

TEST REPORT

Application No.: SZCR2410003959WM
Applicant: Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address of Applicant: NO.18 Haibin Road, Wusha, Chang'an Town, Dongguan City, Guangdong, China
Manufacturer: Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address of Manufacturer: NO.18 Haibin Road, Wusha, Chang'an Town, Dongguan City, Guangdong, China
Equipment Under Test (EUT):
EUT Description: Mobile Phone
Model No.: CPH2699
Trade Mark: OPPO
FCC ID: R9C-OP24263
Standard(s) : 47 CFR Part 15, Subpart E 15.407
Date of Receipt: 2024-10-25
Date of Test: 2024-11-26 to 2024-12-10
Date of Issue: 2024-12-18

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

Kenxu

Keny Xu
EMC Laboratory Manager



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Shenzhen Branch EMC Laboratory

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024-12-18		Original

Authorized for issue by:				
		Sherlock Fang		
		Sherlock Fang/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
Maximum Conducted output power		KDB 789033 D02 II E	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Radiated Emissions (Below 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions (Above 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions which fall in the restricted bands		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Channel Move Time		KDB 905462 D02 Section 7.8.3	KDB 905462 D02 Section 5.1	Pass
Duty Cycle		KDB 789033 D02 II B 1	KDB 789033 D02 II B 1	Pass
99% Bandwidth		KDB 789033 D02 II D	N/A	Pass
26dB Emission bandwidth		KDB 789033 D02 II C 1	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band)		KDB 789033 D02 II C 2	47 CFR Part 15, Subpart E 15.407 (e)	Pass
Peak Power spectrum density		KDB 789033 D02 II F	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Frequency Stability		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart E 15.407 (g)	Pass
Non-occupancy period		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

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4 General Information

4.1 Details of E.U.T.

EUT Description:	Mobile Phone	
Model No.:	CPH2699	
Trade Mark:	OPPO	
Hardware Version:	11	
Software Version:	ColorOS 15.0	
Power Supply:	DC 3.92V from internal rechargeable battery which can be charged by AC/DC adapter	
WLAN Mode Supported:	802.11a:	20 MHz channel bandwidth
	802.11n:	20 MHz / 40 MHz channel bandwidth
	802.11ac:	20 MHz / 40 MHz / 80 MHz channel bandwidth
Operation Frequency:	5150MHz to 5250MHz 5250MHz to 5350MHz 5470MHz to 5725MHz 5725MHz to 5850MHz	
Modulation Type:	802.11a:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11n:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11ac:	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Channel Spacing:	20MHz:	802.11a/n(HT20)/ac(VHT20)
	40MHz:	802.11n(HT40)/ac(VHT40)
	80MHz:	802.11ac(VHT80)
Antenna Type:	IFA Antenna	
Antenna Gain:	5150MHz to 5250MHz: 0.5dBi(Ant8); 5250MHz to 5350MHz: 0.5dBi(Ant8); 5470MHz to 5725MHz: 0.5dBi(Ant8); 5725MHz to 5850MHz: 0.5dBi(Ant8);	
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.	
Smart System:	☒ SISO	802.11a/n/ac
	☐ MIMO	CDD: 802.11a/n/ac: Tx & Rx
		STBC: 802.11n/ac: Tx & Rx
		TXBF: 802.11n/ac: Tx & Rx
	☐ Diversity	802.11a: Tx & Rx
TPC Function:	☐ Support, ☒ Not Support	





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DFS Function:	☐ Master	
	☐ Slave with radar detection	☒ Slave without radar detection
RF Cable:	4900MHz ~ 5250MHz(1.6dB)	5250MHz ~ 5350MHz(1.7dB)
	5470MHz ~ 5725MHz(1.8dB)	5725MHz ~ 5850MHz (2dB)
Remark: As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.		

4.2 Environment Parameter

Environment Parameter	1020 mbar Selected Values During Tests	
Relative Humidity	33.7-50.8 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	20.2~24.8	3.92
Note: NV:Normal Voltage NT:Normal Temperature		



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4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Router	NETGEAR	R7800	SZ-WRG-A-072

4.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	$\pm 3.1\text{dB}$
Maximum Conducted output power	$\pm 0.75\text{dB}$
Radiated Emissions (Below 1GHz)	$\pm 6.0\text{dB}$ for 3m; $\pm 5.0\text{dB}$ for 10m
Radiated Emissions (Above 1GHz)	$\pm 4.6\text{dB}$ (1-18GHz); $\pm 4.8\text{dB}$ (18-40GHz)
Radiated Emissions which fall in the restricted bands	$\pm 6.0\text{dB}$ (below 1GHz); $\pm 4.6\text{dB}$ (above 1GHz);
Duty Cycle	$\pm 0.37\%$
99% Bandwidth	$\pm 3\%$
26dB Emission bandwidth	$\pm 3\%$
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	$\pm 3\%$
Peak Power spectrum density	$\pm 2.84\text{dB}$
Frequency Stability	$\pm 7.25 \times 10^{-8}$

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (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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4.5 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.

4.6 Test Facility

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

• A2LA (Certificate No. 3816.01)

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

• VCCI (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.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2022-05-14	2025-05-13
EMI Test Receiver	Rohde&Schwarz	ESR	SZ-WRG-M-047	2024-01-30	2025-01-29
Matching Pad	N/A	N/A	SEM021-23	2024-03-20	2025-03-19
Matching Pad	N/A	N/A	SEM021-24	2024-03-20	2025-03-19
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	2024-03-14	2025-03-13

Maximum Conducted output power					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Power Sensor	TST PASS	TSPS2023R	SEM009-26	2024-03-27	2025-03-26
Power Sensor	KEYSIGHT	U2021XA	SEM009-16	2024-03-14	2025-03-13
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2024-08-14	2025-08-13
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2024-03-14	2025-03-13
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2024-09-14	2025-09-13
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2024-07-06	2025-07-05
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2024-03-27	2025-03-26
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2024-03-19	2025-03-18

Radiated 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	2024-03-14	2025-03-13
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 Emissions (Above 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Signal & Spectrum Analyzer	Rohde & Schwarz	FSV	SZ-WRG-M-048	2024-01-30	2025-01-29
Low Noise Amplifier 1G-18GHz	Tonscend	TAP01018050	SZ-WRG-M-051	2024-01-30	2025-01-29
Low Noise Amplifier 18G-40GHz	Tonscend	TAP18040048	SZ-WRG-M-052	2024-01-30	2025-01-29
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	2022-01-05	2025-01-04
Humidity and Temperature Indicator	deli	8838	SEM002-46	2024-07-24	2025-07-23

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	2024-01-30	2025-01-29
Low Noise Amplifier 30M-8GHz	Tonscend	TAP30M8G30	SZ-WRG-M-050	2024-01-30	2025-01-29
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	2022-01-05	2025-01-04
Humidity and Temperature Indicator	deli	8838	SEM002-46	2024-07-24	2025-07-23



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Channel Move Time					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2024-03-27	2025-03-26
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2024-03-27	2025-03-26
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	2024-03-27	2025-03-26
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-22	2024-03-14	2025-03-13

RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2024-08-14	2025-08-13
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2024-03-14	2025-03-13
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2024-09-14	2025-09-13
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2024-07-06	2025-07-05
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2024-03-27	2025-03-26
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2024-03-19	2025-03-18
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2024-03-27	2025-03-26
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2024-03-27	2025-03-26
MXG Vector Signal Generator	Agilent	N5182A	SEM006-21	2024-03-27	2025-03-26
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-22	2024-03-14	2025-03-13

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	2024-03-18	2025-03-17



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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

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is a IFA Antenna, and the connection port is fixed with glue, and the antenna cannot be replaced.

5150MHz to 5250MHz: 0.5dBi(Ant8); *

5250MHz to 5350MHz: 0.5dBi(Ant8); *

5470MHz to 5725MHz: 0.5dBi(Ant8); *

5725MHz to 5850MHz: 0.5dBi(Ant8); *

**Note:*

The antenna gain are derived from the gain information report provided by the manufacturer.

Remark:

As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

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

*Decreases with the logarithm of the frequency.

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.5 °C

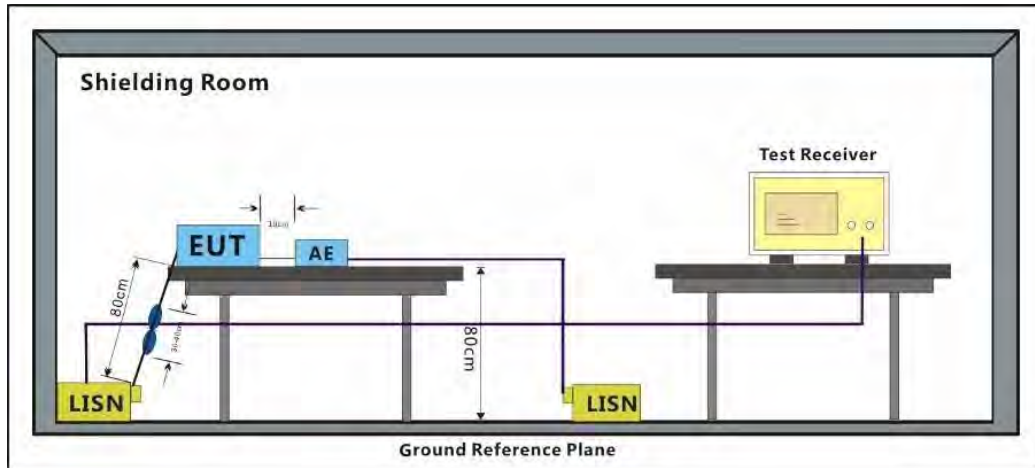
Humidity: 44.5 % RH

Atmospheric Pressure: 1020 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.

7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

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

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

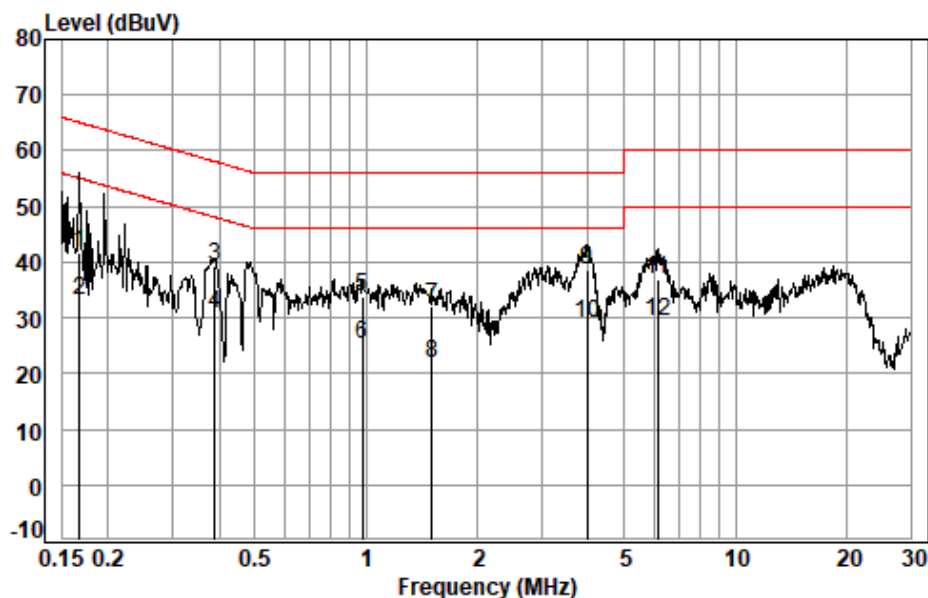
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Test Mode: 14; Line: Live line



Site : Shielding Room
Condition: Line
Job No. : 03959WM
Test mode: 14

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1677	0.06	10.17	31.51	41.74	65.08	-23.34	QP
2	0.1677	0.06	10.17	22.99	33.22	55.08	-21.86	Average
3	0.3893	0.07	9.69	29.49	39.25	58.08	-18.83	QP
4	0.3893	0.07	9.69	20.93	30.69	48.08	-17.39	Average
5	0.9787	0.09	9.58	23.99	33.66	56.00	-22.34	QP
6	0.9787	0.09	9.58	15.55	25.22	46.00	-20.78	Average
7	1.5113	0.10	9.58	22.58	32.26	56.00	-23.74	QP
8	1.5113	0.10	9.58	12.06	21.74	46.00	-24.26	Average
9 *	3.9639	0.12	9.66	28.70	38.48	56.00	-17.52	QP
10 *	3.9639	0.12	9.66	19.08	28.86	46.00	-17.14	Average
11	6.1534	0.14	9.67	27.15	36.96	60.00	-23.04	QP
12	6.1534	0.14	9.67	19.58	29.39	50.00	-20.61	Average



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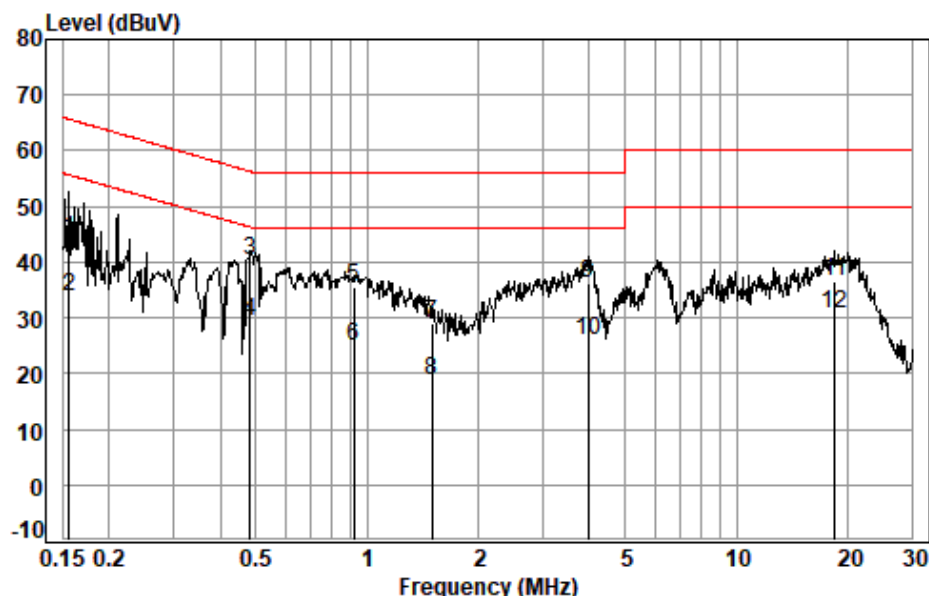
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Test Mode: 14; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 03959WM
Test mode: 14

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1557	0.06	10.14	34.03	44.23	65.69	-21.46	QP
2	0.1557	0.06	10.14	23.56	33.76	55.69	-21.93	Average
3 *	0.4812	0.08	9.71	30.68	40.47	56.32	-15.85	QP
4 *	0.4812	0.08	9.71	19.70	29.49	46.32	-16.83	Average
5	0.9184	0.09	9.57	25.96	35.62	56.00	-20.38	QP
6	0.9184	0.09	9.57	15.12	24.78	46.00	-21.22	Average
7	1.5033	0.10	9.55	19.28	28.93	56.00	-27.07	QP
8	1.5033	0.10	9.55	9.07	18.72	46.00	-27.28	Average
9	3.9639	0.12	9.55	26.56	36.23	56.00	-19.77	QP
10	3.9639	0.12	9.55	16.30	25.97	46.00	-20.03	Average
11	18.4258	0.29	10.06	26.30	36.65	60.00	-23.35	QP
12	18.4258	0.29	10.06	20.21	30.56	50.00	-19.44	Average



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7.2 Maximum Conducted output power

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

Test Method: KDB 789033 D02 II E

Limit:

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

7.2.1 E.U.T. Operation

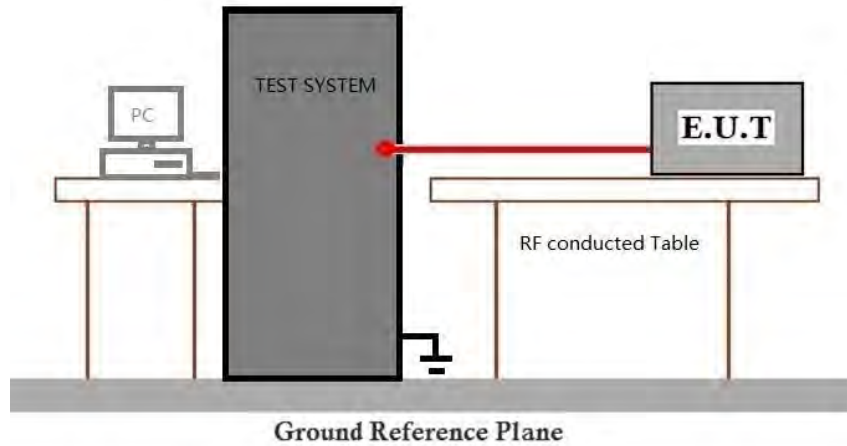
Operating Environment:

Temperature: 24.4 °C Humidity: 34.2 % RH Atmospheric Pressure: 1020 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	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, Only the data of worst case is recorded in the report.
Final test	10	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, Only the data of worst case is recorded in the report.
Final test	11	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, Only the data of worst case is recorded in the report.
Final test	12	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, Only the data of worst case is recorded in the report.

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details

7.3 Radiated Emissions (Below 1GHz)

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

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

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

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

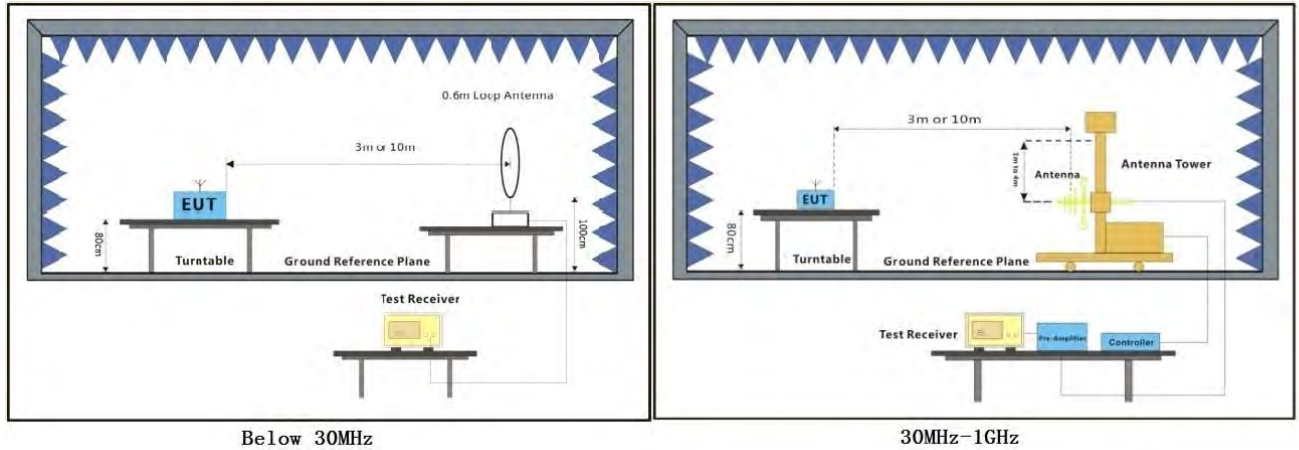
Humidity: 45.2 % RH

Atmospheric Pressure: 1020 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



Below 30MHz

30MHz-1GHz

7.3.4 Measurement Procedure and Data

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

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.
3. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
4. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



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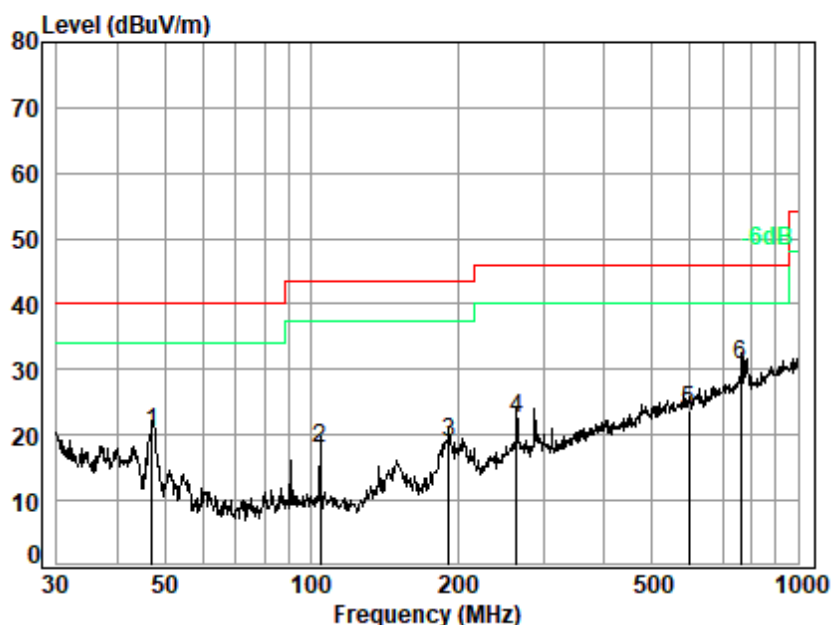
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Test Mode: 14; Polarity: Horizontal



Site : chamber

Condition: 3m HORIZONTAL

Job No. : 03959WM

Test Mode: 14

	Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	47.160	13.59	0.84	27.74	33.60	20.29	40.00	-19.71 QP
2	104.170	12.22	1.25	27.57	32.00	17.90	43.50	-25.60 QP
3	191.745	14.26	1.73	27.20	30.07	18.86	43.50	-24.64 QP
4	263.819	17.11	2.06	26.90	30.11	22.38	46.00	-23.62 QP
5	597.223	24.44	3.23	27.96	24.07	23.78	46.00	-22.22 QP
6 q	763.376	26.52	3.75	27.57	27.96	30.66	46.00	-15.34 QP



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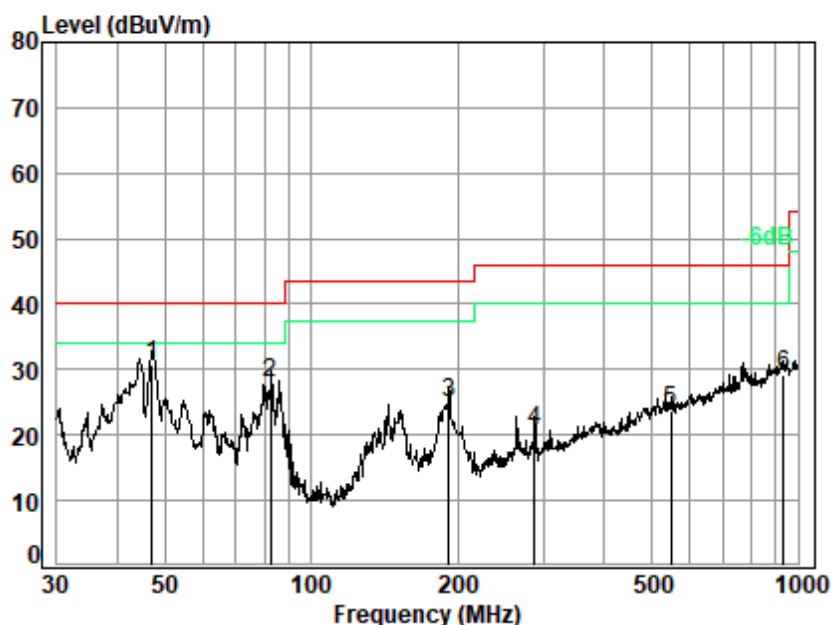
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Test Mode: 14; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 03959WM
Test Mode: 14

		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	q	47.160	13.59	0.84	27.74	44.01	30.70	40.00	-9.30 QP
2		82.648	10.69	1.11	27.64	43.77	27.93	40.00	-12.07 QP
3		191.745	14.26	1.73	27.20	36.26	25.05	43.50	-18.45 QP
4		287.990	16.98	2.16	26.80	28.49	20.83	46.00	-25.17 QP
5		549.020	23.81	3.08	27.76	24.67	23.80	46.00	-22.20 QP
6		935.546	28.18	4.22	26.51	23.44	29.33	46.00	-16.67 QP



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7.4 Radiated Emissions (Above 1GHz)

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

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24.5 °C

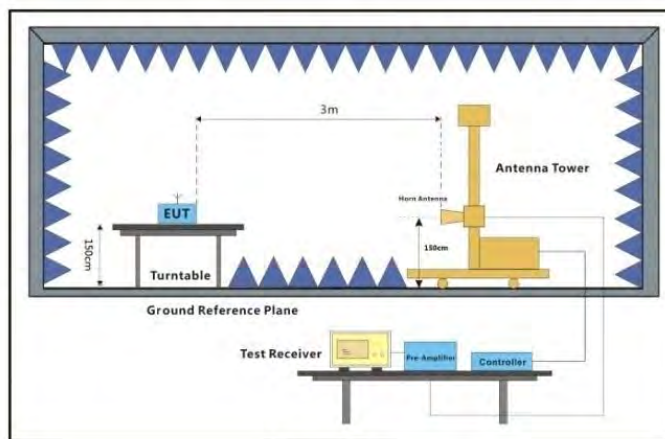
Humidity: 50.8 % RH

Atmospheric Pressure: 1020 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



Above 1GHz

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.



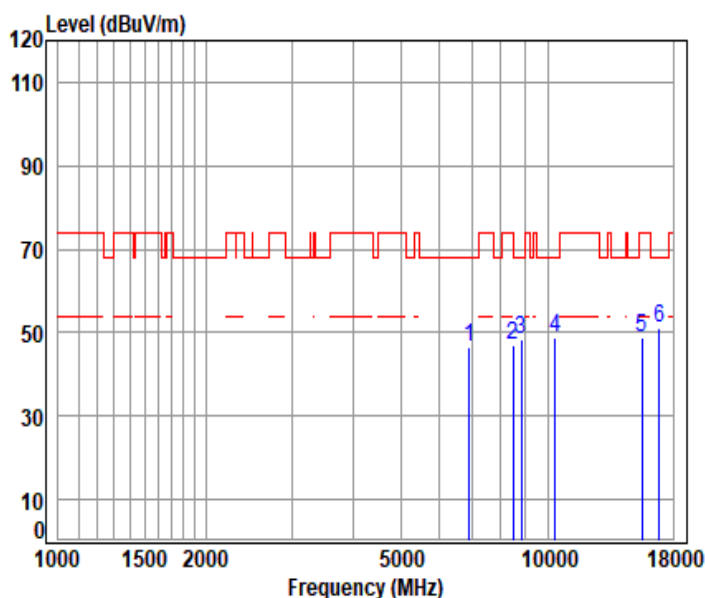
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11a_TX_CH_36_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5180 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6909.632	11.37	36.18	56.72	55.77	46.60	68.20	-21.60 peak
2	8488.119	12.23	38.32	55.46	52.11	47.20	74.00	-26.80 peak
3	8814.115	12.25	38.50	55.17	52.81	48.39	68.20	-19.81 peak
4	10360.000	13.60	39.00	53.88	50.23	48.95	68.20	-19.25 peak
5	15540.000	17.00	38.56	54.14	47.25	48.67	74.00	-25.33 peak
6	pp16864.040	17.92	39.60	54.26	47.94	51.20	68.20	-17.00 peak



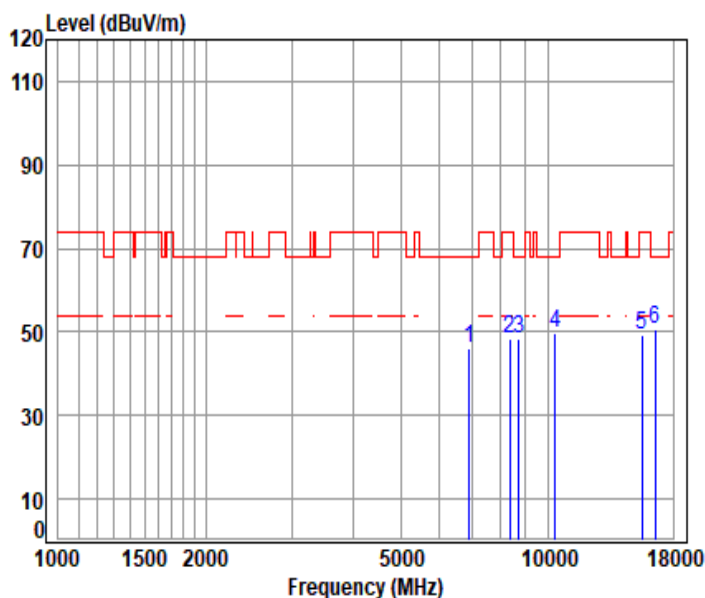
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11a_TX_CH_36_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5180 TX RSE

: 5G WIFI 11A

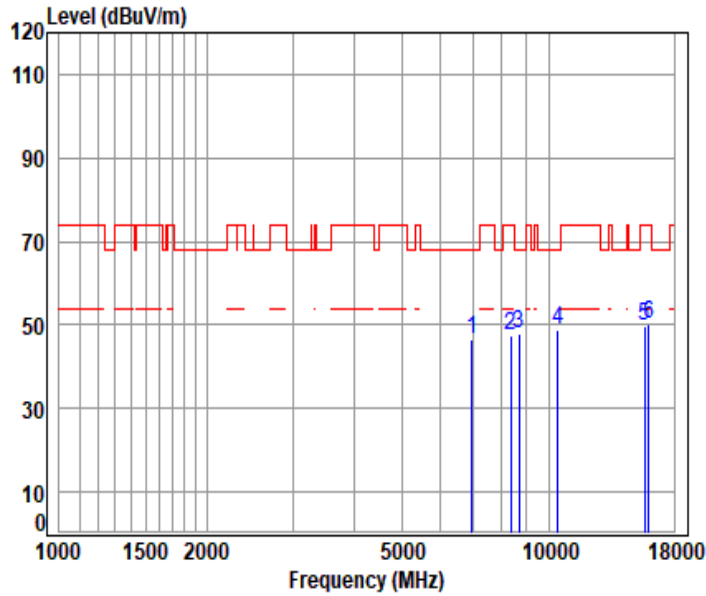
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6909.632	11.37	36.18	56.72	55.10	45.93	68.20 -22.27 peak
2	8350.908	11.69	38.70	55.58	53.63	48.44	74.00 -25.56 peak
3	8724.793	12.13	38.55	55.25	53.13	48.56	68.20 -19.64 peak
4	10360.000	13.60	39.00	53.88	50.83	49.55	68.20 -18.65 peak
5	15540.000	17.00	38.56	54.14	47.67	49.09	74.00 -24.91 peak
6	pp16523.970	17.72	38.97	54.16	48.08	50.61	68.20 -17.59 peak



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11a_TX_CH_44_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5220 TX RSE

: 5G WIFI 11A

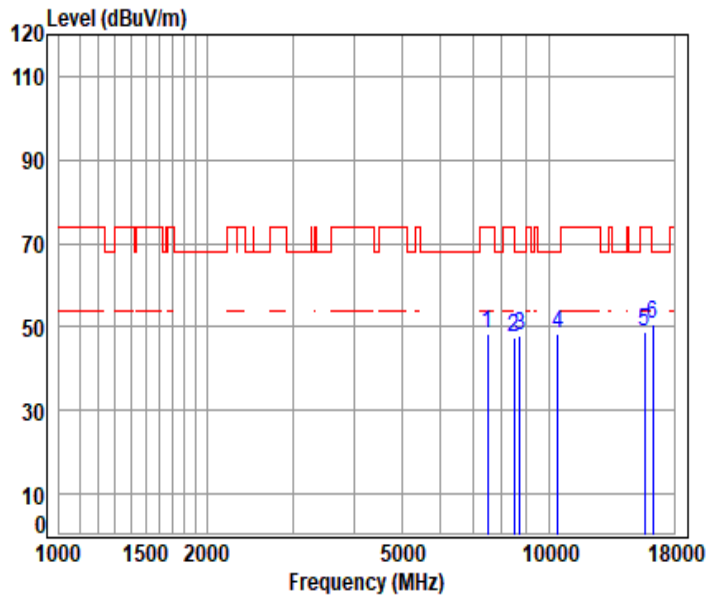
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6959.073	11.37	36.12	56.71	55.65	46.43	68.20 -21.77 peak
2	8350.908	11.69	38.70	55.58	52.81	47.62	74.00 -26.38 peak
3	8689.318	12.08	38.56	55.28	52.66	48.02	68.20 -20.18 peak
4	pp10440.000	13.63	39.04	53.84	50.22	49.05	68.20 -19.15 peak
5	15660.000	17.23	38.56	54.10	48.11	49.80	74.00 -24.20 peak
6	15994.060	17.16	38.61	54.00	48.56	50.33	74.00 -23.67 peak



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11a_TX_CH_44_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5220 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7480.987	11.28	36.80	56.32	56.38	48.14	74.00 -25.86 peak
2	8488.119	12.23	38.32	55.46	52.27	47.36	74.00 -26.64 peak
3	8733.685	12.14	38.53	55.24	52.55	47.98	68.20 -20.22 peak
4	10440.000	13.63	39.04	53.84	49.67	48.50	68.20 -19.70 peak
5	15660.000	17.23	38.56	54.10	47.12	48.81	74.00 -25.19 peak
6	pp16290.010	17.22	38.59	54.09	48.96	50.68	68.20 -17.52 peak



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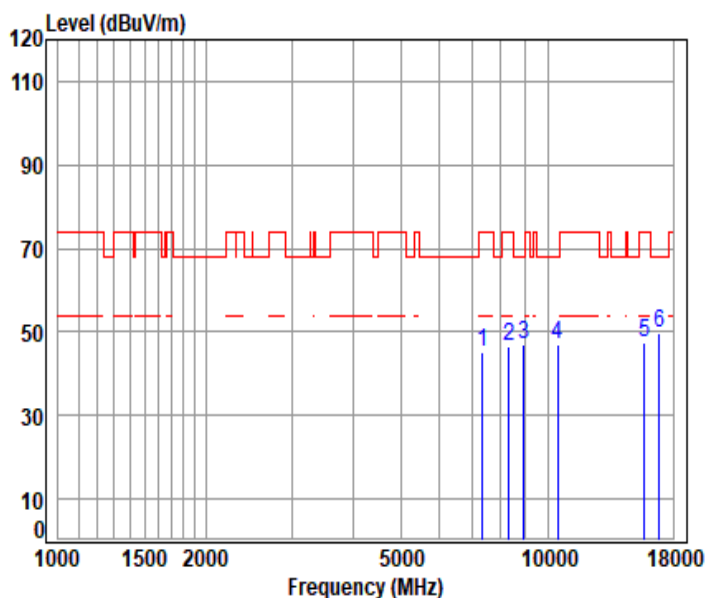
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11a_TX_CH_48_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5240 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7360.057	11.50	36.78	56.41	53.34	45.21	74.00 -28.79 peak
2	8333.913	11.72	38.44	55.60	51.85	46.41	74.00 -27.59 peak
3	8922.510	12.20	38.55	55.07	51.23	46.91	68.20 -21.29 peak
4	10480.000	13.64	39.08	53.81	47.99	46.90	68.20 -21.30 peak
5	15720.000	17.22	38.58	54.08	45.91	47.63	74.00 -26.37 peak
6	pp16846.870	17.80	39.60	54.25	46.36	49.51	68.20 -18.69 peak



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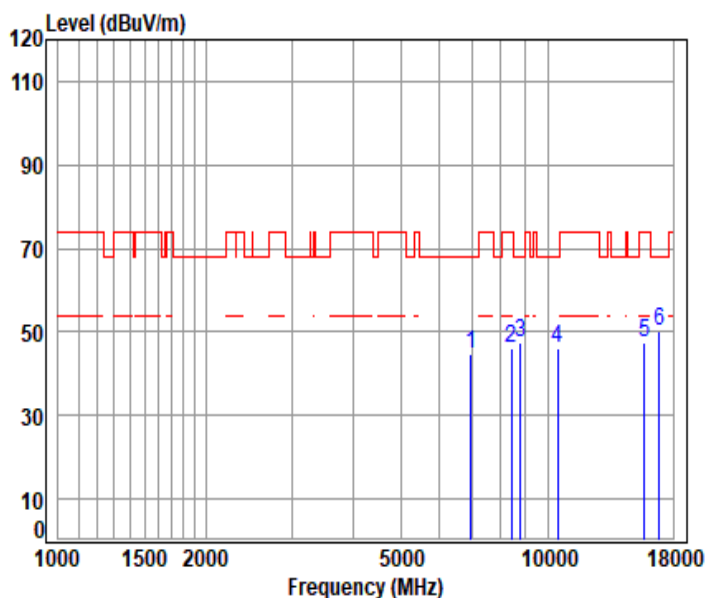
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11a_TX_CH_48_Veritical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5240 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6951.989	11.37	36.10	56.71	53.93	44.69	68.20 -23.51 peak
2	8419.234	11.76	38.52	55.52	51.11	45.87	74.00 -28.13 peak
3	8796.179	12.24	38.50	55.18	52.10	47.66	68.20 -20.54 peak
4	10480.000	13.64	39.08	53.81	47.34	46.25	68.20 -21.95 peak
5	15720.000	17.22	38.58	54.08	45.89	47.61	74.00 -26.39 peak
6	pp16864.040	17.92	39.60	54.26	46.80	50.06	68.20 -18.14 peak



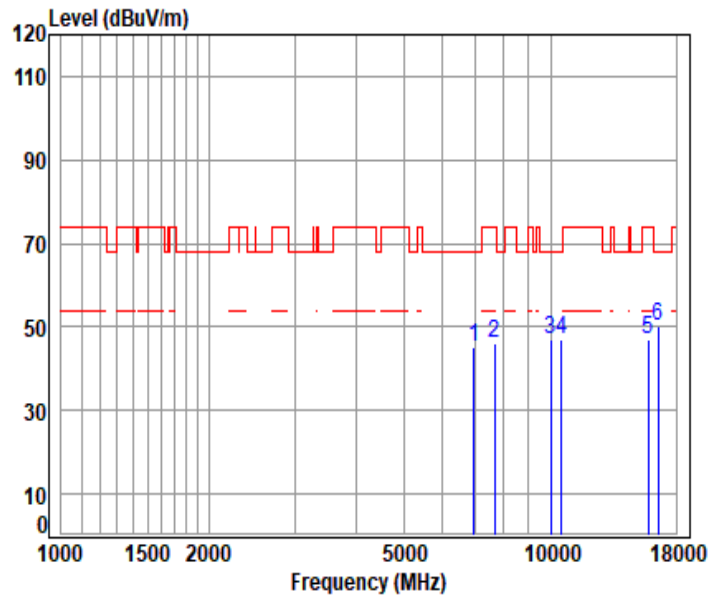
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11a_TX_CH_52_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5260 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6959.073	11.37	36.12	56.71	54.32	45.10	68.20 -23.10 peak
2	7681.751	11.38	36.90	56.15	54.15	46.28	74.00 -27.72 peak
3	9990.539	12.99	38.90	54.11	49.38	47.16	68.20 -21.04 peak
4	10520.000	13.63	39.14	53.79	48.18	47.16	68.20 -21.04 peak
5	15780.000	17.08	38.52	54.07	45.69	47.22	74.00 -26.78 peak
6	pp16574.540	17.67	39.12	54.17	47.49	50.11	68.20 -18.09 peak



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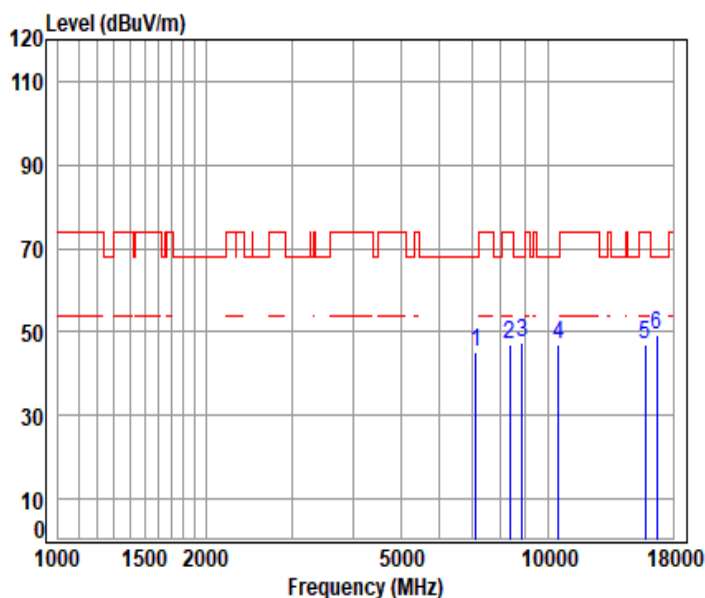
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11a_TX_CH_52_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5260 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7131.289	11.84	36.46	56.59	53.48	45.19	68.20 -23.01 peak
2	8359.419	11.68	38.68	55.58	52.07	46.85	74.00 -27.15 peak
3	8859.119	12.23	38.52	55.13	52.03	47.65	68.20 -20.55 peak
4	10520.000	13.63	39.14	53.79	47.90	46.88	68.20 -21.32 peak
5	15780.000	17.08	38.52	54.07	45.48	47.01	74.00 -26.99 peak
6	pp16659.160	17.61	39.32	54.20	46.65	49.38	68.20 -18.82 peak



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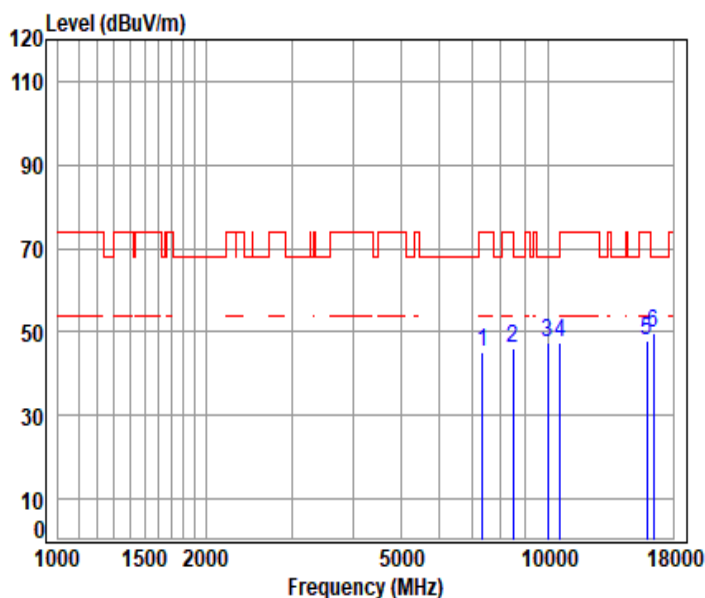
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11a_TX_CH_60_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5300 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7337.601	11.51	36.78	56.43	53.24	45.10	74.00 -28.90 peak
2	8470.845	12.11	38.36	55.48	50.97	45.96	74.00 -28.04 peak
3	9990.539	12.99	38.90	54.11	49.62	47.40	68.20 -20.80 peak
4	10600.000	13.59	39.30	53.74	48.20	47.35	68.20 -20.85 peak
5	15900.000	17.28	38.70	54.03	45.92	47.87	74.00 -26.13 peak
6	pp16440.030	17.39	38.84	54.13	47.41	49.51	68.20 -18.69 peak



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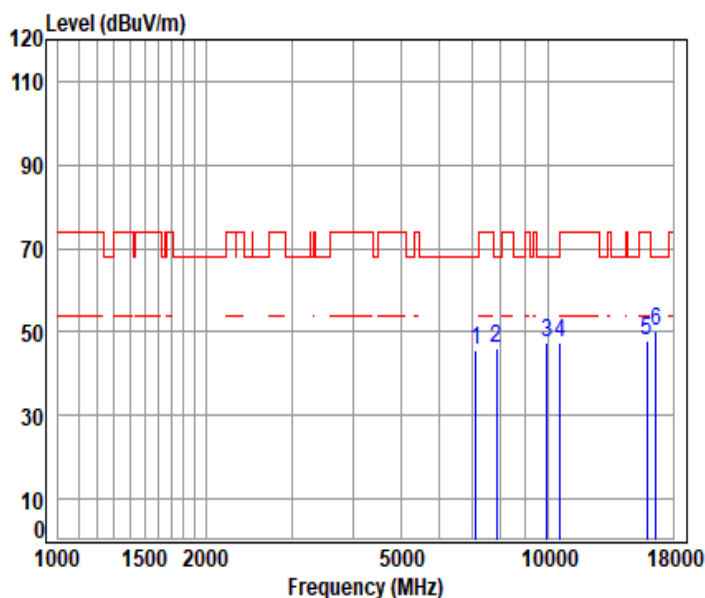
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11a_TX_CH_60_Veritical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5300 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7116.776	11.91	36.43	56.61	53.79	45.52	68.20 -22.68 peak
2	7863.837	11.46	37.46	56.01	53.35	46.26	68.20 -21.94 peak
3	9949.918	12.90	38.90	54.15	49.99	47.64	68.20 -20.56 peak
4	10600.000	13.59	39.30	53.74	48.13	47.28	68.20 -20.92 peak
5	15900.000	17.28	38.70	54.03	45.83	47.78	74.00 -26.22 peak
6	pp16608.340	17.64	39.22	54.18	47.61	50.29	68.20 -17.91 peak



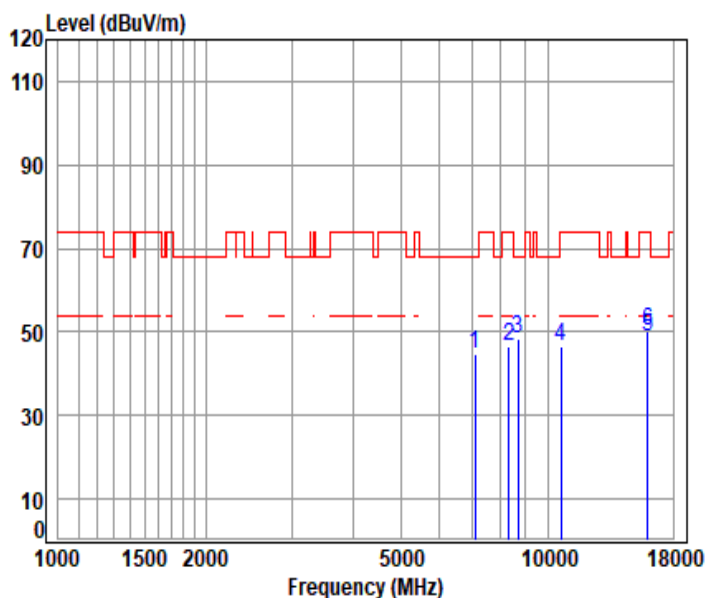
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11a_TX_CH_64_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5320 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7109.531	11.95	36.42	56.61	53.11	44.87	68.20 -23.33 peak
2	8333.913	11.72	38.44	55.60	51.86	46.42	74.00 -27.58 peak
3	pp 8689.318	12.08	38.56	55.28	52.93	48.29	68.20 -19.91 peak
4	10640.000	13.77	39.34	53.72	47.23	46.62	74.00 -27.38 peak
5	15960.000	17.20	38.64	54.01	46.91	48.74	74.00 -25.26 peak
6	15994.060	17.16	38.61	54.00	48.27	50.04	74.00 -23.96 peak



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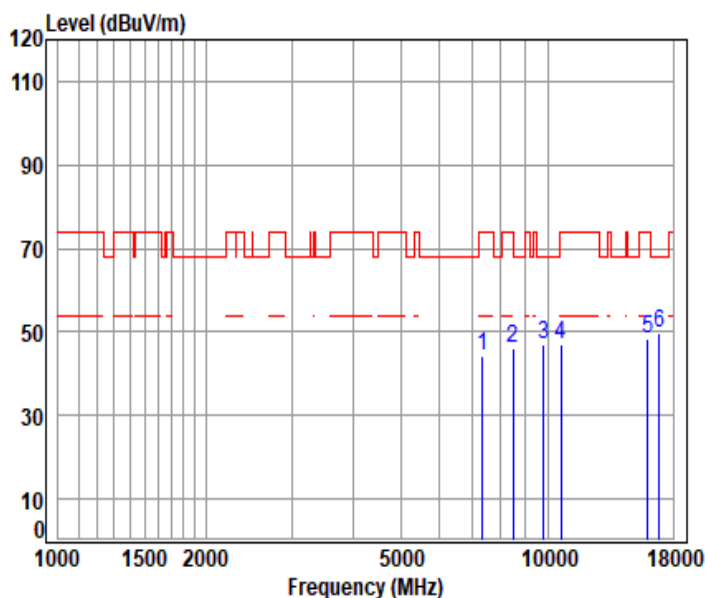
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11a_TX_CH_64_Veritical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5320 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7352.564	11.50	36.79	56.42	52.49	44.36	74.00 -29.64 peak
2	8488.119	12.23	38.32	55.46	50.77	45.86	74.00 -28.14 peak
3	9789.077	13.05	38.60	54.29	49.78	47.14	68.20 -21.06 peak
4	10640.000	13.77	39.34	53.72	47.52	46.91	74.00 -27.09 peak
5	15960.000	17.20	38.64	54.01	46.64	48.47	74.00 -25.53 peak
6	pp16864.040	17.92	39.60	54.26	46.68	49.94	68.20 -18.26 peak



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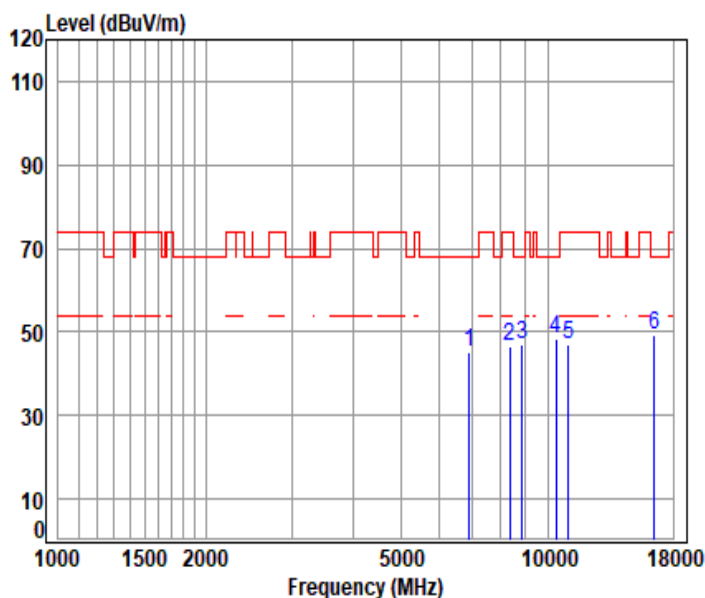
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Report No.: SZCR241000395907

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11a_TX_CH_100_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5500 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6895.570	11.37	36.18	56.72	54.33	45.16	68.20 -23.04 peak
2	8342.406	11.70	38.58	55.59	51.85	46.54	74.00 -27.46 peak
3	8859.119	12.23	38.52	55.13	51.55	47.17	68.20 -21.03 peak
4	10384.810	13.61	39.00	53.87	49.82	48.56	68.20 -19.64 peak
5	11000.000	14.17	39.40	53.50	46.84	46.91	74.00 -27.09 peak
6	pp16500.000	17.74	38.90	54.15	46.63	49.12	68.20 -19.08 peak



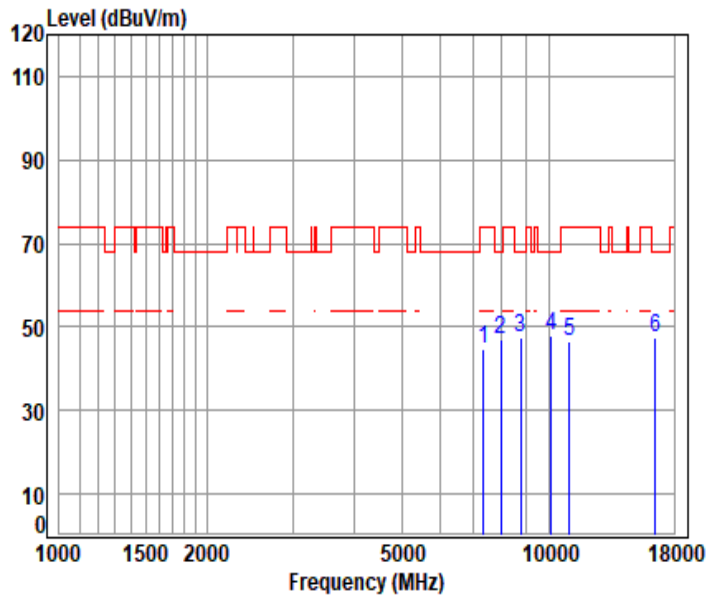
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11a_TX_CH_100_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

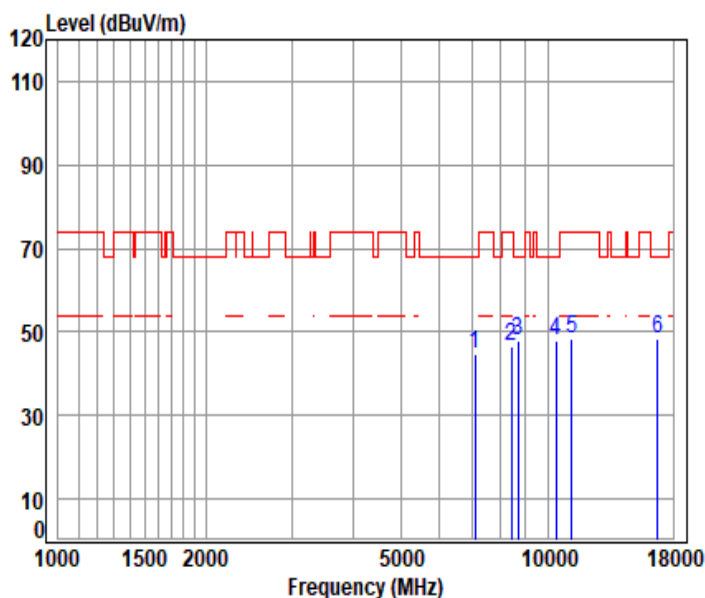
Mode : 5500 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7360.057	11.50	36.78	56.41	52.84	44.71	74.00 -29.29 peak
2	7976.779	11.56	37.75	55.92	53.62	47.01	68.20 -21.19 peak
3	8751.494	12.17	38.50	55.22	52.01	47.46	68.20 -20.74 peak
4	pp10123.710	13.23	39.10	54.03	49.51	47.81	68.20 -20.39 peak
5	11000.000	14.17	39.40	53.50	46.39	46.46	74.00 -27.54 peak
6	16500.000	17.74	38.90	54.15	45.00	47.49	68.20 -20.71 peak



11a_TX_CH_116_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5580 TX RSE

: 5G WIFI 11A

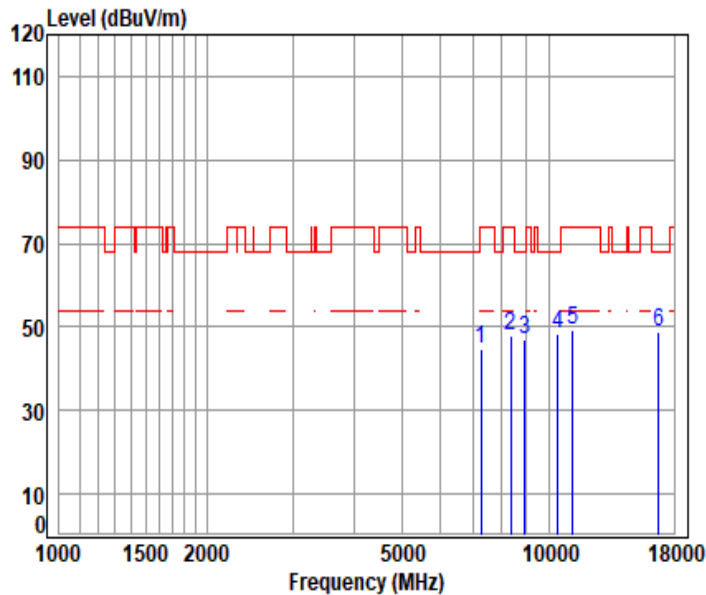
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7102.293	11.98	36.40	56.62	52.87	44.63	68.20 -23.57 peak
2	8427.813	11.82	38.49	55.51	51.94	46.74	74.00 -27.26 peak
3	8698.174	12.09	38.59	55.27	52.60	48.01	68.20 -20.19 peak
4	10384.810	13.61	39.00	53.87	49.33	48.07	68.20 -20.13 peak
5	11160.000	14.72	39.56	53.55	47.58	48.31	74.00 -25.69 peak
6	pp16740.000	17.54	39.48	54.22	45.44	48.24	68.20 -19.96 peak



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11a_TX_CH_116_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5580 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7278.053	11.51	36.66	56.48	52.87	44.56	74.00 -29.44 peak
2	8342.406	11.70	38.58	55.59	53.08	47.77	74.00 -26.23 peak
3	8931.603	12.20	38.54	55.06	51.46	47.14	68.20 -21.06 peak
4	10405.990	13.62	39.01	53.86	49.59	48.36	68.20 -19.84 peak
5	11160.000	14.72	39.56	53.55	48.45	49.18	74.00 -24.82 peak
6	pp16740.000	17.54	39.48	54.22	46.14	48.94	68.20 -19.26 peak



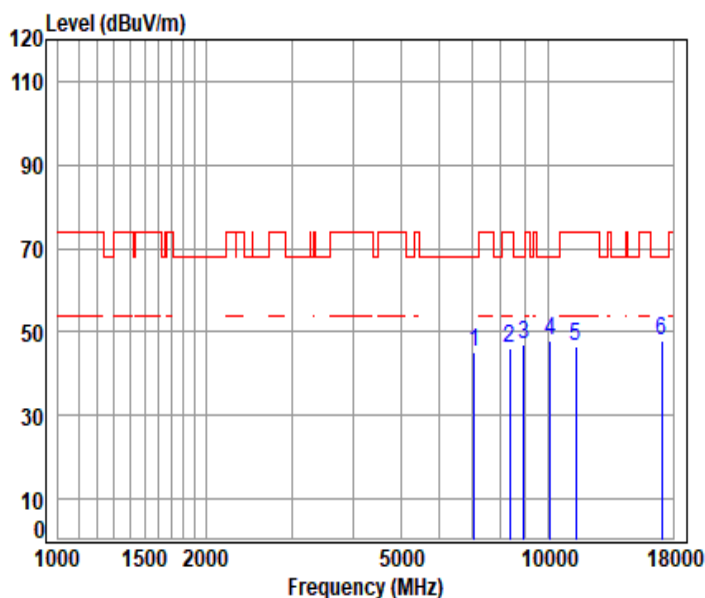
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11a_TX_CH_140_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5700 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7059.021	11.74	36.32	56.65	53.94	45.35	68.20 -22.85 peak
2	8342.406	11.70	38.58	55.59	51.42	46.11	74.00 -27.89 peak
3	8922.510	12.20	38.55	55.07	51.52	47.20	68.20 -21.00 peak
4	10113.400	13.25	39.10	54.03	49.51	47.83	68.20 -20.37 peak
5	11400.000	14.21	39.70	53.62	46.31	46.60	74.00 -27.40 peak
6	pp17100.000	18.47	39.80	54.32	43.96	47.91	68.20 -20.29 peak



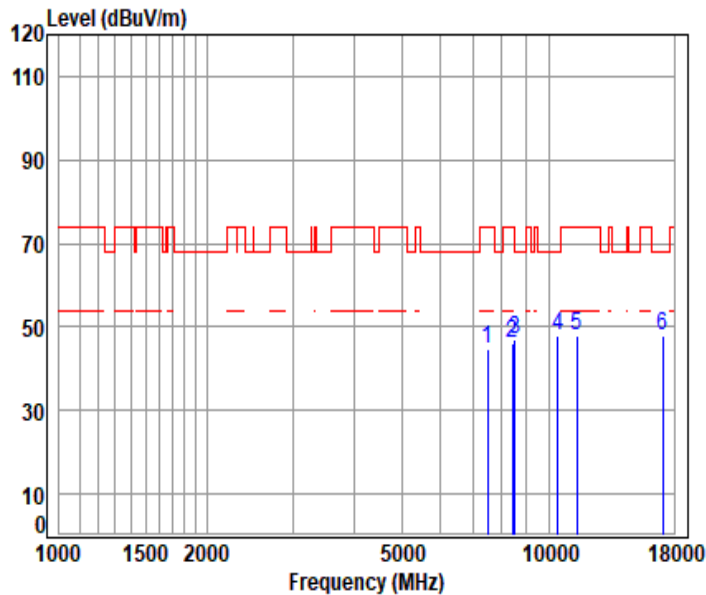
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11a_TX_CH_140_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5700 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7488.611	11.26	36.80	56.31	53.06	44.81	74.00 -29.19 peak
2	8419.234	11.76	38.52	55.52	51.51	46.27	74.00 -27.73 peak
3	8514.096	12.26	38.30	55.44	52.03	47.15	68.20 -21.05 peak
4	pp10437.830	13.63	39.04	53.84	49.16	47.99	68.20 -20.21 peak
5	11400.000	14.21	39.70	53.62	47.54	47.83	74.00 -26.17 peak
6	17100.000	18.47	39.80	54.32	43.87	47.82	68.20 -20.38 peak



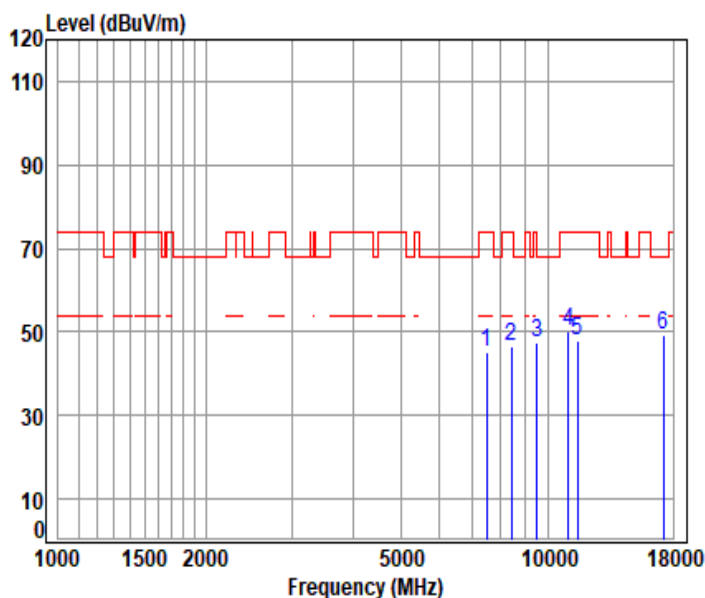
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11a_TX_CH_149_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5745 TX RSE

: 5.8G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7480.987	11.28	36.80	56.32	53.57	45.33	74.00 -28.67 peak
2	8419.234	11.76	38.52	55.52	51.89	46.65	74.00 -27.35 peak
3	9494.476	12.55	38.89	54.55	50.57	47.46	74.00 -26.54 peak
4	11005.580	14.20	39.41	53.50	50.14	50.25	74.00 -23.75 peak
5	11490.000	14.97	39.61	53.65	47.02	47.95	74.00 -26.05 peak
6	pp17235.000	17.83	40.01	54.35	45.59	49.08	68.20 -19.12 peak



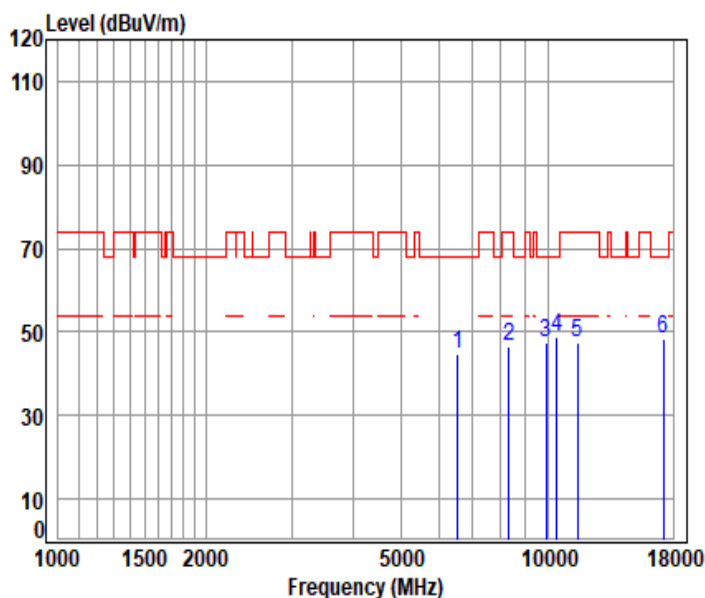
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11a_TX_CH_149_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5745 TX RSE

: 5.8G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6553.182	11.63	35.01	56.79	54.92	44.77	68.20 -23.43 peak
2	8325.429	11.73	38.31	55.61	51.99	46.42	74.00 -27.58 peak
3	9899.373	12.80	38.89	54.19	50.17	47.67	68.20 -20.53 peak
4	pp10437.830	13.63	39.04	53.84	49.93	48.76	68.20 -19.44 peak
5	11490.000	14.97	39.61	53.65	46.67	47.60	74.00 -26.40 peak
6	17235.000	17.83	40.01	54.35	44.95	48.44	68.20 -19.76 peak



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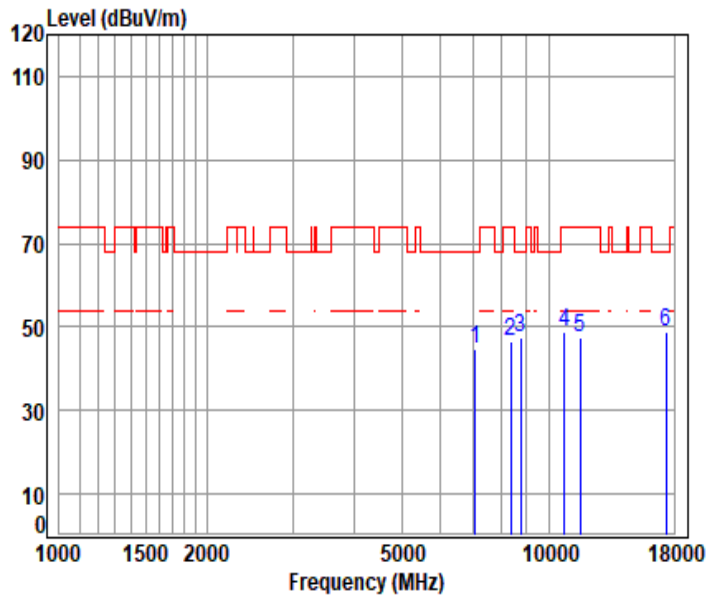
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11a_TX_CH_157_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5785 TX RSE

: 5.8G WIFI 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	7073.416	11.83	36.35	56.64	53.31	44.85	68.20 -23.35 peak
2	8359.419	11.68	38.68	55.58	51.61	46.39	74.00 -27.61 peak
3	8760.413	12.19	38.50	55.22	51.98	47.45	68.20 -20.75 peak
4	10739.810	13.90	39.36	53.66	49.30	48.90	74.00 -25.10 peak
5	11570.000	14.78	39.60	53.67	46.92	47.63	74.00 -26.37 peak
6	pp17355.000	18.00	40.31	54.37	44.87	48.81	68.20 -19.39 peak



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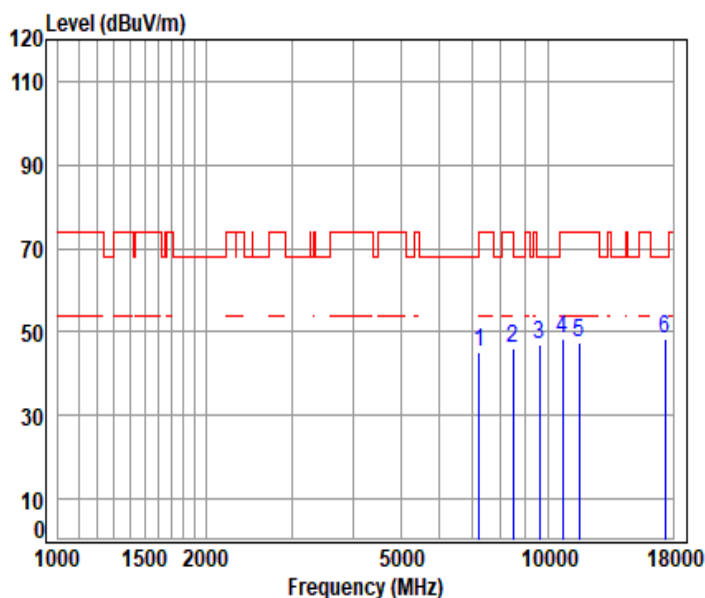
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11a_TX_CH_157_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5785 TX RSE

: 5.8G WIFI 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	7233.709	11.52	36.60	56.51	53.70	45.31	68.20 -22.89 peak
2	8488.119	12.23	38.32	55.46	50.96	46.05	74.00 -27.95 peak
3	9611.236	12.46	38.78	54.45	50.42	47.21	68.20 -20.99 peak
4	10717.950	13.98	39.38	53.67	48.62	48.31	74.00 -25.69 peak
5	11570.000	14.78	39.60	53.67	46.63	47.34	74.00 -26.66 peak
6	pp17355.000	18.00	40.31	54.37	44.21	48.15	68.20 -20.05 peak



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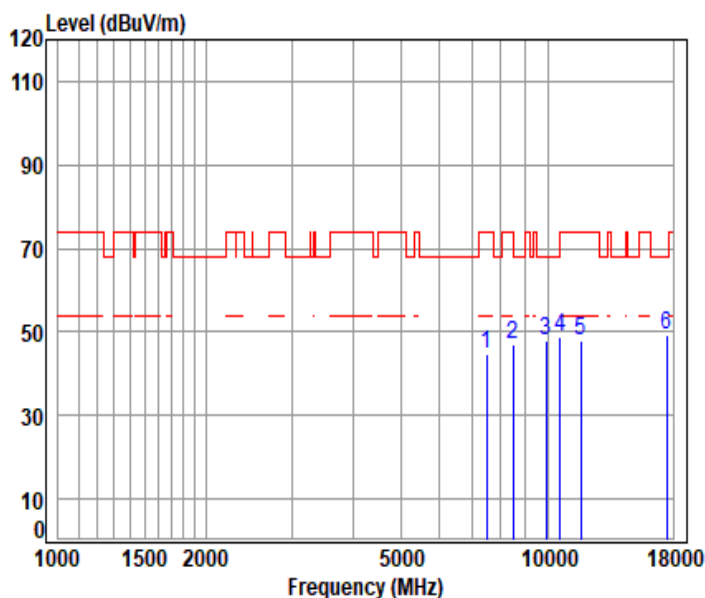
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11a_TX_CH_165_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5825 TX RSE

: 5.8G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7480.987	11.28	36.80	56.32	53.14	44.90	74.00 -29.10 peak
2	8479.478	12.17	38.34	55.47	51.80	46.84	74.00 -27.16 peak
3	9919.560	12.84	38.90	54.17	50.44	48.01	68.20 -20.19 peak
4	10609.330	13.63	39.31	53.73	49.54	48.75	74.00 -25.25 peak
5	11650.000	14.69	39.55	53.69	47.53	48.08	74.00 -25.92 peak
6	pp17475.000	18.35	40.78	54.40	44.51	49.24	68.20 -18.96 peak



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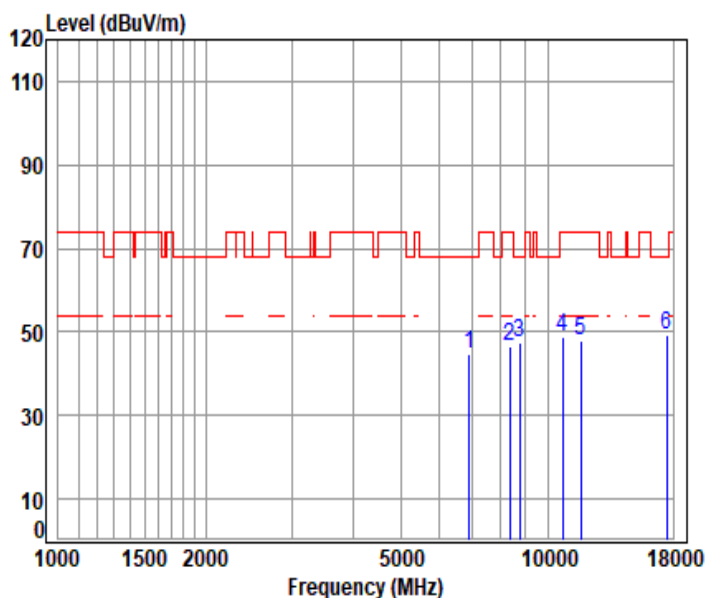
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11a_TX_CH_165_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5825 TX RSE

: 5.8G WIFI 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	6909.632	11.37	36.18	56.72	53.70	44.53	68.20 -23.67 peak
2	8342.406	11.70	38.58	55.59	51.80	46.49	74.00 -27.51 peak
3	8769.341	12.20	38.50	55.21	51.76	47.25	68.20 -20.95 peak
4	10696.140	14.02	39.40	53.68	49.05	48.79	74.00 -25.21 peak
5	11650.000	14.69	39.55	53.69	47.37	47.92	74.00 -26.08 peak
6	pp17475.000	18.35	40.78	54.40	44.52	49.25	68.20 -18.95 peak



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7.5 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: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

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

*(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.

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7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 24.5 °C

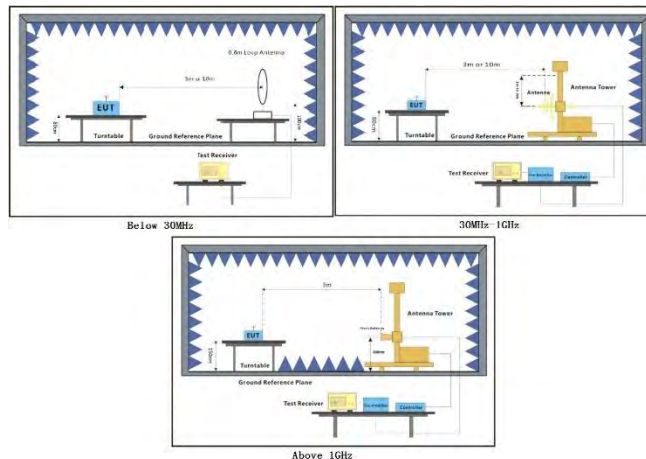
Humidity: 50.8 % RH

Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



7.5.4 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.



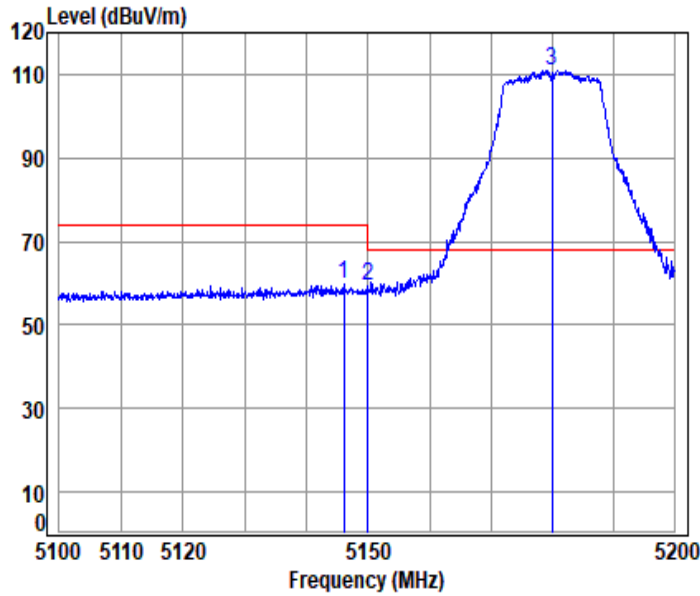
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11a_TX_CH_36_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5146.059	10.13	32.39	30.84	47.99	59.67	74.00	-14.33 peak
2	5149.980	10.14	32.40	30.84	47.56	59.26	74.00	-14.74 peak
3	pp 5180.000	10.25	32.46	30.83	99.19	111.07	68.20	42.87 peak



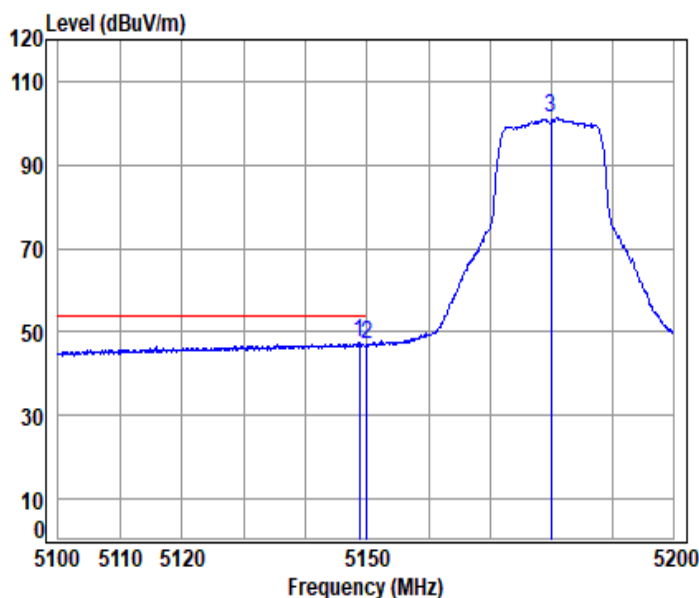
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241000395907

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11a_TX_CH_36_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5148.757	10.14	32.40	30.84	35.86	47.56	54.00	-6.44	Average
2	5149.980	10.14	32.40	30.84	35.44	47.14	54.00	-6.86	Average
3	5180.000	10.25	32.46	30.83	89.39	101.27	-----	-----	Average



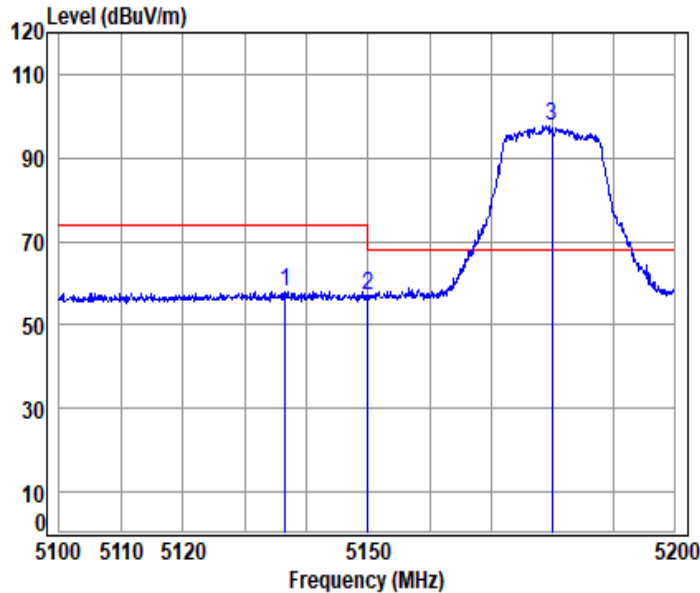
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11a_TX_CH_36_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5136.574	10.09	32.37	30.85	46.41	58.02	74.00	-15.98 Peak
2	5149.980	10.14	32.40	30.84	45.33	57.03	74.00	-16.97 Peak
3 pp	5180.000	10.25	32.46	30.83	85.68	97.56	68.20	29.36 Peak



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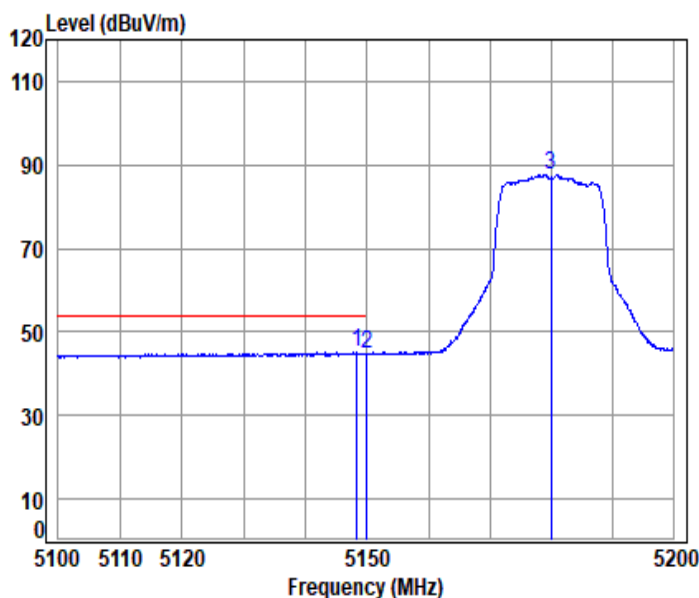
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11a_TX_CH_36_Verical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5148.357	10.13	32.40	30.84	33.37	45.06	54.00	-8.94	Average
2	5149.980	10.14	32.40	30.84	33.17	44.87	54.00	-9.13	Average
3	5180.000	10.25	32.46	30.83	75.80	87.68	-----	-----	Average



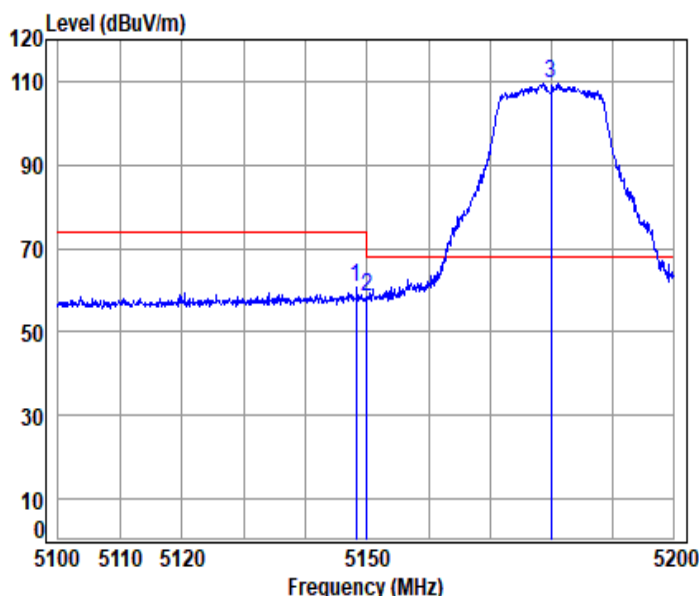
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11n_HT(20M)_TX_CH_36_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.257	10.13	32.40	30.84	48.81	60.50	74.00	-13.50 peak
2	5149.980	10.14	32.40	30.84	46.76	58.46	74.00	-15.54 peak
3	pp 5180.000	10.25	32.46	30.83	97.52	109.40	68.20	41.20 peak



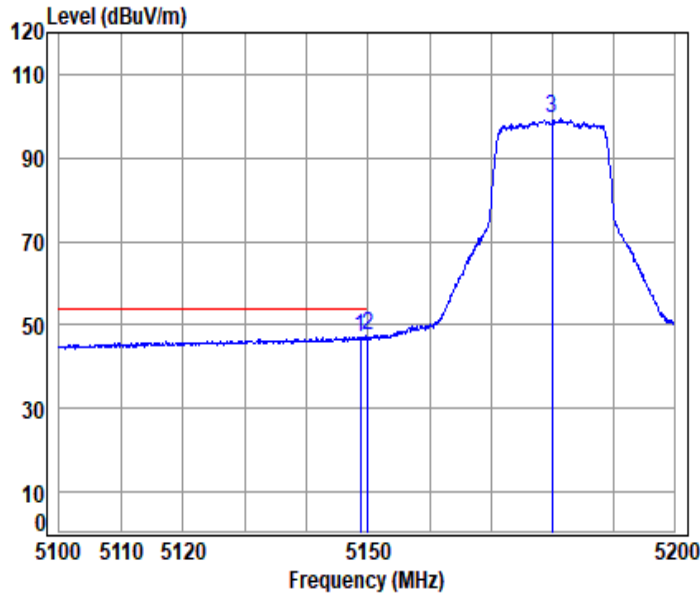
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11n_HT(20M)_TX_CH_36_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11N20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.757	10.14	32.40	30.84	35.42	47.12	54.00	-6.88	Average
2 pp	5149.980	10.14	32.40	30.84	35.53	47.23	54.00	-6.77	Average
3	5180.000	10.25	32.46	30.83	87.46	99.34	-----	-----	Average



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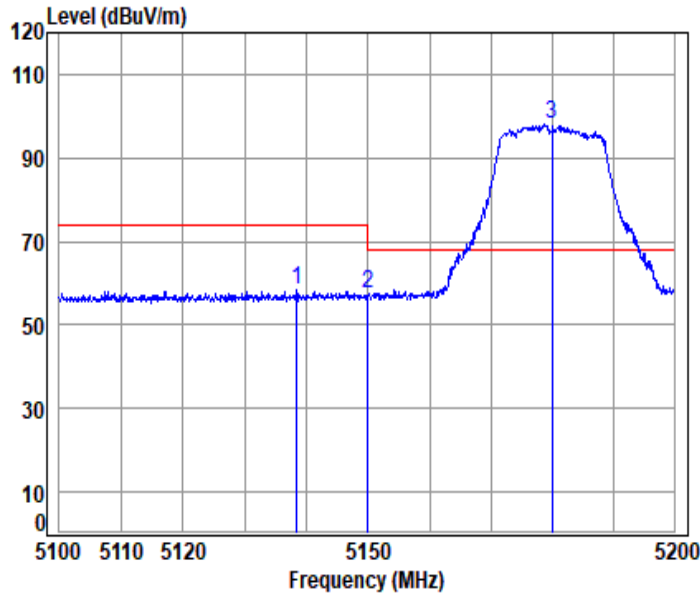
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11n_HT(20M)_TX_CH_36_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5138.470	10.10	32.38	30.84	46.76	58.40	74.00	-15.60 Peak
2	5149.980	10.14	32.40	30.84	45.63	57.33	74.00	-16.67 Peak
3 pp	5180.000	10.25	32.46	30.83	86.30	98.18	68.20	29.98 Peak



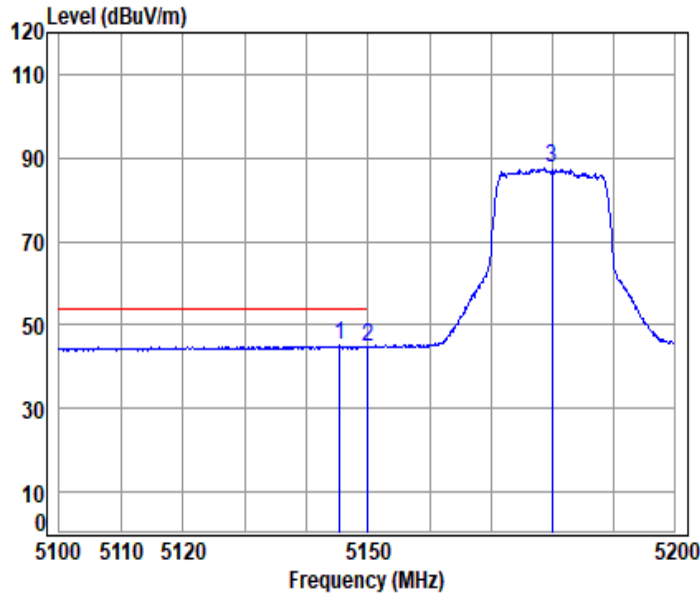
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11n_HT(20M)_TX_CH_36_Verical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5180 Band edge

: 5G WIFI 11N20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5145.359	10.12	32.39	30.84	33.28	44.95	54.00	-9.05	Average
2	5149.980	10.14	32.40	30.84	33.19	44.89	54.00	-9.11	Average
3	5180.000	10.25	32.46	30.83	75.52	87.40	-----	-----	Average



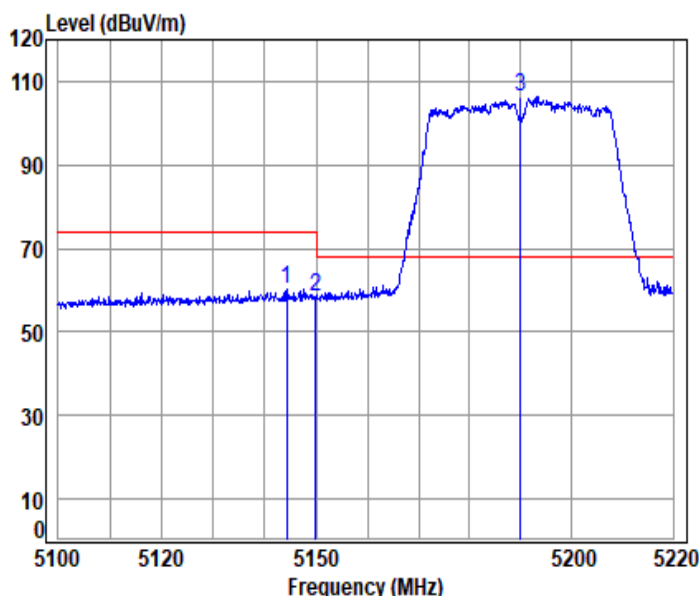
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11n_HT(40M)_TX_CH_38_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5190 Band edge

: 5G WIFI 11N40

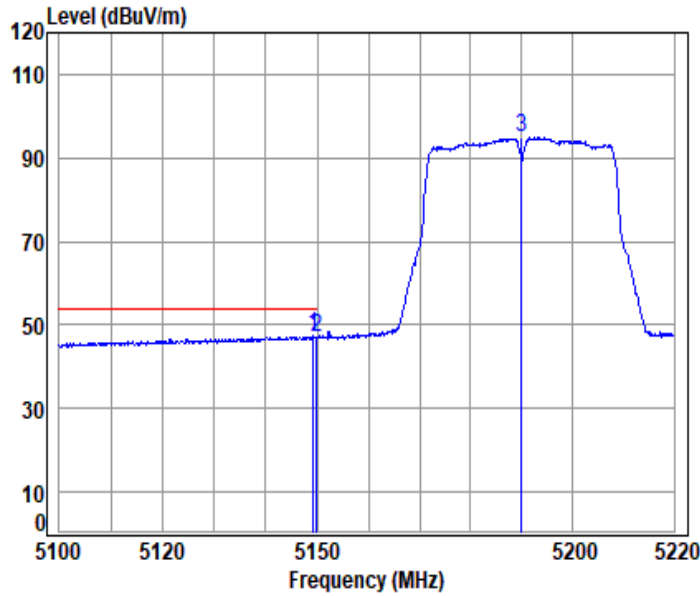
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5144.314	10.12	32.39	30.84	48.60	60.27	74.00 -13.73 peak
2	5149.980	10.14	32.40	30.84	46.67	58.37	74.00 -15.63 peak
3	5190.000	10.29	32.48	30.82	94.19	106.14	68.20 37.94 peak



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11n_HT(40M)_TX_CH_38_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5190 Band edge

: 5G WIFI 11N40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5149.342	10.14	32.40	30.84	35.55	47.25	54.00	-6.75 Average
2	5149.980	10.14	32.40	30.84	35.46	47.16	54.00	-6.84 Average
3	5190.000	10.29	32.48	30.82	82.92	94.87	-----	----- Average



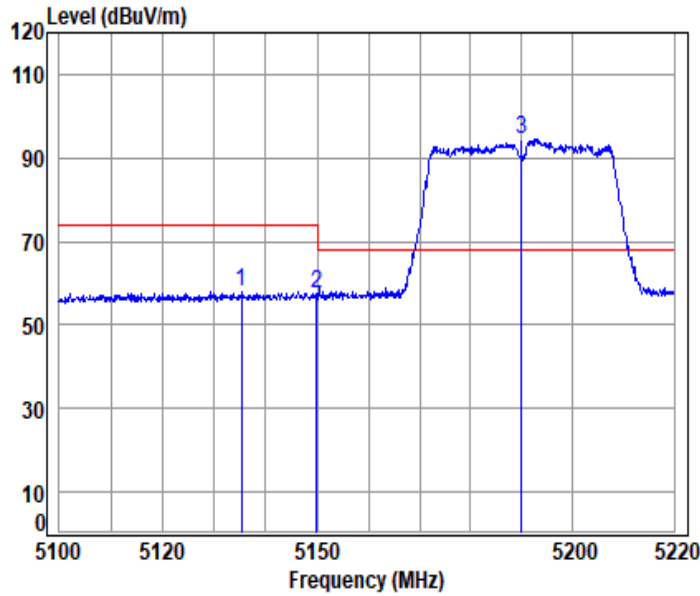
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11n_HT(40M)_TX_CH_38_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5190 Band edge

: 5G WIFI 11N40

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5135.229	10.08	32.37	30.85	46.42	58.02	74.00	-15.98 Peak
2	5149.980	10.14	32.40	30.84	45.88	57.58	74.00	-16.42 Peak
3 pp	5190.000	10.29	32.48	30.82	82.38	94.33	68.20	26.13 Peak



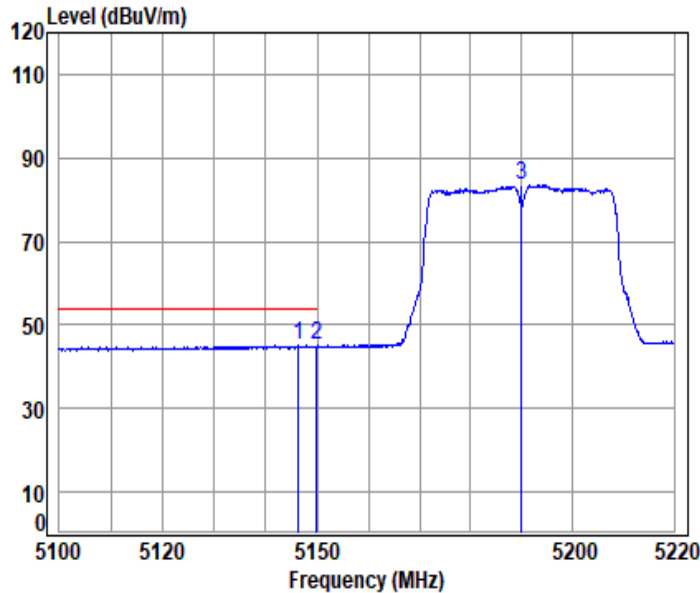
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11n_HT(40M)_TX_CH_38_Verical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5190 Band edge

: 5G WIFI 11N40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5146.349	10.13	32.39	30.84	33.28	44.96	54.00	-9.04 Average
2	pp 5149.980	10.14	32.40	30.84	33.27	44.97	54.00	-9.03 Average
3	5190.000	10.29	32.48	30.82	71.58	83.53	-----	----- Average



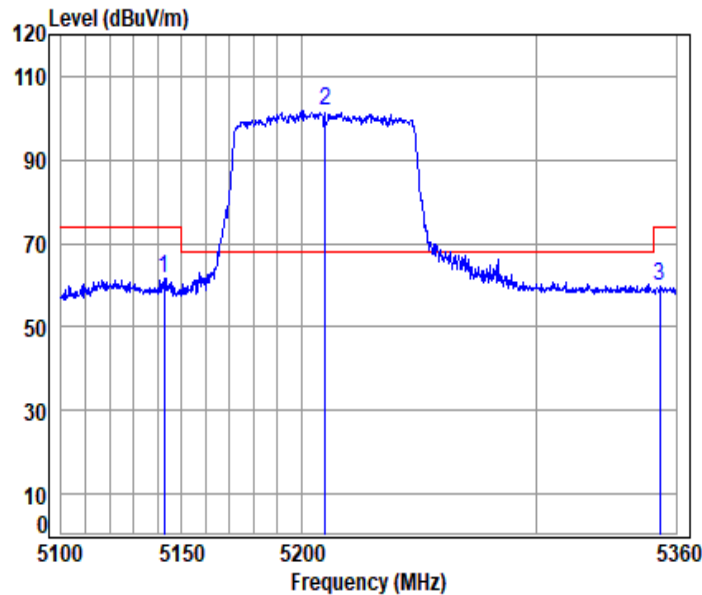
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11ac_VHT(80M)_TX_CH_42_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

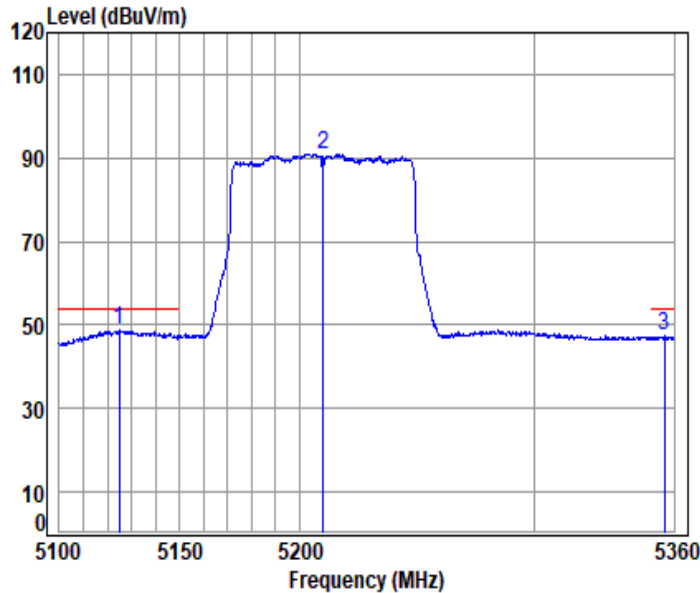
Mode : 5210 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5142.526	10.11	32.39	30.84	50.15	61.81	74.00 -12.19 peak
2	pp 5210.000	10.32	32.52	30.82	89.61	101.63	68.20 33.43 peak
3	5353.075	10.46	32.80	30.76	47.07	59.57	74.00 -14.43 peak



11ac_VHT(80M)_TX_CH_42_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5210 Band edge

: 5G WIFI 11AC80

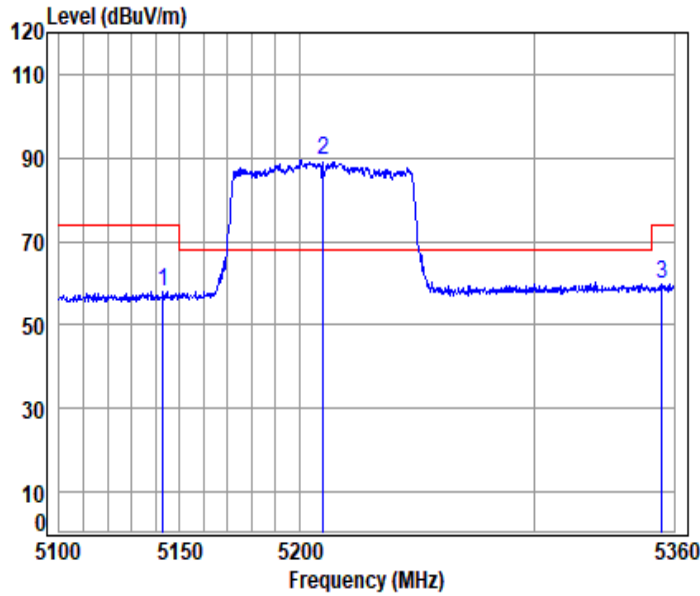
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5124.913	10.04	32.35	30.85	37.13	48.67	54.00	-5.33	Average
2	5210.000	10.32	32.52	30.82	78.99	91.01	-----	-----	Average
3	5356.004	10.47	32.80	30.76	34.72	47.23	54.00	-6.77	Average



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11ac_VHT(80M)_TX_CH_42_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5210 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5143.037	10.11	32.39	30.84	46.27	57.93	74.00 -16.07 Peak
2	pp 5210.000	10.32	32.52	30.82	77.23	89.25	68.20 21.05 Peak
3	5354.672	10.47	32.80	30.76	47.37	59.88	74.00 -14.12 Peak



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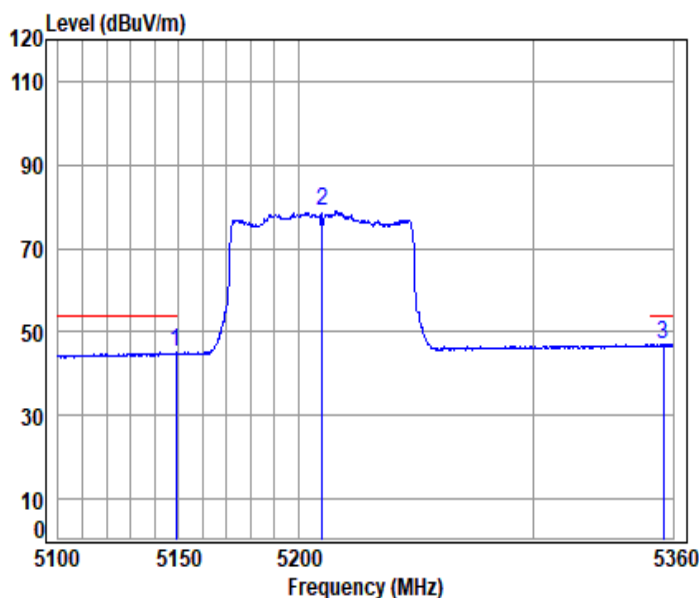
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11ac_VHT(80M)_TX_CH_42_Vertical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5210 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5148.667	10.13	32.40	30.84	33.33	45.02	54.00 -8.98 Average
2	5210.000	10.32	32.52	30.82	66.91	78.93	----- Average
3	pp 5355.737	10.47	32.80	30.76	34.51	47.02	54.00 -6.98 Average



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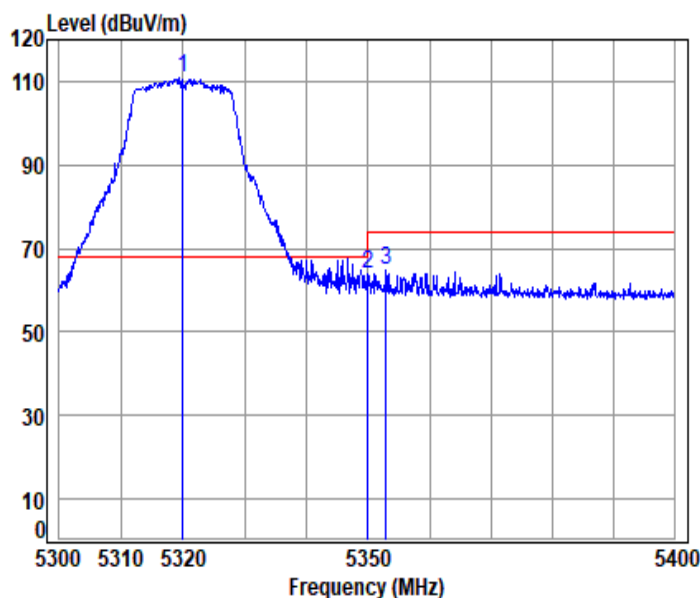
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11a_TX_CH_64_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5320.000	10.35	32.74	30.77	98.55	110.87	68.20	42.67	peak
2	5350.020	10.45	32.80	30.76	51.39	63.88	74.00	-10.12	peak
3	5352.867	10.46	32.80	30.76	52.10	64.60	74.00	-9.40	peak



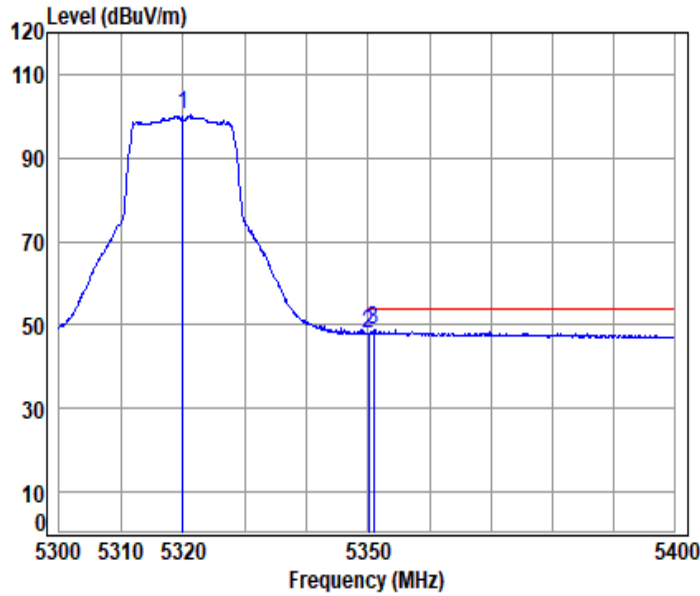
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11a_TX_CH_64_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5320.000	10.35	32.74	30.77	87.85	100.17	-----	----- Average
2 5350.167	10.45	32.80	30.76	35.41	47.90	54.00	-6.10 Average
3 pp 5350.966	10.45	32.80	30.76	36.45	48.94	54.00	-5.06 Average



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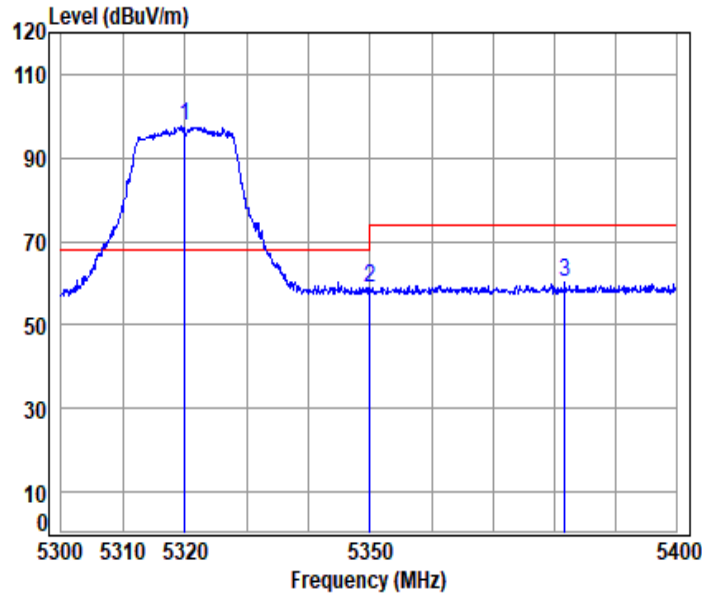
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11a_TX_CH_64_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5320.000	10.35	32.74	30.77	85.34	97.66	68.20	29.46	Peak
2	5350.020	10.45	32.80	30.76	46.27	58.76	74.00	-15.24	Peak
3	5381.761	10.56	32.80	30.75	47.68	60.29	74.00	-13.71	Peak



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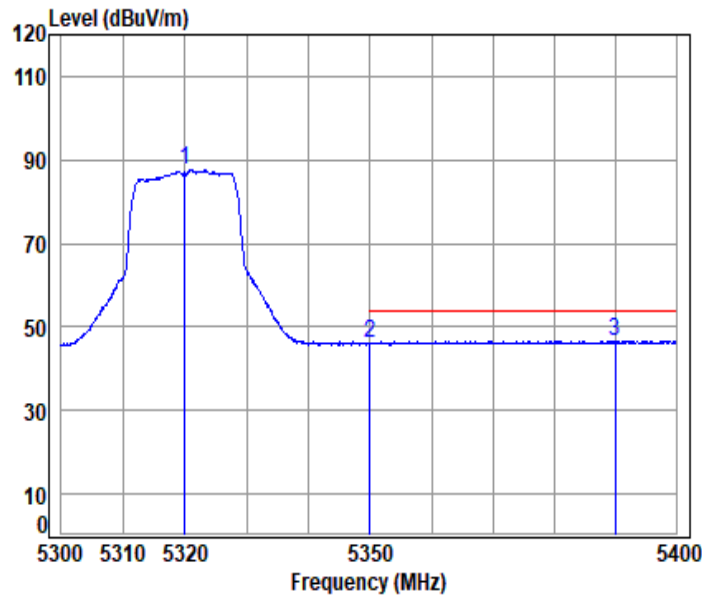
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11a_TX_CH_64_Verical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5320.000	10.35	32.74	30.77	75.31	87.63	-----	----- Average
2 5350.020	10.45	32.80	30.76	33.66	46.15	54.00	-7.85 Average
3 pp 5390.017	10.59	32.80	30.74	34.07	46.72	54.00	-7.28 Average



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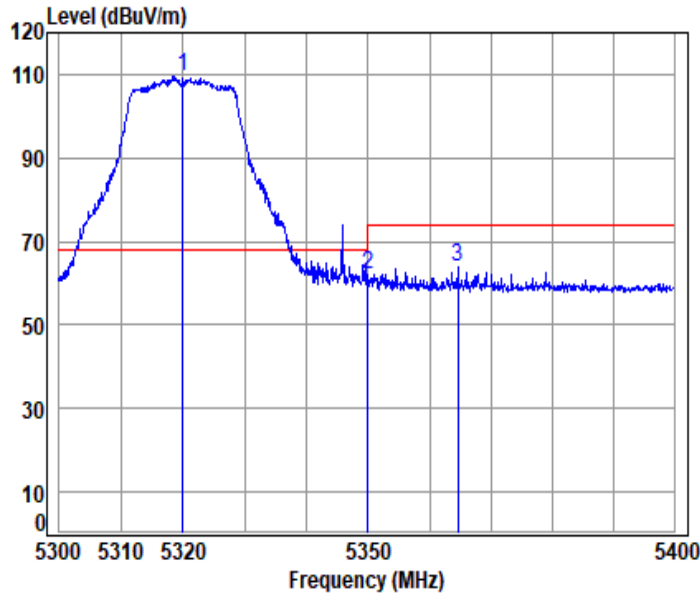
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11n_HT(20M)_TX_CH_64_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11N20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5320.000	10.35	32.74	30.77	97.05	109.37	68.20	41.17	peak
2	5350.020	10.45	32.80	30.76	49.45	61.94	74.00	-12.06	peak
3	5364.586	10.50	32.80	30.75	51.42	63.97	74.00	-10.03	peak



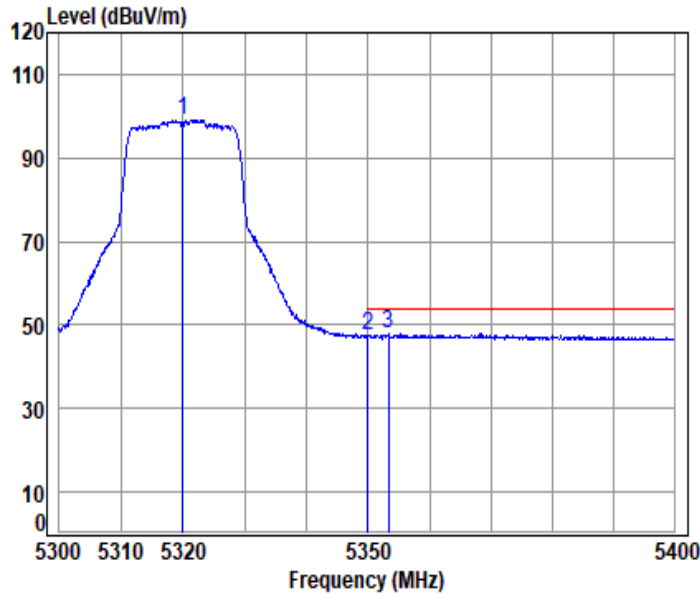
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11n_HT(20M)_TX_CH_64_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5320.000	10.35	32.74	30.77	86.86	99.18	-----	----- Average
2 5350.020	10.45	32.80	30.76	35.14	47.63	54.00	-6.37 Average
3 pp 5353.268	10.46	32.80	30.76	35.35	47.85	54.00	-6.15 Average

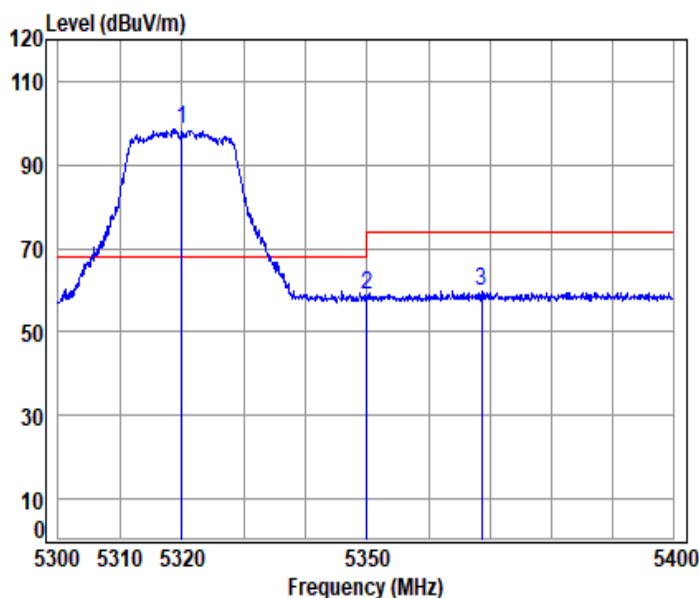
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11n_HT(20M)_TX_CH_64_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11N20

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5320.000	10.35	32.74	30.77	86.35	98.67	68.20	30.47	Peak
2	5350.020	10.45	32.80	30.76	46.16	58.65	74.00	-15.35	Peak
3	5368.700	10.51	32.80	30.75	47.02	59.58	74.00	-14.42	Peak



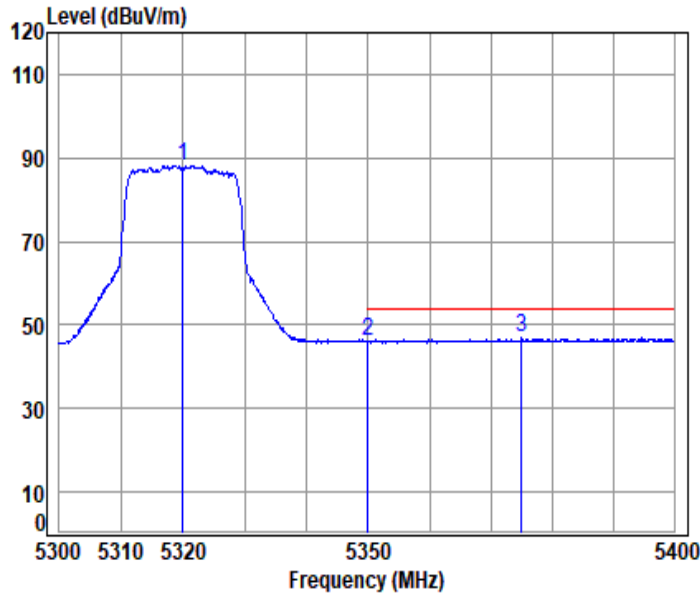
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11n_HT(20M)_TX_CH_64_Verical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5320 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5320.000	10.35	32.74	30.77	75.90	88.22	----- Average
2	5350.020	10.45	32.80	30.76	33.65	46.14	54.00 -7.86 Average
3	pp 5375.025	10.54	32.80	30.75	34.23	46.82	54.00 -7.18 Average



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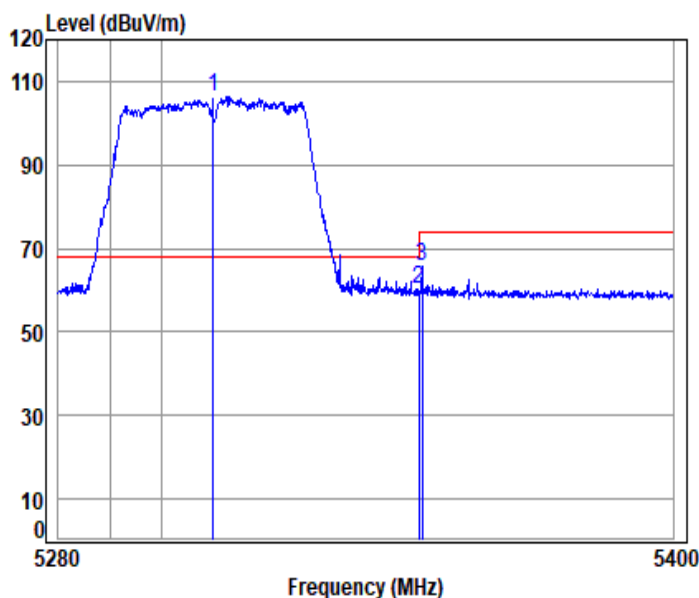
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SZEMC-TRF-01 Rev. A/1

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11n_HT(40M)_TX_CH_62_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5310 Band edge

: 5G WIFI 11N40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5310.000	10.31	32.72	30.78	94.06	106.31	68.20	38.11	peak
2	5350.020	10.45	32.80	30.76	47.88	60.37	74.00	-13.63	peak
3	5350.714	10.45	32.80	30.76	53.32	65.81	74.00	-8.19	peak



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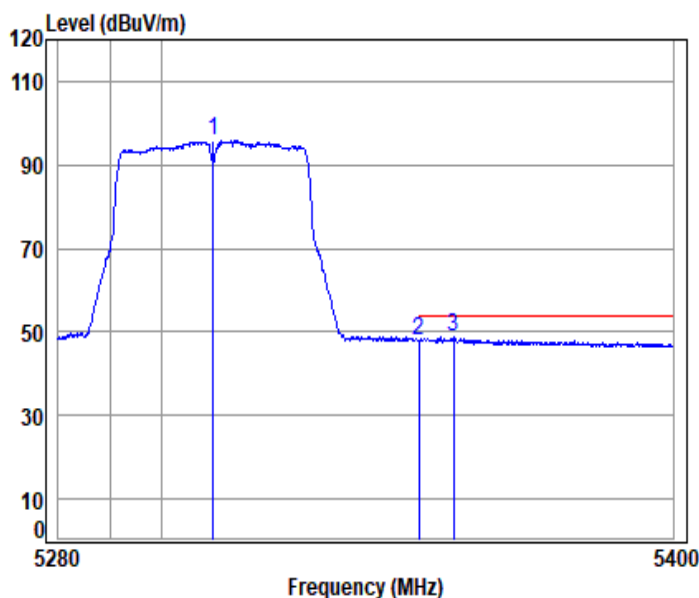
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Report No.: SZCR241000395907

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11n_HT(40M)_TX_CH_62_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5310 Band edge

: 5G WIFI 11N40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5310.000	10.31	32.72	30.78	83.68	95.93	----- Average
2	5350.020	10.45	32.80	30.76	35.63	48.12	54.00 -5.88 Average
3	pp 5356.850	10.47	32.80	30.76	36.27	48.78	54.00 -5.22 Average



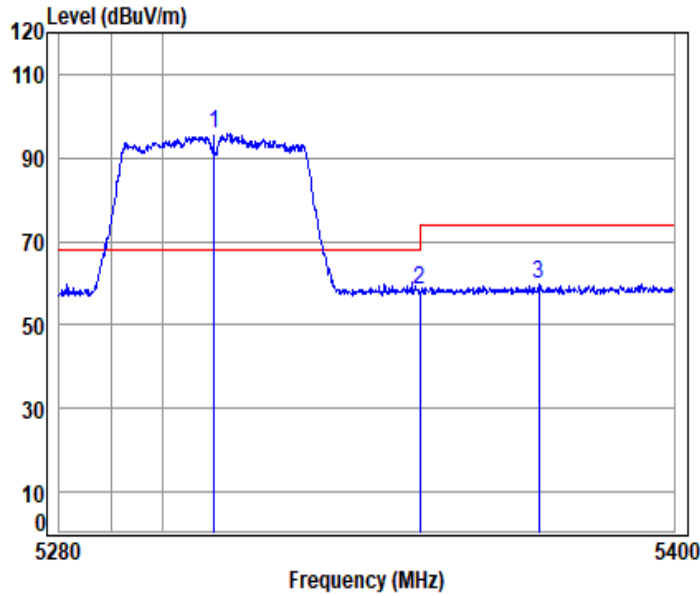
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11n_HT(40M)_TX_CH_62_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5310 Band edge

: 5G WIFI 11N40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5310.000	10.31	32.72	30.78	83.67	95.92	68.20	27.72	Peak
2	5350.020	10.45	32.80	30.76	45.82	58.31	74.00	-15.69	Peak
3	5373.368	10.53	32.80	30.75	47.07	59.65	74.00	-14.35	Peak



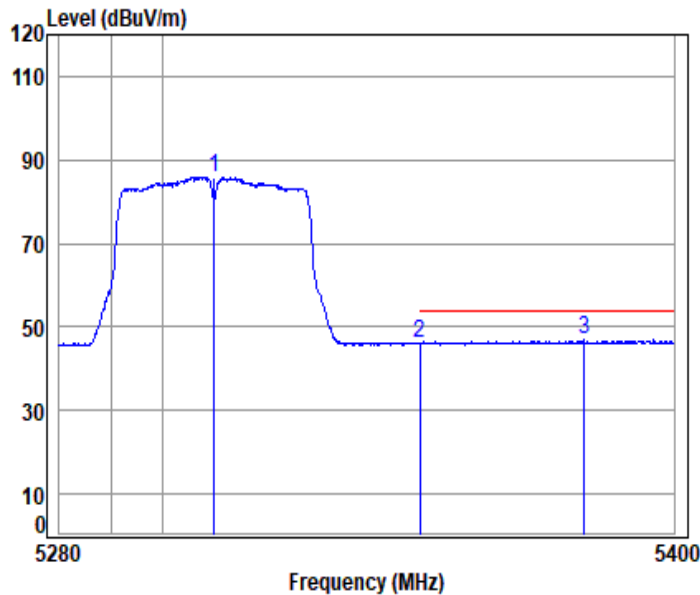
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11n_HT(40M)_TX_CH_62_Vertical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5310 Band edge

: 5G WIFI 11N40

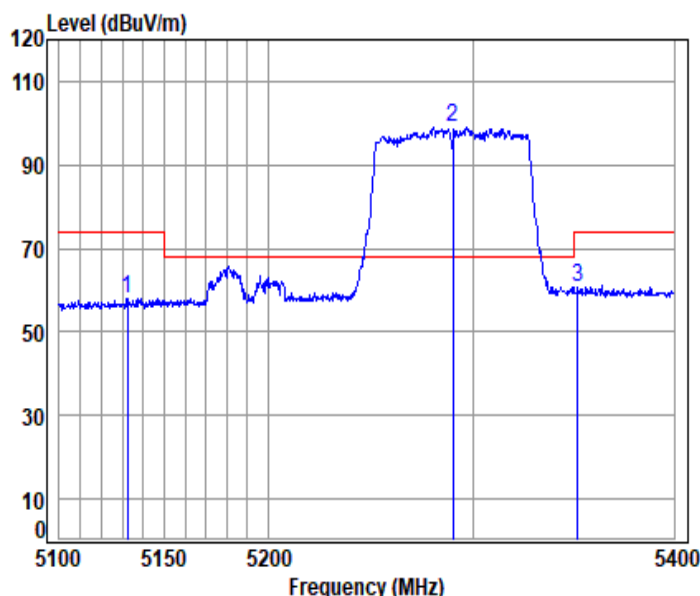
		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5310.000	10.31	32.72	30.78	73.59	85.84	-----	----- Average
2	5350.020	10.45	32.80	30.76	33.63	46.12	54.00	-7.88 Average
3	5382.312	10.56	32.80	30.75	34.37	46.98	54.00	-7.02 Average



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11ac_VHT(80M)_TX_CH_58_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

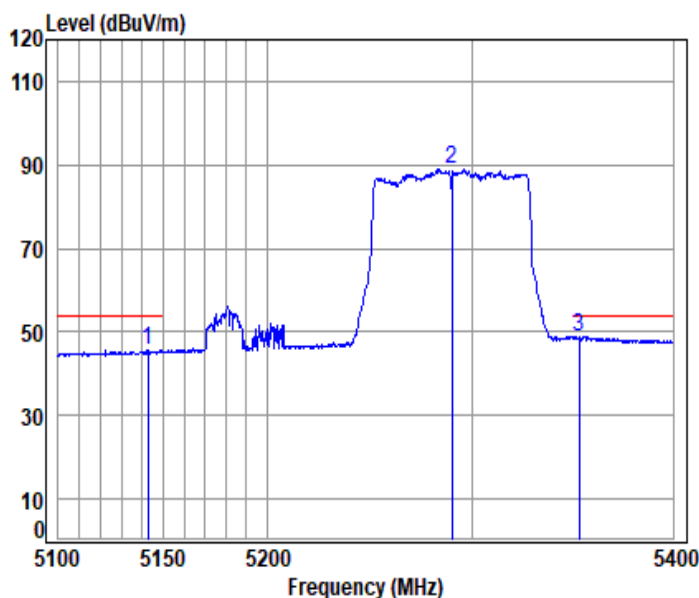
Mode : 5290 Band edge

: 5G WIFI 11AC80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5132.460	10.07	32.36	30.85	46.59	58.17	74.00	-15.83	peak
2 pp	5290.000	10.28	32.68	30.78	86.84	99.02	68.20	30.82	peak
3	5351.758	10.46	32.80	30.76	48.26	60.76	74.00	-13.24	peak



11ac_VHT(80M)_TX_CH_58_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5290 Band edge

: 5G WIFI 11AC80

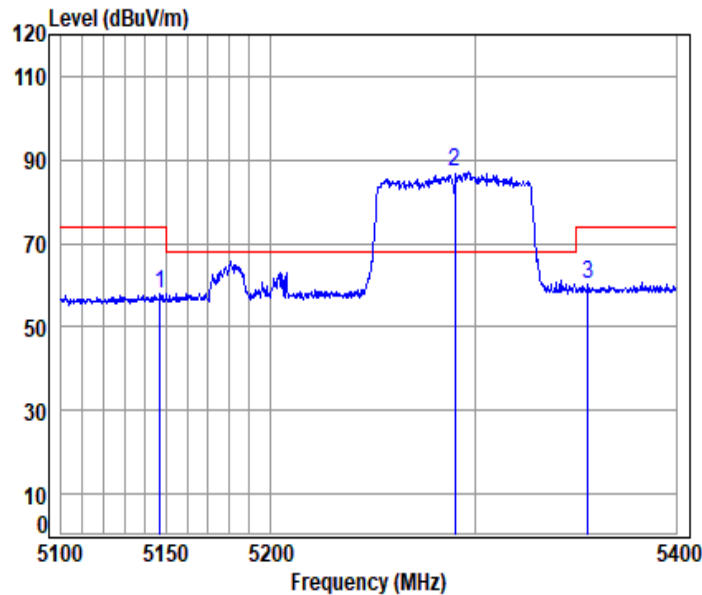
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5142.738	10.11	32.39	30.84	33.89	45.55	54.00	-8.45 Average
2 5290.000	10.28	32.68	30.78	76.79	88.97	-----	----- Average
3 pp 5352.981	10.46	32.80	30.76	36.37	48.87	54.00	-5.13 Average



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11ac_VHT(80M)_TX_CH_58_Vertical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5290 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.149	10.13	32.39	30.84	46.47	58.15	74.00	-15.85 Peak
2	pp 5290.000	10.28	32.68	30.78	74.78	86.96	68.20	18.76 Peak
3	5356.042	10.47	32.80	30.76	47.53	60.04	74.00	-13.96 Peak

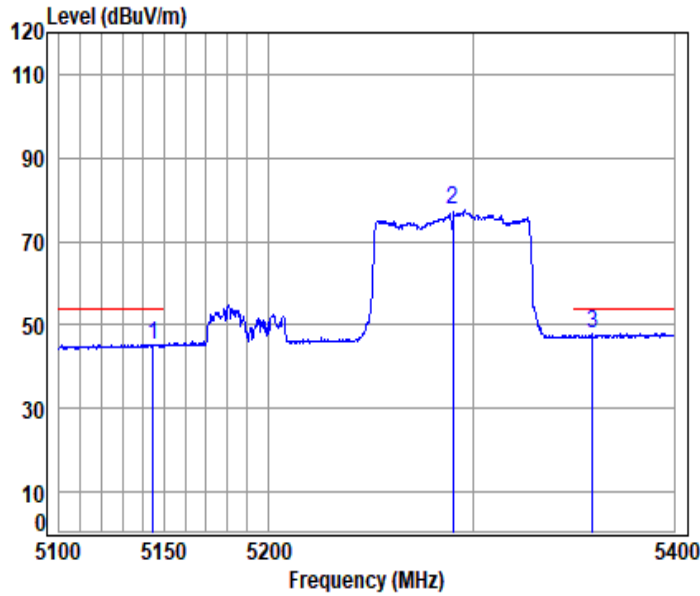


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11ac_VHT(80M)_TX_CH_58_Vertical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5290 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5144.796	10.12	32.39	30.84	33.71	45.38	54.00	-8.62 Average
2	5290.000	10.28	32.68	30.78	65.20	77.38	-----	----- Average
3	pp 5359.411	10.48	32.80	30.76	35.32	47.84	54.00	-6.16 Average



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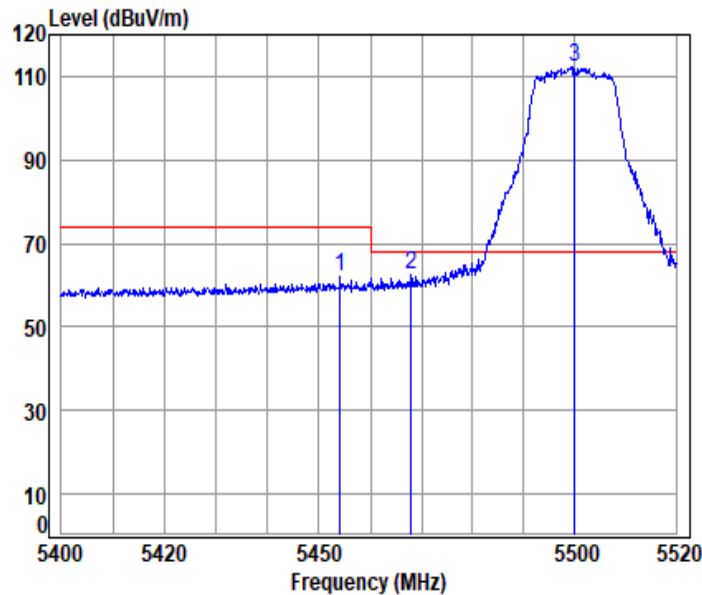
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SZEMC-TRF-01 Rev. A/1

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11a_TX_CH_100_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5454.033	10.60	32.90	30.72	49.27	62.05	74.00	-11.95 peak
2	5467.957	10.59	32.90	30.71	49.70	62.48	68.20	-5.72 peak
3	pp 5500.000	10.58	32.90	30.70	99.40	112.18	68.20	43.98 peak



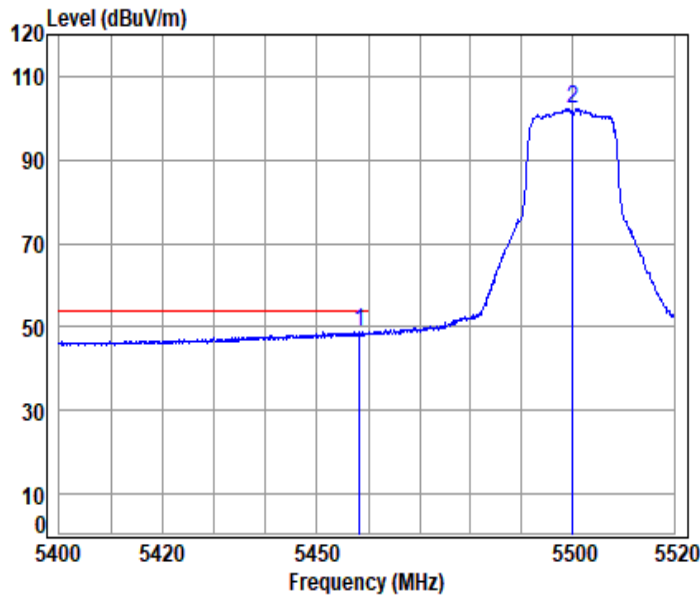
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11a_TX_CH_100_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5458.351	10.60	32.90	30.72	35.90	48.68	54.00	-5.32 Average
2 5500.000	10.58	32.90	30.70	89.31	102.09	-----	----- Average



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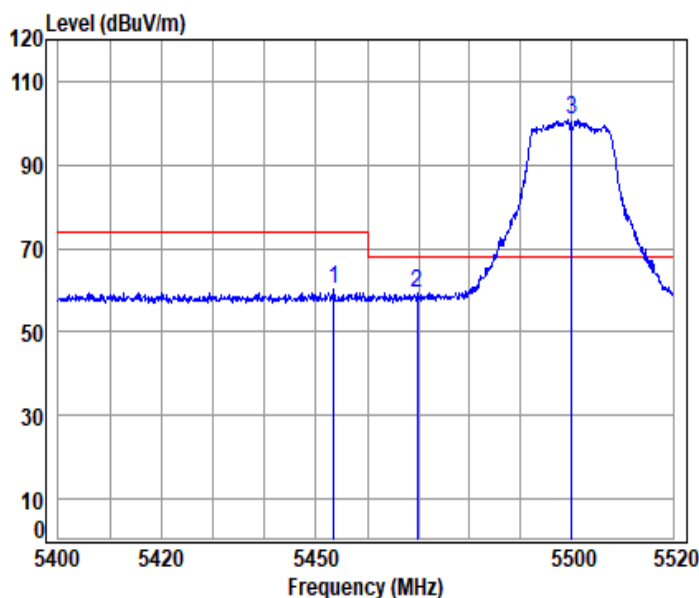
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241000395907

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11a_TX_CH_100_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5453.434	10.60	32.90	30.72	47.43	60.21	74.00	-13.79	Peak
2	5469.759	10.59	32.90	30.71	46.64	59.42	68.20	-8.78	peak
3 pp	5500.000	10.58	32.90	30.70	88.02	100.80	68.20	32.60	Peak



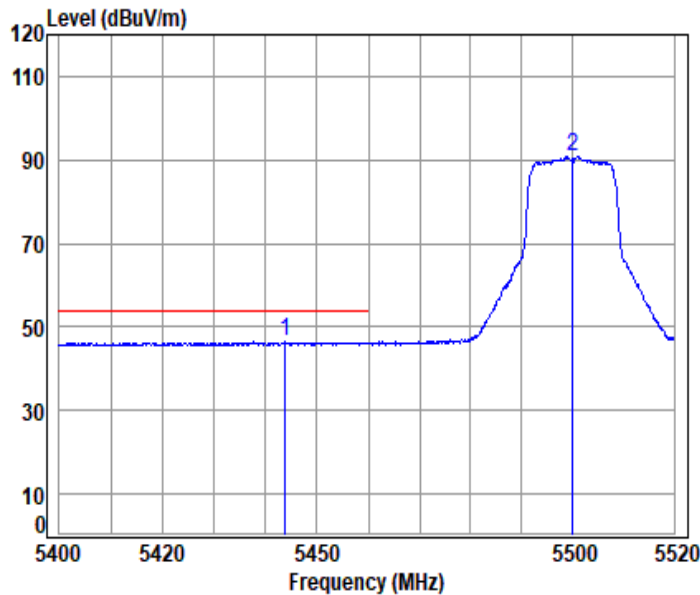
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11a_TX_CH_100_Veritical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5443.854	10.60	32.89	30.72	33.68	46.45	54.00	-7.55 Average
2 5500.000	10.58	32.90	30.70	78.03	90.81	-----	----- Average



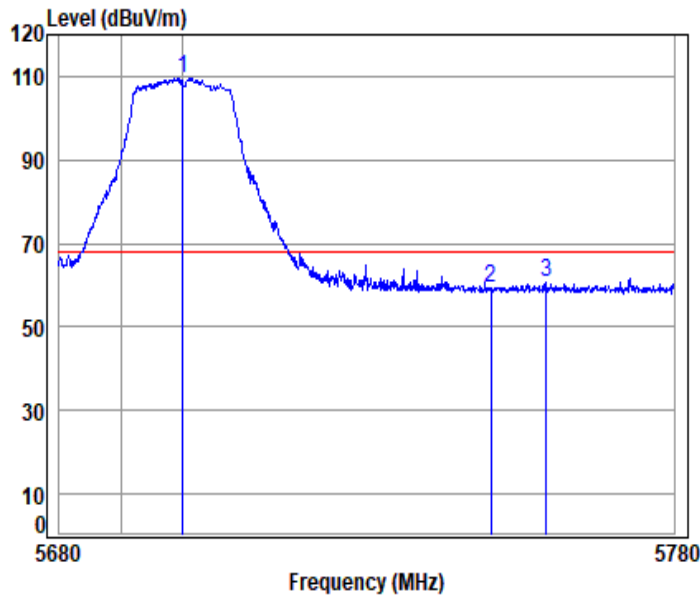
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11a_TX_CH_140_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5700 Band edge

: 5G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5700.000	10.56	33.20	30.62	96.45	109.59	68.20	41.39	peak
2	5750.000	10.79	33.30	30.60	45.97	59.46	68.20	-8.74	Peak
3	5759.056	10.83	33.32	30.60	47.02	60.57	68.20	-7.63	peak

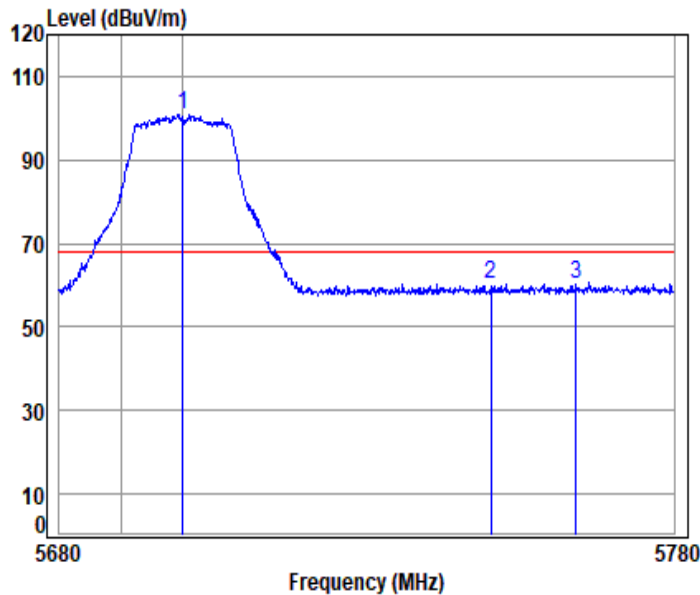


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11a_TX_CH_140_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5700 Band edge

: 5G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5700.000	10.56	33.20	30.62	87.50	100.64	68.20	32.44	Peak
2	5750.000	10.79	33.30	30.60	46.72	60.21	68.20	-7.99	Peak
3	5763.882	10.85	33.33	30.59	46.52	60.11	68.20	-8.09	Peak



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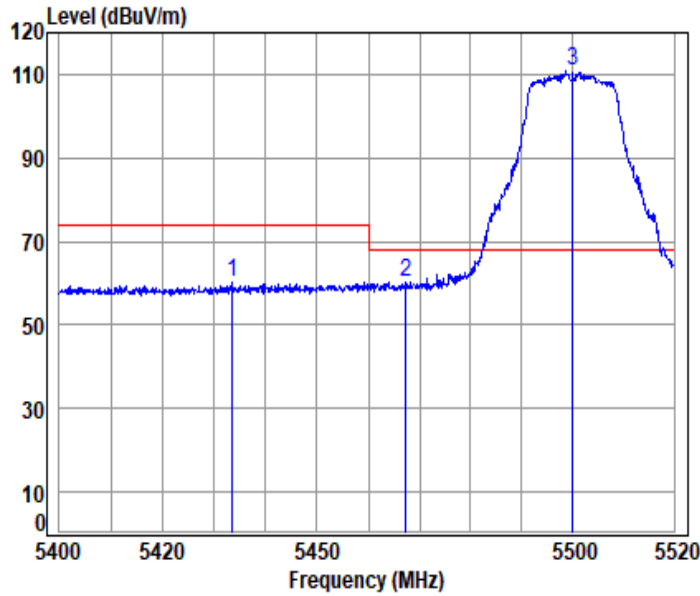
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11n_HT(20M)_TX_CH_100_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5433.573	10.61	32.87	30.73	47.40	60.15	74.00	-13.85 peak
2	5467.355	10.59	32.90	30.71	47.65	60.43	68.20	-7.77 peak
3	pp 5500.000	10.58	32.90	30.70	97.87	110.65	68.20	42.45 peak



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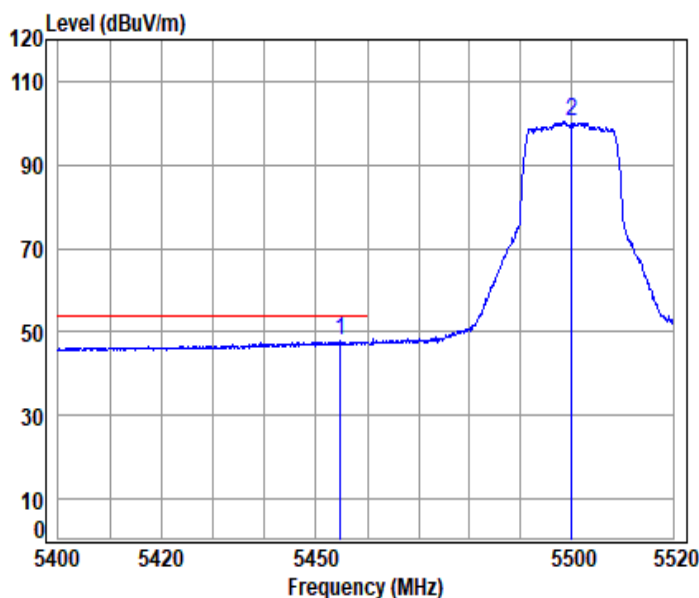
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11n_HT(20M)_TX_CH_100_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5454.752	10.60	32.90	30.72	34.97	47.75	54.00	-6.25 Average
2 5500.000	10.58	32.90	30.70	87.50	100.28	-----	----- Average



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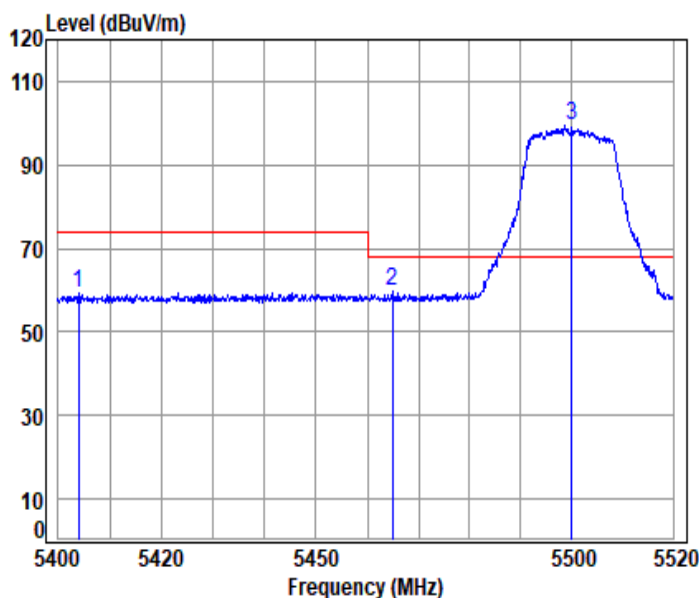
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11n_HT(20M)_TX_CH_100_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5403.918	10.62	32.81	30.74	46.78	59.47	74.00	-14.53 Peak
2	5464.833	10.59	32.90	30.71	46.93	59.71	68.20	-8.49 peak
3	pp 5500.000	10.58	32.90	30.70	86.53	99.31	68.20	31.11 Peak



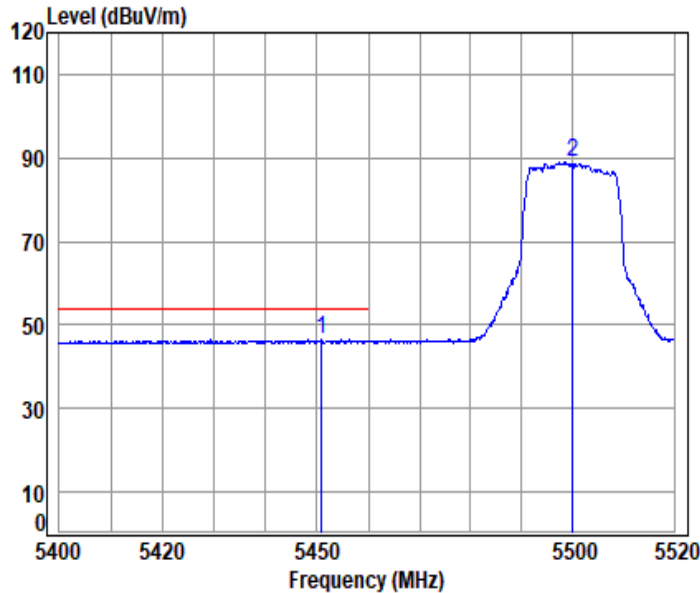
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11n_HT(20M)_TX_CH_100_Verical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5500 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5450.917	10.60	32.90	30.72	33.60	46.38	54.00	-7.62 Average
2 5500.000	10.58	32.90	30.70	76.04	88.82	-----	----- Average

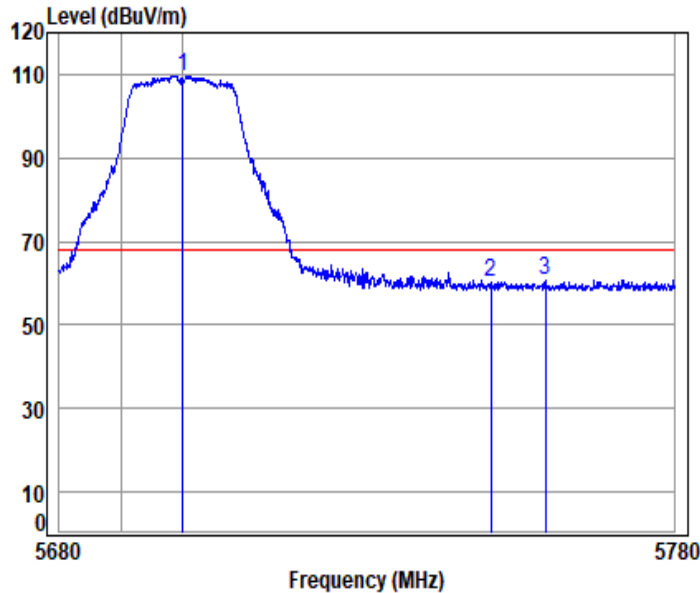
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11n_HT(20M)_TX_CH_140_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5700 Band edge

: 5G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5700.000	10.56	33.20	30.62	96.56	109.70	68.20	41.50 peak
2 5750.000	10.79	33.30	30.60	46.64	60.13	68.20	-8.07 Peak
3 5758.956	10.83	33.32	30.60	46.91	60.46	68.20	-7.74 peak



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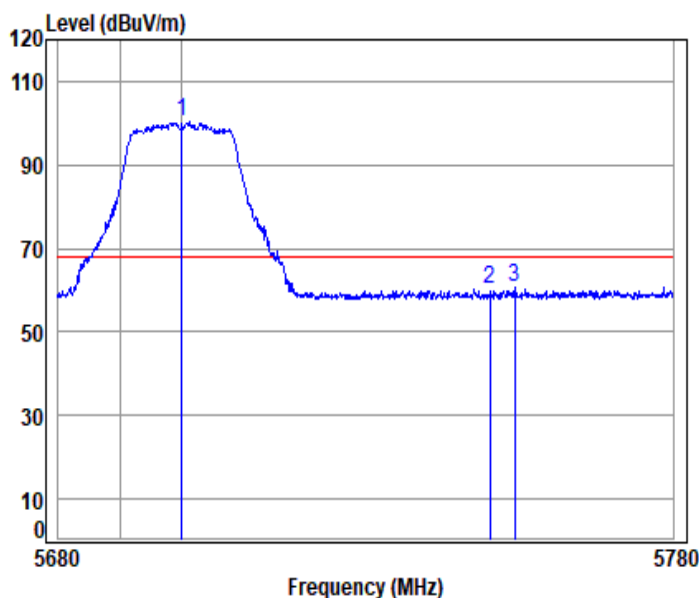
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11n_HT(20M)_TX_CH_140_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5700 Band edge

: 5G WIFI 11N20

		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	87.08	100.22	68.20	32.02 Peak
2	5750.000	10.79	33.30	30.60	46.66	60.15	68.20	-8.05 Peak
3	5754.133	10.81	33.31	30.60	47.01	60.53	68.20	-7.67 Peak



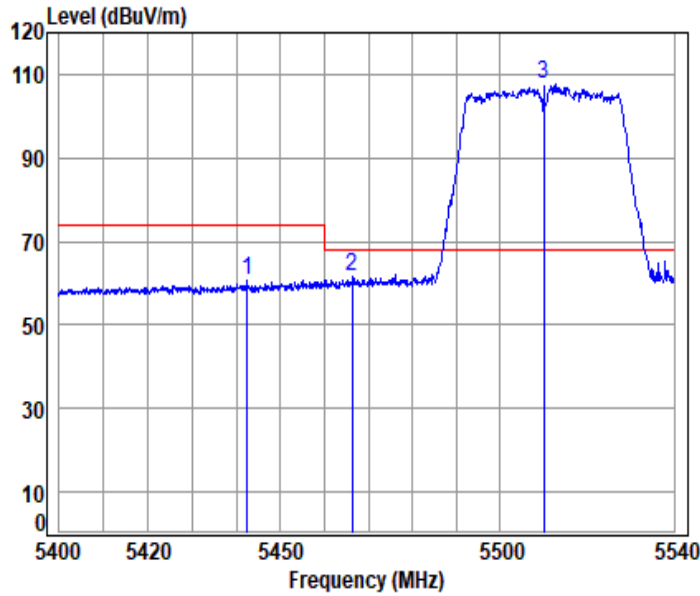
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11n_HT(40M)_TX_CH_102_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5510 Band edge

: 5G WIFI 11N40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5442.460	10.60	32.88	30.72	47.81	60.57	74.00 -13.43 peak
2	5466.333	10.59	32.90	30.71	48.76	61.54	68.20 -6.66 peak
3	pp 5510.000	10.56	32.90	30.70	94.78	107.54	68.20 39.34 peak



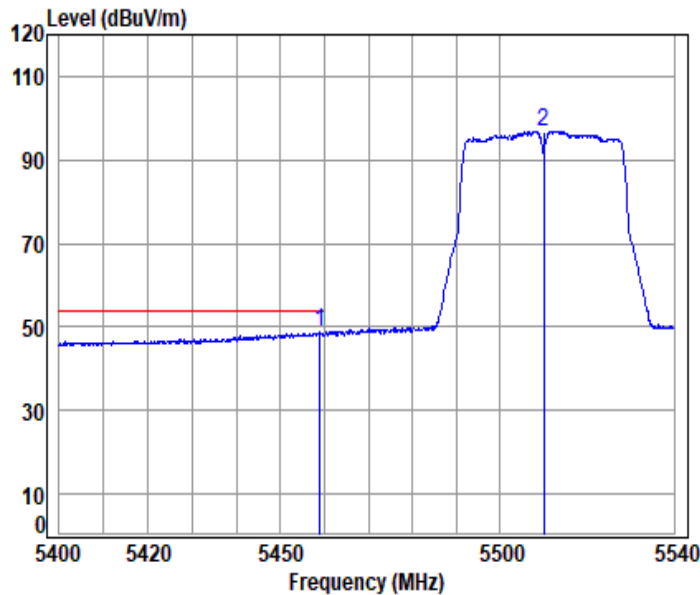
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11n_HT(40M)_TX_CH_102_Horizontal-Avg



Condition: 3m HORIZONTAL

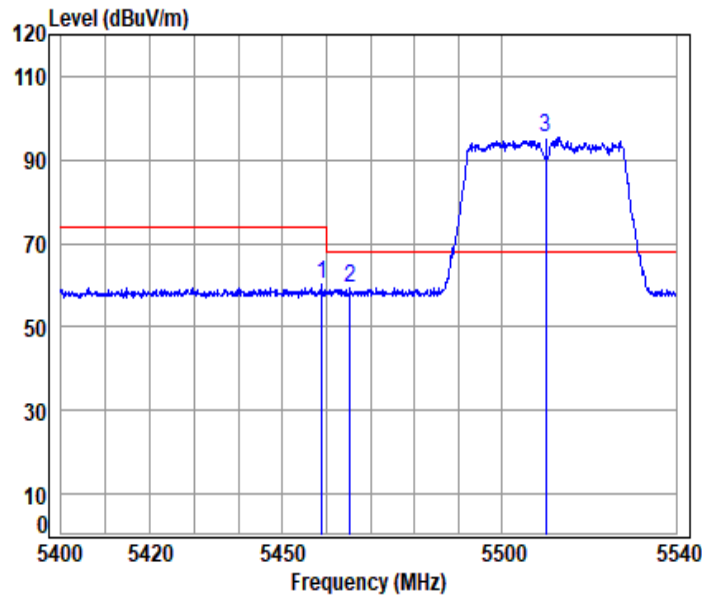
Job No : 03959WM

Mode : 5510 Band edge

: 5G WIFI 11N40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5458.923	10.60	32.90	30.72	35.91	48.69	54.00	-5.31 Average
2 5510.000	10.56	32.90	30.70	84.04	96.80	-----	----- Average

11n_HT(40M)_TX_CH_102_Verical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5510 Band edge

: 5G WIFI 11N40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5458.923	10.60	32.90	30.72	47.42	60.20	74.00 -13.80 Peak
2	5465.354	10.59	32.90	30.71	46.59	59.37	68.20 -8.83 peak
3 pp	5510.000	10.56	32.90	30.70	82.72	95.48	68.20 27.28 Peak



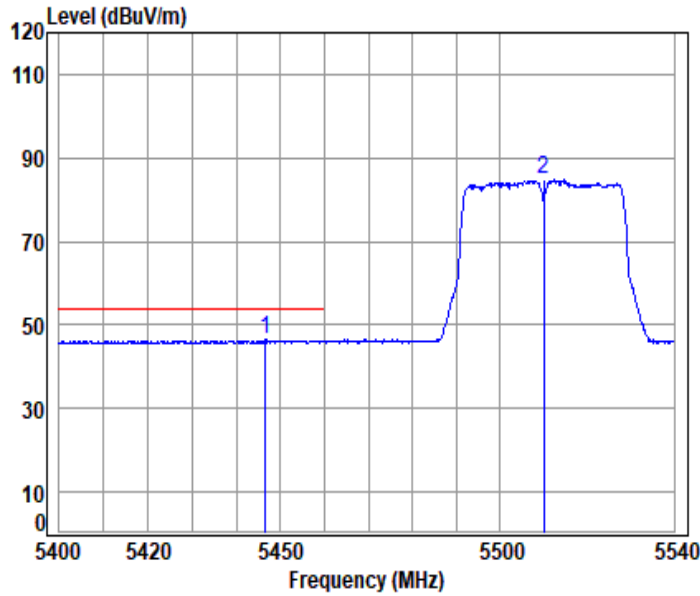
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11n_HT(40M)_TX_CH_102_Vertical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5510 Band edge

: 5G WIFI 11N40

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5446.501	10.60	32.89	30.72	33.71	46.48	54.00	-7.52 Average
2 5510.000	10.56	32.90	30.70	71.94	84.70	-----	----- Average



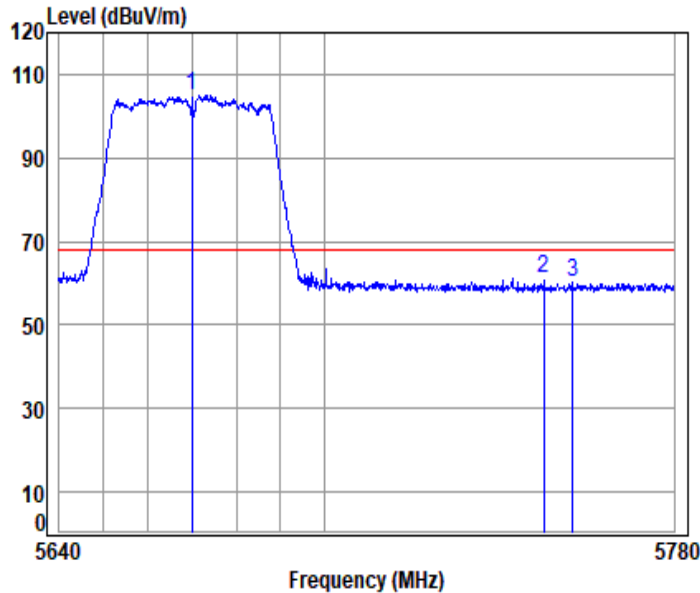
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11n_HT(40M)_TX_CH_134_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5670 Band edge

: 5G WIFI 11N40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5670.000	10.52	33.14	30.63	91.82	104.85	68.20	36.65	peak
2	5750.000	10.79	33.30	30.60	47.54	61.03	68.20	-7.17	peak
3	5756.663	10.82	33.31	30.60	46.67	60.20	68.20	-8.00	peak

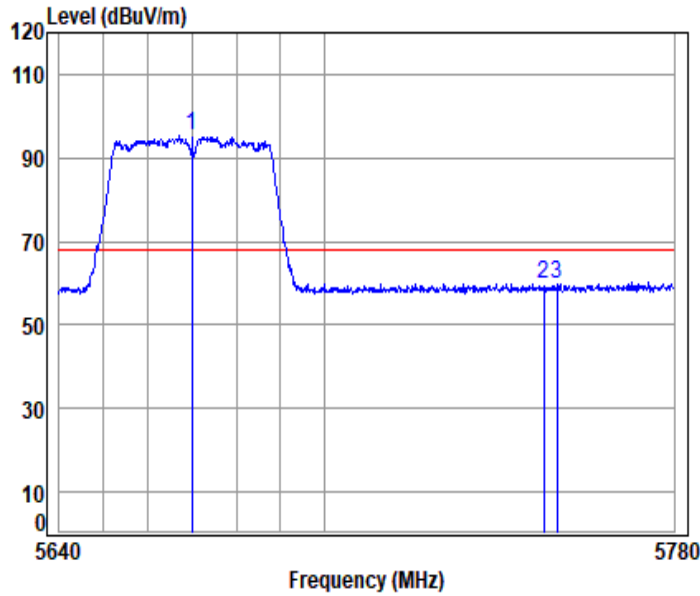
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11n_HT(40M)_TX_CH_134_Vertical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5670 Band edge

: 5G WIFI 11N40

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5670.000	10.52	33.14	30.63	82.19	95.22	68.20	27.02	Peak
2	5750.000	10.79	33.30	30.60	46.24	59.73	68.20	-8.47	Peak
3	5753.135	10.80	33.31	30.60	46.35	59.86	68.20	-8.34	Peak



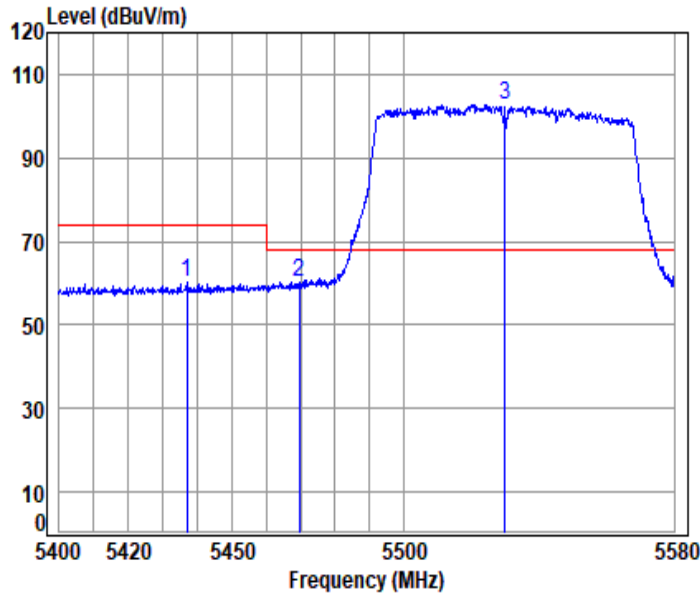
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11ac_VHT(80M)_TX_CH_106_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5530 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5436.956	10.61	32.87	30.73	47.35	60.10	74.00	-13.90 peak
2	5469.499	10.59	32.90	30.71	47.54	60.32	68.20	-7.88 peak
3	5530.000	10.53	32.90	30.69	90.01	102.75	68.20	34.55 peak

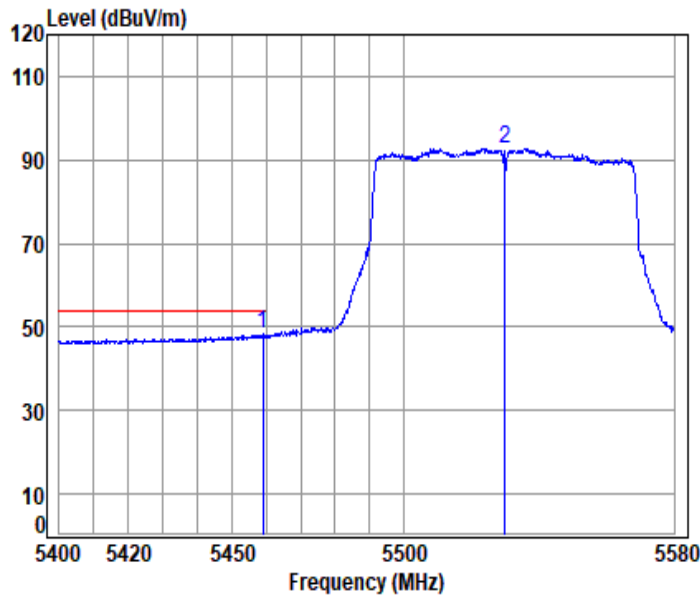
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11ac_VHT(80M)_TX_CH_106_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5530 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5459.107	10.60	32.90	30.72	35.64	48.42	54.00	-5.58 Average
2 5530.000	10.53	32.90	30.69	80.11	92.85	-----	----- Average



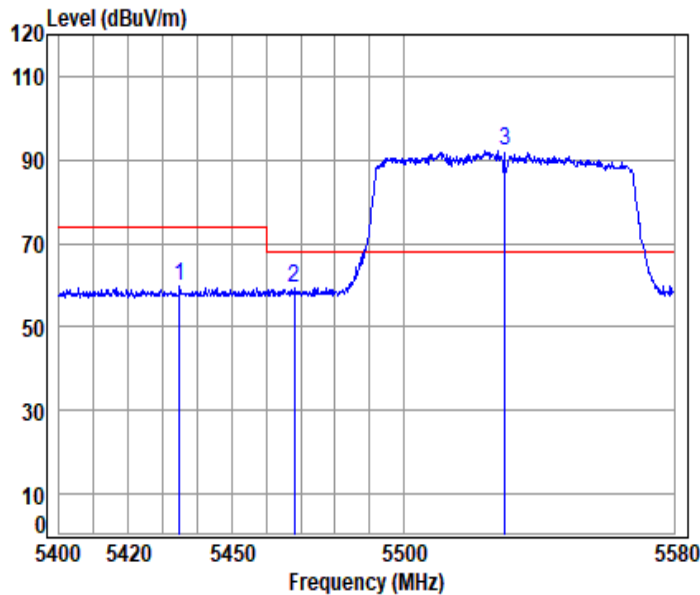
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11ac_VHT(80M)_TX_CH_106_Vertical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5530 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5434.638	10.61	32.87	30.73	46.87	59.62	74.00 -14.38 Peak
2	5468.244	10.59	32.90	30.71	46.70	59.48	68.20 -8.72 peak
3	pp 5530.000	10.53	32.90	30.69	79.64	92.38	68.20 24.18 Peak



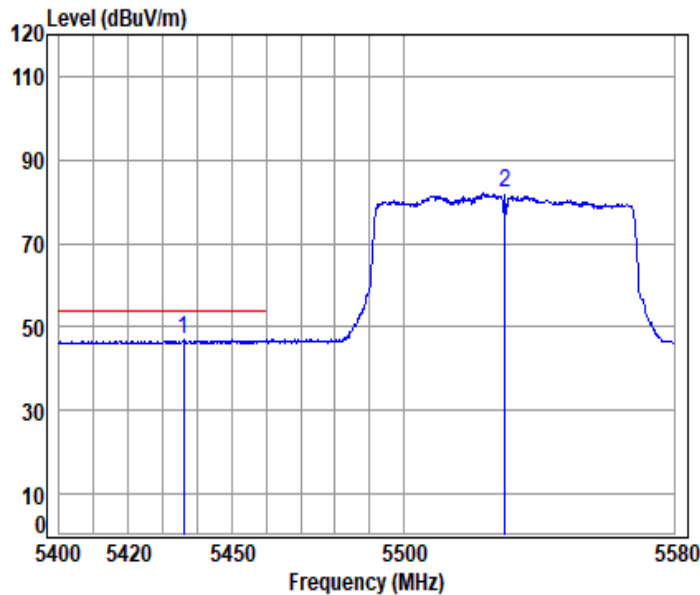
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11ac_VHT(80M)_TX_CH_106_Vertical-Avg



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5530 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5435.886	10.61	32.87	30.73	34.29	47.04	54.00	-6.96 Average
2 5530.000	10.53	32.90	30.69	69.19	81.93	-----	----- Average



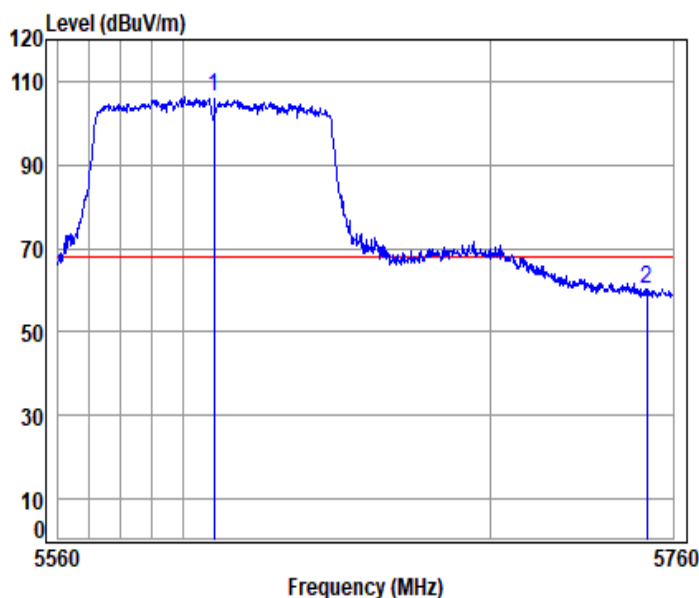
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11ac_VHT(80M)_TX_CH_122_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5610 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5610.000	10.43	33.02	30.66	93.33	106.12	68.20	37.92 peak
2 5751.254	10.80	33.30	30.60	46.75	60.25	68.20	-7.95 peak



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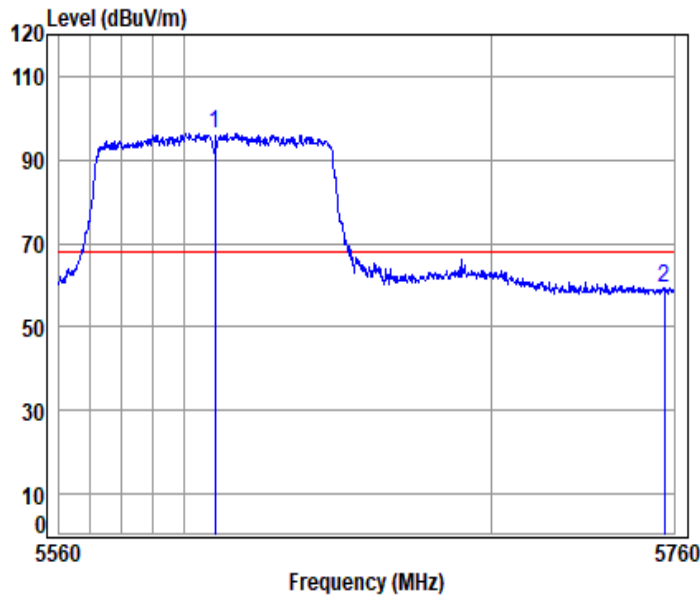
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11ac_VHT(80M)_TX_CH_122_Vertical-Peak



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5610 Band edge

: 5G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5610.000	10.43	33.02	30.66	83.67	96.46	68.20	28.26 Peak
2 5756.947	10.82	33.31	30.60	45.93	59.46	68.20	-8.74 Peak



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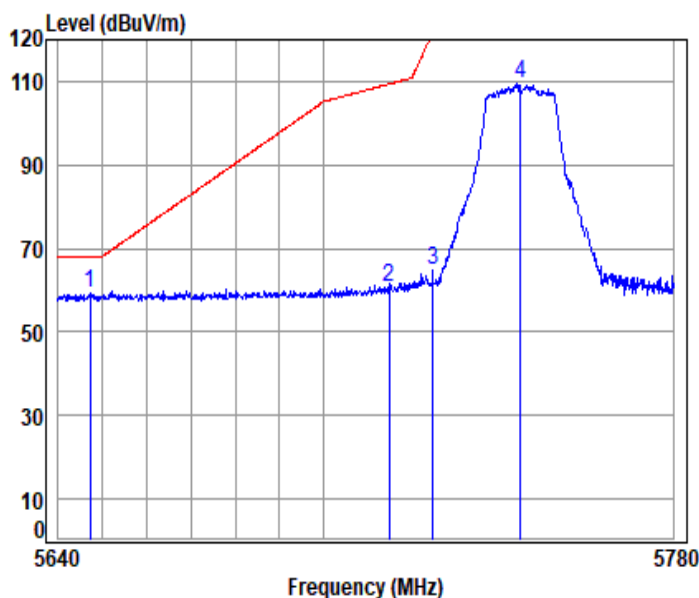
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11a_TX_CH_149_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5745 Band edge

: 5.8G WIFI 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 5647.196	10.48	33.09	30.64	46.37	59.30	68.20	-8.90 peak
2	5715.000	10.63	33.23	30.61	47.45	60.70	109.40	-48.70 peak
3	5725.000	10.68	33.25	30.61	51.43	64.75	122.20	-57.45 peak
4	5745.000	10.77	33.29	30.60	95.82	109.28	-----	----- peak



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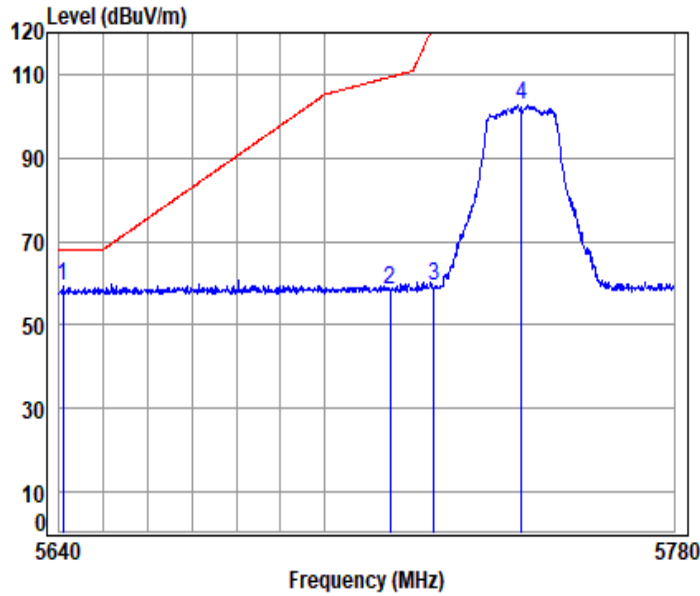
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11a_TX_CH_149_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5745 Band edge

: 5.8G WIFI 11A

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	pp 5640.830	10.47	33.08	30.64	46.26	59.17	68.20	-9.03 peak
2	5715.000	10.63	33.23	30.61	45.33	58.58	109.40	-50.82 peak
3	5725.000	10.68	33.25	30.61	46.14	59.46	122.20	-62.74 peak
4	5745.000	10.77	33.29	30.60	89.20	102.66	-----	----- peak



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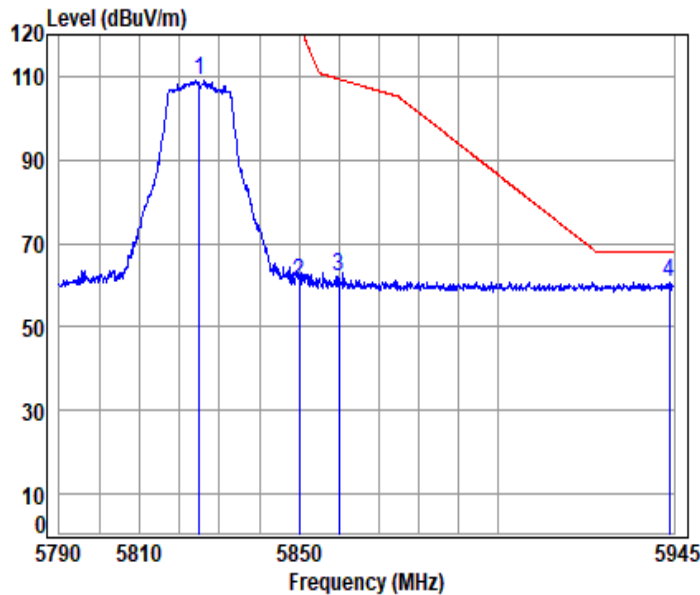
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11a_TX_CH_165_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5825 Band edge

: 5.8G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	95.06	108.98	-----	-----	peak
2	5850.000	10.95	33.60	30.56	46.74	60.73	122.20	-61.47	peak
3	5860.000	10.94	33.58	30.56	48.09	62.05	109.40	-47.35	peak
4	5943.744	10.86	33.59	30.52	46.90	60.83	68.20	-7.37	peak



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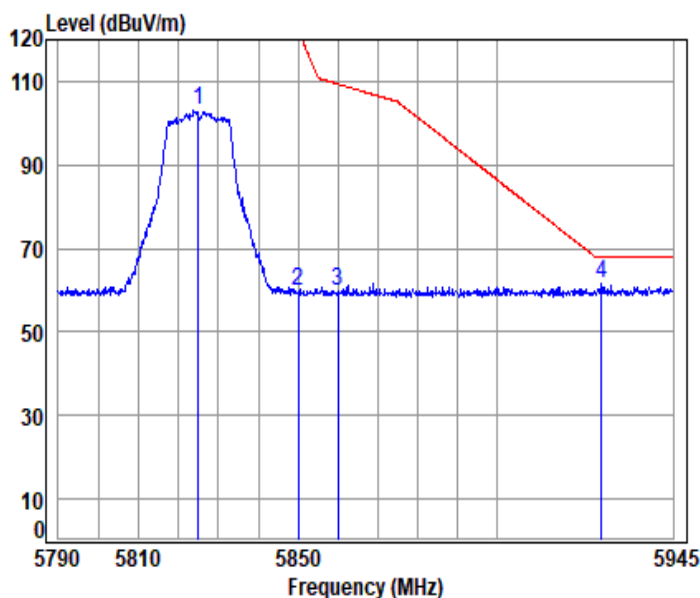
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11a_TX_CH_165_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5825 Band edge

: 5.8G WIFI 11A

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	89.15	103.07	-----	-----	peak
2	5850.000	10.95	33.60	30.56	45.66	59.65	122.20	-62.55	peak
3	5860.000	10.94	33.58	30.56	46.00	59.96	109.40	-49.44	peak
4	5926.810	10.87	33.55	30.53	47.60	61.49	68.20	-6.71	peak



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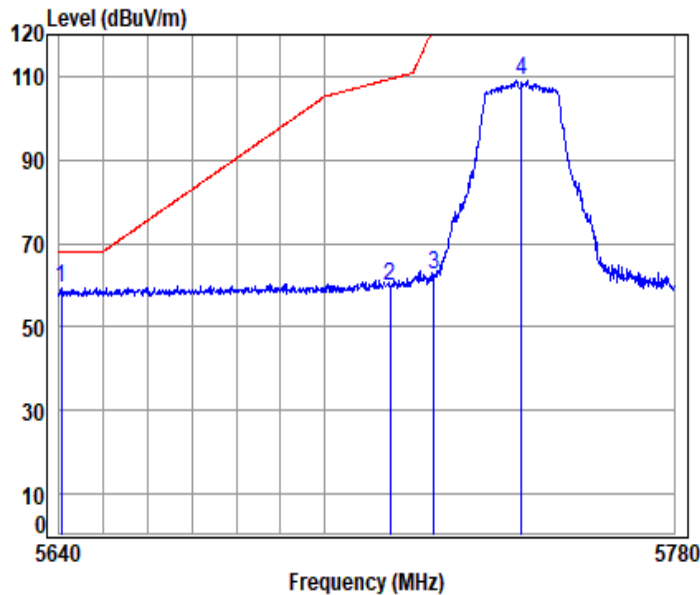
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11n_HT(20M)_TX_CH_149_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5745 Band edge

: 5.8G WIFI 11N20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	pp 5640.415	10.47	33.08	30.64	46.54	59.45	68.20	-8.75 peak
2	5715.000	10.63	33.23	30.61	46.52	59.77	109.40	-49.63 peak
3	5725.000	10.68	33.25	30.61	49.14	62.46	122.20	-59.74 peak
4	5745.000	10.77	33.29	30.60	95.55	109.01	-----	----- peak



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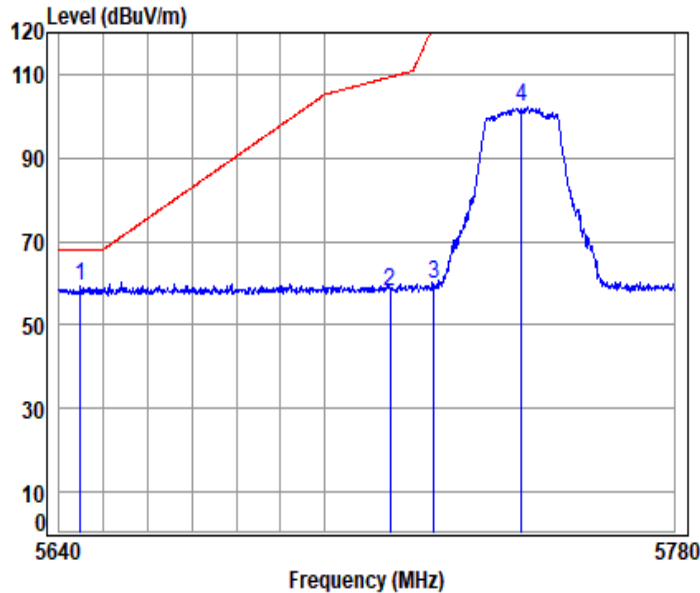
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11n_HT(20M)_TX_CH_149_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5745 Band edge

: 5.8G WIFI 11N20

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5644.842	10.48	33.09	30.64	46.18	59.11	68.20	-9.09 peak
2	5715.000	10.63	33.23	30.61	44.90	58.15	109.40	-51.25 peak
3	5725.000	10.68	33.25	30.61	46.63	59.95	122.20	-62.25 peak
4	5745.000	10.77	33.29	30.60	88.78	102.24	-----	----- peak



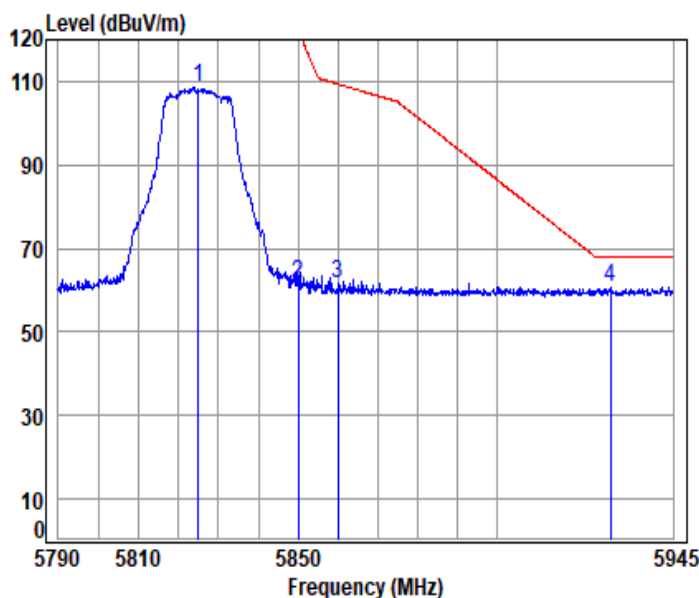
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11n_HT(20M)_TX_CH_165_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5825 Band edge

: 5.8G WIFI 11N20

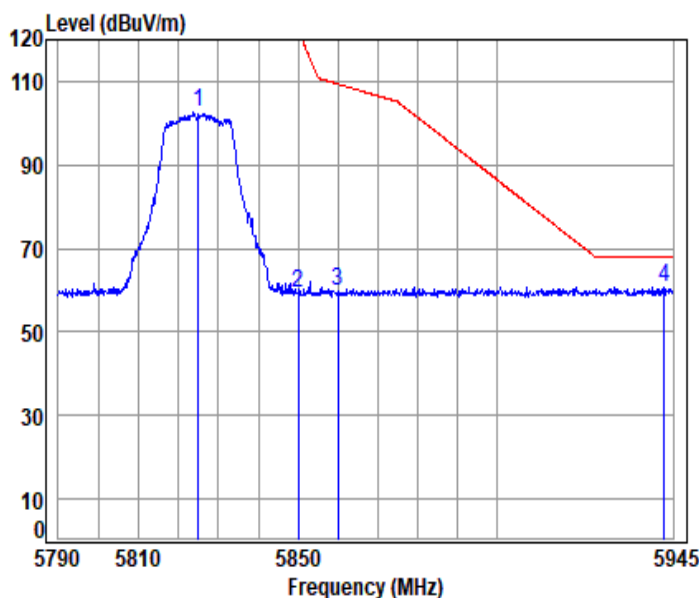
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	94.84	108.76	-----	-----	peak
2	5850.000	10.95	33.60	30.56	47.55	61.54	122.20	-60.66	peak
3	5860.000	10.94	33.58	30.56	47.55	61.51	109.40	-47.89	peak
4	5929.002	10.87	33.56	30.53	46.85	60.75	68.20	-7.45	peak



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11n_HT(20M)_TX_CH_165_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5825 Band edge

: 5.8G WIFI 11N20

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5825.000	10.99	33.50	30.57	88.60	102.52	----- peak
2	5850.000	10.95	33.60	30.56	45.28	59.27	122.20 -62.93 peak
3	5860.000	10.94	33.58	30.56	45.67	59.63	109.40 -49.77 peak
4	pp 5942.802	10.86	33.59	30.52	46.97	60.90	68.20 -7.30 peak



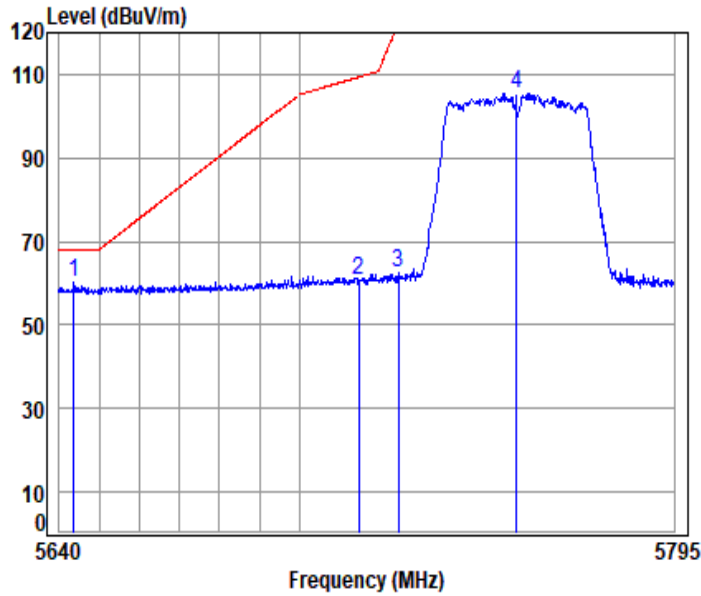
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11n_HT(40M)_TX_CH_151_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5755 Band edge

: 5.8G WIFI 11N40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5643.671	10.48	33.09	30.64	47.31	60.24	68.20	-7.96 peak
2	5715.000	10.63	33.23	30.61	47.47	60.72	109.40	-48.68 peak
3	5725.000	10.68	33.25	30.61	49.01	62.33	122.20	-59.87 peak
4	5755.000	10.81	33.31	30.60	91.99	105.51	-----	----- peak



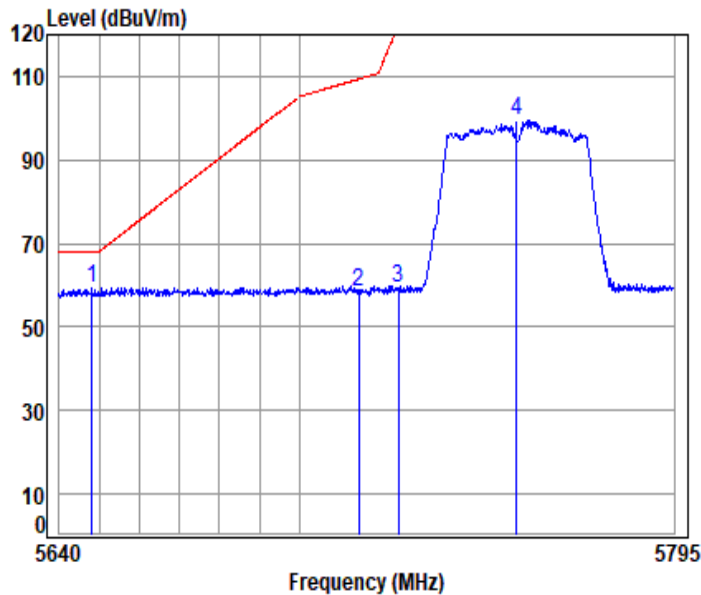
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11n_HT(40M)_TX_CH_151_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5755 Band edge

: 5.8G WIFI 11N40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	pp 5648.110	10.48	33.10	30.64	46.37	59.31	68.20	-8.89 peak
2	5715.000	10.63	33.23	30.61	45.12	58.37	109.40	-51.03 peak
3	5725.000	10.68	33.25	30.61	45.91	59.23	122.20	-62.97 peak
4	5755.000	10.81	33.31	30.60	85.94	99.46	-----	----- peak



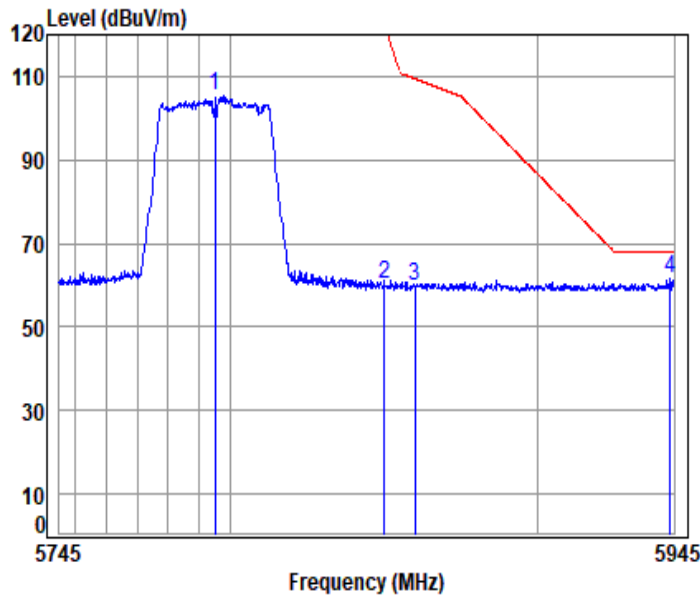
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11n_HT(40M)_TX_CH_159_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5795 Band edge

: 5.8G WIFI 11N40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5795.000	11.00	33.39	30.58	91.55	105.36	-----	----- peak
2	5850.000	10.95	33.60	30.56	46.37	60.36	122.20	-61.84 peak
3	5860.000	10.94	33.58	30.56	45.91	59.87	109.40	-49.53 peak
4	5943.779	10.85	33.59	30.52	47.61	61.53	68.20	-6.67 peak



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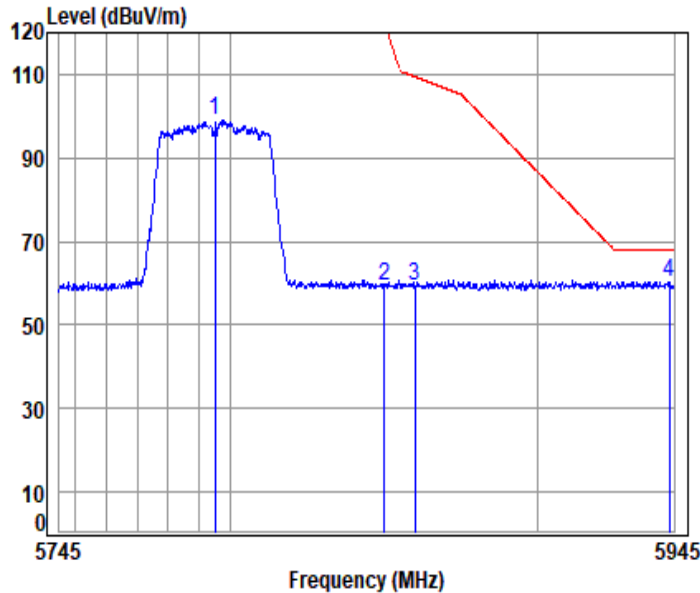
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11n_HT(40M)_TX_CH_159_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5795 Band edge

: 5.8G WIFI 11N40

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5795.000	11.00	33.39	30.58	85.04	98.85	-----	----- peak
2	5850.000	10.95	33.60	30.56	45.50	59.49	122.20	-62.71 peak
3	5860.000	10.94	33.58	30.56	45.34	59.30	109.40	-50.10 peak
4	5943.576	10.86	33.59	30.52	46.49	60.42	68.20	-7.78 peak



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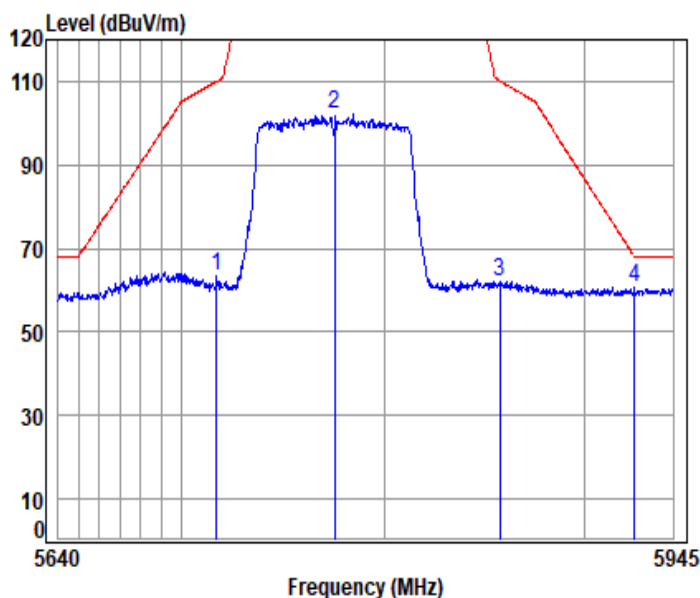
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11ac_VHT(80M)_TX_CH_155_Horizontal



Condition: 3m HORIZONTAL

Job No : 03959WM

Mode : 5775 Band edge

: 5.8G WIFI 11AC80

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5717.159	10.64	33.23	30.61	49.96	63.22	110.01	-46.79	peak
2	5775.000	10.91	33.35	30.59	88.32	101.99	-----	-----	peak
3	5857.666	10.95	33.58	30.56	48.11	62.08	110.05	-47.97	peak
4	5925.307	10.87	33.55	30.53	46.58	60.47	68.20	-7.73	peak



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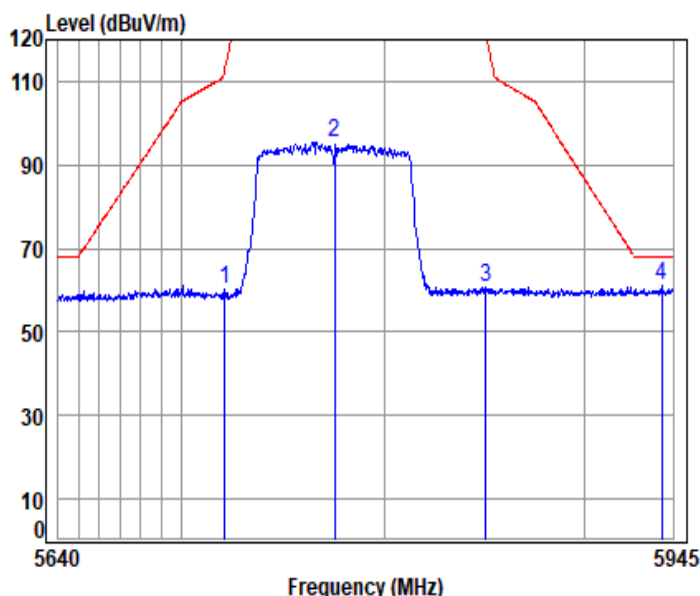
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11ac_VHT(80M)_TX_CH_155_Vertical



Condition: 3m VERTICAL

Job No : 03959WM

Mode : 5775 Band edge

: 5.8G WIFI 11AC80

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5721.075	10.66	33.24	30.61	46.92	60.21	113.25	-53.04 peak
2	5775.000	10.91	33.35	30.59	81.80	95.47	-----	----- peak
3	5850.575	10.95	33.60	30.56	46.73	60.72	120.89	-60.17 peak
4	5939.367	10.86	33.58	30.52	47.11	61.03	68.20	-7.17 peak



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7.6 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.

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C Humidity: 37.5 % RH Atmospheric Pressure: 1020 mbar



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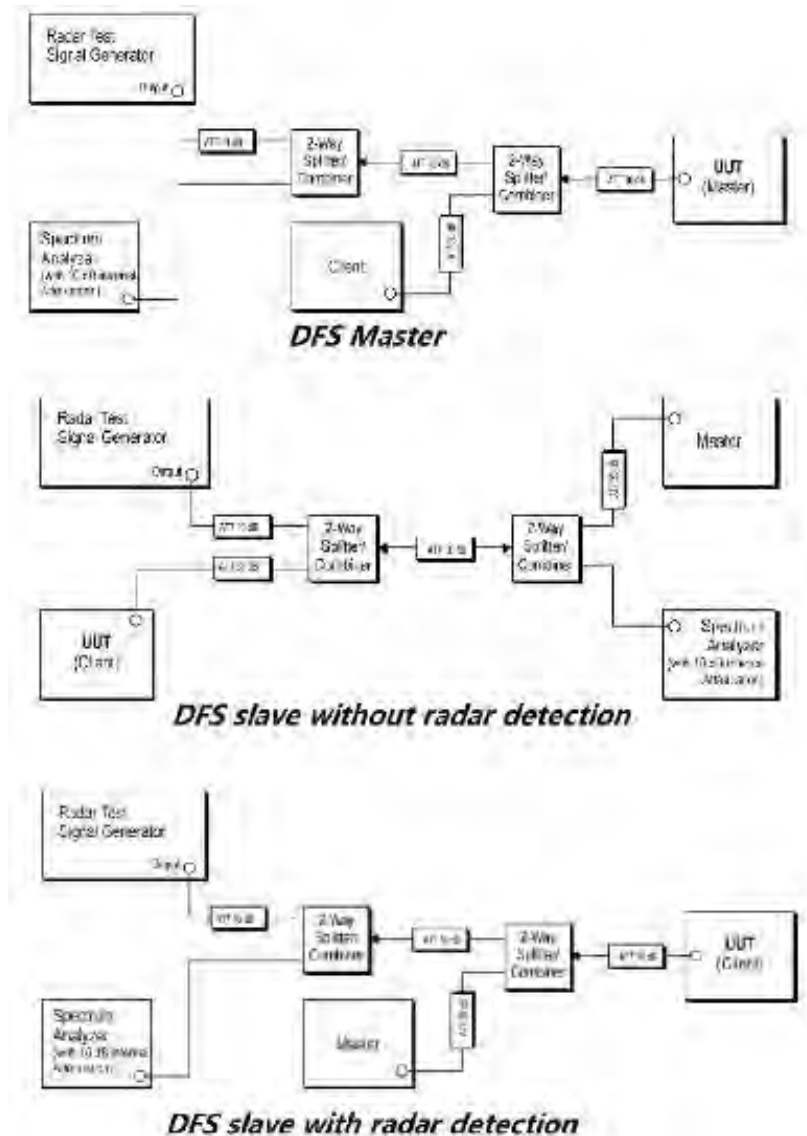
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7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	13	Normal operating_Keep the EUT communication with the companion device.

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

7.7 Duty Cycle

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

7.7.1 E.U.T. Operation

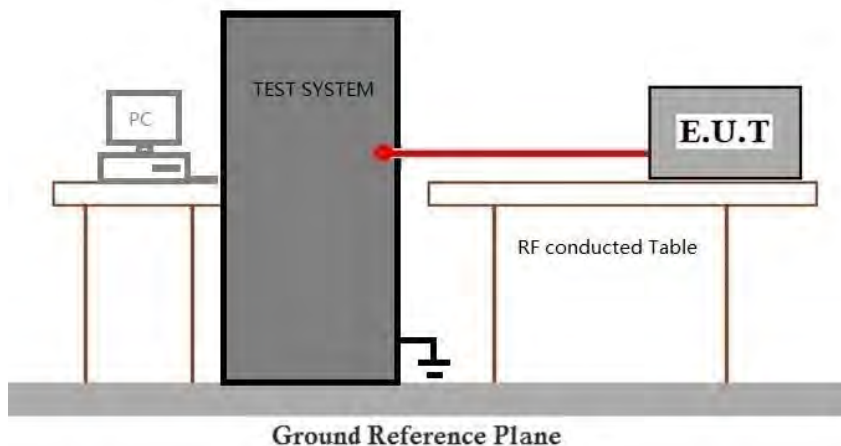
Operating Environment:

Temperature: 24.4 °C Humidity: 33.8 % RH Atmospheric Pressure: 1020 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	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, Only the data of worst case is recorded in the report.
Final test	10	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, Only the data of worst case is recorded in the report.
Final test	11	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, Only the data of worst case is recorded in the report.
Final test	12	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, Only the data of worst case is recorded in the report.

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 99% Bandwidth

Test Requirement N/A
Test Method: KDB 789033 D02 II D

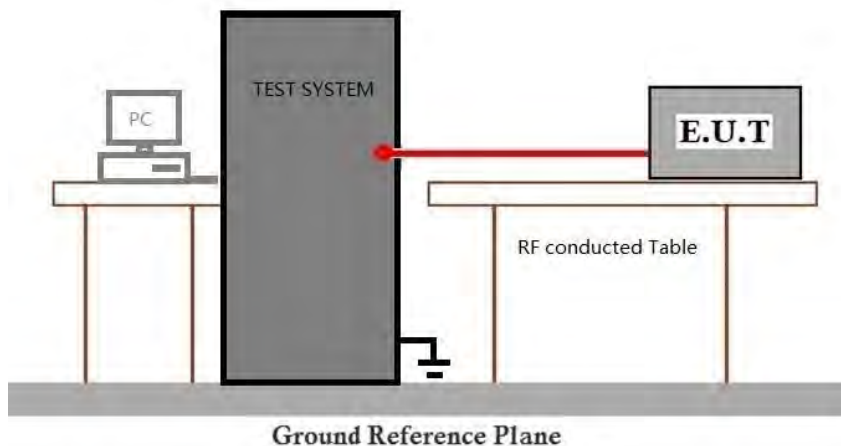
7.8.1 E.U.T. Operation

Operating Environment:
Temperature: 24.3 °C Humidity: 34.0 % RH Atmospheric Pressure: 1020 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	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, Only the data of worst case is recorded in the report.
Final test	10	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, Only the data of worst case is recorded in the report.
Final test	11	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, Only the data of worst case is recorded in the report.
Final test	12	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, Only the data of worst case is recorded in the report.

7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.9 26dB Emission bandwidth

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

7.9.1 E.U.T. Operation

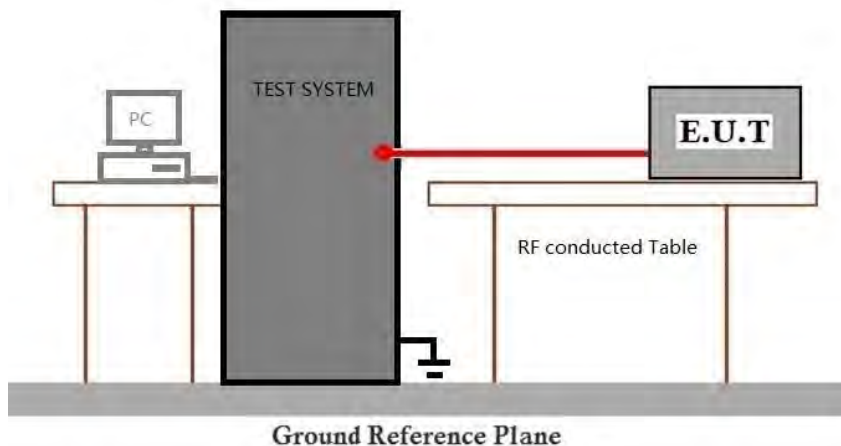
Operating Environment:

Temperature: 24.3 °C Humidity: 34.1 % RH Atmospheric Pressure: 1020 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	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, Only the data of worst case is recorded in the report.
Final test	10	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, Only the data of worst case is recorded in the report.
Final test	11	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, Only the data of worst case is recorded in the report.
Final test	12	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, Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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

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

Test Method: KDB 789033 D02 II C 2

Limit:

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

7.10.1 E.U.T. Operation

Operating Environment:

Temperature: 24.4 °C

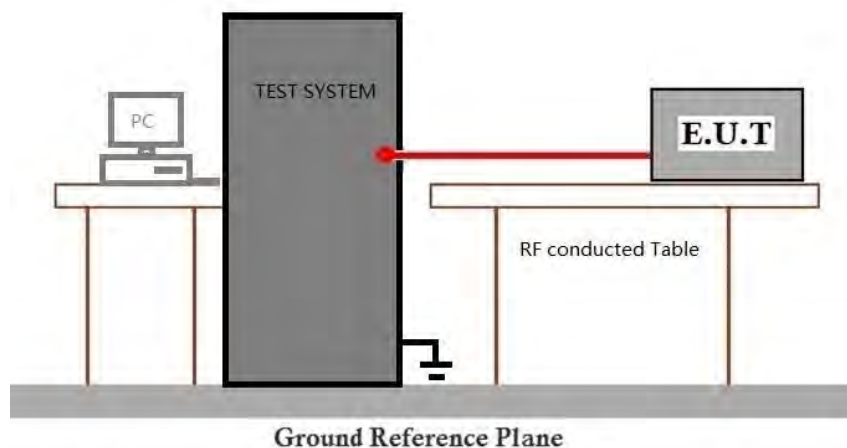
Humidity: 33.7 % RH

Atmospheric Pressure: 1020 mbar

7.10.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	12	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, Only the data of worst case is recorded in the report.

7.10.3 Test Setup Diagram



7.10.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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7.11 Peak Power spectrum density

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

Test Method: KDB 789033 D02 II F

Limit:

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

7.11.1 E.U.T. Operation

Operating Environment:

Temperature: 24.3 °C

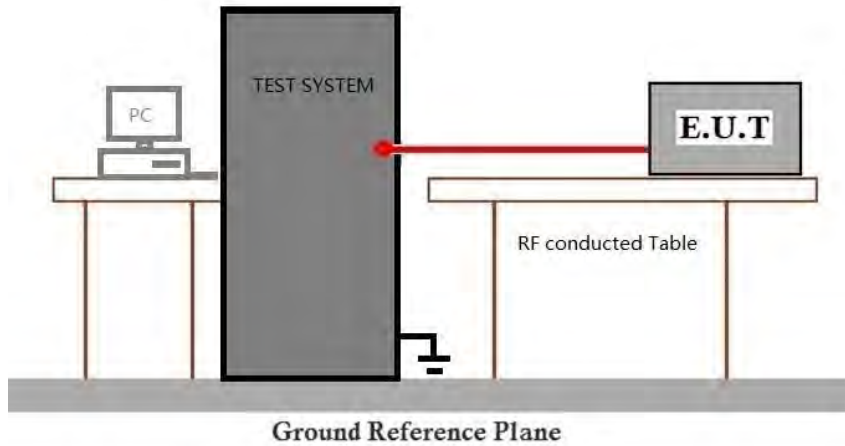
Humidity: 33.8 % RH

Atmospheric Pressure: 1020 mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	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, Only the data of worst case is recorded in the report.
Final test	10	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, Only the data of worst case is recorded in the report.
Final test	11	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, Only the data of worst case is recorded in the report.
Final test	12	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, Only the data of worst case is recorded in the report.

7.11.3 Test Setup Diagram



7.11.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.12 Frequency Stability

Test Requirement 47 CFR Part 15, Subpart E 15.407 (g)

Test Method: ANSI C63.10 (2013) Section 6.8

7.12.1 Measurement Procedure and Data

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.



7.13 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.

7.13.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C Humidity: 37.7 % RH Atmospheric Pressure: 1020 mbar

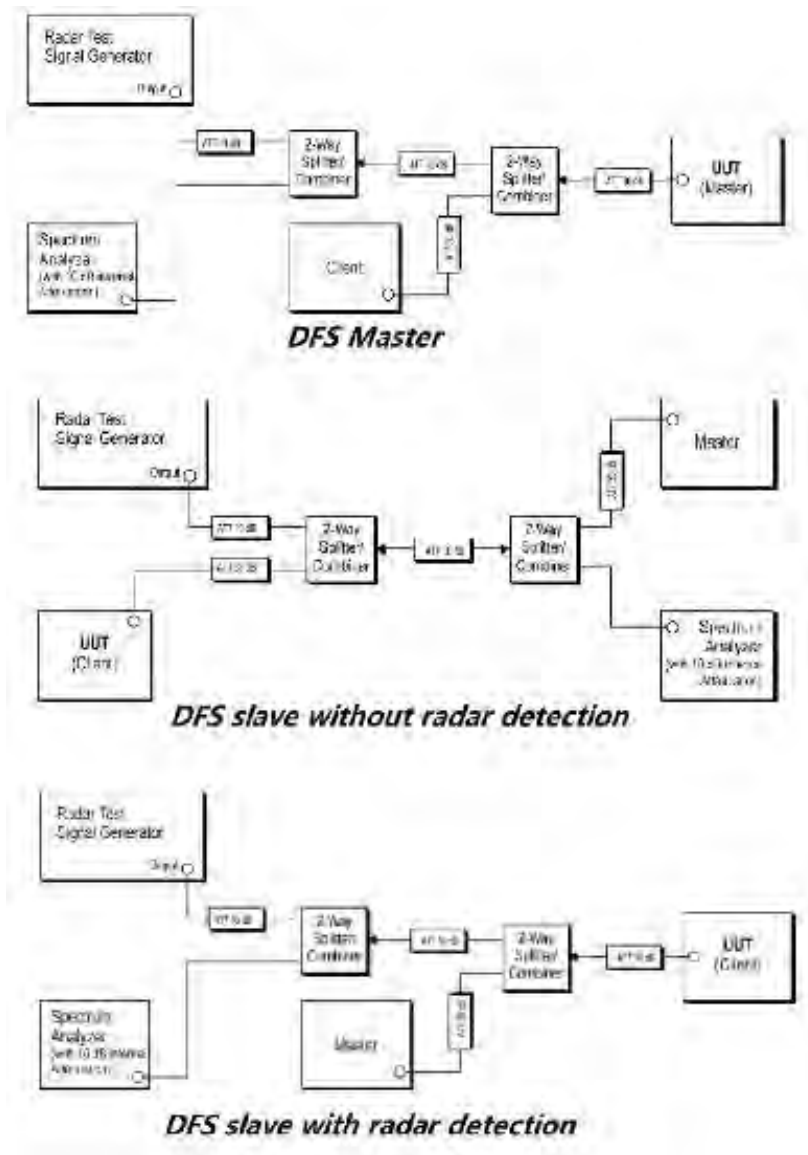


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7.13.2 Test Setup Diagram



7.13.3 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

7.14 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.

7.14.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C Humidity: 37.5 % RH Atmospheric Pressure: 1020 mbar



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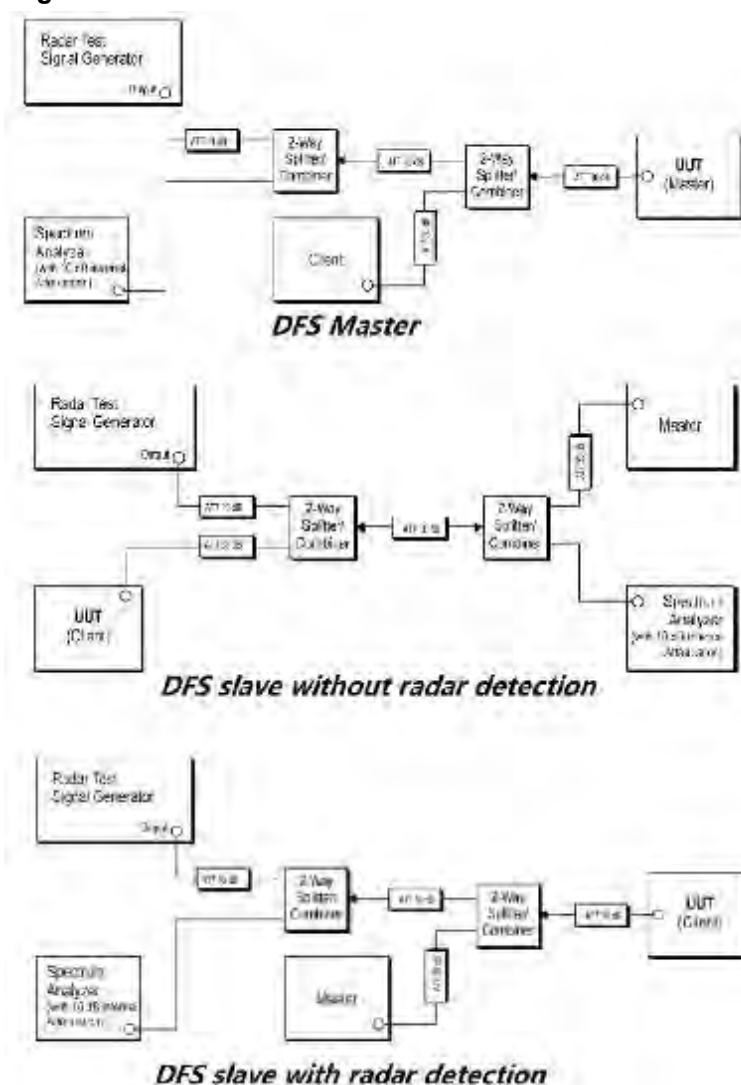
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7.14.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	13	Normal operating_Keep the EUT communication with the companion device.

7.14.3 Test Setup Diagram



7.14.4 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

Please refer to SZCR2410003959 Appendix_Setup Photo

9 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for SZCR2410003959WM

10 Appendix

1. Duty Cycle

1.1 Test Result

1.1.1 Ant8

Ant8							
Mode	Tx Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	2.065	2.101	98.29	0.08	0.00
		5200	2.066	2.101	98.33	0.07	0.00
		5240	2.066	2.101	98.33	0.07	0.00
		5260	2.066	2.101	98.33	0.07	0.00
		5300	2.067	2.101	98.38	0.07	0.00
		5320	2.066	2.101	98.33	0.07	0.00
		5500	2.066	2.101	98.33	0.07	0.03
		5580	2.066	2.101	98.33	0.07	0.03
802.11n (HT20)	SISO	5180	1.926	1.961	98.22	0.08	0.03
		5200	1.926	1.961	98.22	0.08	0.03
		5240	1.926	1.962	98.17	0.08	0.03
		5260	1.926	1.961	98.22	0.08	0.03
		5300	1.926	1.961	98.22	0.08	0.03
		5320	1.926	1.962	98.17	0.08	0.03
		5500	1.926	1.962	98.17	0.08	0.03
		5580	1.926	1.961	98.22	0.08	0.03
802.11n (HT40)	SISO	5190	0.950	0.984	96.54	0.15	0.00
		5230	0.950	0.984	96.54	0.15	0.03
		5270	0.949	0.984	96.44	0.16	0.03
		5310	0.949	0.984	96.44	0.16	0.00
		5510	0.949	0.984	96.44	0.16	0.03
		5550	0.950	0.984	96.54	0.15	0.03
802.11ac (VHT20)	SISO	5180	1.934	1.969	98.22	0.08	0.03
		5200	1.933	1.969	98.17	0.08	0.03
		5240	1.934	1.970	98.17	0.08	0.03
		5260	1.934	1.970	98.17	0.08	0.03
		5300	1.933	1.968	98.22	0.08	0.03
		5320	1.934	1.970	98.17	0.08	0.03
		5500	1.934	1.970	98.17	0.08	0.03
		5580	1.934	1.969	98.22	0.08	0.03
802.11ac (VHT40)	SISO	5190	0.953	0.988	96.46	0.16	0.03
		5230	0.953	0.988	96.46	0.16	0.03
		5270	0.953	0.988	96.46	0.16	0.00
		5310	0.953	0.988	96.46	0.16	0.03
		5510	0.954	0.988	96.56	0.15	0.00

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802.11ac (VHT80)	SISO	5550	0.953	0.988	96.46	0.16	0.00
		5670	0.953	0.988	96.46	0.16	0.03
		5210	0.465	0.500	93.00	0.32	0.03
		5290	0.466	0.500	93.20	0.31	0.03
		5530	0.466	0.500	93.20	0.31	0.04
		5610	0.465	0.500	93.00	0.32	0.03

Ant8							
Mode	Tx Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5745	2.066	2.101	98.33	0.07	0.00
		5785	2.066	2.101	98.33	0.07	0.00
		5825	2.067	2.102	98.33	0.07	0.03
802.11n (HT20)	SISO	5745	1.926	1.962	98.17	0.08	0.03
		5785	1.926	1.961	98.22	0.08	0.03
		5825	1.926	1.962	98.17	0.08	0.10
802.11n (HT40)	SISO	5755	0.949	0.984	96.44	0.16	0.00
		5795	0.950	0.984	96.54	0.15	0.03
802.11ac (VHT20)	SISO	5745	1.934	1.969	98.22	0.08	0.03
		5785	1.934	1.970	98.17	0.08	0.03
		5825	1.934	1.969	98.22	0.08	0.03
802.11ac (VHT40)	SISO	5755	0.953	0.988	96.46	0.16	0.03
		5795	0.954	0.988	96.56	0.15	0.00
802.11ac (VHT80)	SISO	5775	0.465	0.500	93.00	0.32	0.03



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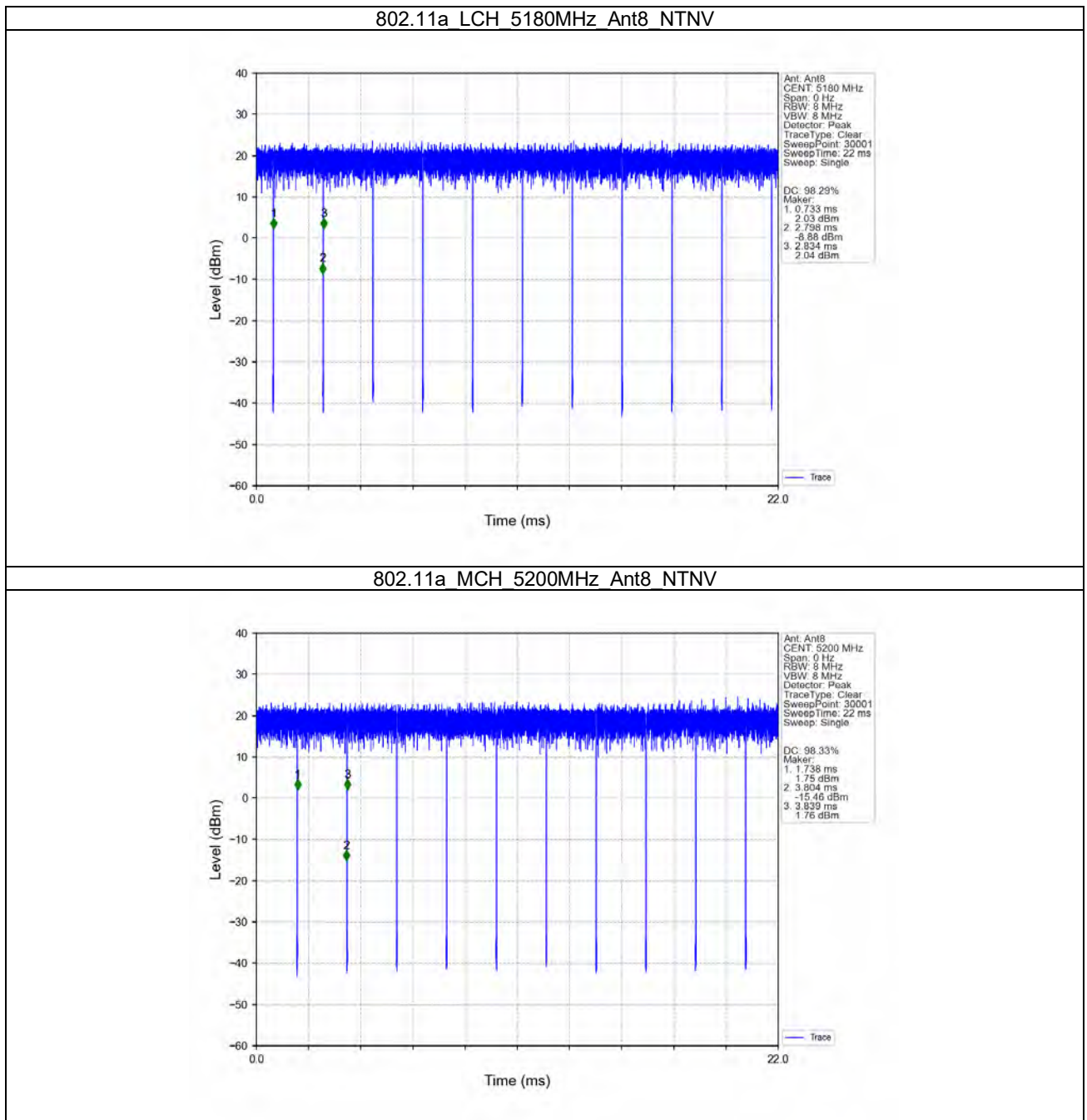
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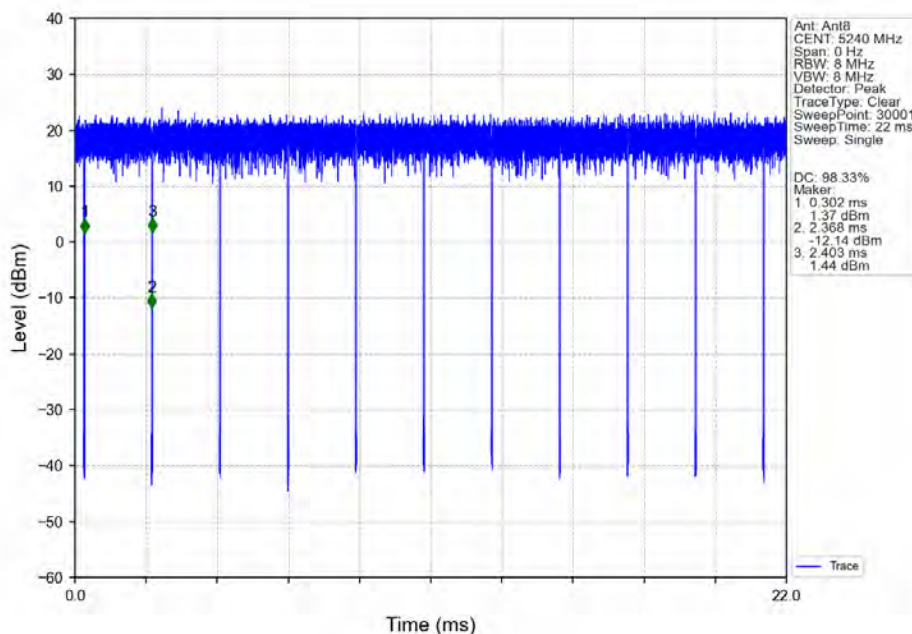
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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

1.2 Test Graph

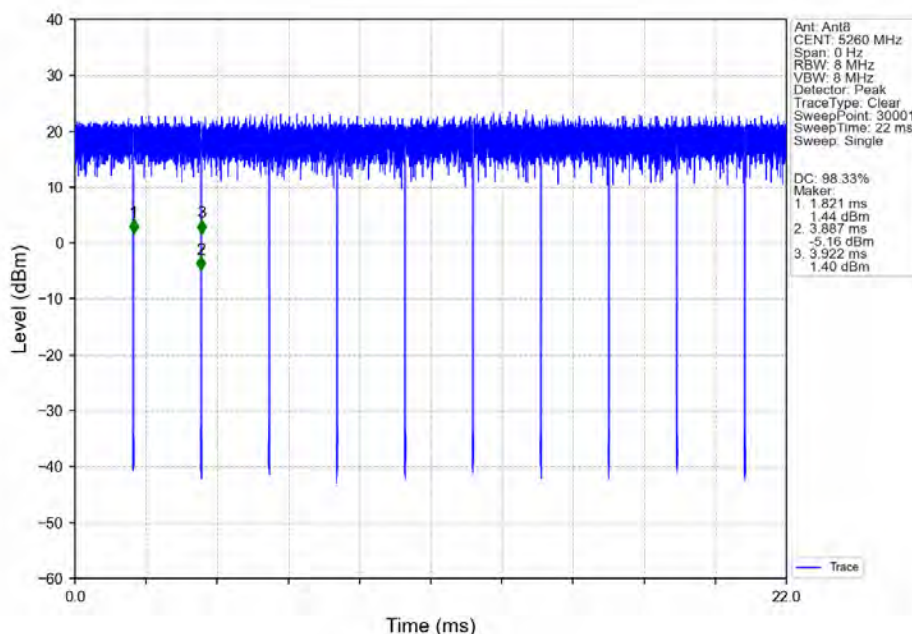
1.2.1 Ant8



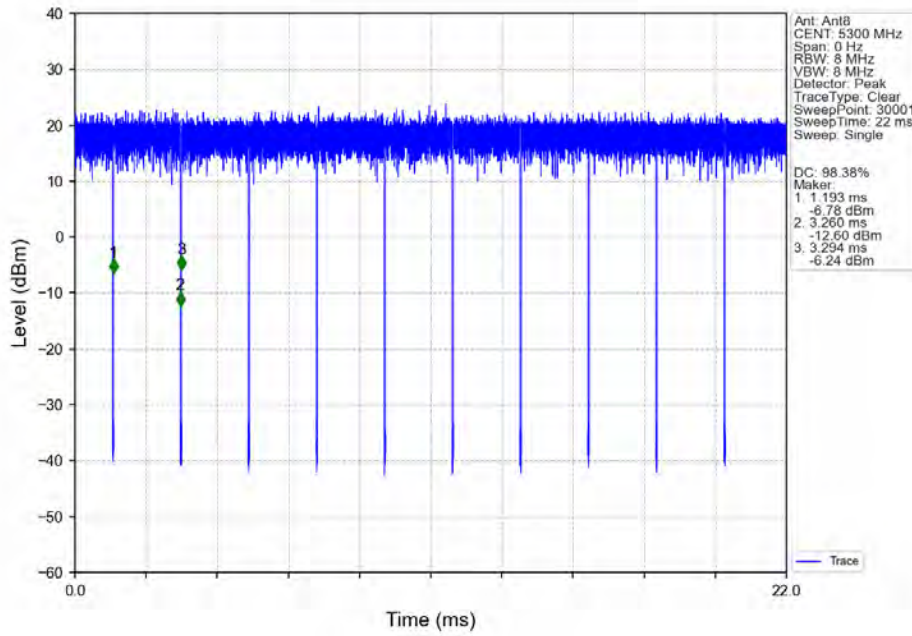
802.11a_HCH_5240MHz_Ant8_NTNV



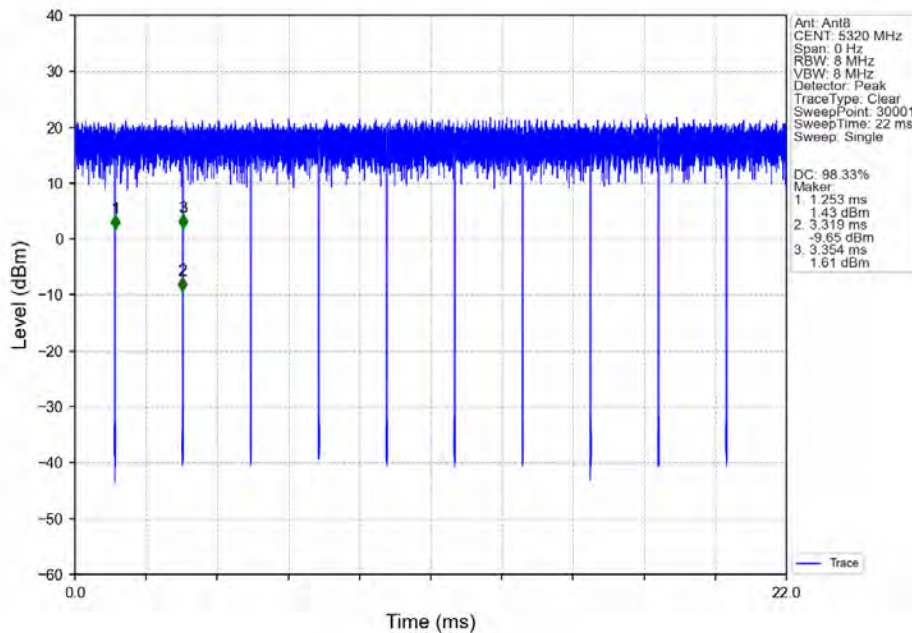
802.11a LCH 5260MHz Ant8 NTN



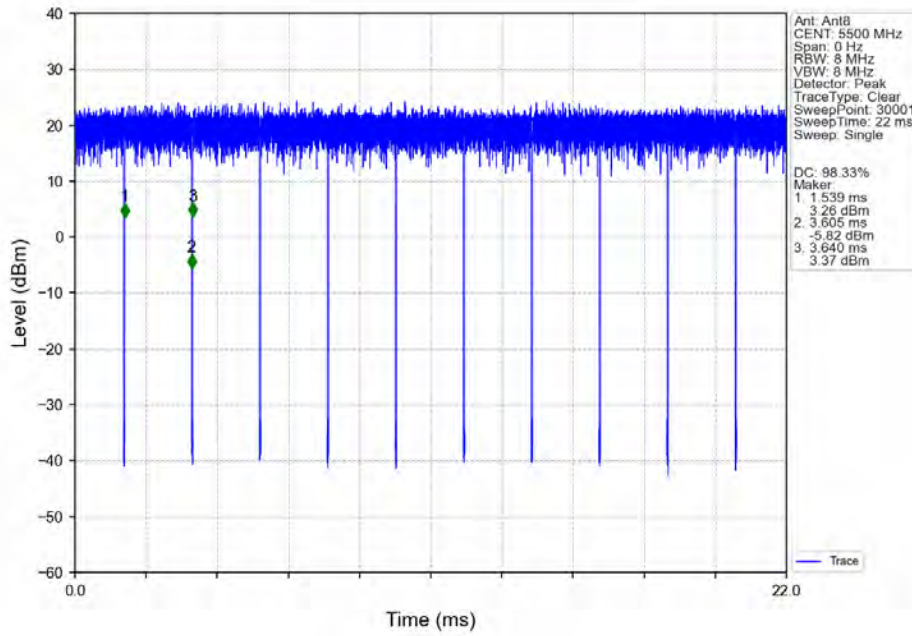
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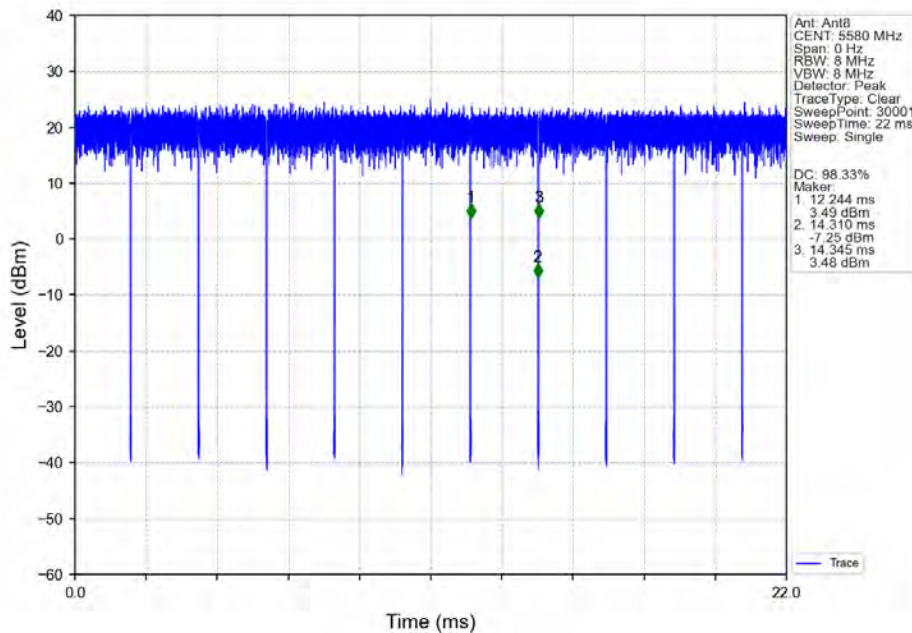
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802.11a_LCH_5500MHz_Ant8_NTNV



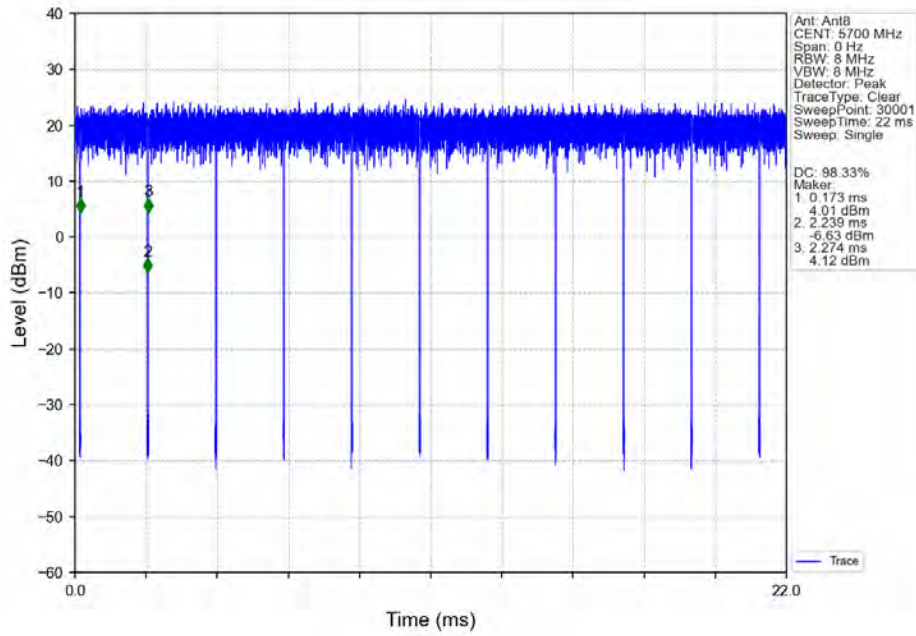
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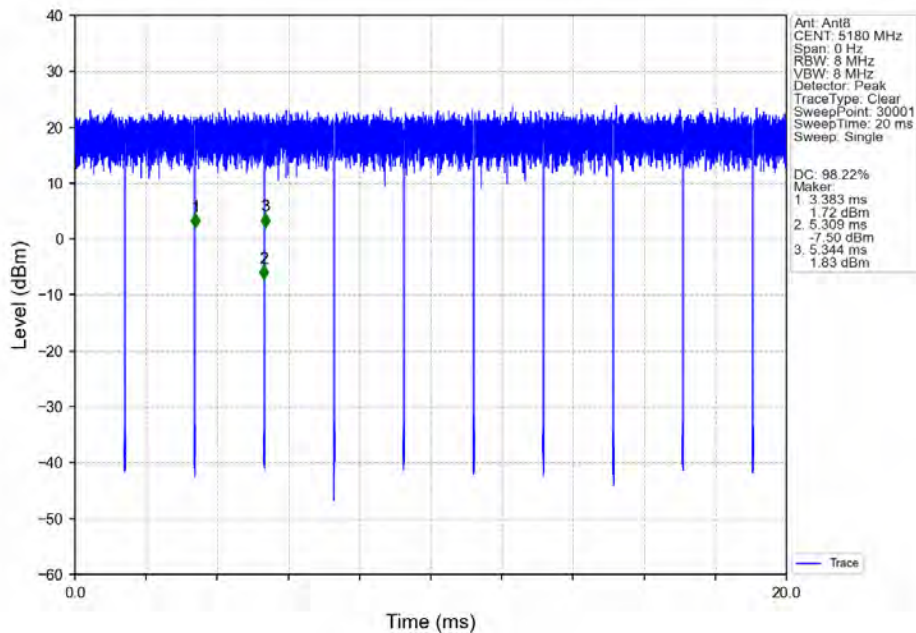
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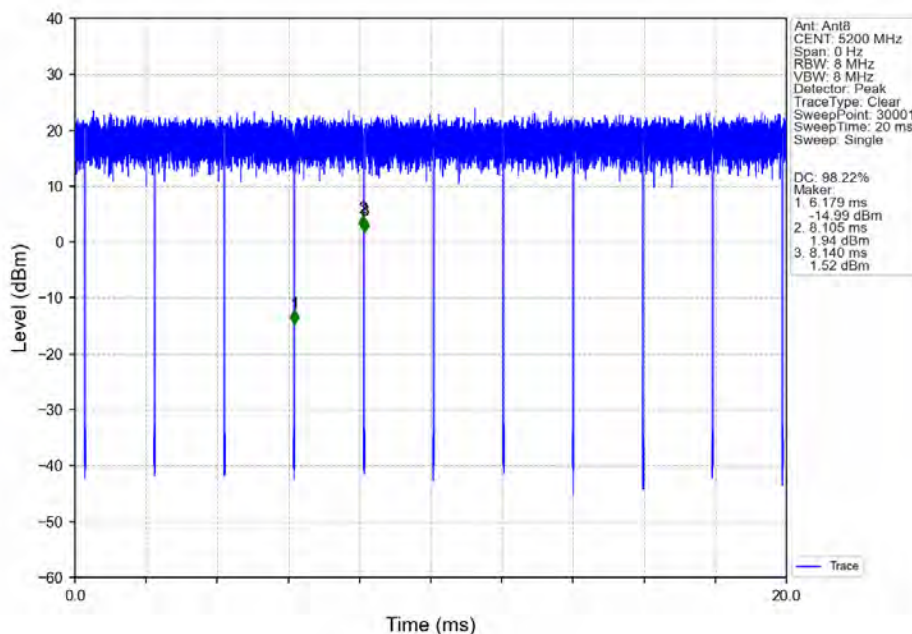
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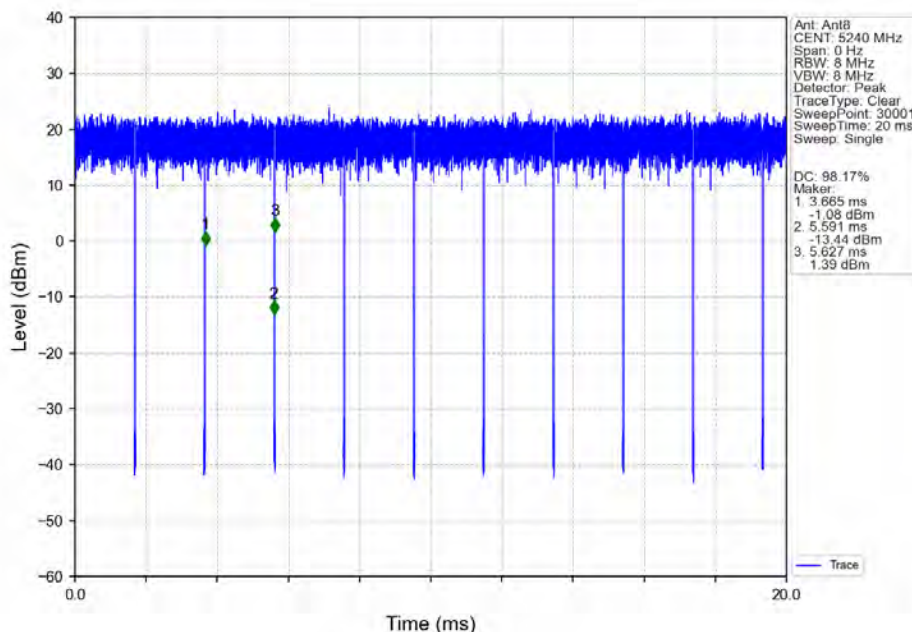
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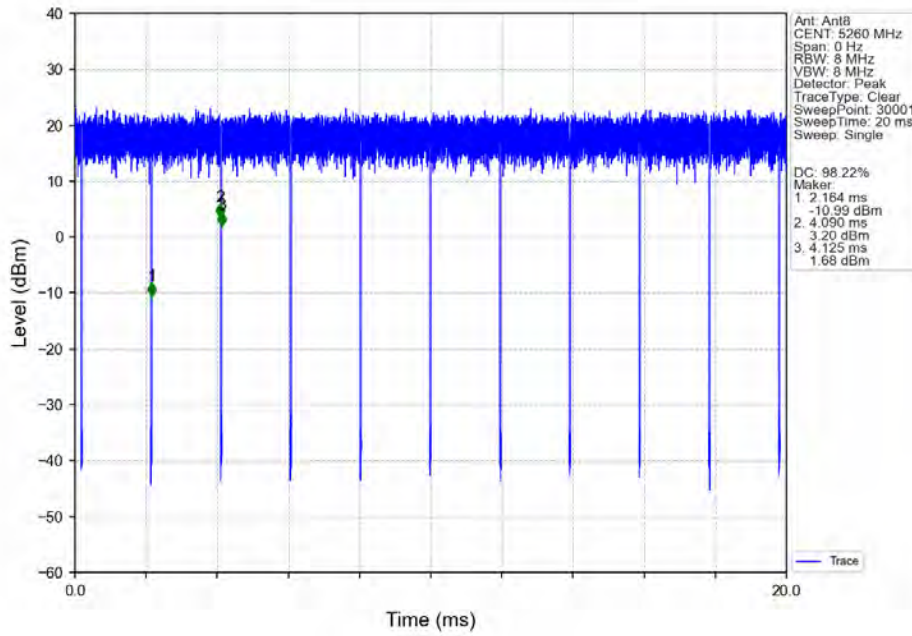
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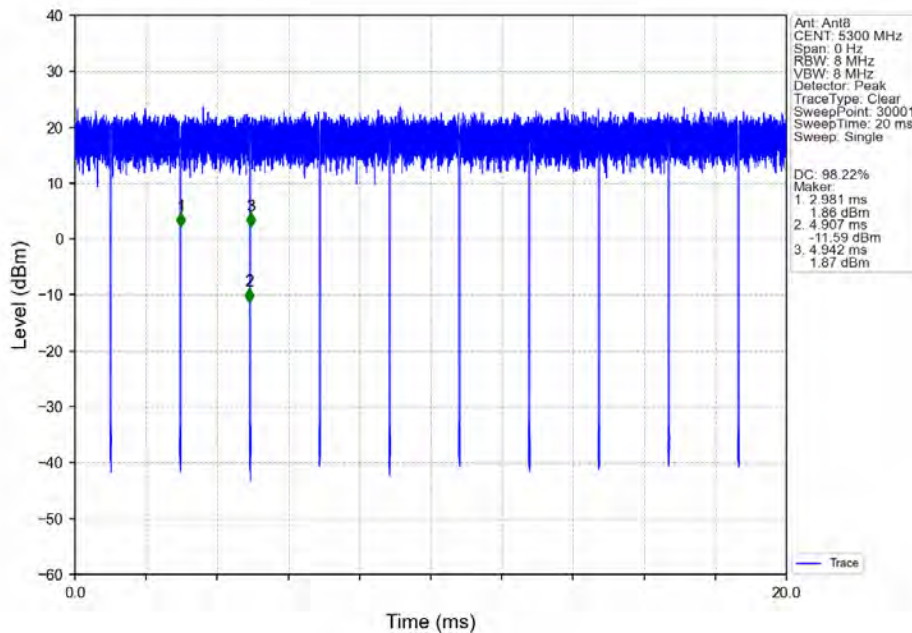
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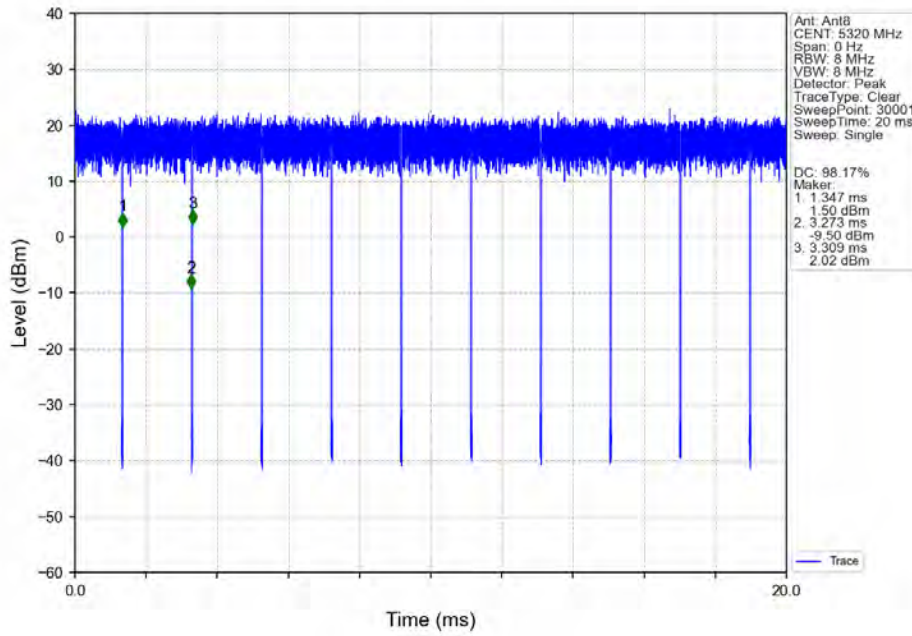
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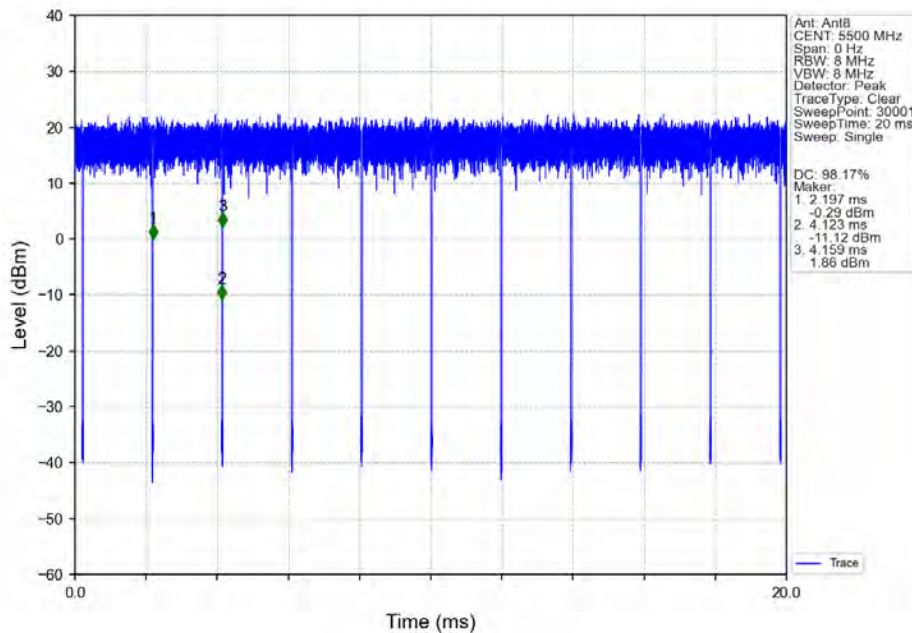
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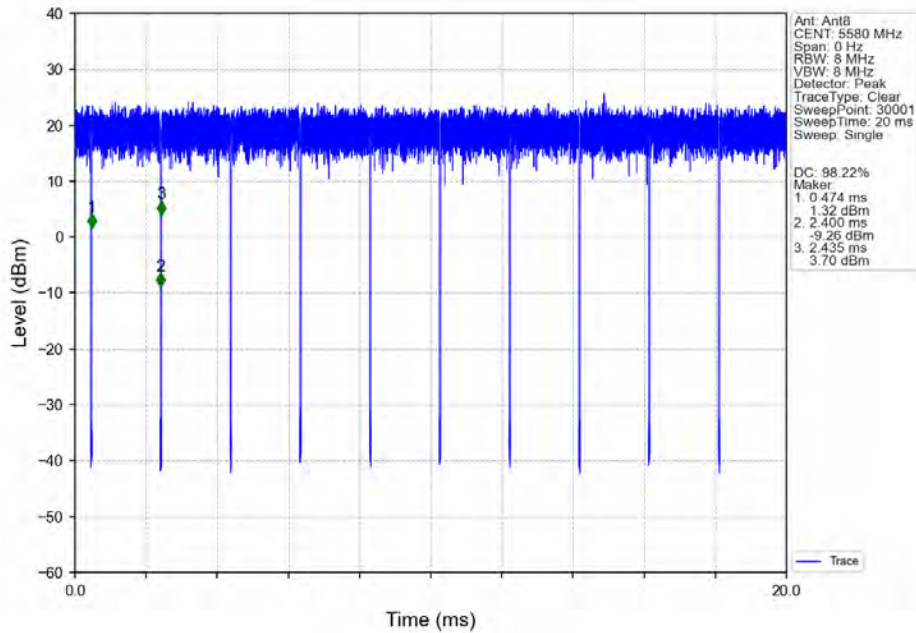
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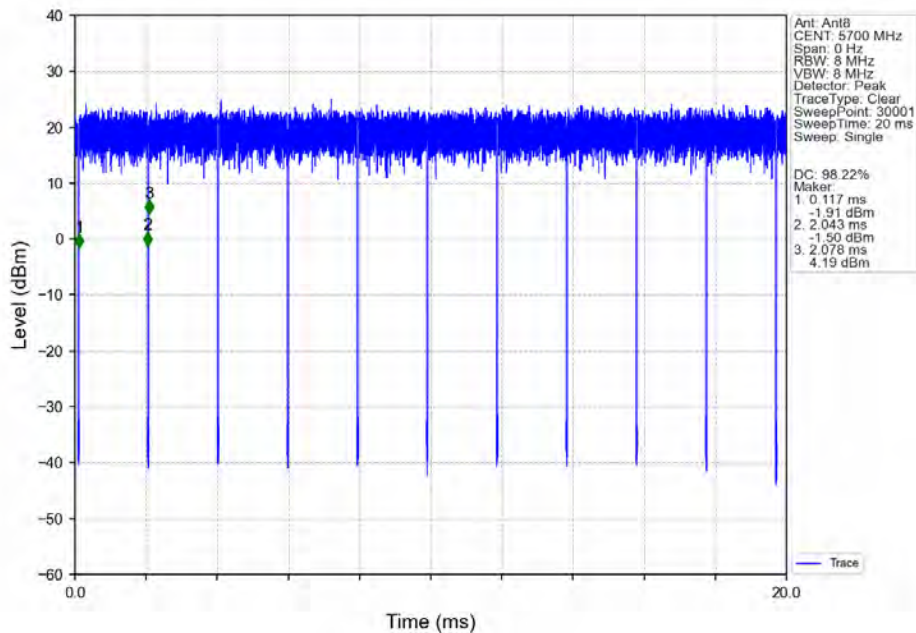
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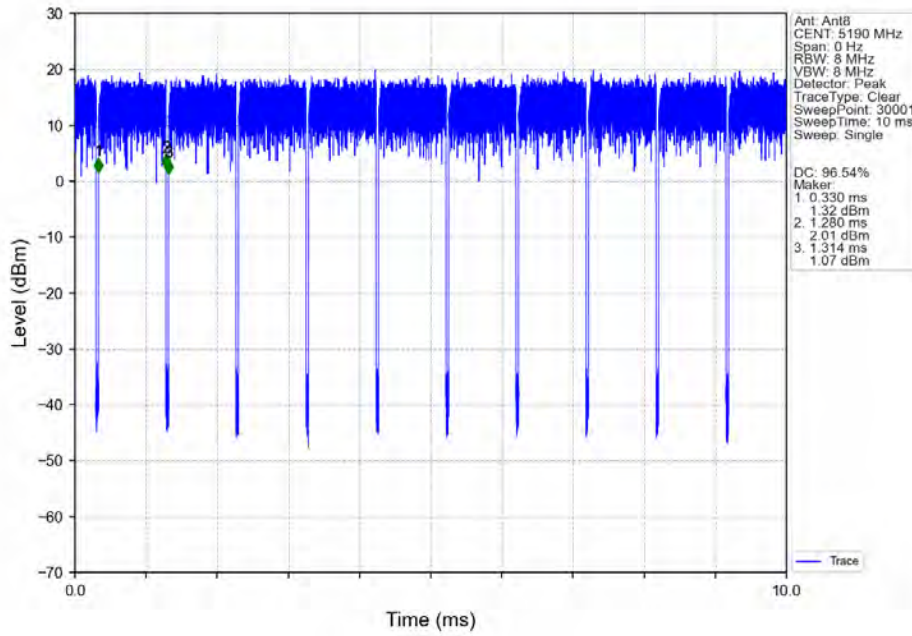
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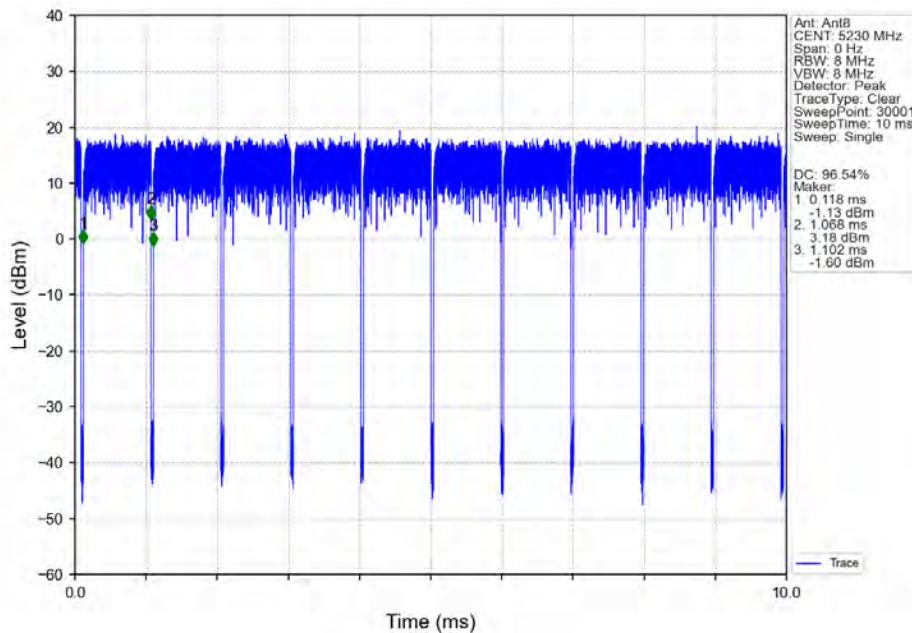
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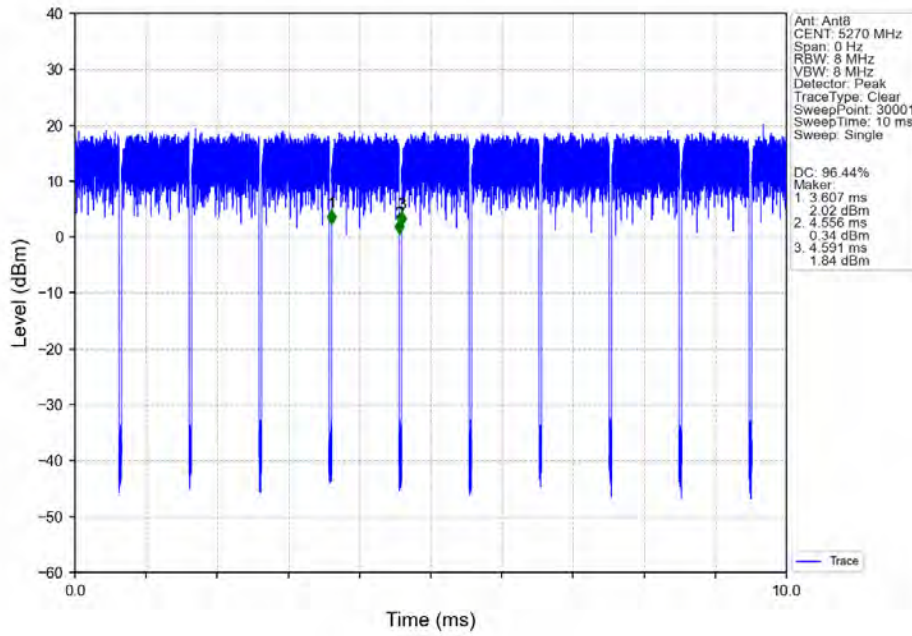
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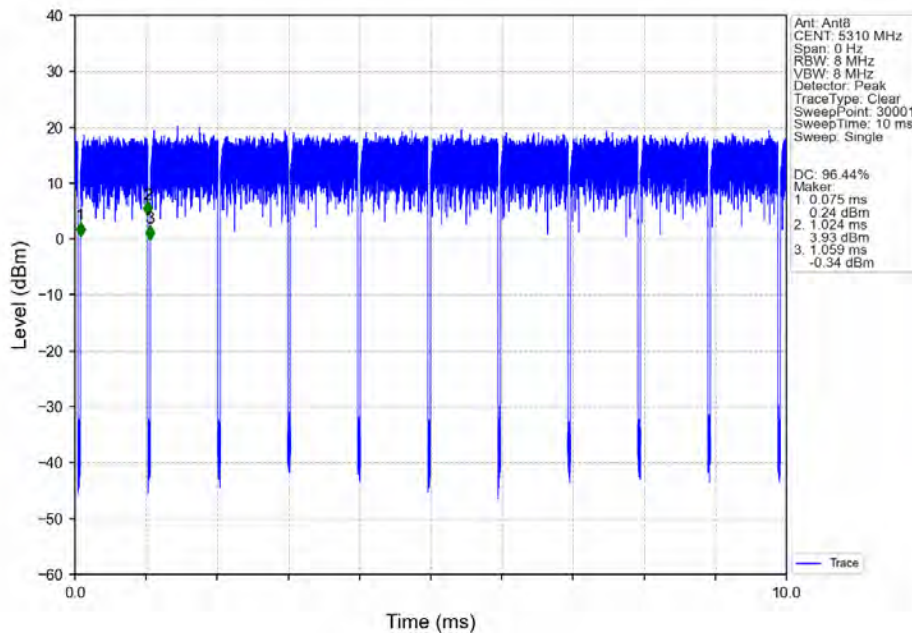
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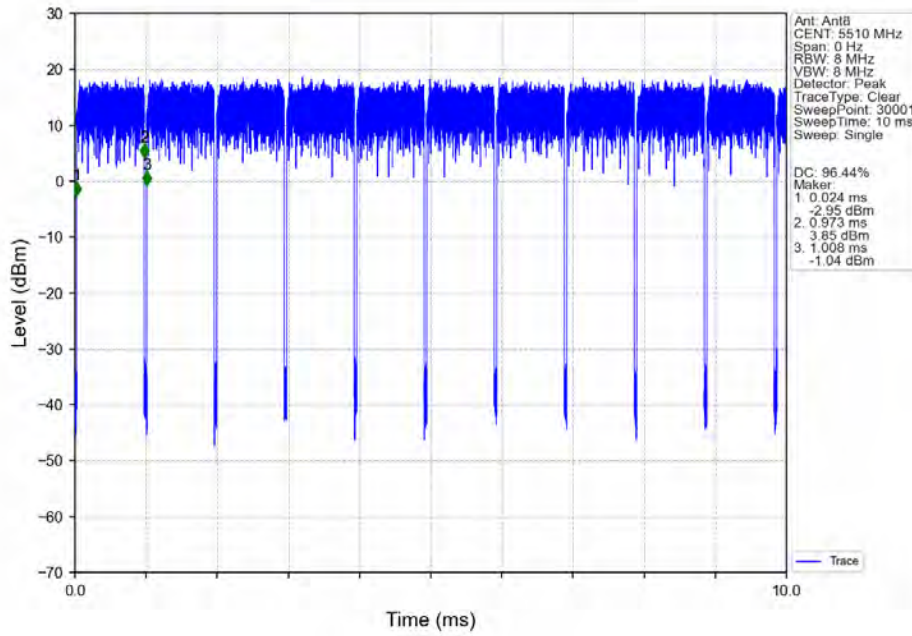
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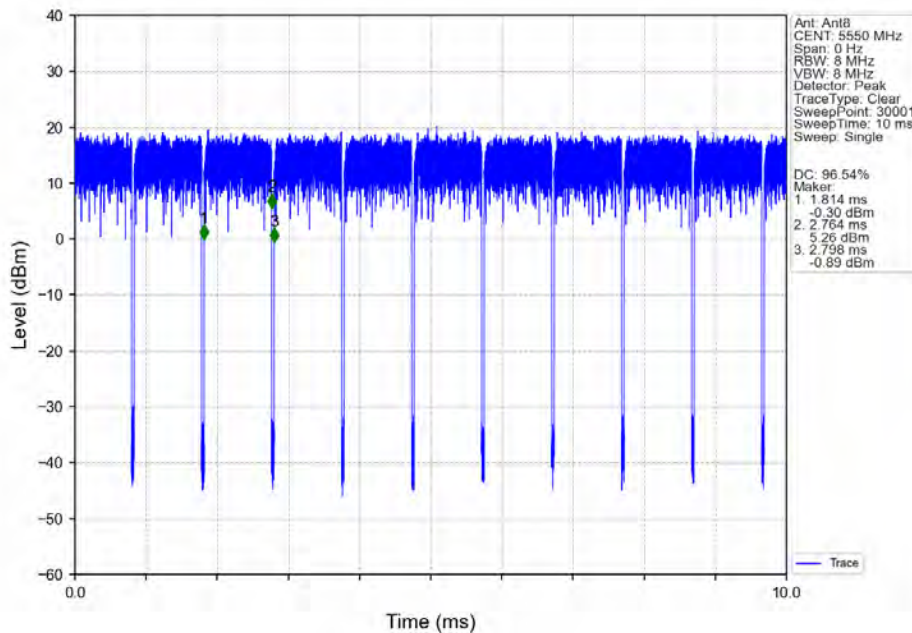
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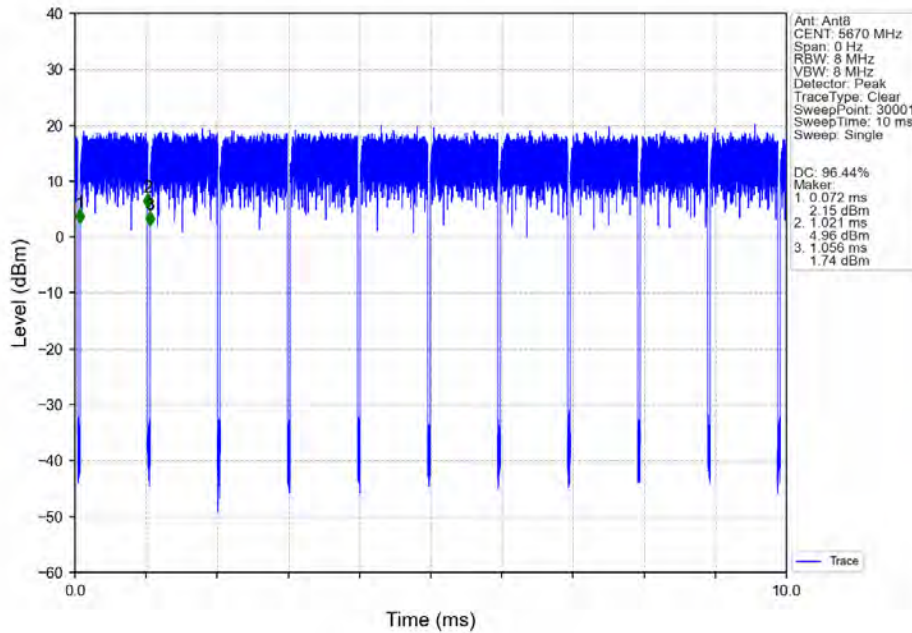
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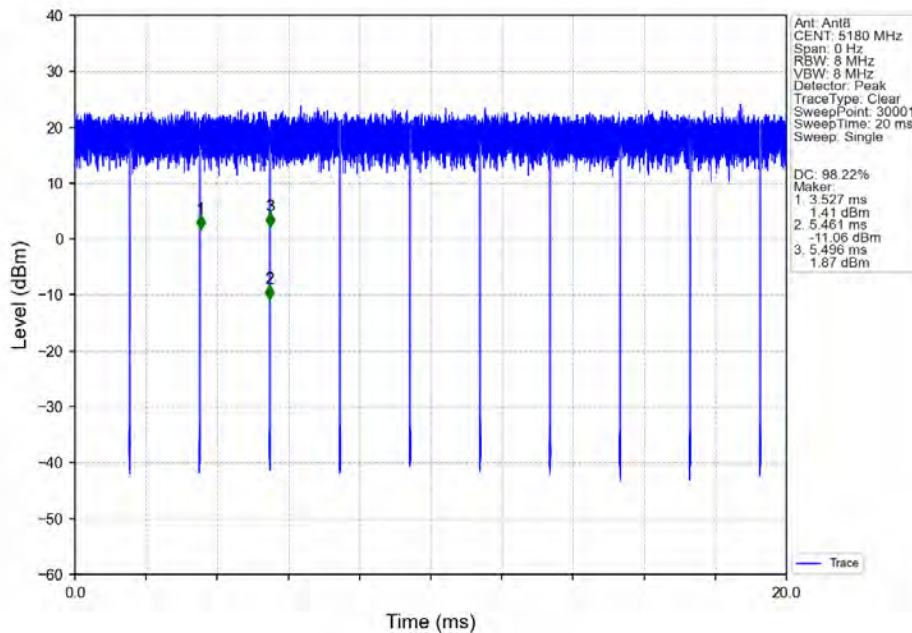
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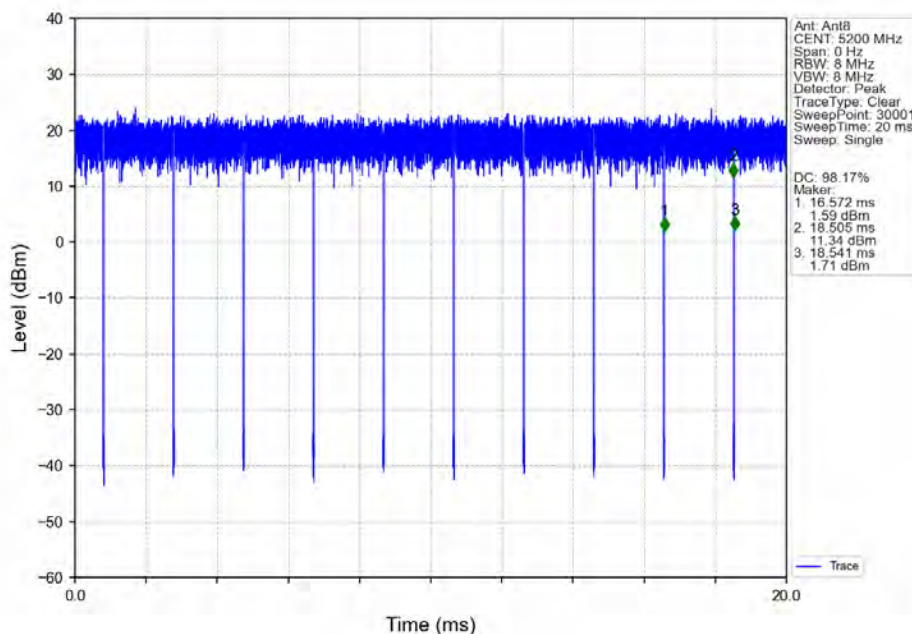
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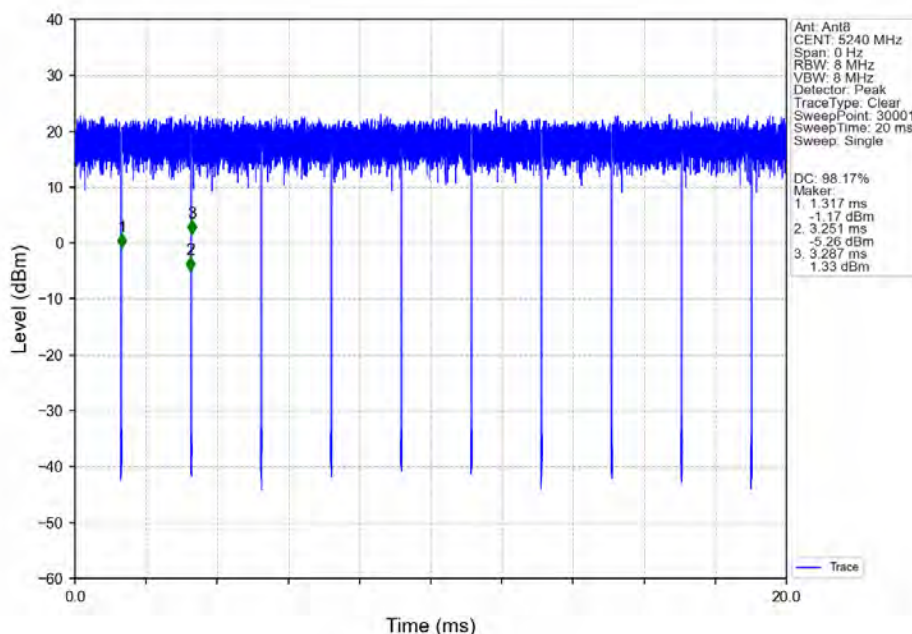
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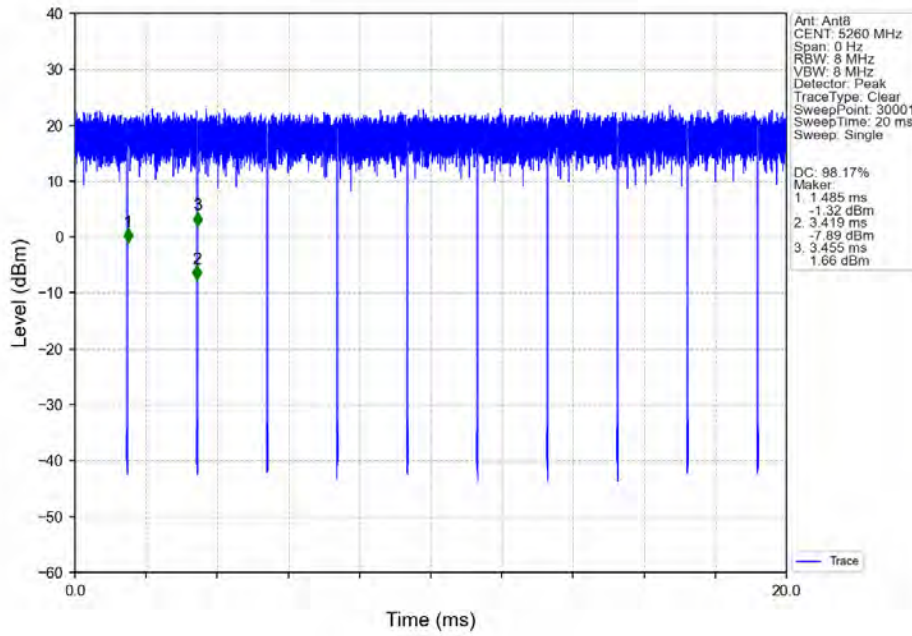
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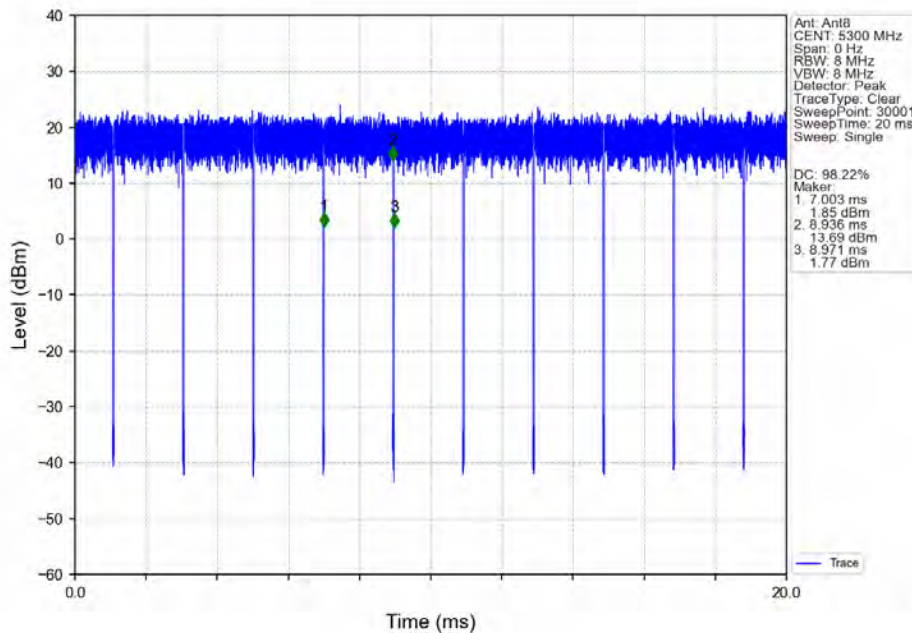
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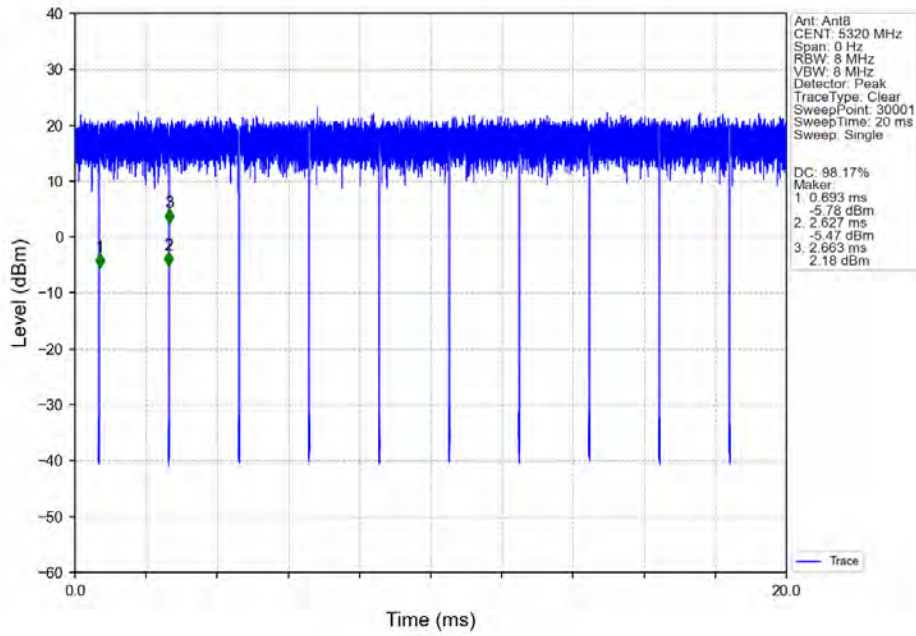
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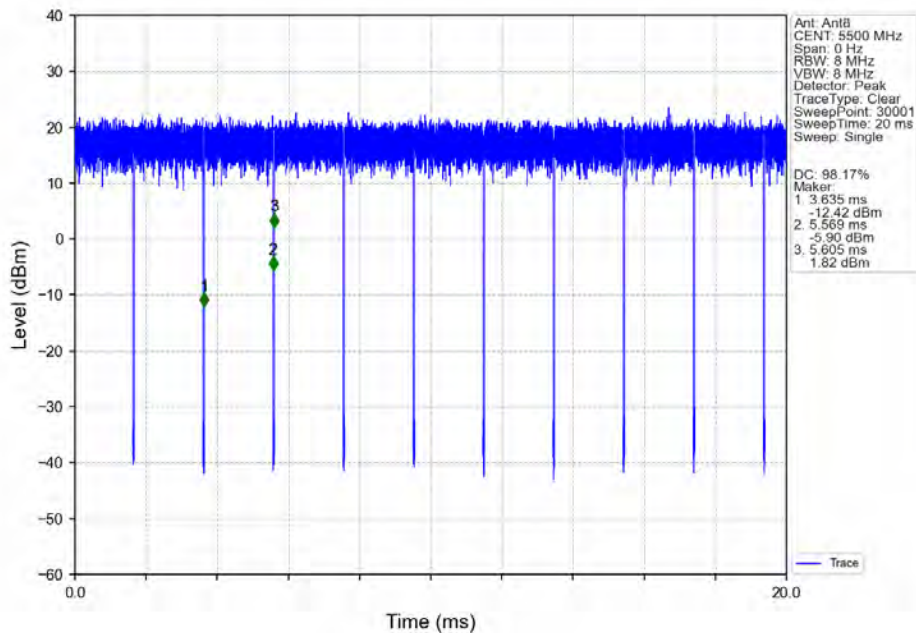
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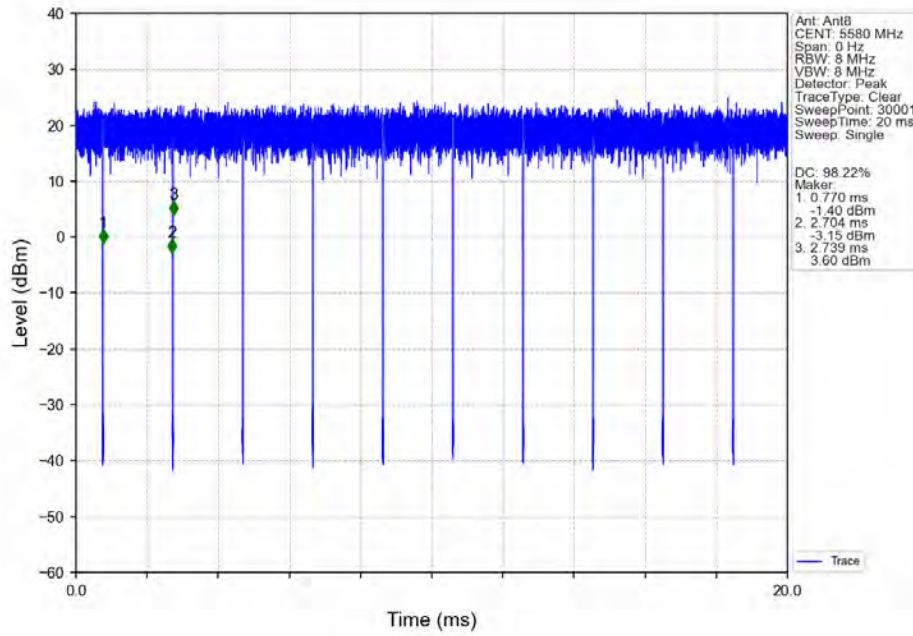
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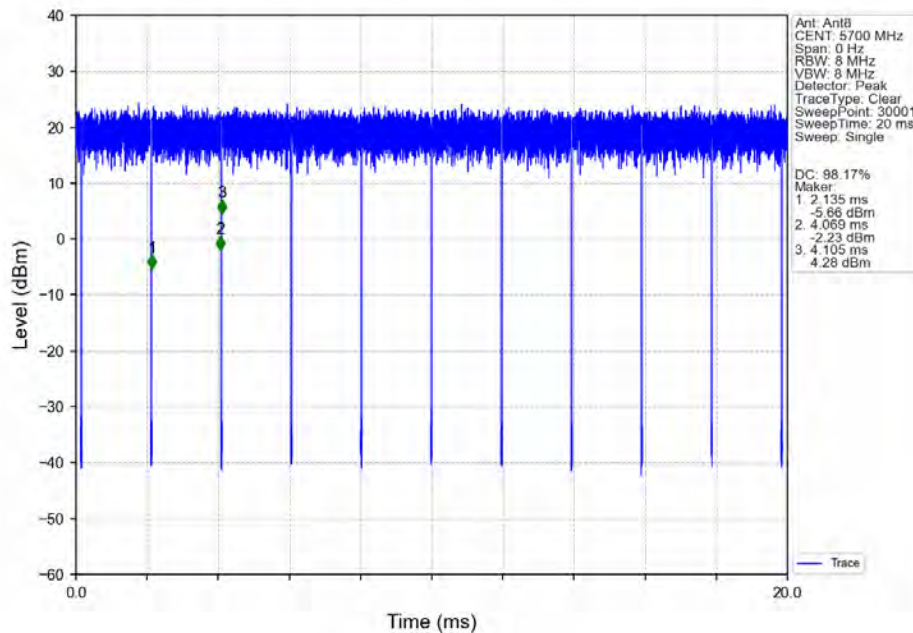
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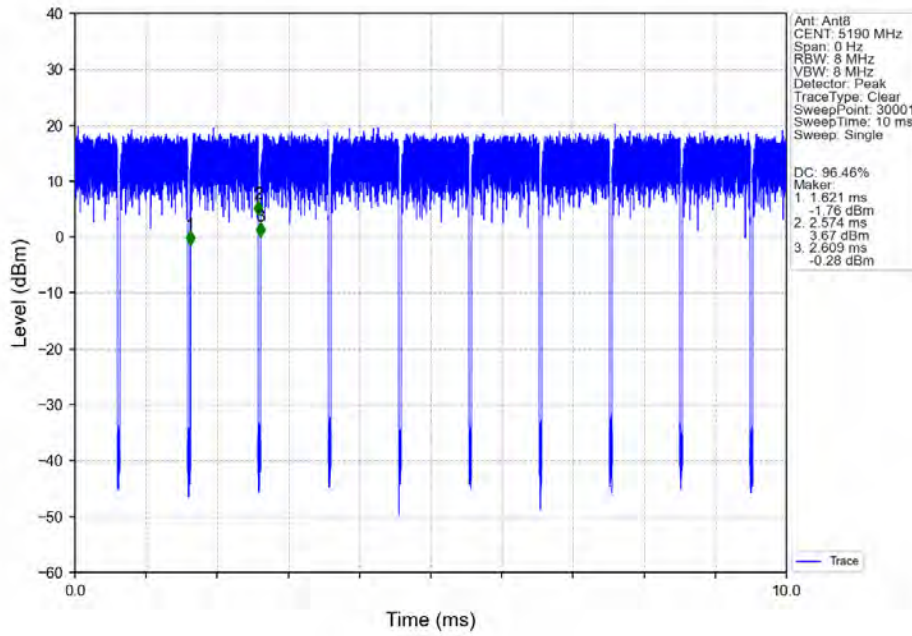
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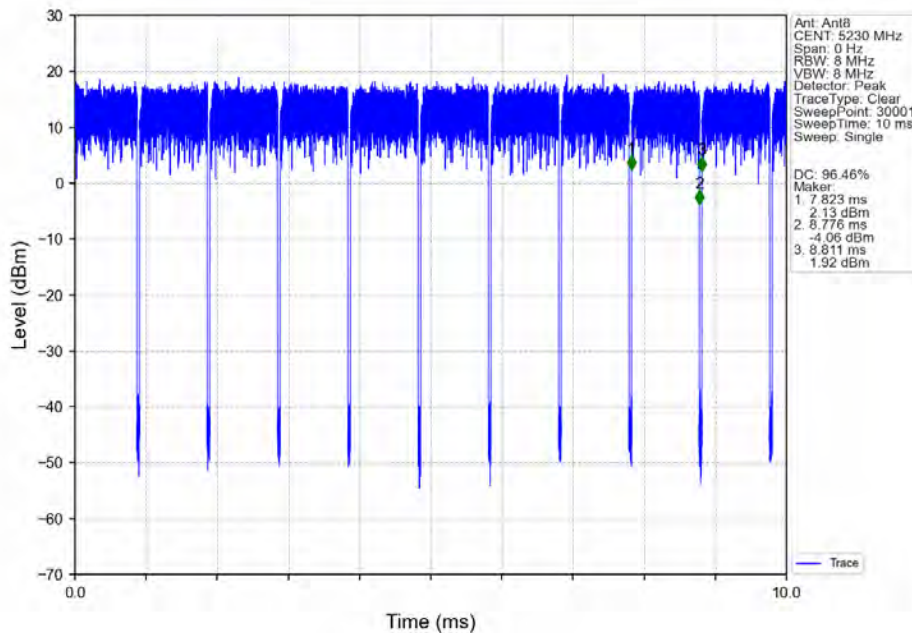
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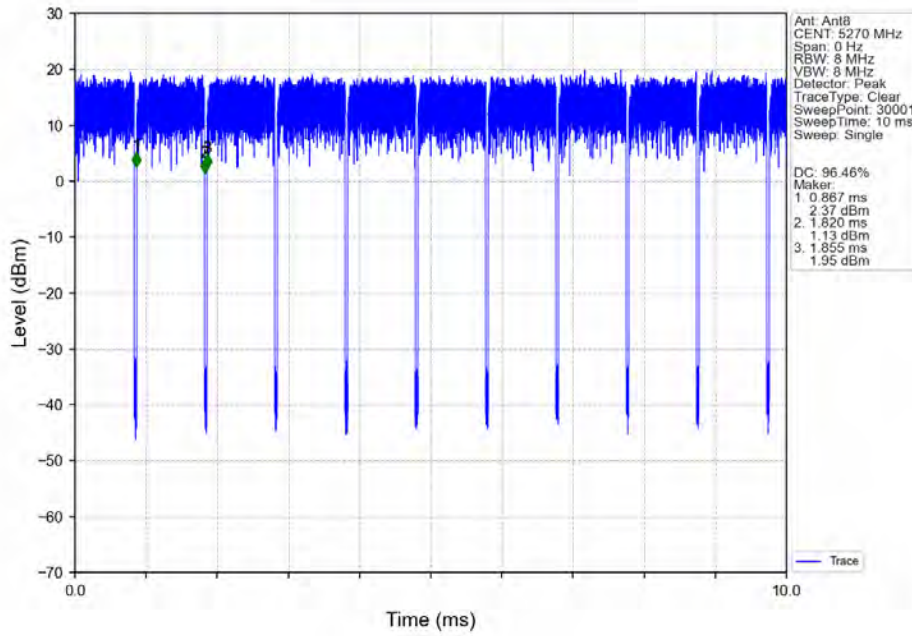
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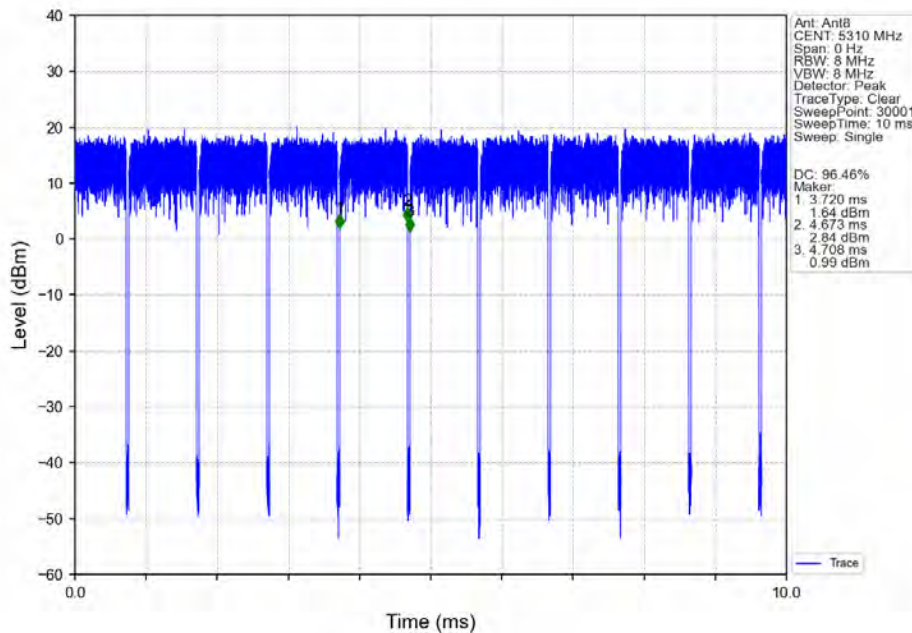
802.11ac(VHT40) HCH 5230MHz Ant8 NTN



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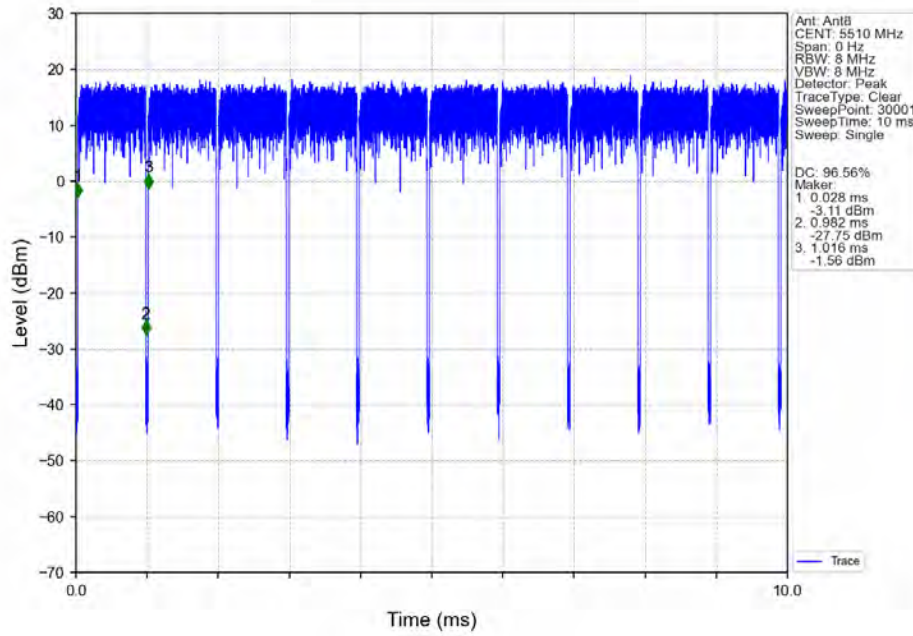
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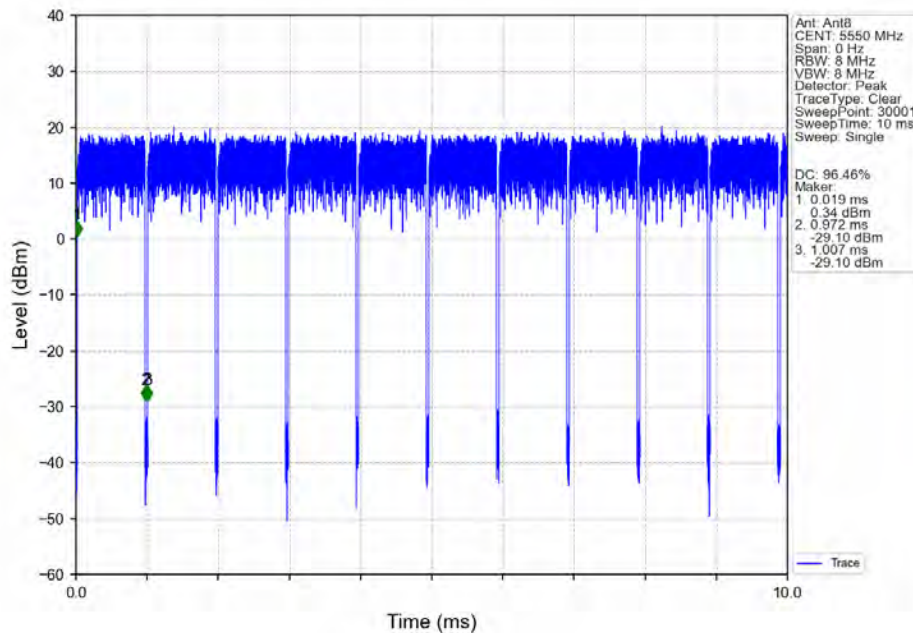
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802.11ac(VHT40)_LCH_5510MHz_Ant8_NTNV



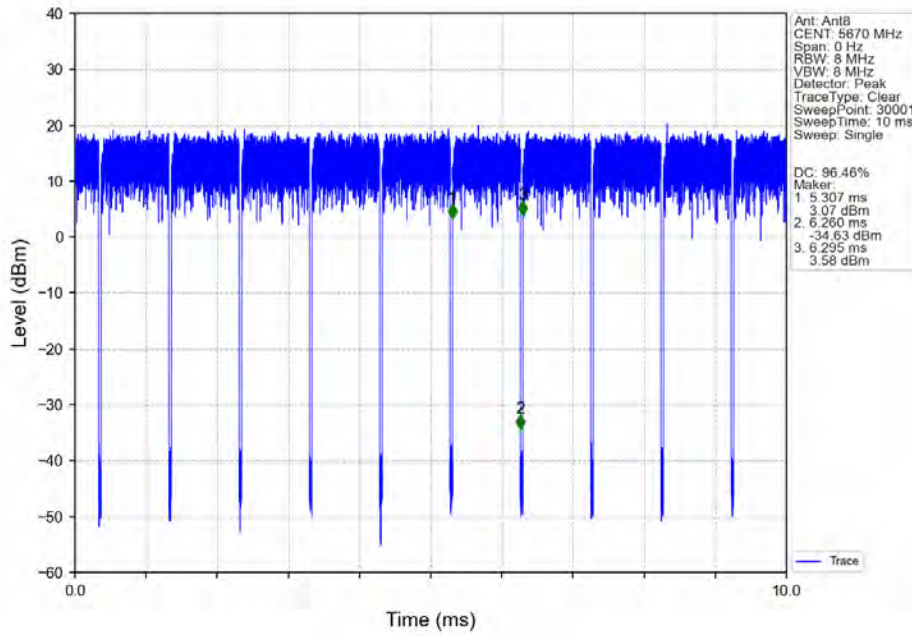
802.11ac(VHT40) MCH 5550MHz Ant8 NTN



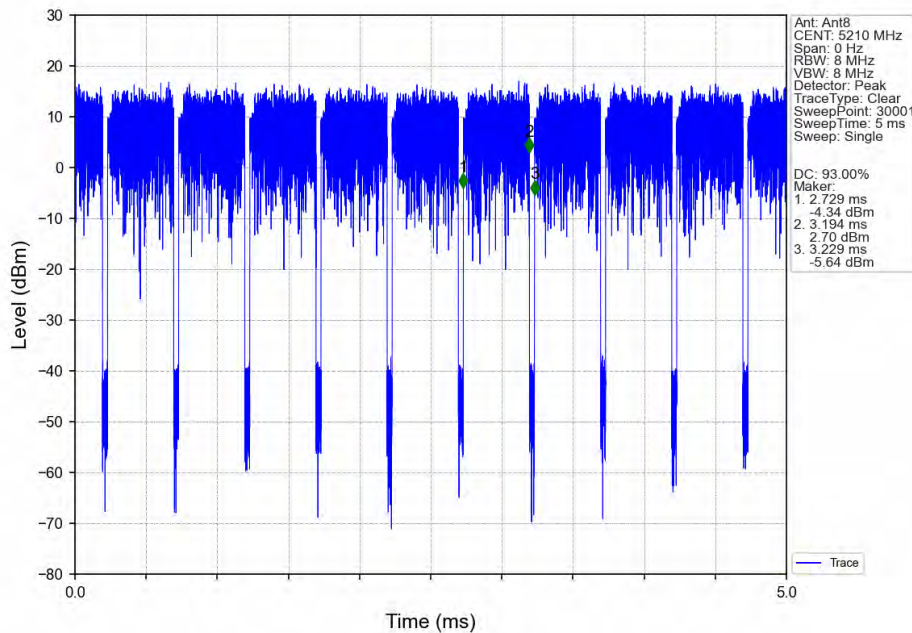
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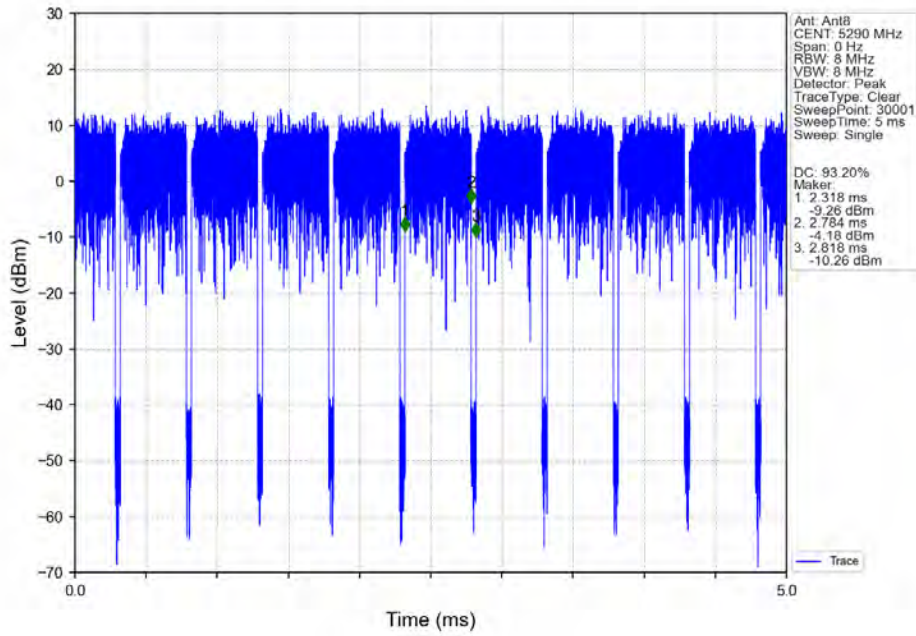
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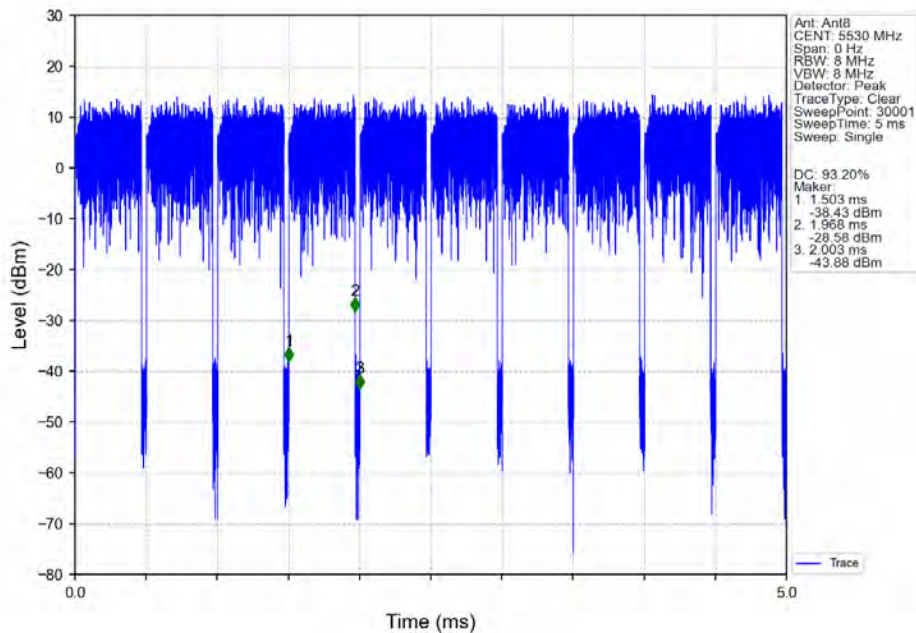
802.11ac(VHT80) MCH 5210MHz Ant8 NTN



802.11ac(VHT80)_MCH_5290MHz_Ant8_NTNV



802.11ac(VHT80) LCH 5530MHz Ant8 NTN



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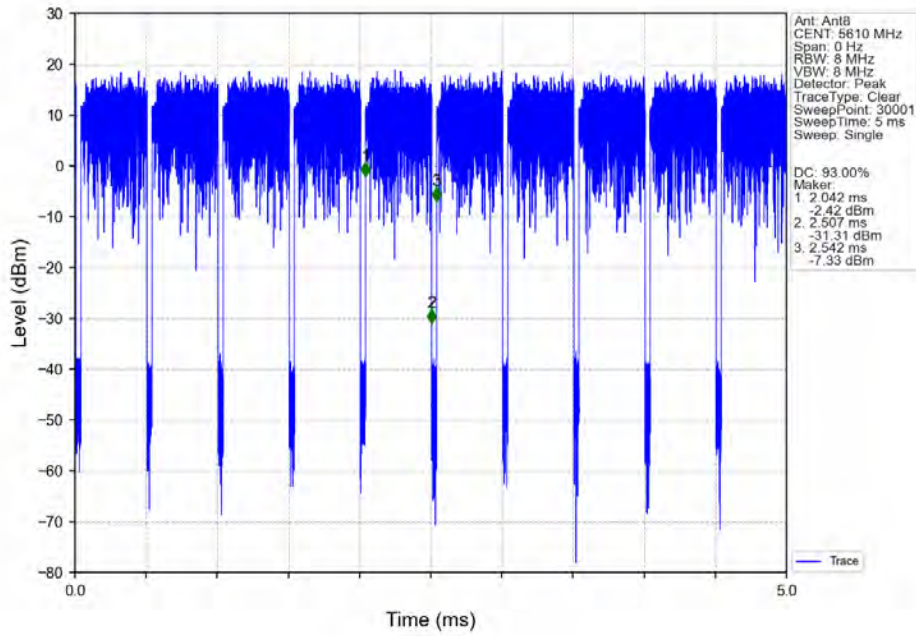
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802.11ac(VHT80)_HCH_5610MHz_Ant8_NTNV



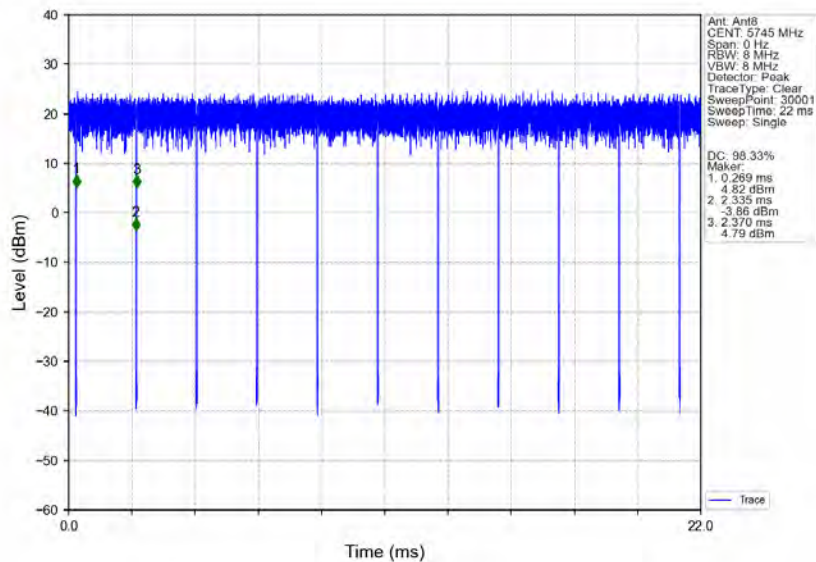
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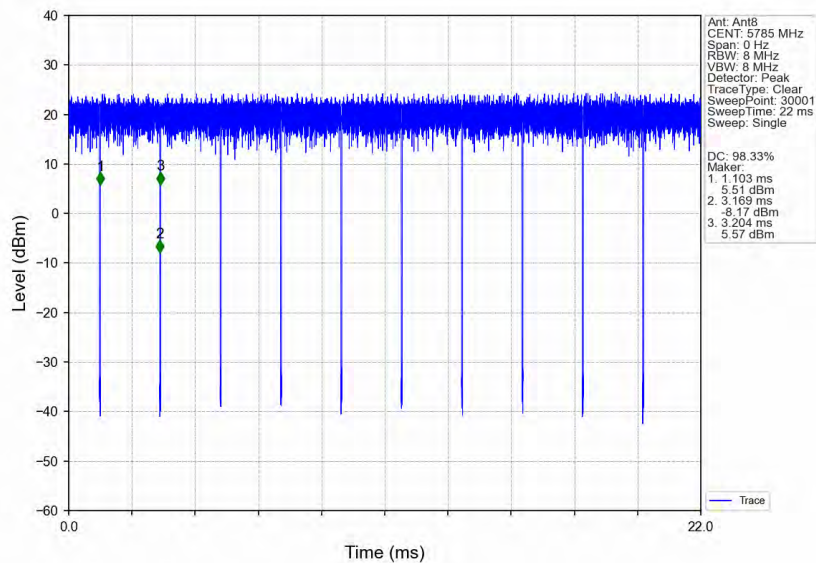
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Shenzhen Branch Testing, Calibration Laboratory

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802.11a_LCH_5745MHz_Ant8_NTNV



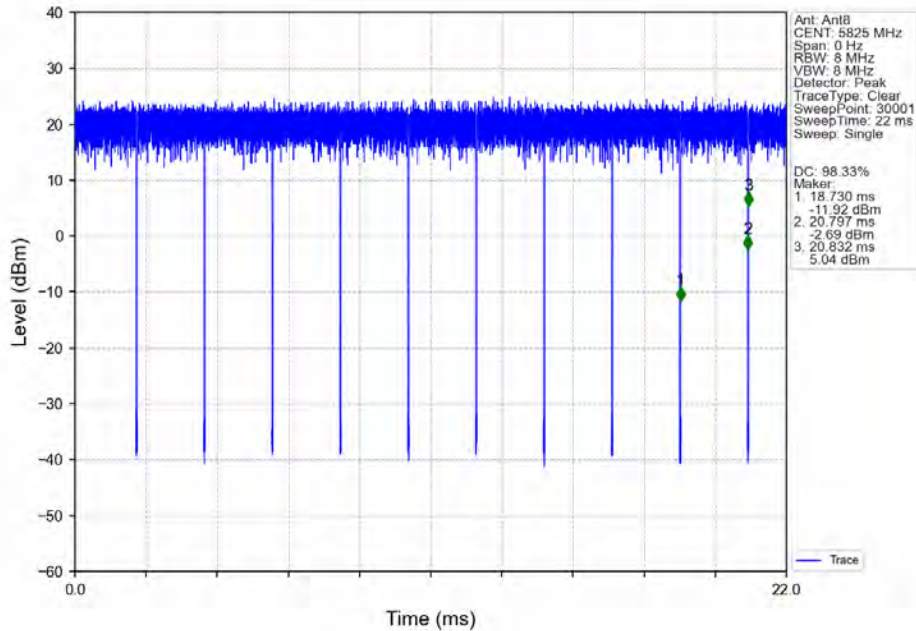
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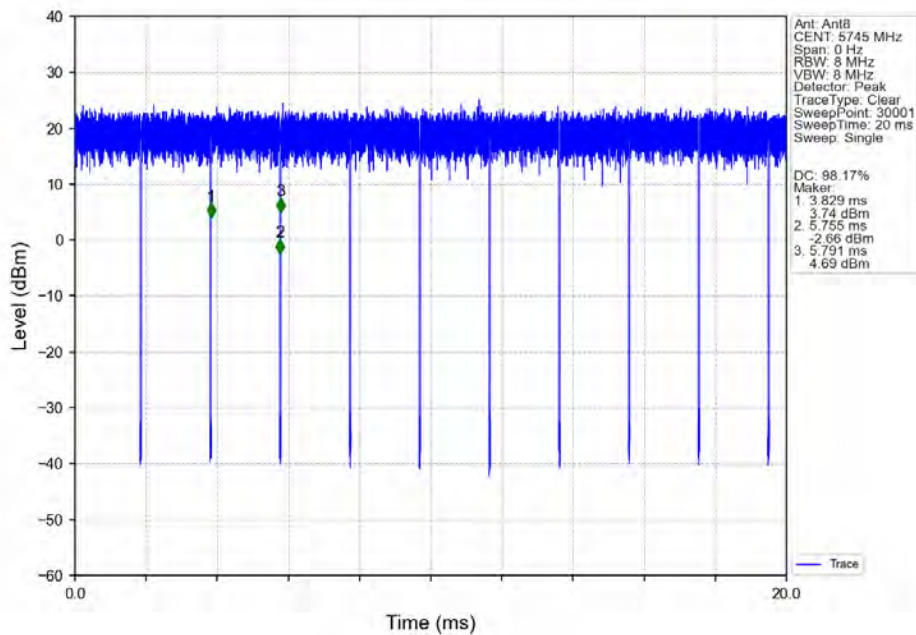
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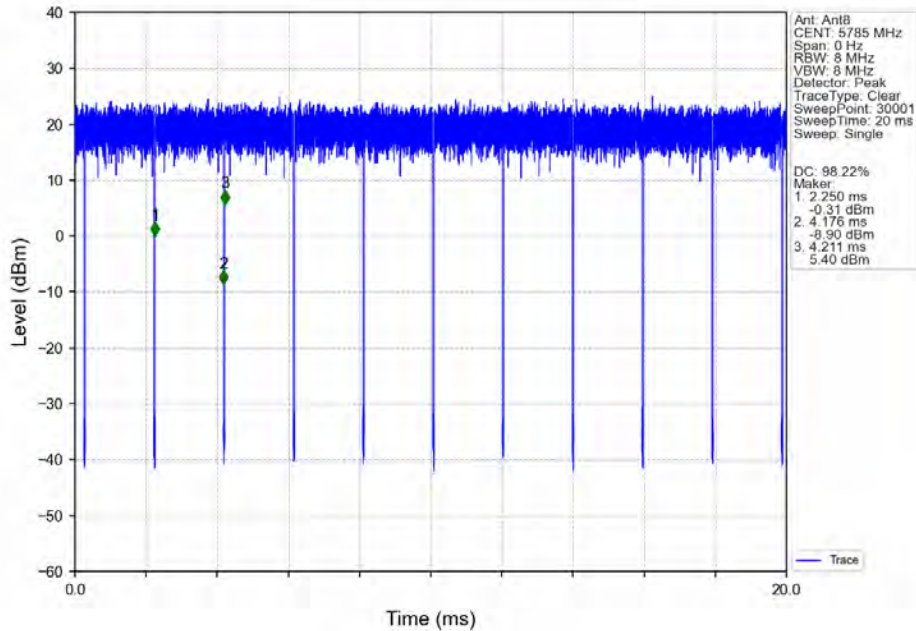
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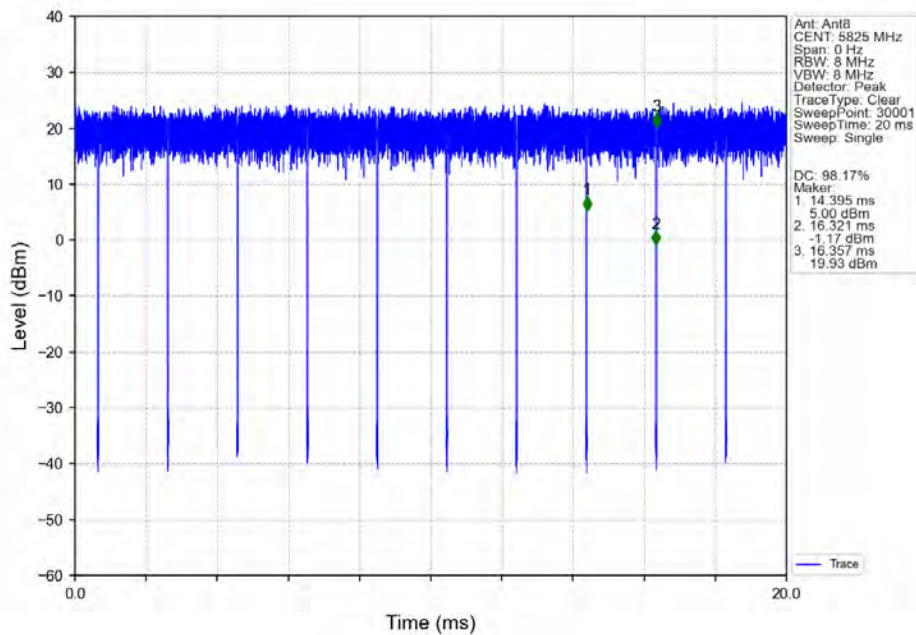
802.11n(HT20)_LCH_5745MHz_Ant8_NTNV



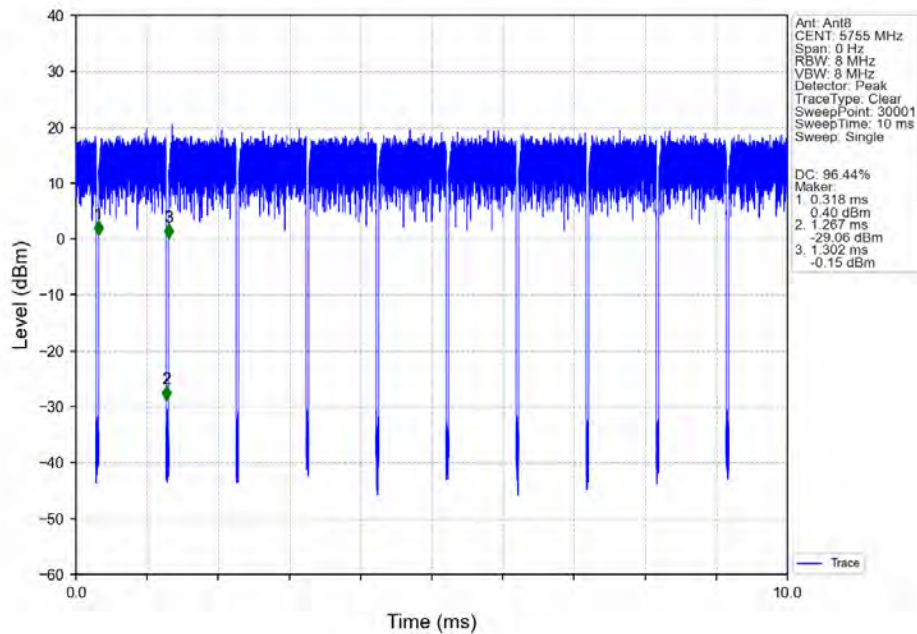
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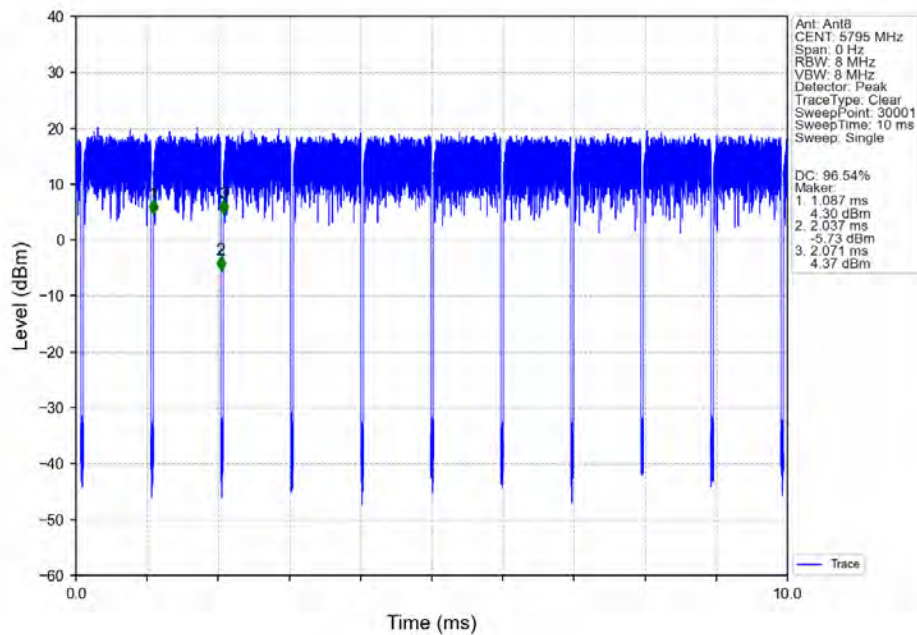
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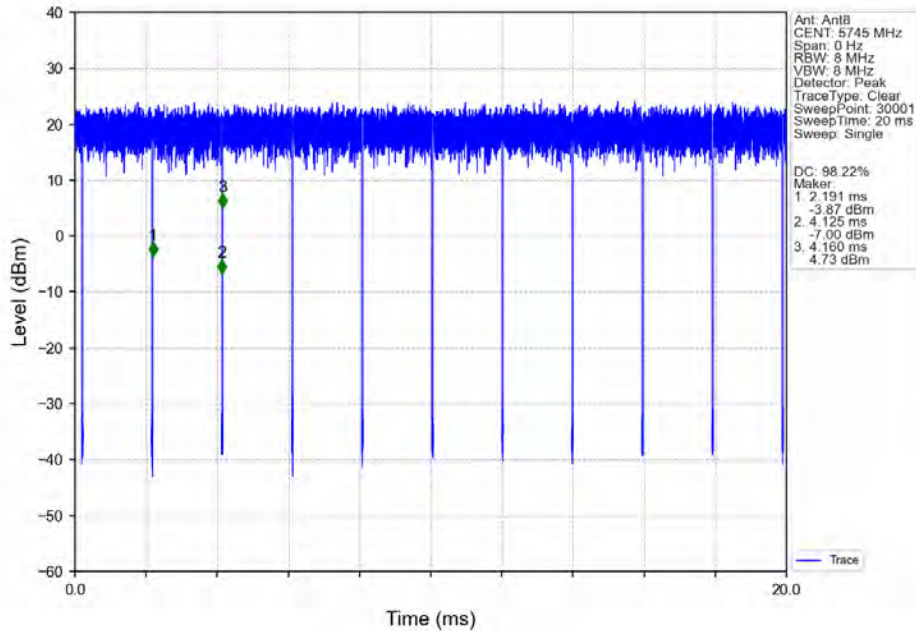
802.11n(HT40)_LCH_5755MHz_Ant8_NTNV



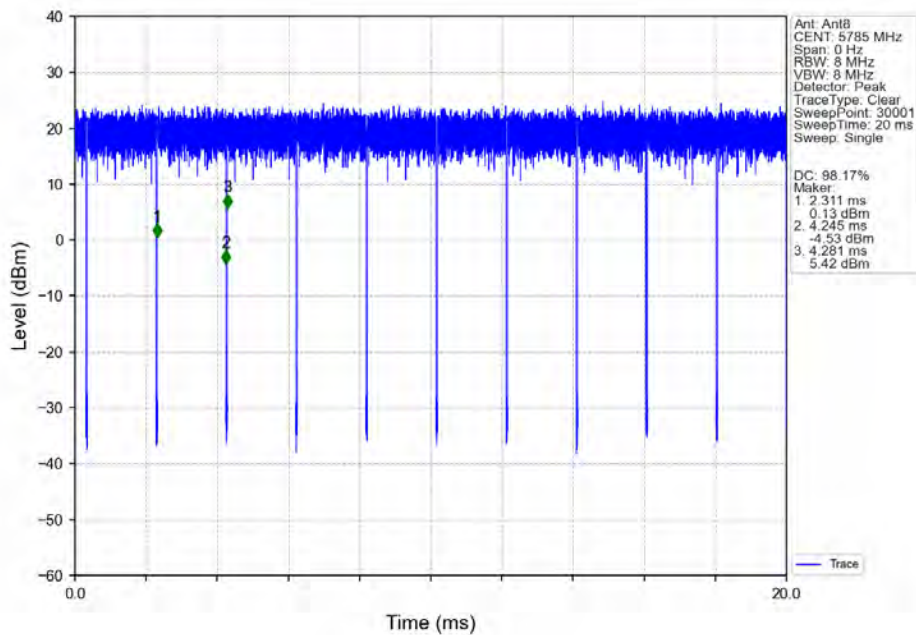
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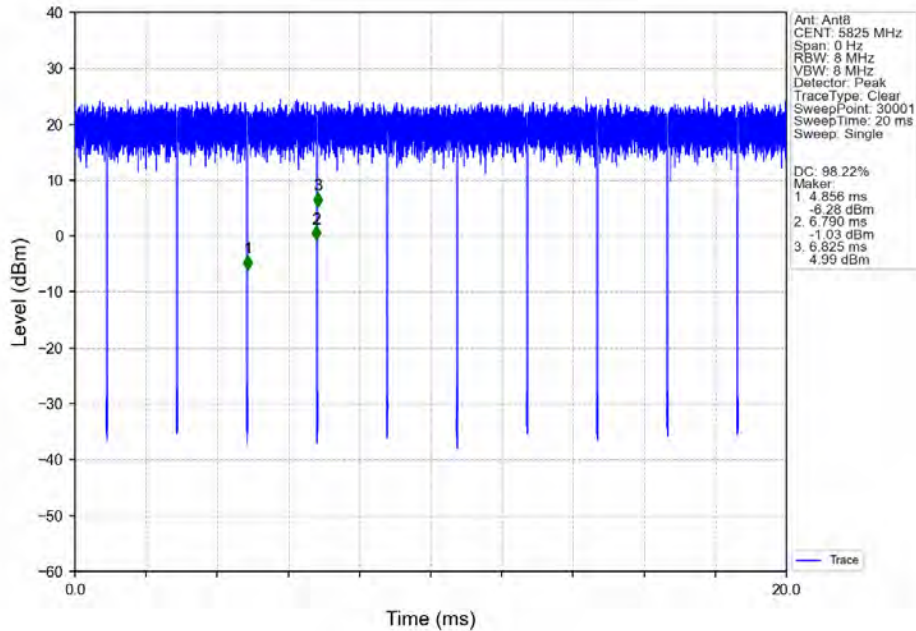
802.11ac(VHT20)_LCH_5745MHz_Ant8_NTNV



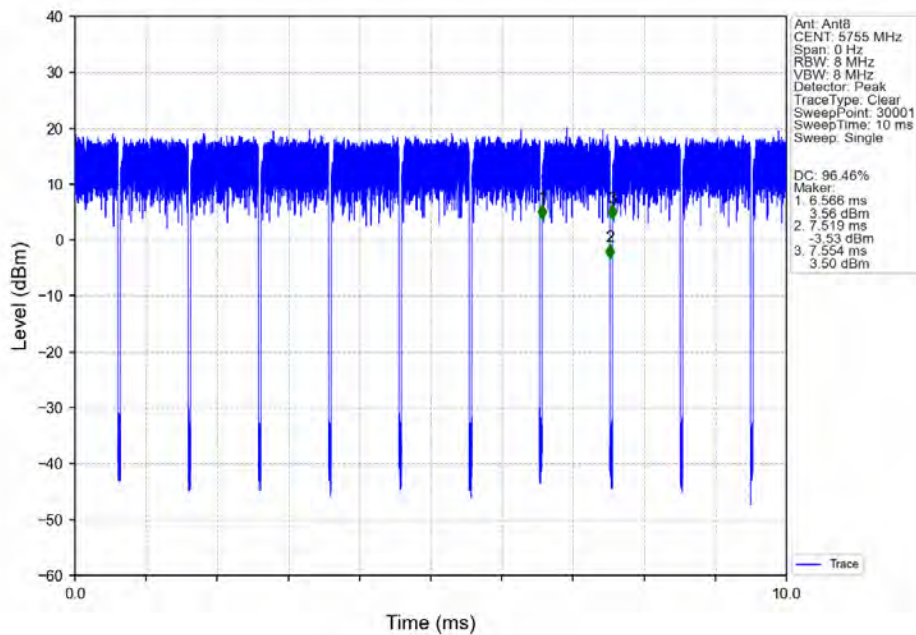
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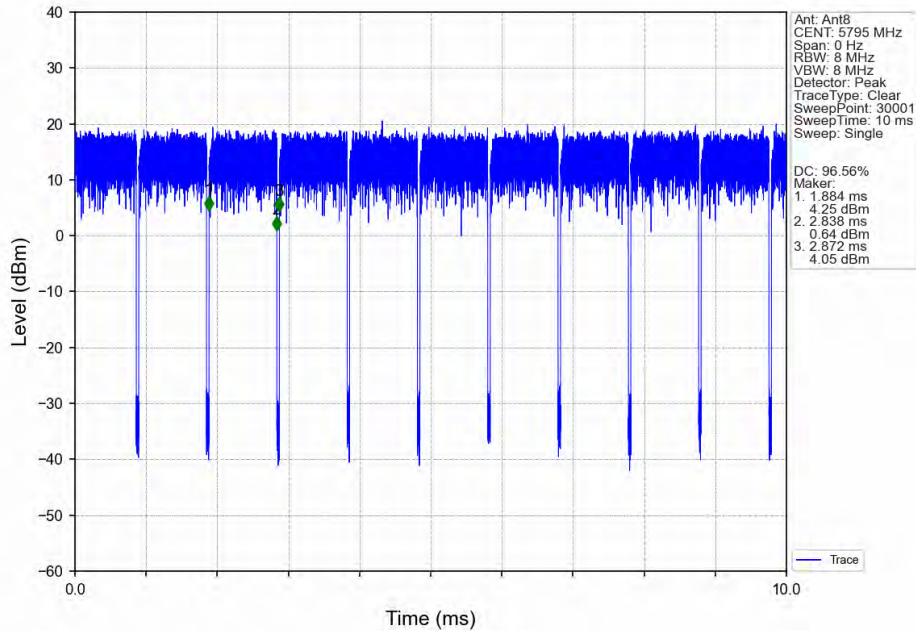
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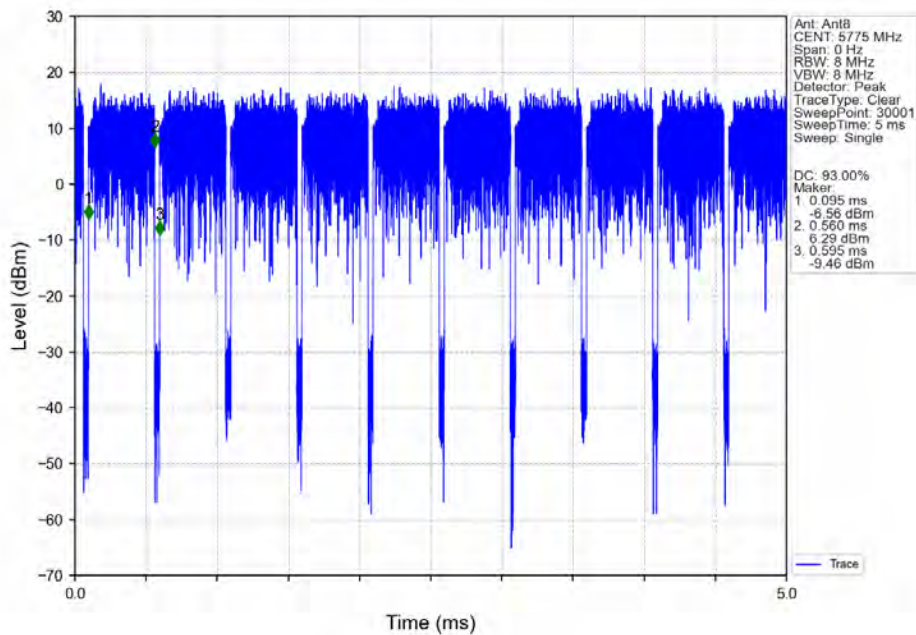
802.11ac(VHT40)_LCH_5755MHz_Ant8_NTNV



802.11ac(VHT40)_HCH_5795MHz_Ant8_NTNV



802.11ac(VHT80)_MCH_5775MHz_Ant8_NTNV



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2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	8	17.158	/	Pass
		5200	8	17.164	/	Pass
		5240	8	17.149	/	Pass
		5260	8	17.199	/	Pass
		5300	8	17.212	/	Pass
		5320	8	17.171	/	Pass
		5500	8	17.151	/	Pass
		5580	8	17.205	/	Pass
		5700	8	17.154	/	Pass
802.11n (HT20)	SISO	5180	8	18.368	/	Pass
		5200	8	18.334	/	Pass
		5240	8	18.364	/	Pass
		5260	8	18.368	/	Pass
		5300	8	18.348	/	Pass
		5320	8	18.358	/	Pass
		5500	8	18.325	/	Pass
		5580	8	18.336	/	Pass
		5700	8	18.380	/	Pass
802.11n (HT40)	SISO	5190	8	36.715	/	Pass
		5230	8	36.774	/	Pass
		5270	8	36.641	/	Pass
		5310	8	36.726	/	Pass
		5510	8	36.712	/	Pass
		5550	8	36.658	/	Pass
		5670	8	36.622	/	Pass
802.11ac (VHT20)	SISO	5180	8	18.394	/	Pass
		5200	8	18.370	/	Pass
		5240	8	18.346	/	Pass
		5260	8	18.295	/	Pass
		5300	8	18.343	/	Pass
		5320	8	18.349	/	Pass
		5500	8	18.389	/	Pass
		5580	8	18.302	/	Pass
		5700	8	18.346	/	Pass
802.11ac (VHT40)	SISO	5190	8	36.567	/	Pass
		5230	8	36.613	/	Pass
		5270	8	36.553	/	Pass
		5310	8	36.571	/	Pass
		5510	8	36.592	/	Pass
		5550	8	36.608	/	Pass
		5670	8	36.532	/	Pass
802.11ac (VHT80)	SISO	5210	8	75.881	/	Pass
		5290	8	76.092	/	Pass
		5530	8	75.964	/	Pass
		5610	8	75.908	/	Pass



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Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	8	17.185	/	Pass
		5785	8	17.178	/	Pass
		5825	8	17.140	/	Pass
802.11n (HT20)	SISO	5745	8	18.365	/	Pass
		5785	8	18.346	/	Pass
		5825	8	18.337	/	Pass
802.11n (HT40)	SISO	5755	8	36.686	/	Pass
		5795	8	36.650	/	Pass
802.11ac (VHT20)	SISO	5745	8	18.386	/	Pass
		5785	8	18.406	/	Pass
		5825	8	18.344	/	Pass
802.11ac (VHT40)	SISO	5755	8	36.606	/	Pass
		5795	8	36.551	/	Pass
802.11ac (VHT80)	SISO	5775	8	75.928	/	Pass



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2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	8	22.155	/	Pass
		5200	8	21.514	/	Pass
		5240	8	21.669	/	Pass
		5260	8	21.963	/	Pass
		5300	8	21.605	/	Pass
		5320	8	21.123	/	Pass
		5500	8	22.167	/	Pass
		5580	8	21.159	/	Pass
		5700	8	21.686	/	Pass
802.11n (HT20)	SISO	5180	8	22.327	/	Pass
		5200	8	22.005	/	Pass
		5240	8	22.075	/	Pass
		5260	8	21.928	/	Pass
		5300	8	22.218	/	Pass
		5320	8	22.396	/	Pass
		5500	8	22.285	/	Pass
		5580	8	22.068	/	Pass
		5700	8	21.852	/	Pass
802.11n (HT40)	SISO	5190	8	41.584	/	Pass
		5230	8	41.879	/	Pass
		5270	8	41.098	/	Pass
		5310	8	41.476	/	Pass
		5510	8	41.355	/	Pass
		5550	8	41.183	/	Pass
802.11ac (VHT20)	SISO	5670	8	41.168	/	Pass
		5180	8	23.160	/	Pass
		5200	8	22.462	/	Pass
		5240	8	22.128	/	Pass
		5260	8	21.879	/	Pass
		5300	8	22.016	/	Pass
		5320	8	22.436	/	Pass
		5500	8	21.918	/	Pass
		5580	8	22.391	/	Pass
802.11ac	SISO	5700	8	22.761	/	Pass
802.11ac	SISO	5190	8	41.512	/	Pass



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(VHT40)		5230	8	40.985	/	Pass
		5270	8	41.461	/	Pass
		5310	8	41.603	/	Pass
		5510	8	41.112	/	Pass
		5550	8	41.087	/	Pass
		5670	8	41.396	/	Pass
802.11ac (VHT80)	SISO	5210	8	82.969	/	Pass
		5290	8	83.427	/	Pass
		5530	8	84.013	/	Pass
		5610	8	83.283	/	Pass

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	8	14.467	≥ 0.5	Pass
		5785	8	15.135	≥ 0.5	Pass
		5825	8	15.144	≥ 0.5	Pass
802.11n (HT20)	SISO	5745	8	15.504	≥ 0.5	Pass
		5785	8	16.056	≥ 0.5	Pass
		5825	8	15.194	≥ 0.5	Pass
802.11n (HT40)	SISO	5755	8	35.207	≥ 0.5	Pass
		5795	8	35.204	≥ 0.5	Pass
802.11ac (VHT20)	SISO	5745	8	15.503	≥ 0.5	Pass
		5785	8	15.134	≥ 0.5	Pass
		5825	8	15.405	≥ 0.5	Pass
802.11ac (VHT40)	SISO	5755	8	35.372	≥ 0.5	Pass
		5795	8	35.164	≥ 0.5	Pass
802.11ac (VHT80)	SISO	5775	8	75.182	≥ 0.5	Pass



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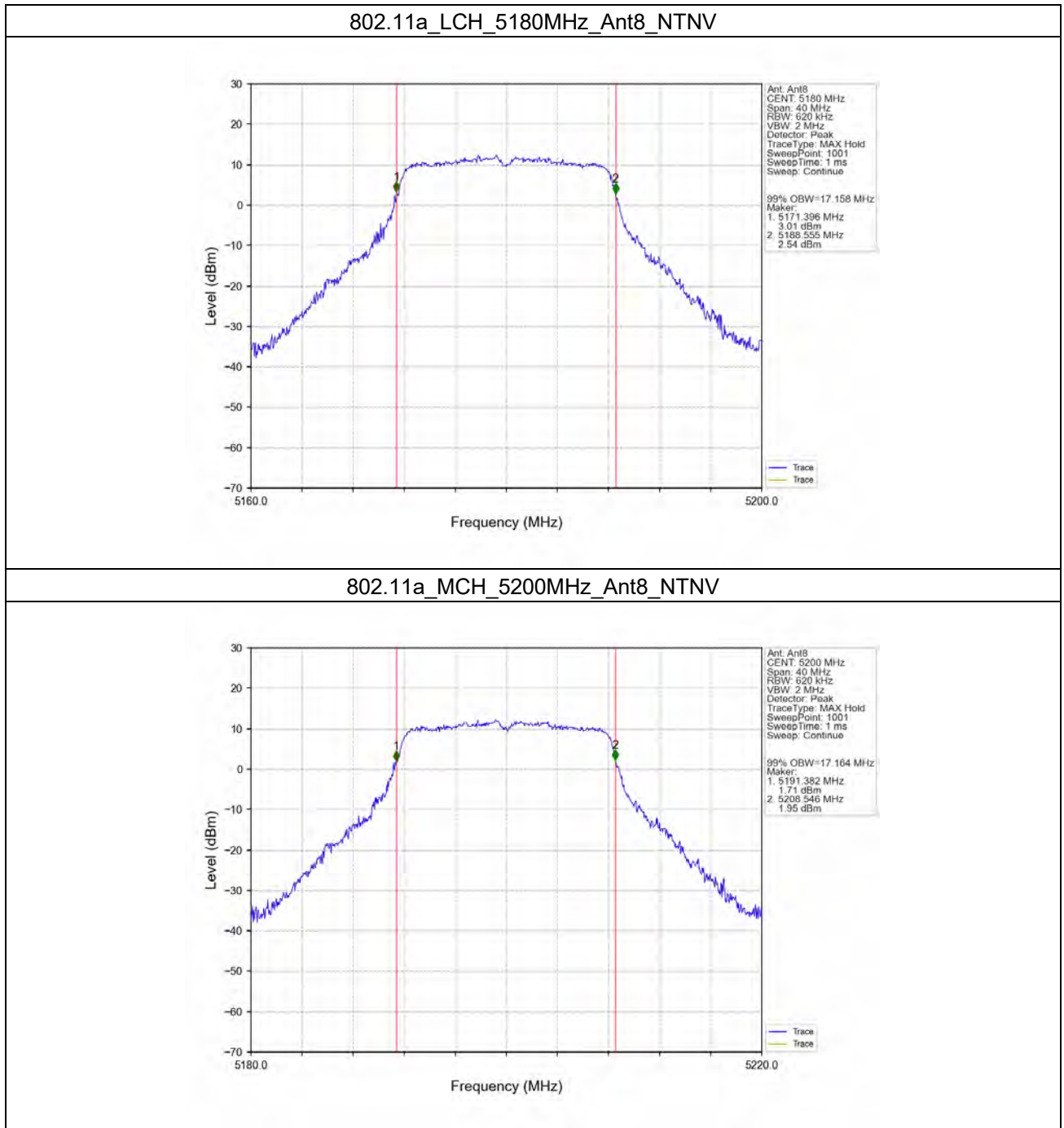
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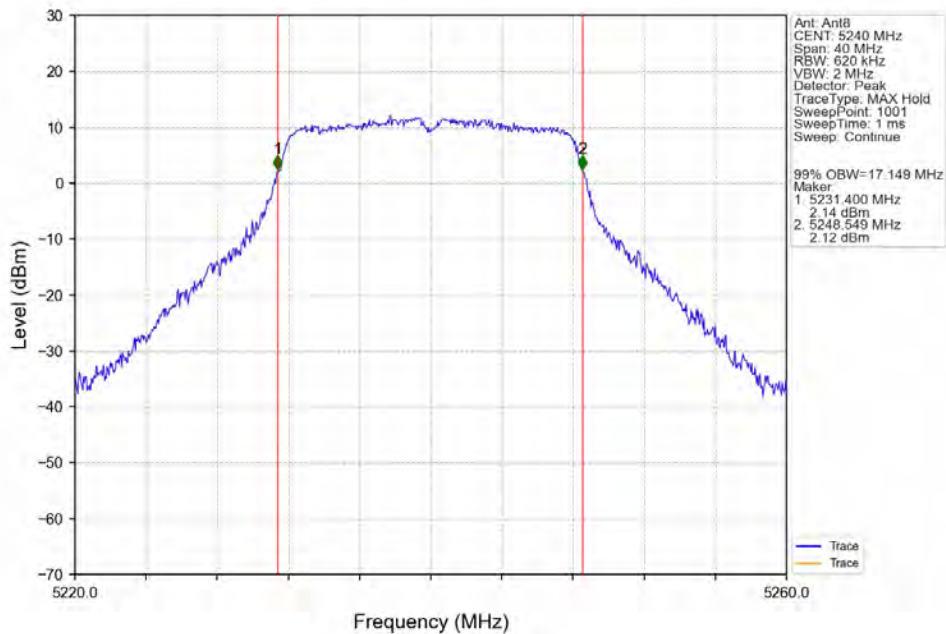
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2.2 Test Graph

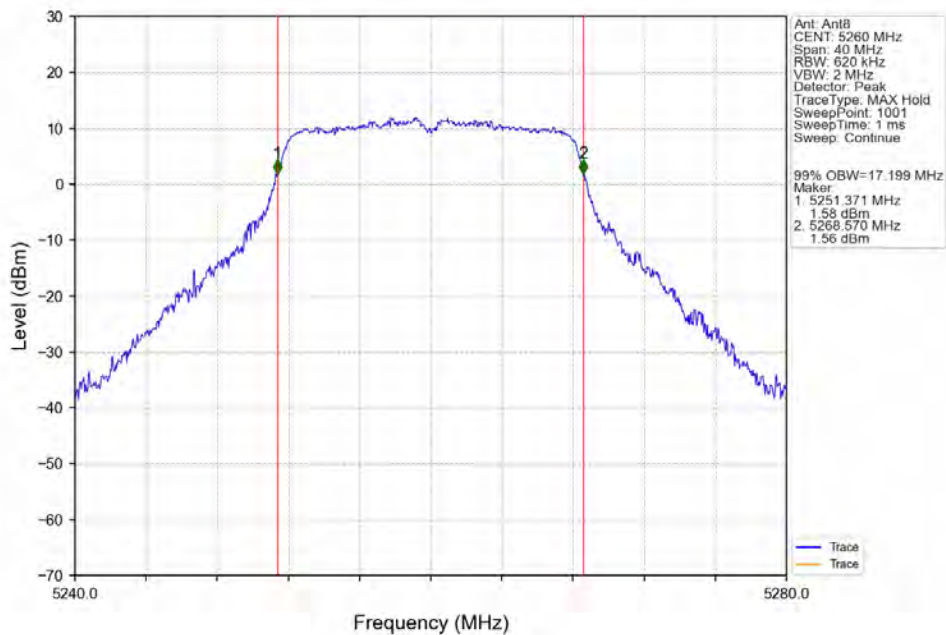
2.2.1 OBW



802.11a_HCH_5240MHz_Ant8_NTNV



802.11a_LCH_5260MHz_Ant8_NTNV



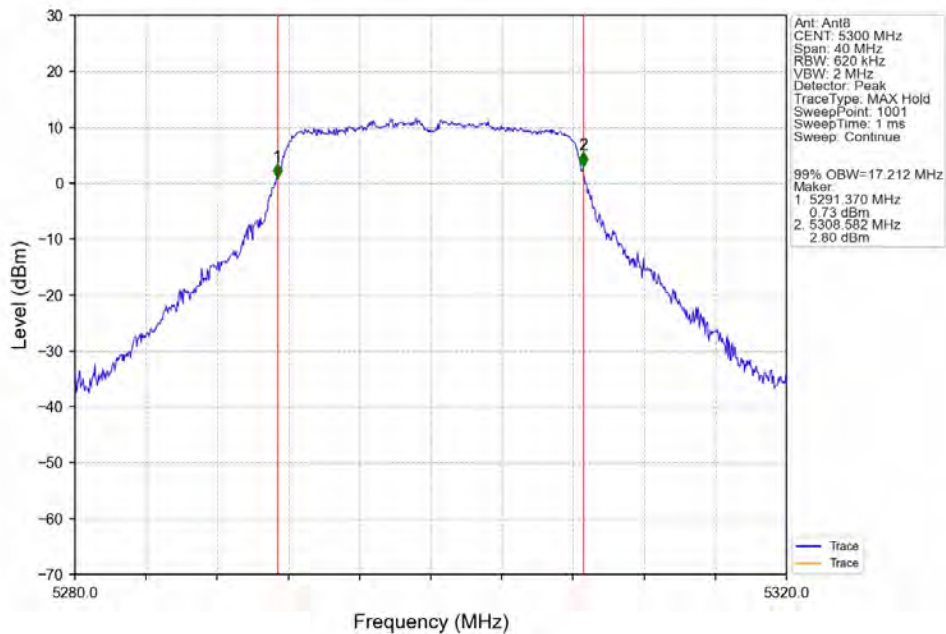
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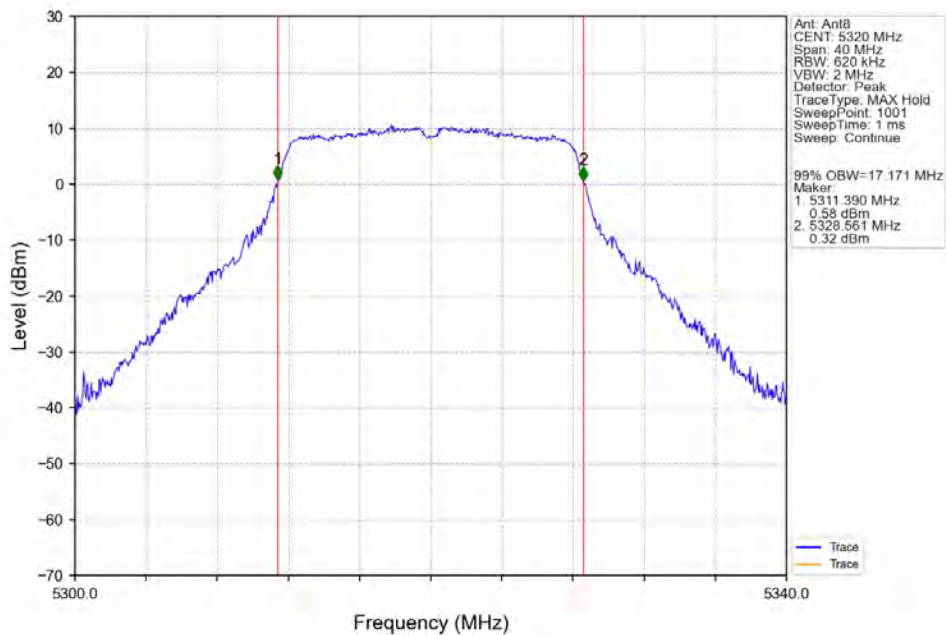
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802.11a_MCH_5300MHz_Ant8_NTNV



802.11a_HCH_5320MHz_Ant8_NTNV



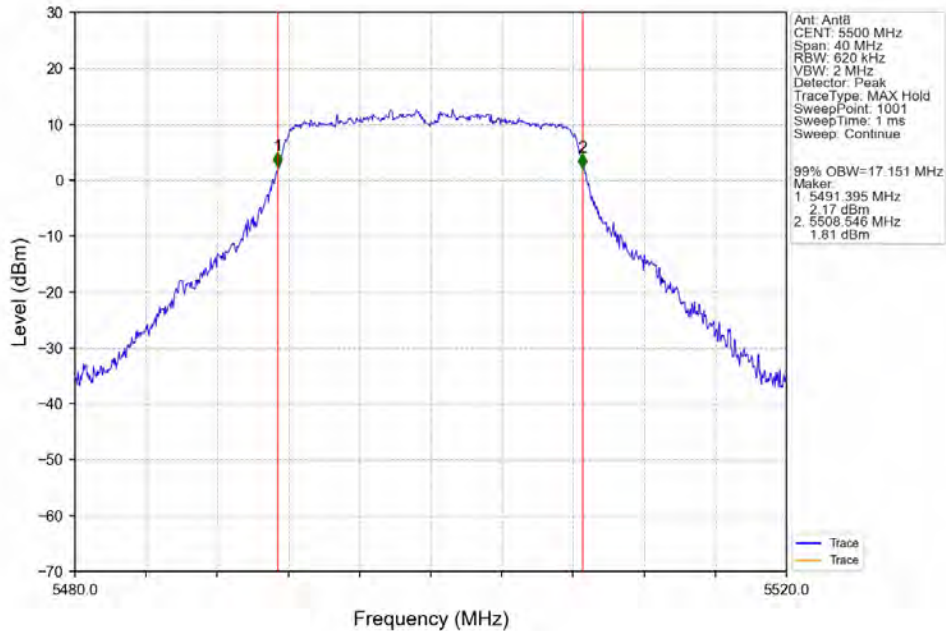
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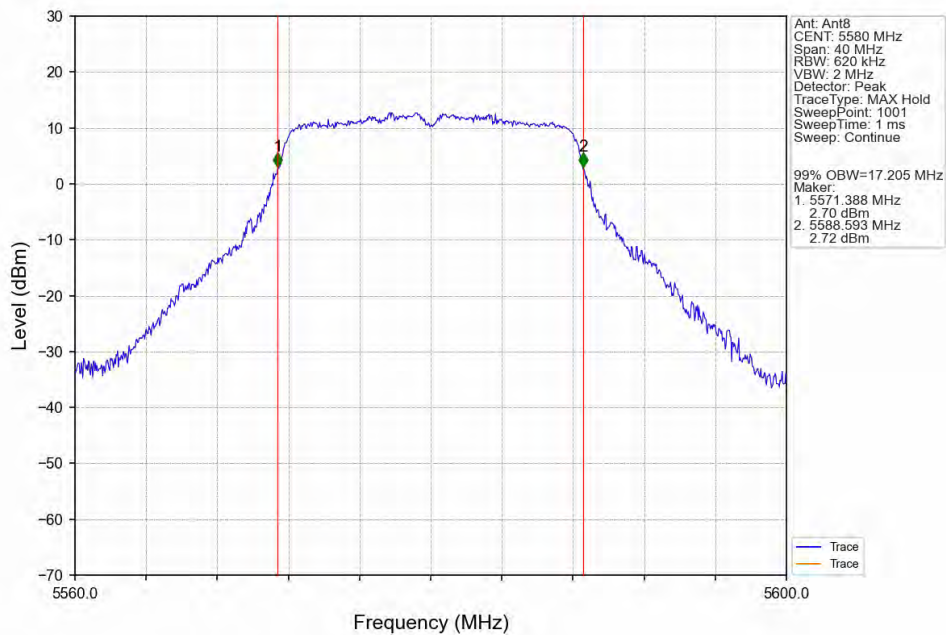
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802.11a_LCH_5500MHz_Ant8_NTNV



802.11a_MCH_5580MHz_Ant8_NTNV



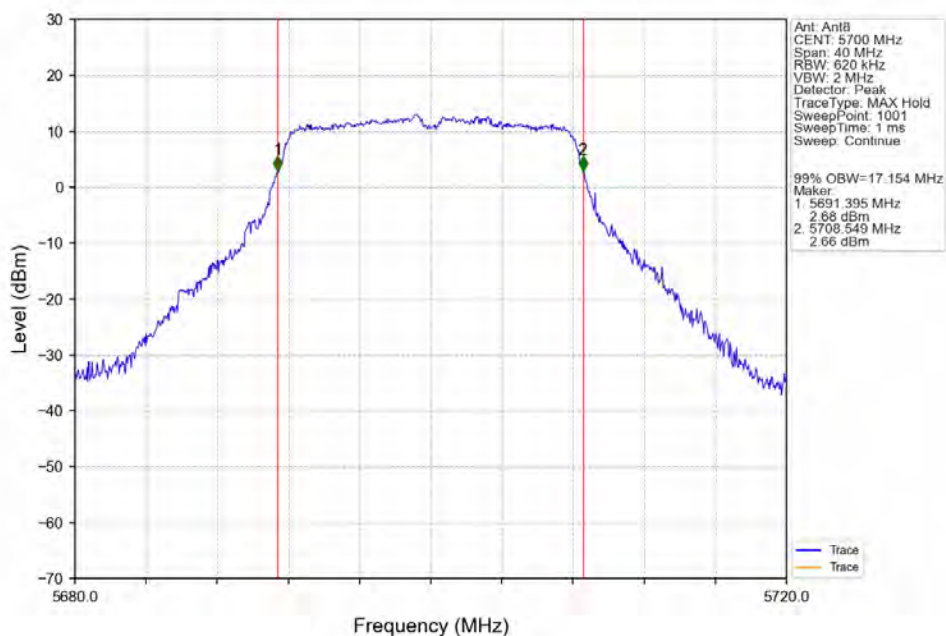
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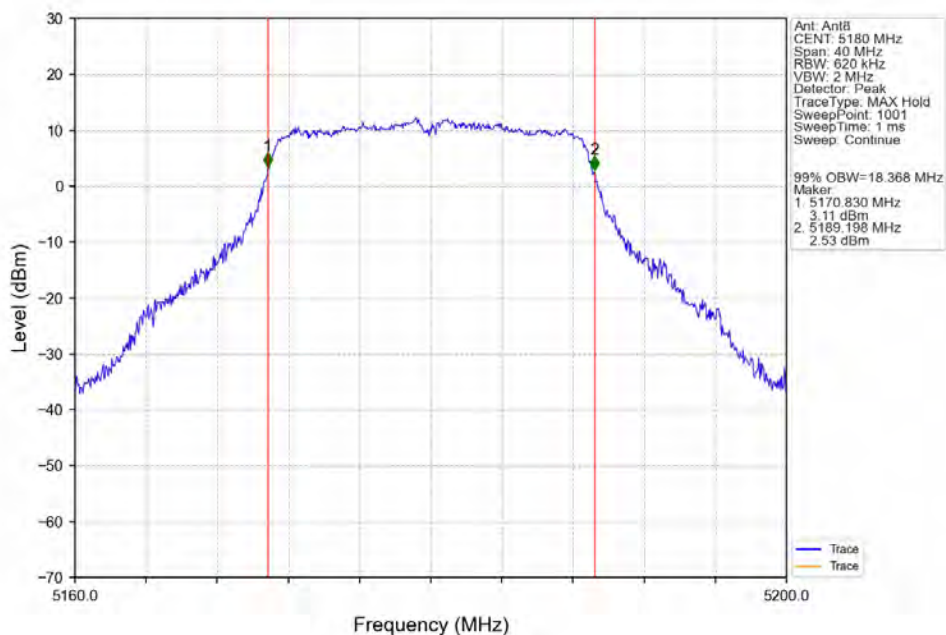
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802.11a_HCH_5700MHz_Ant8_NTNV



802.11n(HT20)_LCH_5180MHz_Ant8_NTNV



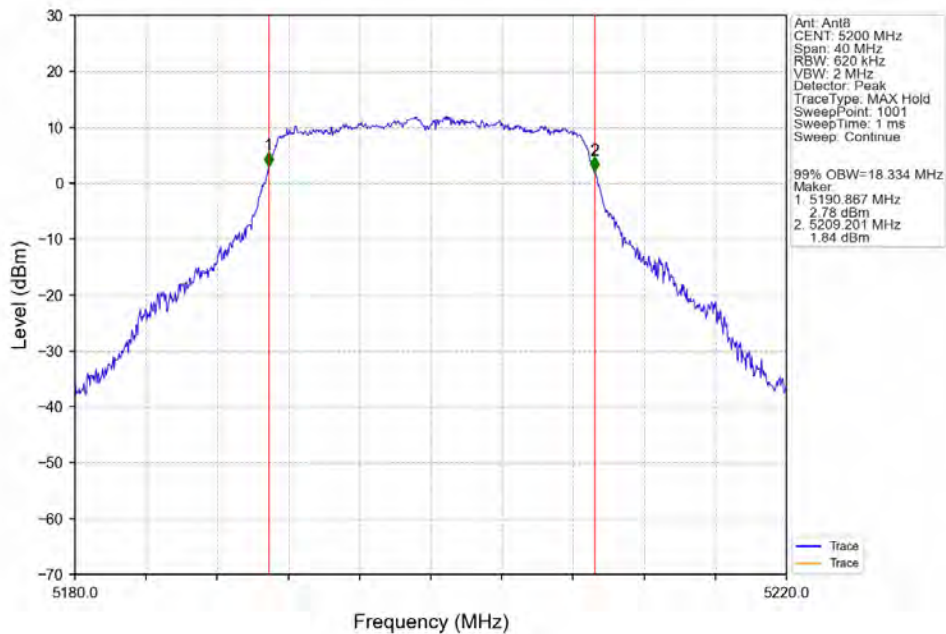
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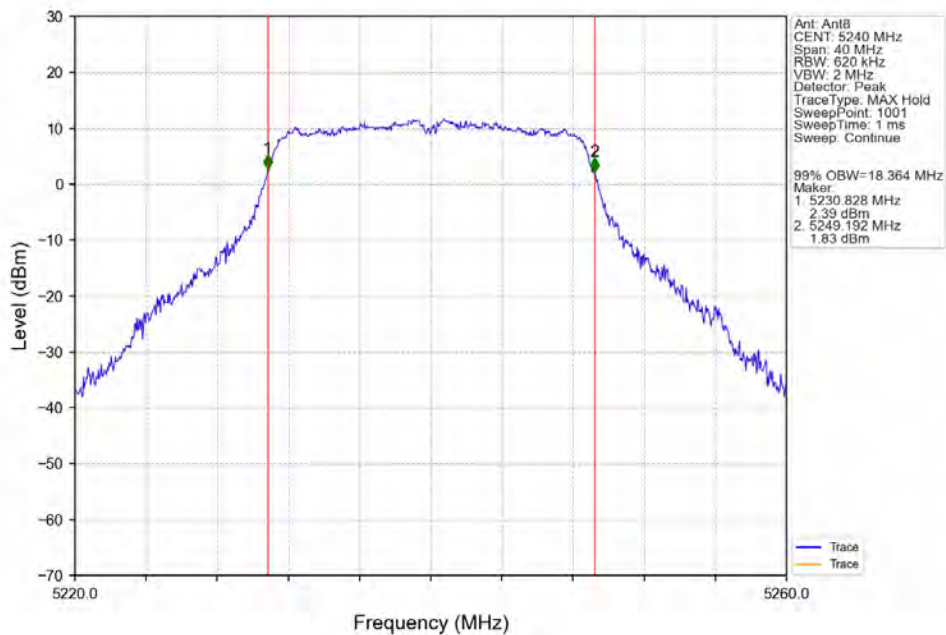
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802.11n(HT20)_MCH_5200MHz_Ant8_NTNV



802.11n(HT20)_HCH_5240MHz_Ant8_NTNV



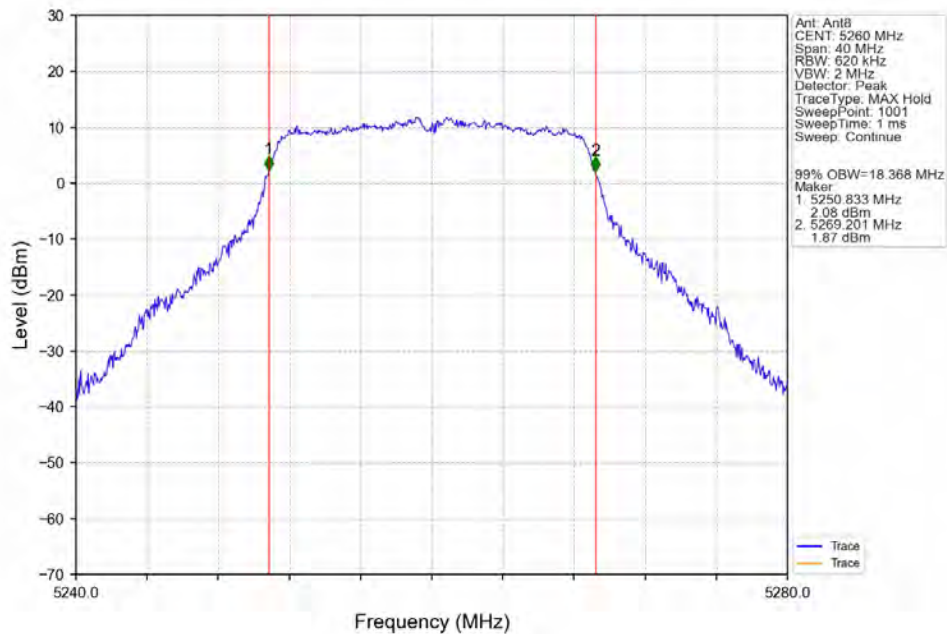
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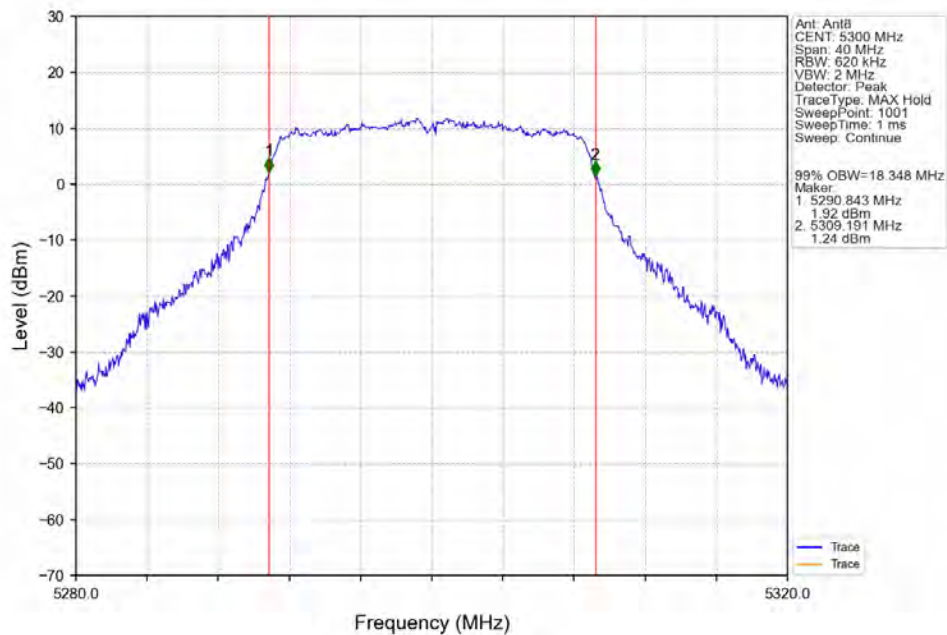
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802.11n(HT20)_LCH_5260MHz_Ant8_NTNV



802.11n(HT20)_MCH_5300MHz_Ant8_NTNV



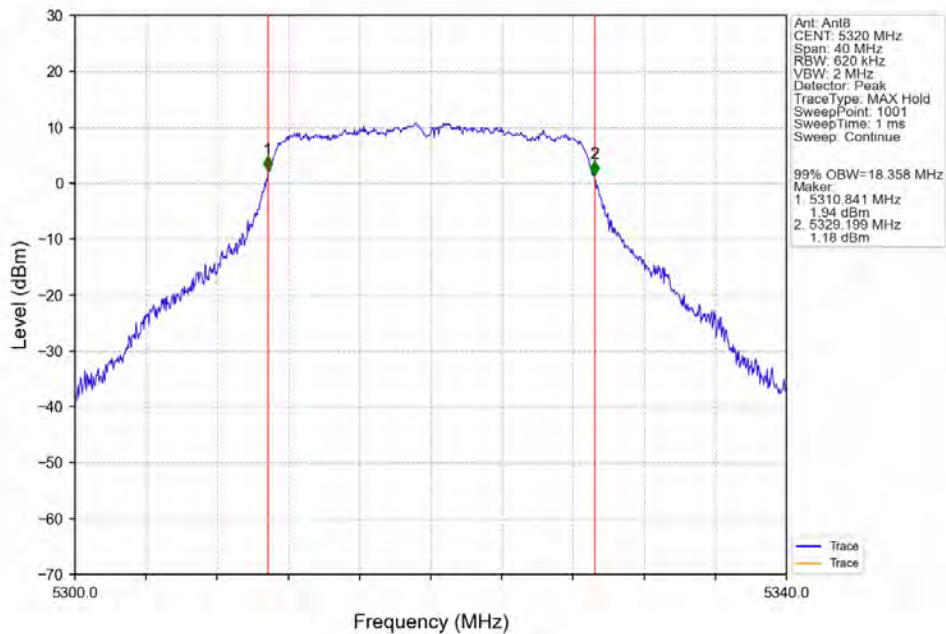
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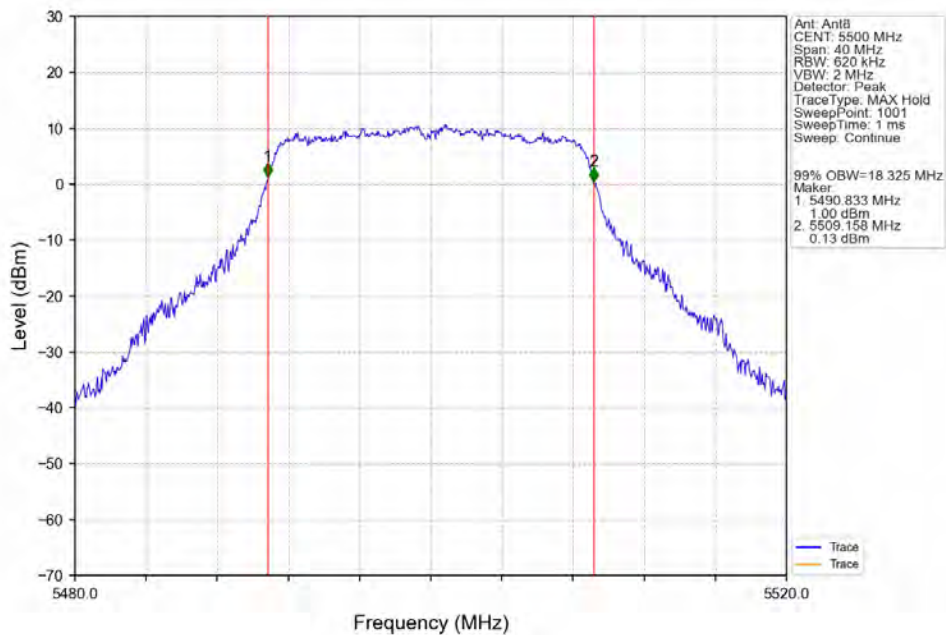
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802.11n(HT20)_HCH_5320MHz_Ant8_NTNV



802.11n(HT20)_LCH_5500MHz_Ant8_NTNV



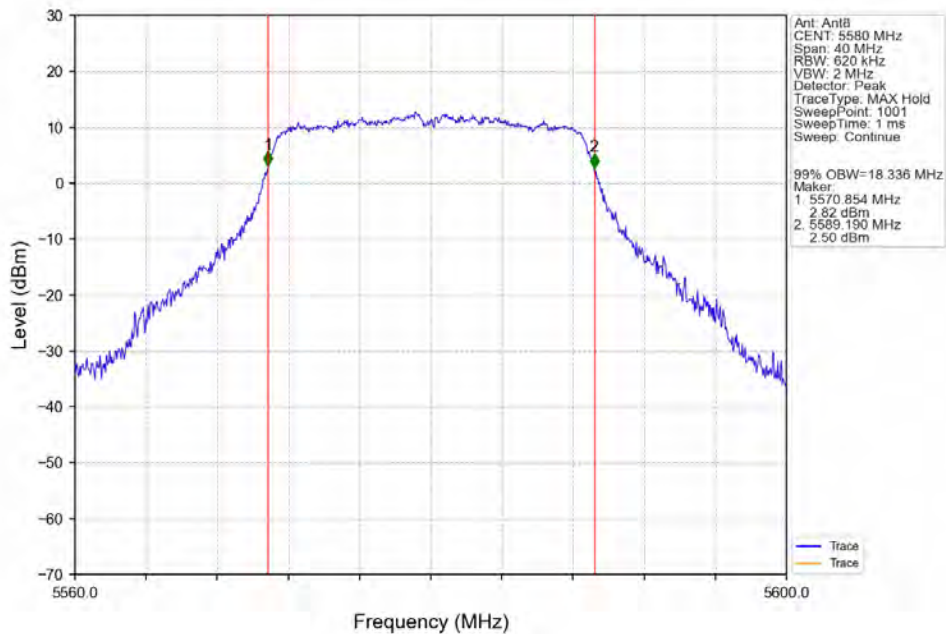
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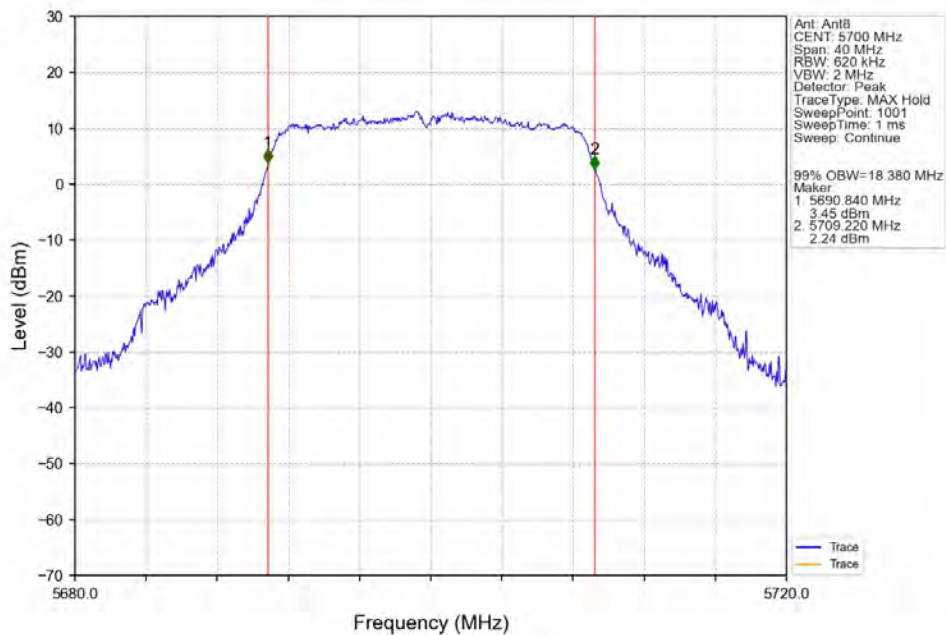
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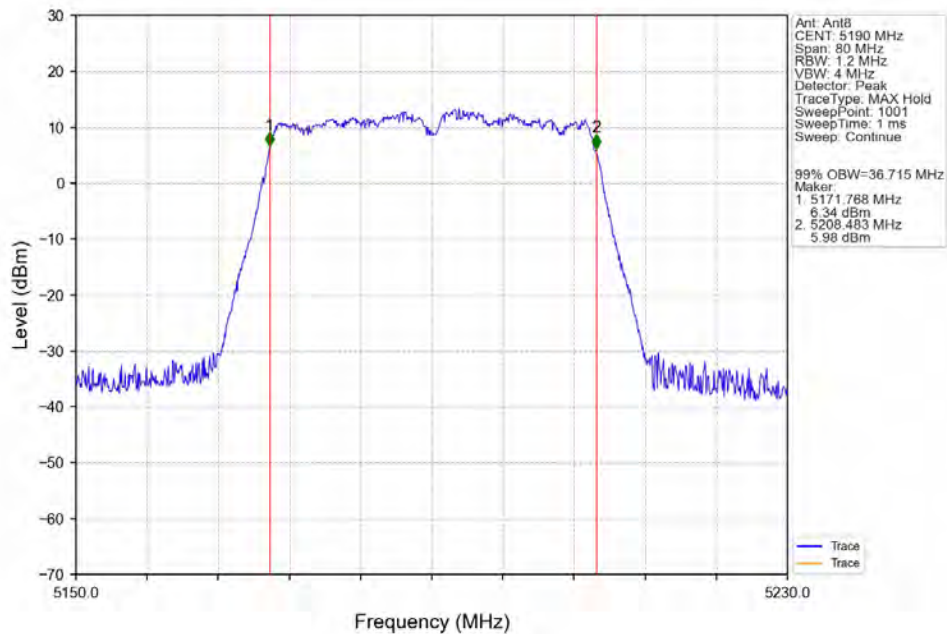
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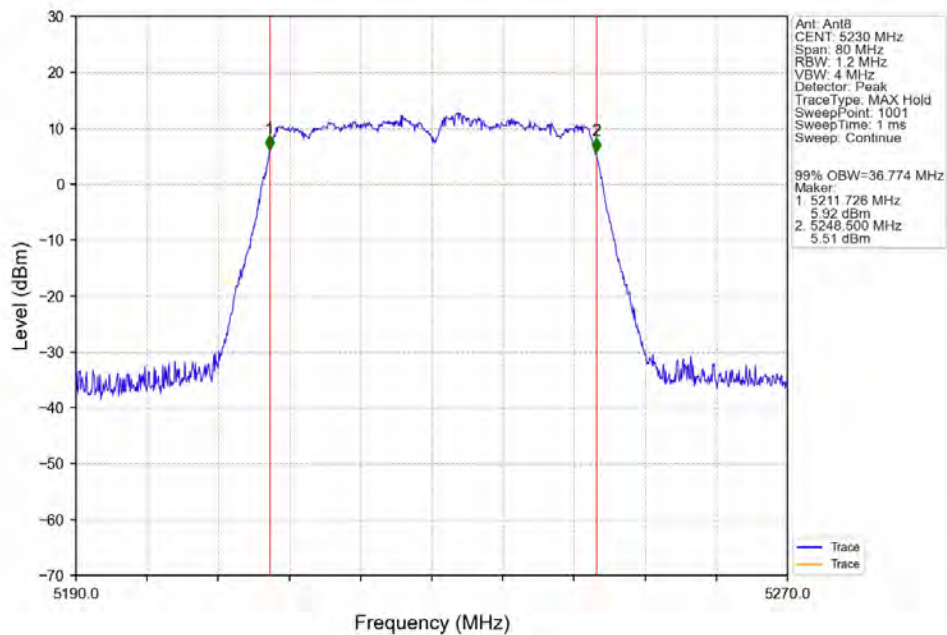
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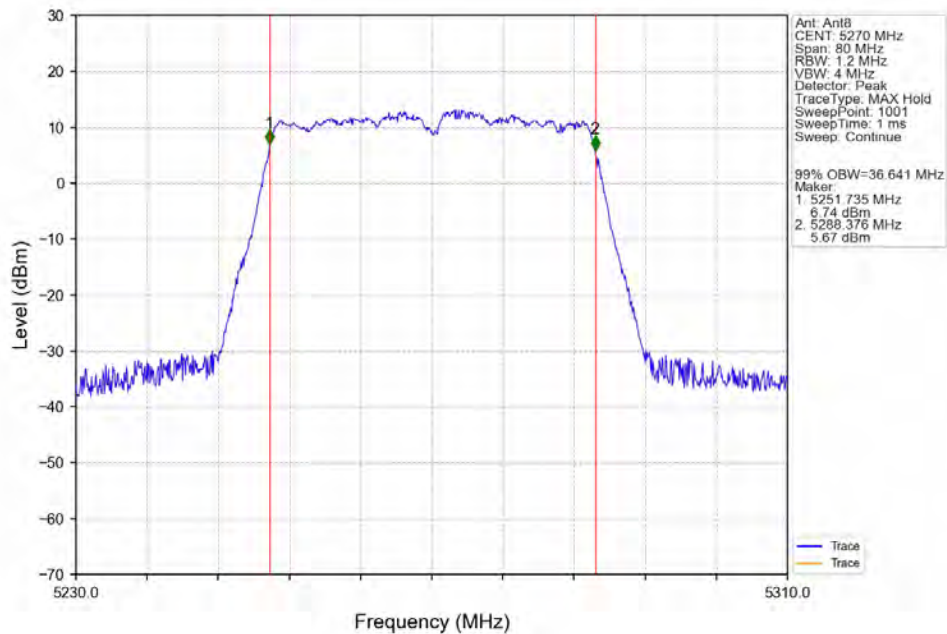
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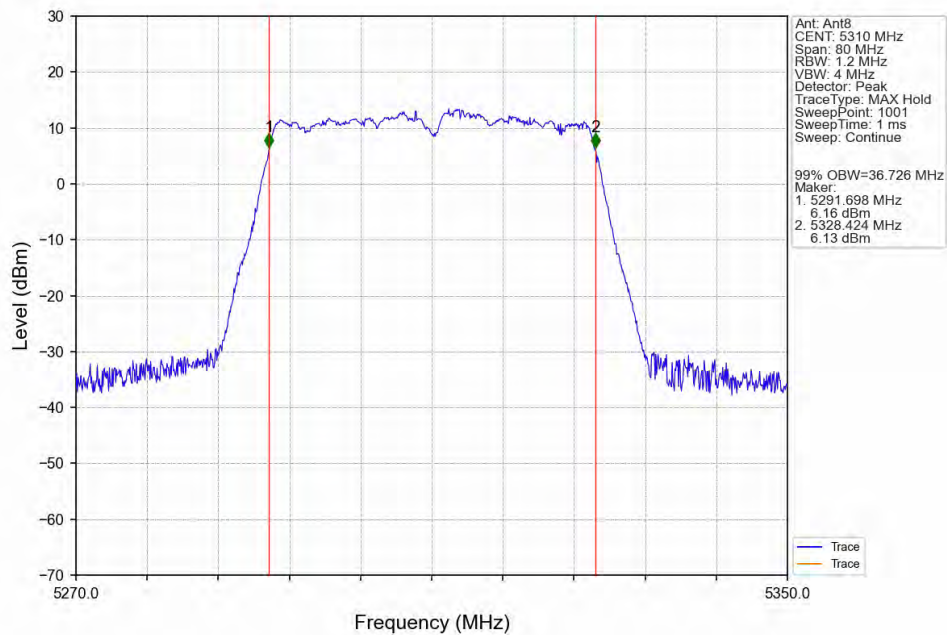
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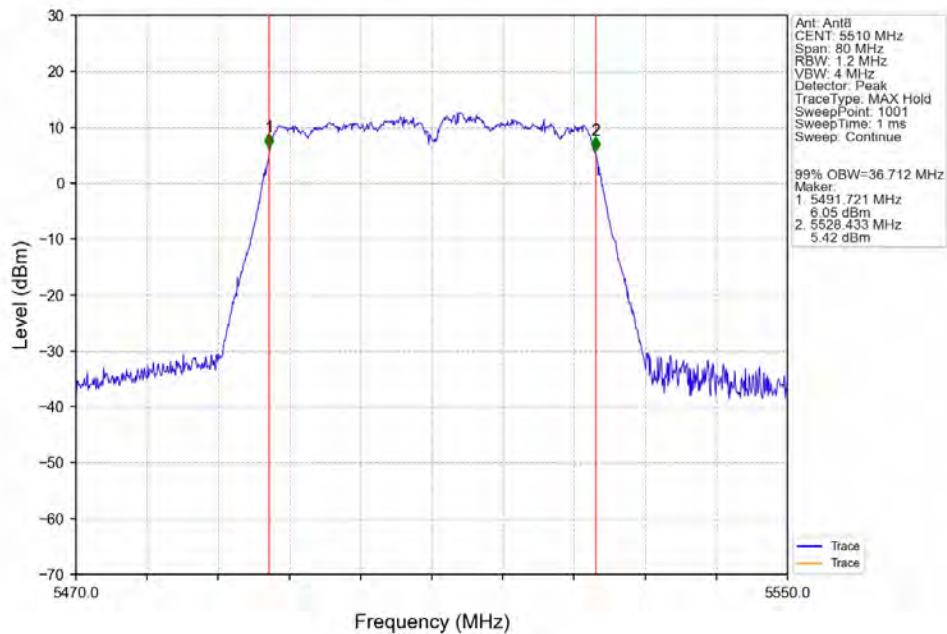
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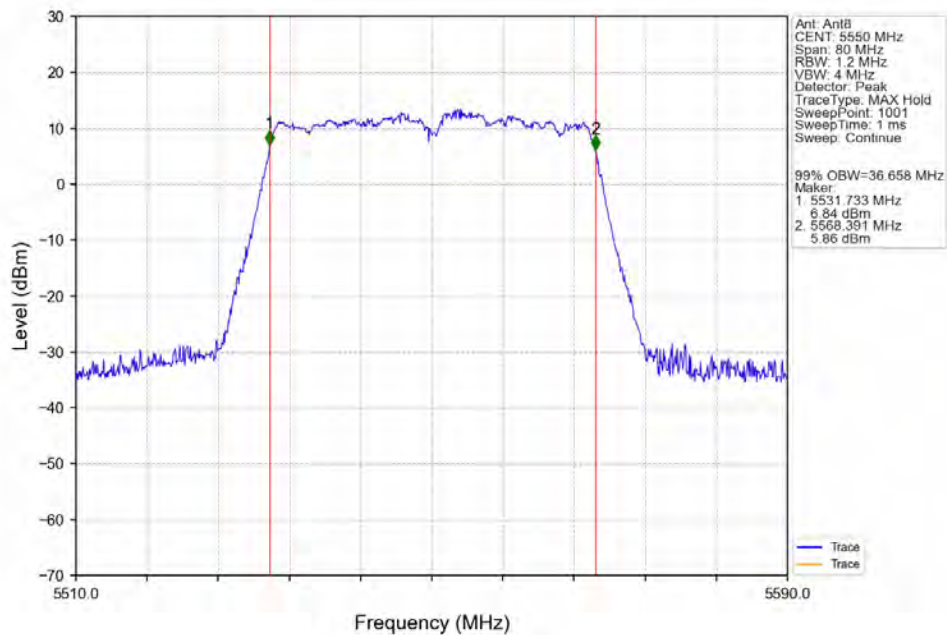
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802.11n(HT40)_LCH_5510MHz_Ant8_NTNV



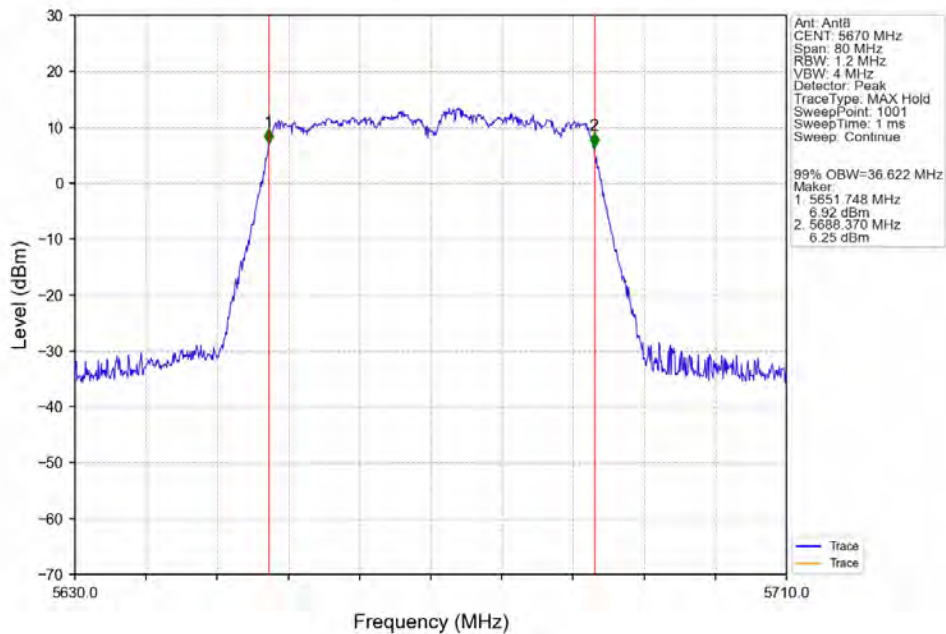
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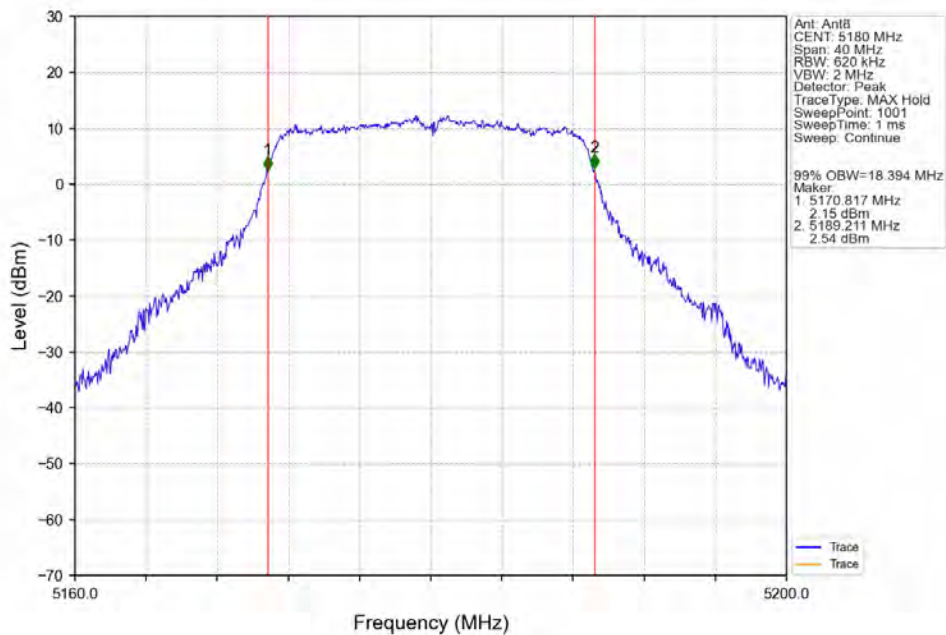
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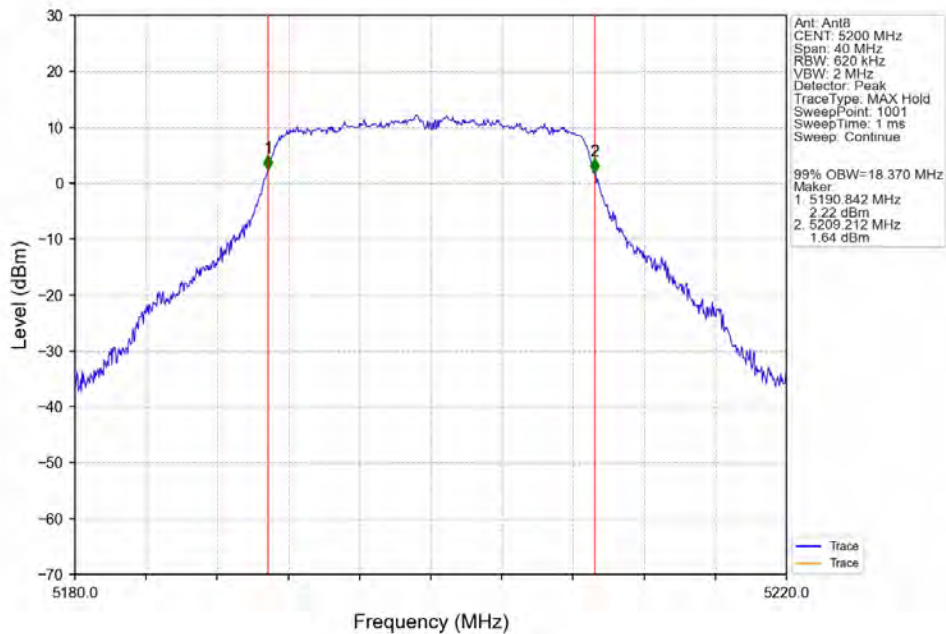
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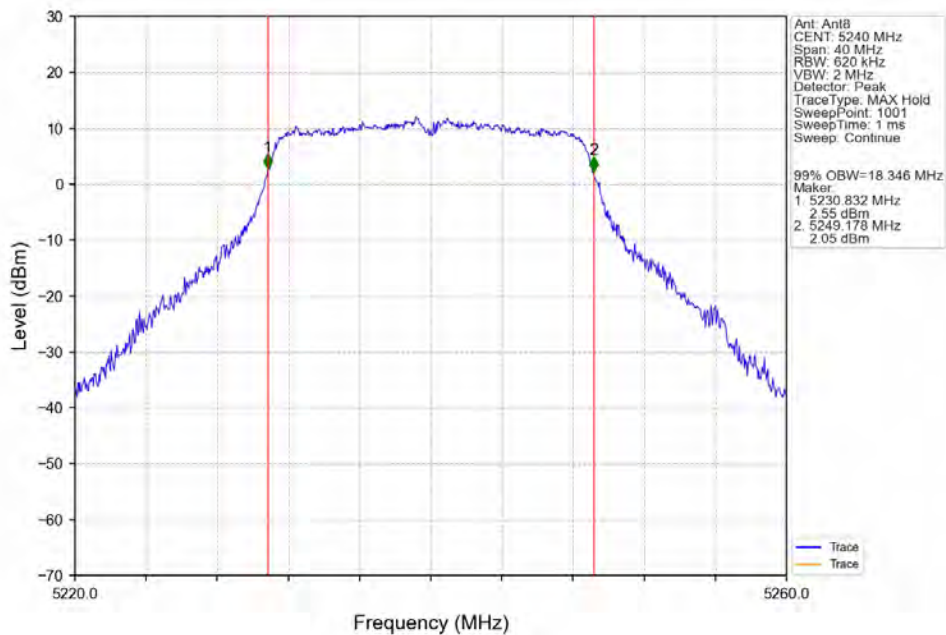
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802.11ac(VHT20)_MCH_5200MHz_Ant8_NTNV



802.11ac(VHT20)_HCH_5240MHz_Ant8_NTNV



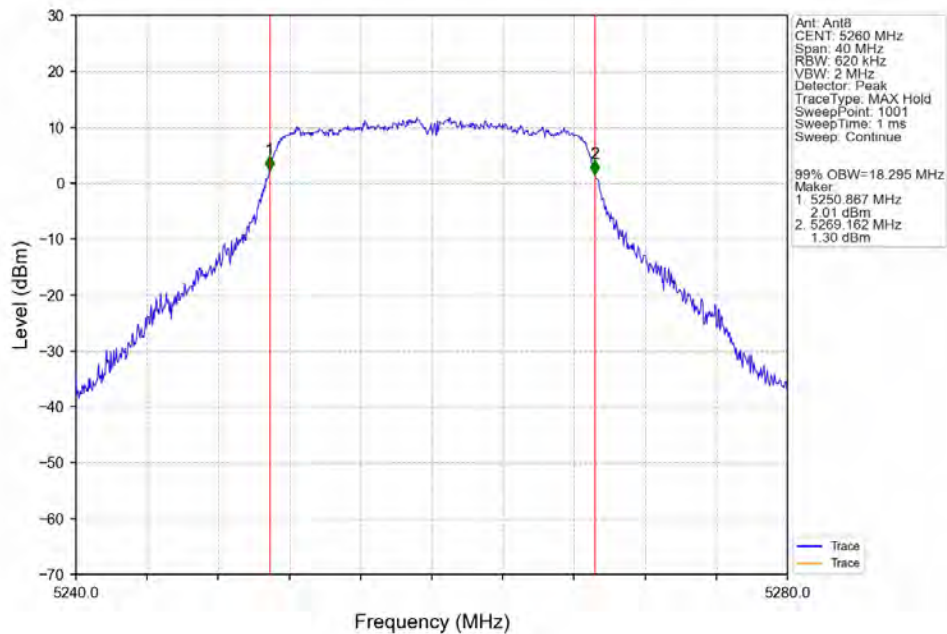
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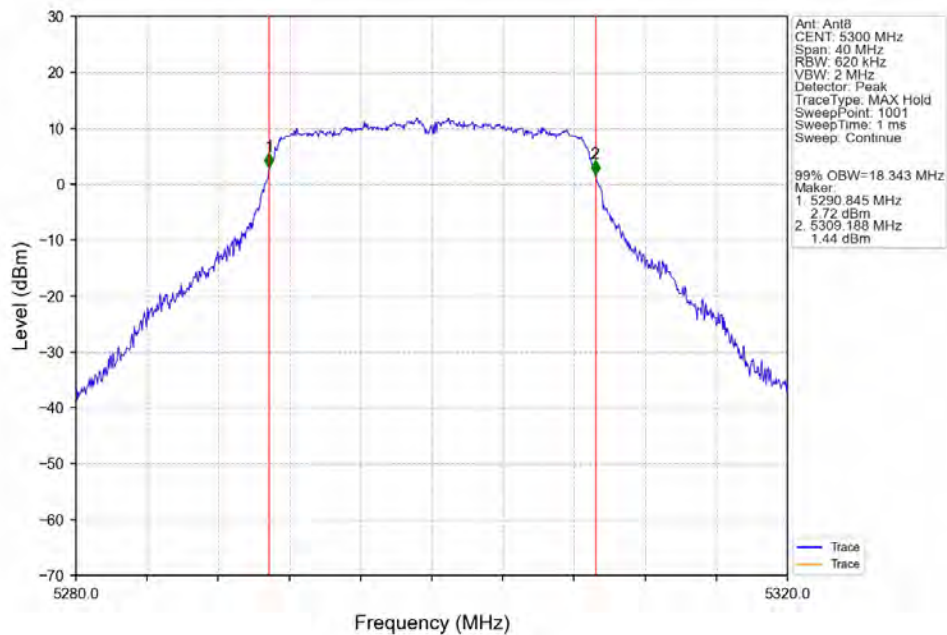
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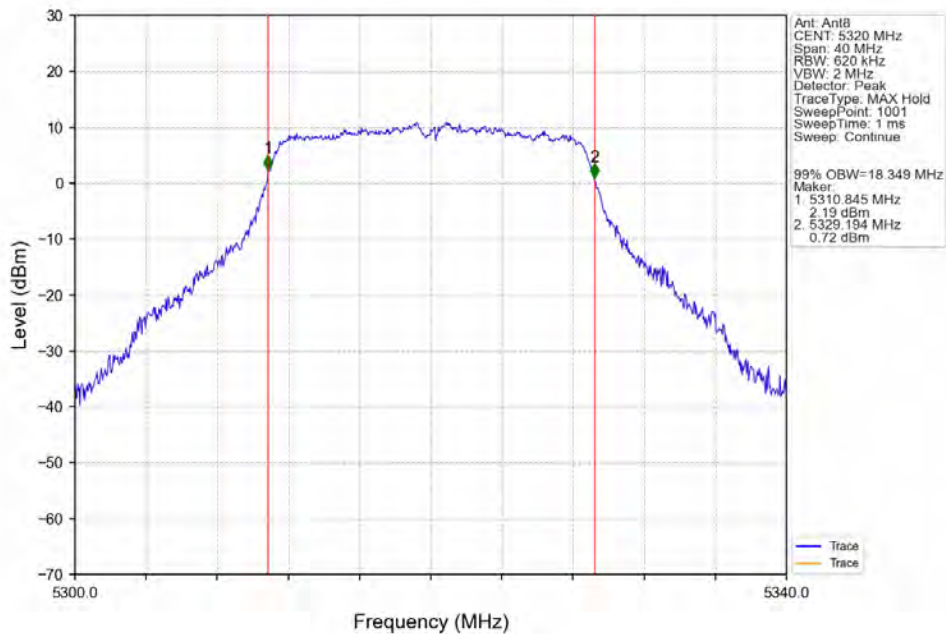
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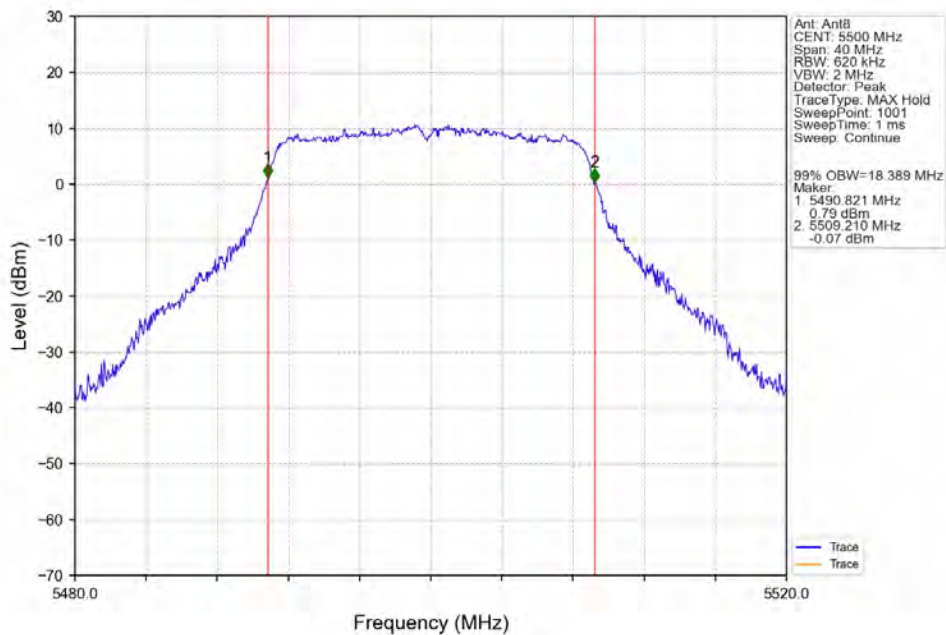
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802.11ac(VHT20)_HCH_5320MHz_Ant8_NTNV



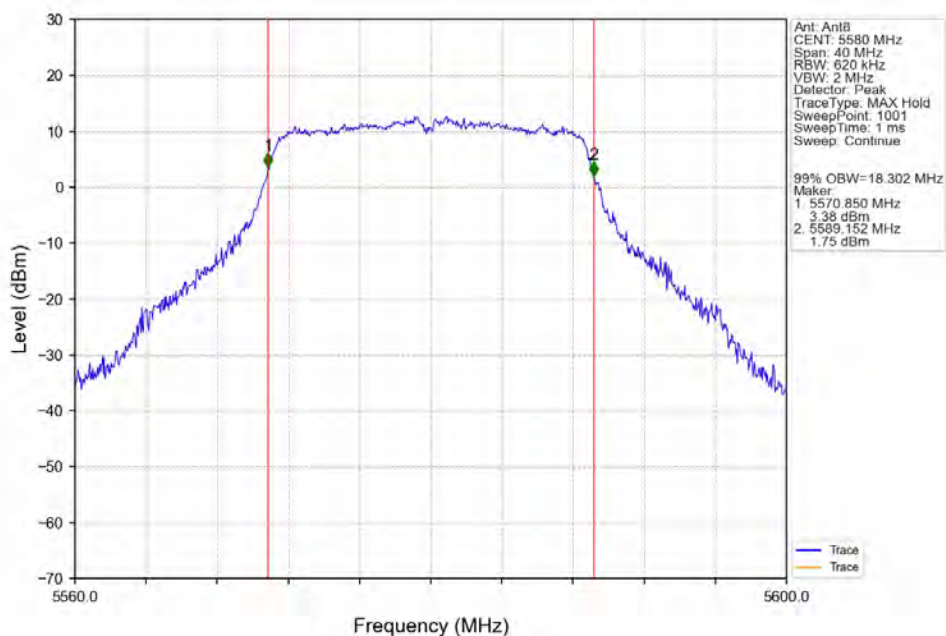
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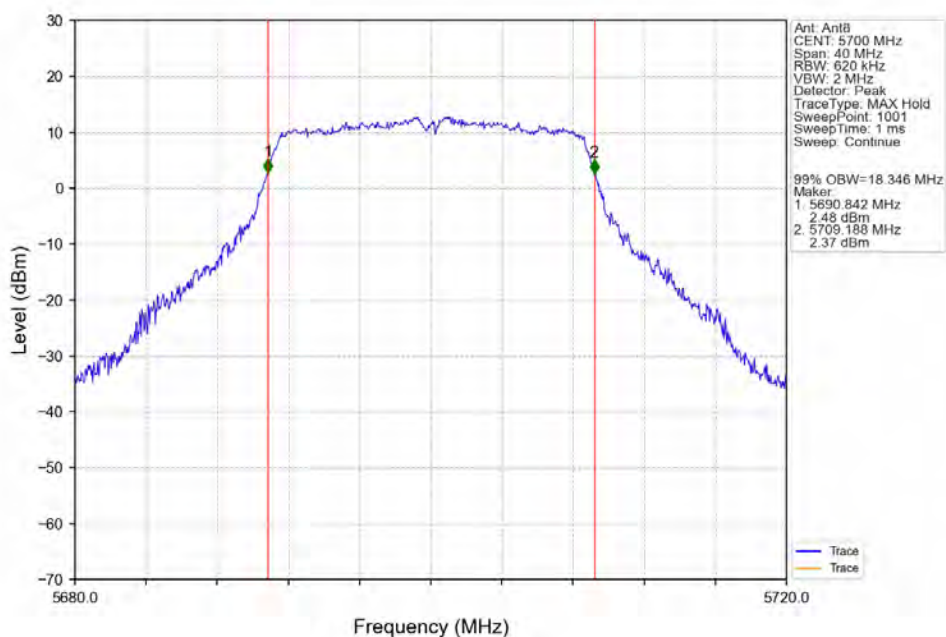
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802.11ac(VHT20)_MCH_5580MHz_Ant8_NTNV



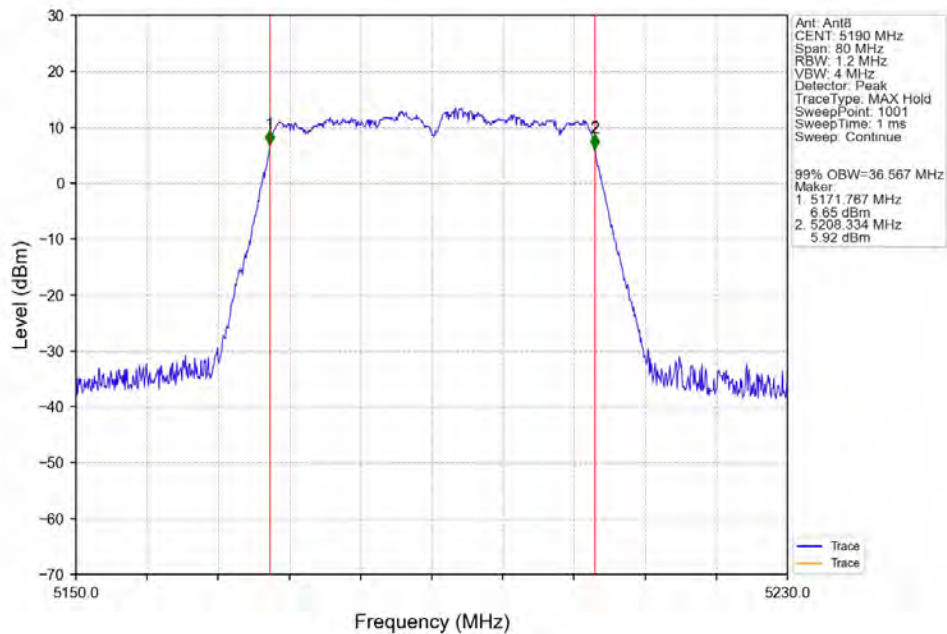
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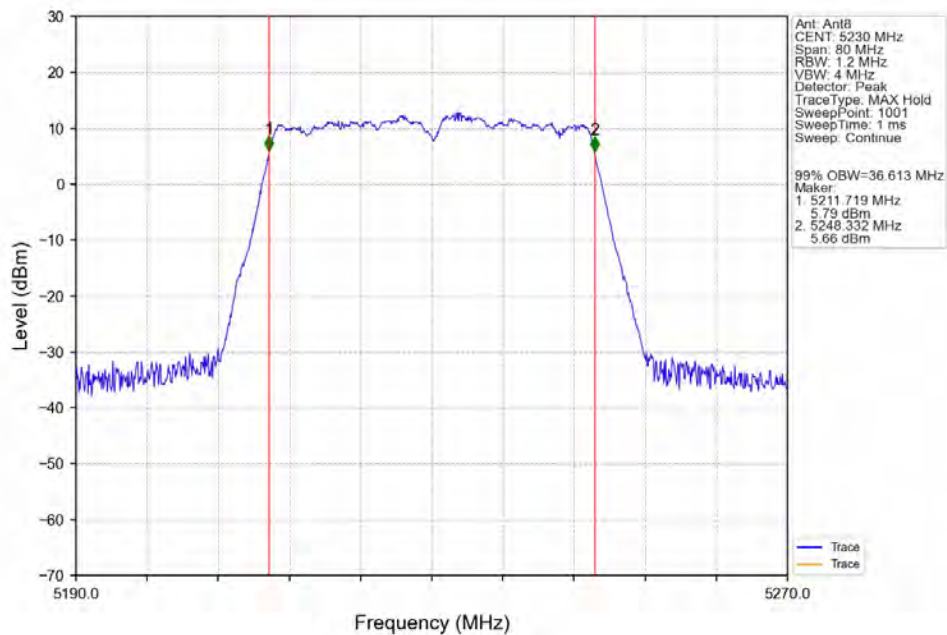
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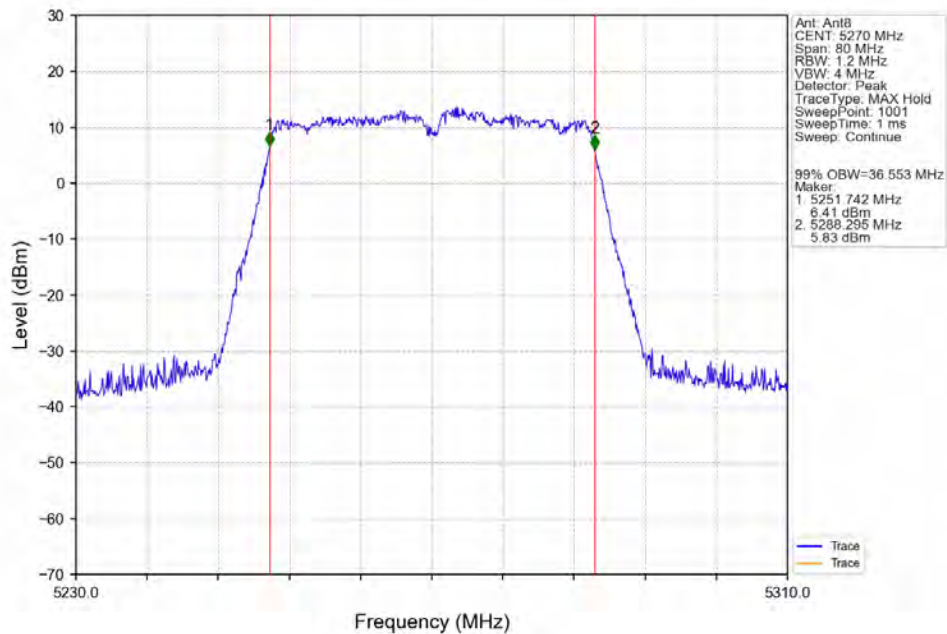
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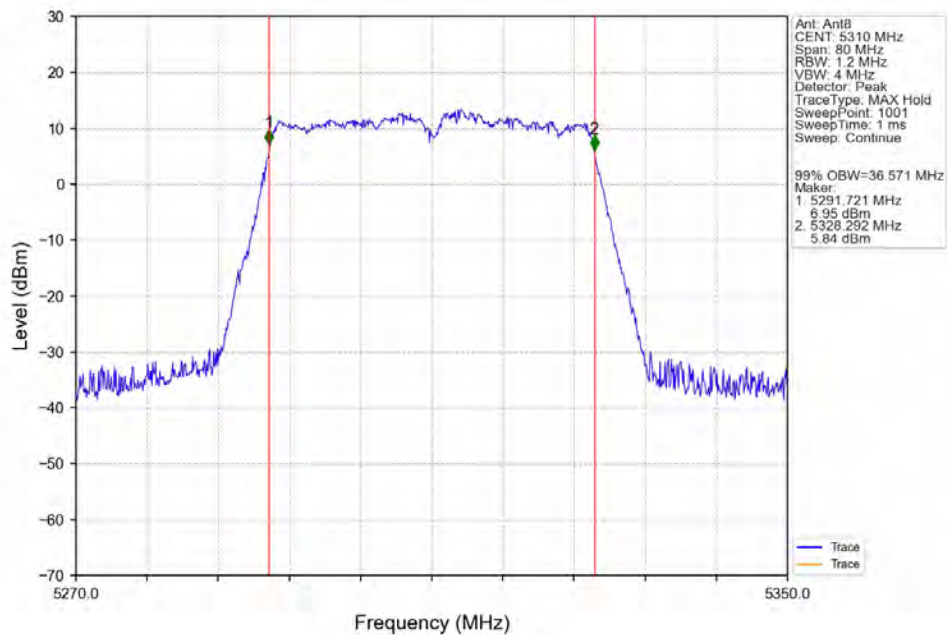
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802.11ac(VHT40)_LCH_5270MHz_Ant8_NTNV



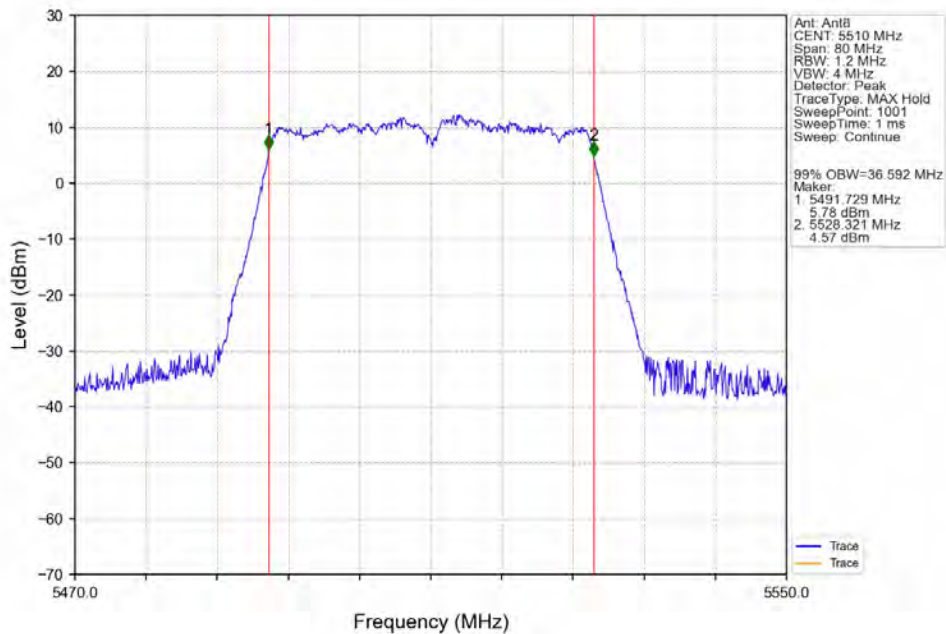
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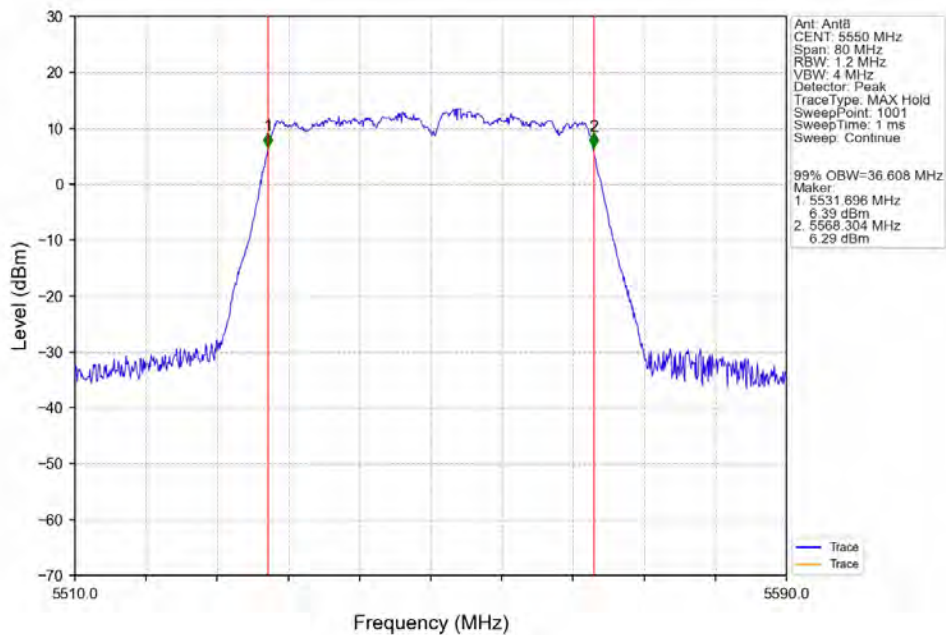
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802.11ac(VHT40)_LCH_5510MHz_Ant8_NTNV



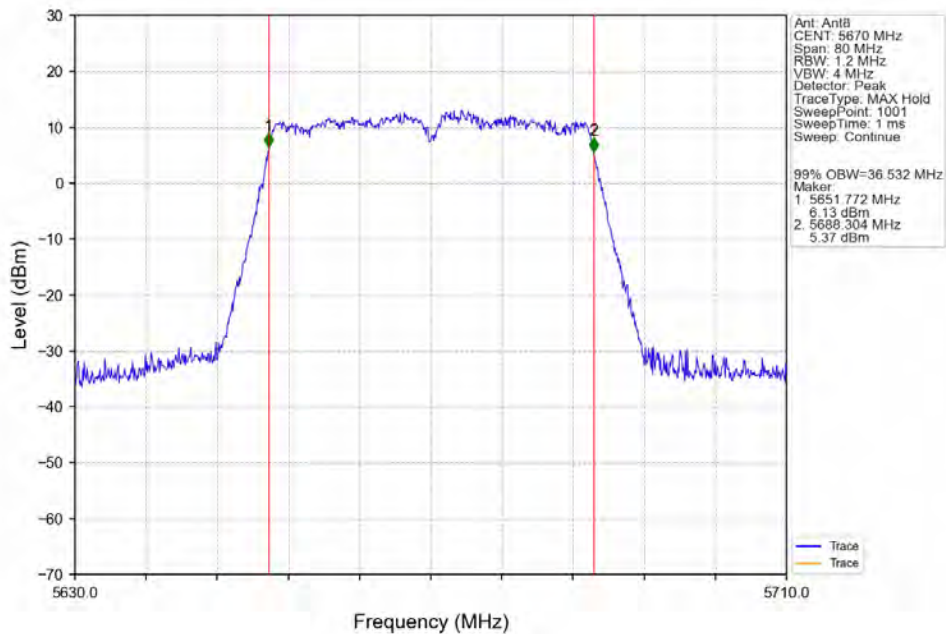
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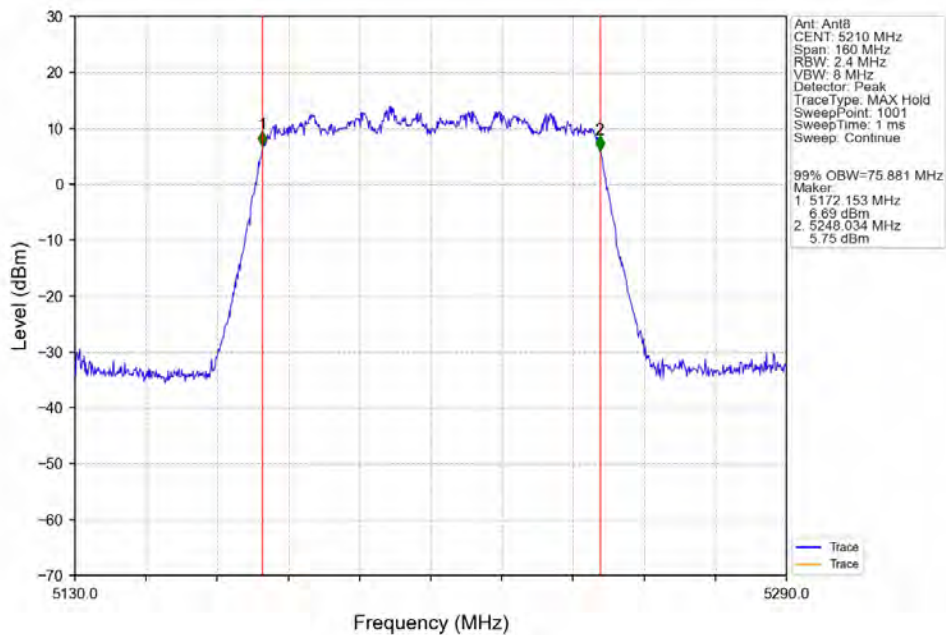
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802.11ac(VHT40)_HCH_5670MHz_Ant8_NTNV



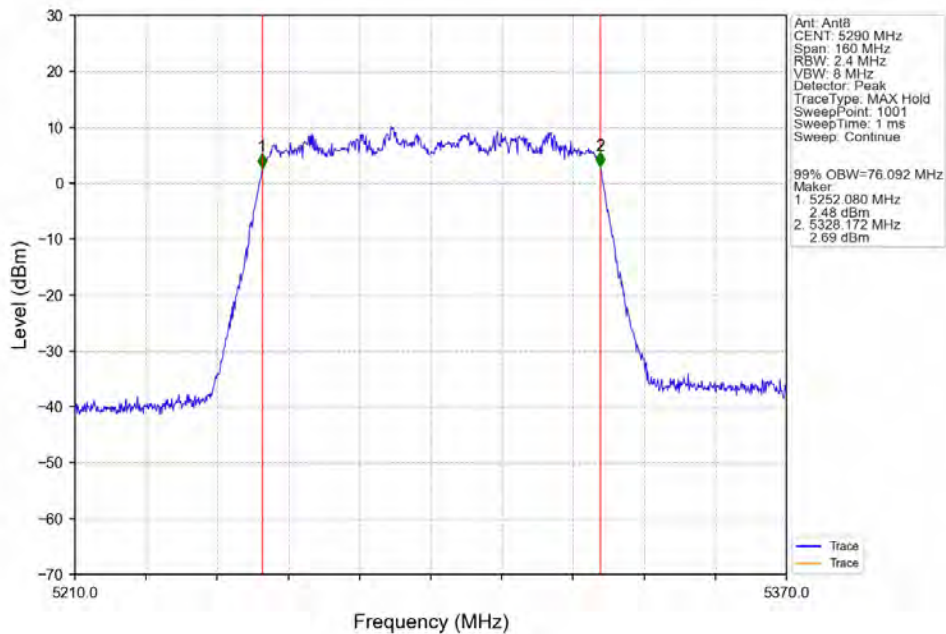
802.11ac(VHT80)_MCH_5210MHz_Ant8_NTNV



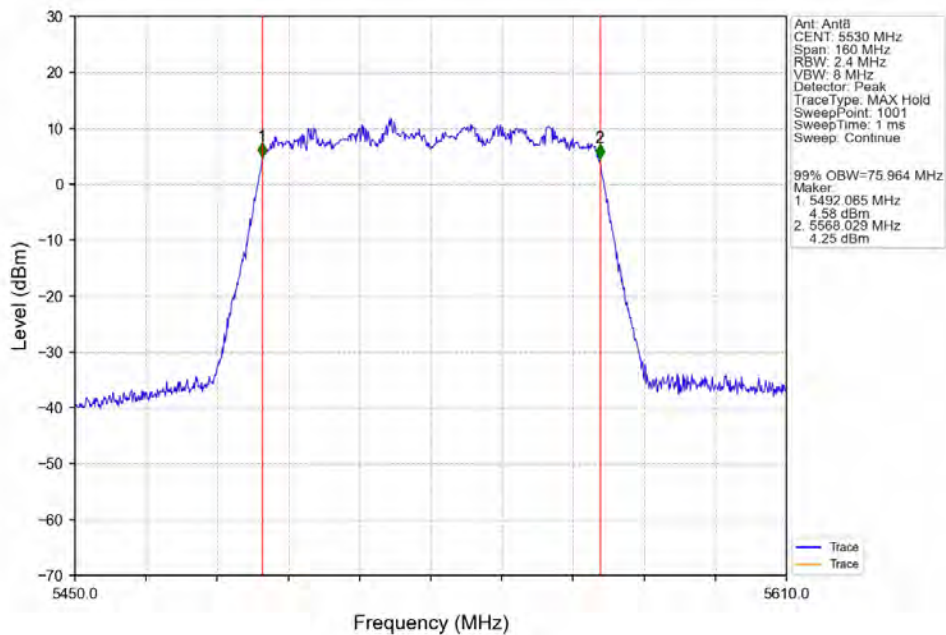
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802.11ac(VHT80)_MCH_5290MHz_Ant8_NTNV



802.11ac(VHT80)_LCH_5530MHz_Ant8_NTNV



802.11ac(VHT80)_HCH_5610MHz_Ant8_NTNV

