


TEST REPORT

Application No.: SZCR2504001576AT
Applicant: DT Research, Inc.
Address of Applicant: 3RD FL NO 36 WUQUAN 7TH RD WUGU DISTRICT, NEW TAIPEI, Taiwan
Manufacturer: DT Research, Inc.
Address of Manufacturer: 2000 Concourse Drive, San Jose, CA 95131, USA
Factory: DT Research, Inc. Taiwan Branch
Address of Factory: 6F., No.36 Wuquan 7 th Rd., Wugu Dist. New Taipei City 248 Taiwan
Equipment Under Test (EUT):
EUT Name: Rugged Tablet
Model No.: DA323EP, DA323EO, DA323xxxxx (x=0-9, A-Z, - or null, or /) ♣
 ♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: 
FCC ID: YE3600-SC668SWF
Standard(s) : 47 CFR Part 15, Subpart E 15.407
Date of Receipt: 2025-04-21
Date of Test: 2025-04-23 to 2025-04-30
Date of Issue: 2025-04-30

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

Kenx. Xu

Kenx Xu
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2025-04-30		Original

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



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2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart C 15.203	Pass
Transmission in the Absence of Data		N/A	47 CFR Part 15, Subpart E 15.407 (c)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207 & Subpart E 15.407 b(9)	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions (Below 1GHz)		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions (Above 1GHz)		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Non-occupancy period		KDB 905462 D02 Section 7.8.3	KDB 905462 D02 Section 5.1	Pass
Channel Move Time		KDB 905462 D02 Section 7.8.3	KDB 905462 D02 Section 5.1	Pass
Channel Closing Transmission Time		KDB 905462 D02 Section 7.8.3	KDB 905462 D02 Section 5.1	Pass

Remark:

Model No.: DA323EP, DA323EO, DA323xxxxx (x=0-9, A-Z, - or null, or ., or /)

Only the model DA323EP was tested, since according to the declaration from the applicant, the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on model No..

This report is prepared for FCC class II permissive change to install the granted module(FCC ID:YE3600-SC668SWF, Granted on 06/29/2023) into a host product and also change the antenna gains.

Therefore in this report Conducted Emissions at AC Power Line (150kHz-30MHz), Radiated Emissions which fall in the restricted bands and Radiated Spurious Emissions were fully retested on model DA323EP and shown the data in this report.



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4 General Information

4.1 Details of E.U.T.

Power supply:	<p>AC Adapter1 Model: A20-065N3A Input: AC 100-240V, 50/60Hz, 1.6A Output: DC 5.0V, 3.0A 15.0W/ DC 9V, 3A/ DC 12V, 3A/ DC 15V, 3A/ DC 20.0V, 3.25A 65.0W</p> <p>USB Type-C AC Power Adapter2 Model: FSP065-A1BR3 Input: AC 100-240V, 50/60Hz, 1.7A Output: DC 5.0V, 3.0A 15.0W/ DC 9V, 3A 27.0W/ DC 12V, 3A 36.0W/ DC 15V, 3A 45.0W/ DC 20.0V, 3.25A 65.0W</p> <p>AC Adapter3 Model: A18-065N3A Input: AC 100-240V, 50/60Hz, 1.7A Output: DC 19.0V, 3.42A 65.0W</p> <p>Note: all 3 adapters were tested, this report only shows the worst test data;</p> <p>Rechargeable Lithium-Ion Polymer Battery1 Model: ACC-006-29 Rated Capacity: 3800mAh Voltage: DC 11.4V Watt-Hour: 43.32Wh Max Charge Voltage: 13.05V</p> <p>Rechargeable Lithium-Ion Polymer Battery2 Model: PT352044-2S(2ICP4/20/44) Rated Capacity: 250mAh Voltage: DC 7.4V Watt-Hour: 1.85Wh Max Charge Voltage: 8.4V</p>			
Cable(s):	USB Type-C cable:140cm unshielded			
Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
	UNII Band I	802.11a/n/ac(20MHz)	5180-5240	4
		802.11n/ac(40MHz)	5190-5230	2
		802.11ac(80MHz)	5210	1
	UNII Band II-A	802.11a/n/ac(20MHz)	5260-5320	4



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		802.11n/ac(40MHz)	5270-5310	2
		802.11ac(80MHz)	5290	1
	UNII Band II-C	802.11a/n/ac(20MHz)	5500-5720	12
		802.11n/ac(40MHz)	5510-5710	6
		802.11ac(80MHz)	5530-5670	3
	UNII Band III	802.11a/n/ac(20MHz)	5745-5825	5
		802.11n/ac(40MHz)	5755-5795	2
		802.11ac(80MHz)	5775	1
Modulation Type:	802.11a: OFDM(QPSK, BPSK, 16QAM, 64QAM) 802.11n: OFDM(QPSK, BPSK, 16QAM, 64QAM) 802.11ac: OFDM(QPSK, BPSK, 16QAM, 64QAM, 256QAM)			
DFS Function:	Slave without radar detection			
TPC Function:	Not support			
Antenna Type:	PIFA Antenna			
Antenna Gain:	3.21dBi			

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

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

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	± 3.1dB
Radiated Emissions which fall in the restricted bands	± 6.0dB (below 1GHz); ± 4.6dB (above 1GHz);
Radiated Emissions (Below 1GHz)	± 6.0dB for 3m; ± 5.0dB for 10m
Radiated Emissions (Above 1GHz)	± 4.6dB (1-18GHz); ± 4.8dB (18-40GHz)
Remark: The U _{lab} (lab Uncertainty) is less than U _{CISPR/ETSI} (CISPR/ETSI Uncertainty), so the test results – compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit; – non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.	



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4.4 Test Location

All tests were performed at:

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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 (Member No. 1937)

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. Shenzhen EMC laboratory 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: CN1336

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

Designation Number: CN1336. Test Firm Registration Number: 787754.

• 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	2022-05-14	2025-05-13
EMI Test Receiver	Rohde&Schwarz	ESR	SZ-WRG-M-047	2025-01-08	2026-01-07
Measurement Software	AUDIX	e3 V8.2014-6-27a	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2024-07-06	2025-07-05
LISN	Rohde&Schwarz	ENV216	SEM007-01	2024-08-15	2025-08-14
LISN	ETS-LINDGREN	3816/2	SEM007-02	2025-03-03	2026-03-02

Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Signal & Spectrum Analyzer	Rohde & Schwarz	FSV	SZ-WRG-M-048	2025-01-07	2026-01-06
Low Noise Amplifier 30M-8GHz	Tonscend	TAP30M8G30	SZ-WRG-M-050	2025-01-07	2026-01-06
Double Ridge Horn Antenna 1GHz-18GHz	SCHWARZBECK	BBHA 9120 D	SZ-WRG-M-055	2023-12-21	2025-12-20
RSE Test Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Chamber	CRTSGSSAC966	N/A	SZ-WRG-C-063	2025-01-06	2028-01-05
Humidity and Temperature Indicator	deli	8838	SEM002-46	2024-07-24	2025-07-23

Radiated Spurious Emissions Below 1GHz					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2023-11-20	2025-11-19
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2023-06-19	2026-06-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2024-08-14	2025-08-13
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2023-09-16	2025-09-15
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2025-03-04	2026-03-03
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2024-07-06	2025-07-05



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Radiated Spurious Emissions Above 1GHz					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Signal & Spectrum Analyzer	Rohde & Schwarz	FSV	SZ-WRG-M-048	2025-01-07	2026-01-06
Low Noise Amplifier 1G-18GHz	Tonscend	TAP01018050	SZ-WRG-M-051	2025-01-07	2026-01-06
Low Noise Amplifier 18G-40GHz	Tonscend	TAP18040048	SZ-WRG-M-052	2025-01-08	2026-01-07
Double Ridge Horn Antenna 1GHz-18GHz	SCHWARZBECK	BBHA 9120 D	SZ-WRG-M-055	2023-12-21	2025-12-20
SHF-EHF Horn 15GHz-40GHz	SCHWARZBECK	BBHA 9170	SZ-WRG-M-056	2023-12-25	2025-12-24
RSE Test Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Chamber	CRTSGSSAC966	N/A	SZ-WRG-C-063	2025-01-06	2028-01-05
Humidity and Temperature Indicator	deli	8838	SEM002-46	2024-07-24	2025-07-23

DFS					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2025/3/3	2026/3/2
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2025/3/3	2026/3/2
Measurement Software	KEYSIGHT	Signal Studio for DFS Radar Profiles V2.2.0.0	N/A	N/A	N/A
Measurement Software	Agilent	ISMonitor10	N/A	N/A	N/A
MXG Vector Signal Generator	Agilent	N5182A	SEM006-21	2025/3/3	2026/3/2
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-22	2025/3/4	2026/3/3

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2024-07-24	2025-07-23
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2024-07-24	2025-07-23
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2025-03-03	2026-03-02



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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 connector is a IPEX type that comply with Part15.203, the best case gain of the antenna is 3.21dBi.

Antenna location: Refer to internal photo.

6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart E 15.407 (c)

6.2.2 Conclusion

Standard Requirement:

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

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

EUT Details:

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



7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207 & Subpart E 15.407 b(9)

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: 25.3 °C

Humidity: 40.5 % RH

Atmospheric Pressure: 1020 mbar

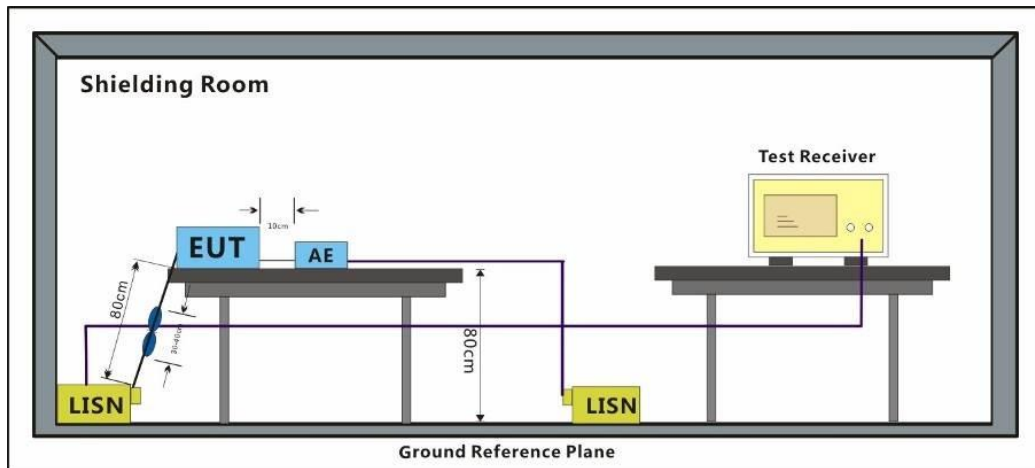
7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	12	Charge+TX mode (U-NII-1)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	14	Charge+TX mode (U-NII-2A)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	16	Charge+TX mode (U-NII-2C)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.



Pre-scan	18	Charge+TX mode (U-NII-3)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
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7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

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

Remark 1: Level=Read Level+ Cable Loss+ LISN Factor

Remark 2: Pre-test AC 120V/50-60Hz&AC 240V/50-60Hz then choose the AC 120/60Hz as worst case.

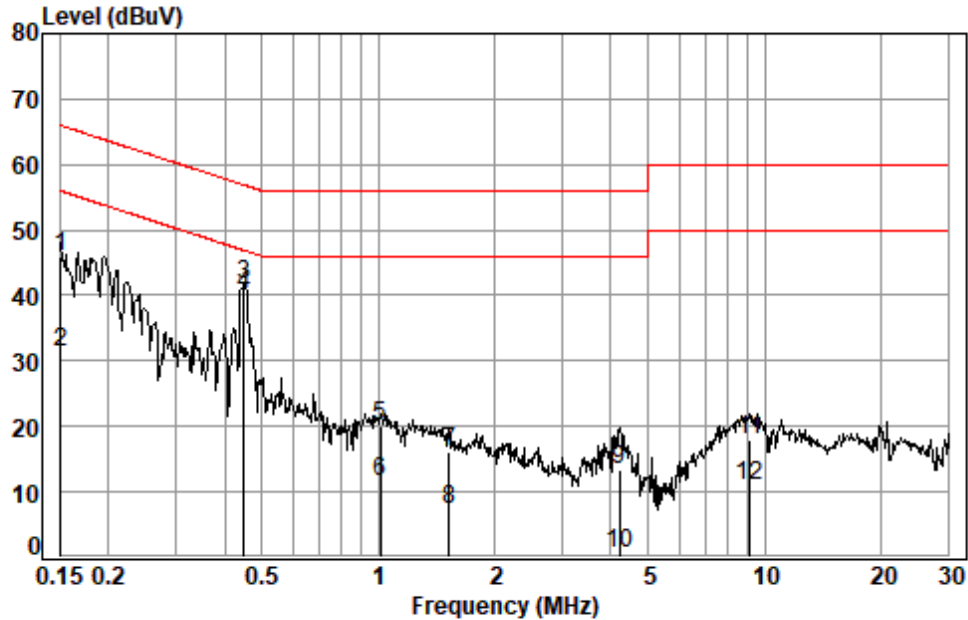
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Test Mode: 12; Line: Live line



Site : Shielding Room

Condition: Line

Job No. : 01576AT

Test mode: 12

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1508	0.06	9.97	35.84	45.87	65.96	-20.09	QP
2	0.1508	0.06	9.97	21.19	31.22	55.96	-24.74	Average
3 *	0.4492	0.08	9.75	31.86	41.69	56.89	-15.20	QP
4 *	0.4492	0.08	9.75	30.19	40.02	46.89	-6.87	Average
5	1.0103	0.09	9.72	10.23	20.04	56.00	-35.96	QP
6	1.0103	0.09	9.72	1.81	11.62	46.00	-34.38	Average
7	1.5274	0.10	9.70	6.22	16.02	56.00	-39.98	QP
8	1.5274	0.10	9.70	-2.38	7.42	46.00	-38.58	Average
9	4.2242	0.12	9.69	3.52	13.33	56.00	-42.67	QP
10	4.2242	0.12	9.69	-9.05	0.76	46.00	-45.24	Average
11	9.1557	0.19	9.84	7.87	17.90	60.00	-42.10	QP
12	9.1557	0.19	9.84	1.06	11.09	50.00	-38.91	Average



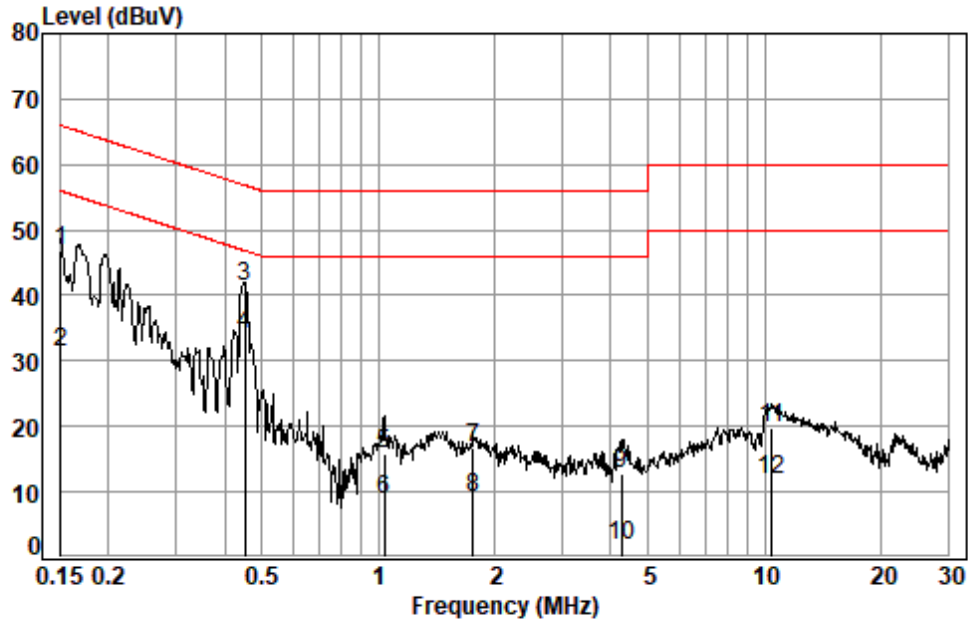
SGS-CSTC Standards Technical Services Co., Ltd.
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Test Mode: 12; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 01576AT
Test mode: 12

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1508	0.06	9.86	36.85	46.77	65.96	-19.19	QP
2	0.1508	0.06	9.86	21.49	31.41	55.96	-24.55	Average
3 *	0.4515	0.08	9.75	31.42	41.25	56.85	-15.60	QP
4 *	0.4515	0.08	9.75	24.25	34.08	46.85	-12.77	Average
5	1.0375	0.09	9.77	5.94	15.80	56.00	-40.20	QP
6	1.0375	0.09	9.77	-1.18	8.68	46.00	-37.32	Average
7	1.7623	0.10	9.67	6.86	16.63	56.00	-39.37	QP
8	1.7623	0.10	9.67	-0.55	9.22	46.00	-36.78	Average
9	4.2692	0.12	9.68	2.90	12.70	56.00	-43.30	QP
10	4.2692	0.12	9.68	-7.90	1.90	46.00	-44.10	Average
11	10.4524	0.21	10.03	9.64	19.88	60.00	-40.12	QP
12	10.4524	0.21	10.03	1.55	11.79	50.00	-38.21	Average



7.2 Radiated Emissions which fall in the restricted bands

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

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

Measurement Distance: 3m

Limit:

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

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

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

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

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

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

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

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C

Humidity: 50.5 % RH

Atmospheric Pressure: 1020 mbar



7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	11	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	12	Charge+TX mode (U-NII-1)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	13	TX mode (U-NII-2A)_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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	14	Charge+TX mode (U-NII-2A)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	15	TX mode (U-NII-2C)_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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	16	Charge+TX mode (U-NII-2C)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.

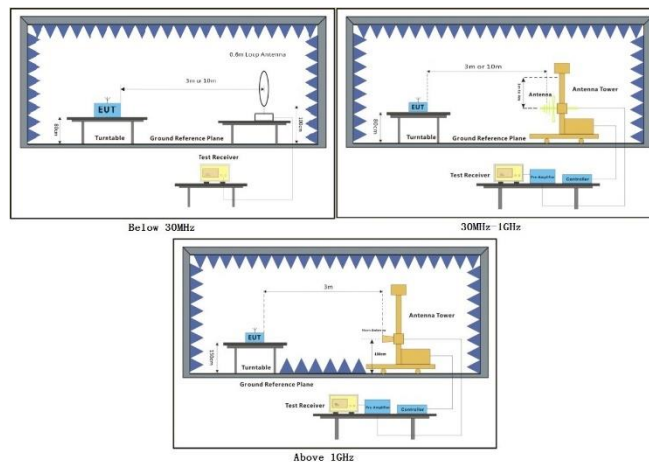


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		802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	17	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	18	Charge+TX mode (U-NII-3)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

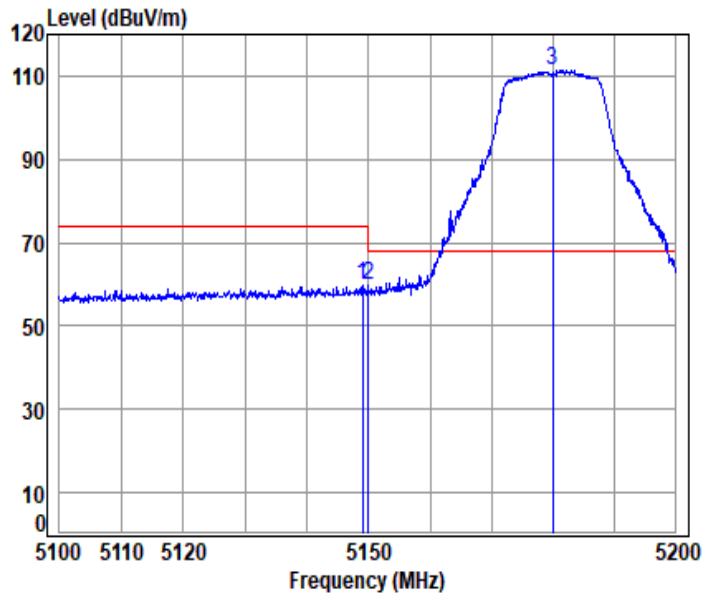
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

Remark 3. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.



11a_TX_CH_36_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

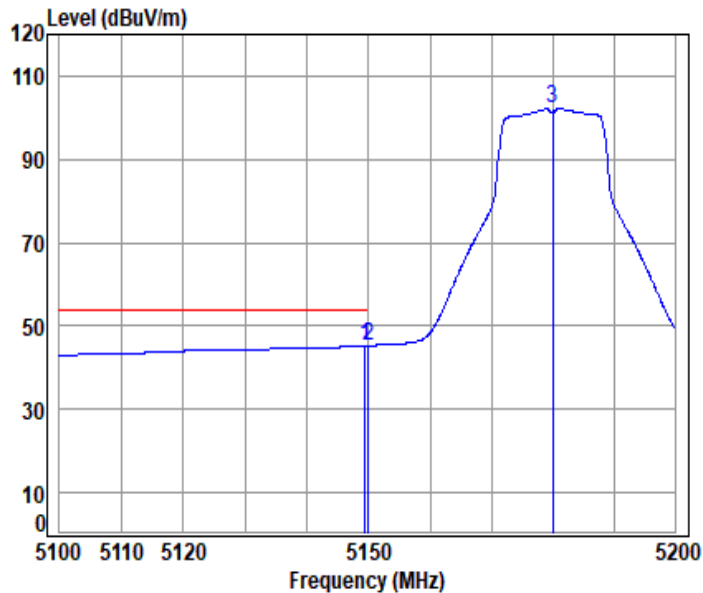
Mode : 5180 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.958	10.14	32.40	30.84	48.15	59.85	74.00	-14.15	peak
2	5149.980	10.14	32.40	30.84	48.19	59.89	74.00	-14.11	peak
3 pp	5180.000	10.25	32.46	30.83	99.43	111.31	68.20	43.11	peak



11a_TX_CH_36_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

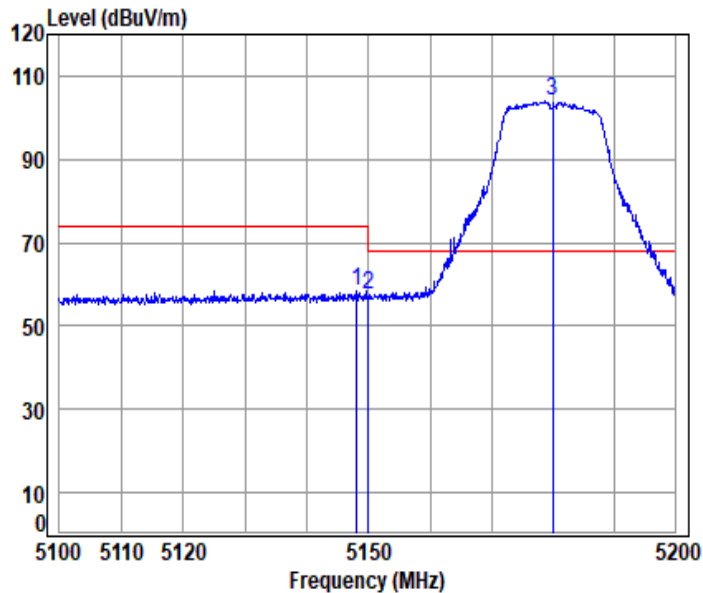
Mode : 5180 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5149.458	10.14	32.40	30.84	33.50	45.20	54.00	-8.80 Average
2 pp	5149.980	10.14	32.40	30.84	33.59	45.29	54.00	-8.71 Average
3	5180.000	10.25	32.46	30.83	90.31	102.19	-----	----- Average



11a_TX_CH_36_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

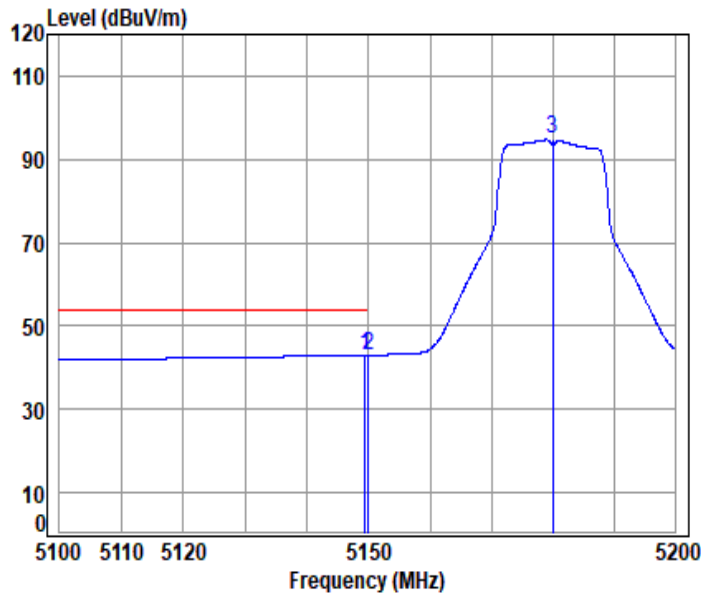
Mode : 5180 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.058	10.13	32.40	30.84	46.73	58.42	74.00	-15.58	peak
2	5149.980	10.14	32.40	30.84	45.70	57.40	74.00	-16.60	peak
3 pp	5180.000	10.25	32.46	30.83	91.93	103.81	68.20	35.61	peak



11a_TX_CH_36_Verical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

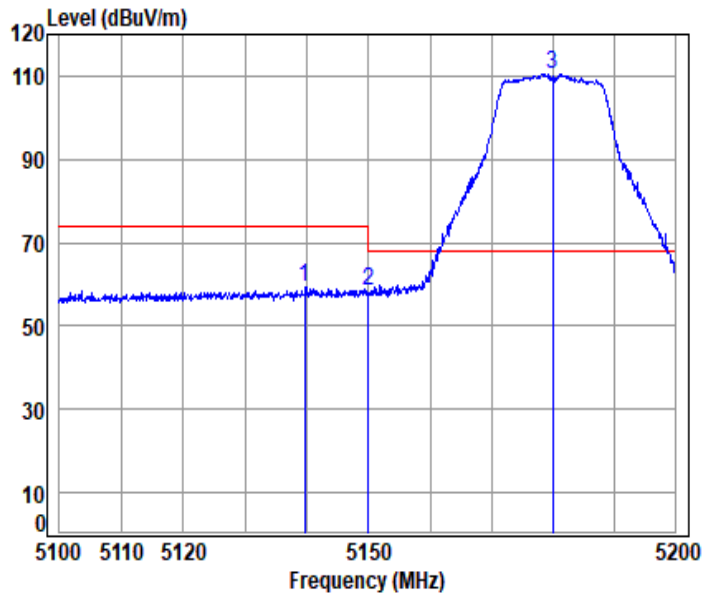
Mode : 5180 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5149.458	10.14	32.40	30.84	31.25	42.95	54.00	-11.05 Average
2 pp	5149.980	10.14	32.40	30.84	31.27	42.97	54.00	-11.03 Average
3	5180.000	10.25	32.46	30.83	82.82	94.70	-----	----- Average



11ac_VHT(20M)_TX_CH_36_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

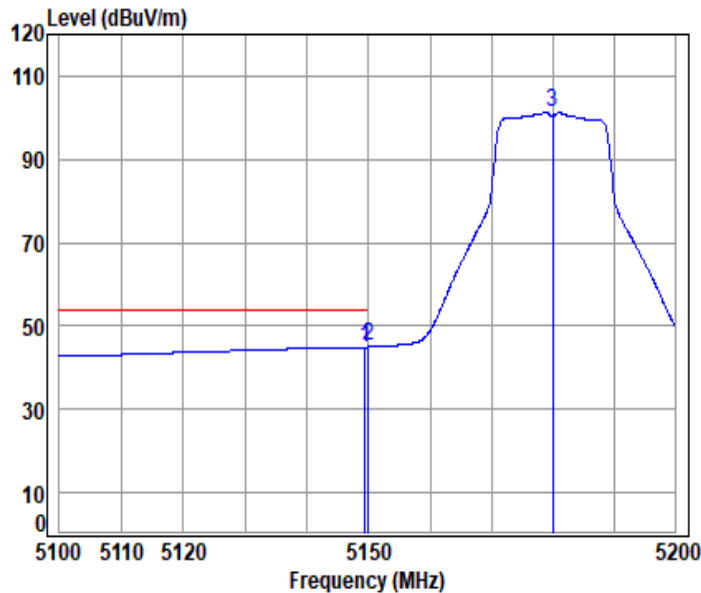
Mode : 5180 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5139.667	10.10	32.38	30.84	47.75	59.39	74.00	-14.61	peak
2	5149.980	10.14	32.40	30.84	46.78	58.48	74.00	-15.52	peak
3 pp	5180.000	10.25	32.46	30.83	98.47	110.35	68.20	42.15	peak



11ac_VHT(20M)_TX_CH_36_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

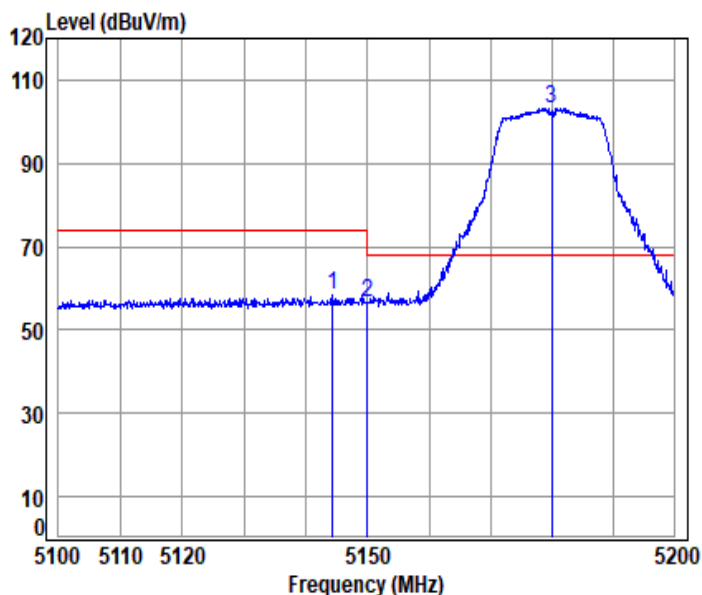
Mode : 5180 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5149.458	10.14	32.40	30.84	33.20	44.90	54.00	-9.10 Average
2 pp	5149.980	10.14	32.40	30.84	33.28	44.98	54.00	-9.02 Average
3	5180.000	10.25	32.46	30.83	89.37	101.25	-----	----- Average



11ac_VHT(20M)_TX_CH_36_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5180 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5144.260	10.12	32.39	30.84	46.61	58.28	74.00	-15.72 peak
2	5149.980	10.14	32.40	30.84	45.11	56.81	74.00	-17.19 peak
3 pp	5180.000	10.25	32.46	30.83	91.42	103.30	68.20	35.10 peak



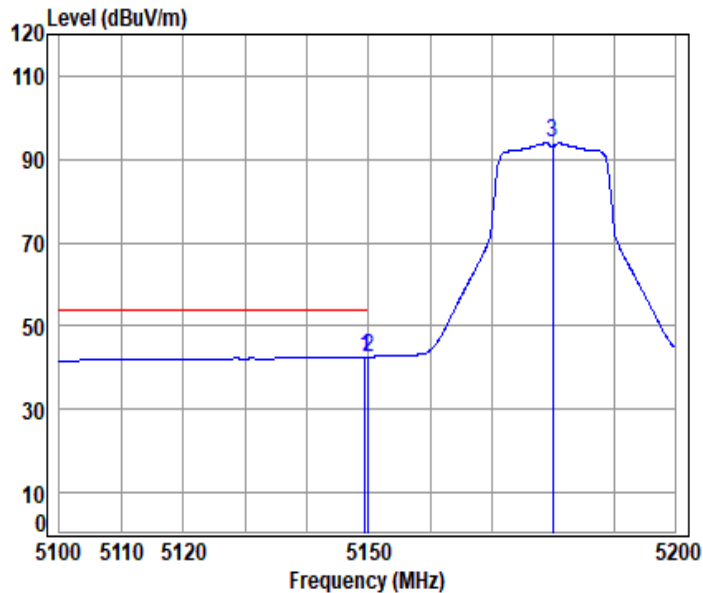
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11ac_VHT(20M)_TX_CH_36_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

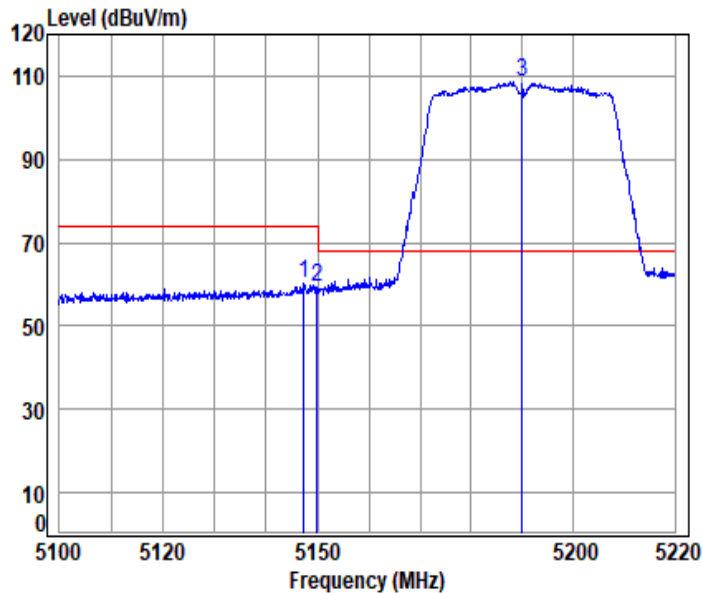
Mode : 5180 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.458	10.14	32.40	30.84	30.93	42.63	54.00	-11.37	Average
2 pp	5149.980	10.14	32.40	30.84	30.94	42.64	54.00	-11.36	Average
3	5180.000	10.25	32.46	30.83	82.00	93.88	-----	-----	Average



11ac_VHT(40M)_TX_CH_38_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5190 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.306	10.13	32.39	30.84	48.61	60.29	74.00	-13.71	peak
2	5149.980	10.14	32.40	30.84	47.58	59.28	74.00	-14.72	peak
3	5190.000	10.29	32.48	30.82	96.49	108.44	68.20	40.24	peak



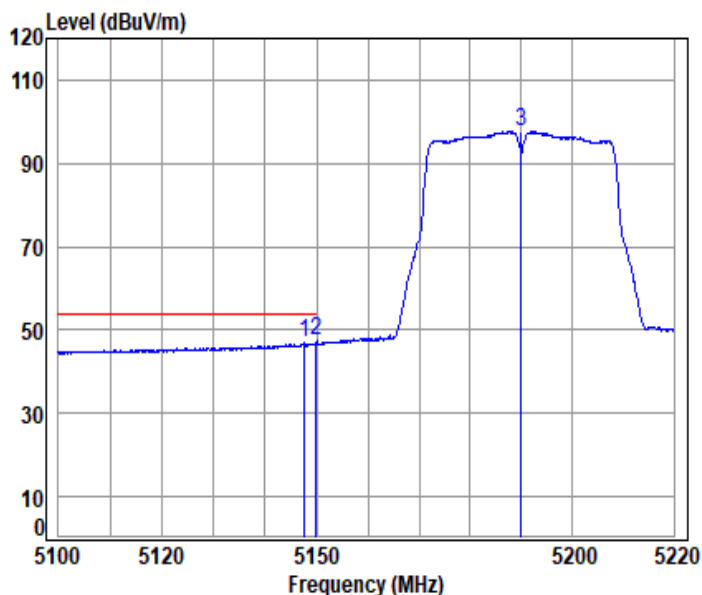
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11ac_VHT(40M)_TX_CH_38_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

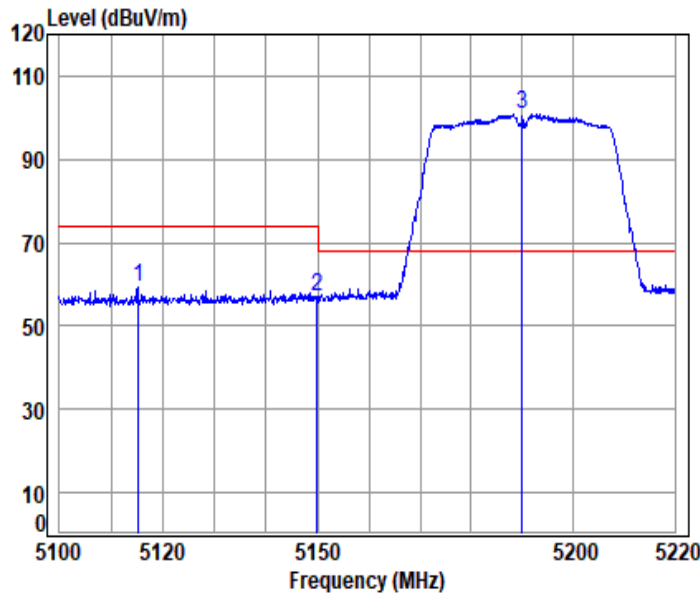
Mode : 5190 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5147.666	10.13	32.40	30.84	35.33	47.02	54.00	-6.98 Average
2 pp	5149.980	10.14	32.40	30.84	35.58	47.28	54.00	-6.72 Average
3	5190.000	10.29	32.48	30.82	85.63	97.58	-----	----- Average



11ac_VHT(40M)_TX_CH_38_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

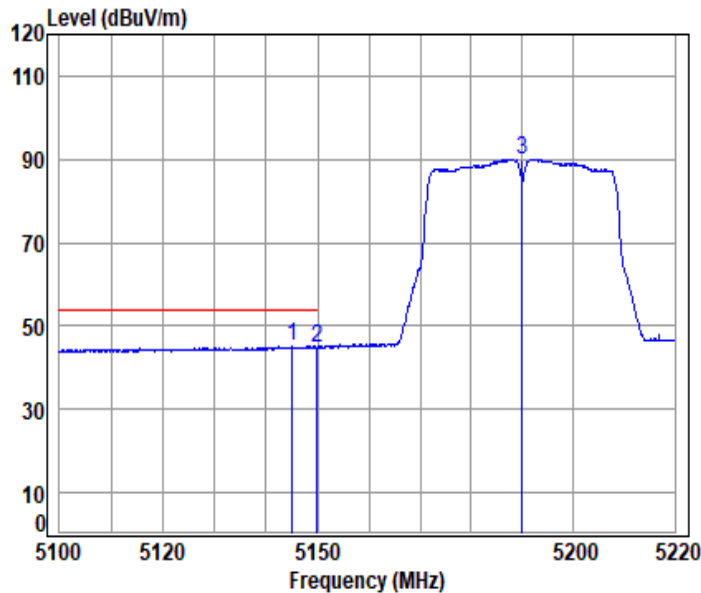
Mode : 5190 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5115.205	10.01	32.33	30.85	47.95	59.44	74.00	-14.56	peak
2	5149.980	10.14	32.40	30.84	45.23	56.93	74.00	-17.07	peak
3 pp	5190.000	10.29	32.48	30.82	88.81	100.76	68.20	32.56	peak



11ac_VHT(40M)_TX_CH_38_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

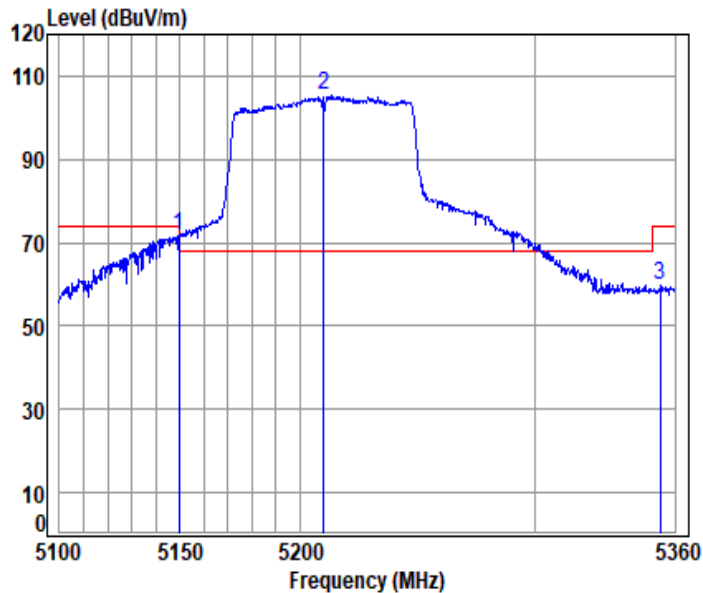
Mode : 5190 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5145.152	10.12	32.39	30.84	33.44	45.11	54.00	-8.89 Average
2	5149.980	10.14	32.40	30.84	33.22	44.92	54.00	-9.08 Average
3	5190.000	10.29	32.48	30.82	78.16	90.11	-----	----- Average



11ac_VHT(80M)_TX_CH_42_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

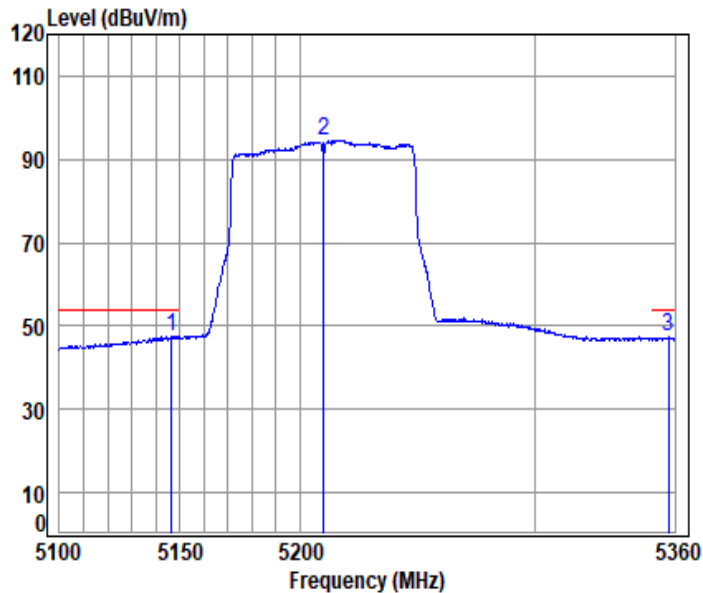
Mode : 5210 Band edge

: 5G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.435	10.14	32.40	30.84	60.15	71.85	74.00	-2.15	peak
2 pp	5210.000	10.32	32.52	30.82	93.25	105.27	68.20	37.07	peak
3	5353.874	10.46	32.80	30.76	47.21	59.71	74.00	-14.29	peak



11ac_VHT(80M)_TX_CH_42_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

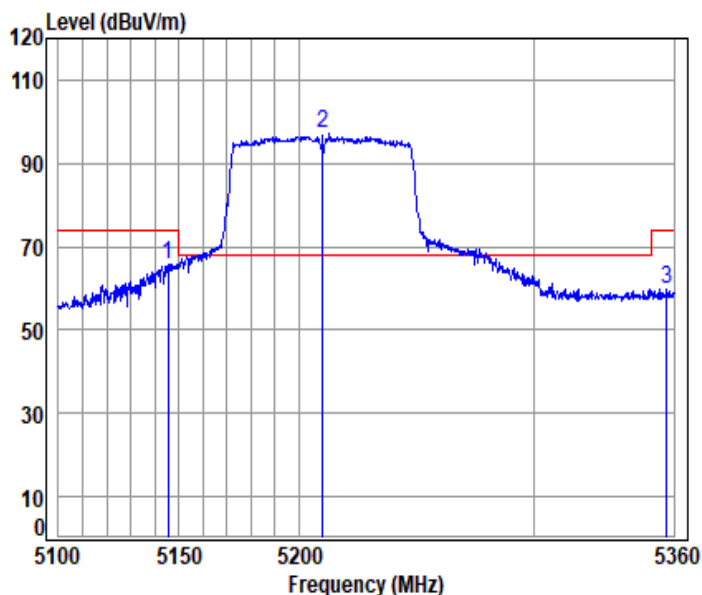
Mode : 5210 Band edge

: 5G Wi-Fi 11ac80

	Cable	Ant	Preamp	Read	Limit	Over		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5146.363	10.13	32.39	30.84	35.89	47.57	54.00	-6.43 Average
2	5210.000	10.32	32.52	30.82	82.42	94.44	-----	----- Average
3	5357.335	10.47	32.80	30.76	34.83	47.34	54.00	-6.66 Average



11ac_VHT(80M)_TX_CH_42_Verical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5210 Band edge

: 5G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5145.339	10.12	32.39	30.84	54.22	65.89	74.00	-8.11	peak
2 pp	5210.000	10.32	32.52	30.82	85.28	97.30	68.20	29.10	peak
3	5357.069	10.47	32.80	30.76	47.34	59.85	74.00	-14.15	peak



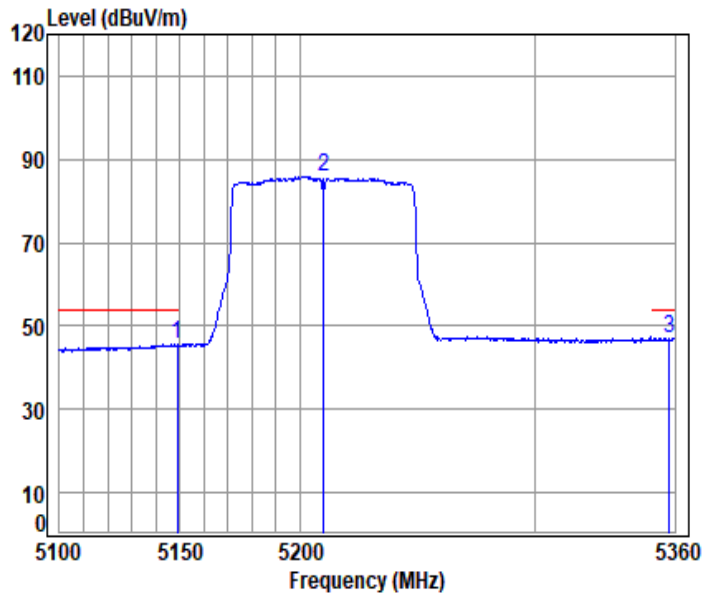
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11ac_VHT(80M)_TX_CH_42_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

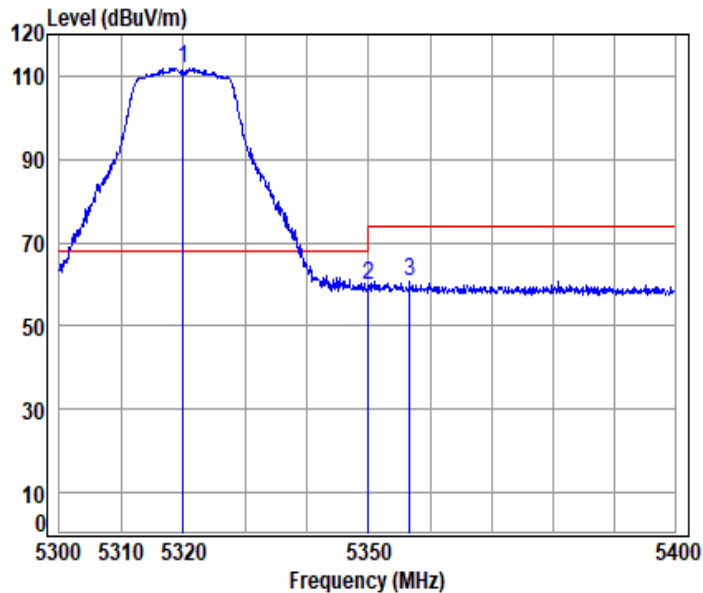
Mode : 5210 Band edge

: 5G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.922	10.14	32.40	30.84	33.99	45.69	54.00	-8.31	Average
2	5210.000	10.32	32.52	30.82	73.87	85.89	-----	-----	Average
3	pp 5357.602	10.48	32.80	30.76	34.52	47.04	54.00	-6.96	Average



11a_TX_CH_64_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5320 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5320.000	10.35	32.74	30.77	99.54	111.86	68.20	43.66 peak
2	5350.020	10.45	32.80	30.76	47.30	59.79	74.00	-14.21 peak
3	5356.671	10.47	32.80	30.76	48.25	60.76	74.00	-13.24 peak



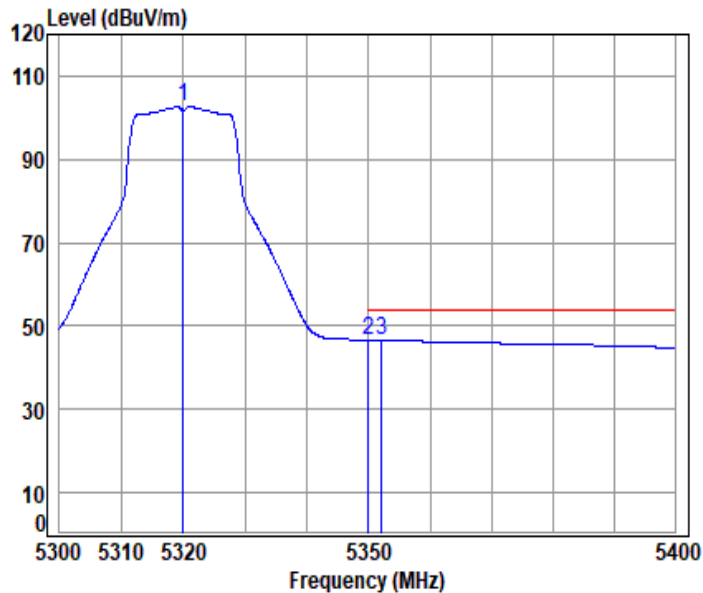
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11a_TX_CH_64_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5320 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5320.000	10.35	32.74	30.77	90.35	102.67	-----	Average
2	pp 5350.020	10.45	32.80	30.76	34.09	46.58	54.00	-7.42 Average
3	5352.067	10.46	32.80	30.76	34.07	46.57	54.00	-7.43 Average



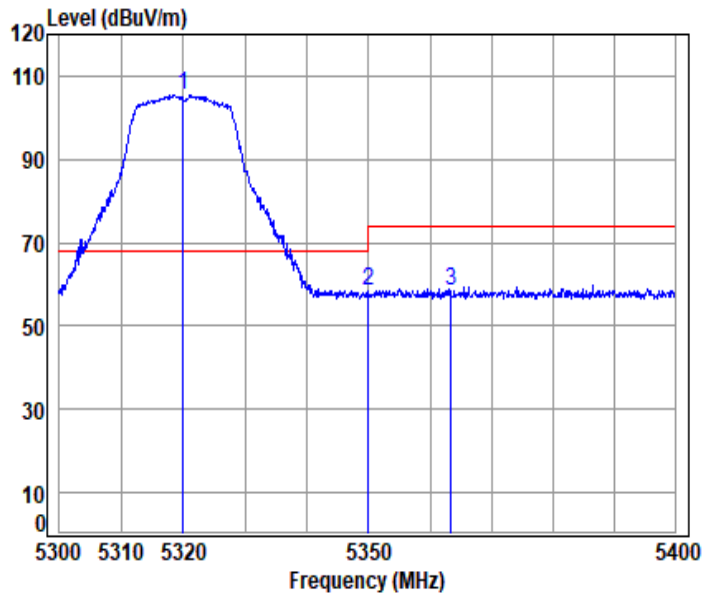
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11a_TX_CH_64_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5320 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5320.000	10.35	32.74	30.77	93.20	105.52	68.20	37.32 peak
2	5350.020	10.45	32.80	30.76	45.85	58.34	74.00	-15.66 peak
3	5363.383	10.50	32.80	30.75	45.73	58.28	74.00	-15.72 Peak



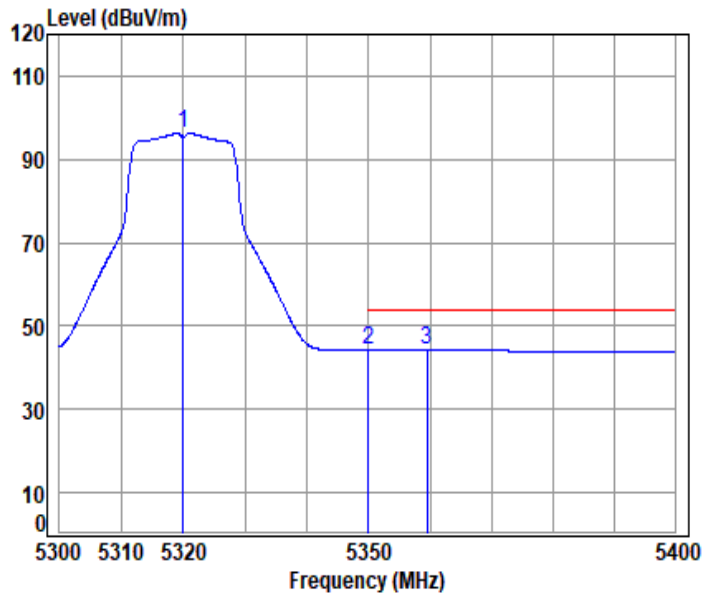
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11a_TX_CH_64_Verical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

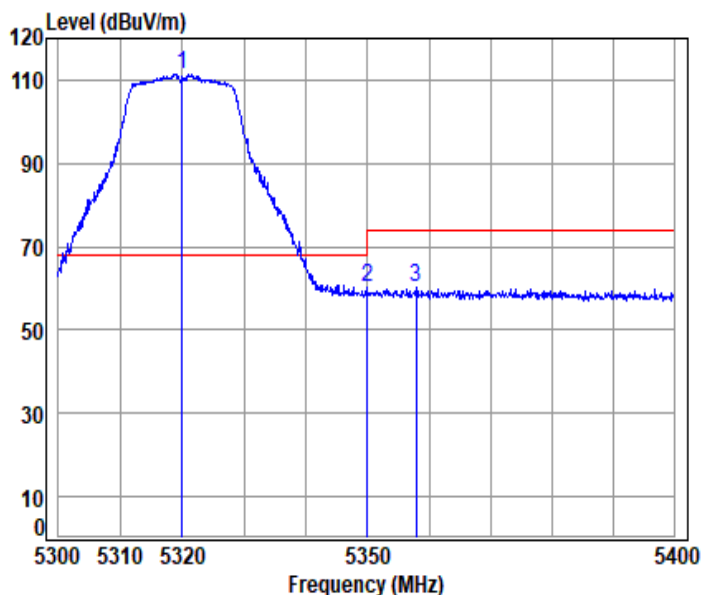
Mode : 5320 Band edge

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5320.000	10.35	32.74	30.77	83.97	96.29	-----	----- Average
2 5350.020	10.45	32.80	30.76	31.68	44.17	54.00	-9.83 Average
3 pp 5359.475	10.48	32.80	30.76	31.74	44.26	54.00	-9.74 Average



11ac_VHT(20M)_TX_CH_64_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5320 Band edge

: 5G Wi-Fi 11ac20

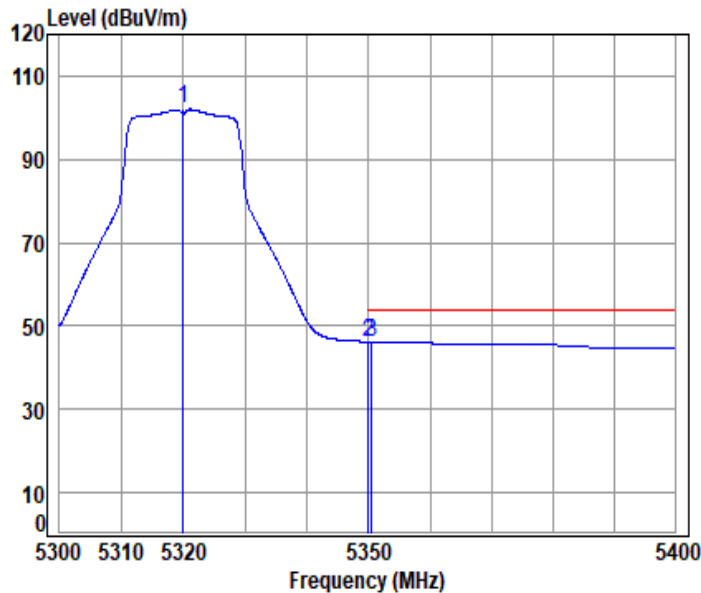
		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5320.000	10.35	32.74	30.77	99.00	111.32	68.20	43.12 peak
2	5350.020	10.45	32.80	30.76	47.78	60.27	74.00	-13.73 peak
3	5357.873	10.48	32.80	30.76	47.58	60.10	74.00	-13.90 peak



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11ac_VHT(20M)_TX_CH_64_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

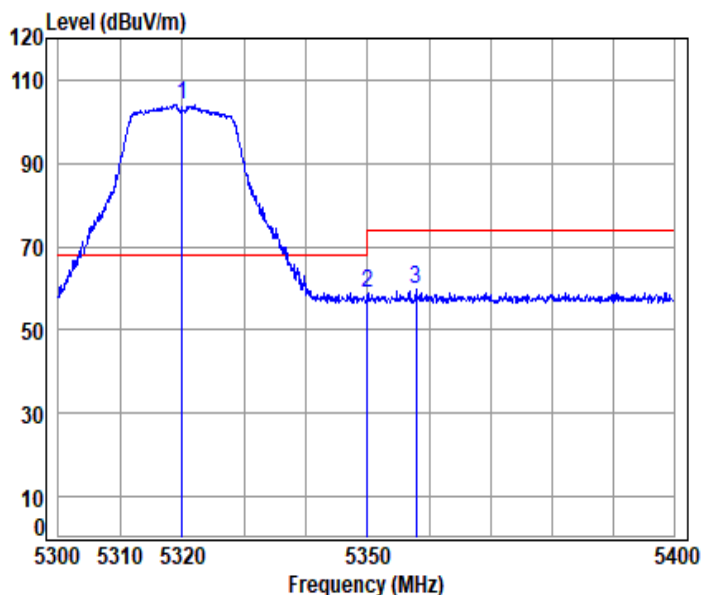
Mode : 5320 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5320.000	10.35	32.74	30.77	89.69	102.01	-----	Average
2	5350.020	10.45	32.80	30.76	33.71	46.20	54.00	-7.80 Average
3	5350.566	10.45	32.80	30.76	33.64	46.13	54.00	-7.87 Average



11ac_VHT(20M)_TX_CH_64_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5320 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5320.000	10.35	32.74	30.77	91.69	104.01	68.20	35.81 peak
2	5350.020	10.45	32.80	30.76	46.31	58.80	74.00	-15.20 peak
3	5357.873	10.48	32.80	30.76	47.26	59.78	74.00	-14.22 peak



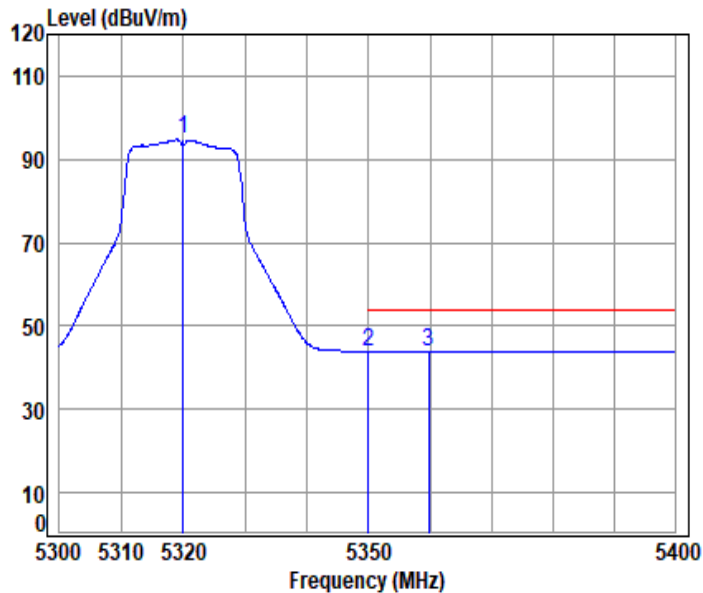
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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

11ac_VHT(20M)_TX_CH_64_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

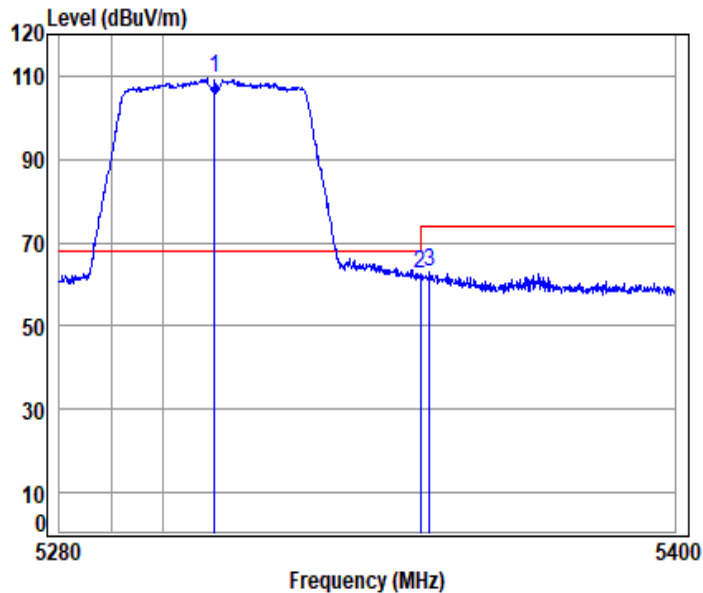
Mode : 5320 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5320.000	10.35	32.74	30.77	82.38	94.70	-----	-----	Average
2	5350.020	10.45	32.80	30.76	31.45	43.94	54.00	-10.06	Average
3	pp 5359.775	10.48	32.80	30.76	31.45	43.97	54.00	-10.03	Average



11ac_VHT(40M)_TX_CH_62_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

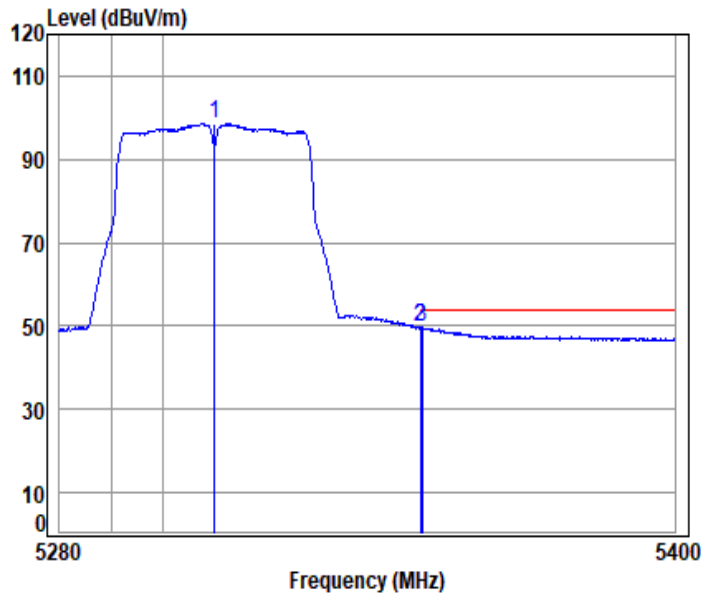
Mode : 5310 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5310.000	10.31	32.72	30.78	97.47	109.72	68.20	41.52 peak
2	5350.020	10.45	32.80	30.76	49.91	62.40	74.00	-11.60 peak
3	5351.796	10.46	32.80	30.76	50.24	62.74	74.00	-11.26 peak



11ac_VHT(40M)_TX_CH_62_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

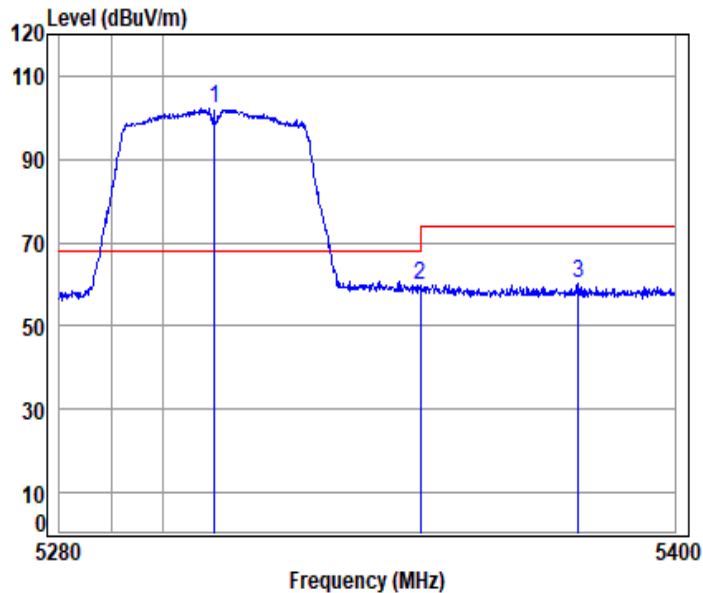
Mode : 5310 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5310.000	10.31	32.72	30.78	86.28	98.53	-----	-----	Average
2	5350.020	10.45	32.80	30.76	37.25	49.74	54.00	-4.26	Average
3	5350.474	10.45	32.80	30.76	37.04	49.53	54.00	-4.47	Average



11ac_VHT(40M)_TX_CH_62_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

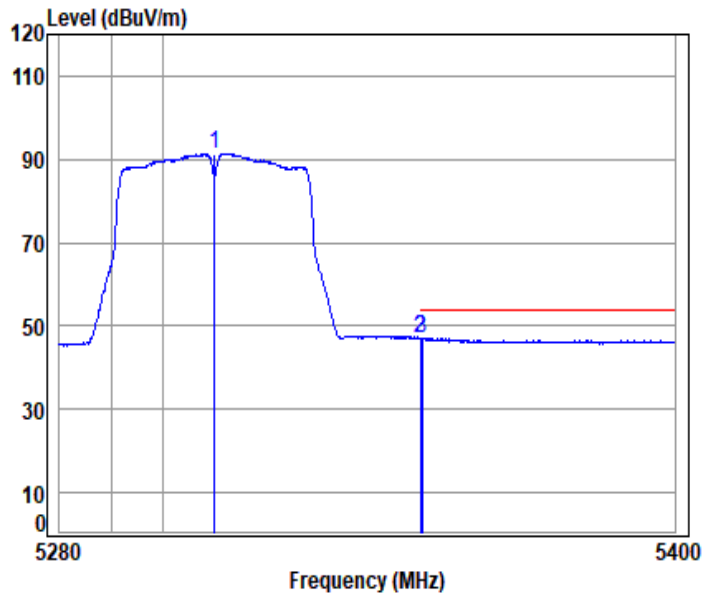
Mode : 5310 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5310.000	10.31	32.72	30.78	89.94	102.19	68.20	33.99 peak
2	5350.020	10.45	32.80	30.76	47.10	59.59	74.00	-14.41 peak
3	5380.981	10.56	32.80	30.75	47.54	60.15	74.00	-13.85 peak



11ac_VHT(40M)_TX_CH_62_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

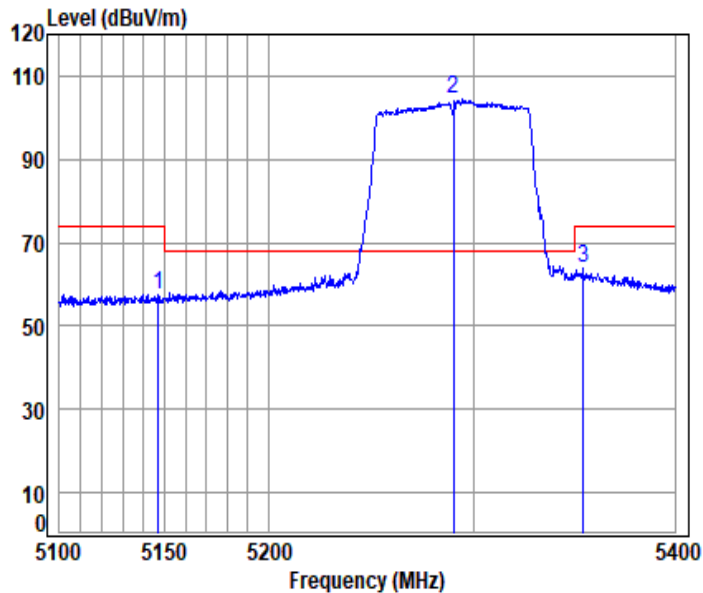
Mode : 5310 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5310.000	10.31	32.72	30.78	79.20	91.45	-----	-----	Average
2	5350.020	10.45	32.80	30.76	34.68	47.17	54.00	-6.83	Average
3	5350.474	10.45	32.80	30.76	34.52	47.01	54.00	-6.99	Average



11ac_VHT(80M)_TX_CH_58_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

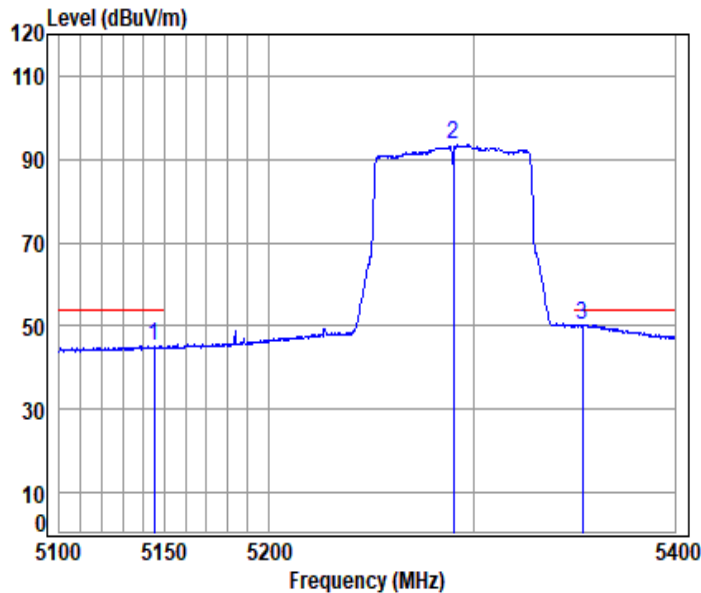
Mode : 5290 Band edge

: 5G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.149	10.13	32.39	30.84	45.81	57.49	74.00	-16.51	peak
2 pp	5290.000	10.28	32.68	30.78	92.24	104.42	68.20	36.22	peak
3	5354.206	10.46	32.80	30.76	51.40	63.90	74.00	-10.10	peak



11ac_VHT(80M)_TX_CH_58_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

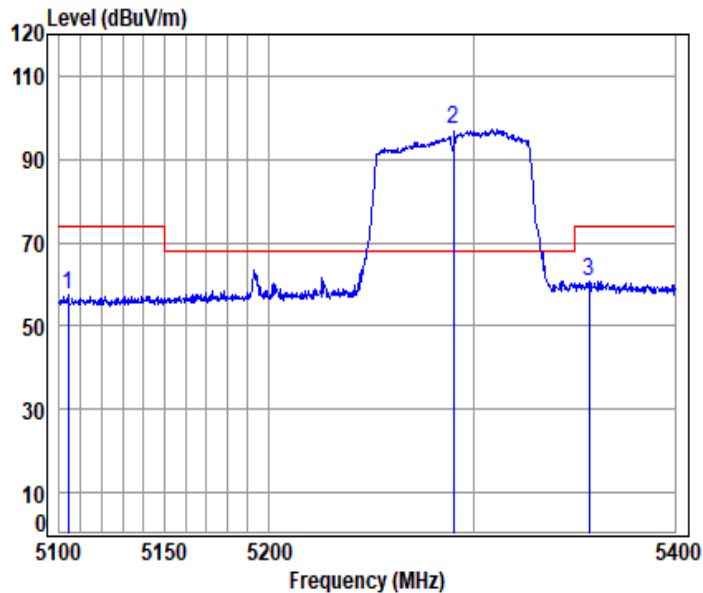
Mode : 5290 Band edge

: 5G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5145.090	10.12	32.39	30.84	33.66	45.33	54.00	-8.67 Average
2	5290.000	10.28	32.68	30.78	81.22	93.40	-----	----- Average
3	pp 5353.899	10.46	32.80	30.76	37.91	50.41	54.00	-3.59 Average



11ac_VHT(80M)_TX_CH_58_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

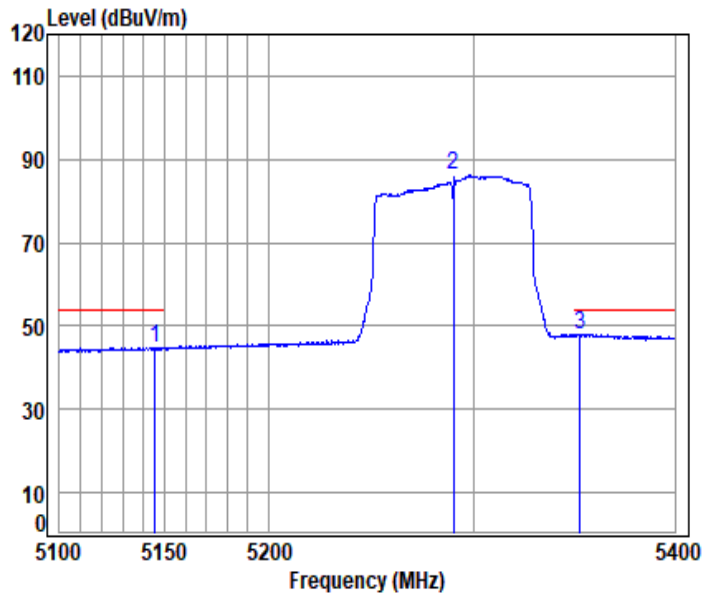
Mode : 5290 Band edge

: 5G Wi-Fi 11ac80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5104.083	9.97	32.31	30.86	46.14	57.56	74.00	-16.44 peak
2 pp 5290.000	10.28	32.68	30.78	84.92	97.10	68.20	28.90 peak
3 5357.267	10.47	32.80	30.76	48.12	60.63	74.00	-13.37 peak



11ac_VHT(80M)_TX_CH_58_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

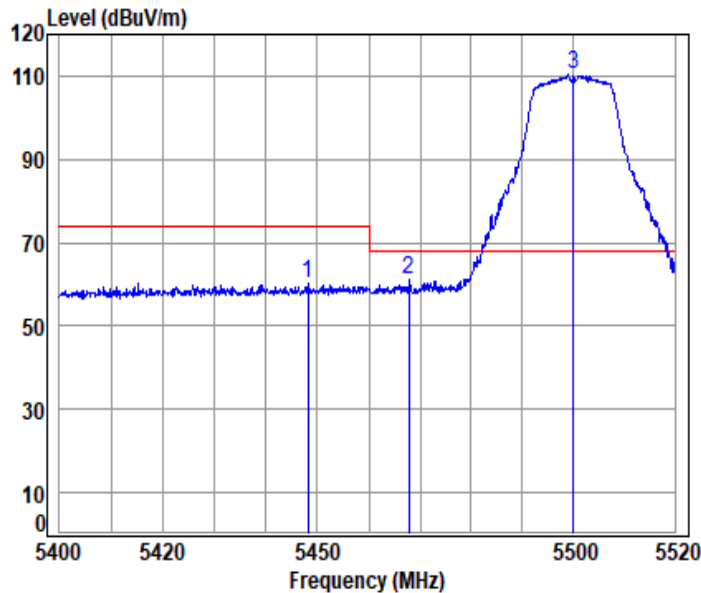
Mode : 5290 Band edge

: 5G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5145.679	10.12	32.39	30.84	33.20	44.87	54.00	-9.13 Average
2	5290.000	10.28	32.68	30.78	73.94	86.12	-----	----- Average
3	5352.676	10.46	32.80	30.76	35.51	48.01	54.00	-5.99 Average



11a_TX_CH_100_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

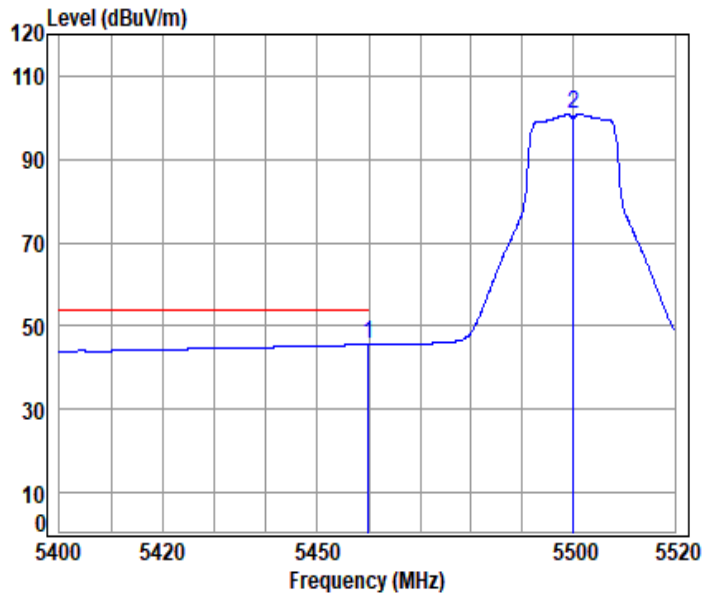
Mode : 5500 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5448.163	10.60	32.90	30.72	47.55	60.33	74.00	-13.67	peak
2	5467.836	10.59	32.90	30.71	48.41	61.19	68.20	-7.01	peak
3	5500.000	10.58	32.90	30.70	97.50	110.28	68.20	42.08	peak



11a_TX_CH_100_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

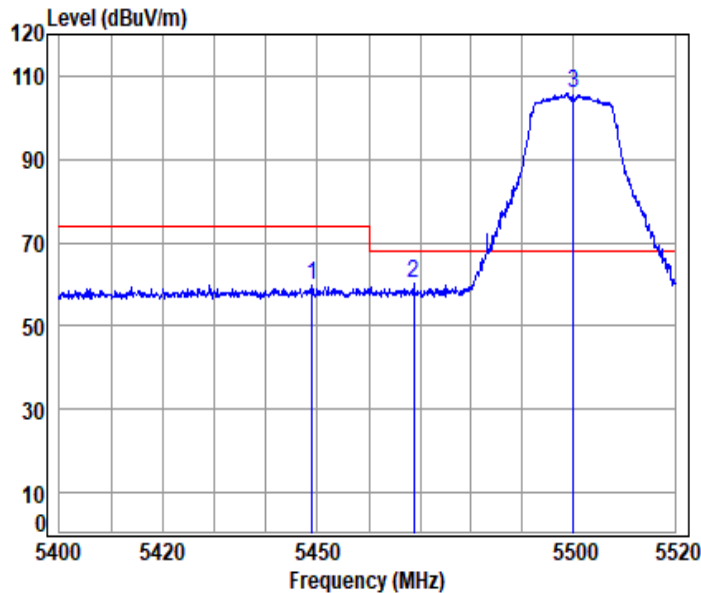
Mode : 5500 Band edge

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5459.910	10.60	32.90	30.72	32.70	45.48	54.00	-8.52 Average
2 5500.000	10.58	32.90	30.70	88.20	100.98	-----	----- Average



11a_TX_CH_100_Verical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

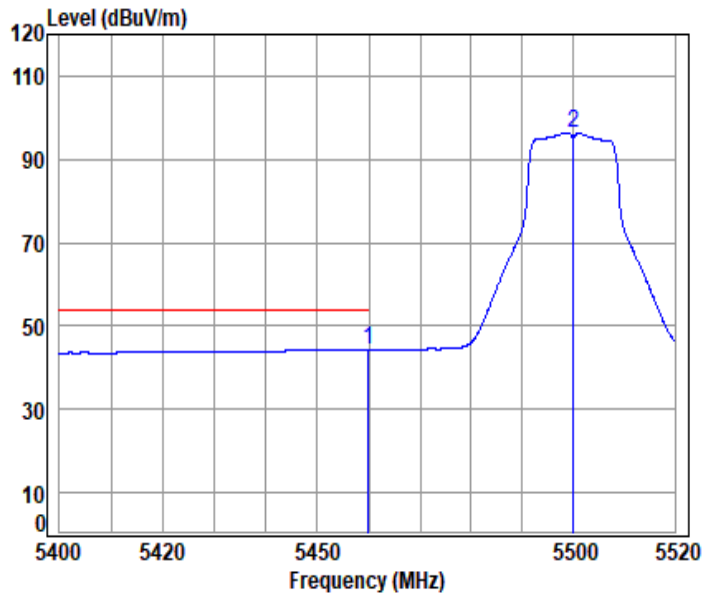
Mode : 5500 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5449.001	10.60	32.90	30.72	46.85	59.63	74.00	-14.37	peak
2	5468.798	10.59	32.90	30.71	47.24	60.02	68.20	-8.18	peak
3	5500.000	10.58	32.90	30.70	92.93	105.71	68.20	37.51	peak



11a_TX_CH_100_Vetical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

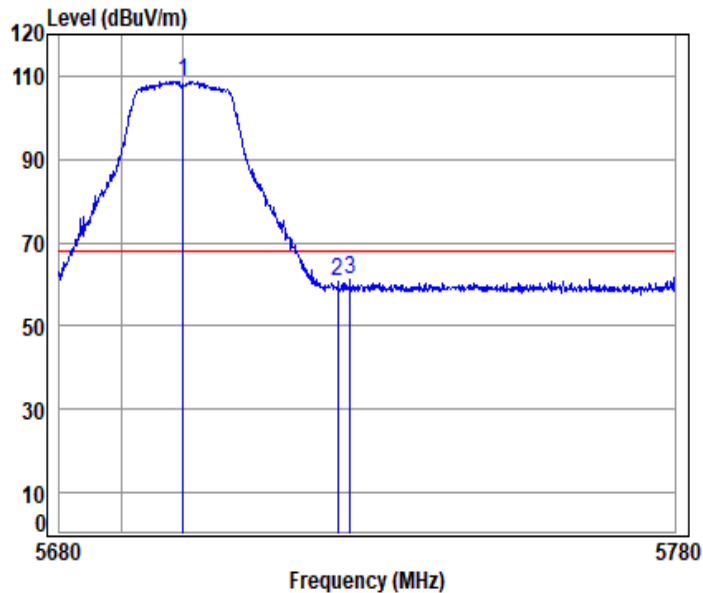
Mode : 5500 Band edge

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5459.910	10.60	32.90	30.72	31.58	44.36	54.00	-9.64 Average
2 5500.000	10.58	32.90	30.70	83.66	96.44	-----	----- Average



11a_TX_CH_140_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

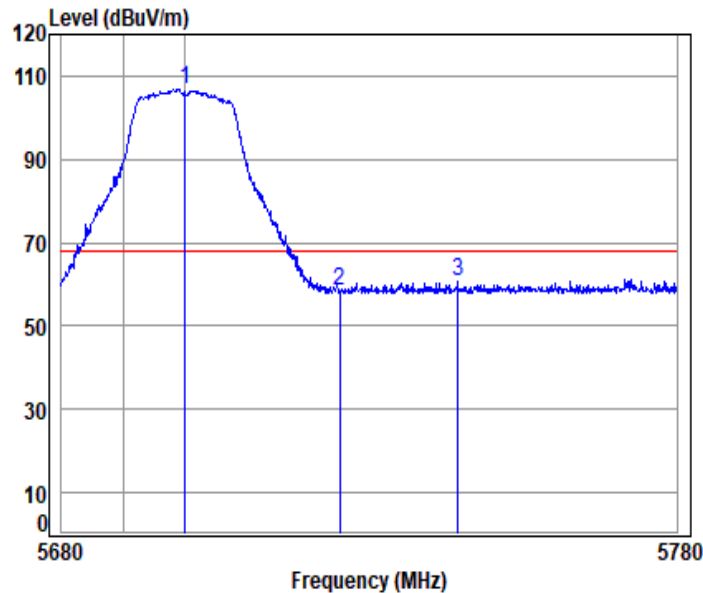
Mode : 5700 Band edge

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5700.000	10.56	33.20	30.62	95.58	108.72	68.20	40.52 peak
2	5725.000	10.68	33.25	30.61	47.23	60.55	68.20	-7.65 peak
3	5726.982	10.68	33.25	30.61	47.68	61.00	68.20	-7.20 peak



11a_TX_CH_140_Verical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

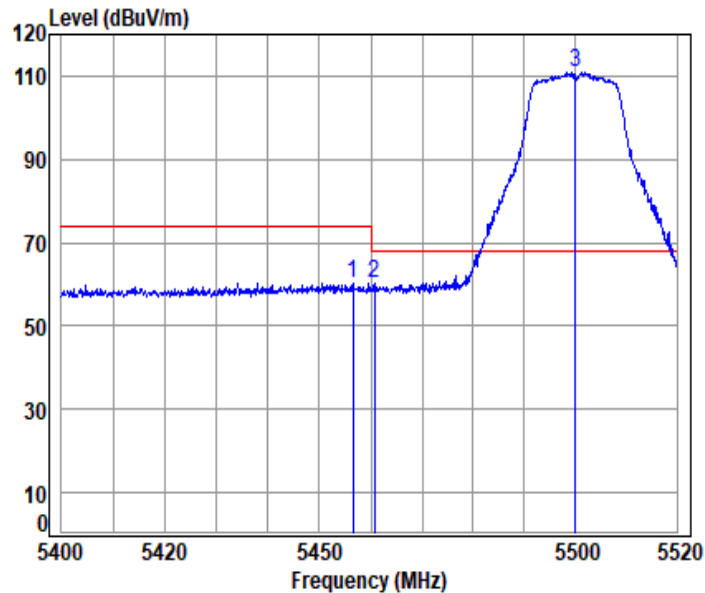
Mode : 5700 Band edge

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5700.000	10.56	33.20	30.62	93.77	106.91	68.20	38.71 peak
2 5725.000	10.68	33.25	30.61	45.10	58.42	68.20	-9.78 peak
3 5744.200	10.76	33.29	30.60	47.11	60.56	68.20	-7.64 peak



11ac_VHT(20M)_TX_CH_100_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

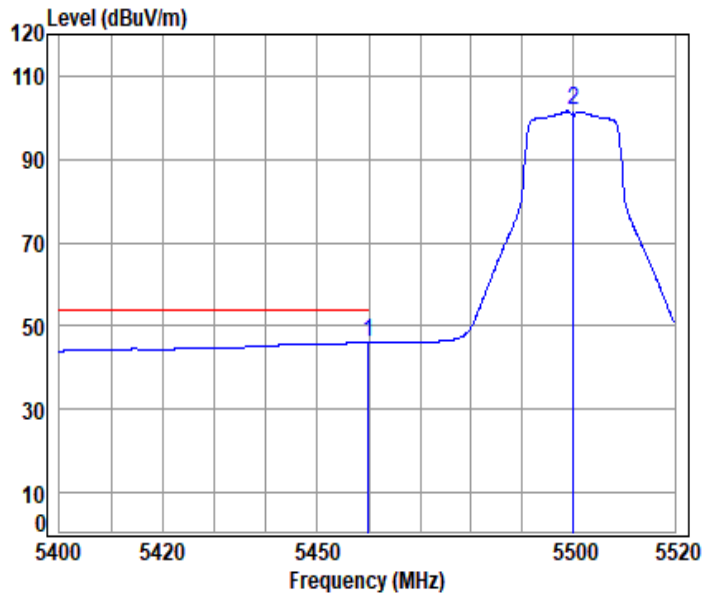
Mode : 5500 Band edge

: 5G Wi-Fi 11ac20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5456.551	10.60	32.90	30.72	47.67	60.45	74.00 -13.55 peak
2	5460.750	10.60	32.90	30.72	47.37	60.15	68.20 -8.05 peak
3	5500.000	10.58	32.90	30.70	98.06	110.84	68.20 42.64 peak



11ac_VHT(20M)_TX_CH_100_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

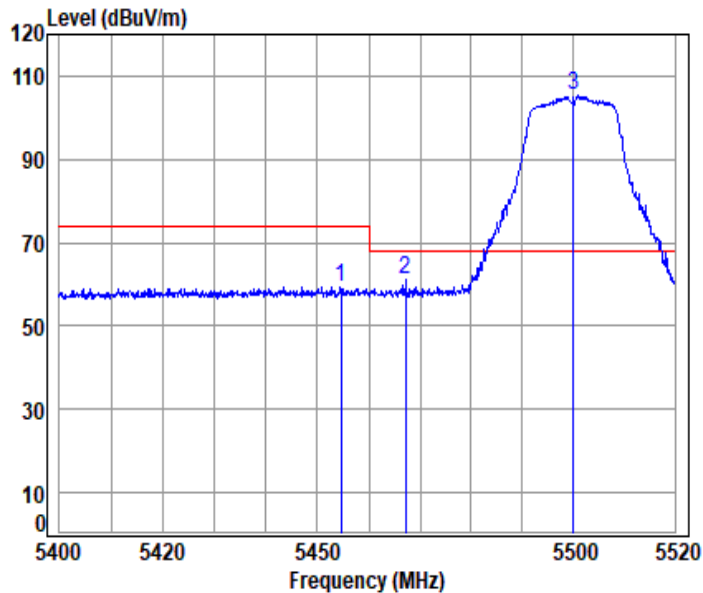
Mode : 5500 Band edge

: 5G Wi-Fi 11ac20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5459.910	10.60	32.90	30.72	33.18	45.96	54.00	-8.04 Average
2 5500.000	10.58	32.90	30.70	88.75	101.53	-----	----- Average



11ac_VHT(20M)_TX_CH_100_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

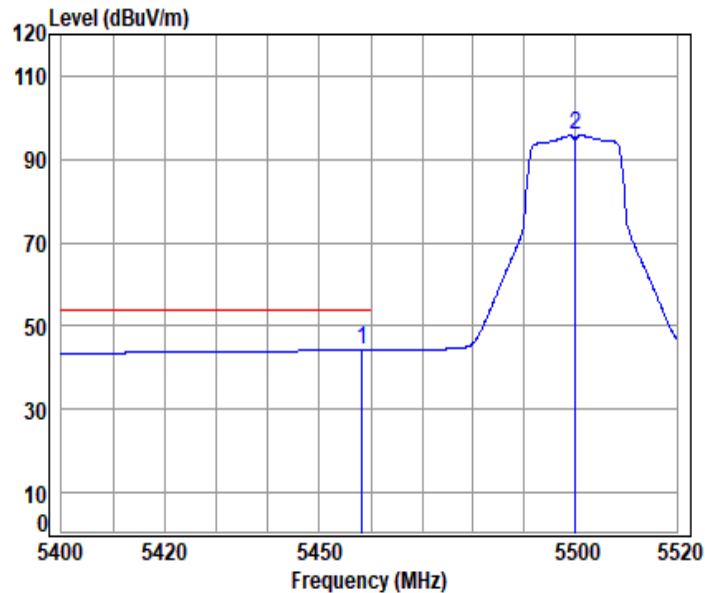
Mode : 5500 Band edge

: 5G Wi-Fi 11ac20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5454.513	10.60	32.90	30.72	46.72	59.50	74.00	-14.50 peak
2 5467.235	10.59	32.90	30.71	48.40	61.18	68.20	-7.02 Peak
3 pp 5500.000	10.58	32.90	30.70	92.50	105.28	68.20	37.08 peak



11ac_VHT(20M)_TX_CH_100_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

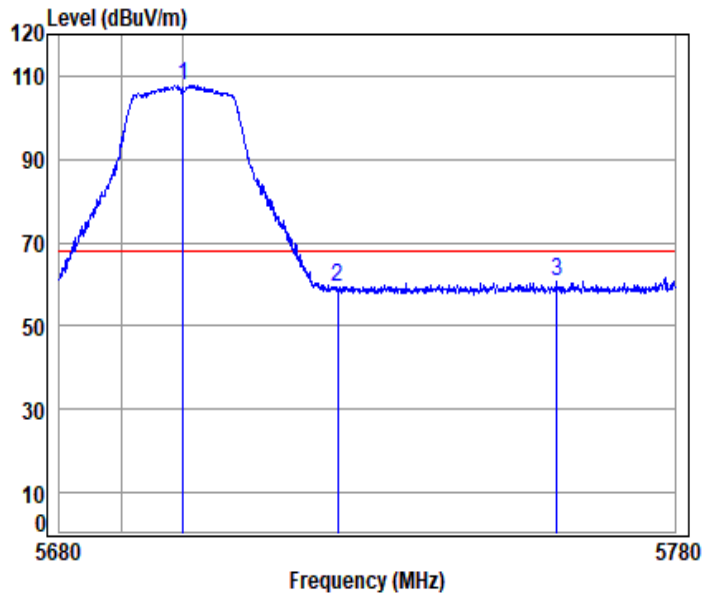
Mode : 5500 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5458.230	10.60	32.90	30.72	31.48	44.26	54.00	-9.74 Average
2	5500.000	10.58	32.90	30.70	83.07	95.85	-----	----- Average



11ac_VHT(20M)_TX_CH_140_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

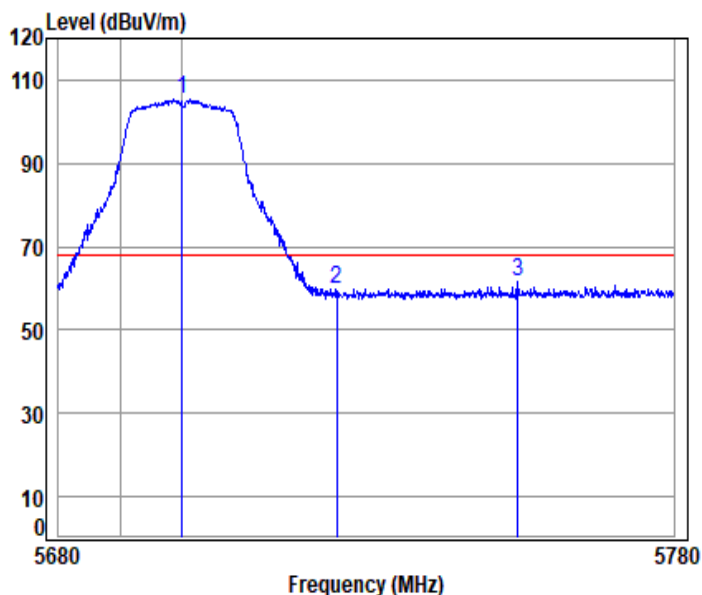
Mode : 5700 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5700.000	10.56	33.20	30.62	94.71	107.85	68.20	39.65 peak
2	5725.000	10.68	33.25	30.61	45.77	59.09	68.20	-9.11 peak
3	5760.665	10.84	33.32	30.60	47.21	60.77	68.20	-7.43 peak



11ac_VHT(20M)_TX_CH_140_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

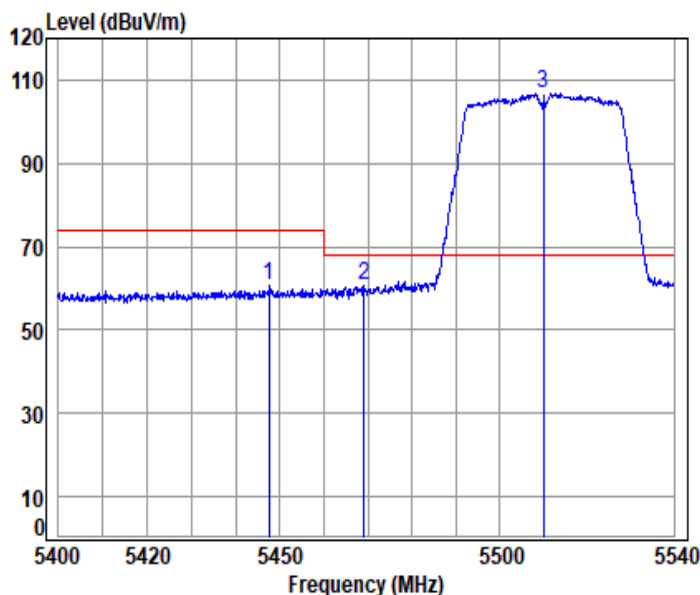
Mode : 5700 Band edge

: 5G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5700.000	10.56	33.20	30.62	92.19	105.33	68.20	37.13	peak
2	5725.000	10.68	33.25	30.61	46.25	59.57	68.20	-8.63	peak
3	5754.535	10.81	33.31	30.60	48.11	61.63	68.20	-6.57	peak



11ac_VHT(40M)_TX_CH_102_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5510 Band edge

: 5G Wi-Fi 11ac40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5447.478	10.60	32.89	30.72	47.76	60.53	74.00 -13.47 peak
2	5468.992	10.59	32.90	30.71	48.01	60.79	68.20 -7.41 peak
3	5510.000	10.56	32.90	30.70	93.98	106.74	68.20 38.54 peak



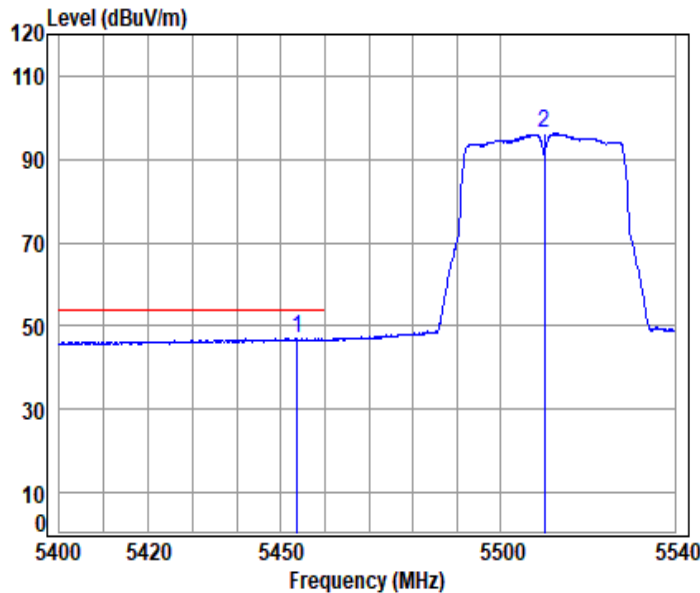
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11ac_VHT(40M)_TX_CH_102_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

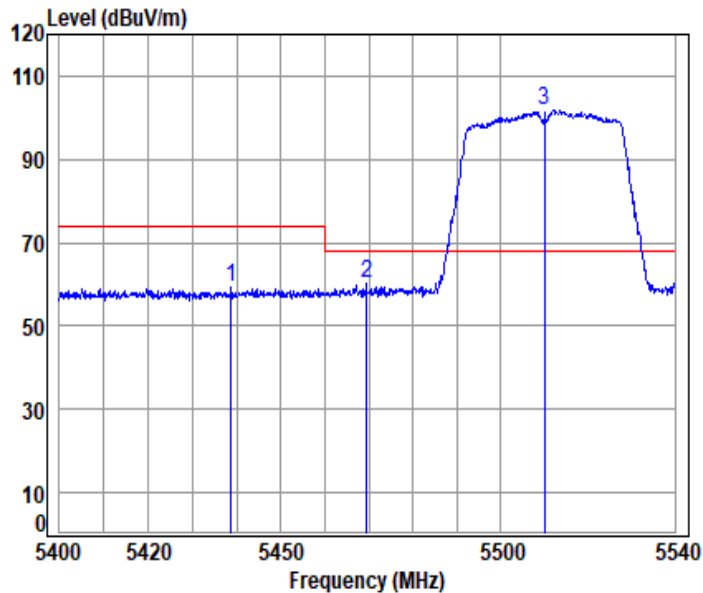
Mode : 5510 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5453.755	10.60	32.90	30.72	34.27	47.05	54.00	-6.95 Average
2	5510.000	10.56	32.90	30.70	83.51	96.27	-----	----- Average



11ac_VHT(40M)_TX_CH_102_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

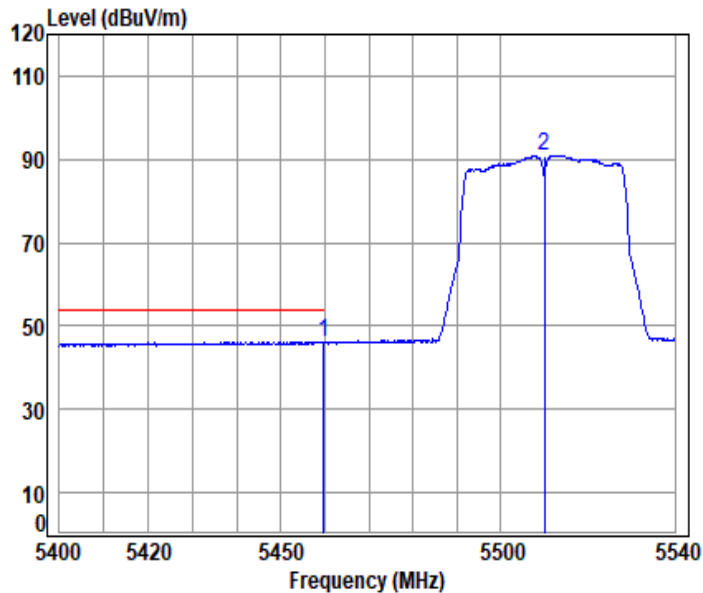
Mode : 5510 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5438.700	10.60	32.88	30.72	46.36	59.12	74.00	-14.88	peak
2	5469.412	10.59	32.90	30.71	47.34	60.12	68.20	-8.08	peak
3	5510.000	10.56	32.90	30.70	89.01	101.77	68.20	33.57	peak



11ac_VHT(40M)_TX_CH_102_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

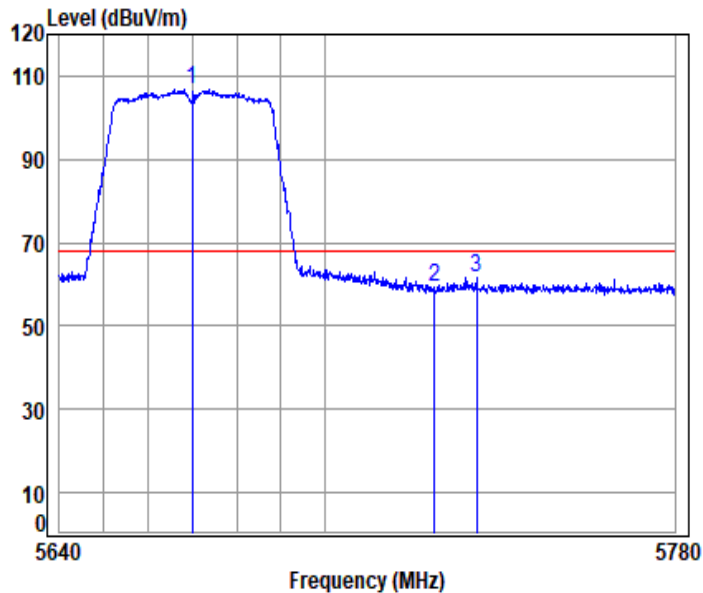
Mode : 5510 Band edge

: 5G Wi-Fi 11ac40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5459.761	10.60	32.90	30.72	33.40	46.18	54.00	-7.82 Average
2 5510.000	10.56	32.90	30.70	78.26	91.02	-----	----- Average



11ac_VHT(40M)_TX_CH_134_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5670 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5670.000	10.52	33.14	30.63	93.61	106.64	68.20	38.44 peak
2	5725.000	10.68	33.25	30.61	45.79	59.11	68.20	-9.09 peak
3	5734.545	10.72	33.27	30.61	48.42	61.80	68.20	-6.40 peak



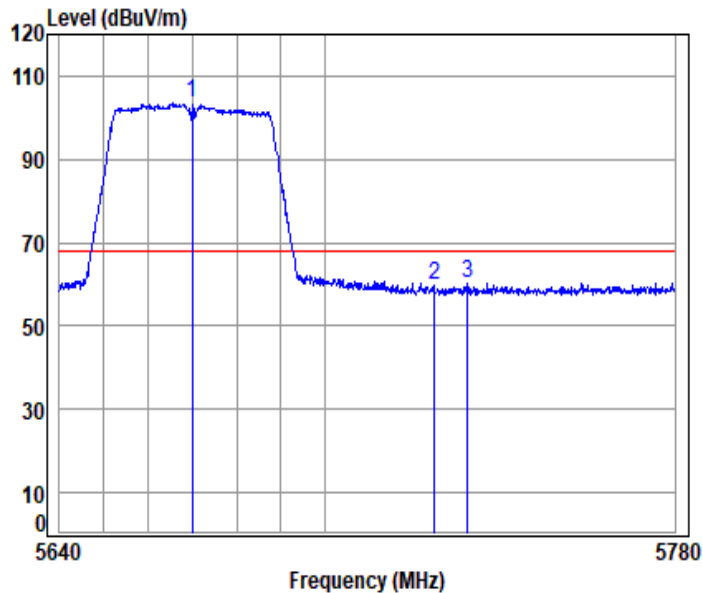
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11ac_VHT(40M)_TX_CH_134_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

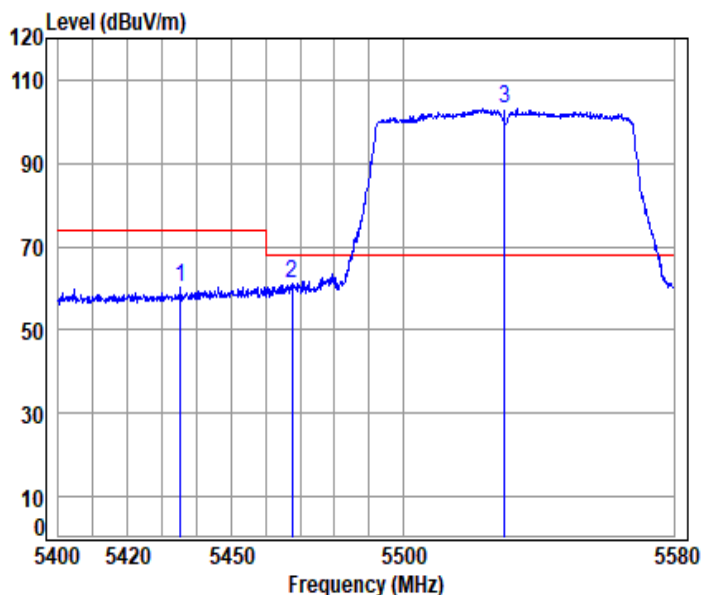
Mode : 5670 Band edge

: 5G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5670.000	10.52	33.14	30.63	90.65	103.68	68.20	35.48 peak
2	5725.000	10.68	33.25	30.61	46.53	59.85	68.20	-8.35 peak
3	5732.436	10.71	33.26	30.61	46.91	60.27	68.20	-7.93 peak



11ac_VHT(80M)_TX_CH_106_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

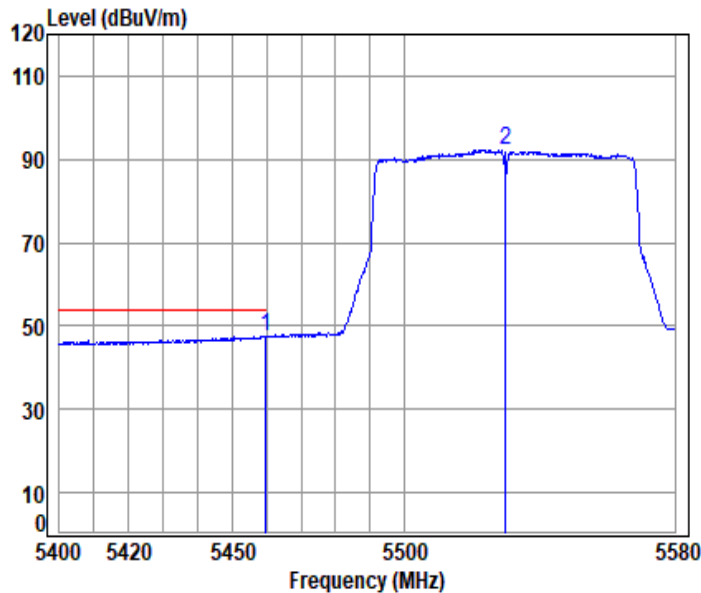
Mode : 5530 Band edge

: 5G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5435.351	10.61	32.87	30.73	47.60	60.35	74.00	-13.65	peak
2	5467.706	10.59	32.90	30.71	48.44	61.22	68.20	-6.98	peak
3	5530.000	10.53	32.90	30.69	90.47	103.21	68.20	35.01	peak



11ac_VHT(80M)_TX_CH_106_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 01576AT

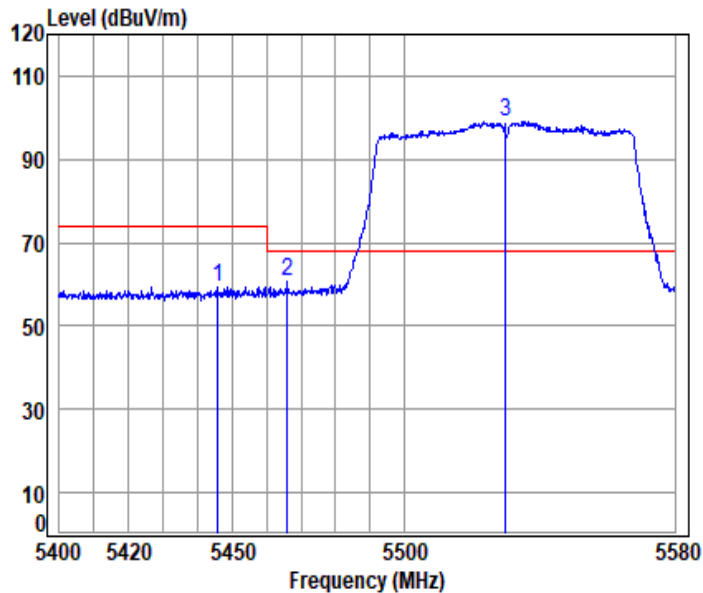
Mode : 5530 Band edge

: 5G Wi-Fi 11ac80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5459.823	10.60	32.90	30.72	34.81	47.59	54.00	-6.41 Average
2 5530.000	10.53	32.90	30.69	79.33	92.07	-----	----- Average



11ac_VHT(80M)_TX_CH_106_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

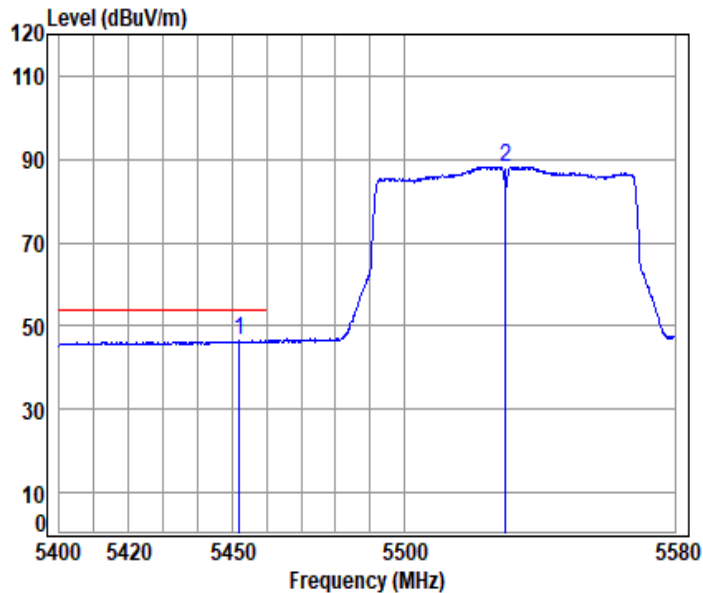
Mode : 5530 Band edge

: 5G Wi-Fi 11ac80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5445.698	10.60	32.89	30.72	46.64	59.41	74.00 -14.59 peak
2	5466.092	10.59	32.90	30.71	47.69	60.47	68.20 -7.73 peak
3 pp	5530.000	10.53	32.90	30.69	86.27	99.01	68.20 30.81 peak



11ac_VHT(80M)_TX_CH_106_Vertical-Avg



Condition: 3m VERTICAL

Job No : 01576AT

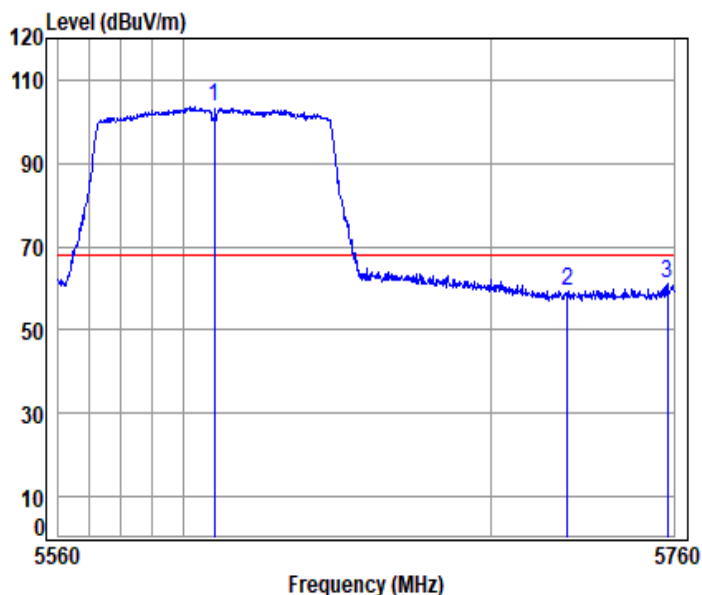
Mode : 5530 Band edge

: 5G Wi-Fi 11ac80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5451.951	10.60	32.90	30.72	33.59	46.37	54.00	-7.63 Average
2 5530.000	10.53	32.90	30.69	75.45	88.19	-----	----- Average



11ac_VHT(80M)_TX_CH_122_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5610 Band edge

: 5G Wi-Fi 11ac80

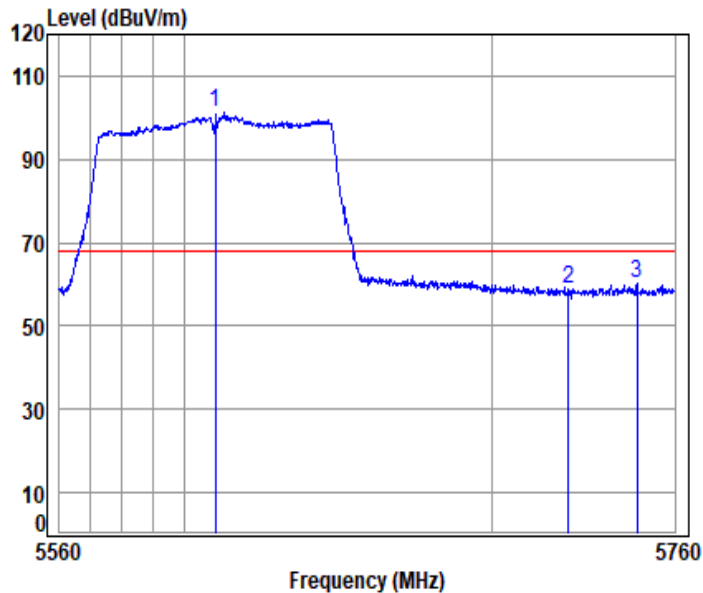
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5610.000	10.43	33.02	30.66	90.90	103.69	68.20	35.49 peak
2 5725.000	10.68	33.25	30.61	45.92	59.24	68.20	-8.96 peak
3 5757.965	10.83	33.32	30.60	47.76	61.31	68.20	-6.89 peak



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11ac_VHT(80M)_TX_CH_122_Vertical-Peak



Condition: 3m VERTICAL

Job No : 01576AT

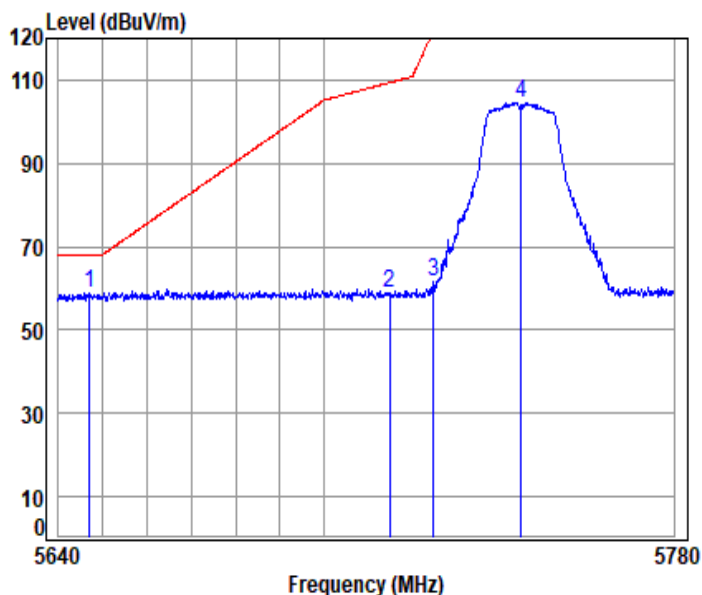
Mode : 5610 Band edge

: 5G Wi-Fi 11ac80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5610.000	10.43	33.02	30.66	88.30	101.09	68.20	32.89 peak
2 5725.000	10.68	33.25	30.61	45.37	58.69	68.20	-9.51 peak
3 5747.597	10.78	33.30	30.60	46.60	60.08	68.20	-8.12 peak



11a_TX_CH_149_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

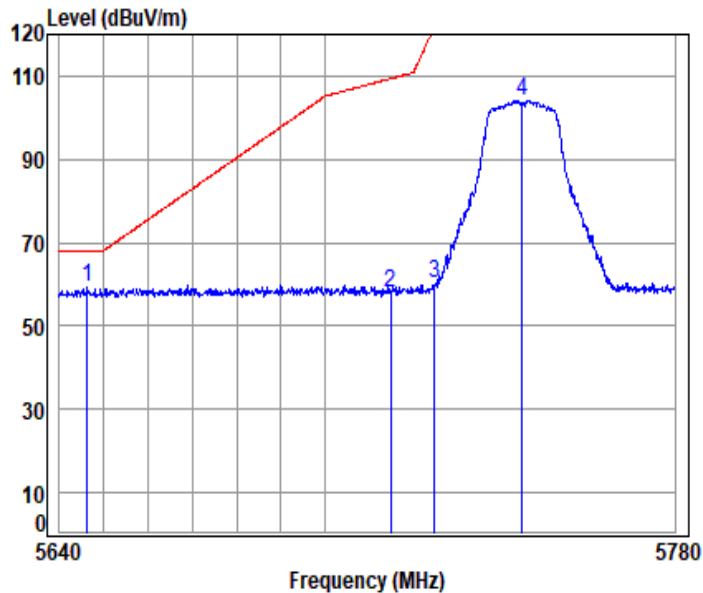
Mode : 5745 Band edge

: 5.8G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5646.919	10.48	33.09	30.64	45.79	58.72	68.20	-9.48 peak
2	5715.000	10.63	33.23	30.61	45.42	58.67	109.40	-50.73 peak
3	5725.000	10.68	33.25	30.61	48.29	61.61	122.20	-60.59 peak
4	5745.000	10.77	33.29	30.60	91.11	104.57	-----	----- peak



11a_TX_CH_149_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

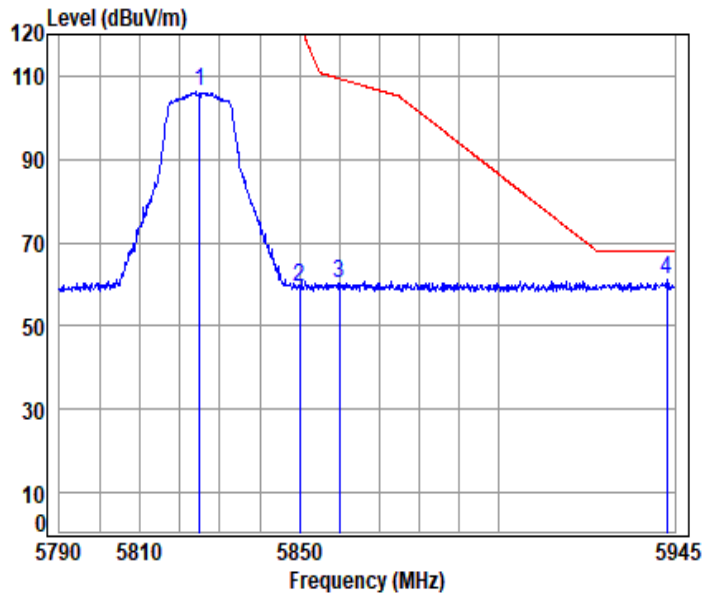
Mode : 5745 Band edge

: 5.8G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5646.227	10.48	33.09	30.64	46.37	59.30	68.20	-8.90 peak
2	5715.000	10.63	33.23	30.61	44.81	58.06	109.40	-51.34 peak
3	5725.000	10.68	33.25	30.61	46.91	60.23	122.20	-61.97 peak
4	5745.000	10.77	33.29	30.60	90.55	104.01	-----	----- peak



11a_TX_CH_165_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

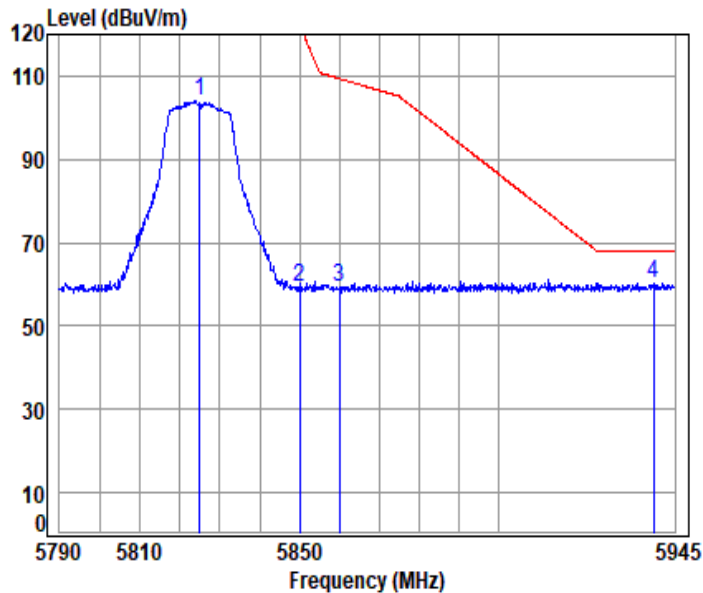
Mode : 5825 Band edge

: 5.8G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	92.25	106.17	-----	-----	peak
2	5850.000	10.95	33.60	30.56	45.10	59.09	122.20	-63.11	peak
3	5860.000	10.94	33.58	30.56	46.38	60.34	109.40	-49.06	peak
4 pp	5942.958	10.86	33.59	30.52	47.10	61.03	68.20	-7.17	peak



11a_TX_CH_165_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

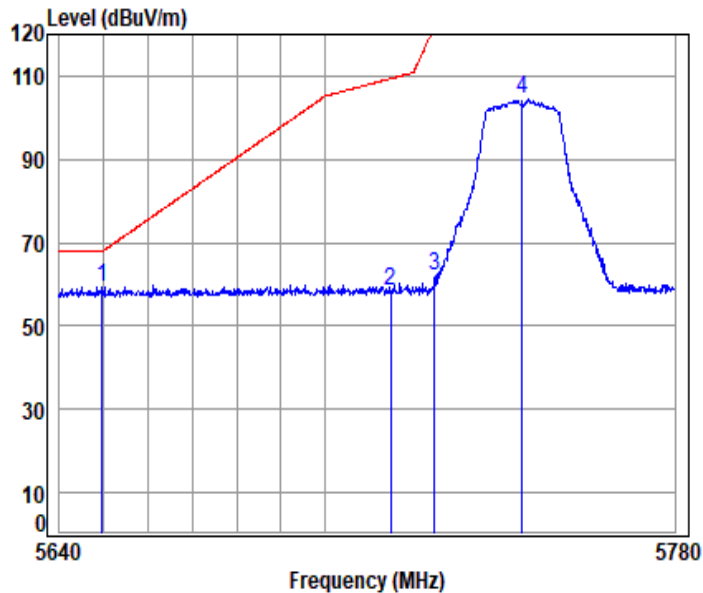
Mode : 5825 Band edge

: 5.8G Wi-Fi 11a

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5825.000	10.99	33.50	30.57	90.27	104.19	-----	----- peak
2	5850.000	10.95	33.60	30.56	45.31	59.30	122.20	-62.90 peak
3	5860.000	10.94	33.58	30.56	45.30	59.26	109.40	-50.14 peak
4 pp	5939.663	10.86	33.58	30.52	46.34	60.26	68.20	-7.94 peak



11ac_HT(20M)_TX_CH_149_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5745 Band edge

: 5.8G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5649.550	10.48	33.10	30.64	46.42	59.36	68.20	-8.84 peak
2	5715.000	10.63	33.23	30.61	45.37	58.62	109.40	-50.78 peak
3	5725.000	10.68	33.25	30.61	48.51	61.83	122.20	-60.37 peak
4	5745.000	10.77	33.29	30.60	90.90	104.36	-----	----- peak



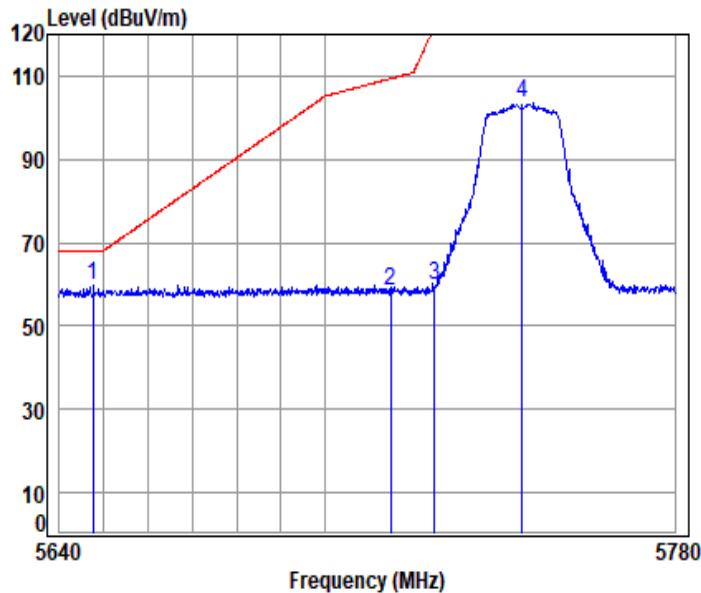
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11ac_HT(20M)_TX_CH_149_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5745 Band edge

: 5.8G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5647.611	10.48	33.10	30.64	46.65	59.59	68.20	-8.61 peak
2	5715.000	10.63	33.23	30.61	45.15	58.40	109.40	-51.00 peak
3	5725.000	10.68	33.25	30.61	46.30	59.62	122.20	-62.58 peak
4	5745.000	10.77	33.29	30.60	90.00	103.46	-----	----- peak



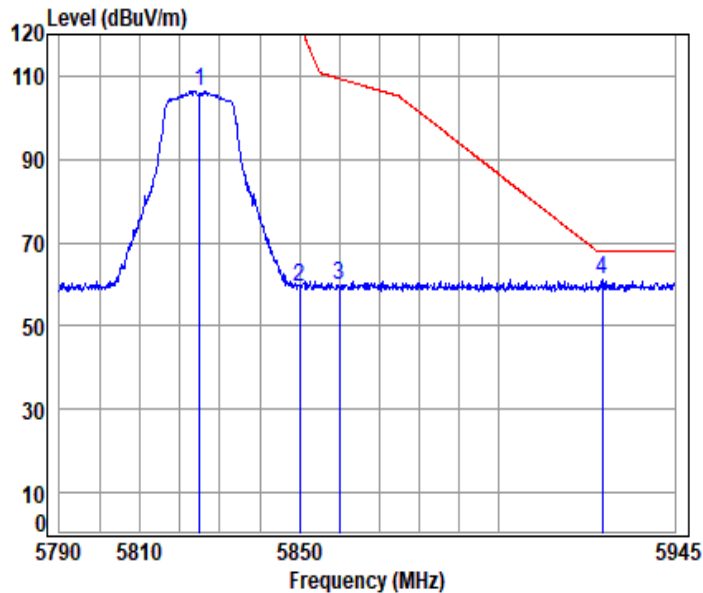
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11ac_HT(20M)_TX_CH_165_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5825 Band edge

: 5.8G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	92.52	106.44	-----	-----	peak
2	5850.000	10.95	33.60	30.56	45.47	59.46	122.20	-62.74	peak
3	5860.000	10.94	33.58	30.56	45.74	59.70	109.40	-49.70	peak
4 pp	5926.496	10.87	33.55	30.53	47.21	61.10	68.20	-7.10	peak



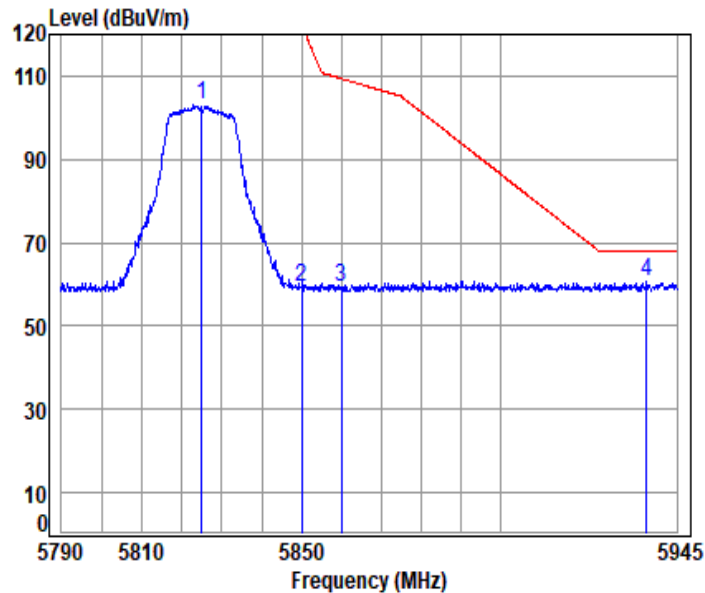
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11ac_HT(20M)_TX_CH_165_Verical



Condition: 3m VERTICAL

Job No : 01576AT

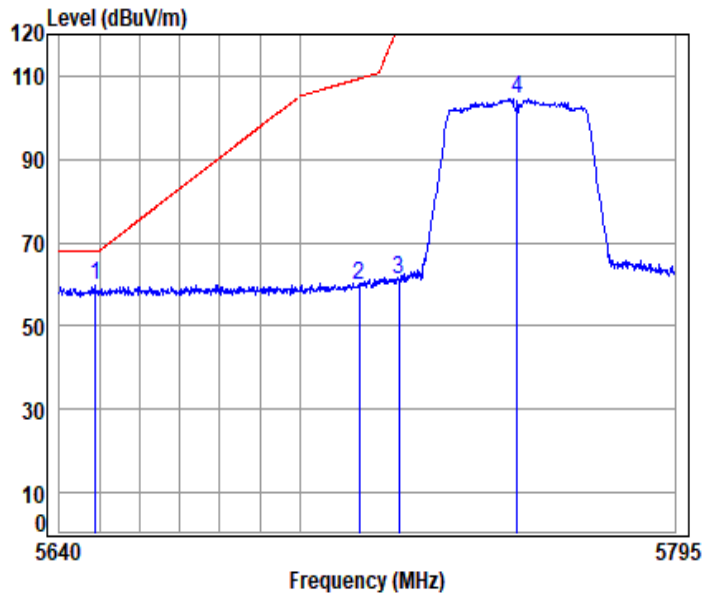
Mode : 5825 Band edge

: 5.8G Wi-Fi 11ac20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	89.00	102.92	-----	-----	peak
2	5850.000	10.95	33.60	30.56	45.11	59.10	122.20	-63.10	peak
3	5860.000	10.94	33.58	30.56	45.34	59.30	109.40	-50.10	peak
4 pp	5937.309	10.86	33.57	30.53	46.59	60.49	68.20	-7.71	peak



11ac_HT(40M)_TX_CH_151_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

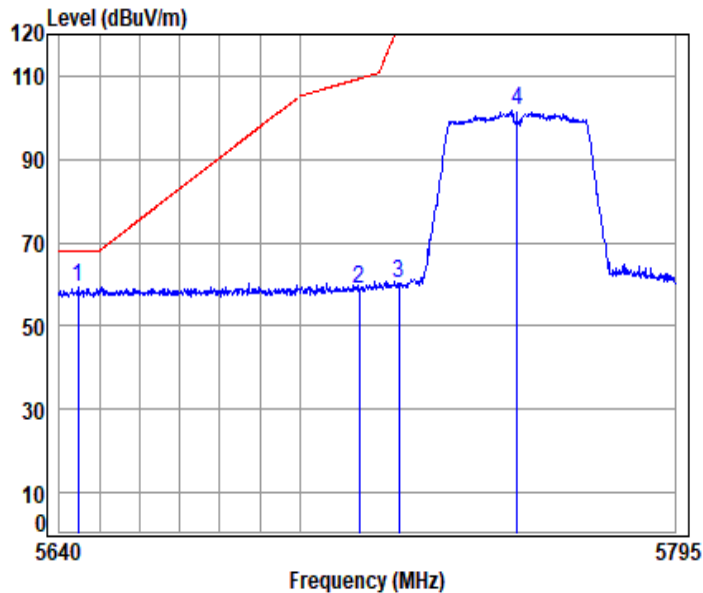
Mode : 5755 Band edge

: 5.8G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5649.029	10.48	33.10	30.64	46.87	59.81	68.20	-8.39 peak
2	5715.000	10.63	33.23	30.61	46.60	59.85	109.40	-49.55 peak
3	5725.000	10.68	33.25	30.61	48.02	61.34	122.20	-60.86 peak
4	5755.000	10.81	33.31	30.60	91.15	104.67	-----	----- peak



11ac_HT(40M)_TX_CH_151_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5755 Band edge

: 5.8G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5644.589	10.48	33.09	30.64	46.52	59.45	68.20	-8.75 peak
2	5715.000	10.63	33.23	30.61	45.43	58.68	109.40	-50.72 peak
3	5725.000	10.68	33.25	30.61	46.97	60.29	122.20	-61.91 peak
4	5755.000	10.81	33.31	30.60	88.20	101.72	-----	----- peak



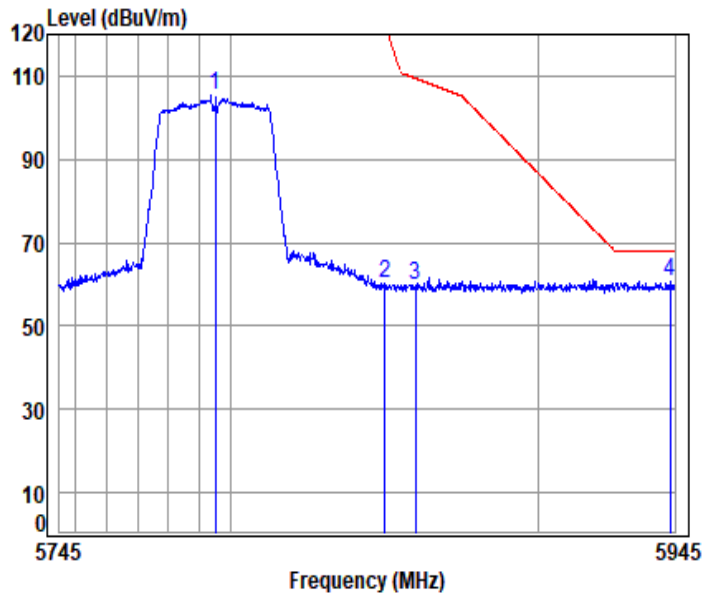
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11ac_HT(40M)_TX_CH_159_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

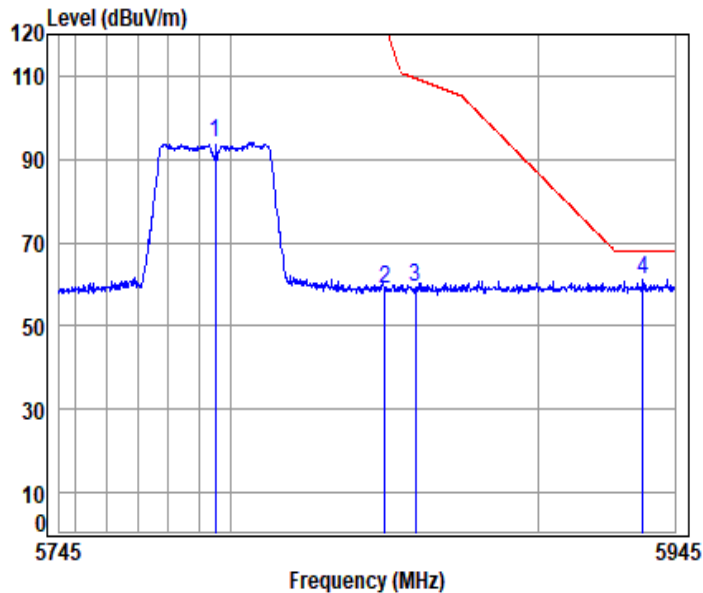
Mode : 5795 Band edge

: 5.8G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	11.00	33.39	30.58	91.39	105.20	-----	-----	peak
2	5850.000	10.95	33.60	30.56	46.18	60.17	122.20	-62.03	peak
3	5860.000	10.94	33.58	30.56	45.82	59.78	109.40	-49.62	peak
4 pp	5943.373	10.86	33.59	30.52	46.82	60.75	68.20	-7.45	peak



11ac_HT(40M)_TX_CH_159_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

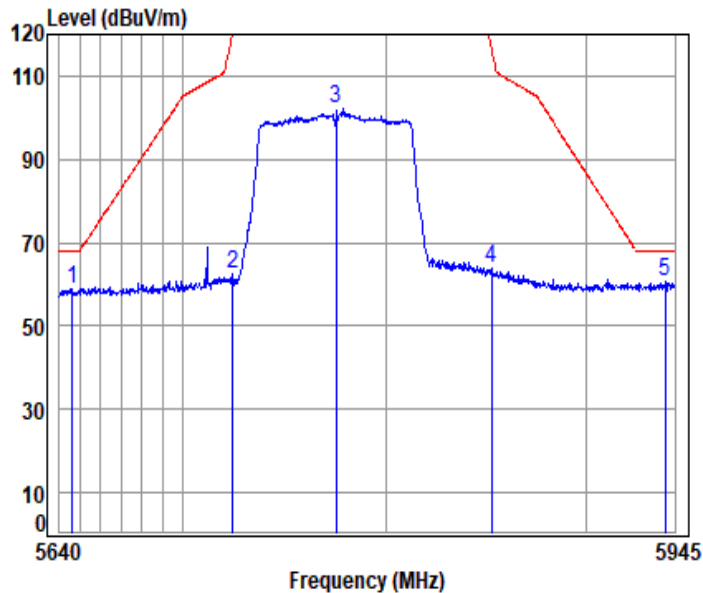
Mode : 5795 Band edge

: 5.8G Wi-Fi 11ac40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	11.00	33.39	30.58	80.29	94.10	-----	-----	peak
2	5850.000	10.95	33.60	30.56	45.07	59.06	122.20	-63.14	peak
3	5860.000	10.94	33.58	30.56	45.25	59.21	109.40	-50.19	peak
4 pp	5934.431	10.86	33.57	30.53	47.17	61.07	68.20	-7.13	peak



11ac_VHT(80M)_TX_CH_155_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

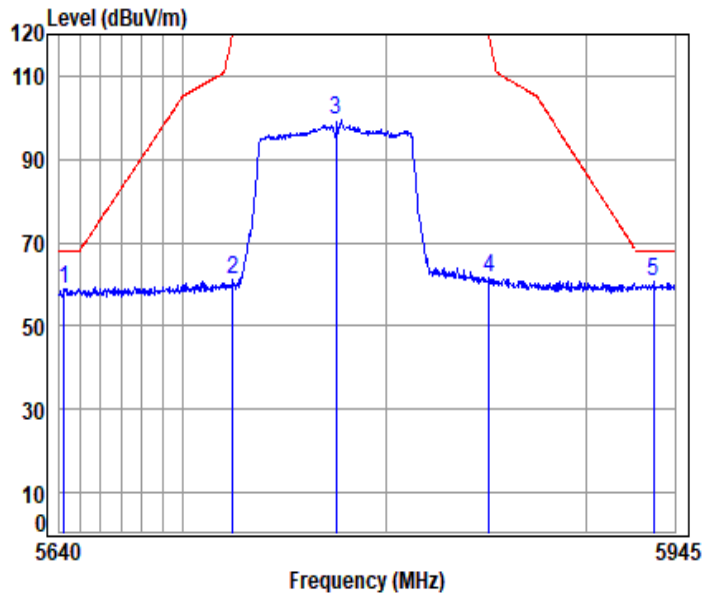
Mode : 5775 Band edge

: 5.8G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5646.241	10.48	33.09	30.64	46.13	59.06	68.20	-9.14	peak
2	5724.088	10.67	33.25	30.61	48.99	62.30	120.12	-57.82	peak
3	5775.000	10.91	33.35	30.59	88.43	102.10	-----	-----	peak
4	5852.424	10.95	33.60	30.56	49.71	63.70	116.67	-52.97	peak
5 pp	5939.993	10.86	33.58	30.52	46.84	60.76	68.20	-7.44	peak



11ac_VHT(80M)_TX_CH_155_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5775 Band edge

: 5.8G Wi-Fi 11ac80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5642.377	10.47	33.08	30.64	46.12	59.03	68.20	-9.17	peak
2	5724.088	10.67	33.25	30.61	47.79	61.10	120.12	-59.02	peak
3	5775.000	10.91	33.35	30.59	85.68	99.35	-----	-----	peak
4	5851.191	10.95	33.60	30.56	47.69	61.68	119.48	-57.80	peak
5 pp	5934.052	10.86	33.57	30.53	47.01	60.91	68.20	-7.29	peak



7.3 Radiated Emissions (Below 1GHz)

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

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 23.3 °C

Humidity: 45.3 % RH

Atmospheric Pressure: 1020 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	11	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	12	Charge+TX mode (U-NII-1)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	13	TX mode (U-NII-2A)_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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data



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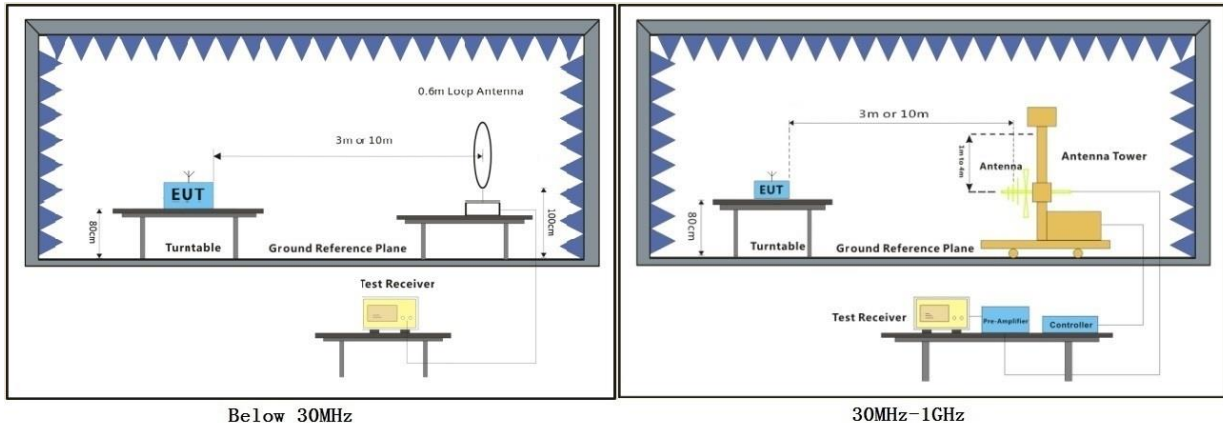
		rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	14	Charge+TX mode (U-NII-2A)_Keep the EUT in charging and continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	15	TX mode (U-NII-2C)_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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	16	Charge+TX mode (U-NII-2C)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	17	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	18	Charge+TX mode (U-NII-3)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.



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7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- 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.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- 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.
- Repeat above procedures until all frequencies measured was complete.

Remark:

- Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 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.
- Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.



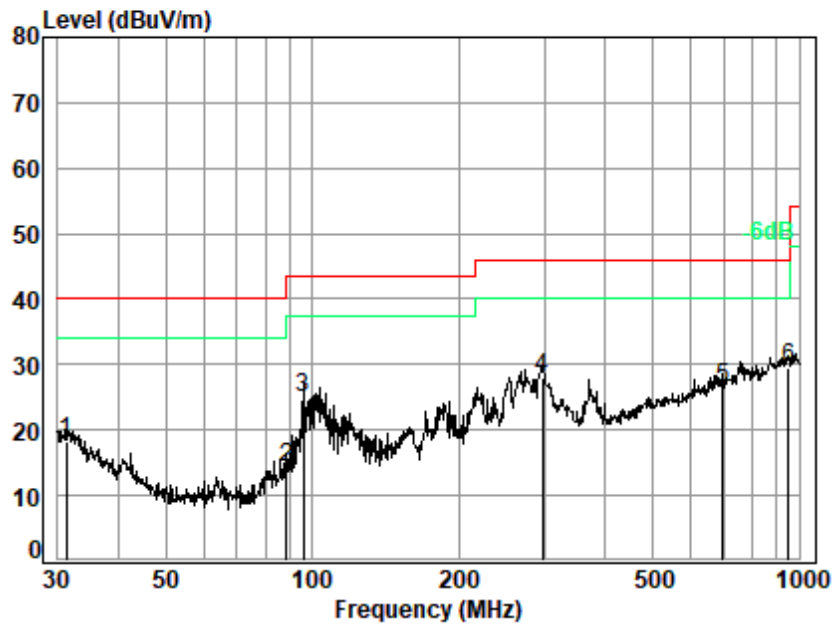
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Test Mode: 12; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01576AT
Test Mode: 12

	Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	31.180	20.65	0.68	27.79	24.66	18.20	40.00	-21.80 QP
2	88.342	11.52	1.15	27.62	29.30	14.35	43.50	-29.15 QP
3	95.762	12.16	1.20	27.60	39.33	25.09	43.50	-18.41 QP
4	297.224	17.69	2.19	26.76	34.74	27.86	46.00	-18.14 QP
5	696.857	25.88	3.53	27.73	24.87	26.55	46.00	-19.45 QP
6 q	952.094	28.17	4.26	26.39	23.42	29.46	46.00	-16.54 QP



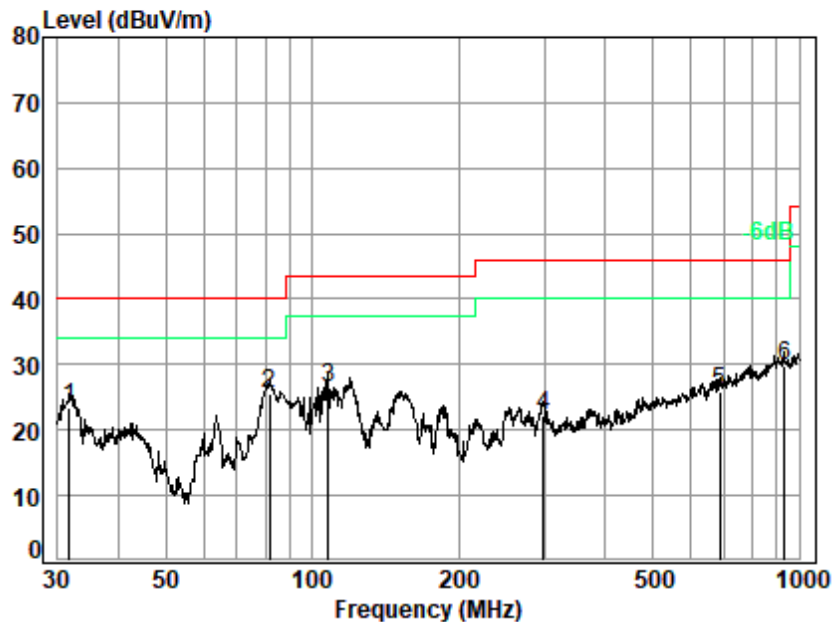
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Test Mode: 12; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 01576AT
Test Mode: 12

	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	31.620	20.45	0.69	27.79	30.06	23.41	40.00	-16.59 QP
2 q	81.783	10.60	1.10	27.64	41.57	25.63	40.00	-14.37 QP
3	107.888	12.09	1.28	27.56	40.64	26.45	43.50	-17.05 QP
4	298.268	17.82	2.19	26.76	29.07	22.32	46.00	-23.68 QP
5	687.151	25.71	3.50	27.76	24.46	25.91	46.00	-20.09 QP
6	932.272	28.16	4.21	26.53	23.98	29.82	46.00	-16.18 QP



7.4 Radiated Emissions (Above 1GHz)

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

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

Measurement Distance: 3m

Limit:

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

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

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

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

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

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

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

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24.5 °C

Humidity: 50.8 % RH

Atmospheric Pressure: 1020 mbar



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7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	11	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	12	Charge+TX mode (U-NII-1)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	13	TX mode (U-NII-2A)_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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Pre-scan	14	Charge+TX mode (U-NII-2A)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	15	TX mode (U-NII-2C)_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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	16	Charge+TX mode (U-NII-2C)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.



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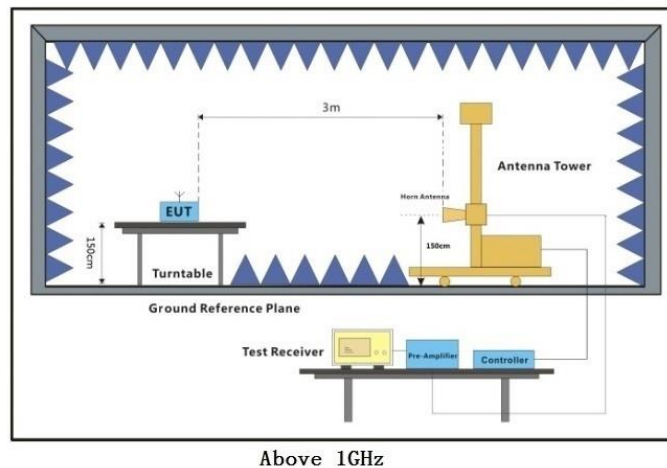
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		802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	17	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.
Final test	18	Charge+TX mode (U-NII-3)_Keep the EUT in charging and 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 @ HT0/HT8 is the worst case of IEEE 802.11n(HT20); data rate @ HT0/HT8 is the worst case of IEEE 802.11n(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT20); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT40); data rate @ VHT0 is the worst case of IEEE 802.11ac(HT80). Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

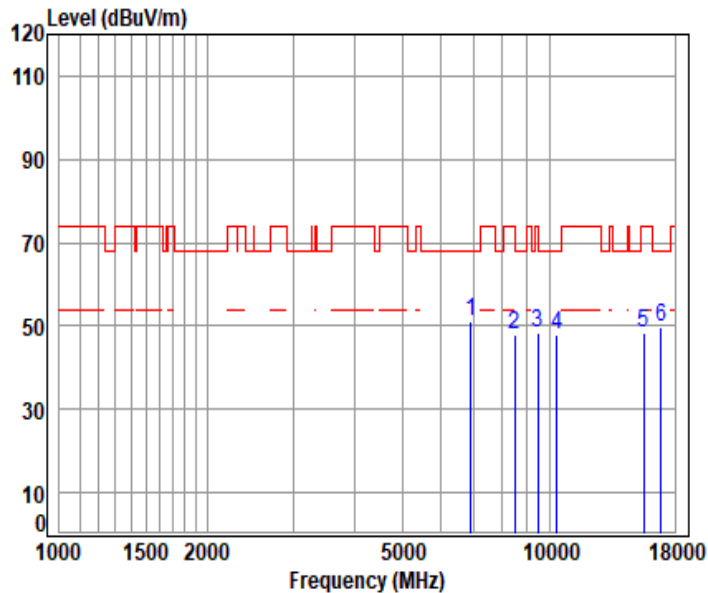
- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which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

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
5. For devices with multiple operating modes, measurements on the middle channel is used to determine the worst-case mode(s). Only the worst case mode with the highest output power and the mode with the highest output power spectral density for each modulation family (e.g., OFDM and direct sequence spread spectrum) is recorded in the test report.
6. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.
7. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.



11a_TX_CH_36_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

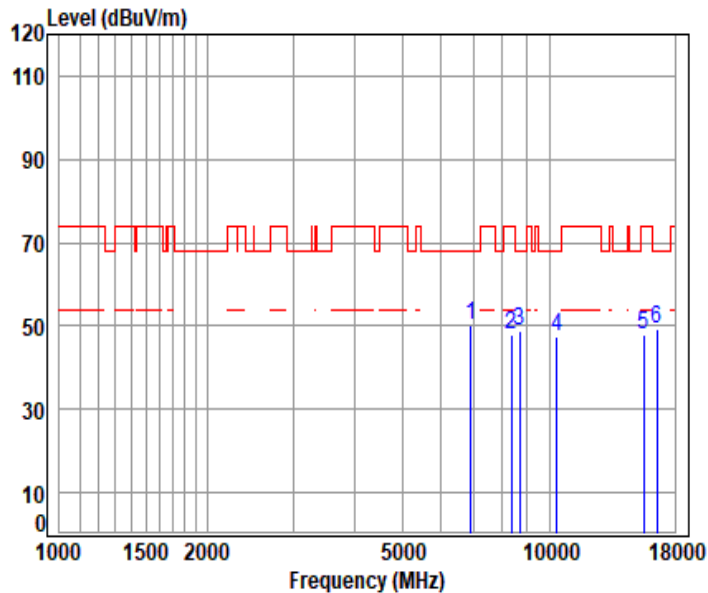
Mode : 5180 TX RSE

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 6902.598	11.37	36.19	56.72	60.37	51.21	68.20	-16.99	peak
2 8479.478	12.17	38.34	55.47	52.99	48.03	74.00	-25.97	peak
3 9475.153	12.50	38.85	54.57	51.42	48.20	74.00	-25.80	peak
4 10360.000	13.60	39.00	53.88	49.21	47.93	68.20	-20.27	peak
5 15540.000	17.00	38.56	54.14	46.97	48.39	74.00	-25.61	peak
6 16846.870	17.80	39.60	54.25	46.54	49.69	68.20	-18.51	peak



11a_TX_CH_36_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

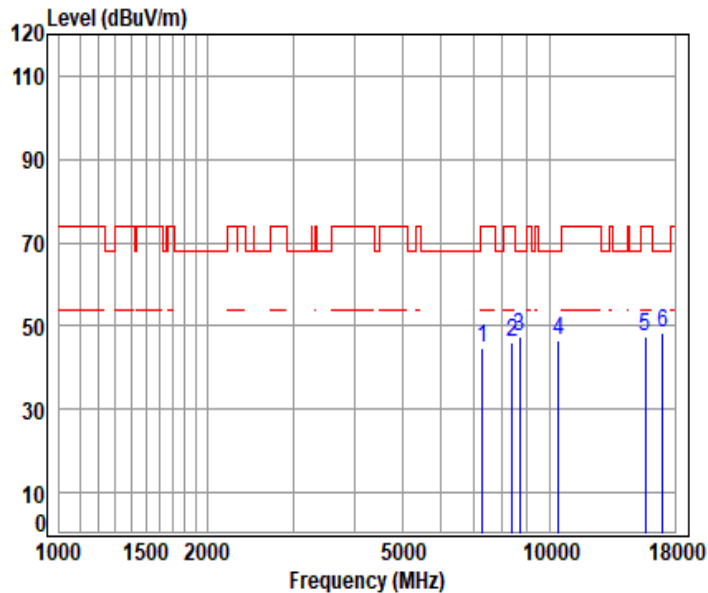
Mode : 5180 TX RSE

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 6902.598	11.37	36.19	56.72	59.51	50.35	68.20	-17.85 peak
2 8367.938	11.67	38.66	55.57	53.10	47.86	74.00	-26.14 peak
3 8698.174	12.09	38.59	55.27	53.47	48.88	68.20	-19.32 peak
4 10360.000	13.60	39.00	53.88	48.69	47.41	68.20	-20.79 peak
5 15540.000	17.00	38.56	54.14	46.43	47.85	74.00	-26.15 peak
6 16574.540	17.67	39.12	54.17	46.84	49.46	68.20	-18.74 peak



11a_TX_CH_44_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

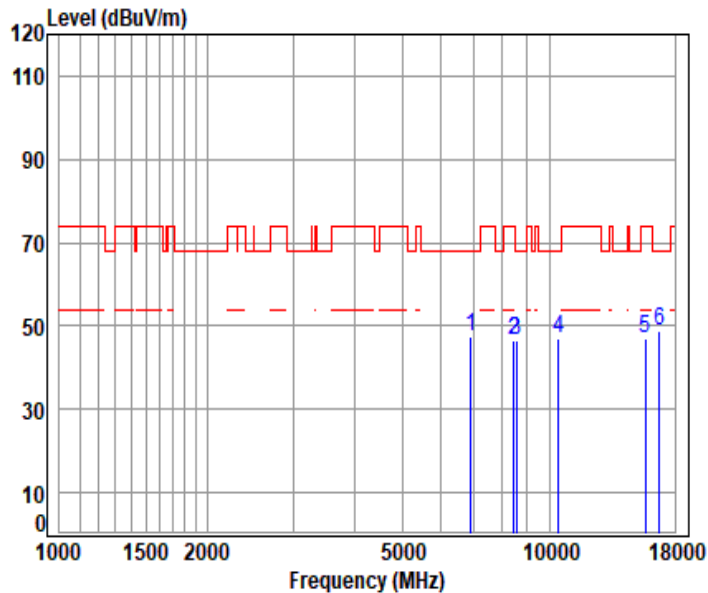
Mode : 5220 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7285.470	11.51	36.67	56.47	52.97	44.68	74.00	-29.32	peak
2	8393.547	11.64	38.61	55.55	51.42	46.12	74.00	-27.88	peak
3	8689.318	12.08	38.56	55.28	52.12	47.48	68.20	-20.72	peak
4	10440.000	13.63	39.04	53.84	47.62	46.45	68.20	-21.75	peak
5	15660.000	17.23	38.56	54.10	45.94	47.63	74.00	-26.37	peak
6	pp17002.020	18.08	39.70	54.30	45.04	48.52	68.20	-19.68	peak



11a_TX_CH_44_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

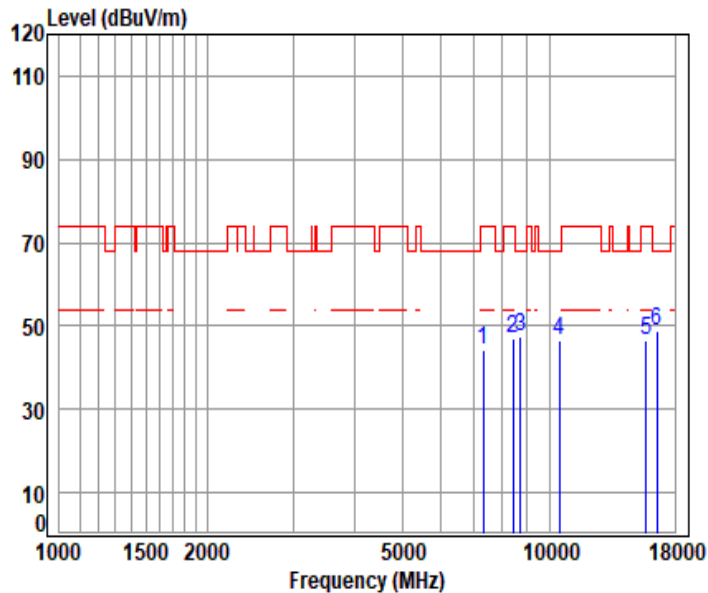
Mode : 5220 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6902.598	11.37	36.19	56.72	56.42	47.26	68.20	-20.94	peak
2	8462.222	12.05	38.38	55.48	51.54	46.49	74.00	-27.51	peak
3	8548.855	12.14	38.30	55.41	51.70	46.73	68.20	-21.47	peak
4	10440.000	13.63	39.04	53.84	48.26	47.09	68.20	-21.11	peak
5	15660.000	17.23	38.56	54.10	45.32	47.01	74.00	-26.99	peak
6	pp16727.180	17.55	39.45	54.22	46.11	48.89	68.20	-19.31	peak



11a_TX_CH_48_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

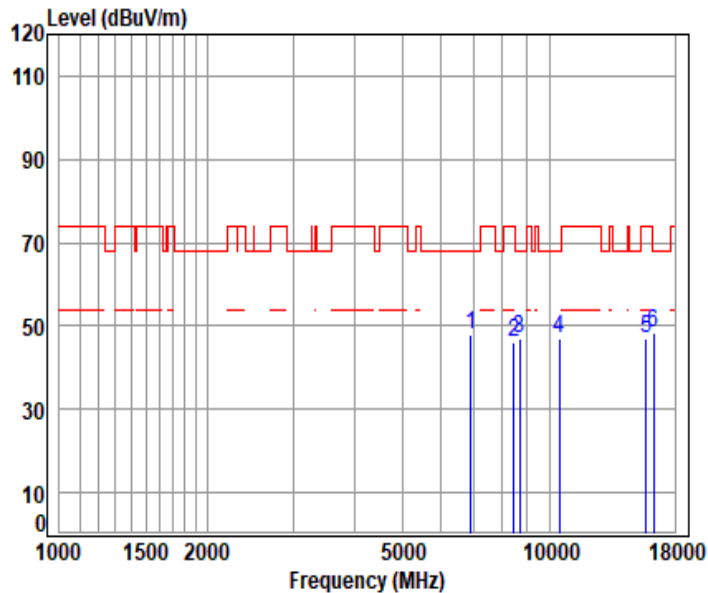
Mode : 5240 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7322.668	11.51	36.75	56.44	52.63	44.45	74.00	-29.55	peak
2	8436.402	11.88	38.45	55.51	52.19	47.01	74.00	-26.99	peak
3	8724.793	12.13	38.55	55.25	51.95	47.38	68.20	-20.82	peak
4	10480.000	13.64	39.08	53.81	47.65	46.56	68.20	-21.64	peak
5	15720.000	17.22	38.58	54.08	45.00	46.72	74.00	-27.28	peak
6	pp16574.540	17.67	39.12	54.17	45.98	48.60	68.20	-19.60	peak



11a_TX_CH_48_Verical



Condition: 3m VERTICAL

Job No : 01576AT

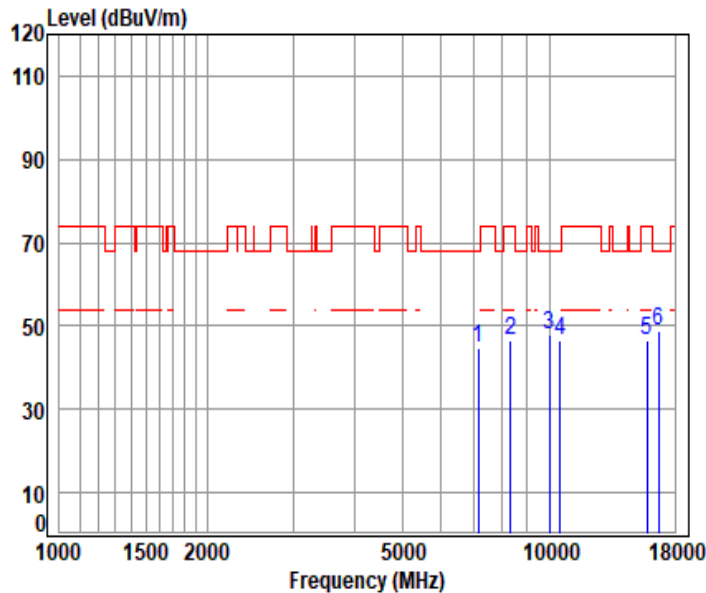
Mode : 5240 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6902.598	11.37	36.19	56.72	56.91	47.75	68.20	-20.45	peak
2	8462.222	12.05	38.38	55.48	51.25	46.20	74.00	-27.80	peak
3	8698.174	12.09	38.59	55.27	51.77	47.18	68.20	-21.02	peak
4	10480.000	13.64	39.08	53.81	47.98	46.89	68.20	-21.31	peak
5	15720.000	17.22	38.58	54.08	45.47	47.19	74.00	-26.81	peak
6	pp16306.610	17.22	38.61	54.09	46.82	48.56	68.20	-19.64	peak



11a_TX_CH_52_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

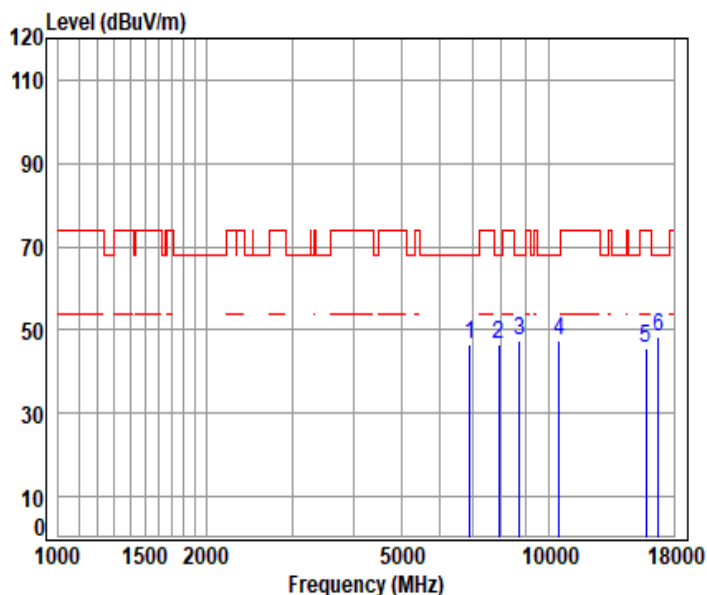
Mode : 5260 TX RSE

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7145.831	11.77	36.49	56.58	53.24	44.92	68.20	-23.28 peak
2	8325.429	11.73	38.31	55.61	52.10	46.53	74.00	-27.47 peak
3	10000.720	13.01	38.90	54.10	50.07	47.88	68.20	-20.32 peak
4	10520.000	13.63	39.14	53.79	47.70	46.68	68.20	-21.52 peak
5	15780.000	17.08	38.52	54.07	44.89	46.42	74.00	-27.58 peak
6	pp16676.140	17.60	39.35	54.20	46.07	48.82	68.20	-19.38 peak



11a_TX_CH_52_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5260 TX RSE

: 5G Wi-Fi 11a

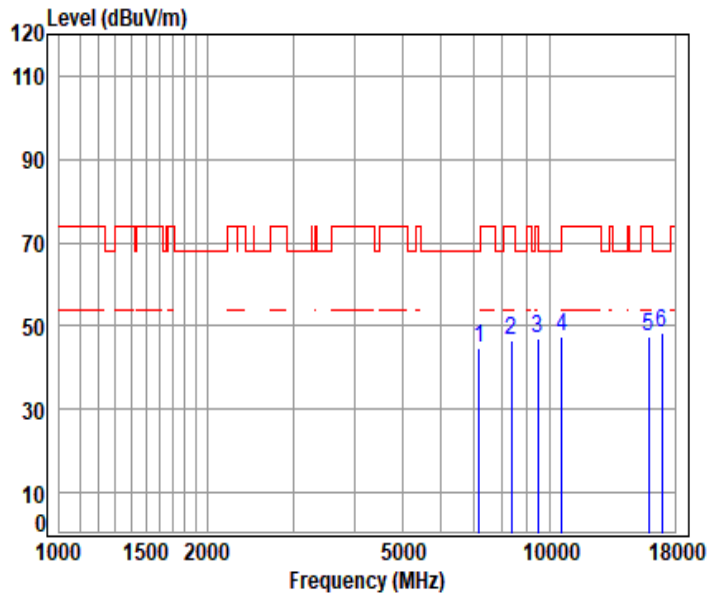
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6902.598	11.37	36.19	56.72	55.59	46.43	68.20	-21.77	peak
2	7912.043	11.54	37.62	55.97	53.28	46.47	68.20	-21.73	peak
3	8707.038	12.10	38.59	55.26	51.93	47.36	68.20	-20.84	peak
4	10520.000	13.63	39.14	53.79	48.28	47.26	68.20	-20.94	peak
5	15780.000	17.08	38.52	54.07	43.97	45.50	74.00	-28.50	peak
6	pp16727.180	17.55	39.45	54.22	45.64	48.42	68.20	-19.78	peak



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11a_TX_CH_60_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

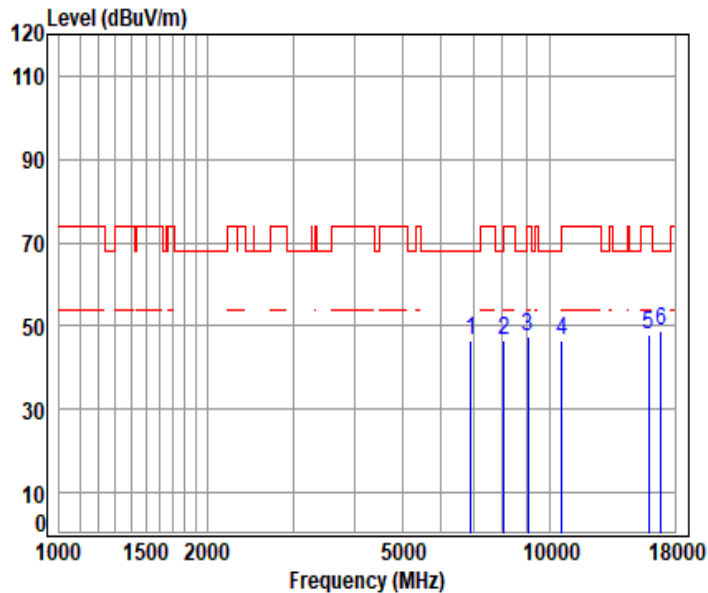
Mode : 5300 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7167.700	11.67	36.54	56.57	53.15	44.79	68.20	-23.41	peak
2	8367.938	11.67	38.66	55.57	51.65	46.41	74.00	-27.59	peak
3	9475.153	12.50	38.85	54.57	50.43	47.21	74.00	-26.79	peak
4	10600.000	13.59	39.30	53.74	48.26	47.41	68.20	-20.79	peak
5	15900.000	17.28	38.70	54.03	45.35	47.30	74.00	-26.70	peak
6	pp16932.880	18.14	39.63	54.28	44.67	48.16	68.20	-20.04	peak



11a_TX_CH_60_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

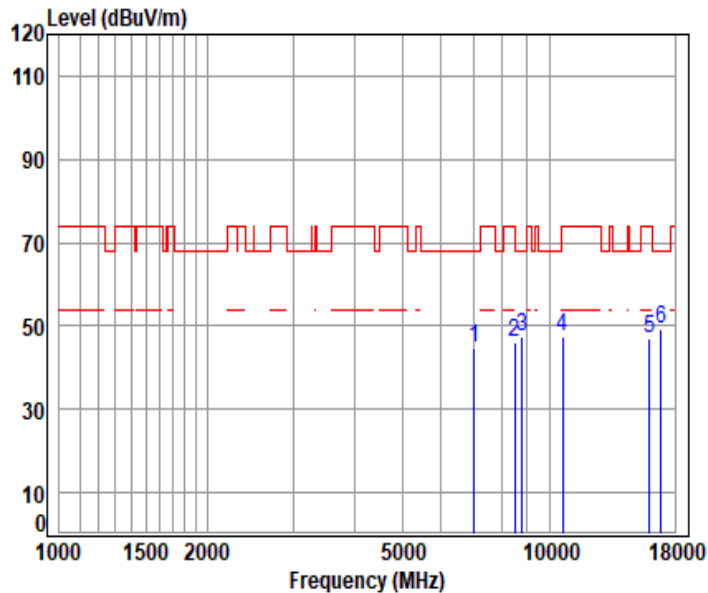
Mode : 5300 TX RSE

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6902.598	11.37	36.19	56.72	55.80	46.64	68.20	-21.56 peak
2	8074.876	11.48	37.80	55.83	52.88	46.33	74.00	-27.67 peak
3	9032.237	12.14	38.60	54.97	51.75	47.52	74.00	-26.48 peak
4	10600.000	13.59	39.30	53.74	47.61	46.76	68.20	-21.44 peak
5	15900.000	17.28	38.70	54.03	45.80	47.75	74.00	-26.25 peak
6	pp16881.220	18.04	39.60	54.26	45.35	48.73	68.20	-19.47 peak



11a_TX_CH_64_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

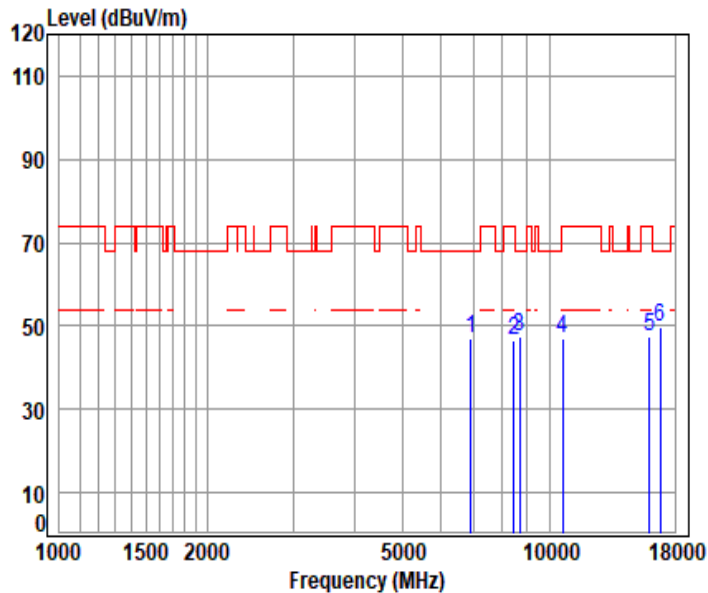
Mode : 5320 TX RSE

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7023.162	11.51	36.25	56.68	53.63	44.71	68.20	-23.49 peak
2	8470.845	12.11	38.36	55.48	51.12	46.11	74.00	-27.89 peak
3	8787.224	12.23	38.50	55.19	51.92	47.46	68.20	-20.74 peak
4	10640.000	13.77	39.34	53.72	48.04	47.43	74.00	-26.57 peak
5	15960.000	17.20	38.64	54.01	45.20	47.03	74.00	-26.97 peak
6	pp16881.220	18.04	39.60	54.26	46.03	49.41	68.20	-18.79 peak



11a_TX_CH_64_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

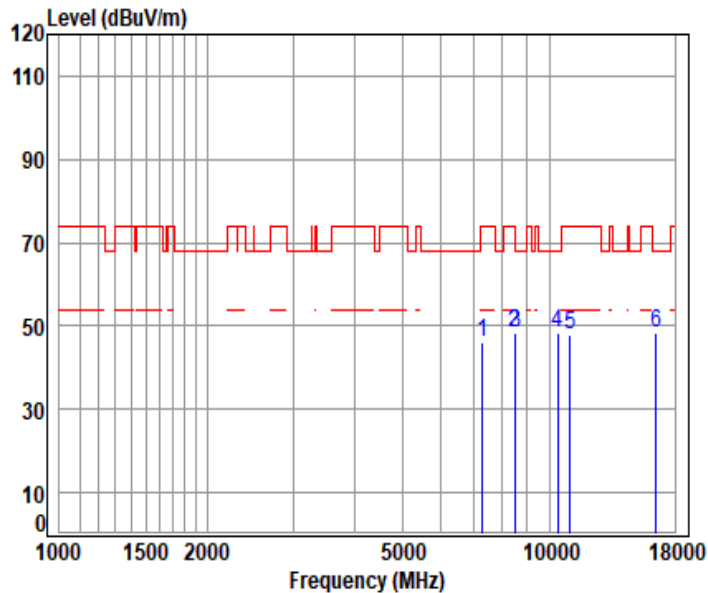
Mode : 5320 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6902.598	11.37	36.19	56.72	56.12	46.96	68.20	-21.24	peak
2	8445.000	11.94	38.42	55.50	51.52	46.38	74.00	-27.62	peak
3	8698.174	12.09	38.59	55.27	51.89	47.30	68.20	-20.90	peak
4	10640.000	13.77	39.34	53.72	47.40	46.79	74.00	-27.21	peak
5	15960.000	17.20	38.64	54.01	45.50	47.33	74.00	-26.67	peak
6	pp16812.580	17.55	39.60	54.24	46.75	49.66	68.20	-18.54	peak



11a_TX_CH_100_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

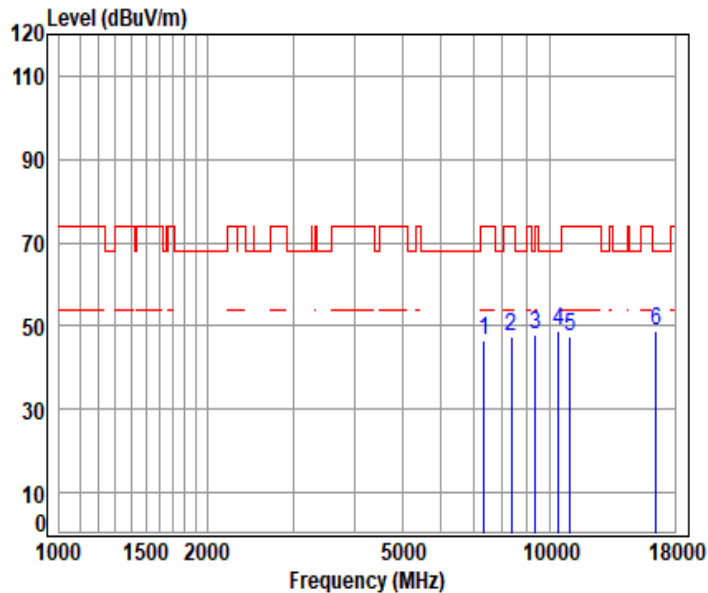
Mode : 5500 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7300.327	11.51	36.70	56.46	54.22	45.97	74.00	-28.03	peak
2	8479.478	12.17	38.34	55.47	53.34	48.38	74.00	-25.62	peak
3	8514.096	12.26	38.30	55.44	53.32	48.44	68.20	-19.76	peak
4	10395.390	13.62	39.00	53.86	49.77	48.53	68.20	-19.67	peak
5	11000.000	14.17	39.40	53.50	47.98	48.05	74.00	-25.95	peak
6	pp16500.000	17.74	38.90	54.15	46.09	48.58	68.20	-19.62	peak



11a_TX_CH_100_Verical



Condition: 3m VERTICAL

Job No : 01576AT

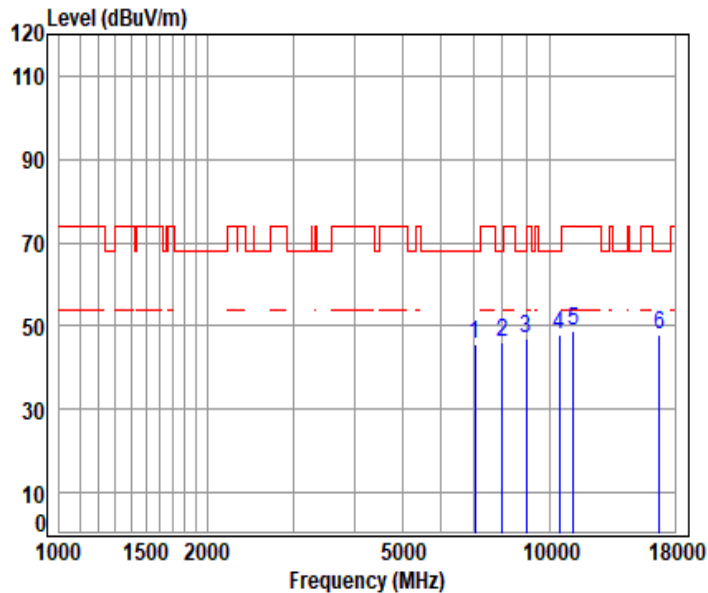
Mode : 5500 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7345.079	11.51	36.79	56.42	54.44	46.32	74.00	-27.68	peak
2	8350.908	11.69	38.70	55.58	52.76	47.57	74.00	-26.43	peak
3	9360.045	12.25	38.80	54.68	51.56	47.93	74.00	-26.07	peak
4	10416.590	13.62	39.02	53.85	49.86	48.65	68.20	-19.55	peak
5	11000.000	14.17	39.40	53.50	47.40	47.47	74.00	-26.53	peak
6	pp16500.000	17.74	38.90	54.15	46.52	49.01	68.20	-19.19	peak



11a_TX_CH_116_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

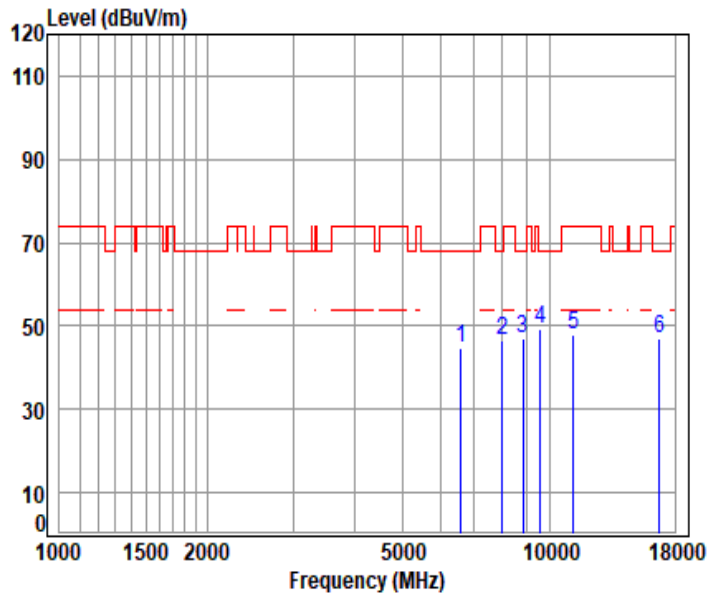
Mode : 5580 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7037.483	11.60	36.27	56.67	54.21	45.41	68.20	-22.79	peak
2	8017.507	11.54	37.80	55.88	52.66	46.12	68.20	-22.08	peak
3	8968.067	12.17	38.54	55.03	51.19	46.87	68.20	-21.33	peak
4	10448.470	13.63	39.05	53.83	48.92	47.77	68.20	-20.43	peak
5	11160.000	14.72	39.56	53.55	47.93	48.66	74.00	-25.34	peak
6	pp16740.000	17.54	39.48	54.22	45.08	47.88	68.20	-20.32	peak



11a_TX_CH_116_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

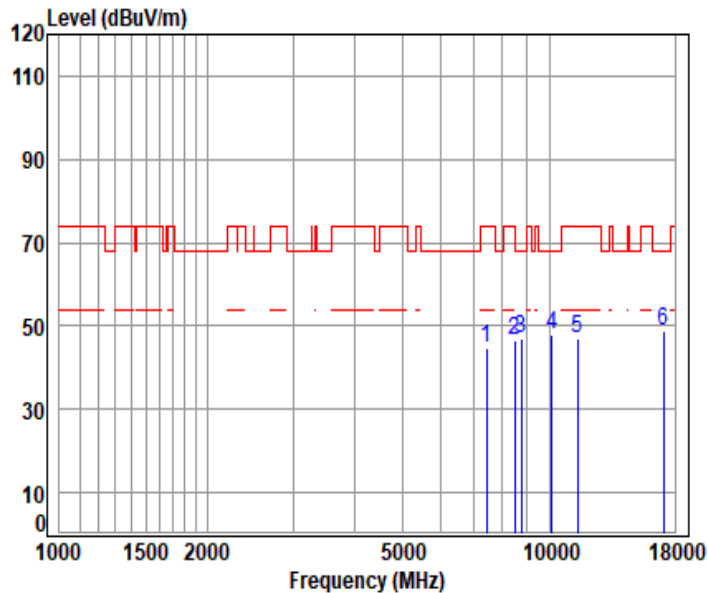
Mode : 5580 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6586.642	11.61	35.15	56.78	54.83	44.81	68.20	-23.39	peak
2	8009.345	11.55	37.80	55.89	53.00	46.46	68.20	-21.74	peak
3	8814.115	12.25	38.50	55.17	51.26	46.84	68.20	-21.36	peak
4 pp	9581.912	12.45	38.80	54.48	52.47	49.24	68.20	-18.96	peak
5	11160.000	14.72	39.56	53.55	47.03	47.76	74.00	-26.24	peak
6	16740.000	17.54	39.48	54.22	44.20	47.00	68.20	-21.20	peak



11a_TX_CH_140_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

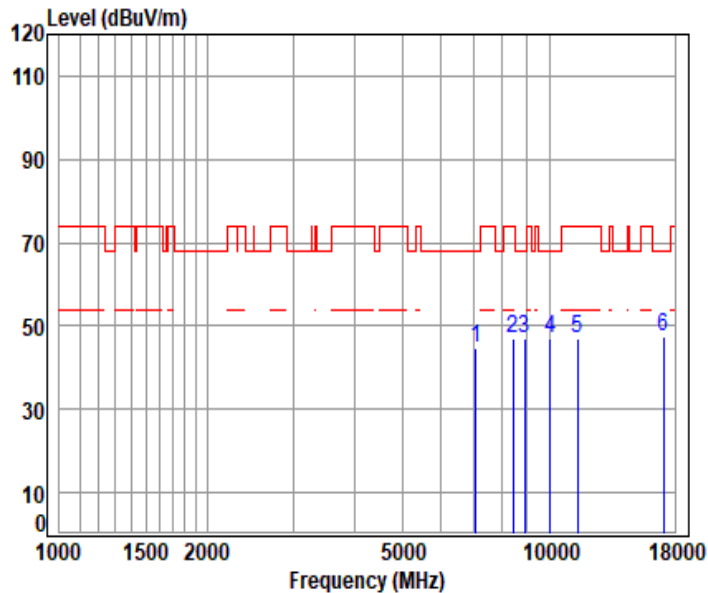
Mode : 5700 TX RSE

: 5G Wi-Fi 11a

	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7427.838	11.42	36.76	56.36	53.03	44.85	74.00	-29.15 peak
2	8479.478	12.17	38.34	55.47	51.49	46.53	74.00	-27.47 peak
3	8742.585	12.16	38.51	55.23	51.77	47.21	68.20	-20.99 peak
4	10103.110	13.26	39.10	54.04	49.74	48.06	68.20	-20.14 peak
5	11400.000	14.21	39.70	53.62	46.90	47.19	74.00	-26.81 peak
6	pp17100.000	18.47	39.80	54.32	44.79	48.74	68.20	-19.46 peak



11a_TX_CH_140_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

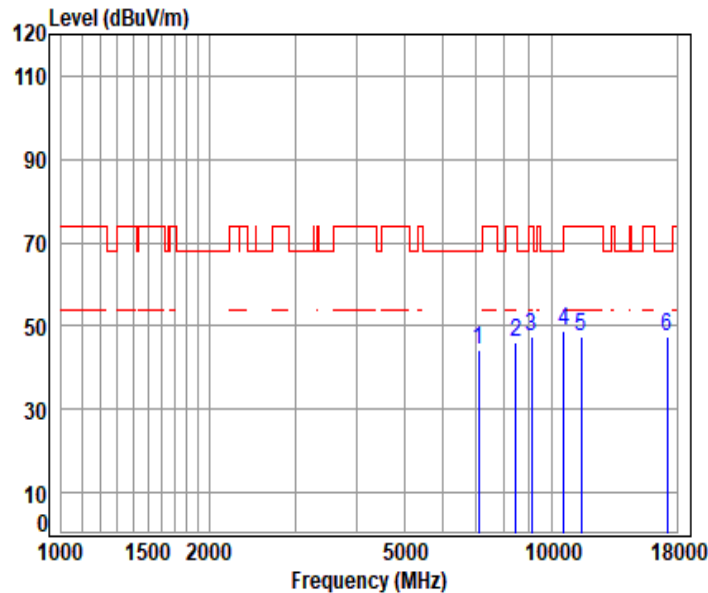
Mode : 5700 TX RSE

: 5G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7080.624	11.87	36.36	56.64	52.93	44.52	68.20	-23.68	peak
2	8410.663	11.70	38.56	55.53	52.07	46.80	74.00	-27.20	peak
3	8895.287	12.22	38.59	55.09	51.49	47.21	68.20	-20.99	peak
4	10010.910	13.04	38.92	54.09	49.12	46.99	68.20	-21.21	peak
5	11400.000	14.21	39.70	53.62	46.54	46.83	74.00	-27.17	peak
6	pp17100.000	18.47	39.80	54.32	43.50	47.45	68.20	-20.75	peak



11a_TX_CH_149_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

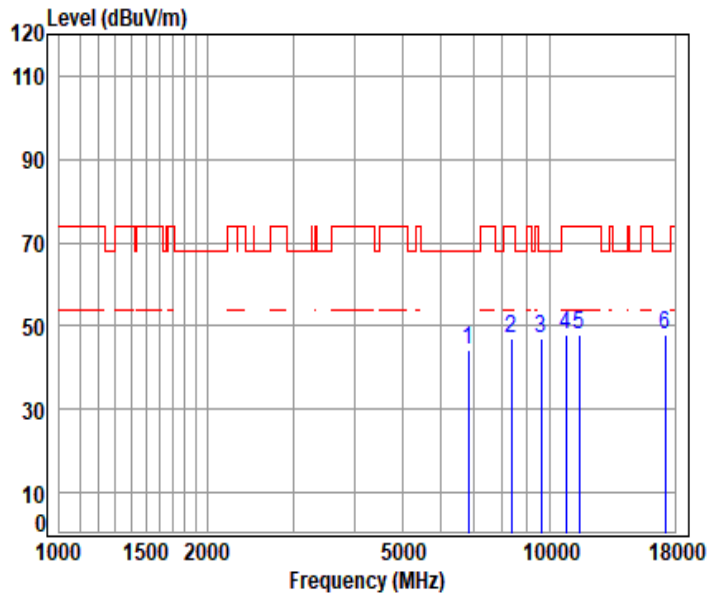
Mode : 5745 TX RSE

: 5.8G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7087.840	11.91	36.38	56.63	52.59	44.25	68.20	-23.95	peak
2	8445.000	11.94	38.42	55.50	51.07	45.93	74.00	-28.07	peak
3	9087.606	12.12	38.60	54.92	51.63	47.43	74.00	-26.57	peak
4	10609.330	13.63	39.31	53.73	49.67	48.88	74.00	-25.12	peak
5	11490.000	14.97	39.61	53.65	46.62	47.55	74.00	-26.45	peak
6	pp17235.000	17.83	40.01	54.35	43.88	47.37	68.20	-20.83	peak



11a_TX_CH_149_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5745 TX RSE

: 5.8G Wi-Fi 11a

	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6825.690	11.37	35.95	56.73	53.59	44.18	68.20	-24.02 peak
2	8350.908	11.69	38.70	55.58	52.12	46.93	74.00	-27.07 peak
3	9591.677	12.44	38.80	54.47	50.19	46.96	68.20	-21.24 peak
4	10805.640	13.70	39.30	53.62	48.35	47.73	74.00	-26.27 peak
5	11490.000	14.97	39.61	53.65	46.85	47.78	74.00	-26.22 peak
6	pp17235.000	17.83	40.01	54.35	44.52	48.01	68.20	-20.19 peak



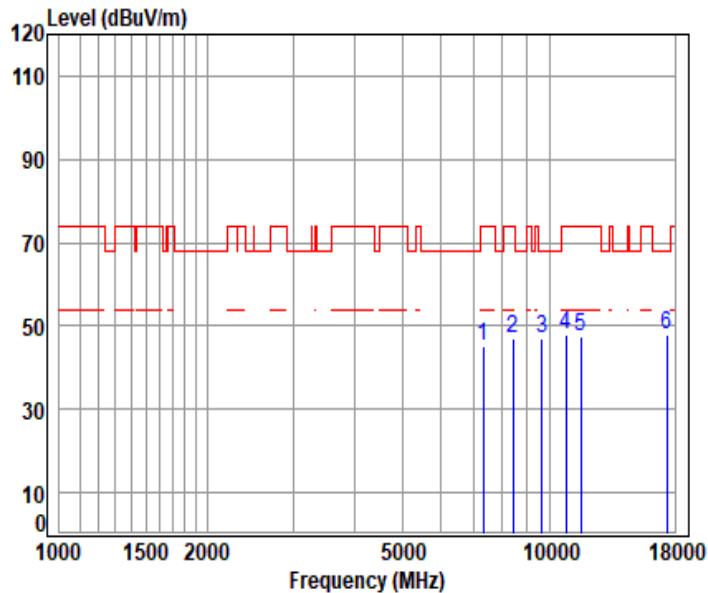
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11a_TX_CH_157_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

Mode : 5785 TX RSE

: 5.8G Wi-Fi 11a

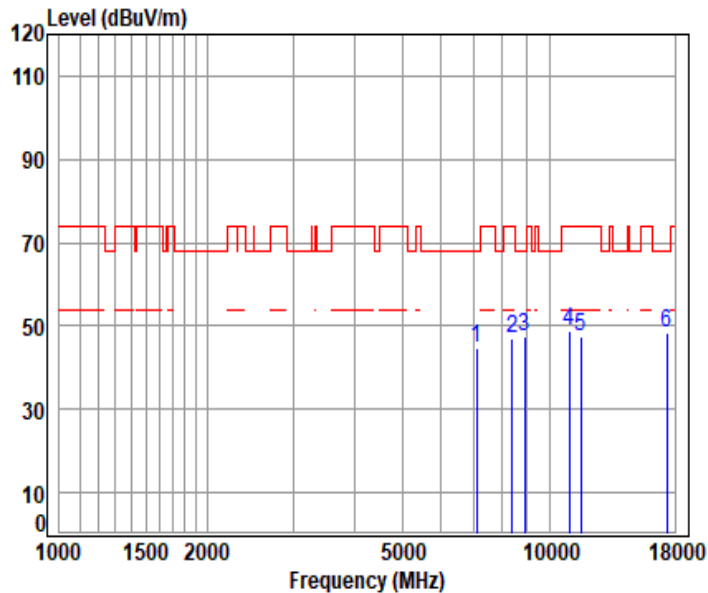
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7330.131	11.51	36.76	56.44	53.26	45.09	74.00	-28.91 peak
2	8419.234	11.76	38.52	55.52	52.11	46.87	74.00	-27.13 peak
3	9640.650	12.54	38.72	54.42	50.24	47.08	68.20	-21.12 peak
4	10794.640	13.70	39.31	53.62	48.72	48.11	74.00	-25.89 peak
5	11570.000	14.78	39.60	53.67	46.84	47.55	74.00	-26.45 peak
6	pp17355.000	18.00	40.31	54.37	43.99	47.93	68.20	-20.27 peak



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11a_TX_CH_157_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

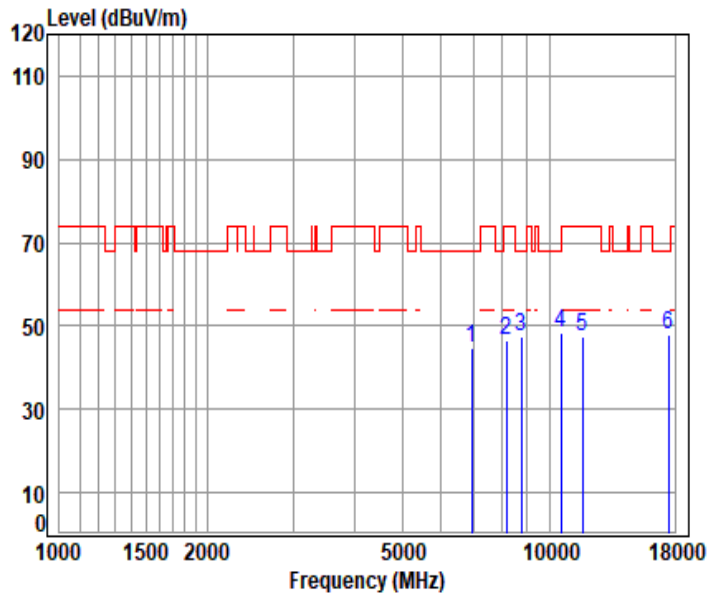
Mode : 5785 TX RSE

: 5.8G Wi-Fi 11a

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7102.293	11.98	36.40	56.62	52.97	44.73	68.20	-23.47	peak
2	8376.465	11.66	38.65	55.56	52.03	46.78	74.00	-27.22	peak
3	8877.185	12.23	38.55	55.11	51.86	47.53	68.20	-20.67	peak
4	10983.190	14.13	39.38	53.51	48.72	48.72	74.00	-25.28	peak
5	11570.000	14.78	39.60	53.67	46.60	47.31	74.00	-26.69	peak
6	pp17355.000	18.00	40.31	54.37	44.21	48.15	68.20	-20.05	peak



11a_TX_CH_165_Horizontal



Condition: 3m HORIZONTAL

Job No : 01576AT

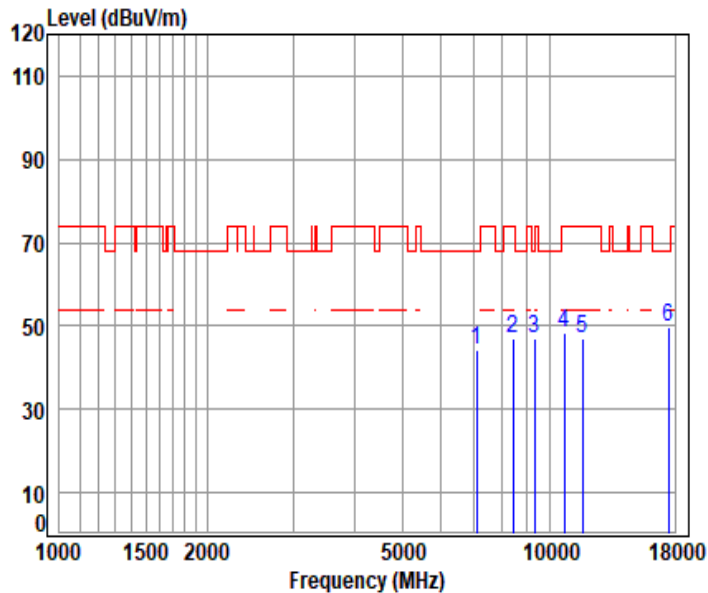
Mode : 5825 TX RSE

: 5.8G Wi-Fi 11a

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6944.911	11.37	36.11	56.71	53.76	44.53	68.20 -23.67 peak
2	8165.858	11.53	37.93	55.75	52.69	46.40	74.00 -27.60 peak
3	8760.413	12.19	38.50	55.22	52.00	47.47	68.20 -20.73 peak
4	pp10555.440	13.61	39.21	53.77	49.19	48.24	68.20 -19.96 peak
5	11650.000	14.69	39.55	53.69	46.83	47.38	74.00 -26.62 peak
6	17475.000	18.35	40.78	54.40	43.26	47.99	68.20 -20.21 peak



11a_TX_CH_165_Vertical



Condition: 3m VERTICAL

Job No : 01576AT

Mode : 5825 TX RSE

: 5.8G Wi-Fi 11a

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7087.840	11.91	36.38	56.63	52.52	44.18	68.20 -24.02 peak
2	8419.234	11.76	38.52	55.52	52.20	46.96	74.00 -27.04 peak
3	9331.487	12.21	38.80	54.70	50.63	46.94	74.00 -27.06 peak
4	10728.870	13.94	39.37	53.66	48.59	48.24	74.00 -25.76 peak
5	11650.000	14.69	39.55	53.69	46.55	47.10	74.00 -26.90 peak
6	pp17475.000	18.35	40.78	54.40	44.86	49.59	68.20 -18.61 peak



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7.5 Channel Move Time

Test Requirement KDB 905462 D02 Section 5.1
 Test Method: KDB 905462 D02 Section 7.8.3
 Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

7.5.1 E.U.T. Operation

Operating Environment:

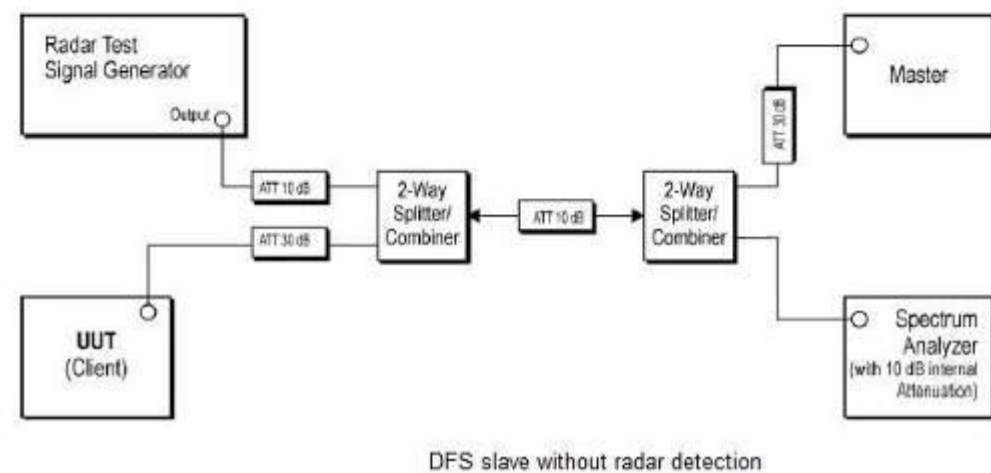
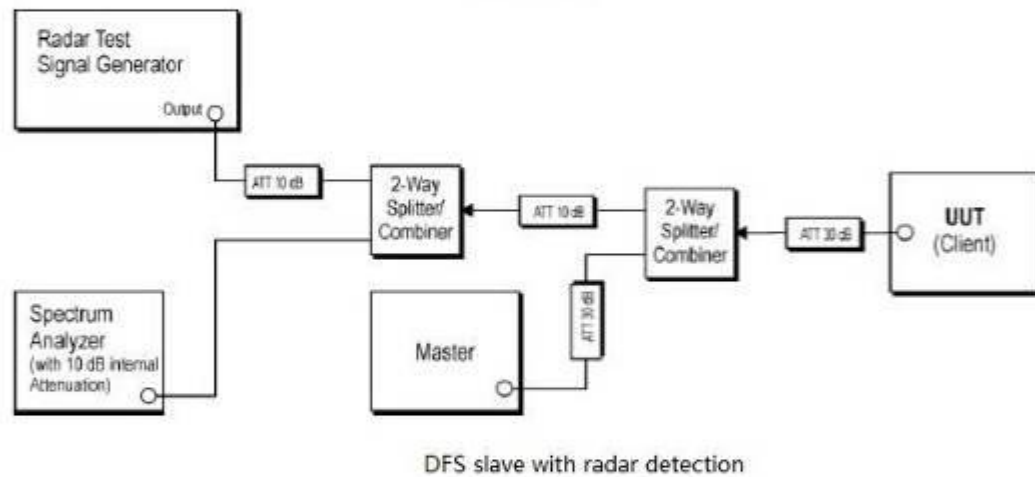
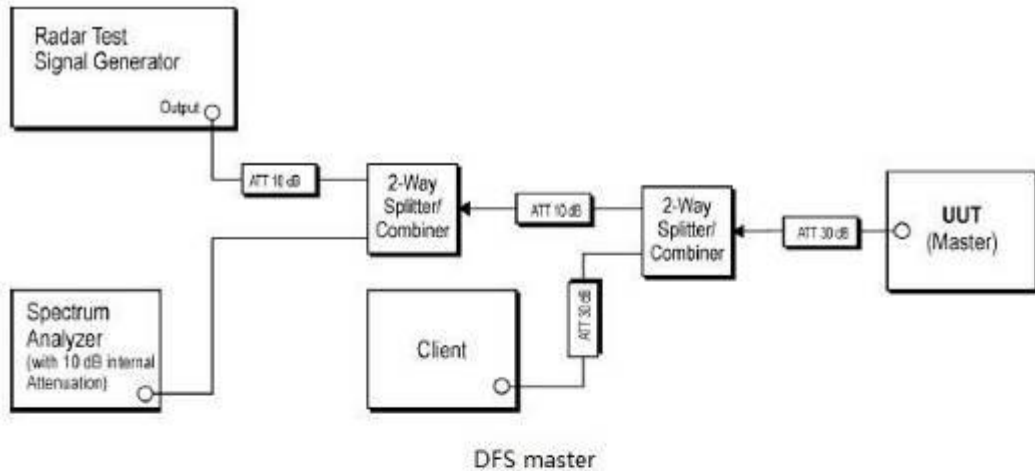
Temperature: 21.7 °C Humidity: 53.4 % RH Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	On mode, keep EUT working normally.



7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details



7.6 Non-occupancy period

Test Requirement KDB 905462 D02 Section 5.1
 Test Method: KDB 905462 D02 Section 7.8.3
 Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 21.7 °C Humidity: 53.4 % RH Atmospheric Pressure: 1020 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	On mode, keep EUT working normally.



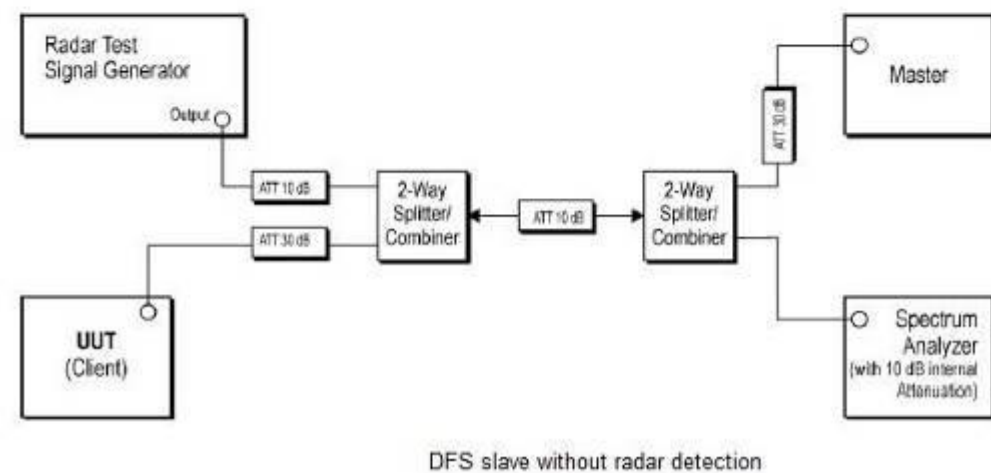
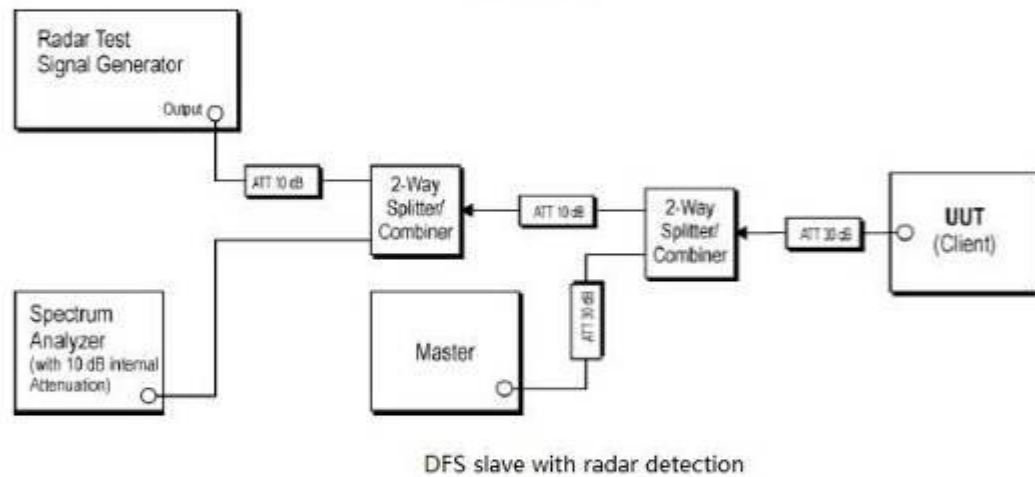
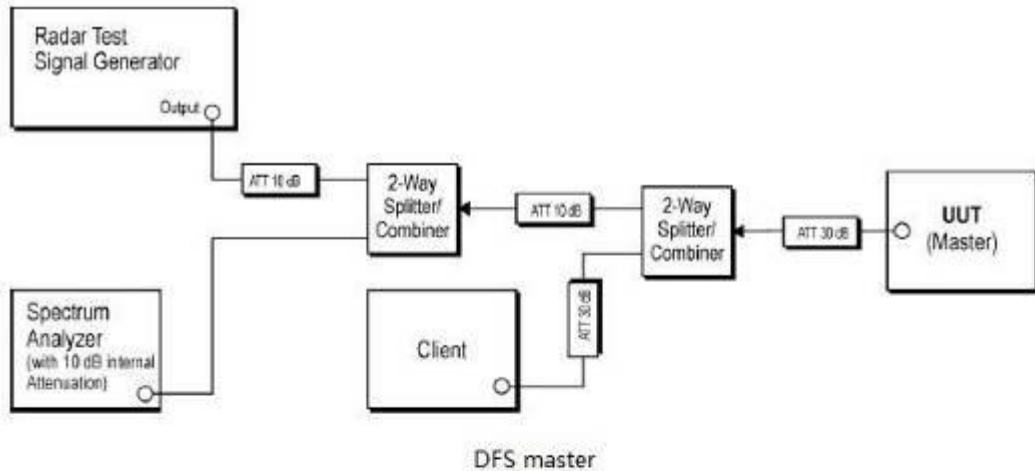
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7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details



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7.7 Channel Closing Transmission Time

Test Requirement KDB 905462 D02 Section 5.1
 Test Method: KDB 905462 D02 Section 7.8.3
 Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 21.7 °C Humidity: 53.4 % RH Atmospheric Pressure: 1020 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	On mode, keep EUT working normally.



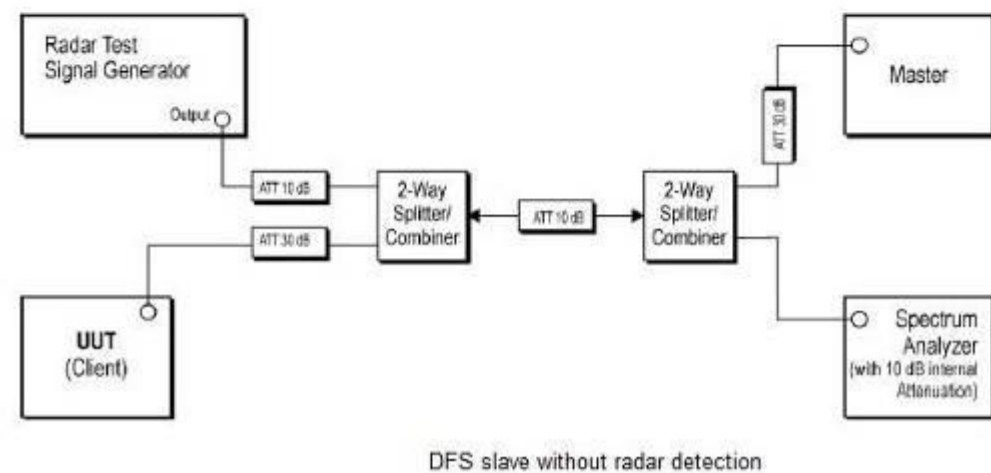
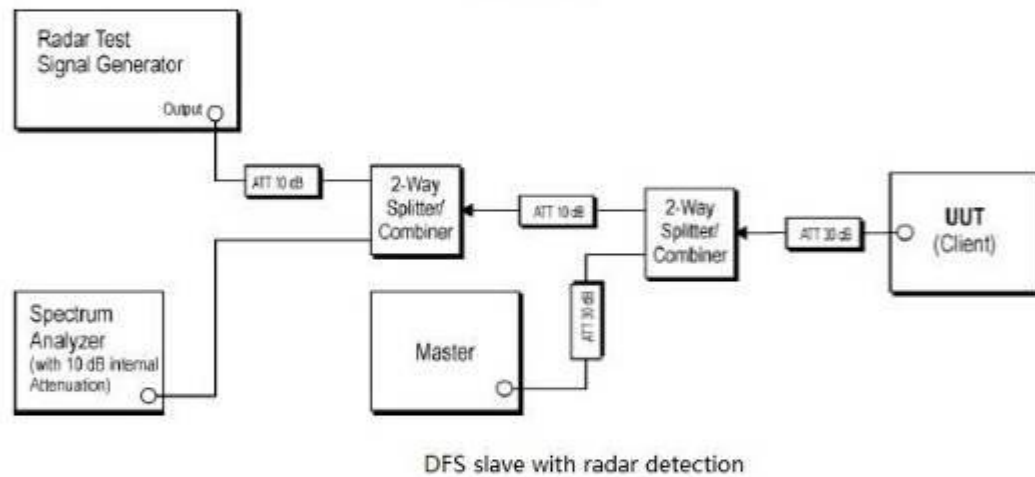
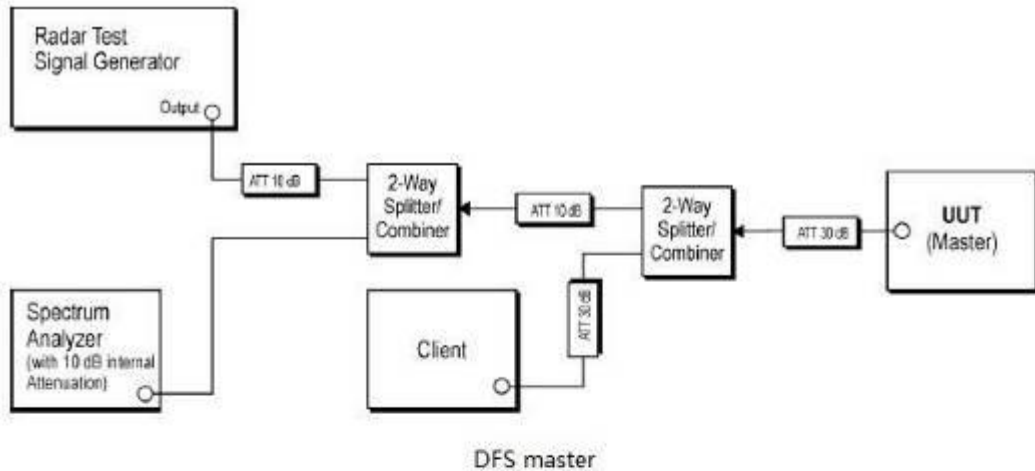
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7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details



8 Test Setup Photo

Refer to Appendix - Test Setup Photo for SZCR2504001576AT

9 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for SZCR2504001576AT



10 Appendix

1.DFS

(DFS: Non-occupancy period; Channel Move Time; Channel Closing Transmission Time)

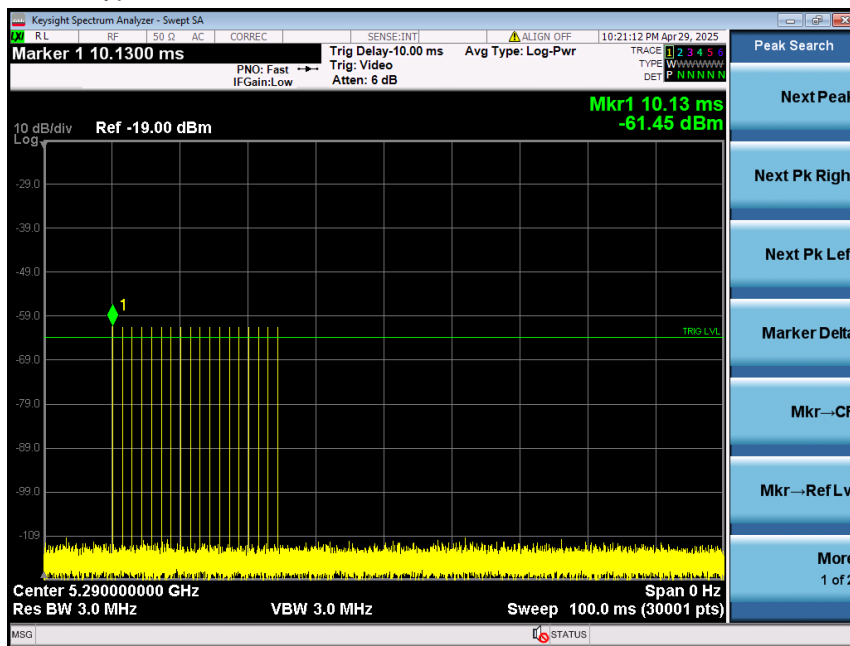
Note: All antennas type has been tested and we found the antenna 1 has the worst result.

Only record the worst test result.

Test plots as follows:

Radar Waveform Calibration Result

Radar Type 0

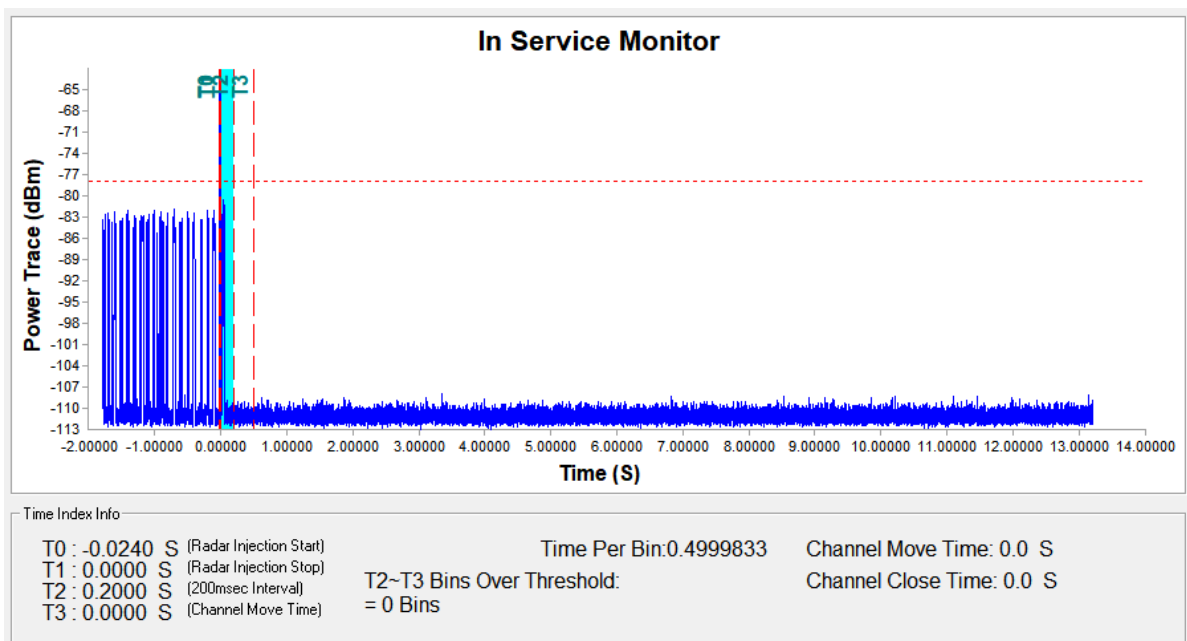
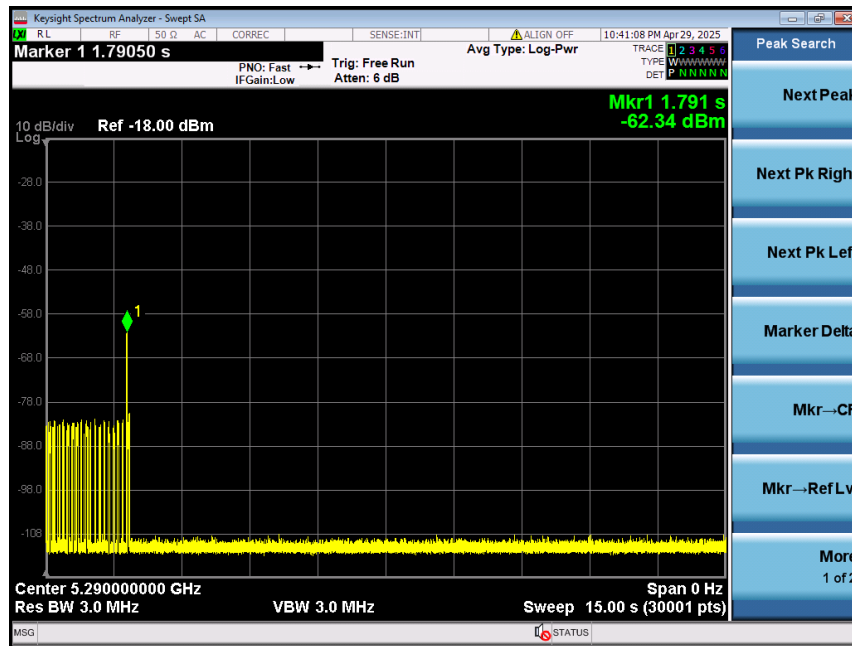


Test Data:

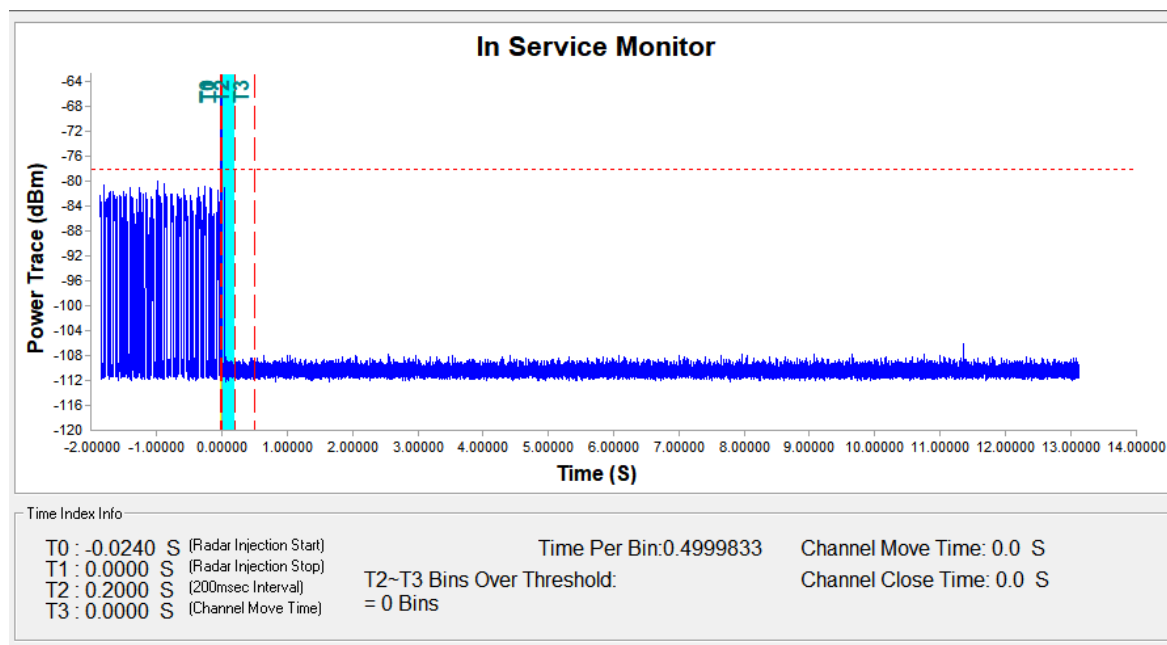
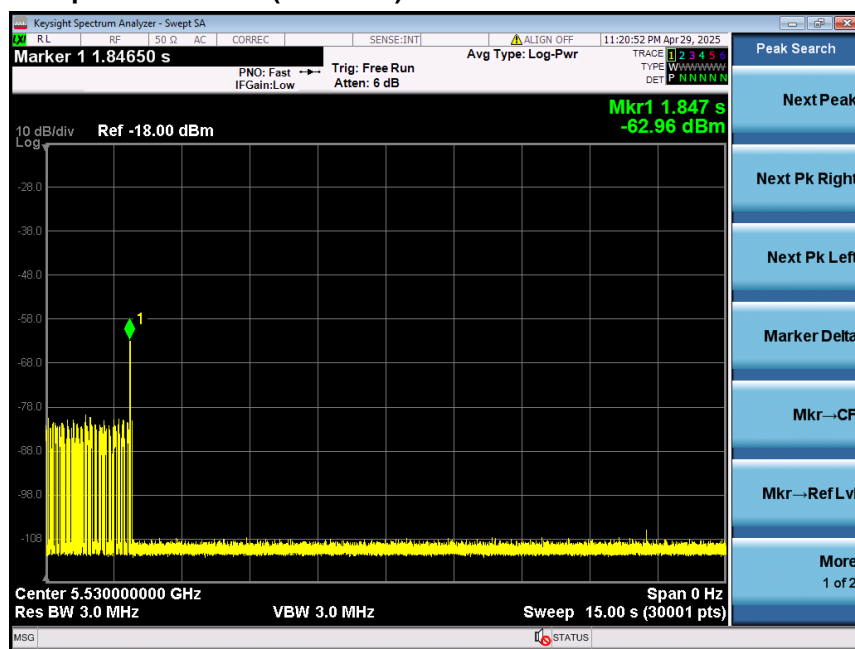
BW/Channel	Test Item	Test data	Limit	Results
80MHz/ 5290MHz	Non-occupancy period	Refer to test plots	>30 min	pass
	Channel Move Time	0.0s	<10 s	Pass
	Channel Closing Transmission Time	0.0s	<60ms	Pass

BW/Channel	Test Item	Test data	Limit	Results
80MHz/ 5530MHz	Non-occupancy period	Refer to test plots	>30 min	pass
	Channel Move Time	0.0s	<10 s	Pass
	Channel Closing Transmission Time	0.0s	<60ms	Pass

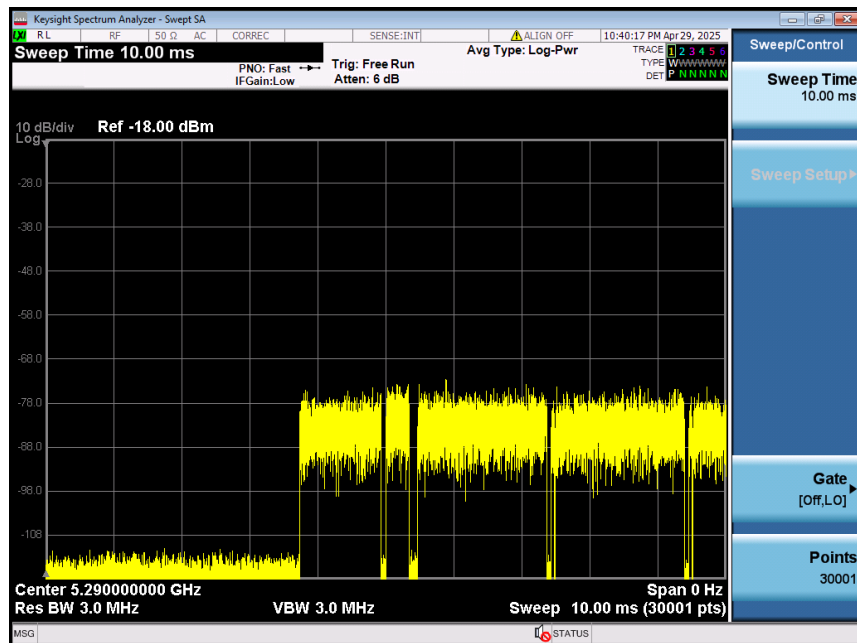
Test plots as follows(5290MHz):



Test plots as follows(5530MHz):



Duty Cycle:



- End of the Report -