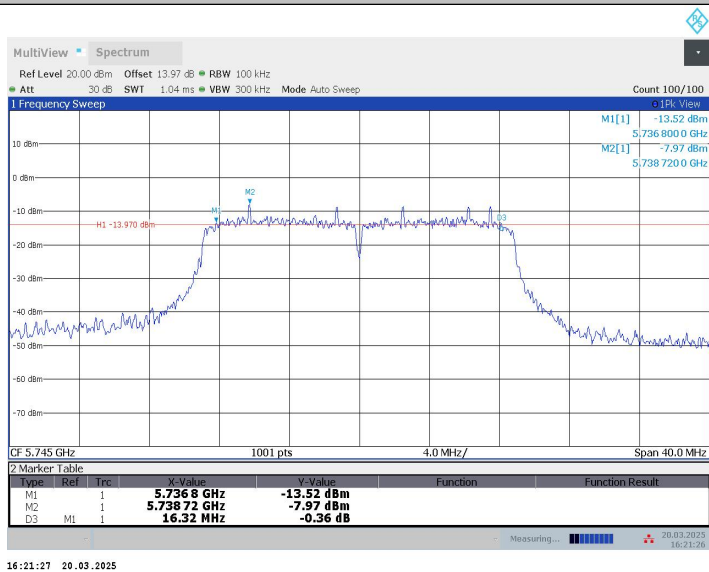
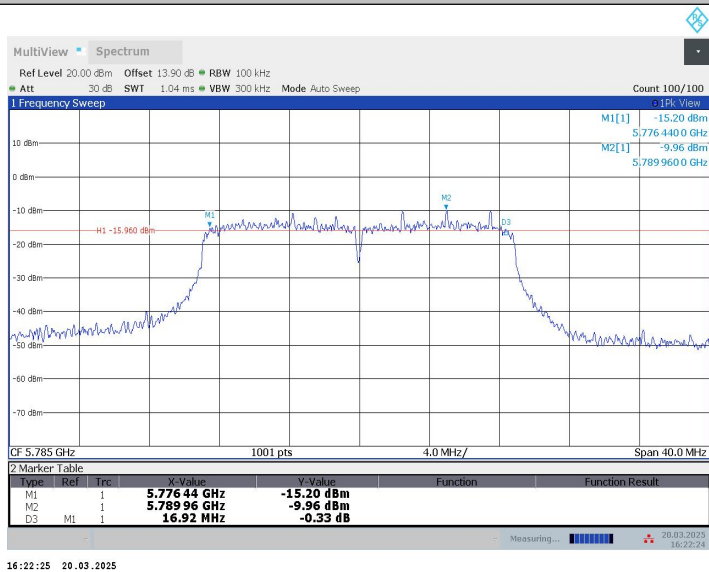


IEEE 802.11ac VHT20_Ant1_5745MHz



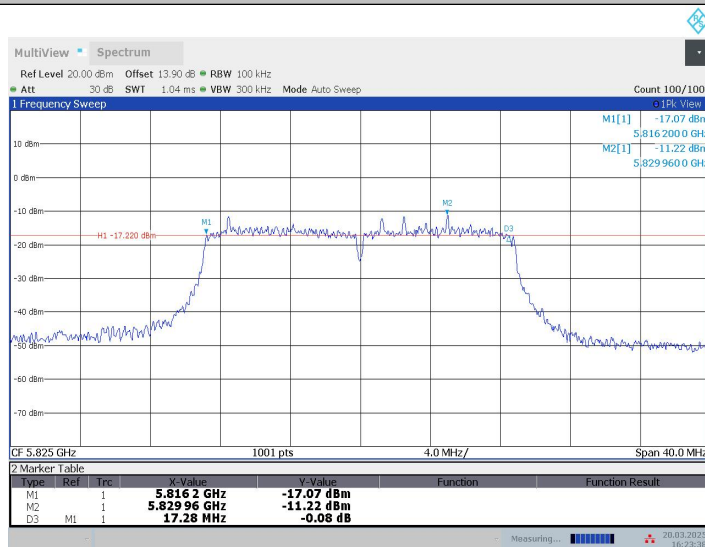
16:21:27 20.03.2025

IEEE 802.11ac VHT20_Ant1_5785MHz



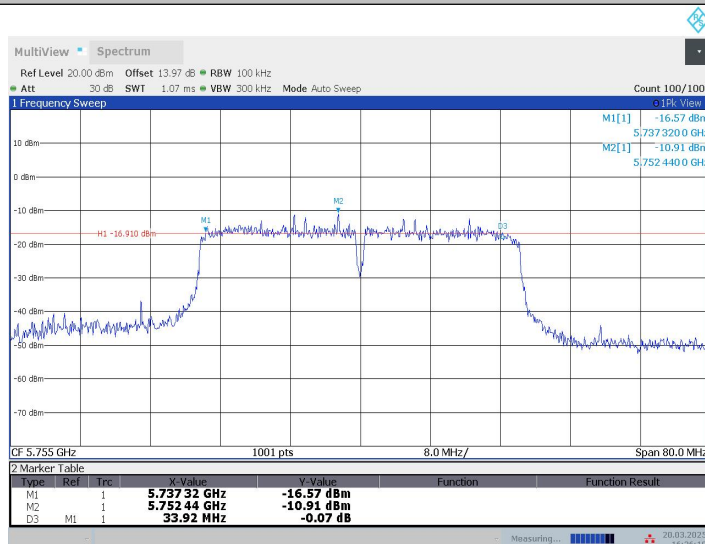
16:22:25 20.03.2025

IEEE 802.11ac VHT20_Ant1_5825MHz



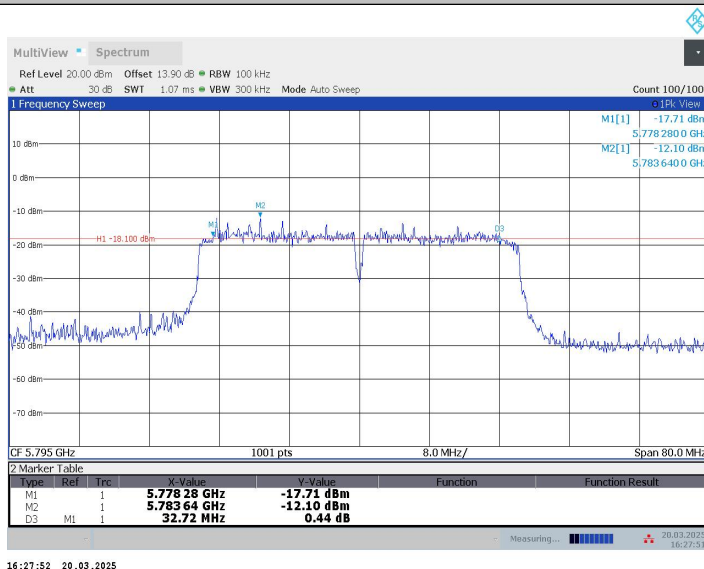
16:23:39 20.03.2025

IEEE 802.11ac VHT40_Ant1_5755MHz



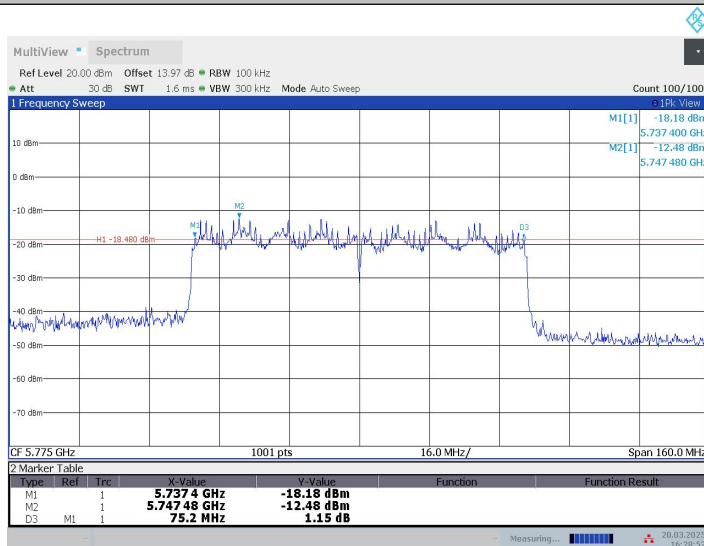
16:26:19 20.03.2025

IEEE 802.11ac VHT40_Ant1_5795MHz



16:27:52 20.03.2025

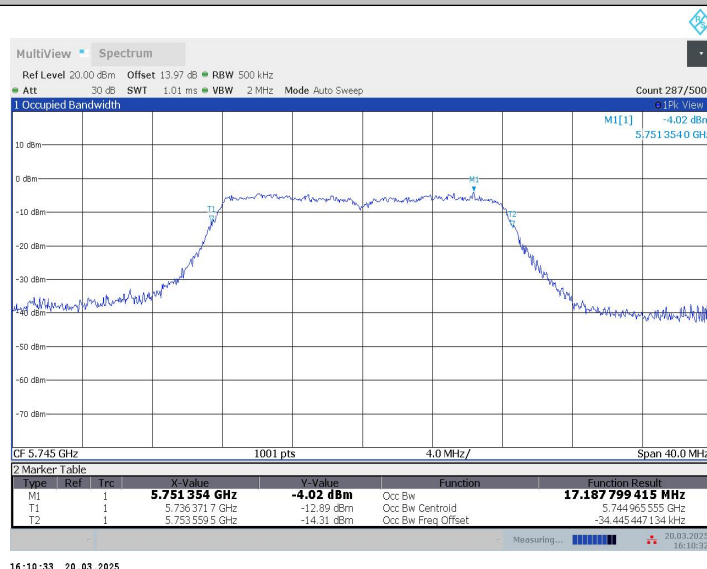
IEEE 802.11ac VHT80_Ant1_5775MHz



16:28:53 20.03.2025

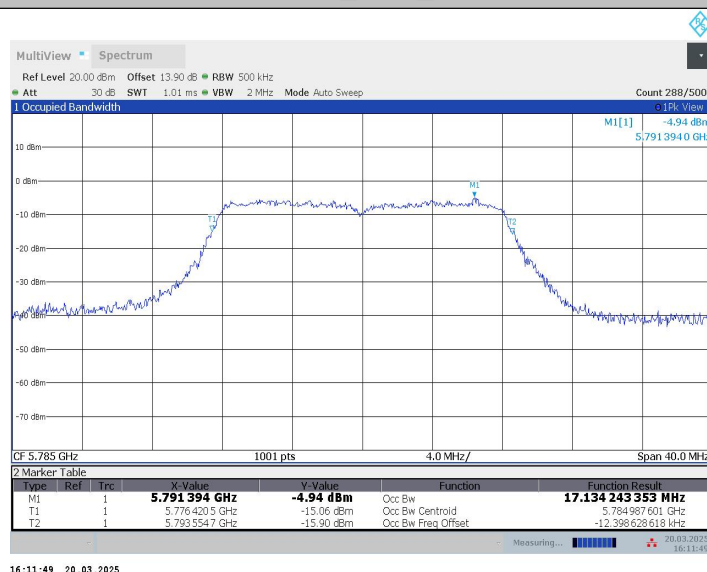
99% OCCUPIED BANDWIDTH

IEEE 802.11a_Ant1_5745MHz



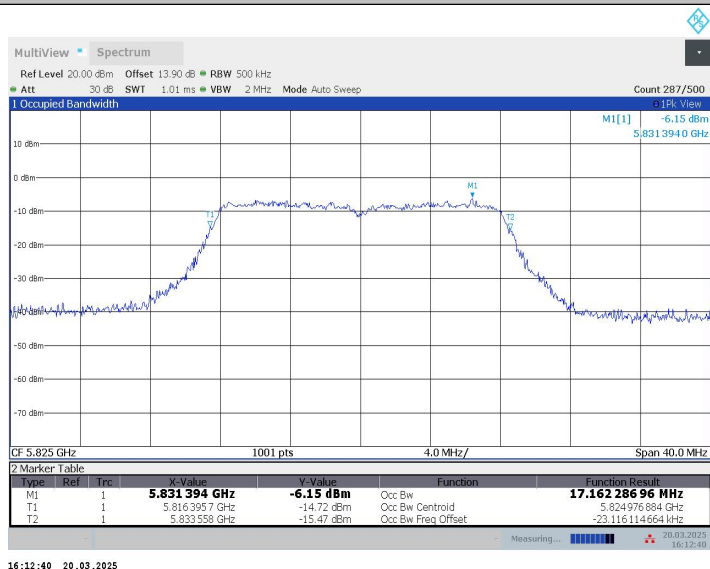
16:10:33 20.03.2025

IEEE 802.11a_Ant1_5785MHz



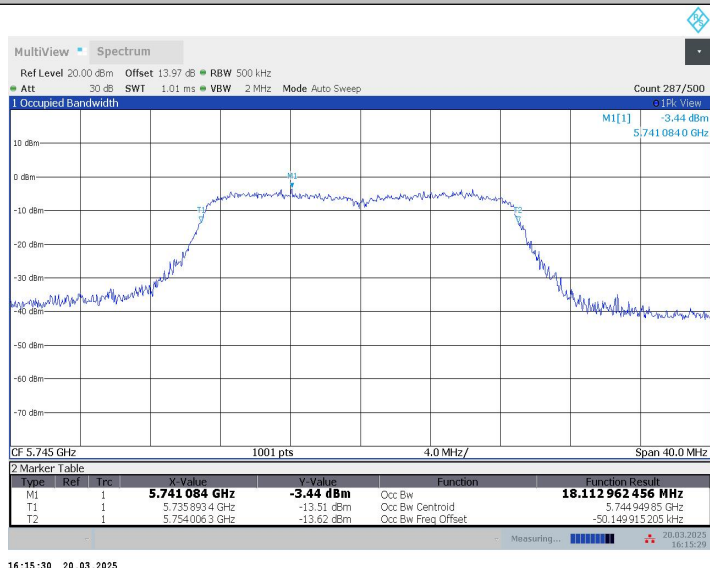
16:11:49 20.03.2025

IEEE 802.11a_Ant1_5825MHz



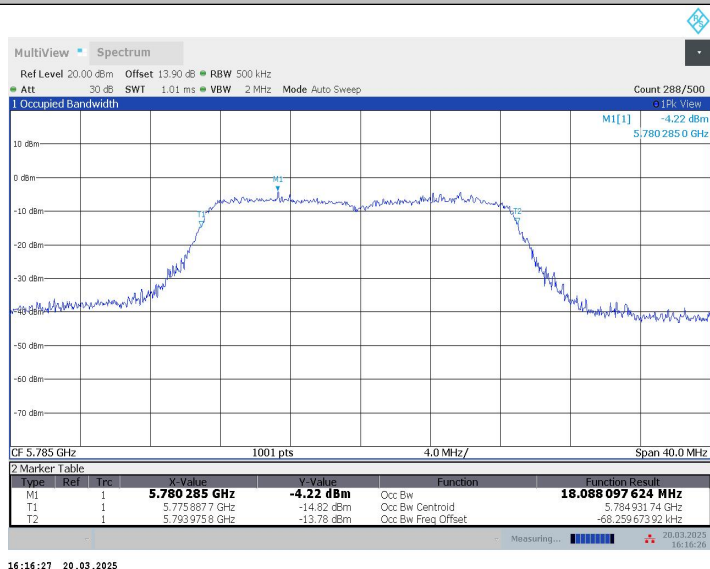
16:12:40 20.03.2025

IEEE 802.11n HT20_Ant1_5745MHz



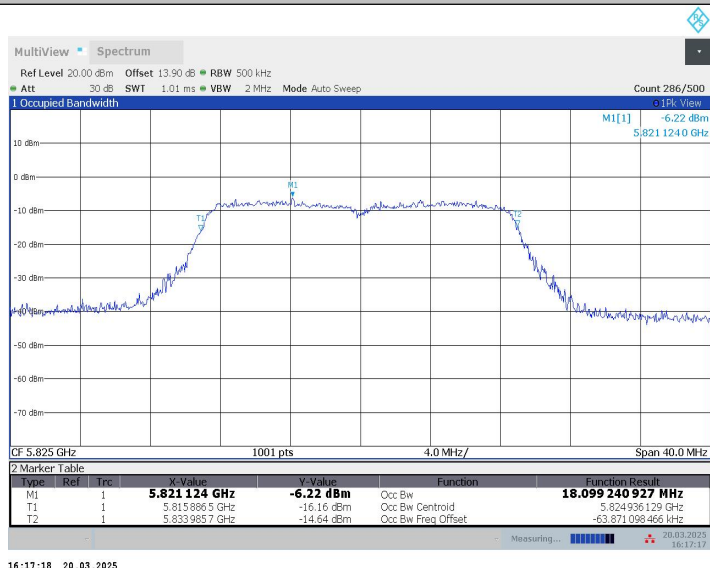
16:15:30 20.03.2025

IEEE 802.11n HT20_Ant1_5785MHz



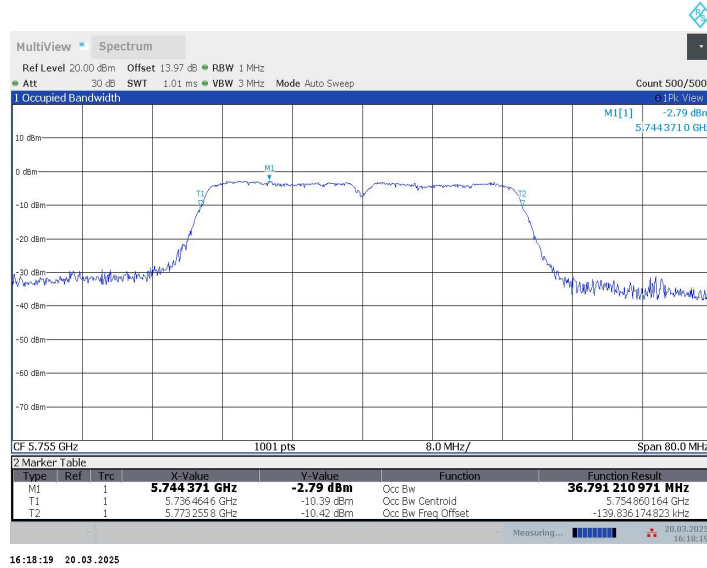
16:16:27 20.03.2025

IEEE 802.11n HT20_Ant1_5825MHz



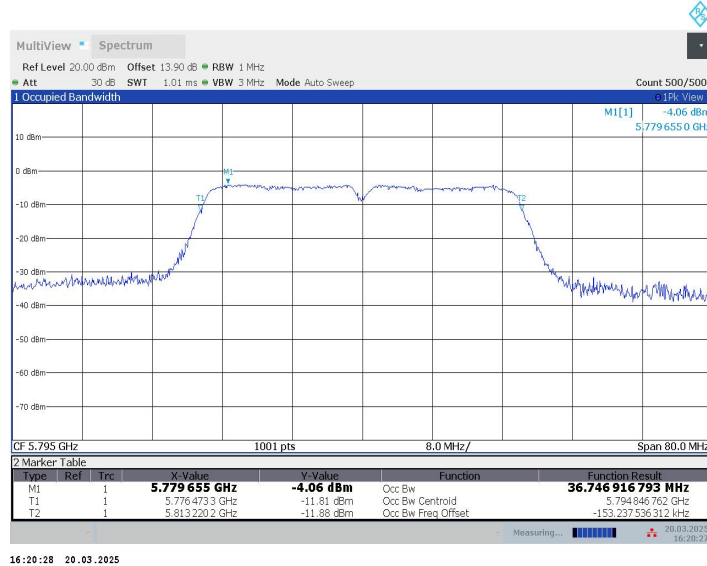
16:17:18 20.03.2025

IEEE 802.11n HT40_Ant1_5755MHz



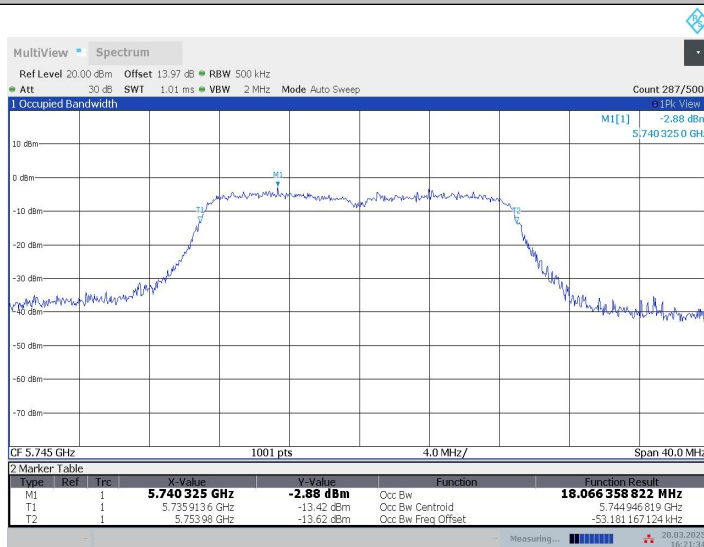
16:18:19 20.03.2025

IEEE 802.11n HT40_Ant1_5795MHz



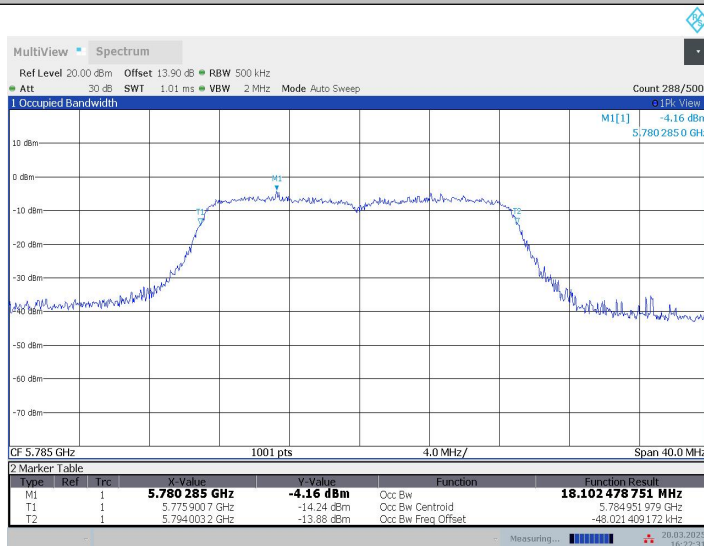
16:20:28 20.03.2025

IEEE 802.11ac VHT20_Ant1_5745MHz



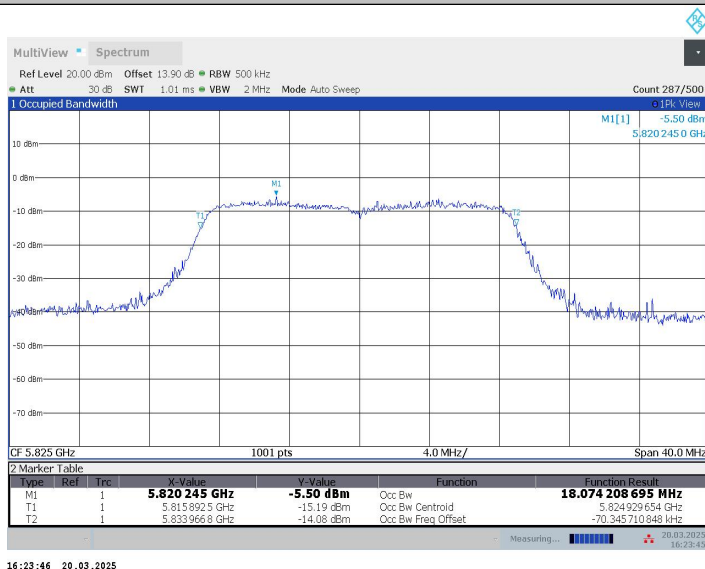
16:21:35 20.03.2025

IEEE 802.11ac VHT20_Ant1_5785MHz



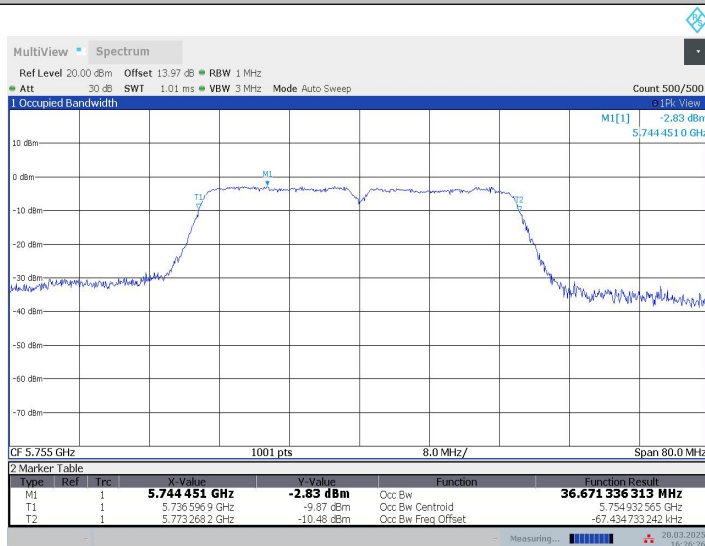
16:22:32 20.03.2025

IEEE 802.11ac VHT20_Ant1_5825MHz



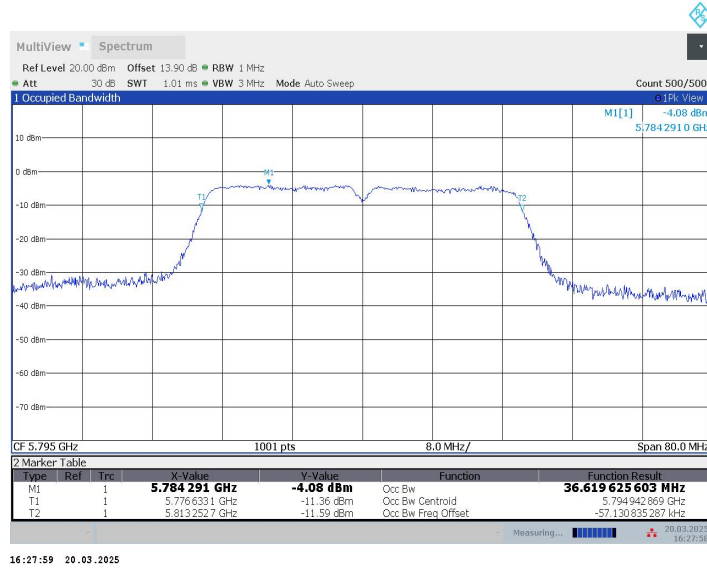
16:23:46 20.03.2025

IEEE 802.11ac VHT40_Ant1_5755MHz



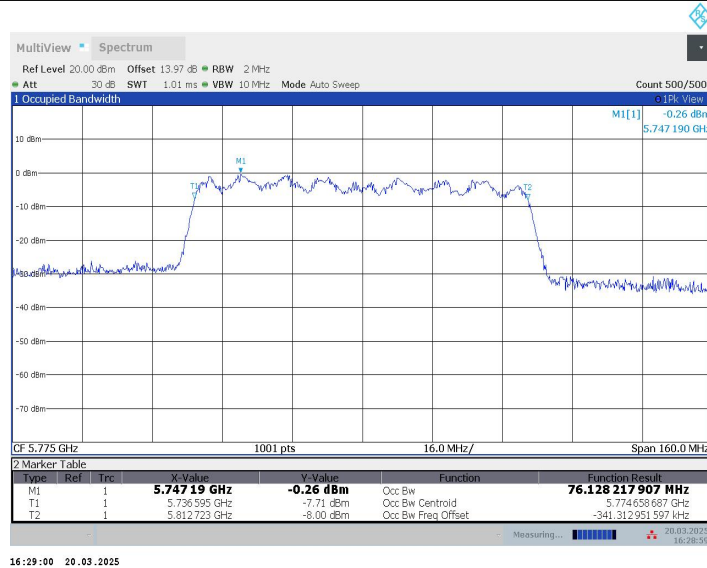
16:26:27 20.03.2025

IEEE 802.11ac VHT40_Ant1_5795MHz



16:27:59 20.03.2025

IEEE 802.11ac VHT80_Ant1_5775MHz



16:29:00 20.03.2025

7.3. Output Power Measurement

7.3.1. Test Limit

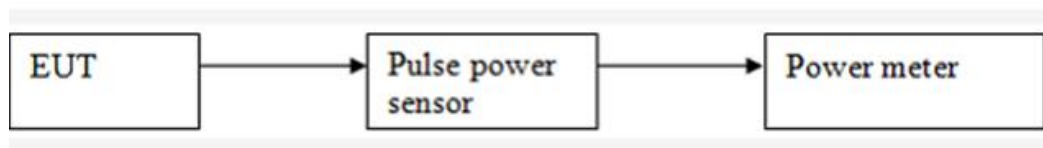
The FCC 15.407(a), The maximum conducted output power should not exceed:

Band	EUT Type	Limit
U-NII-3	All Device	1W(30dBm)

7.3.2. Test Setting

- The RF output of EUT was connected to the broadband average RF power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- Set to the maximum power setting and enable the EUT transmit continuously.
- Measure the conducted output power and record the results in the test report.

7.3.3. Test Setup



7.3.4. Test Result

U-NII-3:

Test Mode	Antenna	Frequency [MHz]	AVG Conducted Output Power with Duty Factor (dBm)	Limit [dBm]	Verdict
IEEE 802.11a	Ant1	5745	5.87	≤ 30	PASS
	Ant1	5785	4.21	≤ 30	PASS
	Ant1	5825	3.08	≤ 30	PASS
IEEE 802.11n HT20	Ant1	5745	5.42	≤ 30	PASS
	Ant1	5785	3.97	≤ 30	PASS
	Ant1	5825	2.69	≤ 30	PASS
IEEE 802.11n HT40	Ant1	5755	5.36	≤ 30	PASS
	Ant1	5795	4.05	≤ 30	PASS
IEEE 802.11ac VHT20	Ant1	5745	5.23	≤ 30	PASS
	Ant1	5785	3.68	≤ 30	PASS
	Ant1	5825	2.63	≤ 30	PASS
IEEE 802.11ac VHT40	Ant1	5755	3.75	≤ 30	PASS
	Ant1	5795	3.61	≤ 30	PASS
IEEE 802.11ac VHT80	Ant1	5775	4.67	≤ 30	PASS

Note: 1. Result already includes duty factor, 5745MHz~5825MHz antenna gain is 3.5dBi.

7.4. Power Spectral Density Measurement

7.4.1. Test Limit

Section 15.407(a)

The maximum power spectral density should not exceed:

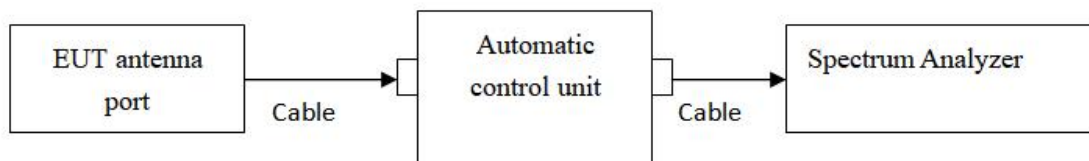
Band	EUT Type	Limit
U-NII-3	All Device	30dBm/500kHz

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.4.2. Test Setting

Spectrum Parameters	Setting
RBW	500kHz(For U-NII-3)
VBW	2MHz(For U-NII-3)
Span	encompass the entire 26 dB EBW or 99% OBW of the signal
Sweep Time	Auto
Number of Sweep Point	$\geq 2 \times \text{SPAN} / \text{RBW}$
Detector	RMS(power averaging)
Trace Average	≥ 100 traces

7.4.3. Test Setup



7.4.4. Test Result

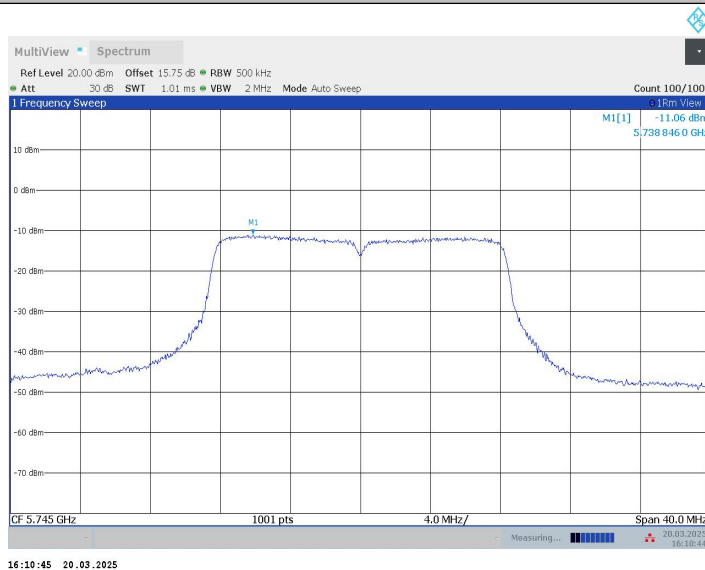
U-NII-3:

Test Mode	Antenna	Frequency [MHz]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Verdict
IEEE 802.11a	Ant1	5745	-11.06	≤ 30	PASS
	Ant1	5785	-11.78	≤ 30	PASS
	Ant1	5825	-13.20	≤ 30	PASS
IEEE 802.11n HT20	Ant1	5745	-11.11	≤ 30	PASS
	Ant1	5785	-12.00	≤ 30	PASS
	Ant1	5825	-13.65	≤ 30	PASS
IEEE 802.11n HT40	Ant1	5755	-13.22	≤ 30	PASS
	Ant1	5795	-14.21	≤ 30	PASS
IEEE 802.11ac VHT20	Ant1	5745	-10.88	≤ 30	PASS
	Ant1	5785	-12.27	≤ 30	PASS
	Ant1	5825	-13.61	≤ 30	PASS
IEEE 802.11ac VHT40	Ant1	5755	-13.31	≤ 30	PASS
	Ant1	5795	-14.44	≤ 30	PASS
IEEE 802.11ac VHT80	Ant1	5775	-15.27	≤ 30	PASS

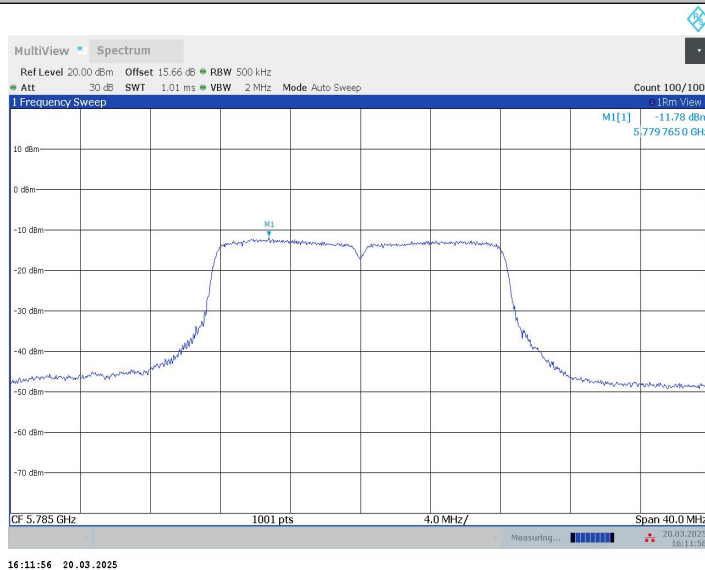
Note: 1. Result already includes duty factor, 5745MHz~5825MHz antenna gain is 3.5dBi.

Test Graphs

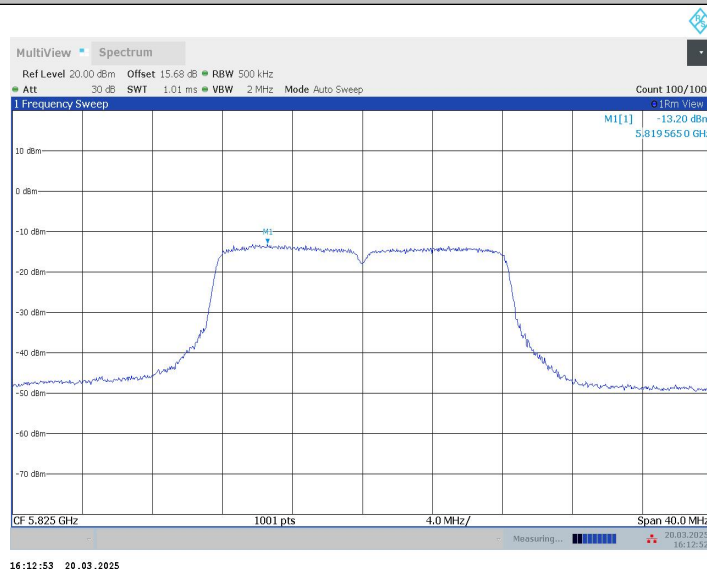
IEEE 802.11a_Ant1_5745MHz



IEEE 802.11a_Ant1_5785MHz

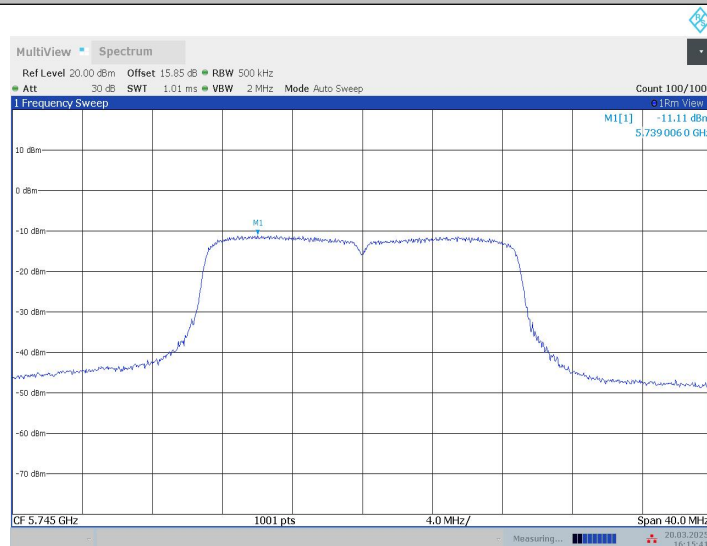


IEEE 802.11a_Ant1_5825MHz



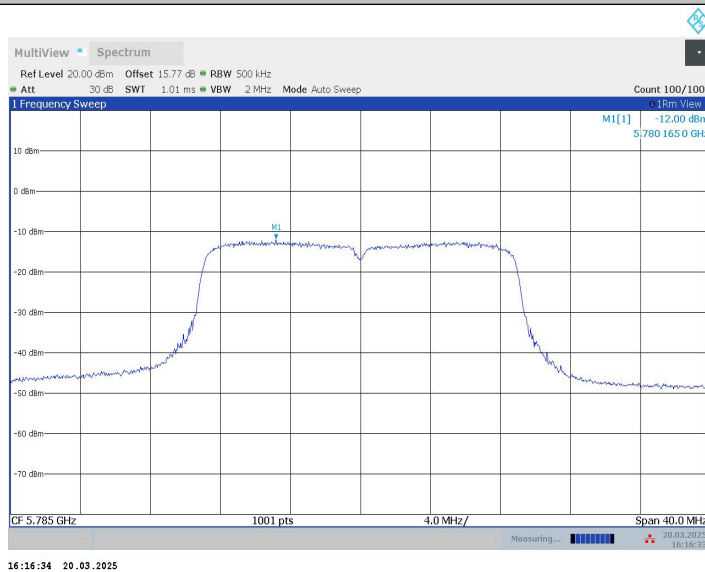
16:12:53 20.03.2025

IEEE 802.11n HT20_Ant1_5745MHz



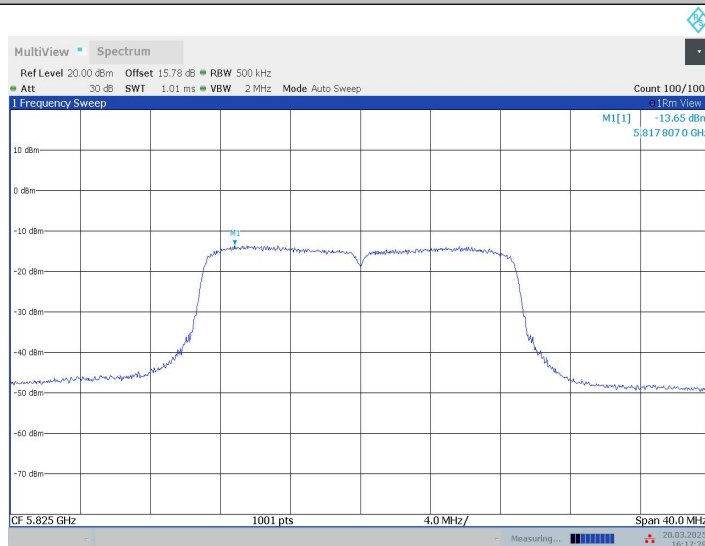
16:15:42 20.03.2025

IEEE 802.11n HT20_Ant1_5785MHz



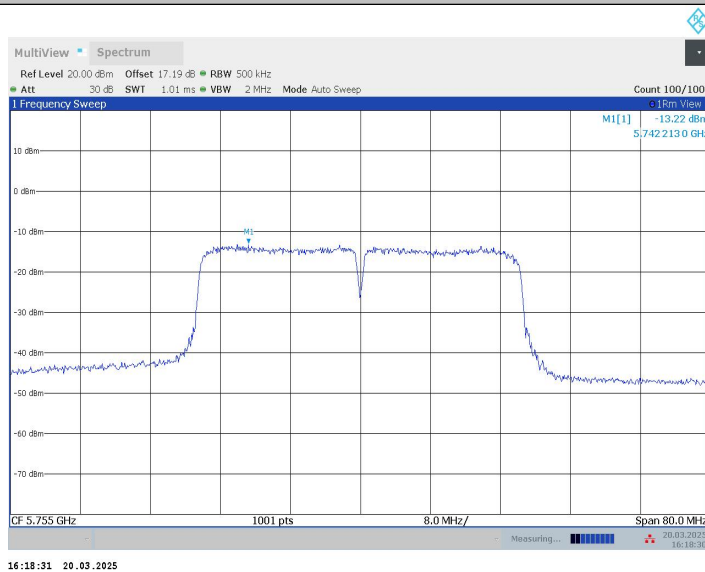
16:16:34 20.03.2025

IEEE 802.11n HT20_Ant1_5825MHz

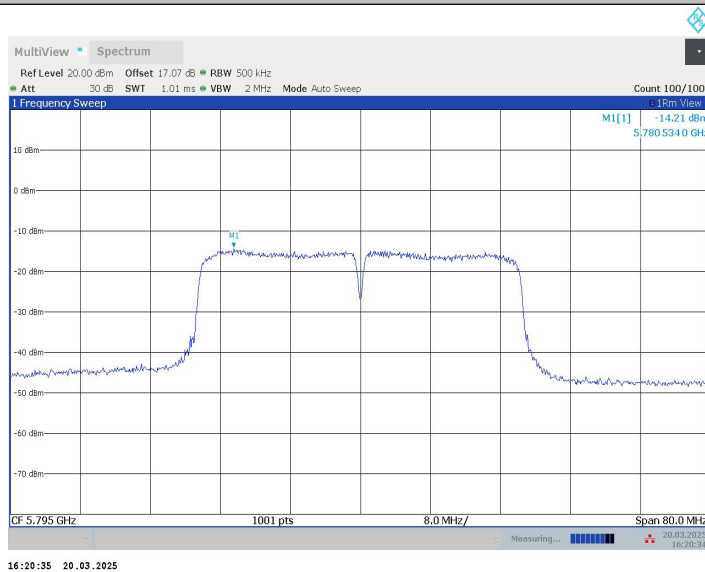


16:17:29 20.03.2025

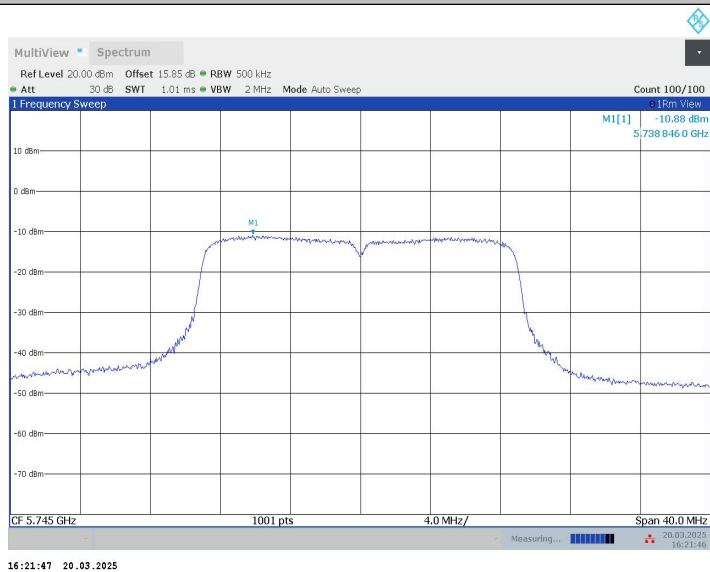
IEEE 802.11n HT40_Ant1_5755MHz



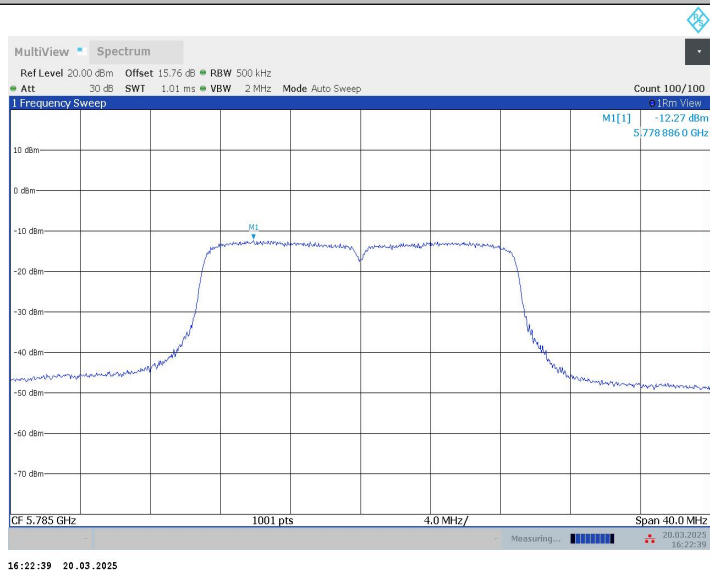
IEEE 802.11n HT40_Ant1_5795MHz



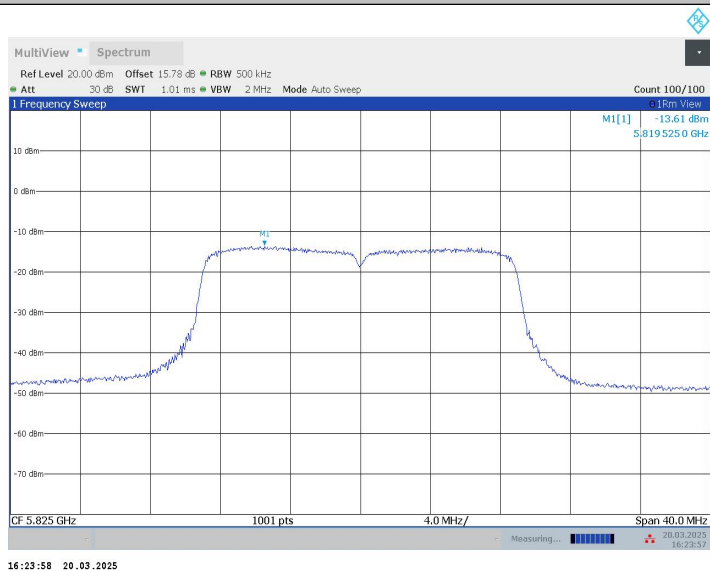
IEEE 802.11ac VHT20_Ant1_5745MHz



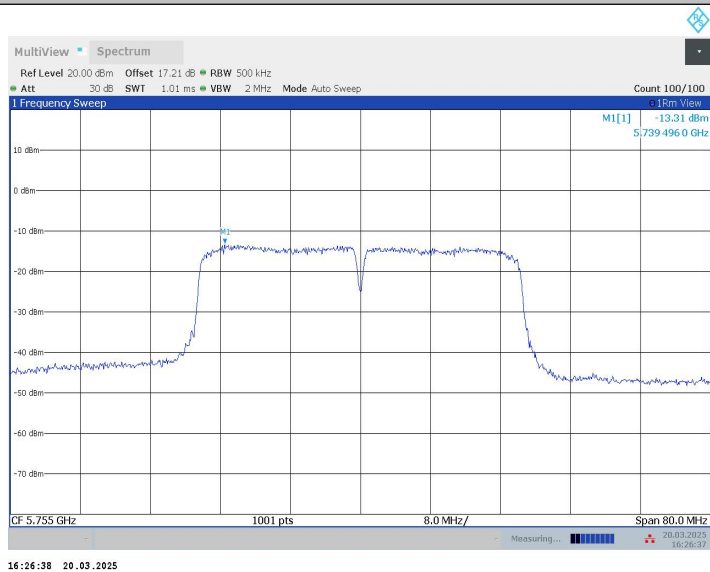
IEEE 802.11ac VHT20_Ant1_5785MHz



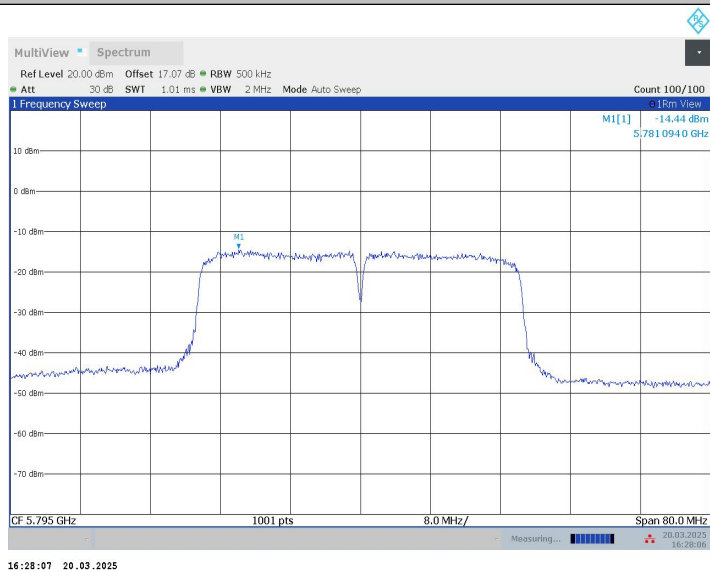
IEEE 802.11ac VHT20_Ant1_5825MHz



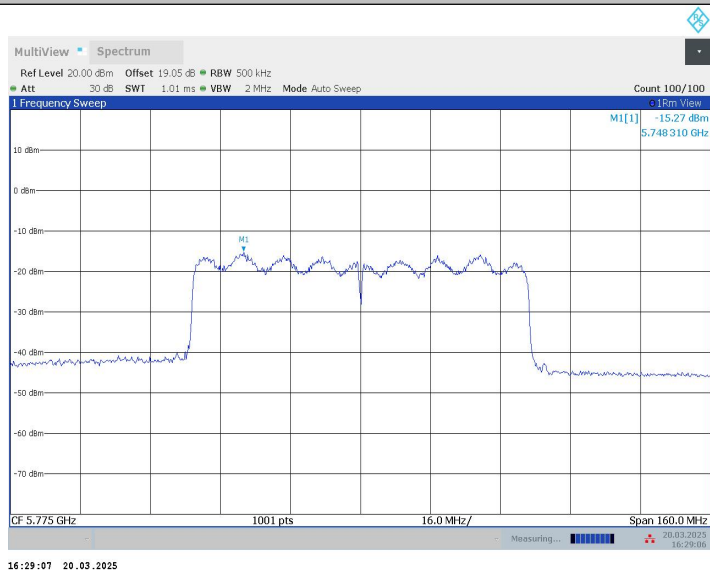
IEEE 802.11ac VHT40_Ant1_5755MHz



IEEE 802.11ac VHT40_Ant1_5795MHz



IEEE 802.11ac VHT80_Ant1_5775MHz



7.5. Frequency Stability Measurement

7.5.1. Test Limit

According to §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.

7.5.2. Test Setting

Frequency Stability Under Temperature Variations:

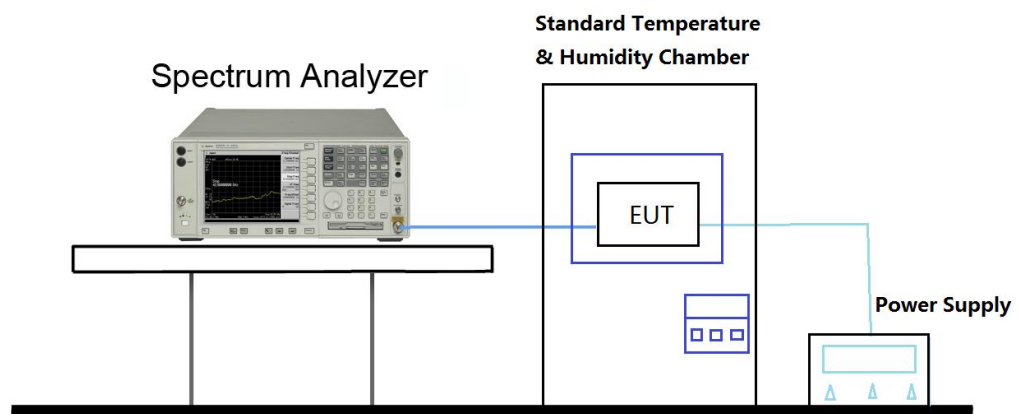
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

7.5.3. Test Setup



7.5.4. Test Result

Voltage								
Test Mode	Antenna	Freq (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
IEEE 802.11a	Ant1	5745	NV	NT	-27000.00	-4.699739	20	PASS
			LV	NT	-26000.00	-4.525674	20	PASS
			HV	NT	-25000.00	-4.351610	20	PASS
		5785	NV	NT	-27000.00	-4.667243	20	PASS
			LV	NT	-26000.00	-4.494382	20	PASS
			HV	NT	-25000.00	-4.321521	20	PASS
		5825	NV	NT	-26000.00	-4.463519	20	PASS
			LV	NT	-24000.00	-4.120172	20	PASS
			HV	NT	-24000.00	-4.120172	20	PASS
IEEE 802.11n HT20	Ant1	5745	NV	NT	-24000.00	-4.177546	20	PASS
			LV	NT	-23000.00	-4.003481	20	PASS
			HV	NT	-24000.00	-4.177546	20	PASS
		5785	NV	NT	-23000.00	-3.975799	20	PASS
			LV	NT	-27000.00	-4.667243	20	PASS
			HV	NT	-23000.00	-3.975799	20	PASS
		5825	NV	NT	-23000.00	-3.948498	20	PASS
			LV	NT	-23000.00	-3.948498	20	PASS
			HV	NT	-23000.00	-3.948498	20	PASS
IEEE 802.11n HT40	Ant1	5755	NV	NT	-23000.00	-3.996525	20	PASS
			LV	NT	-23000.00	-3.996525	20	PASS
			HV	NT	-23000.00	-3.996525	20	PASS
		5795	NV	NT	-10000.00	-1.725626	20	PASS
			LV	NT	-14000.00	-2.415876	20	PASS
			HV	NT	-17000.00	-2.933563	20	PASS
IEEE 802.11ac VHT20	Ant1	5745	NV	NT	-24000.00	-4.177546	20	PASS
			LV	NT	-24000.00	-4.177546	20	PASS
			HV	NT	-24000.00	-4.177546	20	PASS
		5785	NV	NT	-26000.00	-4.494382	20	PASS
			LV	NT	-23000.00	-3.975799	20	PASS
			HV	NT	-22000.00	-3.802939	20	PASS
		5825	NV	NT	-24000.00	-4.120172	20	PASS
			LV	NT	-24000.00	-4.120172	20	PASS

			HV	NT	-24000.00	-4.120172	20	PASS
IEEE 802.11ac VHT40	Ant1	5755	NV	NT	-23000.00	-3.996525	20	PASS
			LV	NT	-23000.00	-3.996525	20	PASS
			HV	NT	-23000.00	-3.996525	20	PASS
		5795	NV	NT	-23000.00	-3.968939	20	PASS
			LV	NT	-23000.00	-3.968939	20	PASS
			HV	NT	-23000.00	-3.968939	20	PASS
IEEE 802.11ac VHT80	Ant1	5775	NV	NT	1000.00	0.173160	20	PASS
			LV	NT	4000.00	0.692641	20	PASS
			HV	NT	6000.00	1.038961	20	PASS

Temperature								
Test Mode	Antenna	Freq (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
IEEE 802.11a	Ant1	5745	NV	-20	-24000.00	-4.177546	20	PASS
			NV	-10	-24000.00	-4.177546	20	PASS
			NV	0	-28000.00	-4.873803	20	PASS
			NV	10	-24000.00	-4.177546	20	PASS
			NV	20	-24000.00	-4.177546	20	PASS
			NV	30	-24000.00	-4.177546	20	PASS
			NV	40	-24000.00	-4.177546	20	PASS
			NV	50	-24000.00	-4.177546	20	PASS
		5785	NV	-20	-24000.00	-4.148660	20	PASS
			NV	-10	-24000.00	-4.148660	20	PASS
			NV	0	-23000.00	-3.975799	20	PASS
			NV	10	-23000.00	-3.975799	20	PASS
			NV	20	-23000.00	-3.975799	20	PASS
			NV	30	-23000.00	-3.975799	20	PASS
			NV	40	-23000.00	-3.975799	20	PASS
			NV	50	-23000.00	-3.975799	20	PASS
		5825	NV	-20	-23000.00	-3.948498	20	PASS
			NV	-10	-23000.00	-3.948498	20	PASS
			NV	0	-23000.00	-3.948498	20	PASS
			NV	10	-23000.00	-3.948498	20	PASS
			NV	20	-23000.00	-3.948498	20	PASS
			NV	30	-23000.00	-3.948498	20	PASS
			NV	40	-23000.00	-3.948498	20	PASS
			NV	40	-23000.00	-3.948498	20	PASS

			NV	50	-23000.00	-3.948498	20	PASS
IEEE 802.11n HT20	Ant1	5745	NV	-20	-24000.00	-4.177546	20	PASS
			NV	-10	-24000.00	-4.177546	20	PASS
			NV	0	-24000.00	-4.177546	20	PASS
			NV	10	-24000.00	-4.177546	20	PASS
			NV	20	-24000.00	-4.177546	20	PASS
			NV	30	-24000.00	-4.177546	20	PASS
			NV	40	-24000.00	-4.177546	20	PASS
			NV	50	-24000.00	-4.177546	20	PASS
		5785	NV	-20	-23000.00	-3.975799	20	PASS
			NV	-10	-23000.00	-3.975799	20	PASS
			NV	0	-22000.00	-3.802939	20	PASS
			NV	10	-22000.00	-3.802939	20	PASS
			NV	20	-22000.00	-3.802939	20	PASS
			NV	30	-23000.00	-3.975799	20	PASS
			NV	40	-22000.00	-3.802939	20	PASS
			NV	50	-26000.00	-4.494382	20	PASS
		5825	NV	-20	-23000.00	-3.948498	20	PASS
			NV	-10	-23000.00	-3.948498	20	PASS
			NV	0	-23000.00	-3.948498	20	PASS
			NV	10	-23000.00	-3.948498	20	PASS
			NV	20	-24000.00	-4.120172	20	PASS
			NV	30	-24000.00	-4.120172	20	PASS
			NV	40	-24000.00	-4.120172	20	PASS
			NV	50	-24000.00	-4.120172	20	PASS
IEEE 802.11n HT40	Ant1	5755	NV	-20	-23000.00	-3.996525	20	PASS
			NV	-10	-23000.00	-3.996525	20	PASS
			NV	0	-23000.00	-3.996525	20	PASS
			NV	10	-23000.00	-3.996525	20	PASS
			NV	20	-23000.00	-3.996525	20	PASS
			NV	30	-23000.00	-3.996525	20	PASS
			NV	40	-23000.00	-3.996525	20	PASS
			NV	50	-23000.00	-3.996525	20	PASS
		5795	NV	-20	-20000.00	-3.451251	20	PASS
			NV	-10	-20000.00	-3.451251	20	PASS
			NV	0	-21000.00	-3.623814	20	PASS
			NV	10	-21000.00	-3.623814	20	PASS

			NV	20	-22000.00	-3.796376	20	PASS
			NV	30	-22000.00	-3.796376	20	PASS
			NV	40	-22000.00	-3.796376	20	PASS
			NV	50	-22000.00	-3.796376	20	PASS
IEEE 802.11ac VHT20	Ant1	5745	NV	-20	-23000.00	-4.003481	20	PASS
			NV	-10	-24000.00	-4.177546	20	PASS
			NV	0	-23000.00	-4.003481	20	PASS
			NV	10	-23000.00	-4.003481	20	PASS
			NV	20	-23000.00	-4.003481	20	PASS
			NV	30	-23000.00	-4.003481	20	PASS
			NV	40	-23000.00	-4.003481	20	PASS
			NV	50	-23000.00	-4.003481	20	PASS
		5785	NV	-20	-22000.00	-3.802939	20	PASS
			NV	-10	-22000.00	-3.802939	20	PASS
			NV	0	-23000.00	-3.975799	20	PASS
			NV	10	-23000.00	-3.975799	20	PASS
			NV	20	-23000.00	-3.975799	20	PASS
			NV	30	-22000.00	-3.802939	20	PASS
			NV	40	-23000.00	-3.975799	20	PASS
			NV	50	-23000.00	-3.975799	20	PASS
		5825	NV	-20	-24000.00	-4.120172	20	PASS
			NV	-10	-24000.00	-4.120172	20	PASS
			NV	0	-24000.00	-4.120172	20	PASS
			NV	10	-24000.00	-4.120172	20	PASS
			NV	20	-24000.00	-4.120172	20	PASS
			NV	30	-24000.00	-4.120172	20	PASS
			NV	40	-24000.00	-4.120172	20	PASS
			NV	50	-24000.00	-4.120172	20	PASS
IEEE 802.11ac VHT40	Ant1	5755	NV	-20	-23000.00	-3.996525	20	PASS
			NV	-10	-23000.00	-3.996525	20	PASS
			NV	0	-23000.00	-3.996525	20	PASS
			NV	10	-23000.00	-3.996525	20	PASS
			NV	20	-23000.00	-3.996525	20	PASS
			NV	30	-23000.00	-3.996525	20	PASS
			NV	40	-23000.00	-3.996525	20	PASS
			NV	50	-23000.00	-3.996525	20	PASS
		5795	NV	-20	-23000.00	-3.968939	20	PASS

			NV	-10	-23000.00	-3.968939	20	PASS
			NV	0	-23000.00	-3.968939	20	PASS
			NV	10	-23000.00	-3.968939	20	PASS
			NV	20	-23000.00	-3.968939	20	PASS
			NV	30	-23000.00	-3.968939	20	PASS
			NV	40	-23000.00	-3.968939	20	PASS
			NV	50	-23000.00	-3.968939	20	PASS
IEEE 802.11ac VHT80	Ant1	5775	NV	-20	10000.00	1.731602	20	PASS
			NV	-10	12000.00	2.077922	20	PASS
			NV	0	13000.00	2.251082	20	PASS
			NV	10	14000.00	2.424242	20	PASS
			NV	20	15000.00	2.597403	20	PASS
			NV	30	16000.00	2.770563	20	PASS
			NV	40	17000.00	2.943723	20	PASS
			NV	50	18000.00	3.116883	20	PASS

Note: 1.This report records the worst case of temperature change test observation time 0/2/5/10min .

2.Test Voltage-NV:DC 12V, Test Voltage-LV:DC 10.2V, Test Voltage-HV:DC 13.8V.

3.Test Temperature Range:-20℃~50℃, Temperature-NT: 23.1℃.

4.Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} *10⁶.

7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: 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.

The unwanted emissions which fall in Restricted bands shall not exceed the field strength levels specified in the following table:

15.209 Radiated emission limits

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