

TEST REPORT

Report No.: 8432EU012510W3

Applicant: shen zhen mangmi technology Co., Ltd.

Address: 1801D, Building 8, Qianhai Excellence Finance Center
(Phase I), No. 5033, Menghai Avenue Nanshan Street,
Nanshan District, Shenzhen, China

Product Name: Handheld Game Console

Model No.: AIR Y

Trademark: N/A

FCC ID: 2BO6D-AIRY

Test Standard(s): 47 CFR Part 15E

Test Result: Pass

Date of Receipt: Jun. 25, 2026

Test Date: Jun. 29, 2026 - Aug. 11, 2026

Date of Issue: Aug. 13, 2026

ISSUED BY:

SHENZHEN EU TESTING LABORATORY LIMITED



Prepared by:



Landon Qiu/ Engineer

Reviewed and Approved by:



Sally Zhang/ Manager

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2 General Information

2.1 Applicant Information

Applicant	shen zhen mangmi technology Co., Ltd.
Address	1801D, Building 8, Qianhai Excellence Finance Center (Phase I), No. 5033, Menghai Avenue Nanshan Street, Nanshan District, Shenzhen, China

2.2 Manufacturer Information

Manufacturer	shen zhen mangmi technology Co., Ltd.
Address	1801D, Building 8, Qianhai Excellence Finance Center (Phase I), No. 5033, Menghai Avenue Nanshan Street, Nanshan District, Shenzhen, China

2.3 Factory Information

Factory	shen zhen mangmi technology Co., Ltd.
Address	1801D, Building 8, Qianhai Excellence Finance Center (Phase I), No. 5033, Menghai Avenue Nanshan Street, Nanshan District, Shenzhen, China

2.4 General Description of E.U.T.

Product Name	Handheld Game Console
Model No. Under Test	AIR Y
List Model No.	N/A
Description of Model differentiation	N/A
Rating(s)	Input: 5VDC, 3A Battery Capacity: 3.85VDC, 5000mAh, 19.25Wh
Product Type	☐ Mobile ☒ Portable ☐ Fix Location
Test Sample No.	8432EU012510W-1/2(Normal), 8432EU012510W-2/2(Engineering)
Hardware Version	N/A
Software Version	N/A
Remark	For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.5 Technical Information of E.U.T.

Network and Wireless Connectivity	Bluetooth Low Energy (BLE) WiFi 2.4G: 802.11b, 802.11g and 802.11n(HT20/40) WiFi 5G: 802.11a, 802.11n(HT20/40) and 802.11ac(VHT20/40/80)
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The requirement for the following technical information of the EUT was tested in this report:

Technology	WiFi 5G
Operation Mode	a, n(HT20/40), 802.11ac(VHT20/40/80)
Operating Frequency	U-NII-1: 5150 MHz to 5250 MHz
Modulation Type	802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Number of Channels	802.11a/n(HT20)/ac(VHT20): U-NII Band 1: 4; 802.11n(HT40)/ac(VHT40): U-NII Band 1: 2; 802.11ac(VHT80): U-NII Band 1: 1;
Antenna Type	FPC Antenna
Antenna Gain(Peak)	5.53 dBi
Remark	The above information are declared by the applicant, EU-LAB is not responsible for the information accuracy provided by the applicant.

All channels were listed on the following table:

Bandwidth:	20MHz	Bandwidth:	40MHz	Bandwidth:	80MHz
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	/	/
44	5220	/	/	/	/
48	5240	/	/	/	/

3 Test Summary

3.1 Test Standard

The tests were performed according to following standards:

47 CFR Part 15E: Unlicensed National Information Infrastructure Devices

Remark:

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

3.2 Test Verdict

Test Items	Standard	Method	Requirement	Results
Antenna requirement	47 CFR Part 15E	---	Part 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.2	47 CFR Part 15.207(a)	Pass
Duty Cycle	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 12.2 (b)	---	Pass
Emission bandwidth and occupied bandwidth	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 6.9 & 12.5	U-NII 1: No limits, only for report use.	Pass
Maximum conducted output power	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.4	47 CFR Part 15.407(a)(1)(iv)	Pass
Power spectral density	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.6	47 CFR Part 15.407(a)(1)(iv)	Pass
Frequency stability	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 6.8	47 CFR Part 15.407(g)	Pass
Band edge emissions (Radiated)	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-	47 CFR Part 15.407(b)(1), 15.205, 15.209	Pass

		2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(10), 15.205, 15.209	
Undesirable emission limits (below 1GHz)	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.5	47 CFR Part 15.407(b)(9), 15.205, 15.209	Pass
Undesirable emission limits (above 1GHz)	47 CFR Part 15E	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(1), 15.205, 15.209 47 CFR Part 15.407(b)(10), 15.205, 15.209	Pass
Note: (1) "N/A" denotes test is not applicable in this Test Report.				

3.3 Test Laboratory

Test Laboratory	Shenzhen EU Testing Laboratory Limited
Address	101, Building B1, Fuqiao Fourth Area, Qiaotou Community, Fuhai Subdistrict, Baoan District, Shenzhen, Guangdong, China
Designation Number	CN1368
Test Firm Registration Number	952583

4 Test Configuration

4.1 Test Environment

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	30% to 60%	
Atmospheric Pressure	86 kPa to 106 kPa	
Temperature	NT (Normal Temperature)	+15°C to +35°C
Working Voltage of the EUT	NV (Normal Voltage)	120VAC, 60Hz for adapter or 3.85VDC battery inside

4.2 Test Equipment

Conducted Emission at AC power line					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
Test Software	Farad	EZ-EMC	EE-014	/	/
EMI Test Receiver	Rohde & Schwarz	ESCI	EE-005	2026-04-07	2027-04-06
L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	EE-004	2026-05-10	2027-05-09
8-Wire ISN CAT6	Schwarzbeck	NTFM 8158	EE-219	2026-05-18	2027-05-17

Frequency stability Duty Cycle Emission bandwidth and occupied bandwidth Maximum conducted output power Power spectral density					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
MXA Signal Analyzer	Agilent	N9020A	EE-011	2026-04-07	2027-04-06
MXG RF Vector Signal Generator	Agilent	N5182A	EE-012	2026-04-07	2027-04-06
MIMO Power Measurement Module	TSTPASS	TSPS 2023R	EE-016	2026-04-11	2027-04-10
MXG RF Analog Signal Generator	Agilent	N5181A	EE-406	2026-02-13	2027-02-12
Power Meter	Anritsu	ML2495A	EE-416	2026-02-13	2027-02-12
Constant Temperature Humidity Chamber	Guangxin	GXP-401	ES-002	2025-07-29	2026-07-28
				2026-07-14	2027-07-13
RF Test Software	TSTPASS	TS32893 V2.0	EE-017	/	/
Band-Stop Filter	COM-MW	ZBSF8-L2400-2483.5-1016	EE-025	2026-04-07	2027-04-06
Band-Stop Filter	COM-MW	K6-5150-5850-250S5020-001	EE-026	2026-04-07	2027-04-06

Filter	COM-MW	ZHPF6-M3000-18000-174	EE-027	2026-04-07	2027-04-06
Filter	COM-MW	ZHPF6-M1300-18000-5356	EE-028	2026-04-07	2027-04-06
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	EE-030	2026-04-07	2027-04-06

Band edge emissions (Radiated) Undesirable emission limits (above 1GHz)					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESPI	EE-006	2026-04-08	2027-04-07
Double Ridged Horn Antenna	A-INFOMW	LB-10180-NF	EE-008	2026-04-12	2027-04-11
Pre-amplifier	Agilent	8449B	EE-010	2026-04-07	2027-04-06
MXG RF Vector Signal Generator	Agilent	N5182A	EE-012	2026-04-07	2027-04-06
Test Software	Farad	EZ-EMC	EE-015	/	/
Band-Stop Filter	COM-MW	ZBSF8-L2400-2483.5-1016	EE-025	2026-04-07	2027-04-06
Band-Stop Filter	COM-MW	K6-5150-5850-250S5020-001	EE-026	2026-04-07	2027-04-06
Filter	COM-MW	ZHPF6-M3000-18000-174	EE-027	2026-04-07	2027-04-06
Filter	COM-MW	ZHPF6-M1300-18000-5356	EE-028	2026-04-07	2027-04-06
Spectrum Analyzer	ROHDE & SCHWARZ	FSV40-N	EE-029	2026-04-07	2027-04-06
40G Horn Antenna	HCT	HA-018040L	EE-031	2026-04-12	2027-04-11
40G Pre-amplifier	HCT	HC180400-50G25	EE-032	2026-04-07	2027-04-06

Undesirable emission limits (below 1GHz)					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESPI	EE-006	2026-04-08	2027-04-07
Bilog Broadband Antenna	SCHWARZBECK	VULB 9163	EE-007	2026-04-12	2027-04-11
Pre-amplifier	Agilent	8447D	EE-009	2026-04-08	2027-04-07

MXA Signal Analyzer	Agilent	N9020A	EE-011	2026-04-07	2027-04-06
Loop Antenna	SCHWARZBECK	FMZB 1519-60	EE-022	2026-04-12	2027-04-11
Test Software	Farad	EZ-EMC	EE-015	/	/
Band-Stop Filter	COM-MW	ZBSF6-C902-928-2389	EE-023	2026-04-07	2027-04-06
Band-Stop Filter	COM-MW	ZBSF6-C855-880-5938	EE-024	2026-04-07	2027-04-06

4.3 Description of Support Unit

No.	Title	Manufacturer	Model No.	Serial No.
1	Pink Notebook	ADOL	ADOL13F	EMC-PJ-030
2	Adapter	UGREEN	CD179	EMC-PJ-055

4.4 Test Mode

No.	Test Modes	Description
TM1	802.11a Mode	Keep the EUT in 802.11a transmitting mode.
TM2	802.11n(HT20) Mode	Keep the EUT in 802.11n(HT20) transmitting mode.
TM3	802.11n(HT40) Mode	Keep the EUT in 802.11n(HT40) transmitting mode.
TM4	802.11ac(VHT20) Mode	Keep the EUT in 802.11ac(VHT20) transmitting mode.
TM5	802.11ac(VHT40) Mode	Keep the EUT in 802.11ac(VHT40) transmitting mode.
TM6	802.11ac(VHT80) Mode	Keep the EUT in 802.11ac(VHT80) transmitting mode.

4.5 Description of Calculation

4.5.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS \text{ (dBuV/m)} = RA \text{ (dBuV)} + AF \text{ (dB/m)} + CL \text{ (dB)} - AG \text{ (dB)}$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

4.5.2 Disturbance Calculation

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$CD \text{ (dBuV)} = RA \text{ (dBuV)} + PL \text{ (dB)} + CL \text{ (dB)}$$

Where CD = Conducted Disturbance	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	PL = 10 dB Pulse Limiter Factor

4.6 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test Item	Measurement Uncertainty
Conducted Emission	2.65 dB
Time of Occupancy (Dwell Time)	1.8 %
Occupied Channel Bandwidth	69 kHz
RF output power, conducted	1.07 dB
Power Spectral Density, conducted	0.94 dB
Radiated Emission (1GHz- 18GHz)	Ur = 3.58 dB (Horizontal) Ur = 3.58 dB (Vertical)
Radiated Emission (9kHz- 30MHz)	Ur = 3.06 dB
Radiated Emission (30MHz- 1GHz)	Ur = 2.76 dB (Horizontal) Ur = 2.76 dB (Vertical)
Radiated Emission (18GHz- 40GHz)	Ur = 5.29 dB (Horizontal) Ur = 5.21 dB (Vertical)

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Condition

None

5 Evaluation Results (Evaluation)

5.1 Antenna requirement

5.1.1 Test Specification

Test Requirement:	Refer to 47 CFR Part 15.203, 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 shall be considered sufficient to comply with the provisions of this section.
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5.1.2 Test Data

PASS.

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product.	An embedded-in antenna-design is used.

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.
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6 Radio Spectrum Matter Test Results (RF)

6.1 Conducted Emission at AC power line

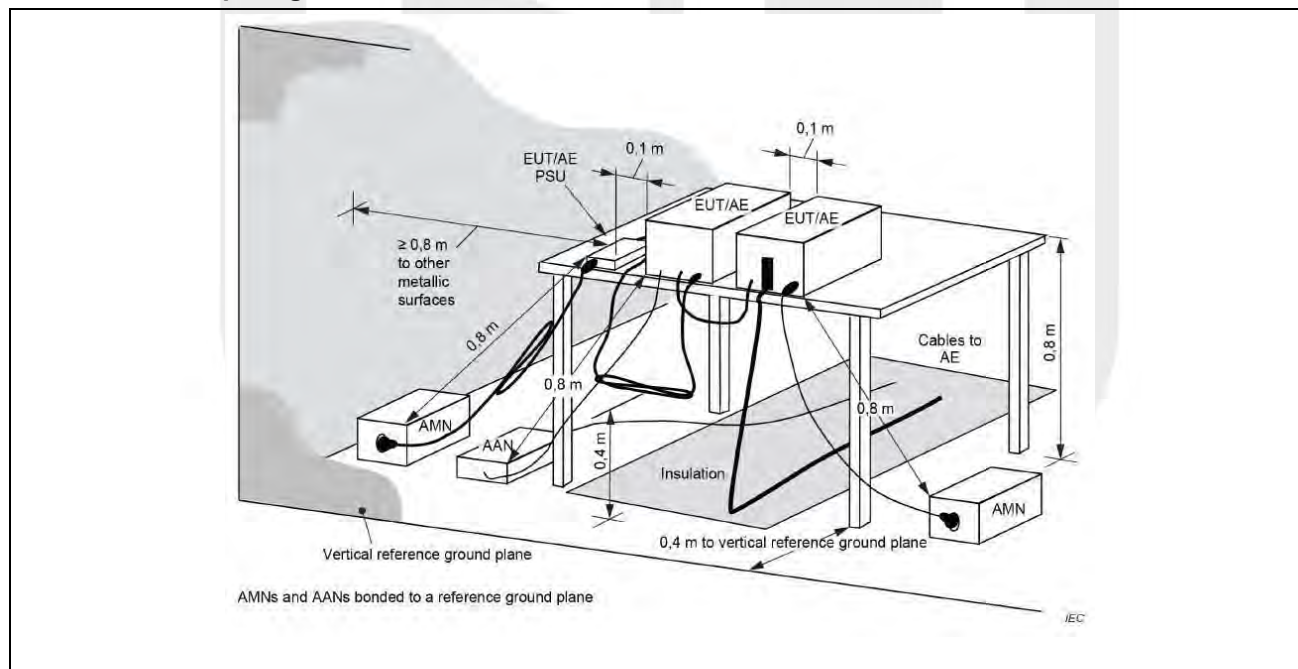
6.1.1 Test Specification

Test Requirement:	47 CFR Part 15.207(a)		
Test 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.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.2		

6.1.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1

6.1.3 Test Setup Diagram



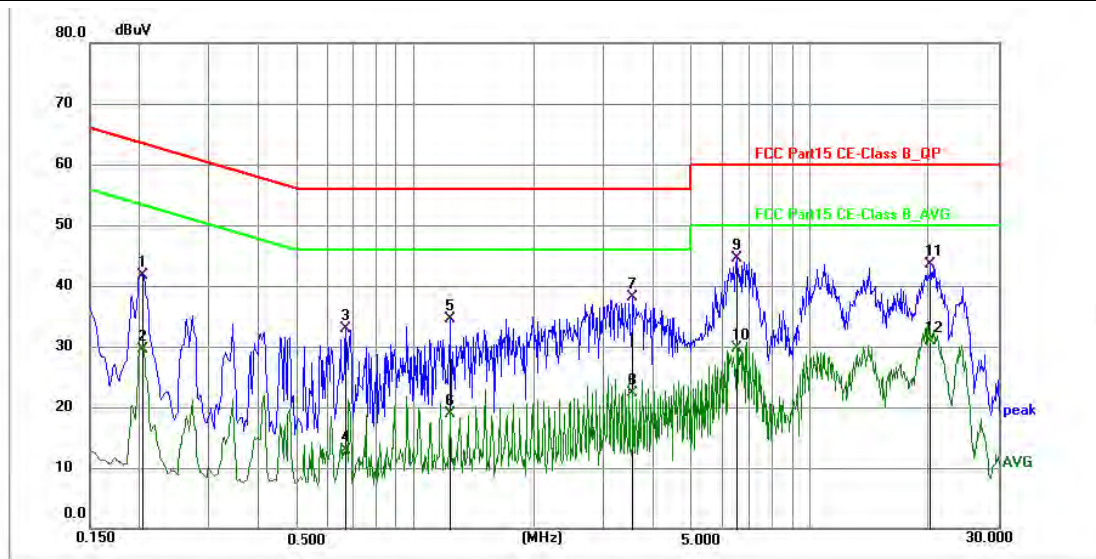
6.1.4 Test Data

PASS.

Only the worst case data was showed in the report, please to see the following pages.

Conducted Emission at AC power line Test Data

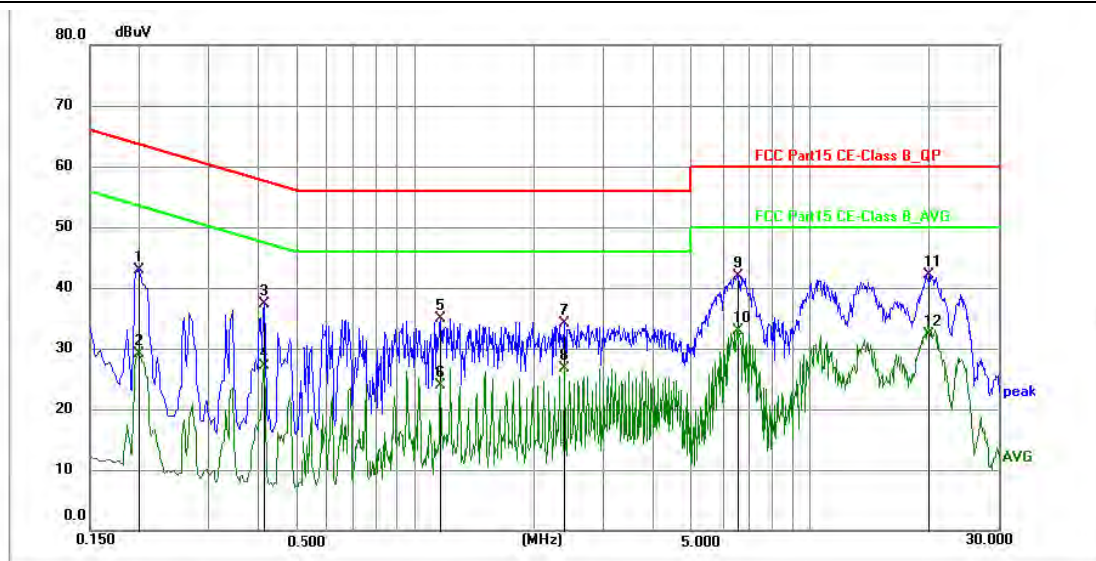
TM1 / Line: Line / Band: 5150-5250 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2040	31.73	9.97	41.70	63.45	-21.75	QP	P	
2	0.2040	19.56	9.97	29.53	53.45	-23.92	AVG	P	
3	0.6675	22.79	10.04	32.83	56.00	-23.17	QP	P	
4	0.6675	2.87	10.04	12.91	46.00	-33.09	AVG	P	
5	1.2300	24.46	10.04	34.50	56.00	-21.50	QP	P	
6	1.2300	8.89	10.04	18.93	46.00	-27.07	AVG	P	
7	3.5520	27.96	10.05	38.01	56.00	-17.99	QP	P	
8	3.5520	12.20	10.05	22.25	46.00	-23.75	AVG	P	
9 *	6.4904	34.55	10.01	44.56	60.00	-15.44	QP	P	
10	6.4904	19.72	10.01	29.73	50.00	-20.27	AVG	P	
11	20.2290	33.44	10.07	43.51	60.00	-16.49	QP	P	
12	20.2290	20.90	10.07	30.97	50.00	-19.03	AVG	P	

Conducted Emission at AC power line Test Data

TM1 / Line: Neutral / Band: 5150-5250 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1997	32.85	9.99	42.84	63.62	-20.78	QP	P	
2	0.1997	19.20	9.99	29.19	53.62	-24.43	AVG	P	
3	0.4127	27.27	10.04	37.31	57.59	-20.28	QP	P	
4	0.4127	17.14	10.04	27.18	47.59	-20.41	AVG	P	
5	1.1595	24.94	10.06	35.00	56.00	-21.00	QP	P	
6	1.1595	13.75	10.06	23.81	46.00	-22.19	AVG	P	
7	2.3836	24.06	10.06	34.12	56.00	-21.88	QP	P	
8	2.3836	16.69	10.06	26.75	46.00	-19.25	AVG	P	
9	6.5573	31.90	10.04	41.94	60.00	-18.06	QP	P	
10 *	6.5573	22.95	10.04	32.99	50.00	-17.01	AVG	P	
11	20.0559	32.04	10.08	42.12	60.00	-17.88	QP	P	
12	20.0559	22.32	10.08	32.40	50.00	-17.60	AVG	P	

6.2 Duty Cycle

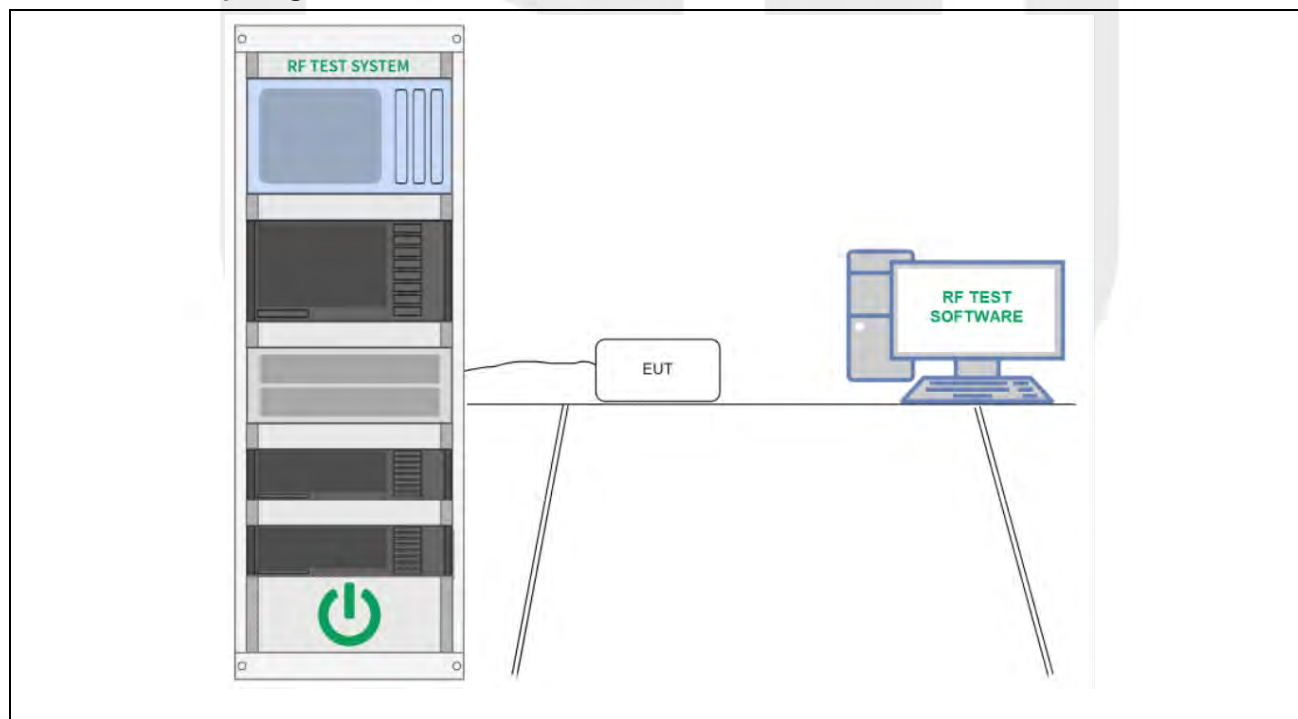
6.2.1 Test Specification

Test Requirement:	All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, T, are required for each tested mode of operation.
Test Limit:	No limits, only for report use.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 12.2 (b)
Procedure:	i) Set the center frequency of the instrument to the center frequency of the transmission. ii) Set RBW $\geq$ EBW if possible; otherwise, set RBW to the largest available value. iii) Set VBW $\geq$ RBW. iv) Set detector = peak. v) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$, where T is defined in item a1) of 12.2, and the number of sweep points across duration T exceeds 100.

6.2.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6

6.2.3 Test Setup Diagram



6.2.4 Test Data

PASS.

Please refer to Annex D for details.

6.3 Emission bandwidth and occupied bandwidth

6.3.1 Test Specification

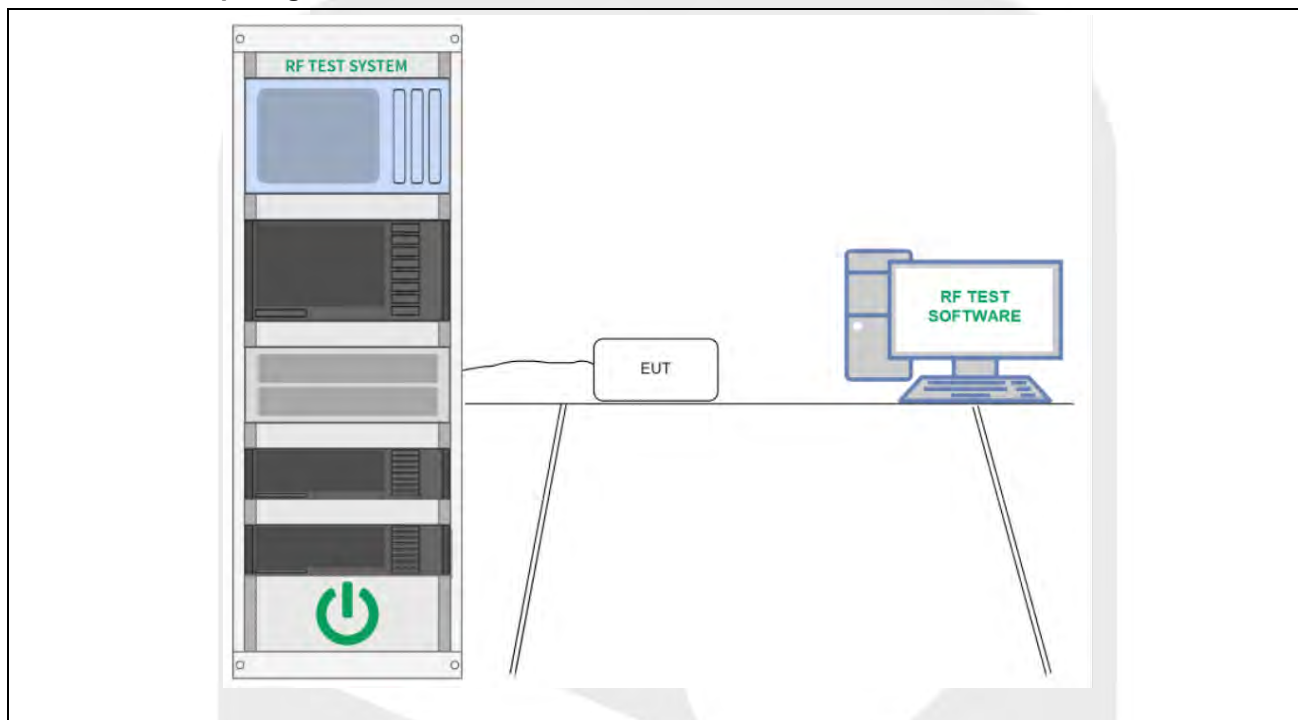
Test Requirement:	U-NII 1: No limits, only for report use.
Test Limit:	U-NII 1: No limits, only for report use.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 6.9 & 12.5
Procedure:	Emission bandwidth: a) Set RBW = approximately 1% of the emission bandwidth. b) Set the VBW > RBW. c) Detector = peak. d) Trace mode = max hold. e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%. Occupied bandwidth: a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2. d) Step a) through step c) might require iteration to adjust within the specified range. e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used. f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth. g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

	h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).
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6.3.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6

6.3.3 Test Setup Diagram



6.3.4 Test Data

PASS.

Please refer to Annex D for details.

6.4 Maximum conducted output power

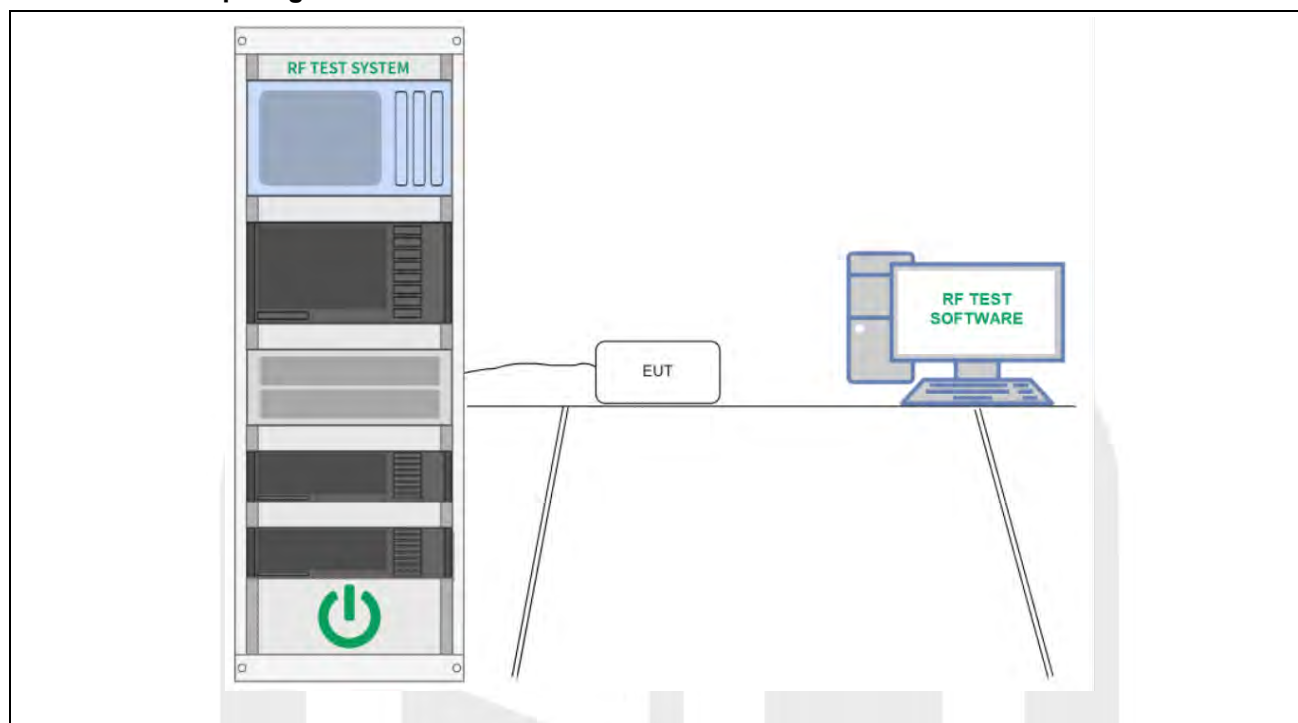
6.4.1 Test Specification

Test Requirement:	47 CFR Part 15.407(a)(1)(iv)
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.4
Procedure:	Refer to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 12.4

6.4.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6

6.4.3 Test Setup Diagram



6.4.4 Test Data

PASS.

Please refer to Annex D for details.

6.5 Power spectral density

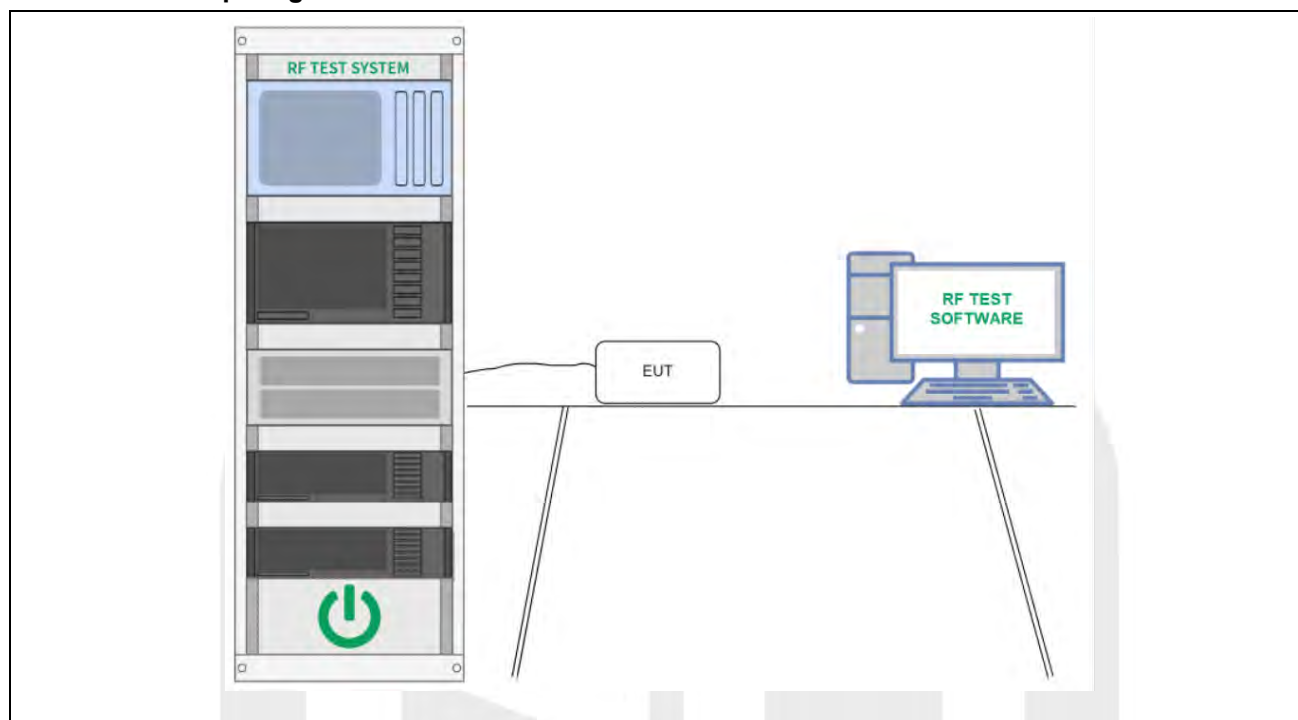
6.5.1 Test Specification

Test Requirement:	47 CFR Part 15.407(a)(1)(iv)
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.6
Procedure:	Refer to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.6

6.5.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6

6.5.3 Test Setup Diagram



6.5.4 Test Data

PASS.

Please refer to Annex D for details.

6.6 Frequency stability

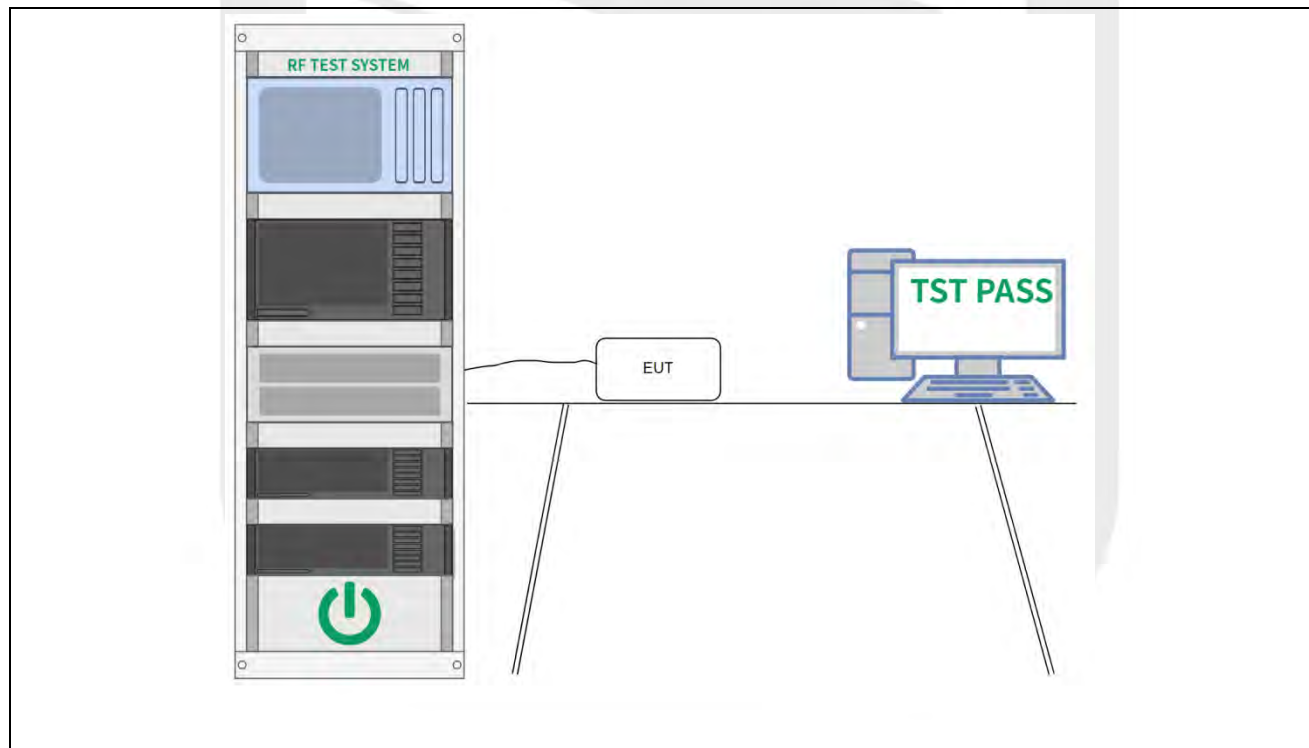
6.6.1 Test Specification

Test Requirement:	47 CFR Part 15.407(g)
Test Limit:	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.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 6.8
Procedure:	Refer to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.8

6.6.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6

6.6.3 Test Setup Diagram



6.6.4 Test Data

PASS.

Please refer to Annex D for details.

6.7 Band edge emissions (Radiated)

6.7.1 Test Specification

Test Requirement:	47 CFR Part 15.407(b)(1), 15.205, 15.209 47 CFR Part 15.407(b)(10), 15.205, 15.209		
Test Limit:	For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.		
	MHz	MHz	MHz
	0.090-0.110	16.42-16.423	399.9-410
	¹ 0.495-0.505	16.69475-16.69525	608-614
	2.1735-2.1905	16.80425-16.80475	960-1240
	4.125-4.128	25.5-25.67	1300-1427
	4.17725-4.17775	37.5-38.25	1435-1626.5
	4.20725-4.20775	73-74.6	1645.5-1646.5
	6.215-6.218	74.8-75.2	1660-1710
	6.26775-6.26825	108-121.94	1718.8-1722.2
	6.31175-6.31225	123-138	2200-2300
	8.291-8.294	149.9-150.05	2310-2390
	8.362-8.366	156.52475-156.52525	2483.5-2500
	8.37625-8.38675	156.7-156.9	2690-2900
	8.41425-8.41475	162.0125-167.17	3260-3267
	12.29-12.293	167.72-173.2	3332-3339
	12.51975-12.52025	240-285	3345.8-3358
	12.57675-12.57725	322-335.4	3600-4400
	13.36-13.41		(²)
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6 The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:		
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)

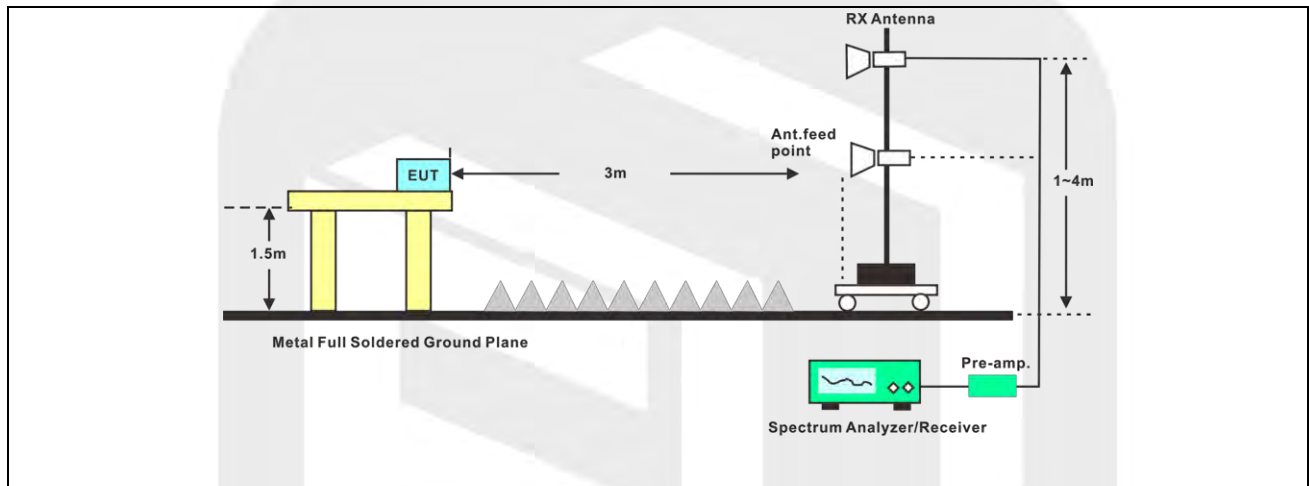
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7		
Procedure:	Above 1GHz: 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.
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6.7.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6

6.7.3 Test Setup Diagram



6.7.4 Test Data

PASS.

Please refer to the following pages.

Band Edge Emissions Test Data:
U-NII-1:

Test Mode: 802.11a					CH Low: 5180 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	48.09	5.79	53.88	68.23	-14.35	PK	PASS
H	5350.00	46.95	6.45	53.40	68.23	-14.84	PK	PASS
V	5150.00	48.42	5.79	54.21	68.23	-14.02	PK	PASS
V	5350.00	46.26	6.45	52.71	68.23	-15.53	PK	PASS
H	5150.00	34.65	5.79	40.44	54.00	-13.56	AV	PASS
H	5350.00	32.57	6.45	39.02	54.00	-14.99	AV	PASS
V	5150.00	35.33	5.79	41.12	54.00	-12.89	AV	PASS
V	5350.00	32.79	6.45	39.24	54.00	-14.76	AV	PASS

Test Mode: 802.11a					CH High: 5240 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	49.60	5.79	55.39	68.23	-12.84	PK	PASS
H	5350.00	45.51	6.45	51.96	68.23	-16.28	PK	PASS
V	5150.00	49.13	5.79	54.92	68.23	-13.31	PK	PASS
V	5350.00	44.16	6.45	50.61	68.23	-17.63	PK	PASS
H	5150.00	35.24	5.79	41.03	54.00	-12.97	AV	PASS
H	5350.00	33.34	6.45	39.79	54.00	-14.21	AV	PASS
V	5150.00	36.43	5.79	42.22	54.00	-11.78	AV	PASS
V	5350.00	33.79	6.45	40.24	54.00	-13.77	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

Band Edge Emissions Test Data:
U-NII-1:

Test Mode: 802.11n(HT20)					CH Low: 5180 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	48.35	5.79	54.14	68.23	-14.09	PK	PASS
H	5350.00	45.22	6.45	51.67	68.23	-16.57	PK	PASS
V	5150.00	49.86	5.79	55.65	68.23	-12.58	PK	PASS
V	5350.00	44.12	6.45	50.57	68.23	-17.67	PK	PASS
H	5150.00	35.35	5.79	41.14	54.00	-12.86	AV	PASS
H	5350.00	32.50	6.45	38.95	54.00	-15.06	AV	PASS
V	5150.00	35.98	5.79	41.77	54.00	-12.23	AV	PASS
V	5350.00	31.03	6.45	37.48	54.00	-16.53	AV	PASS

Test Mode: 802.11n(HT20)					CH High: 5240 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	49.48	5.79	55.27	68.23	-12.97	PK	PASS
H	5350.00	45.88	6.45	52.33	68.23	-15.91	PK	PASS
V	5150.00	49.26	5.79	55.05	68.23	-13.18	PK	PASS
V	5350.00	46.15	6.45	52.60	68.23	-15.63	PK	PASS
H	5150.00	35.10	5.79	40.89	54.00	-13.11	AV	PASS
H	5350.00	33.98	6.45	40.43	54.00	-13.57	AV	PASS
V	5150.00	35.01	5.79	40.80	54.00	-13.20	AV	PASS
V	5350.00	33.24	6.45	39.69	54.00	-14.32	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

Band Edge Emissions Test Data:
U-NII-1:

Test Mode: 802.11n(HT40)					CH Low: 5190 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	48.71	5.79	54.50	68.23	-13.73	PK	PASS
H	5350.00	46.87	6.45	53.32	68.23	-14.92	PK	PASS
V	5150.00	49.35	5.79	55.14	68.23	-13.09	PK	PASS
V	5350.00	45.76	6.45	52.21	68.23	-16.03	PK	PASS
H	5150.00	35.47	5.79	41.26	54.00	-12.75	AV	PASS
H	5350.00	33.56	6.45	40.01	54.00	-13.99	AV	PASS
V	5150.00	35.46	5.79	41.25	54.00	-12.75	AV	PASS
V	5350.00	33.18	6.45	39.63	54.00	-14.37	AV	PASS

Test Mode: 802.11n(HT40)					CH High: 5230 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	48.85	5.79	54.64	68.23	-13.60	PK	PASS
H	5350.00	45.87	6.45	52.32	68.23	-15.92	PK	PASS
V	5150.00	48.26	5.79	54.05	68.23	-14.18	PK	PASS
V	5350.00	44.61	6.45	51.06	68.23	-17.17	PK	PASS
H	5150.00	34.53	5.79	40.32	54.00	-13.68	AV	PASS
H	5350.00	31.96	6.45	38.41	54.00	-15.60	AV	PASS
V	5150.00	34.71	5.79	40.50	54.00	-13.50	AV	PASS
V	5350.00	32.07	6.45	38.52	54.00	-15.48	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

Band Edge Emissions Test Data:
U-NII-1:

Test Mode: 802.11ac(VHT20)					CH Low: 5180 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	49.42	5.79	55.21	68.23	-13.03	PK	PASS
H	5350.00	44.99	6.45	51.44	68.23	-16.80	PK	PASS
V	5150.00	49.19	5.79	54.98	68.23	-13.25	PK	PASS
V	5350.00	44.35	6.45	50.80	68.23	-17.43	PK	PASS
H	5150.00	34.31	5.79	40.10	54.00	-13.91	AV	PASS
H	5350.00	32.51	6.45	38.96	54.00	-15.04	AV	PASS
V	5150.00	35.75	5.79	41.54	54.00	-12.46	AV	PASS
V	5350.00	32.75	6.45	39.20	54.00	-14.80	AV	PASS

Test Mode: 802.11ac(VHT20)					CH High: 5240 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	48.53	5.79	54.32	68.23	-13.91	PK	PASS
H	5350.00	45.51	6.45	51.96	68.23	-16.27	PK	PASS
V	5150.00	47.16	5.79	52.95	68.23	-15.29	PK	PASS
V	5350.00	46.93	6.45	53.38	68.23	-14.85	PK	PASS
H	5150.00	35.96	5.79	41.75	54.00	-12.26	AV	PASS
H	5350.00	33.68	6.45	40.13	54.00	-13.87	AV	PASS
V	5150.00	34.49	5.79	40.28	54.00	-13.73	AV	PASS
V	5350.00	32.42	6.45	38.87	54.00	-15.14	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

Band Edge Emissions Test Data:
U-NII-1:

Test Mode: 802.11 ac(VHT40)					CH Low: 5190 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	49.68	5.79	55.47	68.23	-12.77	PK	PASS
H	5350.00	45.34	6.45	51.79	68.23	-16.45	PK	PASS
V	5150.00	47.26	5.79	53.05	68.23	-15.19	PK	PASS
V	5350.00	45.81	6.45	52.26	68.23	-15.98	PK	PASS
H	5150.00	34.41	5.79	40.20	54.00	-13.81	AV	PASS
H	5350.00	33.61	6.45	40.06	54.00	-13.95	AV	PASS
V	5150.00	36.60	5.79	42.39	54.00	-11.62	AV	PASS
V	5350.00	33.94	6.45	40.39	54.00	-13.62	AV	PASS

Test Mode: 802.11 ac(VHT40)					CH High: 5230 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	48.97	5.79	54.76	68.23	-13.47	PK	PASS
H	5350.00	45.22	6.45	51.67	68.23	-16.56	PK	PASS
V	5150.00	48.98	5.79	54.77	68.23	-13.46	PK	PASS
V	5350.00	45.04	6.45	51.49	68.23	-16.75	PK	PASS
H	5150.00	36.34	5.79	42.13	54.00	-11.88	AV	PASS
H	5350.00	31.85	6.45	38.30	54.00	-15.71	AV	PASS
V	5150.00	36.87	5.79	42.66	54.00	-11.35	AV	PASS
V	5350.00	33.49	6.45	39.94	54.00	-14.06	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

Band Edge Emissions Test Data:
U-NII-1:

Test Mode: 802.11ac(VHT80)					CH: 5210 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	49.90	5.79	55.69	68.23	-12.54	PK	PASS
H	5350.00	45.12	6.45	51.57	68.23	-16.66	PK	PASS
V	5150.00	48.44	5.79	54.23	68.23	-14.01	PK	PASS
V	5350.00	46.72	6.45	53.17	68.23	-15.07	PK	PASS
H	5150.00	34.61	5.79	40.40	54.00	-13.60	AV	PASS
H	5350.00	32.23	6.45	38.68	54.00	-15.32	AV	PASS
V	5150.00	36.01	5.79	41.80	54.00	-12.21	AV	PASS
V	5350.00	33.27	6.45	39.72	54.00	-14.29	AV	PASS

Test Mode: 802.11 ac(VHT80)					CH: 5210 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
H	5150.00	47.73	5.79	53.52	68.23	-14.72	PK	PASS
H	5350.00	44.20	6.45	50.65	68.23	-17.58	PK	PASS
V	5150.00	47.27	5.79	53.06	68.23	-15.17	PK	PASS
V	5350.00	44.71	6.45	51.16	68.23	-17.07	PK	PASS
H	5150.00	34.21	5.79	40.00	54.00	-14.00	AV	PASS
H	5350.00	31.44	6.45	37.89	54.00	-16.11	AV	PASS
V	5150.00	34.03	5.79	39.82	54.00	-14.18	AV	PASS
V	5350.00	32.14	6.45	38.59	54.00	-15.41	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

6.8 Undesirable emission limits (below 1GHz)

6.8.1 Test Specification

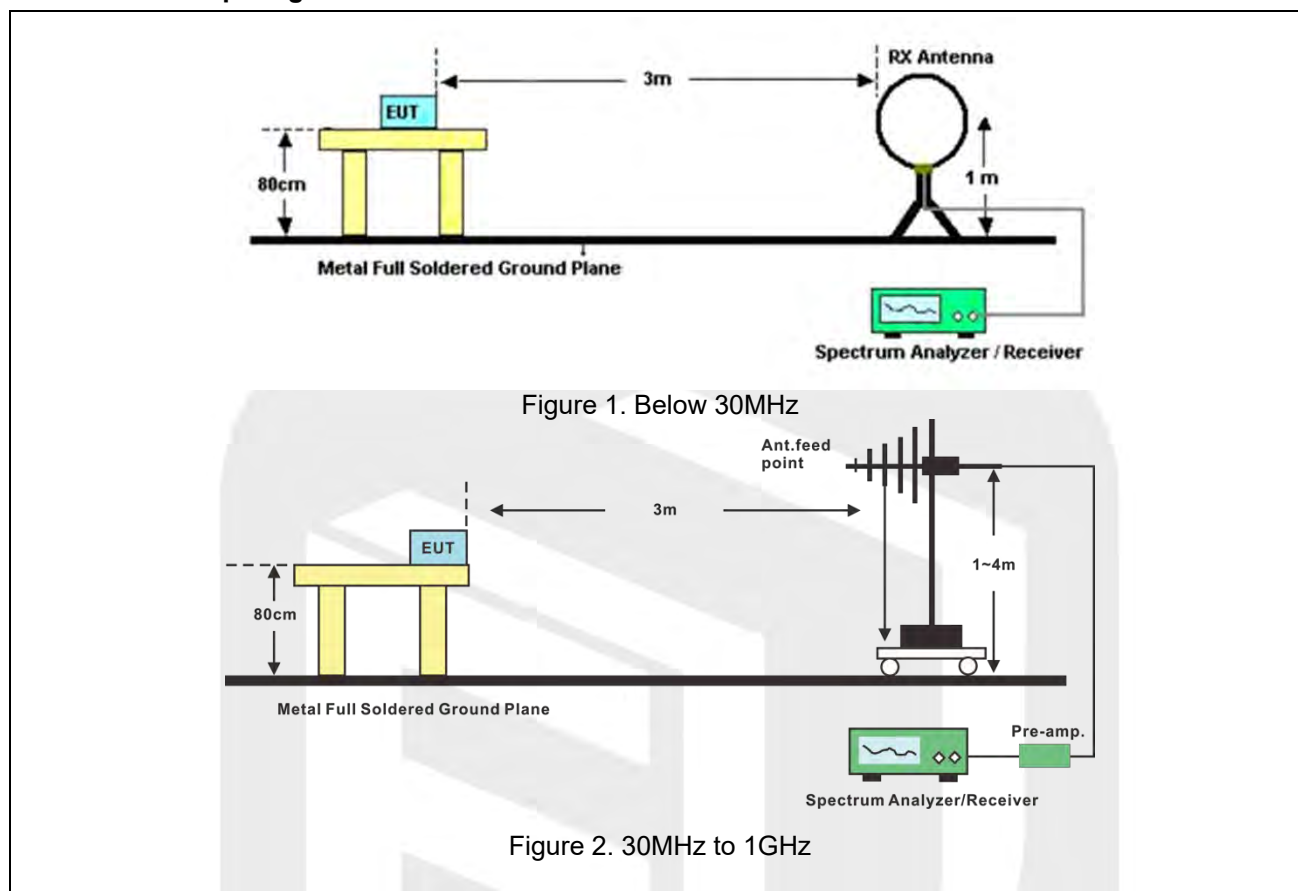
Test Requirement:	47 CFR Part 15.407(b)(9), 15.205, 15.209																								
Test Limit:	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.																								
	Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:																								
	<table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100 **</td><td>3</td></tr><tr><td>88-216</td><td>150 **</td><td>3</td></tr><tr><td>216-960</td><td>200 **</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table>	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100 **	3	88-216	150 **	3	216-960	200 **	3	Above 960	500	3
	Frequency (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																							
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.																									
In the emission table above, the tighter limit applies at the band edges.																									
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.																									
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.5																								
Procedure:	Below 1GHz: 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. 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. 3. 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. Above 1GHz: 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.
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6.8.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM1

6.8.3 Test Setup Diagram



6.8.4 Test Data

PASS.

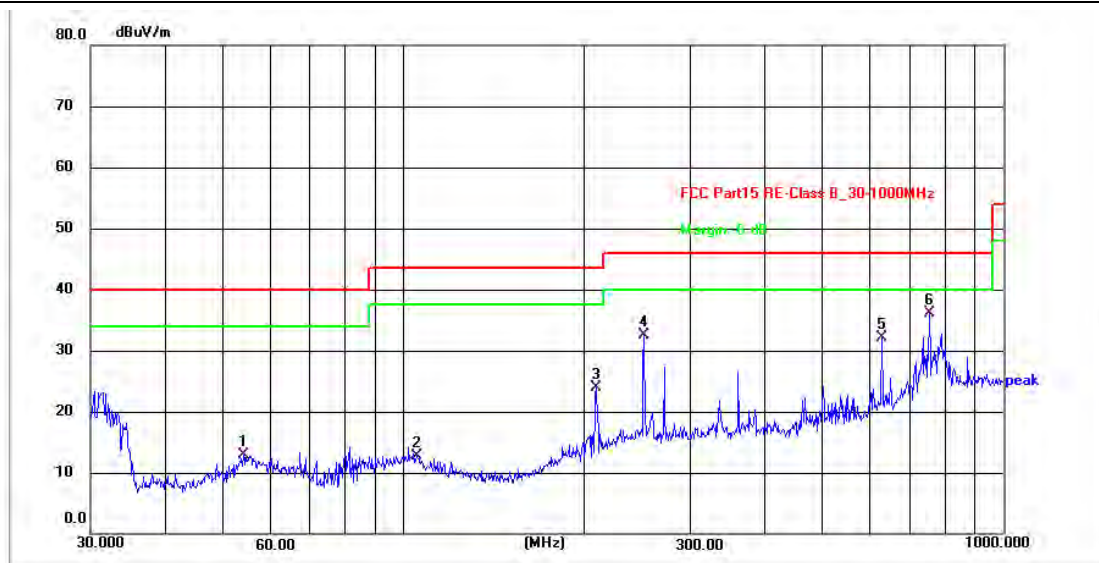
Please to see the following pages.

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

For test of 30MHz-1GHz, during the test, pre-scan all modes, and found the 802.11a is worse case, the report only record this mode.

Undesirable emission limits (below 1GHz) Test Data

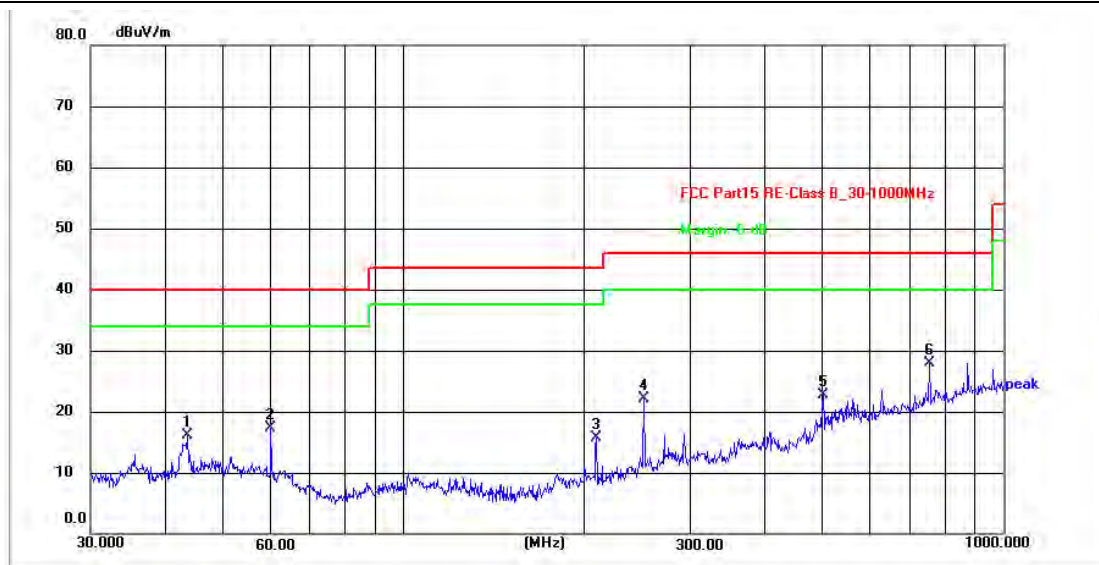
TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	53.8817	30.54	-17.59	12.95	40.00	-27.05	QP	P	
2	105.2716	31.57	-18.93	12.64	43.50	-30.86	QP	P	
3	209.3130	41.87	-18.01	23.86	43.50	-19.64	QP	P	
4	251.1803	49.21	-16.73	32.48	46.00	-13.52	QP	P	
5	627.2736	39.88	-7.78	32.10	46.00	-13.90	QP	P	
6 *	752.7431	42.49	-6.43	36.06	46.00	-9.94	QP	P	

Undesirable emission limits (below 1GHz) Test Data

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	43.5056	33.79	-17.73	16.06	40.00	-23.94	QP	P	
2	59.8588	35.78	-18.57	17.21	40.00	-22.79	QP	P	
3	209.3130	33.71	-18.04	15.67	43.50	-27.83	QP	P	
4	251.1802	39.07	-16.90	22.17	46.00	-23.83	QP	P	
5	501.1790	33.19	-10.51	22.68	46.00	-23.32	QP	P	
6 *	752.7431	34.25	-6.33	27.92	46.00	-18.08	QP	P	

6.9 Undesirable emission limits (above 1GHz)

6.9.1 Test Specification

Test Requirement:	47 CFR Part 15.407(b)(1), 15.205, 15.209 47 CFR Part 15.407(b)(10), 15.205, 15.209		
Test Limit:	For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.		
	MHz	MHz	MHz
	0.090-0.110	16.42-16.423	399.9-410
	¹ 0.495-0.505	16.69475-16.69525	608-614
	2.1735-2.1905	16.80425-16.80475	960-1240
	4.125-4.128	25.5-25.67	1300-1427
	4.17725-4.17775	37.5-38.25	1435-1626.5
	4.20725-4.20775	73-74.6	1645.5-1646.5
	6.215-6.218	74.8-75.2	1660-1710
	6.26775-6.26825	108-121.94	1718.8-1722.2
	6.31175-6.31225	123-138	2200-2300
	8.291-8.294	149.9-150.05	2310-2390
	8.362-8.366	156.52475-156.52525	2483.5-2500
	8.37625-8.38675	156.7-156.9	2690-2900
	8.41425-8.41475	162.0125-167.17	3260-3267
	12.29-12.293	167.72-173.2	3332-3339
	12.51975-12.52025	240-285	3345.8-3358
	12.57675-12.57725	322-335.4	3600-4400
	13.36-13.41		
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6 The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:		
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)

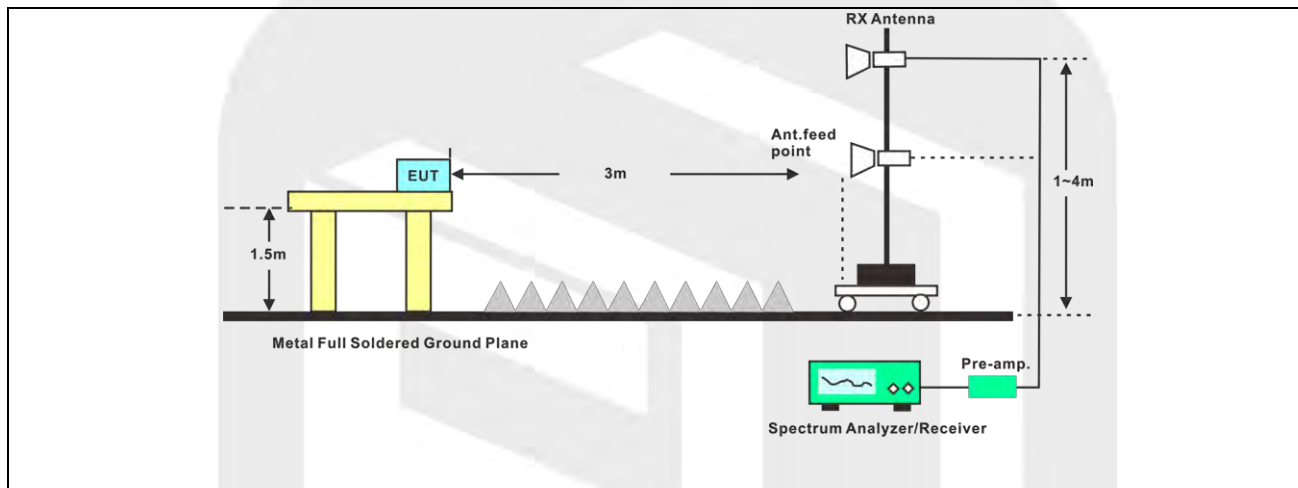
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7		
Procedure:	Above 1GHz: 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.
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6.9.2 E.U.T. Operation

Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6
Final test mode:	TM2

6.9.3 Test Setup Diagram



6.9.4 Test Data

PASS.

For test of 1GHz-40GHz, during the test, pre-scan all modes, and found the 802.11n(HT20) is worse case, the report only record this mode.

The disturbance above 18GHz were very low, thus didn't record the harmonics above 18GHz.

Radiated Spurious Emission (1GHz-40GHz)

Test Mode: 802.11n(HT20)					CH Low: 5180 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
V	3216.30	46.01	0.06	46.07	68.23	-22.16	PK	PASS
V	7514.57	42.29	9.84	52.14	68.23	-16.09	PK	PASS
V	9512.53	36.42	13.19	49.61	68.23	-18.62	PK	PASS
V	10360.75	44.50	13.79	58.29	68.23	-9.94	PK	PASS
V	14013.14	36.45	17.35	53.80	68.23	-14.43	PK	PASS
V	15541.50	*	*	*	68.23	*	PK	PASS
H	3200.75	46.45	-0.87	45.58	68.23	-22.65	PK	PASS
H	7502.25	41.01	9.83	50.84	68.23	-17.39	PK	PASS
H	9500.75	36.11	13.14	49.25	68.23	-18.98	PK	PASS
H	10361.00	43.76	13.79	57.55	68.23	-10.68	PK	PASS
H	14018.98	36.61	17.35	53.96	68.23	-14.27	PK	PASS
H	15540.75	*	*	*	68.23	*	PK	PASS
V	3216.30	34.79	0.06	34.85	54.00	-19.15	AV	PASS
V	7514.57	30.55	9.84	40.40	54.00	-13.60	AV	PASS
V	9512.53	22.29	13.19	35.48	54.00	-18.52	AV	PASS
V	10360.75	30.24	13.79	44.03	54.00	-9.97	AV	PASS
V	14013.14	24.99	17.35	42.34	54.00	-11.66	AV	PASS
V	15541.50	*	*	*	54.00	*	AV	PASS
H	3200.75	32.09	-0.87	31.22	54.00	-22.78	AV	PASS
H	7502.25	28.59	9.83	38.42	54.00	-15.58	AV	PASS
H	9500.75	23.45	13.14	36.59	54.00	-17.41	AV	PASS
H	10361.00	32.24	13.79	46.03	54.00	-7.97	AV	PASS
H	14018.98	23.52	17.35	40.87	54.00	-13.13	AV	PASS
H	15540.75	*	*	*	54.00	*	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

Radiated Spurious Emission (1GHz-40GHz)

Test Mode: 802.11n(HT20)					CH Middle: 5200 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
V	3416.73	47.22	-0.07	47.14	68.23	-21.09	PK	PASS
V	8005.66	42.32	10.33	52.65	68.23	-15.58	PK	PASS
V	9716.03	37.00	13.20	50.20	68.23	-18.03	PK	PASS
V	10401.00	44.59	13.91	58.50	68.23	-9.73	PK	PASS
V	14303.97	37.15	17.44	54.59	68.23	-13.64	PK	PASS
V	15601.50	*	*	*	68.23	*	PK	PASS
H	3404.90	47.93	-0.12	47.81	68.23	-20.42	PK	PASS
H	8001.98	42.76	10.33	53.08	68.23	-15.15	PK	PASS
H	9716.08	35.93	13.20	49.13	68.23	-19.10	PK	PASS
H	10400.00	43.29	13.91	57.20	68.23	-11.03	PK	PASS
H	14310.61	37.69	17.45	55.13	68.23	-13.10	PK	PASS
H	15600.25	*	*	*	68.23	*	PK	PASS
V	3416.73	34.80	-0.07	34.73	54.00	-19.27	AV	PASS
V	8005.66	30.95	10.33	41.28	54.00	-12.72	AV	PASS
V	9716.03	24.92	13.20	38.13	54.00	-15.87	AV	PASS
V	10401.00	32.59	13.91	46.50	54.00	-7.50	AV	PASS
V	14303.97	24.68	17.44	42.12	54.00	-11.88	AV	PASS
V	15601.50	*	*	*	54.00	*	AV	PASS
H	3404.90	32.63	-0.12	32.51	54.00	-21.49	AV	PASS
H	8001.98	28.36	10.33	38.68	54.00	-15.32	AV	PASS
H	9716.08	23.26	13.20	36.47	54.00	-17.53	AV	PASS
H	10400.00	30.36	13.91	44.27	54.00	-9.73	AV	PASS
H	14310.61	24.00	17.45	41.44	54.00	-12.56	AV	PASS
H	15600.25	*	*	*	54.00	*	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

Radiated Spurious Emission (1GHz-40GHz)

Test Mode: 802.11n(HT20)					CH High: 5240 MHz			
Pol.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Result
V	3704.32	47.67	1.09	48.76	68.23	-19.47	PK	PASS
V	8212.69	40.67	10.88	51.56	68.23	-16.67	PK	PASS
V	9808.05	36.78	13.23	50.01	68.23	-18.22	PK	PASS
V	10481.00	44.91	13.96	58.87	68.23	-9.36	PK	PASS
V	14706.82	37.15	17.57	54.72	68.23	-13.51	PK	PASS
V	15720.25	*	*	*	68.23	*	PK	PASS
H	3709.40	46.28	1.10	47.38	68.23	-20.85	PK	PASS
H	8211.32	40.23	10.88	51.11	68.23	-17.12	PK	PASS
H	9802.33	36.74	13.23	49.97	68.23	-18.26	PK	PASS
H	10480.25	42.59	13.96	56.55	68.23	-11.68	PK	PASS
H	14702.37	36.87	17.57	54.43	68.23	-13.80	PK	PASS
H	15721.25	*	*	*	68.23	*	PK	PASS
V	3704.32	34.54	1.09	35.63	54.00	-18.37	AV	PASS
V	8212.69	30.10	10.88	40.98	54.00	-13.02	AV	PASS
V	9808.05	24.73	13.23	37.96	54.00	-16.04	AV	PASS
V	10481.00	30.88	13.96	44.84	54.00	-9.16	AV	PASS
V	14706.82	24.68	17.57	42.26	54.00	-11.74	AV	PASS
V	15720.25	*	*	*	54.00	*	AV	PASS
H	3709.40	34.86	1.10	35.96	54.00	-18.04	AV	PASS
H	8211.32	29.90	10.88	40.78	54.00	-13.22	AV	PASS
H	9802.33	24.98	13.23	38.21	54.00	-15.79	AV	PASS
H	10480.25	30.14	13.96	44.10	54.00	-9.90	AV	PASS
H	14702.37	24.11	17.57	41.68	54.00	-12.32	AV	PASS
H	15721.25	*	*	*	54.00	*	AV	PASS

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

ANNEX A TEST SETUP PHOTOS

Please refer to the document "8432EU012510W1-ANNEX A.PDF"

ANNEX B EXTERNAL PHOTOS

Please refer to the document "8432EU012510W1-ANNEX B.PDF"

ANNEX C INTERNAL PHOTOS

Please refer to the document "8432EU012510W1-ANNEX C.PDF"



ANNEX D TEST DATA

1. Duty Cycle

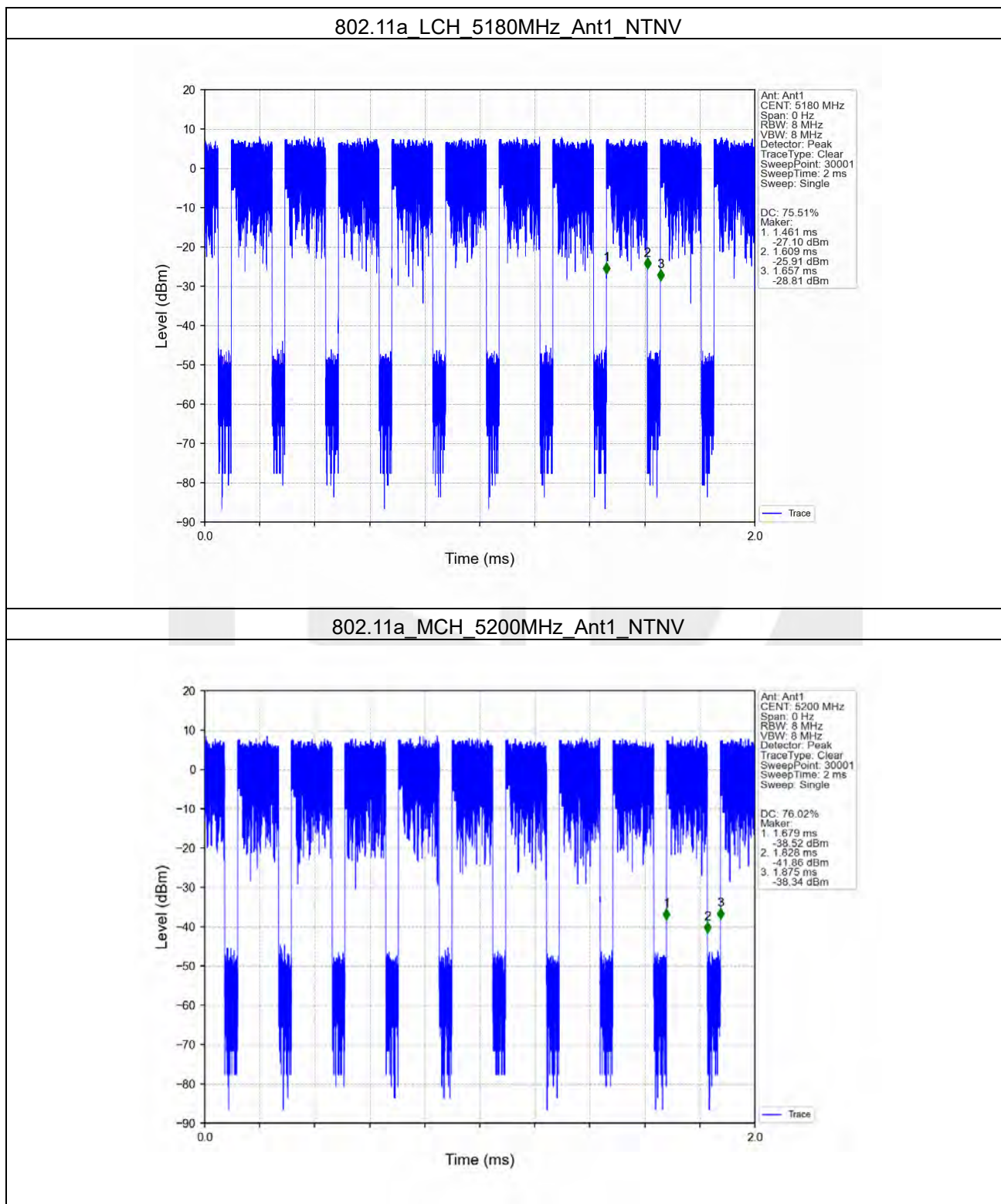
1.1 Test Result

1.1.1 Ant1

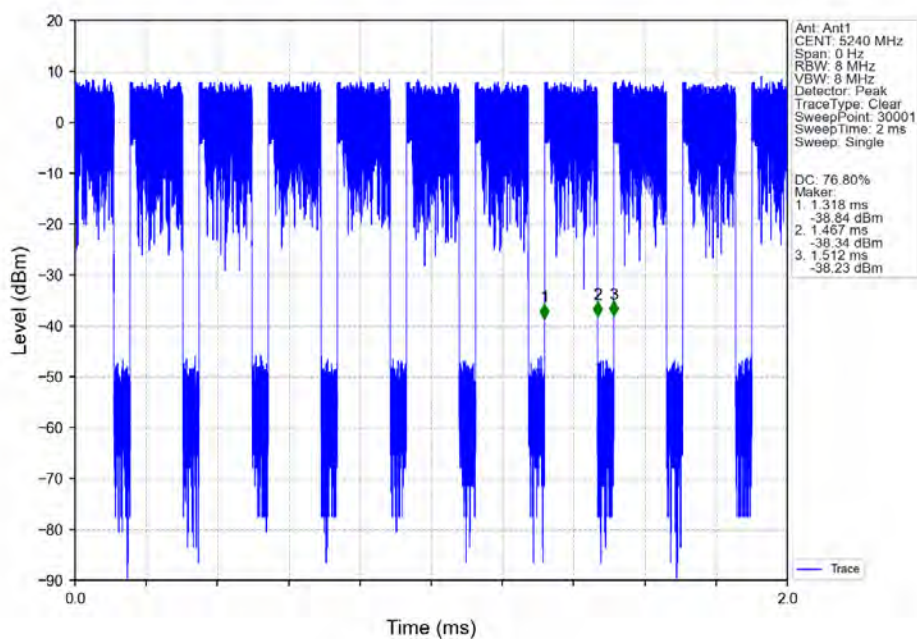
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	0.148	0.196	75.51	1.22	0.61
		5200	0.149	0.196	76.02	1.19	0.61
		5240	0.149	0.194	76.80	1.15	0.07
802.11n (HT20)	SISO	5180	0.177	0.224	79.02	1.02	0.19
		5200	0.176	0.224	78.57	1.05	0.34
		5240	0.176	0.223	78.92	1.03	0.03
802.11n (HT40)	SISO	5190	0.181	0.229	79.04	1.02	0.49
		5230	0.181	0.228	79.39	1.00	0.25
802.11ac (VHT20)	SISO	5180	0.164	0.211	77.73	1.09	0.21
		5200	0.164	0.211	77.73	1.09	0.03
		5240	0.164	0.211	77.73	1.09	0.24
802.11ac (VHT40)	SISO	5190	0.156	0.203	76.85	1.14	0.04
		5230	0.156	0.203	76.85	1.14	0.07
802.11ac (VHT80)	SISO	5210	0.165	0.213	77.46	1.11	0.67

1.2 Test Graph

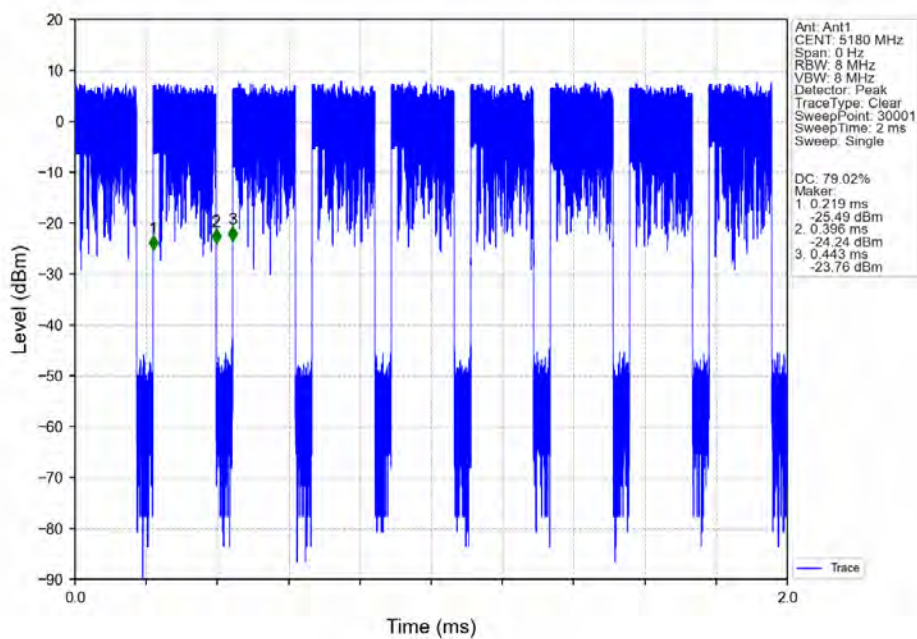
1.2.1 Ant1



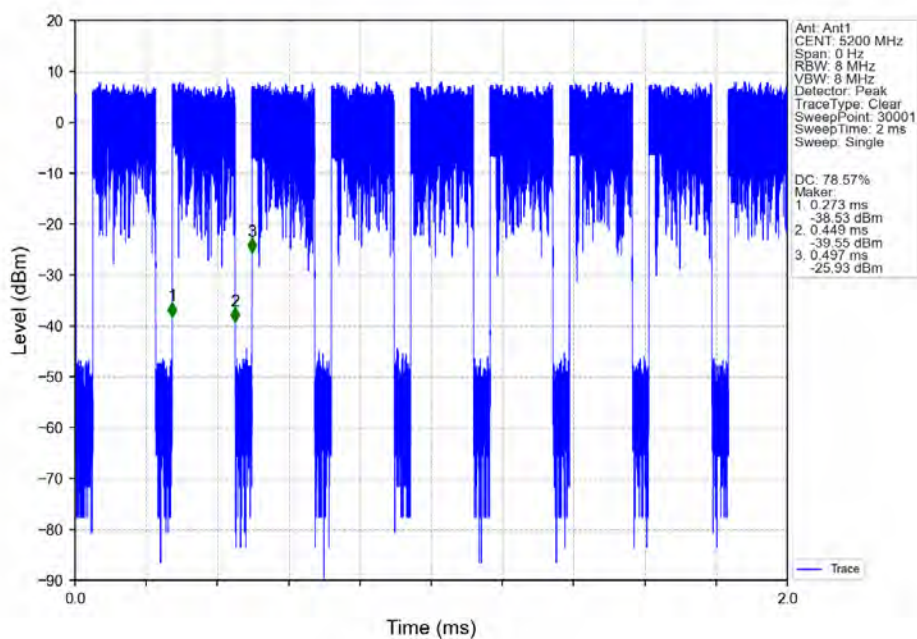
802.11a HCH 5240MHz Ant1 NTN



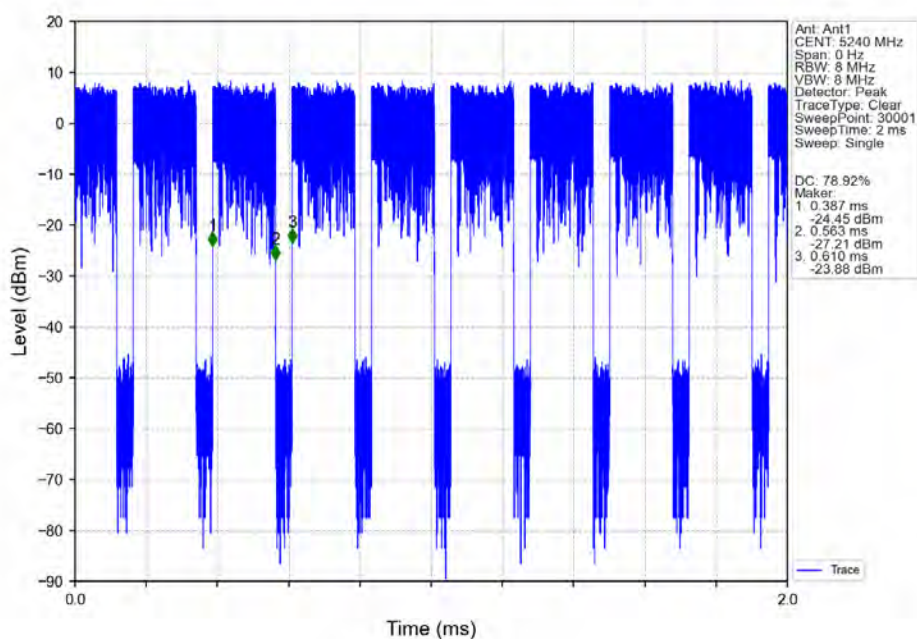
802.11n(HT20) LCH 5180MHz Ant1 NTN



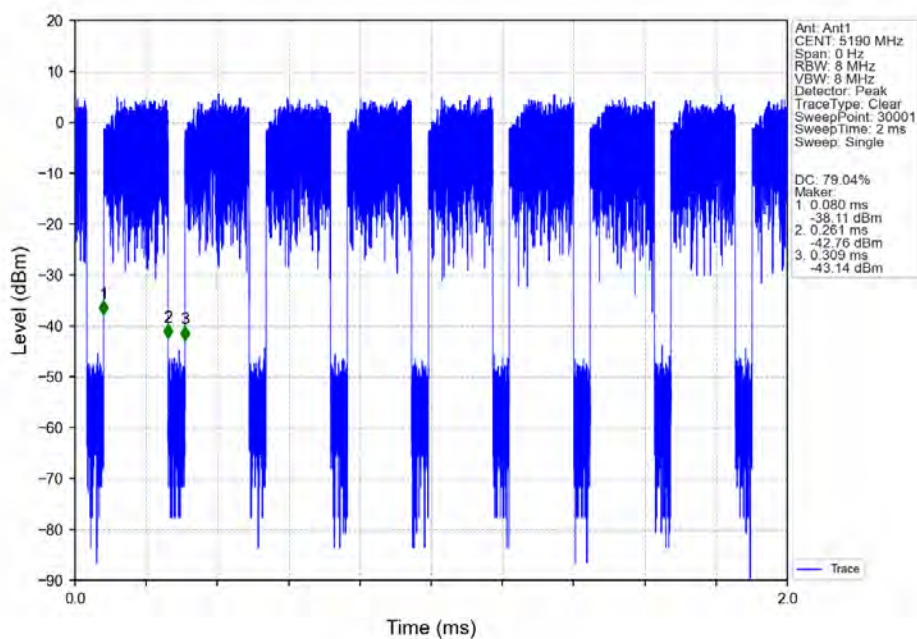
802.11n(HT20) MCH_5200MHz_Ant1_NTNV



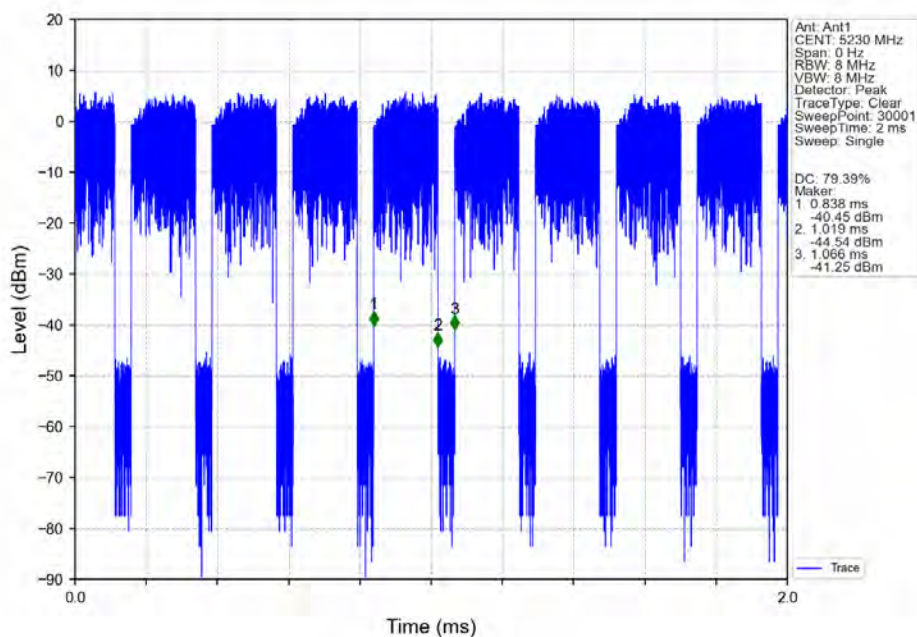
802.11n(HT20) HCH_5240MHz_Ant1_NTNV



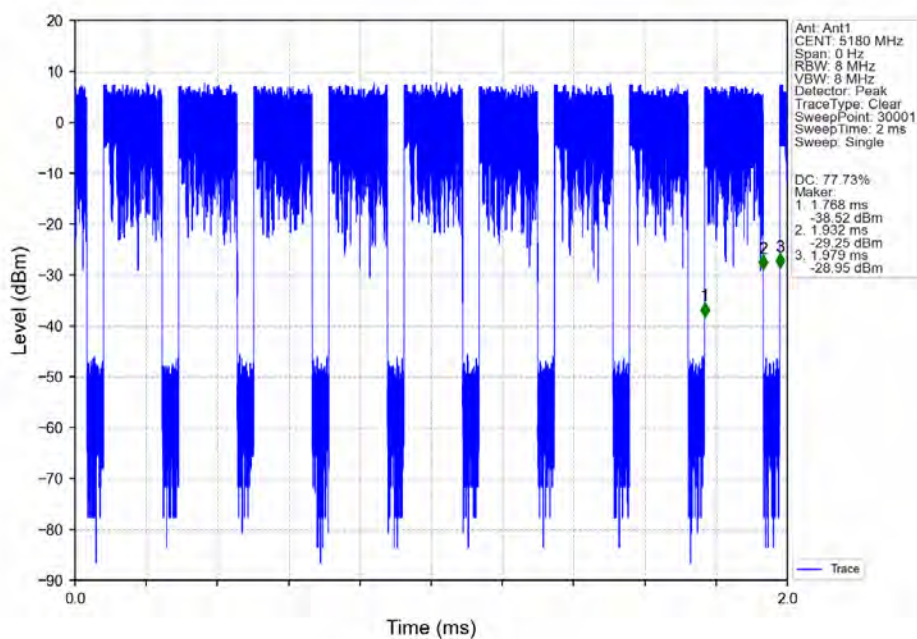
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



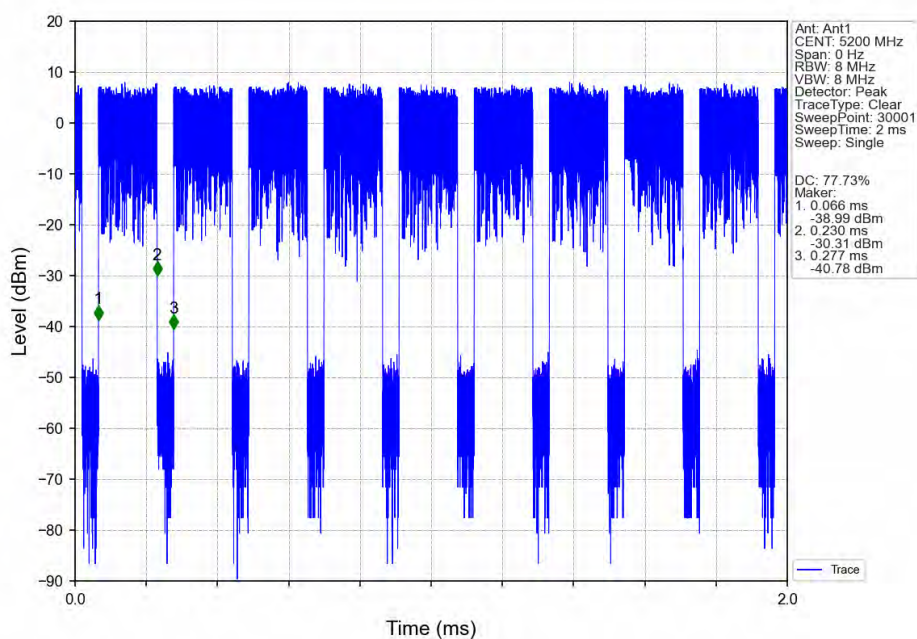
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



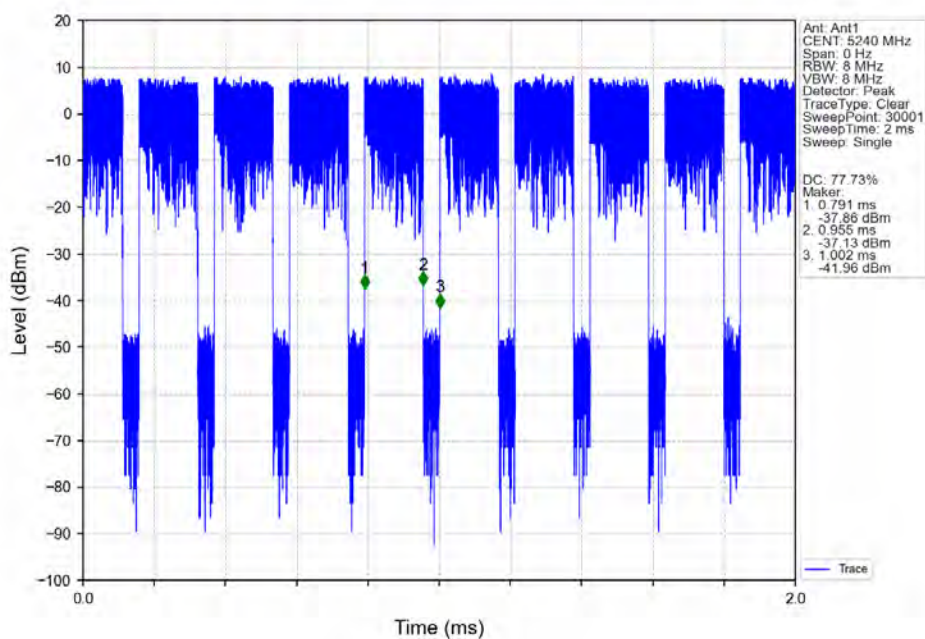
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



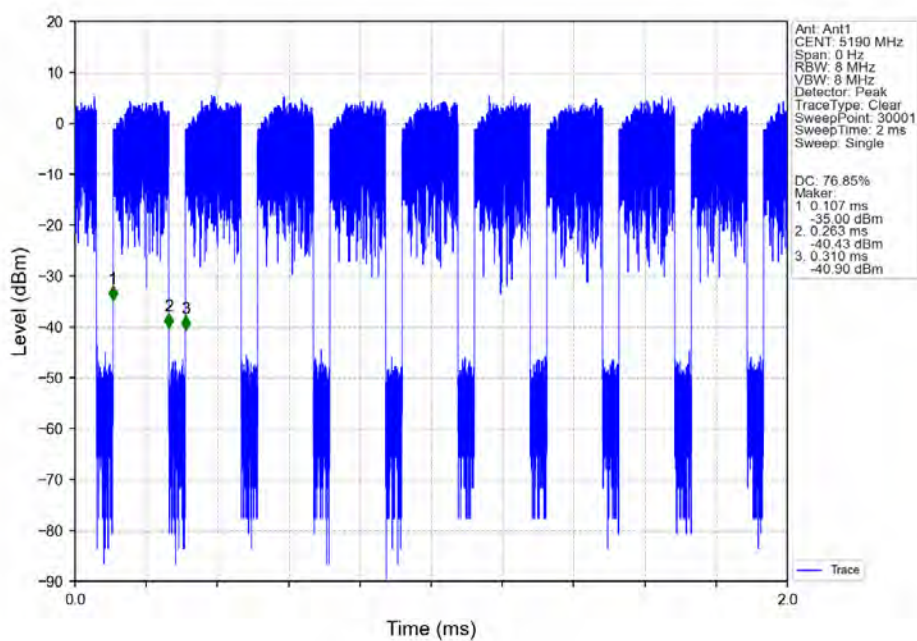
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



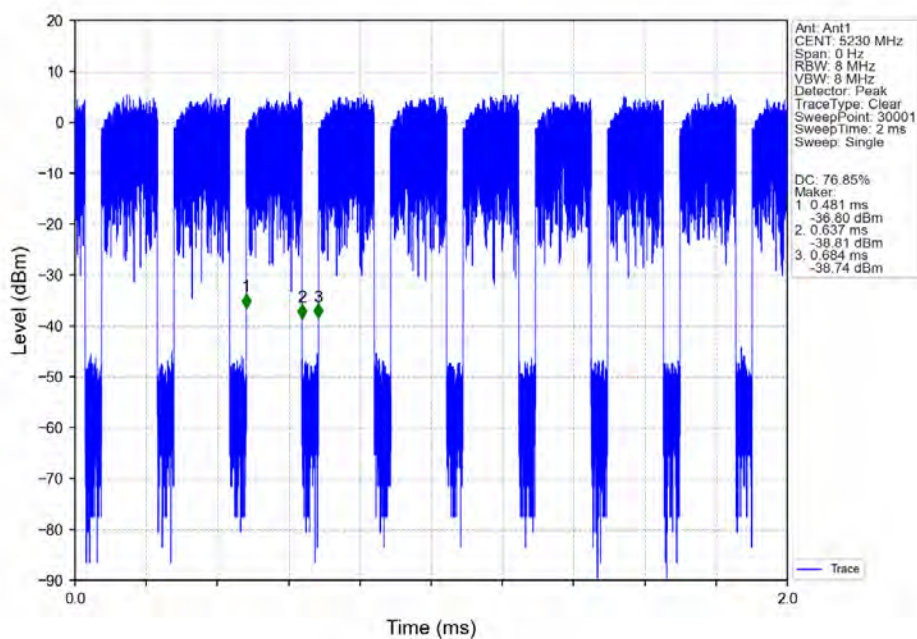
802.11ac(VHT20) HCH_5240MHz_Ant1_NTNV



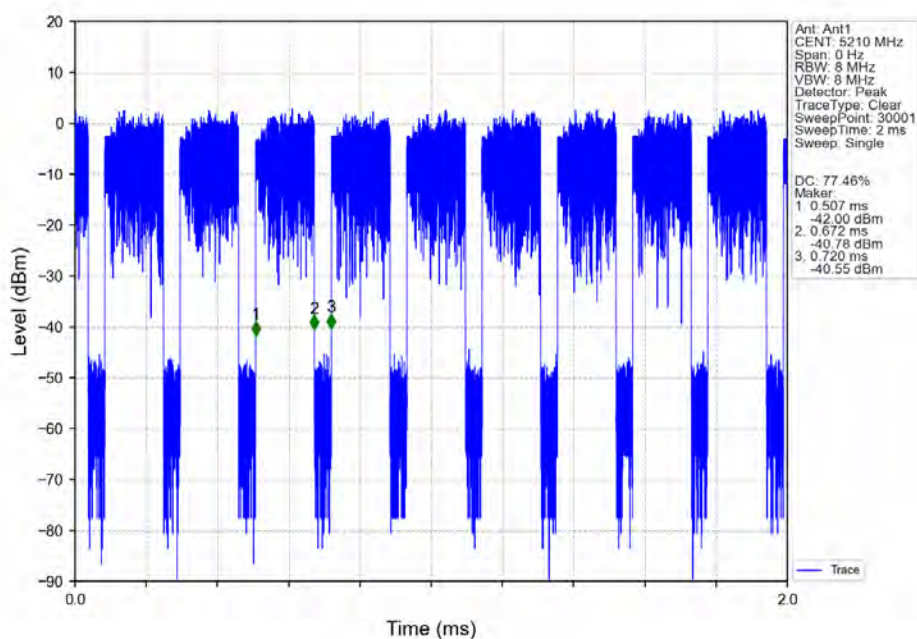
802.11ac(VHT40) LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40) HCH 5230MHz Ant1 NTN



802.11ac(VHT80) MCH 5210MHz Ant1 NTN



2. Bandwidth

2.1 Test Result

2.1.1 OBW

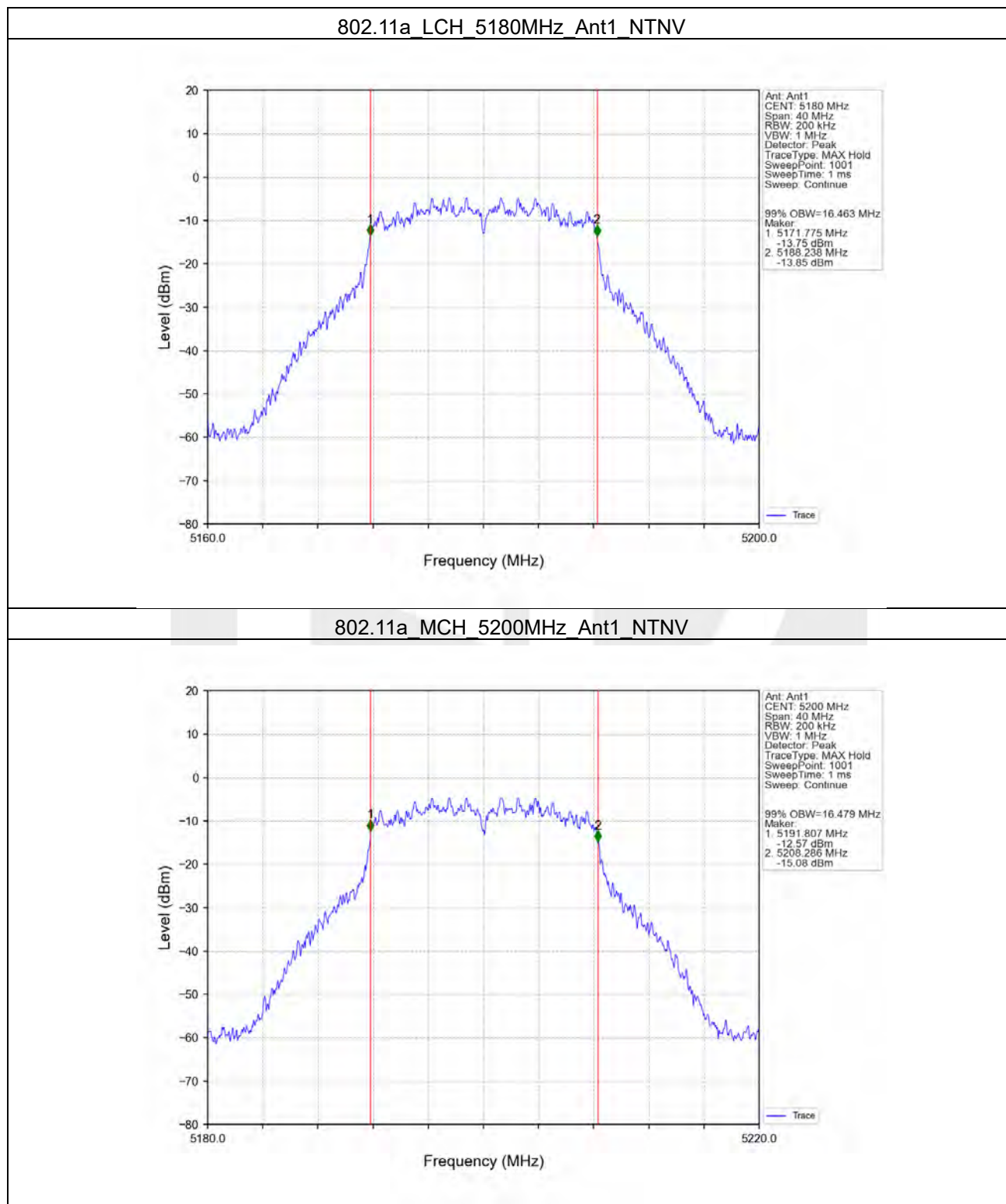
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	16.463	/	Pass
		5200	1	16.479	/	Pass
		5240	1	16.517	/	Pass
802.11n (HT20)	SISO	5180	1	17.693	/	Pass
		5200	1	17.633	/	Pass
		5240	1	17.630	/	Pass
802.11n (HT40)	SISO	5190	1	36.242	/	Pass
		5230	1	36.249	/	Pass
802.11ac (VHT20)	SISO	5180	1	17.663	/	Pass
		5200	1	17.640	/	Pass
		5240	1	17.637	/	Pass
802.11ac (VHT40)	SISO	5190	1	36.266	/	Pass
		5230	1	36.176	/	Pass
802.11ac (VHT80)	SISO	5210	1	75.152	/	Pass

2.1.2 26dB BW

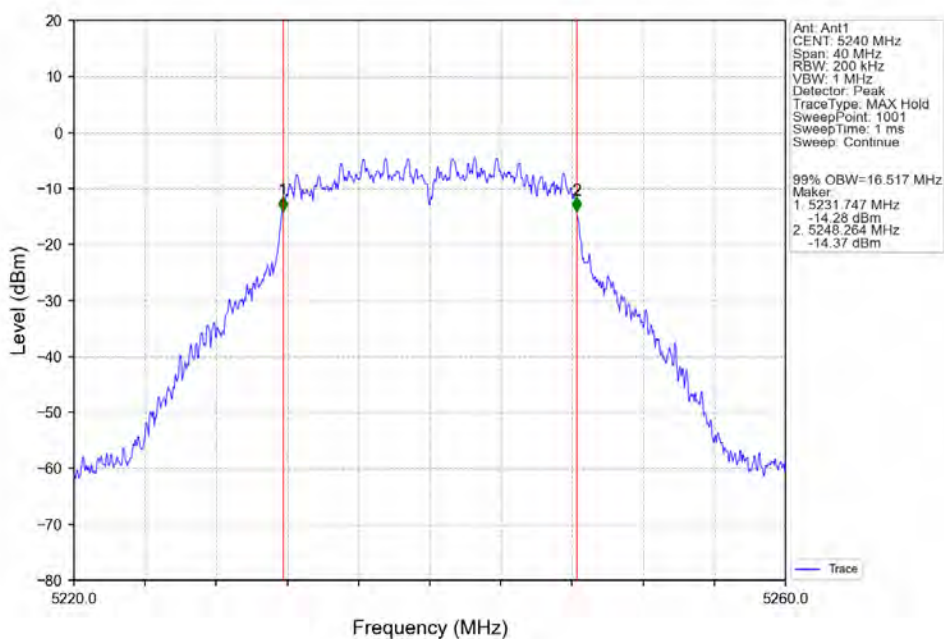
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	22.906	/	Pass
		5200	1	22.835	/	Pass
		5240	1	22.808	/	Pass
802.11n (HT20)	SISO	5180	1	23.251	/	Pass
		5200	1	22.683	/	Pass
		5240	1	23.862	/	Pass
802.11n (HT40)	SISO	5190	1	44.457	/	Pass
		5230	1	43.788	/	Pass
802.11ac (VHT20)	SISO	5180	1	22.828	/	Pass
		5200	1	22.863	/	Pass
		5240	1	23.315	/	Pass
802.11ac (VHT40)	SISO	5190	1	43.535	/	Pass
		5230	1	43.874	/	Pass
802.11ac (VHT80)	SISO	5210	1	84.865	/	Pass

2.2 Test Graph

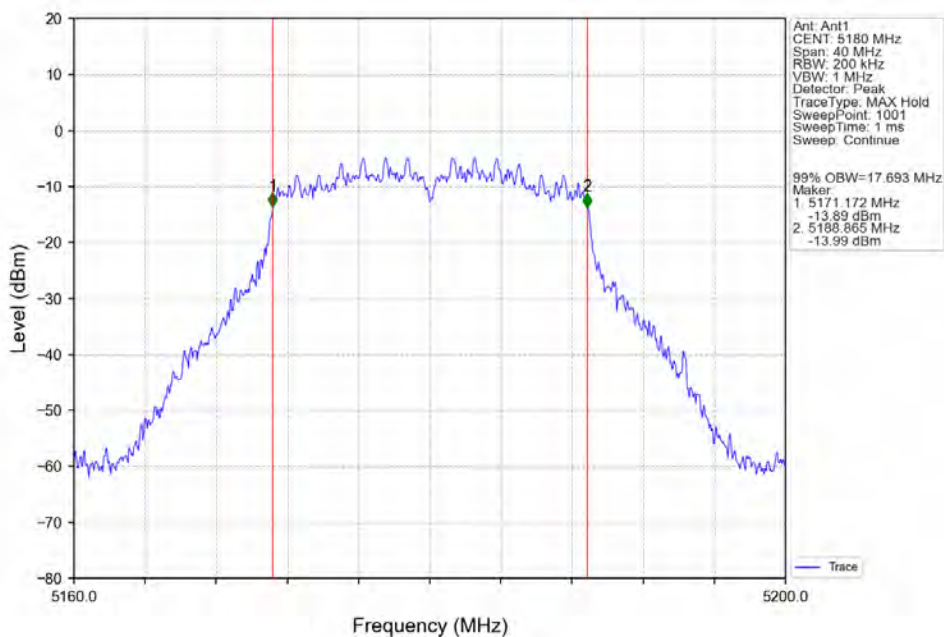
2.2.1 OBW



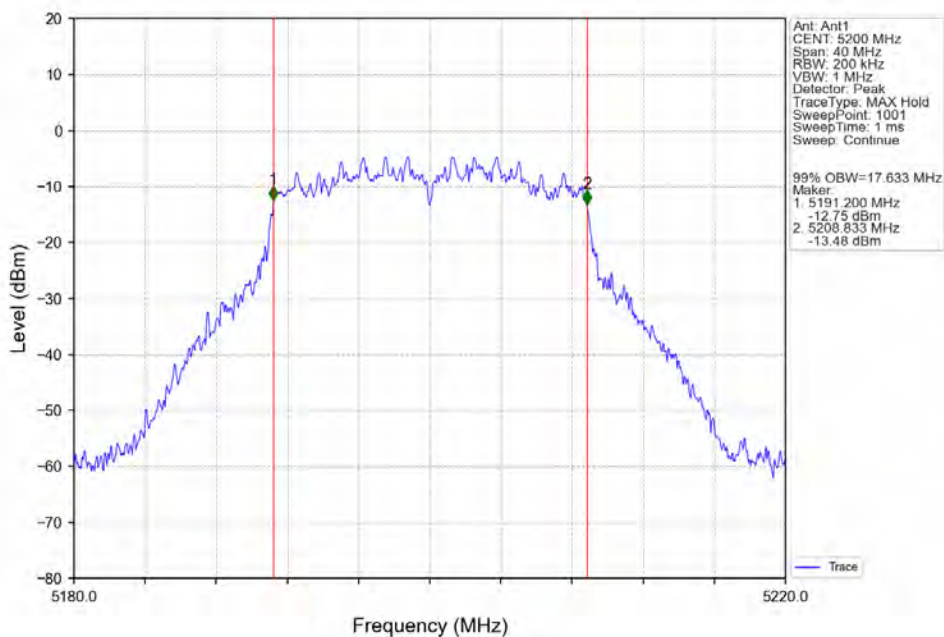
802.11a HCH 5240MHz Ant1 NTN



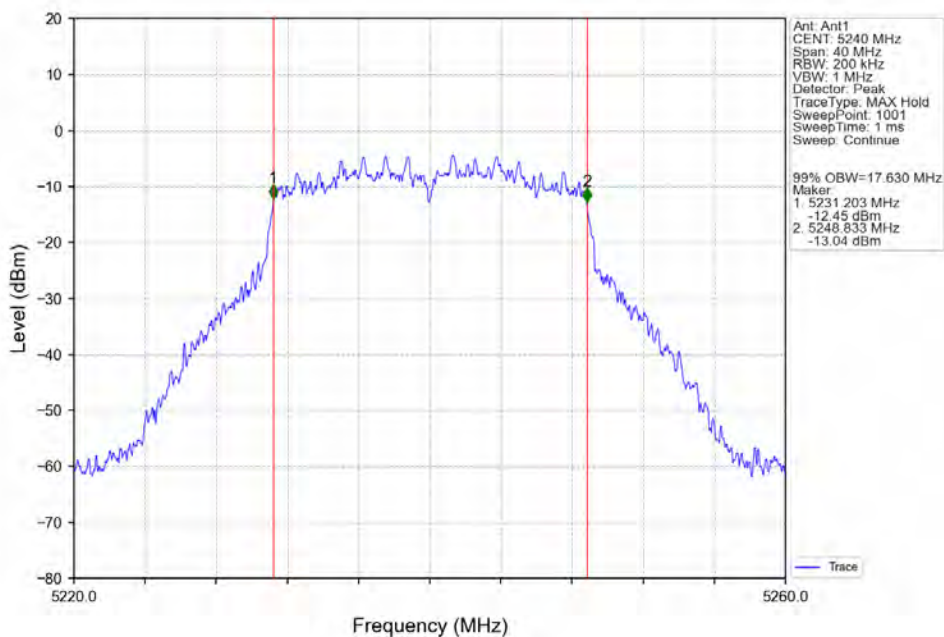
802.11n(HT20) LCH 5180MHz Ant1 NTN



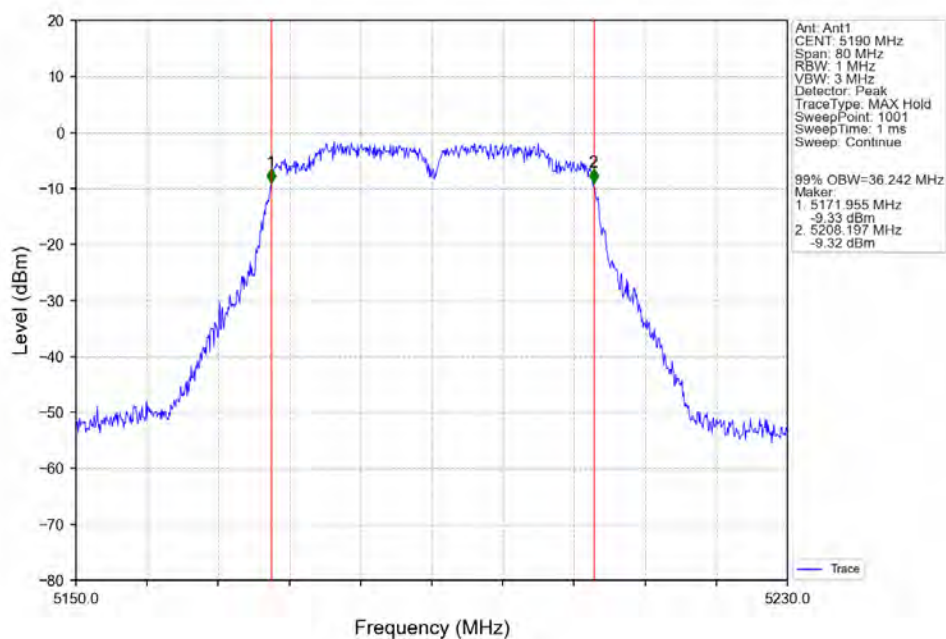
802.11n(HT20) MCH_5200MHz_Ant1_NTNV



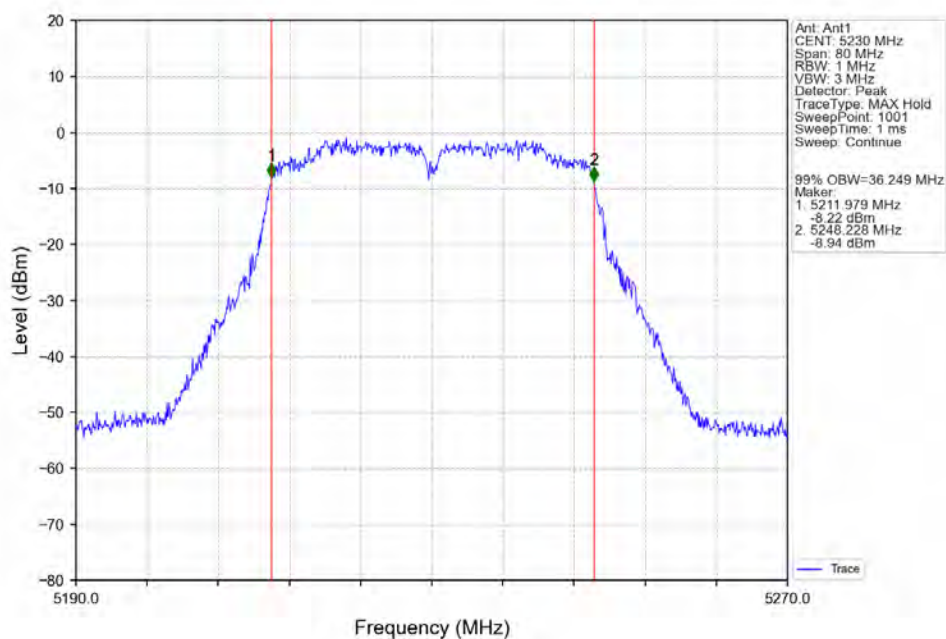
802.11n(HT20) HCH_5240MHz_Ant1_NTNV



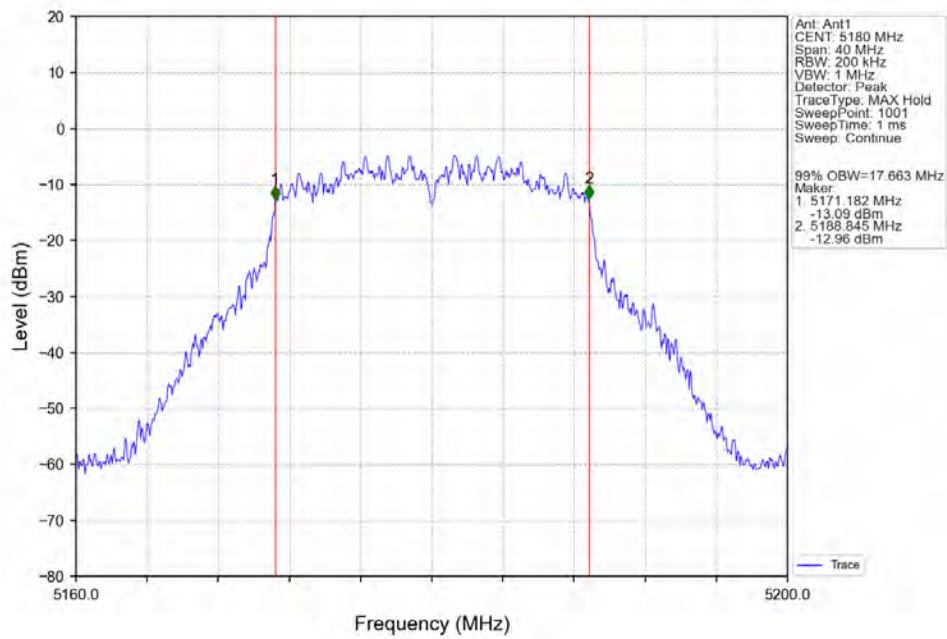
802.11n(HT40) LCH 5190MHz Ant1_NTNV



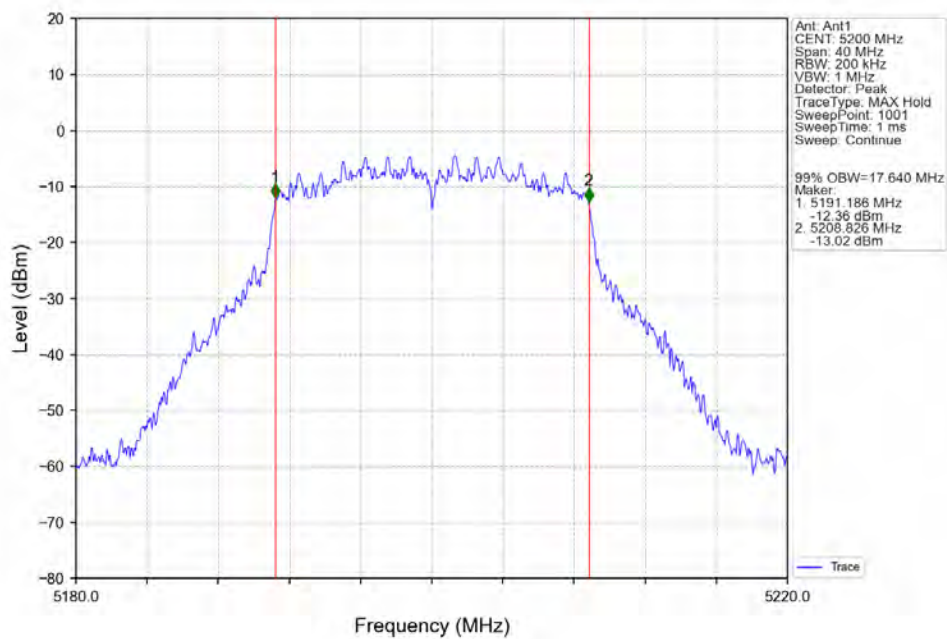
802.11n(HT40) HCH 5230MHz Ant1_NTNV



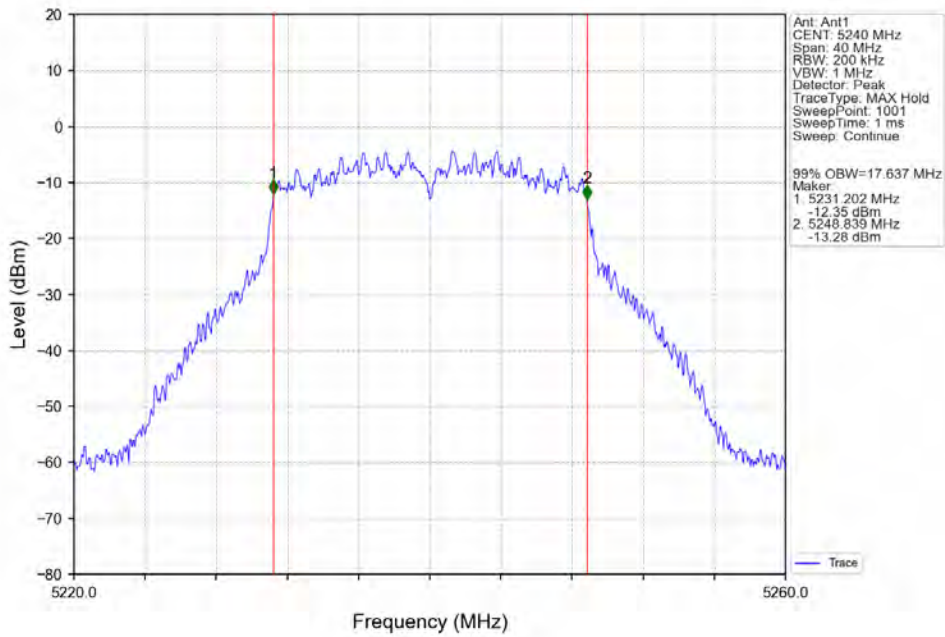
802.11ac(VHT20) LCH 5180MHz Ant1 NTN



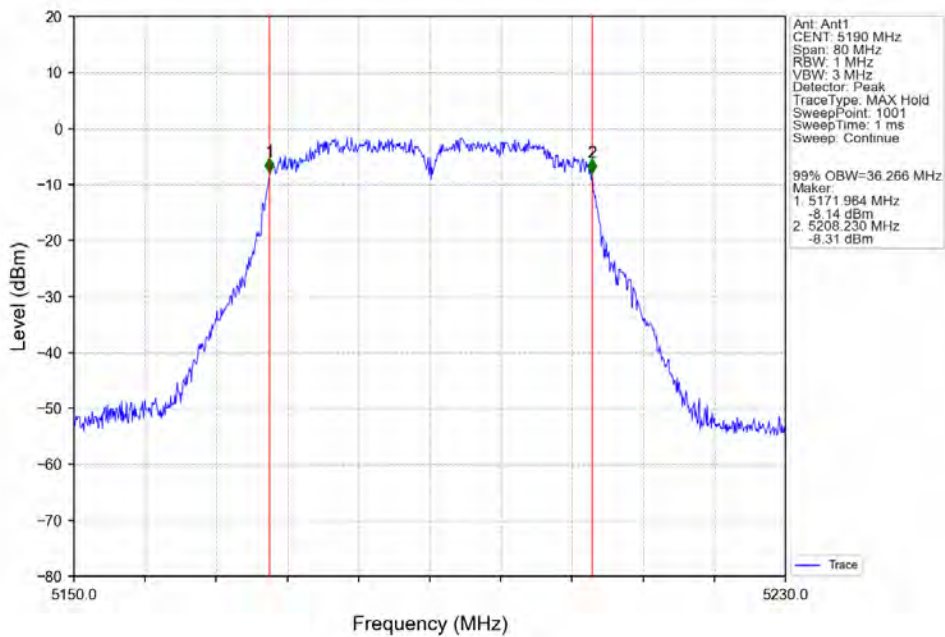
802.11ac(VHT20) MCH 5200MHz Ant1 NTN



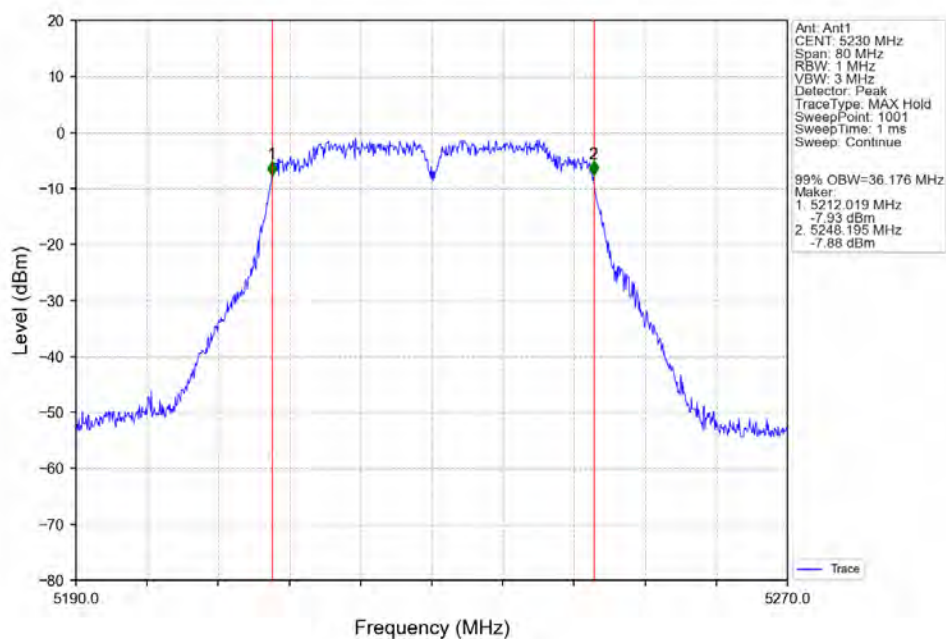
802.11ac(VHT20) HCH 5240MHz Ant1 NTN



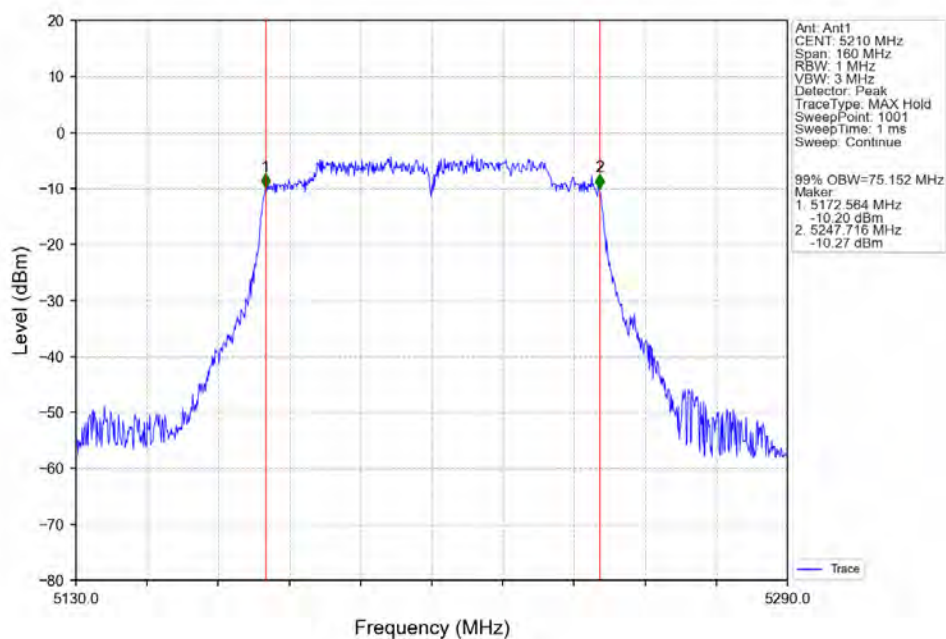
802.11ac(VHT40) LCH 5190MHz Ant1 NTN



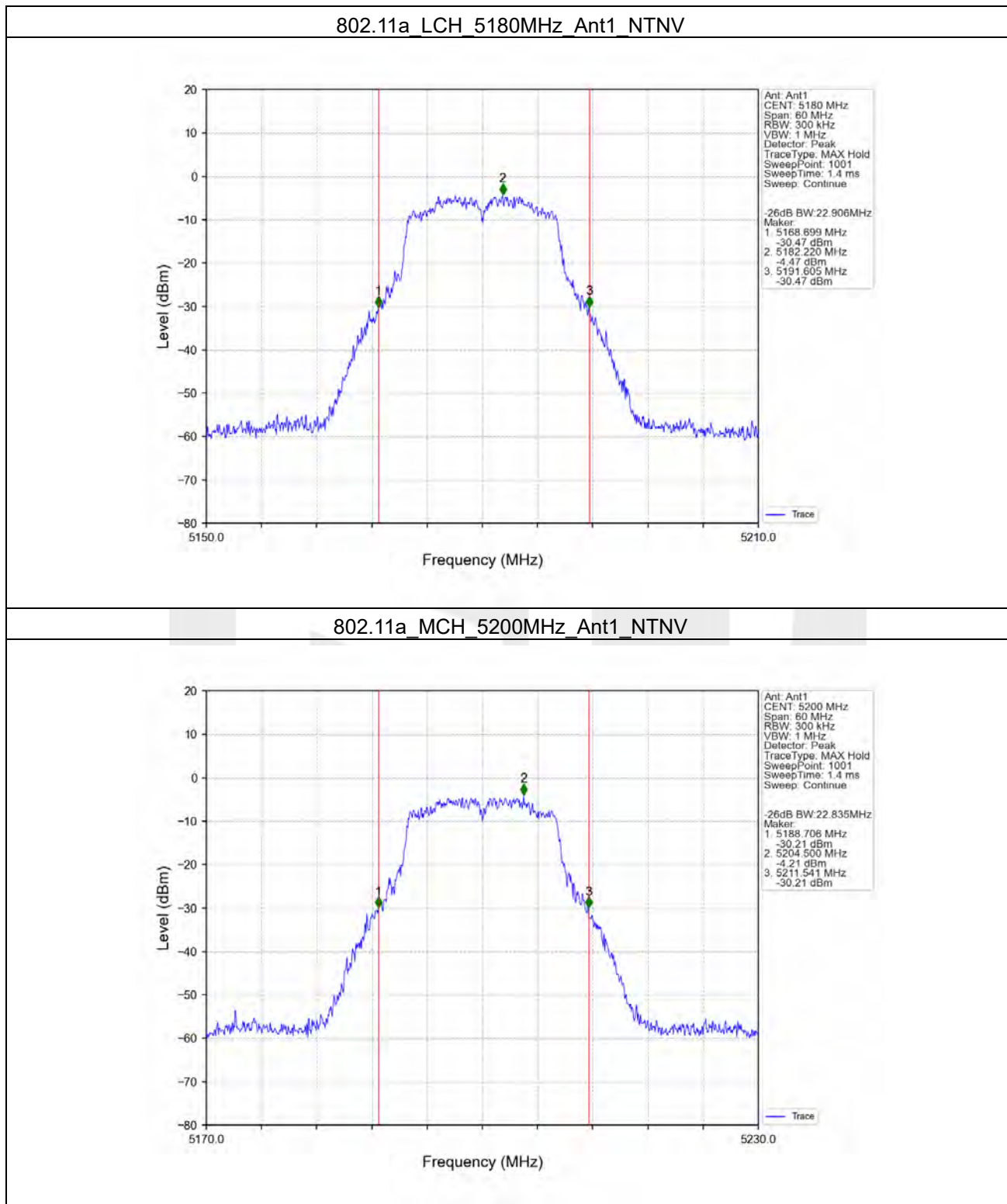
802.11ac(VHT40) HCH 5230MHz Ant1 NTN



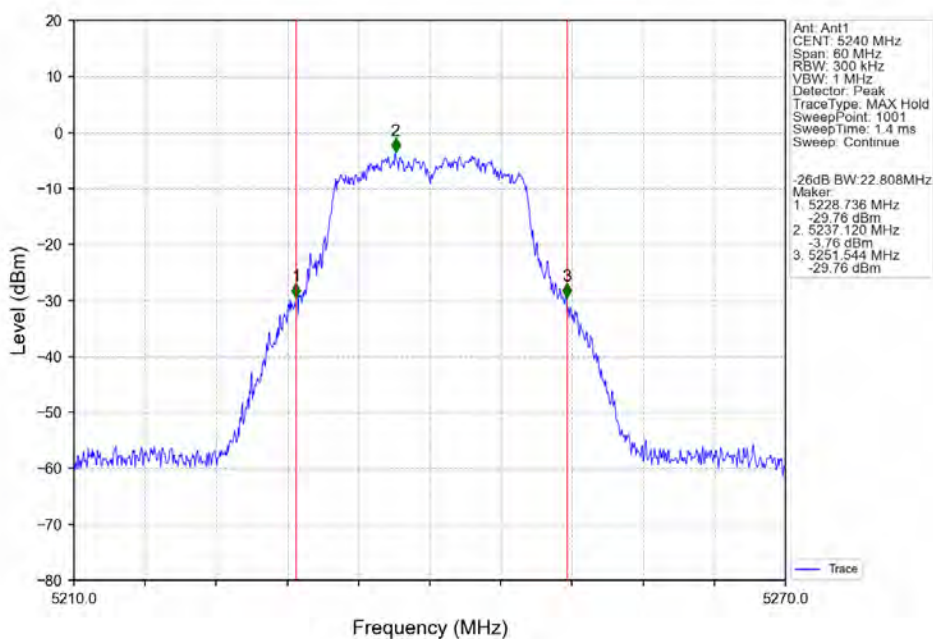
802.11ac(VHT80) MCH 5210MHz Ant1 NTN



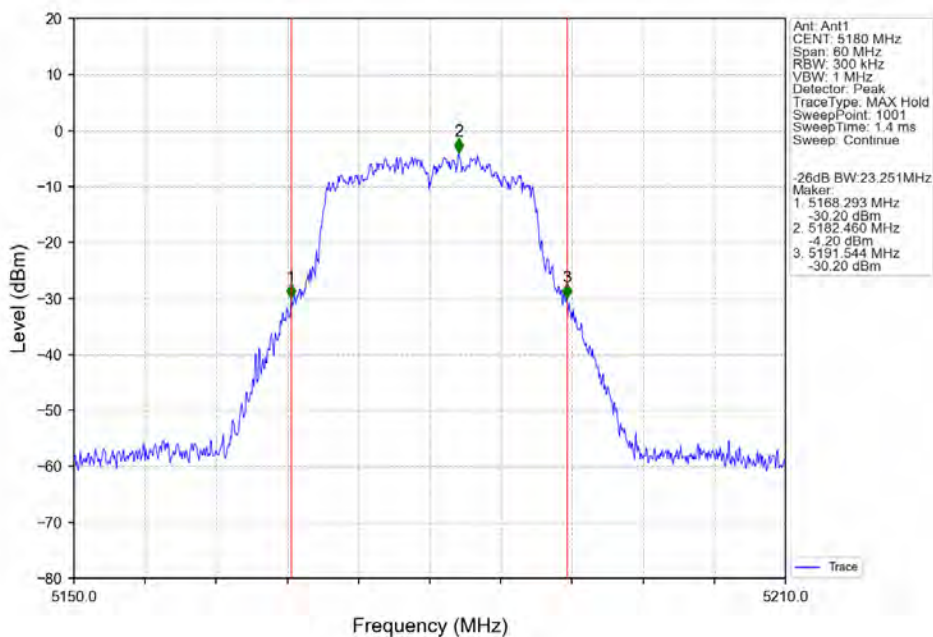
2.2.2 26dB BW



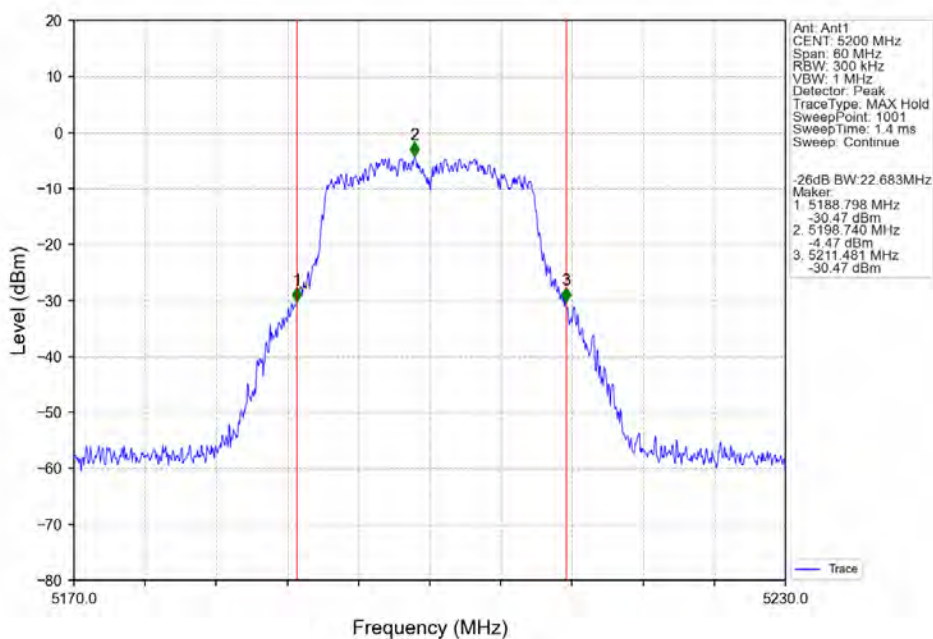
802.11a HCH 5240MHz Ant1 NTN



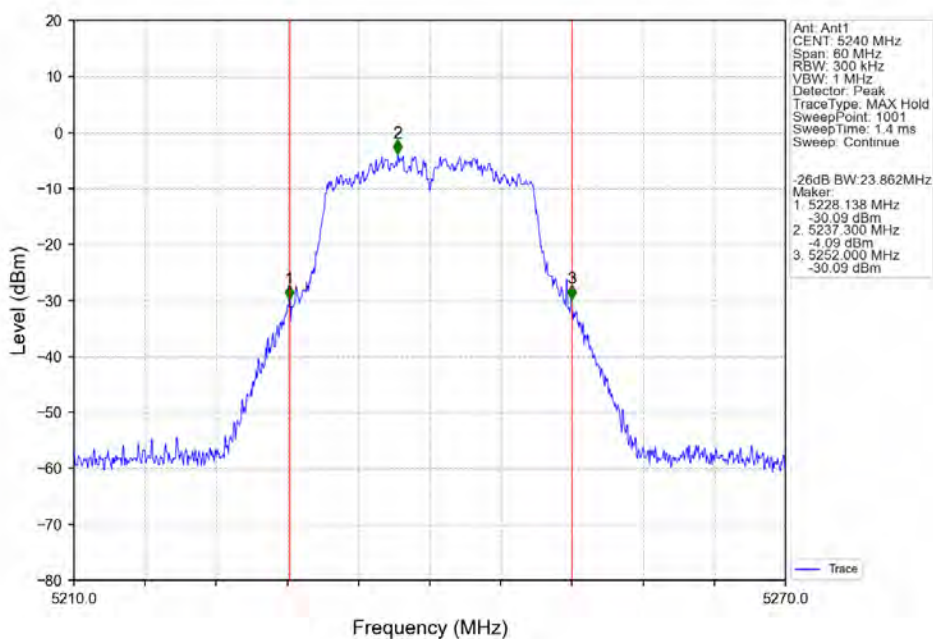
802.11n(HT20) LCH 5180MHz Ant1 NTN



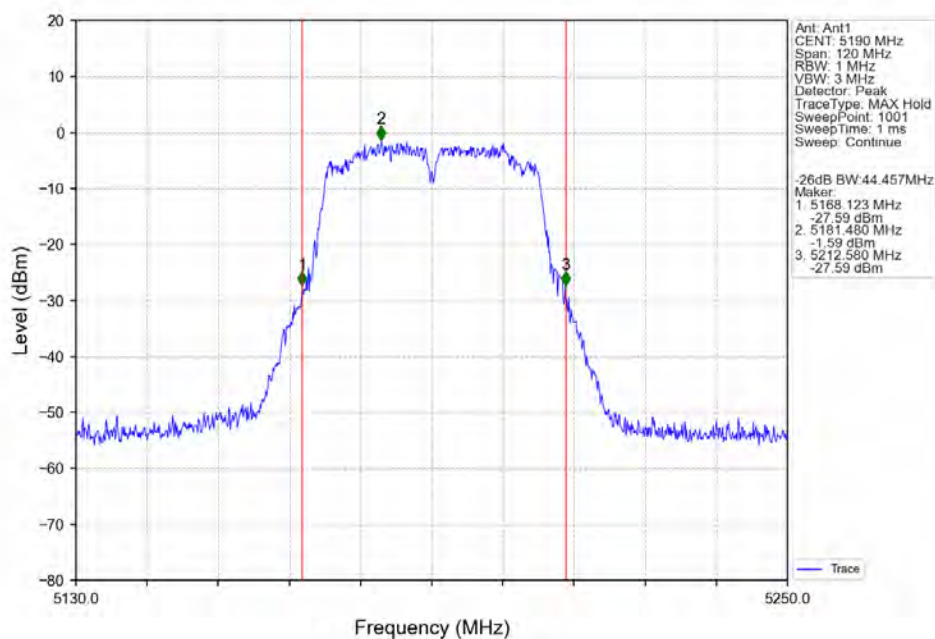
802.11n(HT20) MCH 5200MHz Ant1_NTNV



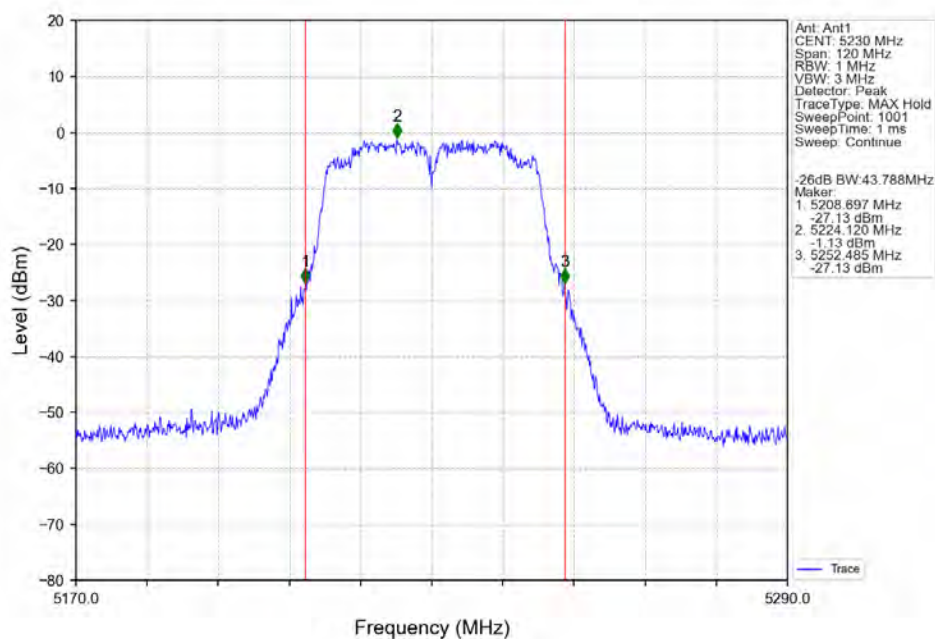
802.11n(HT20) HCH 5240MHz Ant1_NTNV



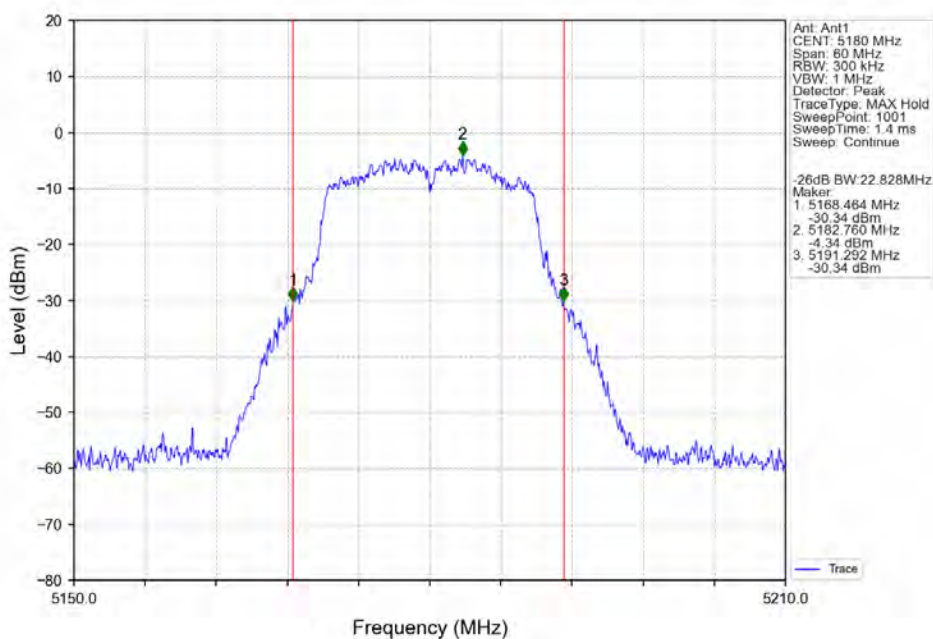
802.11n(HT40) LCH 5190MHz Ant1_NTNV



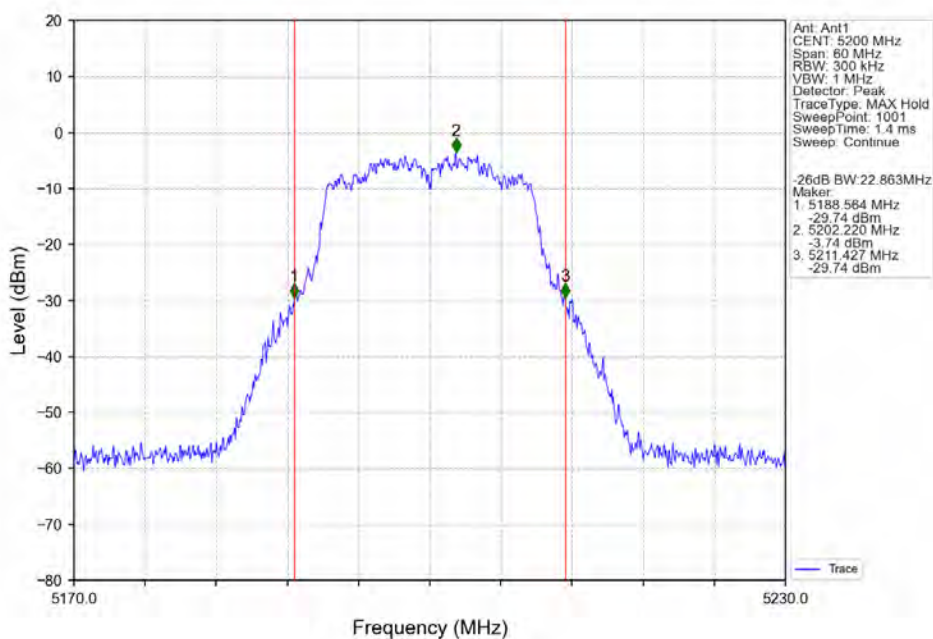
802.11n(HT40) HCH 5230MHz Ant1_NTNV



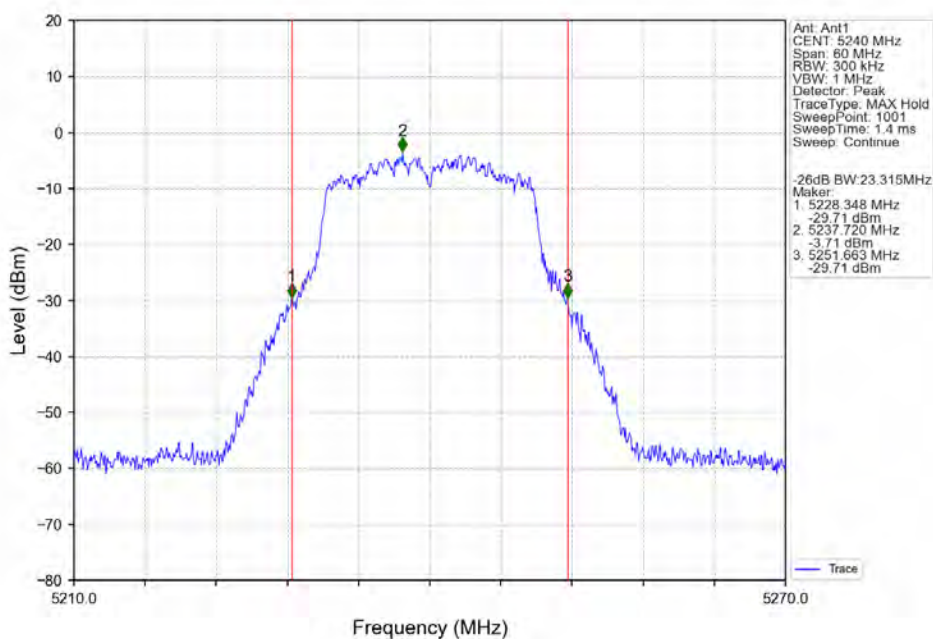
802.11ac(VHT20) LCH 5180MHz Ant1 NTN



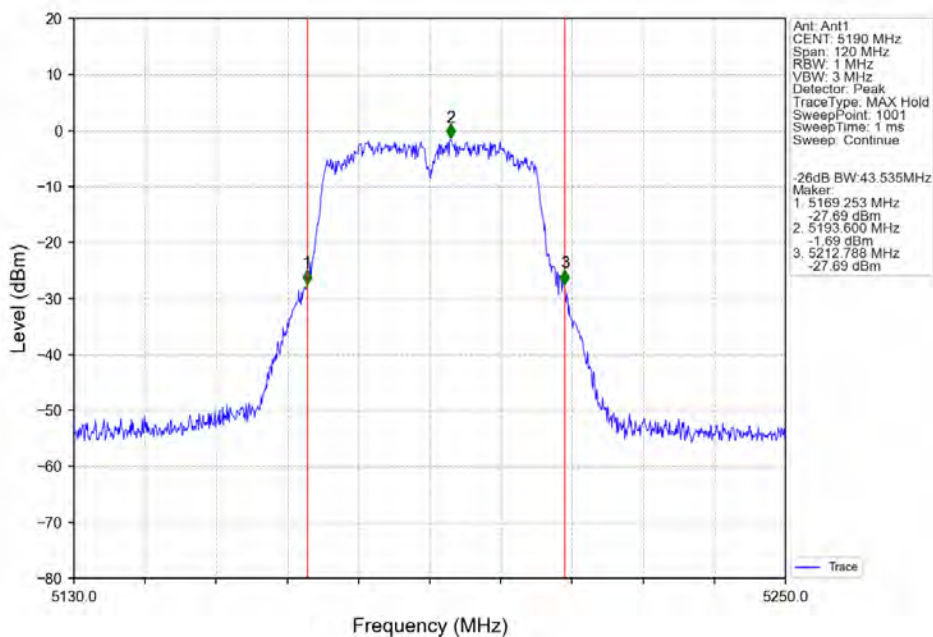
802.11ac(VHT20) MCH 5200MHz Ant1 NTN



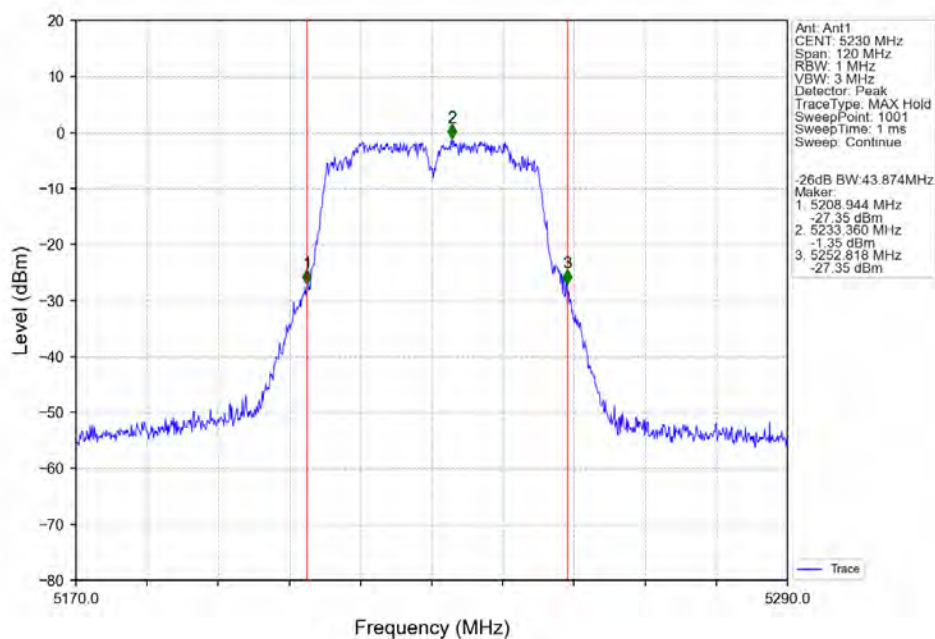
802.11ac(VHT20) HCH 5240MHz Ant1 NTN



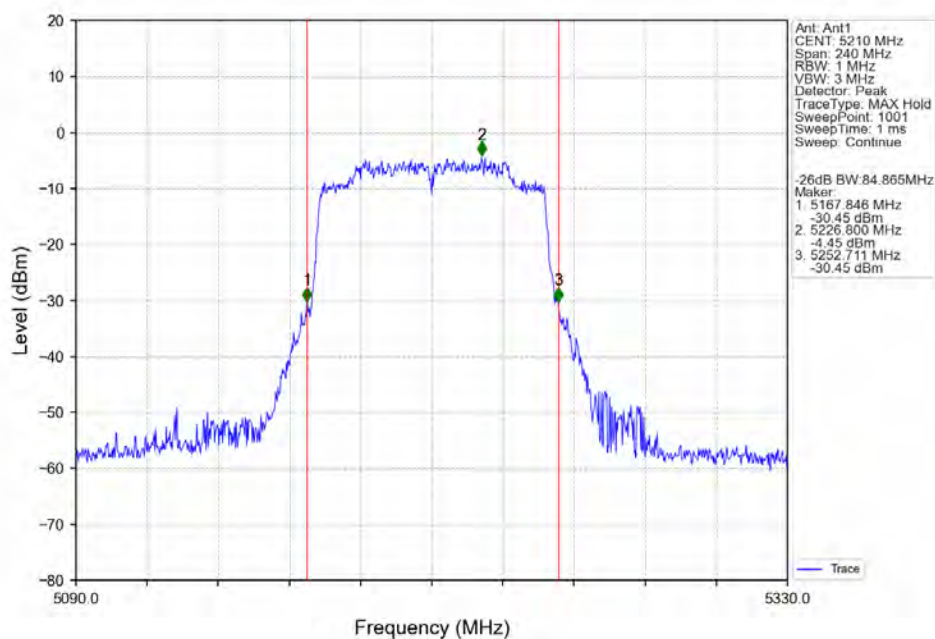
802.11ac(VHT40) LCH 5190MHz Ant1 NTN



802.11ac(VHT40) HCH 5230MHz Ant1 NTN



802.11ac(VHT80) MCH 5210MHz Ant1 NTN



3. Maximum Conducted Output Power

3.1 Test Result

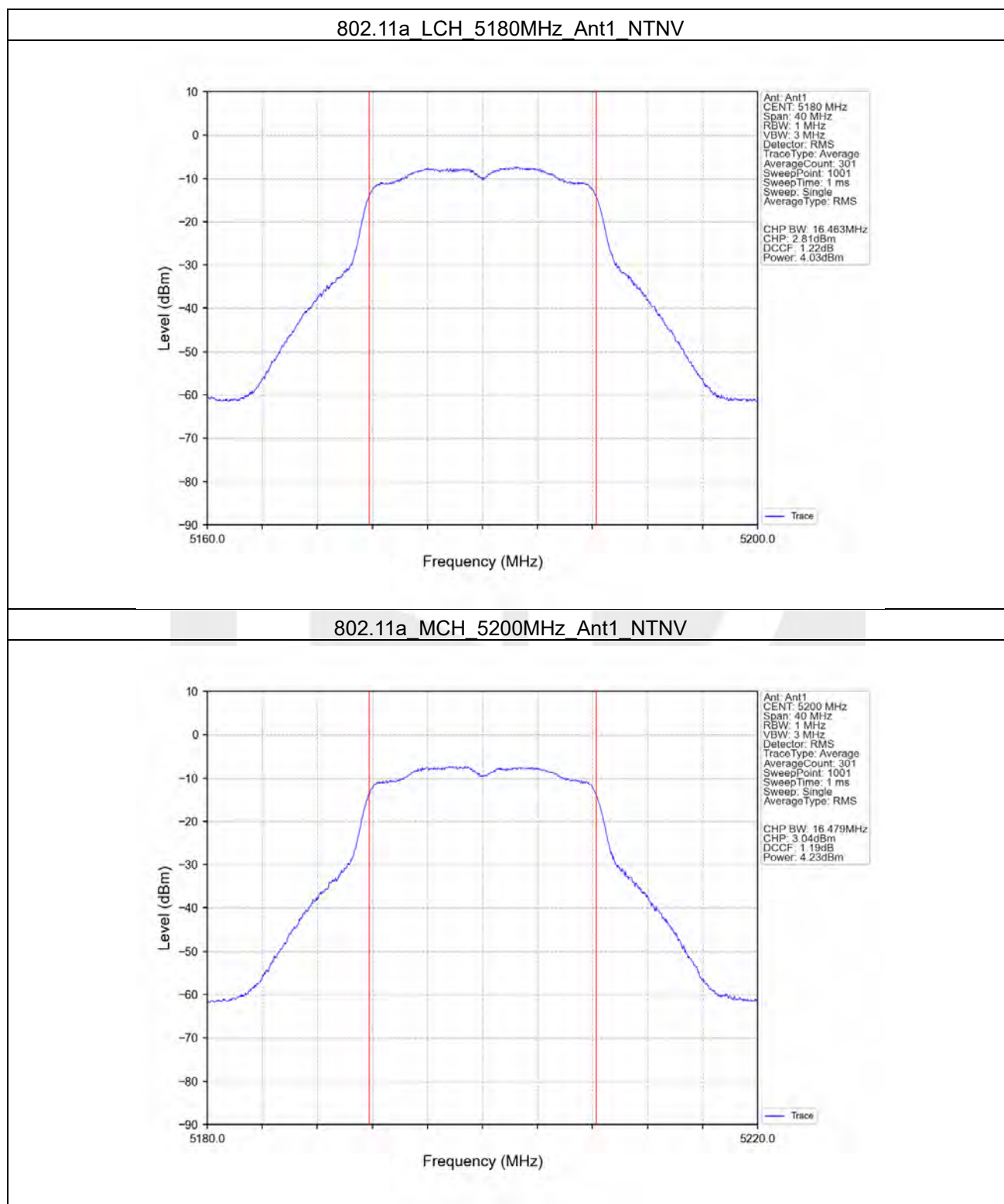
3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	4.03	≤ 23.98	Pass
		5200	4.23	≤ 23.98	Pass
		5240	4.29	≤ 23.98	Pass
802.11n (HT20)	SISO	5180	3.84	≤ 23.98	Pass
		5200	4.09	≤ 23.98	Pass
		5240	4.28	≤ 23.98	Pass
802.11n (HT40)	SISO	5190	4.13	≤ 23.98	Pass
		5230	4.50	≤ 23.98	Pass
802.11ac (VHT20)	SISO	5180	3.86	≤ 23.98	Pass
		5200	4.18	≤ 23.98	Pass
		5240	4.34	≤ 23.98	Pass
802.11ac (VHT40)	SISO	5190	4.09	≤ 23.98	Pass
		5230	4.47	≤ 23.98	Pass
802.11ac (VHT80)	SISO	5210	4.28	≤ 23.98	Pass

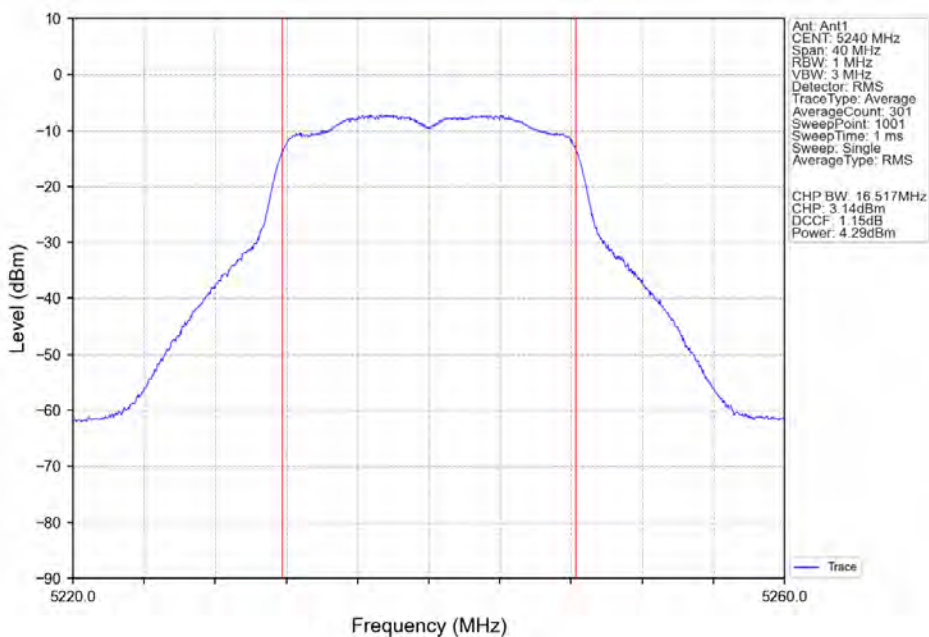
Note1: Antenna Gain: Ant1: 5.53dBi;

3.2 Test Graph

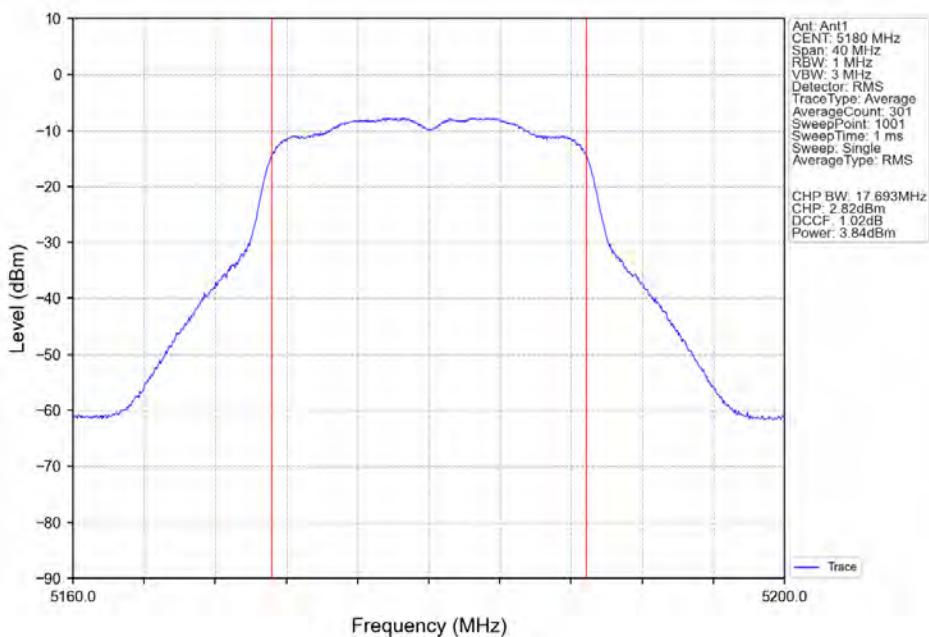
3.2.1 Power



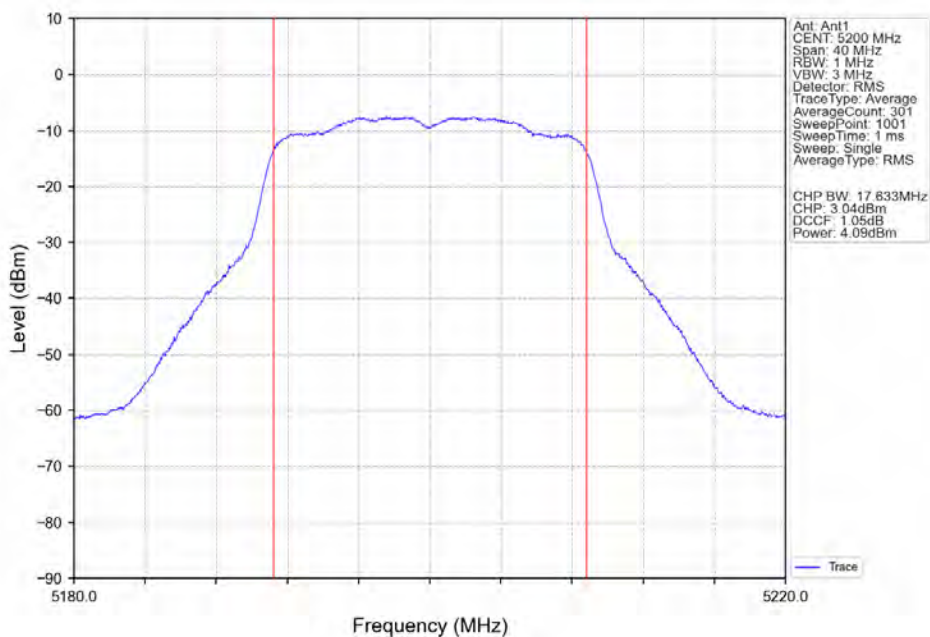
802.11a HCH 5240MHz Ant1 NTN



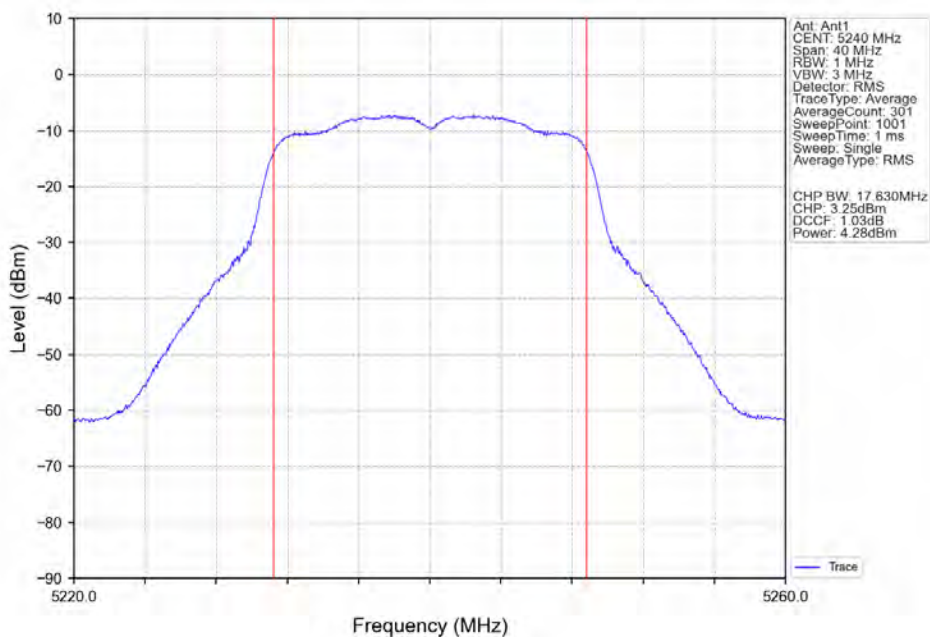
802.11n(HT20) LCH 5180MHz Ant1 NTN



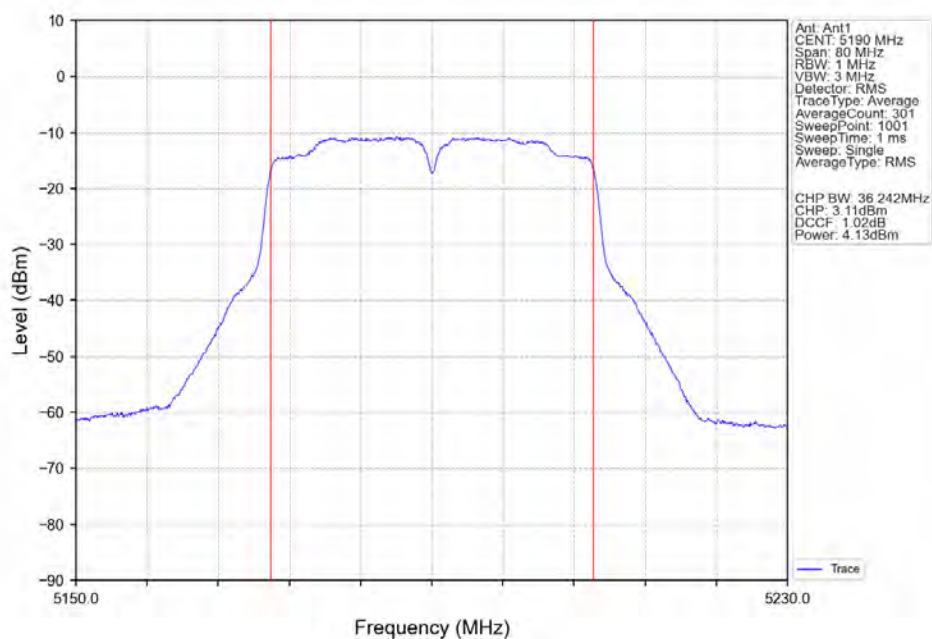
802.11n(HT20) MCH 5200MHz Ant1_NTNV



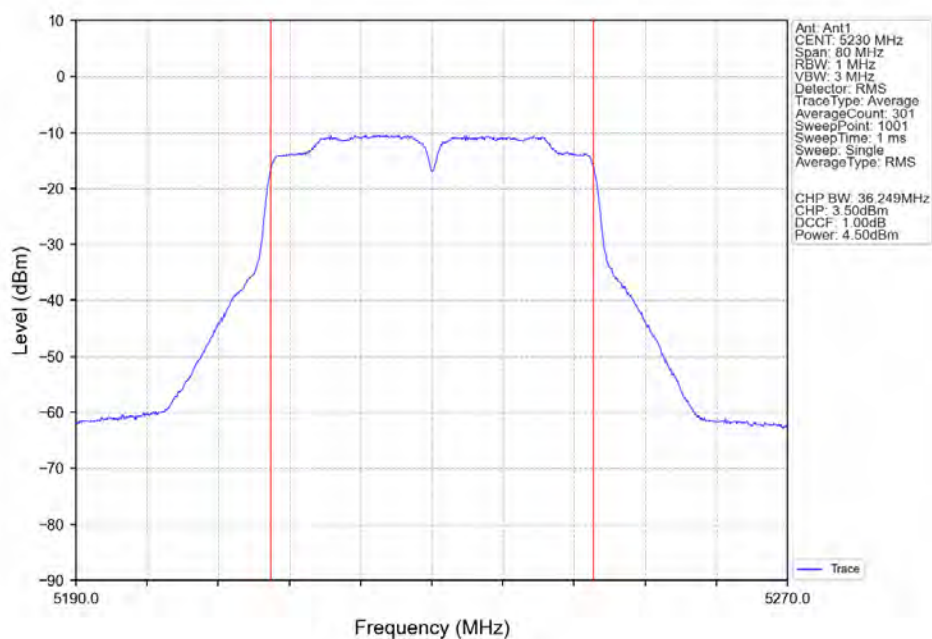
802.11n(HT20) HCH 5240MHz Ant1_NTNV



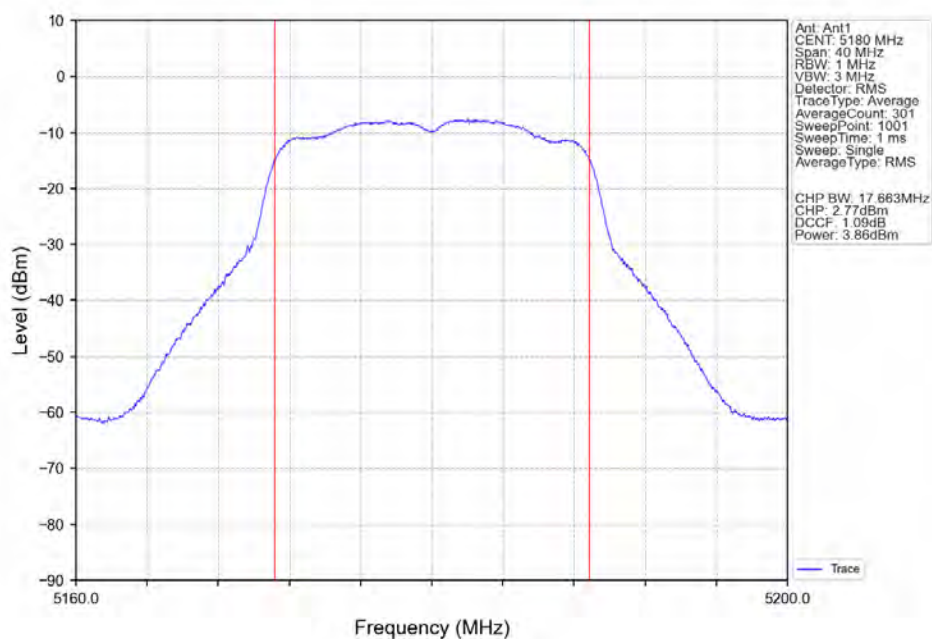
802.11n(HT40) LCH 5190MHz Ant1_NTNV



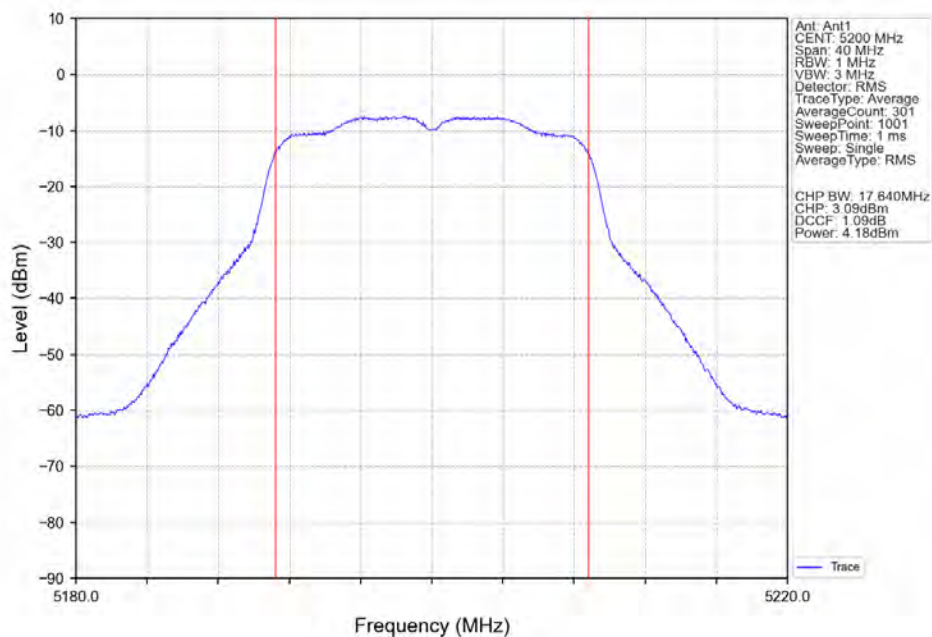
802.11n(HT40) HCH 5230MHz Ant1_NTNV



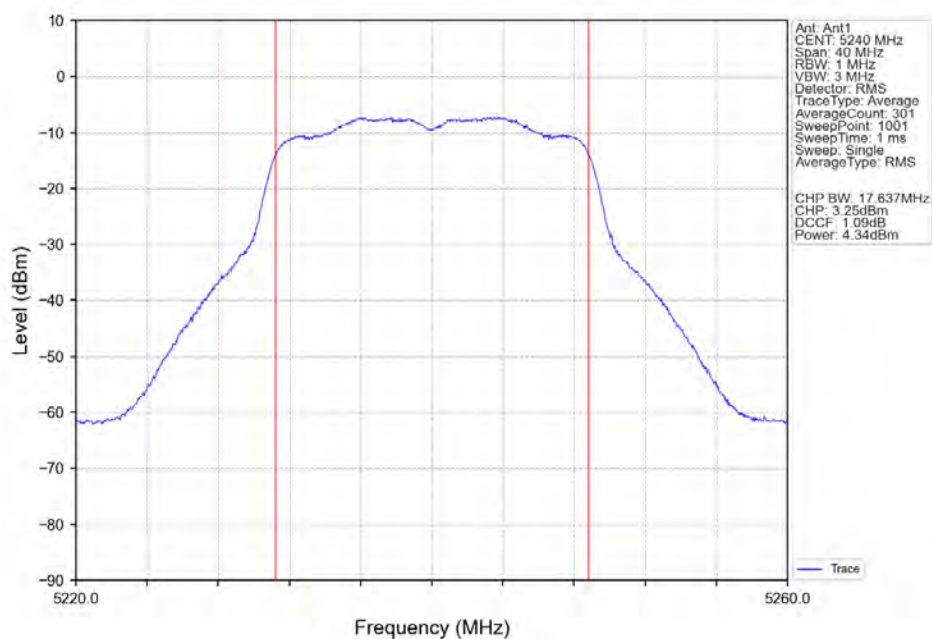
802.11ac(VHT20) LCH 5180MHz Ant1 NTN



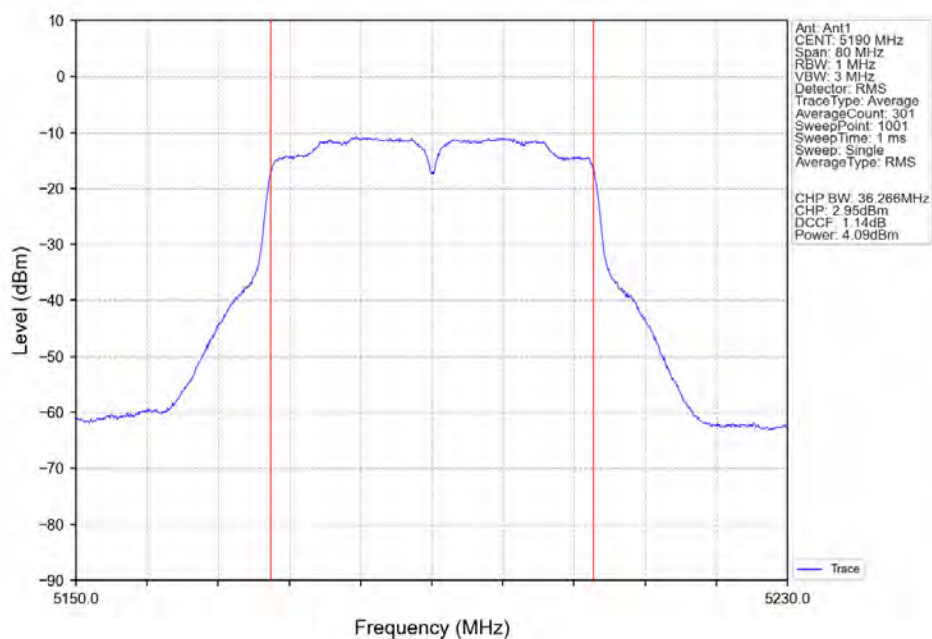
802.11ac(VHT20) MCH 5200MHz Ant1 NTN



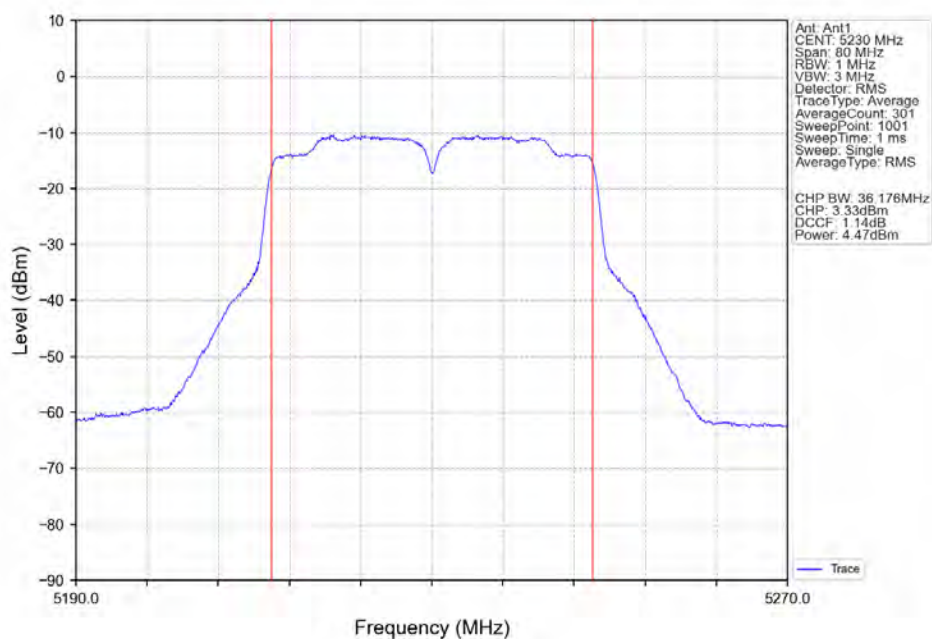
802.11ac(VHT20) HCH 5240MHz Ant1 NTN



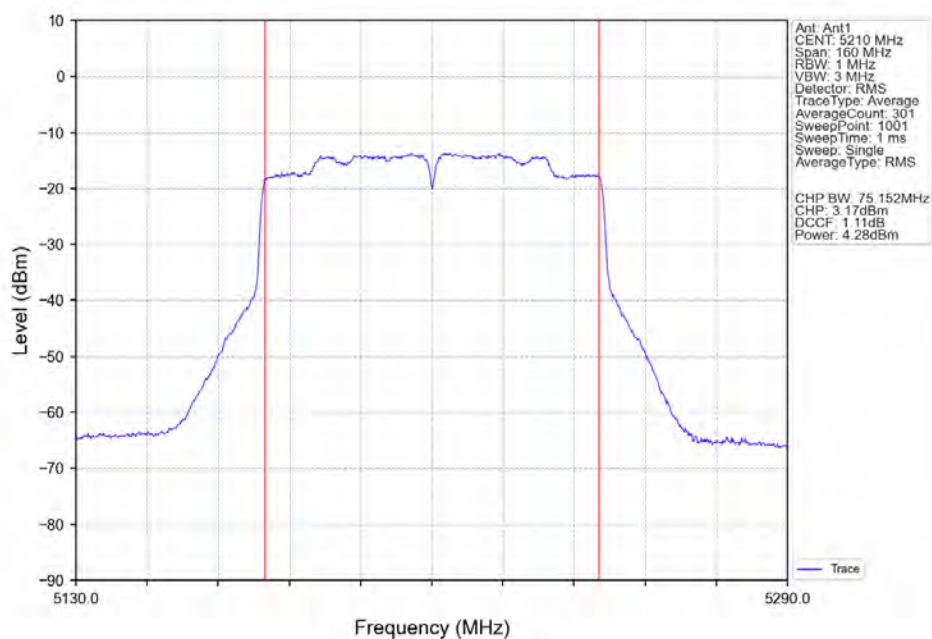
802.11ac(VHT40) LCH 5190MHz Ant1 NTN



802.11ac(VHT40) HCH 5230MHz Ant1 NTN



802.11ac(VHT80) MCH 5210MHz Ant1 NTN



4. Maximum Power Spectral Density

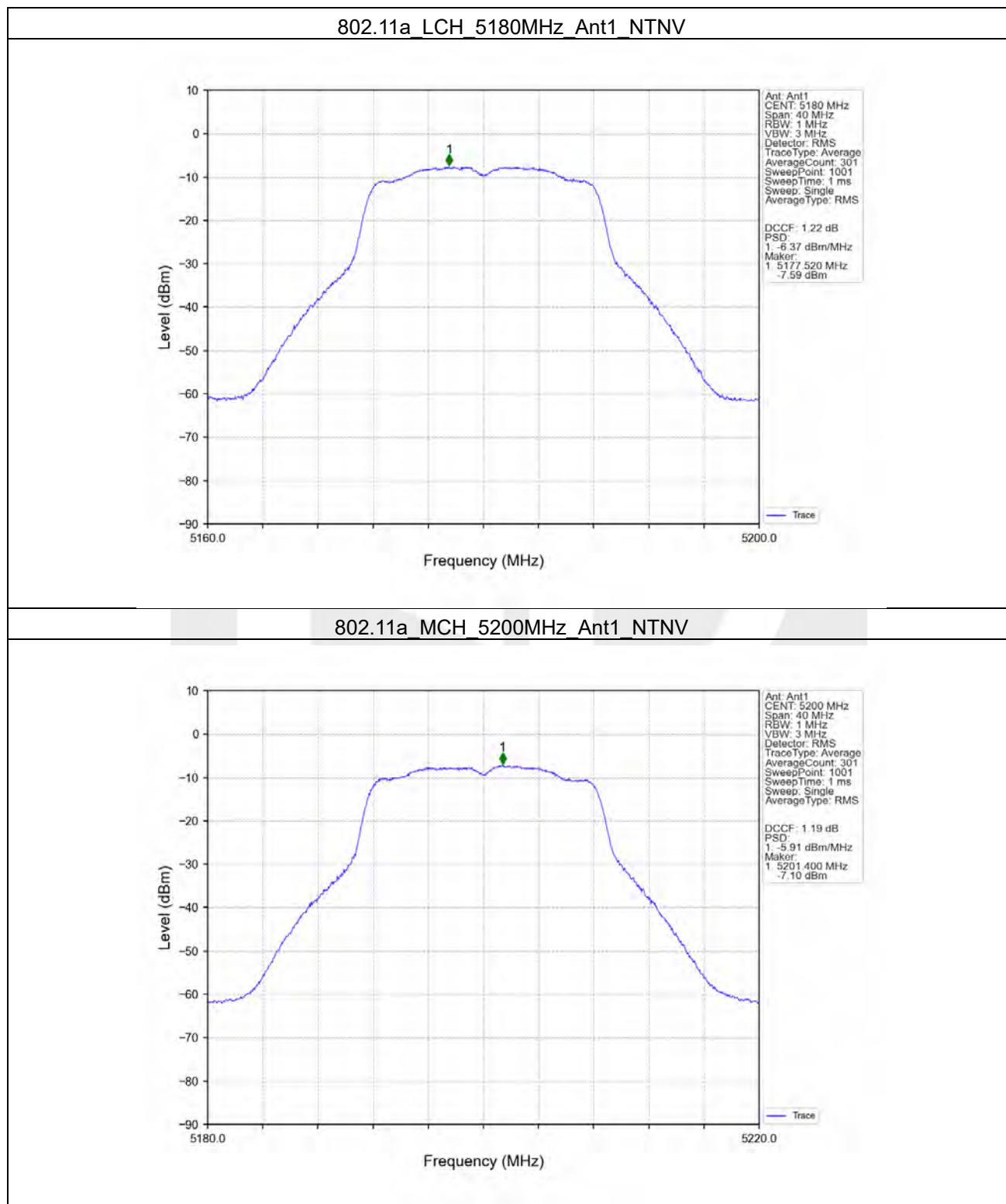
4.1 Test Result

4.1.1 PSD

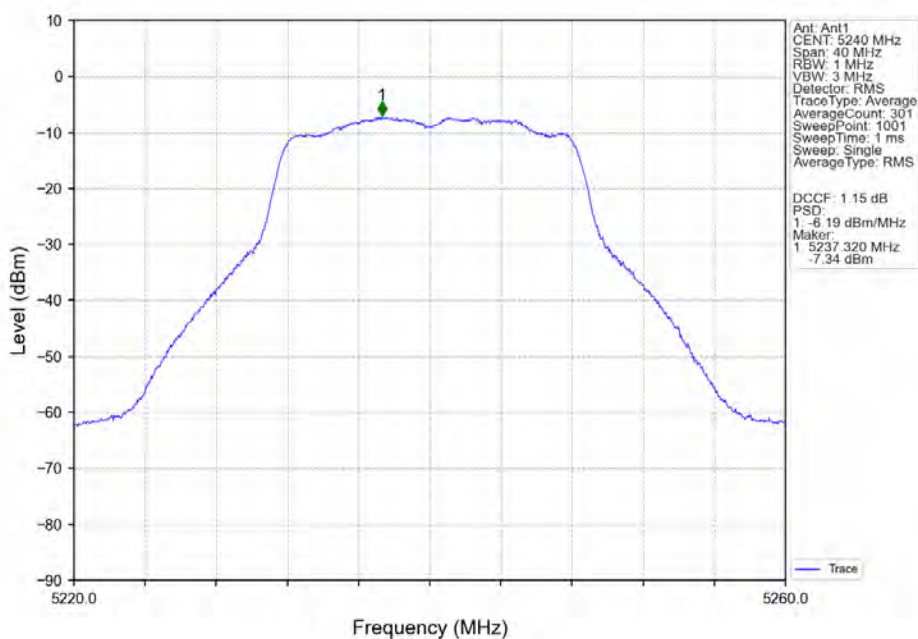
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	-6.37	≤ 11	Pass
		5200	-5.91	≤ 11	Pass
		5240	-6.19	≤ 11	Pass
802.11n (HT20)	SISO	5180	-6.56	≤ 11	Pass
		5200	-6.25	≤ 11	Pass
		5240	-6.26	≤ 11	Pass
802.11n (HT40)	SISO	5190	-9.49	≤ 11	Pass
		5230	-9.39	≤ 11	Pass
802.11ac (VHT20)	SISO	5180	-6.52	≤ 11	Pass
		5200	-6.28	≤ 11	Pass
		5240	-6.10	≤ 11	Pass
802.11ac (VHT40)	SISO	5190	-9.80	≤ 11	Pass
		5230	-9.37	≤ 11	Pass
802.11ac (VHT80)	SISO	5210	-12.40	≤ 11	Pass

4.2 Test Graph

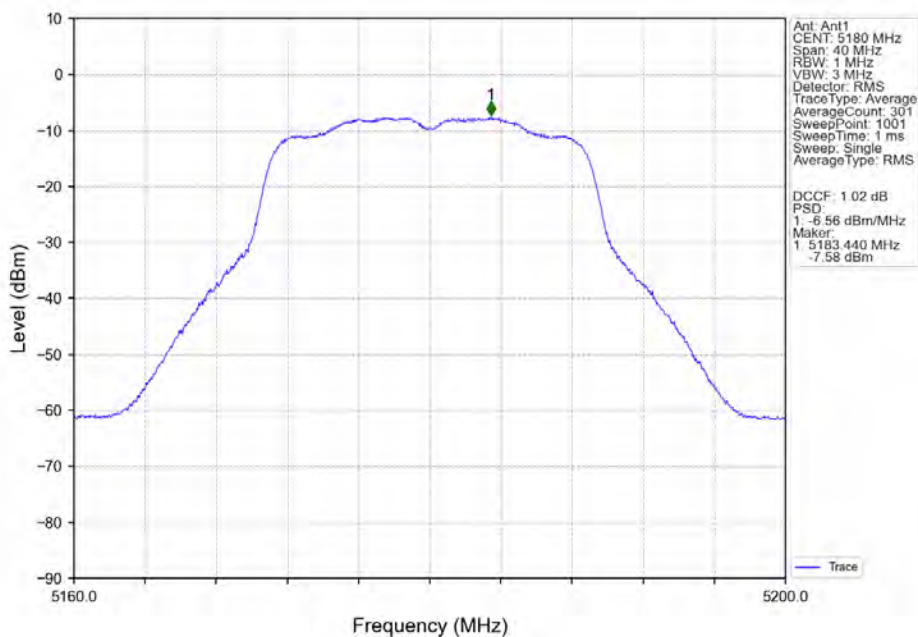
4.2.1 PSD



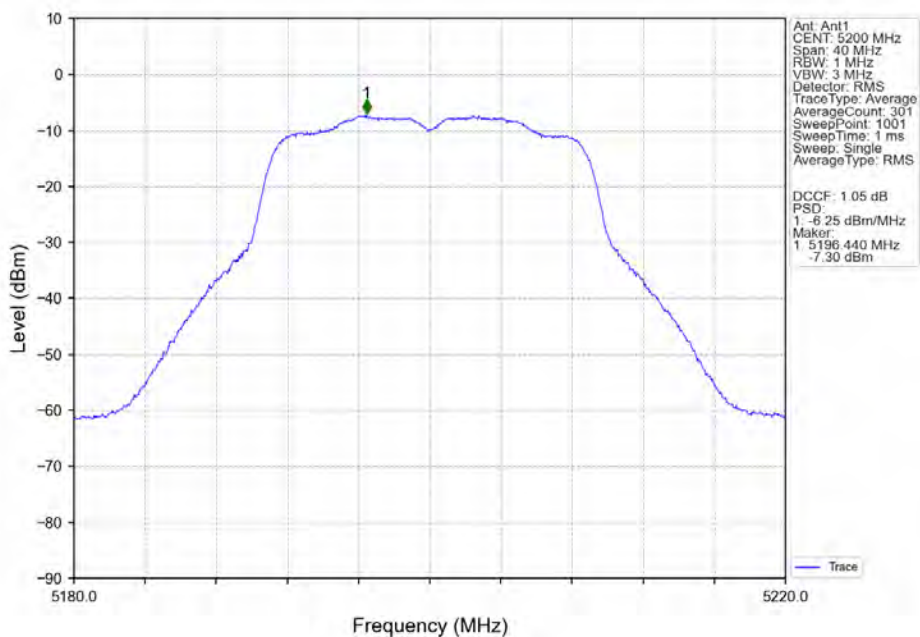
802.11a HCH 5240MHz Ant1 NTNV



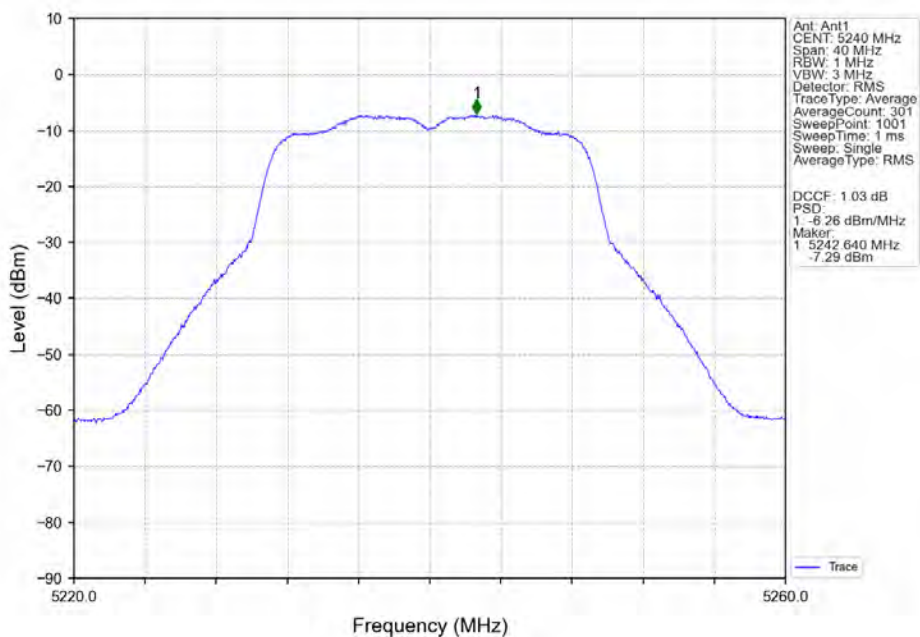
802.11n(HT20) LCH 5180MHz Ant1 NTNV



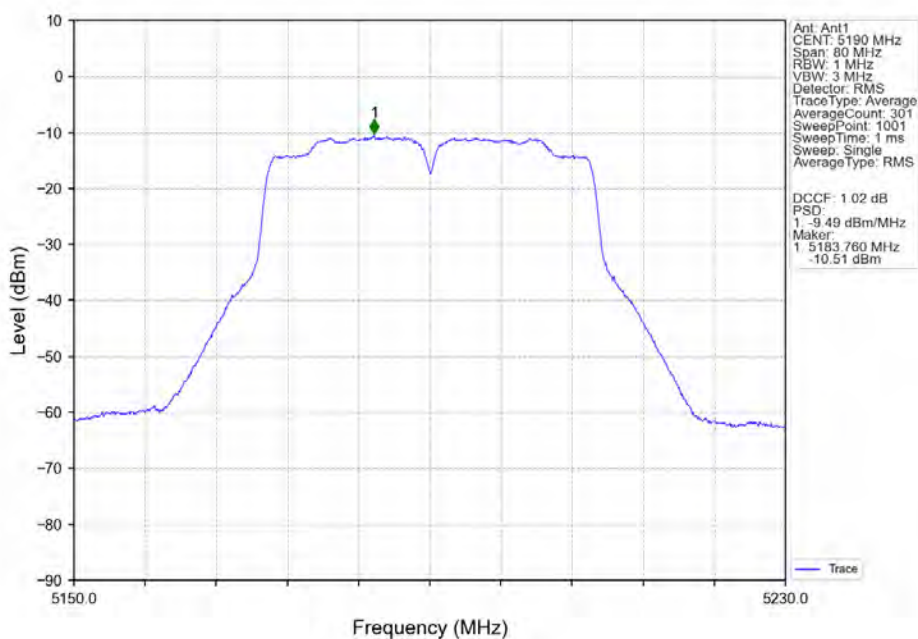
802.11n(HT20) MCH 5200MHz Ant1_NTNV



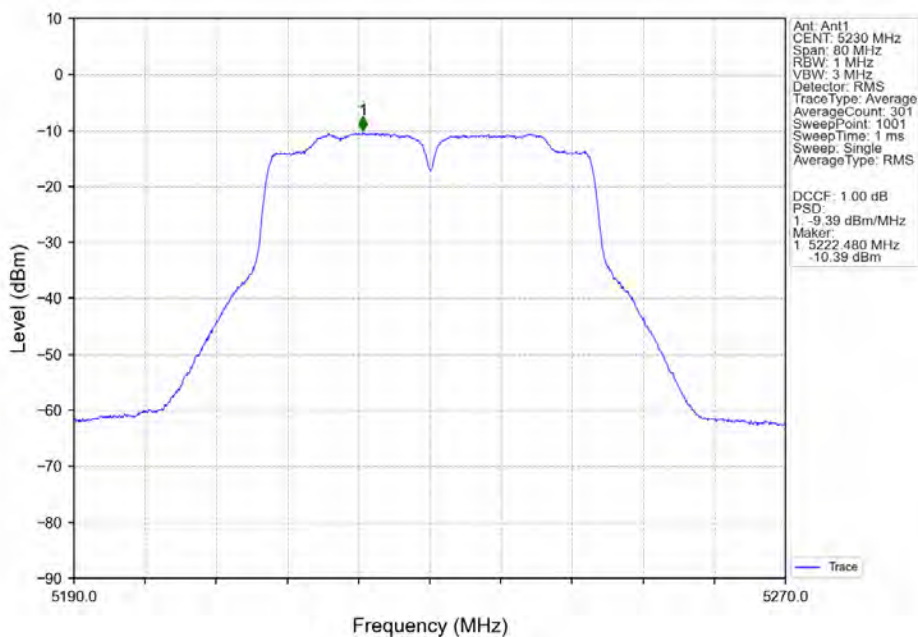
802.11n(HT20) HCH 5240MHz Ant1_NTNV



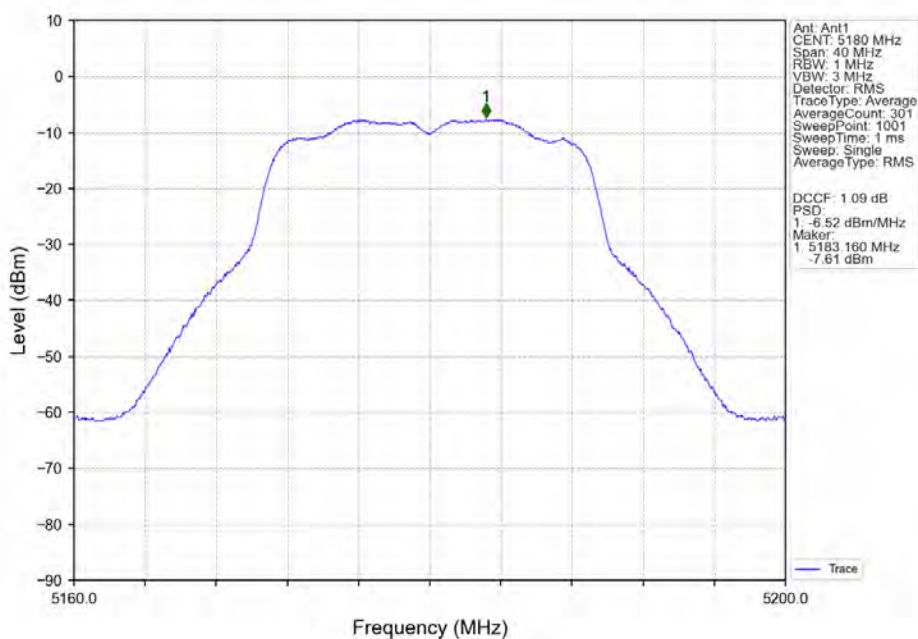
802.11n(HT40) LCH 5190MHz Ant1_NTNV



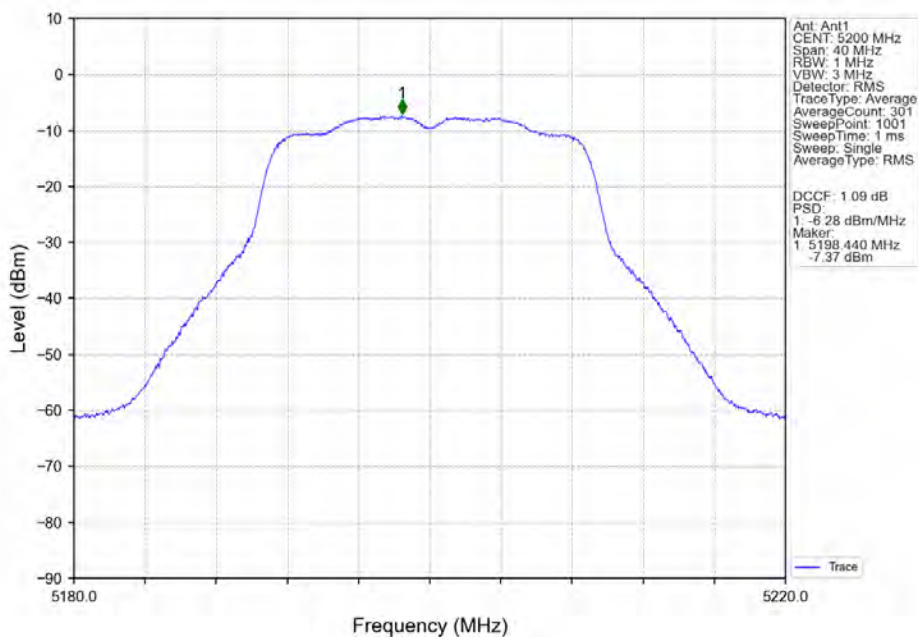
802.11n(HT40) HCH 5230MHz Ant1_NTNV



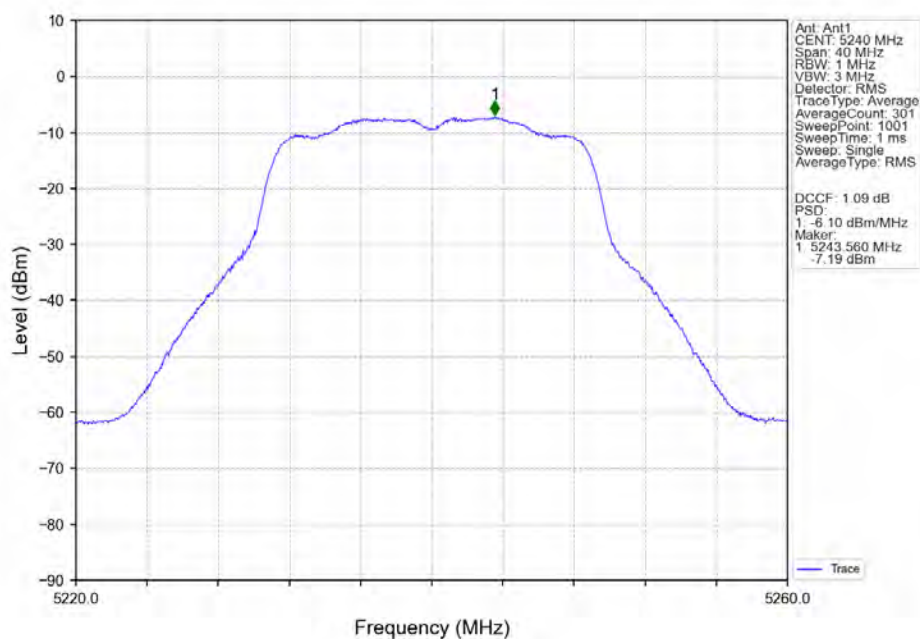
802.11ac(VHT20) LCH 5180MHz Ant1 NTN



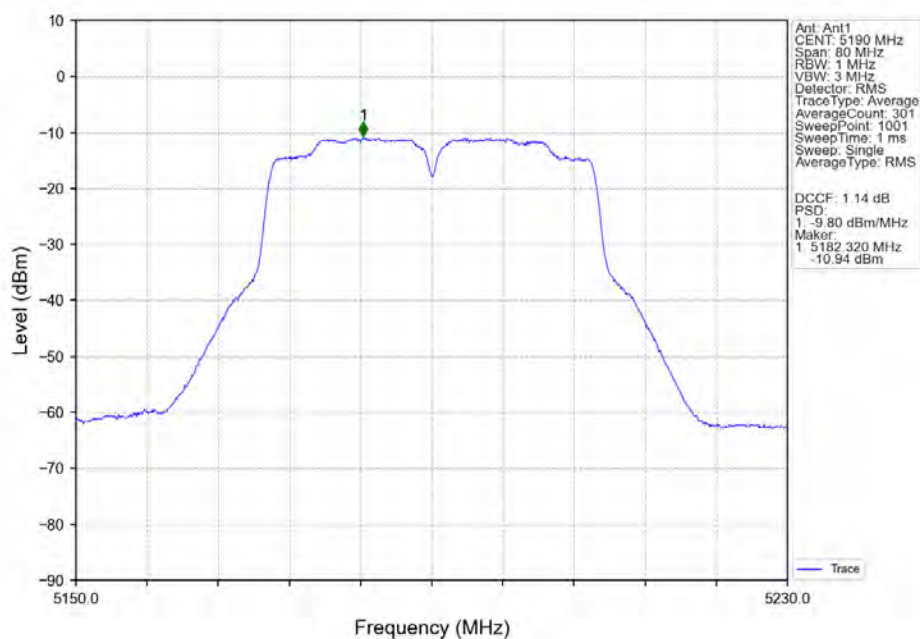
802.11ac(VHT20) MCH 5200MHz Ant1 NTN



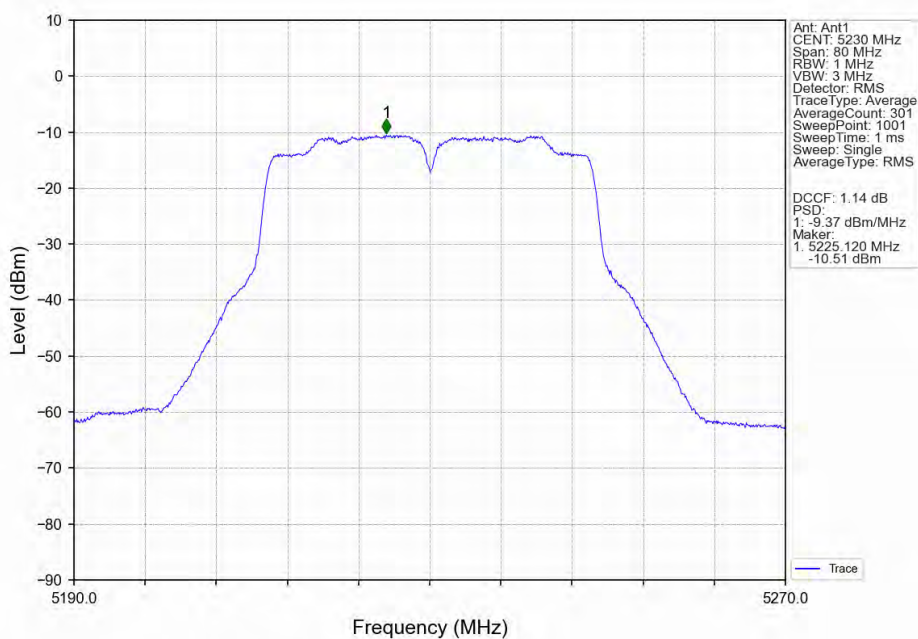
802.11ac(VHT20) HCH 5240MHz Ant1 NTN



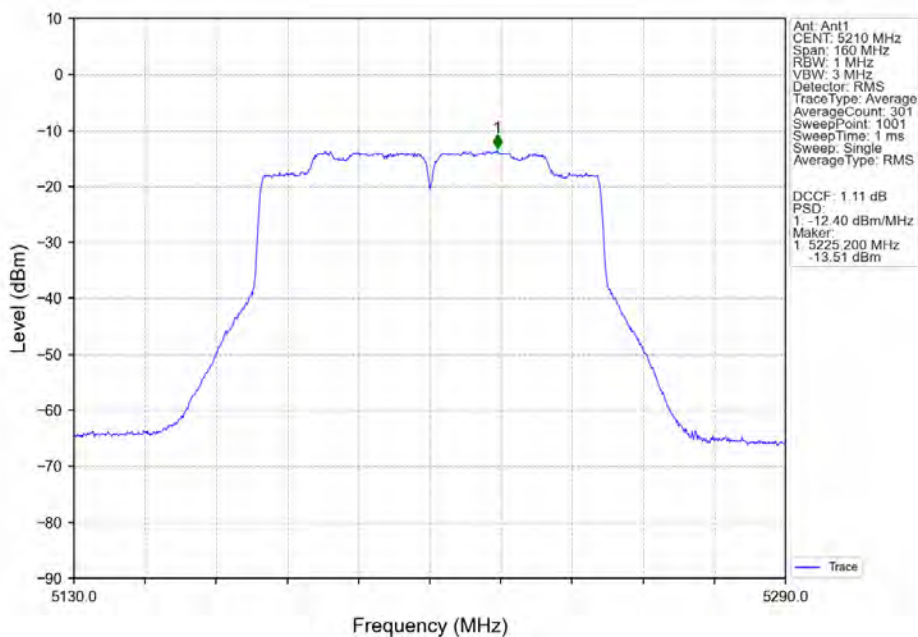
802.11ac(VHT40) LCH 5190MHz Ant1 NTN



802.11ac(VHT40) HCH 5230MHz Ant1 NTN



802.11ac(VHT80) MCH 5210MHz Ant1 NTN



5. Unwanted Emissions In Restricted Frequency Bands

5.1 Test Result

5.1.1 CSE

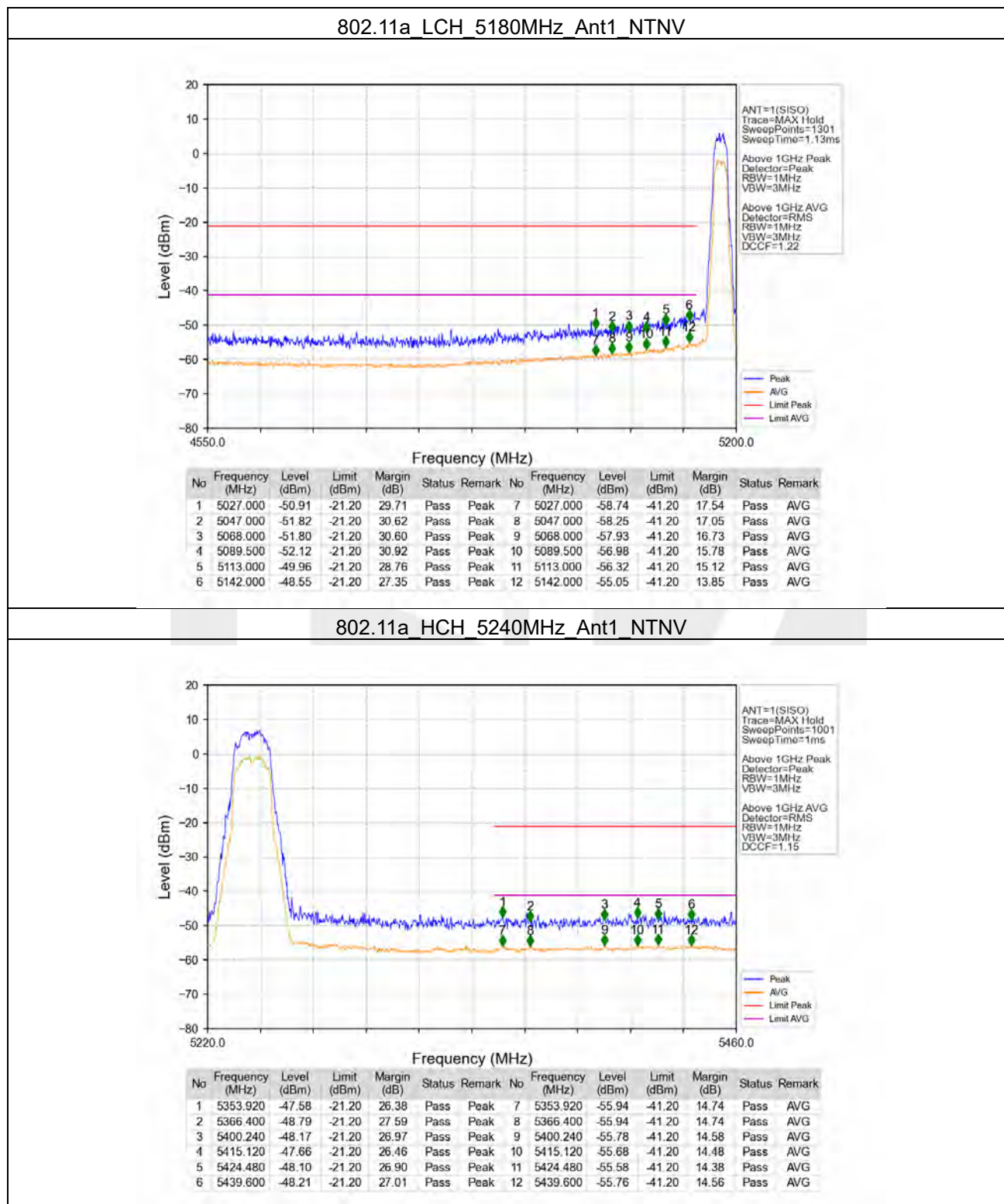
Mode	TX Type	Frequency (MHz)	ANT	Level of Unwanted Emissions (dBm)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	Refer To Test Graph		Pass
		5240	1	Refer To Test Graph		Pass
802.11n (HT20)	SISO	5180	1	Refer To Test Graph		Pass
		5240	1	Refer To Test Graph		Pass
802.11n (HT40)	SISO	5190	1	Refer To Test Graph		Pass
		5230	1	Refer To Test Graph		Pass
802.11ac (VHT20)	SISO	5180	1	Refer To Test Graph		Pass
		5240	1	Refer To Test Graph		Pass
802.11ac (VHT40)	SISO	5190	1	Refer To Test Graph		Pass
		5230	1	Refer To Test Graph		Pass
802.11ac (VHT80)	SISO	5210	1	Refer To Test Graph		Pass

Note:

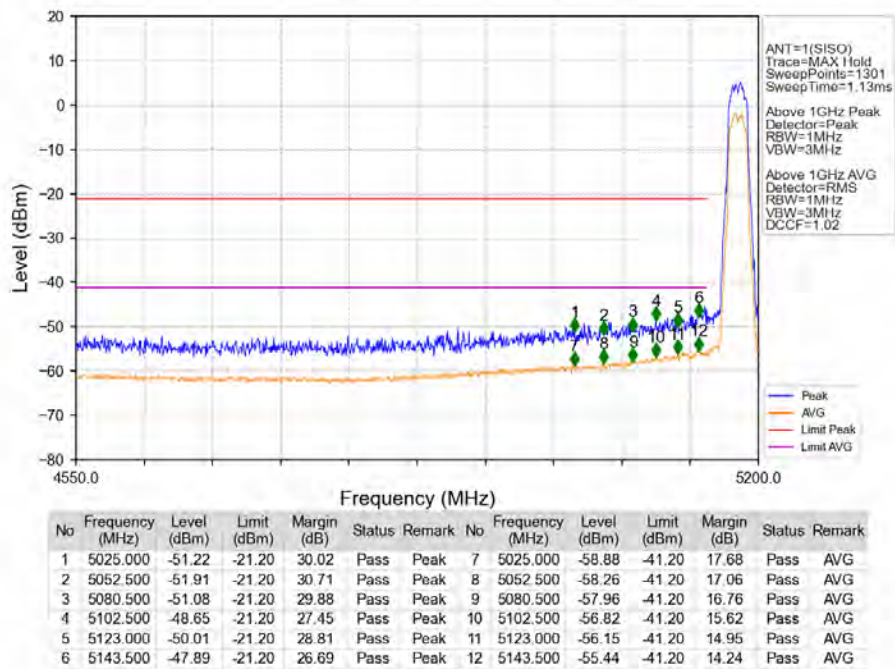
- 1) $EIRP[dBm] = E[dBuV/m] - 95.2$, for $d = 3\text{ m}$;
- 2) Level[dBm] results have calculated the antenna gain;
- 3) Antenna gain= U-NII-1: 5150 MHz to 5250 MHz: 5.53 dBi.

5.2 Test Graph

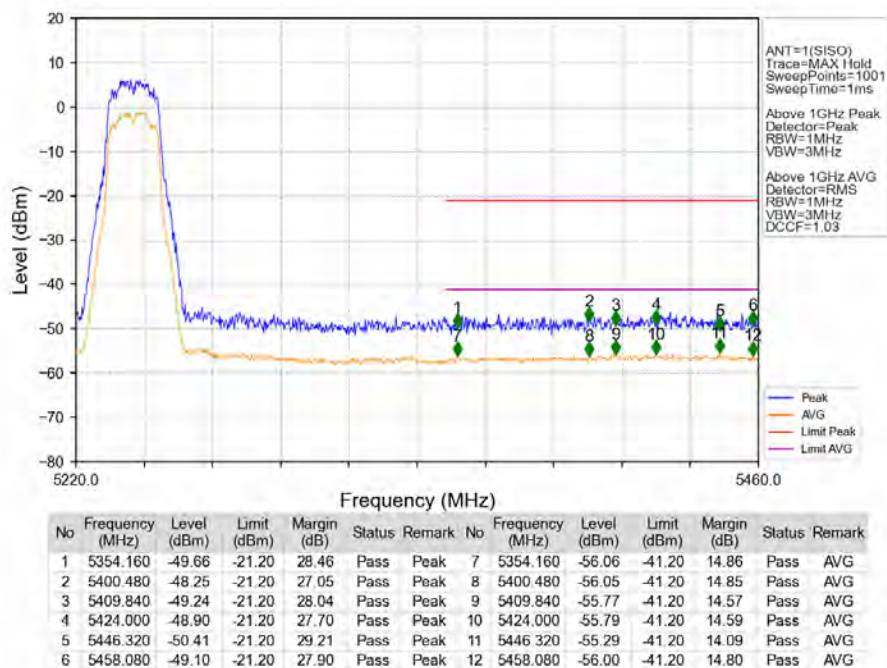
5.2.1 CSE



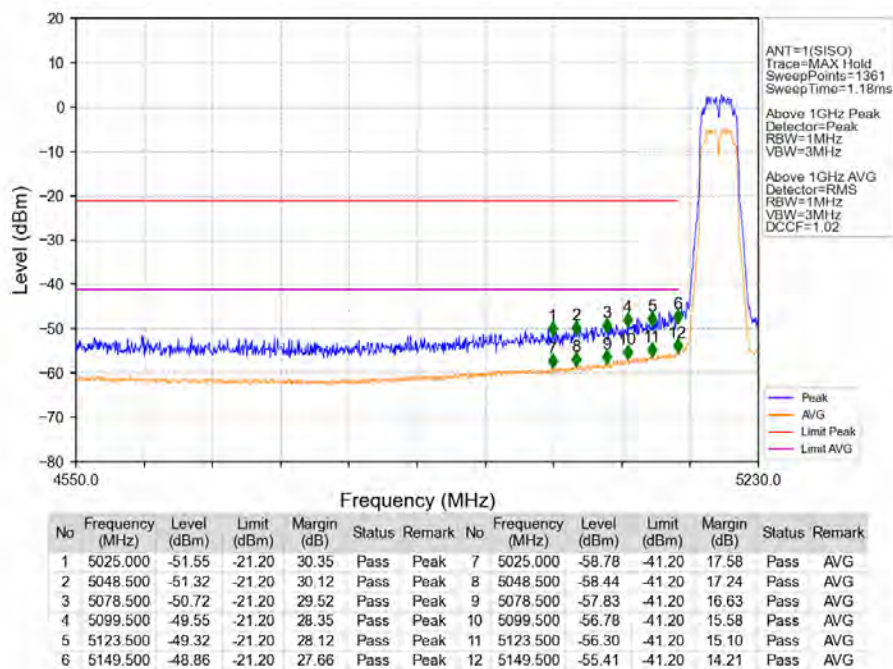
802.11n(HT20) LCH 5180MHz Ant1_NTNV



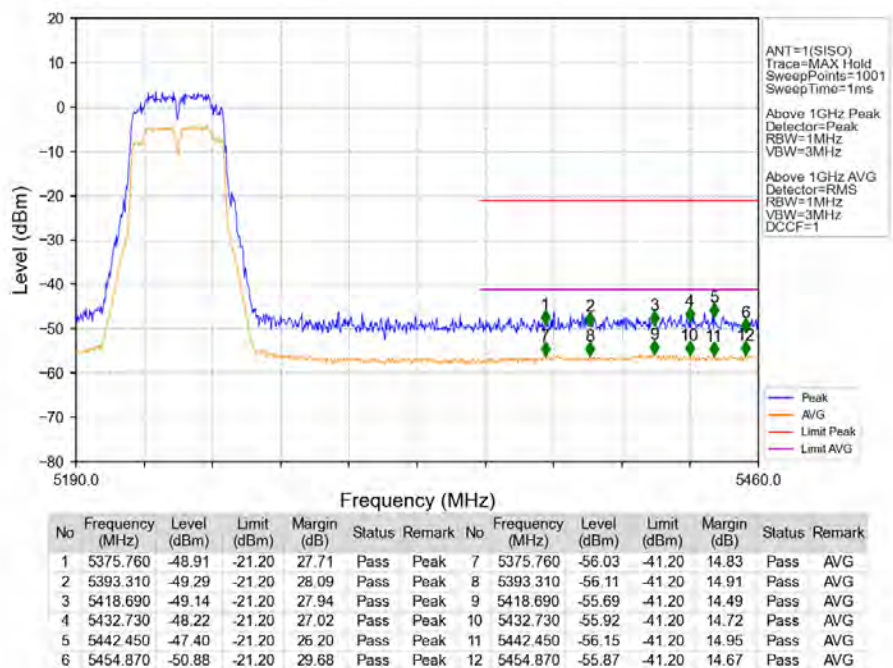
802.11n(HT20) HCH 5240MHz Ant1_NTNV



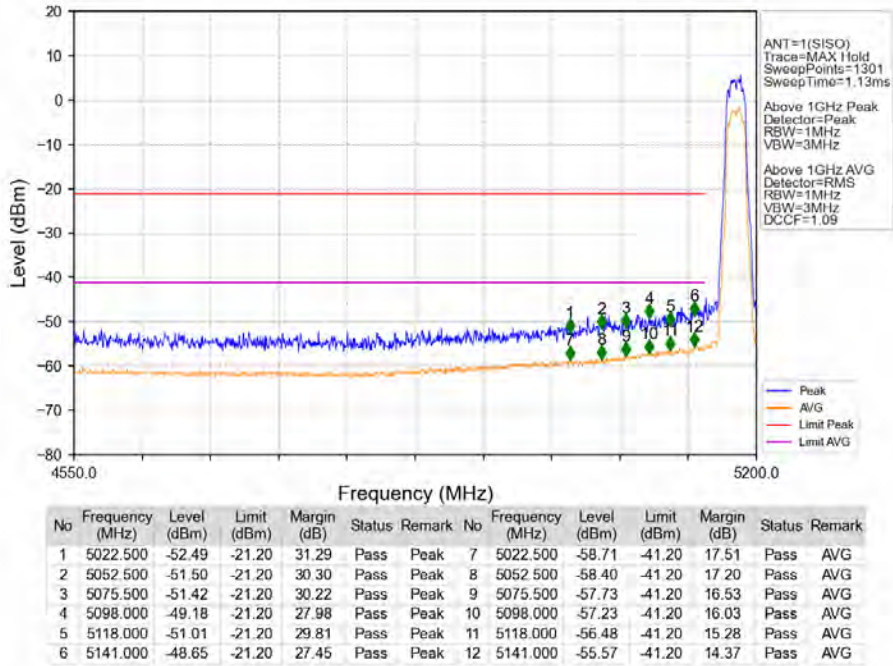
802.11n(HT40) LCH 5190MHz Ant1_NTNV



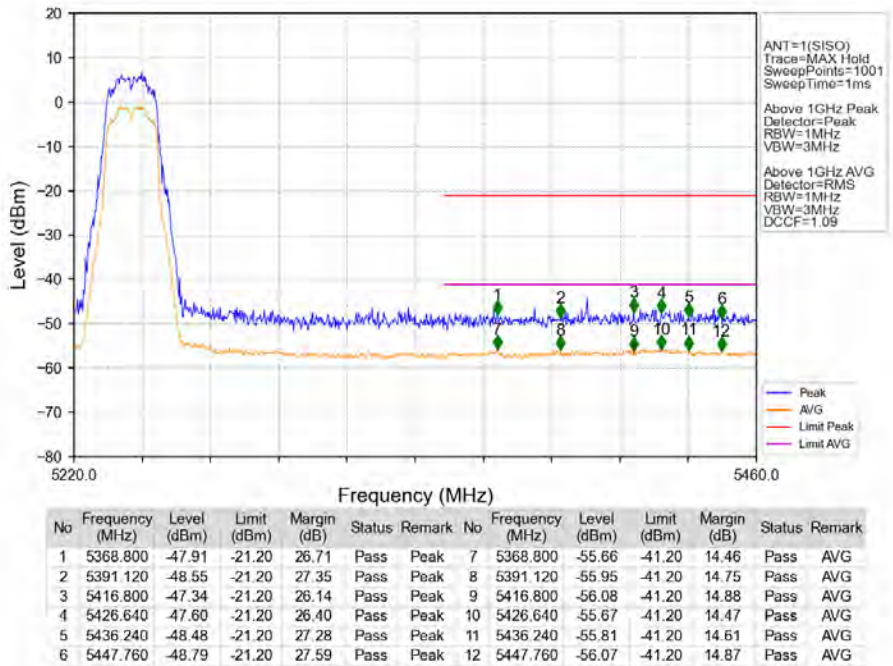
802.11n(HT40) HCH 5230MHz Ant1_NTNV



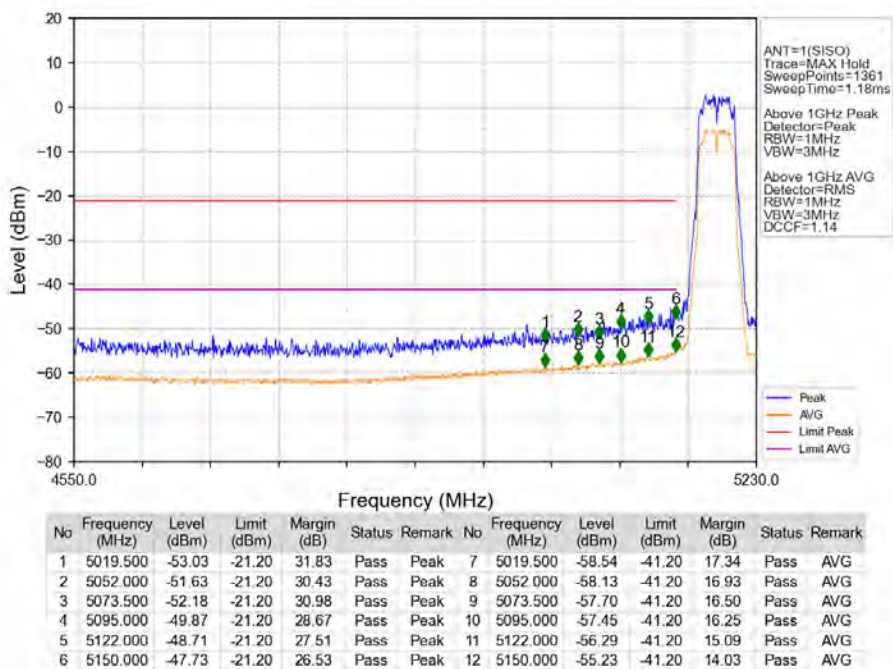
802.11ac(VHT20) LCH 5180MHz Ant1 NTN



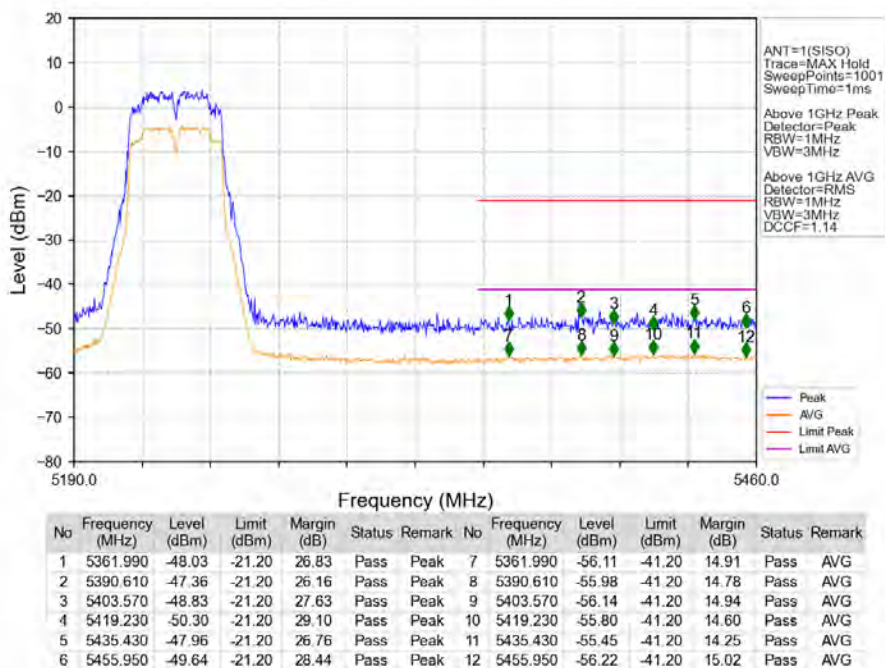
802.11ac(VHT20) HCH 5240MHz Ant1 NTN



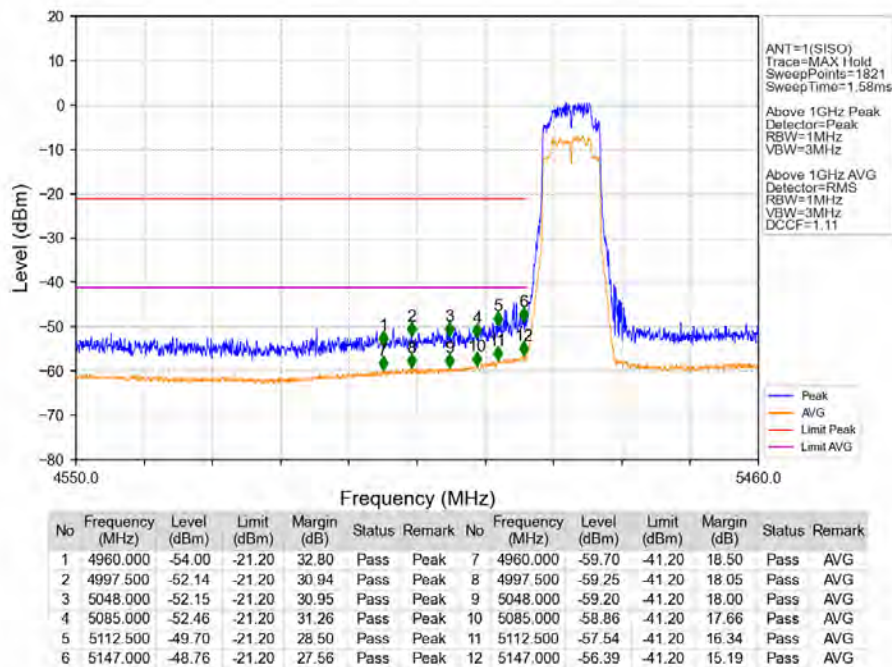
802.11ac(VHT40) LCH 5190MHz Ant1 NTN



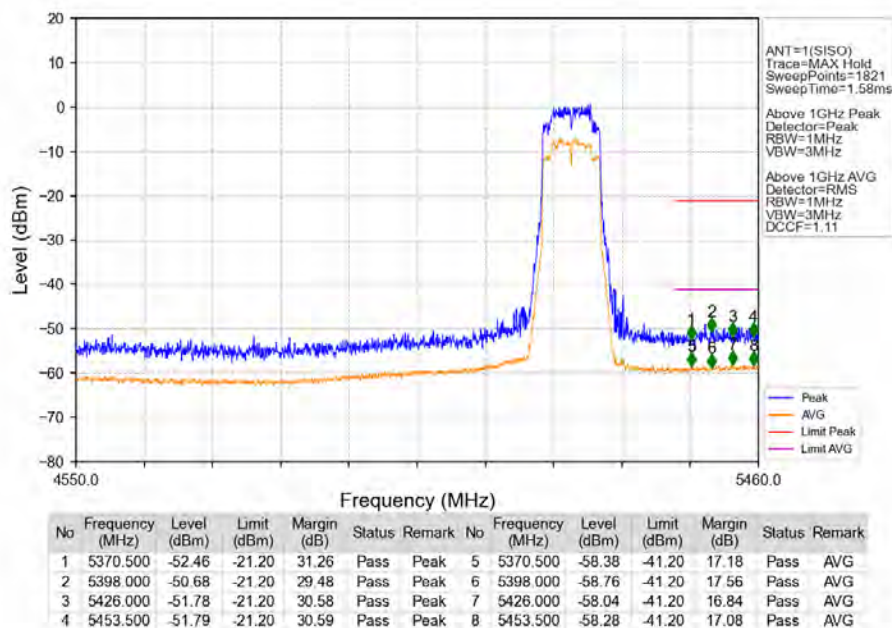
802.11ac(VHT40) HCH 5230MHz Ant1 NTN



802.11ac(VHT80) MCH_5210MHz Ant1 NTN



802.11ac(VHT80) MCH_5210MHz Ant1 NTN



6. Frequency Stability

6.1 Test Result

6.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage	Measured Frequency (MHz)	Limit (MHz)	Verdict
Carrier Wave	SISO	5180	20	LV	5179.990	5150 to 5250	Pass
				NV	5179.990	5150 to 5250	Pass
				HV	5179.991	5150 to 5250	Pass
			-30	NV	5179.991	5150 to 5250	Pass
			-20	NV	5179.995	5150 to 5250	Pass
			-10	NV	5179.994	5150 to 5250	Pass
			0	NV	5179.994	5150 to 5250	Pass
			10	NV	5179.994	5150 to 5250	Pass
			30	NV	5179.994	5150 to 5250	Pass
			40	NV	5179.994	5150 to 5250	Pass
			50	NV	5179.994	5150 to 5250	Pass
		5200	20	LV	5199.995	5150 to 5250	Pass
				NV	5199.995	5150 to 5250	Pass
				HV	5199.995	5150 to 5250	Pass
			-30	NV	5199.995	5150 to 5250	Pass
			-20	NV	5199.995	5150 to 5250	Pass
			-10	NV	5199.995	5150 to 5250	Pass
			0	NV	5199.995	5150 to 5250	Pass
			10	NV	5199.995	5150 to 5250	Pass
			30	NV	5199.996	5150 to 5250	Pass
			40	NV	5199.996	5150 to 5250	Pass
			50	NV	5199.996	5150 to 5250	Pass
		5240	20	LV	5239.996	5150 to 5250	Pass
				NV	5239.996	5150 to 5250	Pass
				HV	5239.996	5150 to 5250	Pass
			-30	NV	5239.996	5150 to 5250	Pass
			-20	NV	5239.996	5150 to 5250	Pass
			-10	NV	5239.996	5150 to 5250	Pass
			0	NV	5239.996	5150 to 5250	Pass
			10	NV	5239.996	5150 to 5250	Pass
			30	NV	5239.996	5150 to 5250	Pass
			40	NV	5239.996	5150 to 5250	Pass
			50	NV	5239.996	5150 to 5250	Pass
		5190	20	LV	5189.995	5150 to 5250	Pass

				NV	5189.995	5150 to 5250	Pass
				HV	5189.996	5150 to 5250	Pass
			-30	NV	5189.996	5150 to 5250	Pass
			-20	NV	5189.996	5150 to 5250	Pass
			-10	NV	5189.996	5150 to 5250	Pass
			0	NV	5189.996	5150 to 5250	Pass
			10	NV	5189.996	5150 to 5250	Pass
			30	NV	5189.996	5150 to 5250	Pass
			40	NV	5189.996	5150 to 5250	Pass
			50	NV	5189.996	5150 to 5250	Pass
		5230	20	LV	5229.995	5150 to 5250	Pass
				NV	5229.996	5150 to 5250	Pass
				HV	5229.996	5150 to 5250	Pass
			-30	NV	5229.996	5150 to 5250	Pass
			-20	NV	5229.996	5150 to 5250	Pass
			-10	NV	5229.996	5150 to 5250	Pass
			0	NV	5229.996	5150 to 5250	Pass
			10	NV	5229.996	5150 to 5250	Pass
			30	NV	5229.996	5150 to 5250	Pass
			40	NV	5229.996	5150 to 5250	Pass
			50	NV	5229.996	5150 to 5250	Pass
		5210	20	LV	5209.996	5150 to 5250	Pass
				NV	5209.996	5150 to 5250	Pass
				HV	5209.996	5150 to 5250	Pass
			-30	NV	5209.996	5150 to 5250	Pass
			-20	NV	5209.996	5150 to 5250	Pass
			-10	NV	5209.996	5150 to 5250	Pass
			0	NV	5209.996	5150 to 5250	Pass
			10	NV	5209.996	5150 to 5250	Pass
			30	NV	5209.996	5150 to 5250	Pass
			40	NV	5209.996	5150 to 5250	Pass
			50	NV	5209.996	5150 to 5250	Pass

STATEMENT

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