TEST REPORT
FCC ID: WQ8-DV2141

Report Number	ZKT-230914L7169E3
Date of Test	Aug. 30, 2023 – Sep. 25 2023
Date of issue	Oct. 17, 2023
Total number of pages	568
Test Result	PASS

Testing Laboratory.	**Shenzhen ZKT Technology Co., Ltd.**
Address	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name	**Autel Intelligent Technology Corp., Ltd.**
Address	Floor 2, Caihong Keji Building, 36 Hi-tech North Six Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City, China

Manufacturer's name	**Autel Intelligent Technology Corp., Ltd.**
Address	Floor 2, Caihong Keji Building, 36 Hi-tech North Six Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City, China

Test specification:	
Standard	FCC CFR Title 47 Part 15 Subpart C Section 15.407 ANSI C63.10:2013 KDB 789033 D02 v01r02
Test procedure	/
Non-standard test method	N/A

Test Report Form No.	TRF-EL-113_V0
Test Report Form(s) Originator	ZKT Testing
Master TRF	Dated: 2020-01-06

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Product name	**ADVANCED DIAGNOSTIC & MEASUREMENT SYSTEM**
Trademark	AUTEL
Model/Type reference	MaxiSys Ultra, MaxiSys Ultra EV, MaxiSys Ultra ADAS, MaxiCOM Ultra Lite, MaxiCOM Ultra Lites
Ratings	Input: 12V⎓ 3A Battery: 3.8V⎓ 18000mAh, 68.4Wh

Testing procedure and testing location:

Testing Laboratory ..... :	Shenzhen ZKT Technology Co., Ltd.
Address ..... :	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Tested by (name + signature) ..... :	Jim Liu
Reviewer (name + signature)..... :	Alan Zheng
Approved (name + signature) ..... :	Lake Xie

Table of Contents Page

1. VERSION 5

2.SUMMARY OF TEST RESULTS 6

2.1 TEST FACILITY 7

2.2 MEASUREMENT UNCERTAINTY 7

3. GENERAL INFORMATION 8

3.1 GENERAL DESCRIPTION OF EUT 8

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED 12

3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE) 12

3.5 EQUIPMENTS LIST FOR ALL TEST ITEMS 13

4.EMC EMISSION TEST 15

4.1 CONDUCTED EMISSION MEASUREMENT 15

4.1.1 POWER LINE CONDUCTED EMISSION LIMITS 15

4.1.2 TEST PROCEDURE 15

4.1.3 DEVIATION FROM TEST STANDARD 15

4.1.4 TEST SETUP 16

4.1.5 EUT OPERATING CONDITIONS 16

4.2 RADIATED EMISSION MEASUREMENT 19

4.2.1 APPLICABLE STANDARD 19

4.2.2 CONFORMANCE LIMIT 19

4.2.3 MEASURING INSTRUMENTS 19

4.2.4 TEST CONFIGURATION 20

4.2.5 TEST PROCEDURE 21

4.2.6 TEST RESULT 22

5.POWER SPECTRAL DENSITY TEST 37

5.1 APPLIED PROCEDURES / LIMIT 37

5.2 TEST PROCEDURE 38

5.3 DEVIATION FROM STANDARD 38

5.4 TEST SETUP 38

5.5 EUT OPERATION CONDITIONS 38

5.6 TEST RESULTS 39

6. 26DB & 6DB & 99% EMISSION BANDWIDTH 133

6.1 APPLIED PROCEDURES / LIMIT 133

6.2 TEST PROCEDURE 133

6.3 EUT OPERATION CONDITIONS 134

6.4 TEST RESULTS 134

7.MAXIMUM CONDUCTED OUTPUT POWER 133

7.1 PPLIED PROCEDURES / LIMIT 311

Table of Contents Page

7.2 TEST PROCEDURE 311
7.3 DEVIATION FROM STANDARD 312
7.4 TEST SETUP 312
7.5 EUT OPERATION CONDITIONS 312
7.6 TEST RESULTS 312

8.OUT OF BAND EMISSIONS 495
8.1 APPLICABLE STANDARD 495
8.2 TEST PROCEDURE 495
8.3 DEVIATION FROM STANDARD 495
8.4 TEST SETUP 495
8.5 EUT OPERATION CONDITIONS 496
8.6 TEST RESULTS 496

9.SPURIOUS RF CONDUCTED EMISSIONS 507
9.1 CONFORMANCE LIMIT 507
9.2 MEASURING INSTRUMENTS 507
9.3 TEST SETUP 507
9.4 TEST PROCEDURE 507
9.5 TEST RESULTS 507

10.FREQUENCY STABILITY MEASUREMENT 508
10.1 LIMIT 514
10.2 TEST PROCEDURES 514
10.3 TEST SETUP LAYOUT 514
10.4 EUT OPERATION DURING TEST 514
10.5 TEST RESULTS 514

11.ANTENNA REQUIREMENT 567

12. TEST SETUP PHOTO 568

13. EUT CONSTRUCTIONAL DETAILS 568

1. VERSION

Report No.	Version	Description	Approved
ZKT-230914L7169E3	Rev.01	Initial issue of report	Oct. 17, 2023

2.SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.407) , Subpart E RSS-247 Issue 2			
Standard Section	Test Item	Judgment	Remark
FCC part 15.209(a), FCC part 15.407 (b)(1) FCC part 15.407 (b)(4) FCC part 15.407 (b)(8)	Spurious Radiated Emissions	PASS	
FCC part 15.207	Conducted Emission	PASS	
FCC part 15.407 (a)(12) 15.1049	99% Emission Bandwidth	PASS	
FCC part 15.407(e)	6 dB bandwidth	PASS	
FCC part 15.407 (a)(1) FCC part 15.407 (a)(3)	Maximum Conducted Output Power	PASS	
2.1051, FCC part 15.407(b)(1) FCC part 15.407(b)(4)	Band Edge	PASS	
FCC part 15.407 (a)(1) FCC part 15.407 (a)(3)	Power Spectral Density	PASS	
2.1051, FCC part 15.407(b)	Spurious Emissions at Antenna Terminals	PASS	
FCC part 15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

2.1 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.
Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225
Designation Number: CN1299
IC Registered No.: 27033
Designation Number: CN0110

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U，where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2，providing a level of confidence of approximately 95 %。

No.	Item	Uncertainty
1	3m camber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
3	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
4	Conducted Adjacent channel power	U=1.38dB
5	Conducted output power uncertainty Above 1G	U=1.576dB
6	Conducted output power uncertainty below 1G	U=1.28dB
7	humidity uncertainty	U=5.3%
8	Temperature uncertainty	U=0.59℃
9	Radiated disturbance(30MHz-1000MHz)	U=4.8dB
10	Radiated disturbance(1GHz-6GHz)	U=4.9dB
11	Radiated disturbance(1GHz-18GHz)	U=5.0dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	ADVANCED DIAGNOSTIC & MEASUREMENT SYSTEM
Model No.:	MaxiSys Ultra
Series number:	MaxiSys Ultra EV, MaxiSys Ultra ADAS, MaxiCOM Ultra Lite, MaxiCOM Ultra Lites
Model Different.:	All models are same with electrical parameters and internal circuit structure, but only differ in model name. (this information provided by the customer)
Hardware Version:	DV2141_MAIN_V5
Software Version:	V01.01.00
Sample ID	ZKT-230914L7169E-1
Sample(s) Status:	Engineer sample
Product Description	IEEE 802.11 WLAN Mode Supported: ☒802.11a/n/ac/ax (20MHz channel bandwidth) ☒802.11n/ac/ax (40MHz channel bandwidth) ☒802.11ac/ax (80MHz channel bandwidth) Data Rate: 802.11a: 54/ 48/ 36/ 24/ 18/ 12/ 9/ 6 Mbps; 802.11n: up to 150 Mbps; 802.11ac: up to VHT-MCS9; 802.11ax up to 1021 Mbps Modulation: 1024QAM, 256QAM, 64QAM, 16QAM, BPSK, QPSK Operating Frequency Range: U-NII-1: 5150 MHz to 5250 MHz; U-NII-3: 5725 MHz to 5850 MHz Number of Channels: 802.11a: 20 MHz; 802.11n: 20 MHz, 40 MHz; 802.11ac: 20 MHz, 40 MHz, 80 MHz; 802.11ax: 20 MHz, 40 MHz, 80 MHz
Channel List	Please refer to the Note 2.
Antenna Type:	PIFA Antenna
Antenna gain:	WiFi Module 1: Samsung S621 Antenna 1 (CoreWIFI 1): U-NII-1 WIFI: 3.3 dBi U-NII-3 WIFI: 3.4 dBi Antenna 2 (CoreWIFI 2): U-NII-1 WIFI: 2.6 dBi U-NII-3 WIFI: 5.2 dBi WiFi Module 2: AMPAK AP6275PR3 Antenna 3 (VciWIFI 2): U-NII-1 WIFI: 2.5 dBi U-NII-3 WIFI: 3.5 dBi Antenna 4 (VciWIFI 1): U-NII-1 WIFI: 2.4 dBi U-NII-3 WIFI: 4.8 dBi
Power supply:	AC 120V, 60Hz/AC 240V, 60Hz DC 3.8V via Battery
Switching power adapter:	AC 100-240V, 50/60Hz

Note:

For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

For U-NII-1 WiFi:

Total directional gain	Module 1 ANT1+ANT2	Correlated: 5.97 dBi Formulas: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /NANT] dBi Uncorrelated: 2.96 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi
	Module 2 ANT3+ANT4	Correlated: 5.46 dBi Formulas: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /NANT] dBi Uncorrelated: 2.45 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi
	Module 1+ Module 2	Uncorrelated: 5.72 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi

For U-NII-3 WiFi:

Total directional gain	Module 1 ANT1+ANT2	Correlated: 7.36 dBi Formulas: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /NANT] dBi Uncorrelated: 4.39 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi
	Module 2 ANT3+ANT4	Correlated: 7.18 dBi Formulas: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /NANT] dBi Uncorrelated: 4.20 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi
	Module 1+ Module 2	Uncorrelated: 7.27 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi

802.11a/n/ac/ax(20MHz) Frequency Channel			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	149	5745
44	5220	157	5785
48	5240	165	5825

802.11n/ac/ax(40MHz) Frequency Channel			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	151	5755
46	5230	159	5795

802.11ac/ax(80MHz) Frequency Channel	
Channel	Frequency (MHz)
42	5210
155	5775

3.2 DESCRIPTION OF TEST MODES

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: During the test, the duty cycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

Pretest Mode	Description
Mode 1	802.11a / n20 / ac20 / ax20 CH36/ CH44/ CH48/ CH149/ CH157/ CH165
Mode 2	802.11n 40 / ac40 / ax40 CH38/ CH46/ CH151/ CH159
Mode 3	802.11 ac80 / ax80 CH42/ CH155
Mode 4	Link Mode

Conducted Emission	
Final Test Mode	Description
Mode 4	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11a / n20 / ac20 / ax20 CH36/ CH44/ CH48/ CH149/ CH157/ CH165
Mode 2	802.11n 40 / ac40 / ax40 CH38/ CH46/ CH151/ CH159
Mode 3	802.11 ac80 / ax80 CH42/ CH155

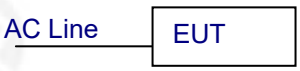
Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

Test Software	Realtek Test Tool
Power level setup	<8dBm

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission



Radiated Emission

Conducted Spurious

3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	ADVANCED DIAGNOSTIC & MEASUREMENT SYSTEM	AUTEL	MaxiSys Ultra	N/A	EUT
A-1	MaxiFlash LVCI	AUTEL	MaxiFlash LVCI	N/A	Auxiliary
A-2	Adapter	AUTEL	N/A	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

3.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation emissions& Radio Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	9020A	MY55370835	A.17.05	Oct. 28, 2022	Oct. 27, 2023
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Oct. 28, 2022	Oct. 27, 2023
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	101169	4.32	Oct. 28, 2022	Oct. 27, 2023
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	N/A	N/A	Nov. 02, 2022	Nov. 01, 2023
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Nov. 01, 2022	Oct. 31, 2023
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Oct. 28, 2022	Oct. 27, 2023
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Nov. 01, 2022	Oct. 31, 2023
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	060747	N/A	Nov. 15, 2022	Nov. 14, 2023
9	Amplifier (1GHz-26.5GHz)	Agilent	8449B	3008A00315	N/A	Oct. 28, 2022	Oct. 27, 2023
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Oct. 28, 2022	Oct. 27, 2023
11	Test Cable	N/A	R-01	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
12	Test Cable	N/A	R-02	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
13	Test Cable	N/A	R-03	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
14	Test Cable	N/A	RF-01	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
15	Test Cable	N/A	RF-02	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
16	Test Cable	N/A	RF-03	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
17	ESG Signal Generator	Agilent	E4421B	N/A	B.03.84	Oct. 21, 2022	Oct. 20, 2023
18	Signal Generator	Agilent	N5182A	N/A	A.01.87	Oct. 21, 2022	Oct. 20, 2023
19	Magnetic Field Probe Tester	Narda	ELT-400	0-0344	N/A	Nov. 15, 2022	Nov. 14, 2023
20	Wideband Radio Communication Test	R&S	CMW500	106504	V 3.7.22	Oct. 28, 2022	Oct. 27, 2023
21	MWRF Power Meter Test system	MW	MW100-RF CB	N/A	N/A	Oct. 21, 2022	Oct. 20, 2023
22	D.C. Power Supply	LongWei	TPR-6405D	N/A	N/A	\	\
23	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\
24	RF Software	MW	MTS8310	V2.0.0.0	N/A	\	\
25	Turntable	MF	MF-7802BS	N/A	N/A	\	\
26	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\

Conducted emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Oct. 21, 2022	Oct. 20, 2023
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Oct. 21, 2022	Oct. 20, 2023
3	Test Cable	N/A	C-01	N/A	N/A	Oct. 21, 2022	Oct. 20, 2023
4	Test Cable	N/A	C-02	N/A	N/A	Oct. 21, 2022	Oct. 20, 2023
5	Test Cable	N/A	C-03	N/A	N/A	Oct. 21, 2022	Oct. 20, 2023
6	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Oct. 28, 2022	Oct. 27, 2023
7	Triple-Loop Antenna	N/A	RF300	N/A	N/A	Oct. 28, 2022	Oct. 27, 2023
8	Absorbing Clamp	DZ	ZN23201	15034	N/A	Oct. 31, 2022	Oct. 30, 2023
9	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\

4.EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

4.1.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

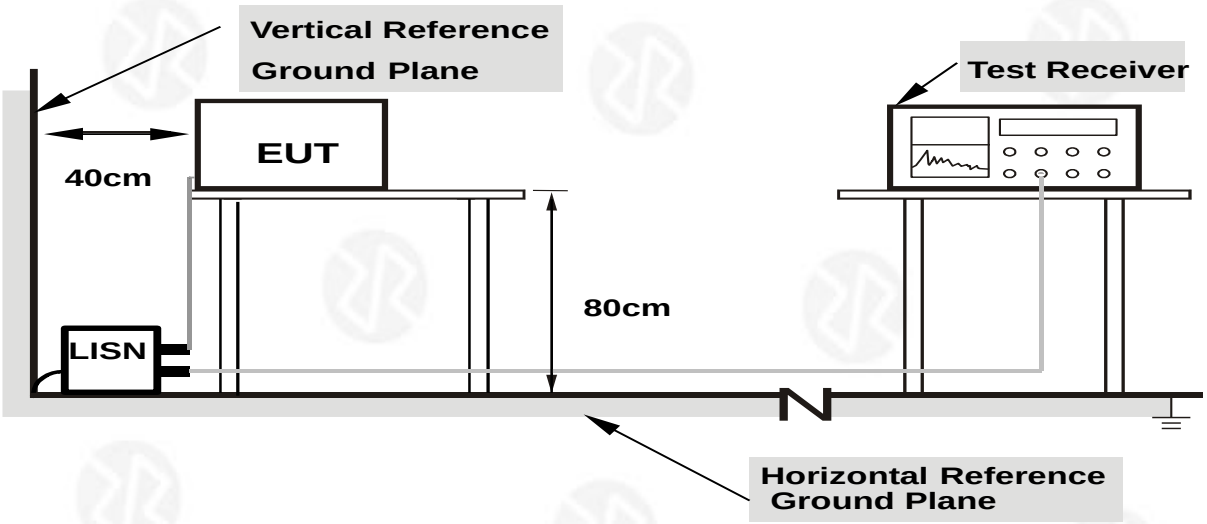
d. LISN at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



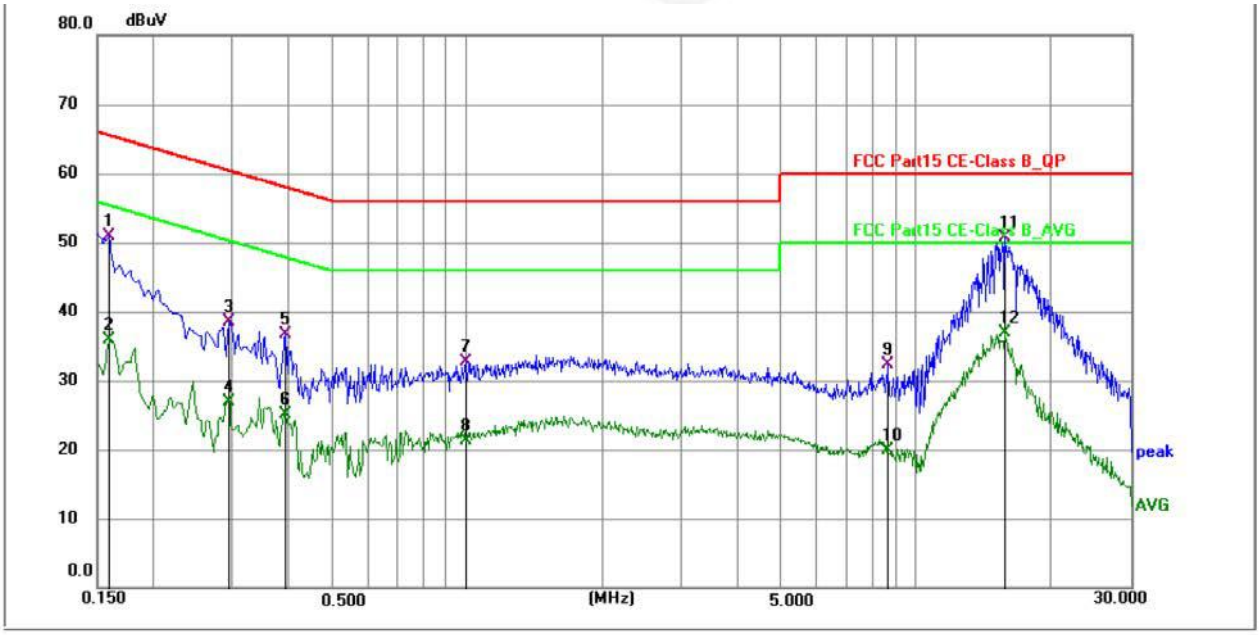
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.
We pretest AC 120V and AC 230V, the worst voltage was AC 120V and the data recording in the report.
During the test, pre-scan all modes, and found the 802.11n(HT40) CH38 which is the worst case, only the worst case is recorded in the report.

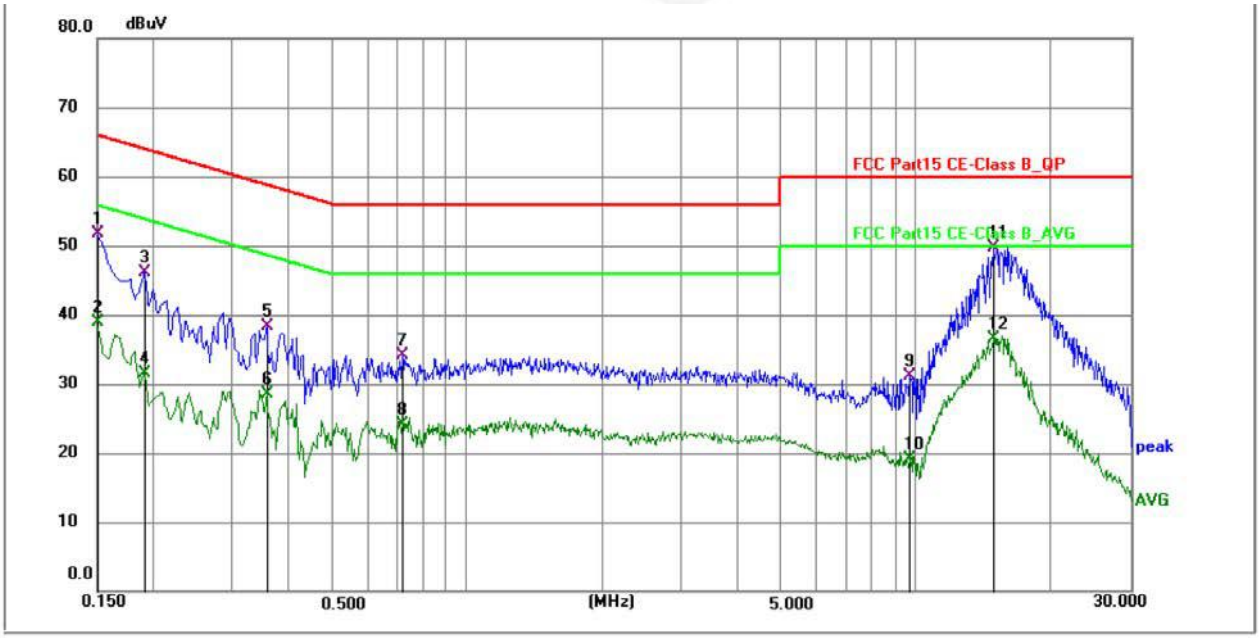
4.1.6 Test Result

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	L
Test Voltage:	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1590	41.05	9.91	50.96	65.52	-14.56	QP	P	
2	0.1590	25.94	9.91	35.85	55.52	-19.67	AVG	P	
3	0.2940	28.57	9.93	38.50	60.41	-21.91	QP	P	
4	0.2940	16.90	9.93	26.83	50.41	-23.58	AVG	P	
5	0.3930	26.73	9.95	36.68	58.00	-21.32	QP	P	
6	0.3930	15.11	9.95	25.06	48.00	-22.94	AVG	P	
7	0.9915	22.73	10.01	32.74	56.00	-23.26	QP	P	
8	0.9915	11.34	10.01	21.35	46.00	-24.65	AVG	P	
9	8.6730	22.38	10.01	32.39	60.00	-27.61	QP	P	
10	8.6730	9.88	10.01	19.89	50.00	-30.11	AVG	P	
11 *	15.7290	40.67	10.03	50.70	60.00	-9.30	QP	P	
12	15.7290	26.87	10.03	36.90	50.00	-13.10	AVG	P	

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	N
Test Voltage:	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	41.85	9.93	51.78	66.00	-14.22	QP	P	
2	0.1500	28.94	9.93	38.87	56.00	-17.13	AVG	P	
3	0.1905	36.19	9.94	46.13	64.01	-17.88	QP	P	
4	0.1905	21.63	9.94	31.57	54.01	-22.44	AVG	P	
5	0.3570	28.35	9.98	38.33	58.80	-20.47	QP	P	
6	0.3570	18.47	9.98	28.45	48.80	-20.35	AVG	P	
7	0.7170	24.05	10.01	34.06	56.00	-21.94	QP	P	
8	0.7170	14.13	10.01	24.14	46.00	-21.86	AVG	P	
9	9.7035	21.03	10.06	31.09	60.00	-28.91	QP	P	
10	9.7035	9.10	10.06	19.16	50.00	-30.84	AVG	P	
11 *	14.9055	39.60	10.04	49.64	60.00	-10.36	QP	P	
12	14.9055	26.56	10.04	36.60	50.00	-13.40	AVG	P	

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 APPLICABLE STANDARD

According to FCC Part 15.407(d) and 15.209

4.2.2 CONFORMANCE LIMIT

According to FCC Part 15.407(b)(7): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

According to FCC Part15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300
0.490~1.705	2400/F(KHz)	20 log (uV/m)	30
1.705~30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

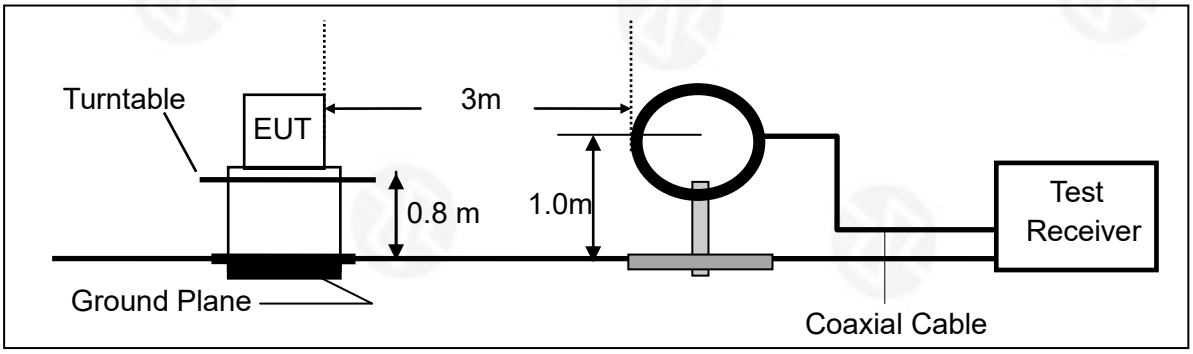
Remark :1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor.

4.2.3 MEASURING INSTRUMENTS

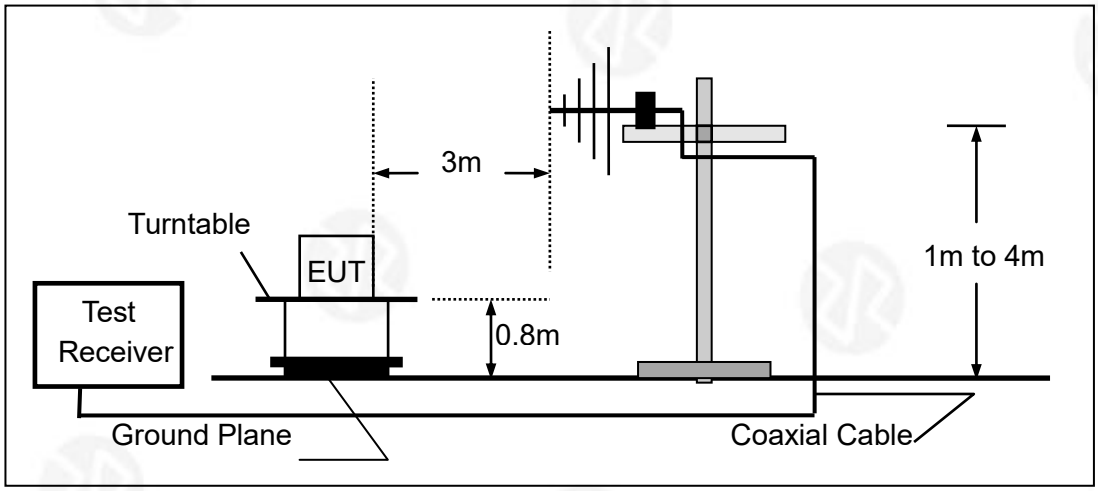
The Measuring equipment is listed in the section 6.3 of this test report.

4.2.4 TEST CONFIGURATION

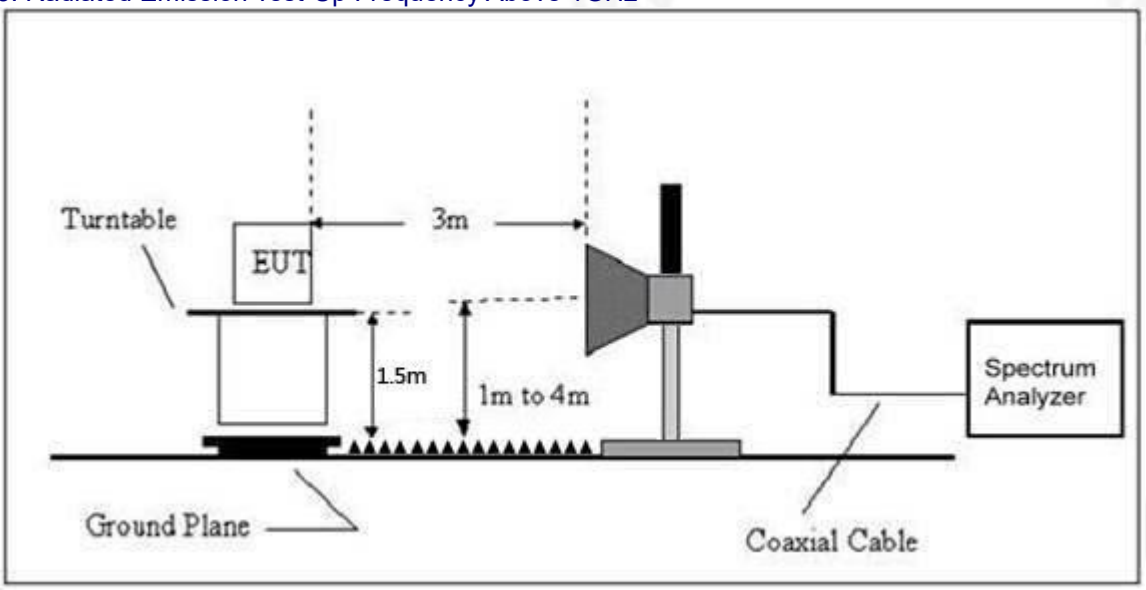
1.For radiated emissions below 30MHz



2.For radiated emissions from 30MHz to 1000MHz



3. Radiated Emission Test-Up Frequency Above 1GHz



4.2.5 TEST PROCEDURE

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.
This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT.
Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

4.2.6 TEST RESULT

Between 9KHz – 30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

Between 30MHz – 1GHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	AC 120V, 60Hz		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	30.5306	37.48	-16.48	21.00	40.00	-19.00	QP	P	
2	86.8068	40.11	-17.91	22.20	40.00	-17.80	QP	P	
3	150.0108	46.47	-18.25	28.22	43.50	-15.28	QP	P	
4	253.8367	44.41	-12.87	31.54	46.00	-14.46	QP	P	
5 *	508.2582	51.19	-8.16	43.03	46.00	-2.97	QP	P	
6	750.1082	34.49	-3.39	31.10	46.00	-14.90	QP	P	

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	AC 120V, 60Hz		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	42.6000	41.81	-14.17	27.64	40.00	-12.36	QP	P	
2	60.2801	43.08	-15.02	28.06	40.00	-11.94	QP	P	
3	87.4177	45.76	-17.74	28.02	40.00	-11.98	QP	P	
4	144.3348	49.08	-17.90	31.18	43.50	-12.32	QP	P	
5	508.2582	47.53	-8.06	39.47	46.00	-6.53	QP	P	
6 *	30.6379	52.47	-16.47	36.00	40.00	-4.00	QP	P	

Remarks:
1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2.The emission levels of other frequencies are very lower than the limit and not show in test report.
3.The test data shows only the worst case U-NII-1 band 802.11a high channel mode.

Between 1GHz – 40GHz

Temperature：	26℃	Relative Humidity：	54%
Pressure：	1010 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	U-NII-1: 802.11n(HT40)		

Antenna 1:

Test mode:	IEEE 802.11n(HT40)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	41.28	31.98	17.08	33.91	56.43	68.20	-11.77	V
15570.00	40.71	32.65	20.03	34.85	58.54	68.20	-9.66	V
10380.00	40.49	31.98	17.08	33.91	55.64	68.20	-12.56	H
15570.00	39.99	32.65	20.03	34.85	57.82	68.20	-10.38	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	28.51	31.98	17.08	33.91	43.66	54.00	-10.34	V
15570.00	29.13	32.65	20.03	34.85	46.96	54.00	-7.04	V
10380.00	28.70	31.98	17.08	33.91	43.85	54.00	-10.15	H
15570.00	28.18	32.65	20.03	34.85	46.01	54.00	-7.99	H

Test mode:	IEEE 802.11n(HT40)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	40.08	32.59	18.02	33.92	56.77	68.20	-11.43	V
15690.00	41.92	32.87	20.15	34.88	60.06	68.20	-8.14	V
10460.00	41.09	32.59	18.02	33.92	57.78	68.20	-10.42	H
15690.00	39.26	32.87	20.15	34.88	57.40	68.20	-10.80	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	29.91	32.59	18.02	33.92	46.60	54.00	-7.40	V
15690.00	28.91	32.87	20.15	34.88	47.05	54.00	-6.95	V
10460.00	28.83	32.59	18.02	33.92	45.52	54.00	-8.48	H
15690.00	27.72	32.78	20.12	34.86	45.76	54.00	-8.24	H

Remark:

1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40),ac(HT80),ax(HT20),ac(HT40), ac(HT80)mode, and found the U-NII-1 band 802.11n(HT40) mode is worse case , the report only record this mode.

2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

Antenna 2:

Test mode:	IEEE 802.11n(HT40)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	40.46	31.98	17.08	33.91	55.61	68.20	-12.59	V
15570.00	40.53	32.65	20.03	34.85	58.36	68.20	-9.84	V
10380.00	41.39	31.98	17.08	33.91	56.54	68.20	-11.66	H
15570.00	39.89	32.65	20.03	34.85	57.72	68.20	-10.48	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	28.62	31.98	17.08	33.91	43.77	54.00	-10.23	V
15570.00	27.04	32.65	20.03	34.85	44.87	54.00	-9.13	V
10380.00	28.97	31.98	17.08	33.91	44.12	54.00	-9.88	H
15570.00	29.07	32.65	20.03	34.85	46.90	54.00	-7.10	H

Test mode:	IEEE 802.11n(HT40)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	40.64	32.59	18.02	33.92	57.33	68.20	-10.87	V
15690.00	40.43	32.87	20.15	34.88	58.57	68.20	-9.63	V
10460.00	40.29	32.59	18.02	33.92	56.98	68.20	-11.22	H
15690.00	41.63	32.87	20.15	34.88	59.77	68.20	-8.43	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	27.81	32.59	18.02	33.92	44.50	54.00	-9.50	V
15690.00	27.66	32.87	20.15	34.88	45.80	54.00	-8.20	V
10460.00	28.64	32.59	18.02	33.92	45.33	54.00	-8.67	H
15690.00	29.39	32.78	20.12	34.86	47.43	54.00	-6.57	H

Remark:

1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40),ac(HT80),ax(HT20),ac(HT40), ac(HT80)mode, and found the U-NII-1 band 802.11n(HT40) mode is worse case , the report only record this mode.

2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

Antenna 3:

Test mode:	IEEE 802.11n(HT40)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	41.55	31.98	17.08	33.91	56.70	68.20	-11.50	V
15570.00	41.98	32.65	20.03	34.85	59.81	68.20	-8.39	V
10380.00	39.12	31.98	17.08	33.91	54.27	68.20	-13.93	H
15570.00	39.32	32.65	20.03	34.85	57.15	68.20	-11.05	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	28.65	31.98	17.08	33.91	43.80	54.00	-10.20	V
15570.00	28.43	32.65	20.03	34.85	46.26	54.00	-7.74	V
10380.00	29.36	31.98	17.08	33.91	44.51	54.00	-9.49	H
15570.00	27.67	32.65	20.03	34.85	45.50	54.00	-8.50	H

Test mode:	IEEE 802.11n(HT40)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	41.80	32.59	18.02	33.92	58.49	68.20	-9.71	V
15690.00	40.96	32.87	20.15	34.88	59.10	68.20	-9.10	V
10460.00	39.38	32.59	18.02	33.92	56.07	68.20	-12.13	H
15690.00	39.75	32.87	20.15	34.88	57.89	68.20	-10.31	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	28.98	32.59	18.02	33.92	45.67	54.00	-8.33	V
15690.00	27.33	32.87	20.15	34.88	45.47	54.00	-8.53	V
10460.00	27.51	32.59	18.02	33.92	44.20	54.00	-9.80	H
15690.00	28.52	32.78	20.12	34.86	46.56	54.00	-7.44	H

Remark:

1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40),ac(HT80),ax(HT20),ac(HT40), ac(HT80)mode, and found the U-NII-1 band 802.11n(HT40) mode is worse case , the report only record this mode.

2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

Antenna 4:

Test mode:	IEEE 802.11n(HT40)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	40.42	31.98	17.08	33.91	55.57	68.20	-12.63	V
15570.00	40.69	32.65	20.03	34.85	58.52	68.20	-9.68	V
10380.00	41.66	31.98	17.08	33.91	56.81	68.20	-11.39	H
15570.00	39.54	32.65	20.03	34.85	57.37	68.20	-10.83	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	29.37	31.98	17.08	33.91	44.52	54.00	-9.48	V
15570.00	27.63	32.65	20.03	34.85	45.46	54.00	-8.54	V
10380.00	28.63	31.98	17.08	33.91	43.78	54.00	-10.22	H
15570.00	27.86	32.65	20.03	34.85	45.69	54.00	-8.31	H

Test mode:	IEEE 802.11n(HT40)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	39.42	32.59	18.02	33.92	56.11	68.20	-12.09	V
15690.00	39.27	32.87	20.15	34.88	57.41	68.20	-10.79	V
10460.00	41.85	32.59	18.02	33.92	58.54	68.20	-9.66	H
15690.00	40.57	32.87	20.15	34.88	58.71	68.20	-9.49	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	27.51	32.59	18.02	33.92	44.20	54.00	-9.80	V
15690.00	28.16	32.87	20.15	34.88	46.30	54.00	-7.70	V
10460.00	27.24	32.59	18.02	33.92	43.93	54.00	-10.07	H
15690.00	29.76	32.78	20.12	34.86	47.80	54.00	-6.20	H

Remark:

1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40),ac(HT80),ax(HT20),ac(HT40), ac(HT80)mode, and found the U-NII-1 band 802.11n(HT40) mode is worse case , the report only record this mode.

2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

MIMO:

Test mode:	IEEE 802.11n(HT40)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	41.05	31.98	17.08	33.91	56.20	68.20	-12.00	V
15570.00	39.12	32.65	20.03	34.85	56.95	68.20	-11.25	V
10380.00	39.06	31.98	17.08	33.91	54.21	68.20	-13.99	H
15570.00	40.95	32.65	20.03	34.85	58.78	68.20	-9.42	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10380.00	27.78	31.98	17.08	33.91	42.93	54.00	-11.07	V
15570.00	29.90	32.65	20.03	34.85	47.73	54.00	-6.27	V
10380.00	29.53	31.98	17.08	33.91	44.68	54.00	-9.32	H
15570.00	27.63	32.65	20.03	34.85	45.46	54.00	-8.54	H

Test mode:	IEEE 802.11n(HT40)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	41.23	32.59	18.02	33.92	57.92	68.20	-10.28	V
15690.00	39.05	32.87	20.15	34.88	57.19	68.20	-11.01	V
10460.00	40.62	32.59	18.02	33.92	57.31	68.20	-10.89	H
15690.00	41.57	32.87	20.15	34.88	59.71	68.20	-8.49	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
10460.00	27.03	32.59	18.02	33.92	43.72	54.00	-10.28	V
15690.00	28.54	32.87	20.15	34.88	46.68	54.00	-7.32	V
10460.00	27.82	32.59	18.02	33.92	44.51	54.00	-9.49	H
15690.00	29.16	32.78	20.12	34.86	47.20	54.00	-6.80	H

Remark:

1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40),ac(HT80),ax(HT20),ac(HT40), ac(HT80)mode, and found the U-NII-1 band 802.11n(HT40) mode is worse case , the report only record this mode.

2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

Antenna 1:

Temperature :	26℃	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	DC 3.8V
Test Mode :	U-NII-3: 802.11n(HT20)		

Test mode:	IEEE 802.11n(HT20)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	39.37	31.98	17.08	33.91	54.52	68.20	-13.68	V
17235.00	41.77	32.65	20.03	34.85	59.60	68.20	-8.60	V
11490.00	41.75	31.98	17.08	33.91	56.90	68.20	-11.30	H
17235.00	40.78	32.65	20.03	34.85	58.61	68.20	-9.59	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	29.64	31.98	17.08	33.91	44.79	54.00	-9.21	V
17235.00	29.14	32.65	20.03	34.85	46.97	54.00	-7.03	V
11490.00	28.41	31.98	17.08	33.91	43.56	54.00	-10.44	H
17235.00	28.89	32.65	20.03	34.85	46.72	54.00	-7.28	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	Mid CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	39.72	32.44	17.18	33.91	55.43	68.20	-12.77	V
17355.00	40.20	32.78	20.12	34.86	58.24	68.20	-9.96	V
11570.00	39.49	32.44	17.18	33.91	55.20	68.20	-13.00	H
17355.00	41.29	32.78	20.12	34.86	59.33	68.20	-8.87	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	29.00	32.44	17.18	33.91	44.71	54.00	-9.29	V
17355.00	28.08	32.78	20.12	34.86	46.12	54.00	-7.88	V
11570.00	29.80	32.44	17.18	33.91	45.51	54.00	-8.49	H
17355.00	28.51	32.78	20.12	34.86	46.55	54.00	-7.45	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	39.55	32.59	18.02	33.92	56.24	68.20	-11.96	V
17475.00	41.04	32.87	20.15	34.88	59.18	68.20	-9.02	V
11650.00	39.82	32.59	18.02	33.92	56.51	68.20	-11.69	H
17475.00	41.63	32.87	20.15	34.88	59.77	68.20	-8.43	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	27.73	32.59	18.02	33.92	44.42	54.00	-9.58	V
17475.00	27.75	32.87	20.15	34.88	45.89	54.00	-8.11	V
11650.00	27.67	32.59	18.02	33.92	44.36	54.00	-9.64	H
17475.00	28.27	32.87	20.15	34.88	46.41	54.00	-7.59	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40), ac(HT80),ax(HT20),ac(HT40) mode, and found the 802.11n(HT20) mode is worse case , the report only record this mode.
2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

Antenna 2:

Test mode:	IEEE 802.11n(HT20)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	40.64	31.98	17.08	33.91	55.79	68.20	-12.41	V
17235.00	41.17	32.65	20.03	34.85	59.00	68.20	-9.20	V
11490.00	40.42	31.98	17.08	33.91	55.57	68.20	-12.63	H
17235.00	41.61	32.65	20.03	34.85	59.44	68.20	-8.76	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	29.29	31.98	17.08	33.91	44.44	54.00	-9.56	V
17235.00	27.68	32.65	20.03	34.85	45.51	54.00	-8.49	V
11490.00	29.08	31.98	17.08	33.91	44.23	54.00	-9.77	H
17235.00	27.10	32.65	20.03	34.85	44.93	54.00	-9.07	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	Mid CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	40.08	32.44	17.18	33.91	55.79	68.20	-12.41	V
17355.00	41.96	32.78	20.12	34.86	60.00	68.20	-8.20	V
11570.00	41.90	32.44	17.18	33.91	57.61	68.20	-10.59	H
17355.00	41.90	32.78	20.12	34.86	59.94	68.20	-8.26	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	29.40	32.44	17.18	33.91	45.11	54.00	-8.89	V
17355.00	28.94	32.78	20.12	34.86	46.98	54.00	-7.02	V
11570.00	27.76	32.44	17.18	33.91	43.47	54.00	-10.53	H
17355.00	28.65	32.78	20.12	34.86	46.69	54.00	-7.31	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	41.91	32.59	18.02	33.92	58.60	68.20	-9.60	V
17475.00	40.69	32.87	20.15	34.88	58.83	68.20	-9.37	V
11650.00	40.22	32.59	18.02	33.92	56.91	68.20	-11.29	H
17475.00	40.05	32.87	20.15	34.88	58.19	68.20	-10.01	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	27.12	32.59	18.02	33.92	43.81	54.00	-10.19	V
17475.00	29.03	32.87	20.15	34.88	47.17	54.00	-6.83	V
11650.00	29.83	32.59	18.02	33.92	46.52	54.00	-7.48	H
17475.00	28.43	32.87	20.15	34.88	46.57	54.00	-7.43	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40), ac(HT80),ax(HT20),ac(HT40) mode, and found the 802.11n(HT20) mode is worse case , the report only record this mode.
2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

Antenna 3:

Test mode:	IEEE 802.11n(HT20)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	40.28	31.98	17.08	33.91	55.43	68.20	-12.77	V
17235.00	41.95	32.65	20.03	34.85	59.78	68.20	-8.42	V
11490.00	40.88	31.98	17.08	33.91	56.03	68.20	-12.17	H
17235.00	40.16	32.65	20.03	34.85	57.99	68.20	-10.21	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	29.62	31.98	17.08	33.91	44.77	54.00	-9.23	V
17235.00	29.50	32.65	20.03	34.85	47.33	54.00	-6.67	V
11490.00	27.31	31.98	17.08	33.91	42.46	54.00	-11.54	H
17235.00	29.59	32.65	20.03	34.85	47.42	54.00	-6.58	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	Mid CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	39.94	32.44	17.18	33.91	55.65	68.20	-12.55	V
17355.00	40.06	32.78	20.12	34.86	58.10	68.20	-10.10	V
11570.00	41.78	32.44	17.18	33.91	57.49	68.20	-10.71	H
17355.00	40.16	32.78	20.12	34.86	58.20	68.20	-10.00	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	29.14	32.44	17.18	33.91	44.85	54.00	-9.15	V
17355.00	28.32	32.78	20.12	34.86	46.36	54.00	-7.64	V
11570.00	27.52	32.44	17.18	33.91	43.23	54.00	-10.77	H
17355.00	27.27	32.78	20.12	34.86	45.31	54.00	-8.69	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	41.91	32.59	18.02	33.92	58.60	68.20	-9.60	V
17475.00	40.69	32.87	20.15	34.88	58.83	68.20	-9.37	V
11650.00	40.22	32.59	18.02	33.92	56.91	68.20	-11.29	H
17475.00	40.05	32.87	20.15	34.88	58.19	68.20	-10.01	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	28.94	32.59	18.02	33.92	45.63	54.00	-8.37	V
17475.00	28.00	32.87	20.15	34.88	46.14	54.00	-7.86	V
11650.00	27.28	32.59	18.02	33.92	43.97	54.00	-10.03	H
17475.00	29.72	32.87	20.15	34.88	47.86	54.00	-6.14	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40), ac(HT80),ax(HT20),ac(HT40) mode, and found the 802.11n(HT20) mode is worse case , the report only record this mode.
2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

Antenna 4:

Test mode:	IEEE 802.11n(HT20)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	40.43	31.98	17.08	33.91	55.58	68.20	-12.62	V
17235.00	39.40	32.65	20.03	34.85	57.23	68.20	-10.97	V
11490.00	40.34	31.98	17.08	33.91	55.49	68.20	-12.71	H
17235.00	40.71	32.65	20.03	34.85	58.54	68.20	-9.66	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	27.13	31.98	17.08	33.91	42.28	54.00	-11.72	V
17235.00	28.31	32.65	20.03	34.85	46.14	54.00	-7.86	V
11490.00	27.15	31.98	17.08	33.91	42.30	54.00	-11.70	H
17235.00	29.43	32.65	20.03	34.85	47.26	54.00	-6.74	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	Mid CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	40.68	32.44	17.18	33.91	56.39	68.20	-11.81	V
17355.00	40.98	32.78	20.12	34.86	59.02	68.20	-9.18	V
11570.00	40.07	32.44	17.18	33.91	55.78	68.20	-12.42	H
17355.00	40.96	32.78	20.12	34.86	59.00	68.20	-9.20	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	27.17	32.44	17.18	33.91	42.88	54.00	-11.12	V
17355.00	29.52	32.78	20.12	34.86	47.56	54.00	-6.44	V
11570.00	27.22	32.44	17.18	33.91	42.93	54.00	-11.07	H
17355.00	27.83	32.78	20.12	34.86	45.87	54.00	-8.13	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	41.94	32.59	18.02	33.92	58.63	68.20	-9.57	V
17475.00	41.42	32.87	20.15	34.88	59.56	68.20	-8.64	V
11650.00	39.67	32.59	18.02	33.92	56.36	68.20	-11.84	H
17475.00	39.25	32.87	20.15	34.88	57.39	68.20	-10.81	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	29.75	32.59	18.02	33.92	46.44	54.00	-7.56	V
17475.00	28.60	32.87	20.15	34.88	46.74	54.00	-7.26	V
11650.00	28.60	32.59	18.02	33.92	45.29	54.00	-8.71	H
17475.00	29.43	32.87	20.15	34.88	47.57	54.00	-6.43	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40), ac(HT80),ax(HT20),ac(HT40) mode, and found the 802.11n(HT20) mode is worse case , the report only record this mode.
2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

MIMO:

Test mode:	IEEE 802.11n(HT20)	Test channel:	Low CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	40.44	31.98	17.08	33.91	55.59	68.20	-12.61	V
17235.00	39.43	32.65	20.03	34.85	57.26	68.20	-10.94	V
11490.00	41.58	31.98	17.08	33.91	56.73	68.20	-11.47	H
17235.00	41.75	32.65	20.03	34.85	59.58	68.20	-8.62	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11490.00	27.30	31.98	17.08	33.91	42.45	54.00	-11.55	V
17235.00	27.25	32.65	20.03	34.85	45.08	54.00	-8.92	V
11490.00	29.24	31.98	17.08	33.91	44.39	54.00	-9.61	H
17235.00	29.57	32.65	20.03	34.85	47.40	54.00	-6.60	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	Mid CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	39.65	32.44	17.18	33.91	55.36	68.20	-12.84	V
17355.00	41.29	32.78	20.12	34.86	59.33	68.20	-8.87	V
11570.00	41.18	32.44	17.18	33.91	56.89	68.20	-11.31	H
17355.00	40.84	32.78	20.12	34.86	58.88	68.20	-9.32	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11570.00	27.39	32.44	17.18	33.91	43.10	54.00	-10.90	V
17355.00	28.15	32.78	20.12	34.86	46.19	54.00	-7.81	V
11570.00	27.74	32.44	17.18	33.91	43.45	54.00	-10.55	H
17355.00	27.80	32.78	20.12	34.86	45.84	54.00	-8.16	H

Test mode:	IEEE 802.11n(HT20)	Test channel:	High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	39.23	32.59	18.02	33.92	55.92	68.20	-12.28	V
17475.00	40.48	32.87	20.15	34.88	58.62	68.20	-9.58	V
11650.00	40.25	32.59	18.02	33.92	56.94	68.20	-11.26	H
17475.00	39.40	32.87	20.15	34.88	57.54	68.20	-10.66	H

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Pol.
11650.00	27.78	32.59	18.02	33.92	44.47	54.00	-9.53	V
17475.00	28.53	32.87	20.15	34.88	46.67	54.00	-7.33	V
11650.00	29.93	32.59	18.02	33.92	46.62	54.00	-7.38	H
17475.00	27.34	32.87	20.15	34.88	45.48	54.00	-8.52	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40), ac(HT80),ax(HT20),ac(HT40) mode, and found the 802.11n(HT20) mode is worse case , the report only record this mode.
2. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor

5.POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

According to FCC §15.407(3)

Power limits:

(1) For the band 5.15-5.25 GHz.

(i) 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, both the maximum conducted output power and the maximum power spectral density 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).

(ii) 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) 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 conducted output power or 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 conducted output power and 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.

(iv) 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

5.2 TEST PROCEDURE

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

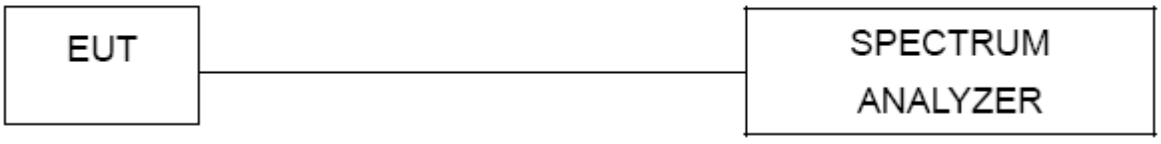
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULTS

Temperature :	26 ℃	Relative Humidity :	54%
Pressure :	1015 hPa	Test Voltage :	DC 3.8V
Test Mode :	TX		

Antenna 3:

U-NII-1:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/MHz)		Verdict
					ANT3	Limit	
802.11a	SISO	5180	/	/	7.12	<=11	Pass
		5200	/	/	6.47	<=11	Pass
		5240	/	/	6.13	<=11	Pass
802.11n (HT20)	SISO	5180	/	/	6.84	<=11	Pass
		5200	/	/	6.18	<=11	Pass
		5240	/	/	5.73	<=11	Pass
802.11n (HT40)	SISO	5190	/	/	1.84	<=11	Pass
		5230	/	/	1.82	<=11	Pass
802.11ac (VHT20)	SISO	5180	/	/	6.90	<=11	Pass
		5200	/	/	6.51	<=11	Pass
		5240	/	/	5.57	<=11	Pass
802.11ac (VHT40)	SISO	5190	/	/	2.13	<=11	Pass
		5230	/	/	1.72	<=11	Pass
802.11ac (VHT80)	SISO	5210	/	/	-1.38	<=11	Pass
802.11ax (HEW20)	SISO	5180	RU242	Left	6.62	<=11	
		5200	RU242	Left	6.14	<=11	Pass
		5240	RU242	Left	5.97	<=11	Pass
802.11ax (HEW40)	SISO	5190	RU484	Left	1.51	<=11	Pass
		5230	RU484	Left	1.18	<=11	Pass
802.11ax (HEW80)	SISO	5210	RU996	Left	-1.53	<=11	Pass

U-NII-3:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					ANT3	Limit	
802.11a	SISO	5745	/	/	5.76	<=30	Pass
		5785	/	/	6.01	<=30	Pass
		5825	/	/	6.38	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	5.58	<=30	Pass
		5785	/	/	5.66	<=30	Pass
		5825	/	/	5.81	<=30	Pass
802.11n (HT40)	SISO	5755	/	/	1.12	<=30	Pass
		5795	/	/	1.81	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	5.52	<=30	Pass
		5785	/	/	5.91	<=30	Pass
		5825	/	/	5.68	<=30	Pass
802.11ac (VHT40)	SISO	5755	/	/	1.47	<=30	Pass
		5795	/	/	2.77	<=30	Pass
802.11ac (VHT80)	SISO	5775	/	/	-1.79	<=30	Pass
802.11ax (HEW20)	SISO	5745	RU242	Left	3.83	<=30	Pass
		5785	RU242	Left	3.58	<=30	Pass
		5825	RU242	Left	3.80	<=30	Pass
802.11ax (HEW40)	SISO	5755	RU484	Left	-1.22	<=30	Pass
		5795	RU484	Left	-0.20	<=30	Pass
802.11ax (HEW80)	SISO	5775	RU996	Left	-4.01	<=30	Pass

Antenna 4:

U-NII-1:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/MHz)		Verdict
					ANT4	Limit	
802.11a	SISO	5180	/	/	3.48	<=11	Pass
		5200	/	/	2.88	<=11	Pass
		5240	/	/	2.33	<=11	Pass
802.11n (HT20)	SISO	5180	/	/	6.29	<=11	Pass
		5200	/	/	6.80	<=11	Pass
		5240	/	/	6.30	<=11	Pass
802.11n (HT40)	SISO	5190	/	/	-0.55	<=11	Pass
		5230	/	/	-0.92	<=11	Pass
802.11ac (VHT20)	SISO	5180	/	/	6.21	<=11	Pass
		5200	/	/	6.67	<=11	Pass
		5240	/	/	6.35	<=11	Pass
802.11ac (VHT40)	SISO	5190	/	/	2.59	<=11	Pass
		5230	/	/	2.16	<=11	Pass
802.11ac (VHT80)	SISO	5210	/	/	-0.95	<=11	Pass
802.11ax (HEW20)	SISO	5180	RU242	Left	6.22	<=11	Pass
		5200	RU242	Left	5.13	<=11	Pass
		5240	RU242	Left	4.88	<=11	Pass
802.11ax (HEW40)	SISO	5190	RU484	Left	0.56	<=11	Pass
		5230	RU484	Left	0.71	<=11	Pass
802.11ax (HEW80)	SISO	5210	RU996	Left	-2.45	<=11	Pass

U-NII-3:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					Total	Limit	
802.11a	SISO	5745	/	/	2.08	<=30	Pass
		5785	/	/	2.33	<=30	Pass
		5825	/	/	1.72	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	6.21	<=30	Pass
		5785	/	/	6.38	<=30	Pass
		5825	/	/	6.38	<=30	Pass
802.11n (HT40)	SISO	5755	/	/	-1.28	<=30	Pass
		5795	/	/	-0.47	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	6.46	<=30	Pass
		5785	/	/	6.29	<=30	Pass
		5825	/	/	6.41	<=30	Pass
802.11ac (VHT40)	SISO	5755	/	/	1.96	<=30	Pass
		5795	/	/	2.84	<=30	Pass
802.11ac (VHT80)	SISO	5775	/	/	-1.17	<=30	Pass
802.11ax (HEW20)	SISO	5745	RU242	Left	4.52	<=30	Pass
		5785	RU242	Left	4.15	<=30	Pass
		5825	RU242	Left	4.50	<=30	Pass
802.11ax (HEW40)	SISO	5755	RU484	Left	-0.56	<=30	Pass
		5795	RU484	Left	0.12	<=30	Pass
802.11ax (HEW80)	SISO	5775	RU996	Left	-3.76	<=30	Pass

WiFi module (AMPAK AP6275PR3) ANT 3+ANT 4 MIMO

U-NII-1:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/MHz)		Verdict
					Total	Limit	
802.11a	MIMO	5180	/	/	8.68	<=11	Pass
		5200	/	/	8.05	<=11	Pass
		5240	/	/	7.64	<=11	Pass
802.11n (HT20)	MIMO	5180	/	/	9.58	<=11	Pass
		5200	/	/	9.51	<=11	Pass
		5240	/	/	9.03	<=11	Pass
802.11n (HT40)	MIMO	5190	/	/	3.82	<=11	Pass
		5230	/	/	3.67	<=11	Pass
802.11ac (VHT20)	MIMO	5180	/	/	9.58	<=11	Pass
		5200	/	/	9.60	<=11	Pass
		5240	/	/	8.99	<=11	Pass
802.11ac (VHT40)	MIMO	5190	/	/	5.38	<=11	Pass
		5230	/	/	4.96	<=11	Pass
802.11ac (VHT80)	MIMO	5210	/	/	1.85	<=11	Pass
802.11ax (HEW20)	MIMO	5180	RU242	Left	9.43	<=11	Pass
		5200	RU242	Left	8.67	<=11	Pass
		5240	RU242	Left	8.47	<=11	Pass
802.11ax (HEW40)	MIMO	5190	RU484	Left	4.07	<=11	Pass
		5230	RU484	Left	3.96	<=11	Pass
802.11ax (HEW80)	MIMO	5210	RU996	Left	1.04	<=11	Pass
Note: For U-NII-1: Antenna 3 gain: 2.5dBi, Antenna 4 gain: 2.4dBi, Correlated antenna gain=5.46dBi.							

WiFi module (AMPAK AP6275PR3) ANT 3+ANT 4 MIMO

U-NII-3:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					Total	Limit	
802.11a	MIMO	5745	/	/	7.31	<=28.82	Pass
		5785	/	/	7.56	<=28.82	Pass
		5825	/	/	7.66	<=28.82	Pass
802.11n (HT20)	MIMO	5745	/	/	8.92	<=28.82	Pass
		5785	/	/	9.05	<=28.82	Pass
		5825	/	/	9.11	<=28.82	Pass
802.11n (HT40)	MIMO	5755	/	/	3.09	<=28.82	Pass
		5795	/	/	3.83	<=28.82	Pass
802.11ac (VHT20)	MIMO	5745	/	/	9.03	<=28.82	Pass
		5785	/	/	9.11	<=28.82	Pass
		5825	/	/	9.07	<=28.82	Pass
802.11ac (VHT40)	MIMO	5755	/	/	4.73	<=28.82	Pass
		5795	/	/	5.82	<=28.82	Pass
802.11ac (VHT80)	MIMO	5775	/	/	1.54	<=28.82	Pass
802.11ax (HEW20)	MIMO	5745	RU242	Left	7.20	<=28.82	Pass
		5785	RU242	Left	6.88	<=28.82	Pass
		5825	RU242	Left	7.17	<=28.82	Pass
802.11ax (HEW40)	MIMO	5755	RU484	Left	2.13	<=28.82	Pass
		5795	RU484	Left	2.97	<=28.82	Pass
802.11ax (HEW80)	MIMO	5775	RU996	Left	-0.87	<=28.82	Pass
Note: For U-NII-3: Antenna 3 gain: 3.5dBi, Antenna 4 gain: 4.8dBi, Correlated antenna gain=7.18dBi. Limit= 30-(7.18-6)=30-1.18=28.82							

Antenna 1:

U-NII-1:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/MHz)		Verdict
					ANT1	Limit	
802.11a	SISO	5180	/	/	4.40	<=11	Pass
		5200	/	/	4.19	<=11	Pass
		5240	/	/	4.79	<=11	Pass
802.11n (HT20)	SISO	5180	/	/	3.52	<=11	Pass
		5200	/	/	3.74	<=11	Pass
		5240	/	/	4.55	<=11	Pass
802.11n (HT40)	SISO	5190	/	/	0.61	<=11	Pass
		5230	/	/	1.47	<=11	Pass
802.11ac (VHT20)	SISO	5180	/	/	3.93	<=11	Pass
		5200	/	/	4.11	<=11	Pass
		5240	/	/	4.86	<=11	Pass
802.11ac (VHT40)	SISO	5190	/	/	0.70	<=11	Pass
		5230	/	/	1.53	<=11	Pass
802.11ac (VHT80)	SISO	5210	/	/	-2.60	<=11	Pass
802.11ax (HEW20)	SISO	5180	RU242	Left	3.38	<=11	Pass
		5200	RU242	Left	3.23	<=11	Pass
		5240	RU242	Left	4.29	<=11	Pass
802.11ax (HEW40)	SISO	5190	RU484	Left	0.60	<=11	Pass
		5230	RU484	Left	1.44	<=11	Pass
802.11ax (HEW80)	SISO	5210	RU996	Left	-2.47	<=11	Pass

U-NII-3:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					ANT1	Limit	
802.11a	SISO	5745	/	/	1.62	<=30	Pass
		5785	/	/	1.17	<=30	Pass
		5825	/	/	1.02	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	2.27	<=30	Pass
		5785	/	/	1.46	<=30	Pass
		5825	/	/	1.28	<=30	Pass
802.11n (HT40)	SISO	5755	/	/	-1.44	<=30	Pass
		5795	/	/	-1.67	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	1.31	<=30	Pass
		5785	/	/	1.30	<=30	Pass
		5825	/	/	1.24	<=30	Pass
802.11ac (VHT40)	SISO	5755	/	/	-1.42	<=30	Pass
		5795	/	/	-1.59	<=30	Pass
802.11ac (VHT80)	SISO	5775	/	/	-5.10	<=30	Pass
802.11ax (HEW20)	SISO	5745	RU242	Left	1.00	<=30	Pass
		5785	RU242	Left	0.82	<=30	Pass
		5825	RU242	Left	0.70	<=30	Pass
802.11ax (HEW40)	SISO	5755	RU484	Left	-1.66	<=30	Pass
		5795	RU484	Left	-1.62	<=30	Pass
802.11ax (HEW80)	SISO	5775	RU996	Left	-5.04	<=30	Pass

Antenna 2:

U-NII-1:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/MHz)		Verdict
					ANT2	Limit	
802.11a	SISO	5180	/	/	1.00	<=11	Pass
		5200	/	/	-0.19	<=11	Pass
		5240	/	/	-4.65	<=11	Pass
802.11n (HT20)	SISO	5180	/	/	-0.53	<=11	Pass
		5200	/	/	-0.99	<=11	Pass
		5240	/	/	-3.64	<=11	Pass
802.11n (HT40)	SISO	5190	/	/	-2.87	<=11	Pass
		5230	/	/	-5.82	<=11	Pass
802.11ac (VHT20)	SISO	5180	/	/	0.14	<=11	Pass
		5200	/	/	-1.37	<=11	Pass
		5240	/	/	-3.42	<=11	Pass
802.11ac (VHT40)	SISO	5190	/	/	-3.28	<=11	Pass
		5230	/	/	-5.54	<=11	Pass
802.11ac (VHT80)	SISO	5210	/	/	-7.07	<=11	Pass
802.11ax (HEW20)	SISO	5180	RU242	Left	-0.42	<=11	Pass
		5200	RU242	Left	-1.62	<=11	Pass
		5240	RU242	Left	-4.47	<=11	Pass
802.11ax (HEW40)	SISO	5190	RU484	Left	-3.43	<=11	Pass
		5230	RU484	Left	-6.07	<=11	Pass
802.11ax (HEW80)	SISO	5210	RU996	Left	-7.55	<=11	Pass

U-NII-3:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					ANT2	Limit	
802.11a	SISO	5745	/	/	1.34	<=30	Pass
		5785	/	/	1.22	<=30	Pass
		5825	/	/	1.27	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	1.48	<=30	Pass
		5785	/	/	1.43	<=30	Pass
		5825	/	/	1.28	<=30	Pass
802.11n (HT40)	SISO	5755	/	/	-1.53	<=30	Pass
		5795	/	/	-1.42	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	1.20	<=30	Pass
		5785	/	/	1.31	<=30	Pass
		5825	/	/	1.50	<=30	Pass
802.11ac (VHT40)	SISO	5755	/	/	-1.35	<=30	Pass
		5795	/	/	-1.14	<=30	Pass
802.11ac (VHT80)	SISO	5775	/	/	-5.13	<=30	Pass
802.11ax (HEW20)	SISO	5745	RU242	Left	0.68	<=30	Pass
		5785	RU242	Left	1.07	<=30	Pass
		5825	RU242	Left	1.00	<=30	Pass
802.11ax (HEW40)	SISO	5755	RU484	Left	-1.84	<=30	Pass
		5795	RU484	Left	-1.47	<=30	Pass
802.11ax (HEW80)	SISO	5775	RU996	Left	-5.24	<=30	Pass

WiFi module (Samsung S621) ANT1+ ANT2 MIMO

U-NII-1:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/MHz)		Verdict
					Total	Limit	
802.11a	MIMO	5180	/	/	6.03	<=11	Pass
		5200	/	/	5.54	<=11	Pass
		5240	/	/	5.26	<=11	Pass
802.11n (HT20)	MIMO	5180	/	/	4.96	<=11	Pass
		5200	/	/	5.00	<=11	Pass
		5240	/	/	5.16	<=11	Pass
802.11n (HT40)	MIMO	5190	/	/	2.22	<=11	Pass
		5230	/	/	2.21	<=11	Pass
802.11ac (VHT20)	MIMO	5180	/	/	5.45	<=11	Pass
		5200	/	/	5.19	<=11	Pass
		5240	/	/	5.46	<=11	Pass
802.11ac (VHT40)	MIMO	5190	/	/	2.16	<=11	Pass
		5230	/	/	2.31	<=11	Pass
802.11ac (VHT80)	MIMO	5210	/	/	-1.27	<=11	Pass
802.11ax (HEW20)	MIMO	5180	RU242	Left	4.89	<=11	Pass
		5200	RU242	Left	4.46	<=11	Pass
		5240	RU242	Left	4.83	<=11	Pass
802.11ax (HEW40)	MIMO	5190	RU484	Left	2.05	<=11	Pass
		5230	RU484	Left	2.15	<=11	Pass
802.11ax (HEW80)	MIMO	5210	RU996	Left	-1.30	<=11	Pass
Note: For U-NII-1: Antenna 1 gain: 3.3dBi, Antenna 2 gain: 2.6dBi, Correlated antenna gain=5.97dBi.							

WiFi module (Samsung S621) ANT1+ ANT2 MIMO

U-NII-3:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					Total	Limit	
802.11a	MIMO	5745	/	/	4.49	<=28.64	Pass
		5785	/	/	4.21	<=28.64	Pass
		5825	/	/	4.16	<=28.64	Pass
802.11n (HT20)	MIMO	5745	/	/	4.90	<=28.64	Pass
		5785	/	/	4.46	<=28.64	Pass
		5825	/	/	4.29	<=28.64	Pass
802.11n (HT40)	MIMO	5755	/	/	1.53	<=28.64	Pass
		5795	/	/	1.47	<=28.64	Pass
802.11ac (VHT20)	MIMO	5745	/	/	4.27	<=28.64	Pass
		5785	/	/	4.32	<=28.64	Pass
		5825	/	/	4.38	<=28.64	Pass
802.11ac (VHT40)	MIMO	5755	/	/	1.63	<=28.64	Pass
		5795	/	/	1.65	<=28.64	Pass
802.11ac (VHT80)	MIMO	5775	/	/	-2.10	<=28.64	Pass
802.11ax (HEW20)	MIMO	5745	RU242	Left	3.85	<=28.64	Pass
		5785	RU242	Left	3.96	<=28.64	Pass
		5825	RU242	Left	3.86	<=28.64	Pass
802.11ax (HEW40)	MIMO	5755	RU484	Left	1.26	<=28.64	Pass
		5795	RU484	Left	1.47	<=28.64	Pass
802.11ax (HEW80)	MIMO	5775	RU996	Left	-2.13	<=28.64	Pass
Note: For U-NII-3: Antenna 1 gain: 3.4dBi, Antenna 2 gain: 5.2dBi, Correlated antenna gain=7.36dBi. Limit= 30-(7.36-6)=30-1.36=28.64							

WiFi module 1 (Samsung S621) +WiFi Module 2 (AMPAK AP6275PR3) MIMO

U-NII-1:

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/MHz)		Verdict
					Total	Limit	
802.11a	MIMO	5180	/	/	10.56	<=11	Pass
		5200	/	/	9.98	<=11	Pass
		5240	/	/	9.62	<=11	Pass
802.11n (HT20)	MIMO	5180	/	/	10.87	<=11	Pass
		5200	/	/	10.83	<=11	Pass
		5240	/	/	10.52	<=11	Pass
802.11n (HT40)	MIMO	5190	/	/	6.10	<=11	Pass
		5230	/	/	6.01	<=11	Pass
802.11ac (VHT20)	MIMO	5180	/	/	11.00	<=11	Pass
		5200	/	/	10.94	<=11	Pass
		5240	/	/	10.58	<=11	Pass
802.11ac (VHT40)	MIMO	5190	/	/	7.07	<=11	Pass
		5230	/	/	6.84	<=11	Pass
802.11ac (VHT80)	MIMO	5210	/	/	3.57	<=11	Pass
802.11ax (HEW20)	MIMO	5180	RU242	Left	10.74	<=11	Pass
		5200	RU242	Left	10.07	<=11	Pass
		5240	RU242	Left	10.03	<=11	Pass
802.11ax (HEW40)	MIMO	5190	RU484	Left	6.19	<=11	Pass
		5230	RU484	Left	6.16	<=11	Pass
802.11ax (HEW80)	MIMO	5210	RU996	Left	3.04	<=11	Pass
Note: For U-NII-1: WiFi module 1 gain: 5.97dBi, WiFi module 2 gain:5.46dBi, Uncorrelated antenna gain=5.72dBi.							

WiFi module 1 (Samsung S621) +WiFi Module 2 (AMPAK AP6275PR3) MIMO

U-NII-3:

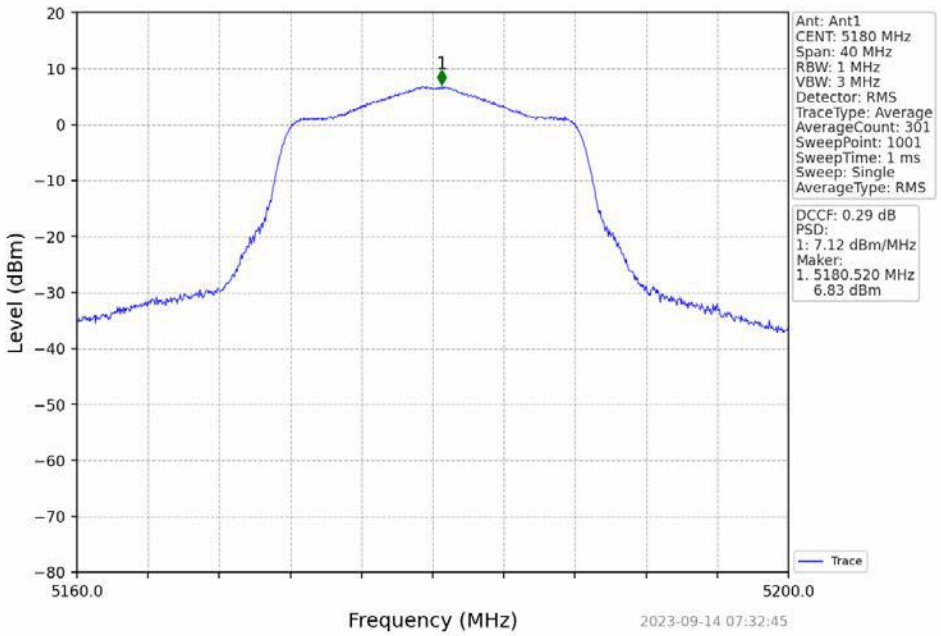
Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					Total	Limit	
802.11a	MIMO	5745	/	/	9.14	<=28.73	Pass
		5785	/	/	9.21	<=28.73	Pass
		5825	/	/	9.26	<=28.73	Pass
802.11n (HT20)	MIMO	5745	/	/	10.37	<=28.73	Pass
		5785	/	/	10.35	<=28.73	Pass
		5825	/	/	10.35	<=28.73	Pass
802.11n (HT40)	MIMO	5755	/	/	5.39	<=28.73	Pass
		5795	/	/	5.82	<=28.73	Pass
802.11ac (VHT20)	MIMO	5745	/	/	10.28	<=28.73	Pass
		5785	/	/	10.35	<=28.73	Pass
		5825	/	/	10.34	<=28.73	Pass
802.11ac (VHT40)	MIMO	5755	/	/	6.46	<=28.73	Pass
		5795	/	/	7.23	<=28.73	Pass
802.11ac (VHT80)	MIMO	5775	/	/	3.10	<=28.73	Pass
802.11ax (HEW20)	MIMO	5745	RU242	Left	8.85	<=28.73	Pass
		5785	RU242	Left	8.67	<=28.73	Pass
		5825	RU242	Left	8.83	<=28.73	Pass
802.11ax (HEW40)	MIMO	5755	RU484	Left	4.73	<=28.73	Pass
		5795	RU484	Left	5.29	<=28.73	Pass
802.11ax (HEW80)	MIMO	5775	RU996	Left	1.56	<=28.73	Pass
Note: For U-NII-3: WiFi module 1 gain: 7.36dBi, WiFi module 2 gain: 7.18dBi,Uncorrelated antenna gain=7.27dBi. Limit= 30-(7.27-6)=30-1.27=28.73							

Test Graph

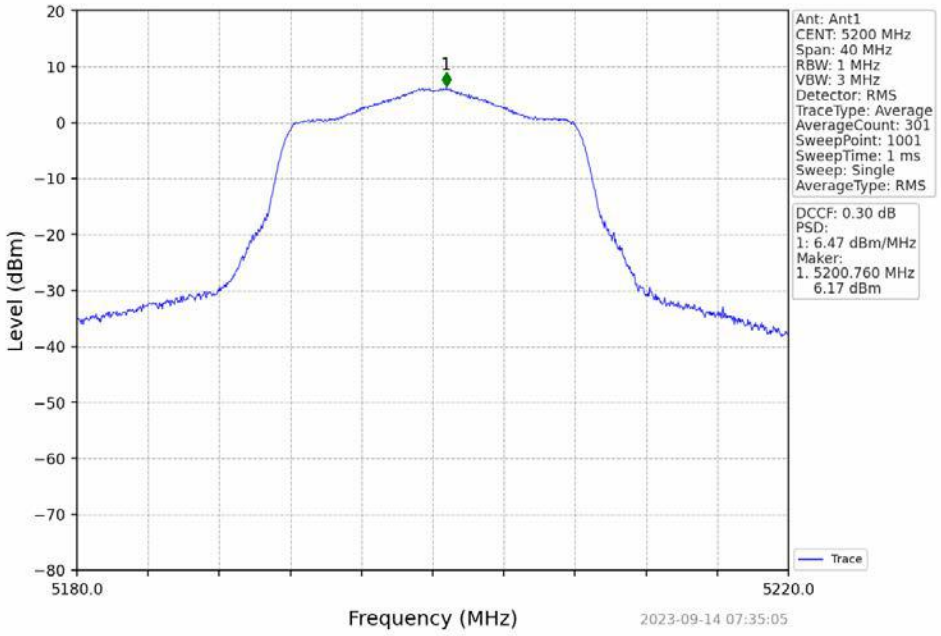
Antenna 3:

U-NII-1:

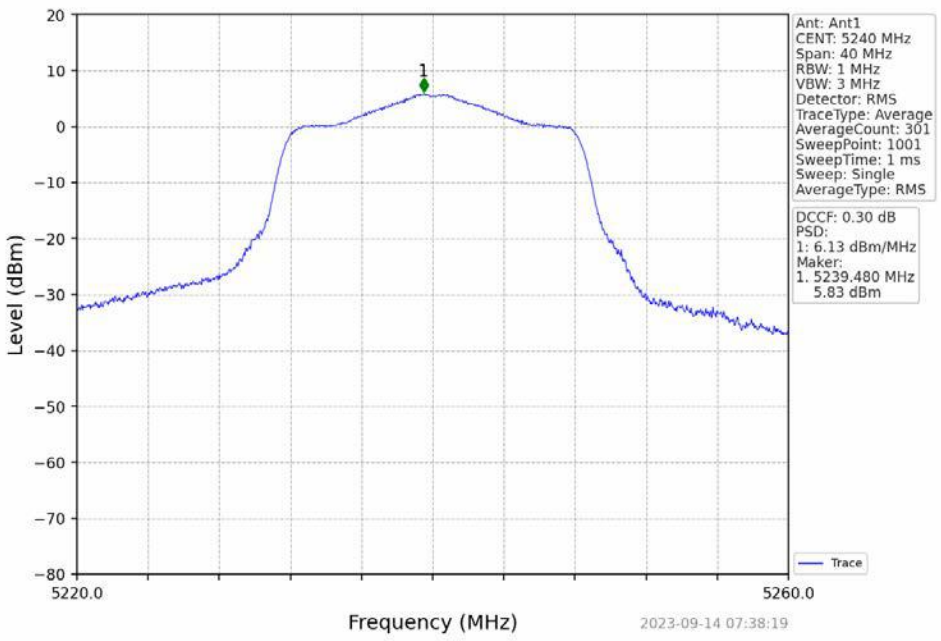
802.11a_LCH_5180MHz_NTNV



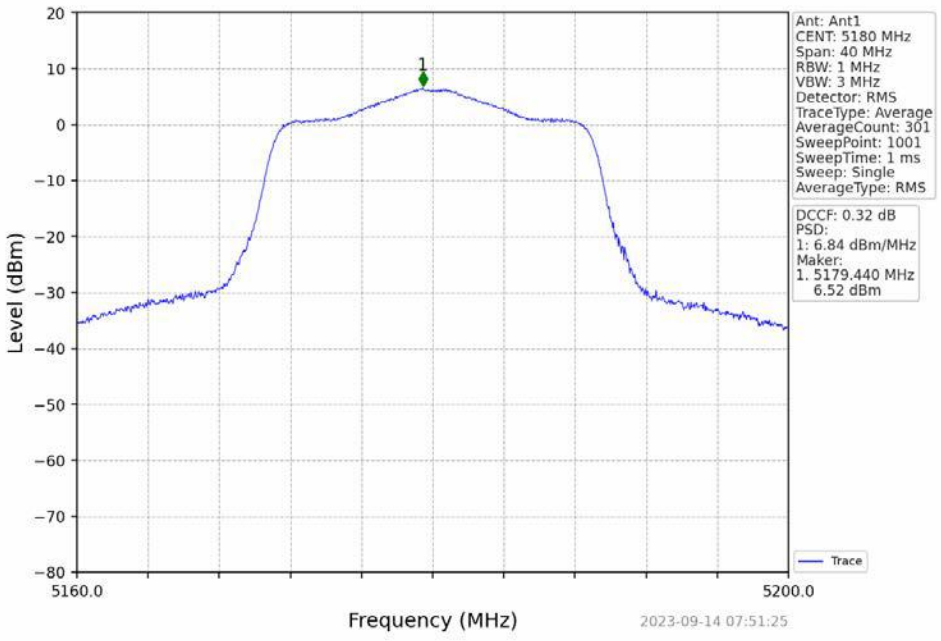
802.11a_MCH_5200MHz_NTNV



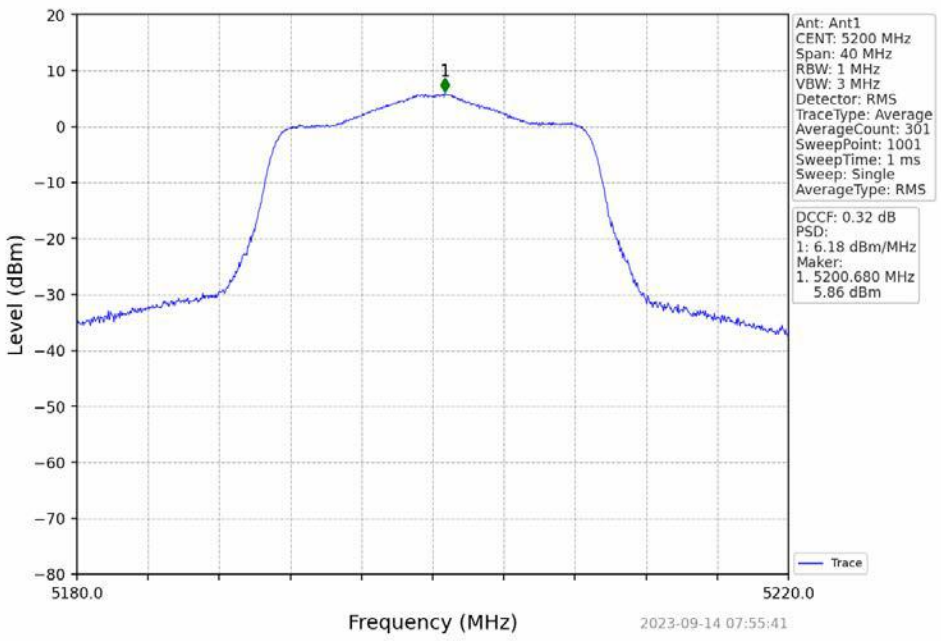
802.11a_HCH_5240MHz_NTNV



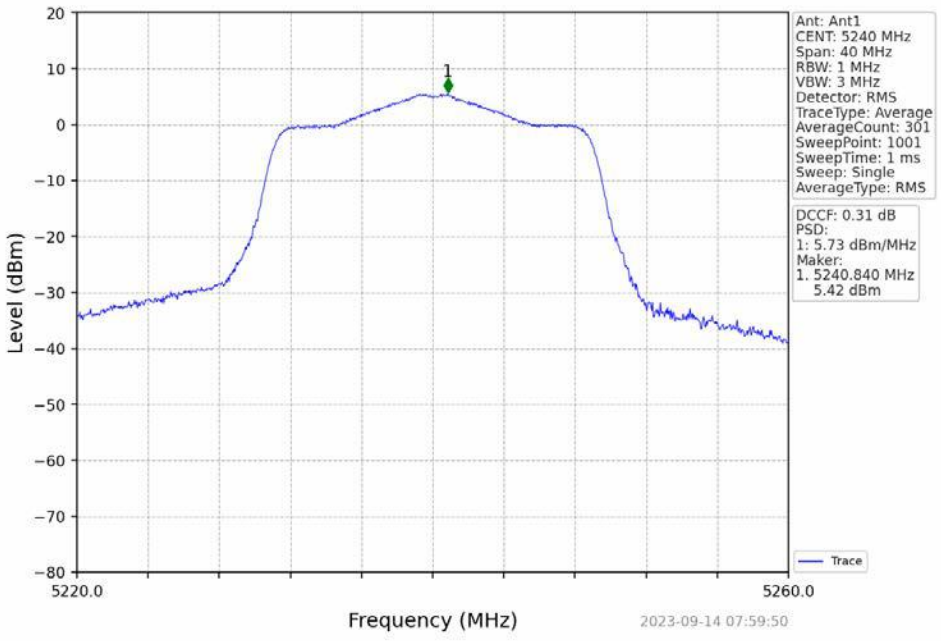
802.11n(HT20)_LCH_5180MHz_NTNV



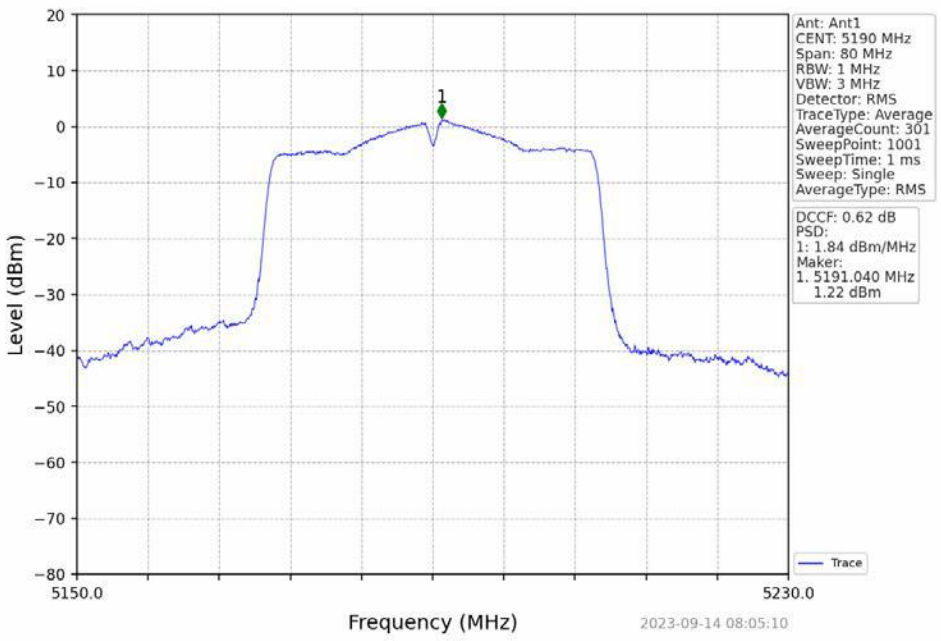
802.11n(HT20)_MCH_5200MHz_NTNV



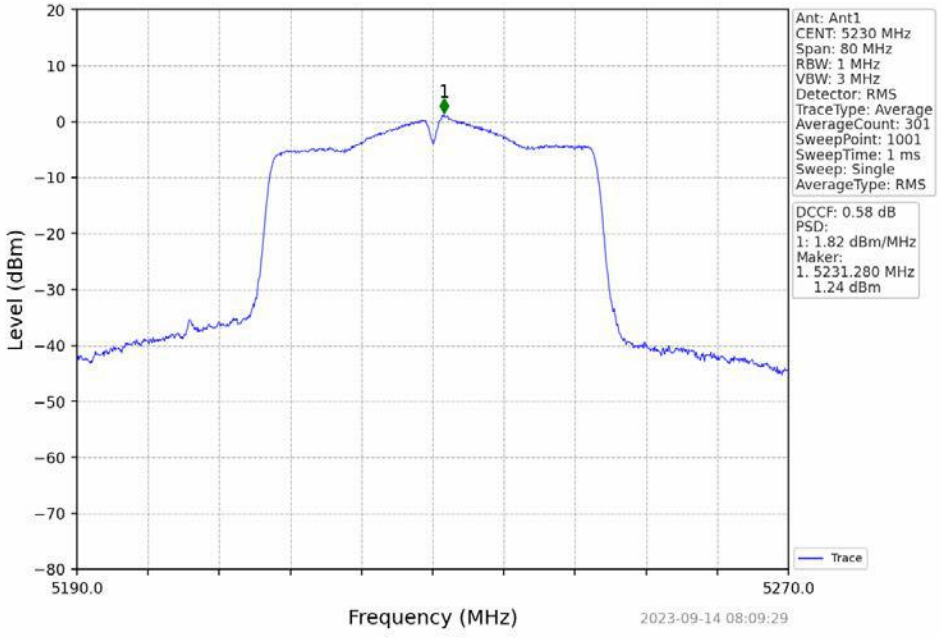
802.11n(HT20)_HCH_5240MHz_NTNV



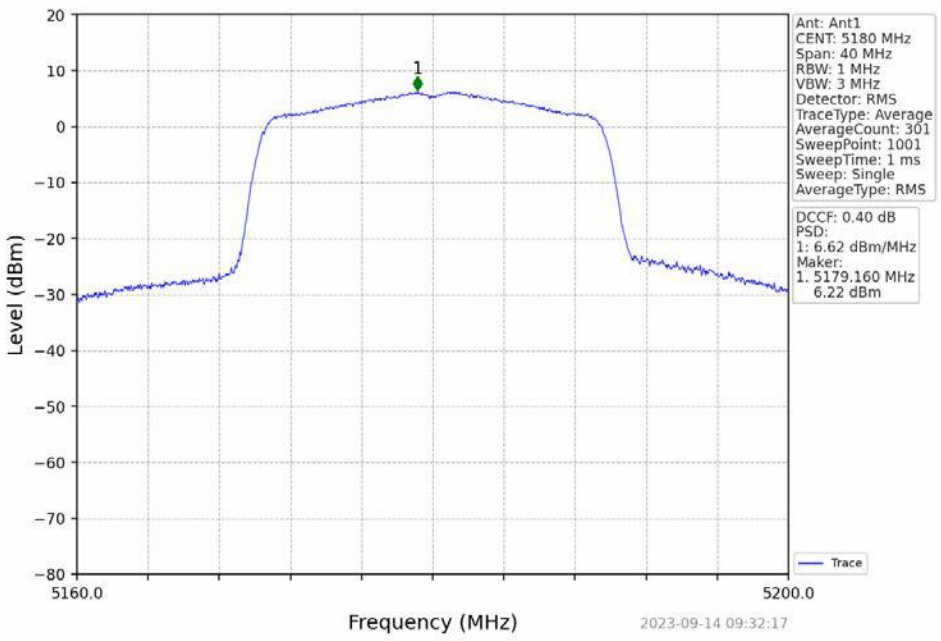
802.11n(HT40)_LCH_5190MHz_NTNV



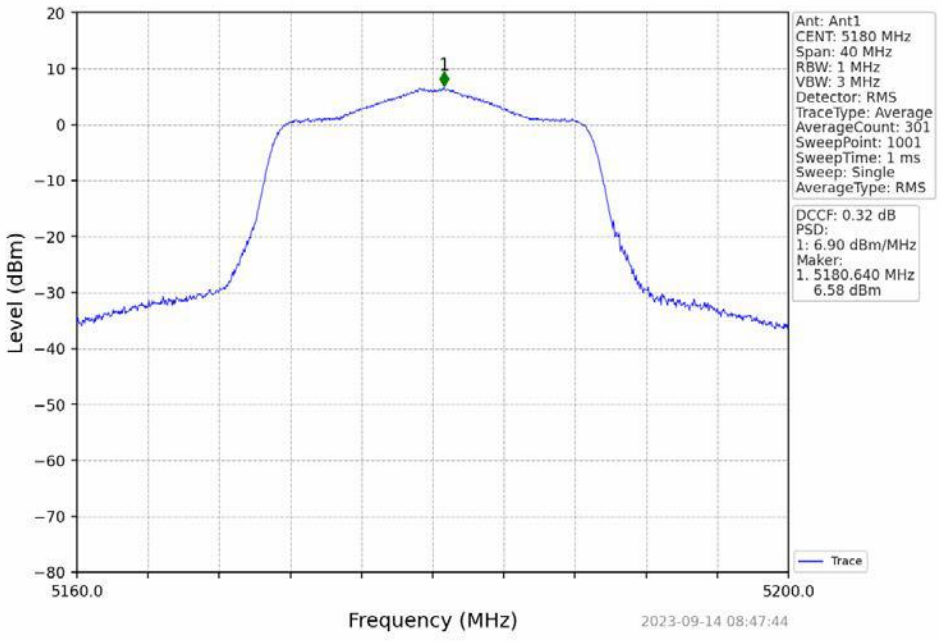
802.11n(HT40)_HCH_5230MHz_NTNV



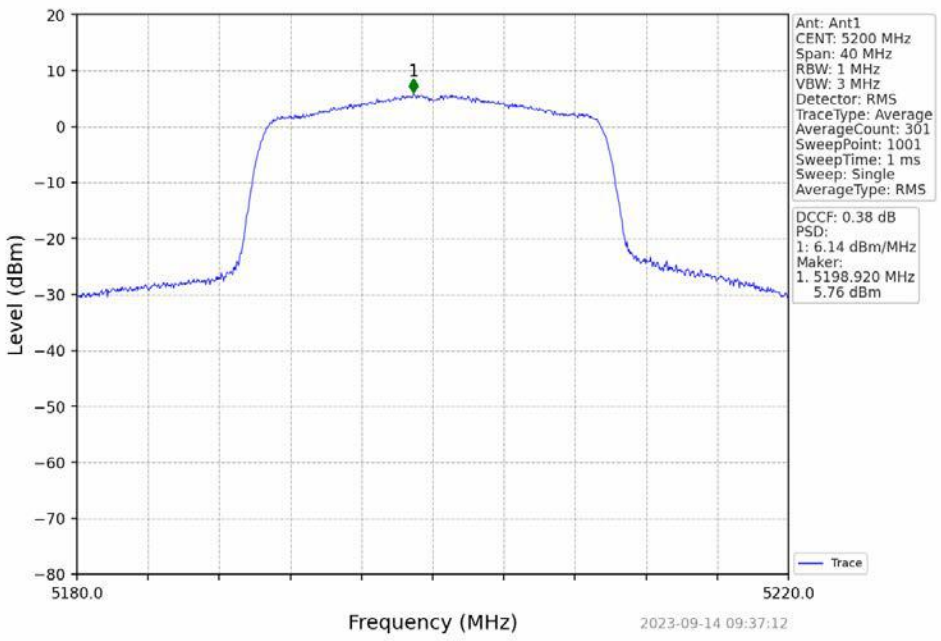
802.11ax(HEW20)_LCH_5180MHz_RU242_Left_NTNV



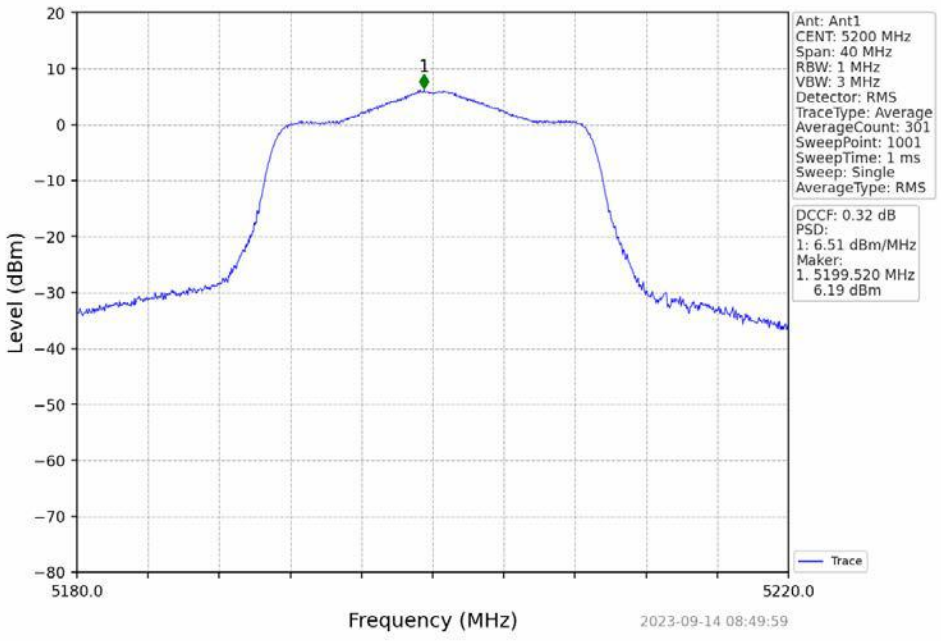
802.11ac(VHT20)_LCH_5180MHz_NTNV



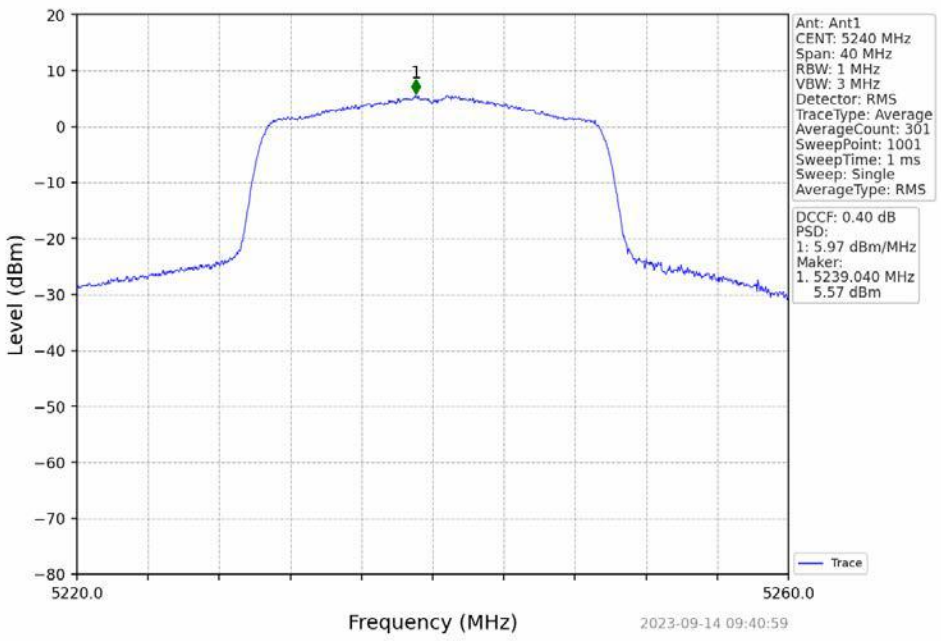
802.11ax(HEW20)_MCH_5200MHz_RU242_Left_NTNV



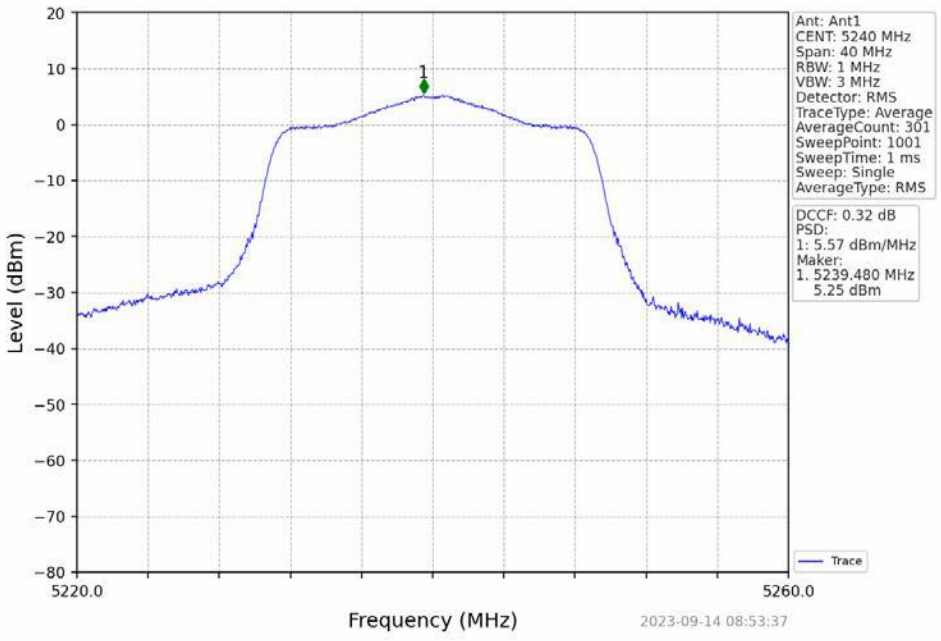
802.11ac(VHT20)_MCH_5200MHz_NTNV



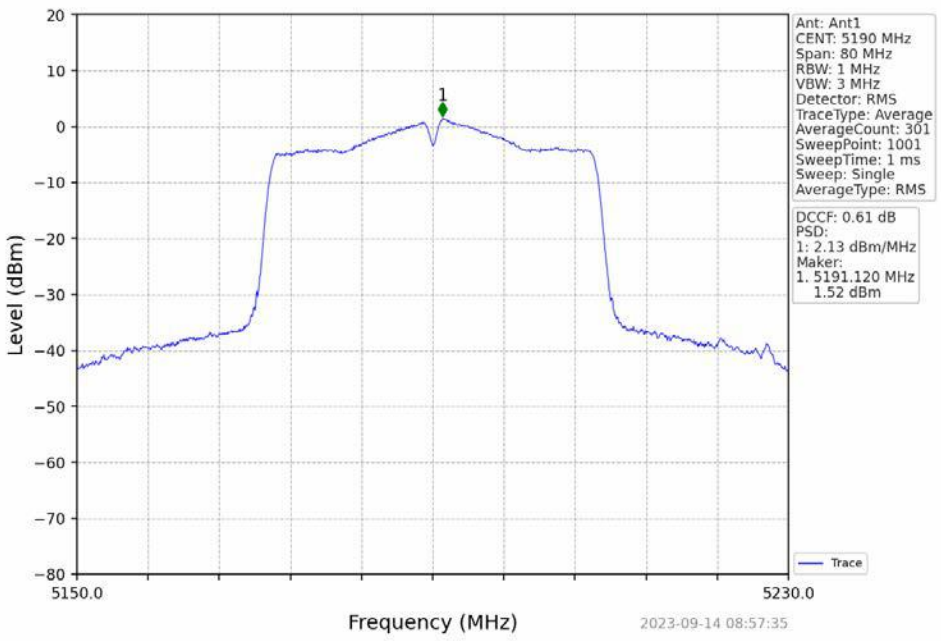
802.11ax(HEW20)_HCH_5240MHz_RU242_Left_NTNV



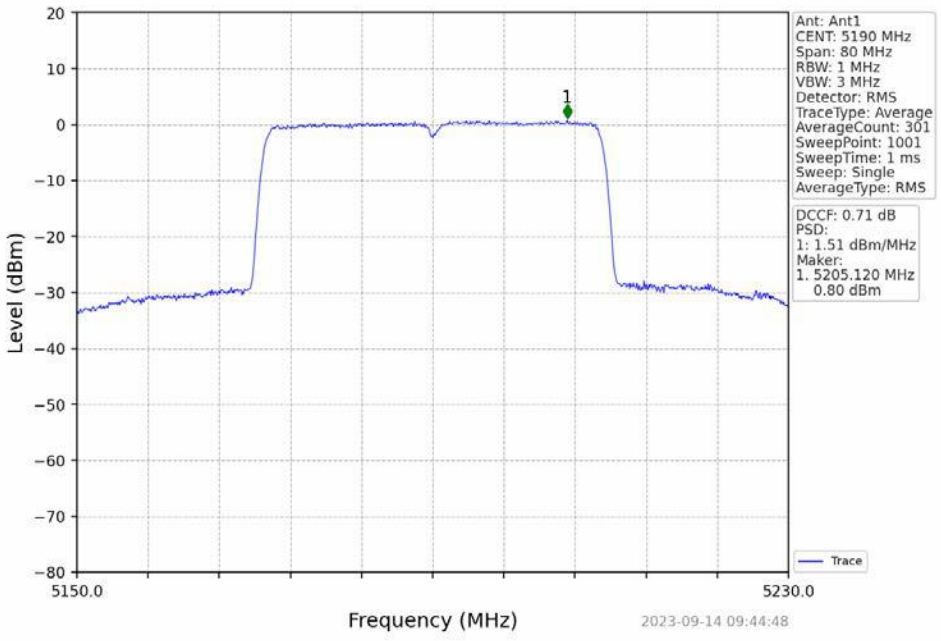
802.11ac(VHT20)_HCH_5240MHz_NTNV



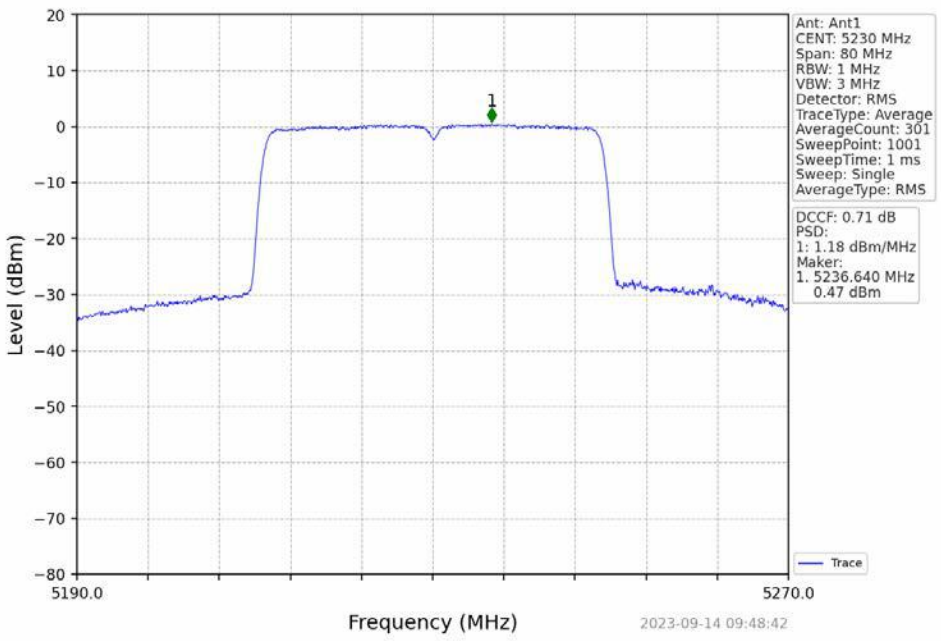
802.11ac(VHT40)_LCH_5190MHz_NTNV



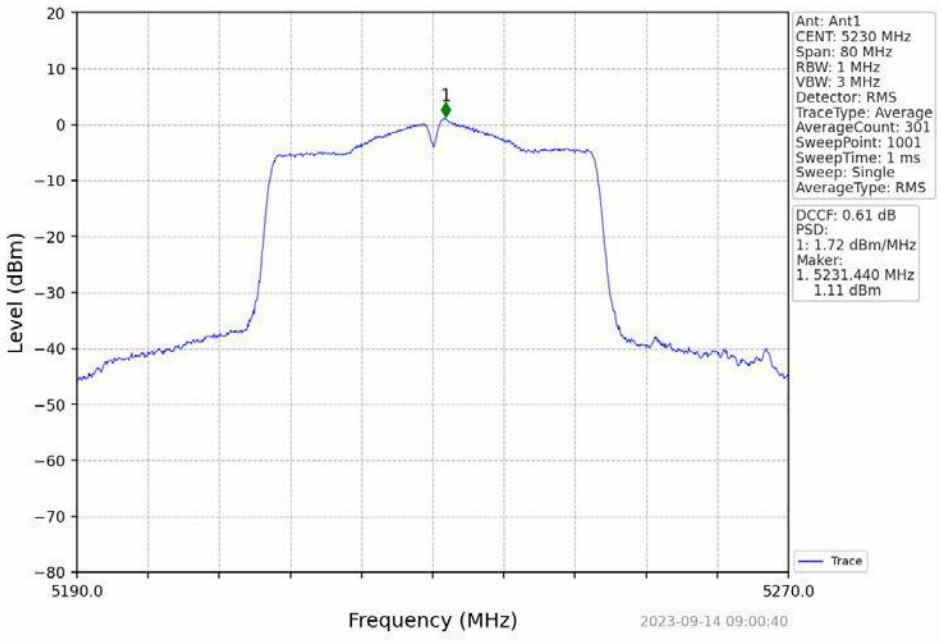
802.11ax(HEW40)_LCH_5190MHz_RU484_Left_NTNV



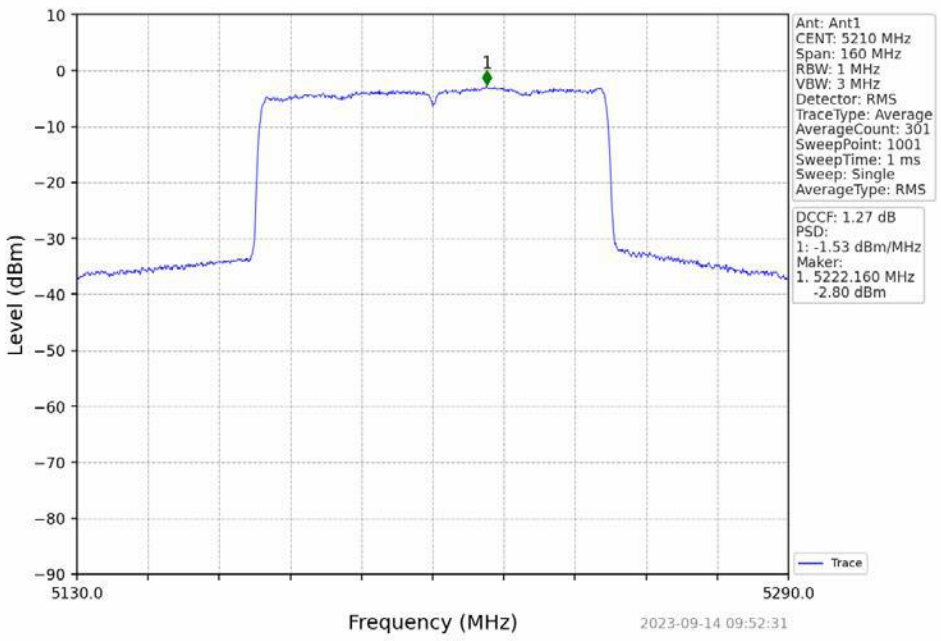
802.11ax(HEW40)_HCH_5230MHz_RU484_Left_NTNV



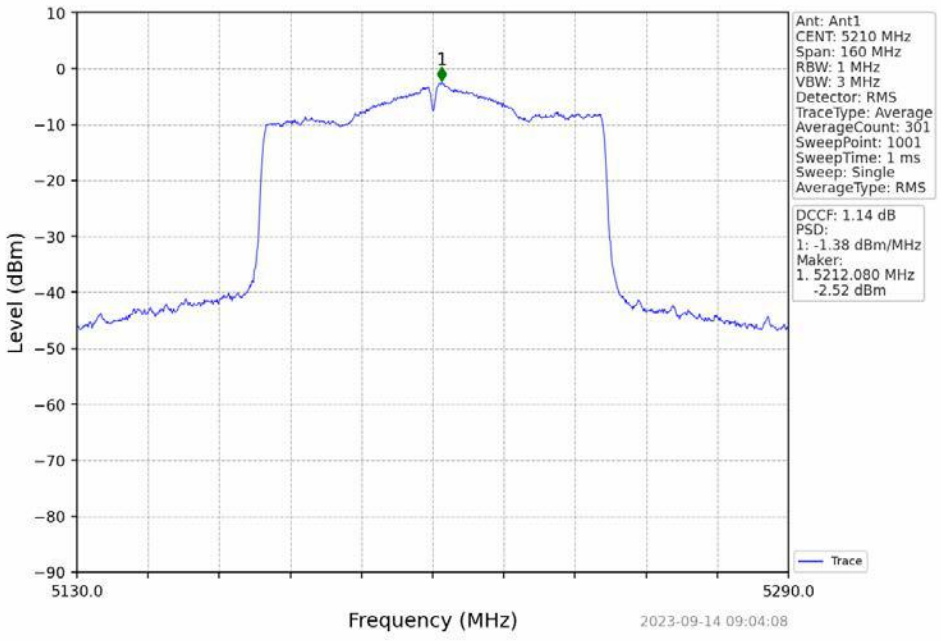
802.11ac(VHT40)_HCH_5230MHz_NTNV



802.11ax(HEW80)_MCH_5210MHz_RU996_Left_NTNV

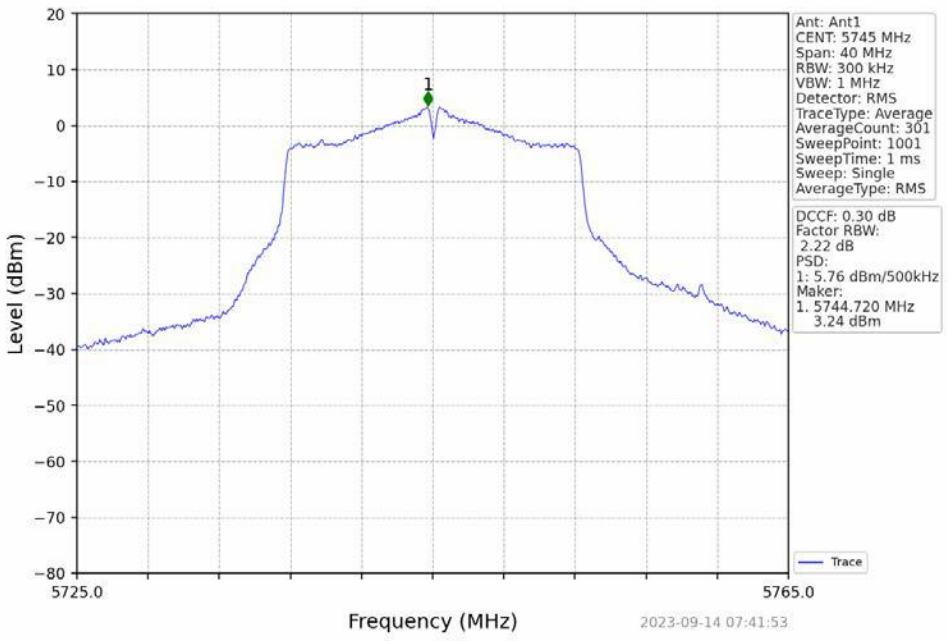


802.11ac(VHT80)_MCH_5210MHz_NTNV

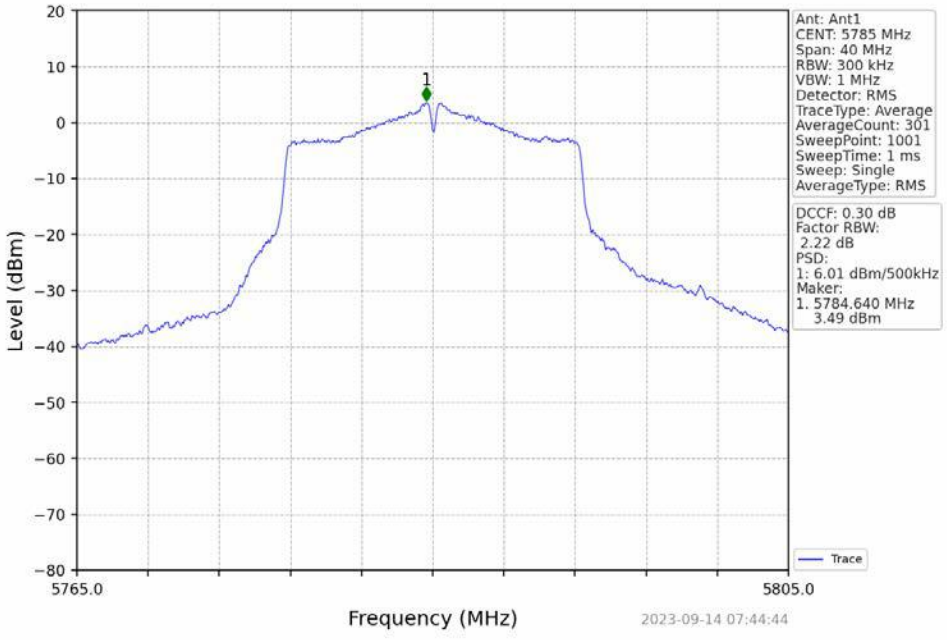


U-NII-3

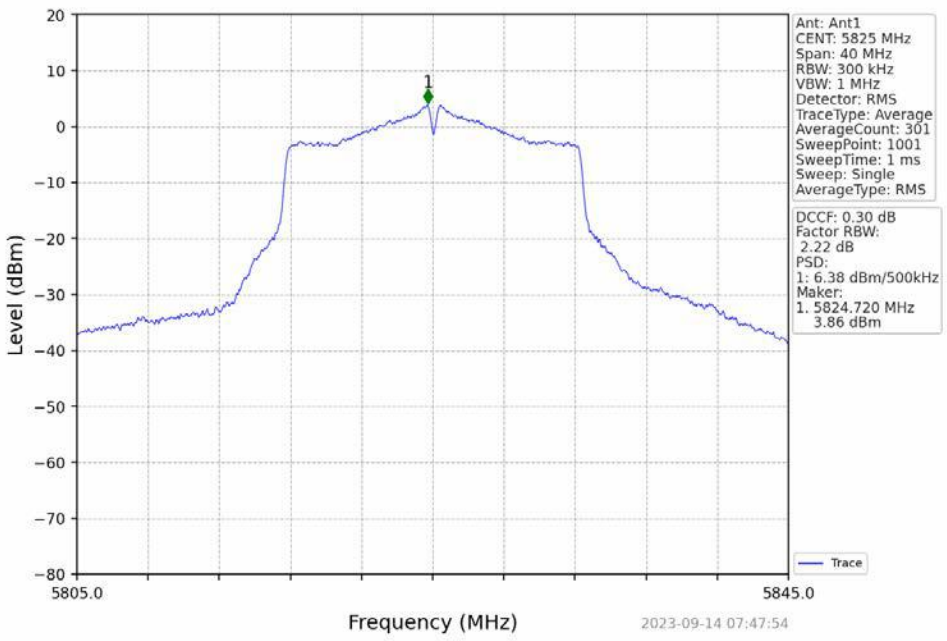
802.11a_LCH_5745MHz_NTNV



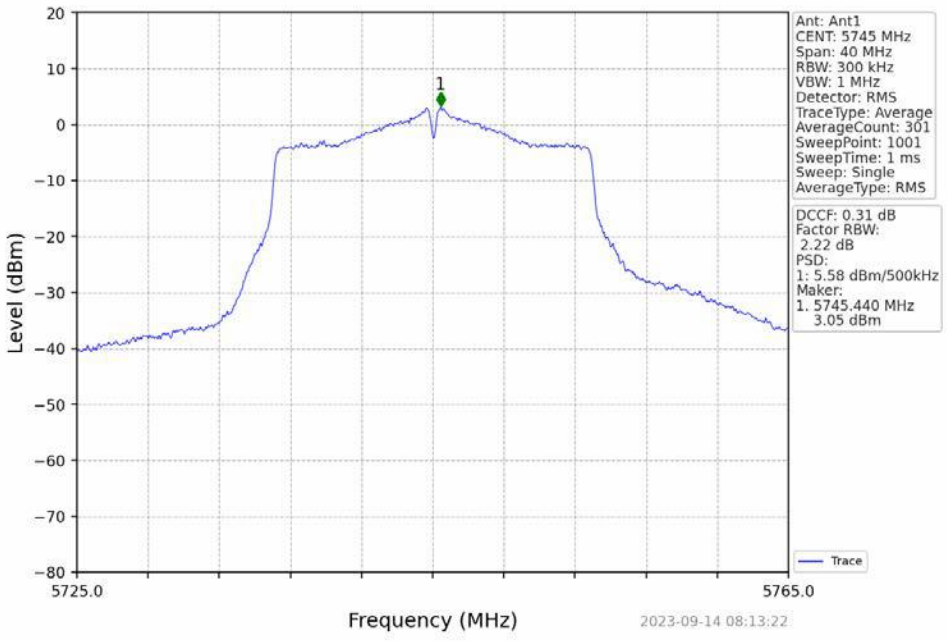
802.11a_MCH_5785MHz_NTNV



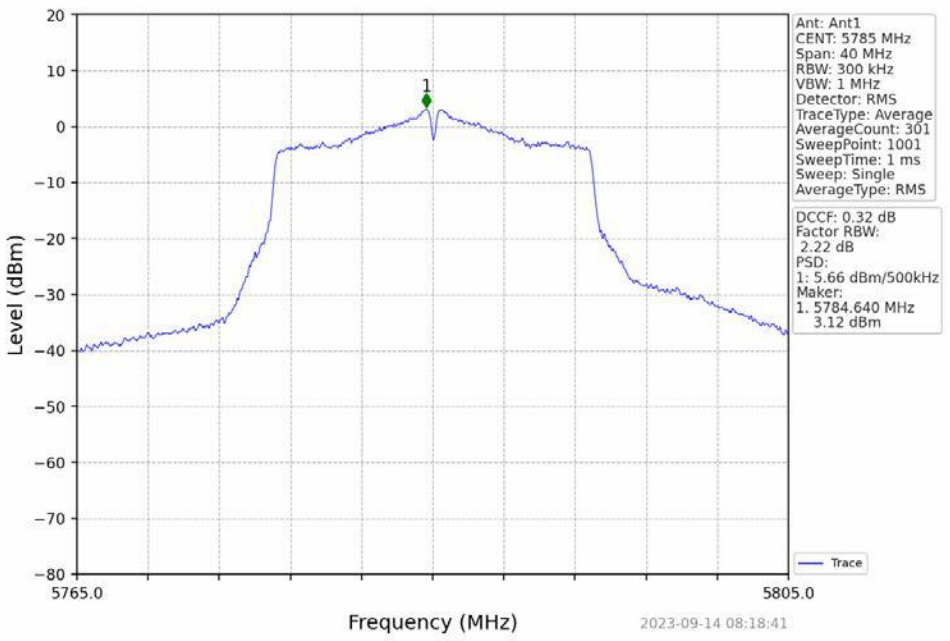
802.11a_HCH_5825MHz_NTNV



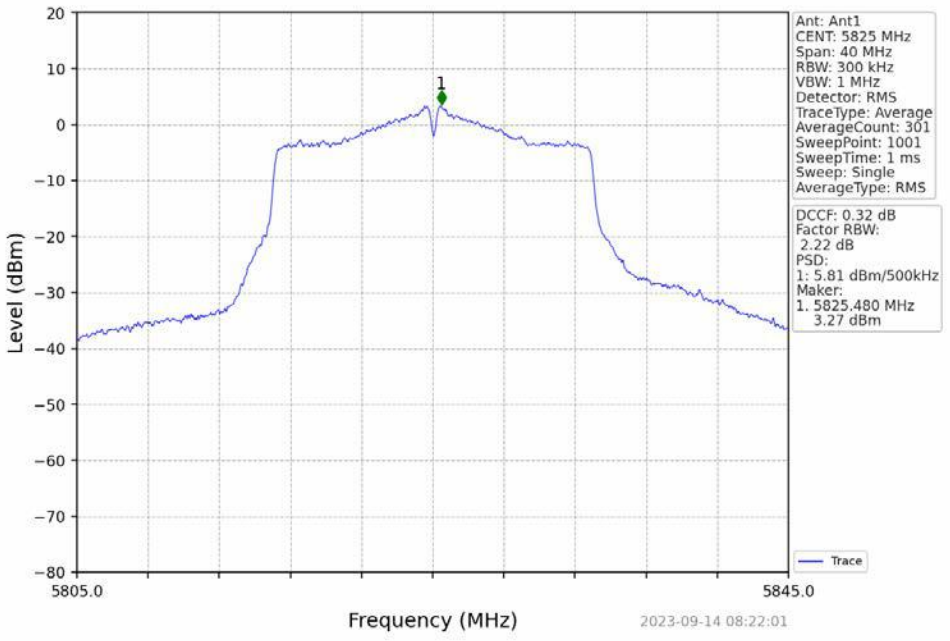
802.11n(HT20)_LCH_5745MHz_NTNV



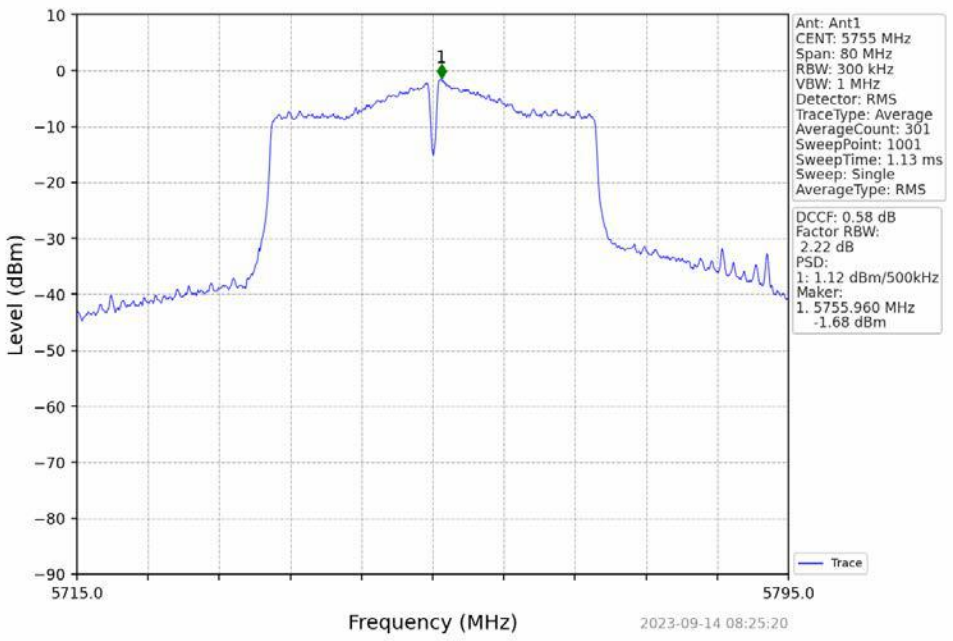
802.11n(HT20)_MCH_5785MHz_Ant3 NTNV



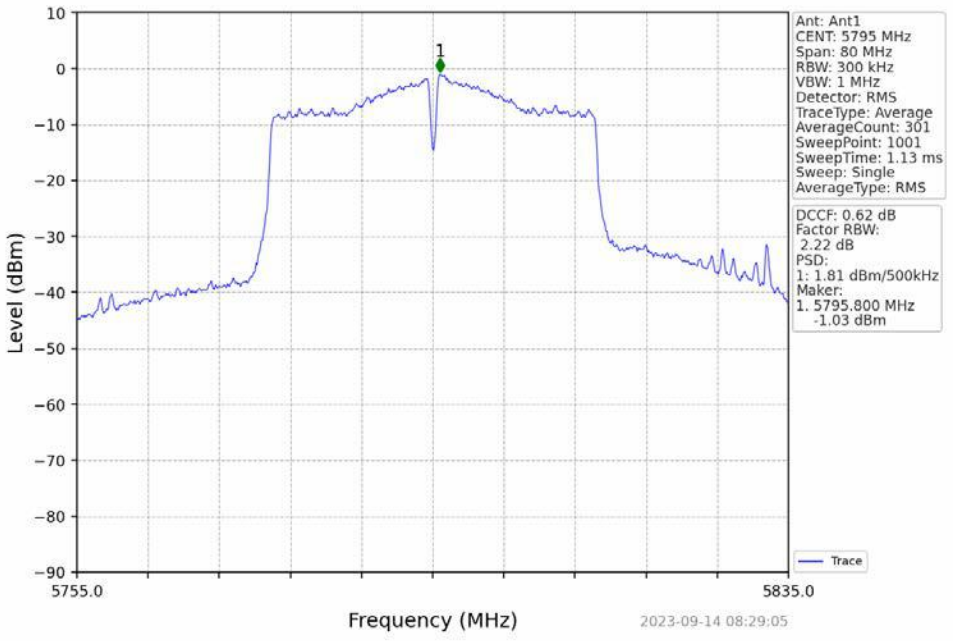
802.11n(HT20)_HCH_5825MHz_NTNV



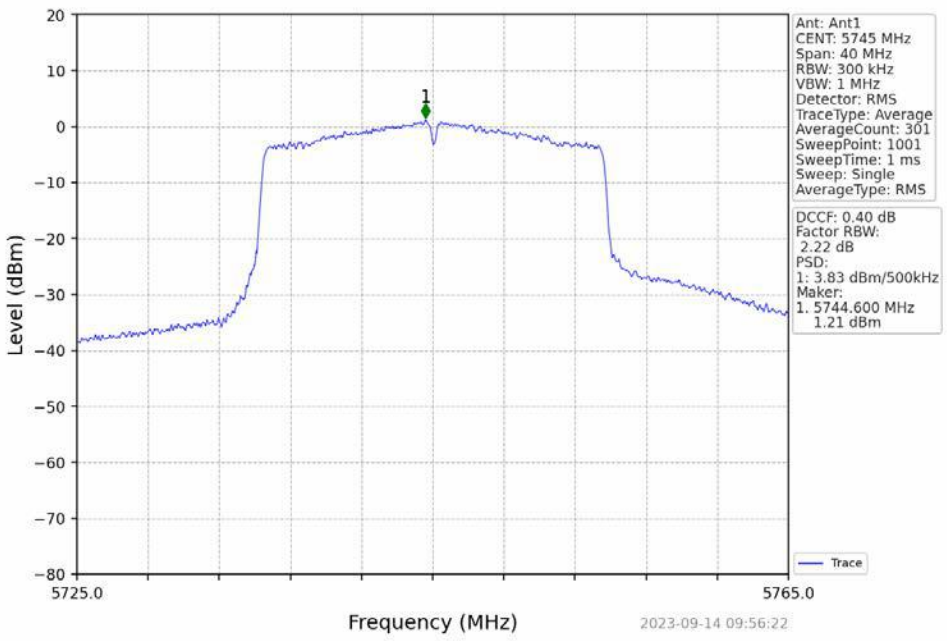
802.11n(HT40)_LCH_5755MHz_NTNV



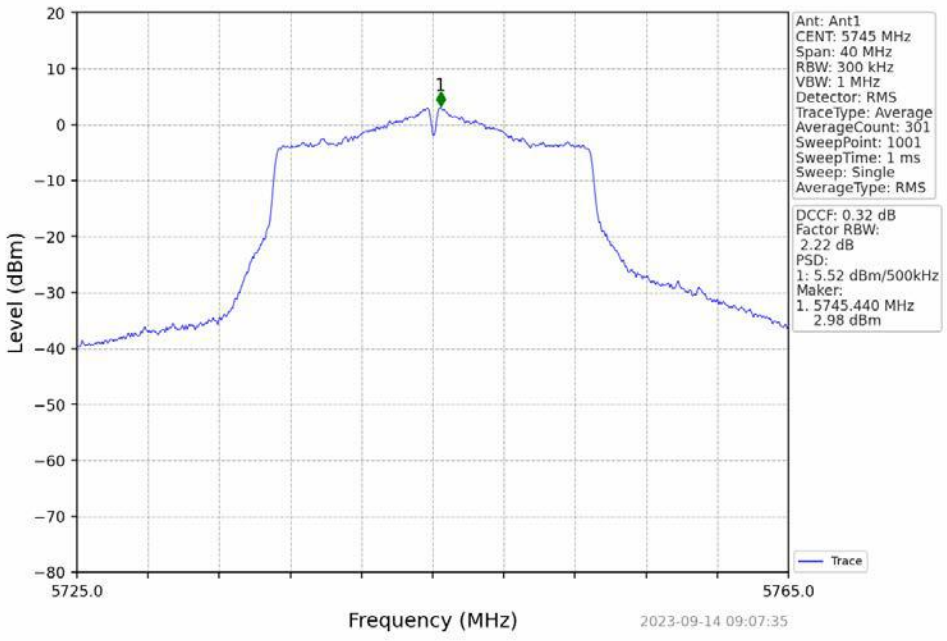
802.11n(HT40)_HCH_5795MHz_NTNV



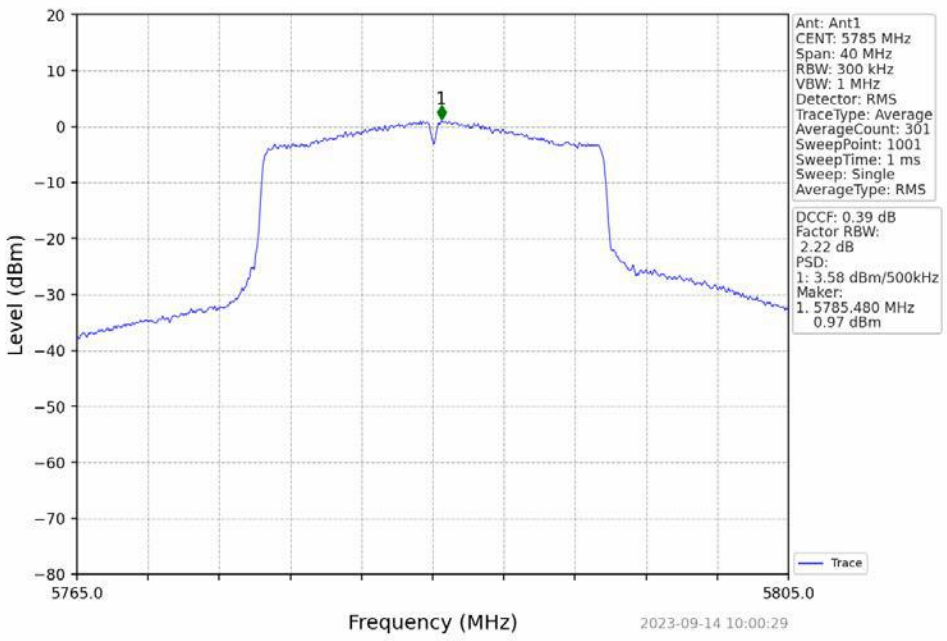
802.11ax(HEW20)_LCH_5745MHz_RU242_Left_NTNV



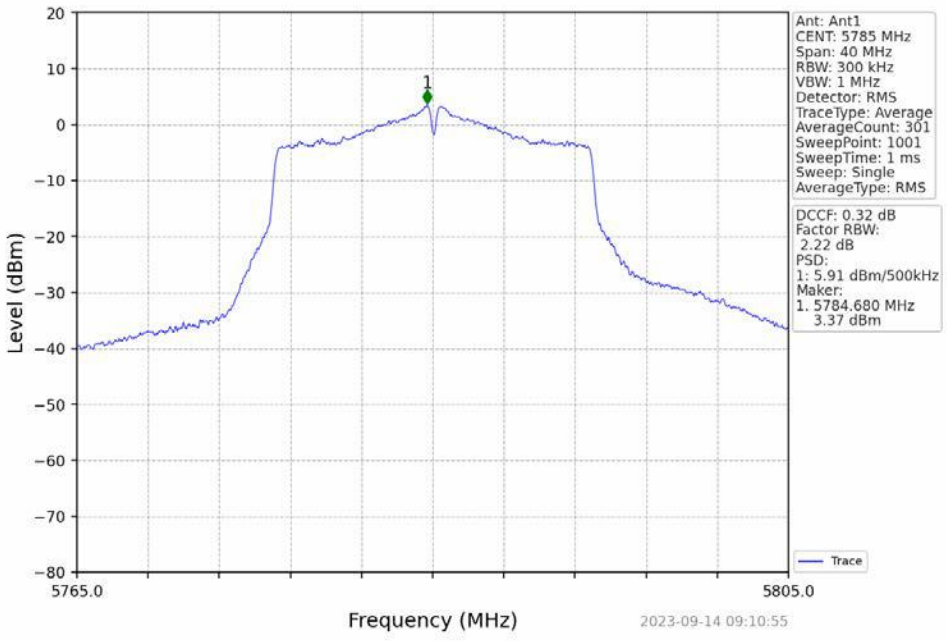
802.11ac(VHT20)_LCH_5745MHz_NTNV



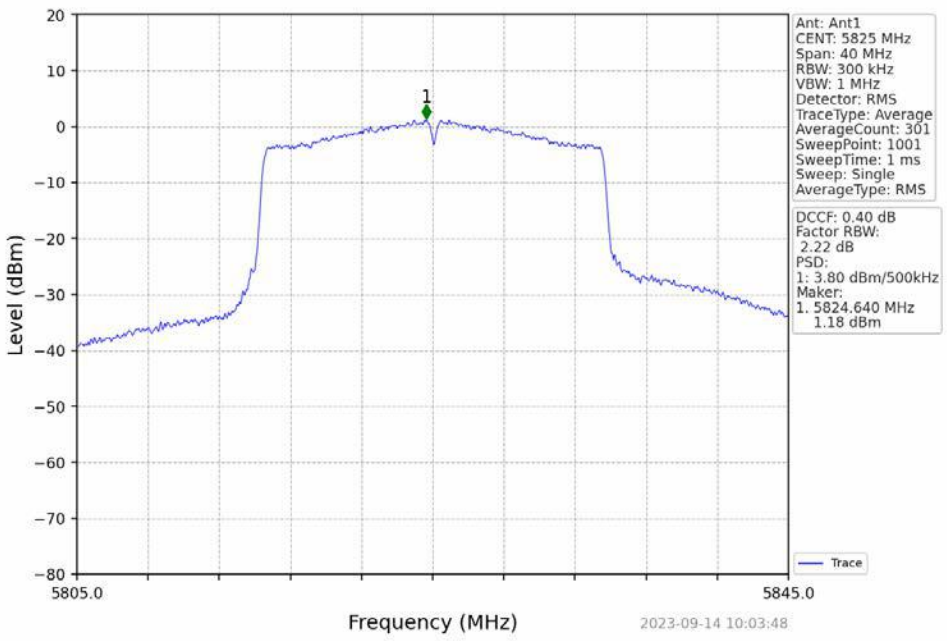
802.11ax(HEW20)_MCH_5785MHz_RU242_Left_NTNV



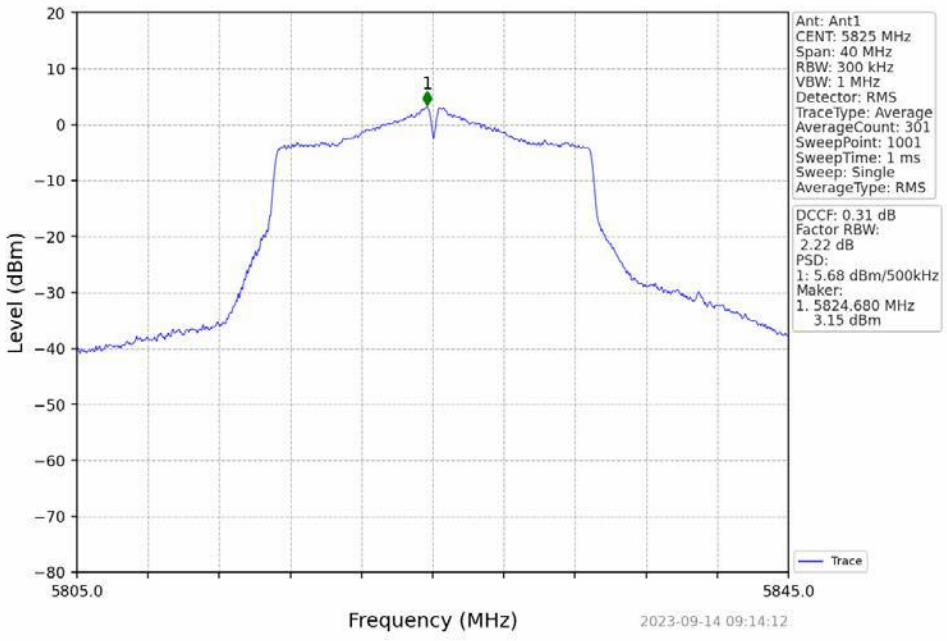
802.11ac(VHT20)_MCH_5785MHz_NTNV



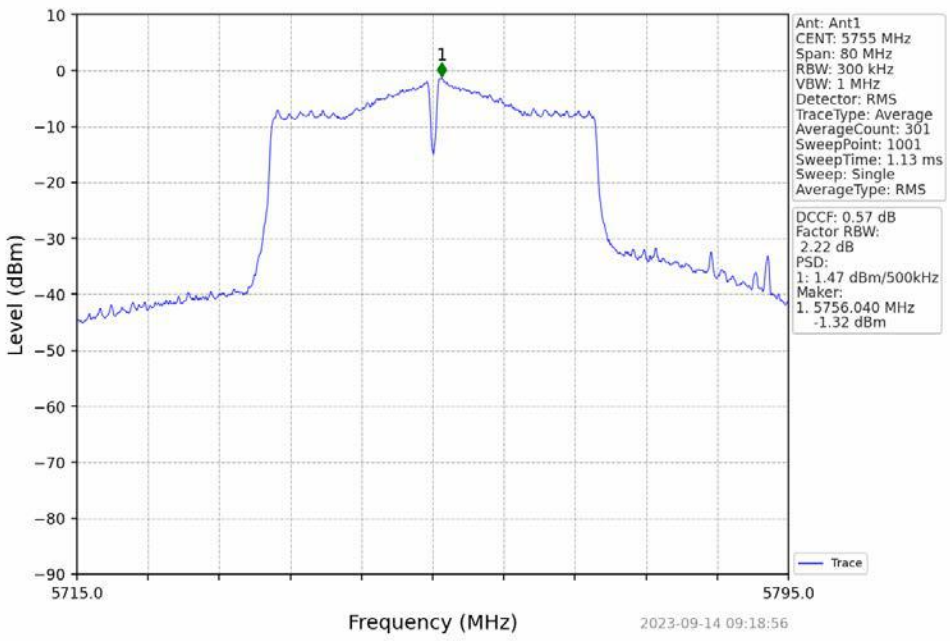
802.11ax(HEW20)_HCH_5825MHz_RU242_Left_NTNV



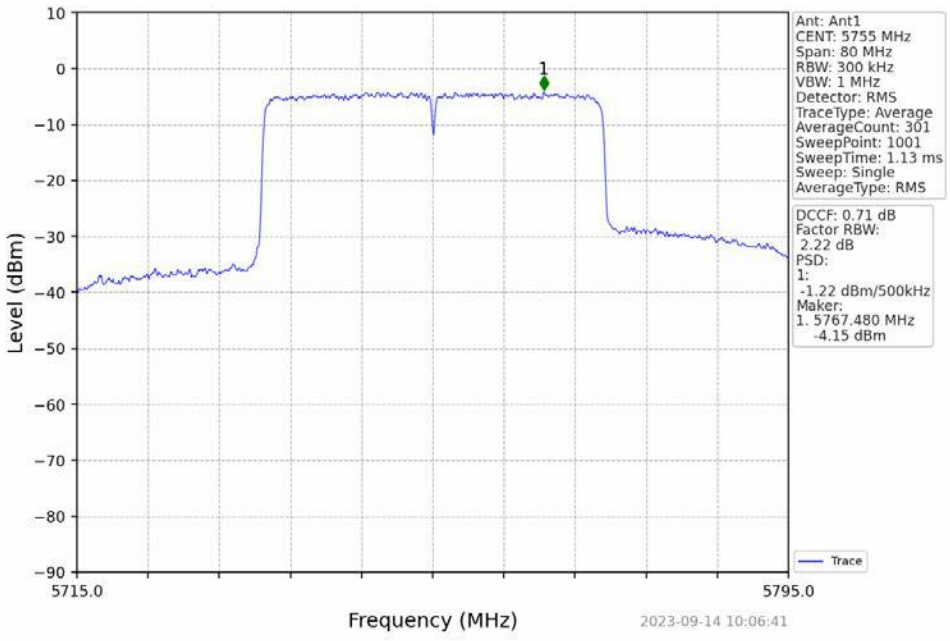
802.11ac(VHT20)_HCH_5825MHz_NTNV



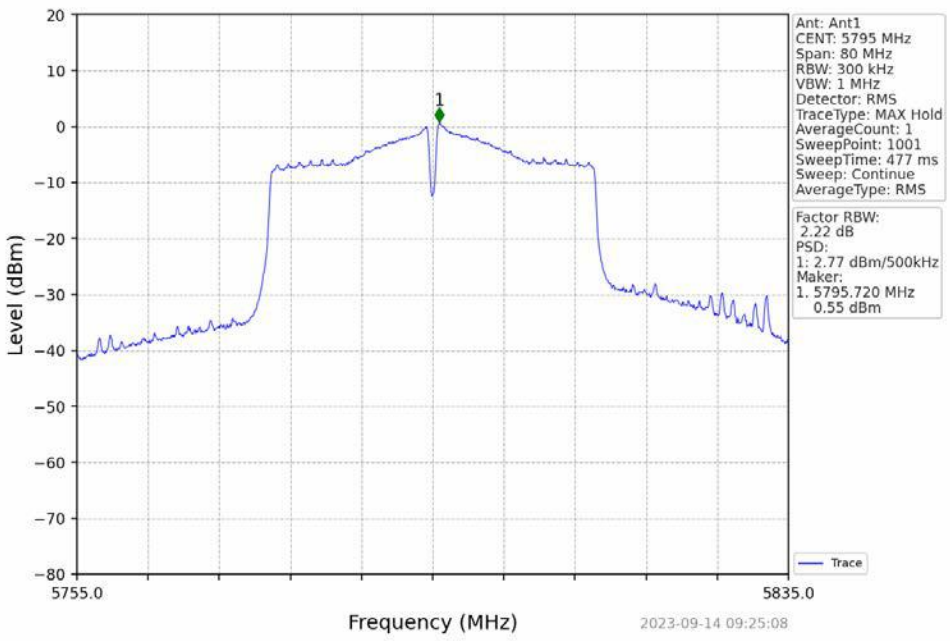
802.11ac(VHT40)_LCH_5755MHz_NTNV



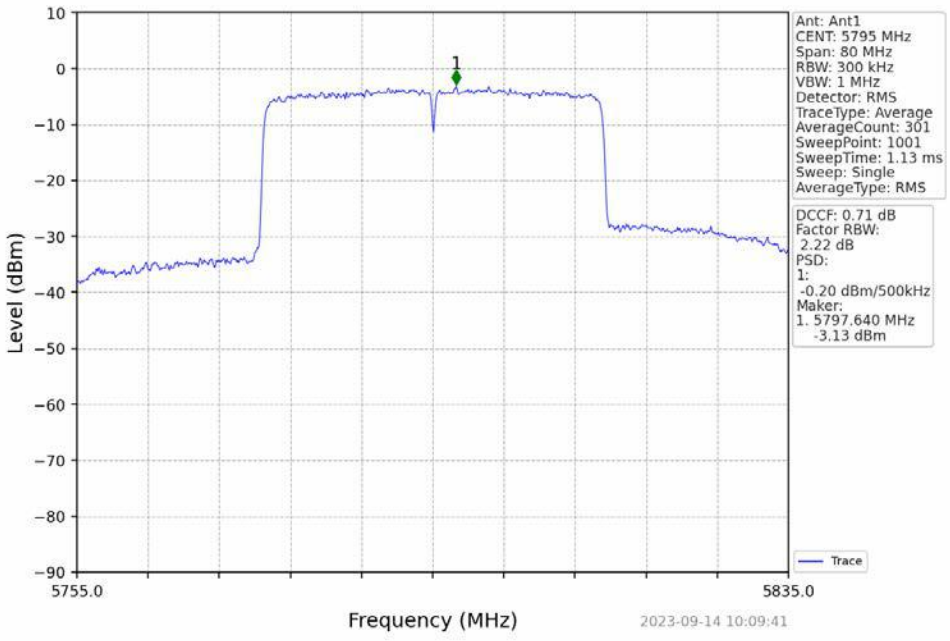
802.11ax(HEW40)_LCH_5755MHz_RU484_Left_NTNV



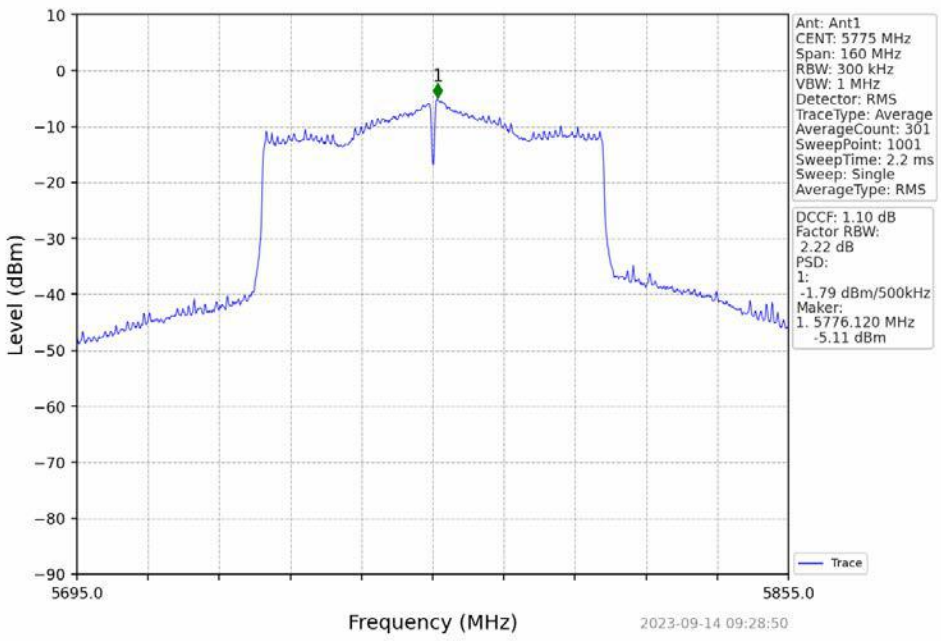
802.11ac(VHT40)_HCH_5795MHz_NTNV



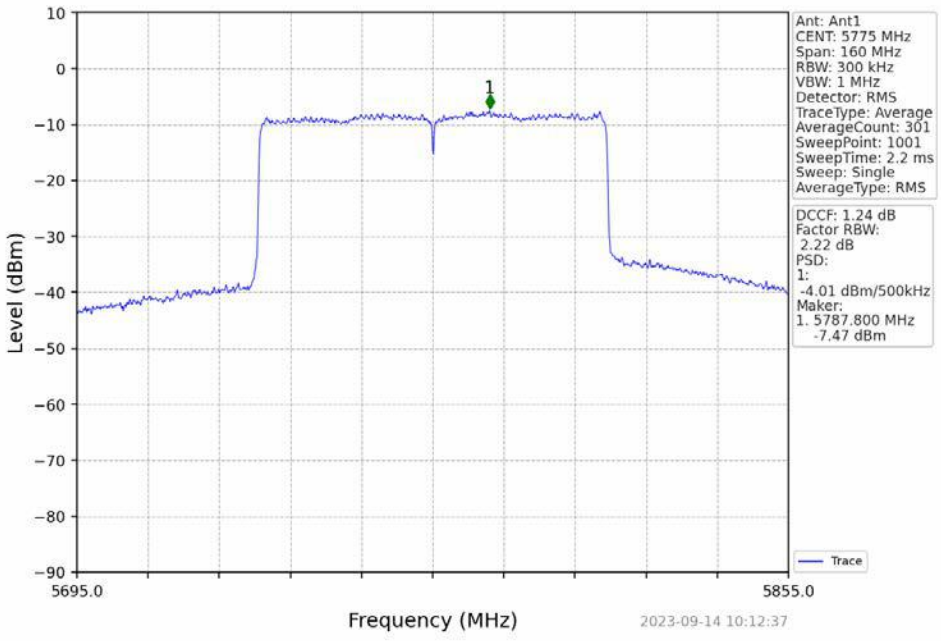
802.11ax(HEW40)_HCH_5795MHz_RU484_Left_NTNV



802.11ac(VHT80)_MCH_5775MHz_NTNV



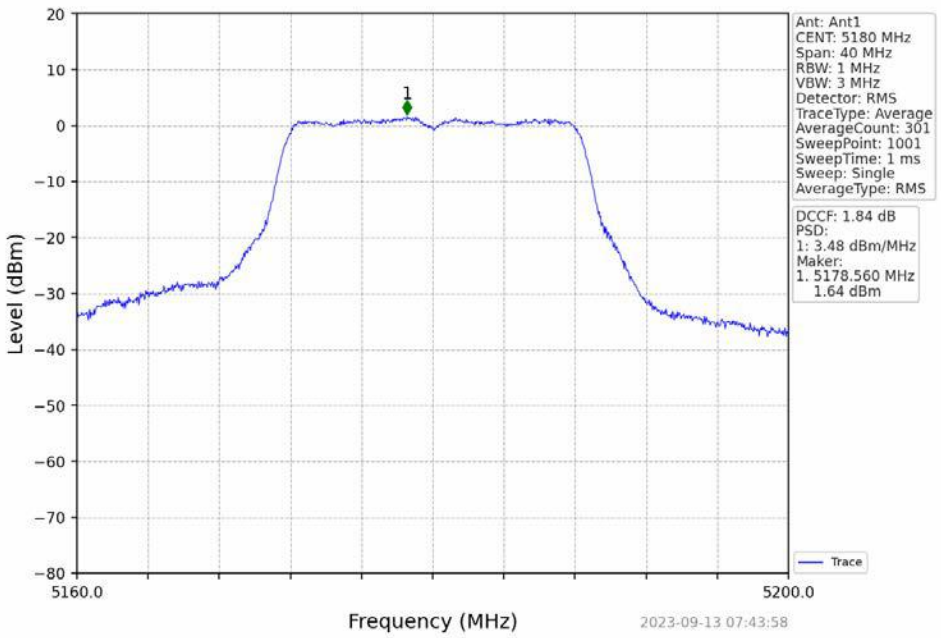
802.11ax(HEW80)_MCH_5775MHz_RU996_Left_NTNV



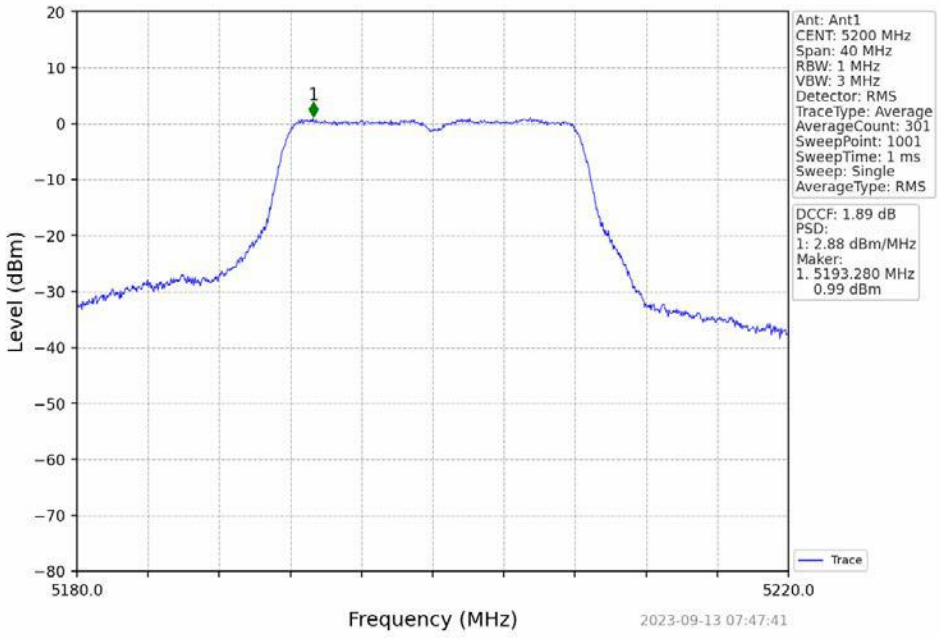
Antenna 4:

U-NII-1:

802.11a_LCH_5180MHz_NTNV



802.11a_MCH_5200MHz_NTNV



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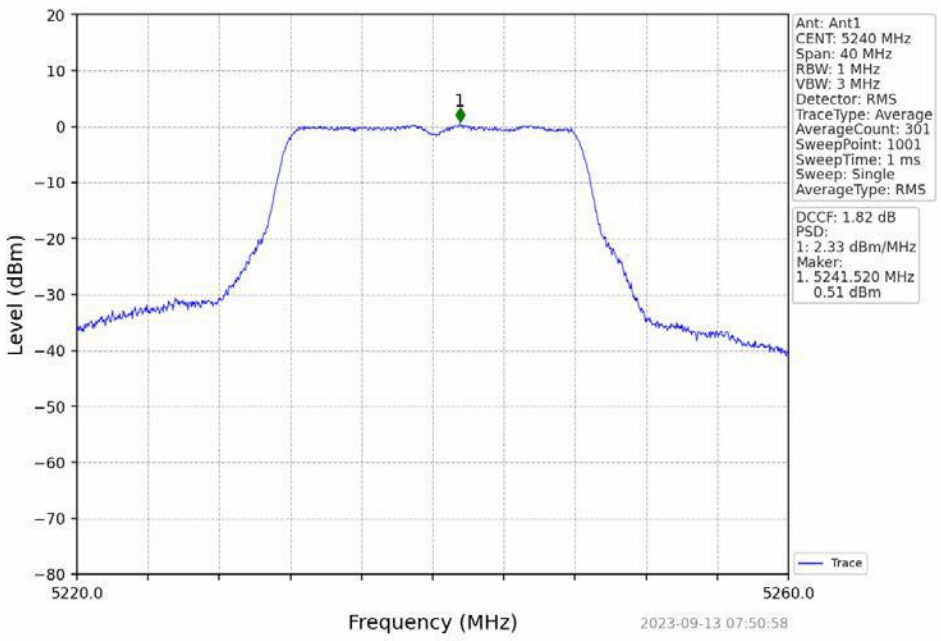
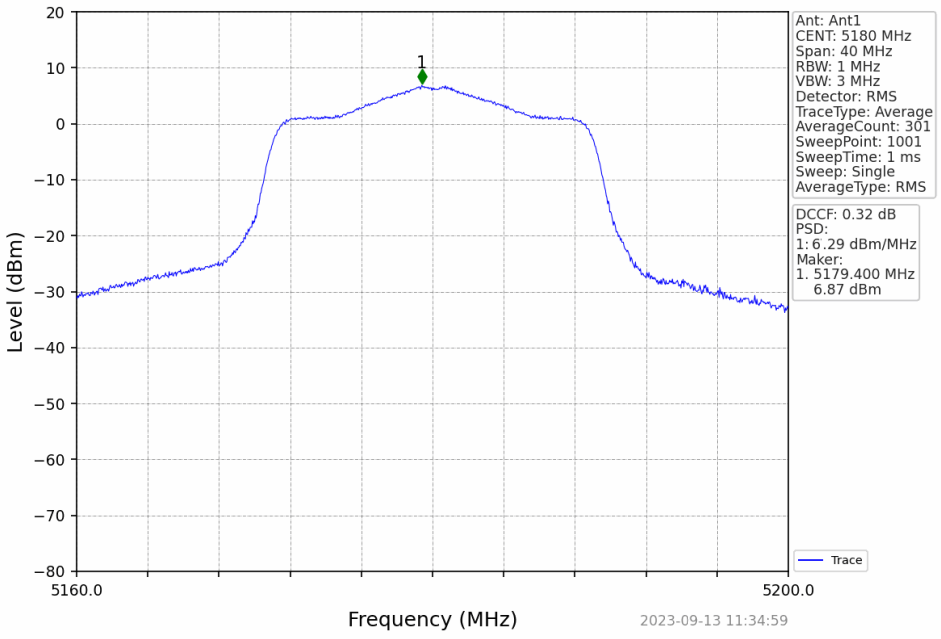


802.11n(HT20)_LCH_5180MHz_NTNV



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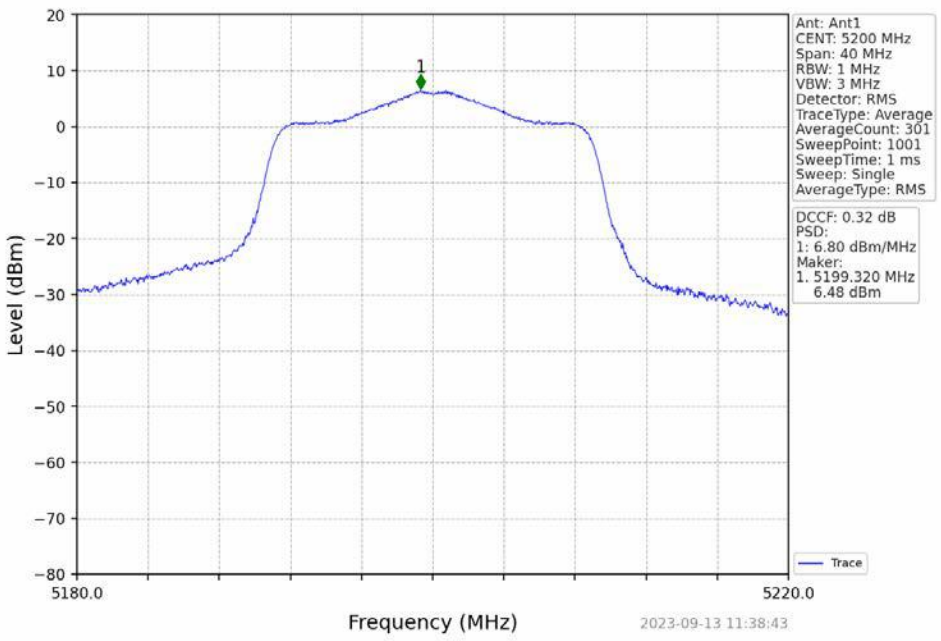

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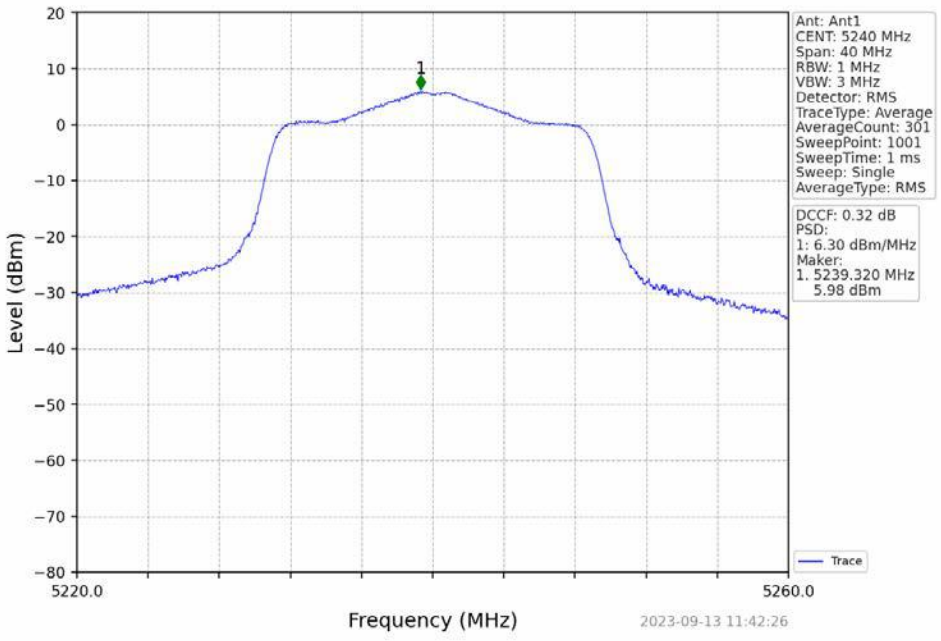

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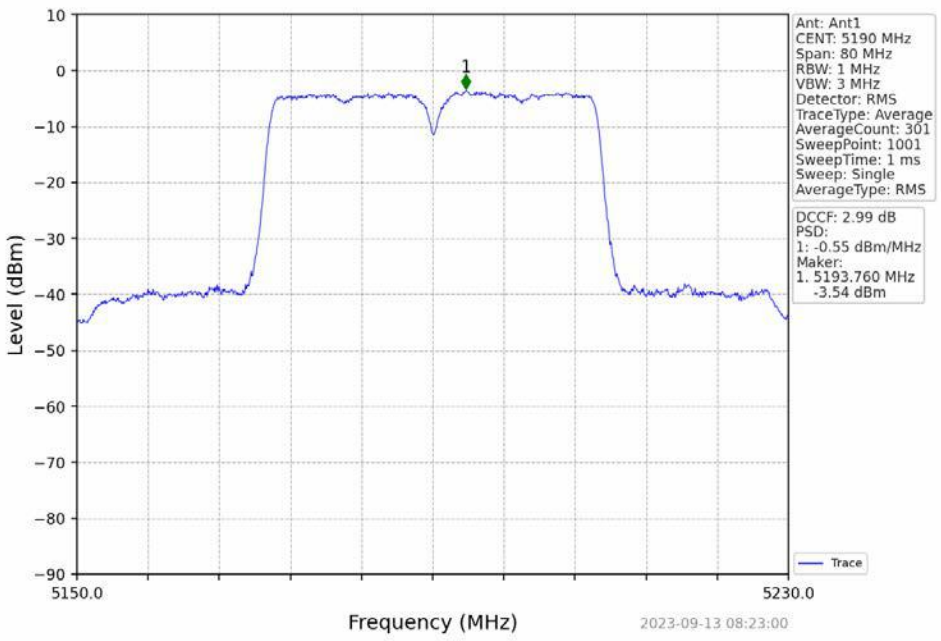

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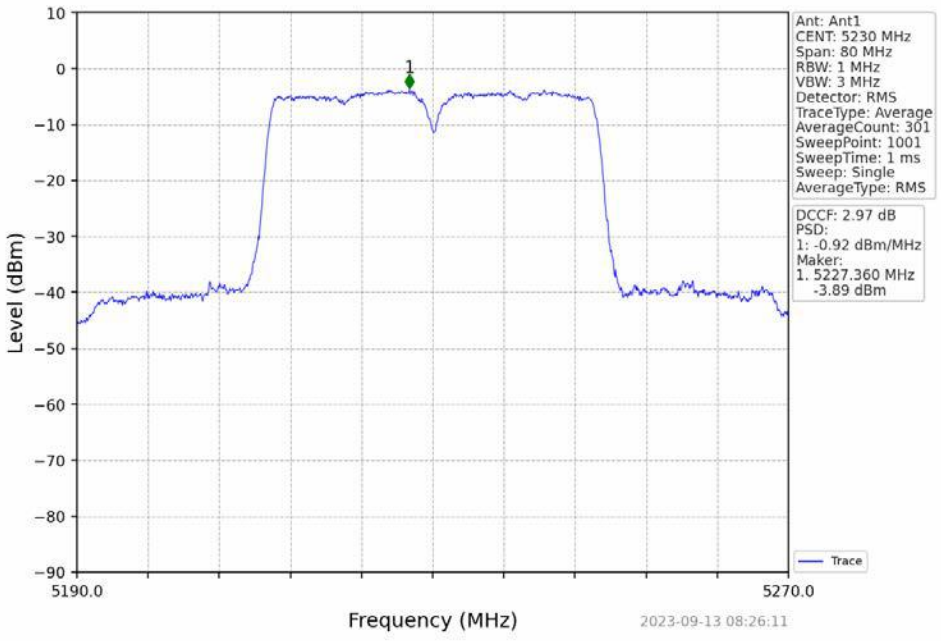
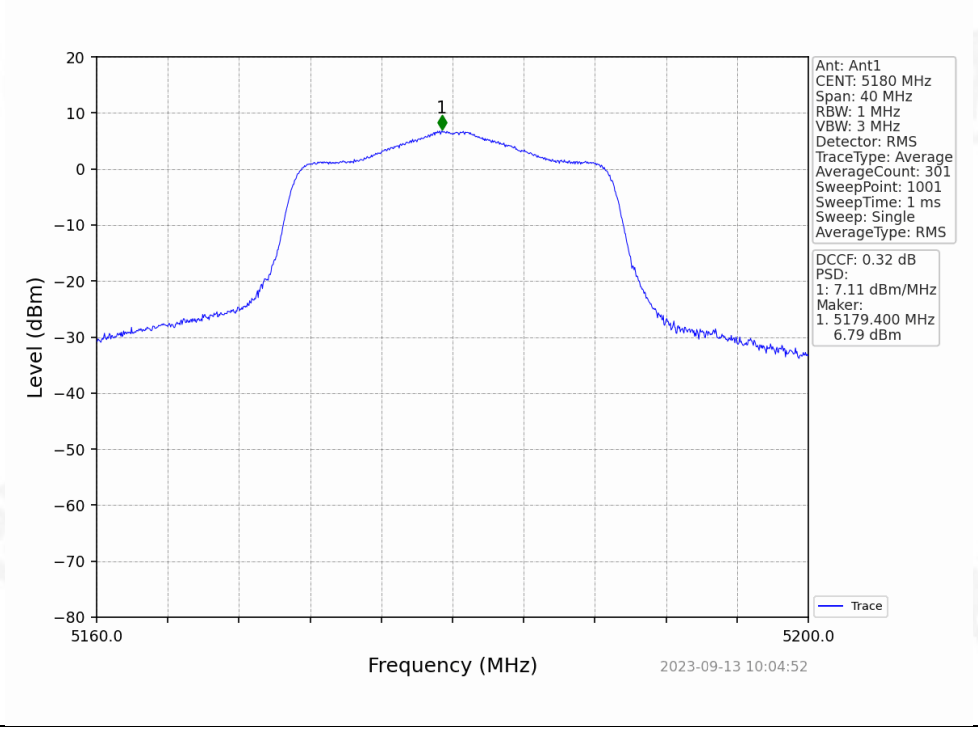


802.11ac(VHT20)_LCH_5180MHz_NTNV



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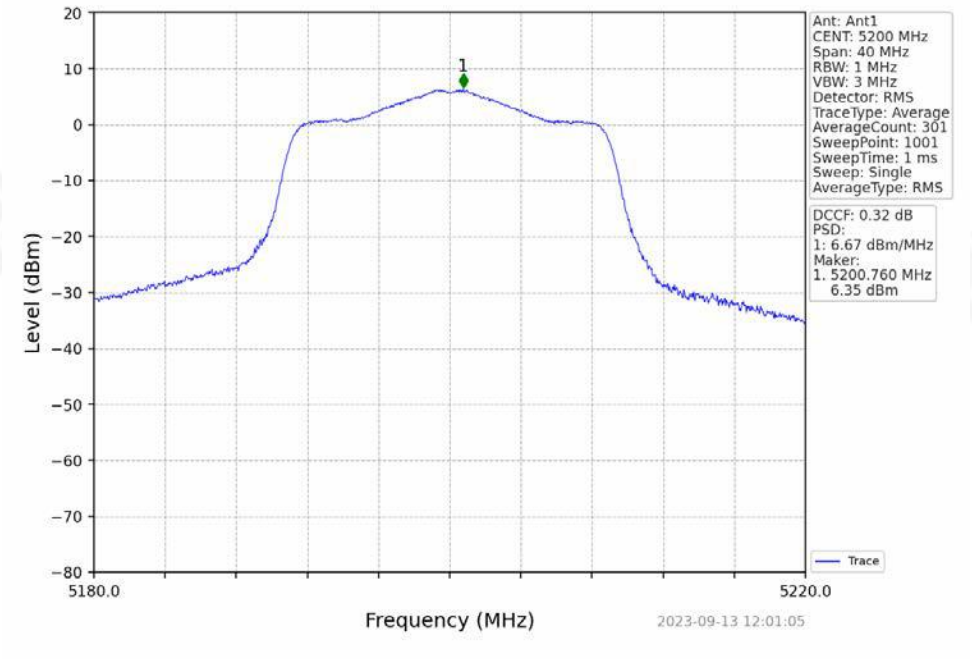

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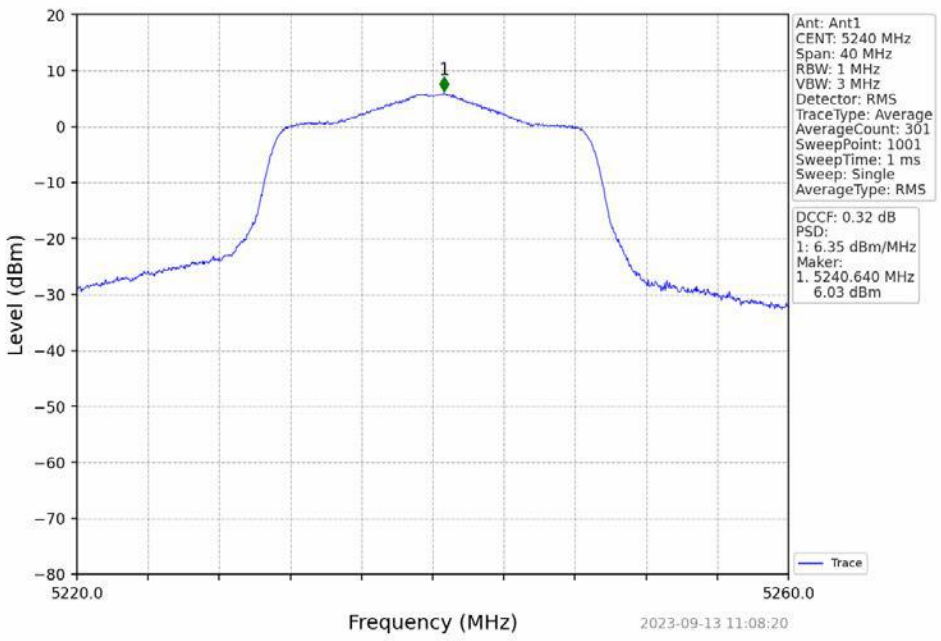

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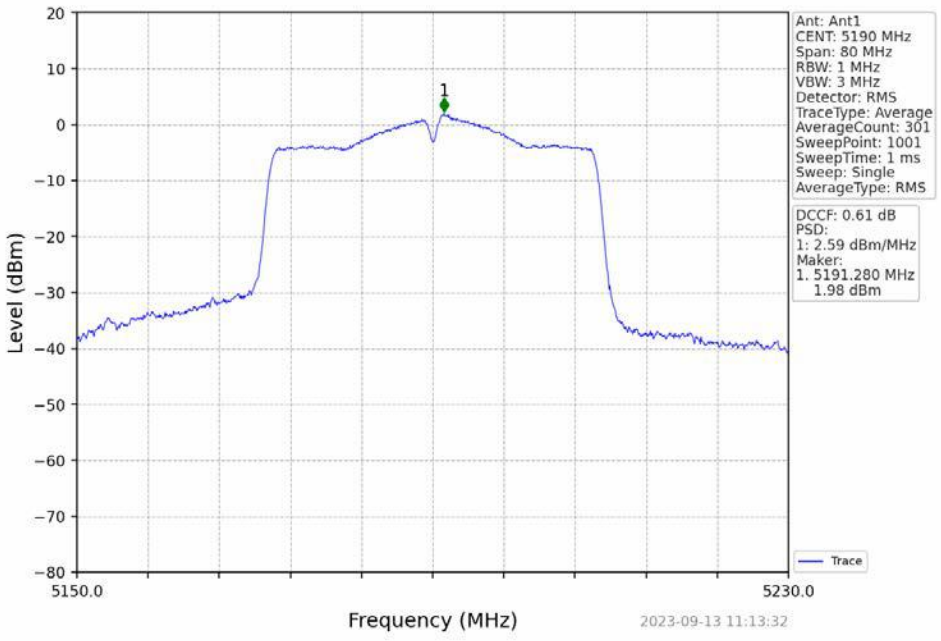

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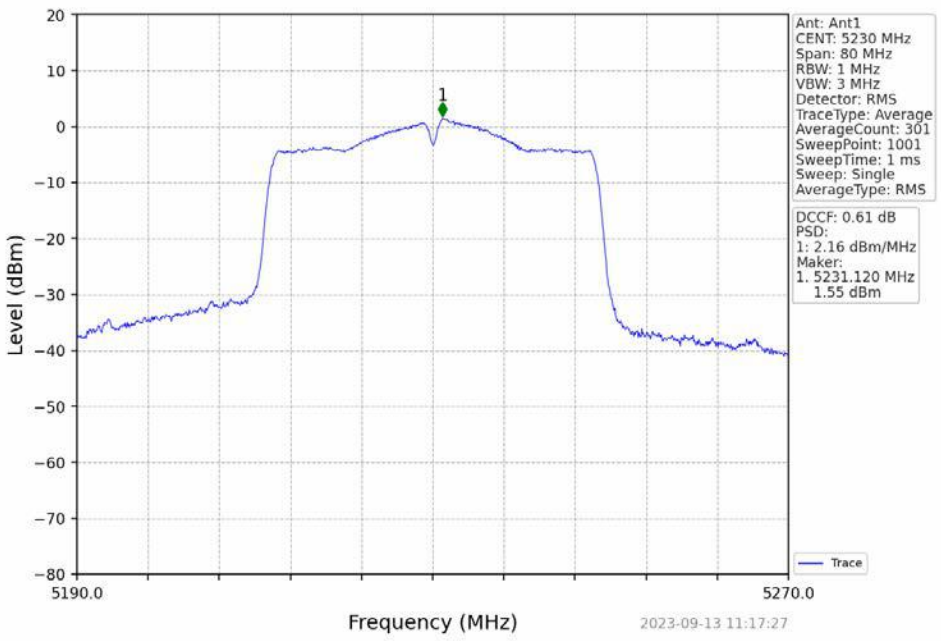

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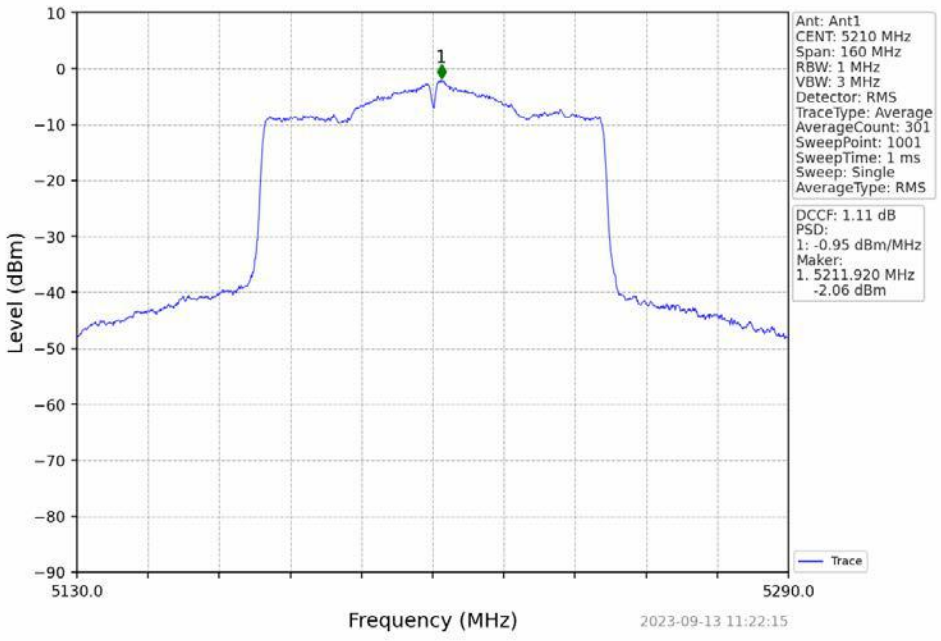
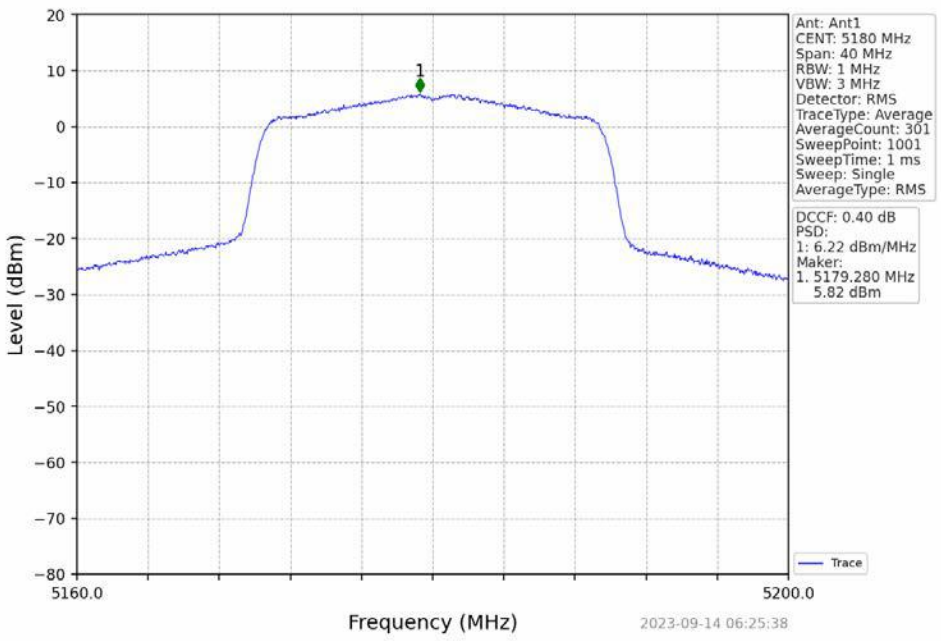
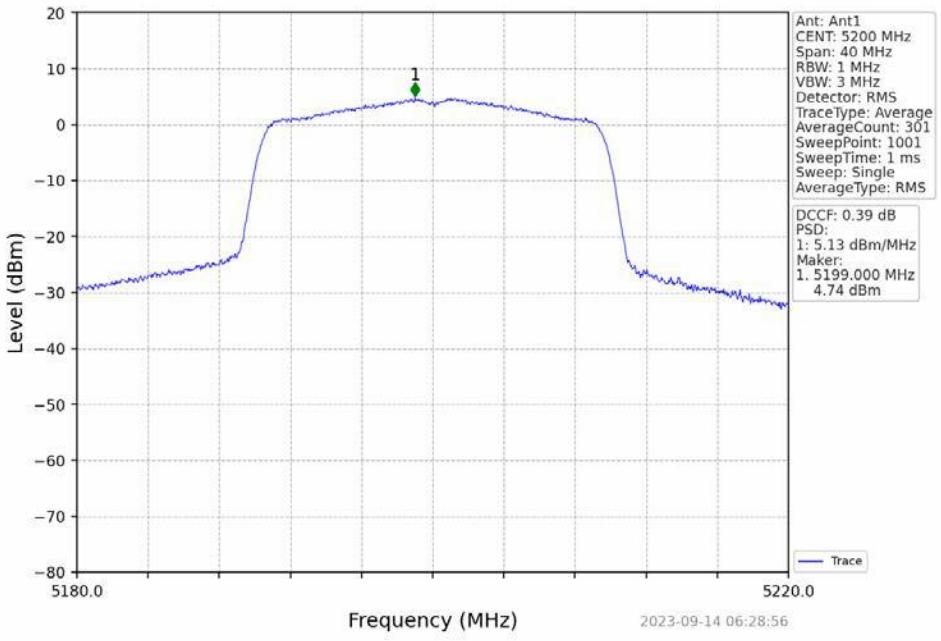


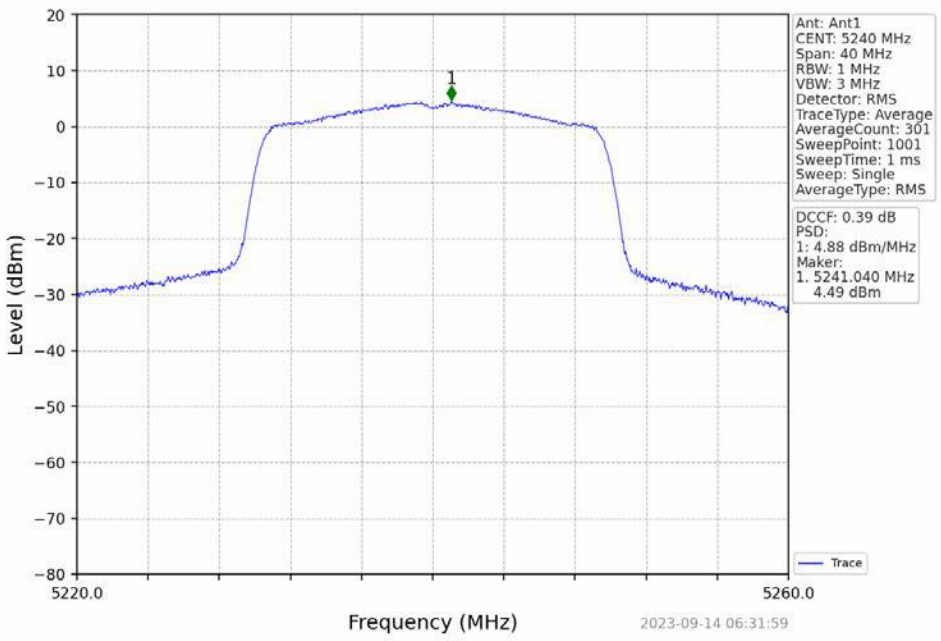
802.11ax(HEW20)_LCH_5180MHz_RU242_Left_NTNV



802.11ax(HEW20)_MCH_5200MHz_RU242_Left_NTNV



802.11ax(HEW20)_HCH_5240MHz_RU242_Left_NTNV



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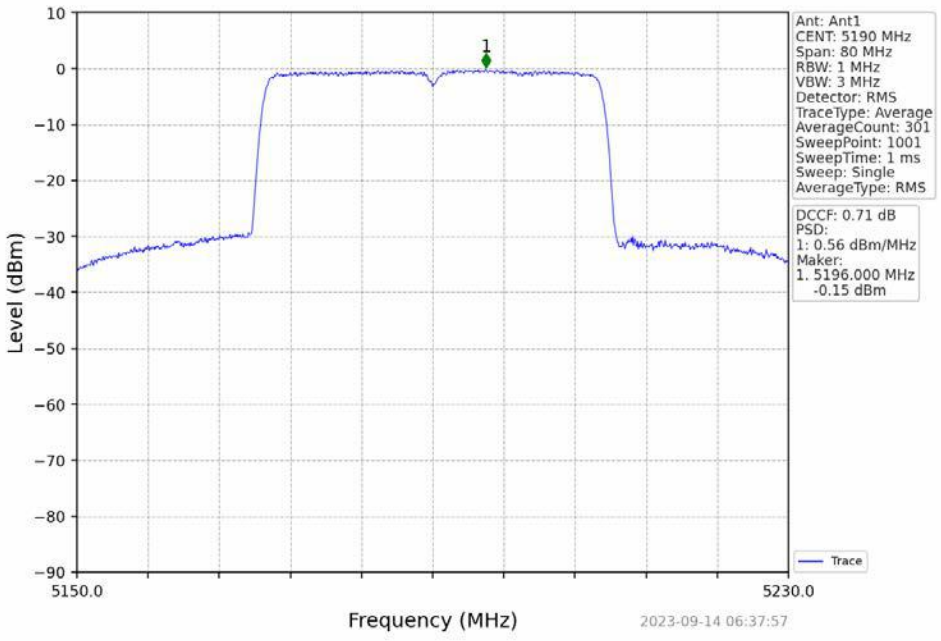

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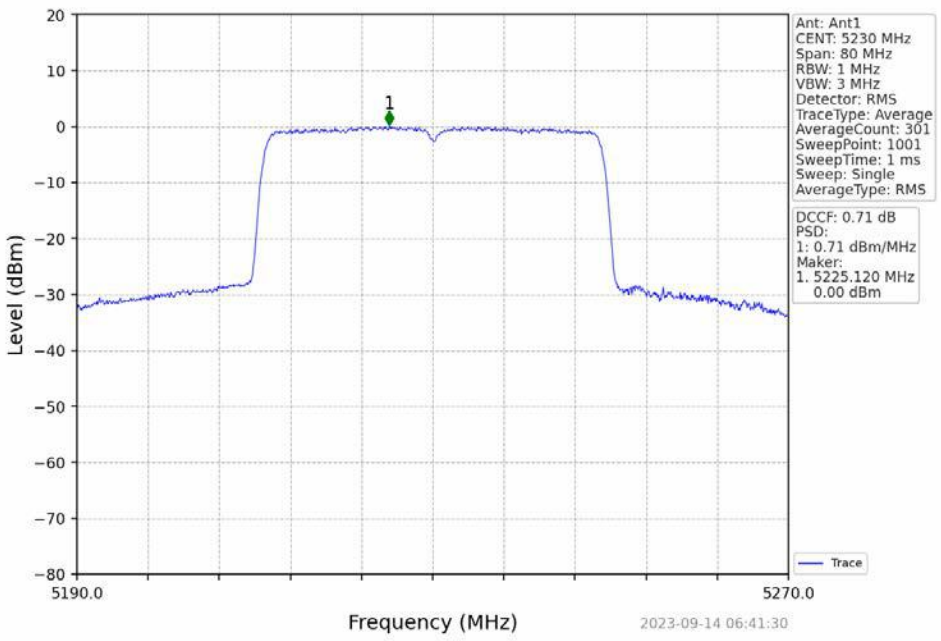

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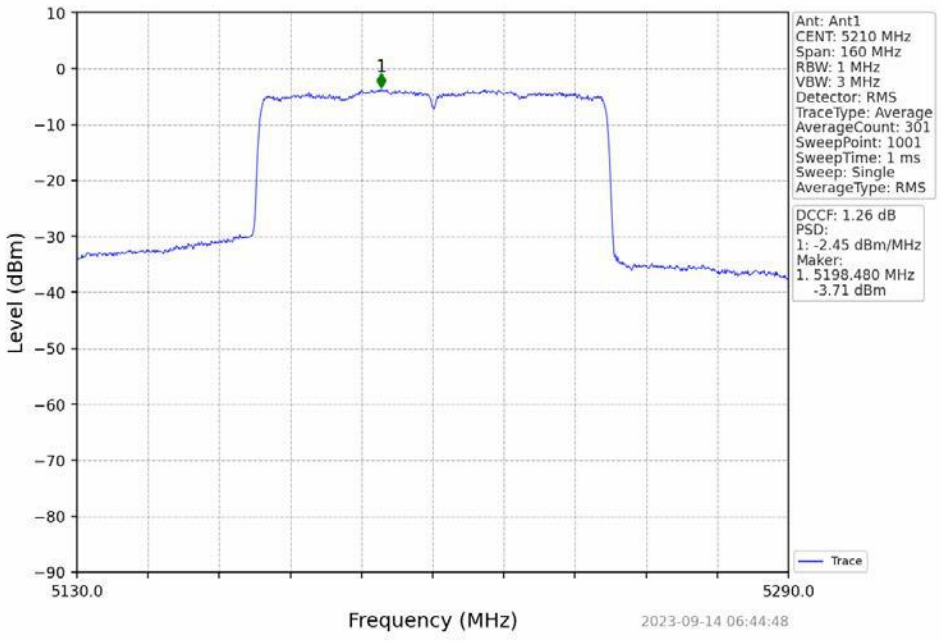
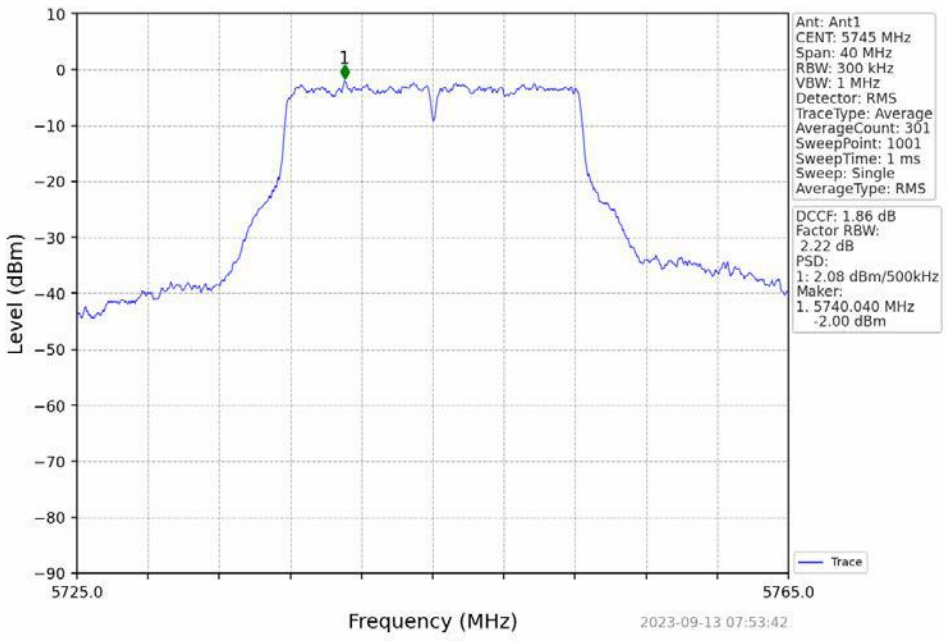
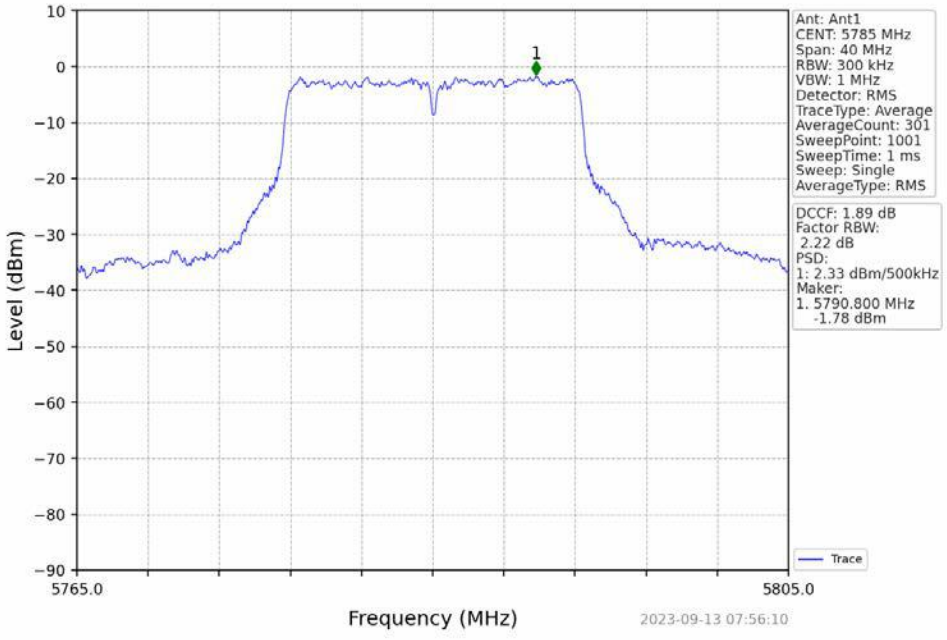


U-NII-3

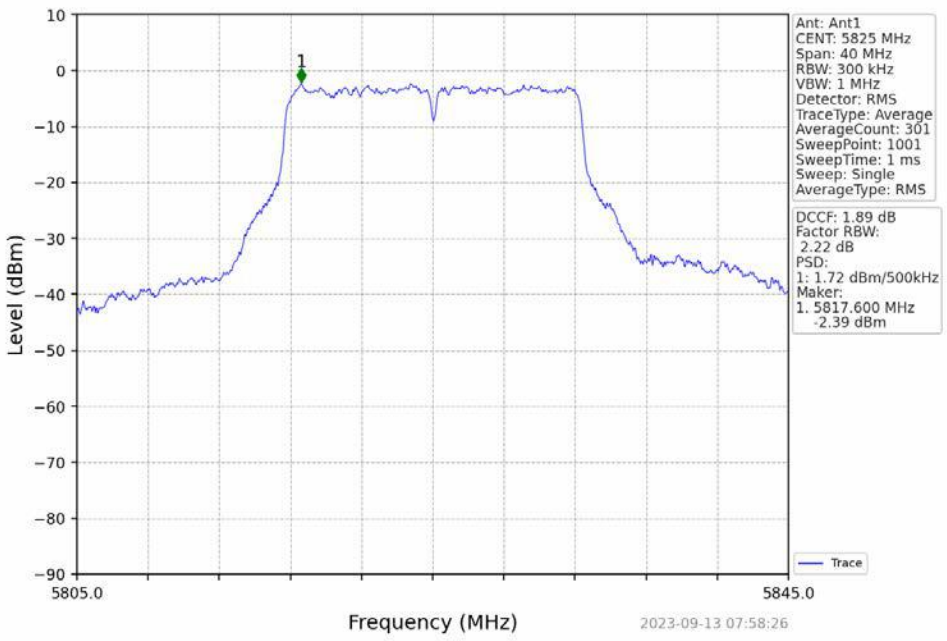
802.11a_LCH_5745MHz_NTNV



802.11a_MCH_5785MHz_NTNV



802.11a_HCH_5825MHz_NTNV



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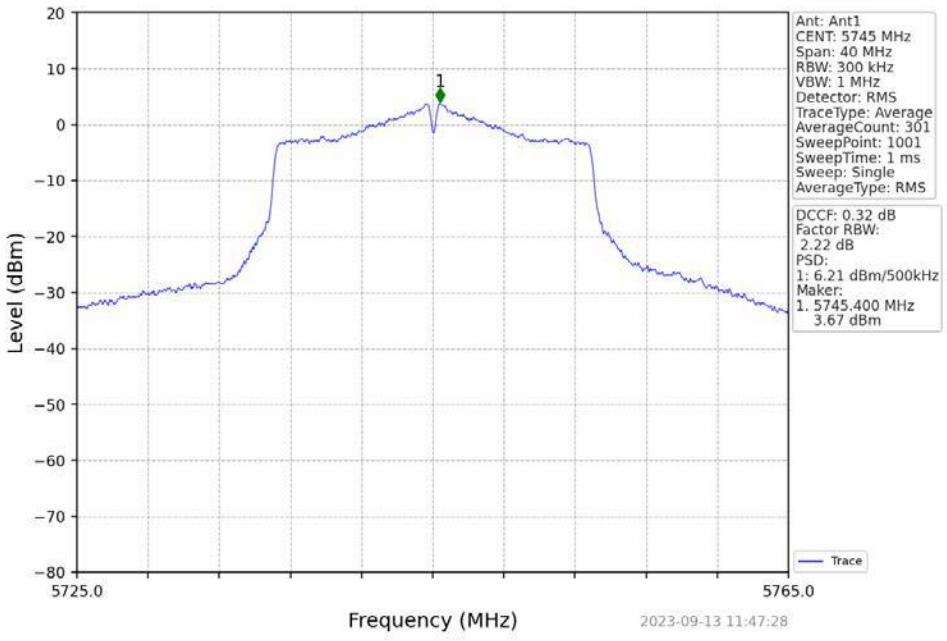

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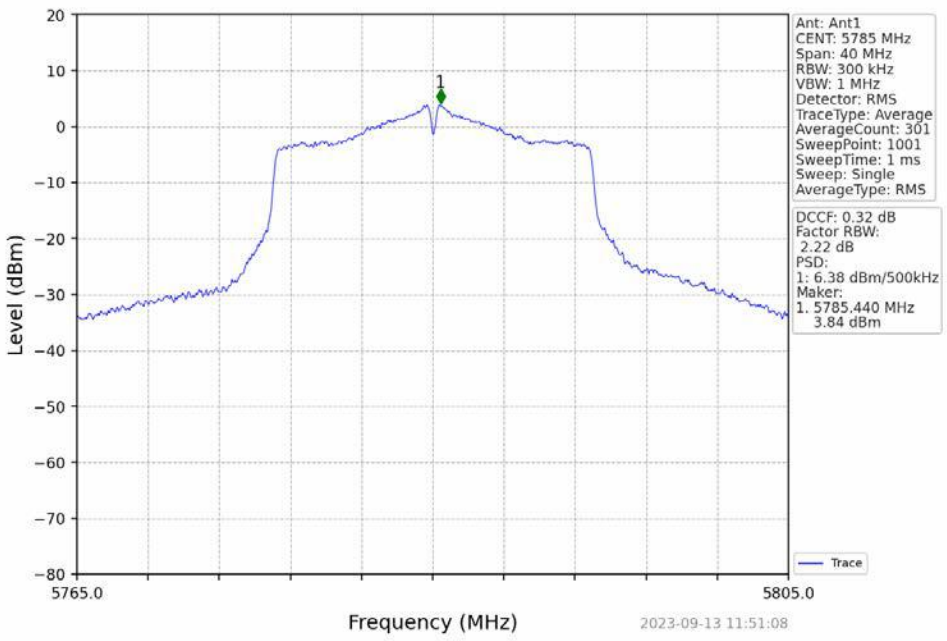

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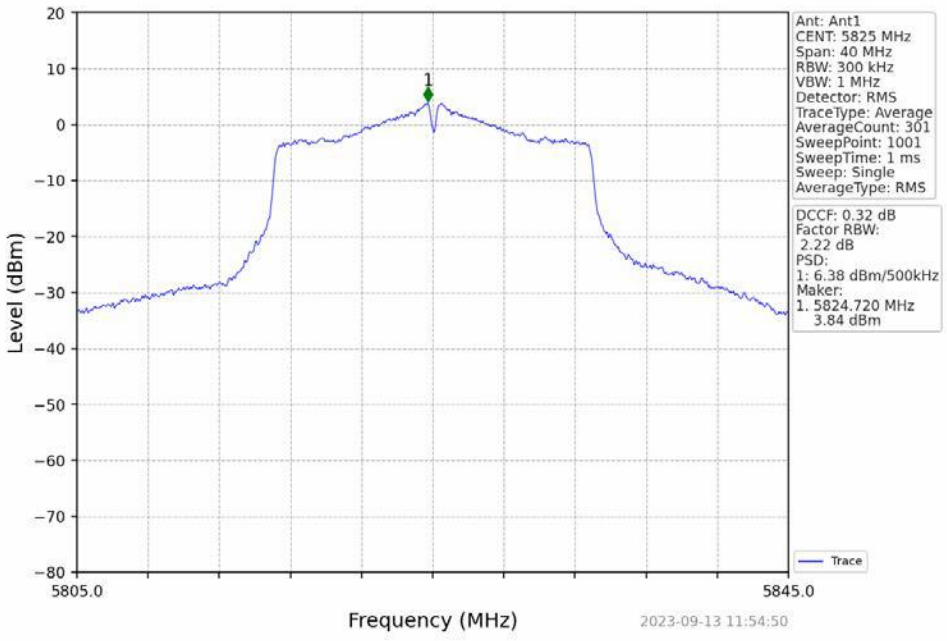
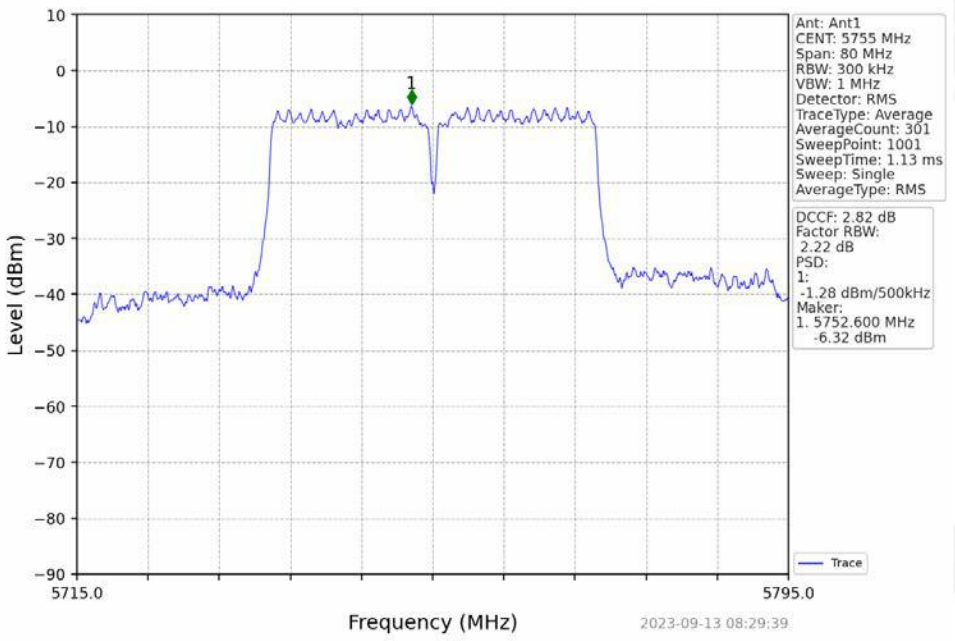


802.11n(HT40)_LCH_5755MHz_NTNV



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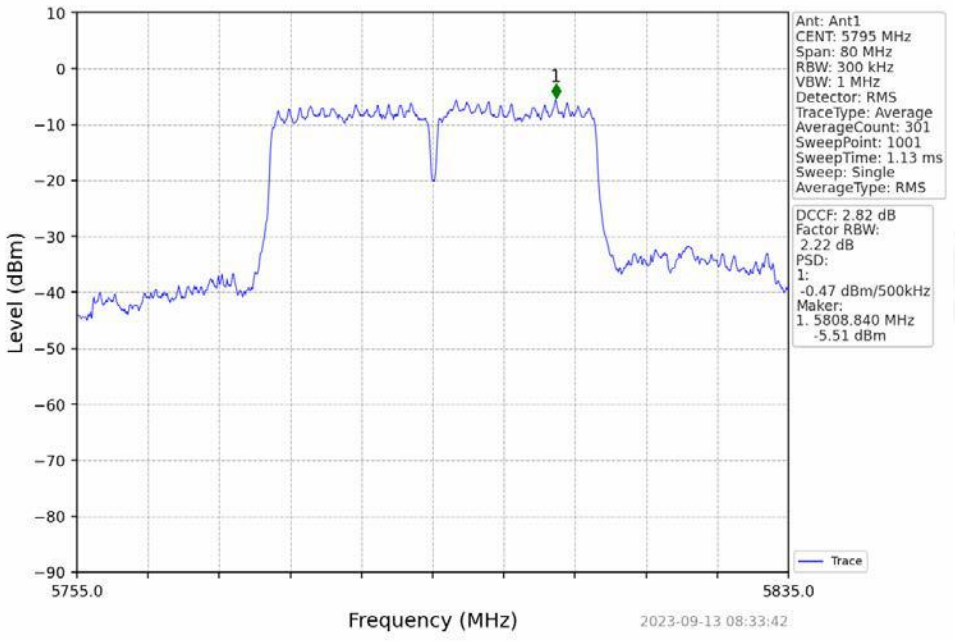
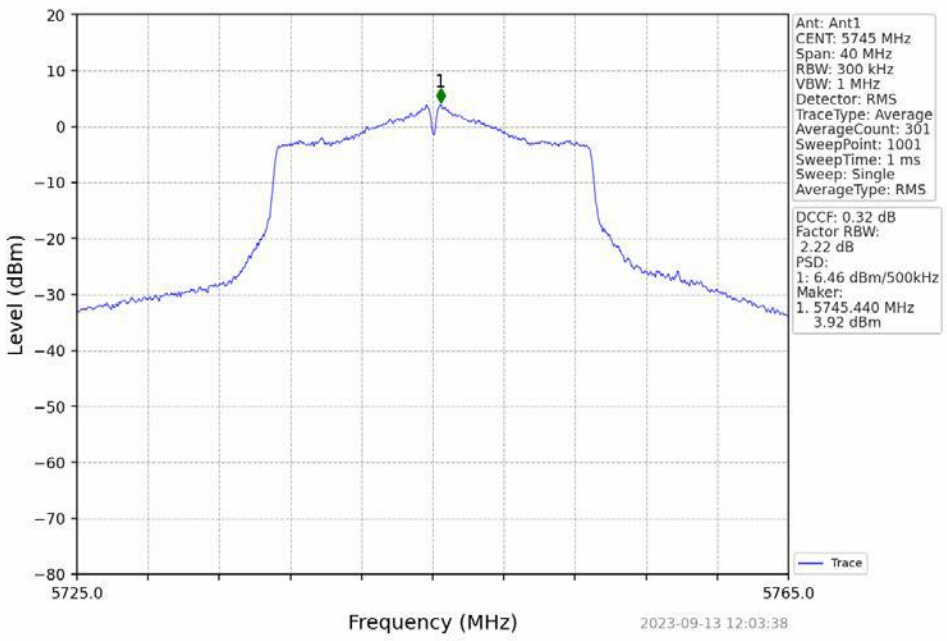


802.11ac(VHT20)_LCH_5745MHz_NTNV



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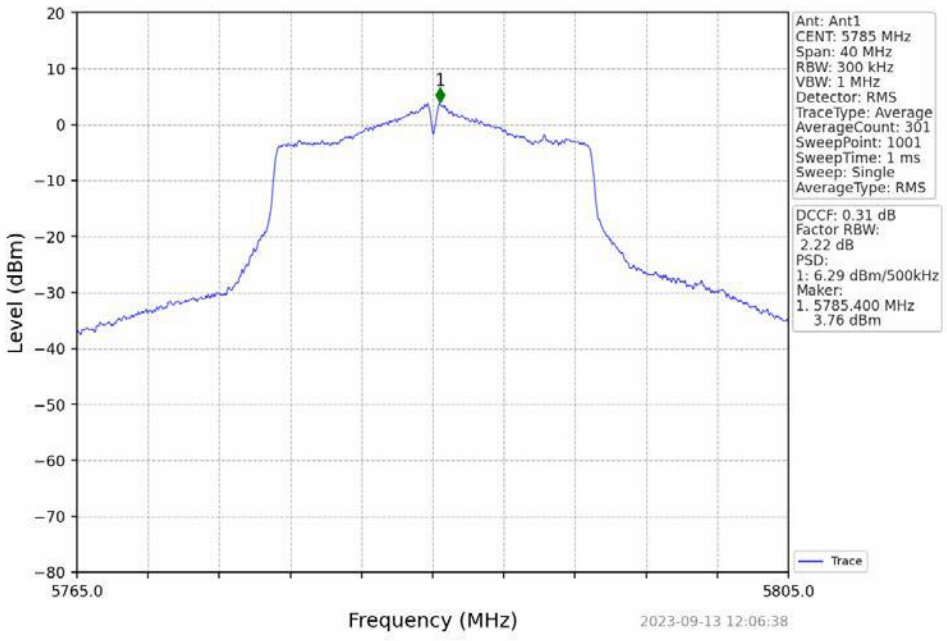
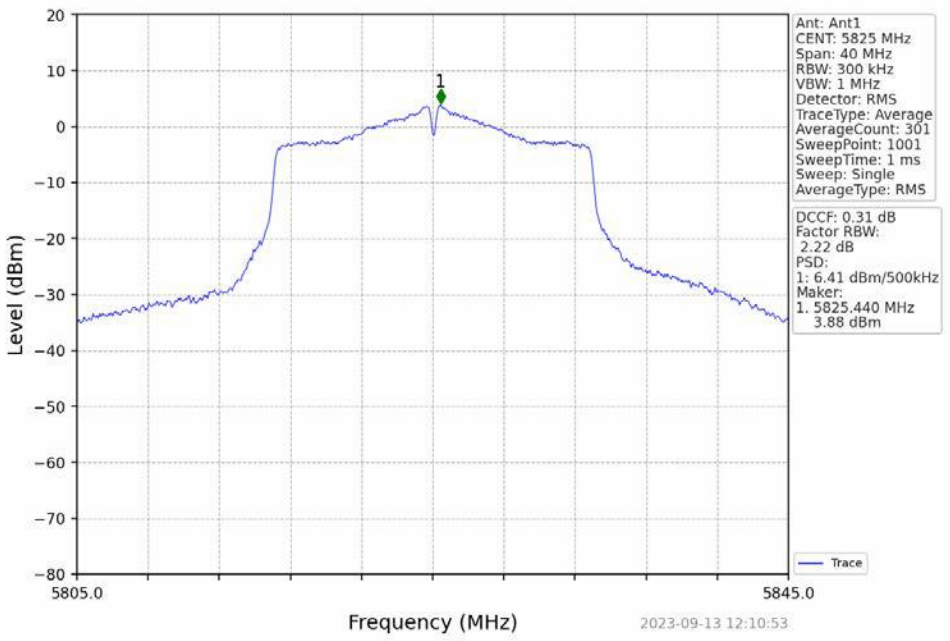


802.11ac(VHT20)_HCH_5825MHz_NTNV



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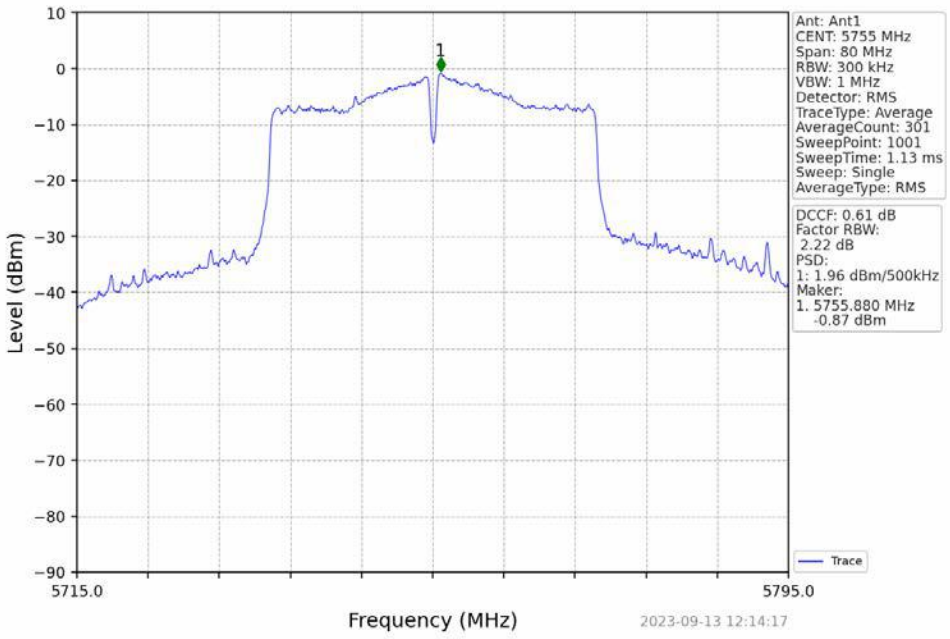
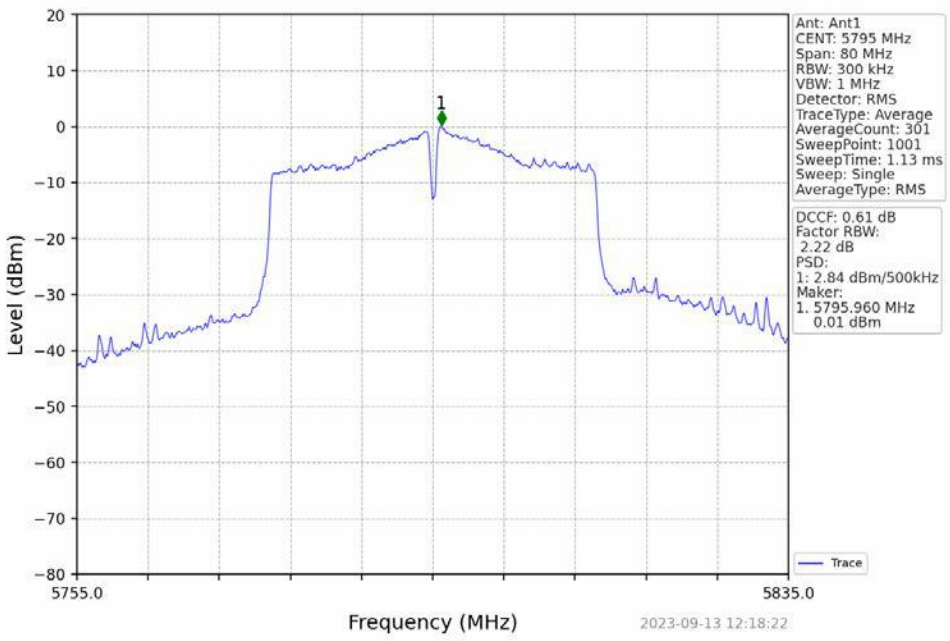


802.11ac(VHT40)_HCH_5795MHz_NTNV



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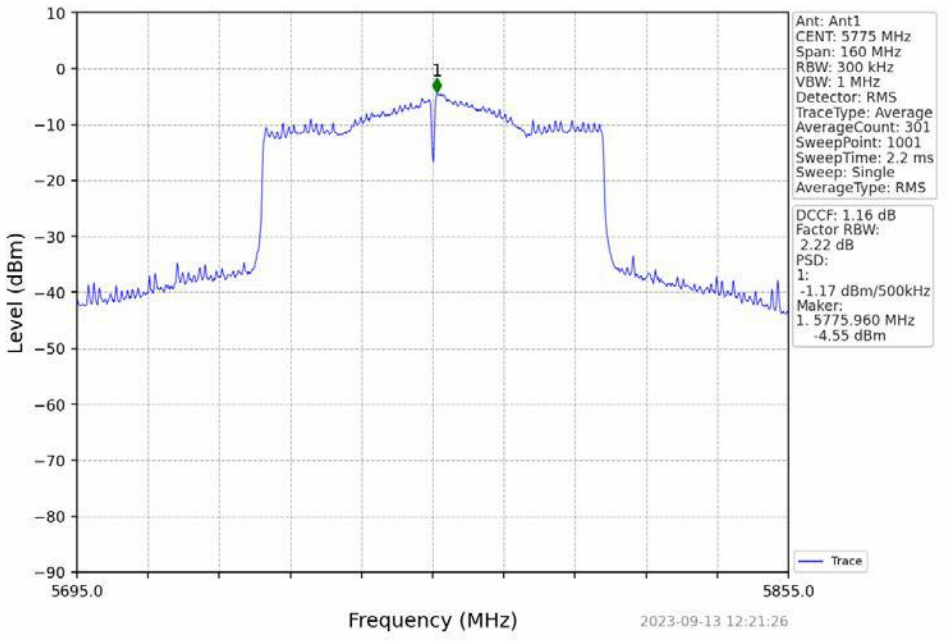
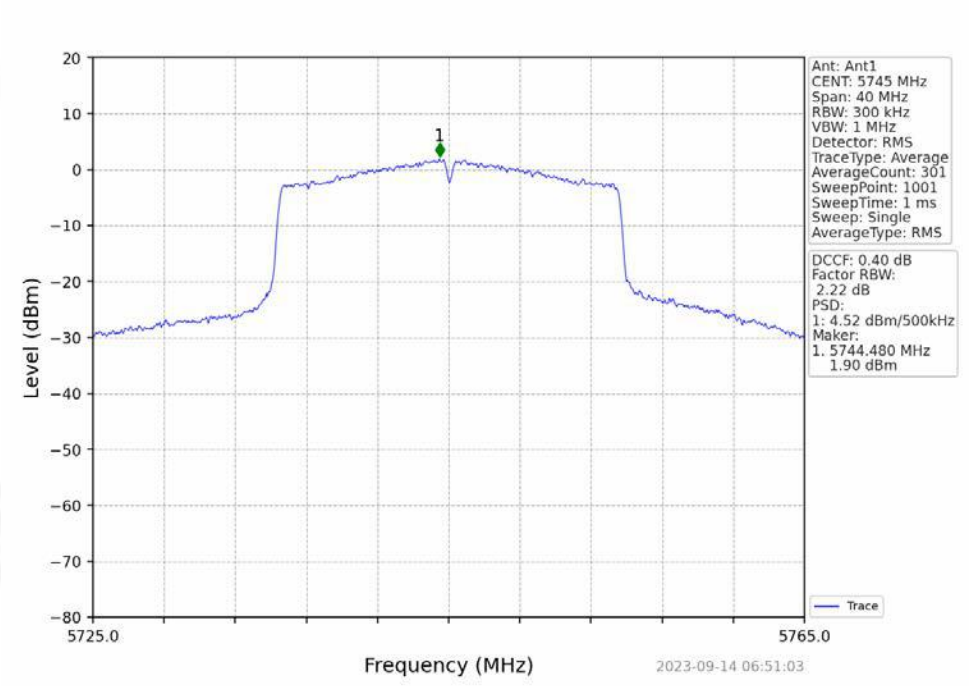


802.11ax(HEW20)_LCH_5745MHz_RU242_Left_NTNV



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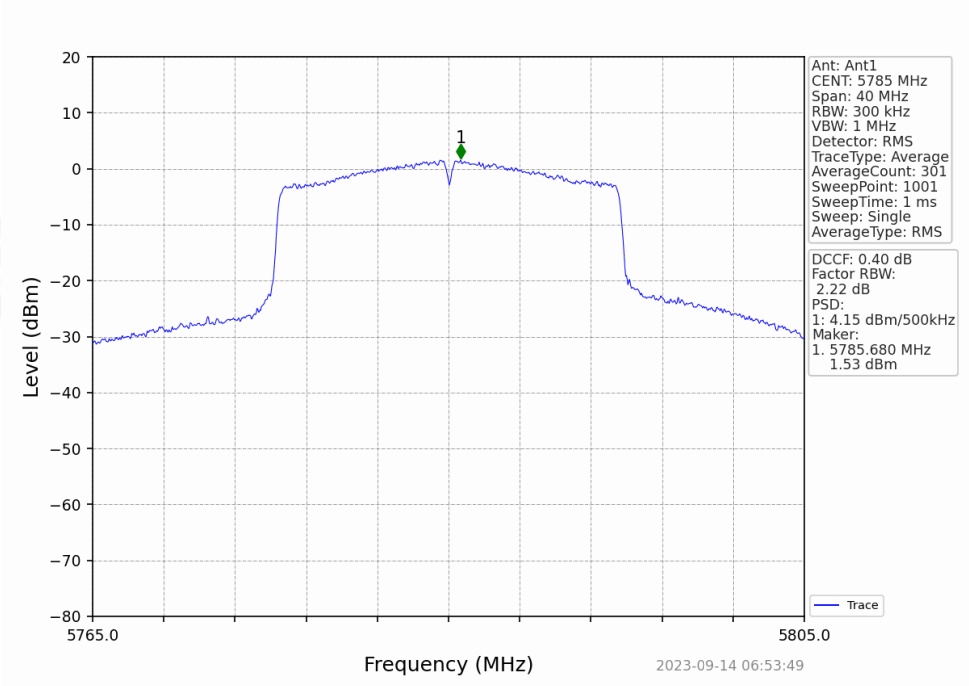
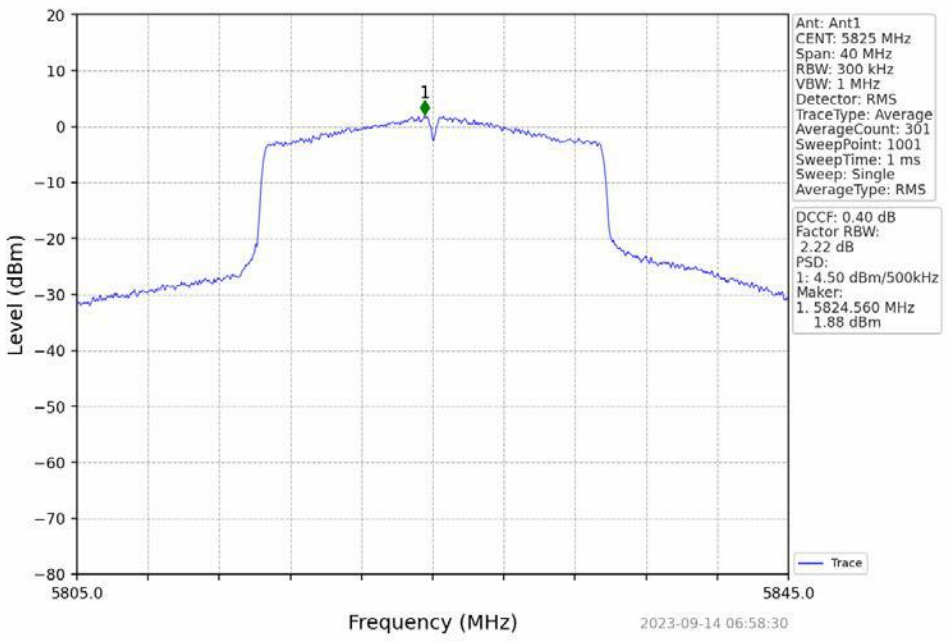
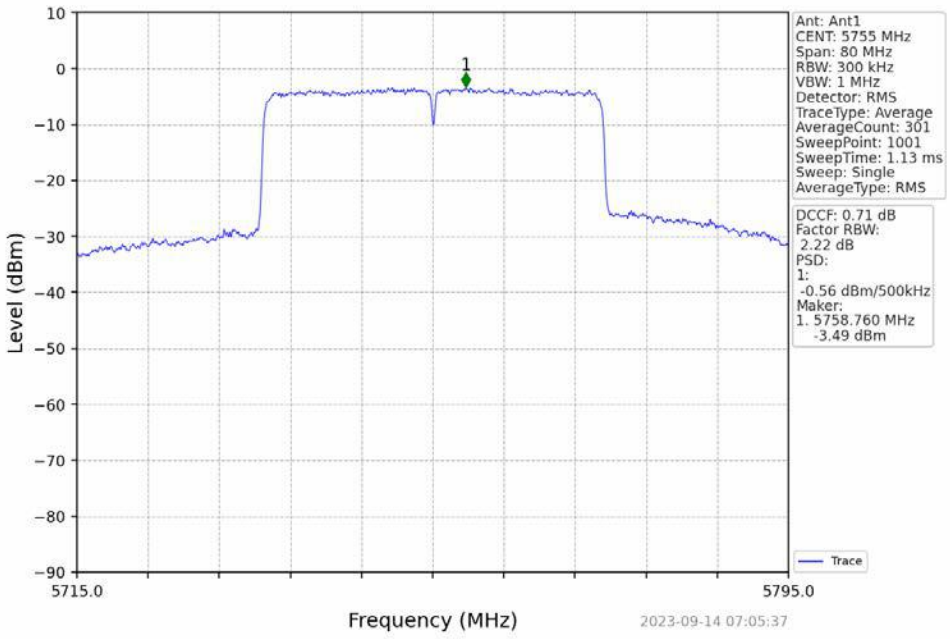


802.11ax(HEW20)_HCH_5825MHz_RU242_Left_NTNV



802.11ax(HEW40)_LCH_5755MHz_RU484_Left_NTNV



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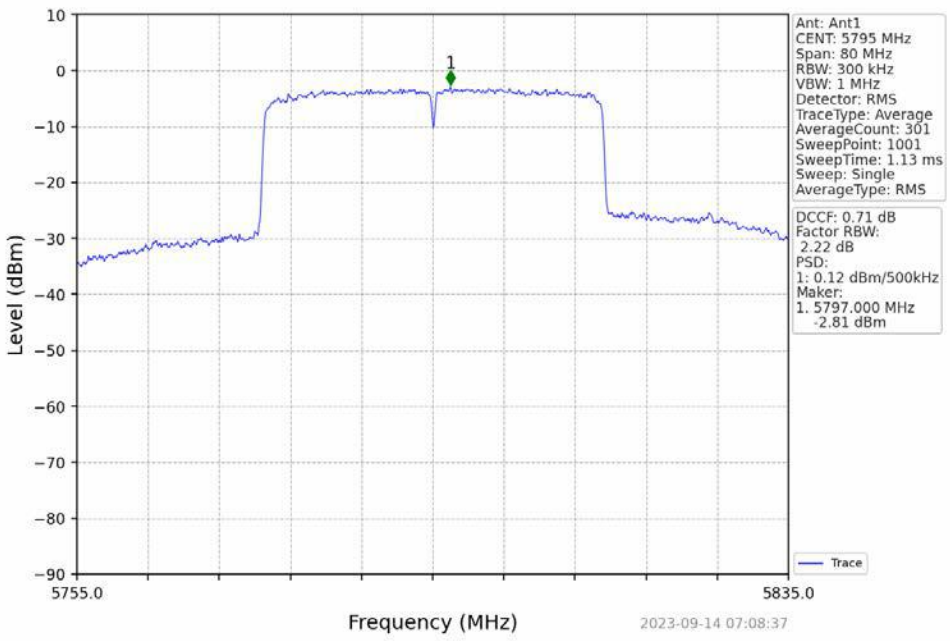

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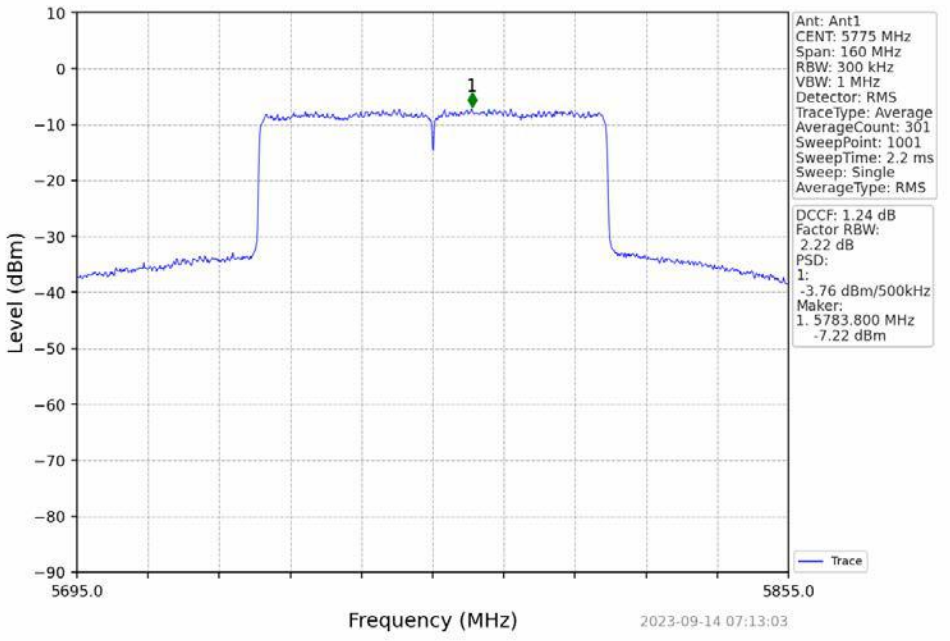
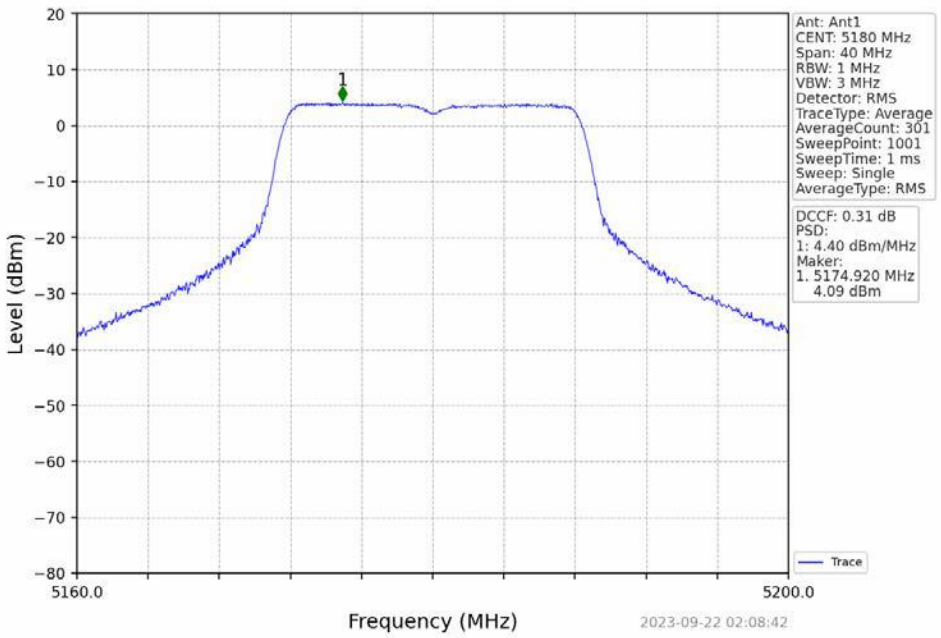


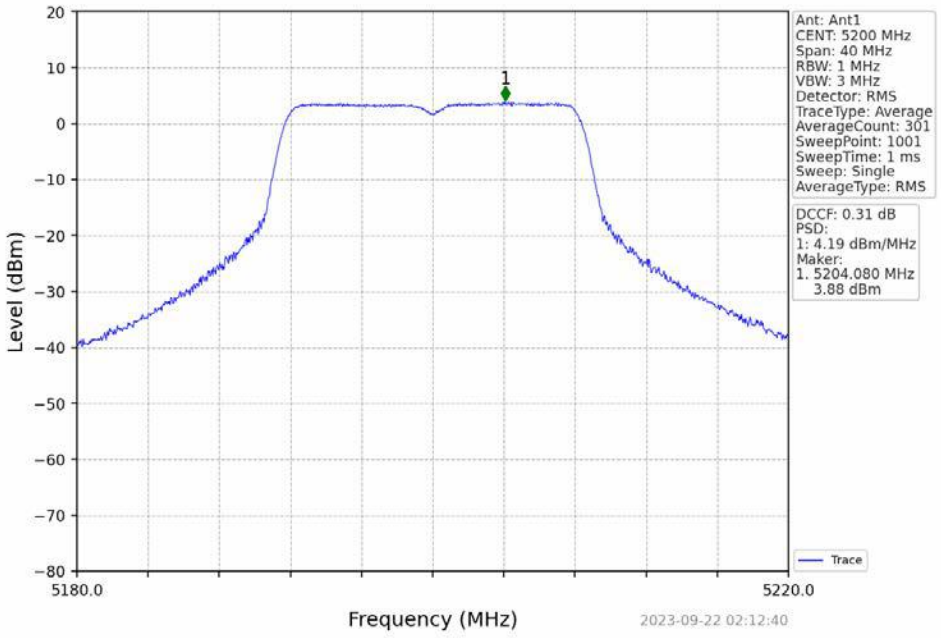
Antenna 1:

U-NII-1:

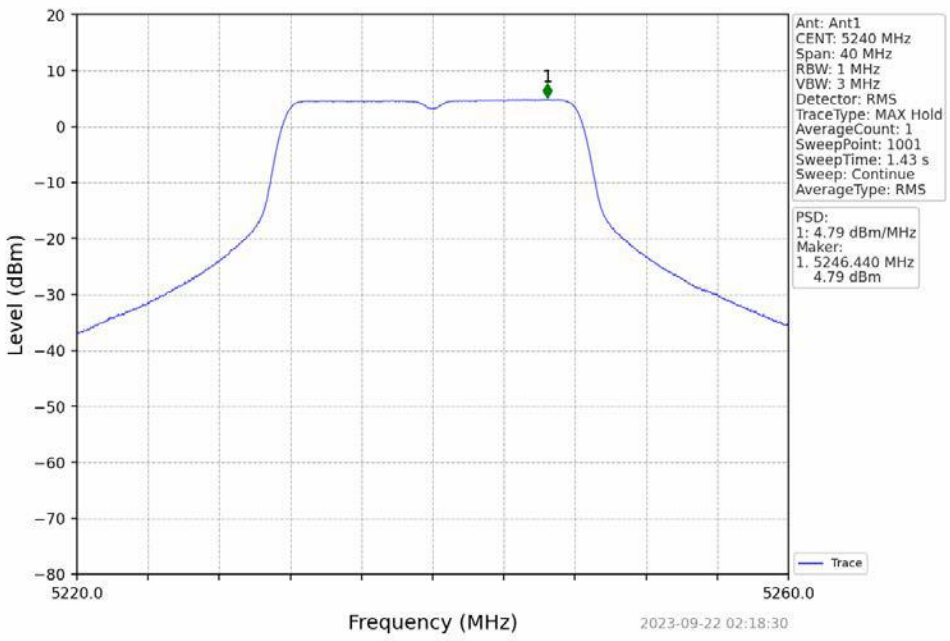
802.11a_LCH_5180MHz_NTNV



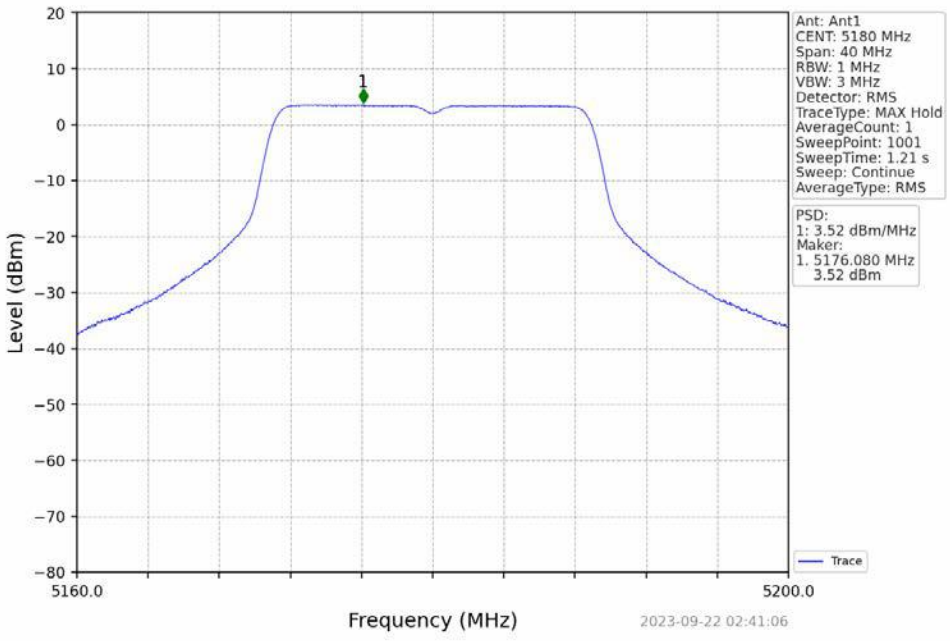
802.11a_MCH_5200MHz_NTNV



802.11a_HCH_5240MHz_NTNV



802.11n(HT20)_LCH_5180MHz_NTNV



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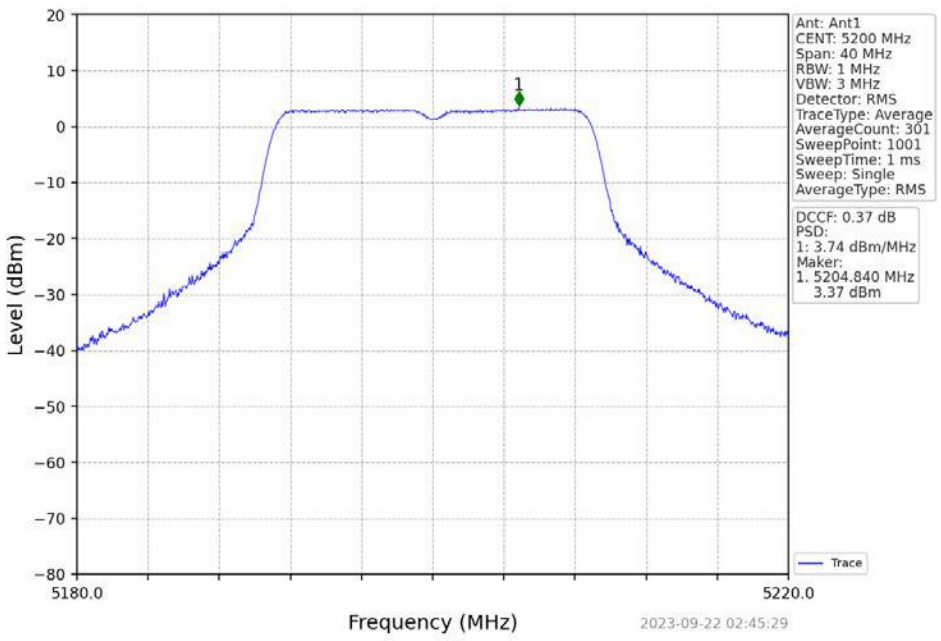
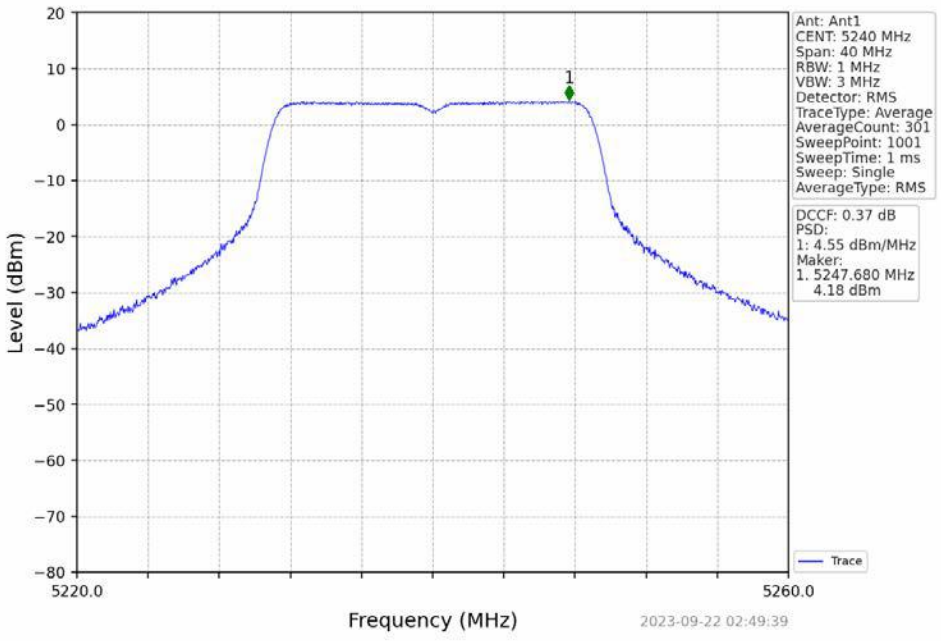
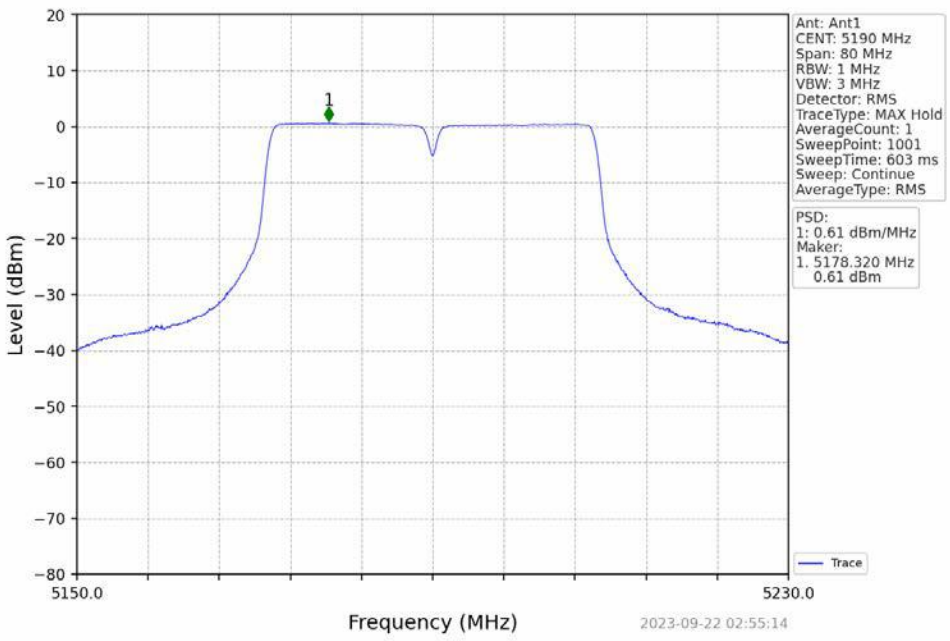


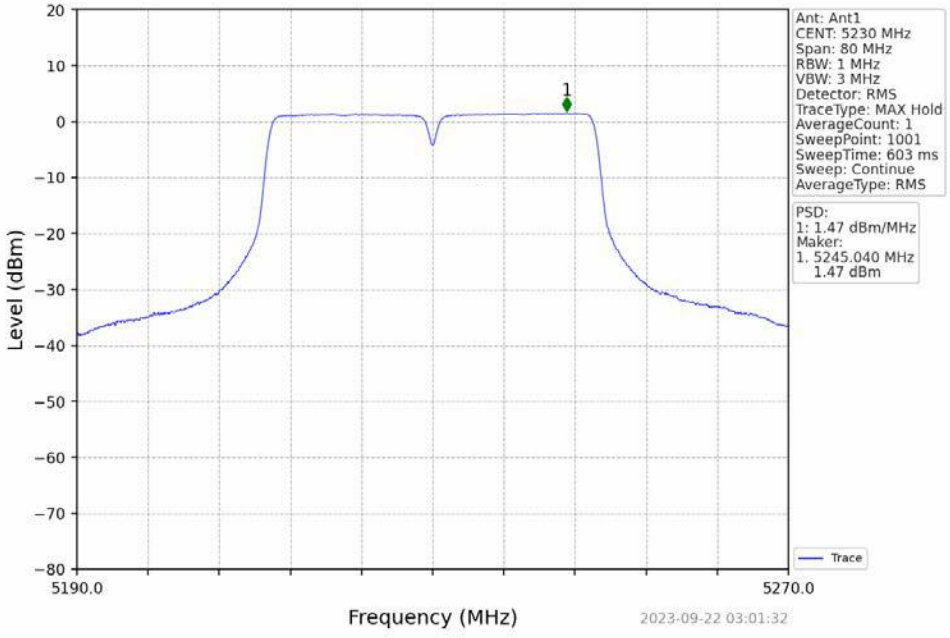
802.11n(HT20)_HCH_5240MHz_NTNV



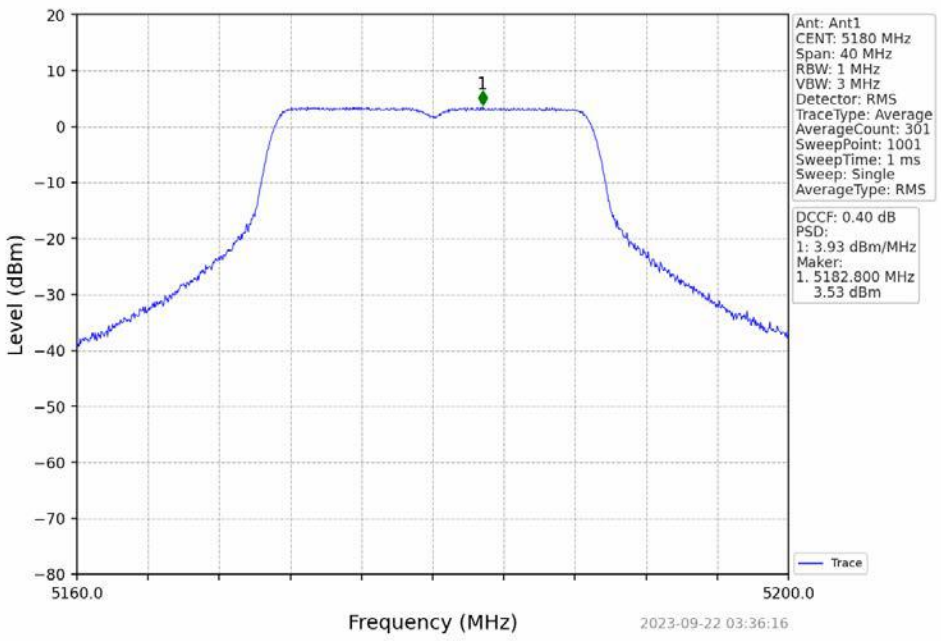
802.11n(HT40)_LCH_5190MHz_NTNV



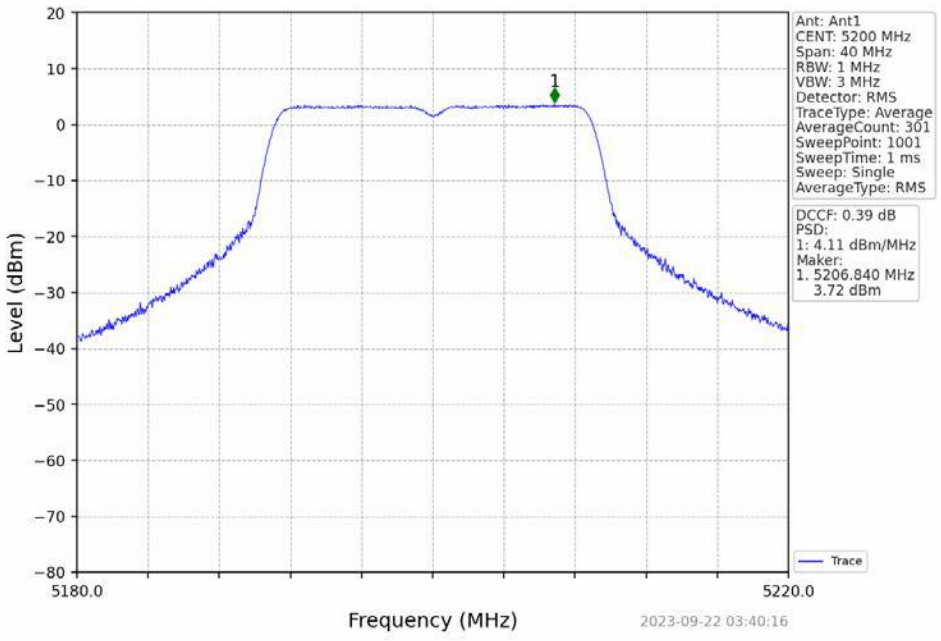
802.11n(HT40)_HCH_5230MHz_NTNV



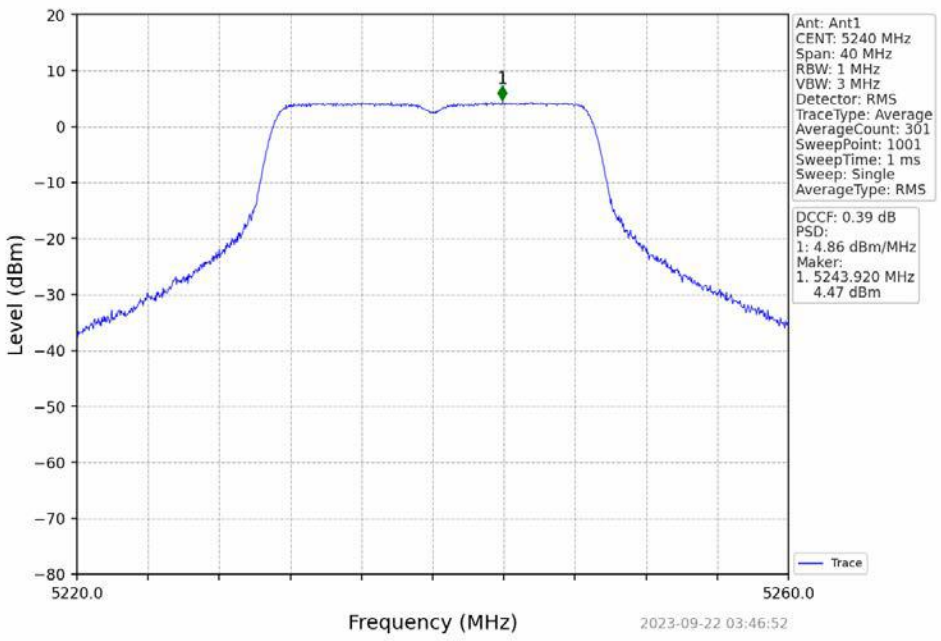
802.11ac(VHT20)_LCH_5180MHz_NTNV



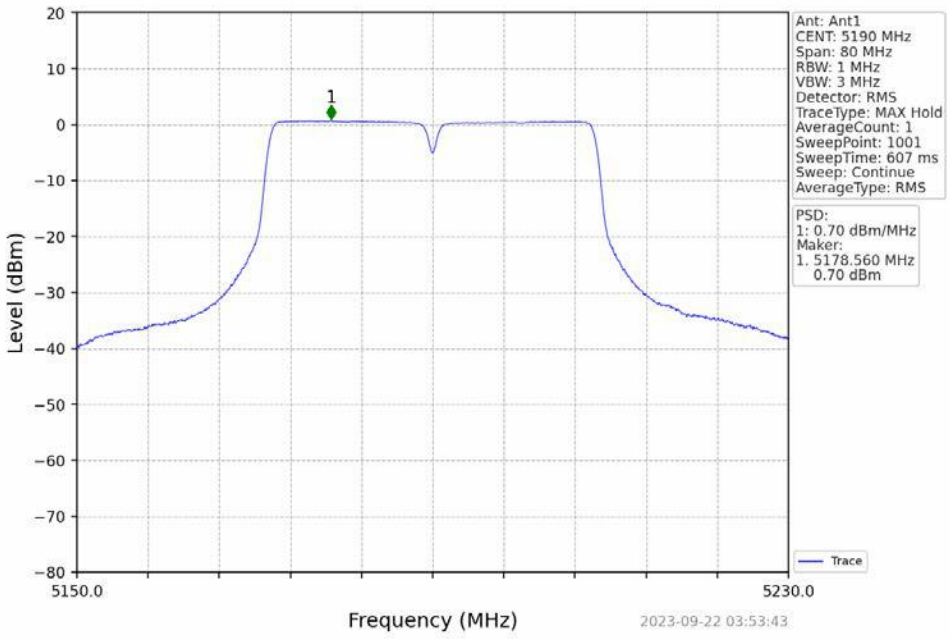
802.11ac(VHT20)_MCH_5200MHz_NTNV



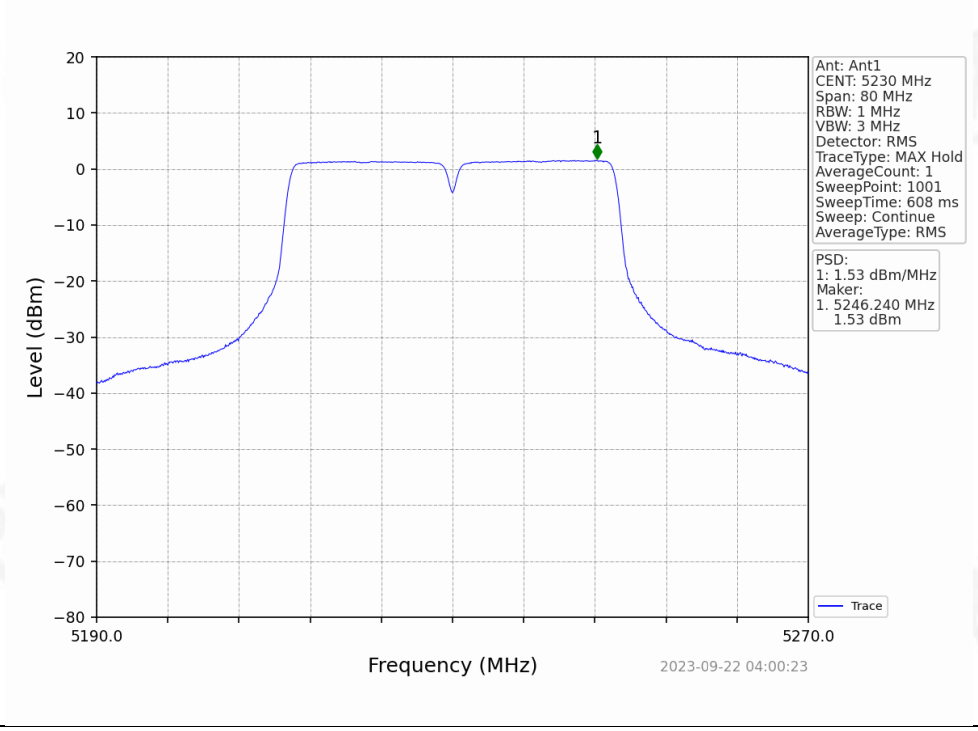
802.11ac(VHT20)_HCH_5240MHz_NTNV



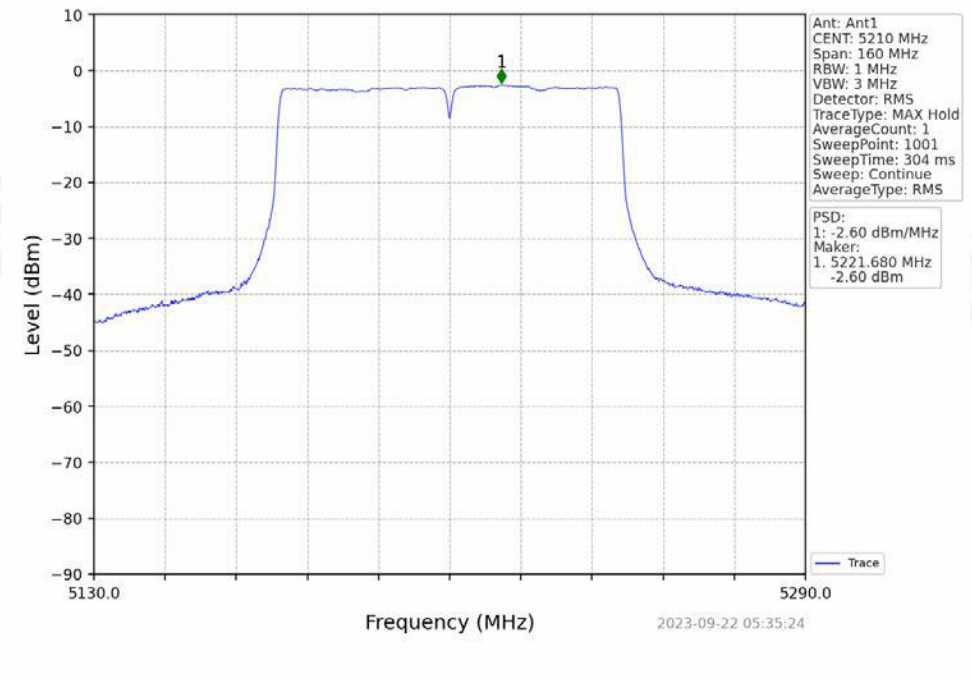
802.11ac(VHT40)_LCH_5190MHz_NTNV



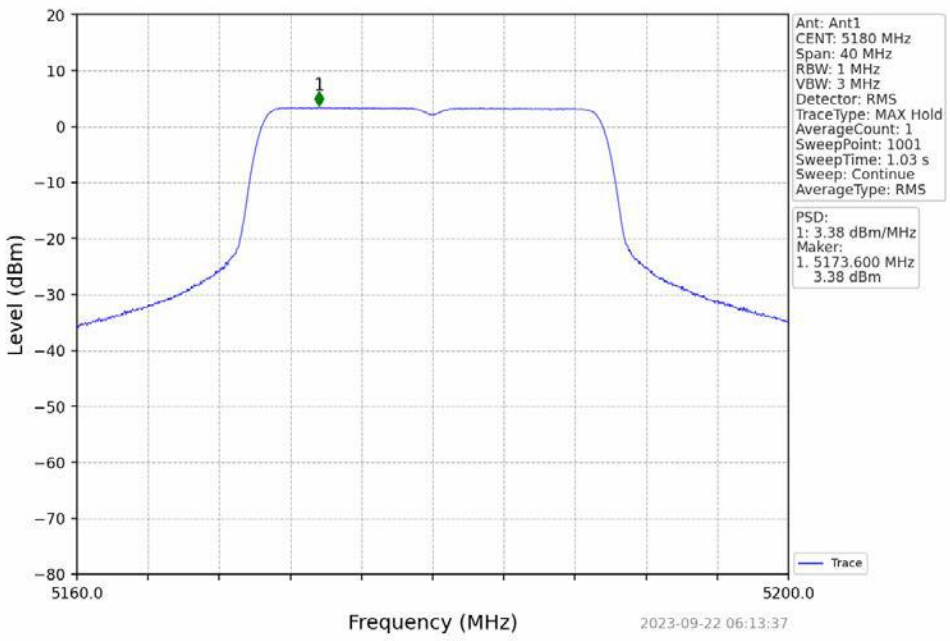
802.11ac(VHT40)_HCH_5230MHz_NTNV



802.11ac(VHT80)_MCH_5210MHz_NTNV



802.11ax(HEW20)_LCH_5180MHz_RU242_Left_NTNV



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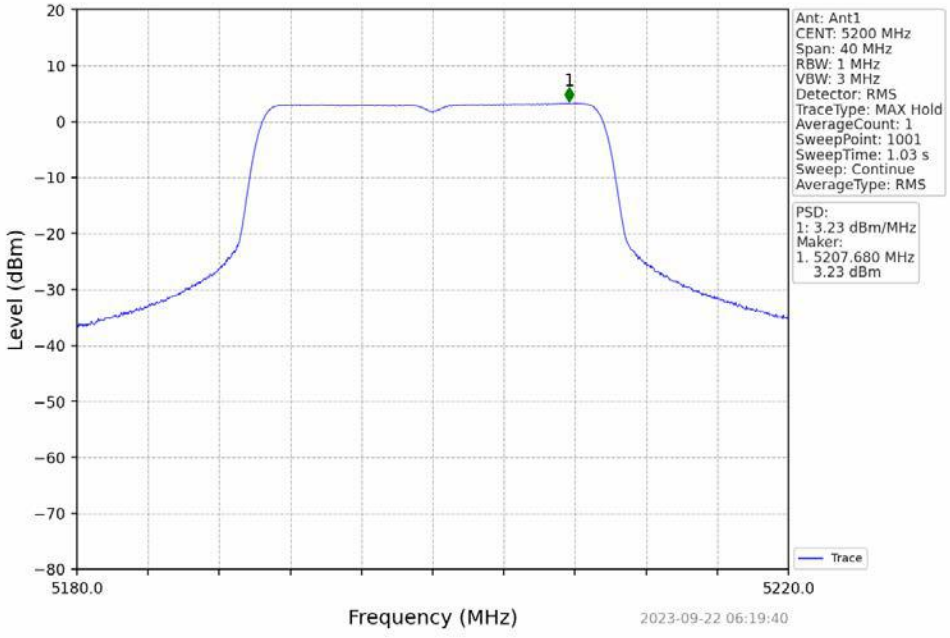
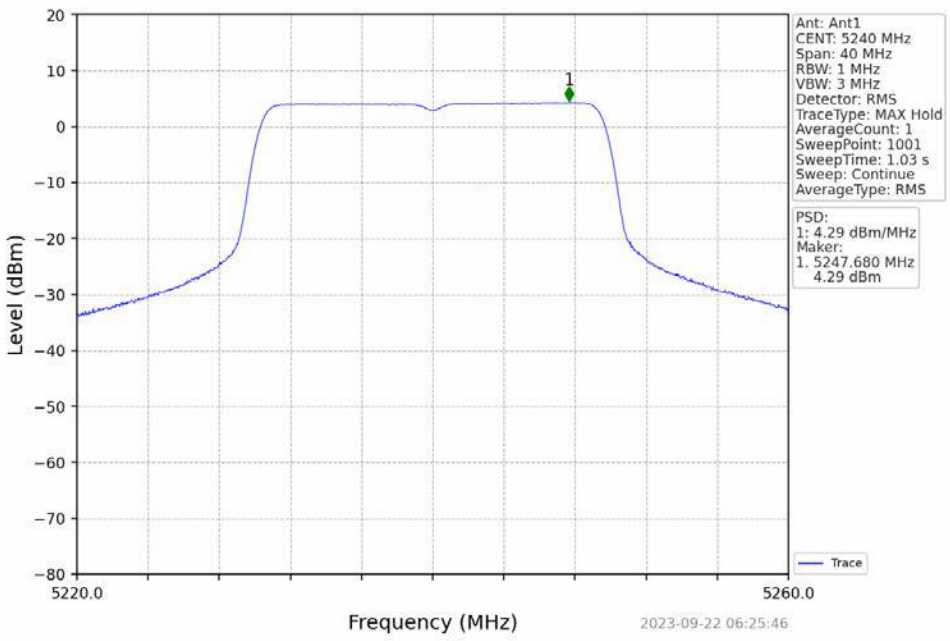
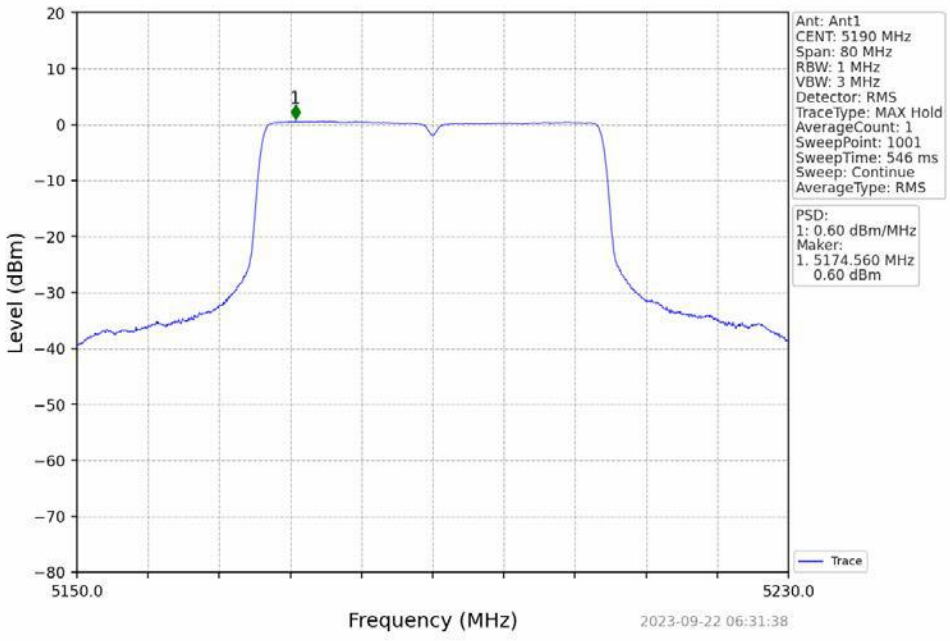


802.11ax(HEW20)_HCH_5240MHz_RU242_Left_NTNV



802.11ax(HEW40)_LCH_5190MHz_RU484_Left_NTNV



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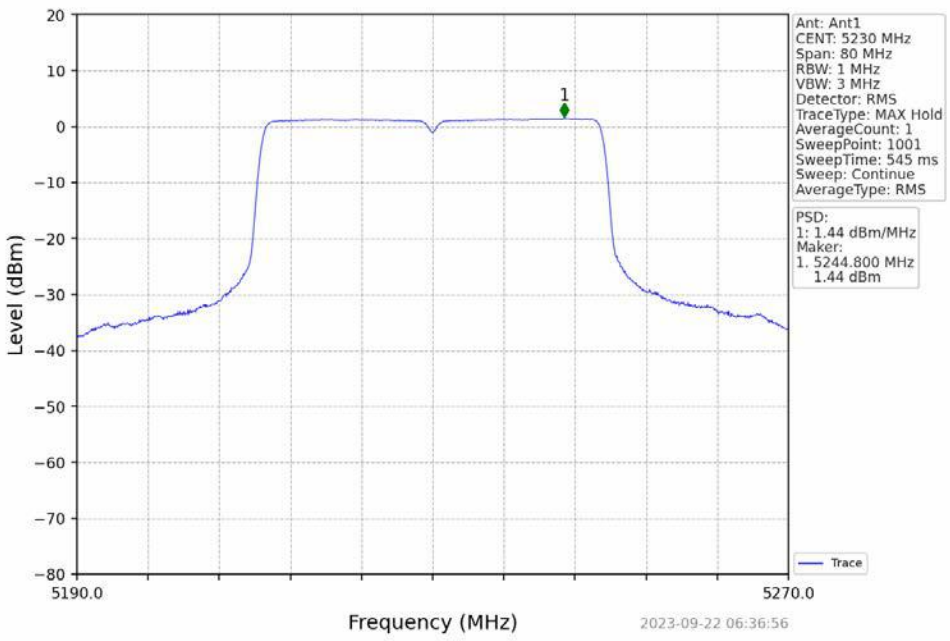
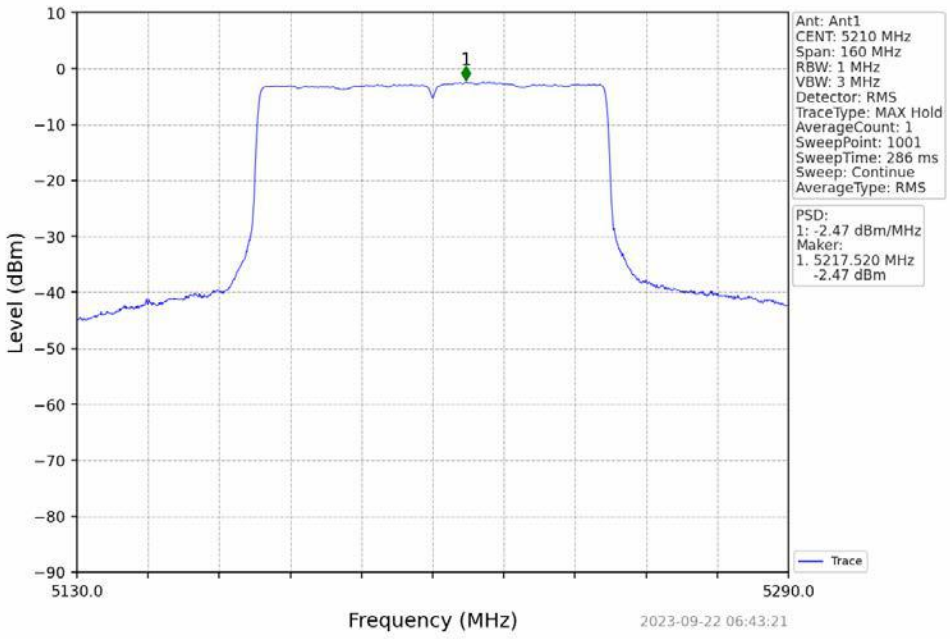
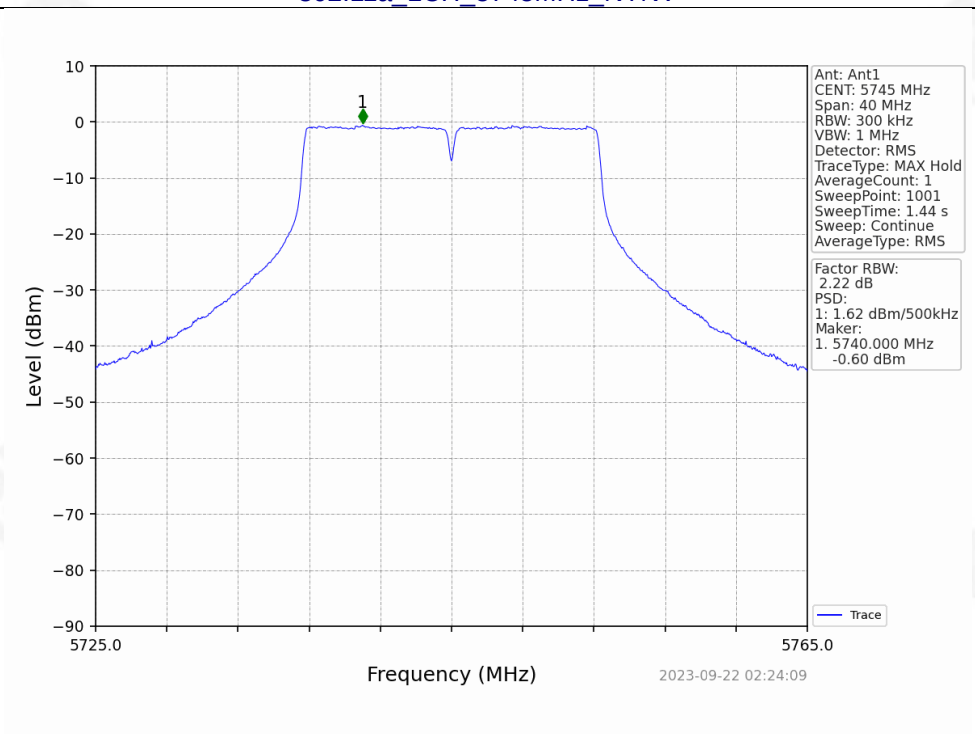


802.11ax(HEW80)_MCH_5210MHz_RU996_Left_NTNV

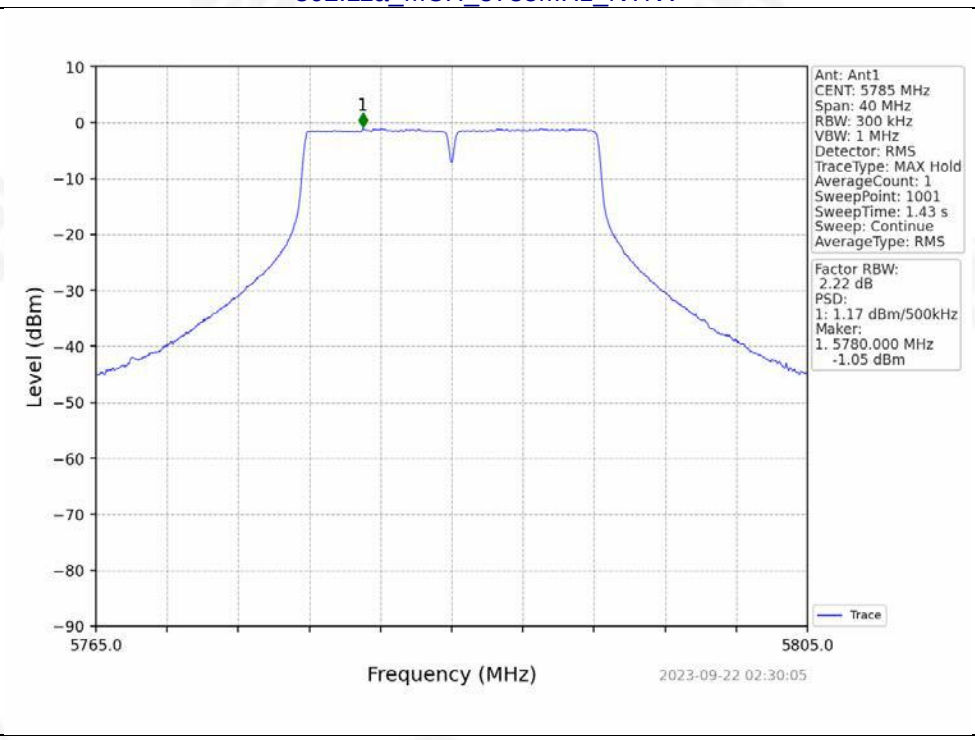


U-NII-3

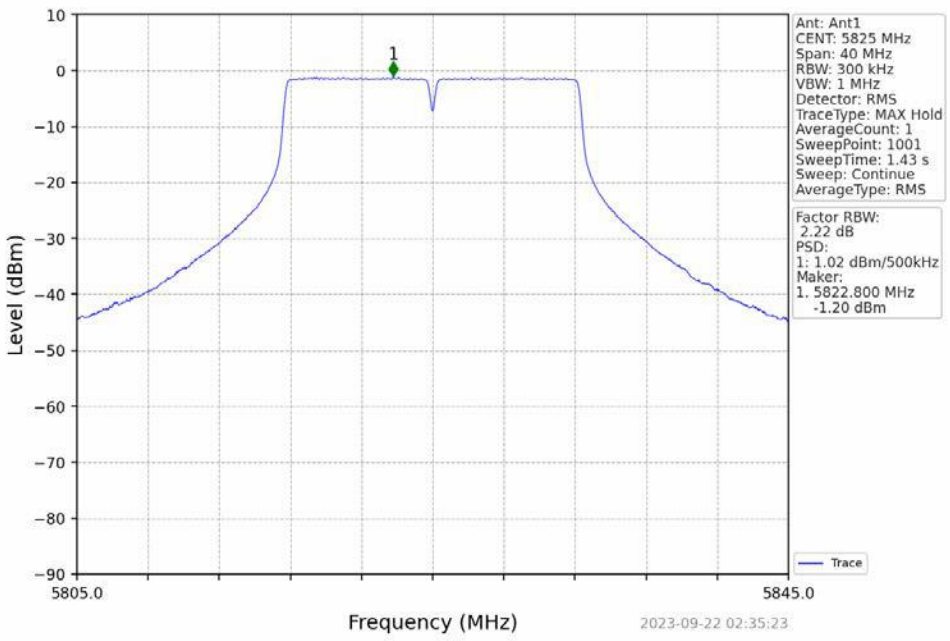
802.11a_LCH_5745MHz_NTNV



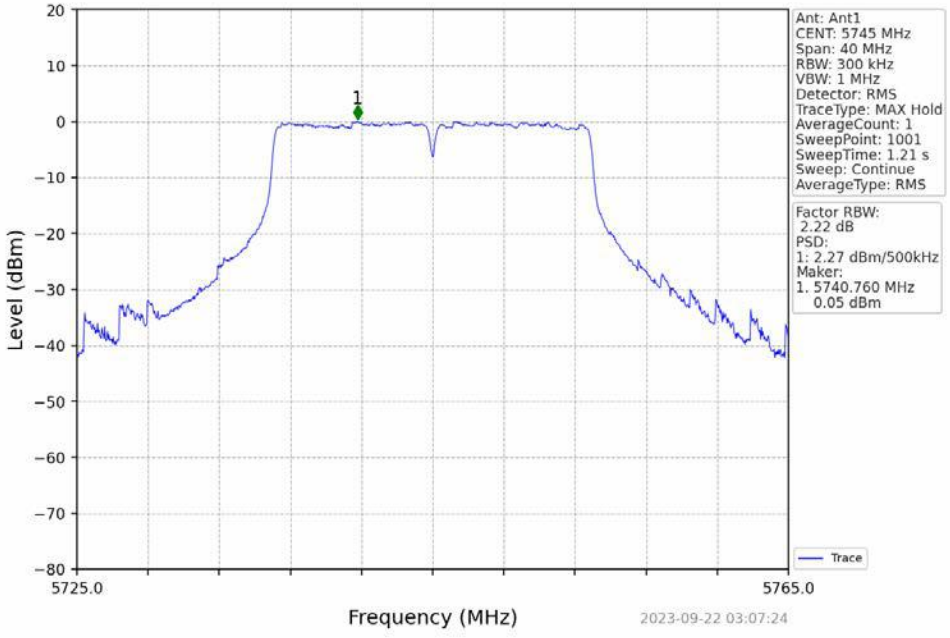
802.11a_MCH_5785MHz_NTNV



802.11a_HCH_5825MHz_NTNV



802.11n(HT20)_LCH_5745MHz_NTNV



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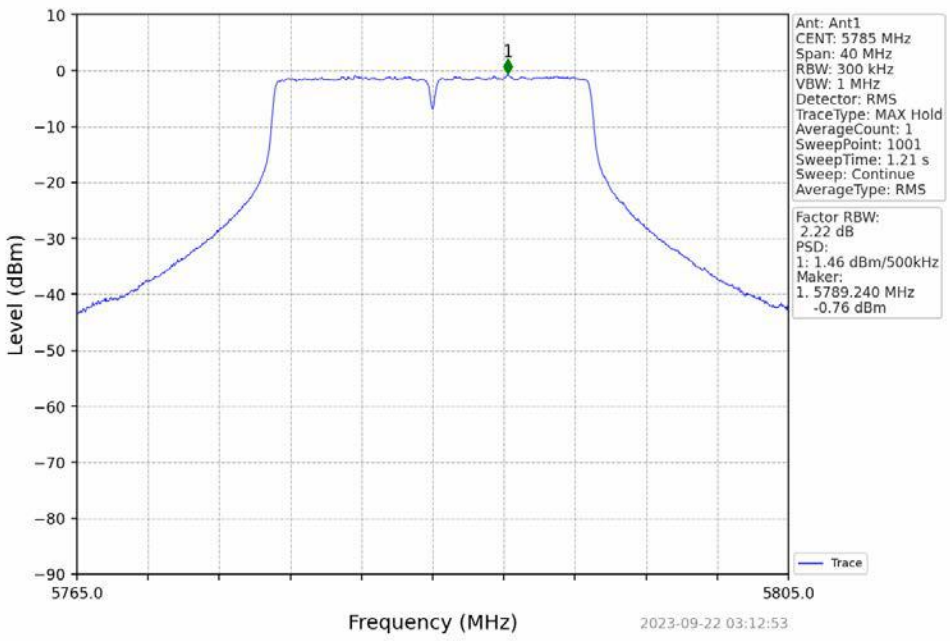

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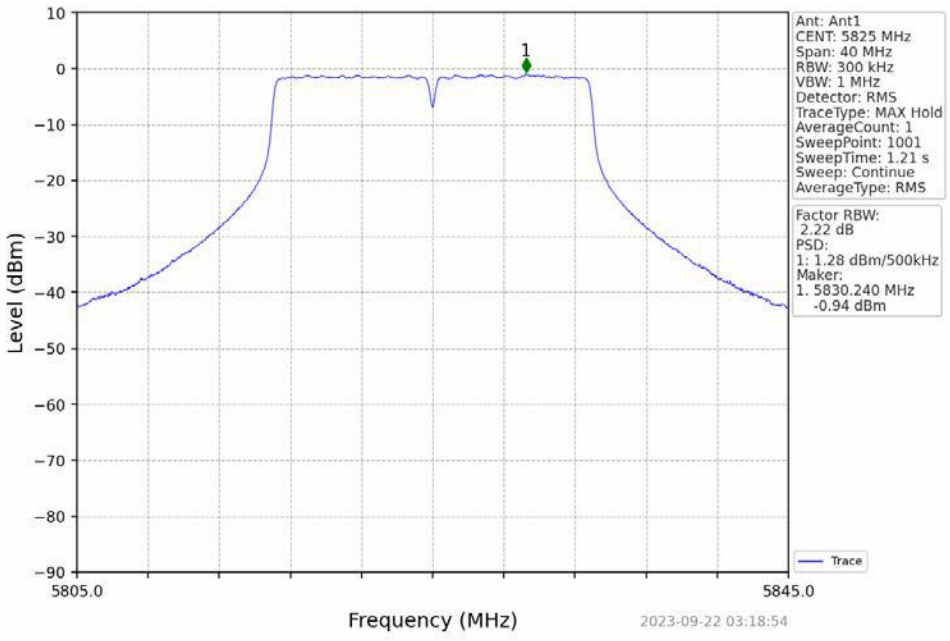
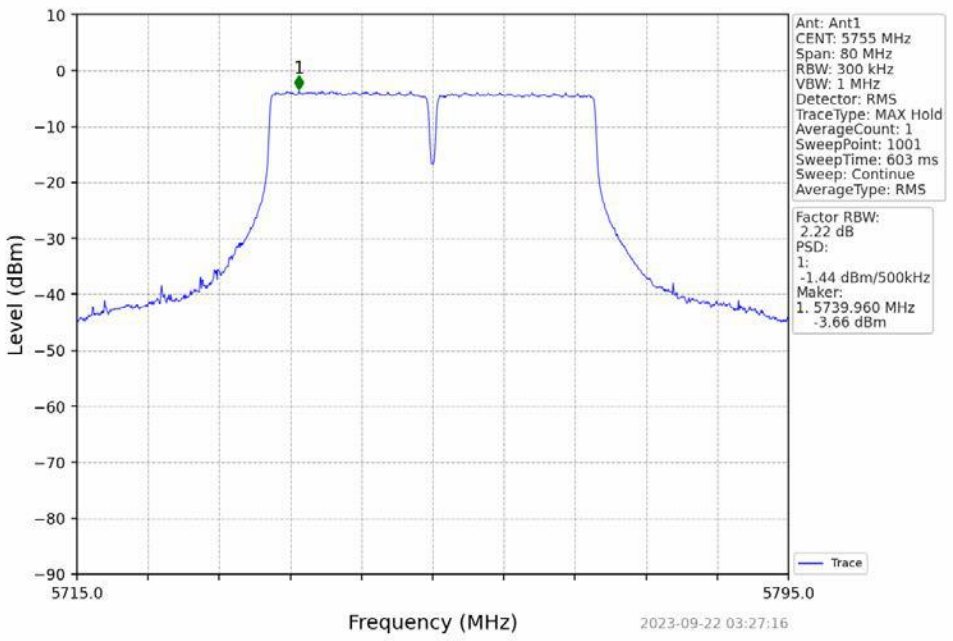


802.11n(HT40)_LCH_5755MHz_NTNV



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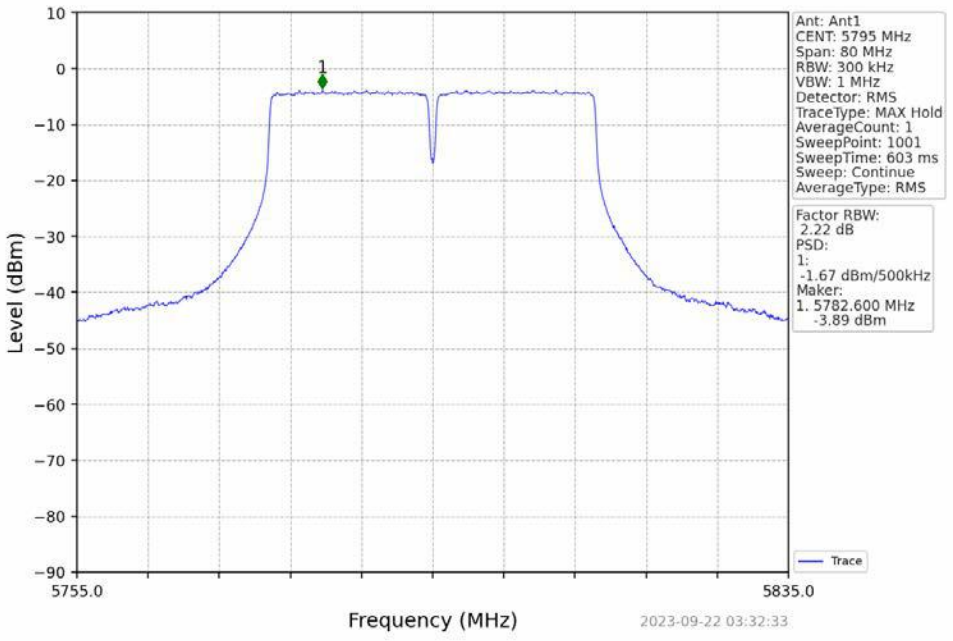
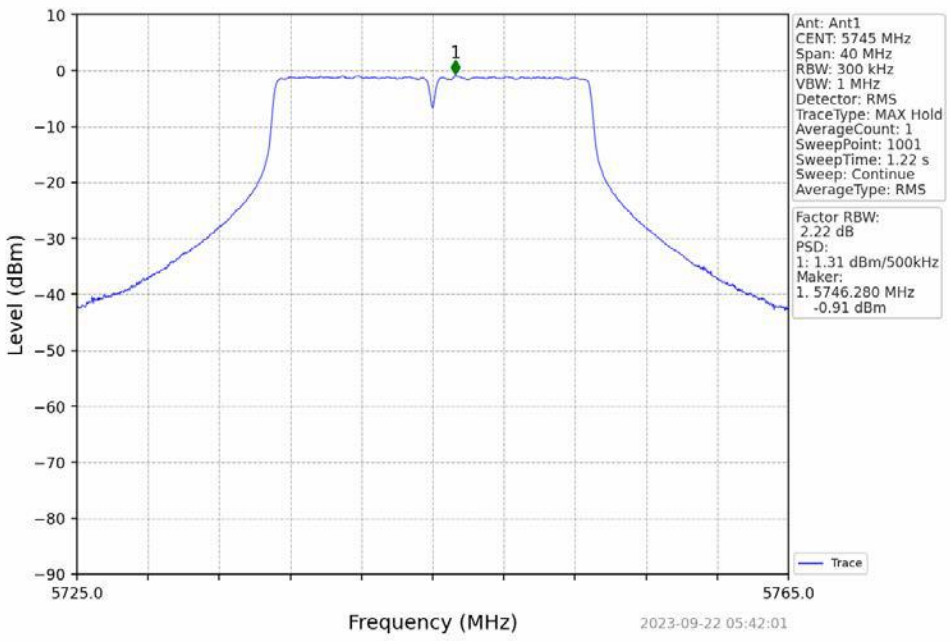


802.11ac(VHT20)_LCH_5745MHz_NTNV



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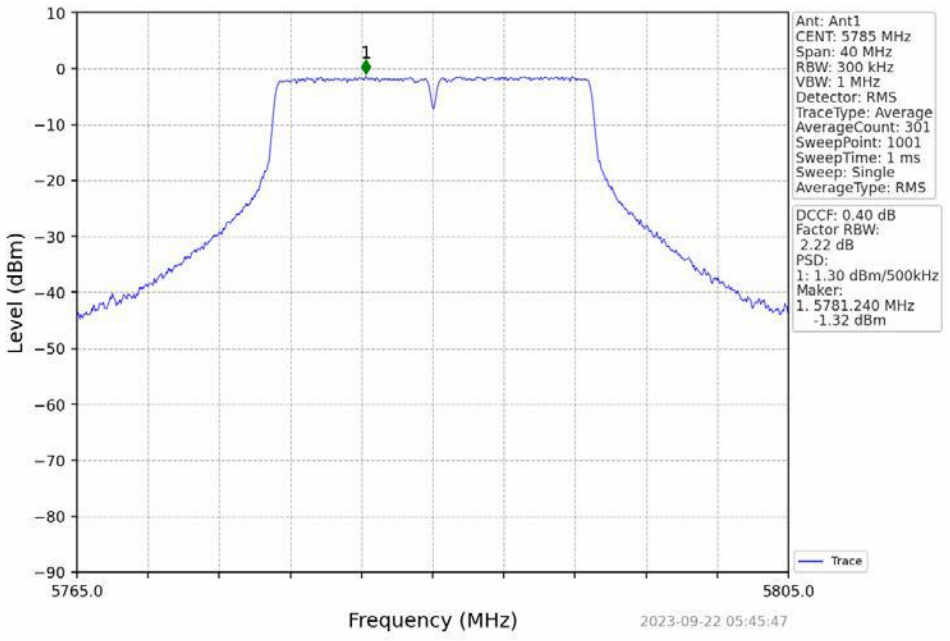
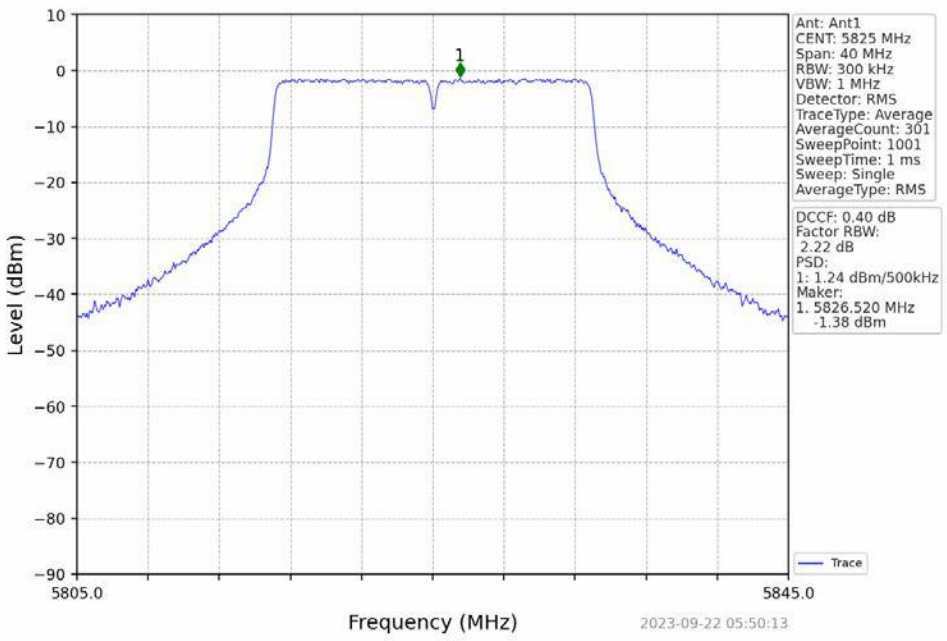
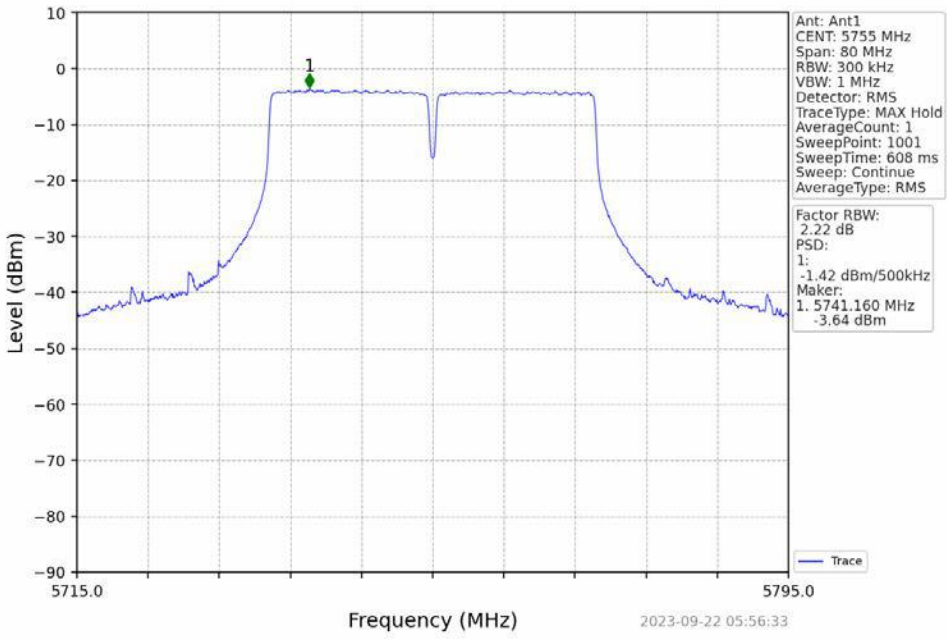


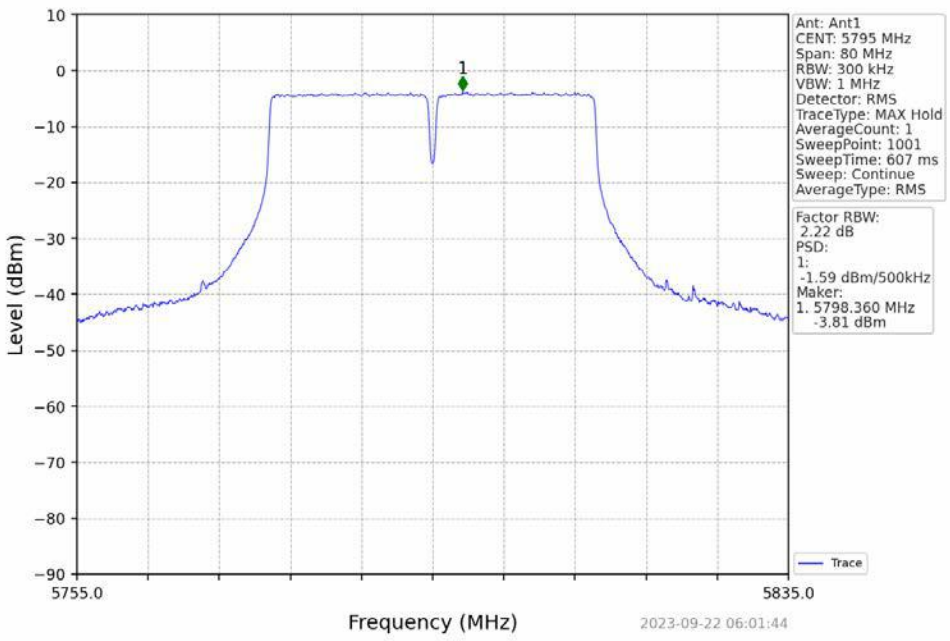
802.11ac(VHT20)_HCH_5825MHz_NTNV



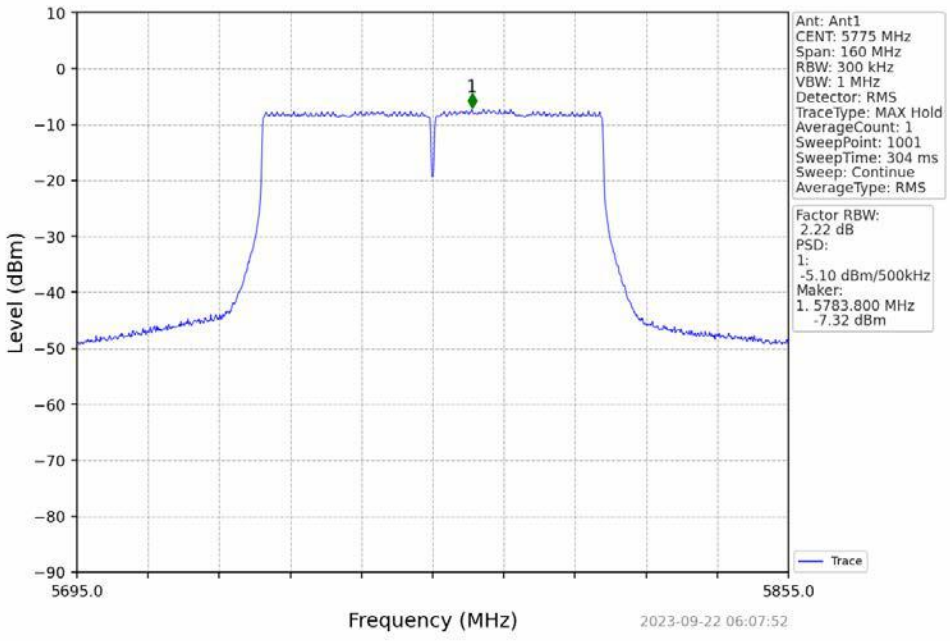
802.11ac(VHT40)_LCH_5755MHz_NTNV



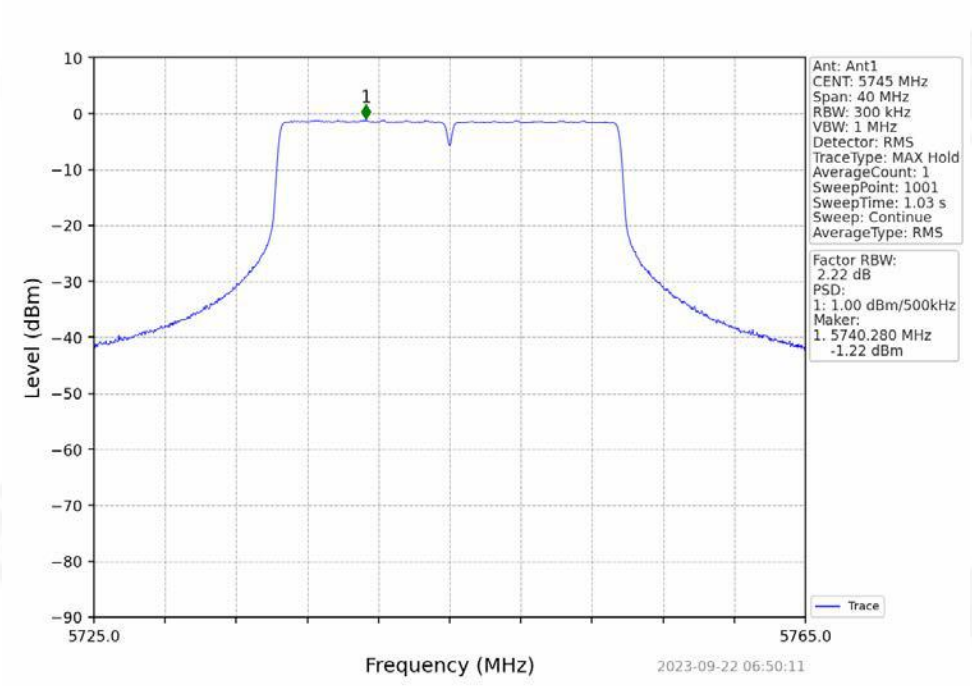
802.11ac(VHT40)_HCH_5795MHz_NTNV



802.11ac(VHT80)_MCH_5775MHz_NTNV



802.11ax(HEW20)_LCH_5745MHz_RU242_Left_NTNV



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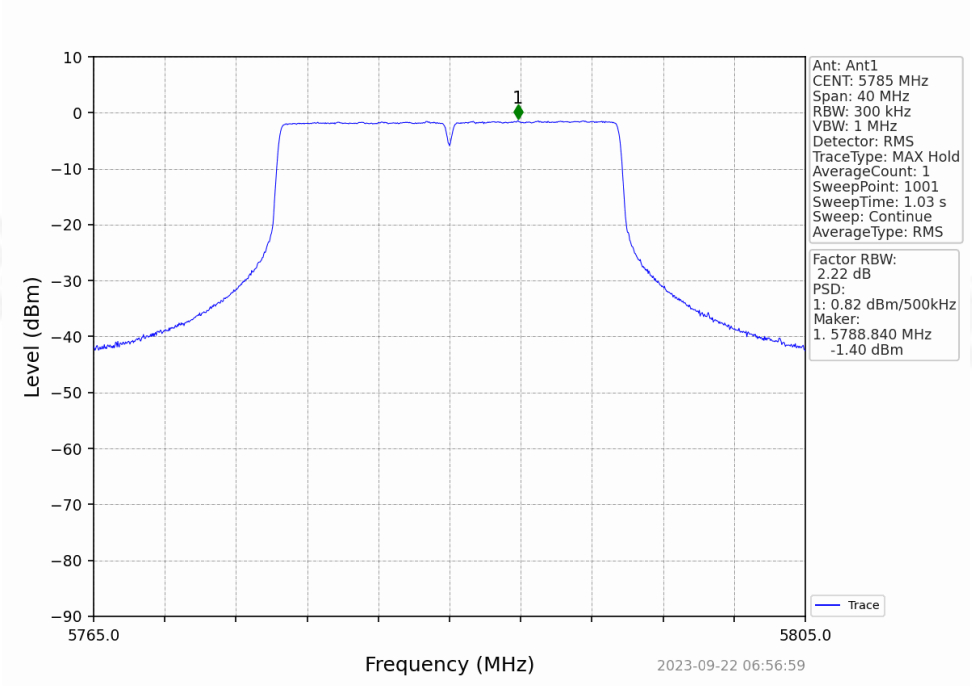
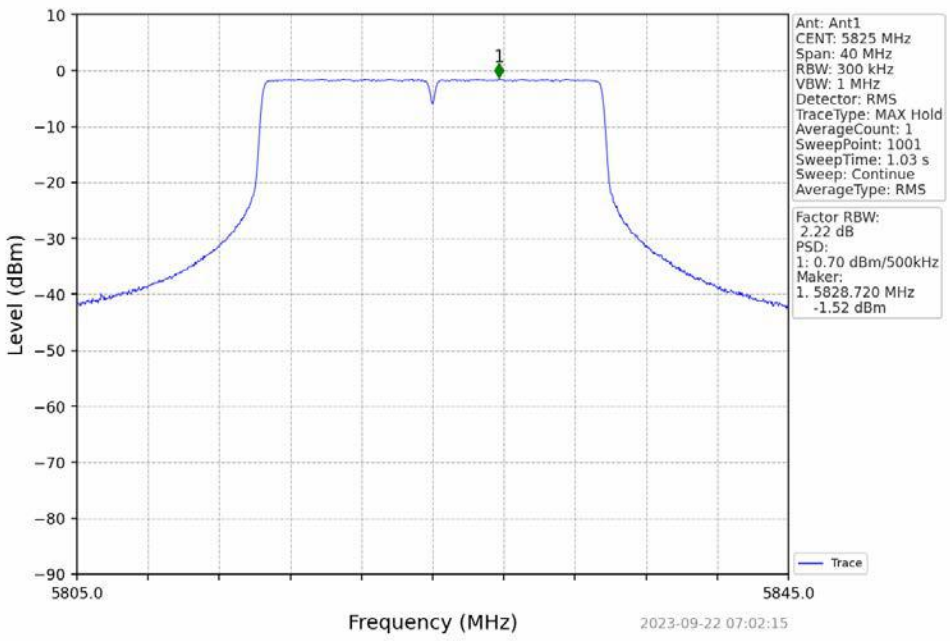


802.11ax(HEW20)_HCH_5825MHz_RU242_Left_NTNV



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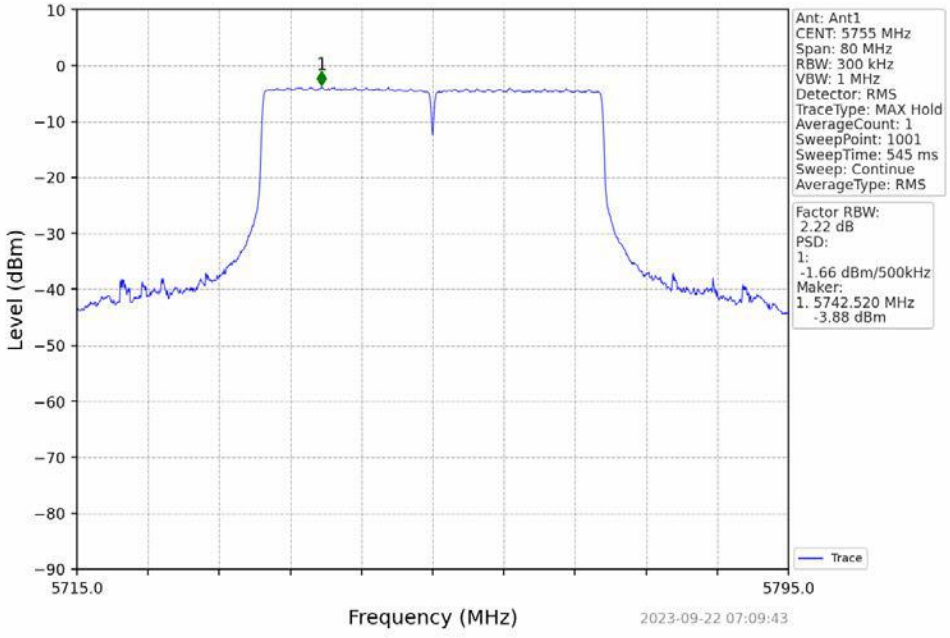

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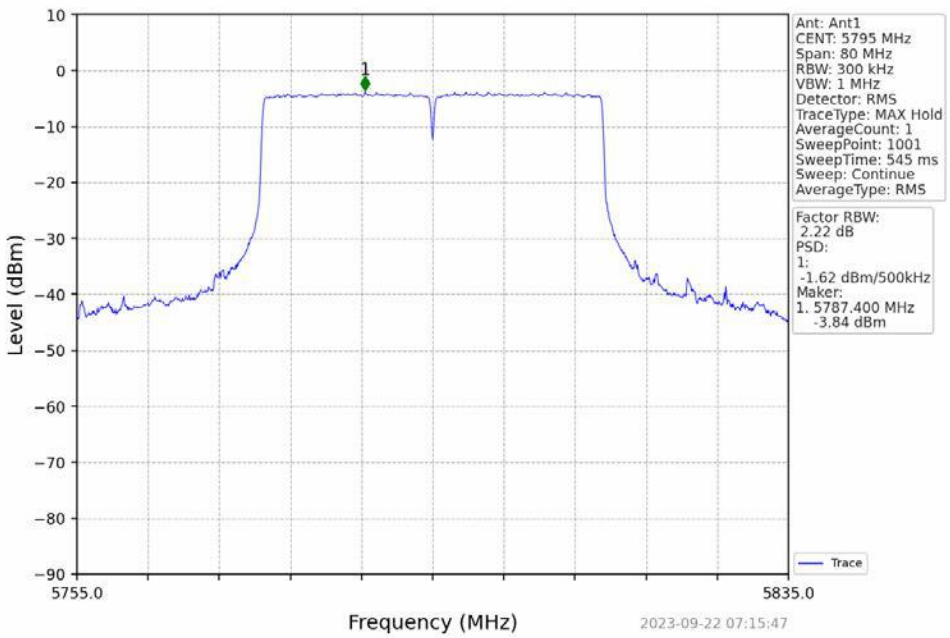

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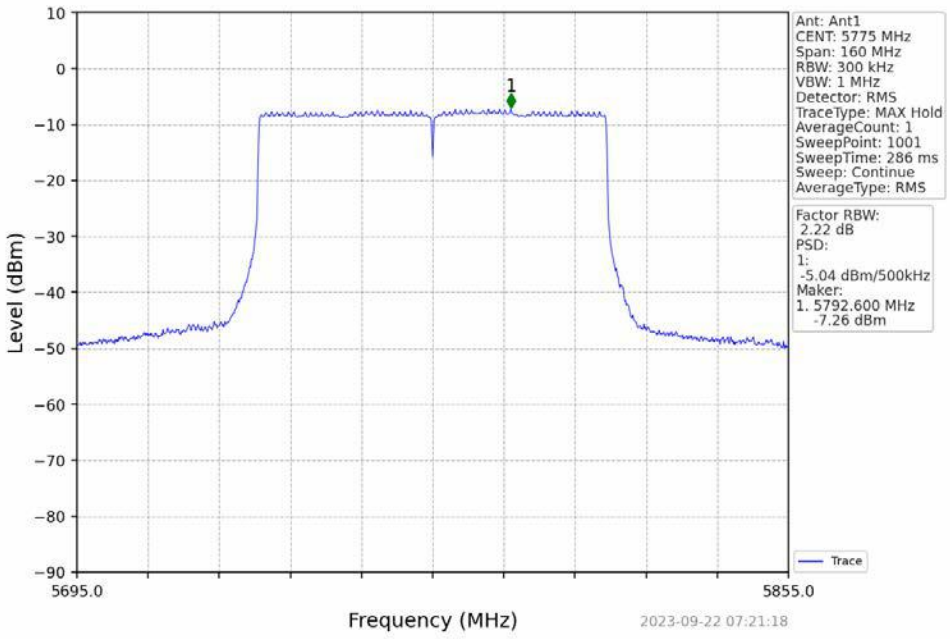
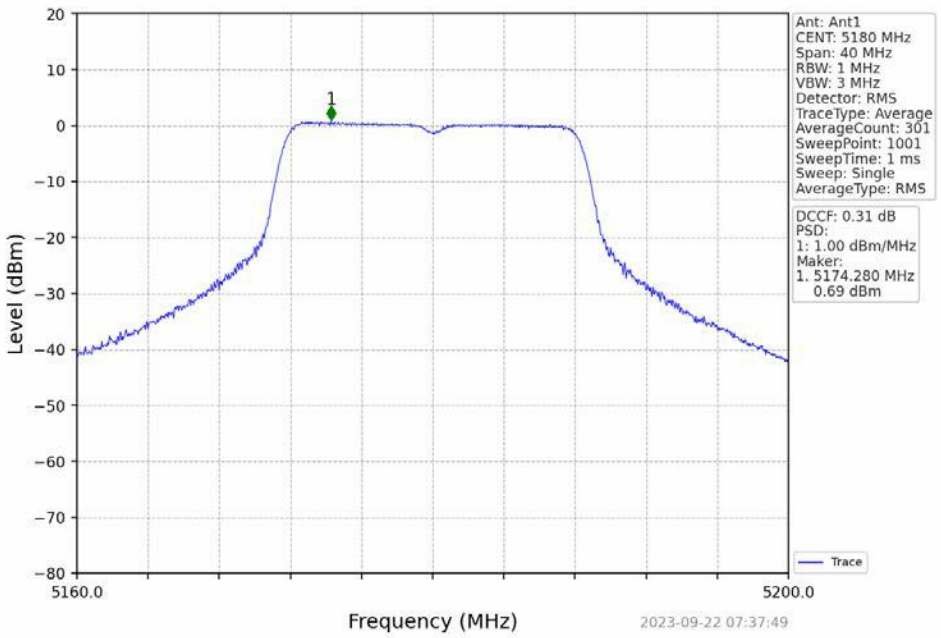


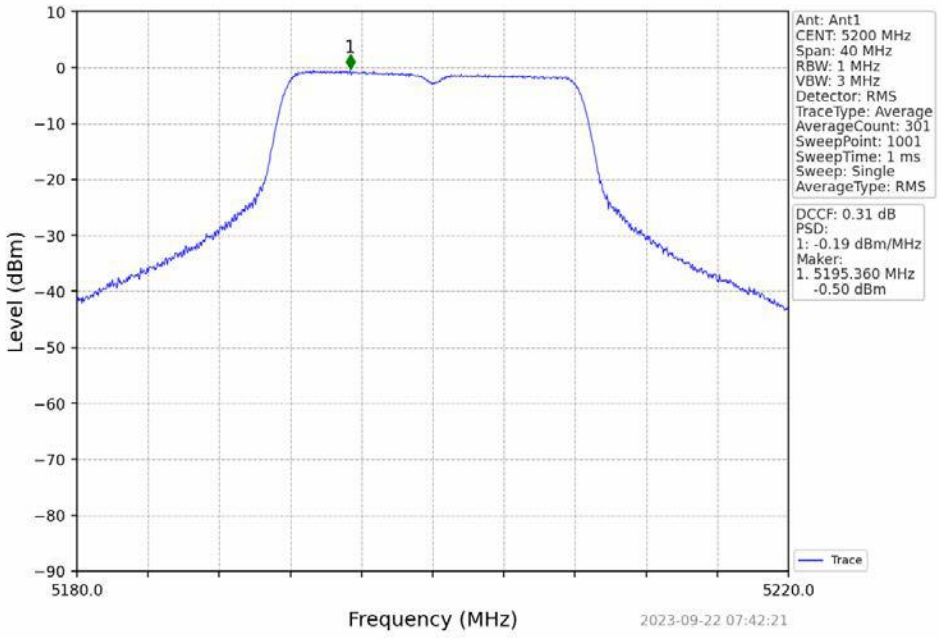
Antenna 2:

U-NII-1:

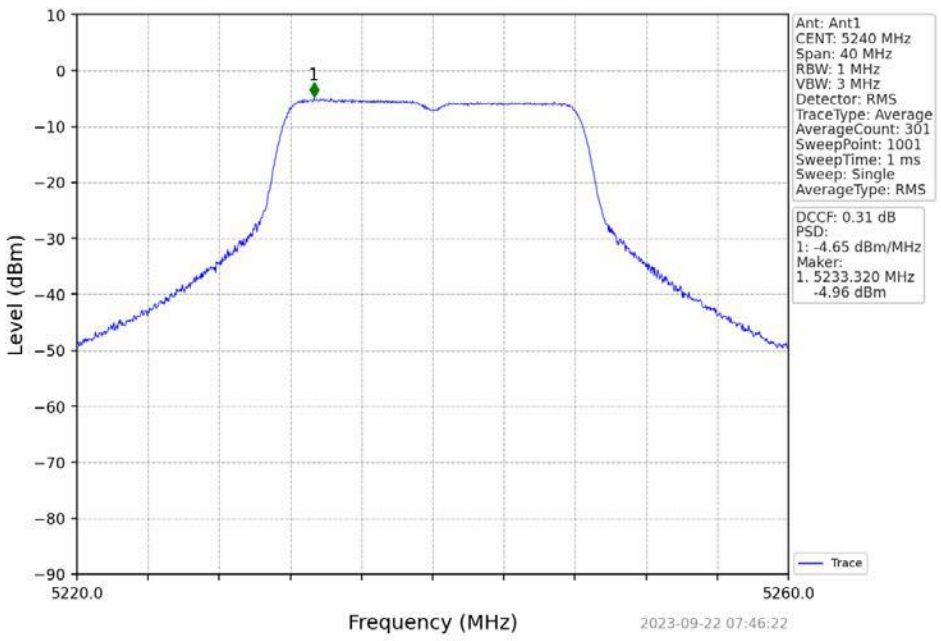
802.11a_LCH_5180MHz_NTNV



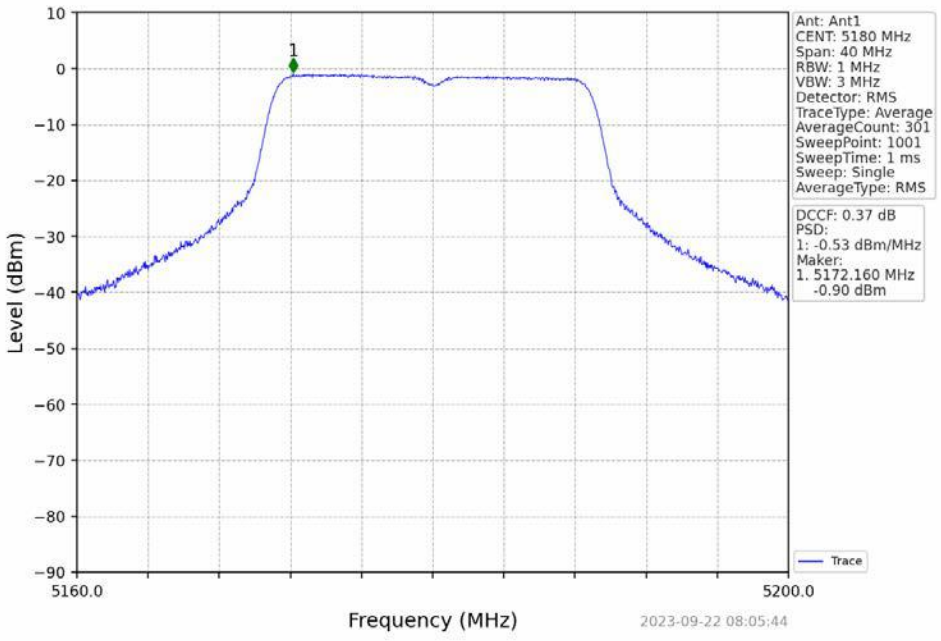
802.11a_MCH_5200MHz_NTNV



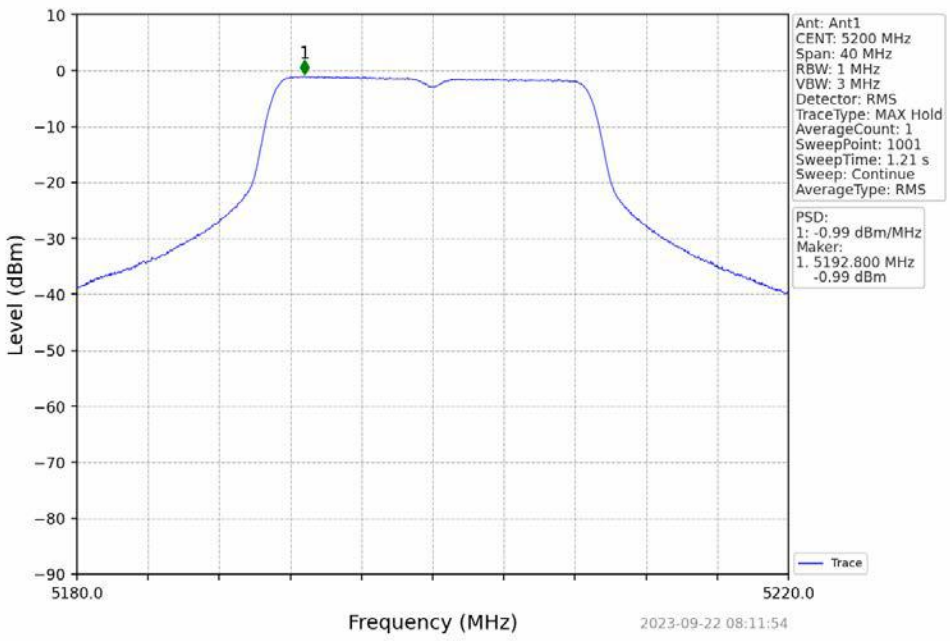
802.11a_HCH_5240MHz_NTNV



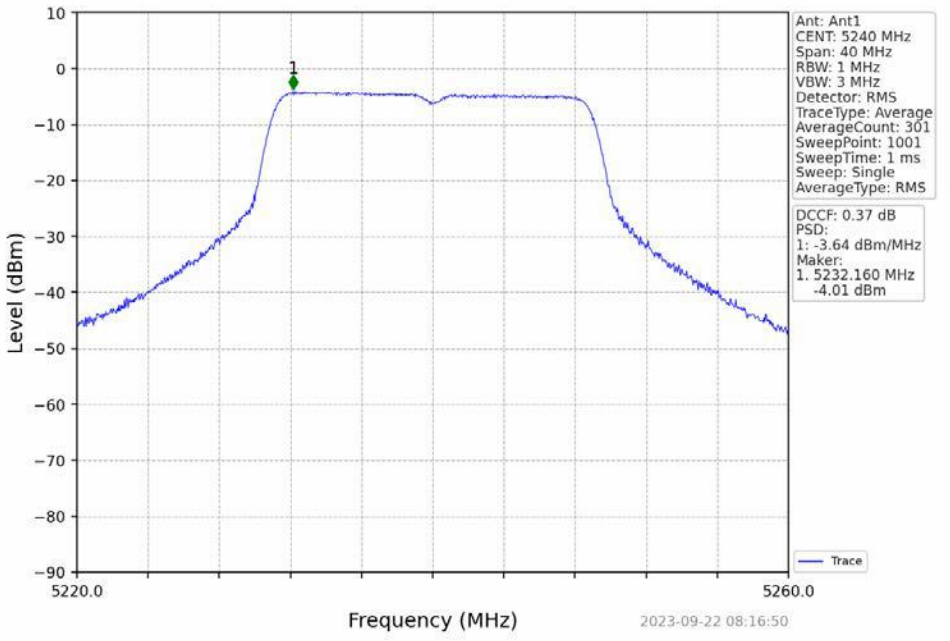
802.11n(HT20)_LCH_5180MHz_NTNV



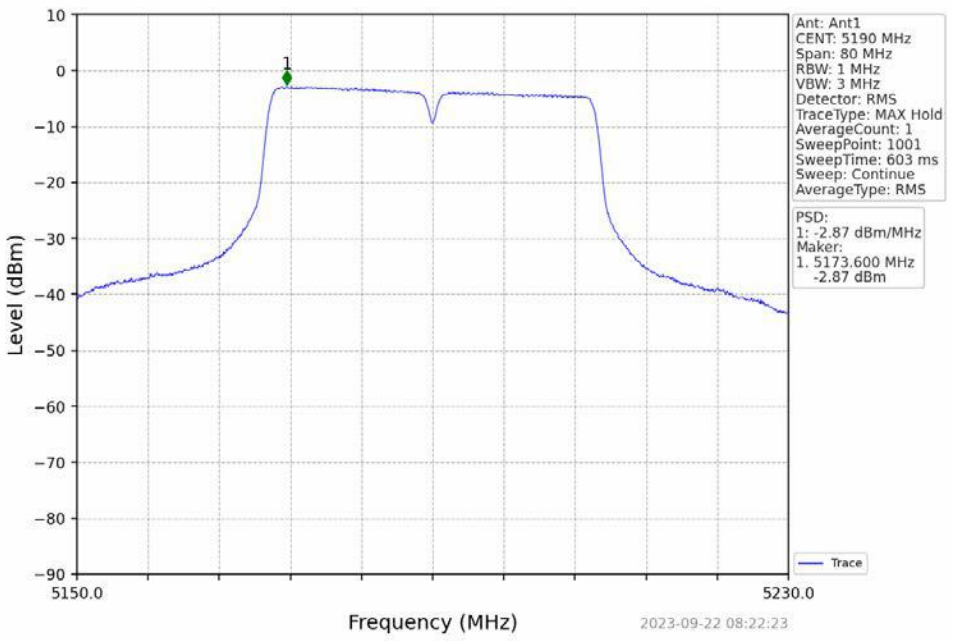
802.11n(HT20)_MCH_5200MHz_NTNV



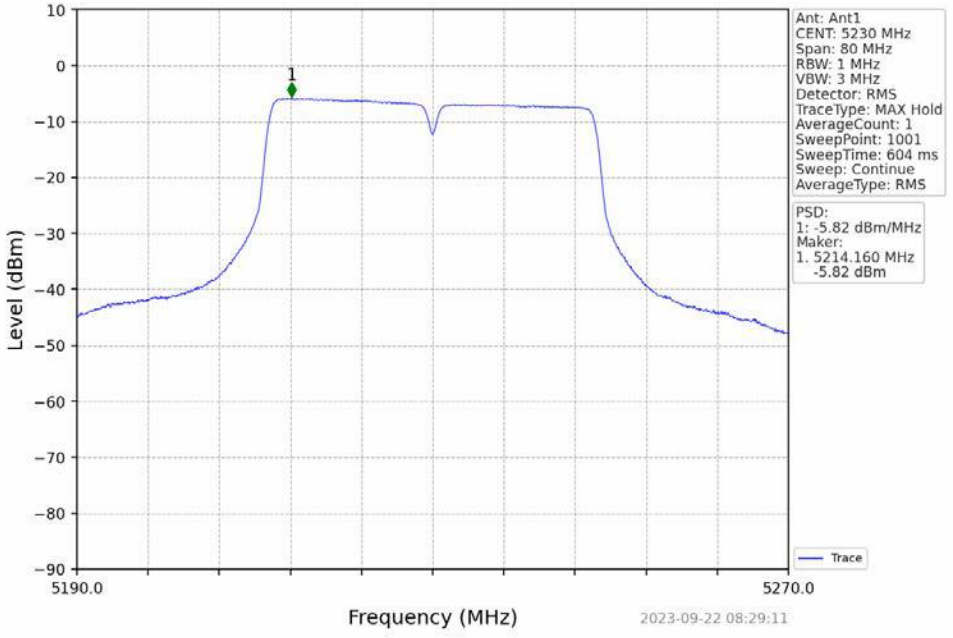
802.11n(HT20)_HCH_5240MHz_NTNV



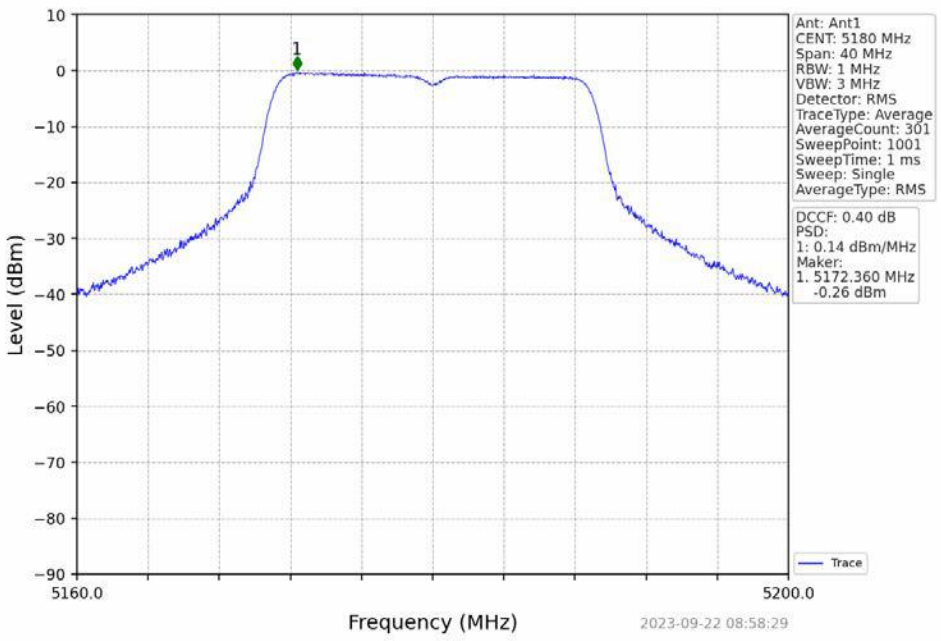
802.11n(HT40)_LCH_5190MHz_NTNV



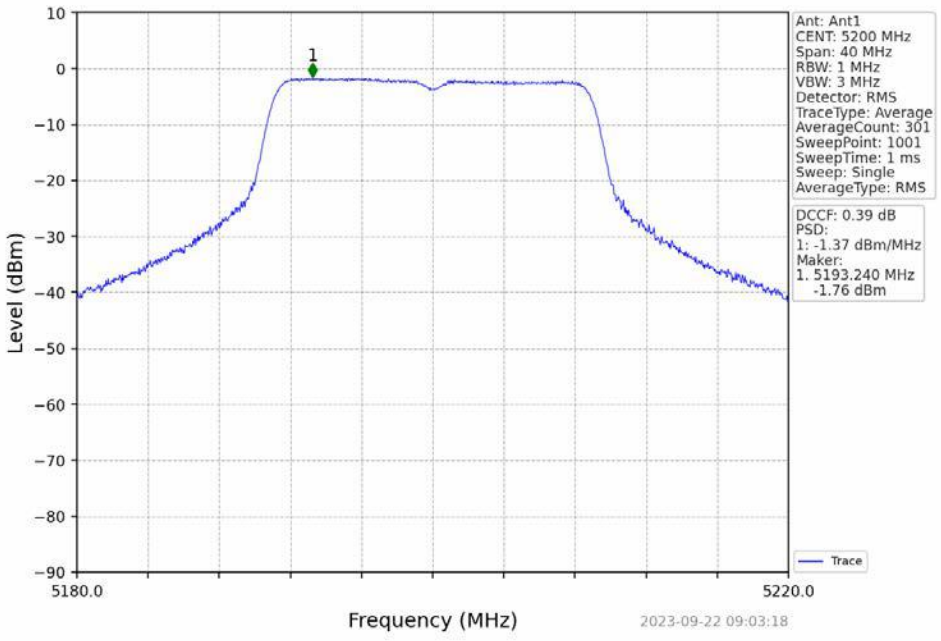
802.11n(HT40)_HCH_5230MHz_NTNV



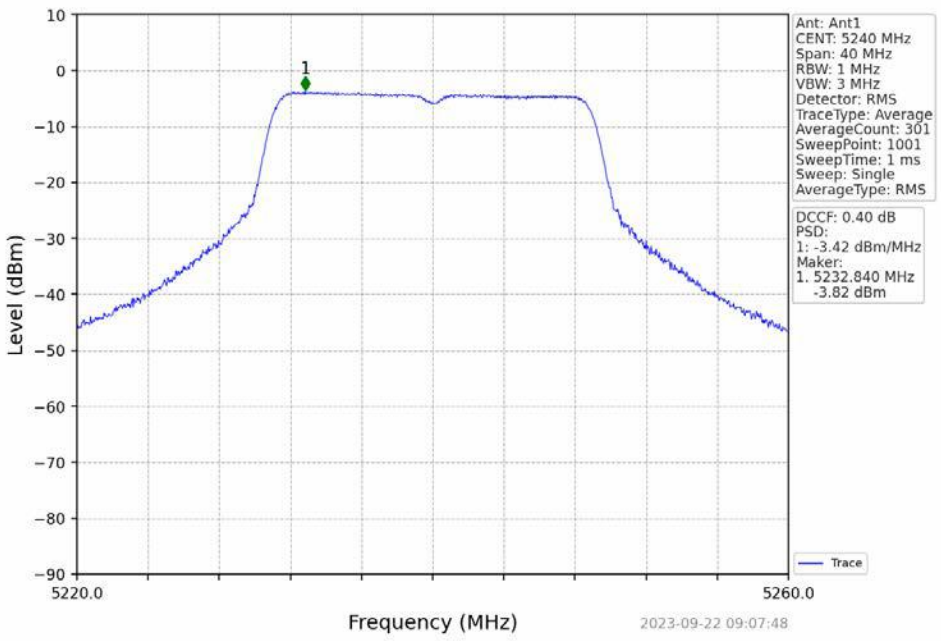
802.11ac(VHT20)_LCH_5180MHz_NTNV



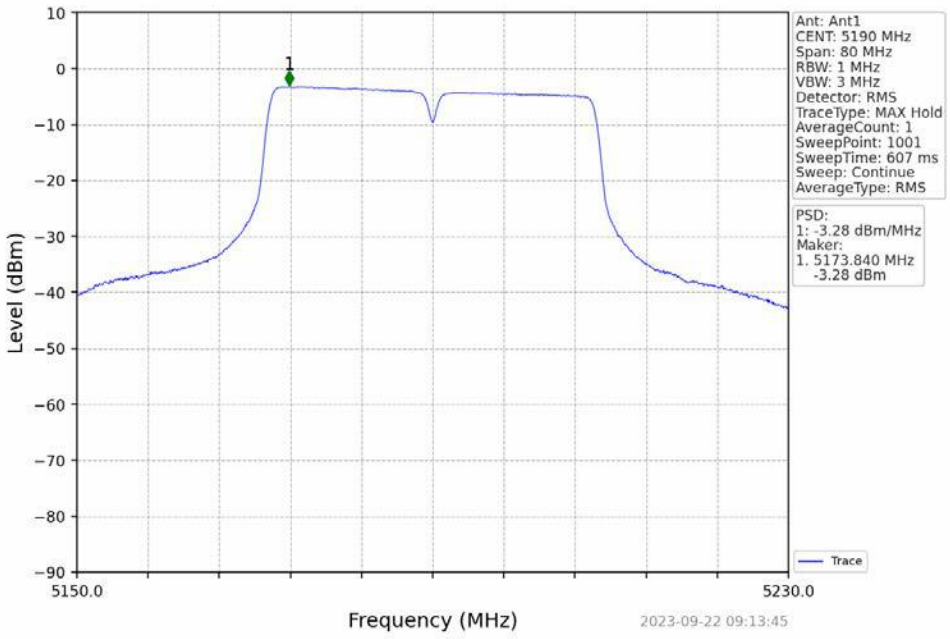
802.11ac(VHT20)_MCH_5200MHz_NTNV



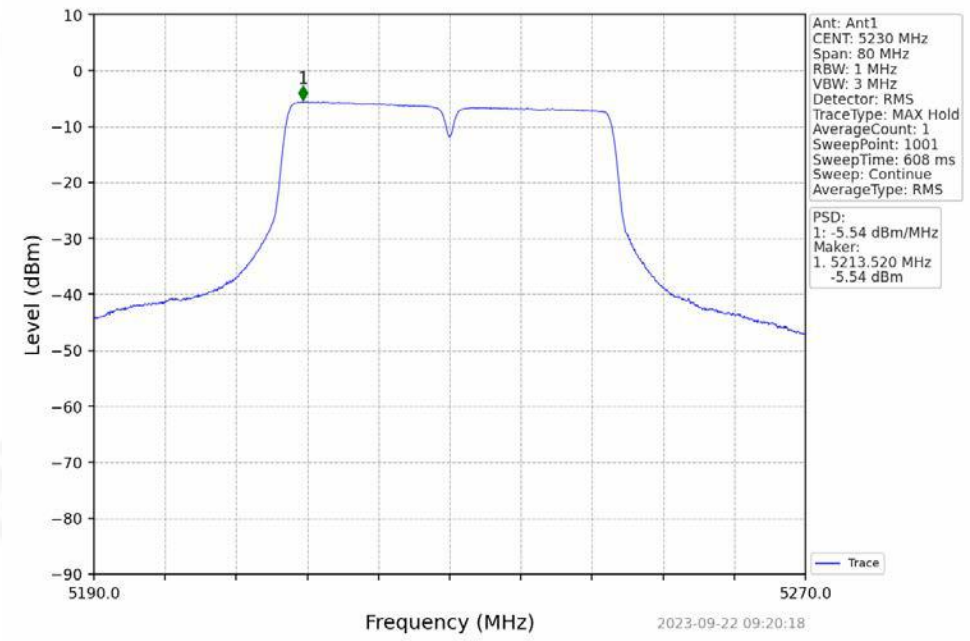
802.11ac(VHT20)_HCH_5240MHz_NTNV



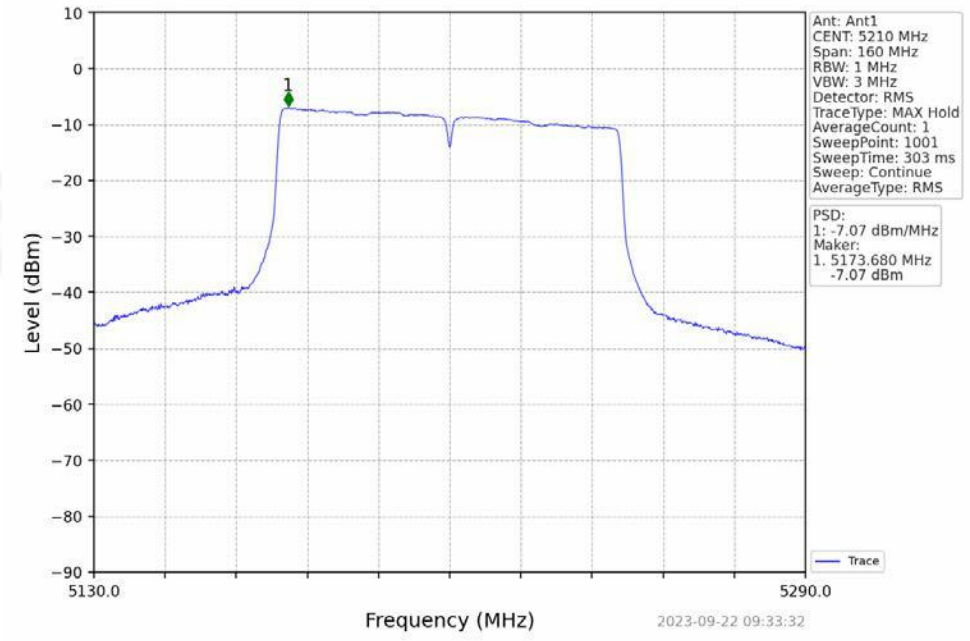
802.11ac(VHT40)_LCH_5190MHz_NTNV



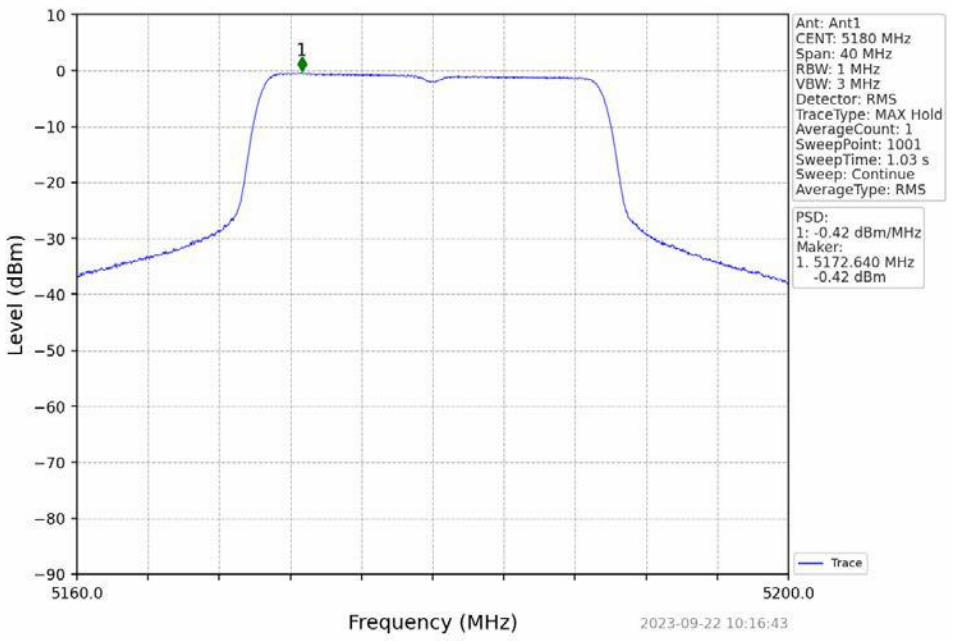
802.11ac(VHT40)_HCH_5230MHz_NTNV



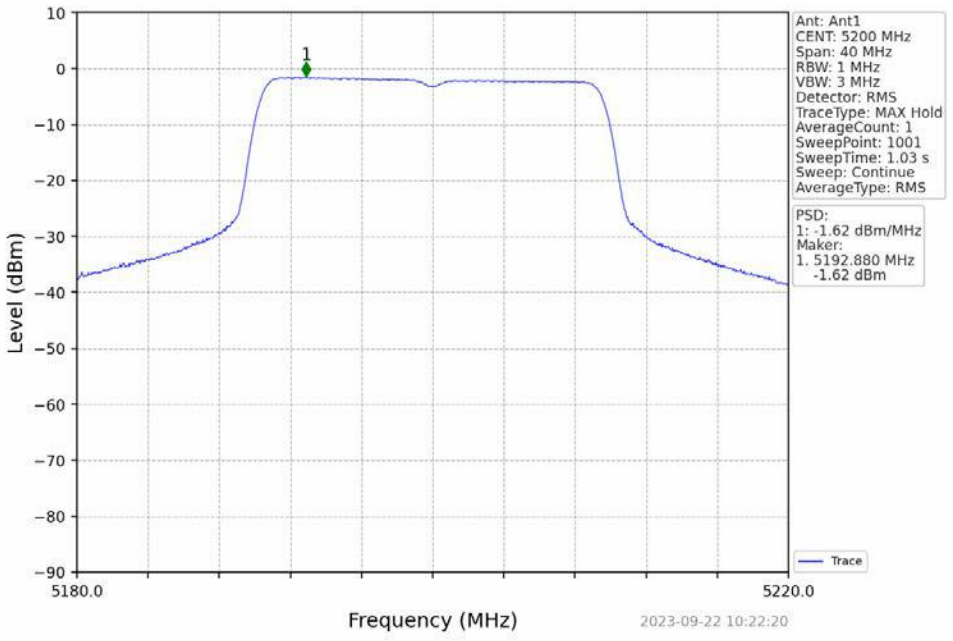
802.11ac(VHT80)_MCH_5210MHz_NTNV



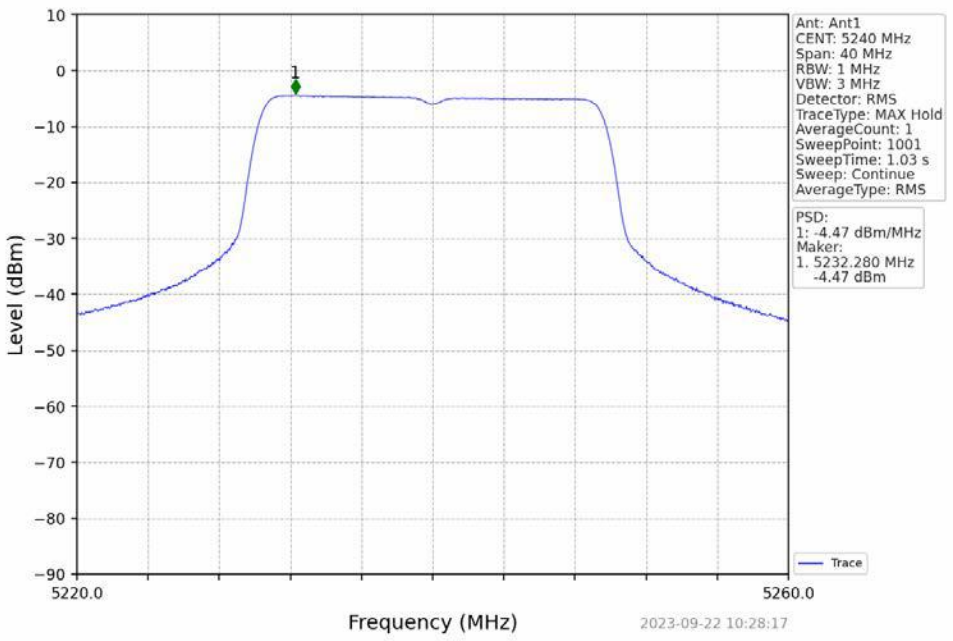
802.11ax(HEW20)_LCH_5180MHz_RU242_Left_NTNV



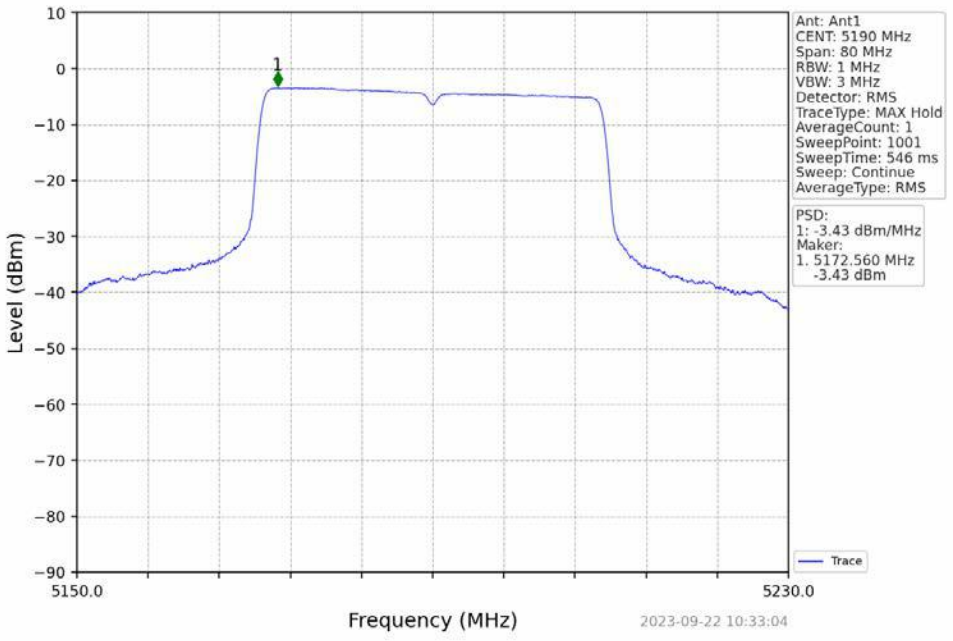
802.11ax(HEW20)_MCH_5200MHz_RU242_Left_NTNV



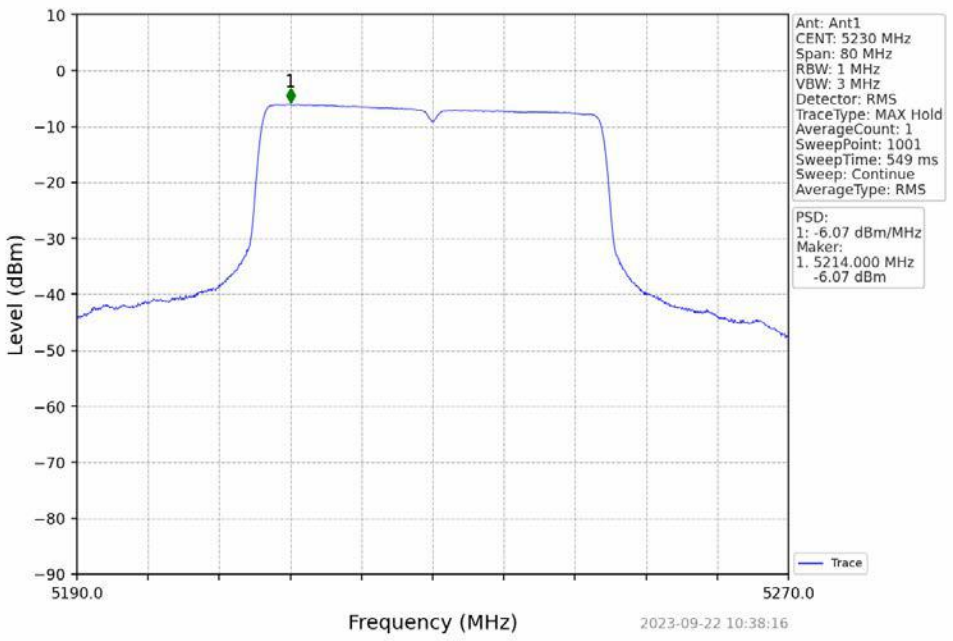
802.11ax(HEW20)_HCH_5240MHz_RU242_Left_NTNV



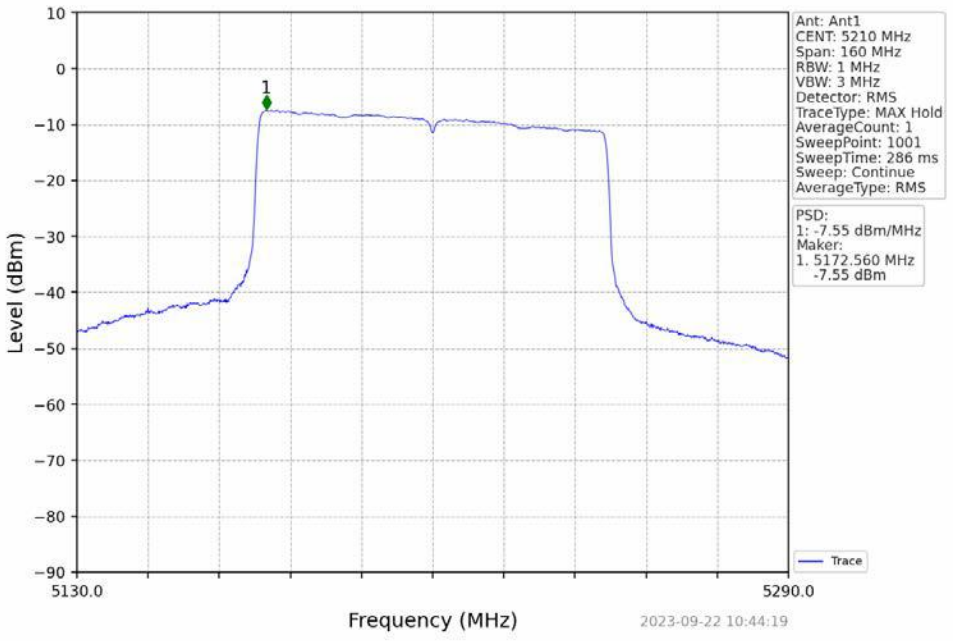
802.11ax(HEW40)_LCH_5190MHz_RU484_Left_NTNV



802.11ax(HEW40)_HCH_5230MHz_RU484_Left_NTNV

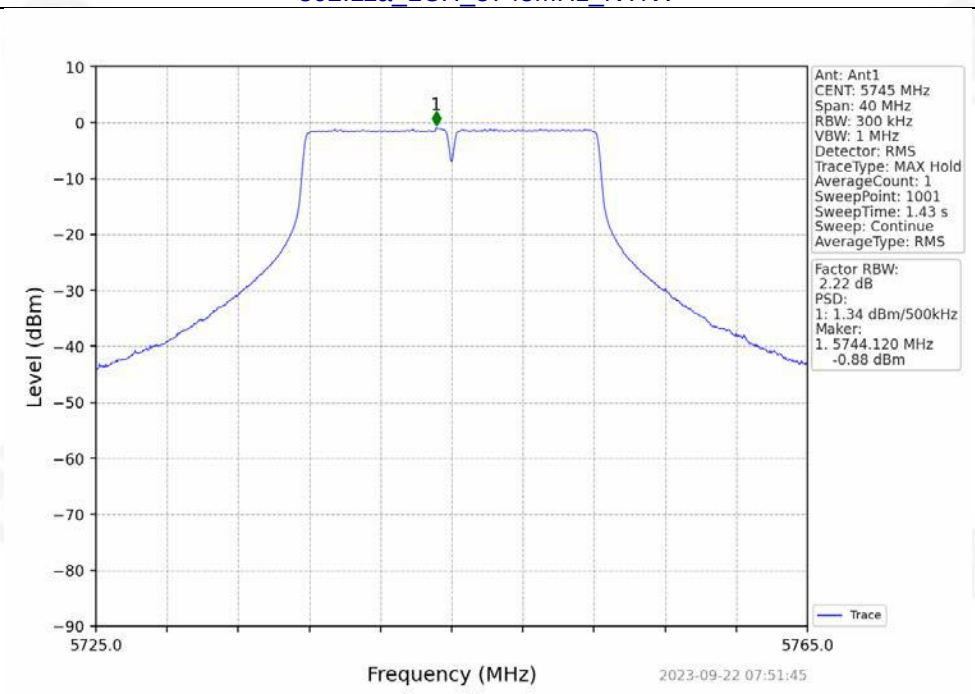


802.11ax(HEW80)_MCH_5210MHz_RU996_Left_NTNV

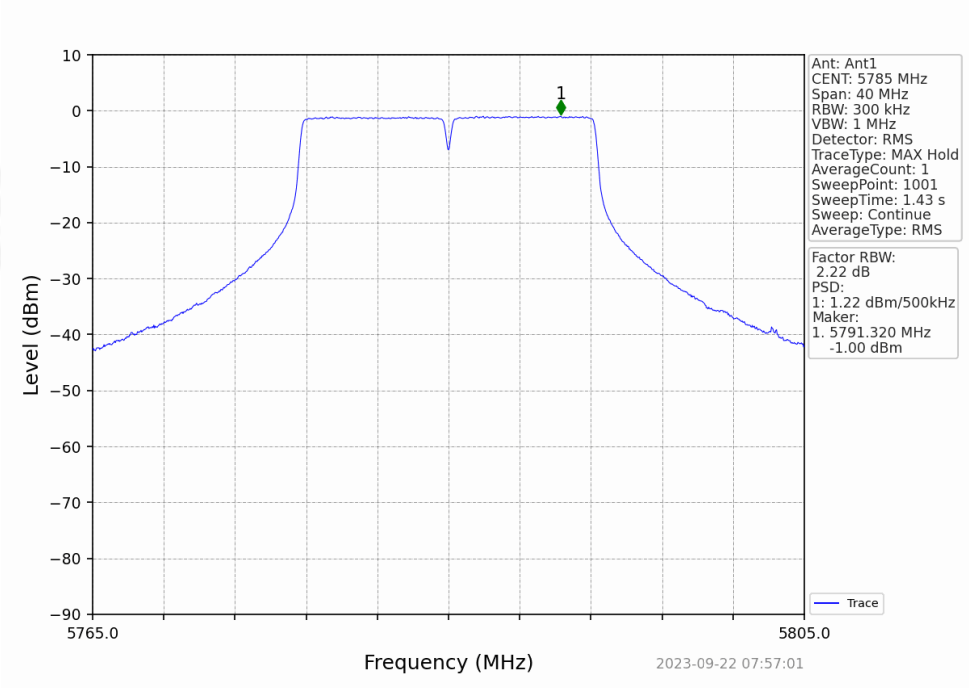


U-NII-3

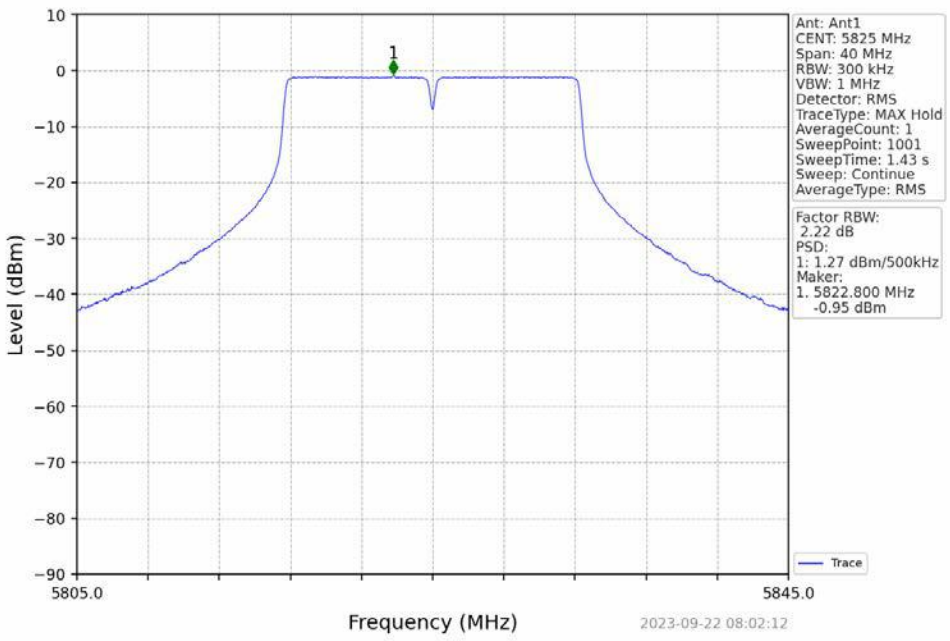
802.11a_LCH_5745MHz_NTNV



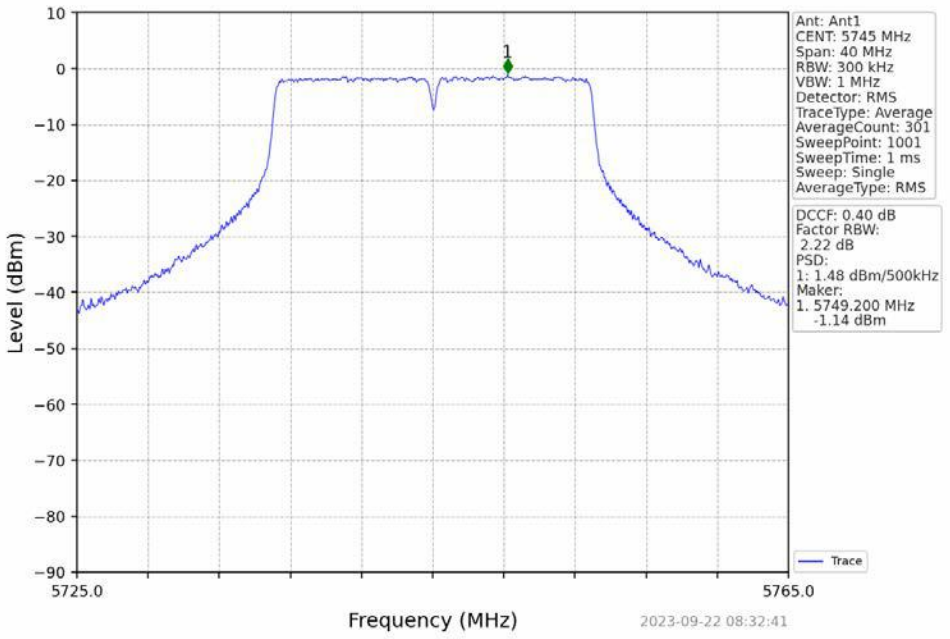
802.11a_MCH_5785MHz_NTNV



802.11a_HCH_5825MHz_NTNV



802.11n(HT20)_LCH_5745MHz_NTNV



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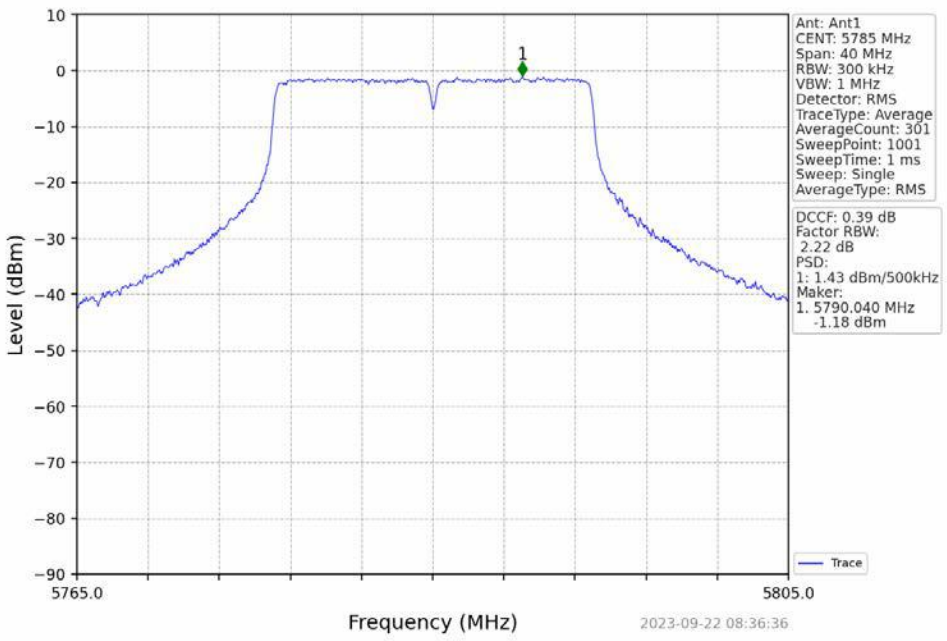
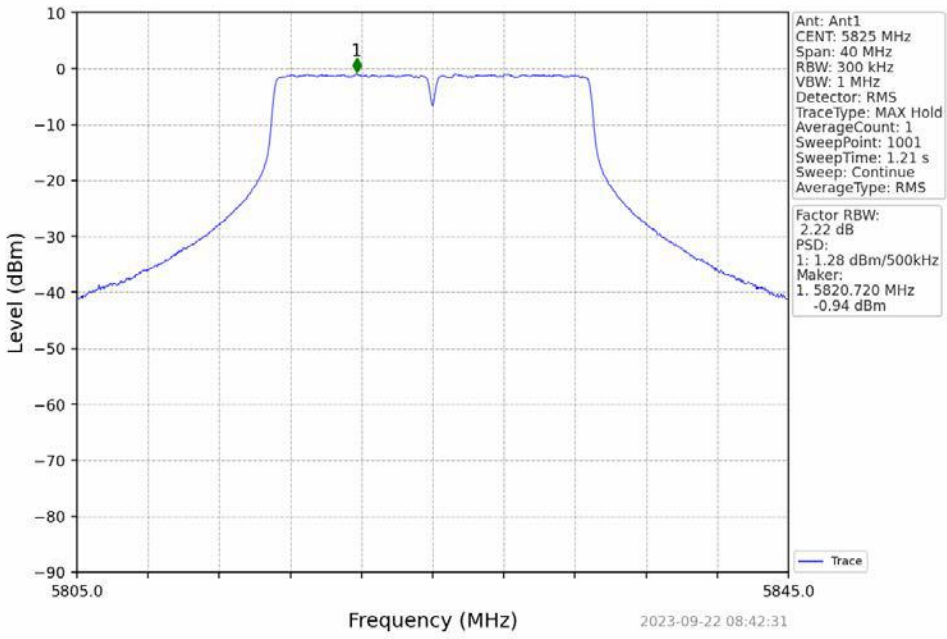
802.11n(HT20)_HCH_5825MHz_NTNV