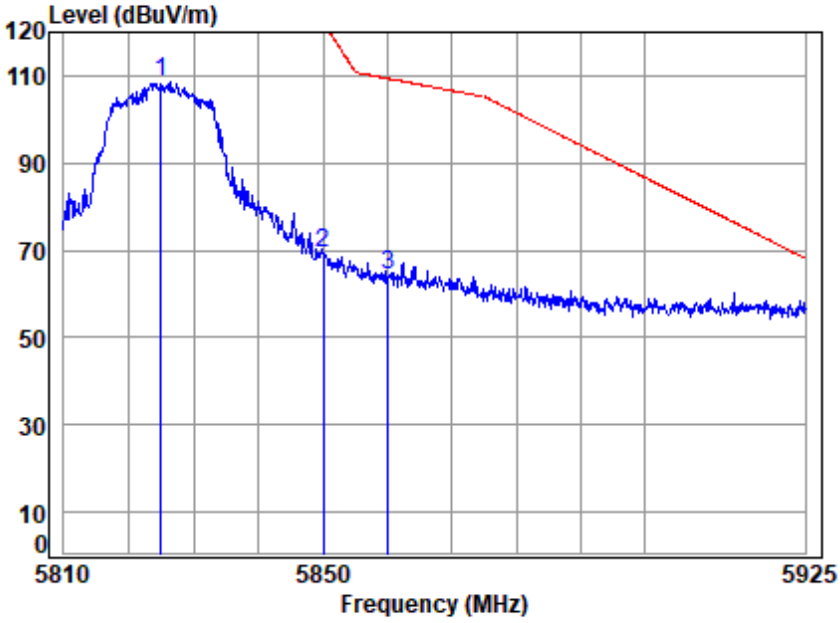
Mode:f; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5745 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	72.17	72.79	109.40	-36.61	peak
2	5725.000	8.22	34.83	42.41	80.34	80.98	122.20	-41.22	peak
3	5745.000	8.22	34.85	42.40	110.43	111.10	------	------	peak

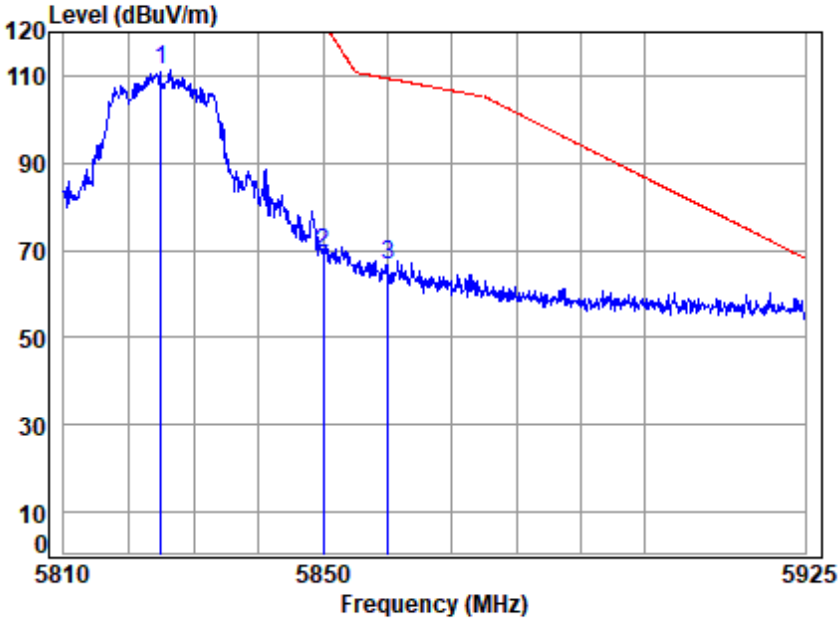
Mode:f; Polarization:Horizontal; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5825 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	42.35	107.56	108.37	------	------	peak
2	5850.000	8.24	34.95	42.33	68.37	69.23	122.20	-52.97	peak
3	5860.000	8.24	34.96	42.33	63.30	64.17	109.40	-45.23	peak

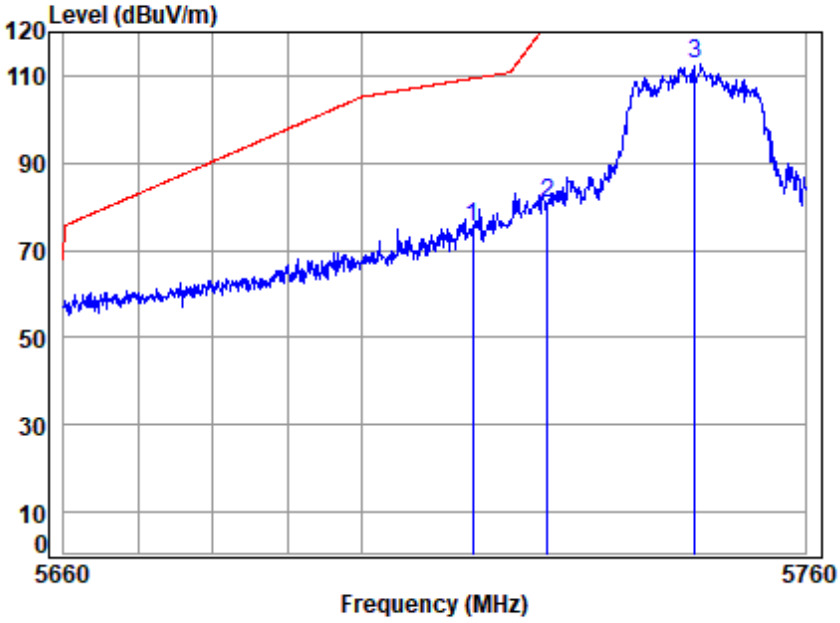
Mode:f; Polarization:Vertical; Modulation:802.11a; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5825 Band edge
: 5G WIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	42.35	110.70	111.51	125.20	-13.69	peak
2	5850.000	8.24	34.95	42.33	68.32	69.18	122.20	-53.02	peak
3	5860.000	8.24	34.96	42.33	65.84	66.71	109.40	-42.69	peak

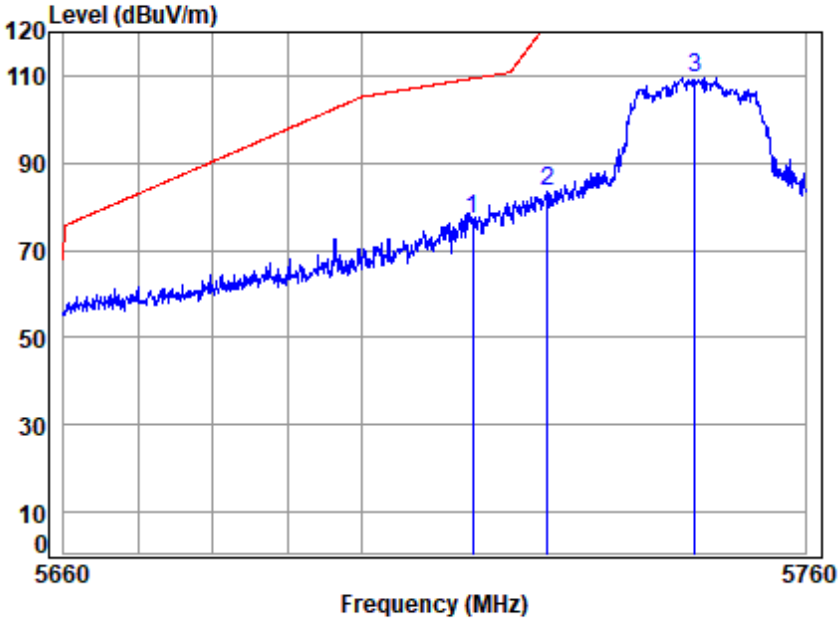
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5745 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	74.59	75.21	109.40	-34.19	peak
2	5725.000	8.22	34.83	42.41	80.33	80.97	122.20	-41.23	peak
3	5745.000	8.22	34.85	42.40	112.06	112.73	------	------	peak

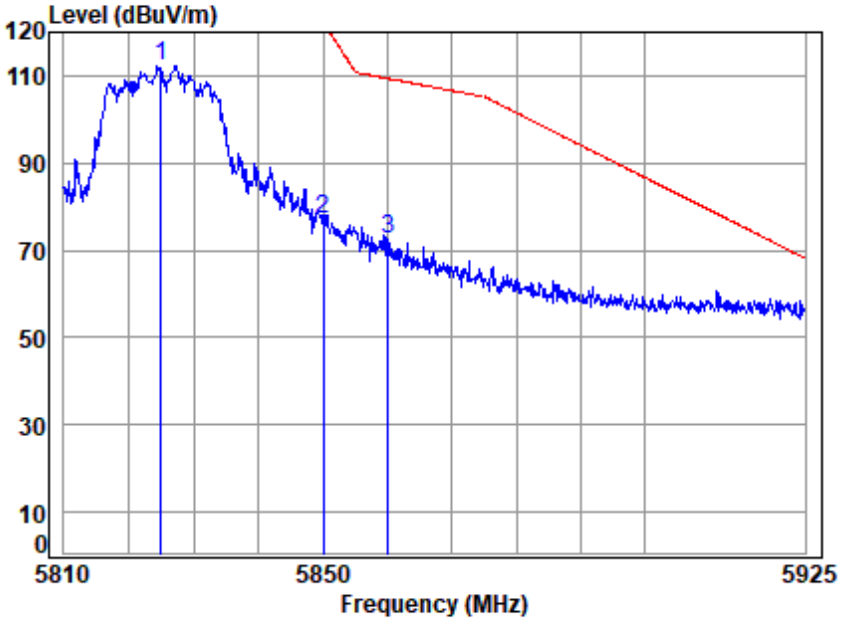
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5745 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	76.69	77.31	109.40	-32.09	peak
2	5725.000	8.22	34.83	42.41	82.93	83.57	122.20	-38.63	peak
3	5745.000	8.22	34.85	42.40	108.86	109.53	------	------	peak

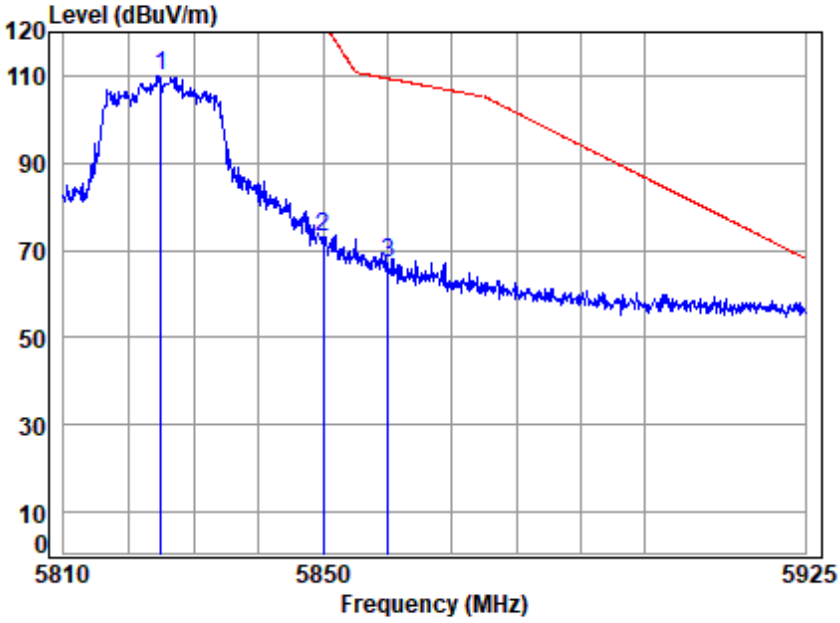
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5825 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	42.35	111.52	112.33	------	------	peak
2	5850.000	8.24	34.95	42.33	76.26	77.12	122.20	-45.08	peak
3	5860.000	8.24	34.96	42.33	71.76	72.63	109.40	-36.77	peak

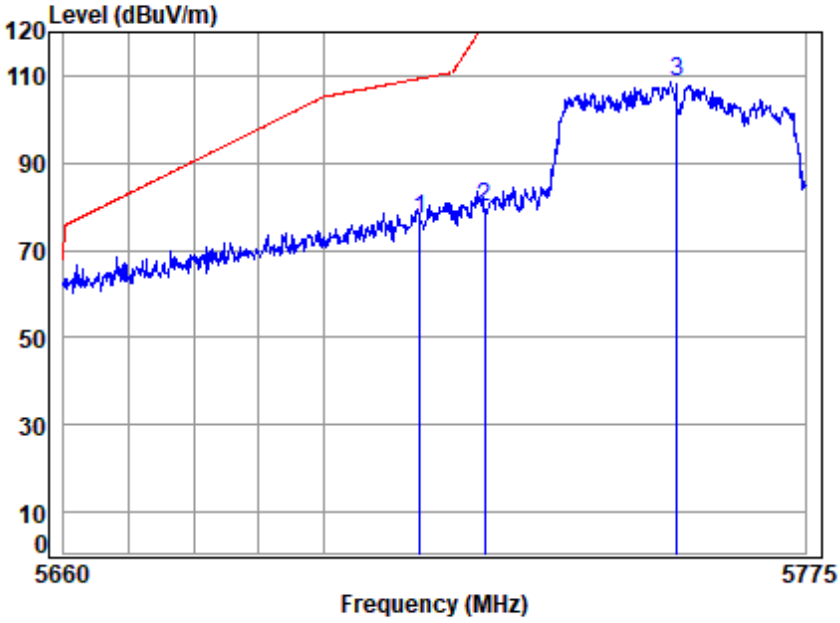
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5825 Band edge
: 5G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	42.35	109.13	109.94	125.20	-15.26	peak
2	5850.000	8.24	34.95	42.33	72.26	73.12	122.20	-49.08	peak
3	5860.000	8.24	34.96	42.33	66.27	67.14	109.40	-42.26	peak

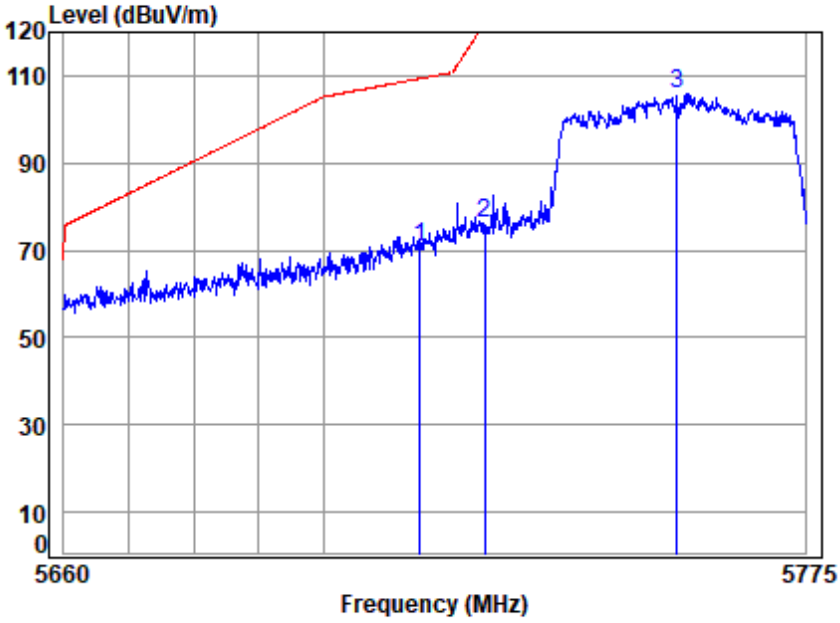
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5755 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	76.32	76.94	109.40	-32.46	peak
2	5725.000	8.22	34.83	42.41	79.36	80.00	122.20	-42.20	peak
3	5755.000	8.22	34.86	42.39	108.01	108.70	------	------	peak

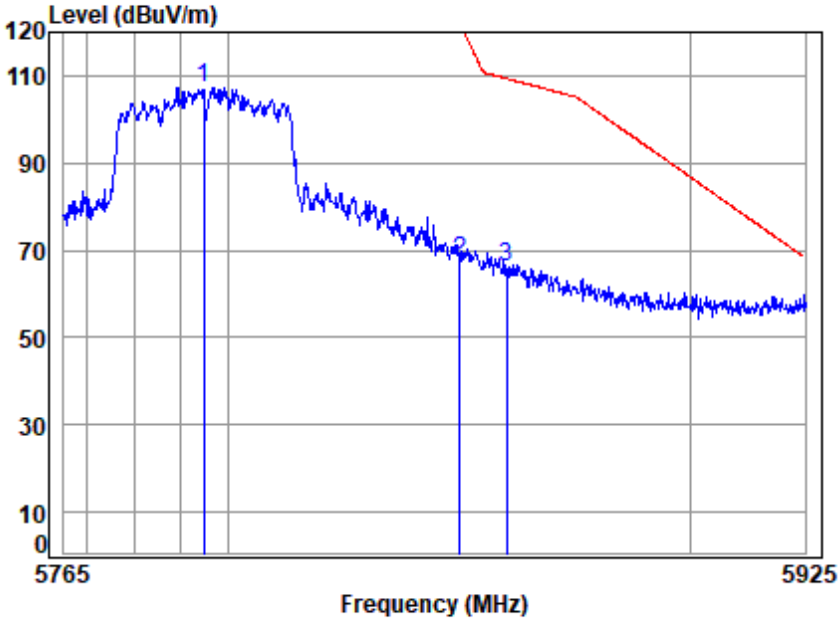
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5755 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	70.19	70.81	109.40	-38.59	peak
2	5725.000	8.22	34.83	42.41	75.37	76.01	122.20	-46.19	peak
3	5755.000	8.22	34.86	42.39	105.01	105.70	------	------	peak

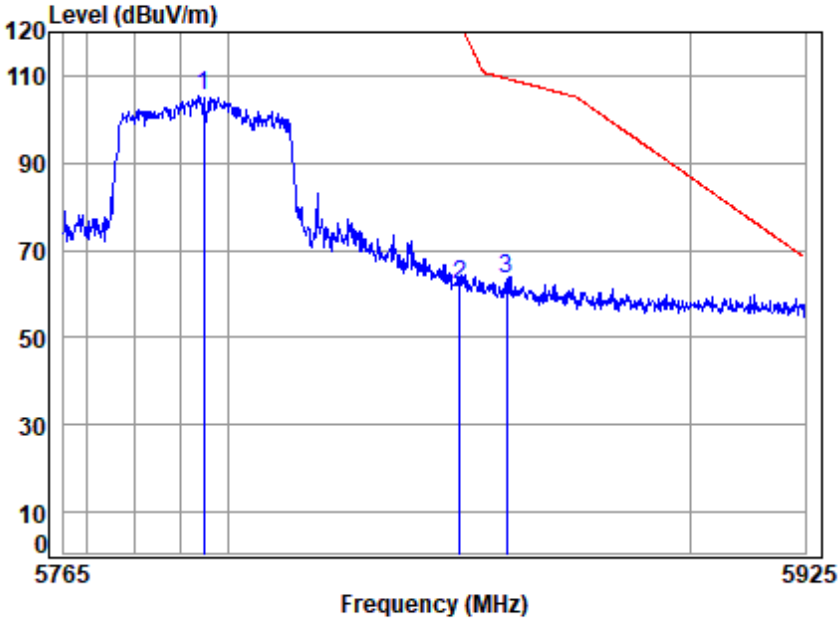
Mode:f; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5795 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	8.23	34.90	42.37	106.69	107.45	------	------	peak
2	5850.000	8.24	34.95	42.33	66.70	67.56	122.20	-54.64	peak
3	5860.000	8.24	34.96	42.33	65.12	65.99	109.40	-43.41	peak

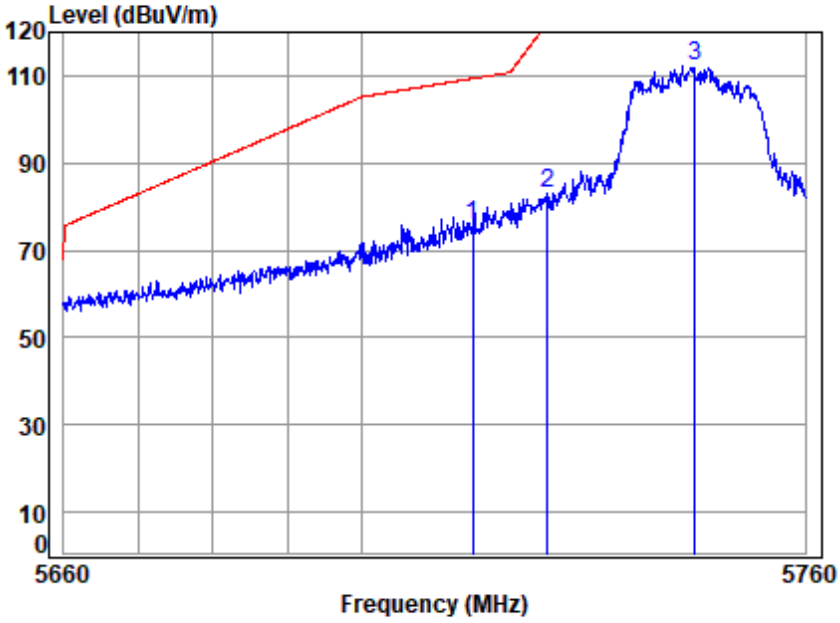
Mode:f; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5795 Band edge
: 5G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	8.23	34.90	42.37	104.77	105.53	------	------	peak
2	5850.000	8.24	34.95	42.33	61.12	61.98	122.20	-60.22	peak
3	5860.000	8.24	34.96	42.33	62.64	63.51	109.40	-45.89	peak

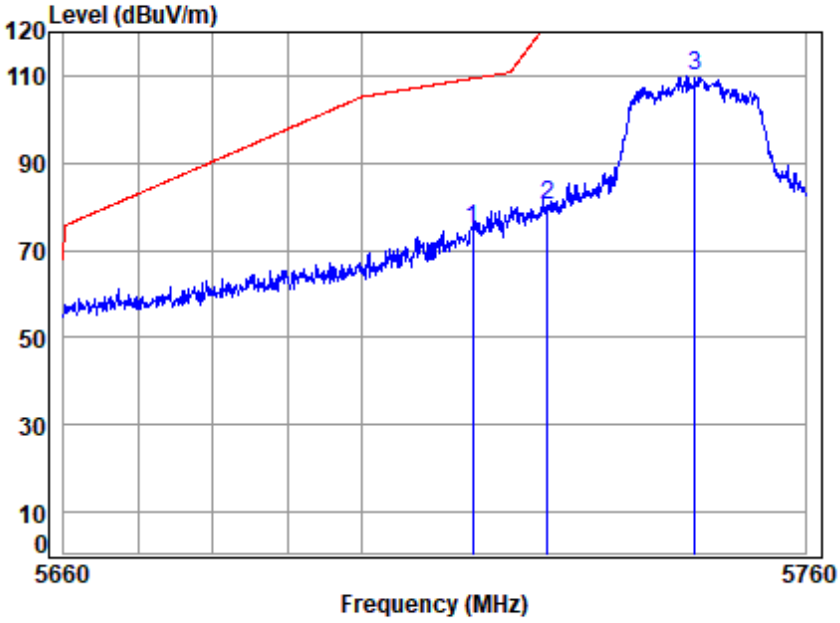
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5745 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	75.33	75.95	109.40	-33.45	peak
2	5725.000	8.22	34.83	42.41	82.27	82.91	122.20	-39.29	peak
3	5745.000	8.22	34.85	42.40	111.44	112.11	------	------	peak

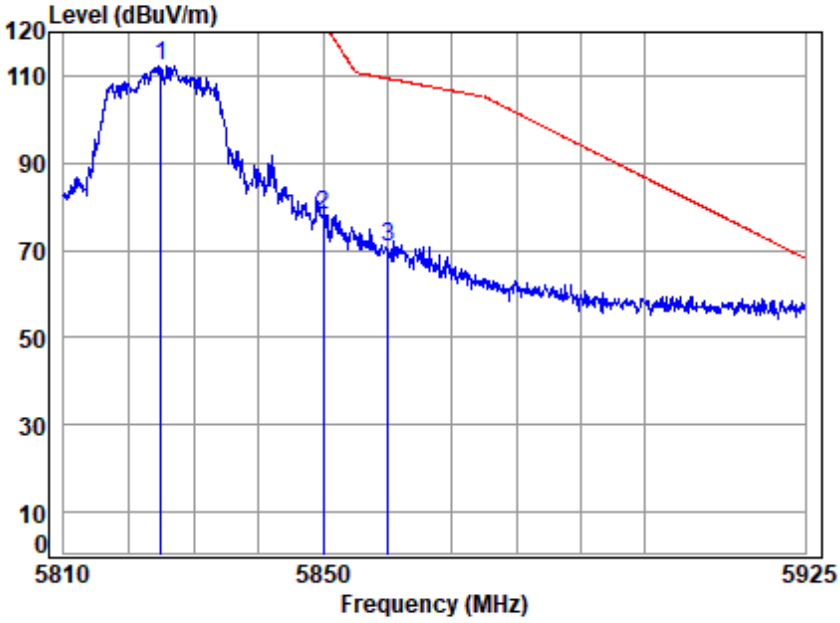
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5745 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	74.26	74.88	109.40	-34.52	peak
2	5725.000	8.22	34.83	42.41	79.48	80.12	122.20	-42.08	peak
3	5745.000	8.22	34.85	42.40	109.17	109.84	------	------	peak

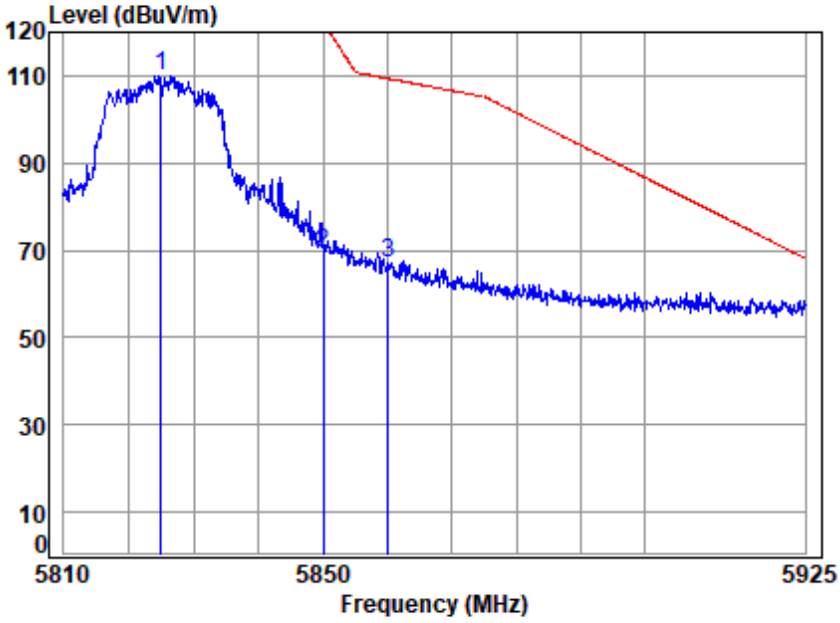
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5825 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	42.35	111.65	112.46	------	------	peak
2	5850.000	8.24	34.95	42.33	77.14	78.00	122.20	-44.20	peak
3	5860.000	8.24	34.96	42.33	69.89	70.76	109.40	-38.64	peak

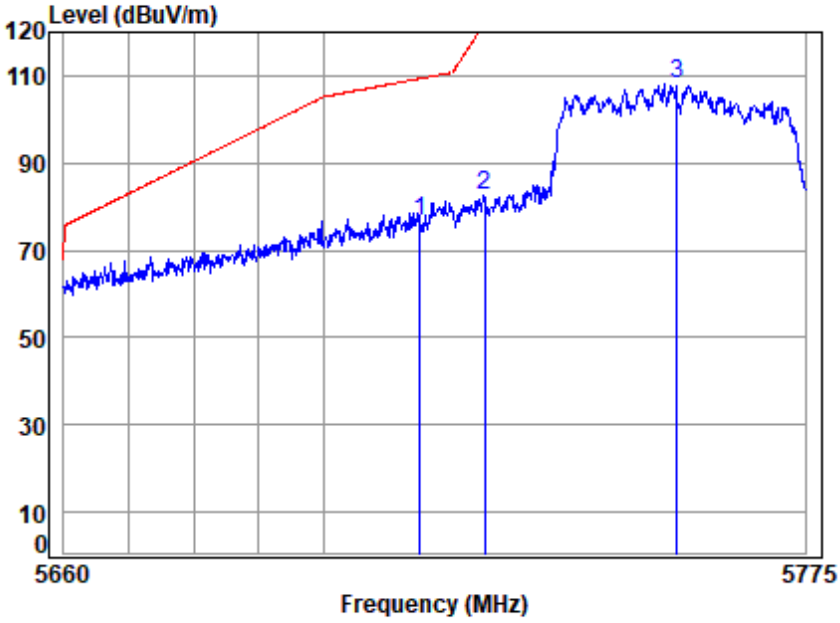
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5825 Band edge
: 5G WIFI 11AC20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	42.35	109.27	110.08	------	------	peak
2	5850.000	8.24	34.95	42.33	68.64	69.50	122.20	-52.70	peak
3	5860.000	8.24	34.96	42.33	66.27	67.14	109.40	-42.26	peak

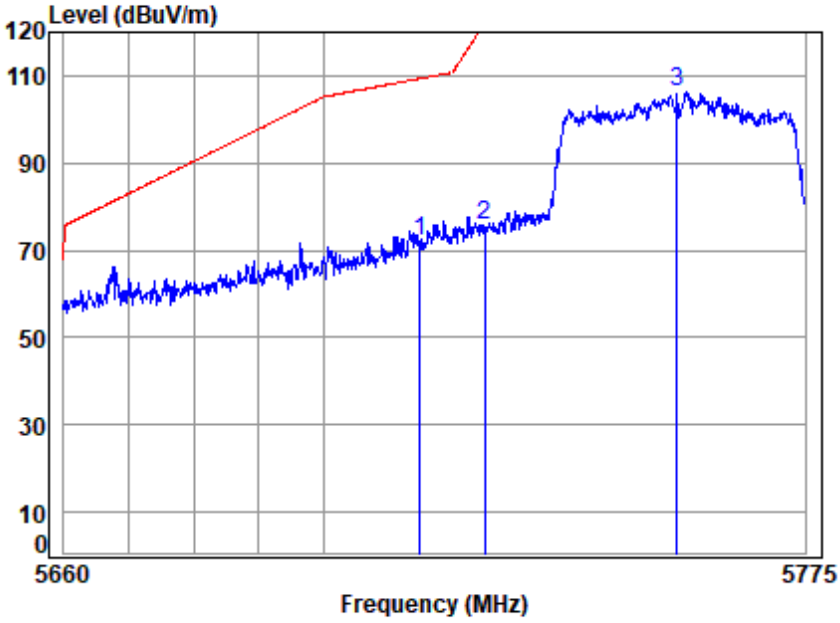
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5755 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	75.82	76.44	109.40	-32.96	peak
2	5725.000	8.22	34.83	42.41	81.83	82.47	122.20	-39.73	peak
3	5755.000	8.22	34.86	42.39	107.27	107.96	------	------	peak

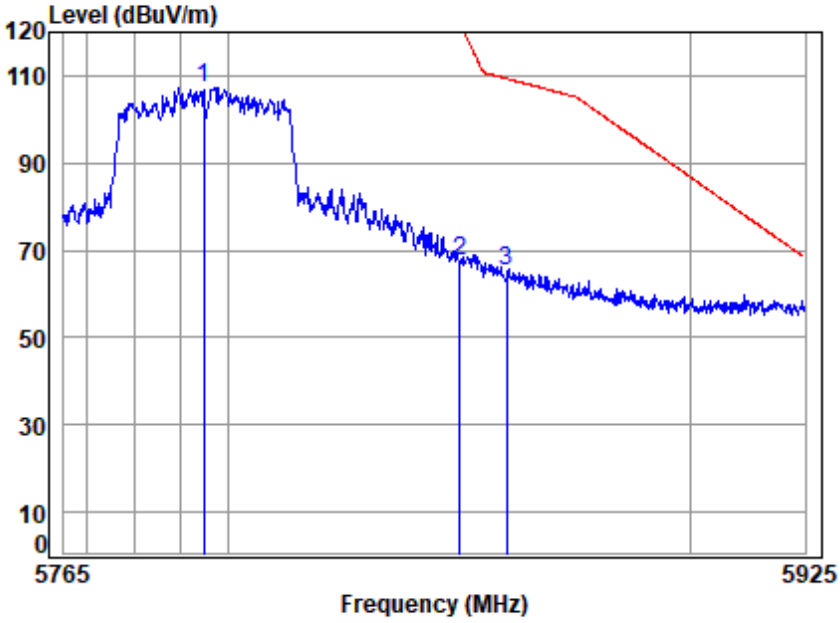
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5755 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.42	71.33	71.95	109.40	-37.45	peak
2	5725.000	8.22	34.83	42.41	74.93	75.57	122.20	-46.63	peak
3	5755.000	8.22	34.86	42.39	105.40	106.09	------	------	peak

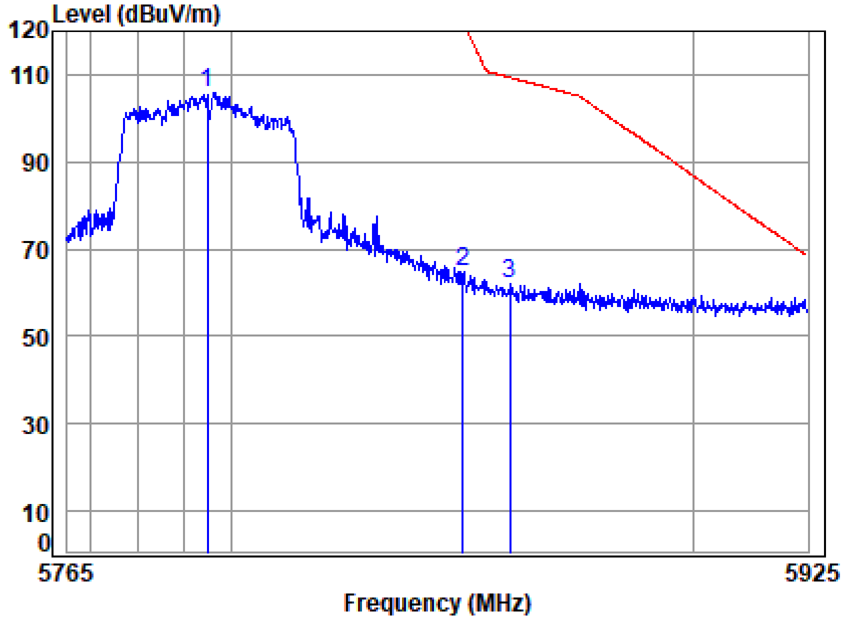
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5795 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	8.23	34.90	42.37	106.58	107.34	------	------	peak
2	5850.000	8.24	34.95	42.33	66.84	67.70	122.20	-54.50	peak
3	5860.000	8.24	34.96	42.33	64.50	65.37	109.40	-44.03	peak

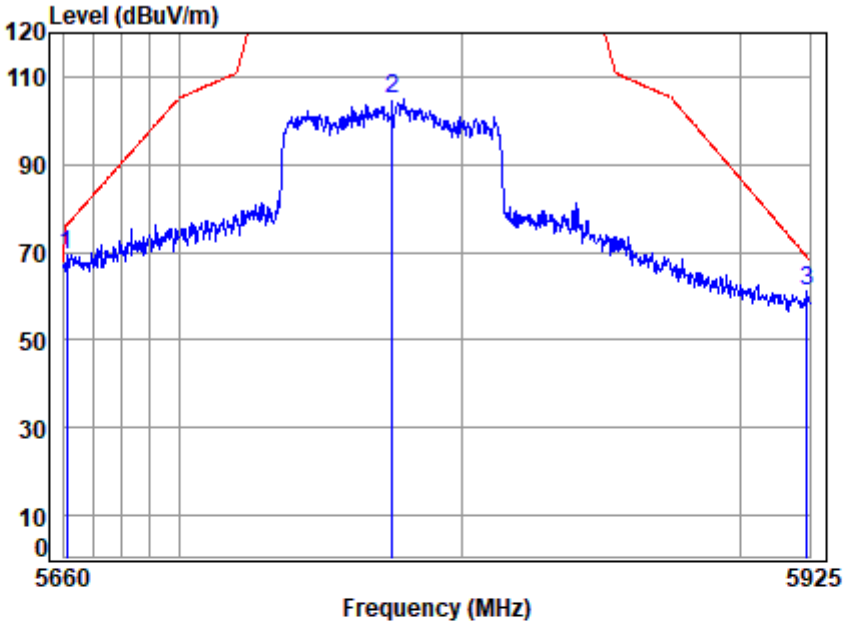
Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5795 Band edge
: 5G WIFI 11AC40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	8.23	34.90	42.37	105.01	105.77	------	------	peak
2	5850.000	8.24	34.95	42.33	63.95	64.81	122.20	-57.39	peak
3	5860.000	8.24	34.96	42.33	61.39	62.26	109.40	-47.14	peak

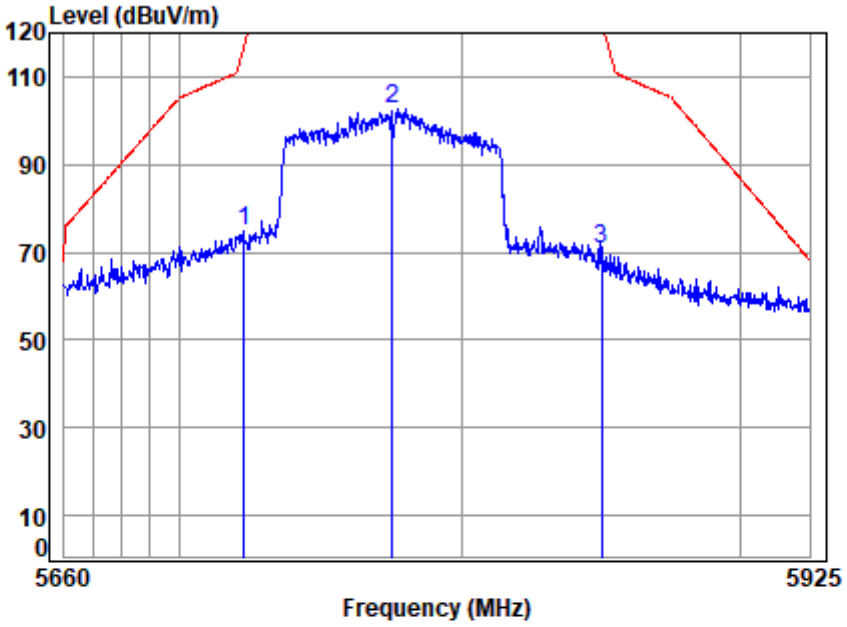
Mode:f; Polarization:Horizontal; Modulation:802.11ac; bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 02299CR/02300CR
Mode : 5775 Band edge
: 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5661.036	8.21	34.77	42.45	68.70	69.23	76.37	-7.14	Peak
2	5775.000	8.22	34.88	42.38	104.18	104.90	------	------	peak
3	5923.916	8.25	35.03	42.29	60.24	61.23	69.00	-7.77	Peak

Mode:f; Polarization:Vertical; Modulation:802.11ac; bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 02299CR/02300CR
Mode : 5775 Band edge
: 5G WIFI 11AC80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5722.760	8.22	34.83	42.41	73.98	74.62	117.09	-42.47	peak
2	5775.000	8.22	34.88	42.38	102.12	102.84	------	------	peak
3	5849.841	8.24	34.95	42.33	69.78	70.64	125.20	-54.56	peak

7.9 Frequency Stability

Test Requirement	47 CFR Part 15, Subpart C 15.407 (g)
Test Method:	ANSI C63.10 (2013) Section 6.8
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

7.9.1 E.U.T. Operation

N/A

7.9.2 Test Setup Diagram

N/A

7.9.3 Measurement Procedure and Data

The applicant declares that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual and meets Section 15.407(g) requirements.

8 Photographs

8.1 Test Setup

Refer to Setup Photos

8.2 EUT Constructional Details (EUT Photos)

Refer to EUT external and internal photos

9 Appendix

9.1 Appendix 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	1.365	1.407	97.01	0.13
	5200	SISO	1	1.365	1.405	97.15	0.13
	5240	SISO	1	1.365	1.405	97.15	0.13
	5745	SISO	1	1.365	1.405	97.15	0.13
	5785	SISO	1	1.364	1.405	97.08	0.13
	5825	SISO	1	1.365	1.405	97.15	0.13
802.11n(HT20)	5180	SISO	1	1.308	1.350	96.89	0.14
	5200	SISO	1	1.307	1.349	96.89	0.14
	5240	SISO	1	1.307	1.349	96.89	0.14
	5745	SISO	1	1.308	1.350	96.89	0.14
	5785	SISO	1	1.307	1.349	96.89	0.14
	5825	SISO	1	1.307	1.349	96.89	0.14
802.11n(HT40)	5190	SISO	1	0.618	0.658	93.92	0.27
	5230	SISO	1	0.618	0.658	93.92	0.27
	5755	SISO	1	0.618	0.657	94.06	0.27
	5795	SISO	1	0.618	0.658	93.92	0.27
802.11ac(VHT20)	5180	SISO	1	1.316	1.358	96.91	0.14
	5200	SISO	1	1.315	1.357	96.90	0.14
	5240	SISO	1	1.316	1.358	96.91	0.14
	5745	SISO	1	1.316	1.358	96.91	0.14
	5785	SISO	1	1.316	1.358	96.91	0.14
	5825	SISO	1	1.314	1.356	96.90	0.14
802.11ac(VHT40)	5190	SISO	1	0.625	0.665	93.98	0.27
	5230	SISO	1	0.625	0.664	94.13	0.26
	5755	SISO	1	0.626	0.666	93.99	0.27
	5795	SISO	1	0.626	0.666	93.99	0.27
802.11ac(VHT80)	5210	SISO	1	0.324	0.366	88.52	0.53
	5775	SISO	1	0.324	0.366	88.52	0.53

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1.2 Test Graph