中国认可
国际互认
检测
TESTING
CNAS L3110

TEST REPORT

Reference No.	:	WTD25D10281058W005
Manufacturer*	:	Shenzhen Cudy Technology Co., Ltd.
Address	:	7/F, Lepu Tower (West), 66 Xingke Rd, Nanshan, Shenzhen, China
Factory	:	Shenzhen Cudy Technology Co., Ltd.
Address	:	7/F, Lepu Tower (West), 66 Xingke Rd, Nanshan, Shenzhen, China
Product	:	AX900 Dual-Band Wi-Fi 6 USB Adapter
Model(s)	:	WU900
Brand Name	:	Cudy
Standards	:	ETSI EN 300 440 V2.2.1 (2018-07)
Date of Receipt Sample	:	2025-10-31
Date of Test	:	2025-11-07 to 2025-11-25
Date of Issue	:	2025-12-02
Test Result	:	**Pass**

Remarks:
1. The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.
2. "*" **manufacturer** means any natural or legal person who manufactures radio equipment or has radio equipment designed or manufactured, and markets that equipment under his name or trade mark.

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3 Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD25D10281058W005	2025-10-31	2025-11-07 to 2025-11-25	2025-12-02	Original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	AX900 Dual-Band Wi-Fi 6 USB Adapter
Model(s):	WU900
Model Description:	N/A
Wi-Fi Specification:	5G-802.11a/n(HT20/40)/ac(VHT20/40/80)/ax(HE20/40/80)
Hardware Version:	V1.0
Software Version:	1.0.0

4.2 Details of E.U.T.

Operation Frequency:	U-NII-3 802.11a/n (HT20)/ac (VHT20)/ax (HE20), 5745-5825MHz 5CH 802.11n (HT40)/ac (VHT40)/ax (HE40), 5755-5795MHz 2CH 802.11ac (VHT80)/ax (HE80), 5775MHz 1CH
Max. RF output power:	10.27dBm EIRP
Type of Modulation:	OFDM, OFDMA
Antenna installation:	Metal Antenna
Antenna gain:	-4.11dBi

Note:
#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTEK lab has not verified the authenticity of its information.

Receiver category:	2
Ratings:	DC 5V from USB plug

4.3 Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
149	5745	151	5755	153	5765
155	5775	157	5785	159	5795
161	5805	165	5825	-	-

5 Test Summary

Test Item	Test Requirement	Results
e.i.r.p.	Clause 4.2.2	PASS
Permitted range of operating frequencies	Clause 4.2.3	PASS
Unwanted emissions in the spurious domain	Clause 4.2.4	PASS
Duty Cycle	Clause 4.2.5.2	N/A
Additional requirements for FHSS equipment	Clause 4.2.6	N/A
Adjacent channel selectivity	Clause 4.3.3	N/A
Blocking or desensitization	Clause 4.3.4	PASS
Spurious radiation	Clause 4.3.5	PASS
Spectrum access techniques	Clause 4.4	PASS
GBSAR antenna pattern	Clause 4.6.4	N/A
Limits for GBSAR	Annex I	N/A
Note: N/A is an abbreviation for Not Applicable and means this test intem is not applicable for this device according to the technology characteristic of device. TX: In this whole report TX (or tx) means Transmitter. RX: In this whole report RX (or rx) means Receiver. RF: In this whole report RF means Radiated Frequency. CH: In this whole report CH means channel.		

6 Equipment Used during Test

6.1 Equipments List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	Spectrum Analyzer	Agilent	N9020A	MY49100060	2025-07-04	2026-07-03
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2025-07-04	2026-07-03
3.	Humidity Chamber	GF	GTH-225-40-1P	IAA061213	2025-07-04	2026-07-03
4.	EXA Signal Analyzer	Malaysia Keysight	N9010A	MY50520207	2025-04-19	2026-04-18
5.	ESG VECTOR SIGNAL GENERATOR	Malaysia Keysight	E4438C	MY45092536	2025-04-19	2026-04-18
6.	EXG Analog Signal Generator	Malaysia Keysight	N5171B	MY53050845	2025-07-04	2026-07-03
7.	USB Wideband Power Sensor	Keysight	MW100-PSB	SG54400003	2025-04-19	2026-04-18
8.	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2025-07-20	2026-07-19
9.	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2025-04-19	2026-04-18
10.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1314	2025-08-09	2026-08-08
11.	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2025-07-04	2026-07-03
12.	Coaxial Cable (above 1GHz)	Top	1GHz-18GHz	NA	2025-04-19	2026-04-18
13.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2025-07-04	2026-07-03
14.	Universal Radio Communication Tester	R&S	CMU 200	121315	2025-04-19	2026-04-18
15.	Universal Radio Communication Tester	R&S	CMW500	127818	2025-04-19	2026-04-18

ETSI Test software

Software name	ETSI family
Software version	V2.2.2

6.2 Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.42dB
Radio Frequency	± 1 x 10-7Hz
Power Spectral Density, conducted	±0.7dB
Unwanted Emissions, conducted	±2.76dB
Time	±5%
Duty Cycle	±5%
Temperature	±1°C
Humidity	±2%
DC and low frequency voltages	±0.1%
Conduction disturbance(150kHz~30MHz)	±3.64dB
Radiated Emission(30MHz~1GHz)	±4.53dB
Radiated Emission(1GHz~6GHz)	±5.03dB

6.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

7 RF Requirements

1. Normal Test Conditions:

Ambient Condition: 5VDC, 23 °C, 51 %RH

2. Extreme Test Conditions:

Extreme Temperature: 0°C to +40°C;

Extreme Power Source Voltages:

1). Mains voltage

The extreme test voltage for equipment to be connected to an AC mains source shall be the nominal mains voltage±10 %.

2). Battery power sources

When the radio equipment is intended for operation from the usual type of battery power sources the extreme test voltages shall be 1,3 and 0,9 multiplied by the nominal voltage of the battery (6 V, 12 V, etc.).

For float charge applications using "gel-cell" type batteries the extreme voltage shall be 1,15 and 0,85 multiplied by the nominal voltage of the declared battery voltage.

3). Power sources using other types of batteries

The lower extreme test voltages for equipment with power sources using batteries shall be as follows:

• for equipment with a battery indicator, the end point voltage as indicated;

• for equipment without a battery indicator the following end point voltages shall be used:

- for the Leclanché or the lithium type of battery:

0,85 multiplied by the nominal voltage of the battery.

- for the nickel-cadmium type of battery:

0,9 multiplied by the nominal voltage of the battery.

• for other types of battery or equipment, the lower extreme test voltage for the discharged condition shall be declared by the equipment manufacturer.

The nominal voltage is considered to be the upper extreme test voltage in this case.

4). Other power sources

For equipment using other power sources, or capable of being operated from a variety of power sources, the extreme test voltages shall be those agreed between the equipment manufacturer and the test laboratory. This shall be recorded in the test report.

The follow condition is applicable

Test Conditions	Normal	LTLV	LTHV	HTHV	HTLV
Temperature (℃)	23	0	0	40	40
Voltage (VDC)	5	4.5	5.5	5.5	4.5

3. Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Test mode	Low channel	Middle channel	High channel
Transmitting(802.11a/n/ac/ax20)	5745MHz	5785MHz	5825MHz
Transmitting(802.11n/ac/ax40)	5755MHz	/	5795MHz
Transmitting(802.11ac/ax80)	5775MHz	/	/
Receiving(802.11a/n/ac/ax20)	5745MHz	5785MHz	5825MHz
Receiving(802.11n/ac/ax40)	5755MHz	/	5795MHz
Receiving(802.11ac/ax80)	5775MHz	/	/

8 Maximum radiated peak power

8.1 Limit

The transmitter maximum e.i.r.p. under normal and extreme test conditions is provided in table 2.

Table 2: Maximum radiated power (e.i.r.p.)

Entry	Frequency Bands	Power	Application	Notes
1	2 400 MHz to 2 483,5 MHz	10 mW e.i.r.p.	Non-specific short range devices	
2	2 400 MHz to 2 483,5 MHz	25 mW e.i.r.p.	Radiodetermination devices	
3	(a) 2 446 MHz to 2 454 MHz	500 mW e.i.r.p.	Radio Frequency Identification (RFID) devices	See also table 4 and Annex G
4	(b) 2 446 MHz to 2 454 MHz	4 W e.i.r.p.	Radio Frequency Identification (RFID) devices	See also table 4 and Annex G
5	5 725 MHz to 5 875 MHz	25 mW e.i.r.p.	Non-specific short range devices	
6	9 200 MHz to 9 500 MHz	25 mW e.i.r.p.	Radiodetermination devices	
7	9 500 MHz to 9 975 MHz	25 mW e.i.r.p.	Radiodetermination devices	
8	10,5 GHz to 10,6 GHz	500 mW e.i.r.p.	Radiodetermination devices	
9	13,4 GHz to 14,0 GHz	25 mW e.i.r.p.	Radiodetermination devices	
10	17,1 GHz to 17,3 GHz	400 mW e.i.r.p.	Radiodetermination devices	See Annex H
11	24,00 GHz to 24,25 GHz	100 mW e.i.r.p.	Non-specific short range devices and radiodetermination devices	
NOTE: The spectrum ranges in some entries are not harmonised throughout all EU territory, specifically entries 4, 9, and 11 have been identified as such. Implementers are cautioned to refer to CEPT/ERC Recommendation 70-03 [i.2] as well as current National Radio plans to verify acceptance within intended regions of use.				

8.2 Test Procedure

Step 1:

1) using a suitable means, the output of the transmitter shall be coupled to a matched diode detector;
2) the output of the diode detector shall be connected to the vertical channel of an oscilloscope; the combination of the diode detector and the oscilloscope shall be capable of faithfully reproducing the envelope peaks and the duty cycle of the transmitter output signal;
3) the observed duty cycle of the transmitter (Tx on/(Tx on + Tx off)) shall be noted as x, ($0 < x < 1$) and recorded.

Step 2:

1） the average output power of the transmitter shall be determined using a wideband, calibrated RF power meter with a matched thermocouple detector or an equivalent thereof and, where applicable, with an integration period that exceeds the repetition period of the transmitter by a factor 5 or more. The observed value shall be recorded as "A" (in dBm);

2） the e.i.r.p. shall be calculated from the above measured power output A, the observed duty cycle x, and the applicable antenna assembly gain "G" in dBi, according to the formula:

- $P = A + G + 10 \log (1/x)$;
- P shall not exceed the value specified in clause 4.2.2.4.

The measurement shall be repeated at the lowest, the middle, and the highest frequency of the stated frequency range.

These frequencies shall be recorded. FHSS equipment shall be made to hop continuously to each of these three frequencies separately.

8.3 Test Results

Remark:The e.i.r.p. shall be calculated from the above measured power output A, the observed duty cycle x, and the applicable antenna assembly gain "G" in dBi, according to the formula: P = A + G + 10 log (1/x);

ENV	Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	Gain (dBi)	DCCF (dB)	Power (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
NTNV	802.11a	SISO	5745	/	/	1	-4.11	9.13	5.25	10.27	<=14	Pass
			5785	/	/	1	-4.11	9.36	4.68	9.93	<=14	Pass
			5825	/	/	1	-4.11	9.12	4.06	9.07	<=14	Pass
	802.11n (HT20)	SISO	5745	/	/	1	-4.11	4.73	9.55	10.17	<=14	Pass
			5785	/	/	1	-4.11	4.73	9.09	9.71	<=14	Pass
			5825	/	/	1	-4.11	4.73	8.39	9.01	<=14	Pass
	802.11n (HT40)	SISO	5755	/	/	1	-4.11	4.84	9.42	10.15	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.88	9.61	<=14	Pass
	802.11ac (VHT20)	SISO	5745	/	/	1	-4.11	4.78	9.57	10.24	<=14	Pass
			5785	/	/	1	-4.11	4.72	9.00	9.61	<=14	Pass
			5825	/	/	1	-4.11	4.72	8.46	9.07	<=14	Pass
	802.11ac (VHT40)	SISO	5755	/	/	1	-4.11	4.84	9.36	10.09	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.86	9.59	<=14	Pass
	802.11ac (VHT80)	SISO	5775	/	/	1	-4.11	5.08	9.04	10.01	<=14	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	1	-4.11	5.55	8.76	10.20	<=14	Pass
			5785	SU	/	1	-4.11	5.55	8.20	9.64	<=14	Pass
			5825	SU	/	1	-4.11	5.55	7.66	9.10	<=14	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	1	-4.11	5.59	8.70	10.18	<=14	Pass
			5795	SU	/	1	-4.11	5.55	8.18	9.62	<=14	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	1	-4.11	5.69	8.40	9.98	<=14	Pass
HTHV	802.11a	SISO	5745	/	/	1	-4.11	9.13	5.28	10.30	<=14	Pass
			5785	/	/	1	-4.11	9.36	4.69	9.94	<=14	Pass
			5825	/	/	1	-4.11	9.12	4.13	9.14	<=14	Pass
	802.11n (HT20)	SISO	5745	/	/	1	-4.11	4.73	9.60	10.22	<=14	Pass
			5785	/	/	1	-4.11	4.73	9.07	9.69	<=14	Pass
			5825	/	/	1	-4.11	4.73	8.41	9.03	<=14	Pass
	802.11n (HT40)	SISO	5755	/	/	1	-4.11	4.84	9.40	10.13	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.87	9.60	<=14	Pass
	802.11ac (VHT20)	SISO	5745	/	/	1	-4.11	4.78	9.59	10.26	<=14	Pass
			5785	/	/	1	-4.11	4.72	9.04	9.65	<=14	Pass
			5825	/	/	1	-4.11	4.72	8.43	9.04	<=14	Pass
	802.11ac (VHT40)	SISO	5755	/	/	1	-4.11	4.84	9.36	10.09	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.86	9.59	<=14	Pass
	802.11ac (VHT80)	SISO	5775	/	/	1	-4.11	5.08	9.04	10.01	<=14	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	1	-4.11	5.55	8.78	10.22	<=14	Pass
			5785	SU	/	1	-4.11	5.55	8.21	9.65	<=14	Pass
			5825	SU	/	1	-4.11	5.55	7.67	9.11	<=14	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	1	-4.11	5.59	8.71	10.19	<=14	Pass
			5795	SU	/	1	-4.11	5.55	8.18	9.62	<=14	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	1	-4.11	5.69	8.39	9.97	<=14	Pass

HTLV	802.11a	SISO	5745	/	/	1	-4.11	9.13	5.24	10.26	<=14	Pass
			5785	/	/	1	-4.11	9.36	4.78	10.03	<=14	Pass
			5825	/	/	1	-4.11	9.12	4.08	9.09	<=14	Pass
	802.11n (HT20)	SISO	5745	/	/	1	-4.11	4.73	9.57	10.19	<=14	Pass
			5785	/	/	1	-4.11	4.73	9.03	9.65	<=14	Pass
			5825	/	/	1	-4.11	4.73	8.38	9.00	<=14	Pass
	802.11n (HT40)	SISO	5755	/	/	1	-4.11	4.84	9.42	10.15	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.87	9.60	<=14	Pass
	802.11ac (VHT20)	SISO	5745	/	/	1	-4.11	4.78	9.61	10.28	<=14	Pass
			5785	/	/	1	-4.11	4.72	9.03	9.64	<=14	Pass
			5825	/	/	1	-4.11	4.72	8.43	9.04	<=14	Pass
	802.11ac (VHT40)	SISO	5755	/	/	1	-4.11	4.84	9.35	10.08	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.86	9.59	<=14	Pass
	802.11ac (VHT80)	SISO	5775	/	/	1	-4.11	5.08	9.00	9.97	<=14	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	1	-4.11	5.55	8.78	10.22	<=14	Pass
			5785	SU	/	1	-4.11	5.55	8.21	9.65	<=14	Pass
			5825	SU	/	1	-4.11	5.55	7.66	9.10	<=14	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	1	-4.11	5.59	8.71	10.19	<=14	Pass
			5795	SU	/	1	-4.11	5.55	8.18	9.62	<=14	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	1	-4.11	5.69	8.39	9.97	<=14	Pass
LTHV	802.11a	SISO	5745	/	/	1	-4.11	9.13	5.24	10.26	<=14	Pass
			5785	/	/	1	-4.11	9.36	4.75	10.00	<=14	Pass
			5825	/	/	1	-4.11	9.12	4.07	9.08	<=14	Pass
	802.11n (HT20)	SISO	5745	/	/	1	-4.11	4.73	9.55	10.17	<=14	Pass
			5785	/	/	1	-4.11	4.73	9.09	9.71	<=14	Pass
			5825	/	/	1	-4.11	4.73	8.41	9.03	<=14	Pass
	802.11n (HT40)	SISO	5755	/	/	1	-4.11	4.84	9.41	10.14	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.86	9.59	<=14	Pass
	802.11ac (VHT20)	SISO	5745	/	/	1	-4.11	4.78	9.59	10.26	<=14	Pass
			5785	/	/	1	-4.11	4.72	9.05	9.66	<=14	Pass
			5825	/	/	1	-4.11	4.72	8.42	9.03	<=14	Pass
	802.11ac (VHT40)	SISO	5755	/	/	1	-4.11	4.84	9.36	10.09	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.86	9.59	<=14	Pass
	802.11ac (VHT80)	SISO	5775	/	/	1	-4.11	5.08	9.05	10.02	<=14	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	1	-4.11	5.55	8.76	10.20	<=14	Pass
			5785	SU	/	1	-4.11	5.55	8.20	9.64	<=14	Pass
			5825	SU	/	1	-4.11	5.55	7.66	9.10	<=14	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	1	-4.11	5.59	8.71	10.19	<=14	Pass
			5795	SU	/	1	-4.11	5.55	8.18	9.62	<=14	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	1	-4.11	5.69	8.39	9.97	<=14	Pass
LTLV	802.11a	SISO	5745	/	/	1	-4.11	9.13	5.24	10.26	<=14	Pass
			5785	/	/	1	-4.11	9.36	4.66	9.91	<=14	Pass
			5825	/	/	1	-4.11	9.12	4.06	9.07	<=14	Pass
	802.11n (HT20)	SISO	5745	/	/	1	-4.11	4.73	9.59	10.21	<=14	Pass
			5785	/	/	1	-4.11	4.73	9.07	9.69	<=14	Pass
			5825	/	/	1	-4.11	4.73	8.41	9.03	<=14	Pass
	802.11n	SISO	5755	/	/	1	-4.11	4.84	9.41	10.14	<=14	Pass

	(HT40)		5795	/	/	1	-4.11	4.84	8.86	9.59	<=14	Pass
	802.11ac (VHT20)	SISO	5745	/	/	1	-4.11	4.78	9.57	10.24	<=14	Pass
			5785	/	/	1	-4.11	4.72	9.03	9.64	<=14	Pass
			5825	/	/	1	-4.11	4.72	8.43	9.04	<=14	Pass
	802.11ac (VHT40)	SISO	5755	/	/	1	-4.11	4.84	9.36	10.09	<=14	Pass
			5795	/	/	1	-4.11	4.84	8.85	9.58	<=14	Pass
	802.11ac (VHT80)	SISO	5775	/	/	1	-4.11	5.08	9.04	10.01	<=14	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	1	-4.11	5.55	8.78	10.22	<=14	Pass
			5785	SU	/	1	-4.11	5.55	8.21	9.65	<=14	Pass
			5825	SU	/	1	-4.11	5.55	7.66	9.10	<=14	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	1	-4.11	5.59	8.69	10.17	<=14	Pass
			5795	SU	/	1	-4.11	5.55	8.18	9.62	<=14	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	1	-4.11	5.69	8.41	9.99	<=14	Pass
Note1: E.I.R.P = Measured Power + DCCF + Antenna Gain												

9 Permitted range of operating frequencies

9.1 Limit

The width of the power spectrum envelope is f_H -f_L for a given operating frequency. In equipment that allows adjustment or selection of different operating frequencies, the power envelope takes up different positions in the allowed band. The frequency range is determined by the lowest value of f_L and the highest value of f_H resulting from the adjustment of the equipment to the lowest and highest operating frequencies.

The occupied bandwidth (i.e. the bandwidth in which 99 % of the wanted emission is contained) of the transmitter shall fall within the assigned frequency band.

9.2 Test Procedure

1) put the spectrum analyser in video averaging mode with a minimum of 50 sweeps selected;
2) select the lowest hop frequency of the equipment under test and activate the transmitter with modulation applied;
3) find the lowest frequency below the operating frequency at which the spectral power density drops below the level given in clause 7.2. This frequency shall be recorded in the test report;
4) select the highest hop frequency of the equipment under test and find the highest frequency at which the spectral power density drops below the level given in clause 7.2. This frequency shall be recorded in the test report;
5) the difference between the frequencies measured in steps c) and d) is the frequency range. It shall be recorded in the test report.

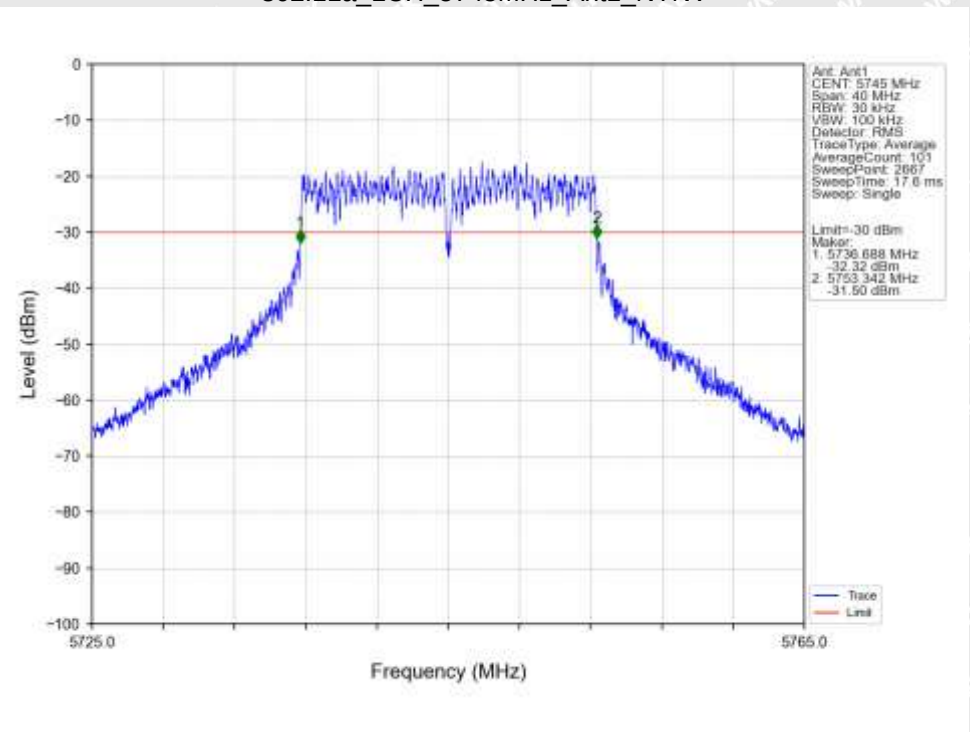
9.3 Test Results

Ant1									
ENV	Mode	TX Type	Frequency (MHz)	RU	RU Pos	Frequency Range (MHz)			Verdict
						FL	FH	Limit	
NTNV	802.11a	SISO	5745	/	/	5736.688	/	>=5725	Pass
			5825	/	/	/	5833.282	<=5875	Pass
	802.11n (HT20)	SISO	5745	/	/	5735.848	/	>=5725	Pass
			5825	/	/	/	5833.972	<=5875	Pass
	802.11n (HT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.324	<=5875	Pass
	802.11ac (VHT20)	SISO	5745	/	/	5735.848	/	>=5725	Pass
			5825	/	/	/	5833.972	<=5875	Pass
	802.11ac (VHT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.324	<=5875	Pass
	802.11ac (VHT80)	SISO	5775	/	/	5736.718	/	>=5725	Pass
						/	5813.297	<=5875	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	5735.413	/	>=5725	Pass
			5825	SU	/	/	5834.617	<=5875	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	5735.881	/	>=5725	Pass
			5795	SU	/	/	5814.134	<=5875	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	5735.893	/	>=5725	Pass
						/	5814.122	<=5875	Pass
HTHV	802.11a	SISO	5745	/	/	5736.688	/	>=5725	Pass
			5825	/	/	/	5833.312	<=5875	Pass
	802.11n (HT20)	SISO	5745	/	/	5735.878	/	>=5725	Pass
			5825	/	/	/	5833.972	<=5875	Pass
	802.11n (HT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.324	<=5875	Pass
	802.11ac (VHT20)	SISO	5745	/	/	5735.848	/	>=5725	Pass
			5825	/	/	/	5834.122	<=5875	Pass
	802.11ac (VHT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.324	<=5875	Pass
	802.11ac (VHT80)	SISO	5775	/	/	5736.718	/	>=5725	Pass
						/	5813.282	<=5875	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	5735.413	/	>=5725	Pass
			5825	SU	/	/	5834.617	<=5875	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	5735.881	/	>=5725	Pass
			5795	SU	/	/	5814.134	<=5875	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	5735.893	/	>=5725	Pass
						/	5814.122	<=5875	Pass
HTLV	802.11a	SISO	5745	/	/	5736.718	/	>=5725	Pass
			5825	/	/	/	5833.312	<=5875	Pass
	802.11n (HT20)	SISO	5745	/	/	5735.848	/	>=5725	Pass
			5825	/	/	/	5834.137	<=5875	Pass
	802.11n (HT40)	SISO	5755	/	/	5736.676	/	>=5725	Pass
			5795	/	/	/	5813.339	<=5875	Pass
	802.11ac (VHT20)	SISO	5745	/	/	5735.848	/	>=5725	Pass
			5825	/	/	/	5833.972	<=5875	Pass
	802.11ac (VHT40)	SISO	5755	/	/	5736.676	/	>=5725	Pass
			5795	/	/	/	5813.309	<=5875	Pass
	802.11ac	SISO	5775	/	/	5736.718	/	>=5725	Pass

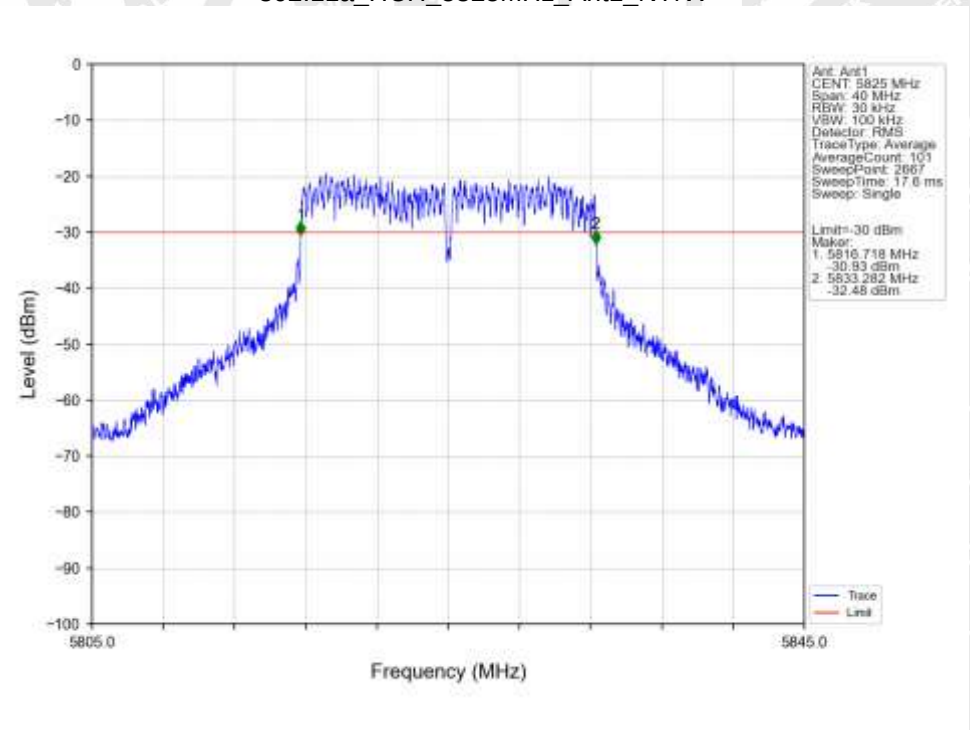
	(VHT80)					/	5813.282	<=5875	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	5735.413	/	>=5725	Pass
			5825	SU	/	/	5834.617	<=5875	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	5735.881	/	>=5725	Pass
			5795	SU	/	/	5814.134	<=5875	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	5735.893	/	>=5725	Pass
						/	5814.122	<=5875	Pass
LTHV	802.11a	SISO	5745	/	/	5736.718	/	>=5725	Pass
			5825	/	/	/	5833.312	<=5875	Pass
	802.11n (HT20)	SISO	5745	/	/	5735.863	/	>=5725	Pass
			5825	/	/	/	5833.972	<=5875	Pass
	802.11n (HT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.339	<=5875	Pass
	802.11ac (VHT20)	SISO	5745	/	/	5735.848	/	>=5725	Pass
			5825	/	/	/	5833.972	<=5875	Pass
	802.11ac (VHT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.324	<=5875	Pass
	802.11ac (VHT80)	SISO	5775	/	/	5736.733	/	>=5725	Pass
						/	5813.282	<=5875	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	5735.413	/	>=5725	Pass
			5825	SU	/	/	5834.617	<=5875	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	5735.881	/	>=5725	Pass
			5795	SU	/	/	5814.134	<=5875	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	5735.893	/	>=5725	Pass
						/	5814.107	<=5875	Pass
LTLV	802.11a	SISO	5745	/	/	5736.688	/	>=5725	Pass
			5825	/	/	/	5833.327	<=5875	Pass
	802.11n (HT20)	SISO	5745	/	/	5735.878	/	>=5725	Pass
			5825	/	/	/	5833.957	<=5875	Pass
	802.11n (HT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.324	<=5875	Pass
	802.11ac (VHT20)	SISO	5745	/	/	5735.878	/	>=5725	Pass
			5825	/	/	/	5834.107	<=5875	Pass
	802.11ac (VHT40)	SISO	5755	/	/	5736.691	/	>=5725	Pass
			5795	/	/	/	5813.324	<=5875	Pass
	802.11ac (VHT80)	SISO	5775	/	/	5736.718	/	>=5725	Pass
						/	5813.282	<=5875	Pass
	802.11ax (HEW20)	SISO	5745	SU	/	5735.413	/	>=5725	Pass
			5825	SU	/	/	5834.617	<=5875	Pass
	802.11ax (HEW40)	SISO	5755	SU	/	5735.881	/	>=5725	Pass
			5795	SU	/	/	5814.134	<=5875	Pass
	802.11ax (HEW80)	SISO	5775	SU	/	5735.908	/	>=5725	Pass
						/	5814.122	<=5875	Pass

Test Plots

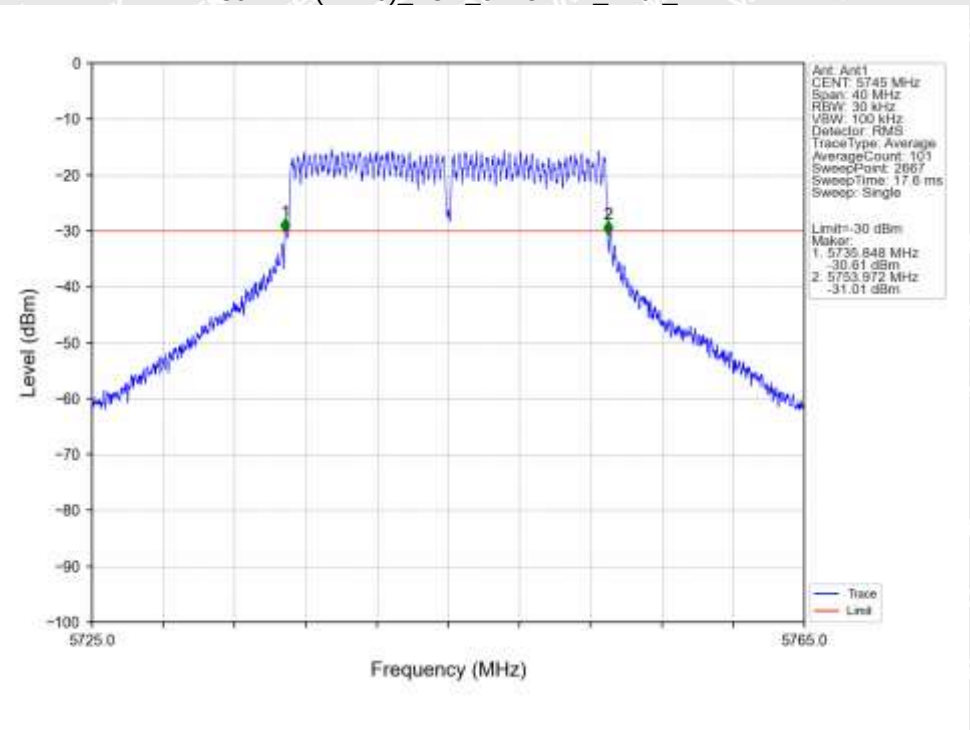
802.11a_LCH_5745MHz_Ant1_NTNV



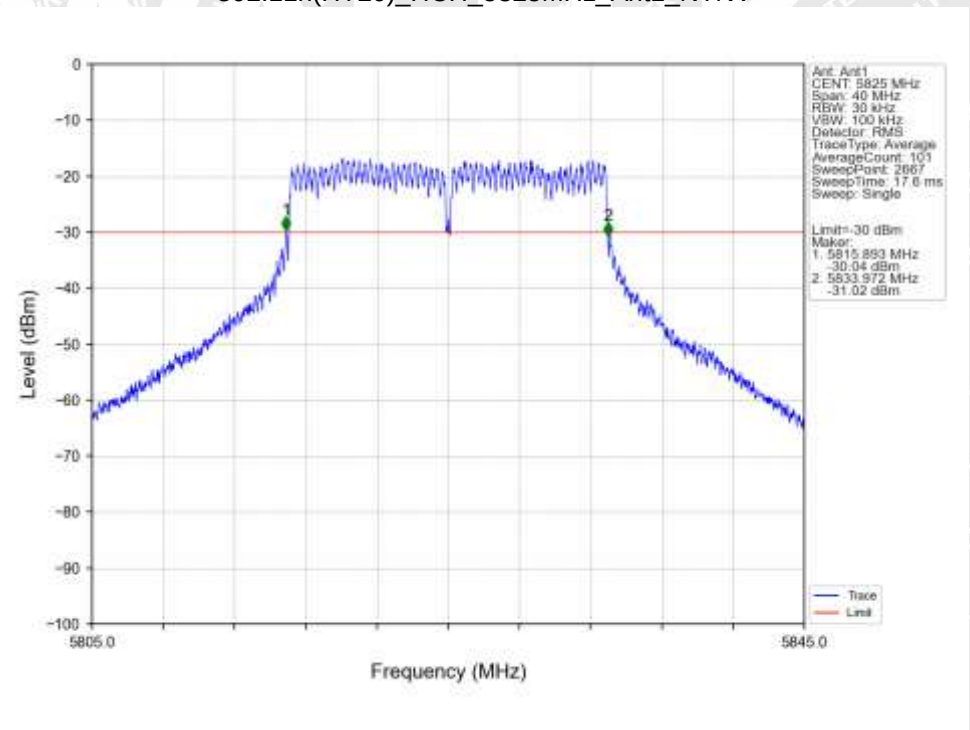
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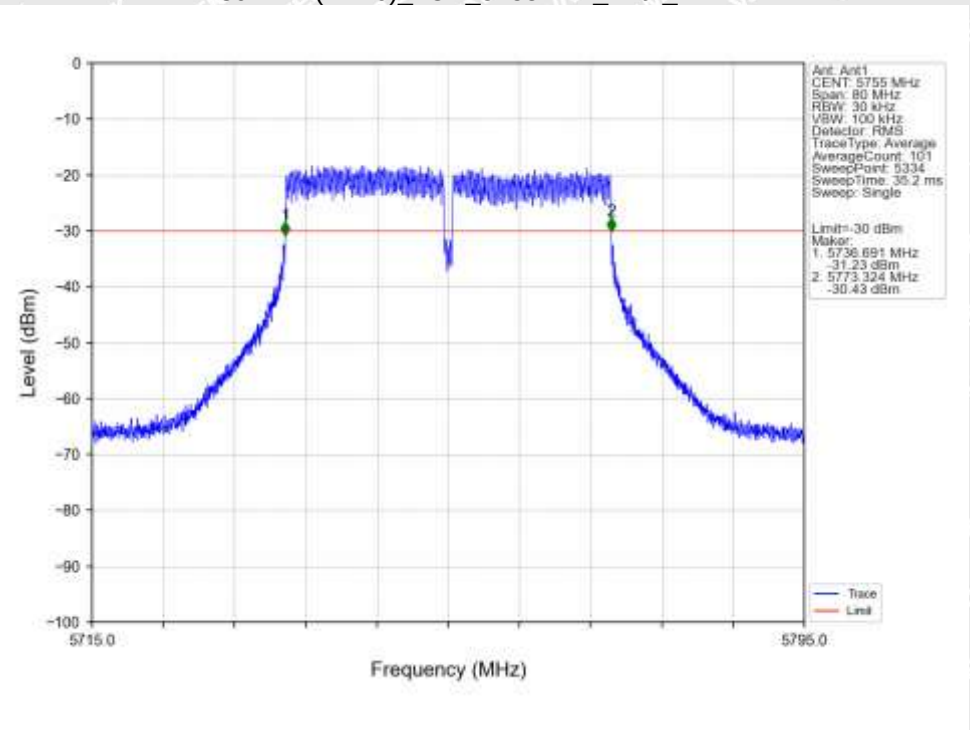
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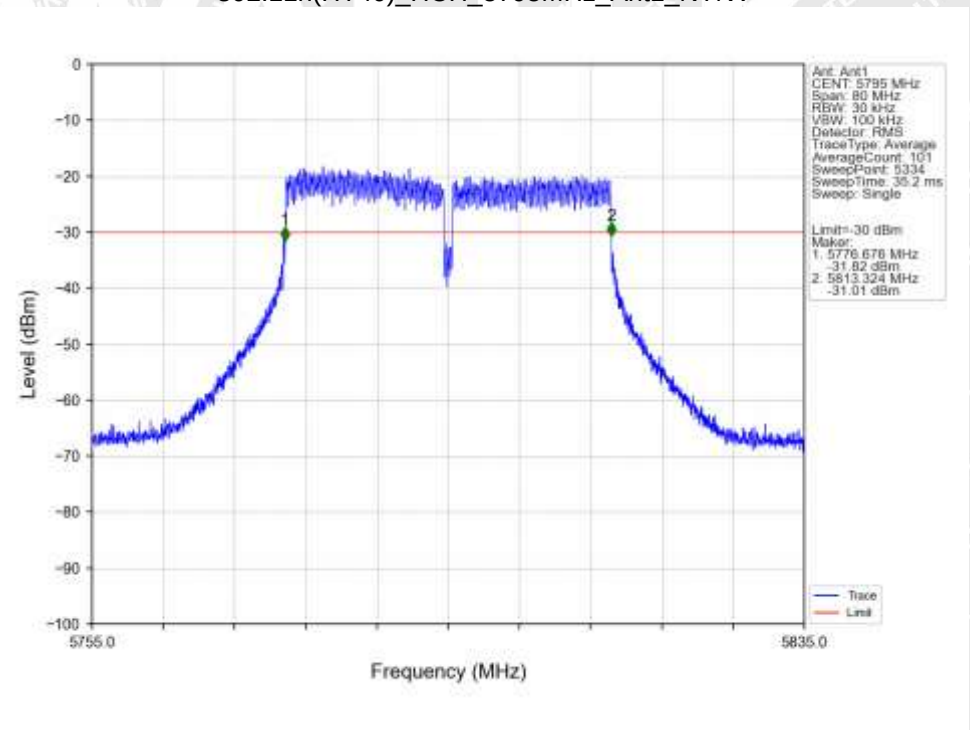
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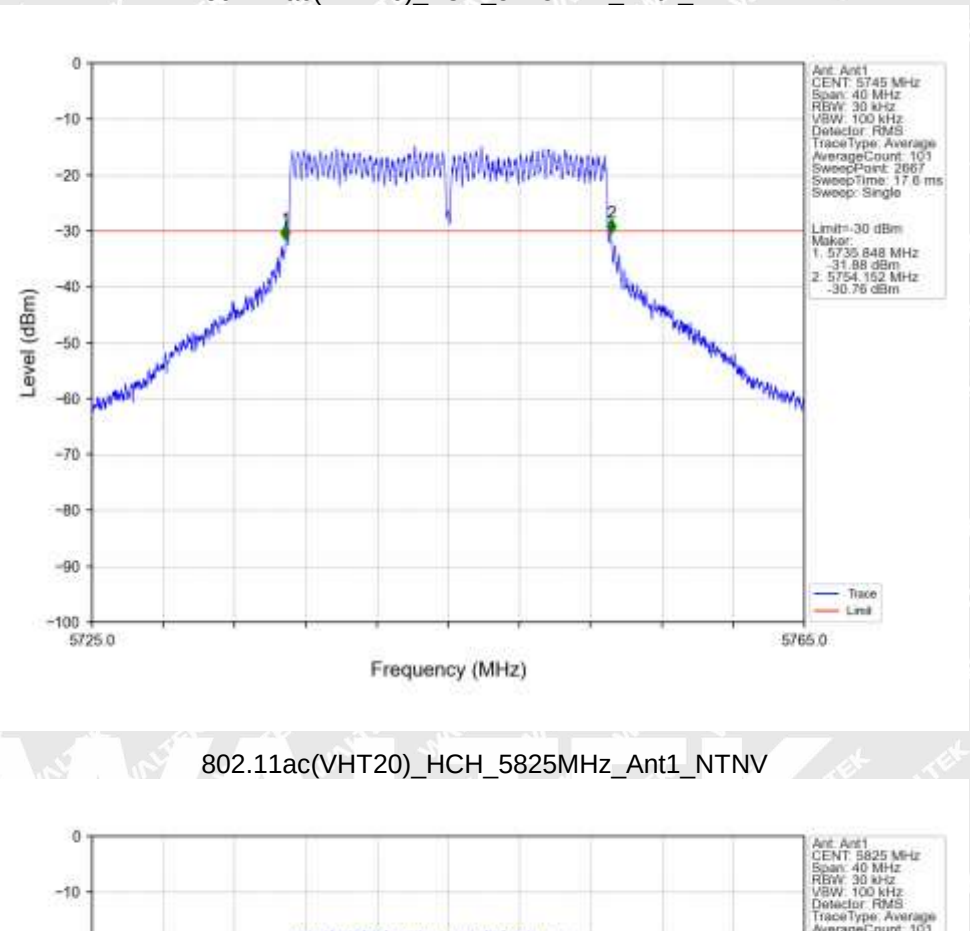
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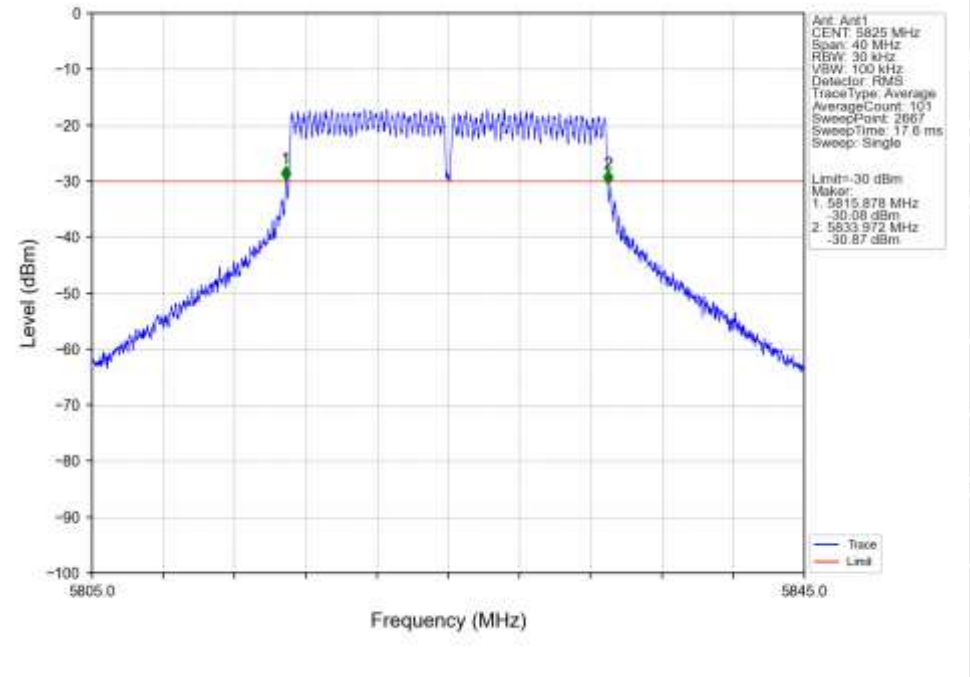
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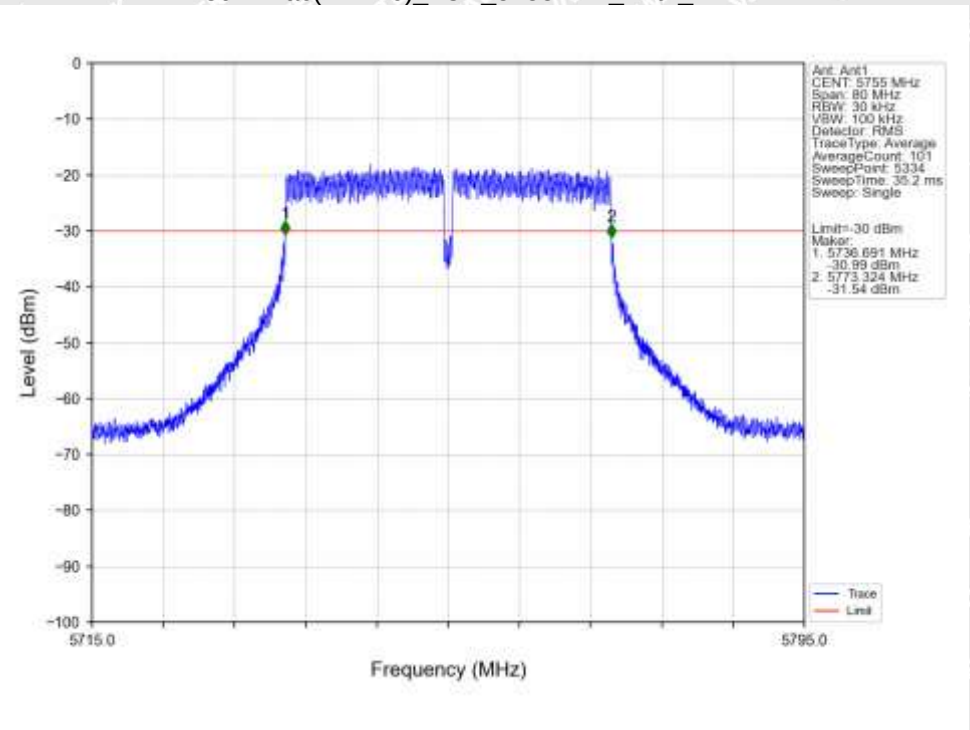
802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



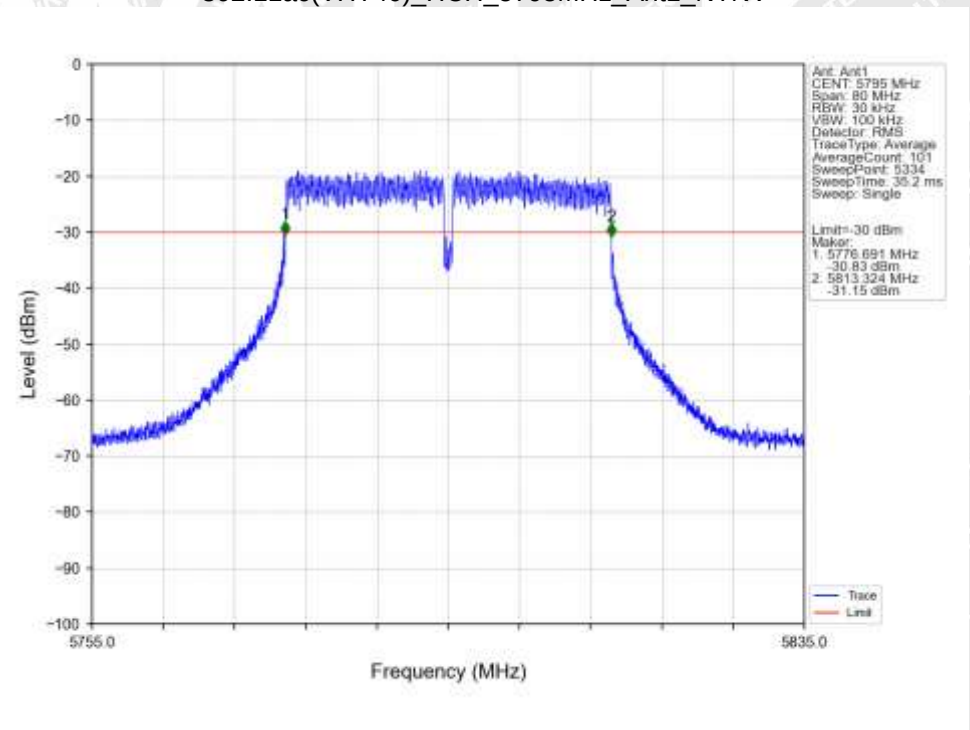
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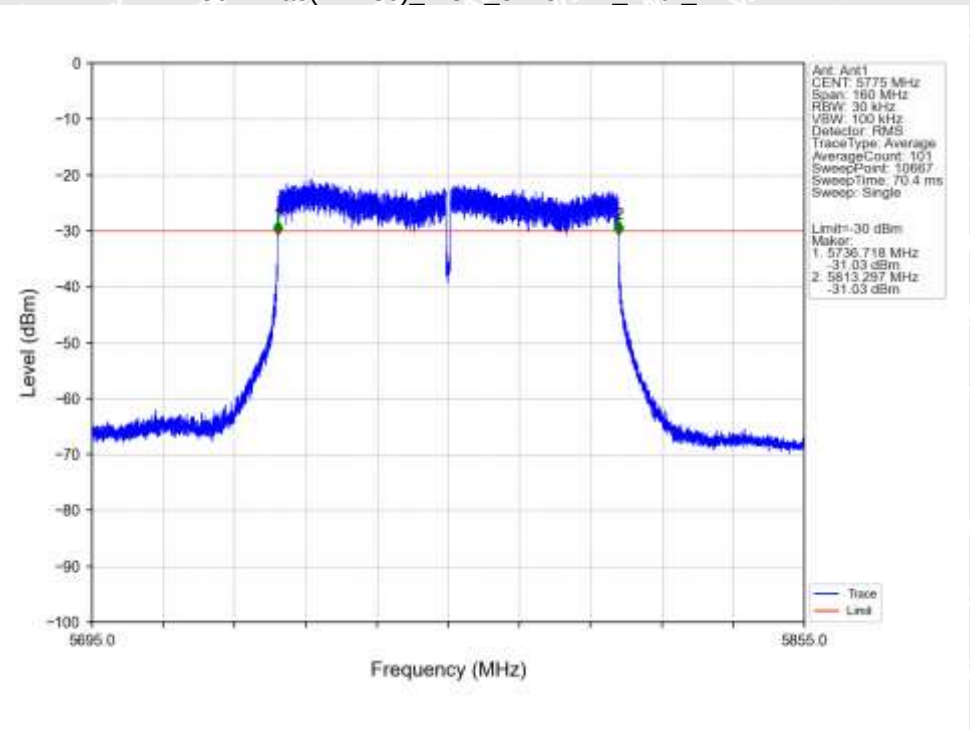
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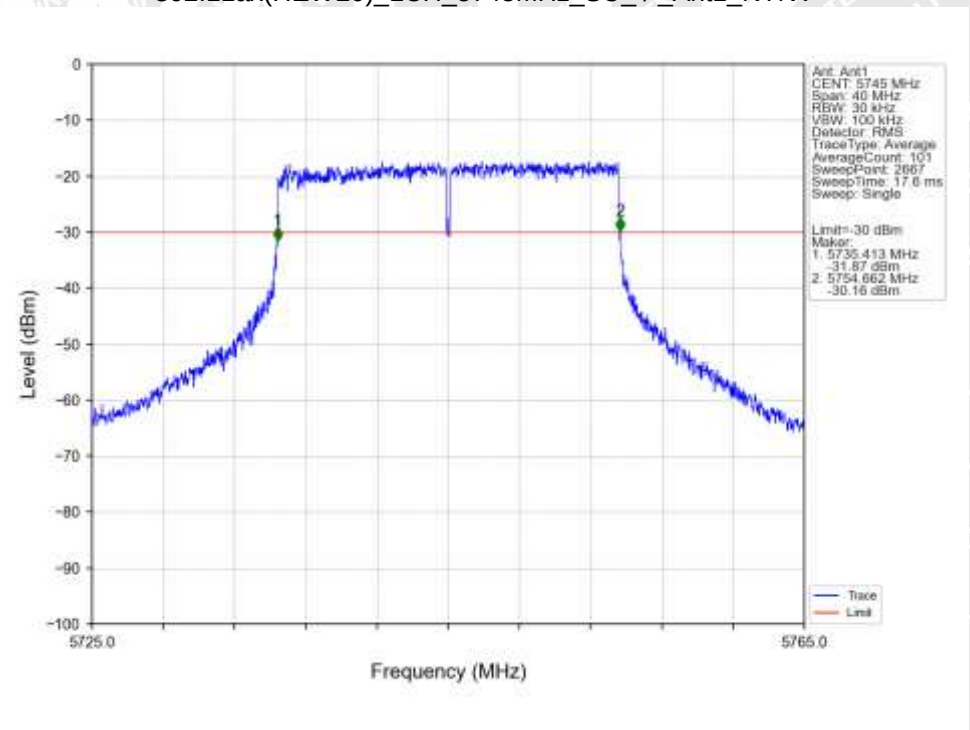
802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV



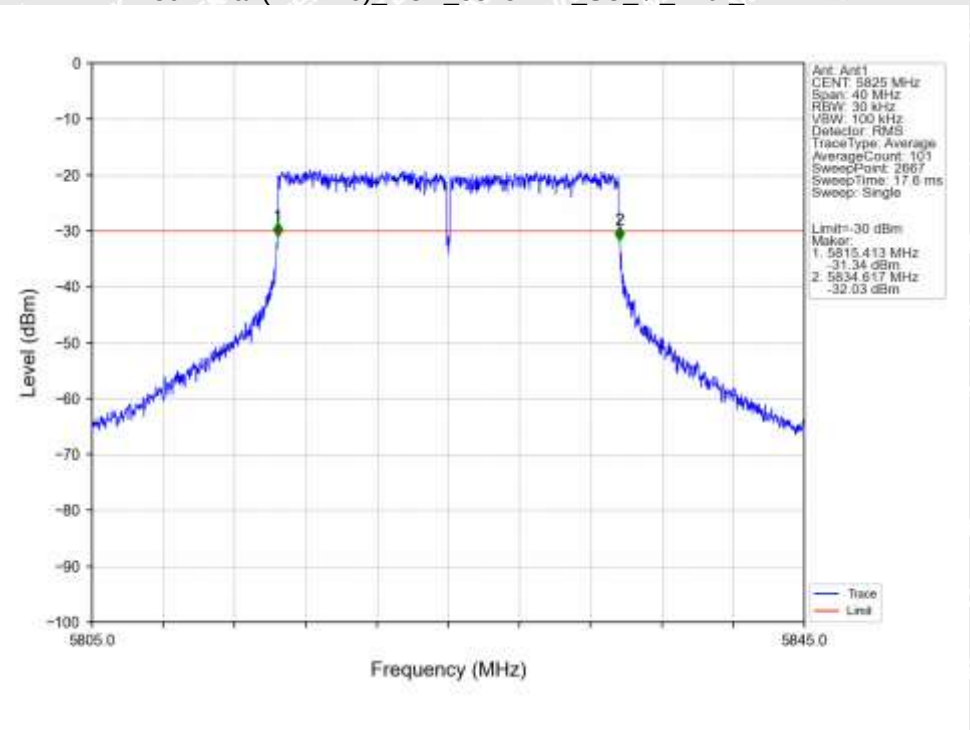
802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV



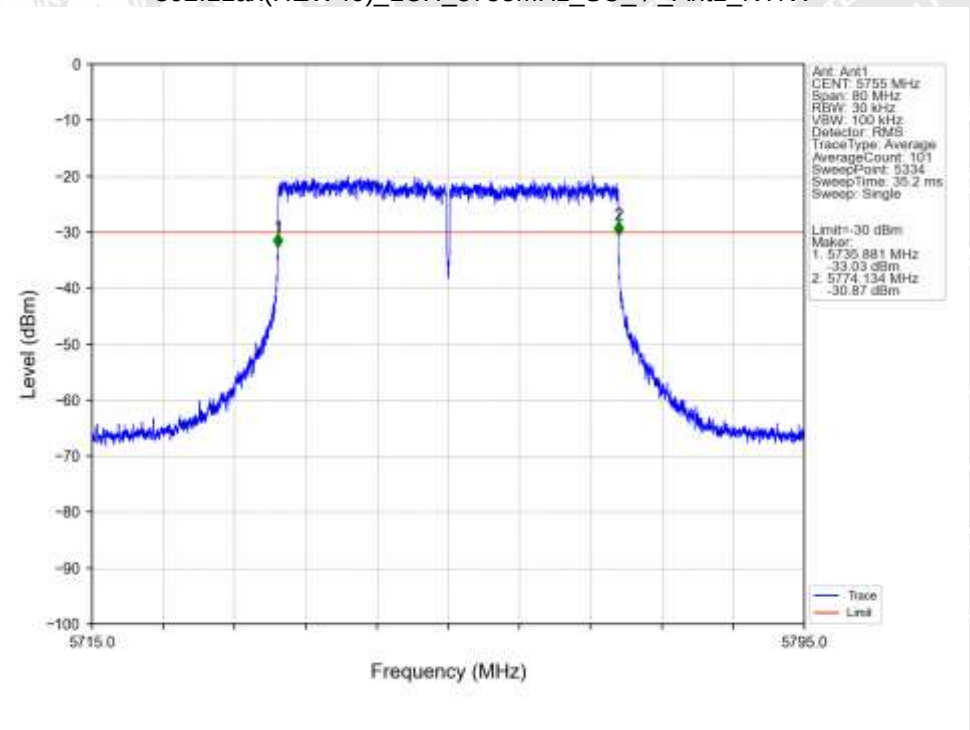
802.11ax(HEW20)_LCH_5745MHz_SU_ / _Ant1_NTNV



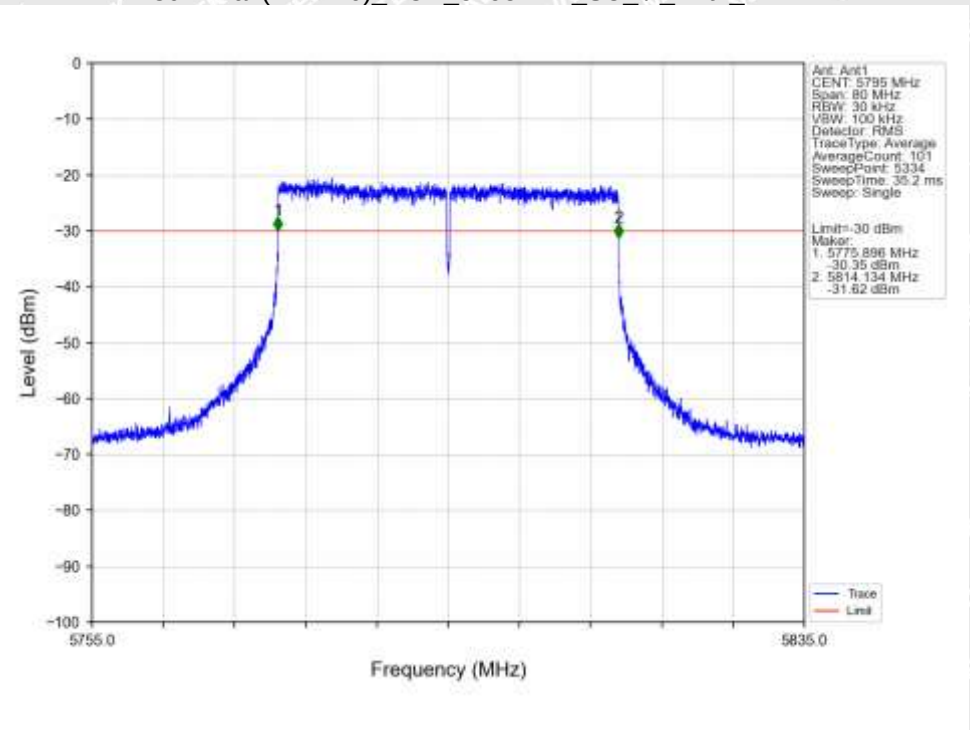
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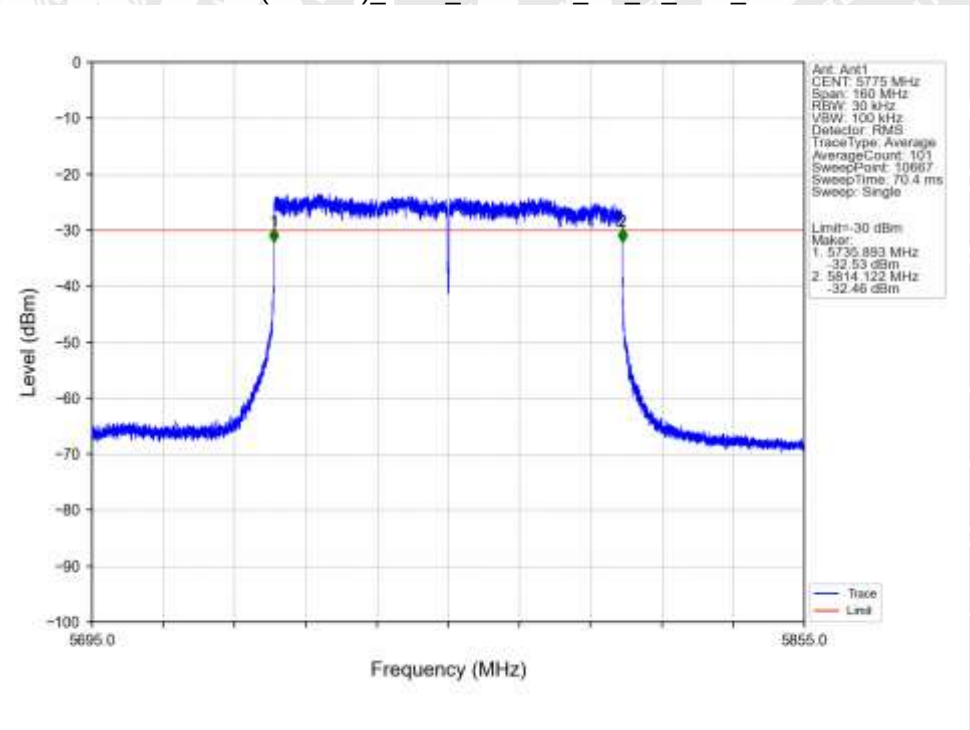
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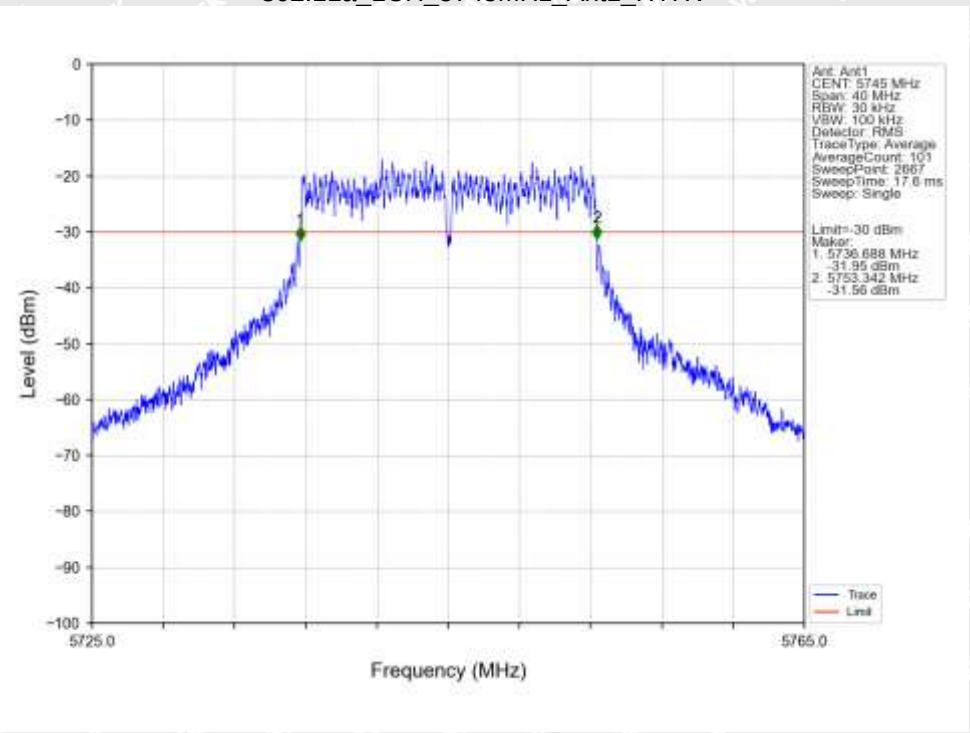
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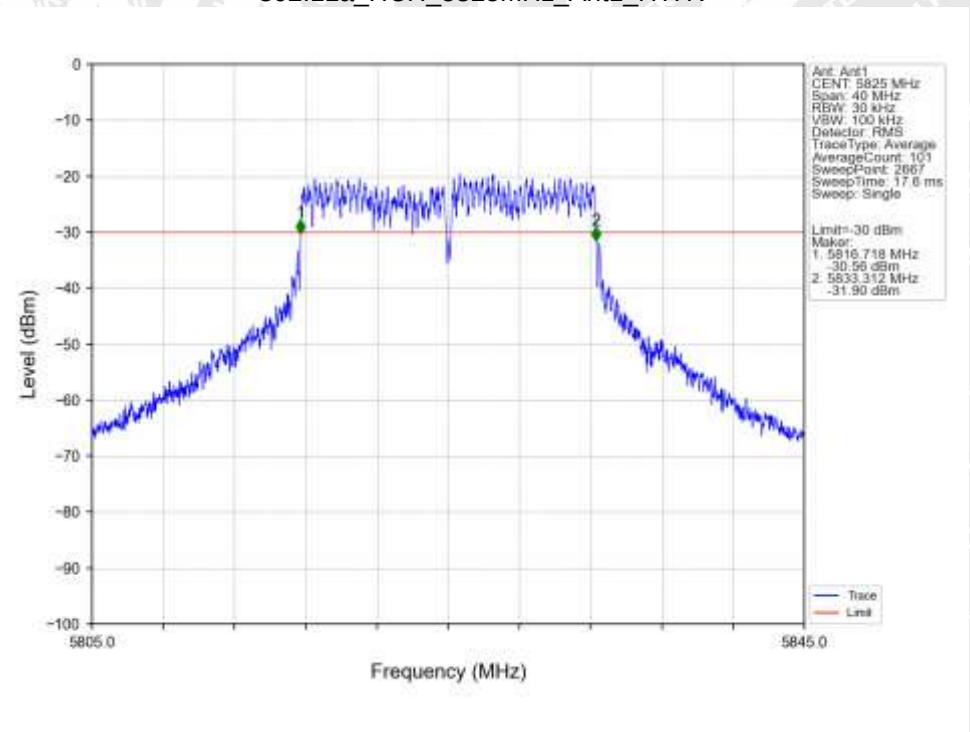
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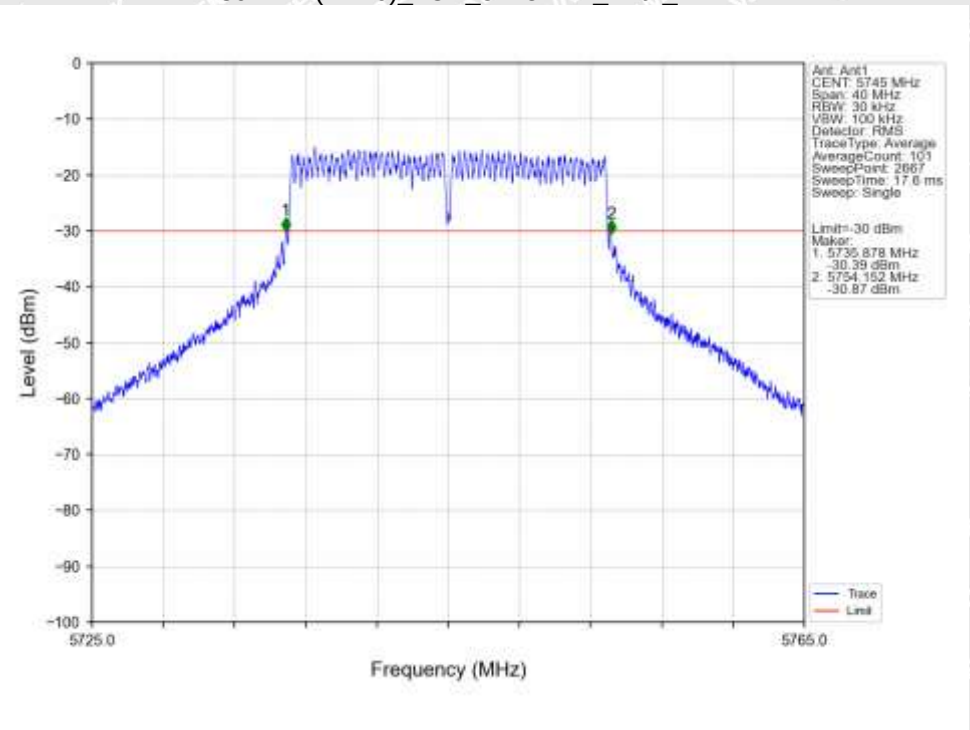
802.11a_LCH_5745MHz_Ant1_HTHV



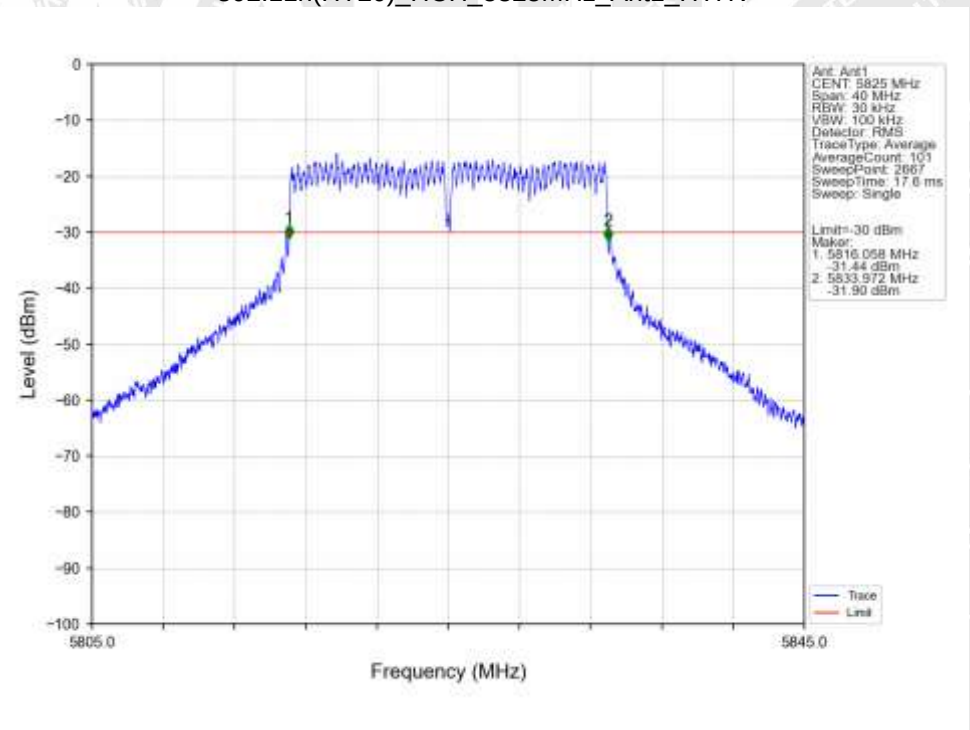
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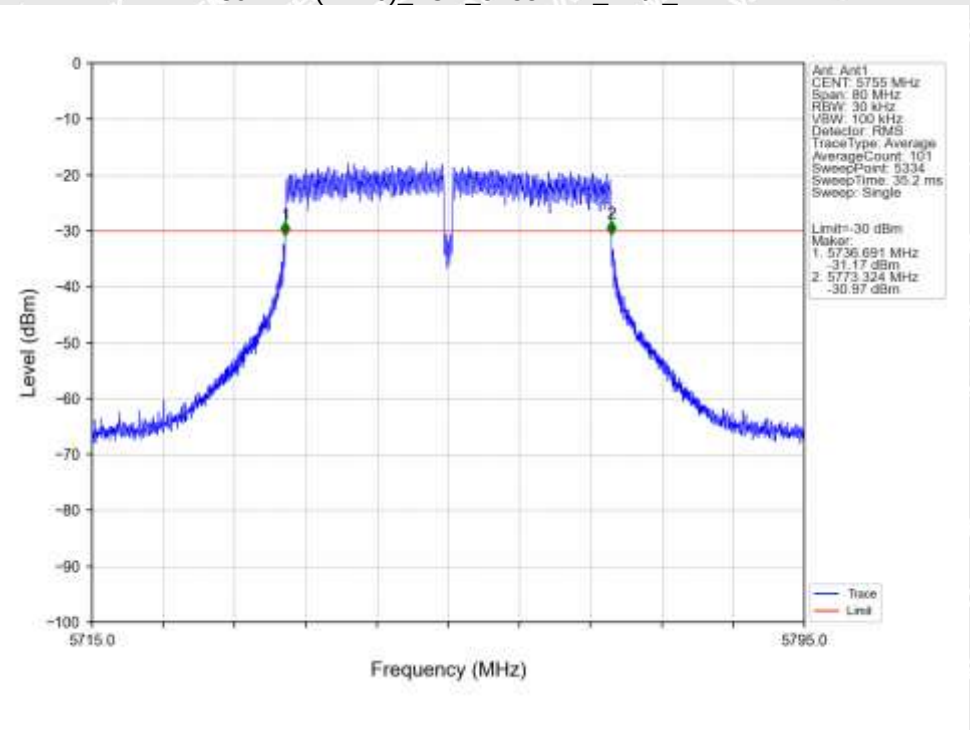
802.11n(HT20)_LCH_5745MHz_Ant1_HTHV



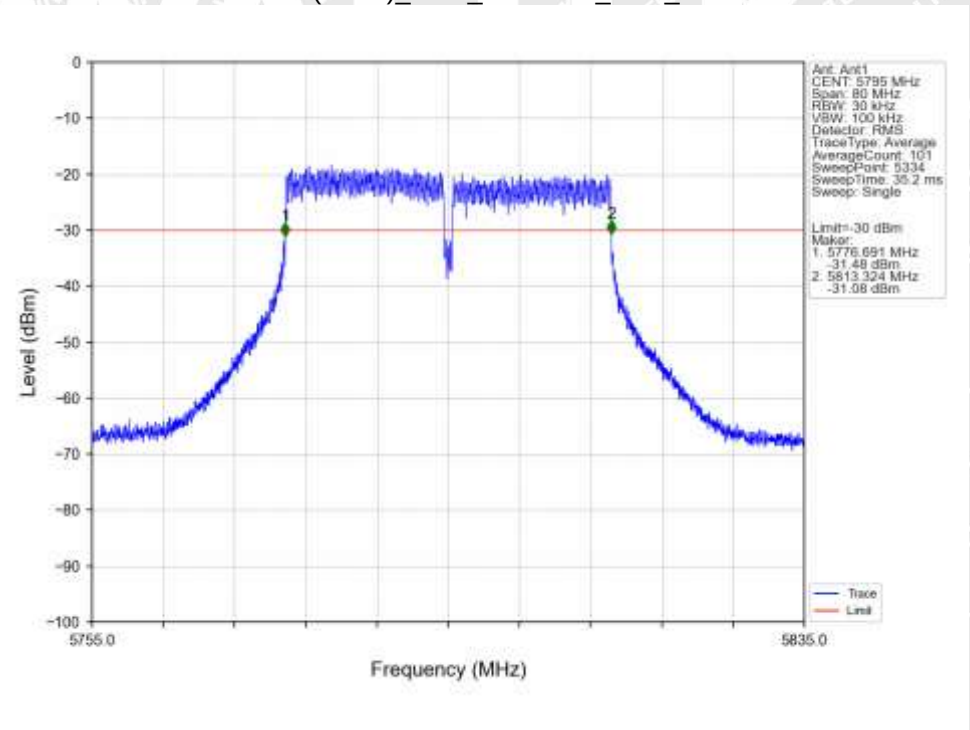
802.11n(HT20)_HCH_5825MHz_Ant1_HTHV



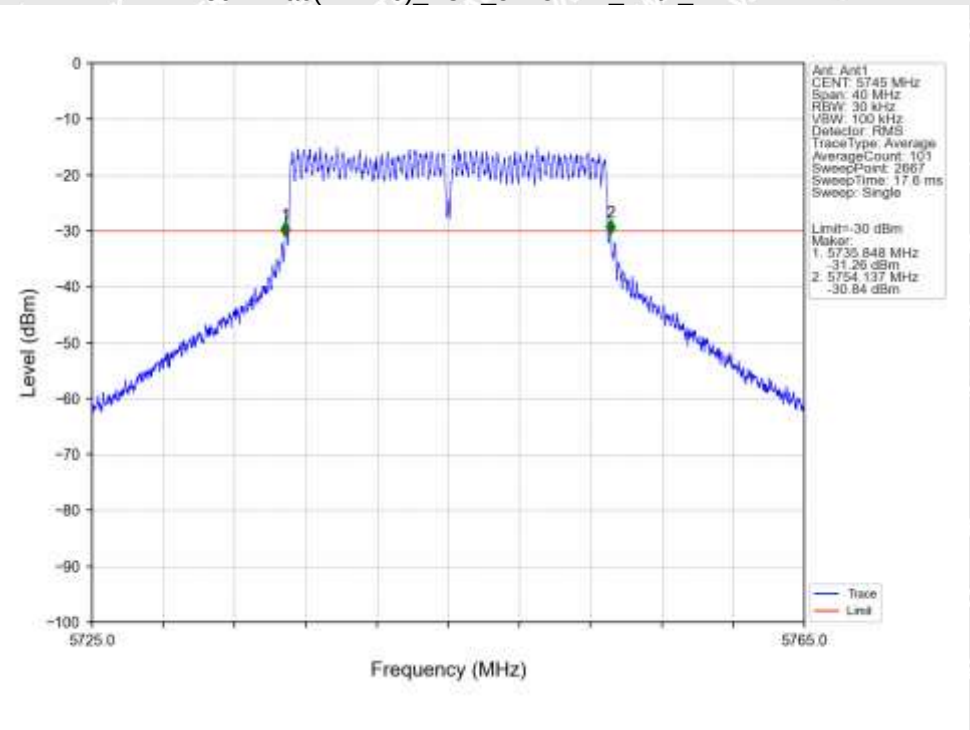
802.11n(HT40)_LCH_5755MHz_Ant1_HTHV



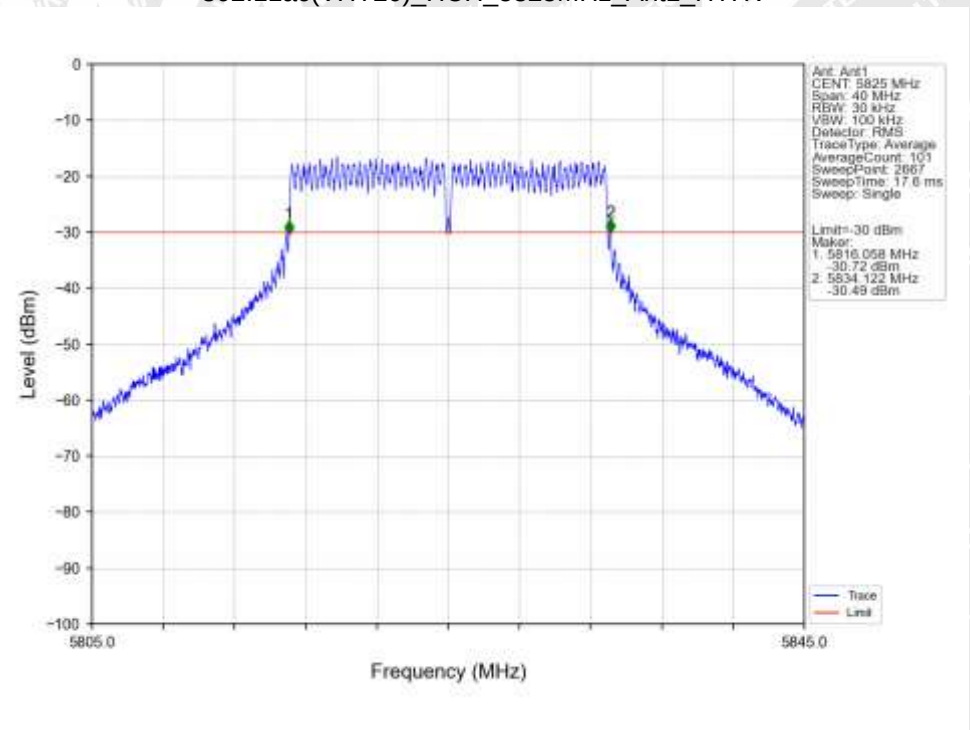
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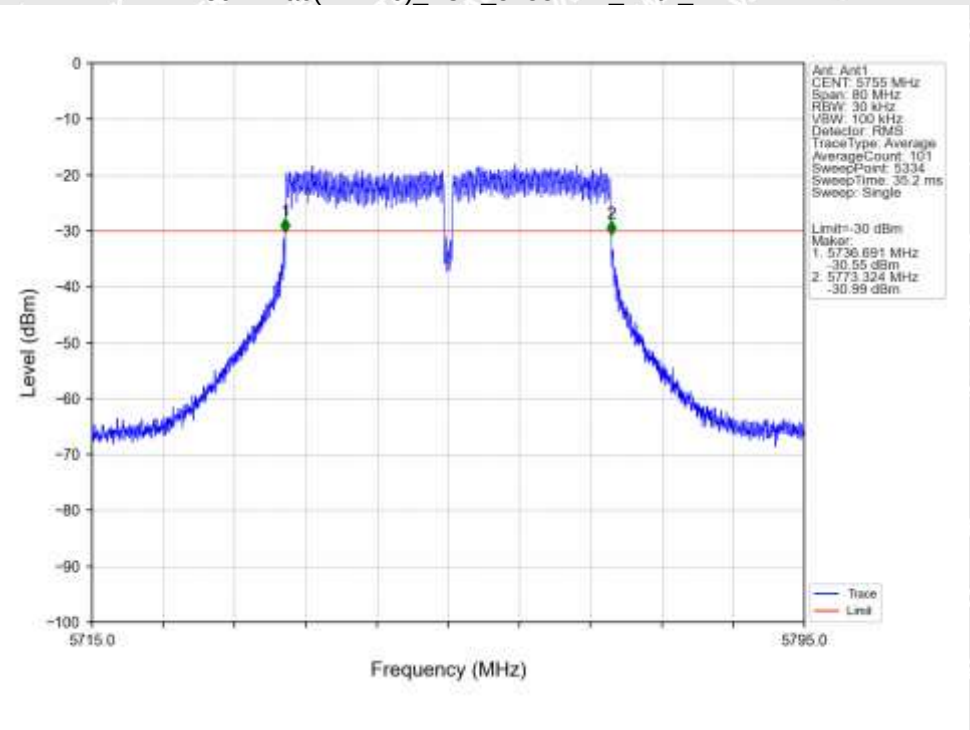
802.11ac(VHT20)_LCH_5745MHz_Ant1_HTHV



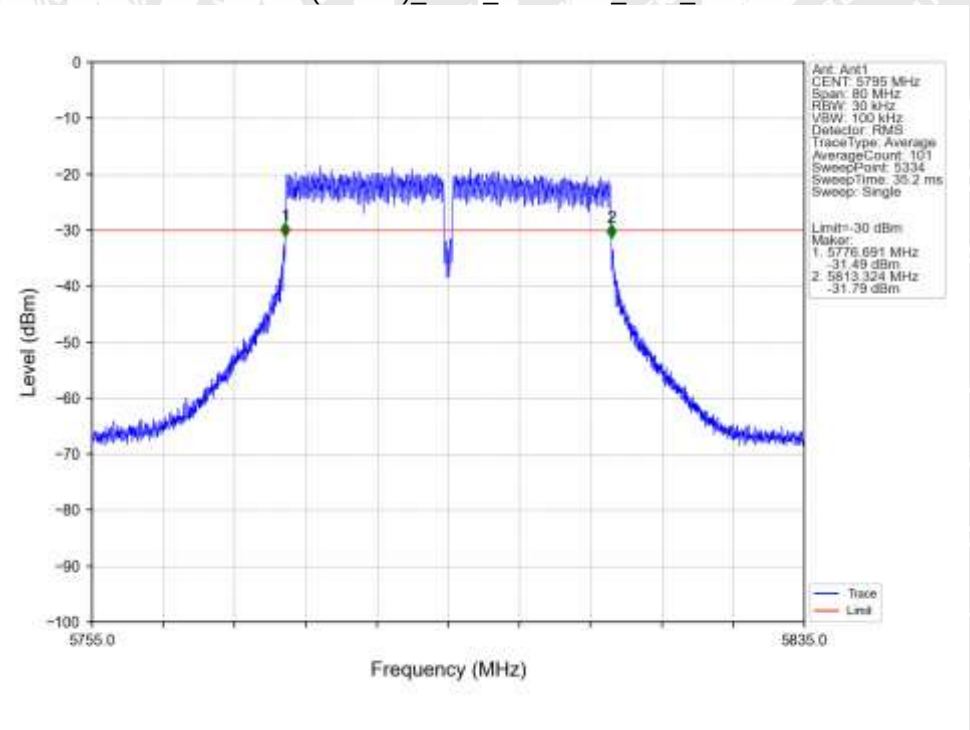
802.11ac(VHT20)_HCH_5825MHz_Ant1_HTHV



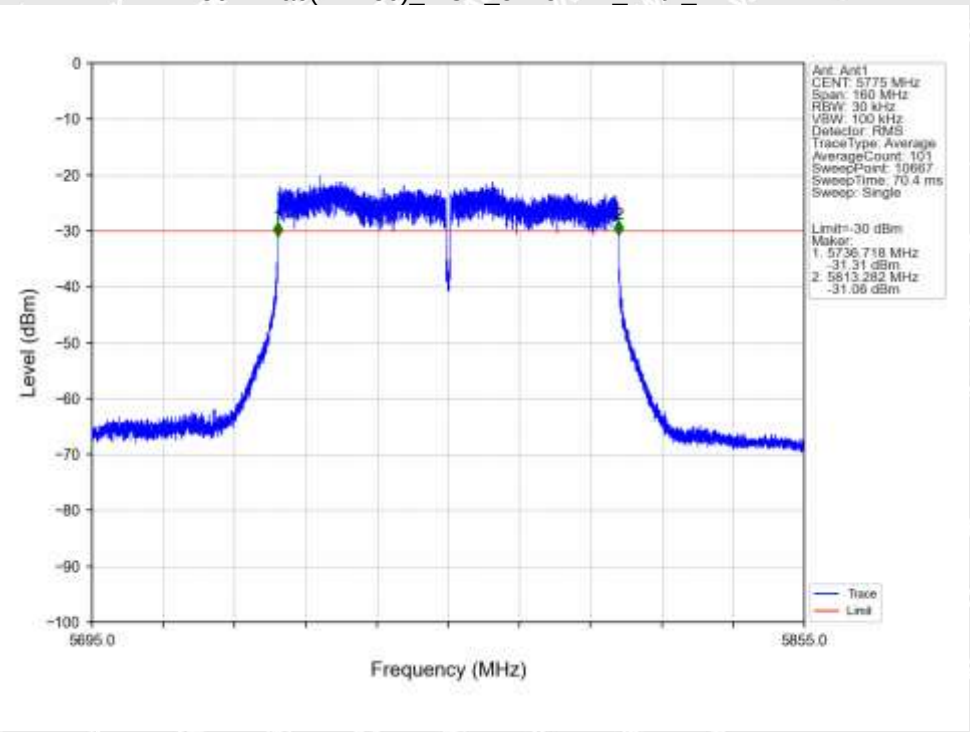
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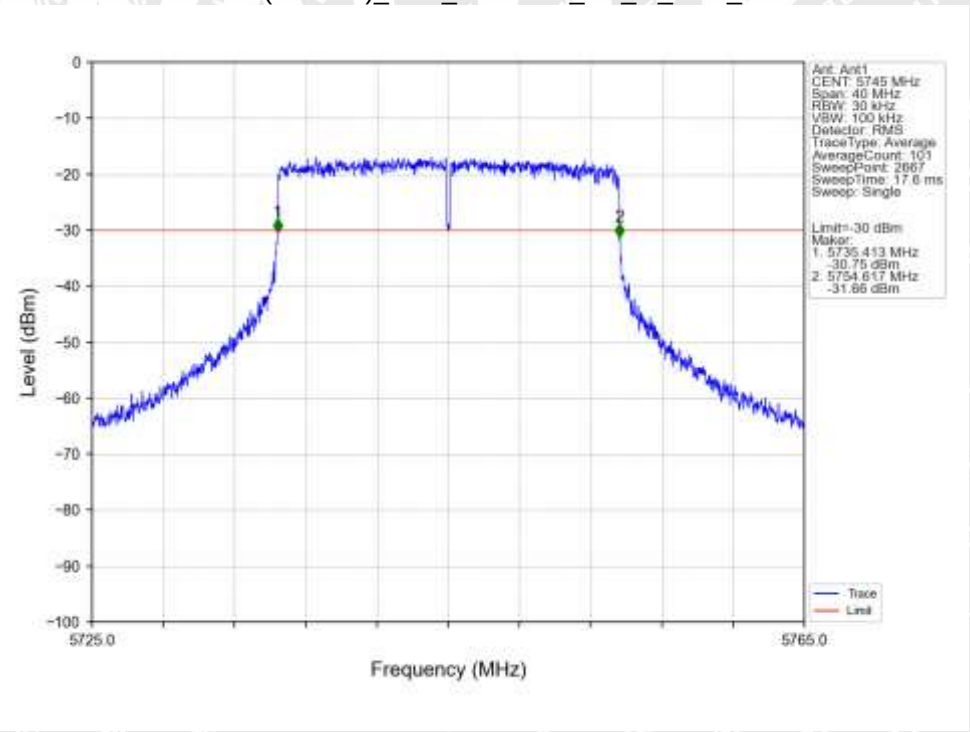
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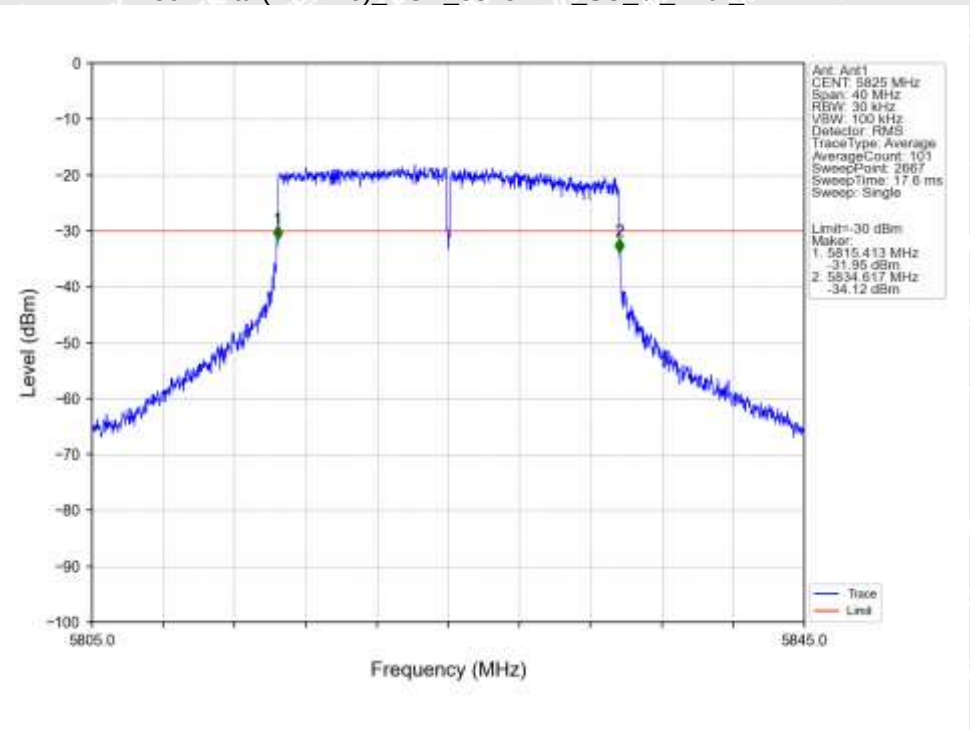
802.11ac(VHT80)_MCH_5775MHz_Ant1_HTHV



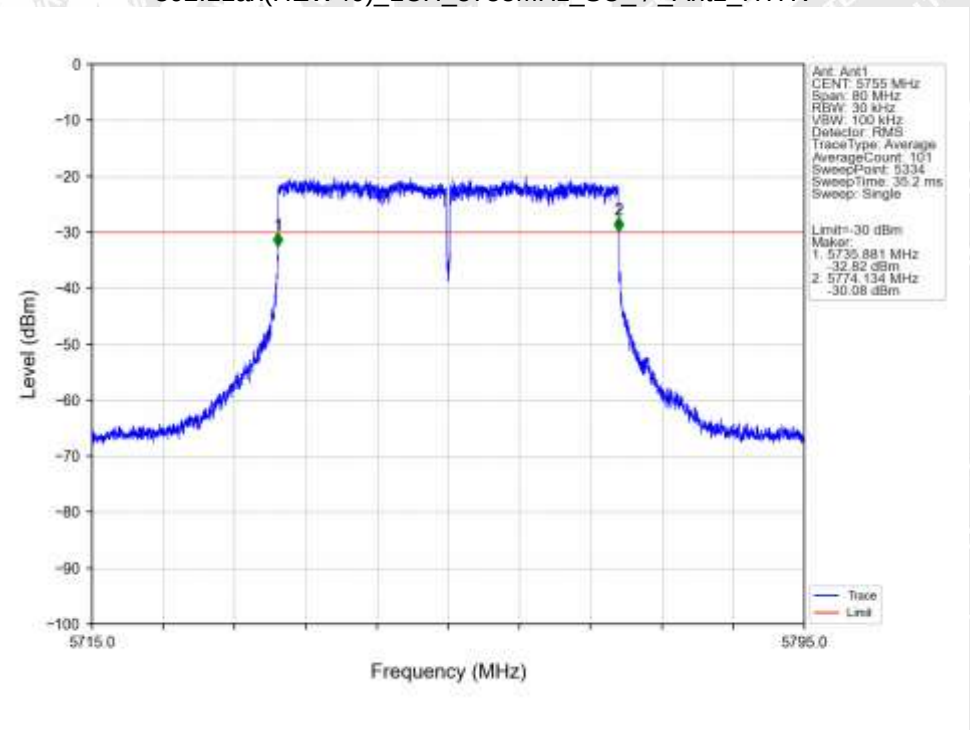
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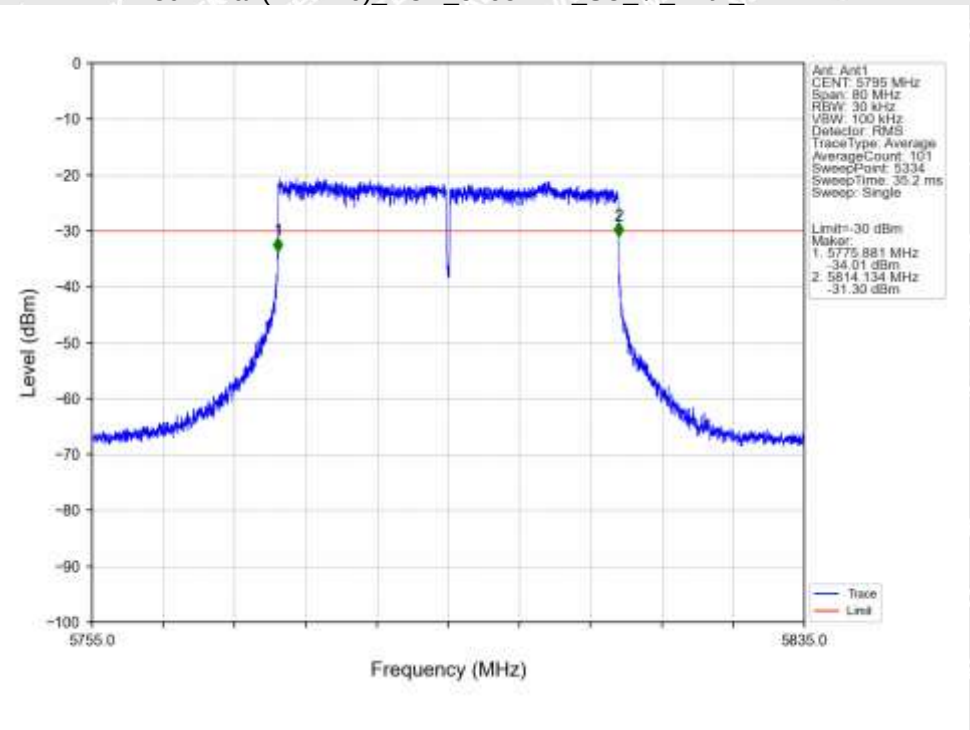
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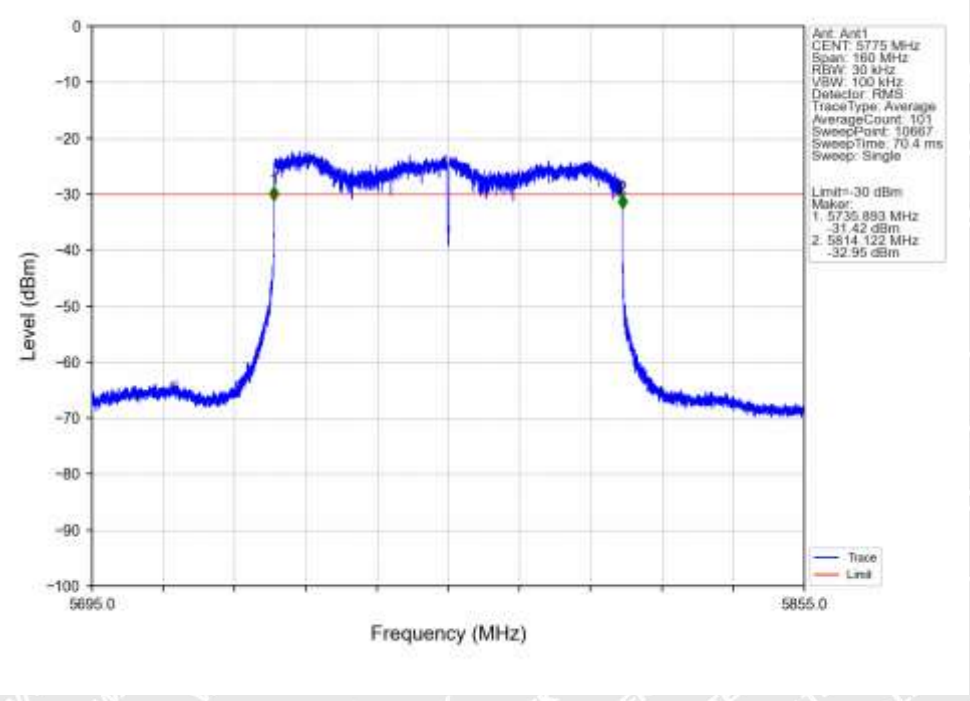
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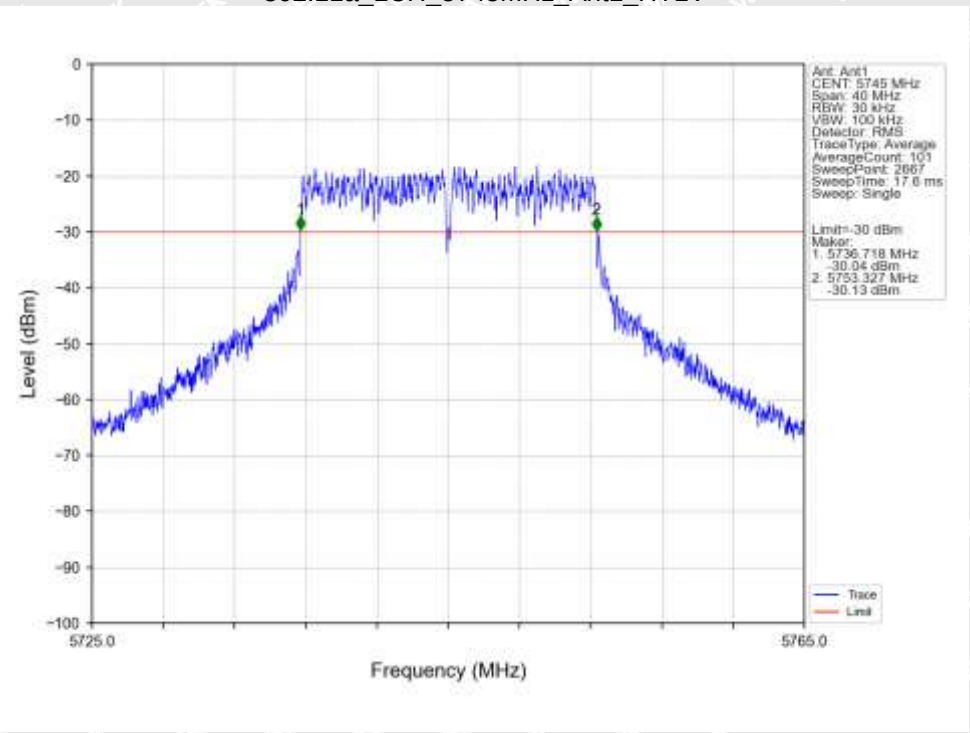
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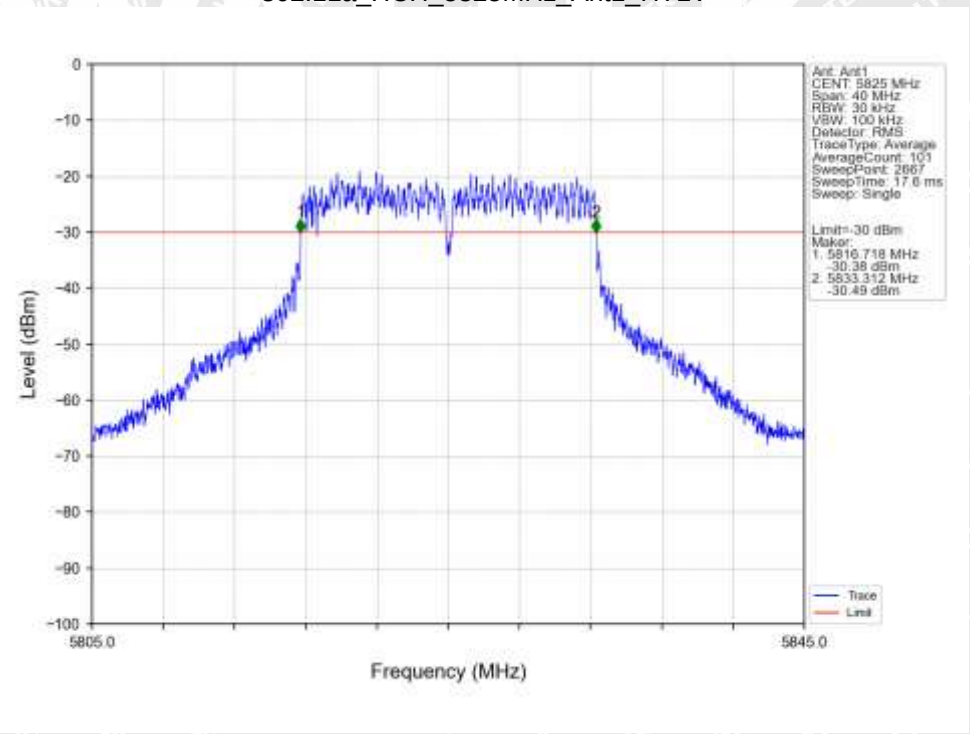
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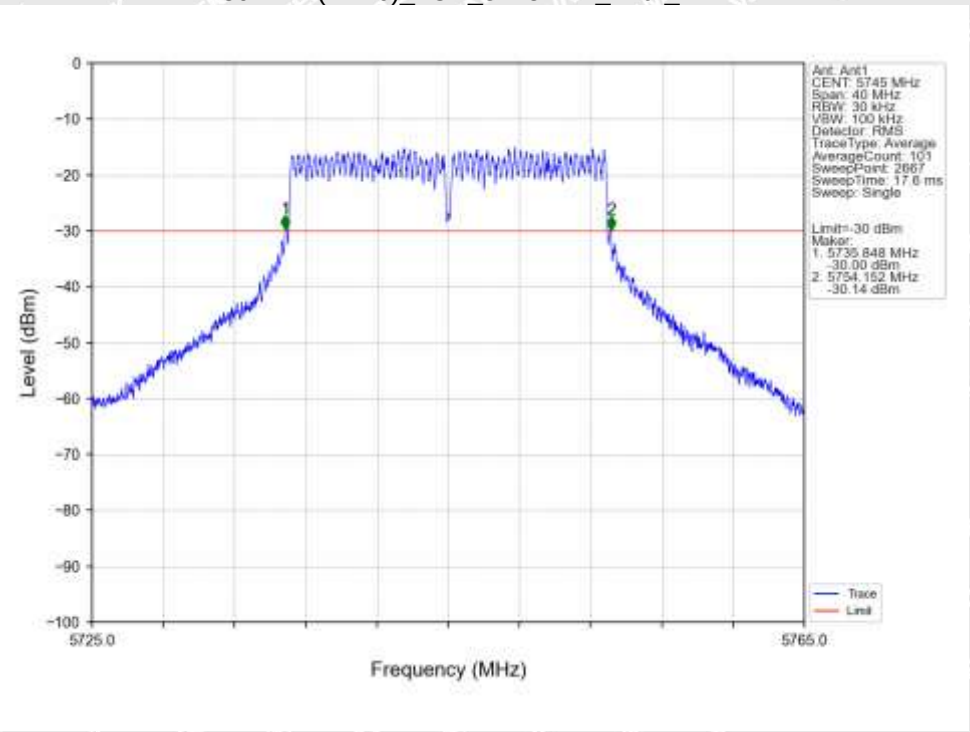
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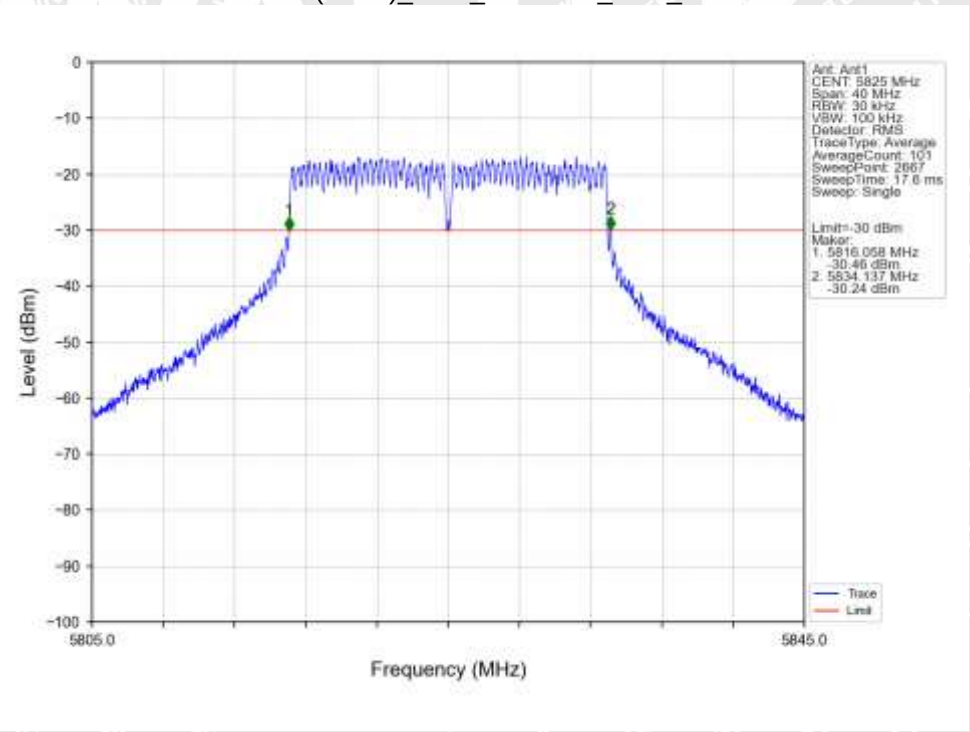
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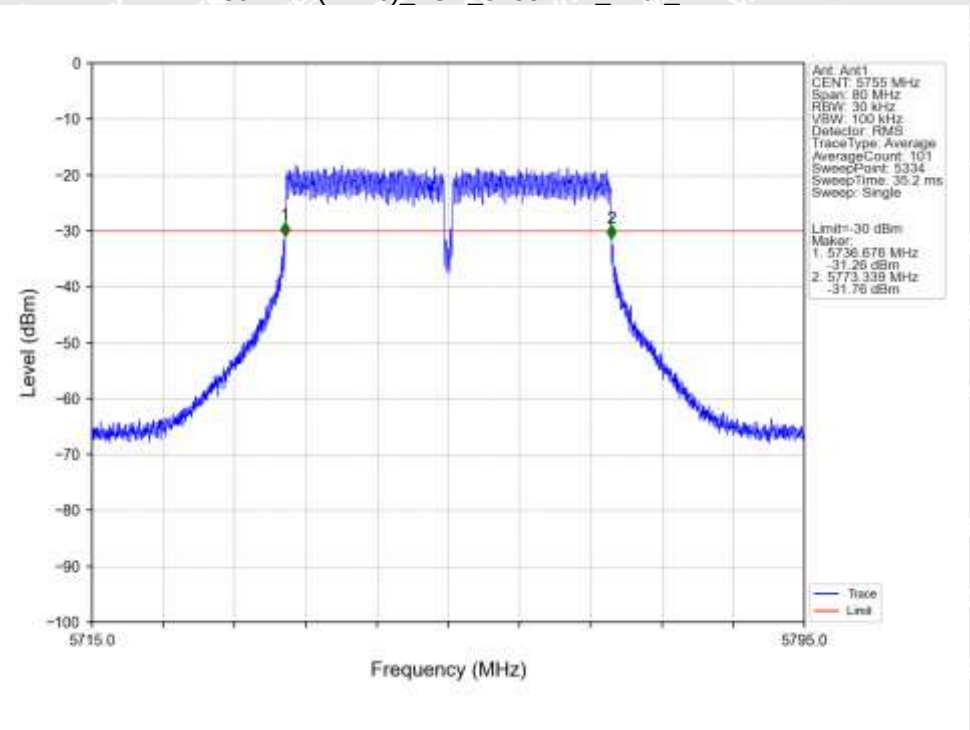
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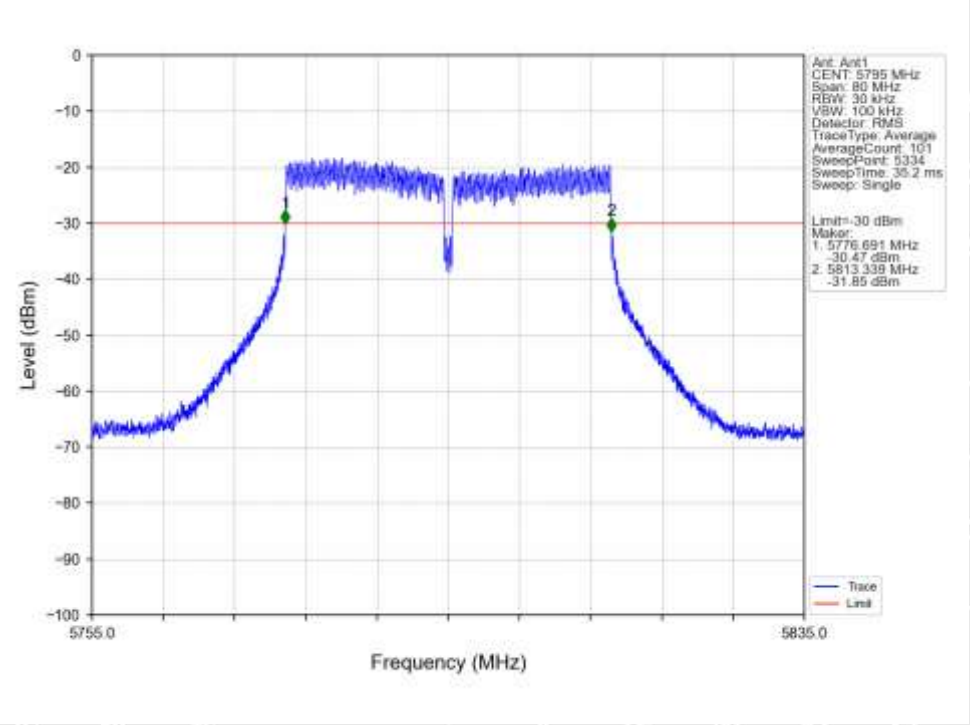
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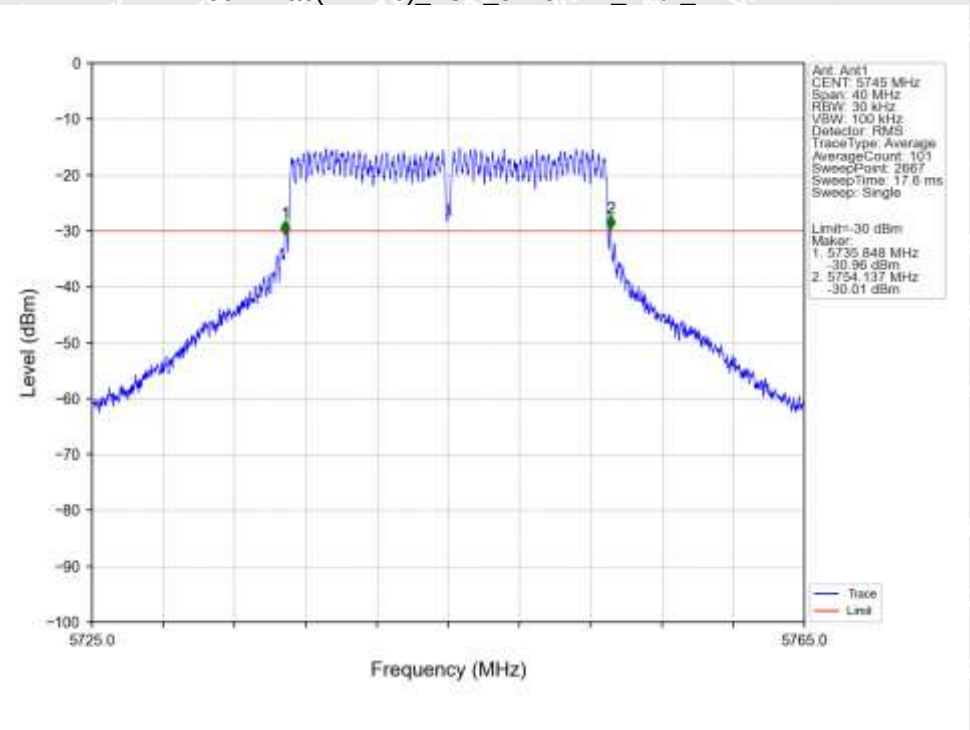
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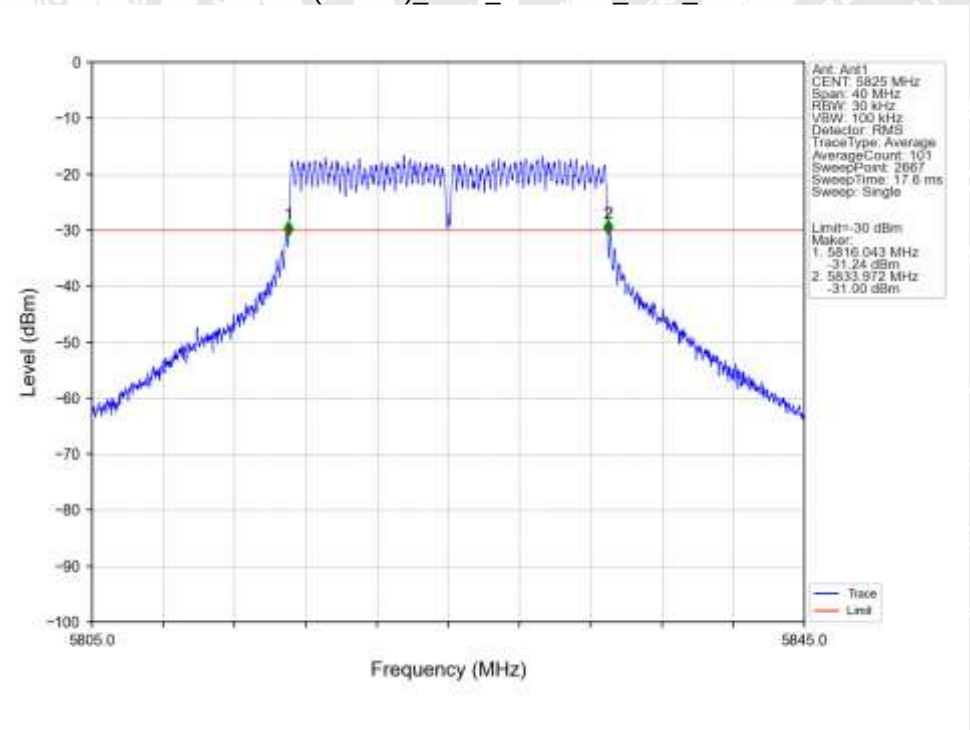
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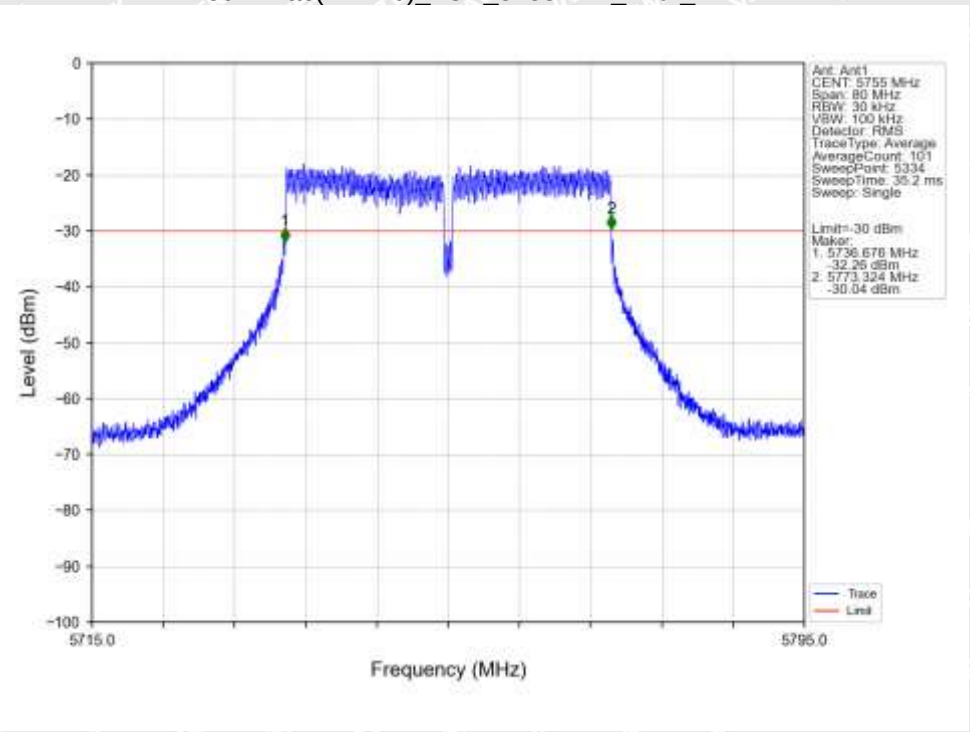
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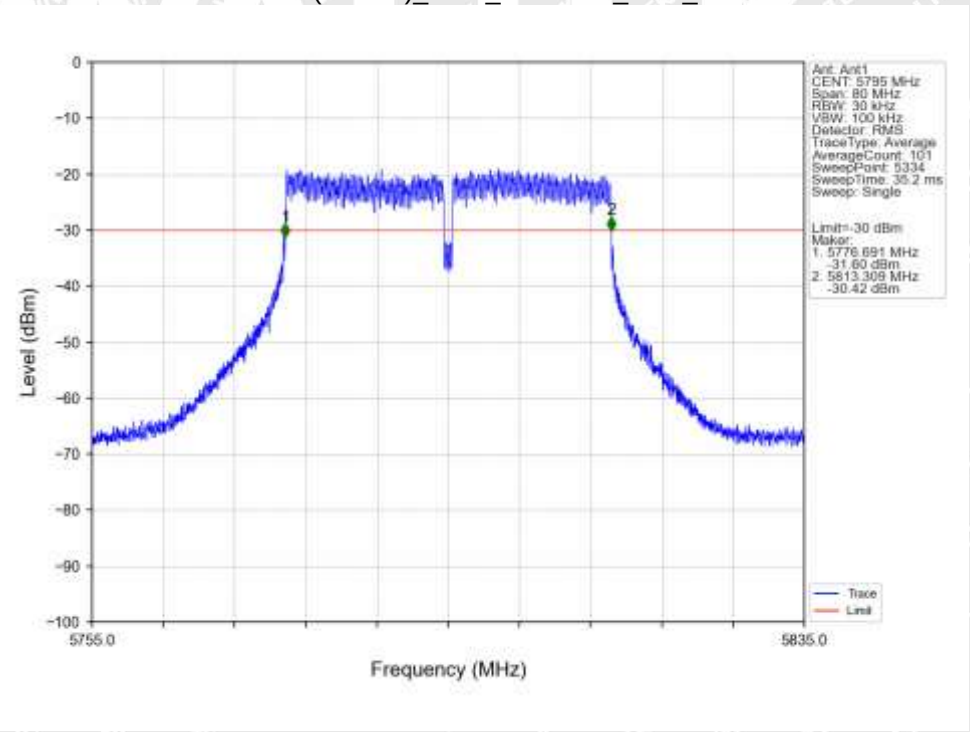
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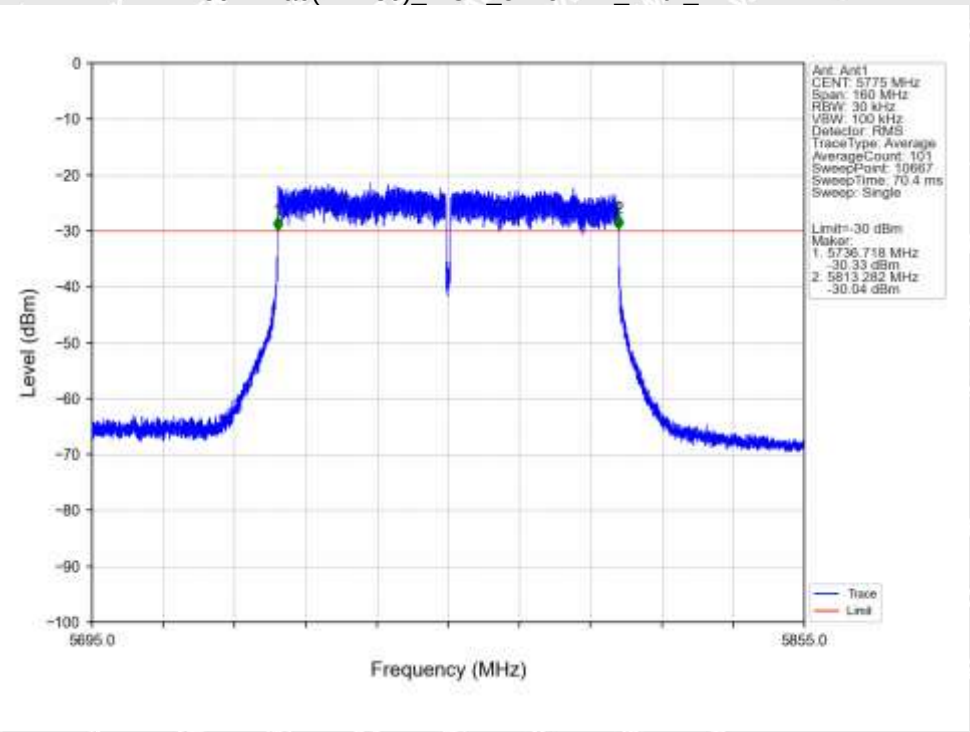
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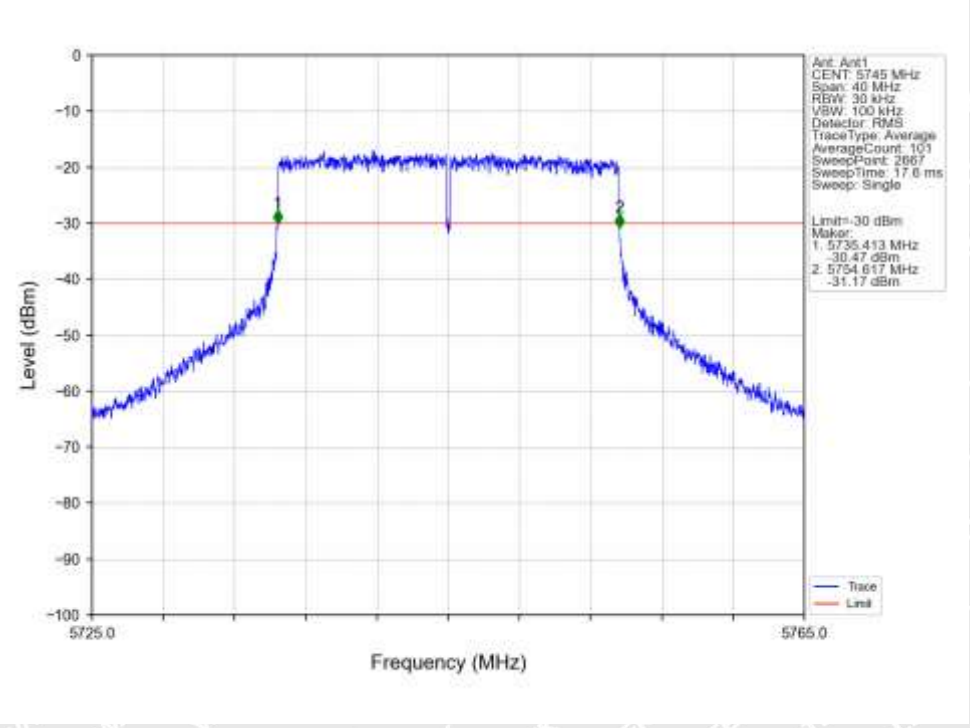
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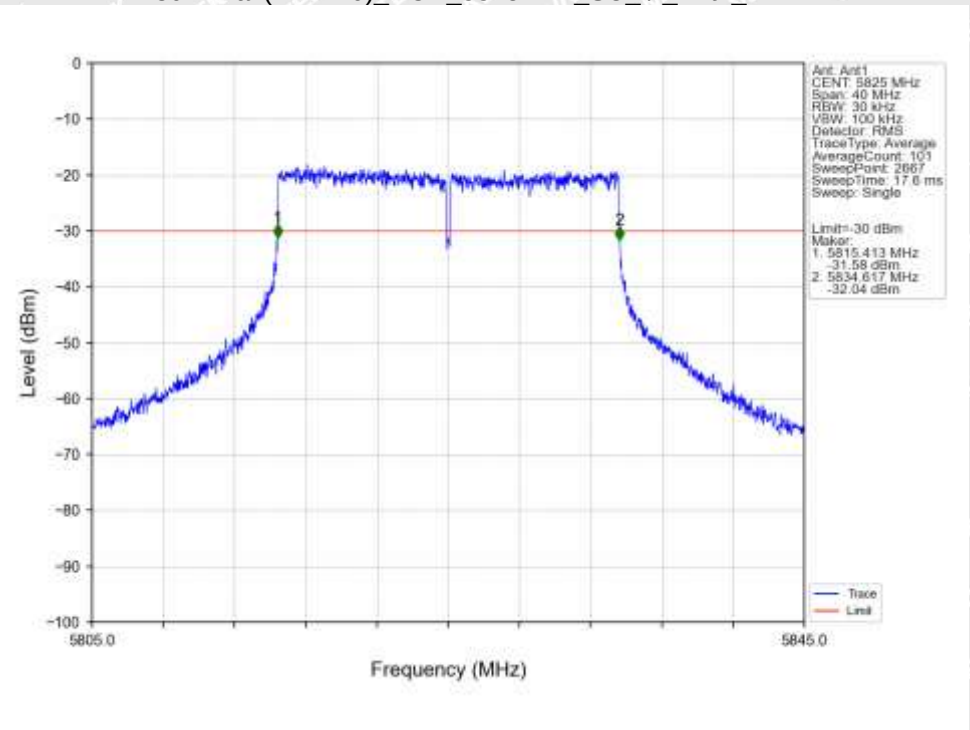
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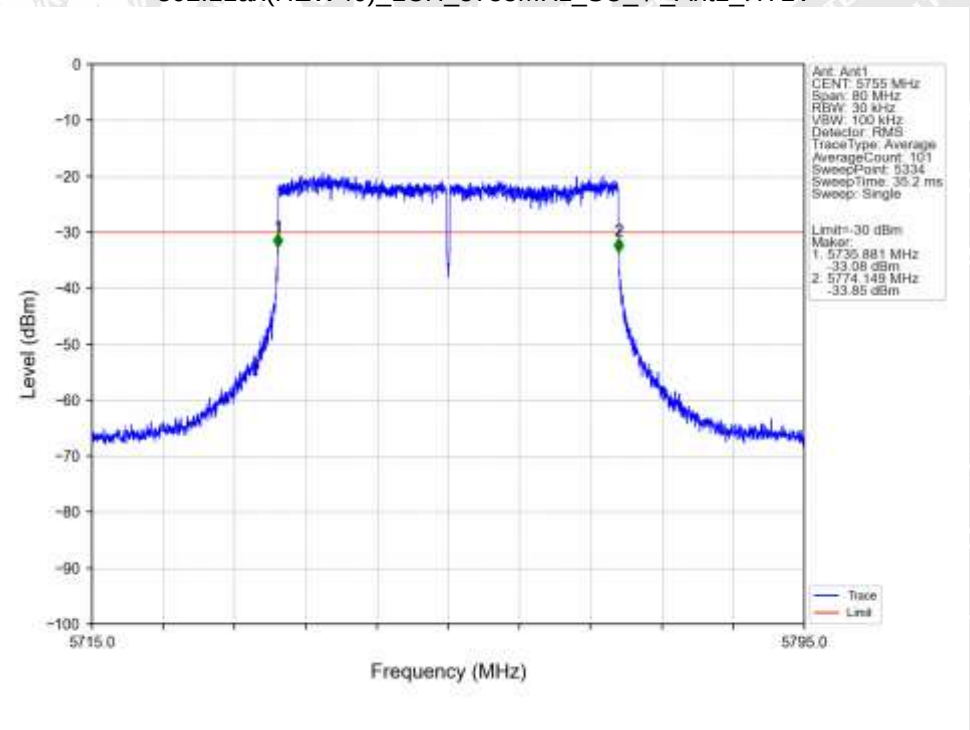
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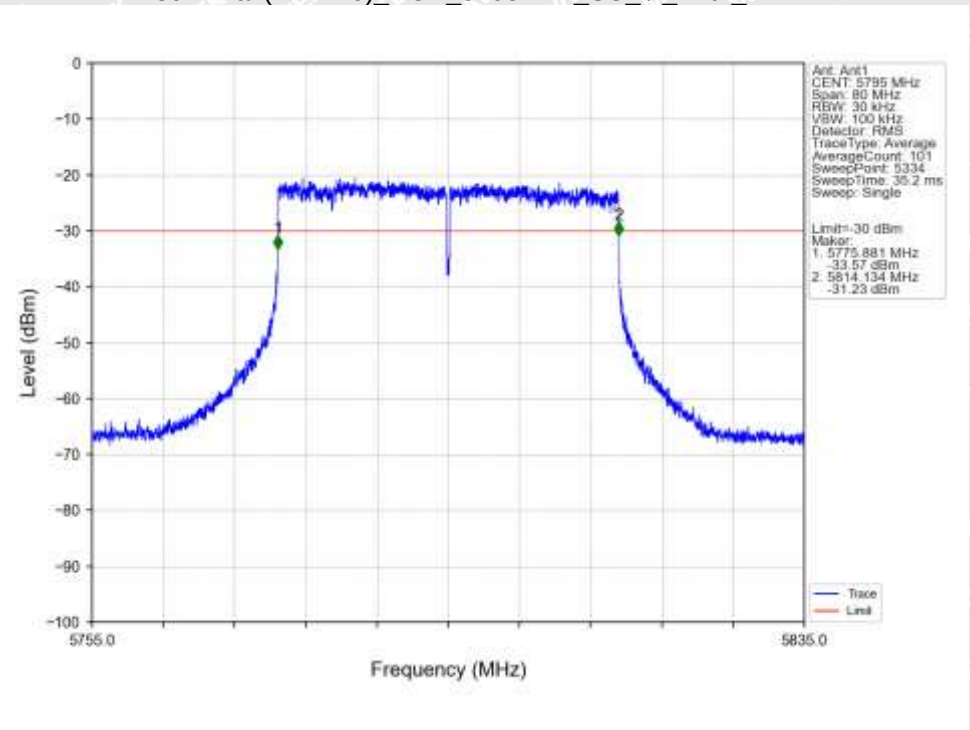
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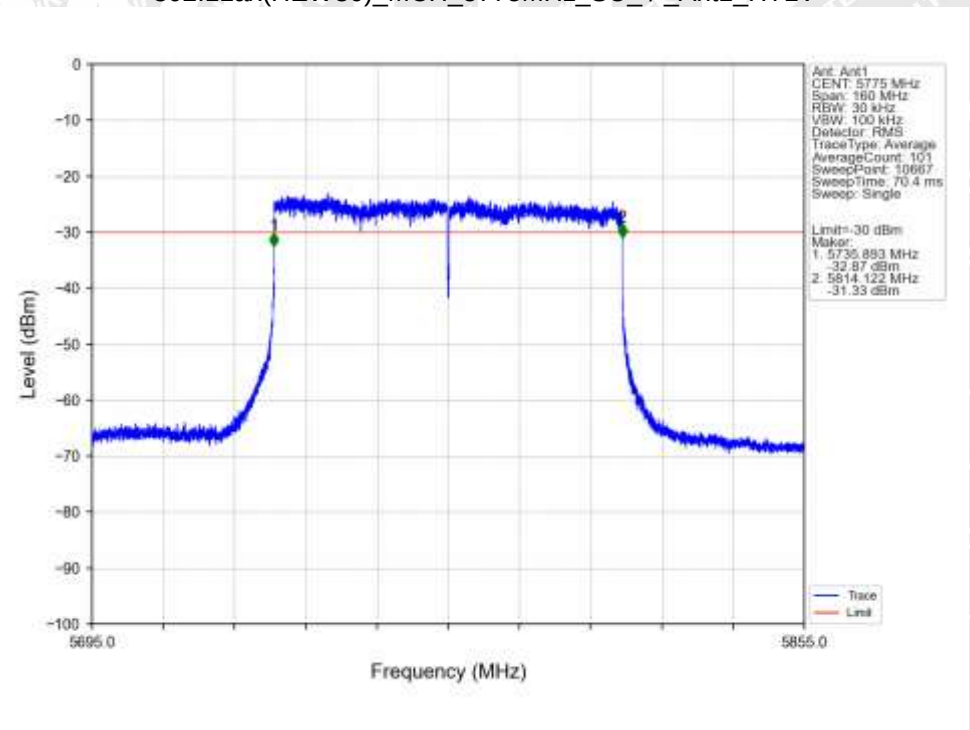
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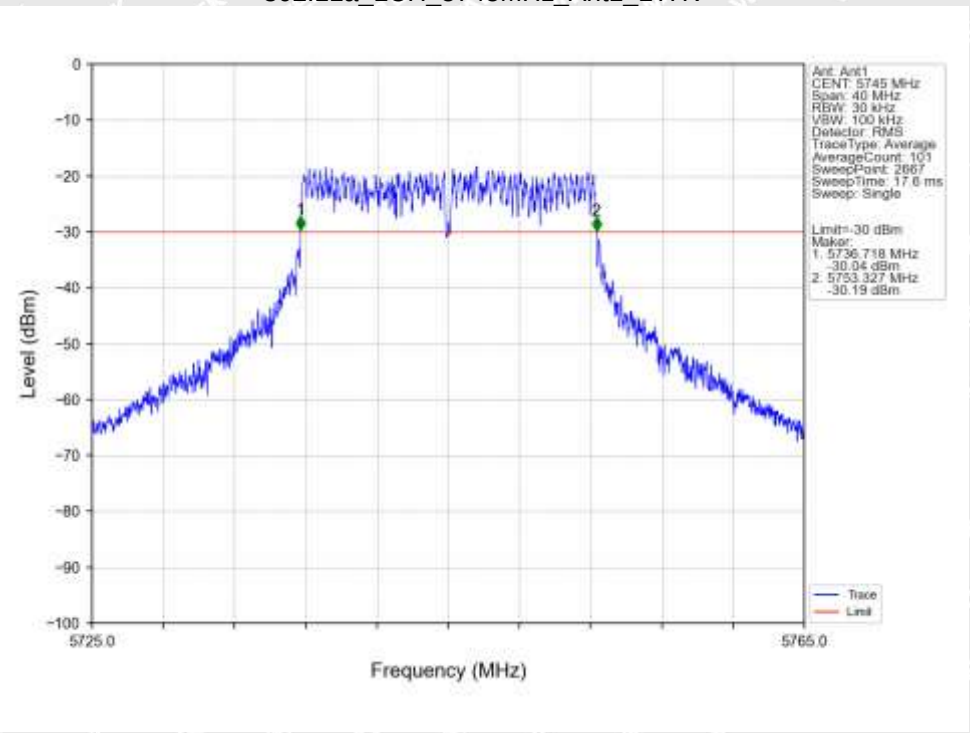
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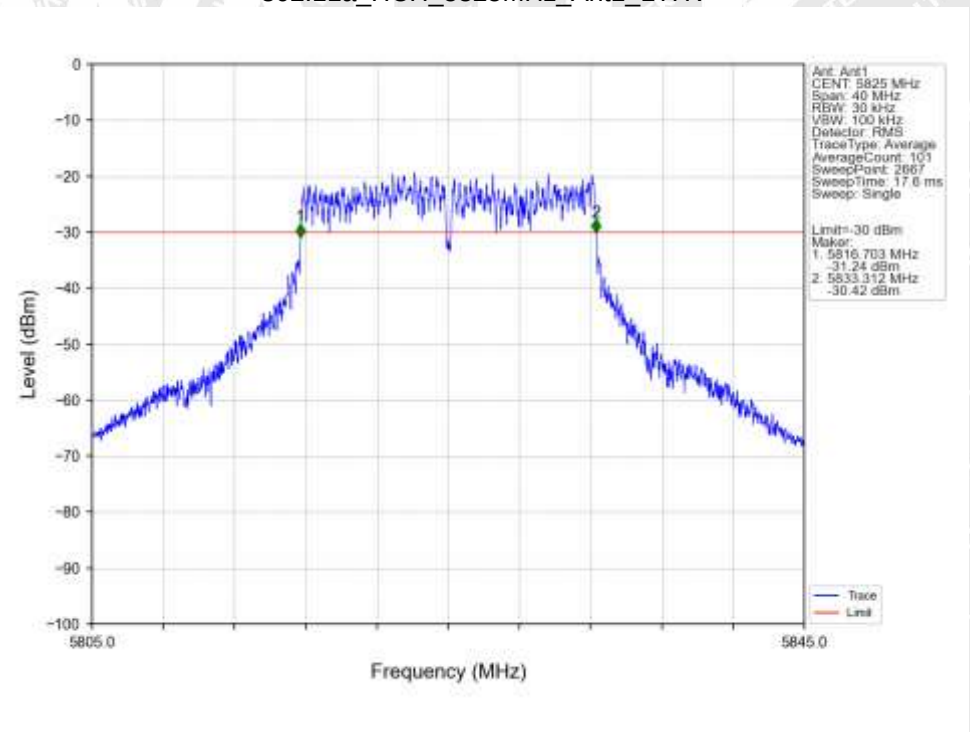
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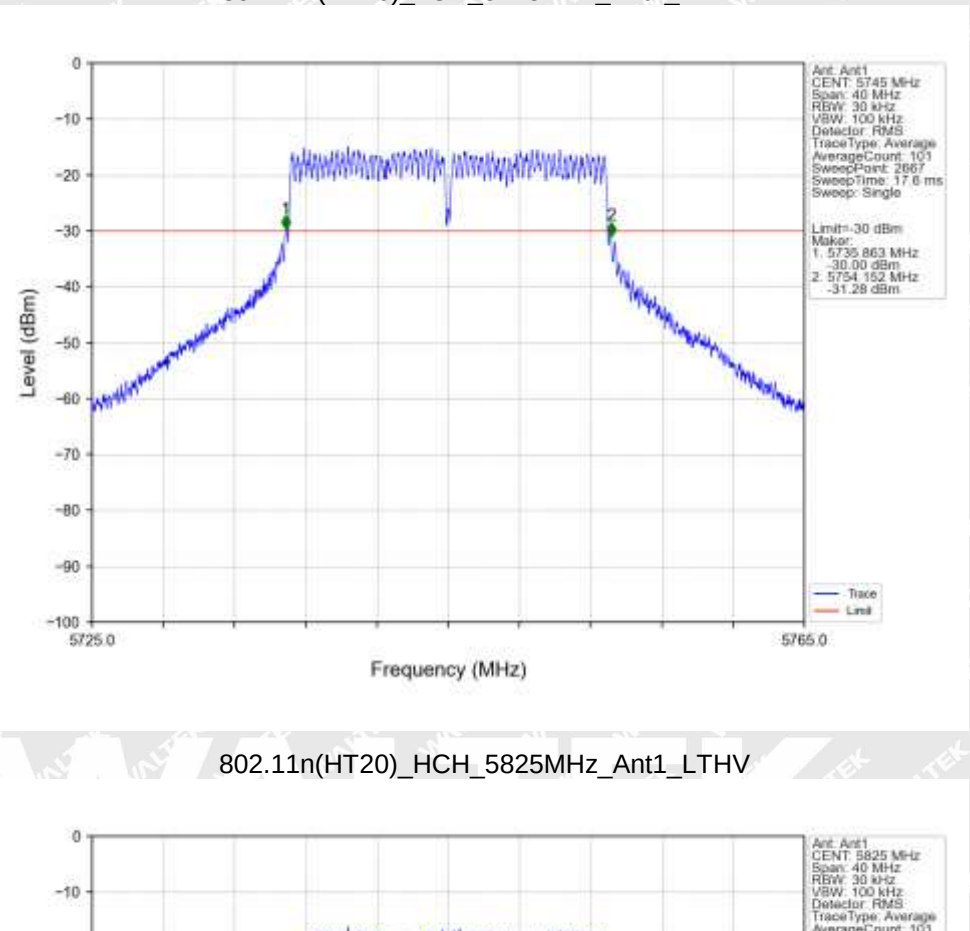
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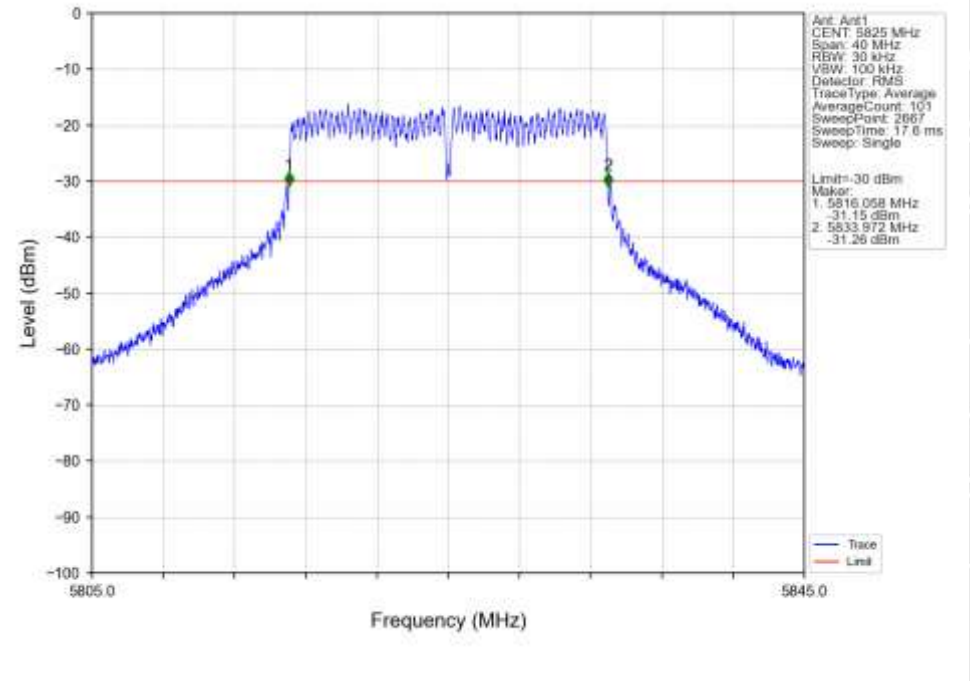
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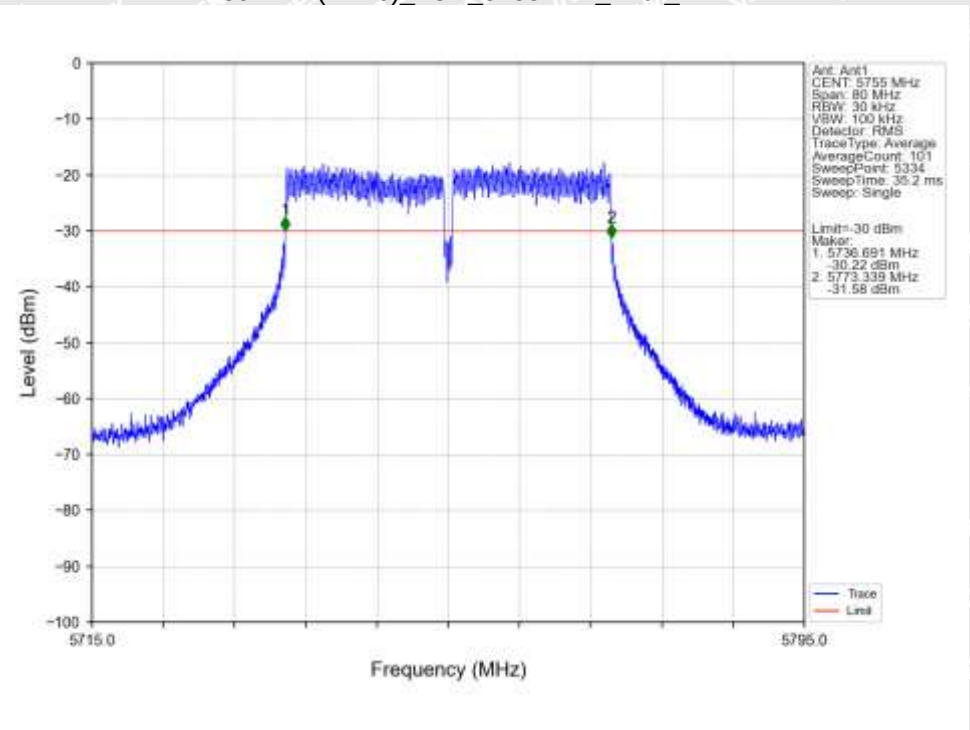
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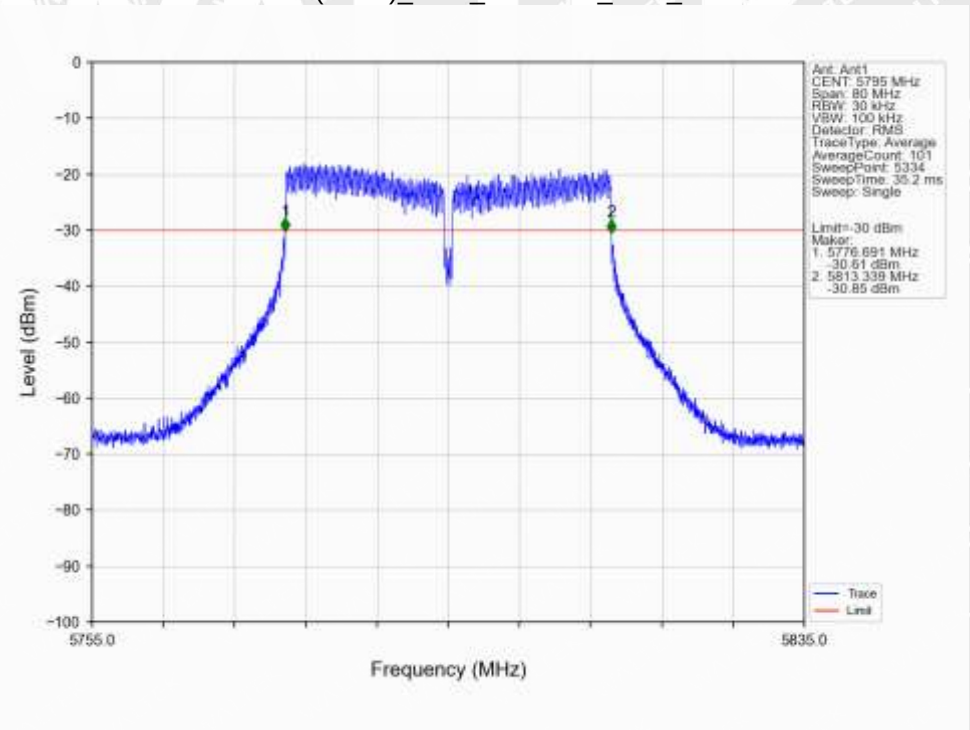
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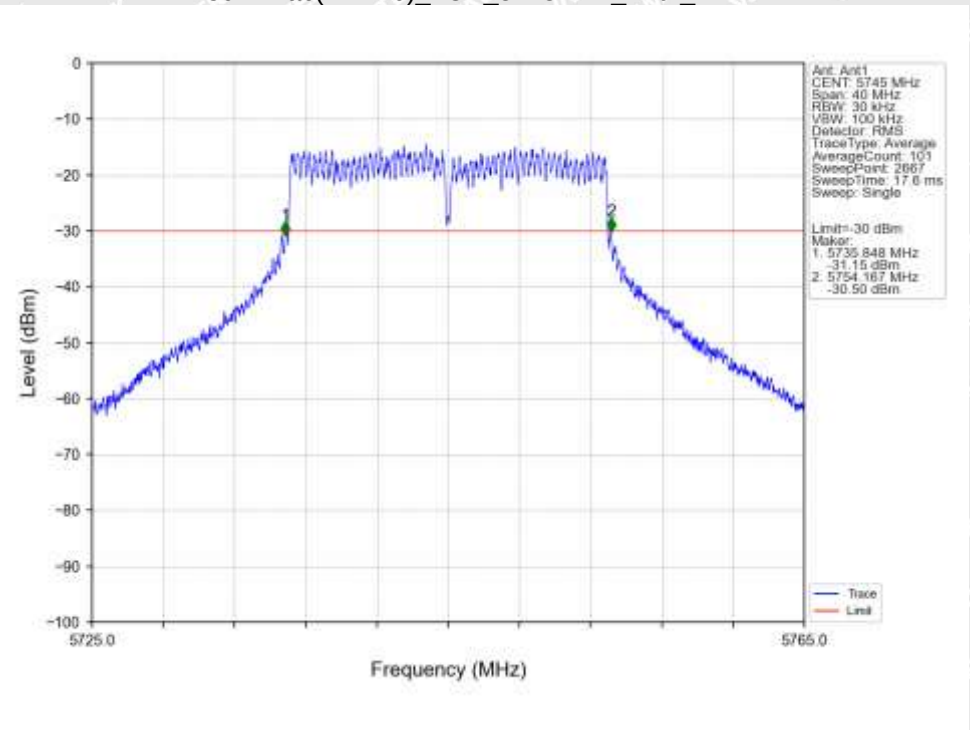
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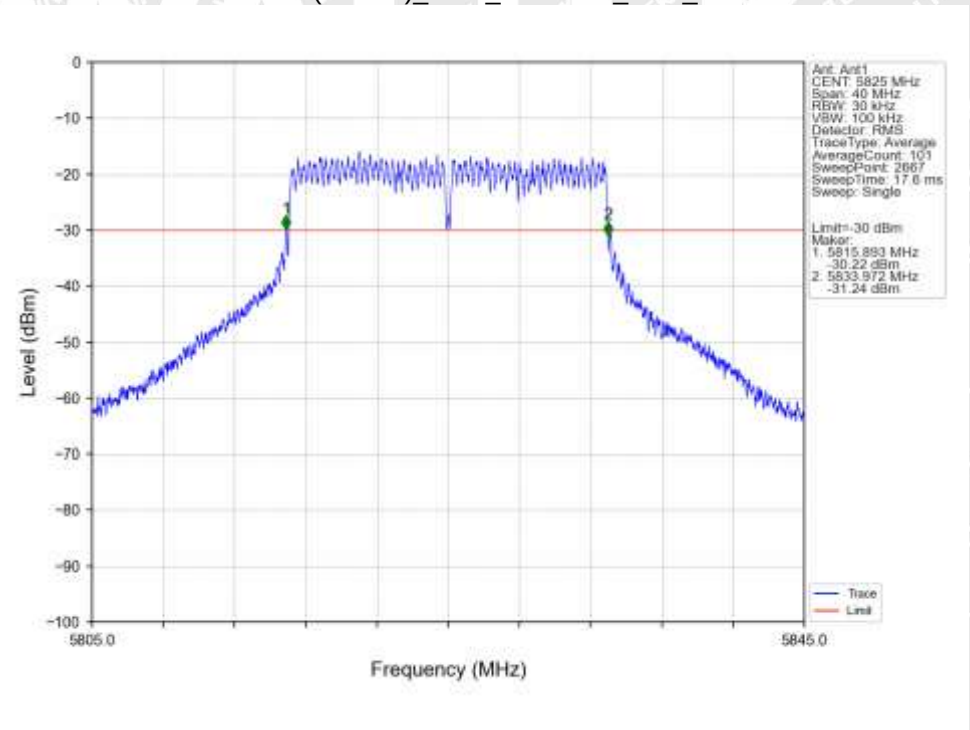
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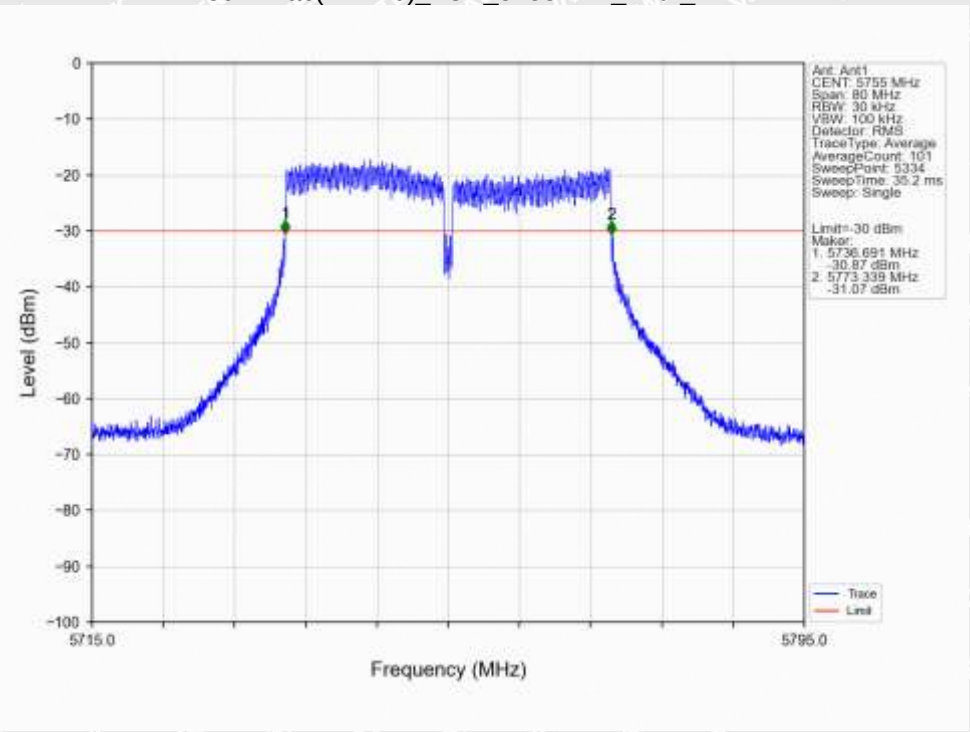
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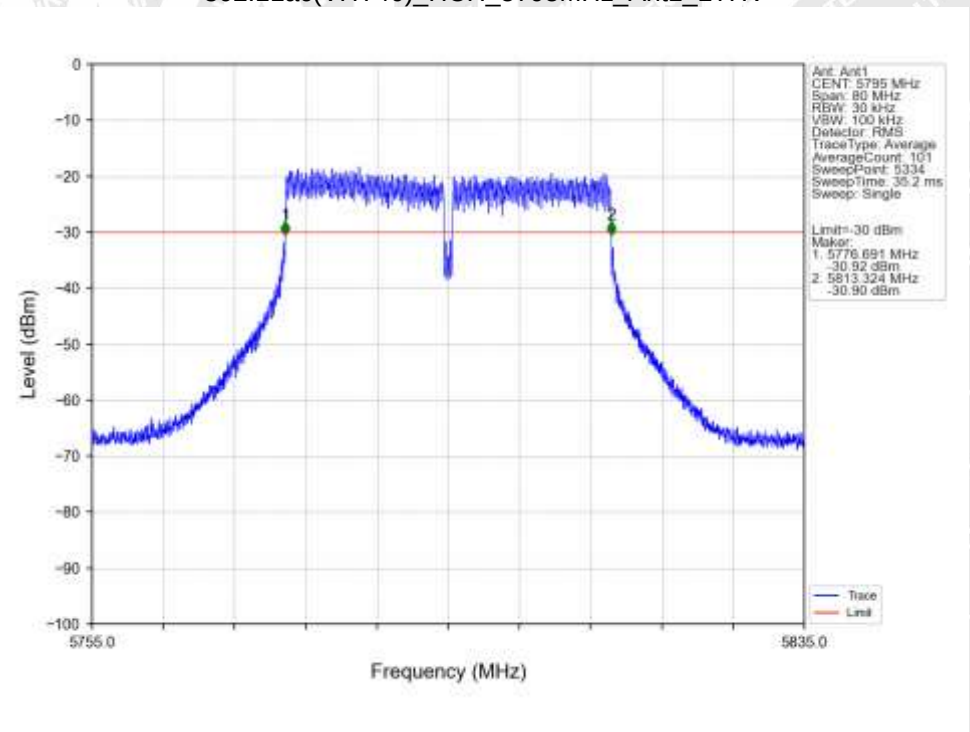
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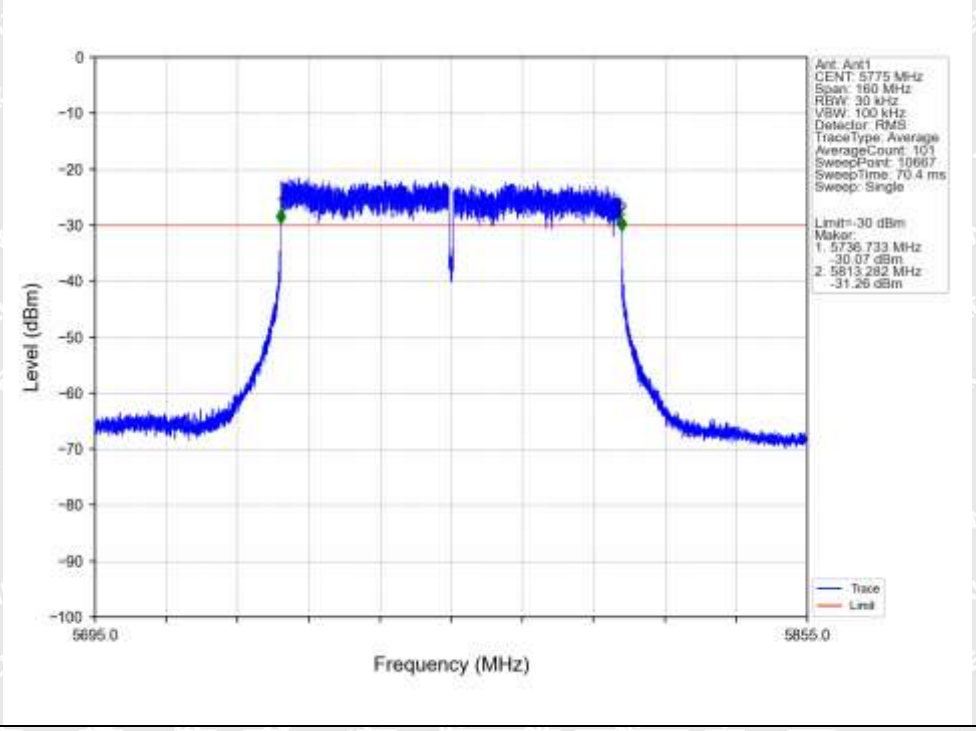
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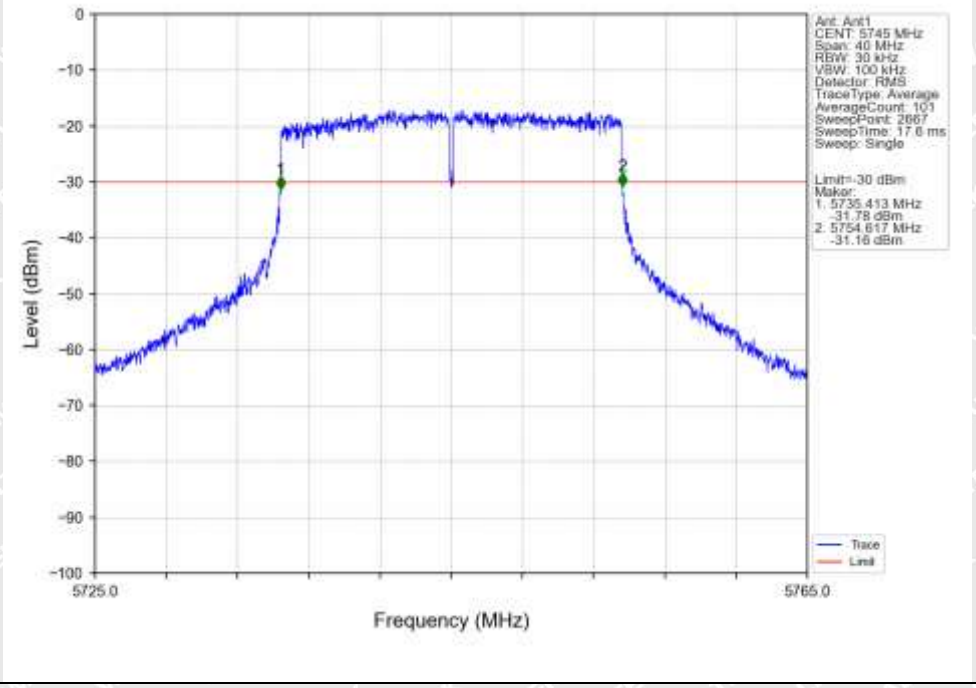
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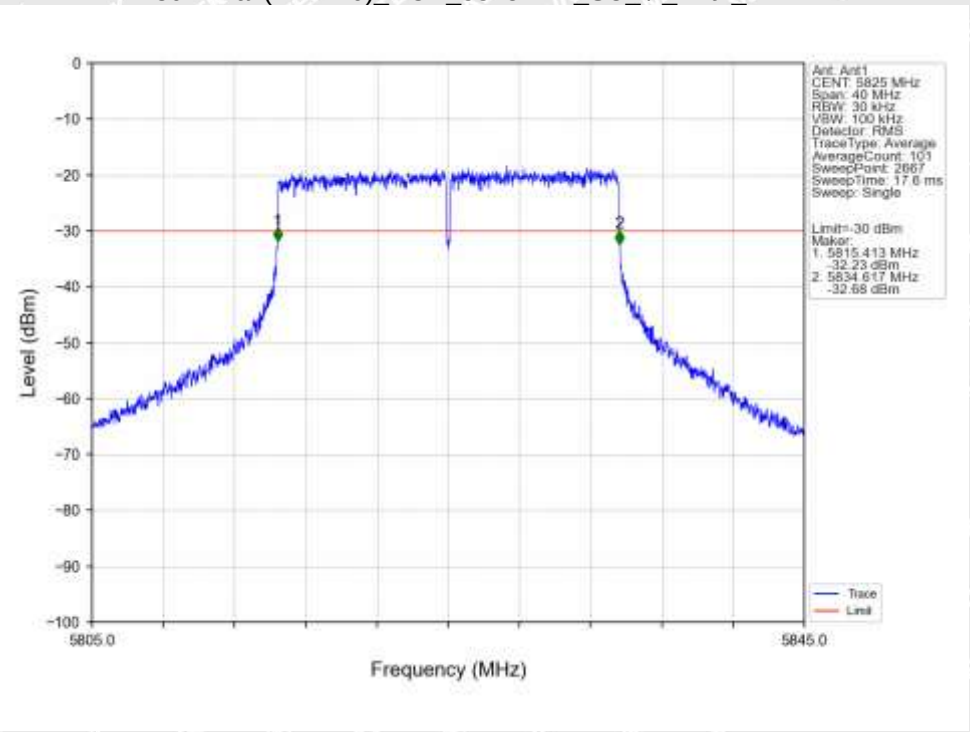
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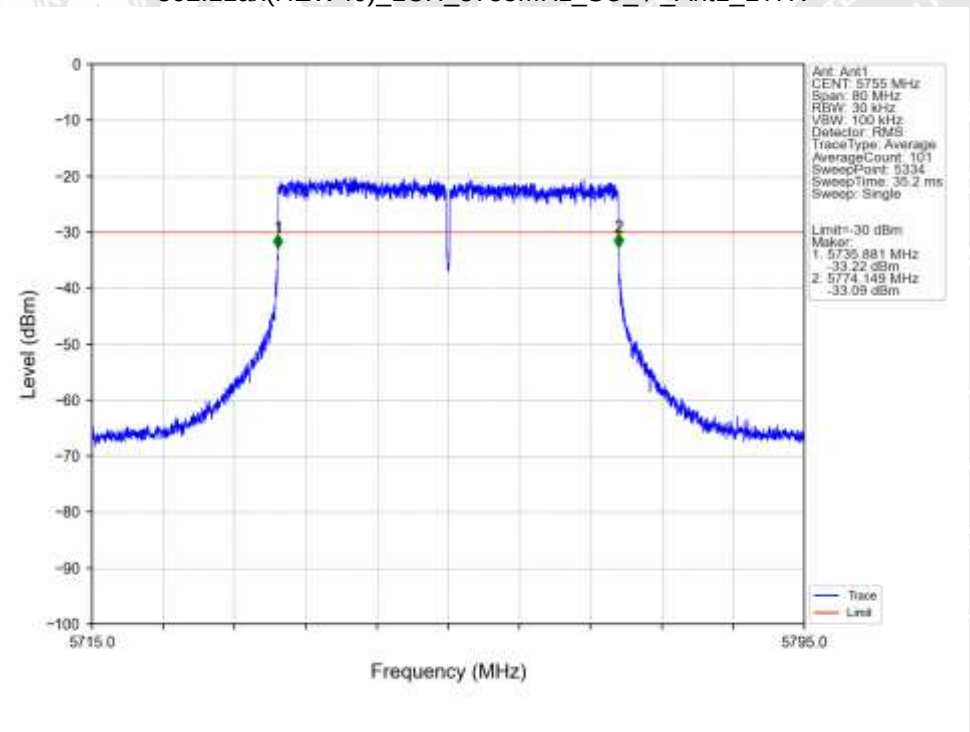
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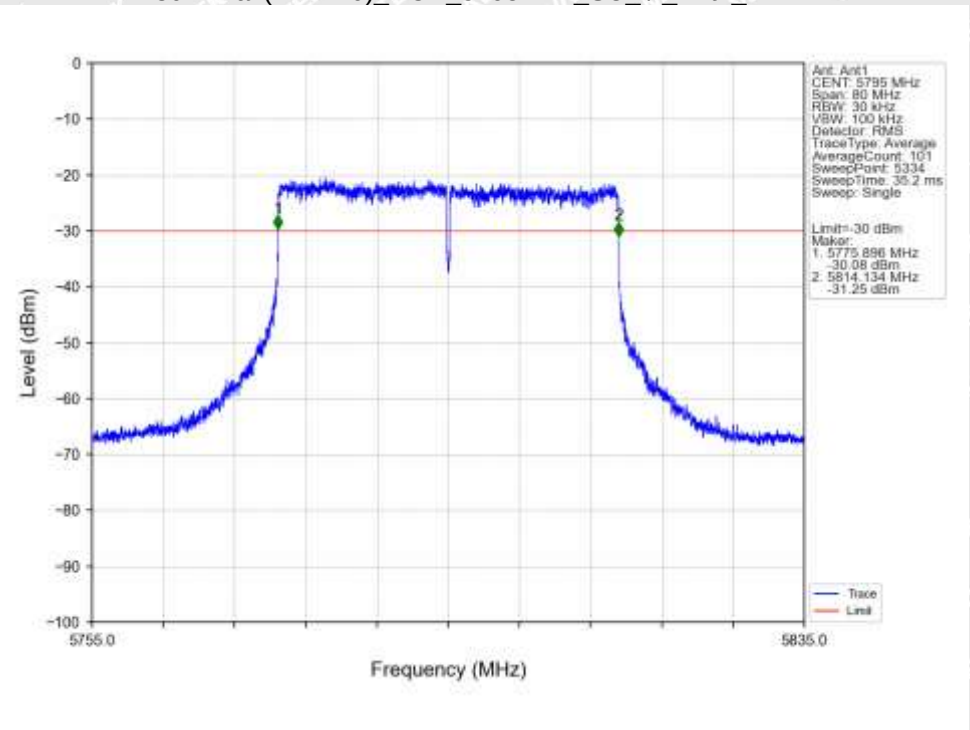
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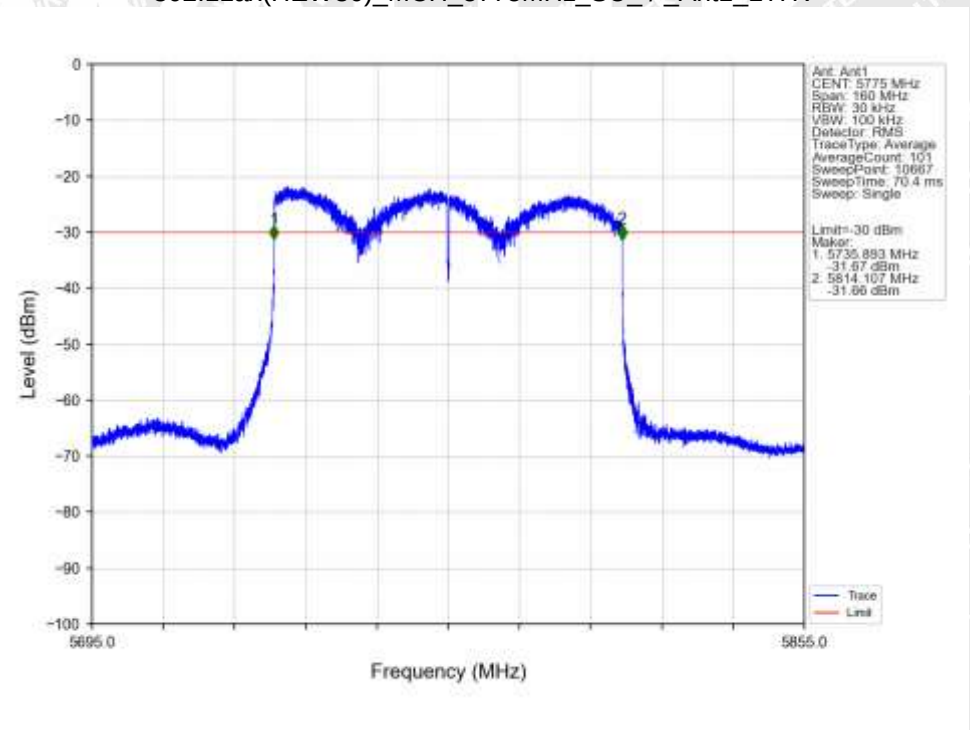
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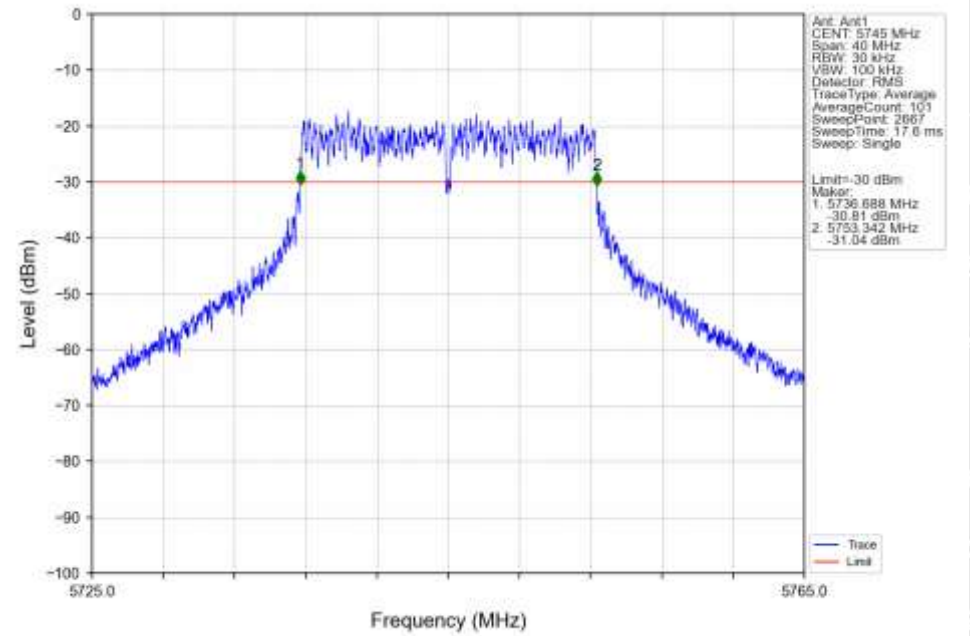
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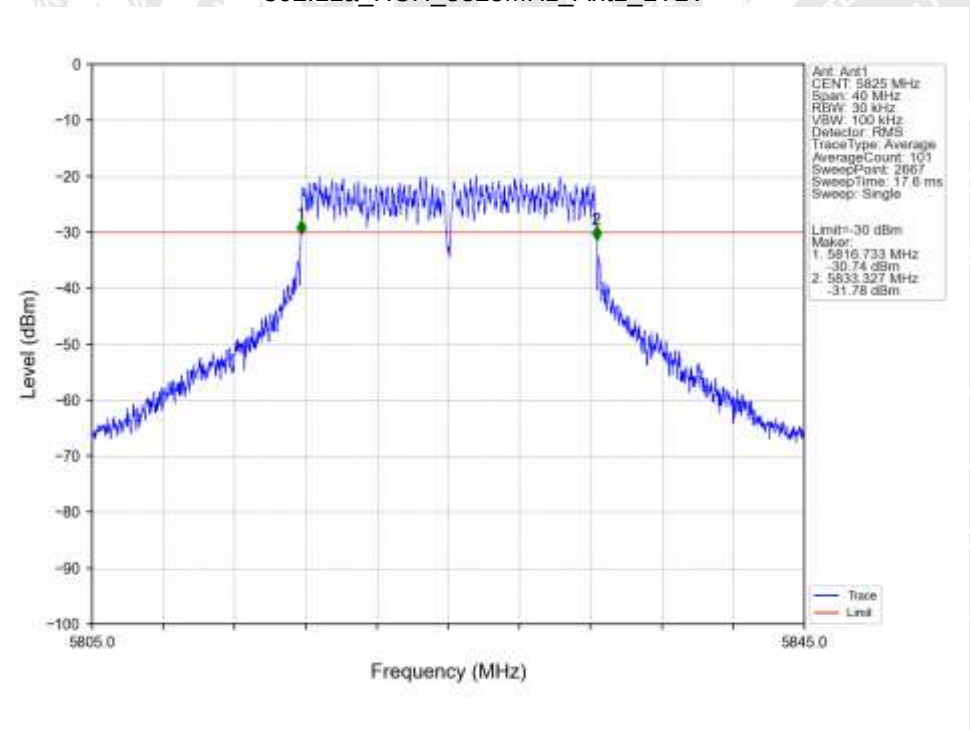
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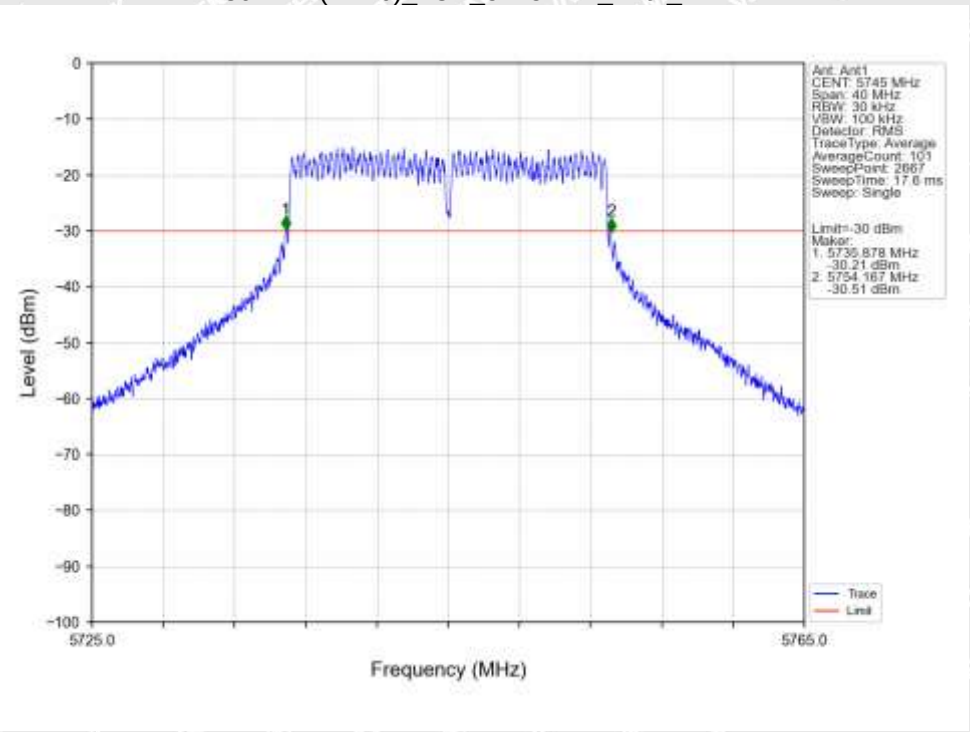
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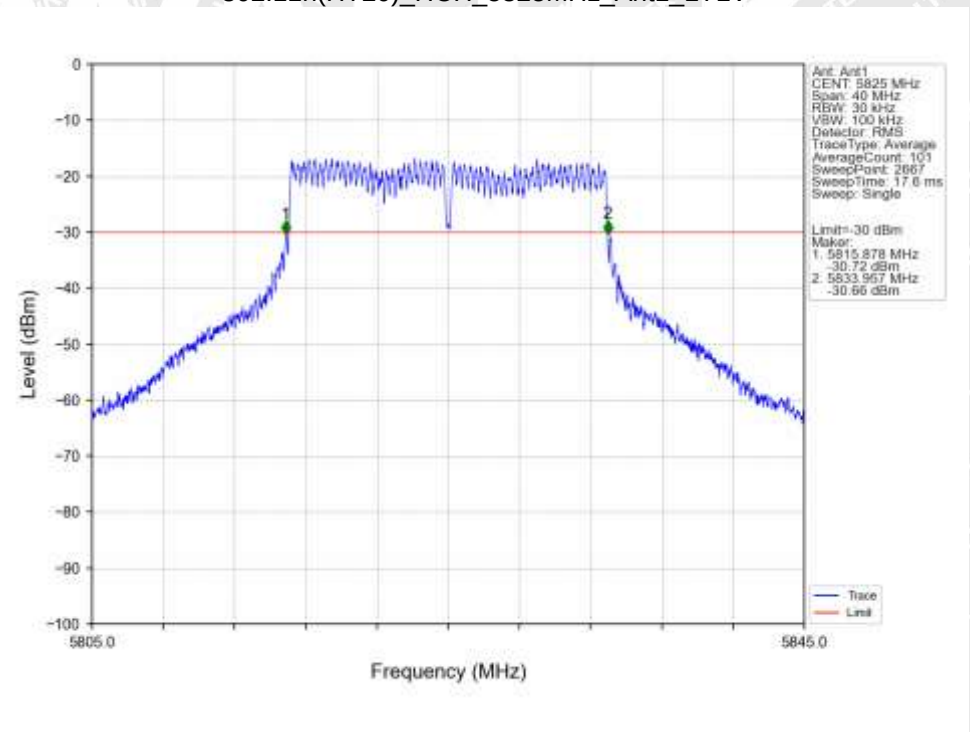
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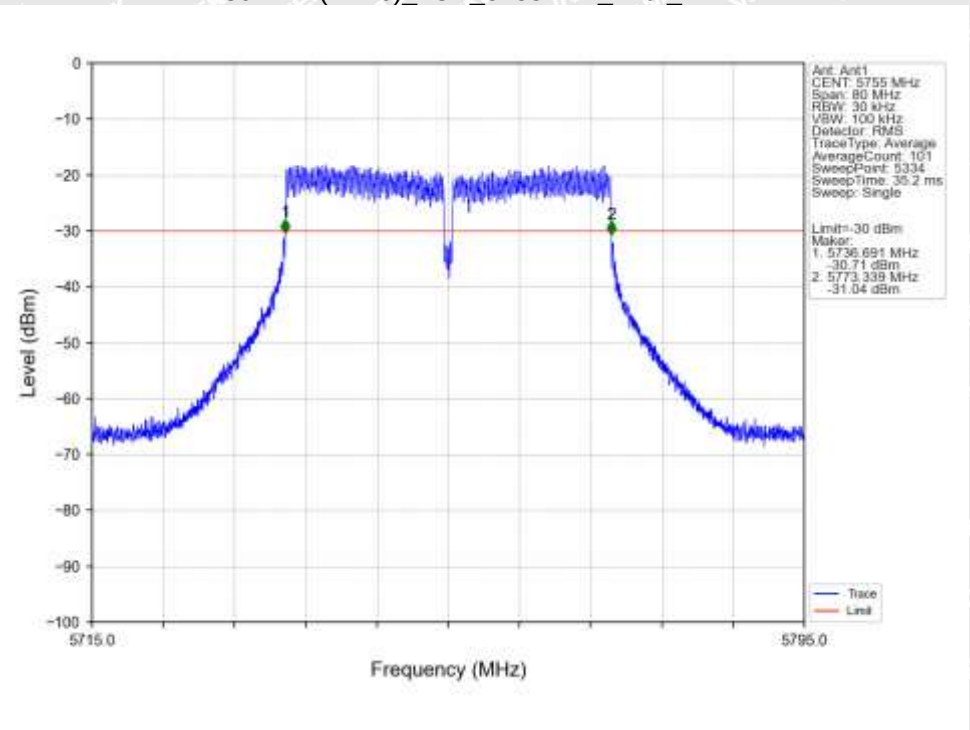
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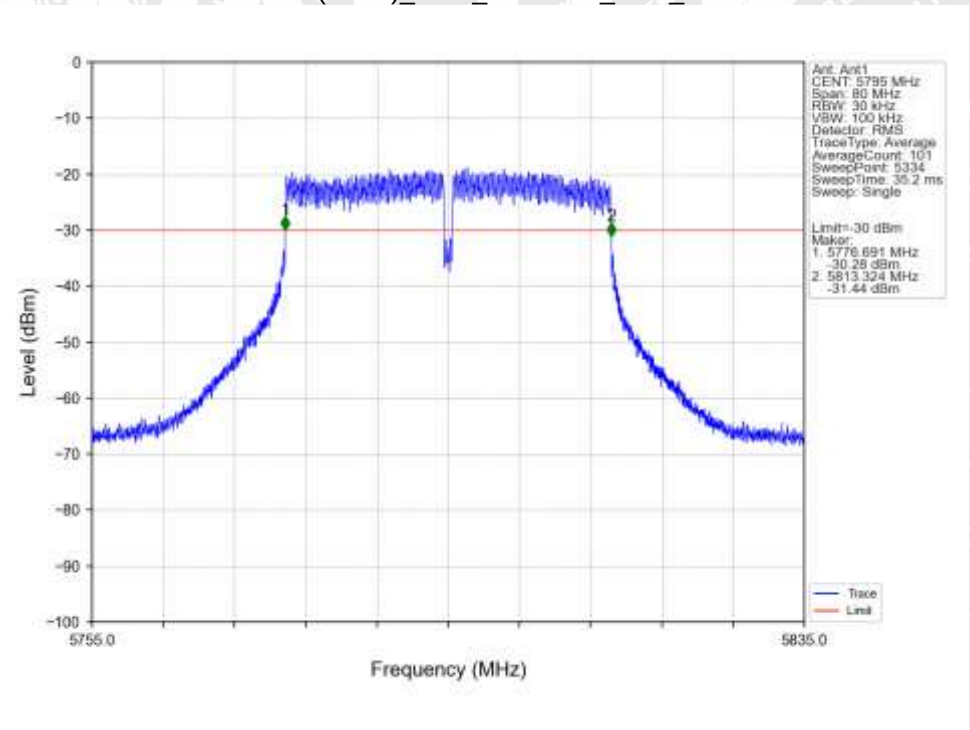
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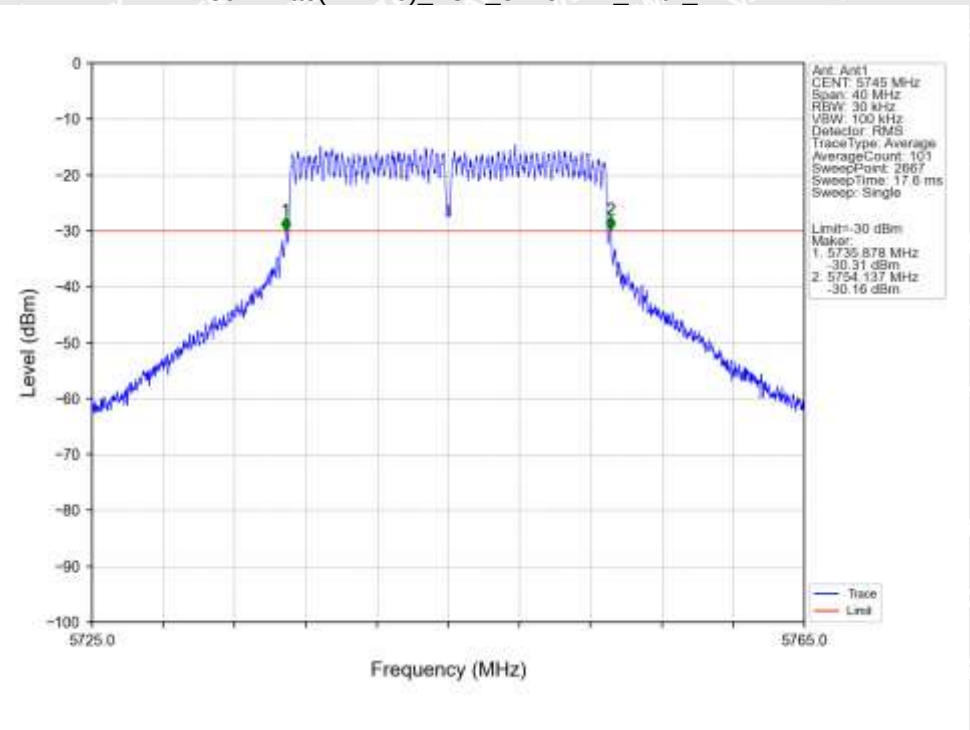
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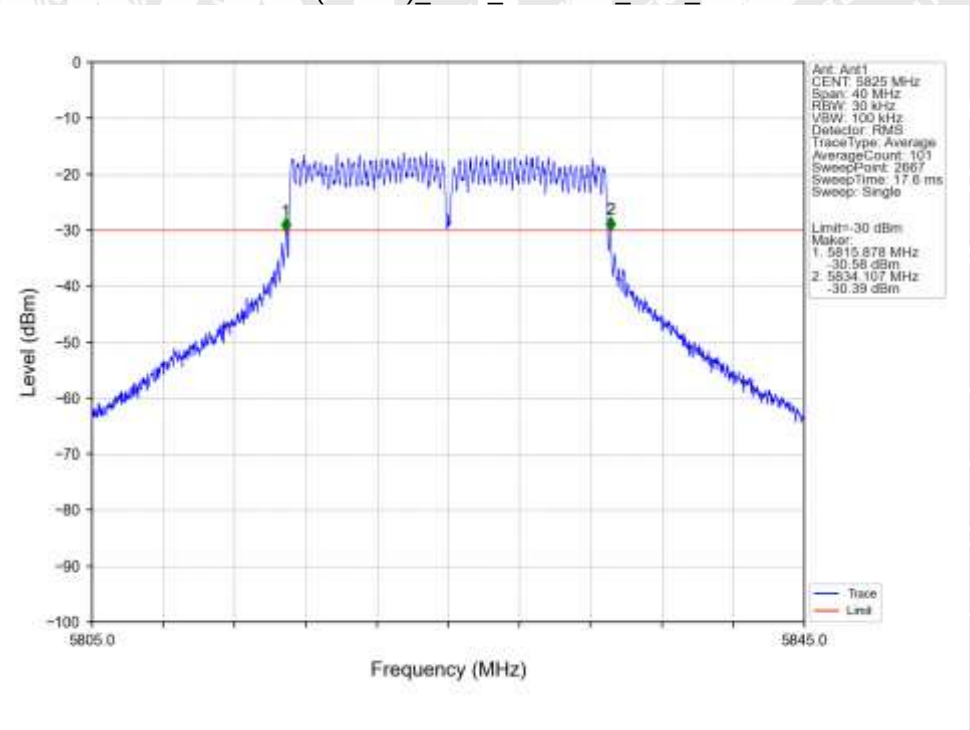
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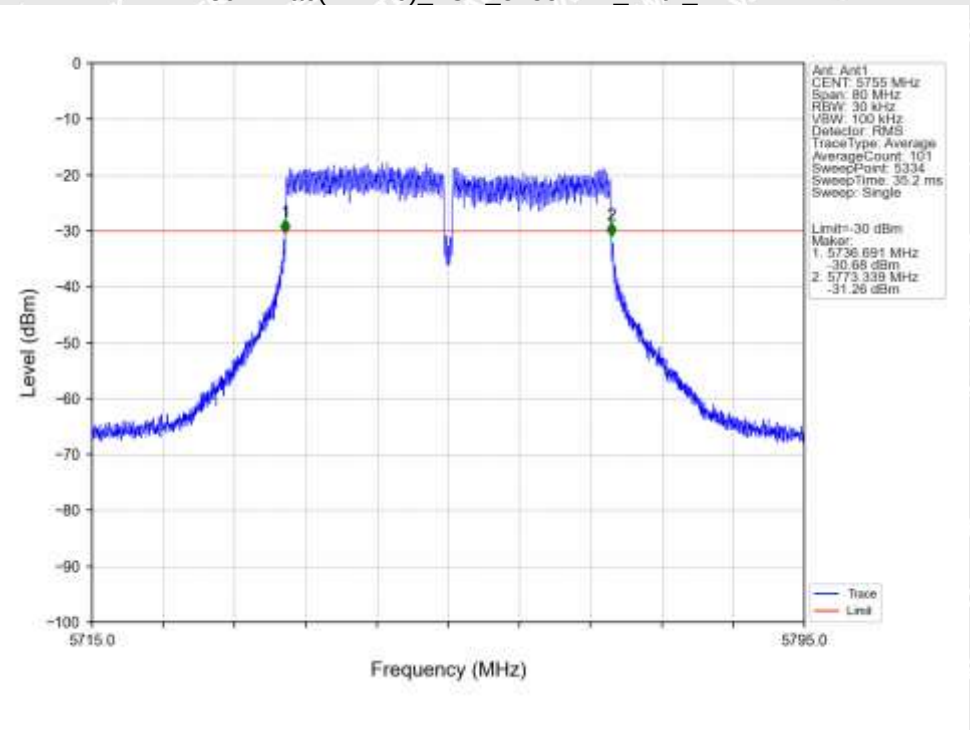
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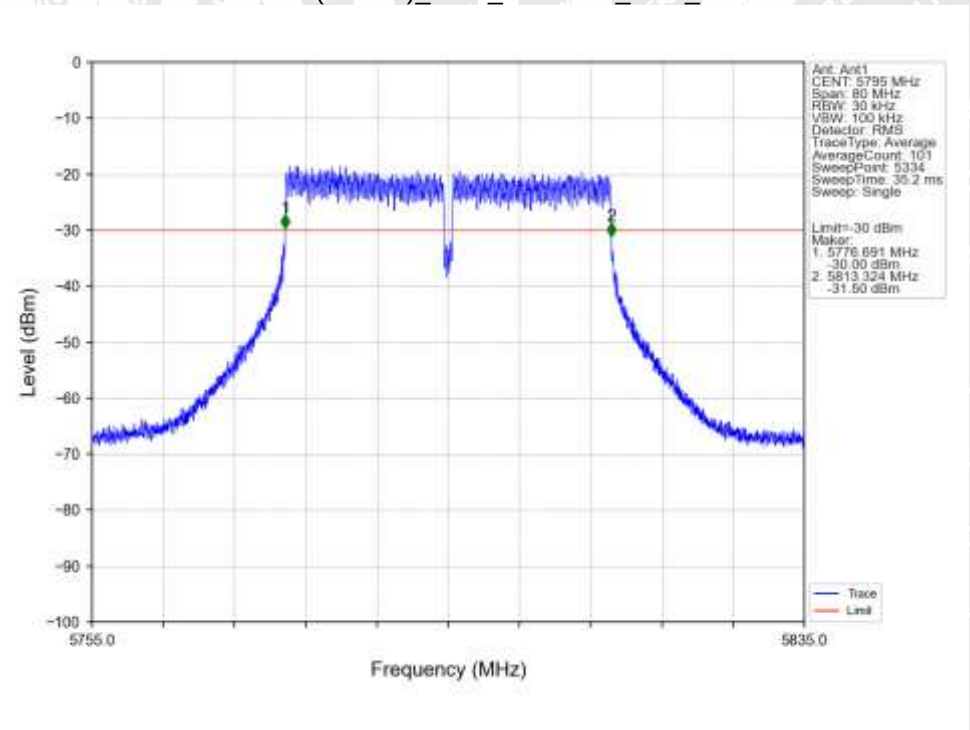
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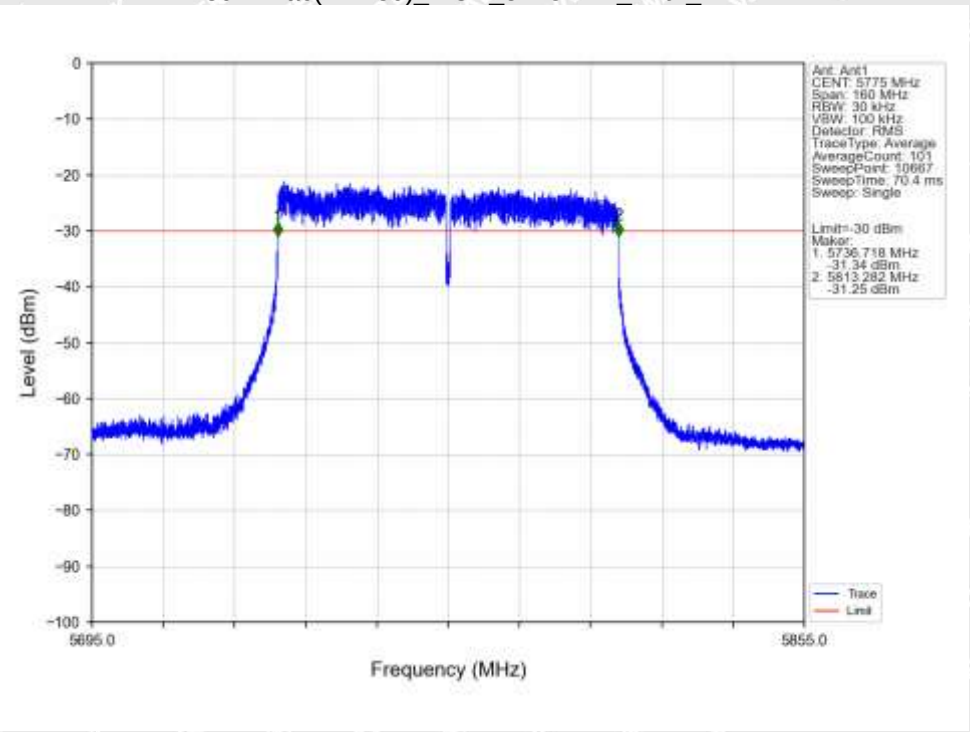
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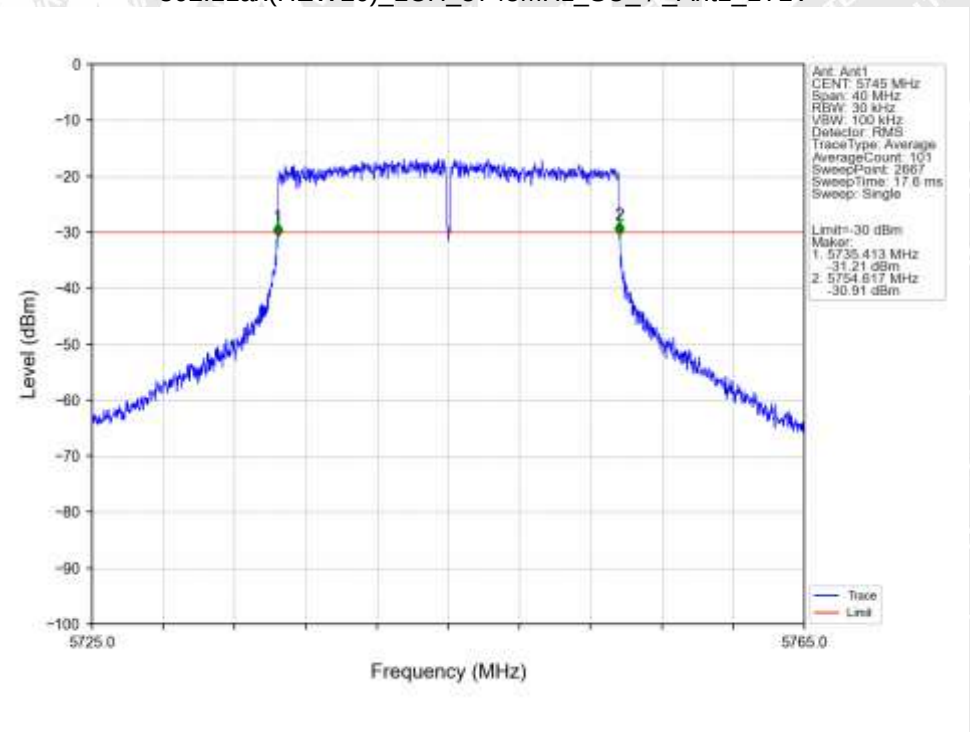
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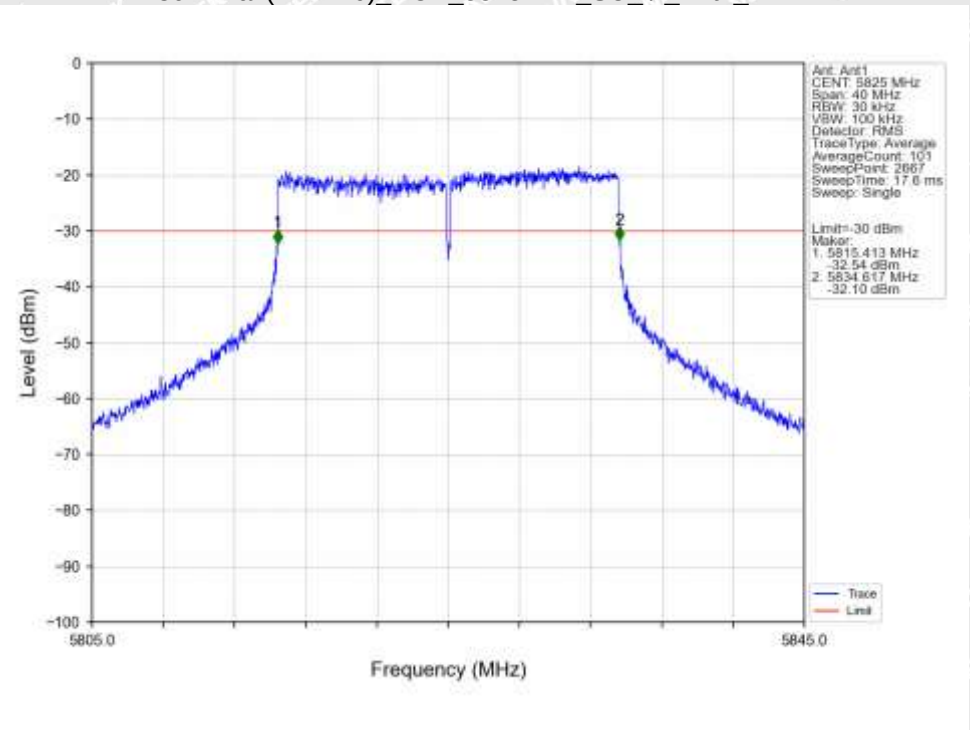
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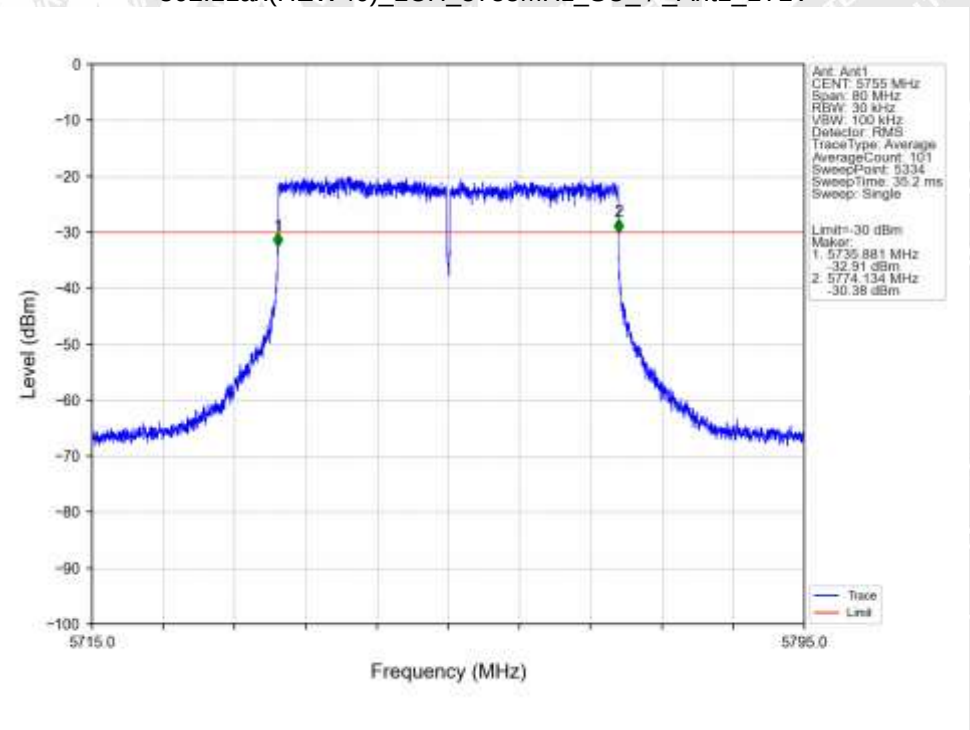
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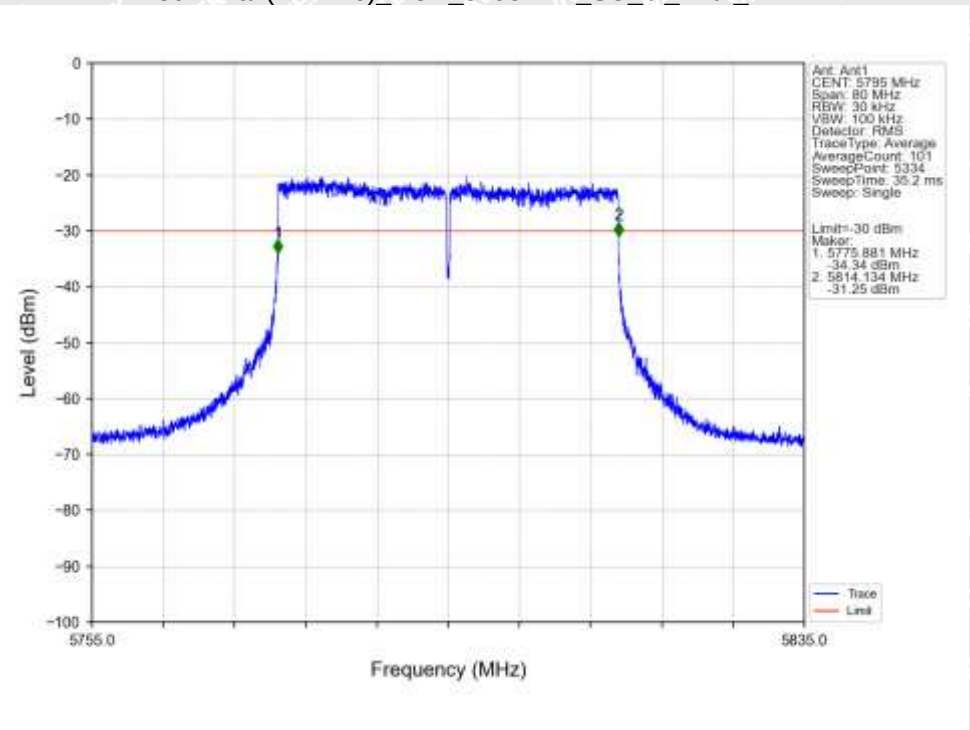
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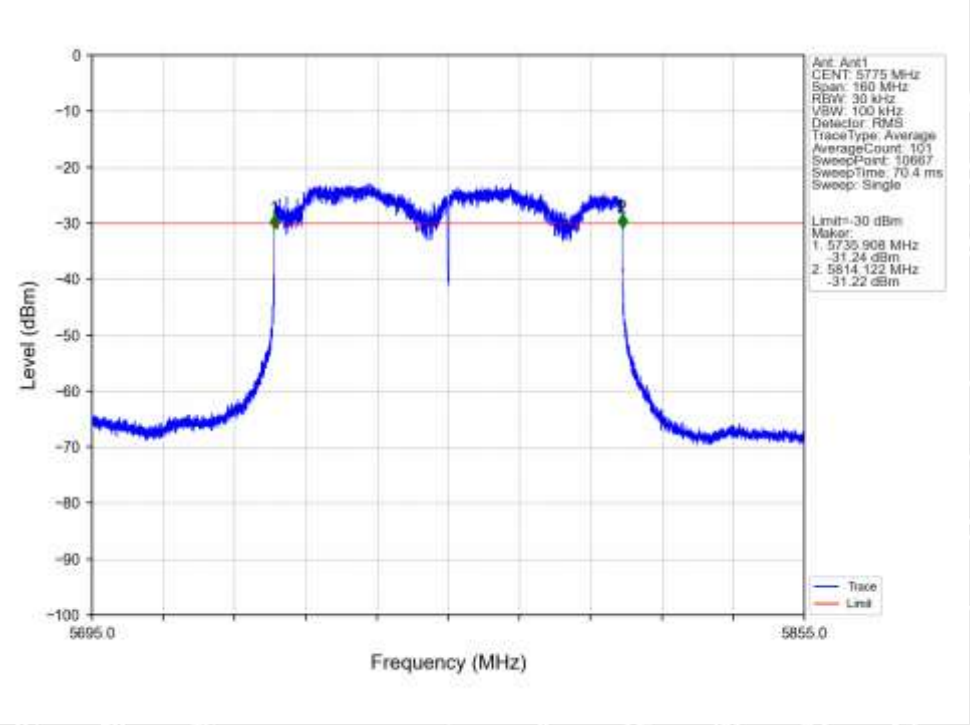
802.11ax(HEW40)_LCH_5755MHz_SU_ / _Ant1_LTLV



802.11ax(HEW40)_HCH_5795MHz_SU_ / _Ant1_LTLV



802.11ax(HEW80)_MCH_5775MHz_SU_ / _Ant1_LTLV



10 Transmitter Spurious Emissions

10.1 Limit

Table 2: Spurious emissions

Frequency ranges / State	47 MHz to 74 MHz 87,5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other frequencies ≤ 1 000 MHz	Frequencies > 1 000 MHz
Operating	4 nW	250 nW	1 µW
Standby	2 nW	2 nW	20 nW

10.2 Test Procedure

1) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.

2) All data was recorded in the peak detection mode if the test data under the limit 6dB.

3) For carrier frequencies in the range 1 GHz to 20 GHz the frequency of the measuring receiver shall be adjusted over the frequency range 25 MHz to 10 times the carrier frequency, not exceeding 40 GHz. For carrier frequencies above 20 GHz the measuring receiver shall be tuned over the range 25 MHz up to twice the carrier frequency, not exceeding 66 GHz.

4) Test the EUT in continuously receive mode, 1.5m high above groundplane.

5) The final qualification test and the configuration was used to represent the worst case results.

10.3 Test Results

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	EN 300 440	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
802.11a low channel 5745MHz										
315.66	41.03	179	1.6	H	-64.81	1.39	9.71	-56.49	-36.00	-20.49
315.66	42.79	295	1.1	V	-60.81	1.39	9.71	-52.49	-36.00	-16.49
11490.00	50.44	8	1.5	H	-59.02	2.68	12.70	-49.00	-30.00	-19.00
11490.00	53.36	133	1.3	V	-54.83	2.68	12.70	-44.81	-30.00	-14.81
17235.00	31.13	68	1.7	H	-59.24	7.19	11.00	-55.43	-30.00	-25.43
17235.00	38.35	5	1.8	V	-53.03	7.19	11.00	-49.22	-30.00	-19.22
802.11n low channel 5745MHz										
315.66	41.27	192	1.9	H	-64.57	1.39	9.71	-56.25	-36.00	-20.25
315.66	43.47	268	1.5	V	-60.13	1.39	9.71	-51.81	-36.00	-15.81
11490.00	51.14	358	2.0	H	-58.32	2.68	12.70	-48.30	-30.00	-18.30
11490.00	55.06	318	1.4	V	-53.13	2.68	12.70	-43.11	-30.00	-13.11
17235.00	33.22	282	1.8	H	-57.15	7.19	11.00	-53.34	-30.00	-23.34
17235.00	37.93	110	1.8	V	-53.45	7.19	11.00	-49.64	-30.00	-19.64
802.11ac low channel 5745MHz										
315.66	40.39	74	1.6	H	-65.45	1.39	9.71	-57.13	-36.00	-21.13
315.66	43.37	182	1.6	V	-60.23	1.39	9.71	-51.91	-36.00	-15.91
11490.00	49.11	185	1.1	H	-60.35	2.68	12.70	-50.33	-30.00	-20.33
11490.00	53.55	283	2.0	V	-54.64	2.68	12.70	-44.62	-30.00	-14.62
17235.00	34.44	280	1.2	H	-55.93	7.19	11.00	-52.12	-30.00	-22.12
17235.00	38.70	6	1.1	V	-52.68	7.19	11.00	-48.87	-30.00	-18.87
802.11ax low channel 5745MHz										
315.66	40.56	262	1.3	H	-65.28	1.39	9.71	-56.96	-36.00	-20.96
315.66	46.15	25	1.7	V	-57.45	1.39	9.71	-49.13	-36.00	-13.13
11490.00	49.39	136	2.0	H	-60.07	2.68	12.70	-50.05	-30.00	-20.05
11490.00	53.96	164	1.8	V	-54.23	2.68	12.70	-44.21	-30.00	-14.21
17235.00	33.89	354	1.9	H	-56.48	7.19	11.00	-52.67	-30.00	-22.67
315.66	40.56	262	1.3	H	-65.28	1.39	9.71	-56.96	-36.00	-20.96

11 Receiver Spurious Emissions

11.1 Limit

The power of any spurious emission shall not exceed 2 nW in the range 25 MHz to 1 GHz and shall not exceed 20 nW on frequencies above 1 GHz.

11.2 Test Procedure

1) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.

2) All data was recorded in the peak detection mode if the test data under the limit 6dB.

3) Scan from 30M to12.75 GHz, find the maximum radiation frequency to measure.

4) Test the EUT in continuously receive mode, 1.5m high above groundplane.

5) The final qualification test and the configuration was used to represent the worst case results.

11.3 Test Results

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	EN 300 440	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
802.11a low channel 5745MHz										
342.11	33.72	296	1.4	H	-73.17	0.16	0	-73.01	-57	-16.01
342.11	37.86	76	1	V	-68.52	0.16	0	-68.36	-57	-11.36
2215.58	34.31	252	1.6	H	-79.69	2.68	12.7	-64.31	-47	-17.31
2215.58	35.36	348	1.5	V	-74.92	2.68	12.7	-59.54	-47	-12.54
802.11n low channel 5745MHz										
342.11	32.05	296	1.4	H	-74.84	0.16	0	-74.68	-57	-17.68
342.11	36.14	76	1	V	-70.24	0.16	0	-70.08	-57	-13.08
2215.58	35.20	252	1.6	H	-78.80	2.68	12.7	-63.42	-47	-16.42
2215.58	34.82	348	1.5	V	-75.46	2.68	12.7	-60.08	-47	-13.08
802.11ac low channel 5745MHz										
290.34	32.51	296	1.4	H	-74.38	0.16	0	-74.22	-57	-17.22
290.34	37.45	76	1	V	-68.93	0.16	0	-68.77	-57	-11.77
2237.69	35.75	252	1.6	H	-78.25	2.68	12.7	-62.87	-47	-15.87
2237.69	33.59	348	1.5	V	-76.69	2.68	12.7	-61.31	-47	-14.31
802.11ac low channel 5745MHz										
342.11	32.59	296	1.4	H	-74.30	0.16	0	-74.14	-57	-17.14
342.11	36.78	76	1	V	-69.60	0.16	0	-69.44	-57	-12.44
2215.58	34.72	252	1.6	H	-79.28	2.68	12.7	-63.90	-47	-16.90
2215.58	33.02	348	1.5	V	-77.26	2.68	12.7	-61.88	-47	-14.88

12 Blocking or Desensitization

12.1 Limit

The blocking level, for any frequency within the specified ranges, shall not be less than the values given in table, except at frequencies on which spurious responses are found.

Receiver category	Limit
1	-30 dBm + k
2	-45 dBm + k
3	-60 dBm + k

The correction factor, k, is as follows:

$$k = -20\log f - 10\log BW$$

Where:

- f is the frequency in GHz;
- BW is the occupied bandwidth in MHz.

The factor k is limited within the following:

- -40 dB < k < 0 dB.

12.2 Test Procedure

This measurement shall be conducted under normal conditions.

Two signal generators A and B shall be connected to the receiver via a combining network to the receiver, either:

a) via a test fixture or a test antenna to the receiver integrated, dedicated or test antenna; or

b) directly to the receiver permanent or temporary antenna connector.

The method of coupling to the receiver shall be stated in the test report.

Signal generator A shall be at the nominal frequency of the receiver, with normal modulation of the wanted signal.

Signal generator B shall be unmodulated and shall be adjusted to a test frequency at approximately 10 times, 20 times and 50 times of the occupied bandwidth above upper band edge of occupied bandwidth.

Initially signal generator B shall be switched off and using signal generator A the level which still gives sufficient response shall be established. The output level of generator A shall then be increased by 3 dB.

Signal generator B is then switched on and adjusted until the wanted criteria are met. This level shall be recorded.

The measurement shall be repeated with the test frequency for signal generator B at 10 times, 20 times and 50 times of the occupied bandwidth below the lower band edge of the occupied bandwidth.

The blocking or desensitization shall be recorded as the level in dBm of lowest level of the unwanted signal (generator B).

For tagging systems (e.g. RF identification, anti-theft, access control, location and similar systems) signal generator A may be replaced by a physical tag positioned at 70 % of the measured system range in metres. In this case, the blocking or desensitization shall be recorded as the ratio in dB of lowest level of the unwanted signal (generator B) resulting in a non-read of the tag. to the declared sensitivity of the receiver +3 dB.

12.3 Test Result

Mode	Frequency (MHz)	Wanted signal P_{min} +3 (dBm)	Blocking Frequency (MHz)	Blocking signal power (dBm)	Max 99% occupied bandwidth (MHz)	k factor (dB)	Limit
802.11a	5745	-74.18	5566.62	-16.30	16.590	-27.4	-87.4
			5400.72	-17.19	16.590	-27.4	-87.4
			4903.02	-16.68	16.590	-27.4	-87.4
	5825		6001.20	-17.67	16.544	-27.5	-87.5
			6166.64	-17.91	16.544	-27.5	-87.5
			6662.96	-25.64	16.544	-27.5	-87.5
802.11n20	5745	-73.06	5542.22	-18.60	18.838	-27.9	-87.9
			5353.84	-15.16	18.838	-27.9	-87.9
			4788.70	-15.09	18.838	-27.9	-87.9
	5825		6014.62	-17.42	17.802	-27.8	-87.8
			6192.64	-21.91	17.802	-27.8	-87.8
			6726.70	-18.56	17.802	-27.8	-87.8
802.11ac20	5745	-82.13	5553.63	-25.11	17.853	-27.7	-87.7
			5375.10	-21.44	17.853	-27.7	-87.7
			4839.51	-23.36	17.853	-27.7	-87.7
	5825		6015.09	-22.54	17.849	-27.8	-87.8
			6193.58	-15.21	17.849	-27.8	-87.8
			6729.05	-24.36	17.849	-27.8	-87.8
802.11ax20	5745	-73.85	5545.39	-23.17	19.061	-28.0	-88.0
			5354.78	-25.27	19.061	-28.0	-88.0
			4782.95	-19.47	19.061	-28.0	-88.0
	5825		6004.45	-25.22	19.069	-28.1	-88.1
			6195.14	-15.13	19.069	-28.1	-88.1
			6767.21	-21.72	19.069	-28.1	-88.1

13 Spectrum access techniques

13.1 Limit

Shall be declared in the test report by the equipment provider.

13.2 Test Procedure

A signal generator and a power meter are each combined via appropriate attenuators into the equipment antenna connector. The test set-up in figure 3 shall be used.

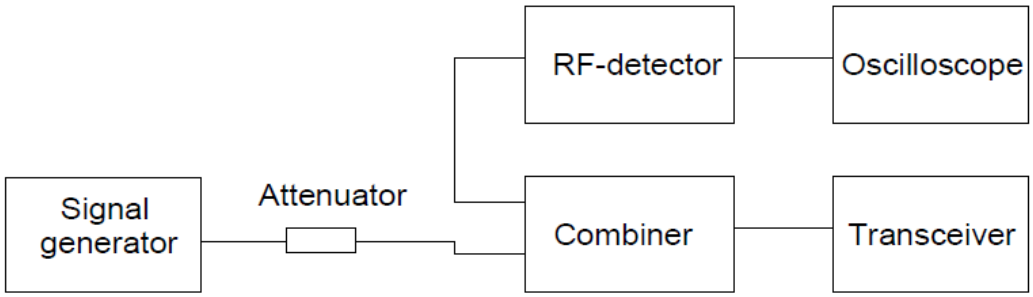


Figure 3: Measurement arrangement

For equipment with integral antenna the connection to the equipment is made either to a temporary 50 Ω antenna connector, see clause 5.2.3.1, or via a calibrated test fixture, see clause 5.8.3:

a) the LBT function of the transceiver shall be active;

b) the attenuator shall provide sufficient attenuation to protect the signal generator from burn-out by the transmitter of the transceiver;

c) the signal generator with normal test modulation is adjusted to the receiving frequency. The level is increased to approximately 20 dB above the receiver sensitivity;

d) the equipment is switched to an intended transmit mode. The equipment shall not be transmitting as the transceiver recognizes a busy channel from the signal generator;

e) the level of the signal generator is reduced in steps of 1 dB until the equipment starts to transmit. This specific signal generator level present at the receiver input of the transceiver is the LBT threshold;

The level of the received LBT threshold shall be recorded in the test report.

f) the steps c) and d) shall be repeated; and

g) the level of the signal generator is reduced in steps of 1 dB until the equipment starts to transmit and the duration of the transmit on-time is measured at the oscilloscope.

The transmit on-time is recorded in the test report.

13.3 Test Result

The product is belong to Spectrum access techniques by the manufacturer declare.

14 Photographs of test setup and EUT.

Note: Please refer to appendix: Appendix-WU900-Photos

======End of Report======