TEST REPORT

Report No.:	8132EU011202W4
Applicant:	Shenzhen Ruiben Technology Co., LTD
Address:	1502 Yingfei Tuo Building,Guansheng Fifth Road, Luhu Community,Guanhu Street,Longhua District,Shenzhen, Guangdong, China
Product Name:	2 in 1 Laptop
Model No.:	RB130A
Trademark:	OX9
FCC ID:	2BC4S-OX9RB130A
Test Standard(s):	47 CFR Part 15 Subpart E
Date of Receipt:	Sep. 12, 2023
Test Date:	Sep. 12, 2023 – Oct. 19, 2023
Date of Issue:	Nov. 20, 2023

ISSUED BY:

SHENZHEN EU TESTING LABORATORY LIMITED

SHENZHEN EU TESTING LABORATORY LIMITED APPROVED

Prepared by:

Mikey Zhu/ Engineer

Reviewed and Approved by:

Sally Zhang/ Manager

Revision Record

Report Version	Issued Date	Description	Status
V0	Nov. 20, 2023	Original	Valid

Table of Contents

2. General Information

2.1 Applicant Information

Applicant	Shenzhen Ruiben Technology Co., LTD
Address	1502 Yingfei Tuo Building,Guansheng Fifth Road, Luhu Community,Guanhu Street,Longhua District,Shenzhen, Guangdong, China

2.2 Manufacturer Information

Manufacturer	Shenzhen COI Technology Co., LTD
Address	Room 406,B Building, SIBIONO BUILDING,19,1st Science & Technology Middle Road, Nanshan district, Shenzhen

2.3 Factory Information

Factory	Shenzhen COI Technology Co., LTD
Address	Room 406,B Building, SIBIONO BUILDING,19,1st Science & Technology Middle Road, Nanshan district, Shenzhen

2.4 General Description of E.U.T.

Product Name	2 in 1 Laptop
Model No. Under Test	RB130A
List Model No.	N/A
Description of Model differentiation	N/A
Trade Mark	OX9
Rating(s)	Input: 100-240V~50/60Hz 1.5A Output: 5V⎓ 3A, 9V⎓ 3A, 12V⎓ 3A, 15V⎓ 3A, 20V⎓ 3.25A 65W Max. Battery: Rated Voltage: 11.55V⎓, 3900mAh; Limited Voltage: 13.2V⎓, 3900mAh
Product Type	☐ Mobile ☒ Portable ☐ Fix Location
Test Sample No.	-1/2(Normal Sample), -2/2(Engineering Sample)
Hardware Version	03
Software Version	Windows11 Pro 22H2
Remark	N/A

2.5 Technical Information of E.U.T.

Technology Used	WiFi 5GHz: 802.11a, 802.11n, 802.11ac, 802.11ax U-NII-1/-3

The requirement for the following technical information of the EUT was tested in this report:

Technology		**WiFi 5GHz**
Operating Frequency		U-NII-1: 5150 MHz to 5250 MHz U-NII-3: 5725 MHz to 5850 MHz
Modulation Technology		OFDM, OFDMA
Modulation Type		1024QAM, 256QAM, 64QAM, 16QAM, BPSK, QPSK
Transfer Rate (Mbps) (Single RF path)		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 1201 Mbps
Channel Bandwidth		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
Antenna System (eg., MIMO, Smart Antenna)		Cyclic Delay Diversity (CDD) for 802.11a Multi Input Multi Output (MIMO) for 802.11n/ac
Antenna Type	Antenna 1	PIFA Antenna
	Antenna 2	
Antenna Gain	Antenna 1	U-NII-1: 0.15 dBi U-NII-3: 0.97 dBi
	Antenna 2	U-NII-1: 0.29 dBi U-NII-3: 0.92 dBi
Total directional gain	ANT1+ANT2 (U-NII-1)	Correlated: 3.23 dBi Formulas: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /NANT] dBi Uncorrelated: 0.22 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi
	ANT1+ANT2 (U-NII-3)	Correlated: 3.96 dBi Formulas: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /NANT] dBi Uncorrelated: 0.95 dBi Formulas: Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$/NANT] dBi

2.6 Channel List of E.U.T.

20 MHz Bandwidth		40 MHz Bandwidth		80 MHz Bandwidth	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	**5180**	**38**	**5190**	**42**	**5210**
40	**5200**	**46**	**5230**	**155**	**5775**
44	5220	**151**	**5755**	/	/
48	**5240**	**159**	**5795**	/	/
149	**5745**	/	/	/	/
153	5765	/	/	/	/
157	**5785**	/	/	/	/
161	5805	/	/	/	/
165	**5825**	/	/	/	/

The Lowest frequency, the middle frequency and the highest frequency of channel were selected to perform the test, and the selected channels see below:

For 802.11a/n(HT20)/ac(VHT20)/802.11ax(HEW20)

U-NII-1 (5150 - 5250 MHz)			U-NII-3 (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
36	Low	5180	149	Low	5745
40	Mid	5200	157	Mid	5785
48	High	5240	165	High	5825

For 802.11n(HT40)/ac(VHT40)/802.11ax(HEW40)

U-NII-1 (5150 - 5250 MHz)			U-NII-3 (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
38	Low	5190	151	Low	5755
46	High	5230	159	High	5795

For 802.11 ac(VHT80)/802.11ax(HEW80)

U-NII-1 (5150 - 5250 MHz)			U-NII-3 (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
42	Mid	5210	155	Mid	5775

Note: Preliminary tests were performed in different data rate in above table to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Modulation Type	U-NII-1	U-NII-3
				Channel	Channel
RF Output Power	11a	6	BPSK	48/40/36	165/157/149
	11n(20 MHz)	6.5		48/40/36	165/157/149
	11n(40 MHz)	13.5		46/38	159/151
	11ac(20 MHz)	6.5		48/40/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	29.3		42	155
	11ax(20 MHz)	4		48/40/36	165/157/149
	11ax(40 MHz)	8		46/38	159/151
	11ax(80 MHz)	17		42	155
Emission Bandwidth & 99% Occupied Bandwidth	11a	6	BPSK	48/40/36	165/157/149
	11n(20 MHz)	6.5		48/40/36	165/157/149
	11n(40 MHz)	13.5		46/38	159/151
	11ac(20 MHz)	6.5		48/40/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	29.3		42	155
	11ax(20 MHz)	4		48/40/36	165/157/149
	11ax(40 MHz)	8		46/38	159/151
	11ax(80 MHz)	17		42	155
6 dB bandwidth	11a	6	BPSK	48/40/36	165/157/149
	11n(20 MHz)	6.5		48/40/36	165/157/149
	11n(40 MHz)	13.5		46/38	159/151
	11ac(20 MHz)	6.5		48/40/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	29.3		42	155
	11ax(20 MHz)	4		48/40/36	165/157/149
	11ax(40 MHz)	8		46/38	159/151
	11ax(80 MHz)	17		42	155
Power Spectral Density	11a	6	BPSK	48/40/36	165/157/149
	11n(20 MHz)	6.5		48/40/36	165/157/149
	11n(40 MHz)	13.5		46/38	159/151
	11ac(20 MHz)	6.5		48/40/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	29.3		42	155
	11ax(20 MHz)	4		48/40/36	165/157/149
	11ax(40 MHz)	8		46/38	159/151
	11ax(80 MHz)	17		42	155
Band Edge (Restricted-band)	11a	6	BPSK	48/40/36	165/157/149
	11n(20 MHz)	6.5		48/40/36	165/157/149
	11n(40 MHz)	13.5		46/38	159/151

	11ac(20 MHz)	6.5		48/40/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	29.3		42	155
	11ax(20 MHz)	4		48/40/36	165/157/149
	11ax(40 MHz)	8		46/38	159/151
	11ax(80 MHz)	17		42	155
Radiated Spurious Emissions	11a	6	BPSK	48/40/36	165/157/149
	11n(20 MHz)	6.5		48/40/36	165/157/149
	11n(40 MHz)	13.5		46/38	159/151
	11ac(20 MHz)	6.5		48/40/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	29.3		42	155
	11ax(20 MHz)	4		48/40/36	165/157/149
	11ax(40 MHz)	8		46/38	159/151
	11ax(80 MHz)	17		42	155

3. Test Summary

3.1 Test Standard

The tests were performed according to following standards:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E	Unlicensed National Information Infrastructure Devices
2	ANSI C63.10-2020	American National Standard for Testing Unlicensed Wireless Devices
3	KDB Publication 789033 D02v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
4	KDB Publication 662911 D01v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)

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

3.2 Test Verdict

No.	Description	FCC Part No.	Verdict	Remark
1	Antenna Requirement	15.203	Pass	--
2	Conducted Emission at AC Power Line	15.207 15.407(b)(9)	Pass	--
3	26dB Emission Bandwidth & 99% Occupied Bandwidth	15.407(a)	Pass	--
4	6 dB bandwidth	15.407(e)	Pass	--
5	Maximum Conducted Output Power	15.407(a)	Pass	--
6	Power Spectral Density	15.407(a)	Pass	--
7	Band Edge emissions (Radiated)	15.407(b)	Pass	--
8	Undesirable Emission	15.407(b)	Pass	--
9	Frequency Stability	15.407(g)	Pass	--

3.3 Test Laboratory

Test Laboratory	Shenzhen EU Testing Laboratory Limited
Address	1/F, Bldg. B1, Fuqiao Fourth Industrial Area, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Designation Number	CN1368
Test Firm Registration Number	952583

4. Test Configuration

4.1 Test Environment

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

Relative Humidity	40% to 60%	
Atmospheric Pressure	90 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+15℃ to +35℃
Working Voltage of the EUT	NV (Normal Voltage)	11.55V

4.2 Test Equipment

Conducted Emission at AC power line					
Equipment	**Manufacturer**	**Model No**	**Serial No**	**Cal Date**	**Cal Due Date**
L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	EE-004	2023/01/10	2024/01/09
EMI Test Receiver	Rohde & Schwarz	ESCI	EE-005	2023/01/10	2024/01/09
Test Software	Ferrari Technology	EZ-EMC	EE-014	N.C.R	N.C.R

Radiated Emission and RF Test					
Equipment	**Manufacturer**	**Model No**	**Serial No**	**Cal Date**	**Cal Due Date**
EMI Test Receiver	ROHDE & SCHWARZ	ESPI	EE-006	2023/01/10	2024/01/09
Bilog Broadband Antenna	SCHWARZBECK	VULB 9163	EE-007	2023/01/14	2026/01/09
Double Ridged Horn Antenna	A-INFOMW	LB-10180-NF	EE-008	2023/01/12	2026/01/09
Pre-amplifier	Agilent	8447D	EE-009	2023/01/10	2024/01/09
Pre-amplifier	Agilent	8449B	EE-010	2023/01/10	2024/01/09
MXA Signal Analyzer	Agilent	N9020A	EE-011	2023/01/10	2024/01/09
MXG RF Vector Signal Generator	Agilent	N5182A	EE-012	2023/01/10	1 Year
Test Software	Farad	EZ-EMC	EE-015	N.C.R	N.C.R
MIMO Power Measurement Module	TSTPASS	TSPS 2023R	EE-016	2023/05/17	2024/05/16
RF Test Software	TSTPASS	TS32893 V2.0	EE-017	N.C.R	N.C.R
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	EE-402	2023/02/16	2024/02/15
Loop Antenna	TESEQ	HLA6121	EE-403	2023/02/16	2024/02/15
Spectrum Analyzer	ROHDE & SCHWARZ	FSP40	EE-404	2023/05/16	2024/05/15
MXG RF Analog Signal Generator	Agilent	N5181A	EE-406	2023/02/16	2024/02/15
DRG Horn Antenna (up to 40GHz)	SCHWARZBECK	BBHA 9170	EE-410	2023/06/07	2023/06/06
Pre-amplifier	SKET	LNPA-1840-50	EE-411	2023/06/07	2023/06/06
Constant Temperature Humidity Chamber	Guangxin	GXP-401	ES-002	2023/07/31	2024/07/30

4.3 Description of Support Unit

No.	Title	Manufacturer	Model No.	Serial No.
1	Adapter	IDEA POWER ELECTRONIC TECHNOLOGY(DONGGUAN)CO., LTD	YB-PO65WCAU	--

4.4 Test Mode

No.	Test Modes	Description
TM1	802.11a mode	Keep the EUT in 802.11a transmitting mode.
TM2	802.11n(HT20) mode	Keep the EUT in 802.11n(HT20) transmitting mode.
TM3	802.11n(HT40) mode	Keep the EUT in 802.11n(HT40) transmitting mode.
TM4	802.11ac(VHT20) mode	Keep the EUT in 802.11ac(VHT20) transmitting mode.
TM5	802.11ac(VHT40) mode	Keep the EUT in 802.11ac(VHT40) transmitting mode.
TM6	802.11ac(VHT80) mode	Keep the EUT in 802.11ac(VHT80) transmitting mode.
TM7	802.11ax(HEW20) mode	Keep the EUT in 802.11ax(HEW20) transmitting mode.
TM8	802.11ax(HEW40) mode	Keep the EUT in 802.11ax(HEW40) transmitting mode.
TM9	802.11ax(HEW80) mode	Keep the EUT in 802.11ax(HEW80) transmitting mode.

4.5 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test Item	Measurement Uncertainty
Conducted Emission	2.64 dB
Occupied Channel Bandwidth	2.8 %
RF output power, conducted	0.68 dB
Power Spectral Density, conducted	1.37 dB
Unwanted Emissions, conducted	1.84 dB
All emissions, radiated	5.11 dB
Temperature	0.8°C
Humidity	4%

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Condition

None.

5. Test Items

5.1 Antenna requirement

5.1.1 Test Requirement

Test Requirement	According to FCC §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

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

5.1.3 Antenna Gain

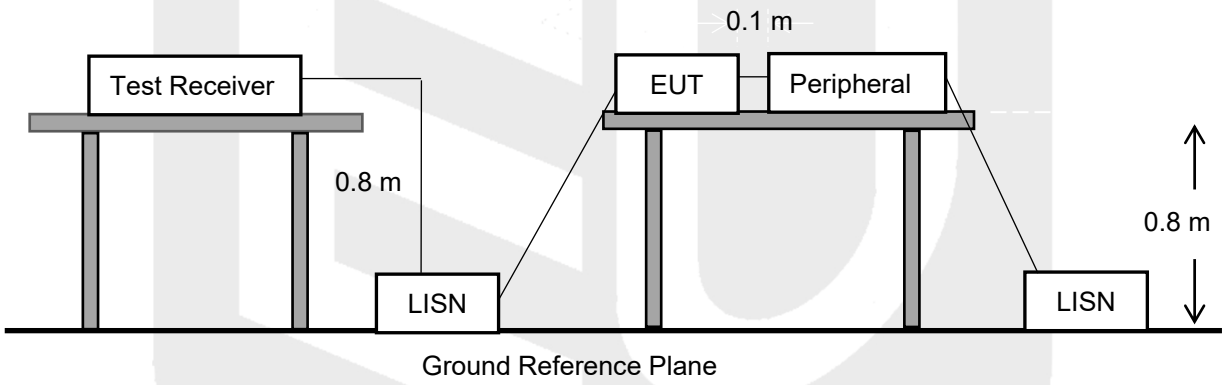
The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Conducted Emission at AC Power Line

5.2.1 Test Requirement

Test Requirement	Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).
Test Limit	Frequency of emission (MHz) / Conducted limit (dBμV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 *Decreases with the logarithm of the frequency.
Test Method	Refer to ANSI C63.10-2020 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices.

5.2.2 Test Setup Diagram



5.2.3 Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipment. Both sides of AC line are investigated to find out the maximum conducted emission according to the test standard regulations during conducted emission measurement.
The bandwidth of the field strength meter (R&S Test Receiver ESCI) is set at 9kHz in 150kHz~30MHz.
The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.
Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

5.2.4 Test Data

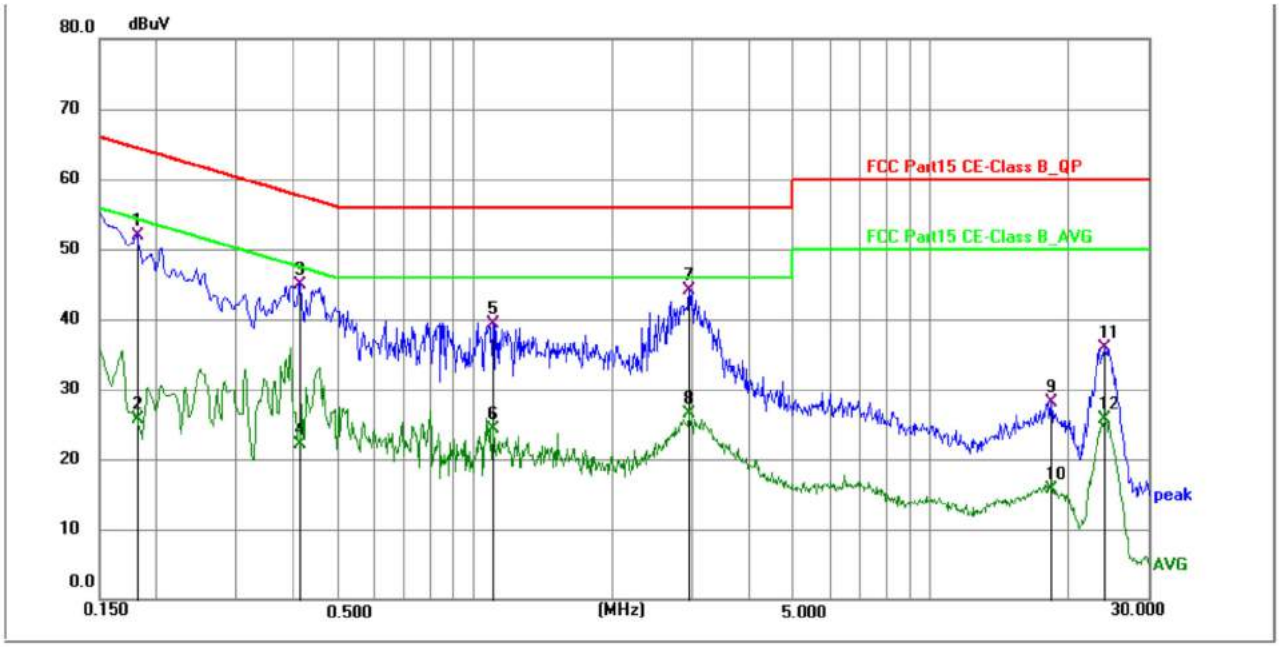
PASS.
All modes have been tested and PASS. Only the worst case data was showed in the report, please to see the following pages.

Conducted Emission Test Data

Test Site: Shielded Room #1

Test Mode: TM1/ CH Middle

Comments: Live Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1815	42.09	9.91	52.00	64.42	-12.42	QP	P	
2	0.1815	15.81	9.91	25.72	54.42	-28.70	AVG	P	
3	0.4110	35.04	9.96	45.00	57.63	-12.63	QP	P	
4	0.4110	12.23	9.96	22.19	47.63	-25.44	AVG	P	
5	1.0995	29.36	10.01	39.37	56.00	-16.63	QP	P	
6	1.0995	14.27	10.01	24.28	46.00	-21.72	AVG	P	
7 *	2.9490	33.99	10.02	44.01	56.00	-11.99	QP	P	
8	2.9490	16.44	10.02	26.46	46.00	-19.54	AVG	P	
9	18.3570	17.99	10.09	28.08	60.00	-31.92	QP	P	
10	18.3570	5.59	10.09	15.68	50.00	-34.32	AVG	P	
11	24.1305	25.74	10.21	35.95	60.00	-24.05	QP	P	
12	24.1305	15.48	10.21	25.69	50.00	-24.31	AVG	P	

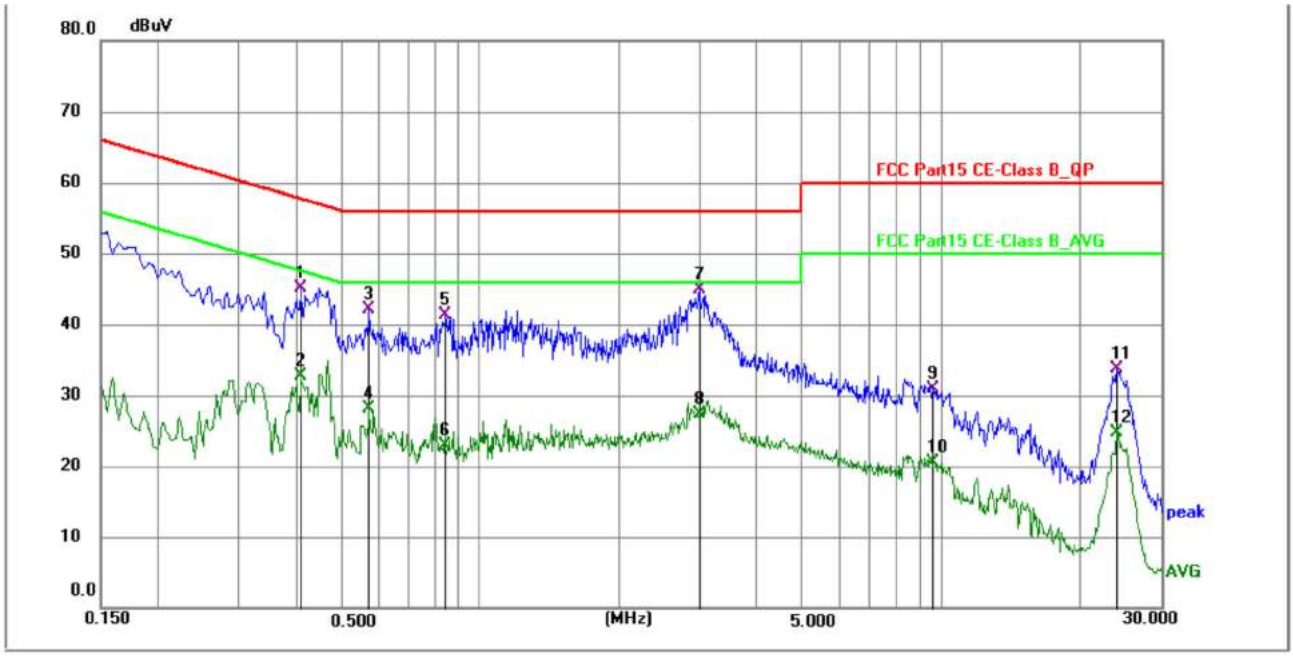
Note: Level(Result) = Reading + Factor Margin = Level – Limit

Conducted Emission Test Data

Test Site: Shielded Room #1

Test Mode: TM1/ CH Middle

Comments: Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.4065	35.04	9.98	45.02	57.72	-12.70	QP	P	
2	0.4065	22.72	9.98	32.70	47.72	-15.02	AVG	P	
3	0.5730	32.17	10.00	42.17	56.00	-13.83	QP	P	
4	0.5730	18.12	10.00	28.12	46.00	-17.88	AVG	P	
5	0.8430	31.21	10.02	41.23	56.00	-14.77	QP	P	
6	0.8430	12.96	10.02	22.98	46.00	-23.02	AVG	P	
7 *	2.9805	34.85	10.01	44.86	56.00	-11.14	QP	P	
8	2.9805	17.23	10.01	27.24	46.00	-18.76	AVG	P	
9	9.6045	20.78	10.06	30.84	60.00	-29.16	QP	P	
10	9.6045	10.41	10.06	20.47	50.00	-29.53	AVG	P	
11	24.0495	23.59	10.19	33.78	60.00	-26.22	QP	P	
12	24.0495	14.43	10.19	24.62	50.00	-25.38	AVG	P	

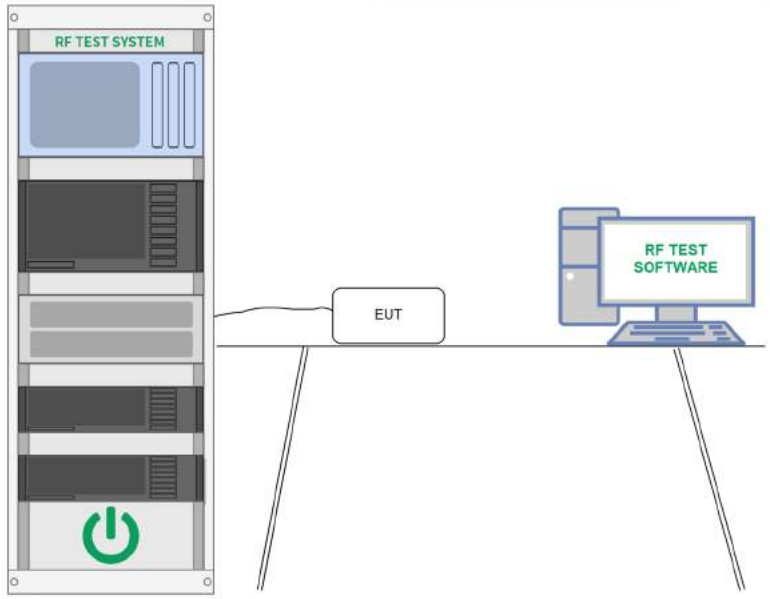
Note: Level(Result) = Reading + Factor Margin = Level – Limit

5.3 Emission Bandwidth and 6 dB Bandwidth

5.3.1 Test Requirement

Test Requirement	FCC §15.407(a): The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 , and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth. FCC §15.407(e): Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method	ANSI C63.10-2020, section 12.5, section 6.9.3, section 6.9.2

5.3.2 Test Setup Diagram



5.3.3 Test Procedure

Emission bandwidth
1. Set RBW = approximately 1% of the emission bandwidth.
2. Set VBW ≥ 3*RBW,
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

Occupied Bandwidth
1. Set Span = 1.5 times to 5.0 times the OBW
2. Set RBW = 1% to 5% of the OBW.
3. Set VBW ≥ 3*RBW, Detector = Peak.
4. Trace mode = Max hold.
5. Use the 99% power bandwidth function of the instrument.

6 dB bandwidth
1. Set RBW = 100 kHz, VBW = 300 kHz.
2. Detector = Peak.Trace mode = Max hold.
3. Allow the trace to stabilize.

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.3.4 Test Data

Please refer to Annex D for details.

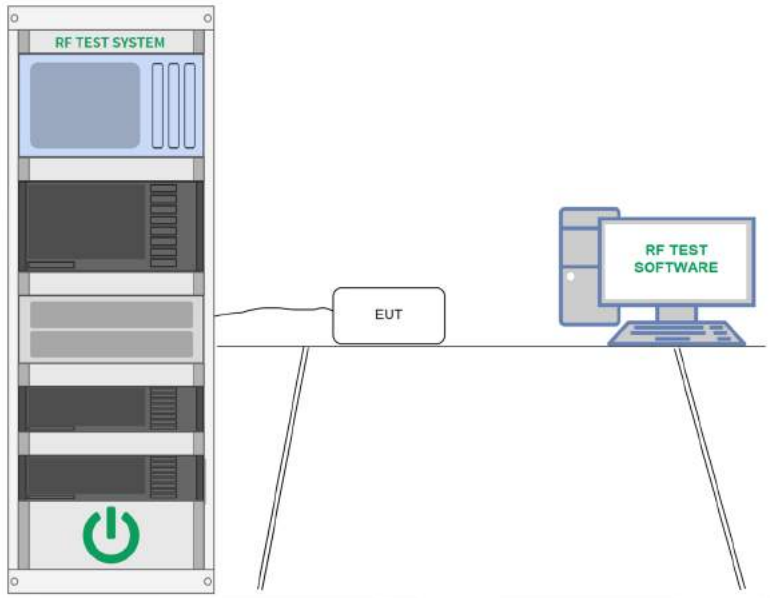
5.4 Maximum Conducted Output Power

5.4.1 Test Requirement

Test Requirement	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. 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.
Test Method	ANSI C63.10-2020, section 12.4

5.4.2 Test Setup Diagram



5.4.3 Test Procedure

The maximum peak conducted output power may be measured using a broadband Average RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the emission bandwidth and utilize a fast-responding diode detector.

The E.I.R.P used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.

5.4.4 Test Data

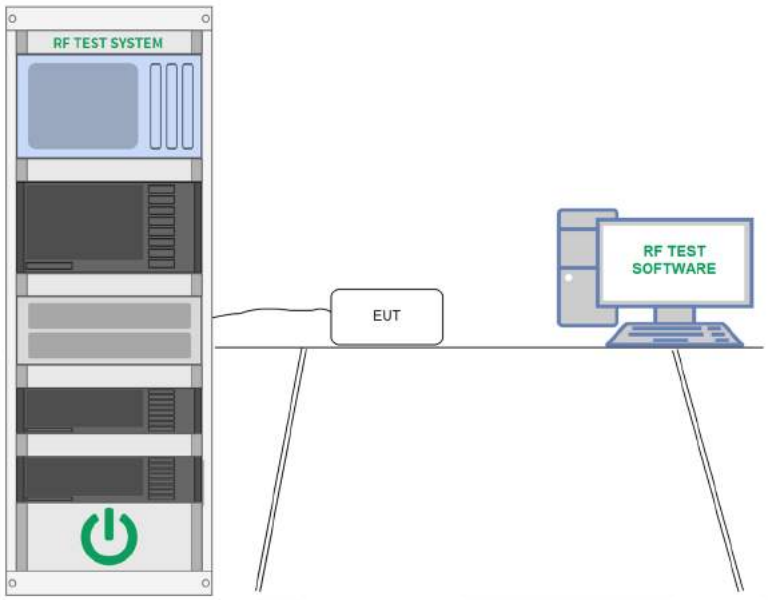
Please refer to Annex D for details.

5.5 Power Spectral Density

5.5.1 Test Requirement

Test Requirement	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, 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, 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.
Test Method	ANSI C63.10-2020, section 12.6

5.5.2 Test Setup Diagram



5.5.3 Test Procedure

Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.
1. Set RBW = 510 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS.
2. Allow the sweeps to continue until the trace stabilizes.
3. Use the peak marker function to determine the maximum amplitude level.
The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.

5.5.4 Test Data

Please refer to Annex D for details.

5.6 Radiation Spurious Emission and Band Edge

5.6.1 Test Requirement

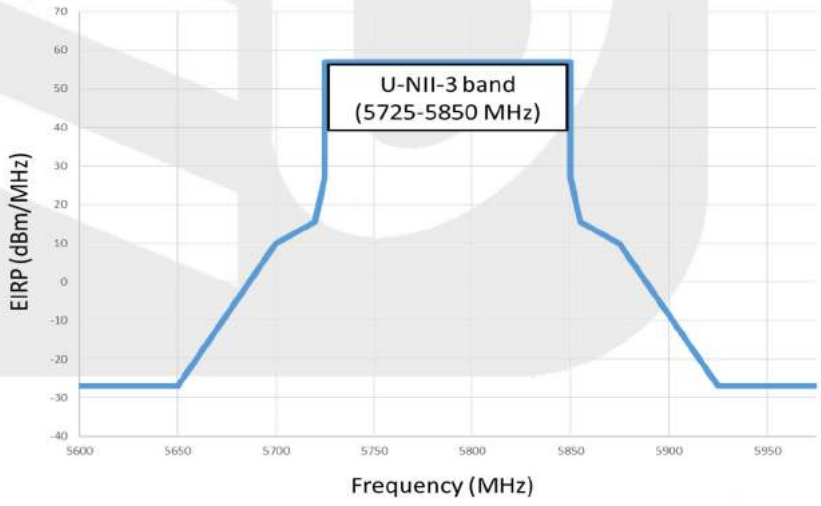
Test Requirement

FCC §15.209 & 15.407(b)

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note [1]: The Limit for radiated test was performed according to FCC Part 15C
Note [2]: The tighter limit applies at the band edge.

Un-restricted band emissions	
Out Operating Band (MHz)	Limit
5150 - 5250	e.i.r.p. -27 dBm (68.2 dBuV/m@3m)
5250 - 5350	e.i.r.p. -27 dBm (68.2 dBuV/m@3m)
5470 - 5725	e.i.r.p. -27 dBm (68.2 dBuV/m@3m)
5725 - 5850	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength.

Test Method	ANSI C63.10-2020, section 12.7.4, section 12.7.5, section 12.7.6;

5.6.2 Test Setup Diagram

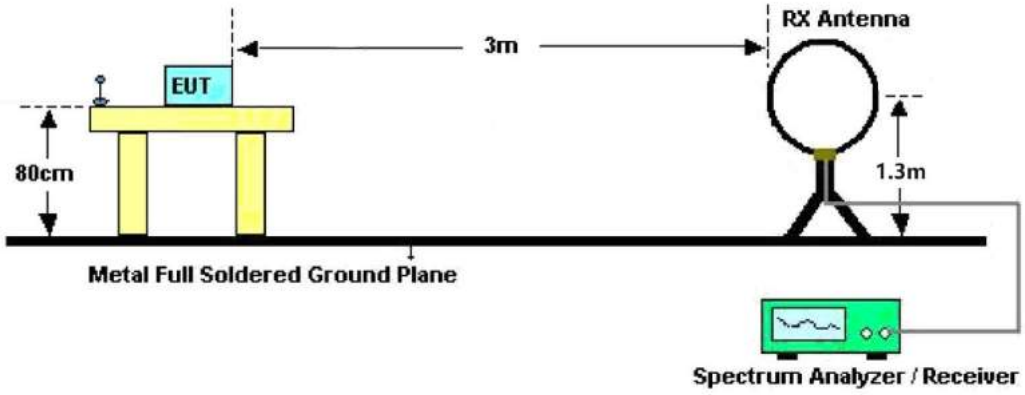


Figure 1. Below 30MHz

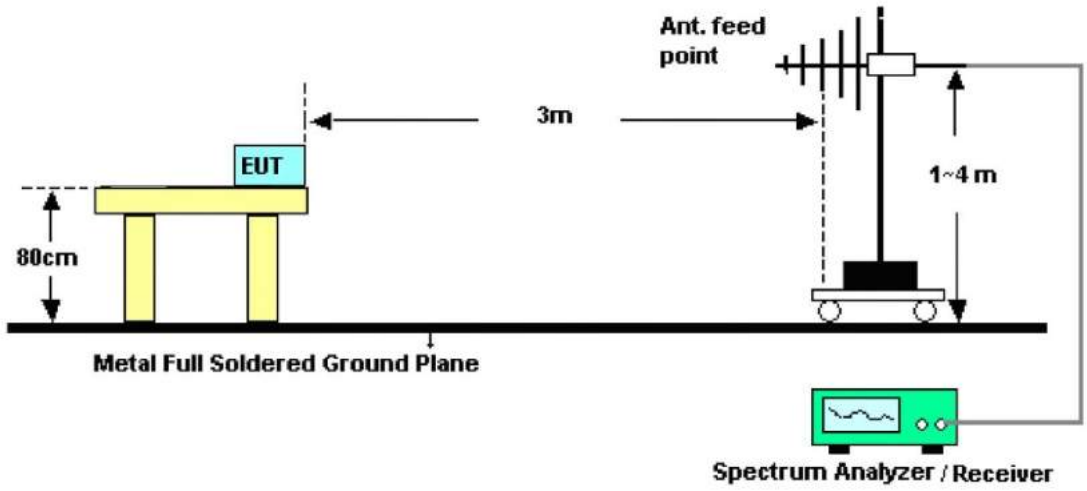


Figure 2. 30MHz to 1GHz

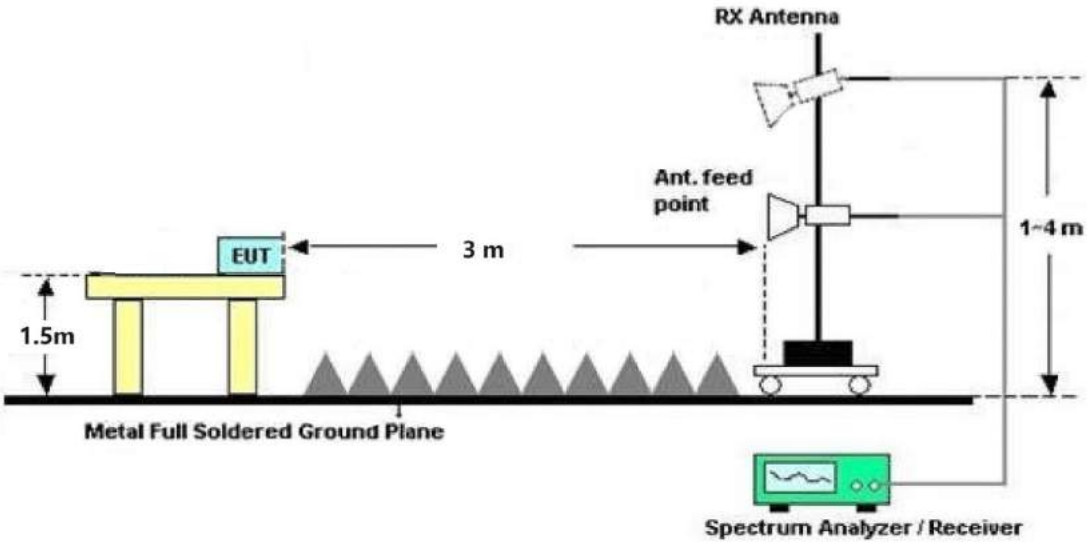


Figure 3. Above 1 GHz

5.6.3 Test Procedure

Since the emission limits are specified in terms of radiated field strength levels, measurements performed to demonstrate compliance have traditionally relied on a radiated test configuration. Radiated measurements remain the principal method for demonstrating compliance to the specified limits; however antenna-port conducted measurements are also now acceptable to demonstrate compliance (see below for details). When radiated measurements are utilized, test site requirements and procedures for maximizing and measuring radiated emissions that are described in ANSI C63.10 shall be followed.
Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.
General Procedure for conducted measurements in restricted bands
a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
b) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
c) For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).
d) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:
E = EIRP – 20log D + 104.8
where:
E = electric field strength in dBμV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.
e) Compare the resultant electric field strength level to the applicable limit.
f) Perform radiated spurious emission test.
Quasi-Peak measurement procedure
The specifications for measurements using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Frequency Interference (CISPR) of the International Electrotechnical Commission.
As an alternative to CISPR quasi-peak measurement, compliance can be demonstrated to the applicable emission limits using a peak detector.
Peak power measurement procedure
Peak emission levels are measured by setting the instrument as follows:
a) RBW = as specified in Table 1.
b) VBW ≥ 3 x RBW.
c) Detector = Peak.
d) Sweep time = auto.
e) Trace mode = max hold.
f) Allow sweeps to continue until the trace stabilizes. (Note that the required measurement time may be longer for low duty cycle applications).

Table 1—RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.
Trace averaging across on and off times of the EUT transmissions followed by duty cycle correction
If continuous transmission of the EUT (i.e., duty cycle ≥ 98 percent) cannot be achieved and the duty cycle is constant (i.e., duty cycle variations are less than ± 2 percent), then the following procedure shall be used:
a) The EUT shall be configured to operate at the maximum achievable duty cycle.
b) Measure the duty cycle, x, of the transmitter output signal as described in section 6.0.
c) RBW = 1 MHz (unless otherwise specified).
d) VBW ≥ 3 x RBW.

e) Detector = RMS, if span/(# of points in sweep) ≤ (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
f) Averaging type = power (i.e., RMS).
1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
g) Sweep time = auto.
h) Perform a trace average of at least 100 traces.
i) A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
1) If power averaging (RMS) mode was used in step f), then the applicable correction factor is 10 log(1/x), where x is the duty cycle.
2) If linear voltage averaging mode was used in step f), then the applicable correction factor is 20 log(1/x), where x is the duty cycle.
3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.
NOTE: Reduction of the measured emission amplitude levels to account for operational duty factor is not permitted. Compliance is based on emission levels occurring during transmission - not on an average across on and off times of the transmitter.
Determining the applicable transmit antenna gain
A conducted power measurement will determine the maximum output power associated with a restricted band emission; however, in order to determine the associated EIRP level, the gain of the transmitting antenna (in dBi) must be added to the measured output power (in dBm).
Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.
See KDB 662911 for guidance on calculating the additional array gain term when determining the effective antenna gain for a EUT with multiple outputs occupying the same or overlapping frequency ranges in the same band.
Radiated spurious emission test
An additional consideration when performing conducted measurements of restricted band emissions is that unwanted emissions radiating from the EUT cabinet, control circuits, power leads, or intermediate circuit elements will likely go undetected in a conducted measurement configuration. To address this concern, a radiated test shall be performed to ensure that emissions emanating from the EUT cabinet (rather than the antenna port) also comply with the applicable limits.
For these cabinet radiated spurious emission measurements the EUT transmit antenna may be replaced with a termination matching the nominal impedance of the antenna. Procedures for performing radiated measurements are specified in ANSI C63.10. All detected emissions shall comply with the applicable limits.
The measurement frequency range is from 30 MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.
The power of the EUT transmitting frequency should be ignored.
All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.
Use the following spectrum analyzer settings:
Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

5.6.4 Test Data

PASS.

Please to see the following pages.

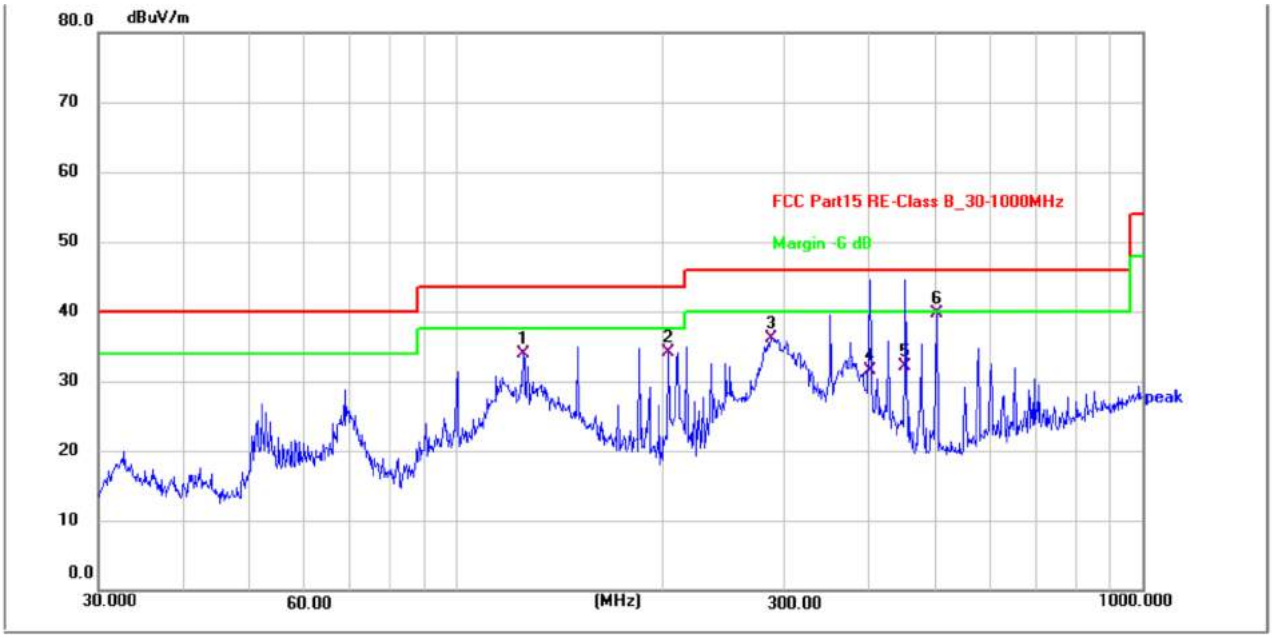
The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

For test of 30MHz-1GHz, during the test, pre-scan all modes, only the worst case is recorded in the report.

Address: 1/F, Bldg. B1, Fuqiao Fourth Industrial Area, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Website: www.eu-test.com
Tel: (86)-755-2357-5384 Email: Service@eu-test.com

Radiated Emission Test Data (30-1000MHz)

Test item:	**966 Chamber #1**	**Polarization:**	**Horizontal**
Distance:	**3m**	**Test Mode:**	**U-NII-1/TM2/ CH Middle(ANT 1)**

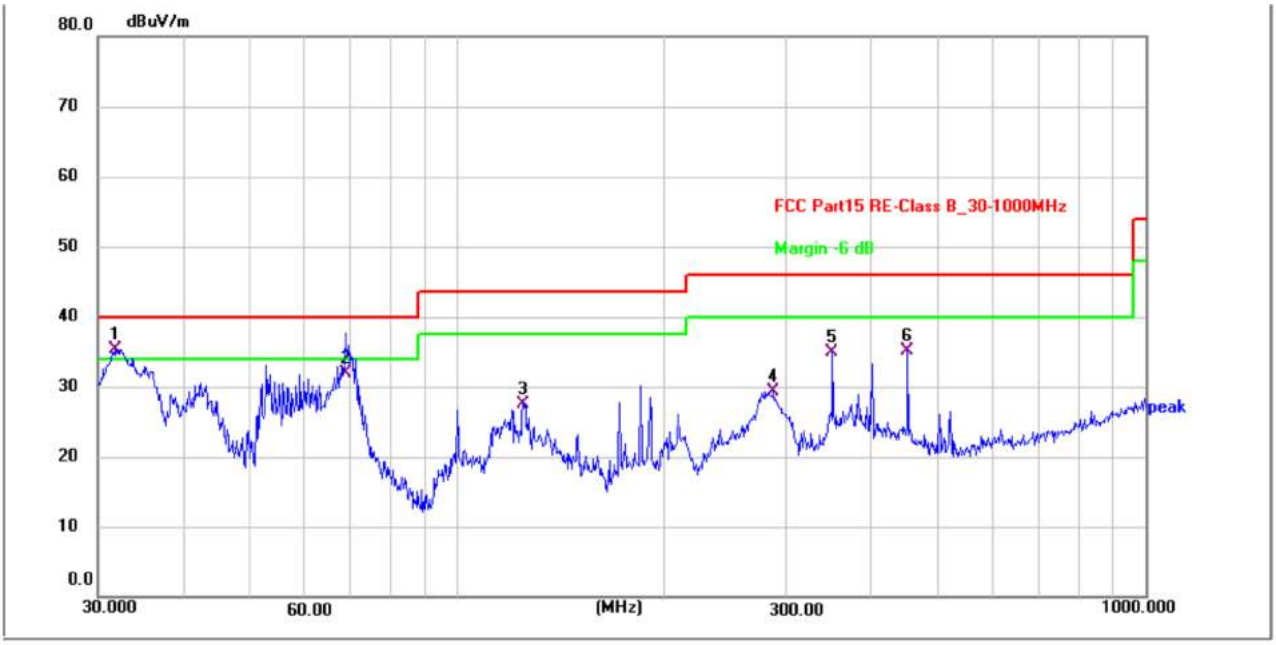


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	125.0066	50.63	-16.74	33.89	43.50	-9.61	QP	P	
2	203.5228	48.70	-14.55	34.15	43.50	-9.35	QP	P	
3	286.9823	48.06	-12.02	36.04	46.00	-9.96	QP	P	
4	400.4319	41.22	-9.72	31.50	46.00	-14.50	QP	P	
5	451.1350	41.08	-8.98	32.10	46.00	-13.90	QP	P	
6 *	501.1790	48.02	-8.33	39.69	46.00	-6.31	QP	P	

Note: Level = Reading + Factor Margin = Level - Limit

Radiated Emission Test Data (30-1000MHz)

Test item:	**966 Chamber #1**	**Polarization:**	**Vertical**
Distance:	**3m**	**Test Mode:**	**U-NII-1/TM2/ CH Middle(ANT 1)**



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	31.7313	51.80	-16.44	35.36	40.00	-4.64	QP	P	
2	68.6310	49.11	-17.11	32.00	40.00	-8.00	QP	P	
3	124.5690	44.20	-16.71	27.49	43.50	-16.01	QP	P	
4	287.9904	41.39	-12.01	29.38	46.00	-16.62	QP	P	
5	350.4768	45.51	-10.67	34.84	46.00	-11.16	QP	P	
6	451.1350	44.10	-8.98	35.12	46.00	-10.88	QP	P	

Note: Level = Reading + Factor Margin = Level - Limit

Test Results (Above 1000MHz)
Antenna 1:

Test mode:	U-NII-1: 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	39.43	31.98	17.08	33.91	54.58	68.20	-13.62	V
15570.00	40.06	32.65	20.03	34.85	57.89	68.20	-10.31	V
10380.00	41.05	31.98	17.08	33.91	56.20	68.20	-12.00	H
15570.00	40.81	32.65	20.03	34.85	58.64	68.20	-9.56	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	28.72	31.98	17.08	33.91	43.87	54.00	-10.13	V
15570.00	27.45	32.65	20.03	34.85	45.28	54.00	-8.72	V
10380.00	29.04	31.98	17.08	33.91	44.19	54.00	-9.81	H
15570.00	27.46	32.65	20.03	34.85	45.29	54.00	-8.71	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	41.76	32.59	18.02	33.92	58.45	68.20	-9.75	V
15690.00	39.56	32.87	20.15	34.88	57.70	68.20	-10.50	V
10460.00	40.85	32.59	18.02	33.92	57.54	68.20	-10.66	H
15690.00	40.48	32.87	20.15	34.88	58.62	68.20	-9.58	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	27.11	32.59	18.02	33.92	43.80	54.00	-10.20	V
15690.00	27.65	32.87	20.15	34.88	45.79	54.00	-8.21	V
10460.00	29.66	32.59	18.02	33.92	46.35	54.00	-7.65	H
15690.00	29.66	32.78	20.12	34.86	47.70	54.00	-6.30	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40),ac(HT80),ax(HT20),ax(HT40), ax(HT80)mode, and found the 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:	U-NII-1: 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	40.64	31.98	17.08	33.91	55.79	68.20	-12.41	V
15570.00	41.86	32.65	20.03	34.85	59.69	68.20	-8.51	V
10380.00	40.73	31.98	17.08	33.91	55.88	68.20	-12.32	H
15570.00	39.13	32.65	20.03	34.85	56.96	68.20	-11.24	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	27.59	31.98	17.08	33.91	42.74	54.00	-11.26	V
15570.00	27.04	32.65	20.03	34.85	44.87	54.00	-9.13	V
10380.00	28.36	31.98	17.08	33.91	43.51	54.00	-10.49	H
15570.00	27.29	32.65	20.03	34.85	45.12	54.00	-8.88	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	40.93	32.59	18.02	33.92	57.62	68.20	-10.58	V
15690.00	39.40	32.87	20.15	34.88	57.54	68.20	-10.66	V
10460.00	40.91	32.59	18.02	33.92	57.60	68.20	-10.60	H
15690.00	40.26	32.87	20.15	34.88	58.40	68.20	-9.80	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	27.67	32.59	18.02	33.92	44.36	54.00	-9.64	V
15690.00	29.65	32.87	20.15	34.88	47.79	54.00	-6.21	V
10460.00	27.59	32.59	18.02	33.92	44.28	54.00	-9.72	H
15690.00	28.37	32.78	20.12	34.86	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),ax(HT40), ax(HT80)mode, and found the 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:	U-NII-1: 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),ax(HT40), ax(HT80)mode, and found the 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:

Test mode:	U-NII-3: IEEE 802.11ac(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.
11510.00	39.43	31.98	17.08	33.91	54.58	68.20	-13.62	V
17265.00	39.50	32.65	20.03	34.85	57.33	68.20	-10.87	V
11510.00	39.88	31.98	17.08	33.91	55.03	68.20	-13.17	H
17265.00	39.56	32.65	20.03	34.85	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.
11510.00	28.56	31.98	17.08	33.91	43.71	54.00	-10.29	V
17265.00	28.35	32.65	20.03	34.85	46.18	54.00	-7.82	V
11510.00	28.37	31.98	17.08	33.91	43.52	54.00	-10.48	H
17265.00	28.54	32.65	20.03	34.85	46.37	54.00	-7.63	H

Test mode:	IEEE 802.11ac(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.
11590.00	40.62	32.59	18.02	33.92	57.31	68.20	-10.89	V
17385.00	39.41	32.87	20.15	34.88	57.55	68.20	-10.65	V
11590.00	39.98	32.59	18.02	33.92	56.67	68.20	-11.53	H
17385.00	40.69	32.87	20.15	34.88	58.83	68.20	-9.37	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.
11590.00	27.45	32.59	18.02	33.92	44.14	54.00	-9.86	V
17385.00	27.40	32.87	20.15	34.88	45.54	54.00	-8.46	V
11590.00	27.96	32.59	18.02	33.92	44.65	54.00	-9.35	H
17385.00	28.32	32.78	20.12	34.86	46.36	54.00	-7.64	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40), ac(HT80), ax(HT20), ax(HT40), ax(HT80) mode, and found the 802.11ac(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:	U-NII-3: IEEE 802.11ac(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.
11510.00	41.48	31.98	17.08	33.91	56.63	68.20	-11.57	V
17265.00	40.16	32.65	20.03	34.85	57.99	68.20	-10.21	V
11510.00	40.15	31.98	17.08	33.91	55.30	68.20	-12.90	H
17265.00	41.03	32.65	20.03	34.85	58.86	68.20	-9.34	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.
11510.00	29.33	31.98	17.08	33.91	44.48	54.00	-9.52	V
17265.00	27.61	32.65	20.03	34.85	45.44	54.00	-8.56	V
11510.00	28.92	31.98	17.08	33.91	44.07	54.00	-9.93	H
17265.00	29.92	32.65	20.03	34.85	47.75	54.00	-6.25	H

Test mode:	IEEE 802.11ac(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.
11590.00	41.37	32.59	18.02	33.92	58.06	68.20	-10.14	V
17385.00	41.59	32.87	20.15	34.88	59.73	68.20	-8.47	V
11590.00	40.81	32.59	18.02	33.92	57.50	68.20	-10.70	H
17385.00	39.41	32.87	20.15	34.88	57.55	68.20	-10.65	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.
11590.00	29.15	32.59	18.02	33.92	45.84	54.00	-8.16	V
17385.00	29.11	32.87	20.15	34.88	47.25	54.00	-6.75	V
11590.00	29.20	32.59	18.02	33.92	45.89	54.00	-8.11	H
17385.00	27.60	32.78	20.12	34.86	45.64	54.00	-8.36	H

Remark:
1. During the test, pre-scan the 802.11a,n(HT20),ac(HT20),n(HT40),ac(HT40), ac(HT80), ax(HT20), ax(HT40), ax(HT80) mode, and found the 802.11ac(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:	U-NII-3: IEEE 802.11ac(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.
11510.00	39.29	31.98	17.08	33.91	54.44	68.20	-13.76	V
17265.00	41.97	32.65	20.03	34.85	59.80	68.20	-8.40	V
11510.00	41.14	31.98	17.08	33.91	56.29	68.20	-11.91	H
17265.00	39.25	32.65	20.03	34.85	57.08	68.20	-11.12	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.
11510.00	28.68	31.98	17.08	33.91	43.83	54.00	-10.17	V
17265.00	29.59	32.65	20.03	34.85	47.42	54.00	-6.58	V
11510.00	29.40	31.98	17.08	33.91	44.55	54.00	-9.45	H
17265.00	28.22	32.65	20.03	34.85	46.05	54.00	-7.95	H

Test mode:	IEEE 802.11ac(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.
11590.00	39.97	32.59	18.02	33.92	56.66	68.20	-11.54	V
17385.00	40.92	32.87	20.15	34.88	59.06	68.20	-9.14	V
11590.00	41.77	32.59	18.02	33.92	58.46	68.20	-9.74	H
17385.00	41.45	32.87	20.15	34.88	59.59	68.20	-8.61	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.
11590.00	29.60	32.59	18.02	33.92	46.29	54.00	-7.71	V
17385.00	28.53	32.87	20.15	34.88	46.67	54.00	-7.33	V
11590.00	29.53	32.59	18.02	33.92	46.22	54.00	-7.78	H
17385.00	27.62	32.78	20.12	34.86	45.66	54.00	-8.34	H

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

Radiated Band Edge:
U-NII-1:

Test Mode: 802.11a								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	48.58	28.65	13.58	31.04	59.77	74.00	-14.23	H
5350.00	45.65	29.16	14.68	31.96	57.53	74.00	-16.47	H
5150.00	46.68	28.65	13.58	31.04	57.87	74.00	-16.13	V
5350.00	46.96	29.16	14.68	31.96	58.84	74.00	-15.16	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	34.96	28.65	13.58	31.04	46.15	54.00	-7.85	H
5350.00	33.54	29.16	14.68	31.96	45.42	54.00	-8.58	H
5150.00	32.90	28.65	13.58	31.04	44.09	54.00	-9.91	V
5350.00	33.90	29.16	14.68	31.96	45.78	54.00	-8.22	V

Test Mode: 802.11n20								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	47.73	28.65	13.58	31.04	58.92	74.00	-15.08	H
5350.00	45.34	29.16	14.68	31.96	57.22	74.00	-16.78	H
5150.00	46.74	28.65	13.58	31.04	57.93	74.00	-16.07	V
5350.00	46.34	29.16	14.68	31.96	58.22	74.00	-15.78	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	34.87	28.65	13.58	31.04	46.06	54.00	-7.94	H
5350.00	33.21	29.16	14.68	31.96	45.09	54.00	-8.91	H
5150.00	33.90	28.65	13.58	31.04	45.09	54.00	-8.91	V
5350.00	33.28	29.16	14.68	31.96	45.16	54.00	-8.84	V

Test Mode: 802.11ac20								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	47.63	28.65	13.58	31.04	58.82	74.00	-15.18	H
5350.00	45.78	29.16	14.68	31.96	57.66	74.00	-16.34	H
5150.00	45.68	28.65	13.58	31.04	56.87	74.00	-17.13	V
5350.00	48.44	29.16	14.68	31.96	60.32	74.00	-13.68	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	33.17	28.65	13.58	31.04	44.36	54.00	-9.64	H
5350.00	32.08	29.16	14.68	31.96	43.96	54.00	-10.04	H
5150.00	32.18	28.65	13.58	31.04	43.37	54.00	-10.63	V
5350.00	34.44	29.16	14.68	31.96	46.32	54.00	-7.68	V

Test Mode: 802.11n40								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	48.68	28.65	13.58	31.04	59.87	74.00	-14.13	H
5350.00	47.12	29.16	14.68	31.96	59.00	74.00	-15.00	H
5150.00	47.18	28.65	13.58	31.04	58.37	74.00	-15.63	V
5350.00	45.93	29.16	14.68	31.96	57.81	74.00	-16.19	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	34.65	28.65	13.58	31.04	45.84	54.00	-8.16	H
5350.00	34.60	29.16	14.68	31.96	46.48	54.00	-7.52	H
5150.00	34.47	28.65	13.58	31.04	45.66	54.00	-8.34	V
5350.00	34.55	29.16	14.68	31.96	46.43	54.00	-7.57	V

Test Mode: 802.11ac40								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	46.40	28.65	13.58	31.04	57.59	74.00	-16.41	H
5350.00	46.44	29.16	14.68	31.96	58.32	74.00	-15.68	H
5150.00	45.14	28.65	13.58	31.04	56.33	74.00	-17.67	V
5350.00	45.23	29.16	14.68	31.96	57.11	74.00	-16.89	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	32.20	28.65	13.58	31.04	43.39	54.00	-10.61	H
5350.00	32.26	29.16	14.68	31.96	44.14	54.00	-9.86	H
5150.00	32.48	28.65	13.58	31.04	43.67	54.00	-10.33	V
5350.00	34.15	29.16	14.68	31.96	46.03	54.00	-7.97	V

Test Mode: 802.11ac80								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	47.13	28.65	13.58	31.04	58.32	74.00	-15.68	H
5350.00	47.87	29.16	14.68	31.96	59.75	74.00	-14.25	H
5150.00	48.68	28.65	13.58	31.04	59.87	74.00	-14.13	V
5350.00	47.24	29.16	14.68	31.96	59.12	74.00	-14.88	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	34.95	28.65	13.58	31.04	46.14	54.00	-7.86	H
5350.00	34.77	29.16	14.68	31.96	46.65	54.00	-7.35	H
5150.00	33.02	28.65	13.58	31.04	44.21	54.00	-9.79	V
5350.00	34.95	29.16	14.68	31.96	46.83	54.00	-7.17	V

Test Mode: 802.11ax20								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	47.94	28.65	13.58	31.04	59.13	74.00	-14.87	H
5350.00	48.08	29.16	14.68	31.96	59.96	74.00	-14.04	H
5150.00	48.90	28.65	13.58	31.04	60.09	74.00	-13.91	V
5350.00	47.44	29.16	14.68	31.96	59.32	74.00	-14.68	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	34.40	28.65	13.58	31.04	45.59	54.00	-8.41	H
5350.00	33.67	29.16	14.68	31.96	45.55	54.00	-8.45	H
5150.00	33.46	28.65	13.58	31.04	44.65	54.00	-9.35	V
5350.00	32.03	29.16	14.68	31.96	43.91	54.00	-10.09	V

Test Mode: 802.11ax40								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	48.05	28.65	13.58	31.04	59.24	74.00	-14.76	H
5350.00	45.09	29.16	14.68	31.96	56.97	74.00	-17.03	H
5150.00	48.13	28.65	13.58	31.04	59.32	74.00	-14.68	V
5350.00	45.23	29.16	14.68	31.96	57.11	74.00	-16.89	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	34.41	28.65	13.58	31.04	45.60	54.00	-8.40	H
5350.00	33.32	29.16	14.68	31.96	45.20	54.00	-8.80	H
5150.00	34.16	28.65	13.58	31.04	45.35	54.00	-8.65	V
5350.00	32.93	29.16	14.68	31.96	44.81	54.00	-9.19	V

Test Mode: 802.11ax80								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	48.77	28.65	13.58	31.04	59.96	74.00	-14.04	H
5350.00	45.04	29.16	14.68	31.96	56.92	74.00	-17.08	H
5150.00	46.06	28.65	13.58	31.04	57.25	74.00	-16.75	V
5350.00	48.97	29.16	14.68	31.96	60.85	74.00	-13.15	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5150.00	33.98	28.65	13.58	31.04	45.17	54.00	-8.83	H
5350.00	34.23	29.16	14.68	31.96	46.11	54.00	-7.89	H
5150.00	33.91	28.65	13.58	31.04	45.10	54.00	-8.90	V
5350.00	34.63	29.16	14.68	31.96	46.51	54.00	-7.49	V

Remark:

1. During the test, pre-scan all antenna, and found the MIMO antenna is the worst case, only the worst case is recorded in the report.

U-NII-3:

Test Mode: 802.11a								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	48.02	28.65	13.58	31.04	59.21	68.20	-8.99	H
5850.00	47.46	29.16	14.68	31.96	59.34	68.20	-8.86	H
5725.00	48.81	28.65	13.58	31.04	60.00	68.20	-8.20	V
5850.00	48.08	29.16	14.68	31.96	59.96	68.20	-8.24	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	32.10	28.65	13.58	31.04	43.29	54.00	-10.71	H
5850.00	34.26	29.16	14.68	31.96	46.14	54.00	-7.86	H
5725.00	34.31	28.65	13.58	31.04	45.50	54.00	-8.50	V
5850.00	32.53	29.16	14.68	31.96	44.41	54.00	-9.59	V

Test Mode: 802.11n20								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	48.52	28.65	13.58	31.04	59.71	68.20	-8.49	H
5850.00	48.64	29.16	14.68	31.96	60.52	68.20	-7.68	H
5725.00	48.37	28.65	13.58	31.04	59.56	68.20	-8.64	V
5850.00	45.78	29.16	14.68	31.96	57.66	68.20	-10.54	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	33.28	28.65	13.58	31.04	44.47	54.00	-9.53	H
5850.00	32.60	29.16	14.68	31.96	44.48	54.00	-9.52	H
5725.00	32.90	28.65	13.58	31.04	44.09	54.00	-9.91	V
5850.00	33.75	29.16	14.68	31.96	45.63	54.00	-8.37	V

Test Mode: 802.11ac20								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	46.11	28.65	13.58	31.04	57.30	68.20	-10.90	H
5850.00	47.83	29.16	14.68	31.96	59.71	68.20	-8.49	H
5725.00	48.48	28.65	13.58	31.04	59.67	68.20	-8.53	V
5850.00	47.73	29.16	14.68	31.96	59.61	68.20	-8.59	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	34.96	28.65	13.58	31.04	46.15	54.00	-7.85	H
5850.00	33.33	29.16	14.68	31.96	45.21	54.00	-8.79	H
5725.00	32.08	28.65	13.58	31.04	43.27	54.00	-10.73	V
5850.00	34.94	29.16	14.68	31.96	46.82	54.00	-7.18	V

Test Mode: 802.11n40								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	46.94	28.65	13.58	31.04	58.13	68.20	-10.07	H
5850.00	46.19	29.16	14.68	31.96	58.07	68.20	-10.13	H
5725.00	47.25	28.65	13.58	31.04	58.44	68.20	-9.76	V
5850.00	47.50	29.16	14.68	31.96	59.38	68.20	-8.82	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	33.66	28.65	13.58	31.04	44.85	54.00	-9.15	H
5850.00	33.59	29.16	14.68	31.96	45.47	54.00	-8.53	H
5725.00	33.81	28.65	13.58	31.04	45.00	54.00	-9.00	V
5850.00	34.97	29.16	14.68	31.96	46.85	54.00	-7.15	V

Test Mode: 802.11ac40								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	46.35	28.65	13.58	31.04	57.54	68.20	-10.66	H
5850.00	45.77	29.16	14.68	31.96	57.65	68.20	-10.55	H
5725.00	48.61	28.65	13.58	31.04	59.80	68.20	-8.40	V
5850.00	47.21	29.16	14.68	31.96	59.09	68.20	-9.11	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	33.28	28.65	13.58	31.04	44.47	54.00	-9.53	H
5850.00	32.43	29.16	14.68	31.96	44.31	54.00	-9.69	H
5725.00	33.38	28.65	13.58	31.04	44.57	54.00	-9.43	V
5850.00	33.66	29.16	14.68	31.96	45.54	54.00	-8.46	V

Test Mode: 802.11ac80								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	47.09	28.65	13.58	31.04	58.28	68.20	-9.92	H
5850.00	45.59	29.16	14.68	31.96	57.47	68.20	-10.73	H
5725.00	45.28	28.65	13.58	31.04	56.47	68.20	-11.73	V
5850.00	45.83	29.16	14.68	31.96	57.71	68.20	-10.49	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	34.29	28.65	13.58	31.04	45.48	54.00	-8.52	H
5850.00	33.38	29.16	14.68	31.96	45.26	54.00	-8.74	H
5725.00	32.15	28.65	13.58	31.04	43.34	54.00	-10.66	V
5850.00	33.73	29.16	14.68	31.96	45.61	54.00	-8.39	V

Test Mode: 802.11ax20								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	45.02	28.65	13.58	31.04	56.21	68.20	-11.99	H
5850.00	46.38	29.16	14.68	31.96	58.26	68.20	-9.94	H
5725.00	46.63	28.65	13.58	31.04	57.82	68.20	-10.38	V
5850.00	46.26	29.16	14.68	31.96	58.14	68.20	-10.06	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	34.89	28.65	13.58	31.04	46.08	54.00	-7.92	H
5850.00	32.91	29.16	14.68	31.96	44.79	54.00	-9.21	H
5725.00	32.91	28.65	13.58	31.04	44.10	54.00	-9.90	V
5850.00	33.11	29.16	14.68	31.96	44.99	54.00	-9.01	V

Test Mode: 802.11ax40								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	45.76	28.65	13.58	31.04	56.95	68.20	-11.25	H
5850.00	46.87	29.16	14.68	31.96	58.75	68.20	-9.45	H
5725.00	45.43	28.65	13.58	31.04	56.62	68.20	-11.58	V
5850.00	47.10	29.16	14.68	31.96	58.98	68.20	-9.22	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	33.02	28.65	13.58	31.04	44.21	54.00	-9.79	H
5850.00	34.39	29.16	14.68	31.96	46.27	54.00	-7.73	H
5725.00	33.75	28.65	13.58	31.04	44.94	54.00	-9.06	V
5850.00	33.55	29.16	14.68	31.96	45.43	54.00	-8.57	V

Test Mode: 802.11ax80								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	46.25	28.65	13.58	31.04	57.44	68.20	-10.76	H
5850.00	47.99	29.16	14.68	31.96	59.87	68.20	-8.33	H
5725.00	45.11	28.65	13.58	31.04	56.30	68.20	-11.90	V
5850.00	48.27	29.16	14.68	31.96	60.15	68.20	-8.05	V
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
5725.00	34.82	28.65	13.58	31.04	46.01	54.00	-7.99	H
5850.00	34.92	29.16	14.68	31.96	46.80	54.00	-7.20	H
5725.00	32.76	28.65	13.58	31.04	43.95	54.00	-10.05	V
5850.00	33.38	29.16	14.68	31.96	45.26	54.00	-8.74	V

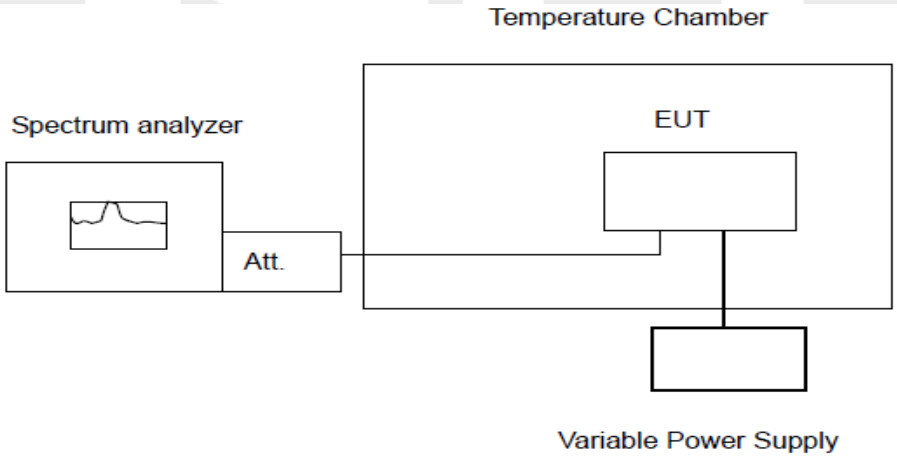
Remark:
During the test, pre-scan all antenna, and found the MIMO antenna is the worst case, only the worst case is recorded in the report.

5.7 Frequency Stability

Test Requirement

Test Requirement	According to FCC §15.407(g) “Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.” According to FCC §2.1055(a) “The frequency stability shall be measured with variation of ambient temperature as follows:” From −30° to + 50° centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section. From −20° to + 50° centigrade for equipment to be licensed for use in the Maritime Services under part 80 of this chapter, except for Class A, B, and S Emergency Position Indicating Radiobeacons (EPIRBS), and equipment to be licensed for use above 952 MHz at operational fixed stations in all services, stations in the Local Television Transmission Service and Point-to-Point Microwave Radio Service under part 21 of this chapter, equipment licensed for use aboard aircraft in the Aviation Services under part 87 of this chapter, and equipment authorized for use in the Family Radio Service under part 95 of this chapter. From 0° to + 50° centigrade for equipment to be licensed for use in the Radio Broadcast Services under part 73 of this chapter.

Test Setup Diagram



Test Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum anzlyer via feed through attenators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low engouh to obtain the desired frequency resoluation and measure EUT 20 degree operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30 degree. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure wuth 10 degree increased per stage until the highest temperature of +50 degree reached.

Test Data

Please refer to Annex D for details.

ANNEX A TEST SETUP PHOTOS

Please refer to the document “8132EU011202W-AA.PDF”

ANNEX B EXTERNAL PHOTOS

Please refer to the document “8132EU011202W-AB.PDF”

ANNEX C INTERNAL PHOTOS

Please refer to the document “8132EU011202W-AC.PDF”

Annex D Test Results

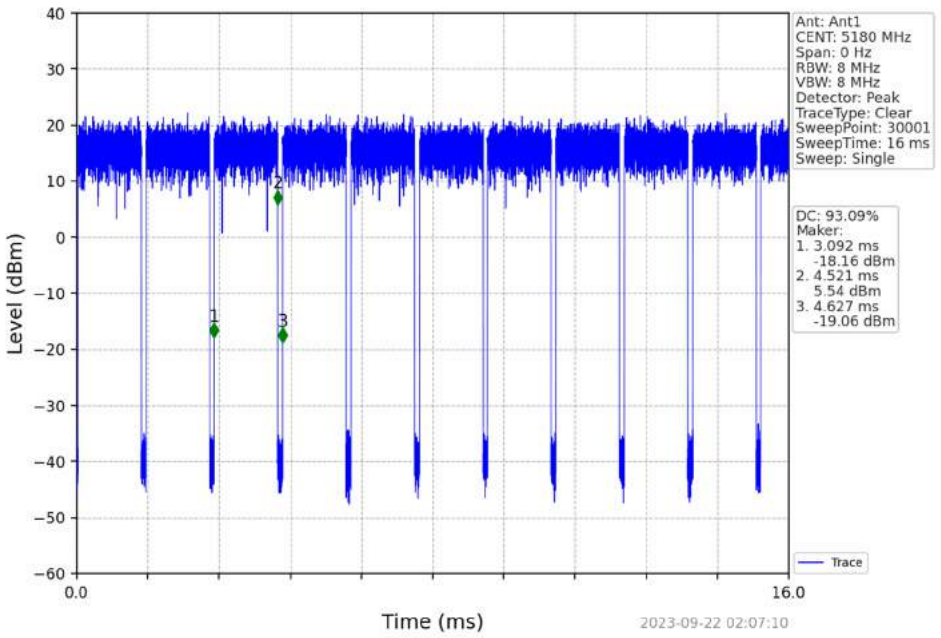
1. Duty Cycle
1.1 Ant1
1.1.1 Test Result

Ant1									
Mode	TX Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	/	/	1.429	1.535	93.09	0.31	0.03
		5200	/	/	1.429	1.536	93.03	0.31	0.16
		5240	/	/	1.430	1.554	92.02	0.36	2.17
		5745	/	/	1.434	1.891	75.83	1.20	22.16
		5785	/	/	1.429	1.563	91.43	0.39	3.30
		5825	/	/	1.429	1.554	91.96	0.36	2.17
802.11n (HT20)	SISO	5180	/	/	1.212	1.470	82.45	0.84	15.23
		5200	/	/	1.207	1.314	91.86	0.37	0.66
		5240	/	/	1.207	1.314	91.86	0.37	0.03
		5745	/	/	1.207	1.630	74.05	1.30	19.13
		5785	/	/	1.207	1.437	83.99	0.76	11.89
		5825	/	/	1.207	1.332	90.62	0.43	2.55
802.11n (HT40)	SISO	5190	/	/	0.602	0.718	83.84	0.77	3.29
		5230	/	/	0.602	0.718	83.84	0.77	3.26
		5755	/	/	0.602	1.076	55.95	2.52	38.63
		5795	/	/	0.602	0.718	83.84	0.77	3.32
802.11ac (VHT20)	SISO	5180	/	/	1.214	1.330	91.28	0.40	1.92
		5200	/	/	1.215	1.330	91.35	0.39	1.94
		5240	/	/	1.215	1.330	91.35	0.39	1.88
		5745	/	/	1.220	1.330	91.73	0.37	5.97
		5785	/	/	1.214	1.330	91.28	0.40	1.90
		5825	/	/	1.215	1.331	91.28	0.40	1.92
802.11ac (VHT40)	SISO	5190	/	/	0.606	0.722	83.93	0.76	3.36
		5230	/	/	0.607	0.722	84.07	0.75	3.28
		5755	/	/	0.607	0.818	74.21	1.30	20.45
		5795	/	/	0.606	0.722	83.93	0.76	3.30
802.11ac (VHT80)	SISO	5210	/	/	0.304	0.420	72.38	1.40	5.00
		5775	/	/	0.304	0.444	68.47	1.65	21.26
802.11ax (HEW20)	SISO	5180	RU242	Left	1.034	1.150	89.91	0.46	2.18
		5200	RU242	Left	1.034	1.149	89.99	0.46	2.18
		5240	RU242	Left	1.034	1.150	89.91	0.46	2.18
		5745	RU242	Left	1.034	1.149	89.99	0.46	2.18
		5785	RU242	Left	1.034	1.150	89.91	0.46	2.18
		5825	RU242	Left	1.034	1.150	89.91	0.46	2.20
802.11ax (HEW40)	SISO	5190	RU484	Left	0.545	0.660	82.58	0.83	3.54
		5230	RU484	Left	0.544	0.660	82.42	0.84	3.55
		5755	RU484	Left	0.544	0.660	82.42	0.84	11.57
		5795	RU484	Left	0.544	0.659	82.55	0.83	3.53
802.11ax (HEW80)	SISO	5210	RU996	Left	0.286	0.401	71.32	1.47	5.16
		5775	RU996	Left	0.286	0.429	66.67	1.76	11.54

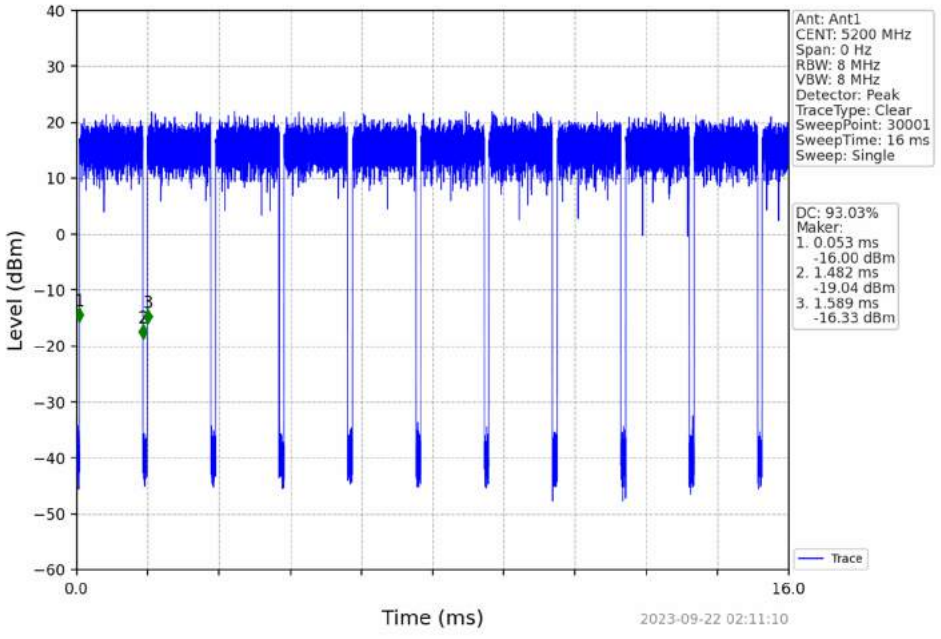
Ant2									
Mode	TX Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	/	/	1.430	1.536	93.10	0.31	0.68
		5200	/	/	1.428	1.535	93.03	0.31	0.13
		5240	/	/	1.428	1.535	93.03	0.31	0.56
		5745	/	/	1.433	1.535	93.36	0.30	4.59
		5785	/	/	1.430	1.613	88.65	0.52	7.24
		5825	/	/	1.429	1.554	91.96	0.36	2.20
802.11n (HT20)	SISO	5180	/	/	1.207	1.314	91.86	0.37	0.03
		5200	/	/	1.207	1.332	90.62	0.43	2.52
		5240	/	/	1.207	1.314	91.86	0.37	0.80
		5745	/	/	1.207	1.323	91.23	0.40	1.31
		5785	/	/	1.208	1.323	91.31	0.39	0.65
		5825	/	/	1.207	1.332	90.62	0.43	2.55
802.11n (HT40)	SISO	5190	/	/	0.602	0.718	83.84	0.77	3.32
		5230	/	/	0.603	0.718	83.98	0.76	3.29
		5755	/	/	0.603	0.655	92.06	0.36	2.90
		5795	/	/	0.602	0.718	83.84	0.77	10.95
802.11ac (VHT20)	SISO	5180	/	/	1.215	1.331	91.28	0.40	1.88
		5200	/	/	1.215	1.330	91.35	0.39	1.92
		5240	/	/	1.215	1.331	91.28	0.40	1.92
		5745	/	/	1.215	1.331	91.28	0.40	2.29
		5785	/	/	1.221	1.321	92.43	0.34	5.32
		5825	/	/	1.215	1.330	91.35	0.39	1.88
802.11ac (VHT40)	SISO	5190	/	/	0.606	0.722	83.93	0.76	3.24
		5230	/	/	0.607	0.722	84.07	0.75	3.31
		5755	/	/	0.606	0.722	83.93	0.76	3.31
		5795	/	/	0.607	0.833	72.87	1.37	21.73
802.11ac (VHT80)	SISO	5210	/	/	0.303	0.419	72.32	1.41	5.01
		5775	/	/	0.304	0.419	72.55	1.39	6.81
802.11ax (HEW20)	SISO	5180	RU242	Left	1.034	1.150	89.91	0.46	2.18
		5200	RU242	Left	1.034	1.150	89.91	0.46	2.18
		5240	RU242	Left	1.034	1.149	89.99	0.46	2.15
		5745	RU242	Left	1.034	1.149	89.99	0.46	2.18
		5785	RU242	Left	1.034	1.149	89.99	0.46	2.18
		5825	RU242	Left	1.034	1.150	89.91	0.46	2.14
802.11ax (HEW40)	SISO	5190	RU484	Left	0.545	0.661	82.45	0.84	3.53
		5230	RU484	Left	0.548	0.660	83.03	0.81	3.56
		5755	RU484	Left	0.545	0.660	82.58	0.83	11.57
		5795	RU484	Left	0.544	0.660	82.42	0.84	3.50
802.11ax (HEW80)	SISO	5210	RU996	Left	0.286	0.402	71.14	1.48	5.16
		5775	RU996	Left	0.286	0.475	60.21	2.20	29.05

1.1.2 Test Graph

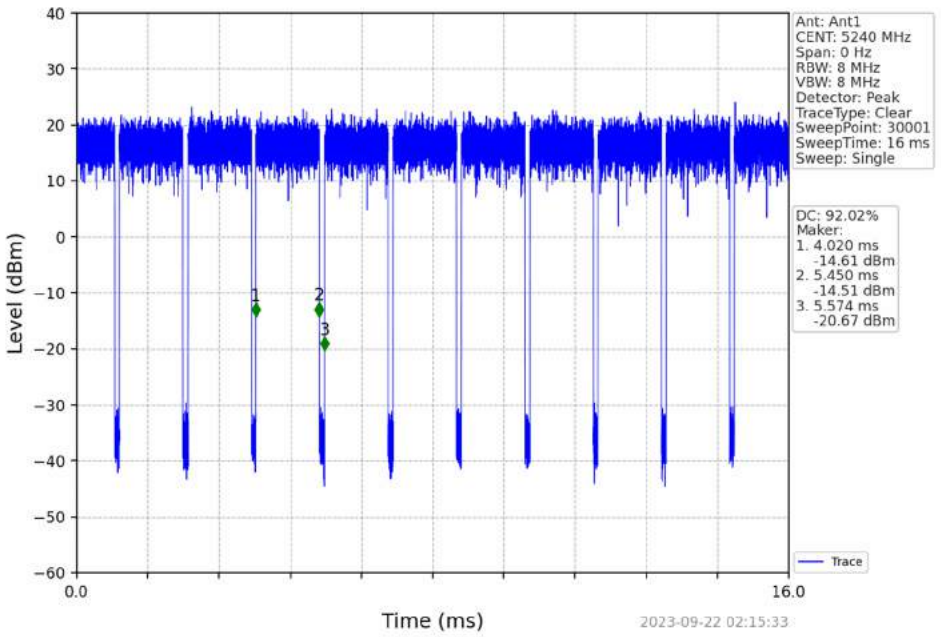
802.11a_LCH_5180MHz_Ant1_NTNV



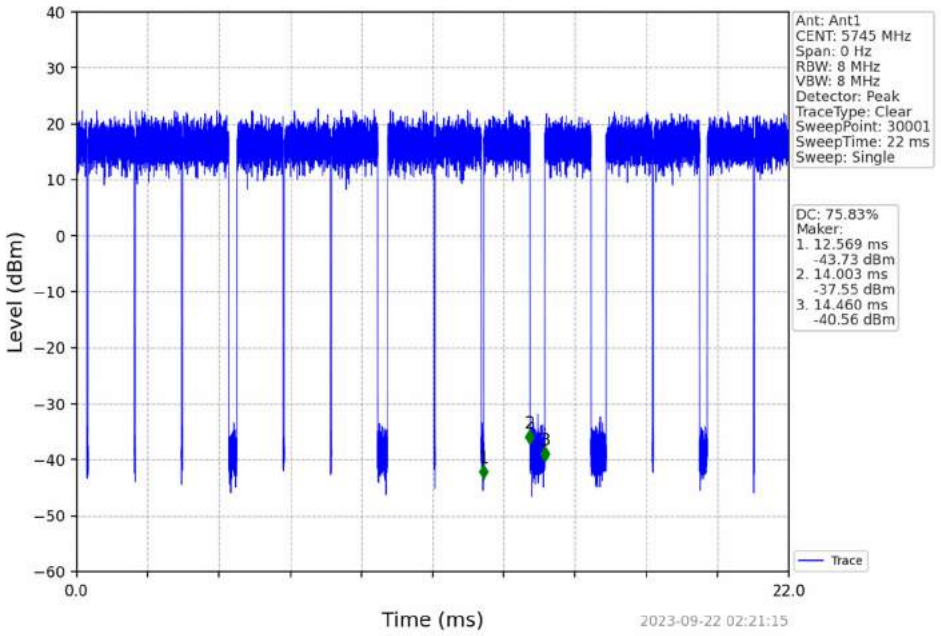
802.11a_MCH_5200MHz_Ant1_NTNV



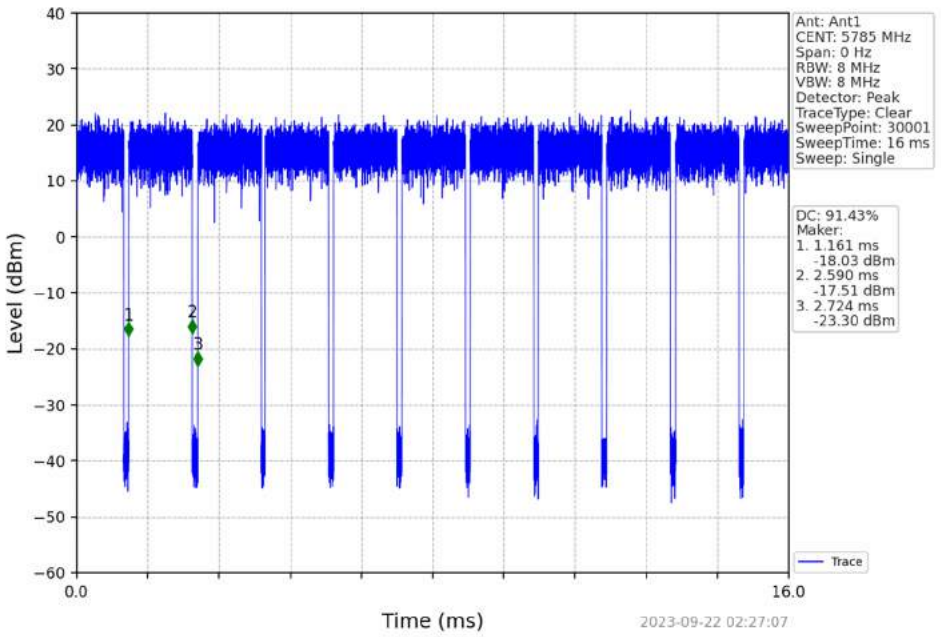
802.11a_HCH_5240MHz_Ant1_NTNV



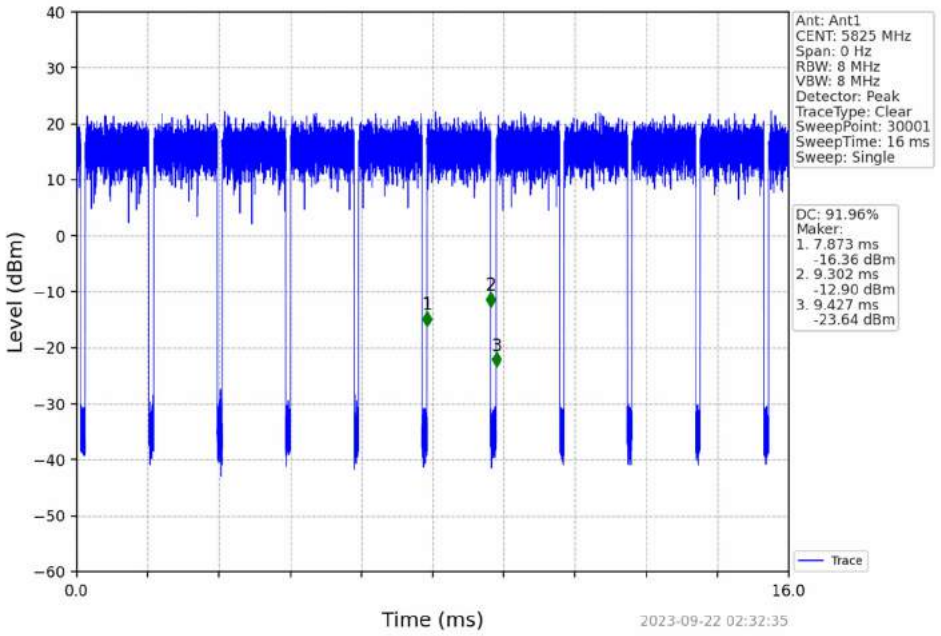
802.11a_LCH_5745MHz_Ant1_NTNV



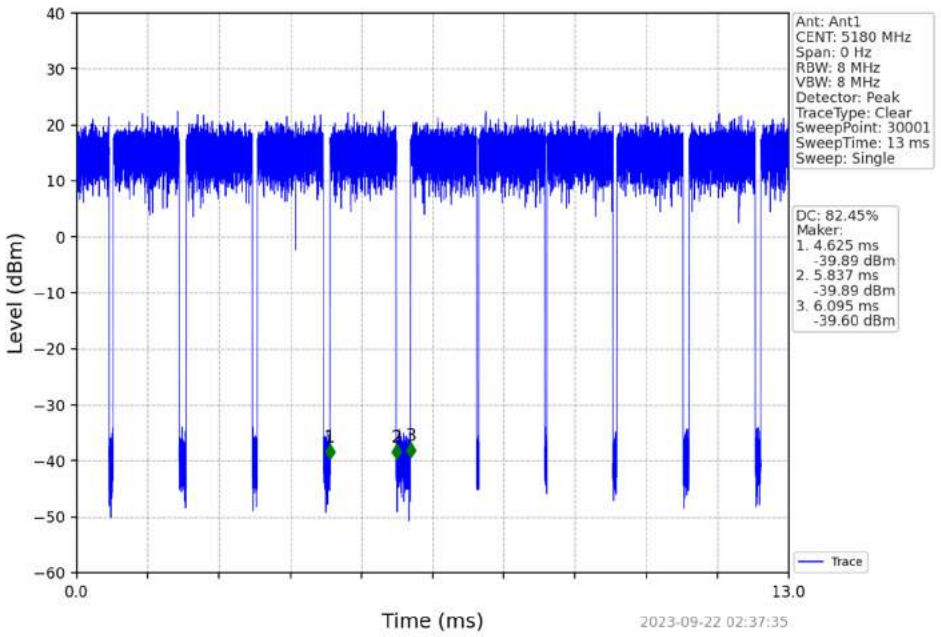
802.11a_MCH_5785MHz_Ant1_NTNV



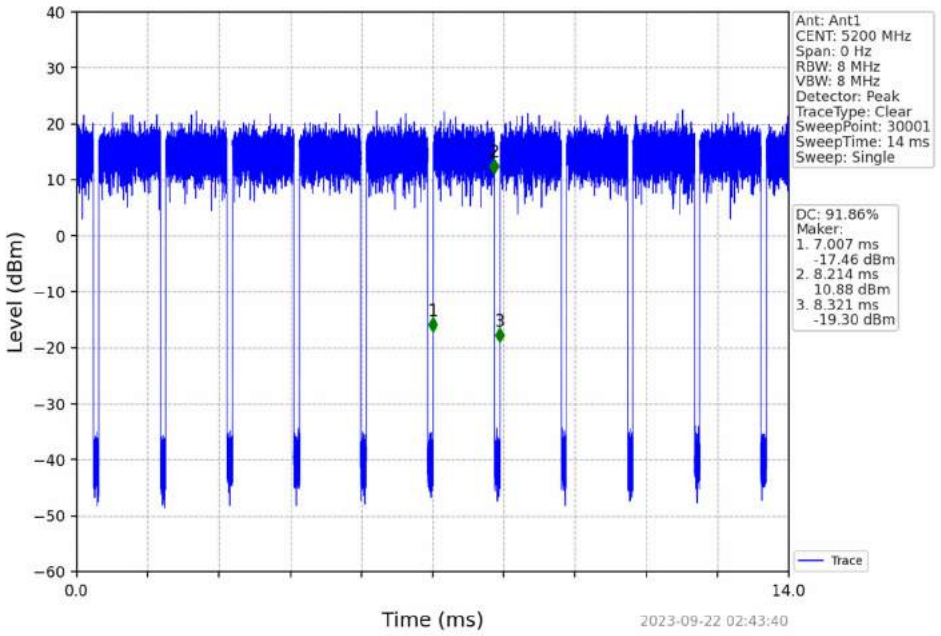
802.11a_HCH_5825MHz_Ant1_NTNV



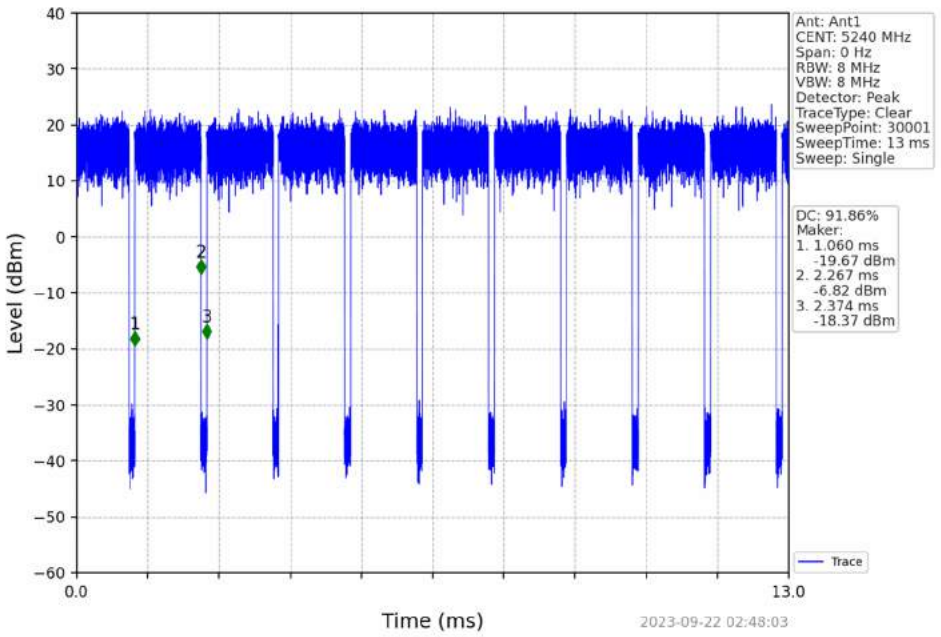
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



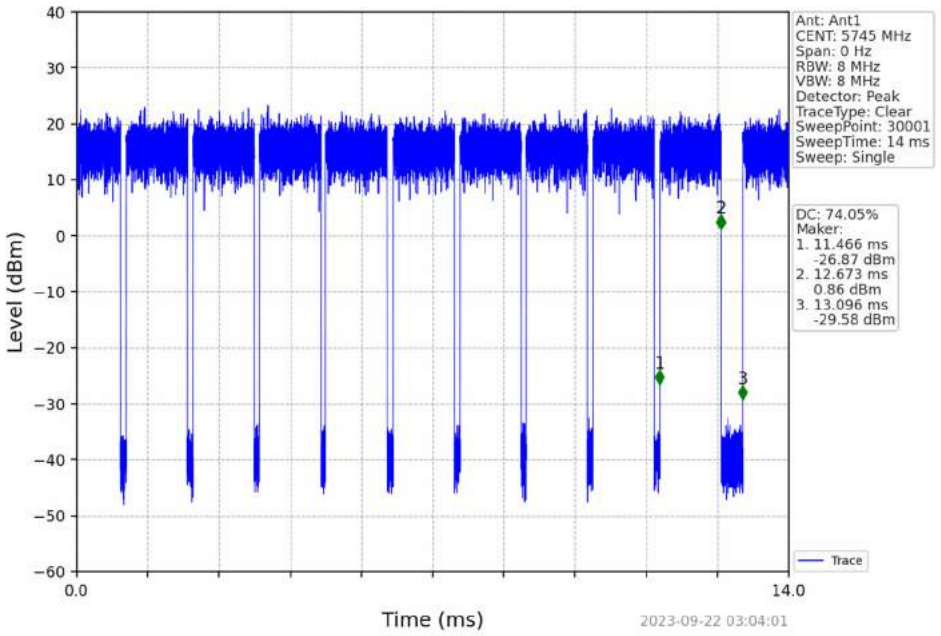
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



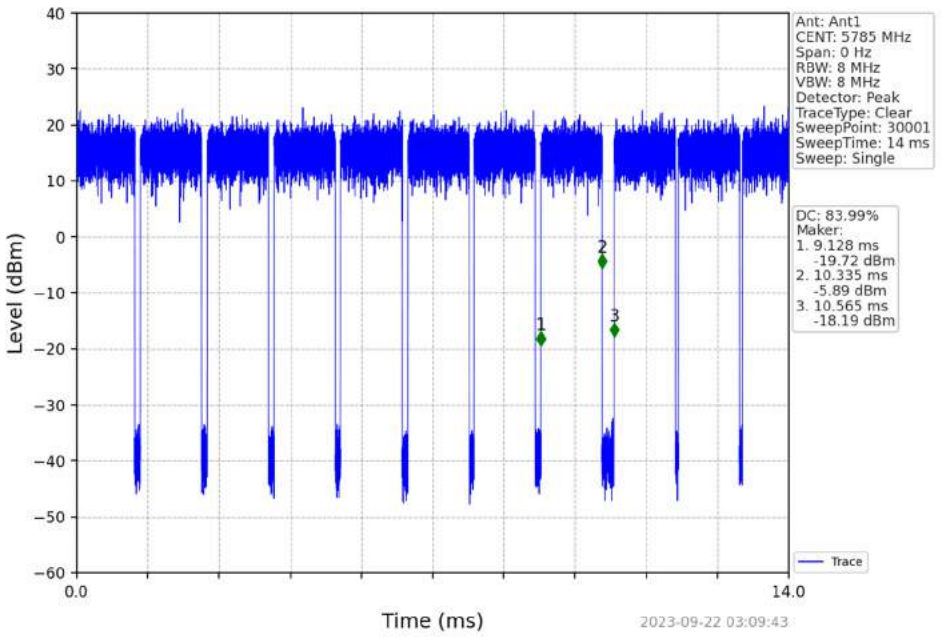
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



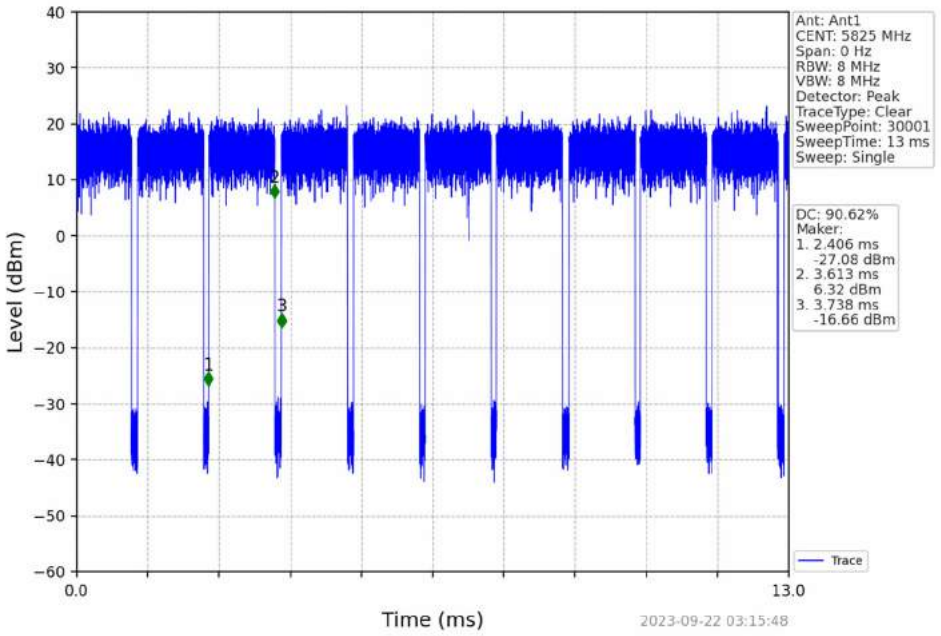
802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



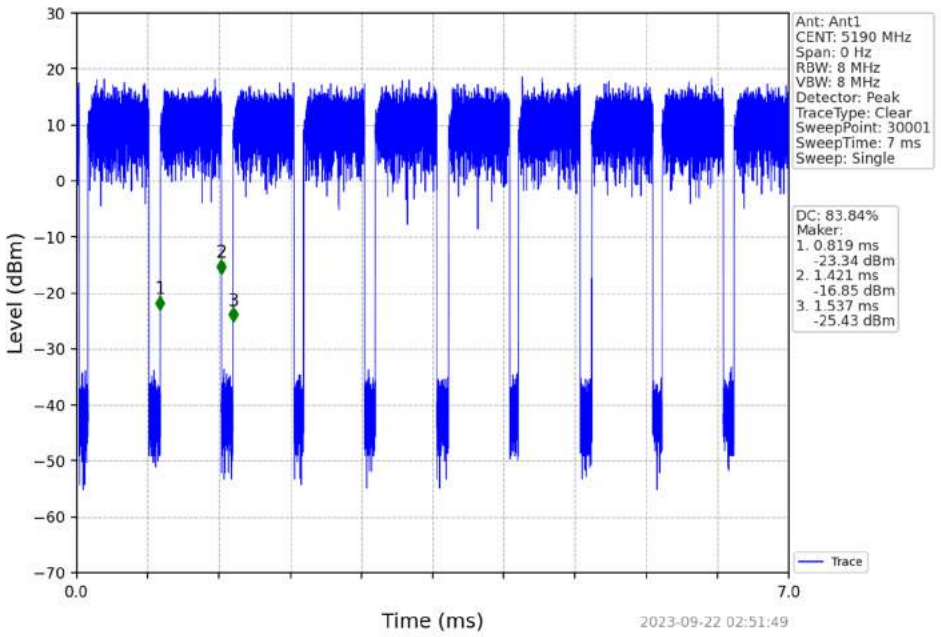
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



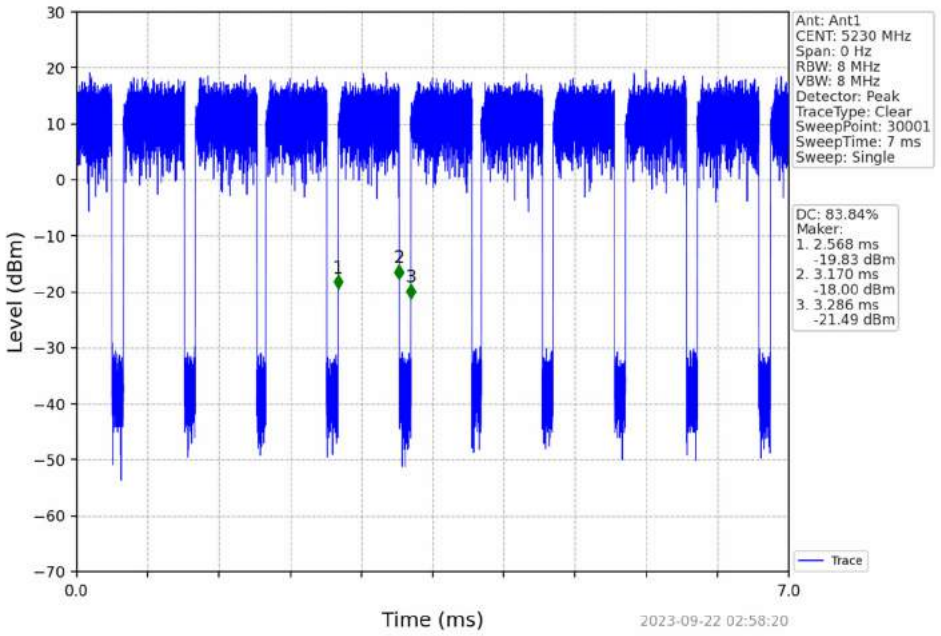
802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



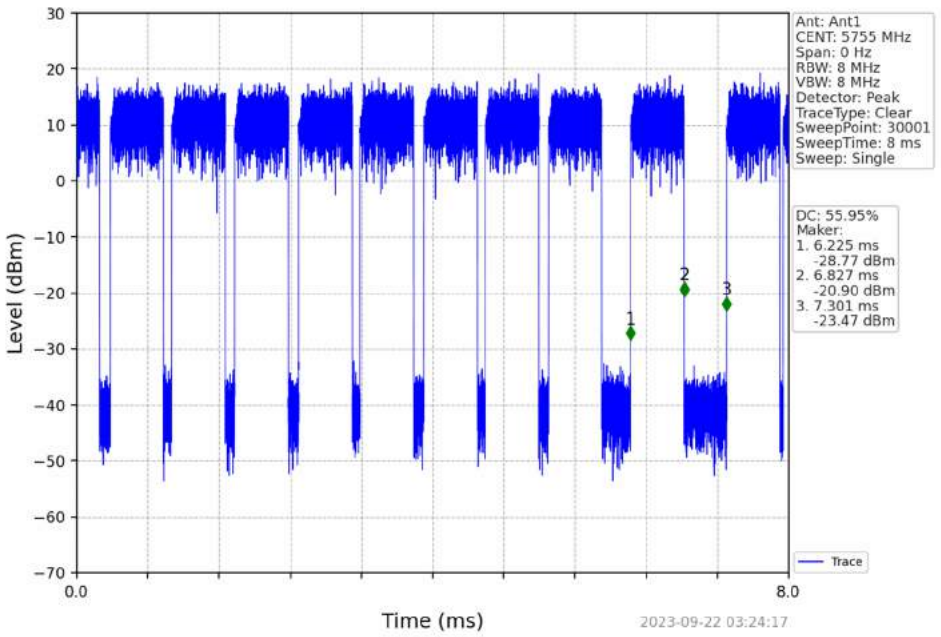
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



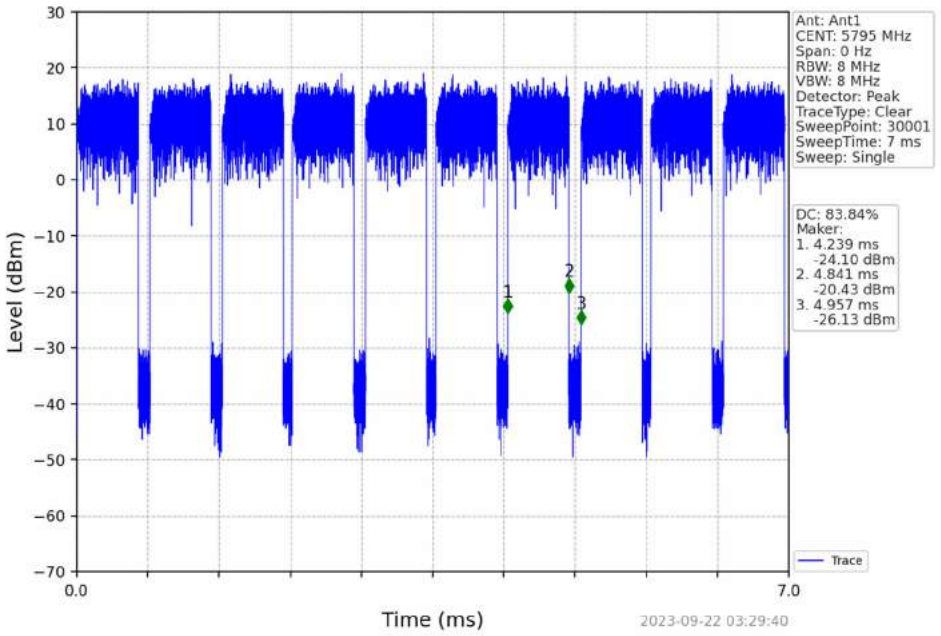
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



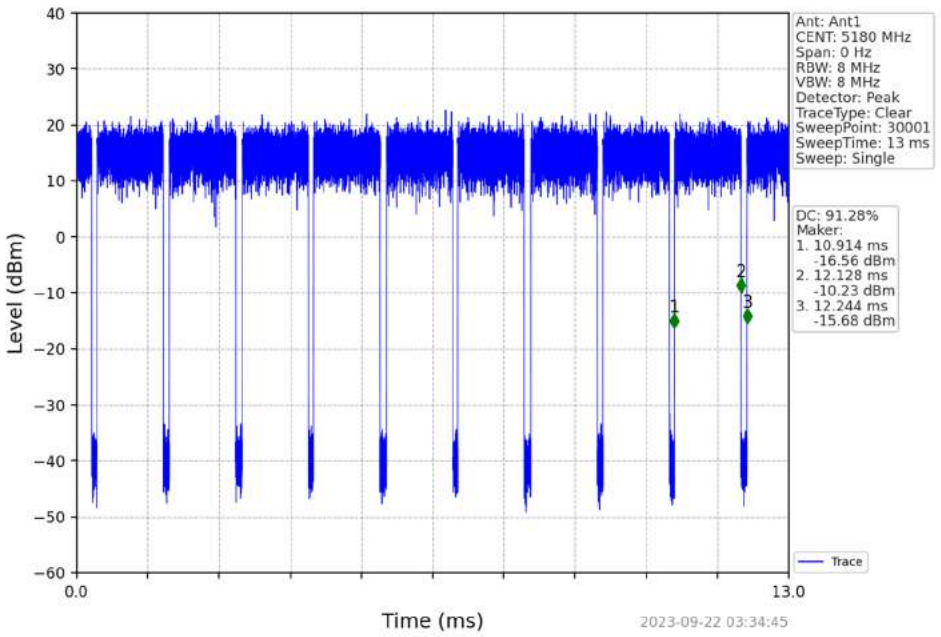
802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



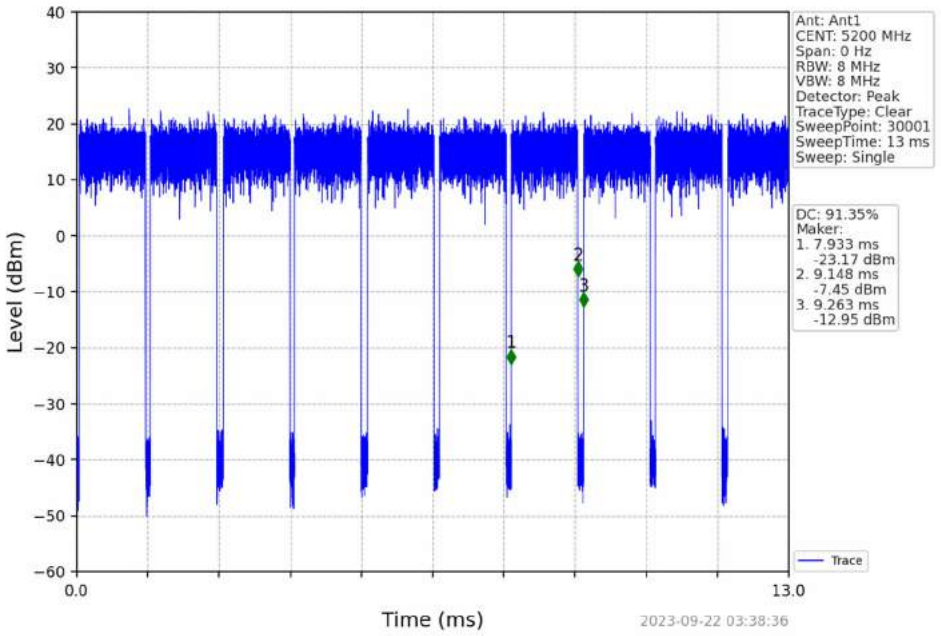
802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



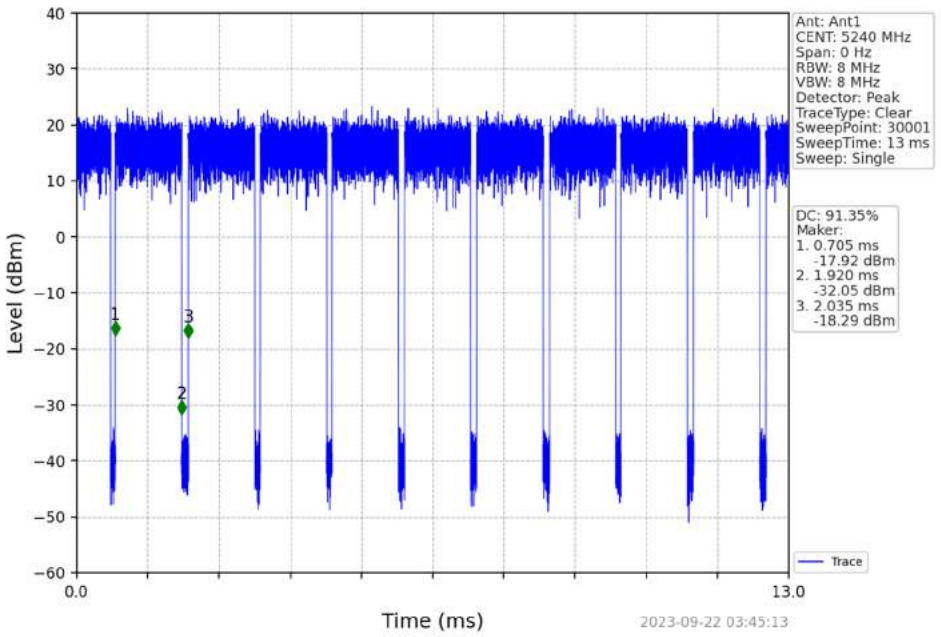
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



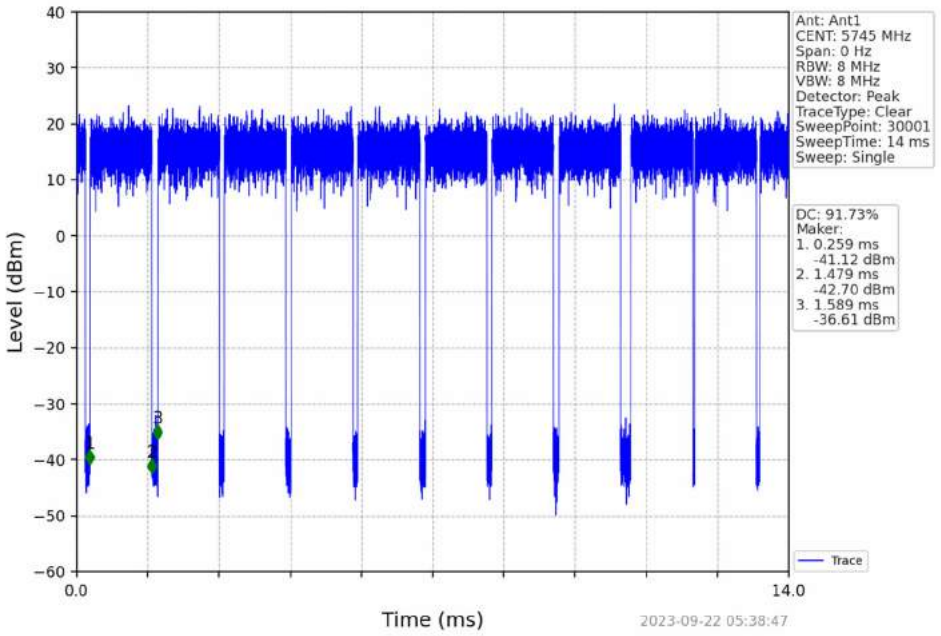
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



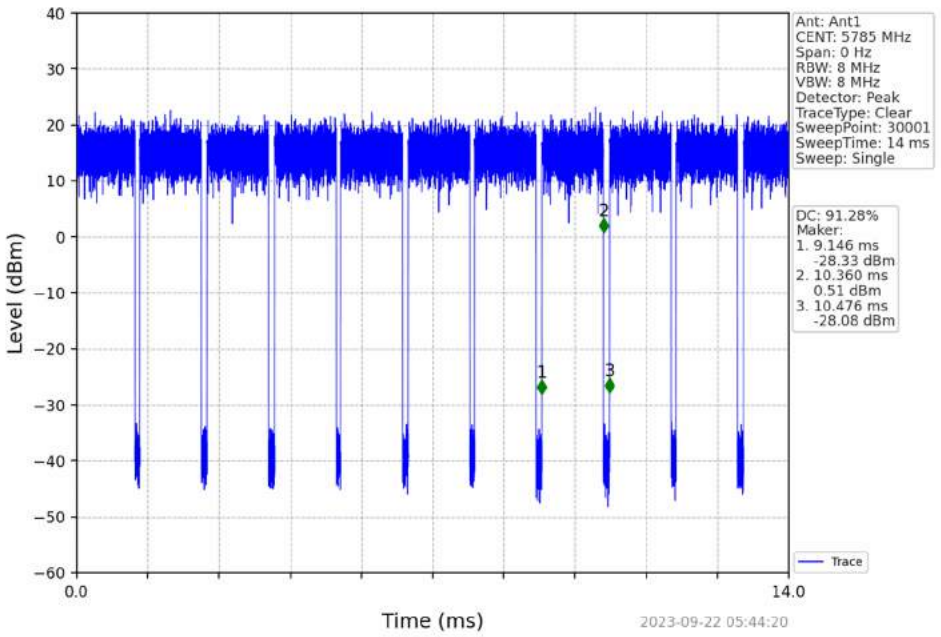
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



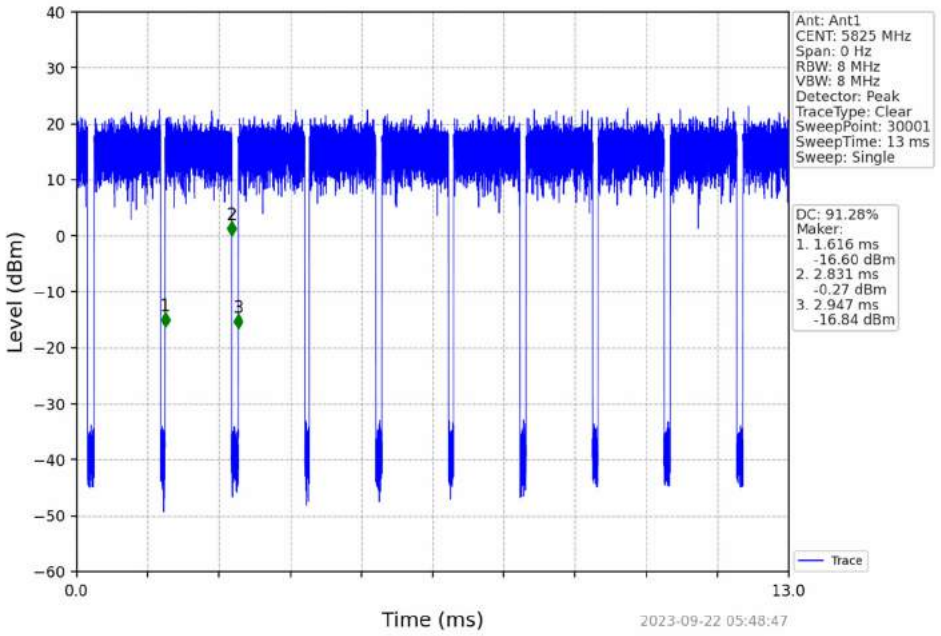
802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



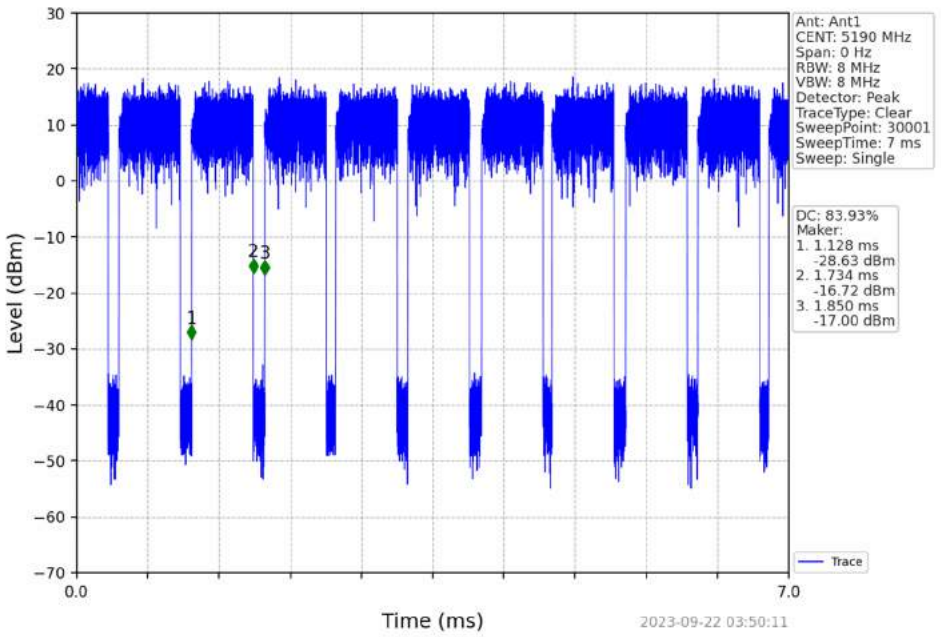
802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV



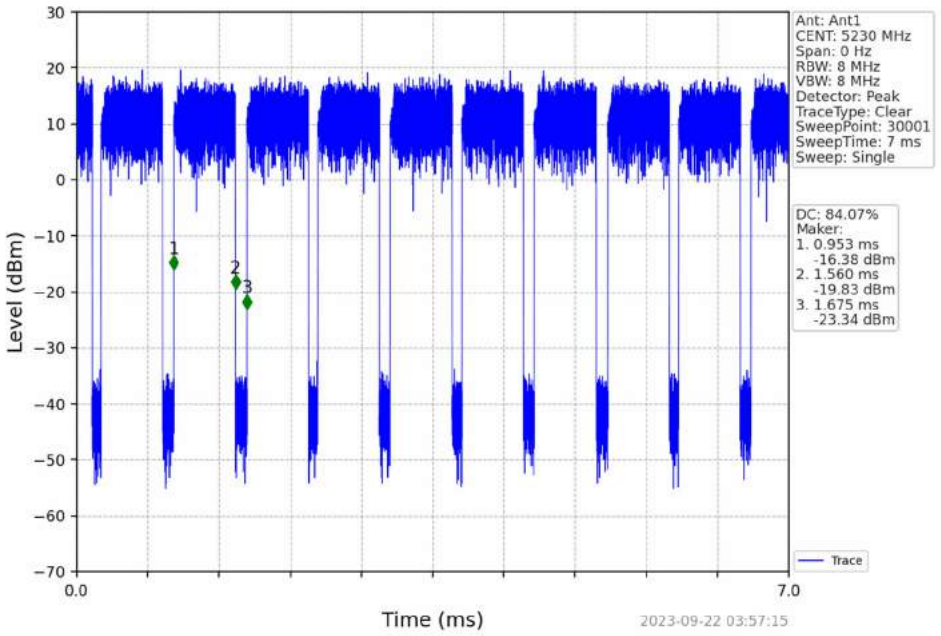
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



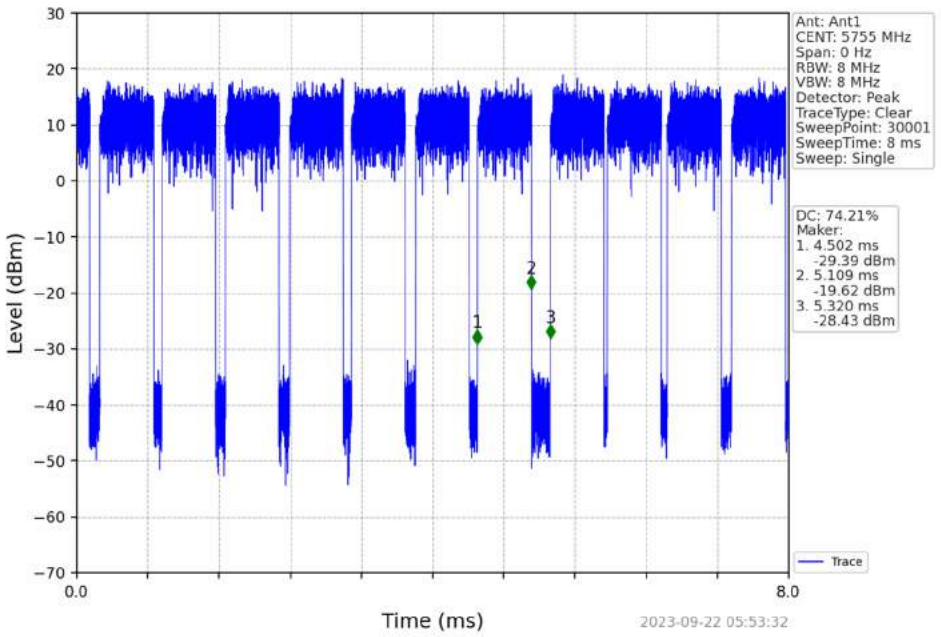
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



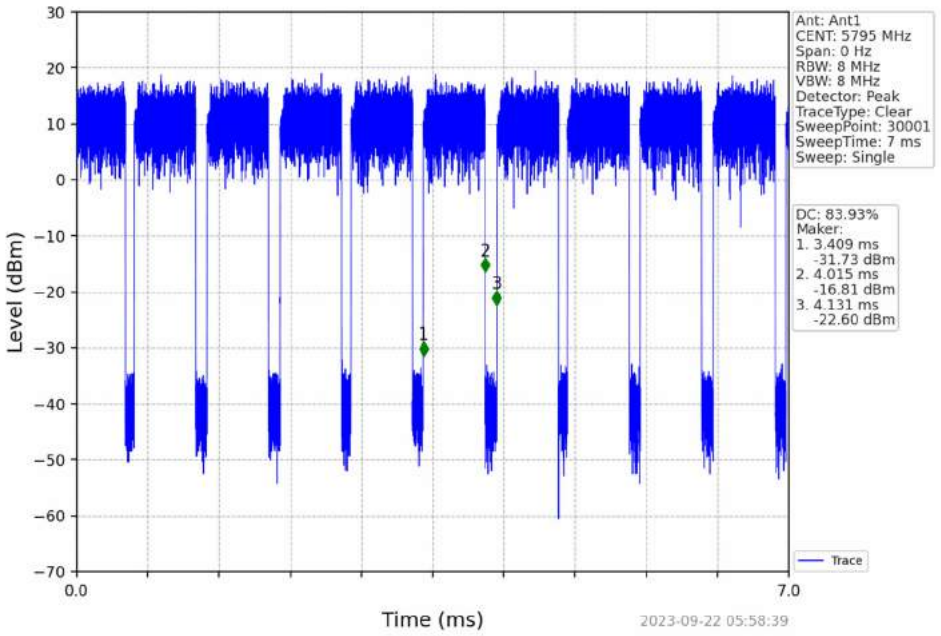
802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



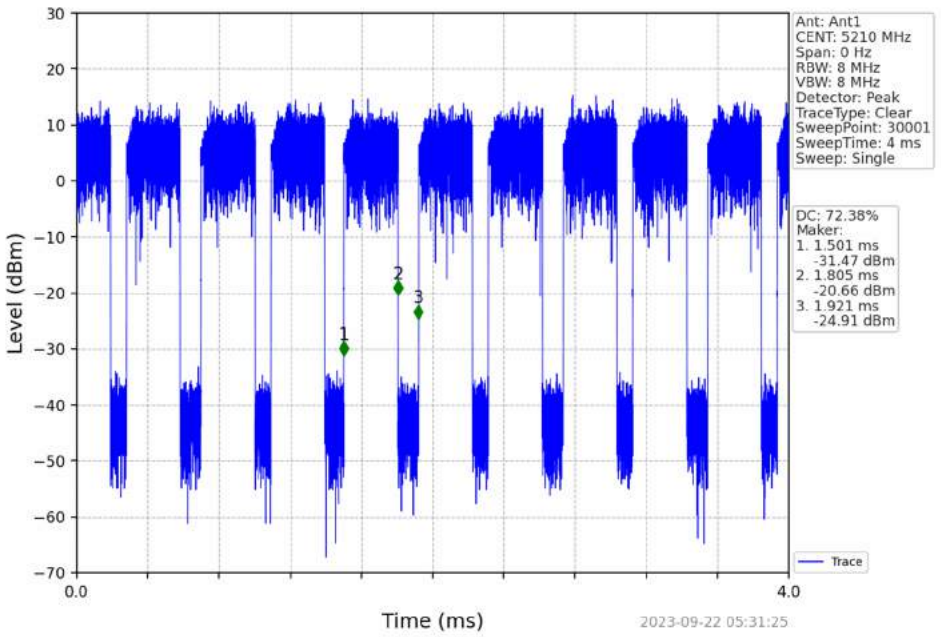
802.11ac(VHT40)_LCH_5755MHz_Ant1_NTNV



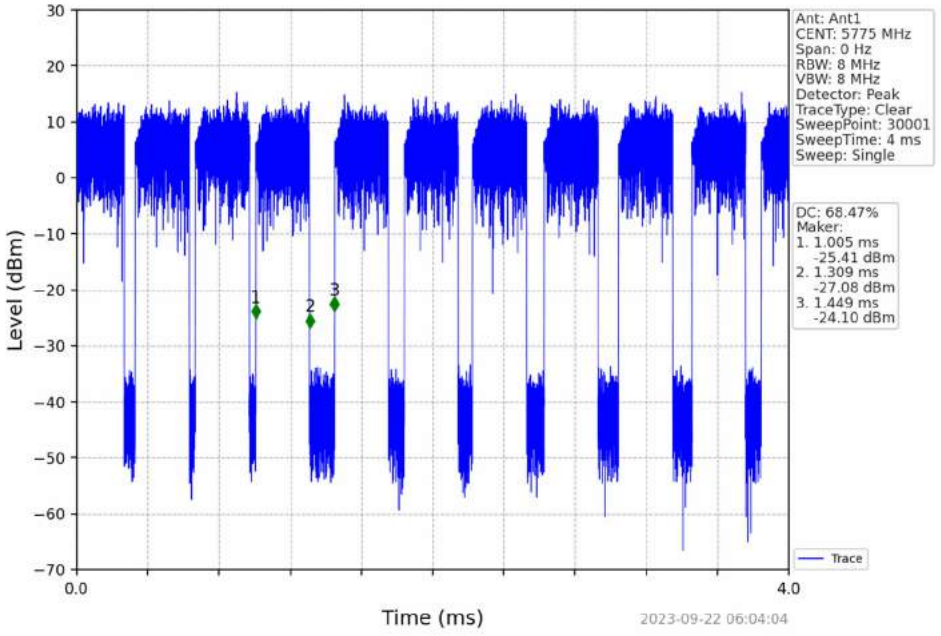
802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV



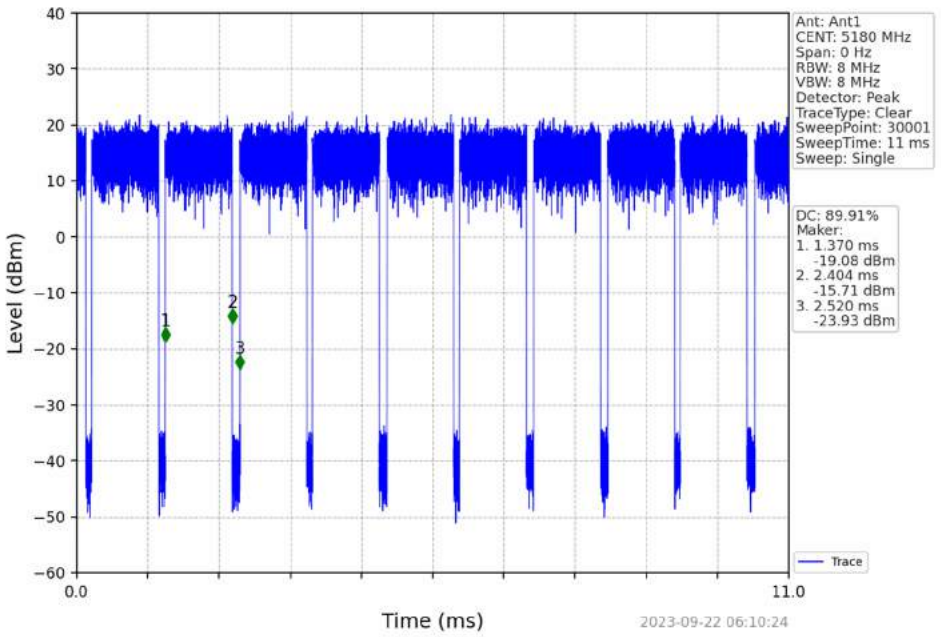
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



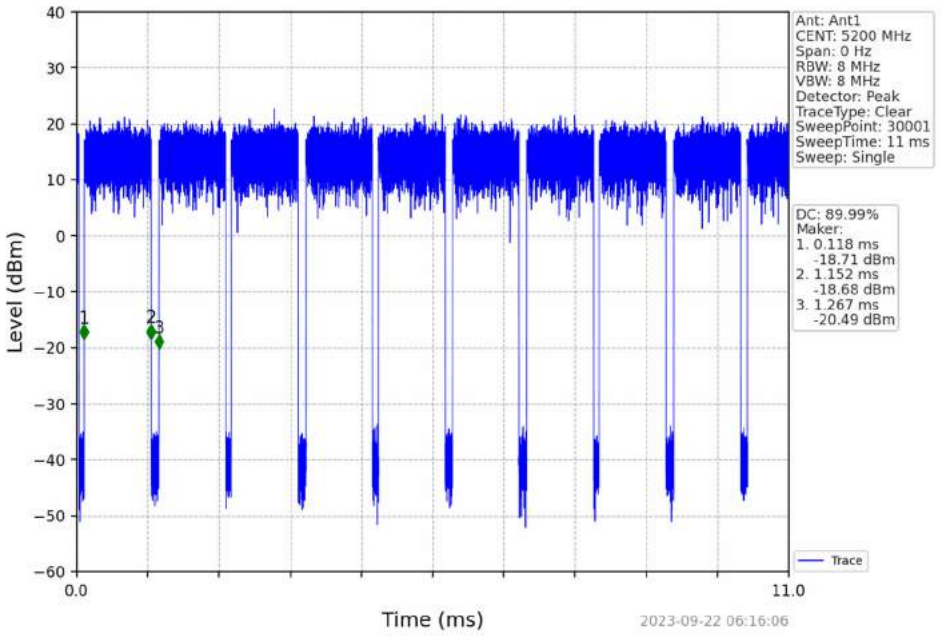
802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV



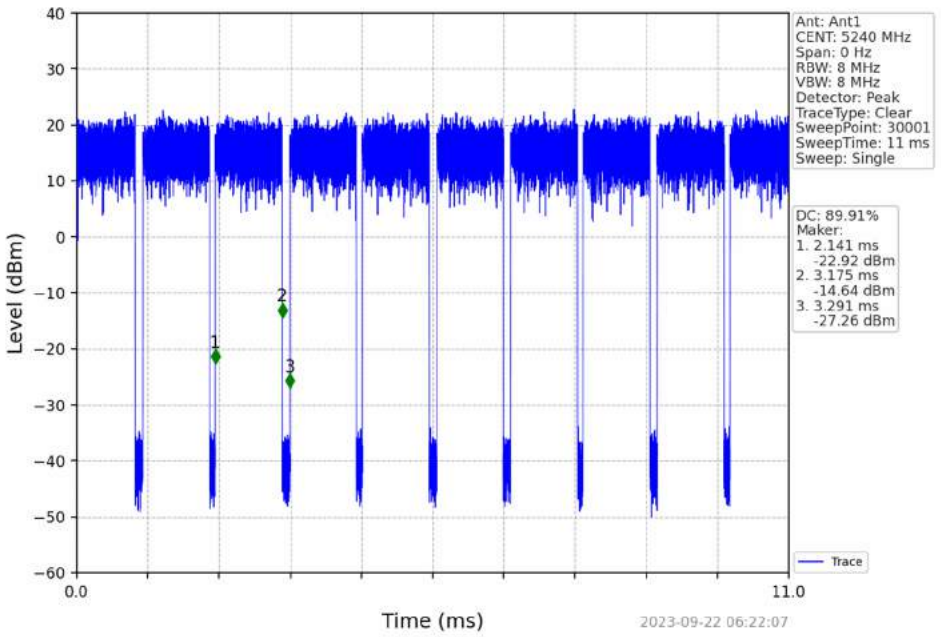
802.11ax(HEW20)_LCH_5180MHz_RU242_Left_Ant1_NTNV



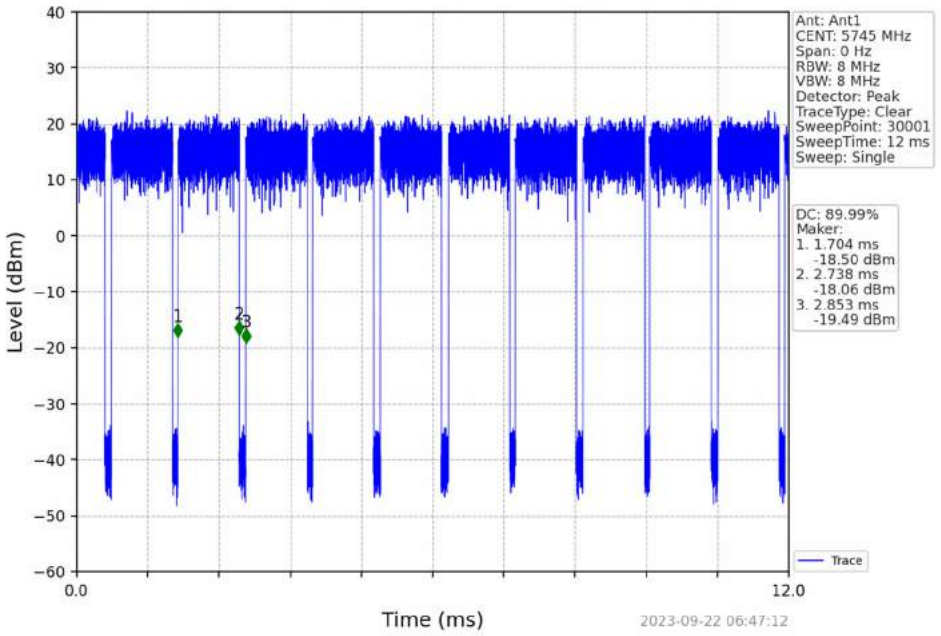
802.11ax(HEW20)_MCH_5200MHz_RU242_Left_Ant1_NTNV



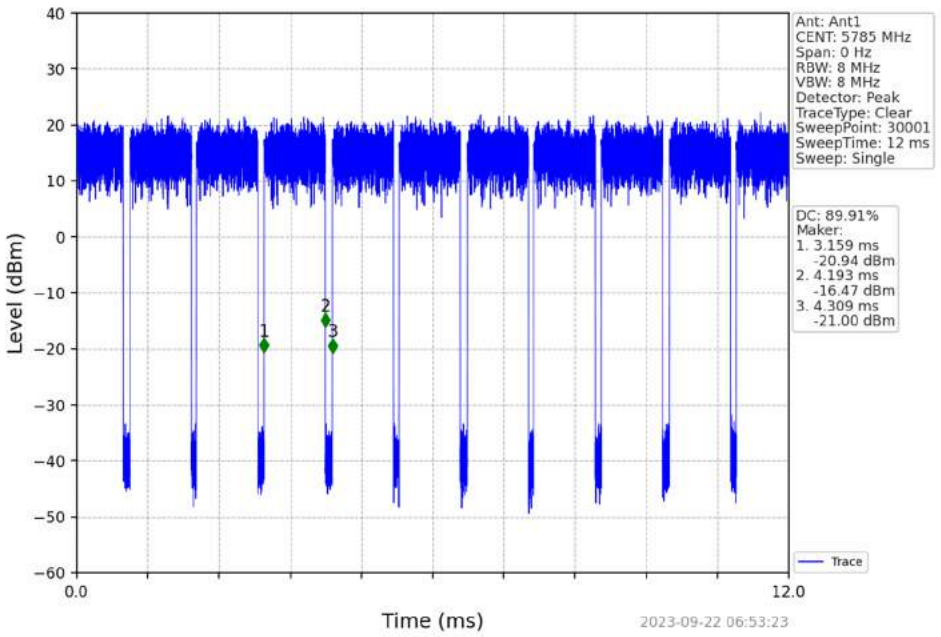
802.11ax(HEW20)_HCH_5240MHz_RU242_Left_Ant1_NTNV



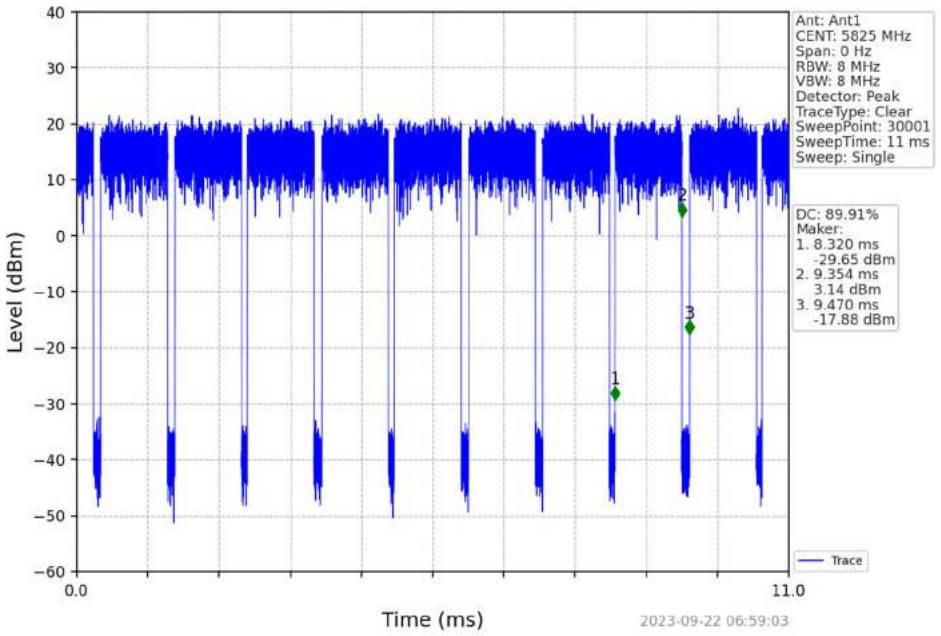
802.11ax(HEW20)_LCH_5745MHz_RU242_Left_Ant1_NTNV



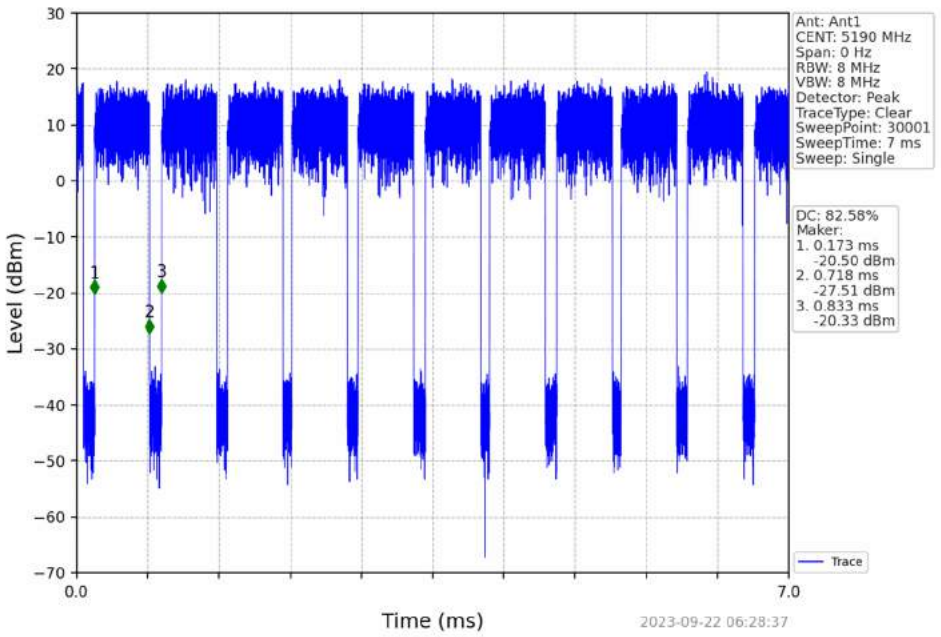
802.11ax(HEW20)_MCH_5785MHz_RU242_Left_Ant1_NTNV



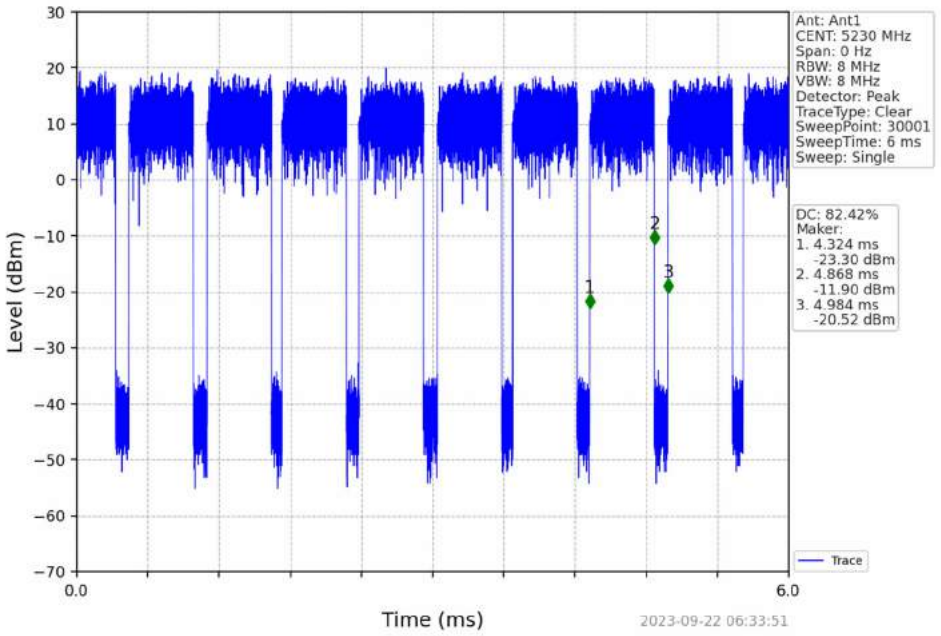
802.11ax(HEW20)_HCH_5825MHz_RU242_Left_Ant1_NTNV



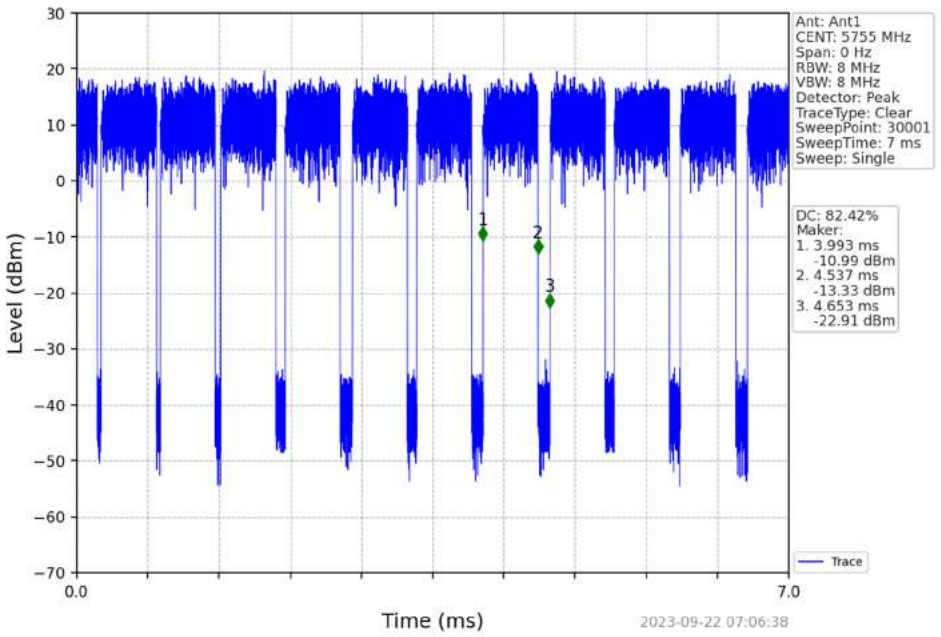
802.11ax(HEW40)_LCH_5190MHz_RU484_Left_Ant1_NTNV



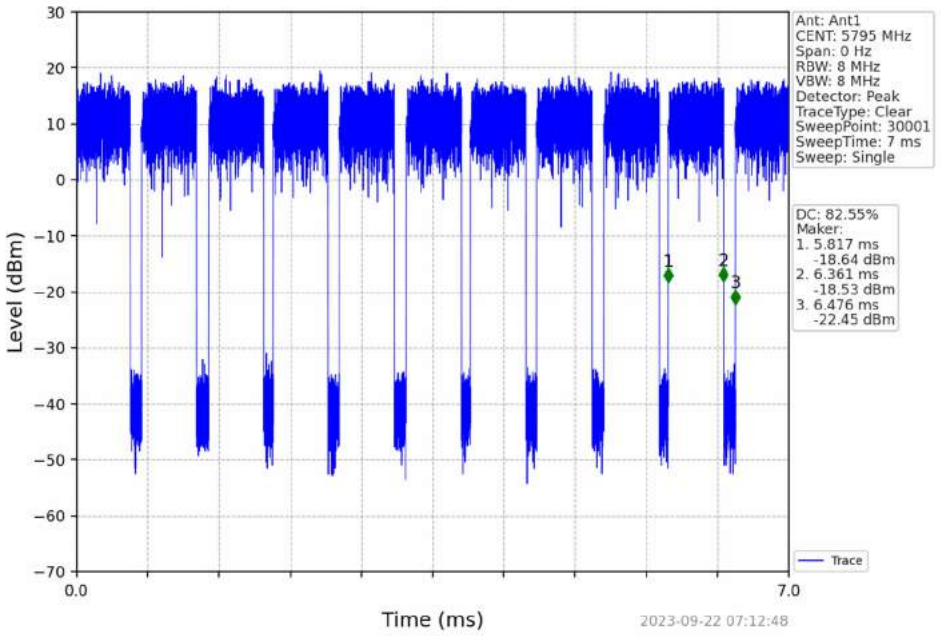
802.11ax(HEW40)_HCH_5230MHz_RU484_Left_Ant1_NTNV



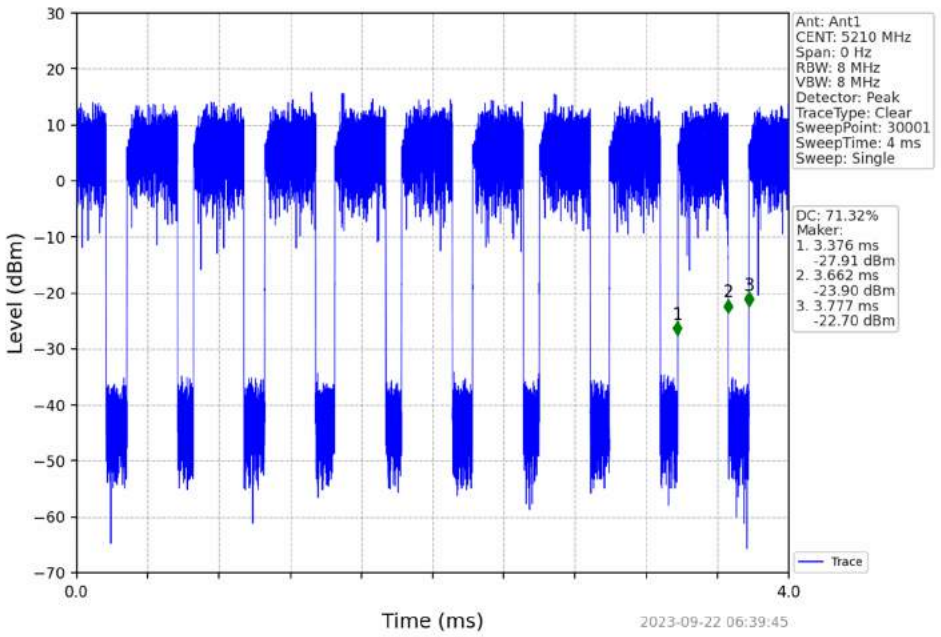
802.11ax(HEW40)_LCH_5755MHz_RU484_Left_Ant1_NTNV



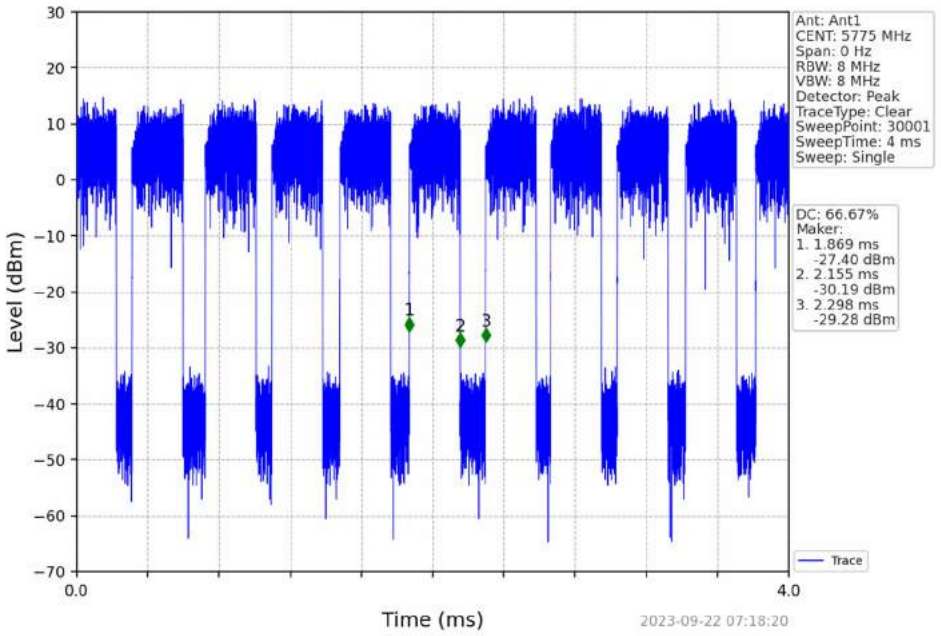
802.11ax(HEW40)_HCH_5795MHz_RU484_Left_Ant1_NTNV



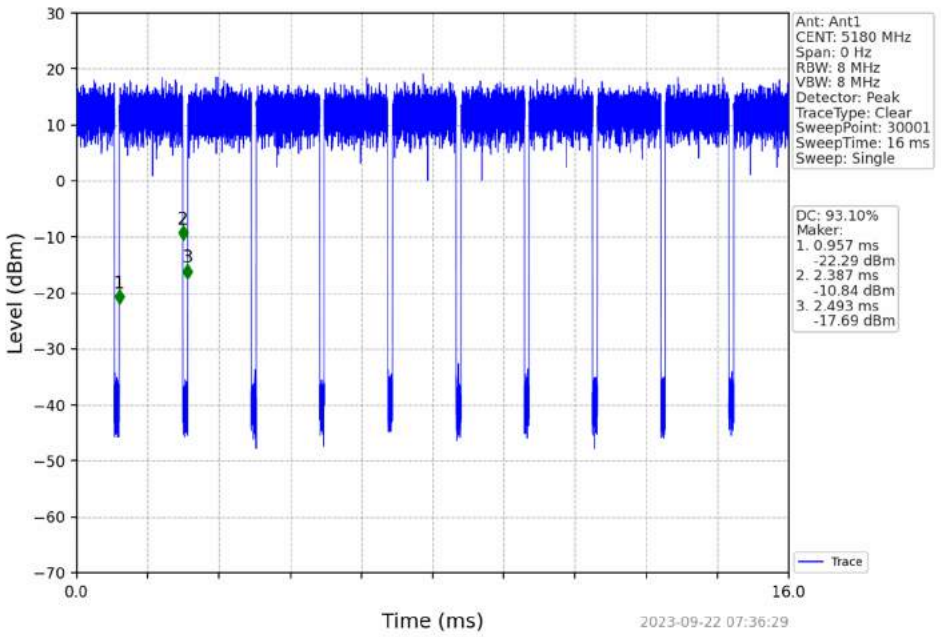
802.11ax(HEW80)_MCH_5210MHz_RU996_Left_Ant1_NTNV



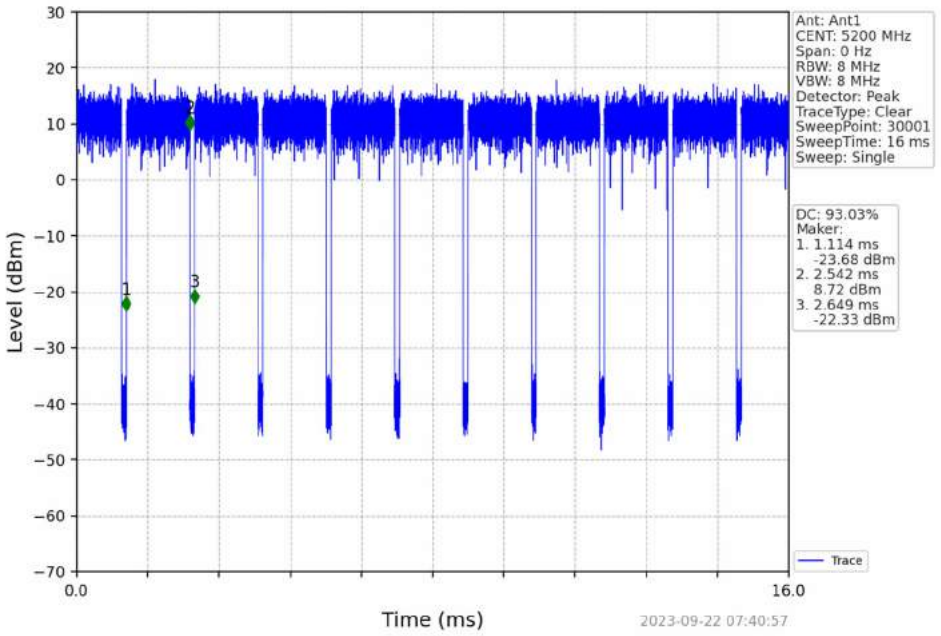
802.11ax(HEW80)_MCH_5775MHz_RU996_Left_Ant1_NTNV



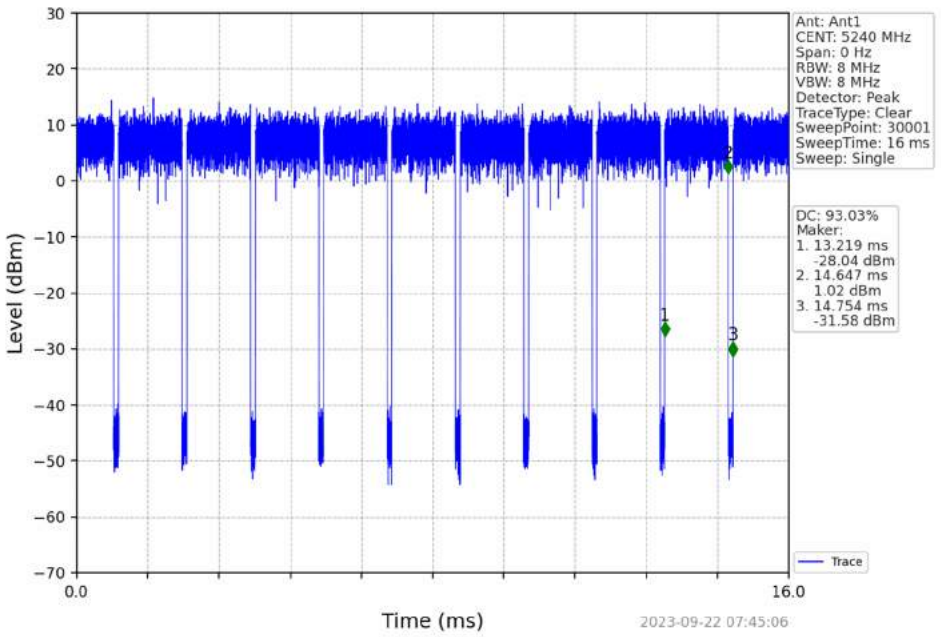
802.11a_LCH_5180MHz_Ant2_NTNV



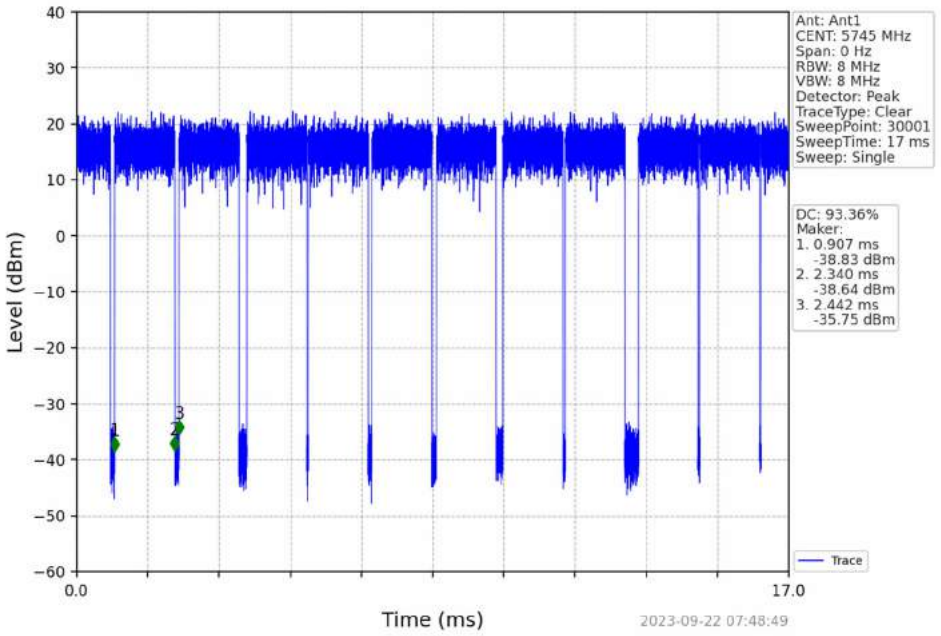
802.11a_MCH_5200MHz_Ant2_NTNV



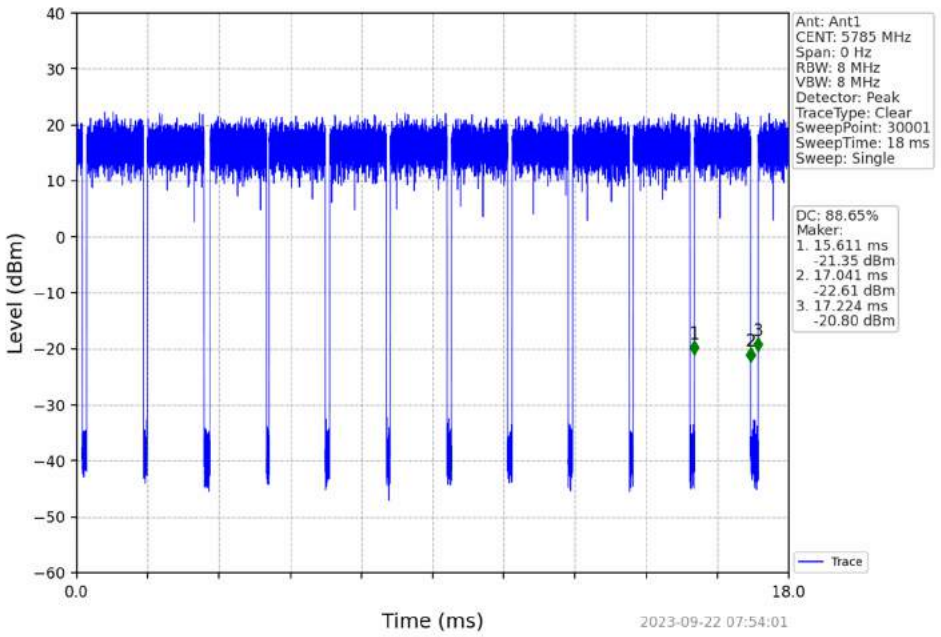
802.11a_HCH_5240MHz_Ant2_NTNV



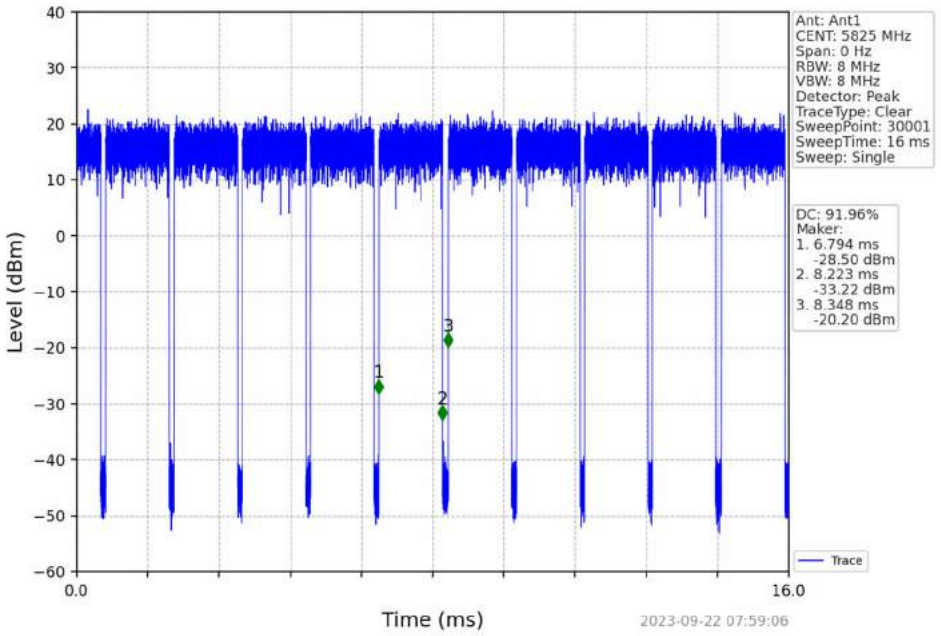
802.11a_LCH_5745MHz_Ant2_NTNV



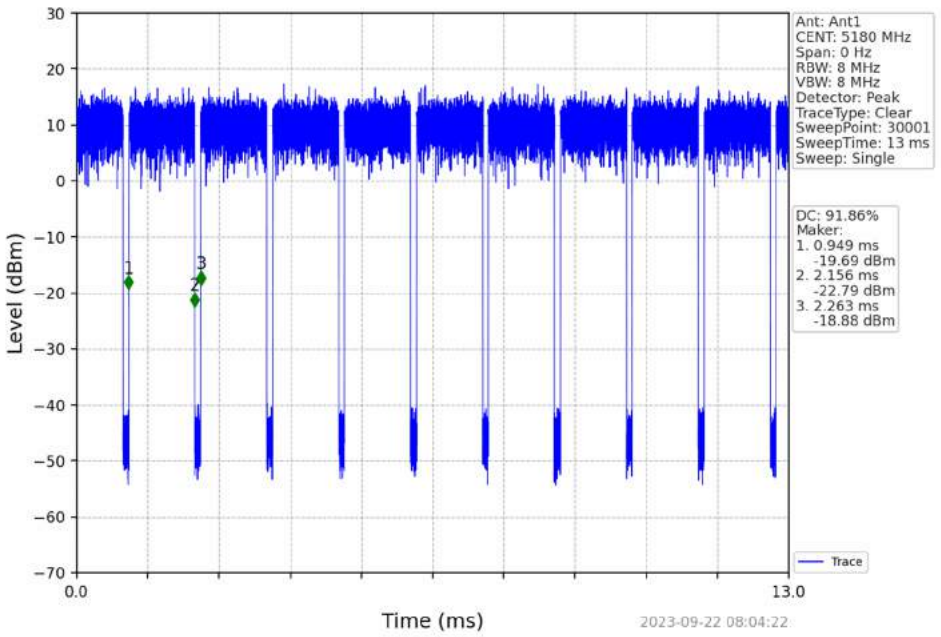
802.11a_MCH_5785MHz_Ant2_NTNV



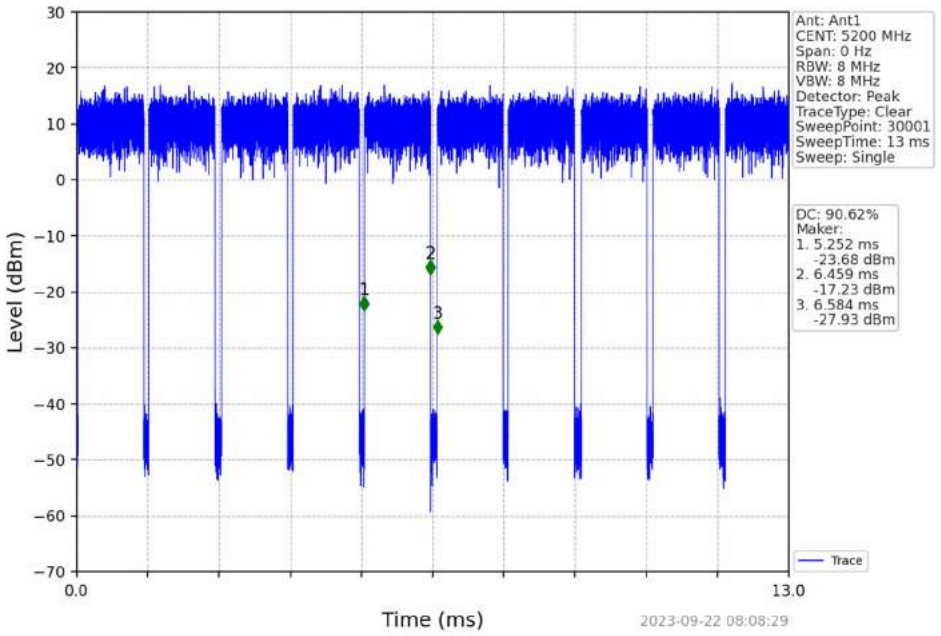
802.11a_HCH_5825MHz_Ant2_NTNV



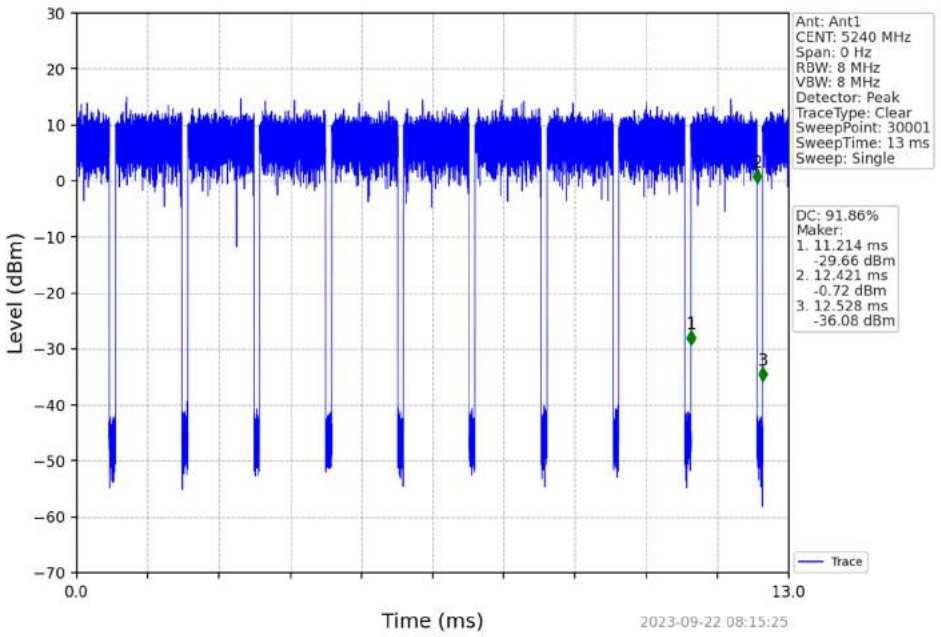
802.11n(HT20)_LCH_5180MHz_Ant2_NTNV



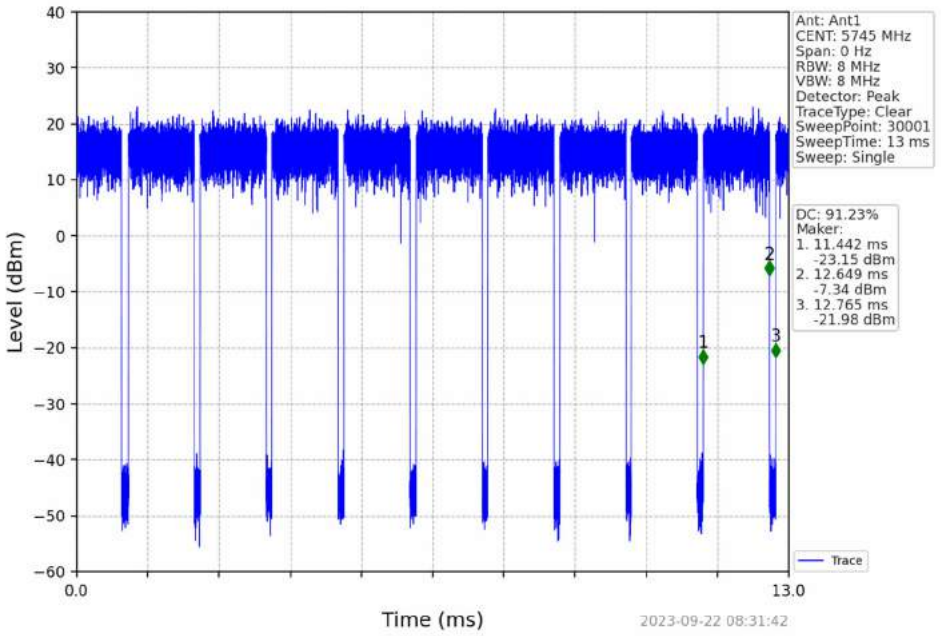
802.11n(HT20)_MCH_5200MHz_Ant2_NTNV



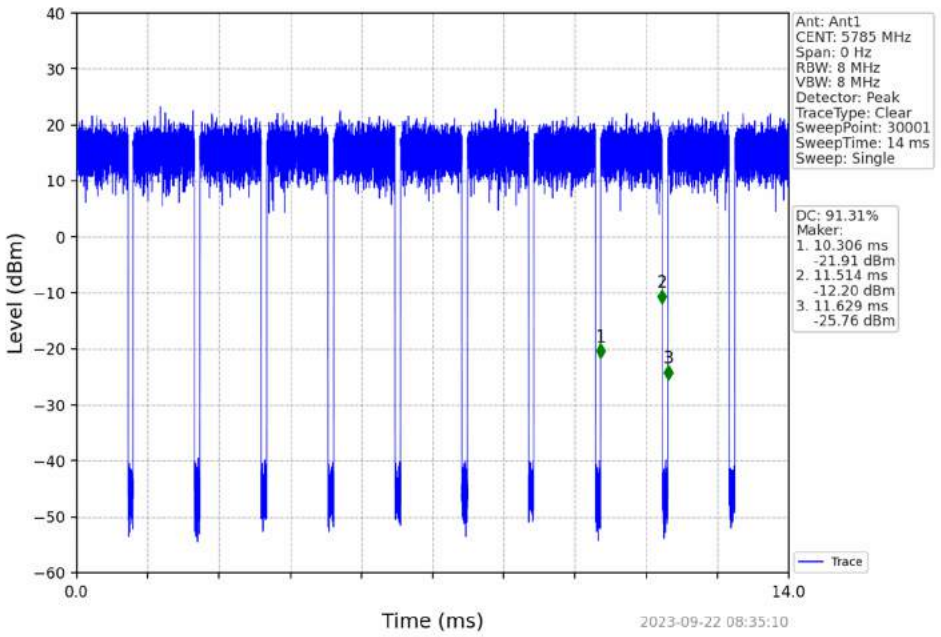
802.11n(HT20)_HCH_5240MHz_Ant2_NTNV



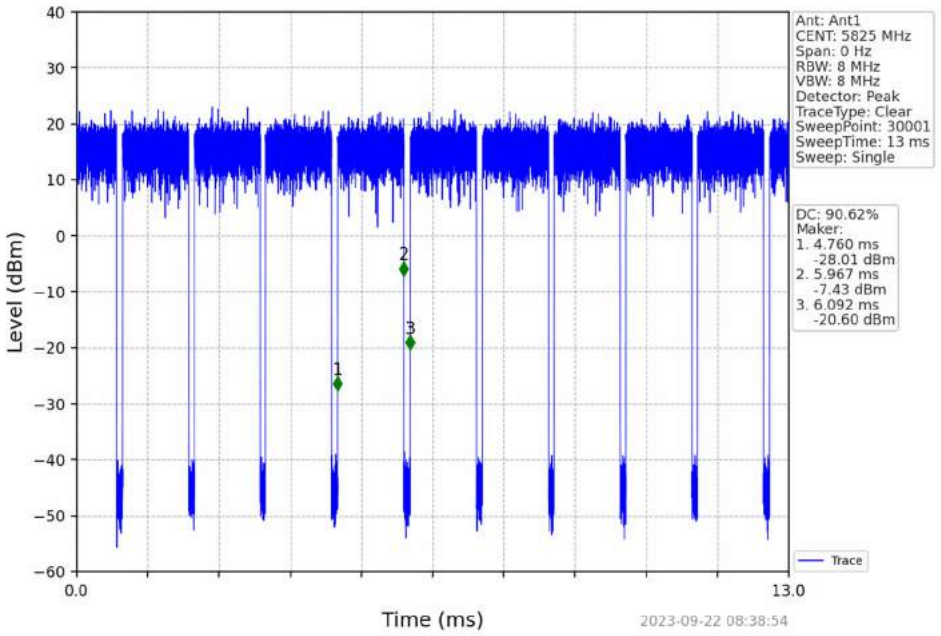
802.11n(HT20)_LCH_5745MHz_Ant2_NTNV



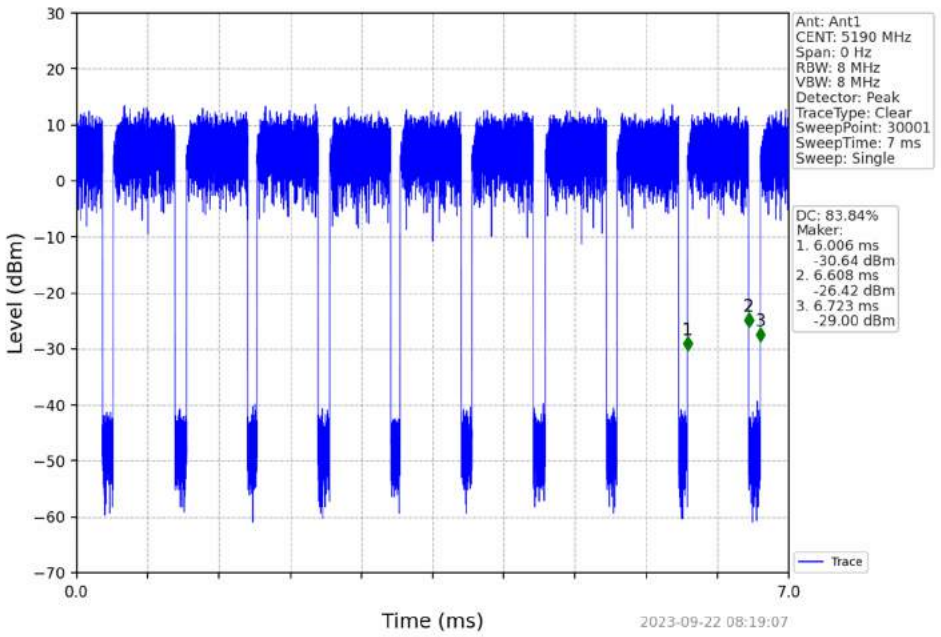
802.11n(HT20)_MCH_5785MHz_Ant2_NTNV



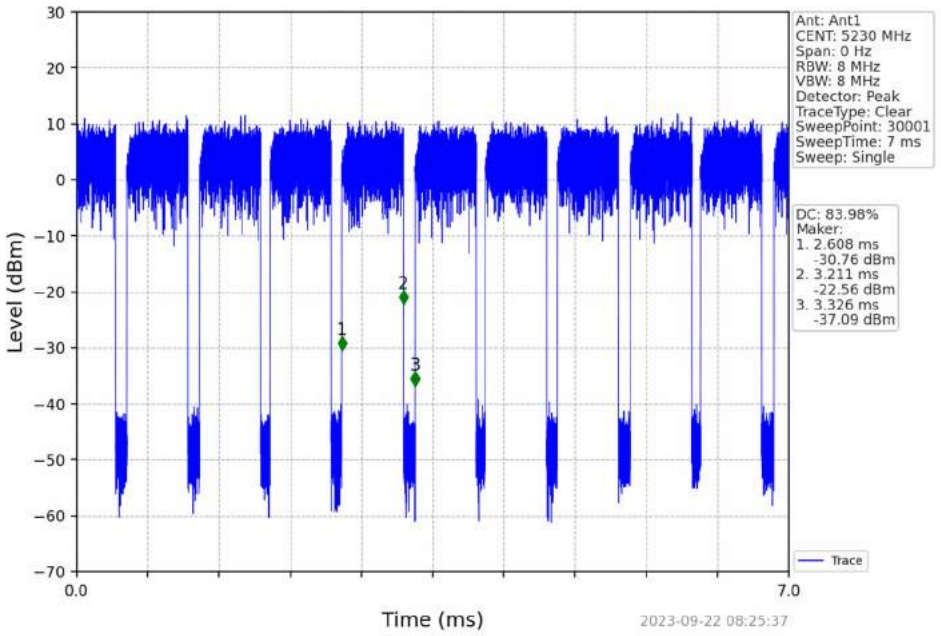
802.11n(HT20)_HCH_5825MHz_Ant2_NTNV



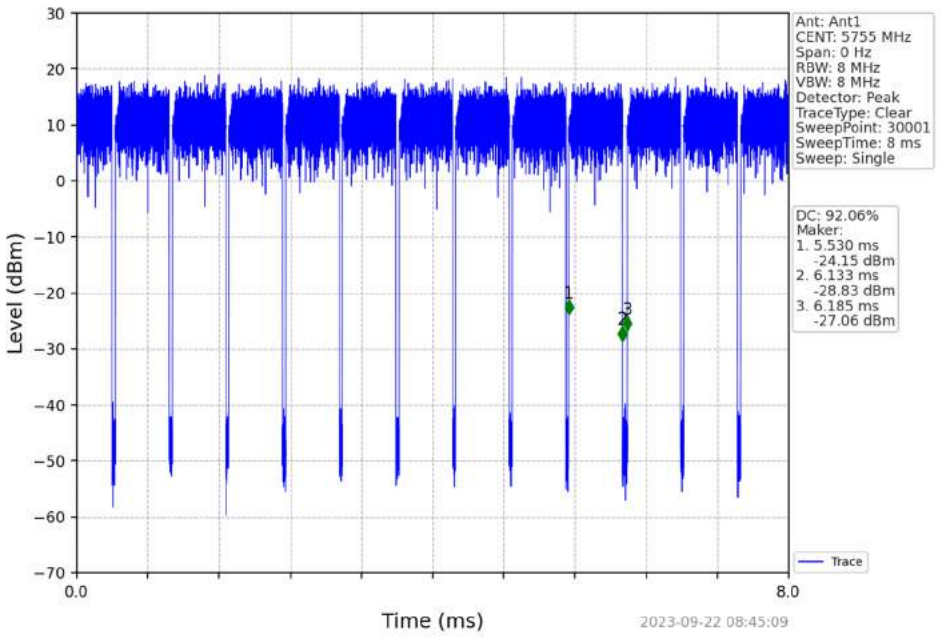
802.11n(HT40)_LCH_5190MHz_Ant2_NTNV



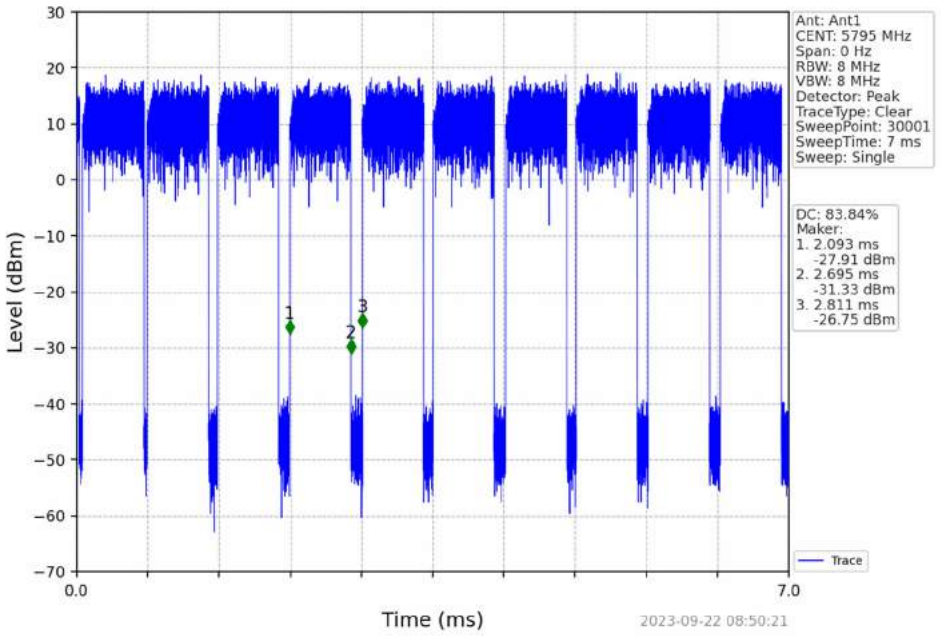
802.11n(HT40)_HCH_5230MHz_Ant2_NTNV



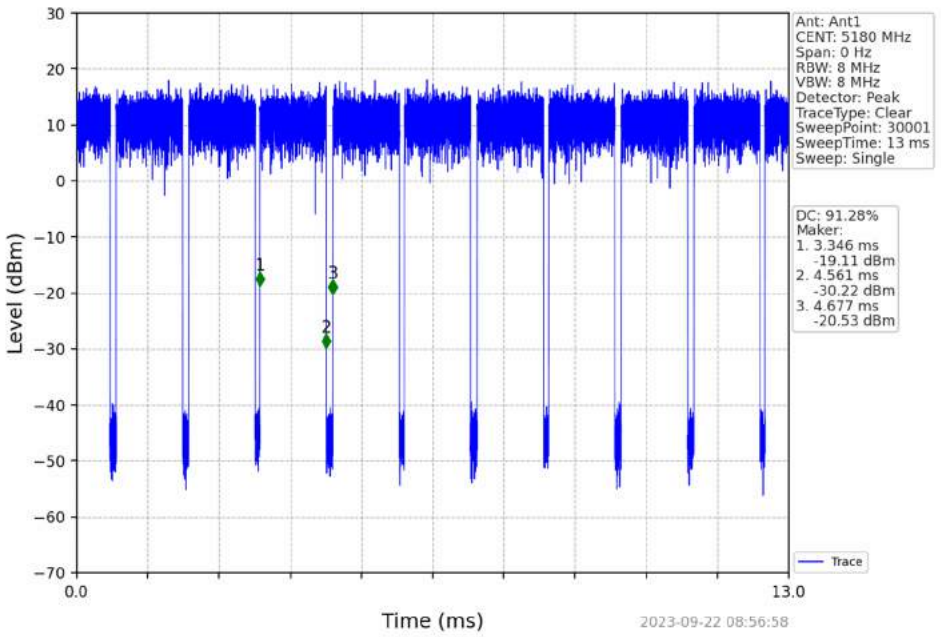
802.11n(HT40)_LCH_5755MHz_Ant2_NTNV



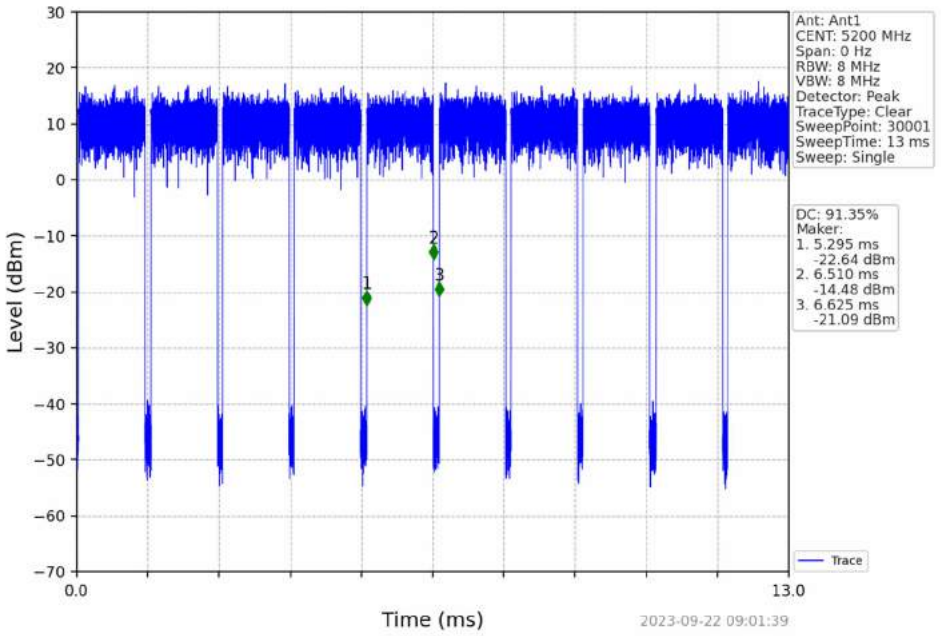
802.11n(HT40)_HCH_5795MHz_Ant2_NTNV



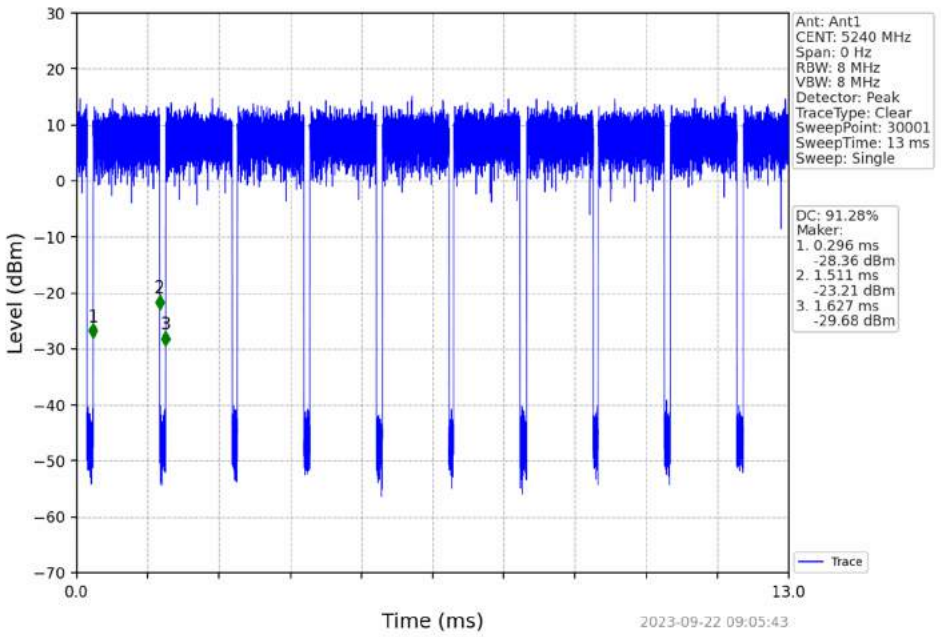
802.11ac(VHT20)_LCH_5180MHz_Ant2_NTNV



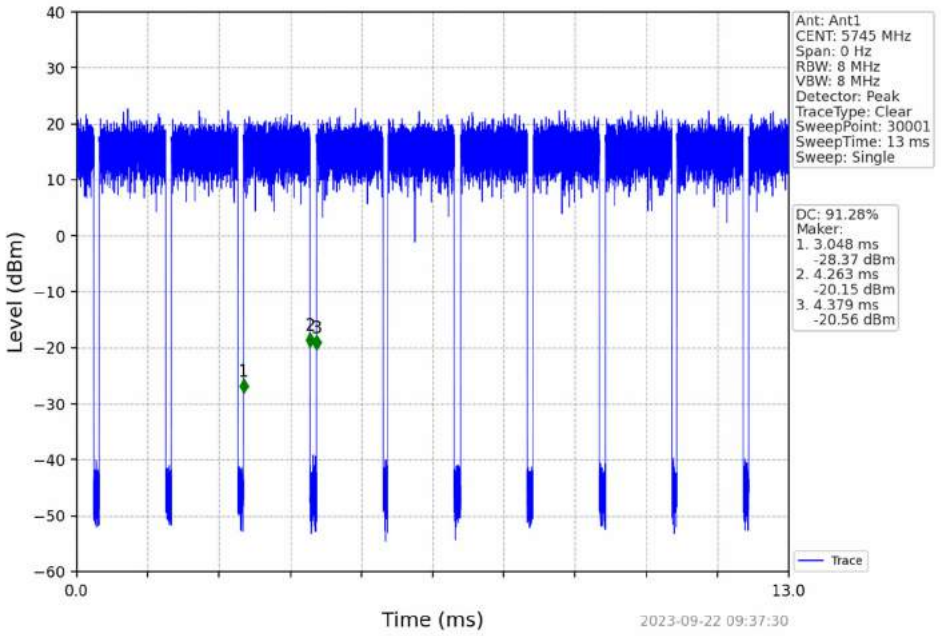
802.11ac(VHT20)_MCH_5200MHz_Ant2_NTNV



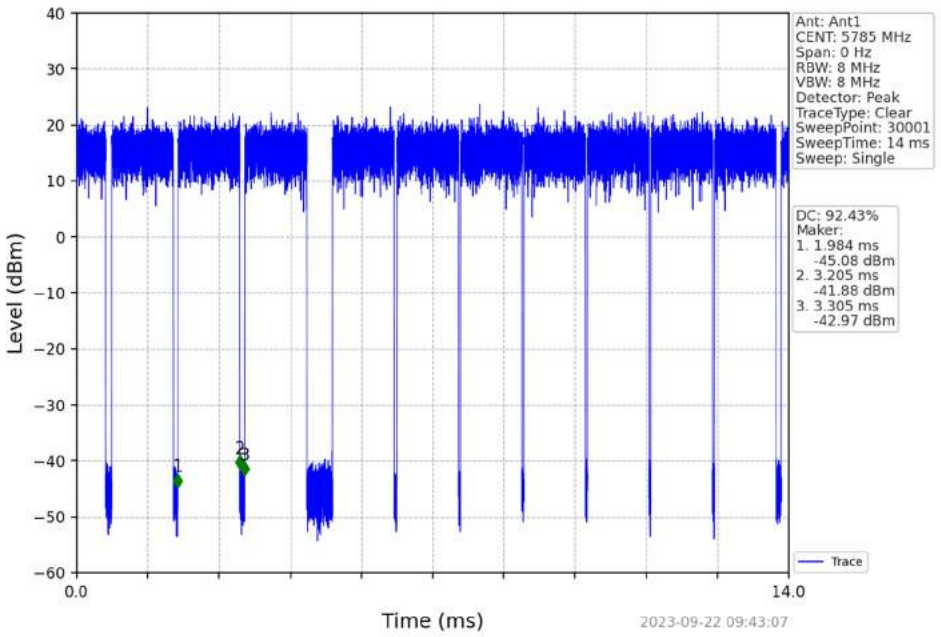
802.11ac(VHT20)_HCH_5240MHz_Ant2_NTNV



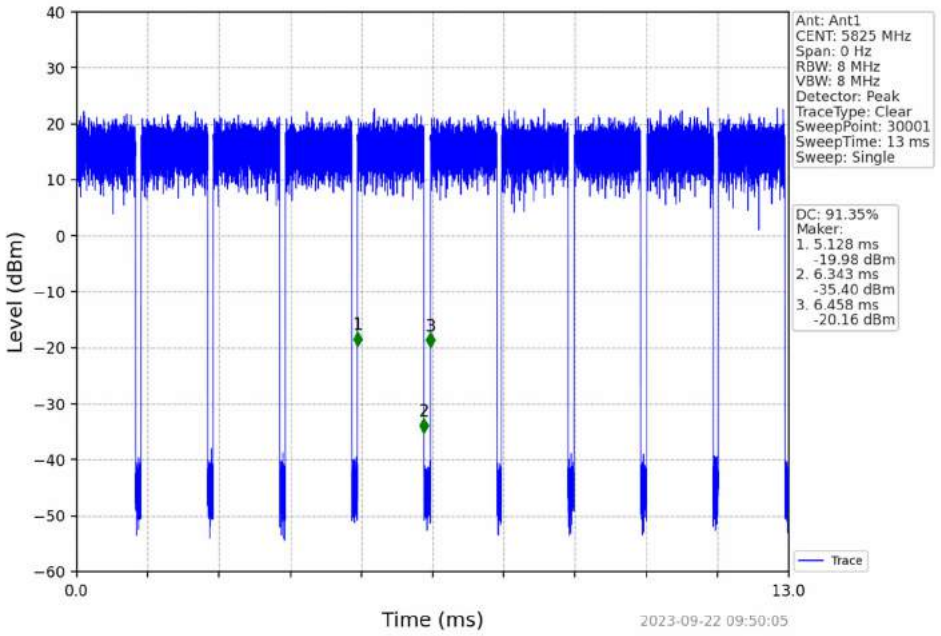
802.11ac(VHT20)_LCH_5745MHz_Ant2_NTNV



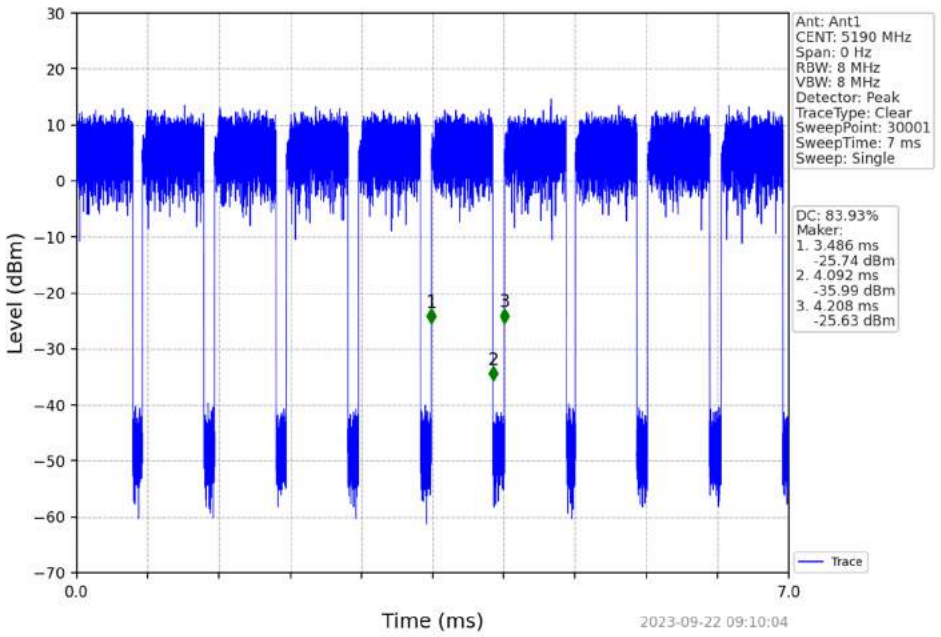
802.11ac(VHT20)_MCH_5785MHz_Ant2_NTNV



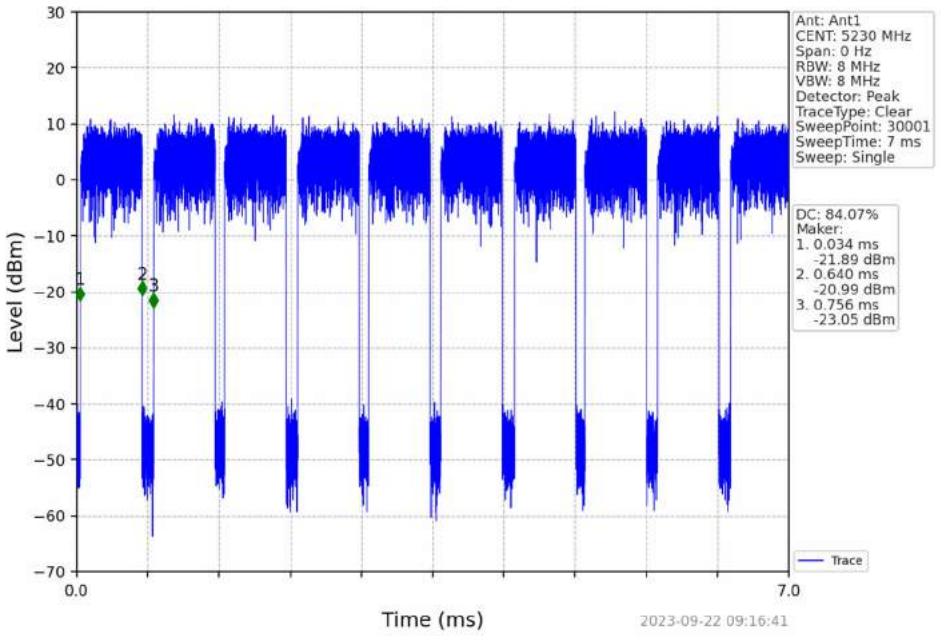
802.11ac(VHT20)_HCH_5825MHz_Ant2_NTNV



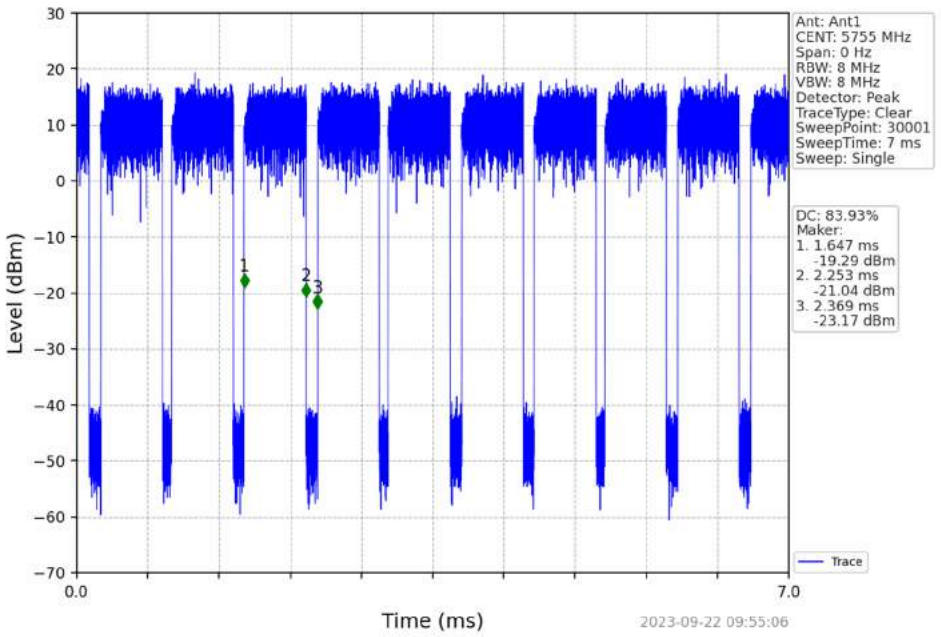
802.11ac(VHT40)_LCH_5190MHz_Ant2_NTNV



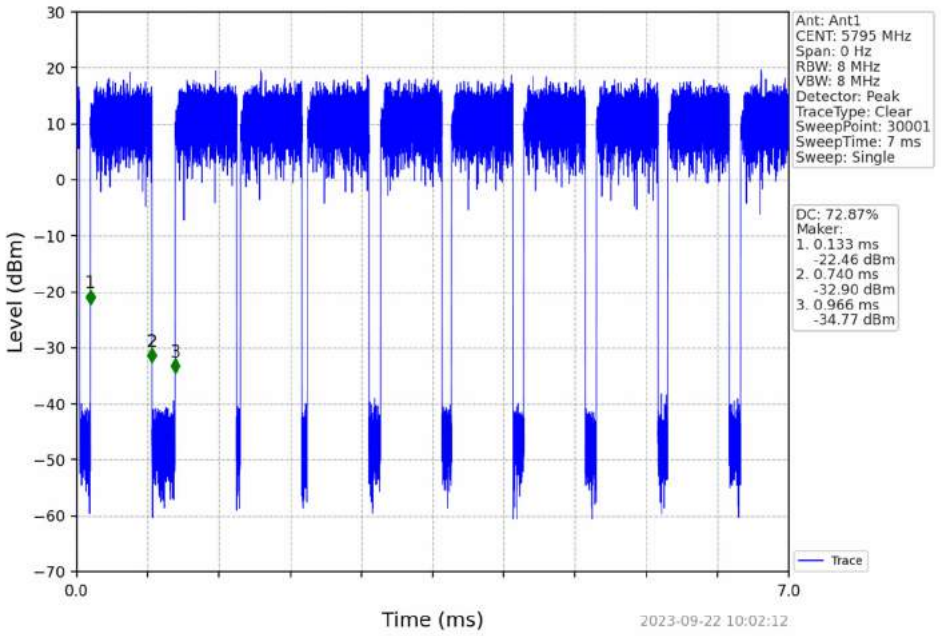
802.11ac(VHT40)_HCH_5230MHz_Ant2_NTNV



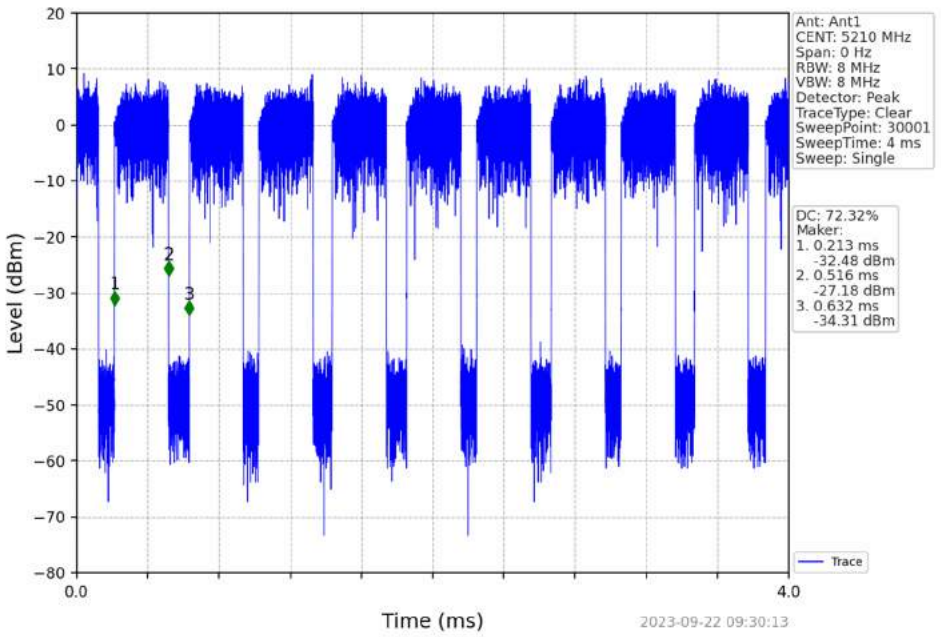
802.11ac(VHT40)_LCH_5755MHz_Ant2_NTNV



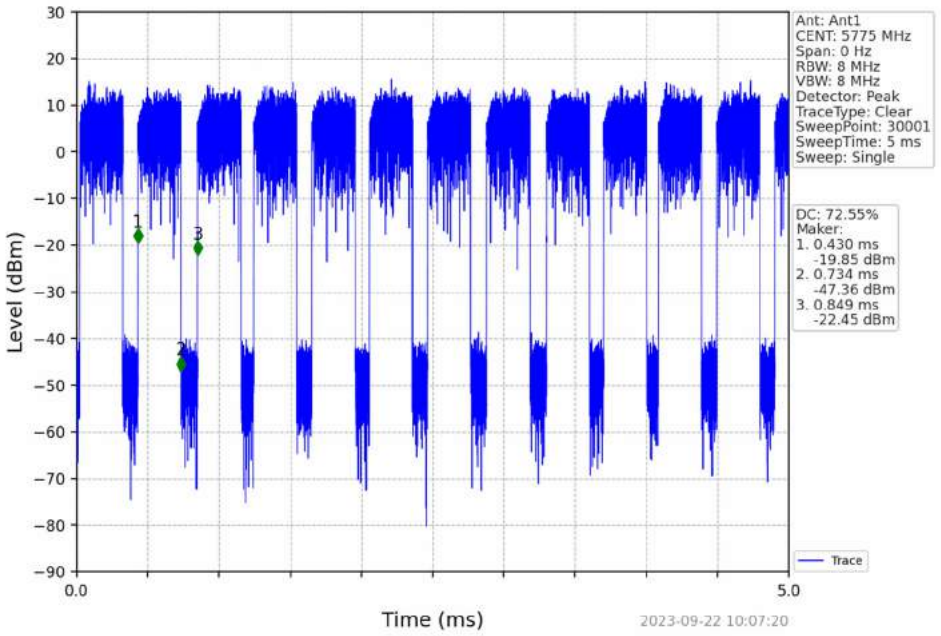
802.11ac(VHT40)_HCH_5795MHz_Ant2_NTNV



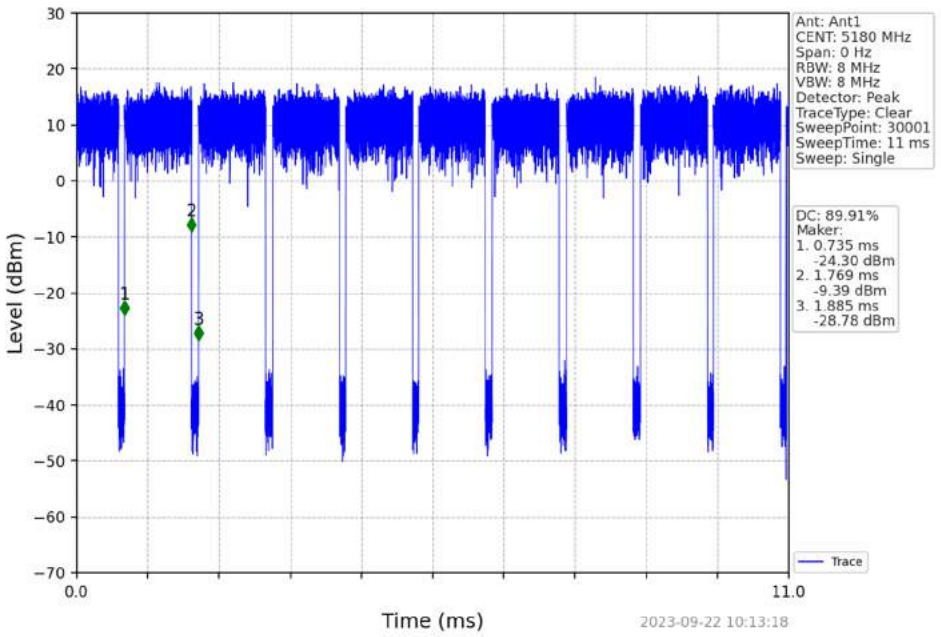
802.11ac(VHT80)_MCH_5210MHz_Ant2_NTNV



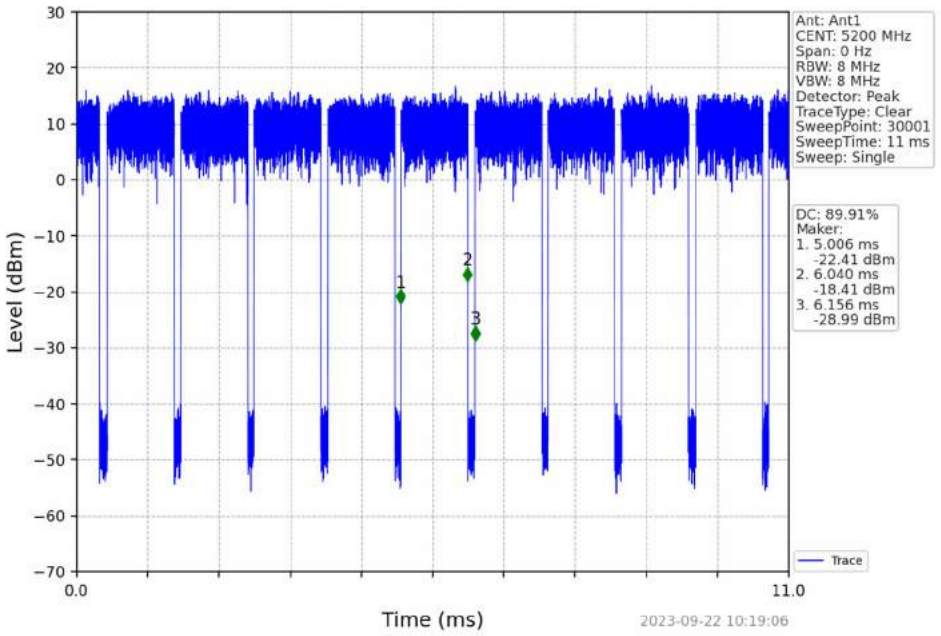
802.11ac(VHT80)_MCH_5775MHz_Ant2_NTNV



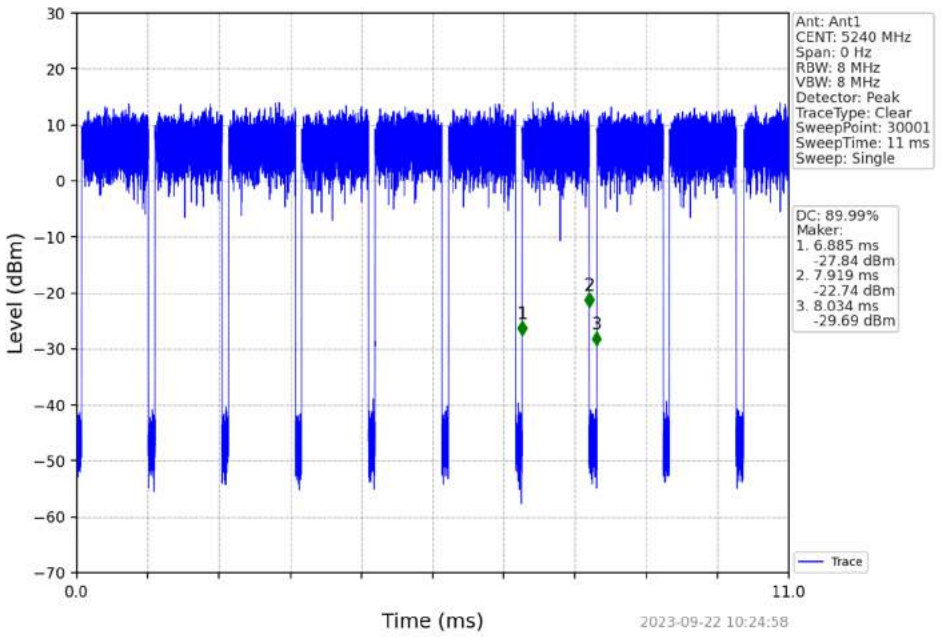
802.11ax(HEW20)_LCH_5180MHz_RU242_Left_Ant2_NTNV



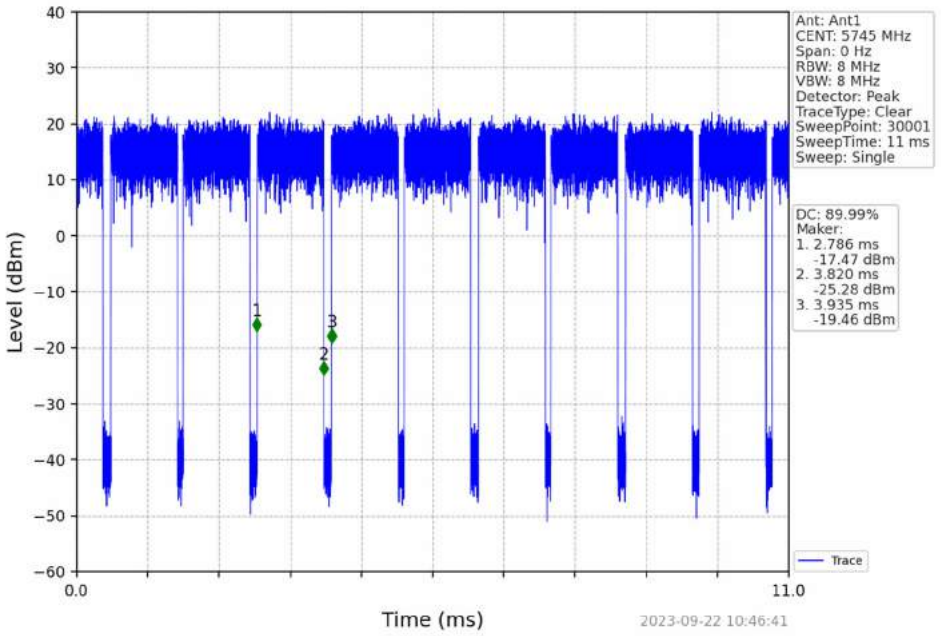
802.11ax(HEW20)_MCH_5200MHz_RU242_Left_Ant2_NTNV



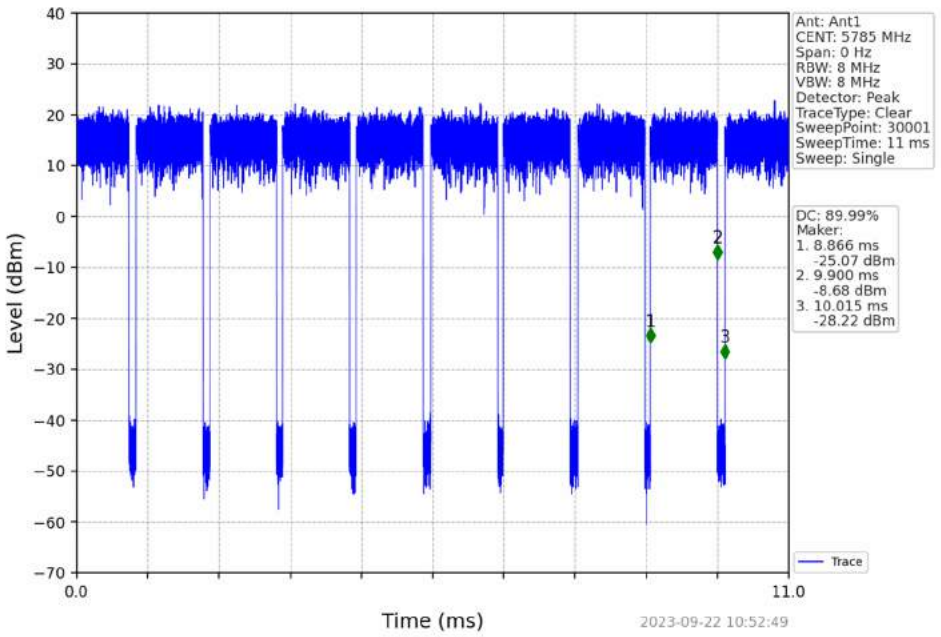
802.11ax(HEW20)_HCH_5240MHz_RU242_Left_Ant2_NTNV



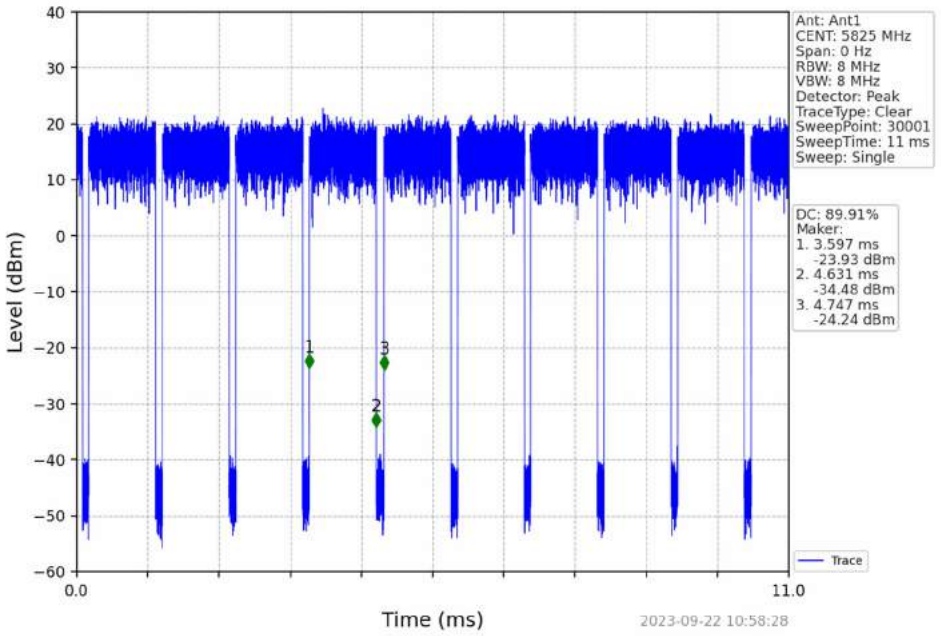
802.11ax(HEW20)_LCH_5745MHz_RU242_Left_Ant2_NTNV



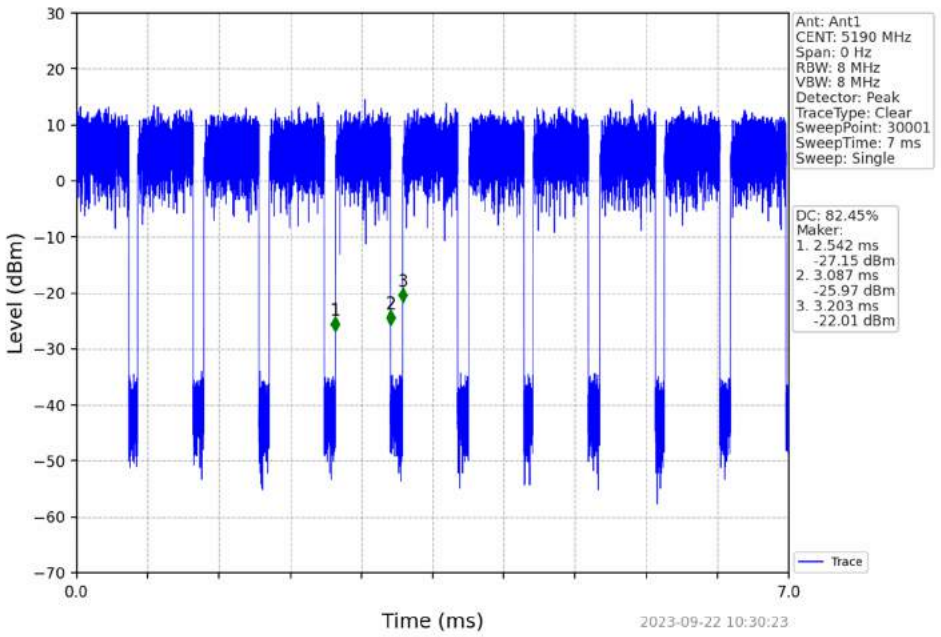
802.11ax(HEW20)_MCH_5785MHz_RU242_Left_Ant2_NTNV



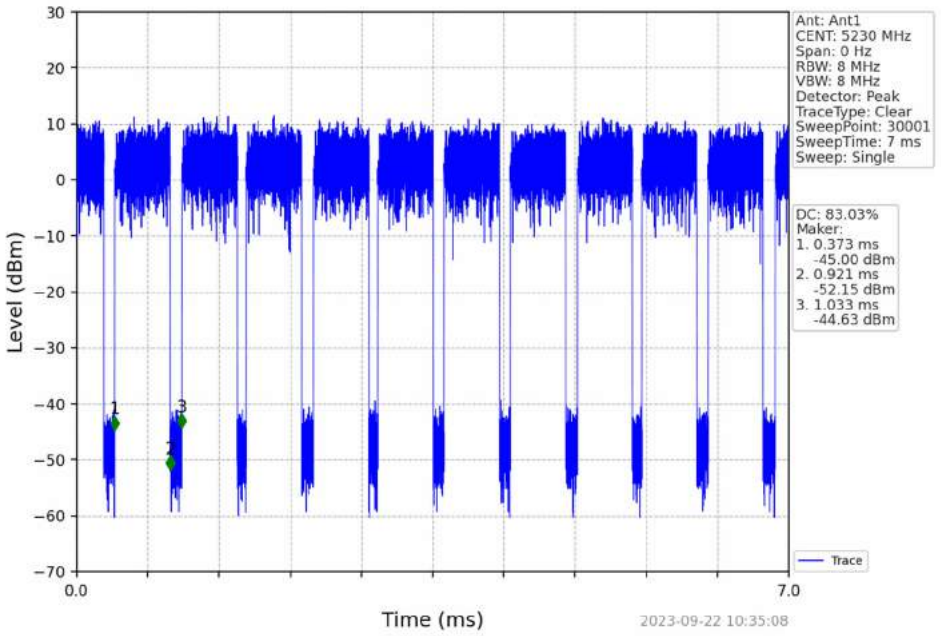
802.11ax(HEW20)_HCH_5825MHz_RU242_Left_Ant2_NTNV



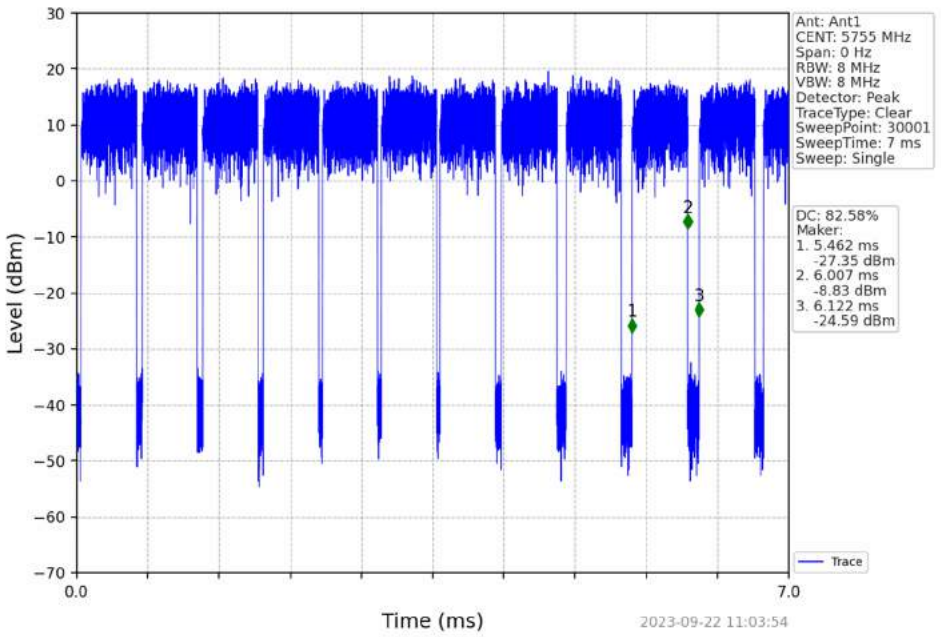
802.11ax(HEW40)_LCH_5190MHz_RU484_Left_Ant2_NTNV



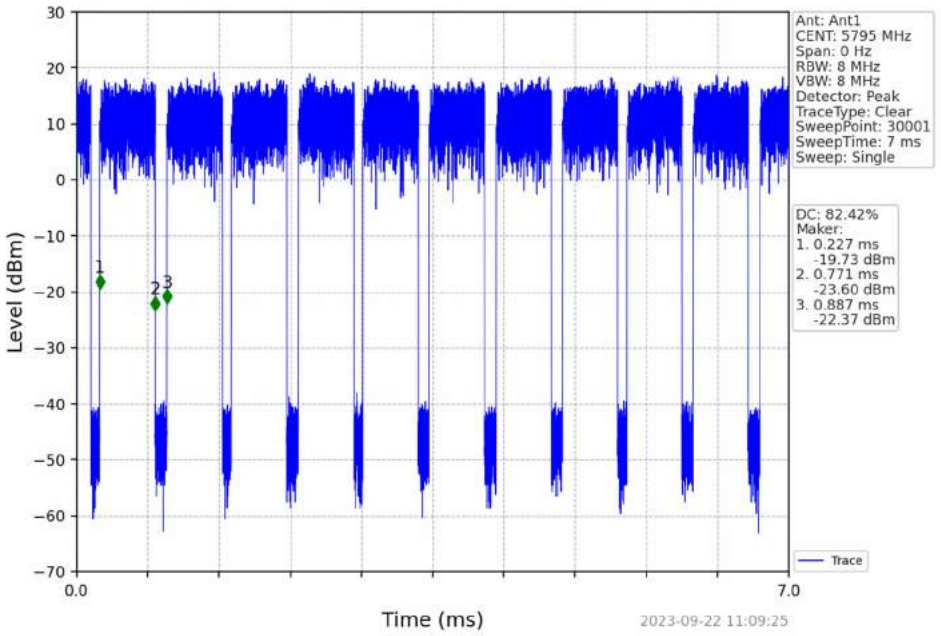
802.11ax(HEW40)_HCH_5230MHz_RU484_Left_Ant2_NTNV



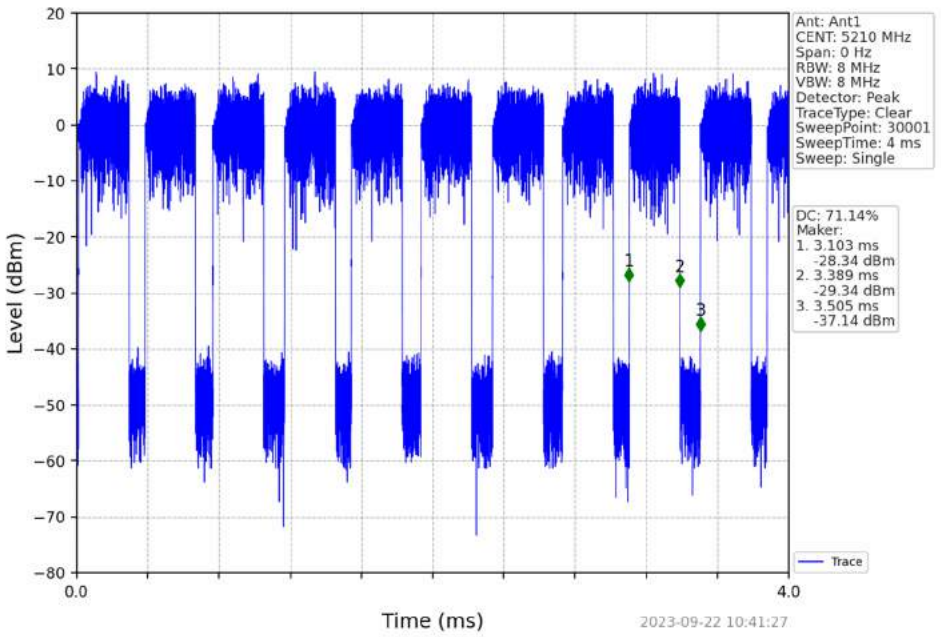
802.11ax(HEW40)_LCH_5755MHz_RU484_Left_Ant2_NTNV



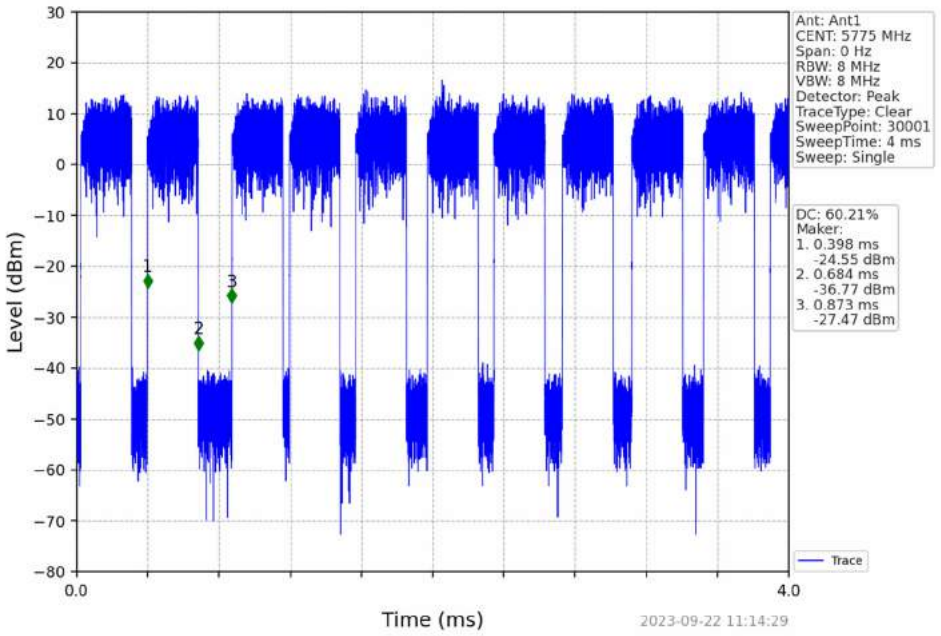
802.11ax(HEW40)_HCH_5795MHz_RU484_Left_Ant2_NTNV



802.11ax(HEW80)_MCH_5210MHz_RU996_Left_Ant2_NTNV



802.11ax(HEW80)_MCH_5775MHz_RU996_Left_Ant2_NTNV



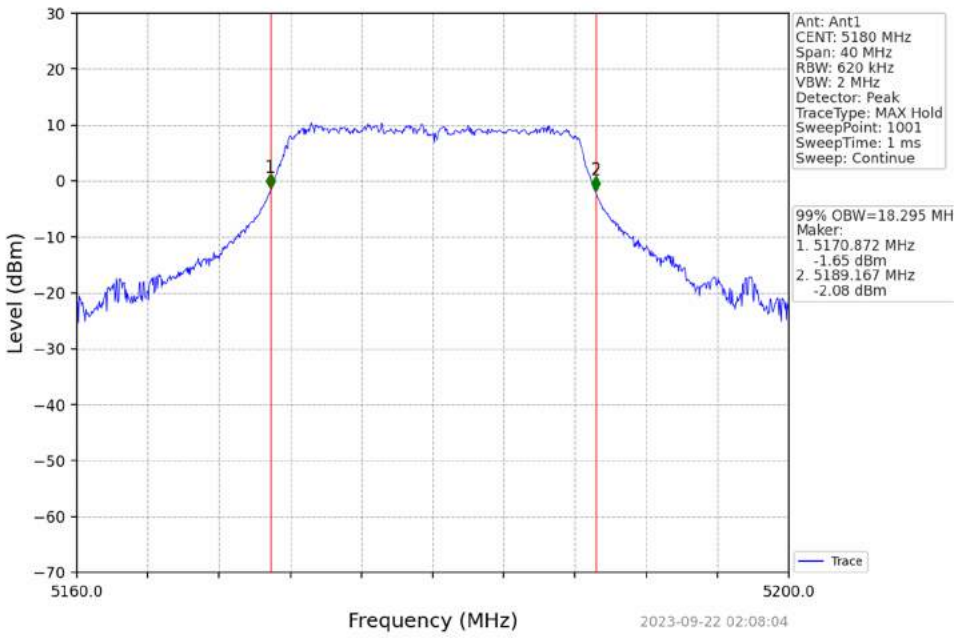
2. Bandwidth
2.1 OBW
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz)	Verdict
						Result	
802.11a	SISO	5180	/	/	1	18.295	Pass
		5200	/	/	1	18.329	Pass
		5240	/	/	1	18.323	Pass
		5745	/	/	1	18.252	Pass
		5785	/	/	1	18.262	Pass
		5825	/	/	1	18.198	Pass
802.11n (HT20)	SISO	5180	/	/	1	19.326	Pass
		5200	/	/	1	19.419	Pass
		5240	/	/	1	19.504	Pass
		5745	/	/	1	19.384	Pass
		5785	/	/	1	19.285	Pass
		5825	/	/	1	19.230	Pass
802.11n (HT40)	SISO	5190	/	/	1	38.302	Pass
		5230	/	/	1	38.125	Pass
		5755	/	/	1	38.216	Pass
		5795	/	/	1	37.962	Pass
802.11ac (VHT20)	SISO	5180	/	/	1	19.235	Pass
		5200	/	/	1	19.430	Pass
		5240	/	/	1	19.507	Pass
		5745	/	/	1	19.292	Pass
		5785	/	/	1	19.346	Pass
		5825	/	/	1	19.333	Pass
802.11ac (VHT40)	SISO	5190	/	/	1	38.349	Pass
		5230	/	/	1	38.192	Pass
		5755	/	/	1	38.146	Pass
		5795	/	/	1	38.050	Pass
802.11ac (VHT80)	SISO	5210	/	/	1	77.727	Pass
		5775	/	/	1	77.547	Pass
802.11ax (HEW20)	SISO	5180	RU242	Left	1	19.802	Pass
		5200	RU242	Left	1	19.904	Pass
		5240	RU242	Left	1	19.883	Pass
		5745	RU242	Left	1	20.035	Pass
		5785	RU242	Left	1	20.055	Pass
		5825	RU242	Left	1	20.016	Pass
802.11ax (HEW40)	SISO	5190	RU484	Left	1	39.159	Pass
		5230	RU484	Left	1	39.168	Pass
		5755	RU484	Left	1	39.001	Pass
		5795	RU484	Left	1	38.884	Pass
802.11ax (HEW80)	SISO	5210	RU996	Left	1	79.026	Pass
		5775	RU996	Left	1	78.807	Pass

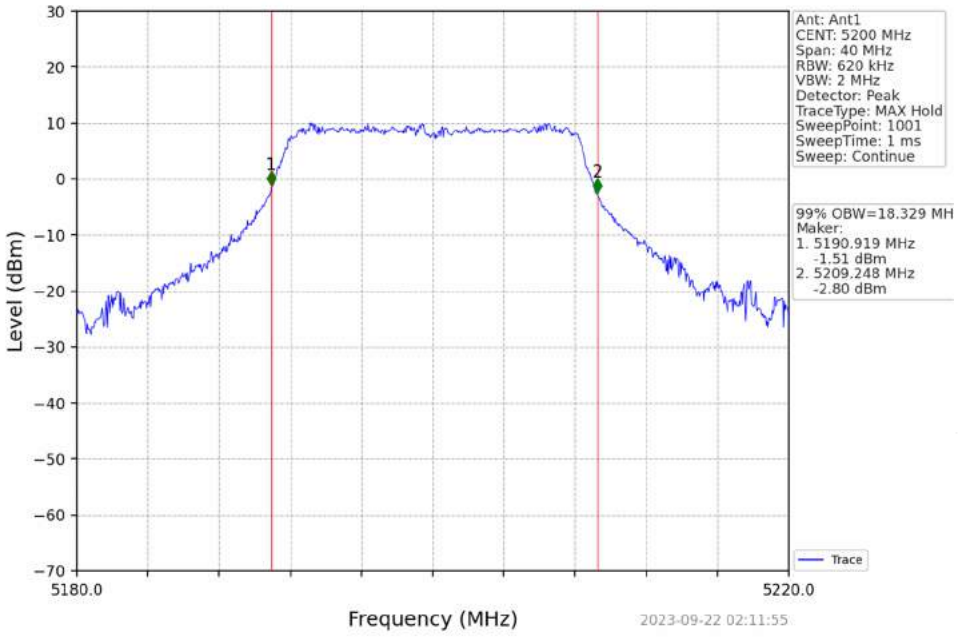
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz) Result	Verdict
802.11a	SISO	5180	/	/	2	18.310	Pass
		5200	/	/	2	18.357	Pass
		5240	/	/	2	18.204	Pass
		5745	/	/	2	18.263	Pass
		5785	/	/	2	18.324	Pass
		5825	/	/	2	18.283	Pass
802.11n (HT20)	SISO	5180	/	/	2	19.455	Pass
		5200	/	/	2	19.640	Pass
		5240	/	/	2	19.262	Pass
		5745	/	/	2	19.359	Pass
		5785	/	/	2	19.452	Pass
		5825	/	/	2	19.446	Pass
802.11n (HT40)	SISO	5190	/	/	2	38.467	Pass
		5230	/	/	2	38.240	Pass
		5755	/	/	2	38.255	Pass
		5795	/	/	2	38.126	Pass
802.11ac (VHT20)	SISO	5180	/	/	2	19.620	Pass
		5200	/	/	2	19.670	Pass
		5240	/	/	2	19.340	Pass
		5745	/	/	2	19.470	Pass
		5785	/	/	2	19.560	Pass
		5825	/	/	2	19.318	Pass
802.11ac (VHT40)	SISO	5190	/	/	2	38.423	Pass
		5230	/	/	2	38.270	Pass
		5755	/	/	2	38.296	Pass
		5795	/	/	2	38.136	Pass
802.11ac (VHT80)	SISO	5210	/	/	2	77.786	Pass
		5775	/	/	2	77.468	Pass
802.11ax (HEW20)	SISO	5180	RU242	Left	2	19.918	Pass
		5200	RU242	Left	2	19.935	Pass
		5240	RU242	Left	2	19.833	Pass
		5745	RU242	Left	2	19.915	Pass
		5785	RU242	Left	2	19.994	Pass
		5825	RU242	Left	2	19.986	Pass
802.11ax (HEW40)	SISO	5190	RU484	Left	2	39.166	Pass
		5230	RU484	Left	2	38.990	Pass
		5755	RU484	Left	2	39.006	Pass
		5795	RU484	Left	2	39.008	Pass
802.11ax (HEW80)	SISO	5210	RU996	Left	2	79.031	Pass
		5775	RU996	Left	2	78.918	Pass

2.1.2 Test Graph

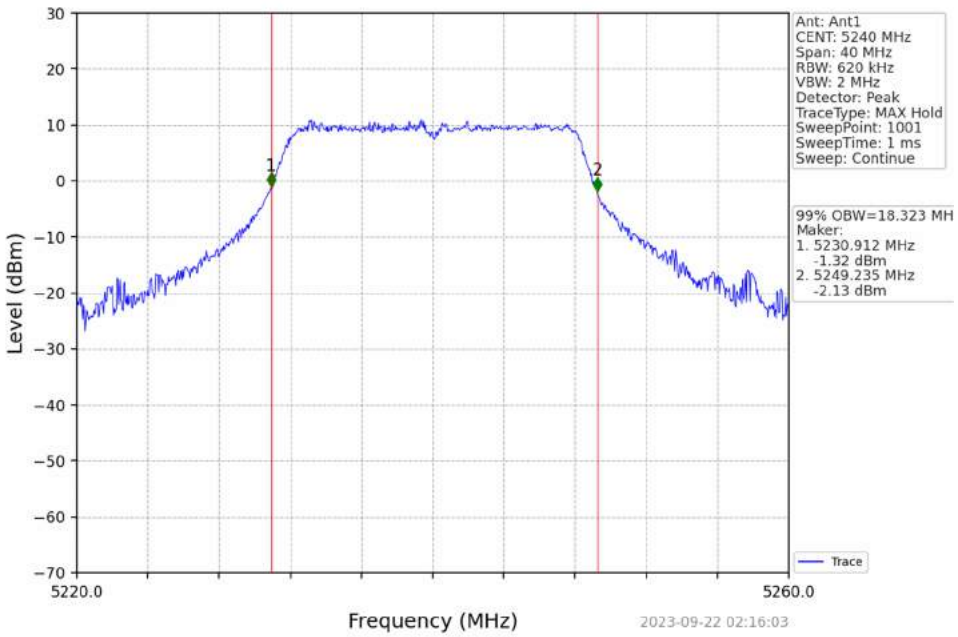
802.11a_LCH_5180MHz_Ant1_NTNV



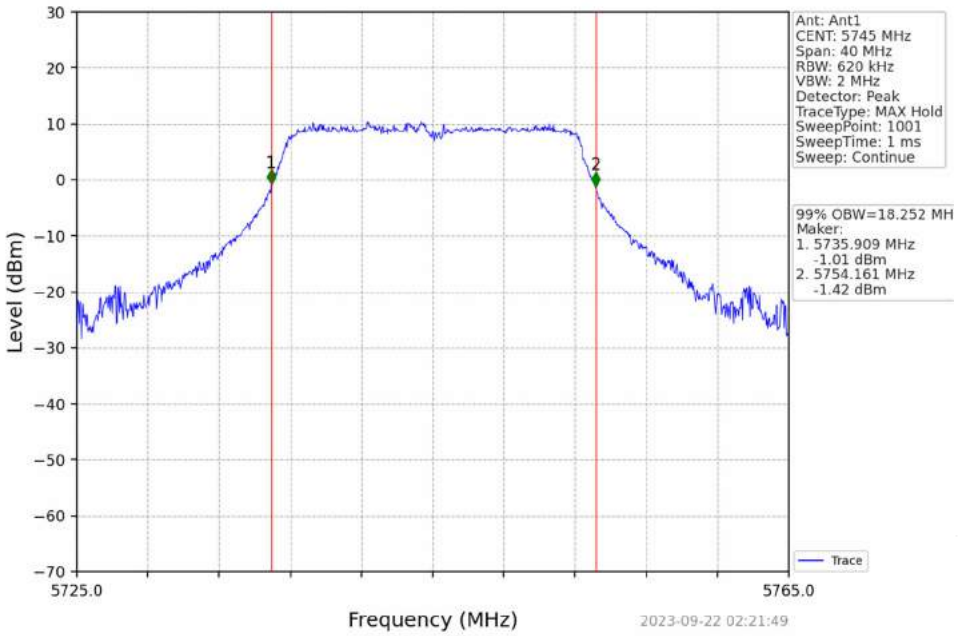
802.11a_MCH_5200MHz_Ant1_NTNV



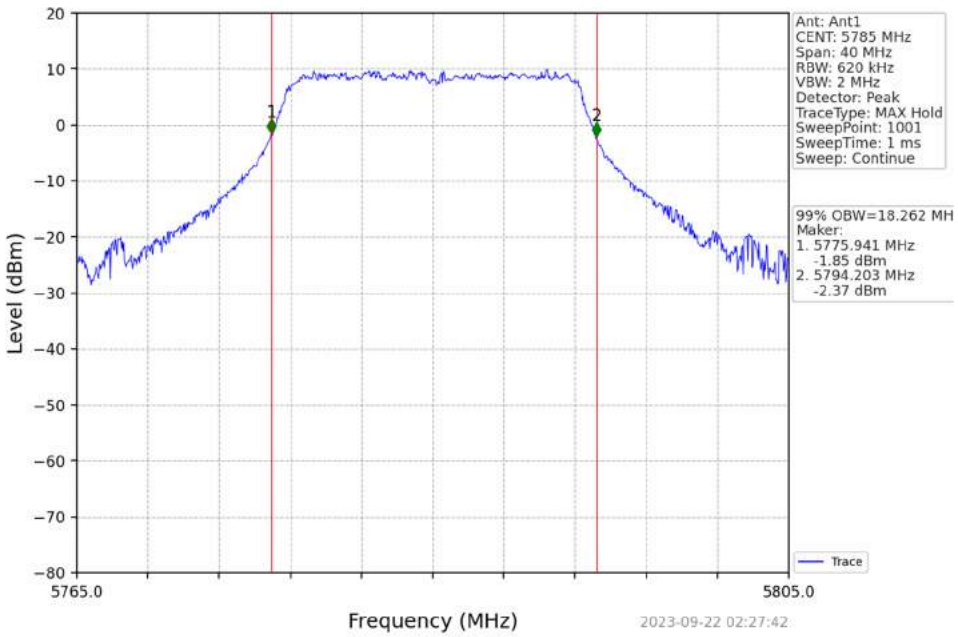
802.11a_HCH_5240MHz_Ant1_NTNV



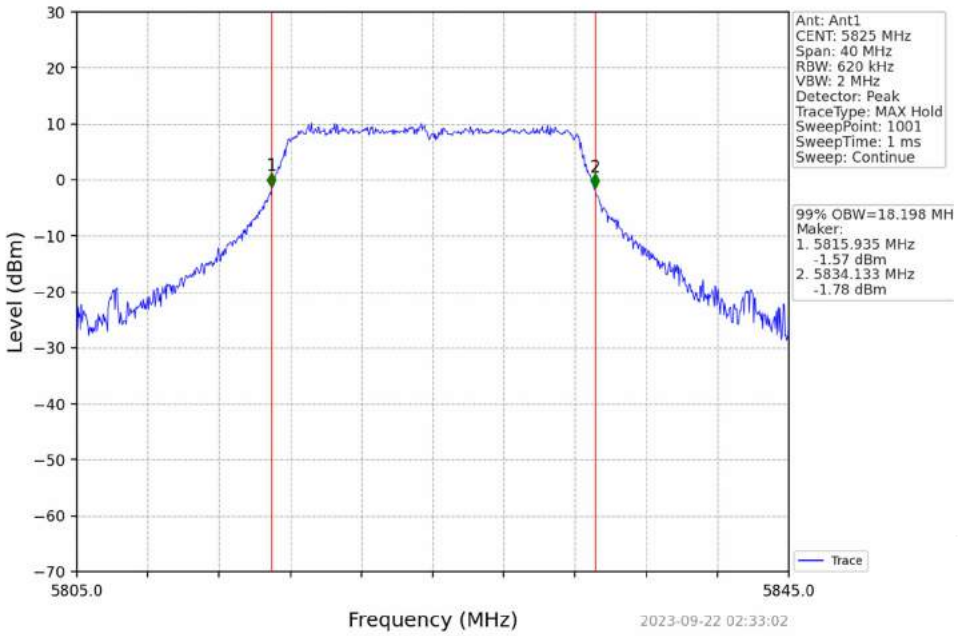
802.11a_LCH_5745MHz_Ant1_NTNV



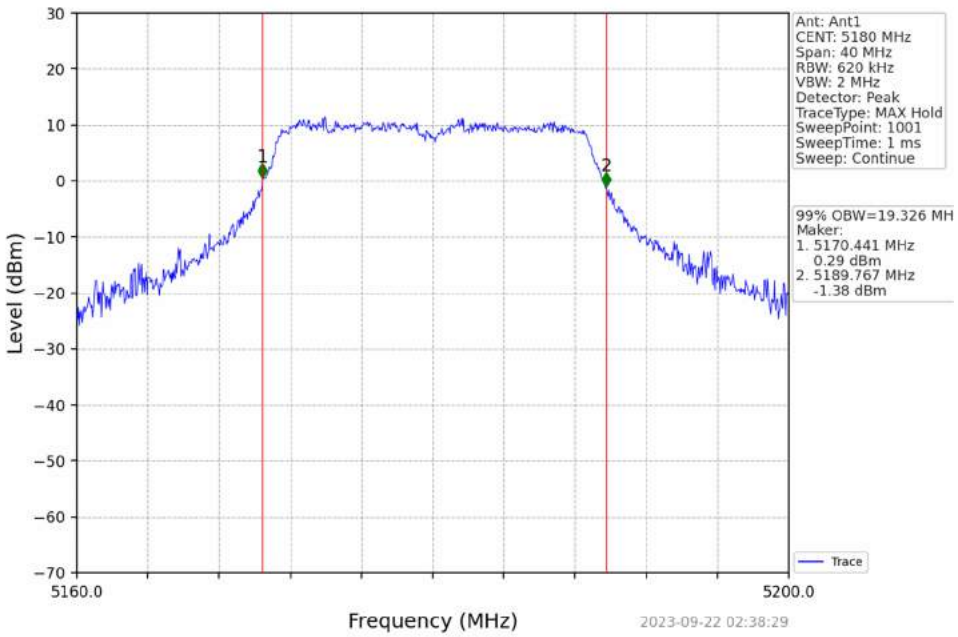
802.11a_MCH_5785MHz_Ant1_NTNV



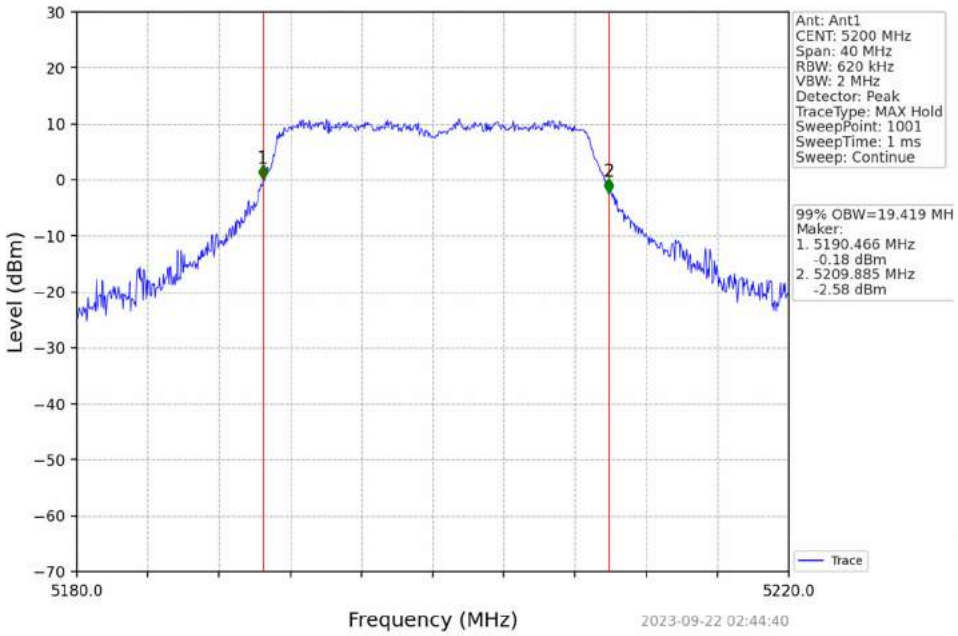
802.11a_HCH_5825MHz_Ant1_NTNV



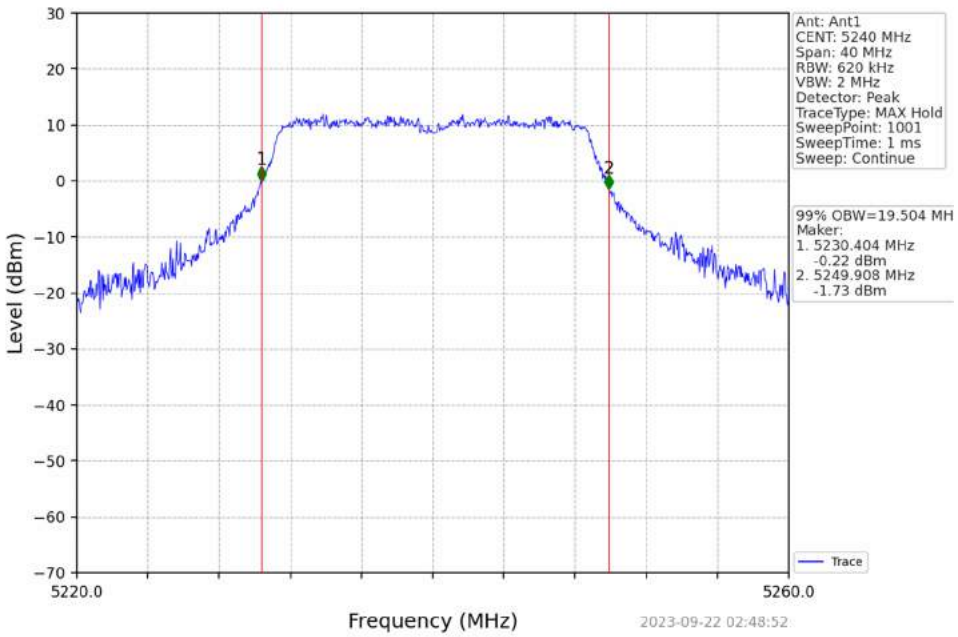
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



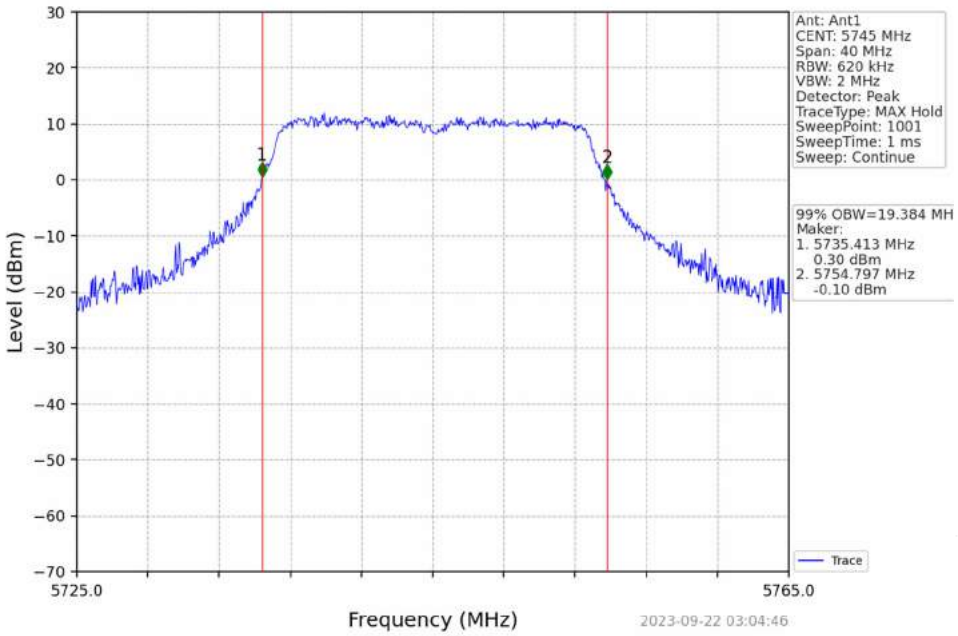
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



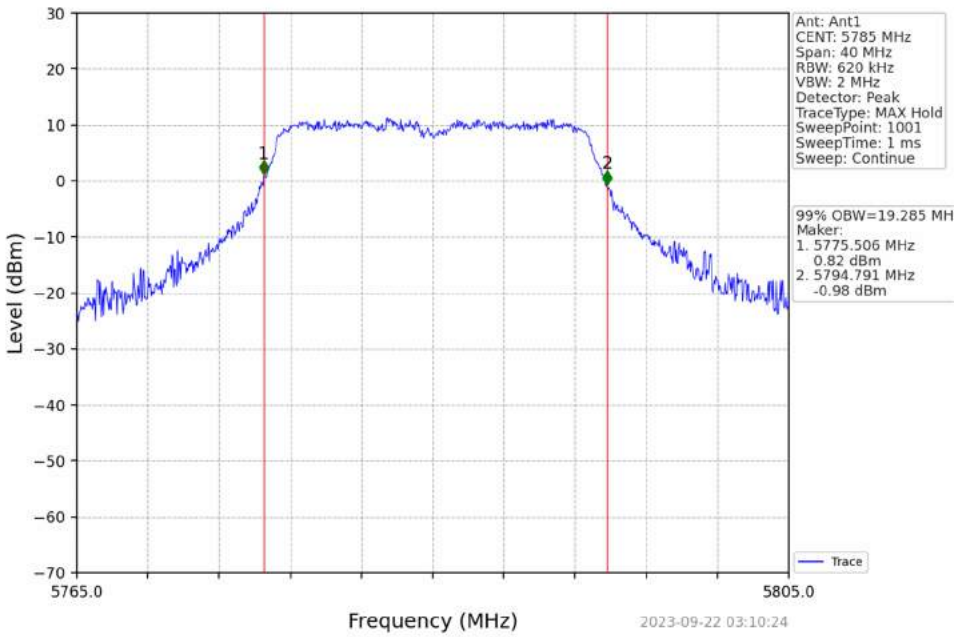
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



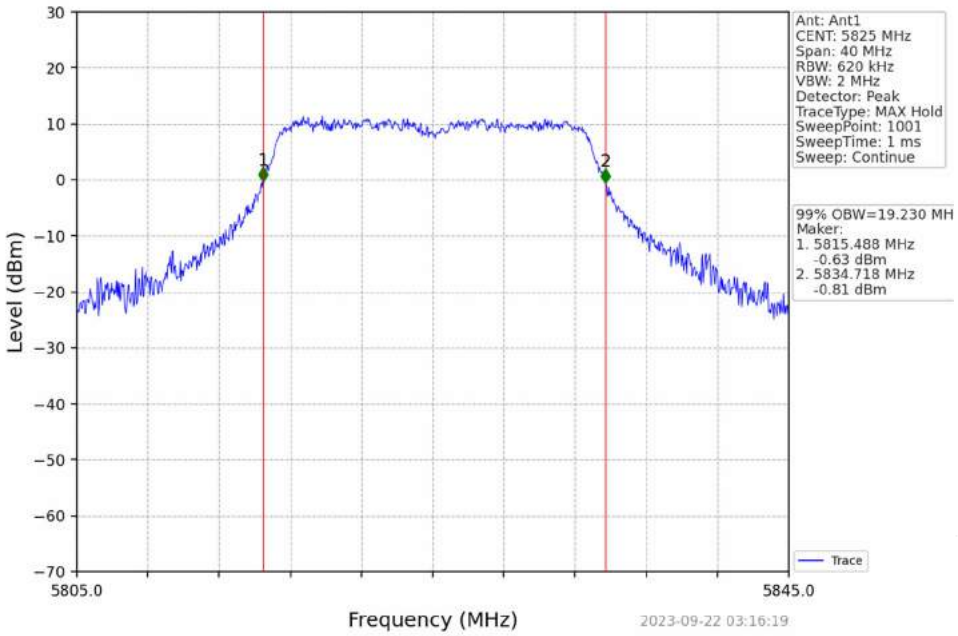
802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



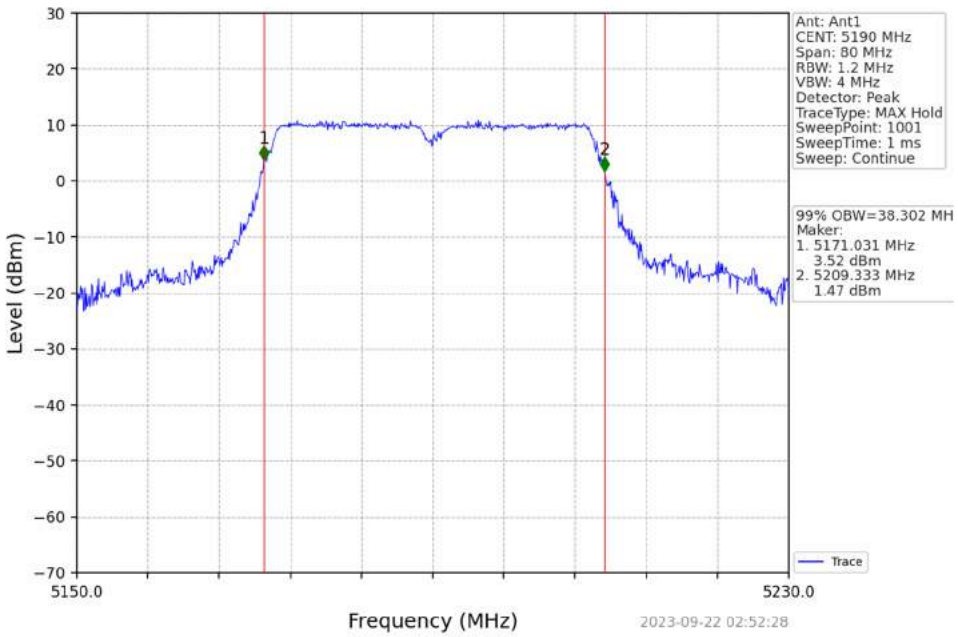
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



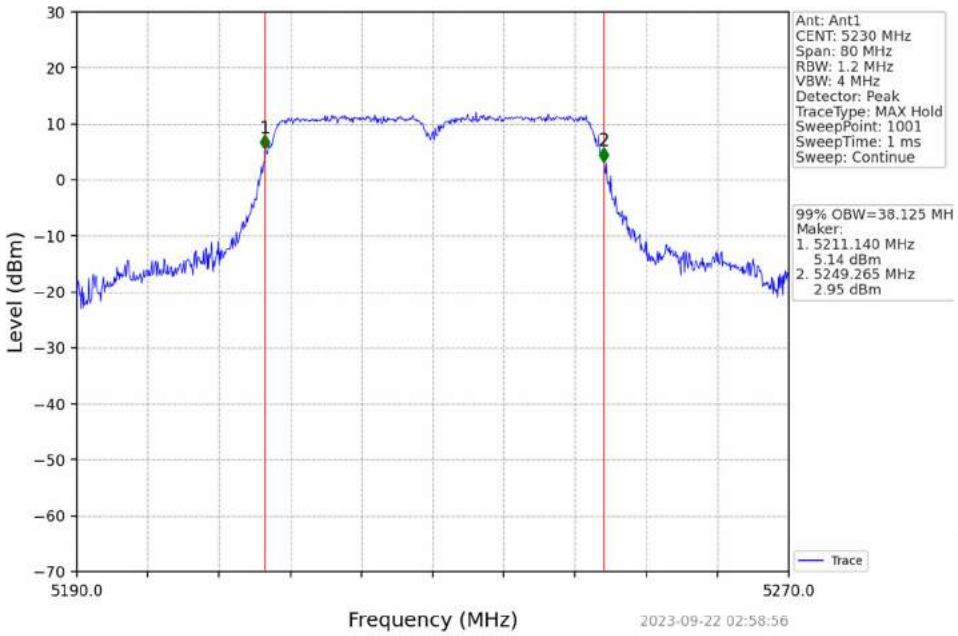
802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



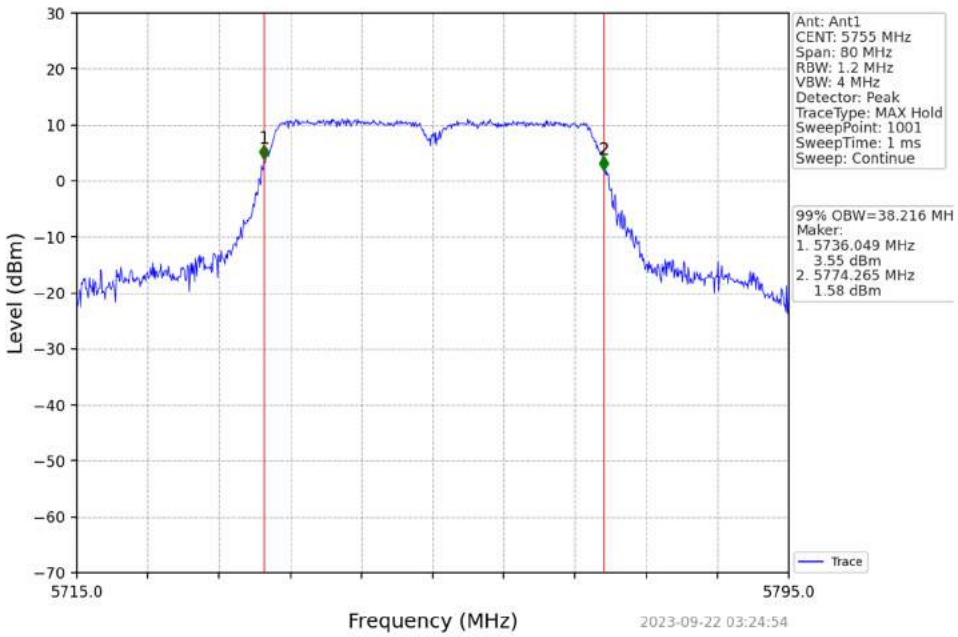
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



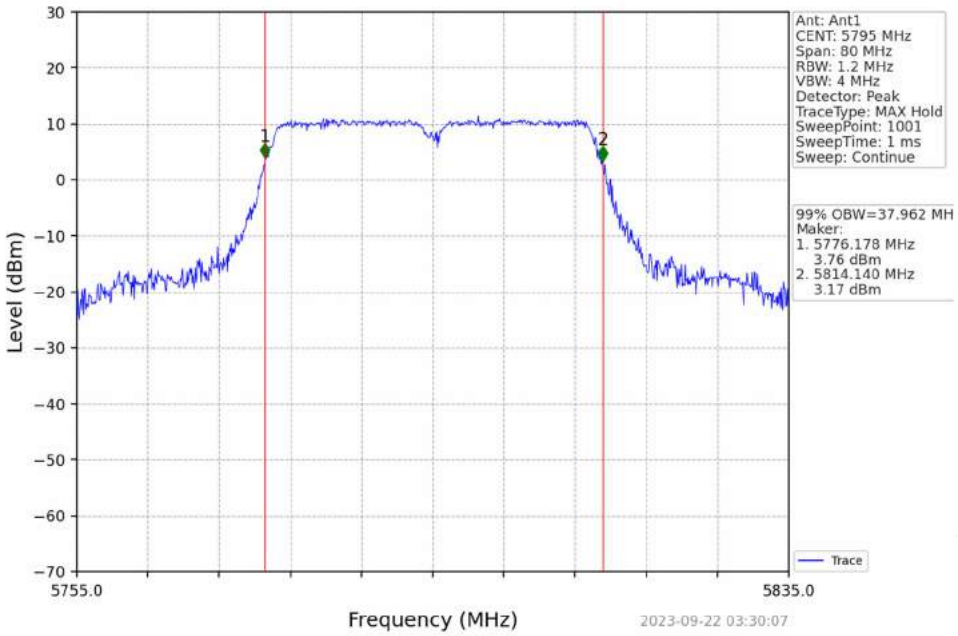
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



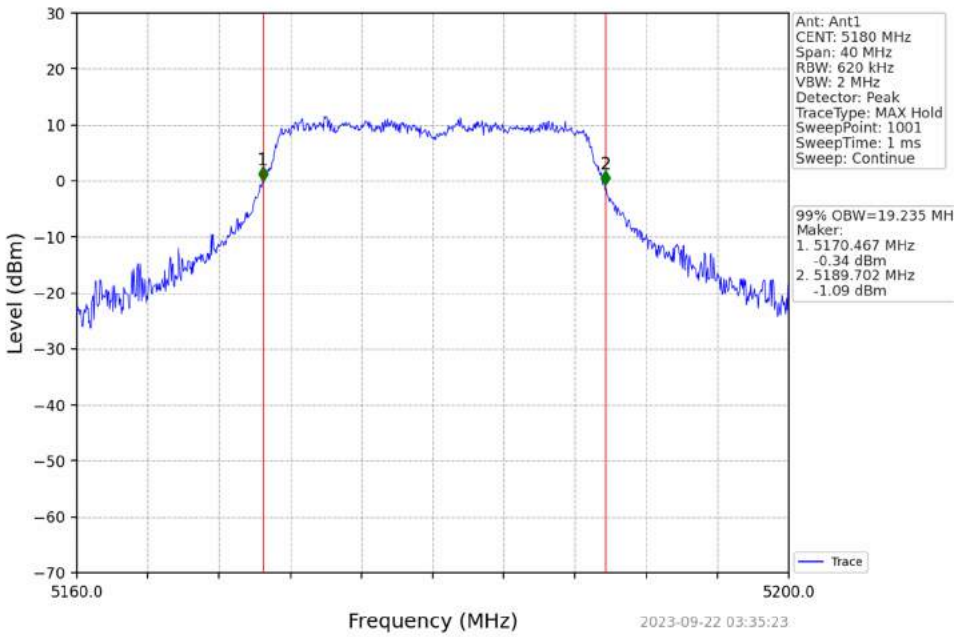
802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



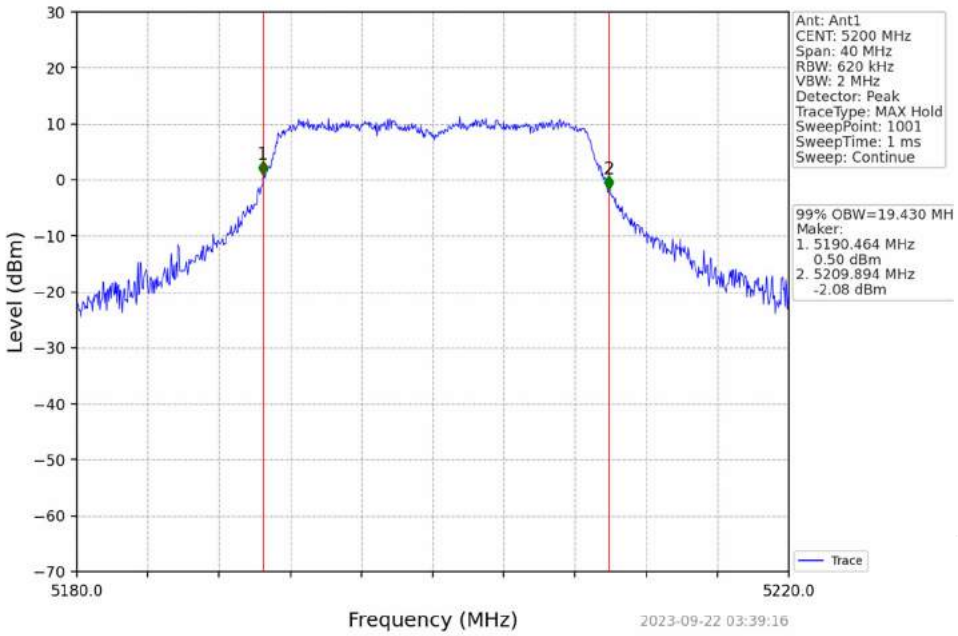
802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



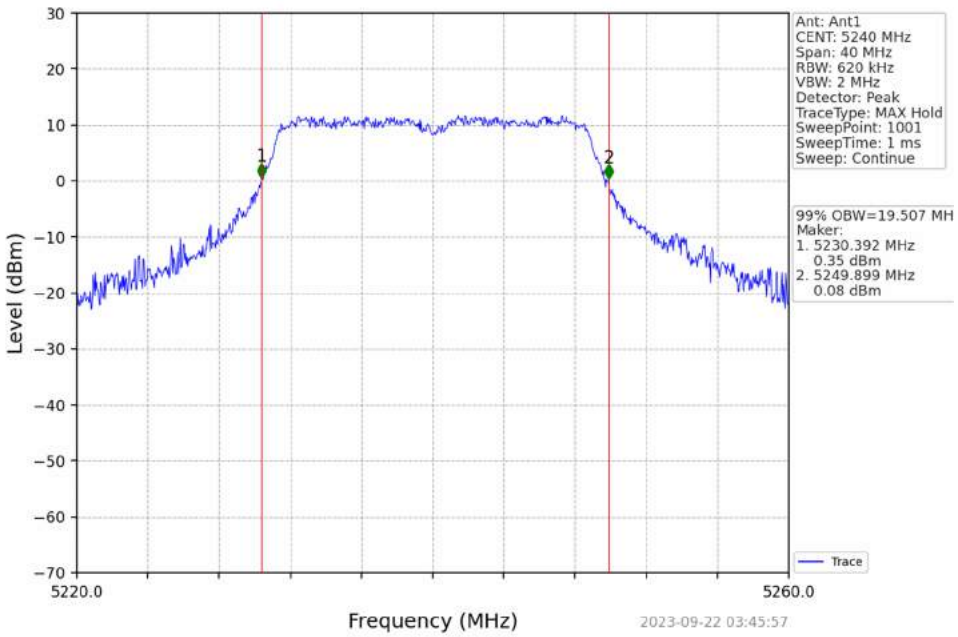
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



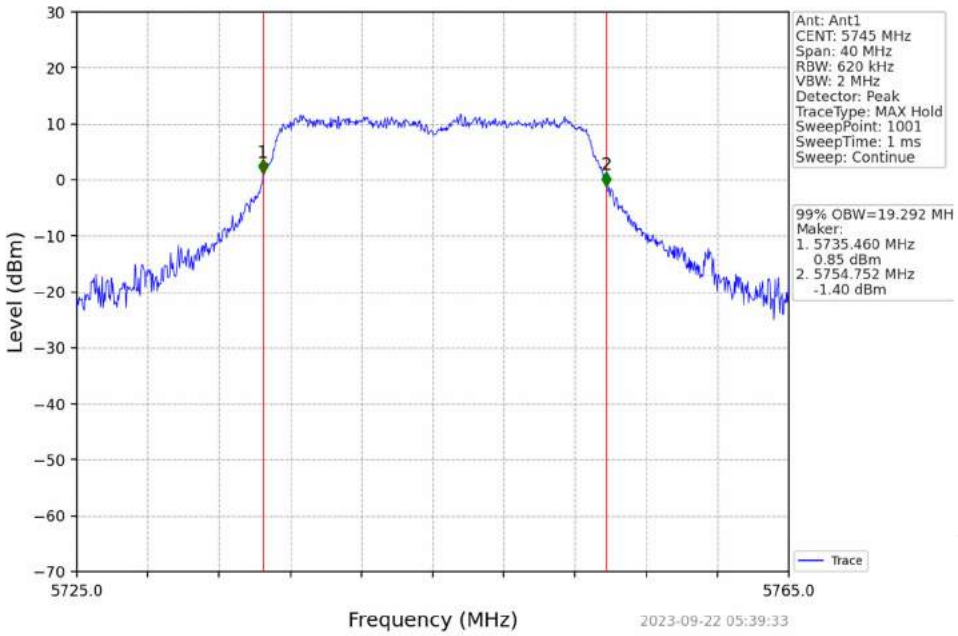
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



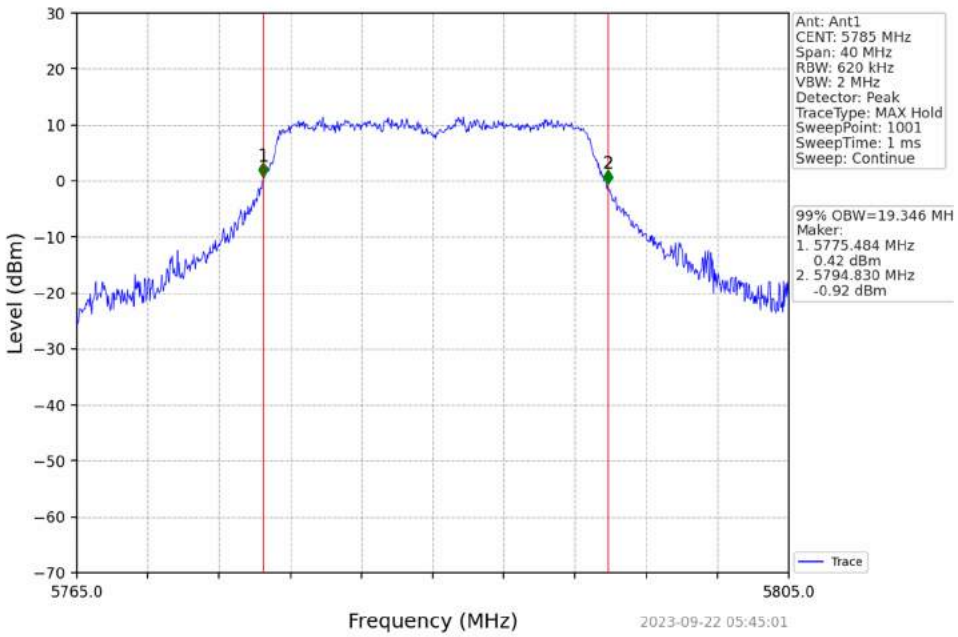
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



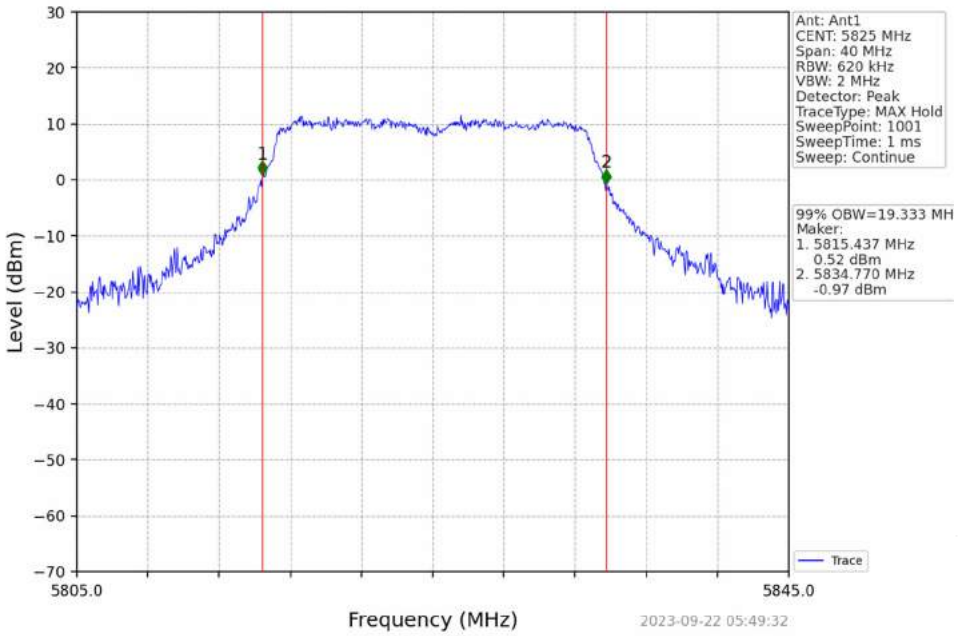
802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



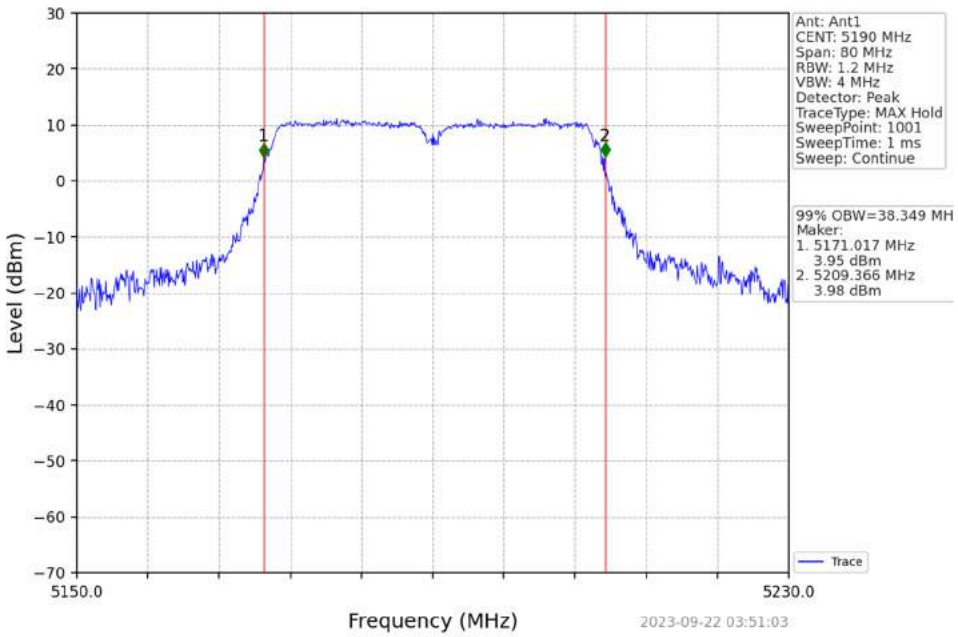
802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV



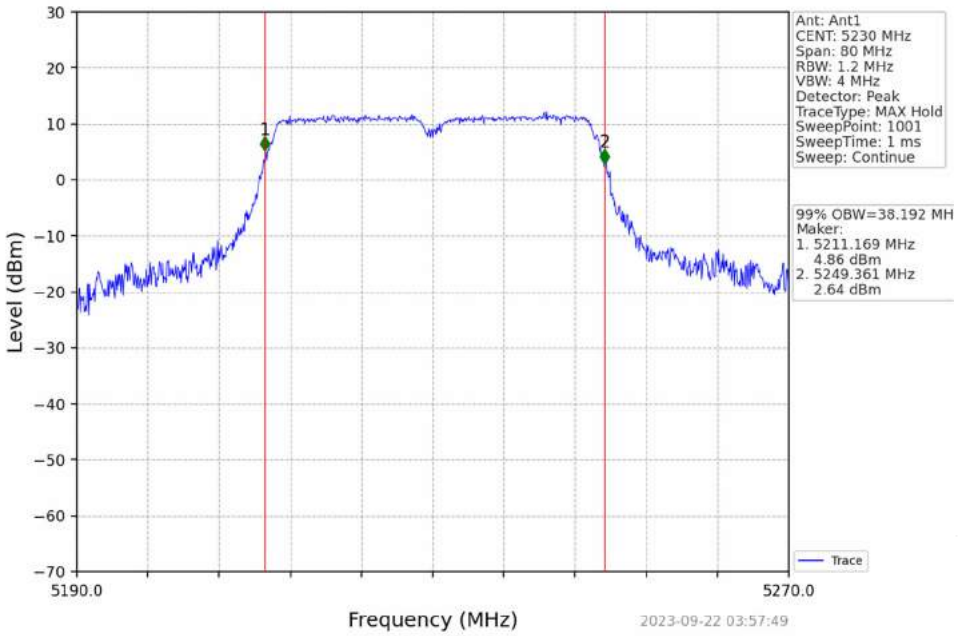
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



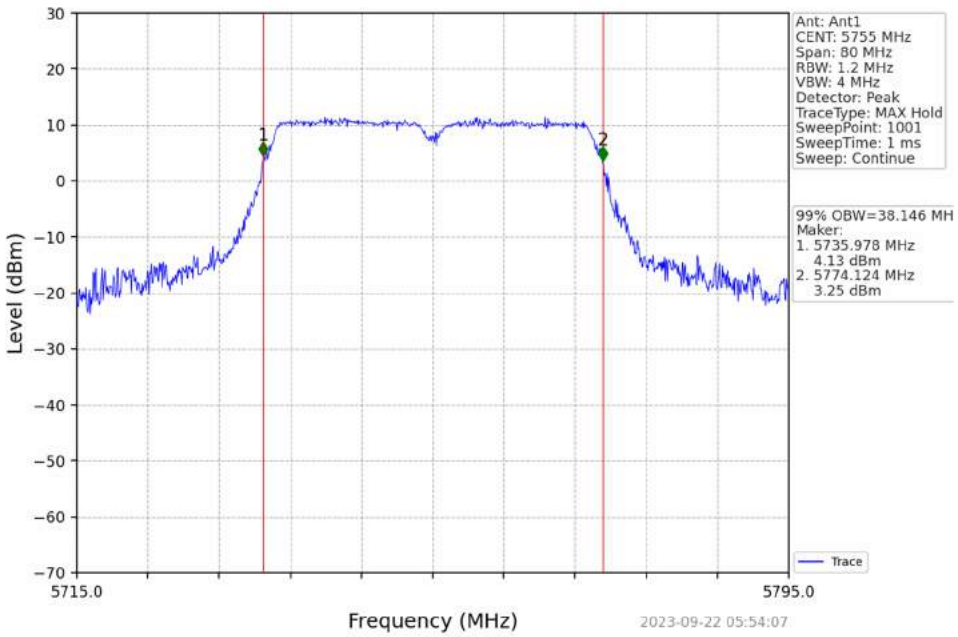
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



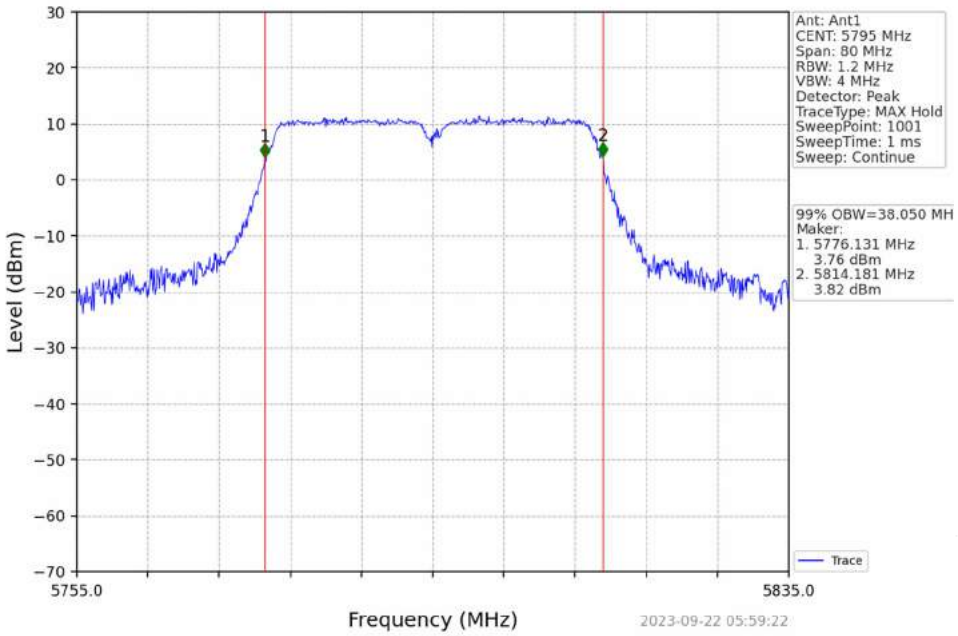
802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



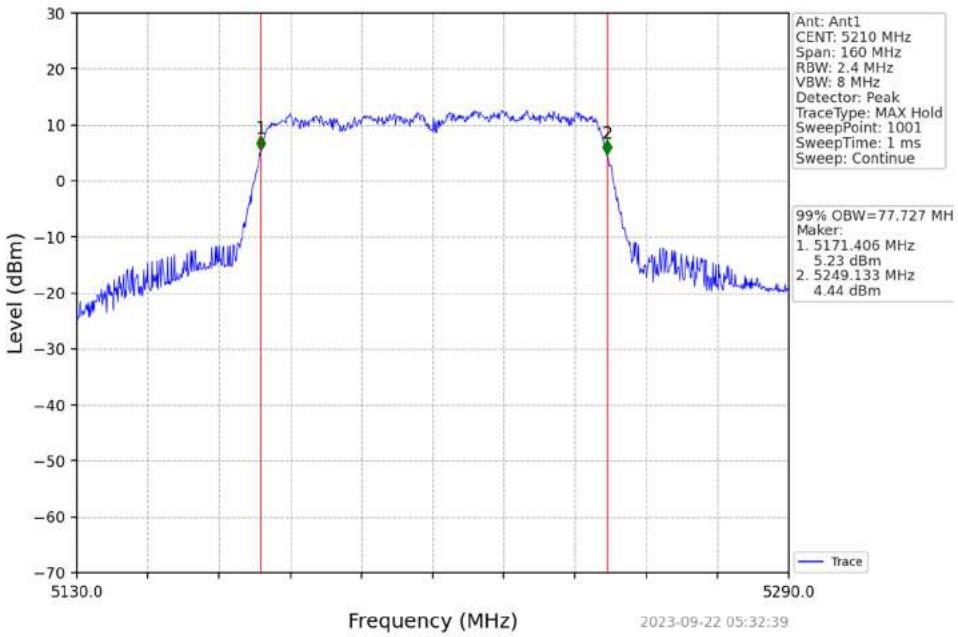
802.11ac(VHT40)_LCH_5755MHz_Ant1_NTNV



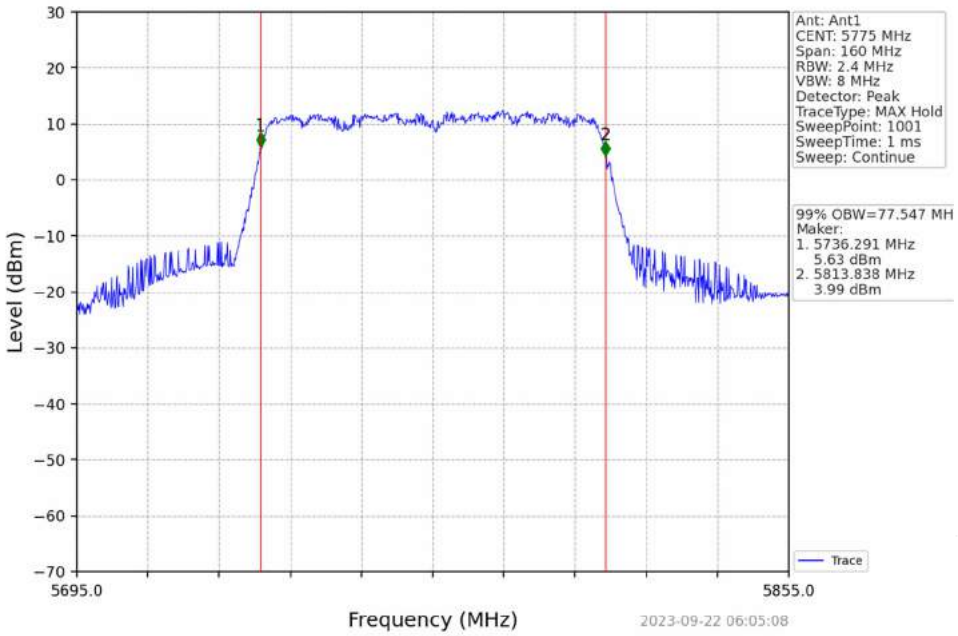
802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV



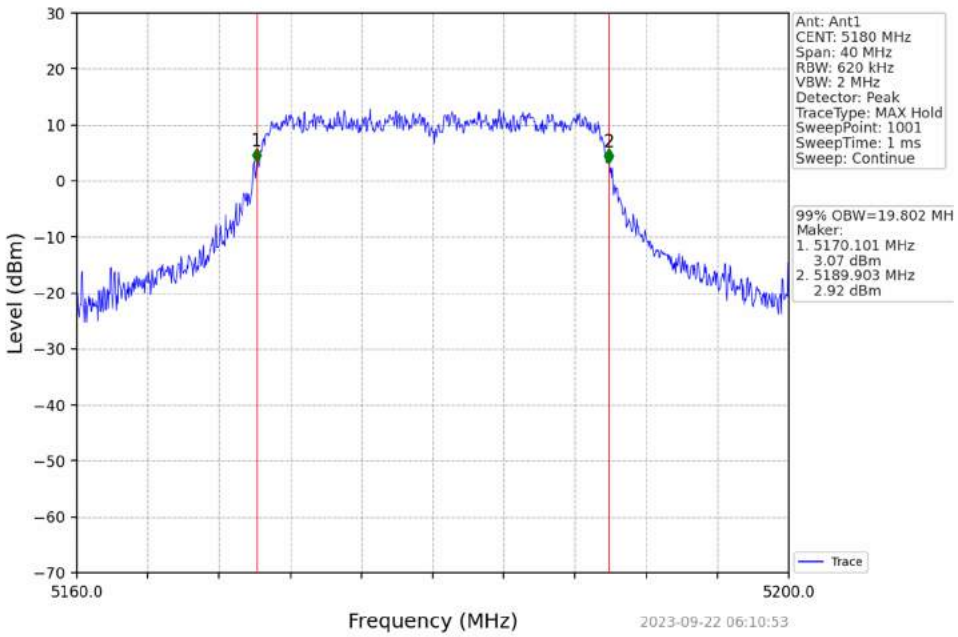
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



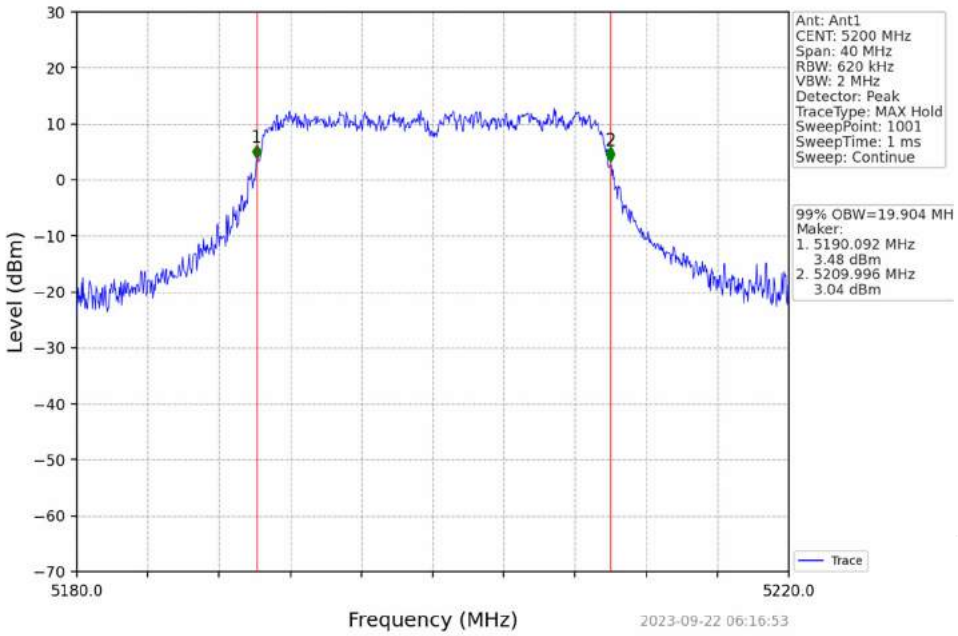
802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV



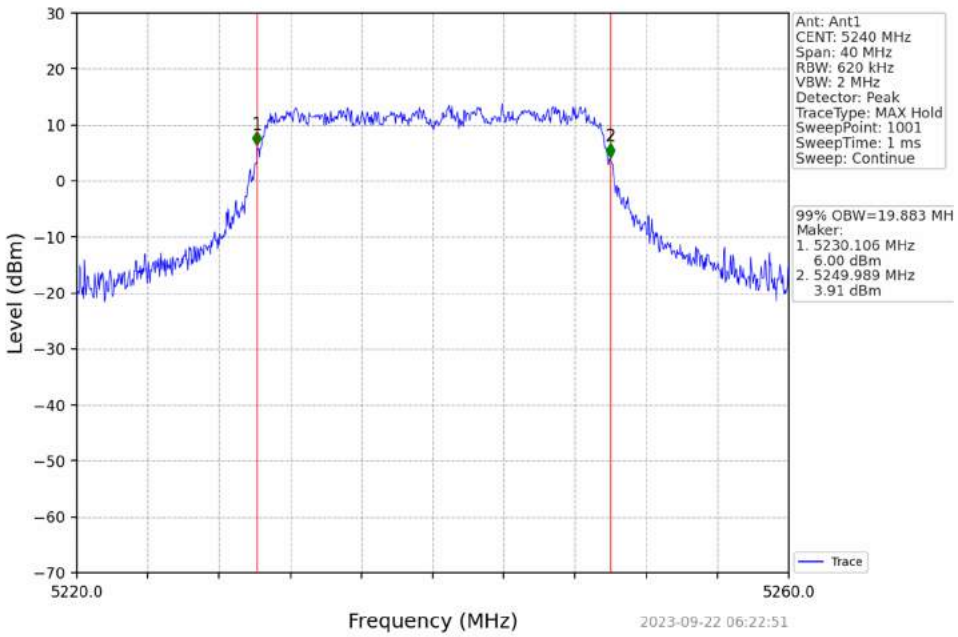
802.11ax(HEW20)_LCH_5180MHz_RU242_Left_Ant1_NTNV



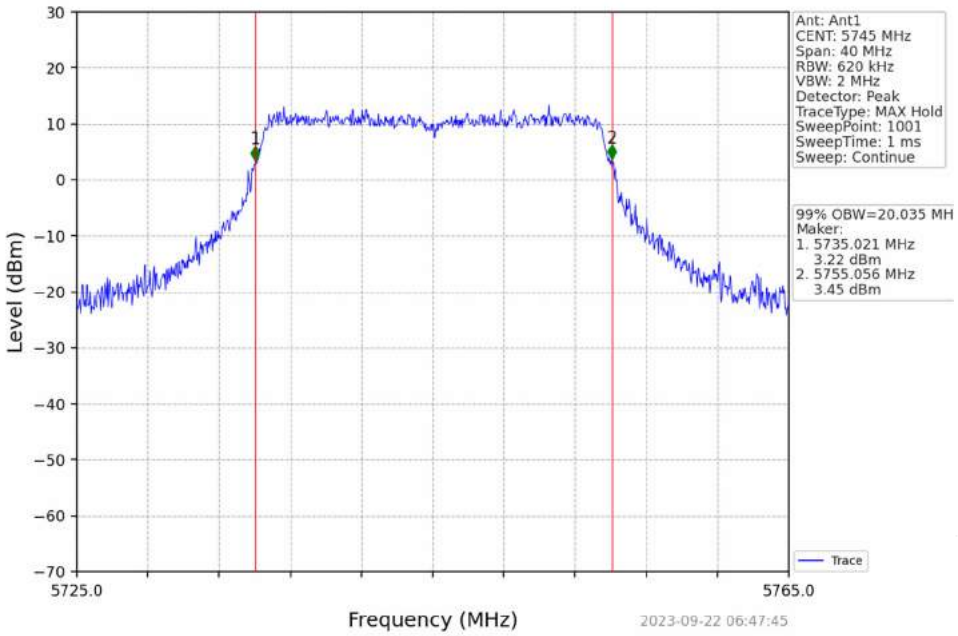
802.11ax(HEW20)_MCH_5200MHz_RU242_Left_Ant1_NTNV



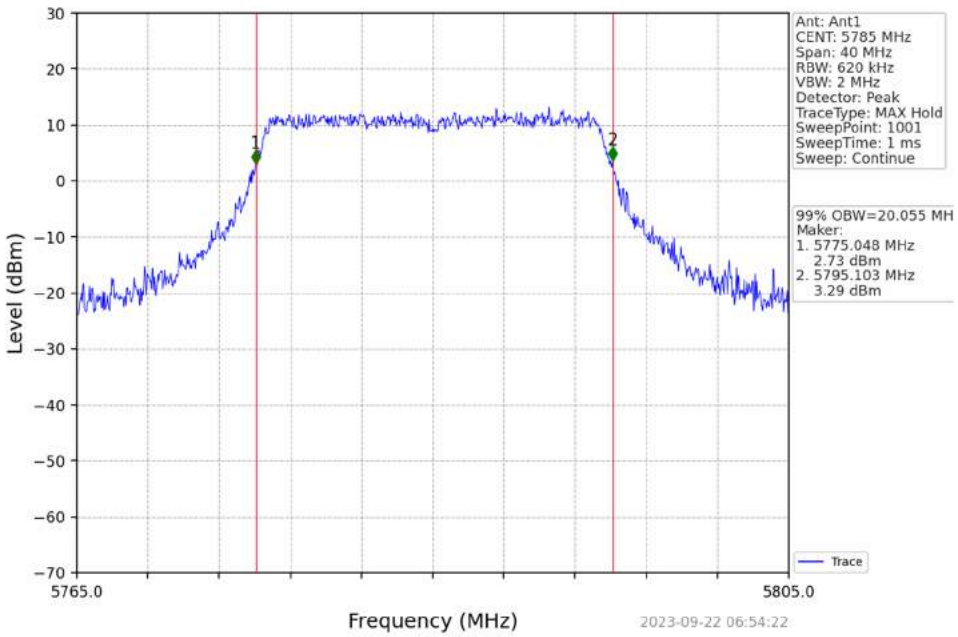
802.11ax(HEW20)_HCH_5240MHz_RU242_Left_Ant1_NTNV



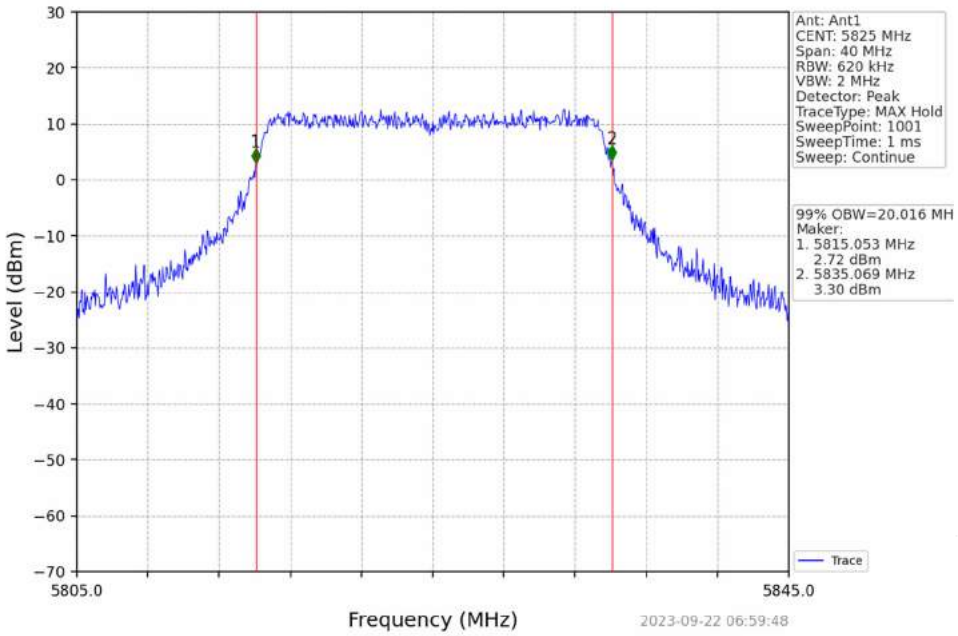
802.11ax(HEW20)_LCH_5745MHz_RU242_Left_Ant1_NTNV



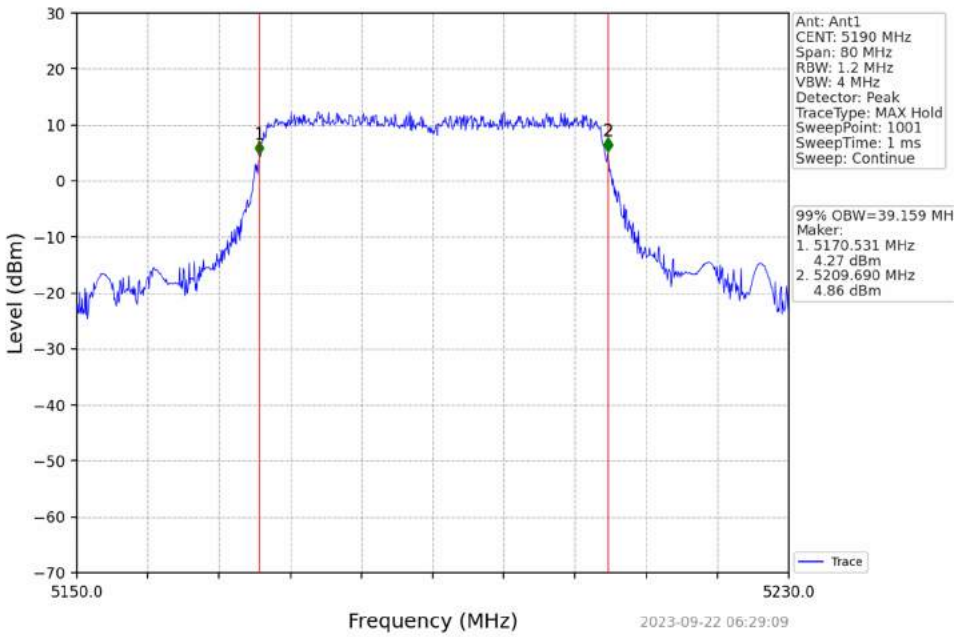
802.11ax(HEW20)_MCH_5785MHz_RU242_Left_Ant1_NTNV



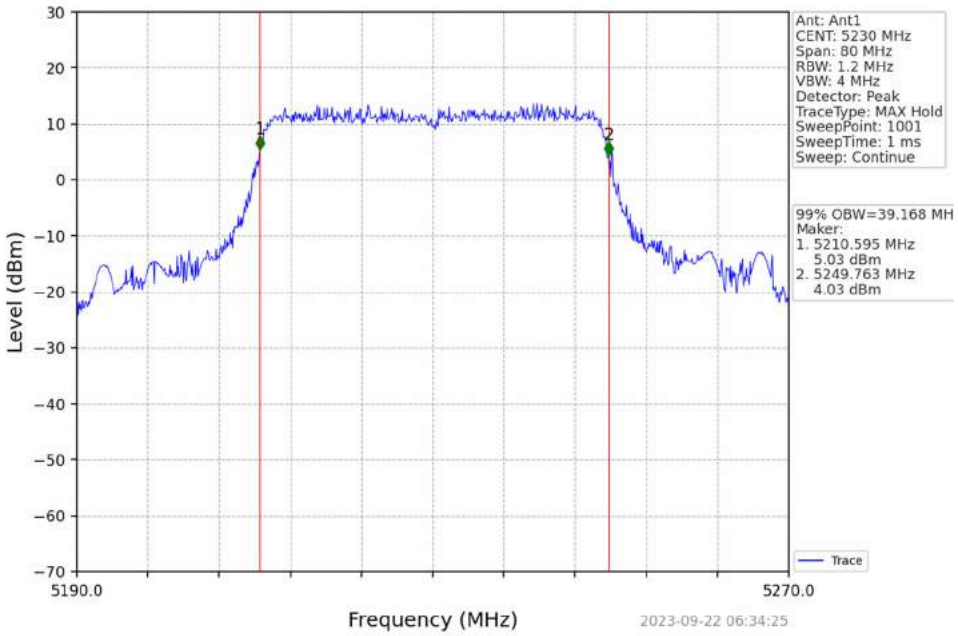
802.11ax(HEW20)_HCH_5825MHz_RU242_Left_Ant1_NTNV



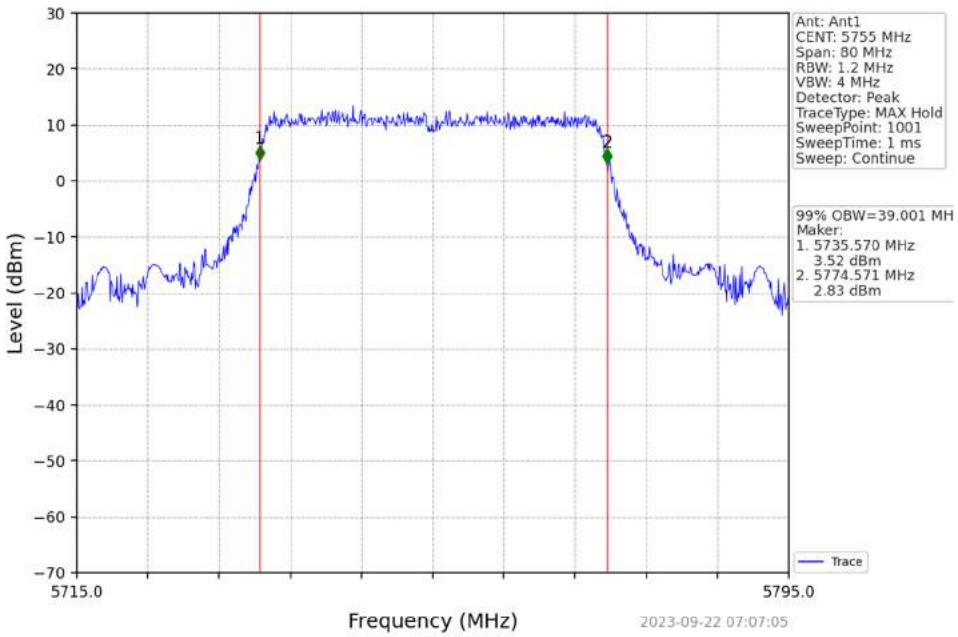
802.11ax(HEW40)_LCH_5190MHz_RU484_Left_Ant1_NTNV



802.11ax(HEW40)_HCH_5230MHz_RU484_Left_Ant1_NTNV



802.11ax(HEW40)_LCH_5755MHz_RU484_Left_Ant1_NTNV



802.11ax(HEW40)_HCH_5795MHz_RU484_Left_Ant1_NTNV