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Annex for 5G Wi-Fi BAND 1

Test Report No.: CTL2404222135-WF04

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FCC ID: 2ASC7TAB702

1. Bandwidth

1.1 Test Result

1.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	19.058	/	Pass
		5200	1	19.319	/	Pass
		5240	1	19.246	/	Pass
802.11n (HT20)	SISO	5180	1	19.817	/	Pass
		5200	1	19.935	/	Pass
		5240	1	19.997	/	Pass
802.11n (HT40)	SISO	5190	1	38.269	/	Pass
		5230	1	38.449	/	Pass
802.11ac (VHT20)	SISO	5180	1	20.098	/	Pass
		5200	1	20.262	/	Pass
		5240	1	20.466	/	Pass
802.11ac (VHT40)	SISO	5190	1	38.007	/	Pass
		5230	1	38.138	/	Pass

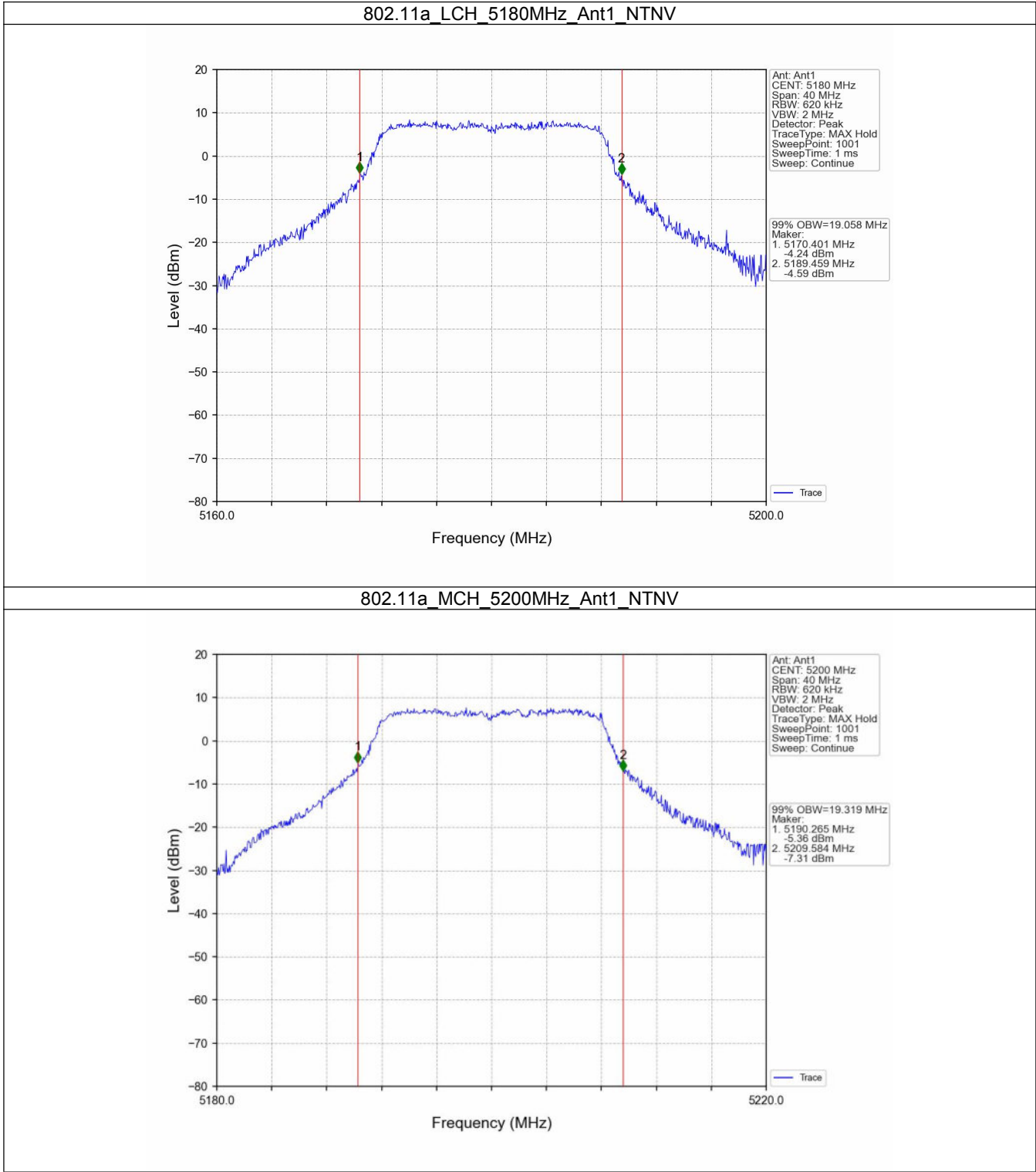
1.1.2 26dB BW

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	24.362	/	Pass
		5200	1	25.044	/	Pass
		5240	1	24.653	/	Pass
802.11n (HT20)	SISO	5180	1	24.723	/	Pass
		5200	1	26.495	/	Pass
		5240	1	25.534	/	Pass
802.11n (HT40)	SISO	5190	1	47.476	/	Pass
		5230	1	48.328	/	Pass
802.11ac (VHT20)	SISO	5180	1	25.345	/	Pass
		5200	1	25.459	/	Pass
		5240	1	25.712	/	Pass
802.11ac (VHT40)	SISO	5190	1	46.674	/	Pass
		5230	1	46.615	/	Pass

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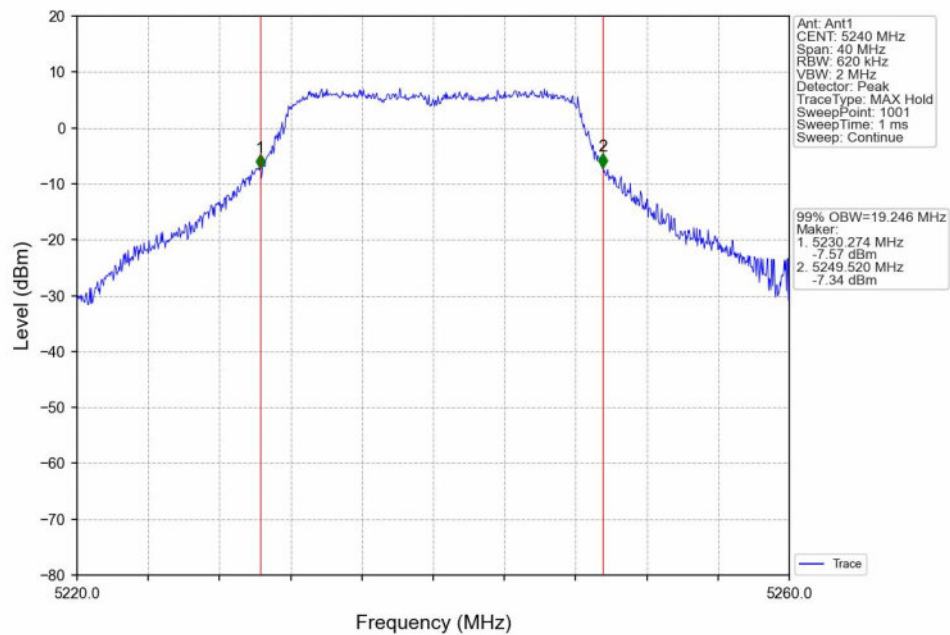
1.2 Test Graph

1.2.1 OBW

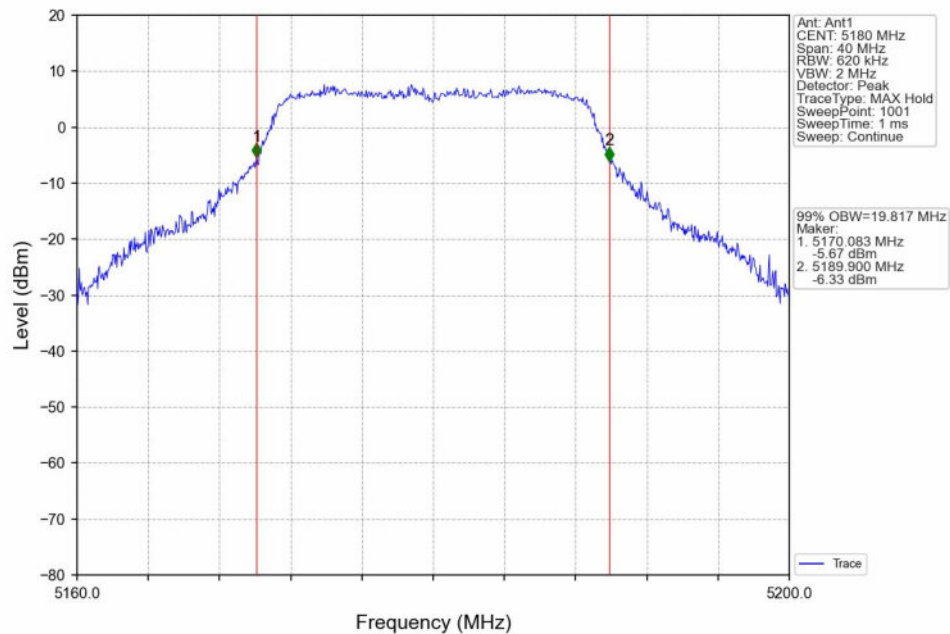


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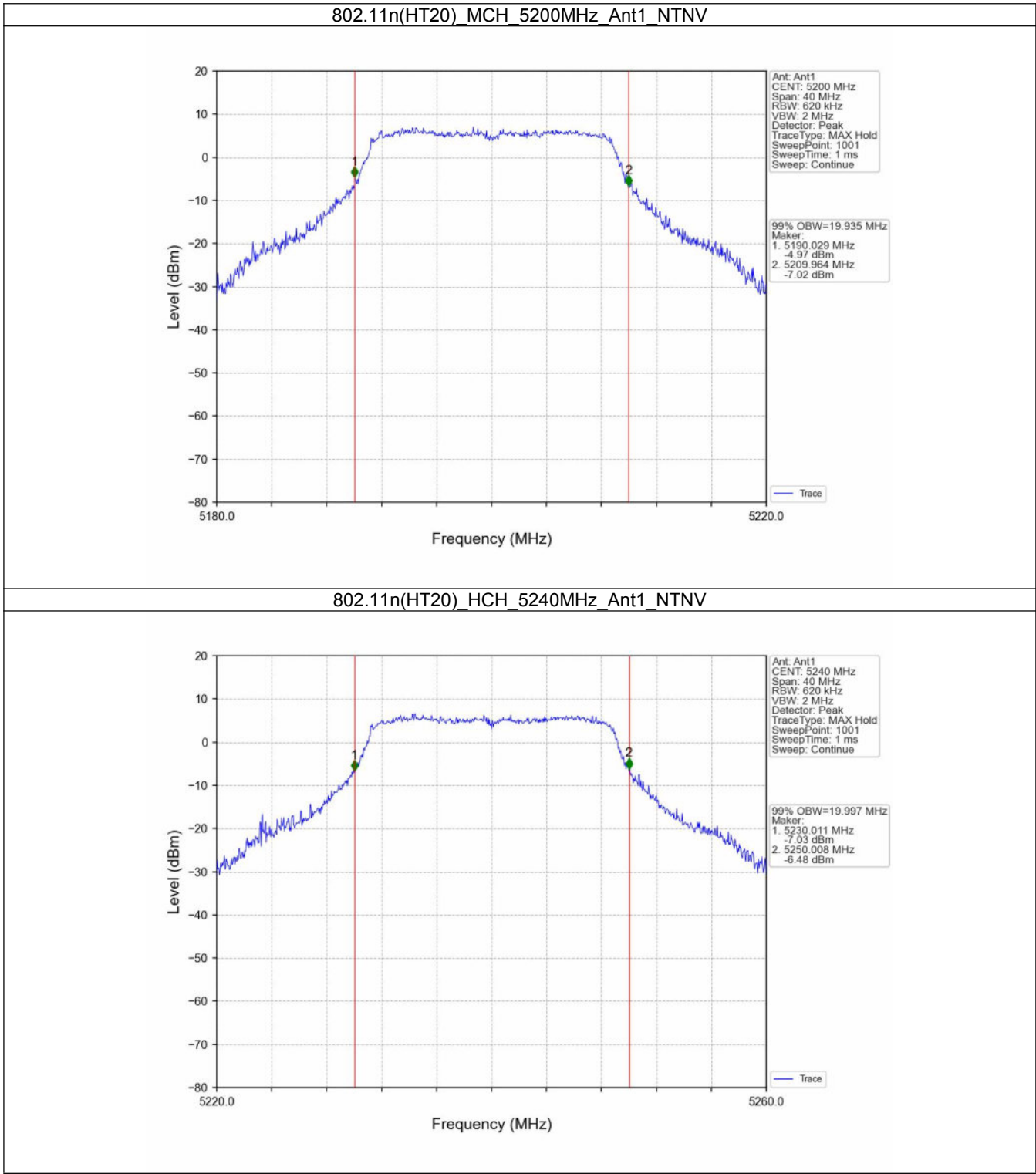
802.11a_HCH_5240MHz_Ant1_NTNV



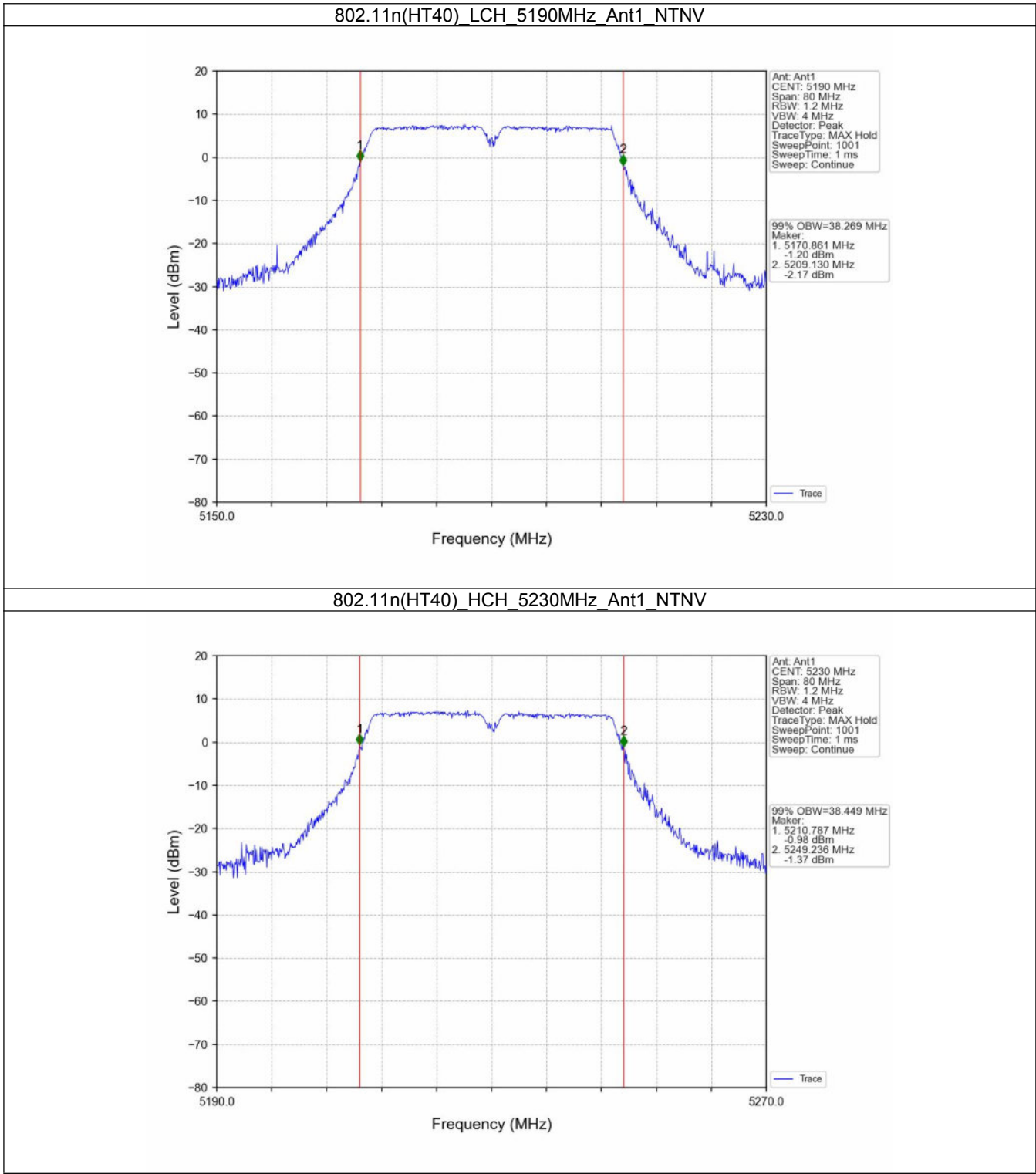
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



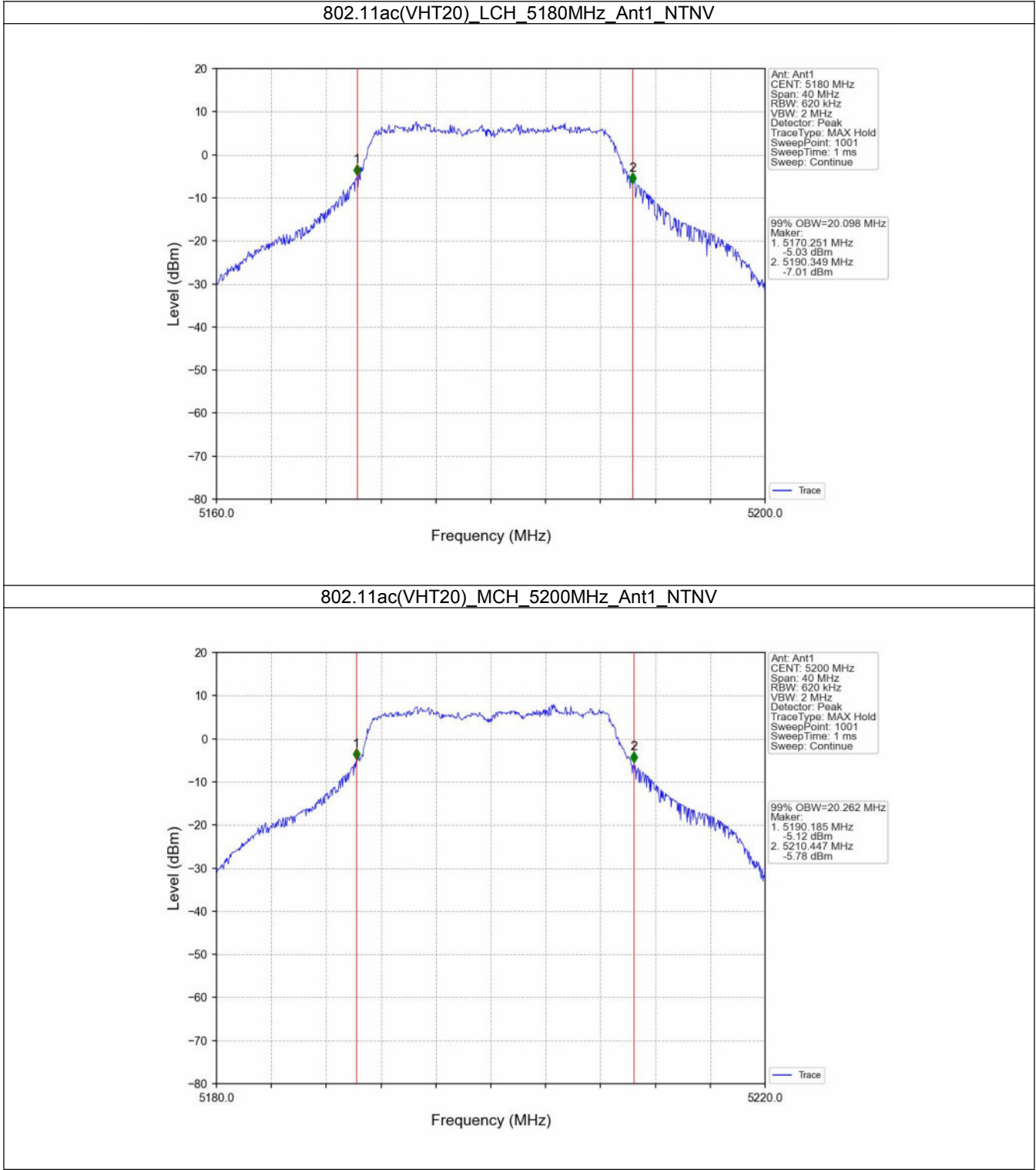
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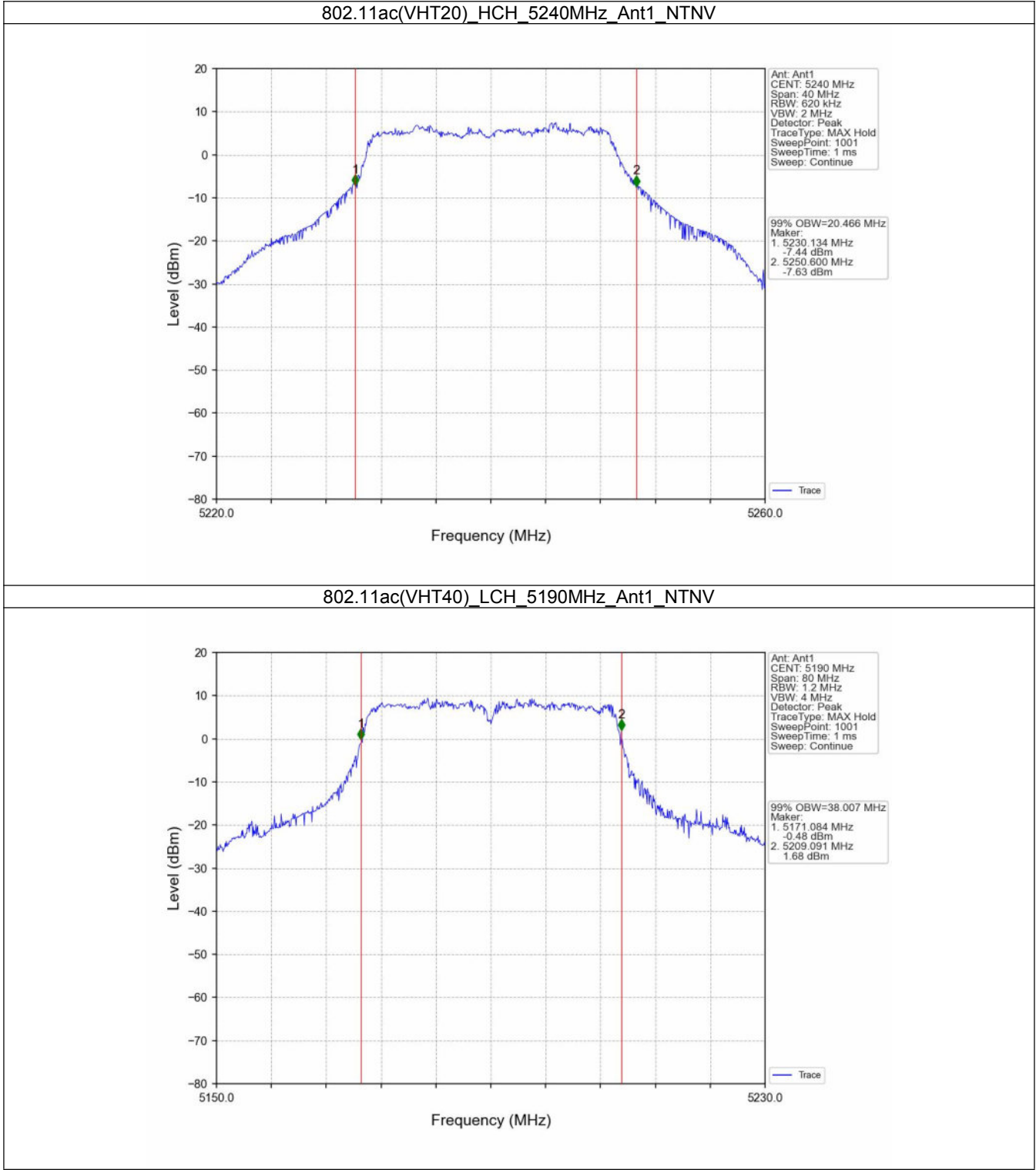
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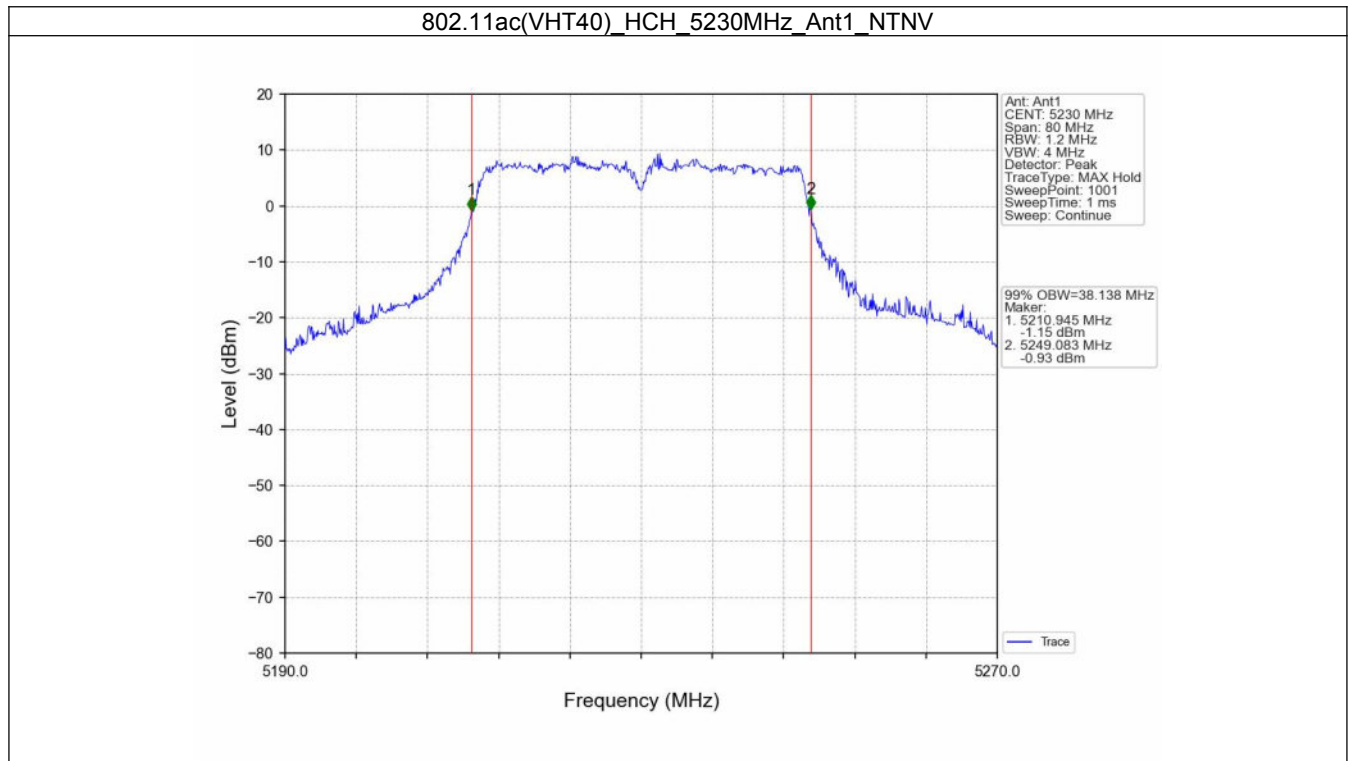
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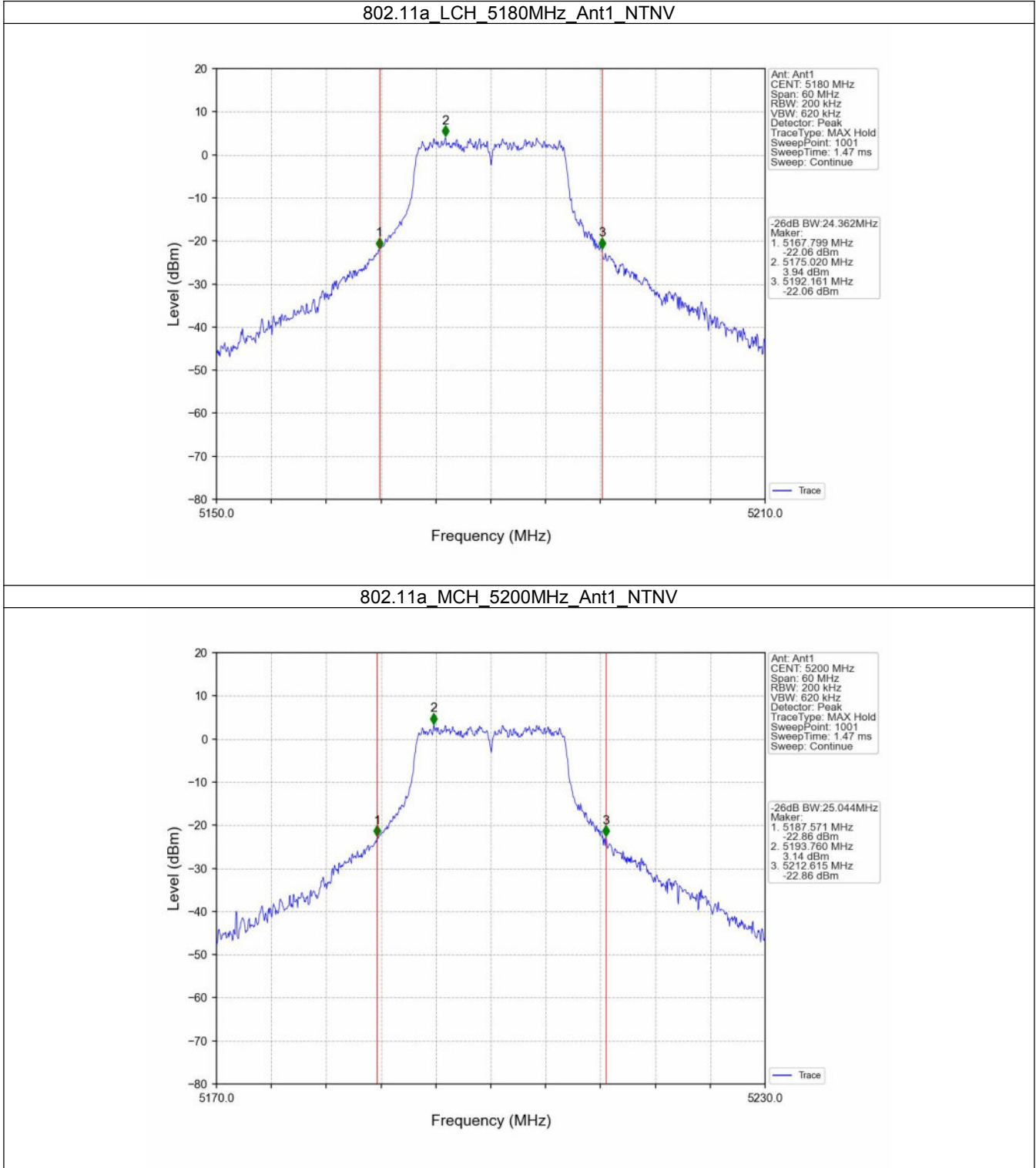


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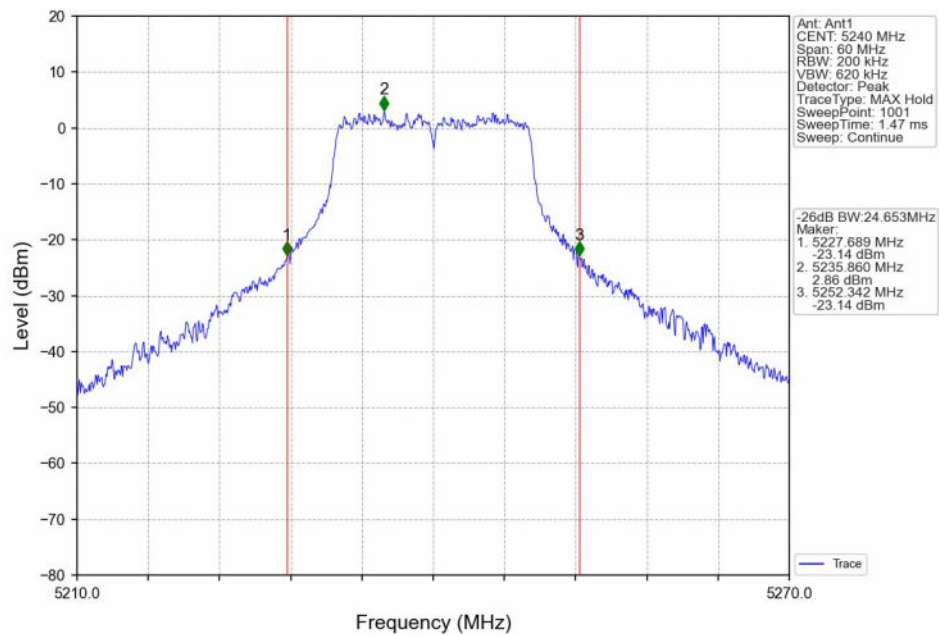
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1.2.2 26dB BW

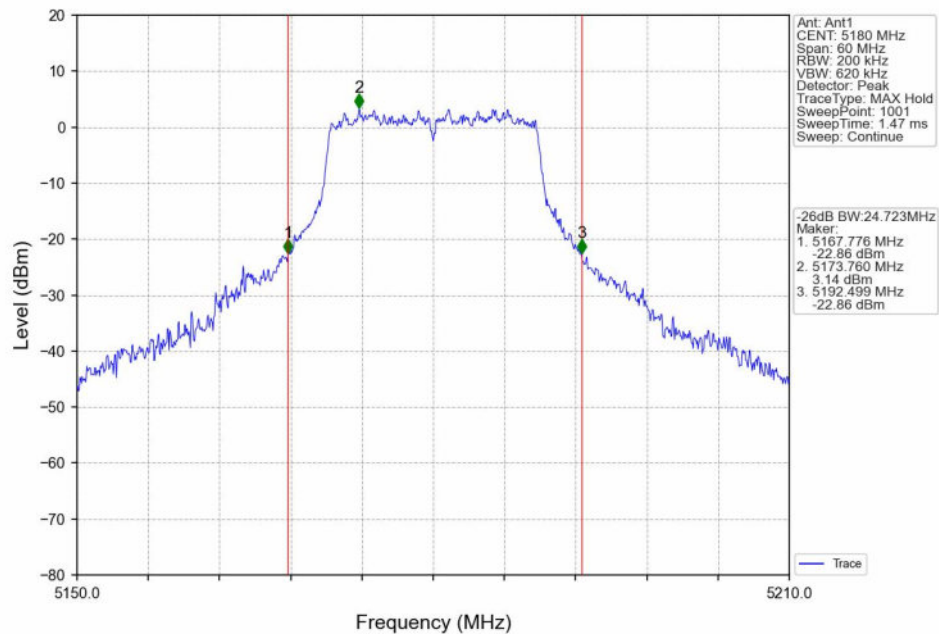


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802.11a_HCH_5240MHz_Ant1_NTNV

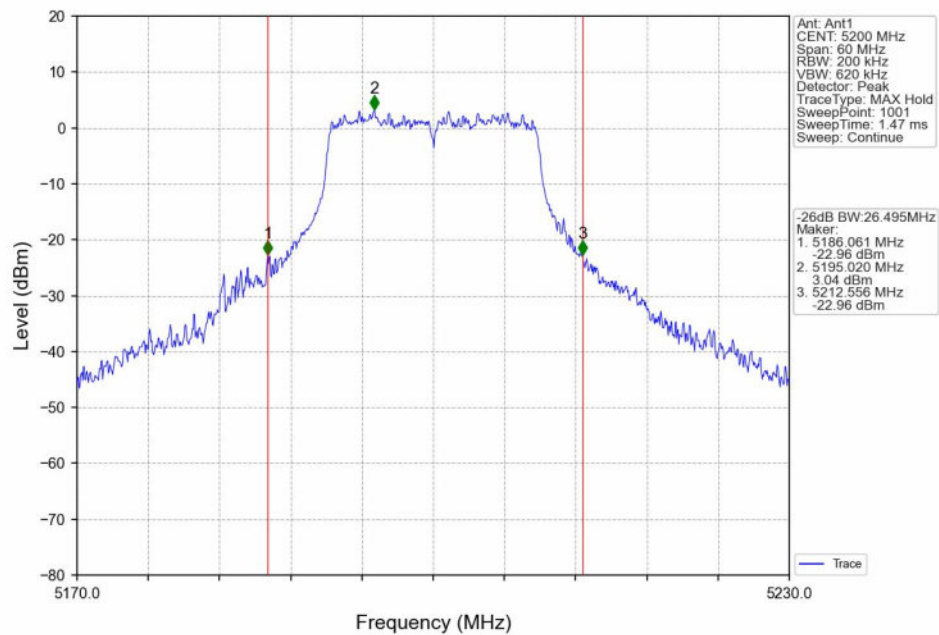


802.11n(HT20)_LCH_5180MHz_Ant1_NTNV

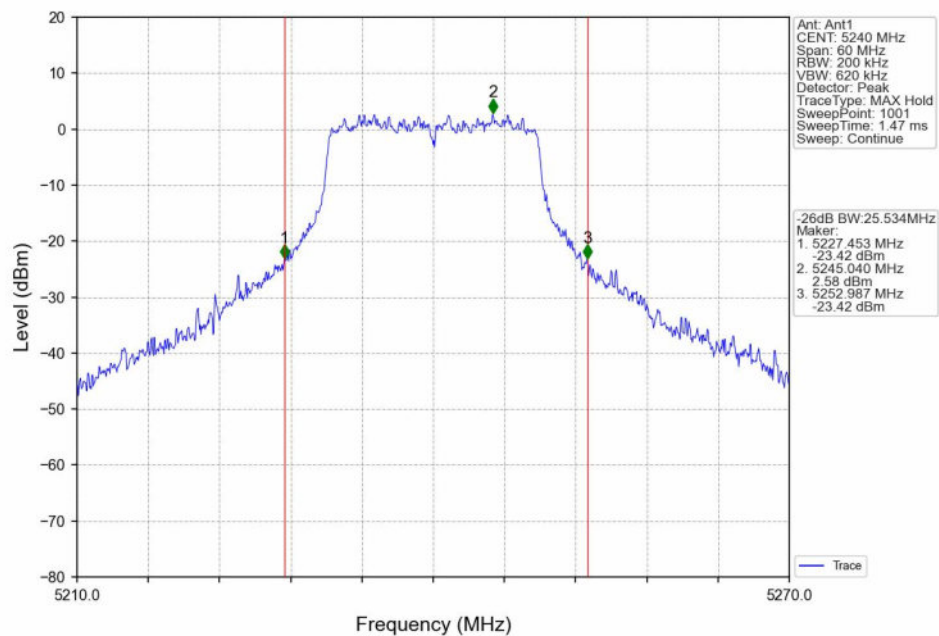


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802.11n(HT20)_MCH_5200MHz_Ant1_NTNV

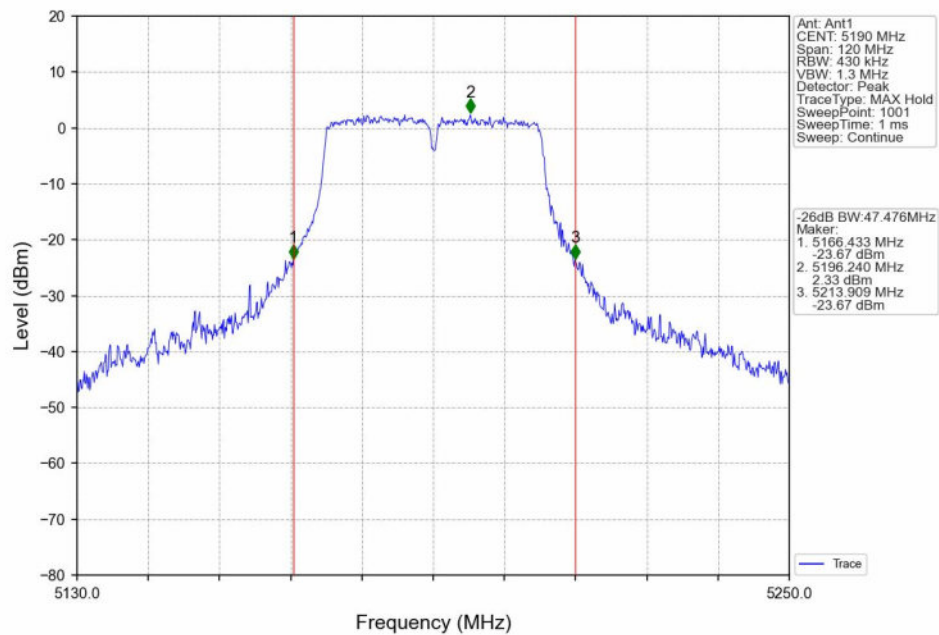


802.11n(HT20)_HCH_5240MHz_Ant1_NTNV

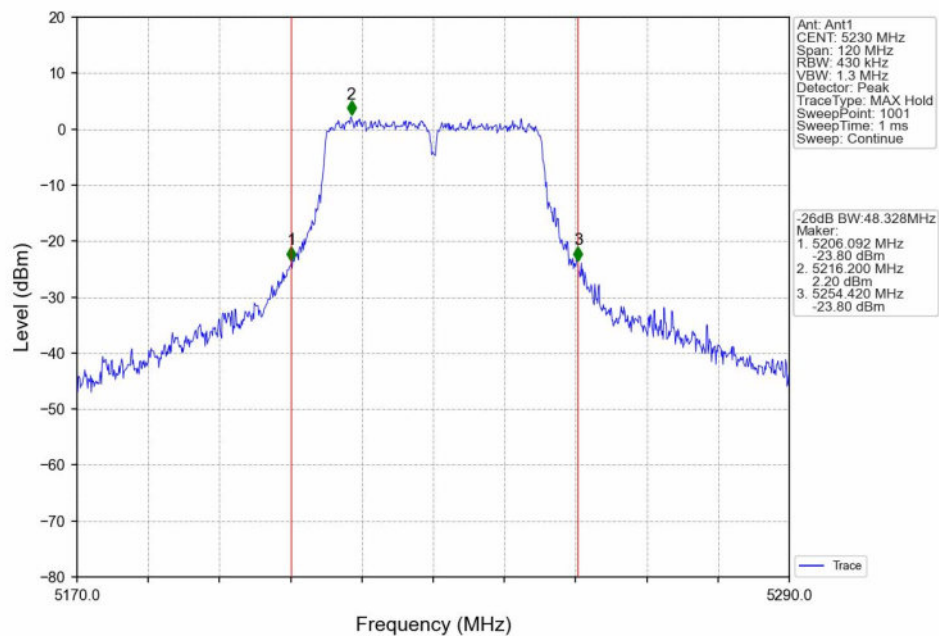


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802.11n(HT40)_LCH_5190MHz_Ant1_NTNV

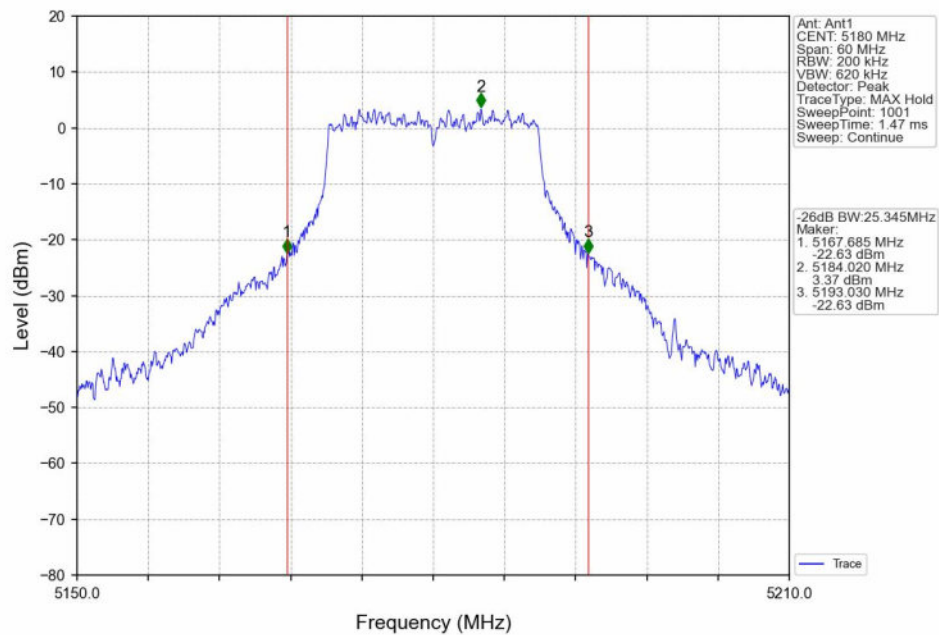


802.11n(HT40)_HCH_5230MHz_Ant1_NTNV

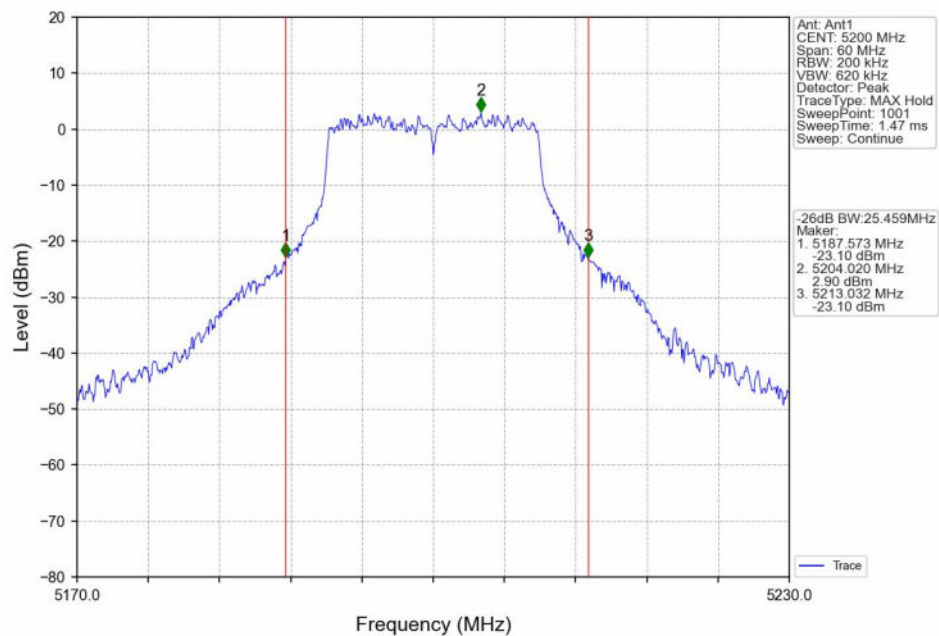


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802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV

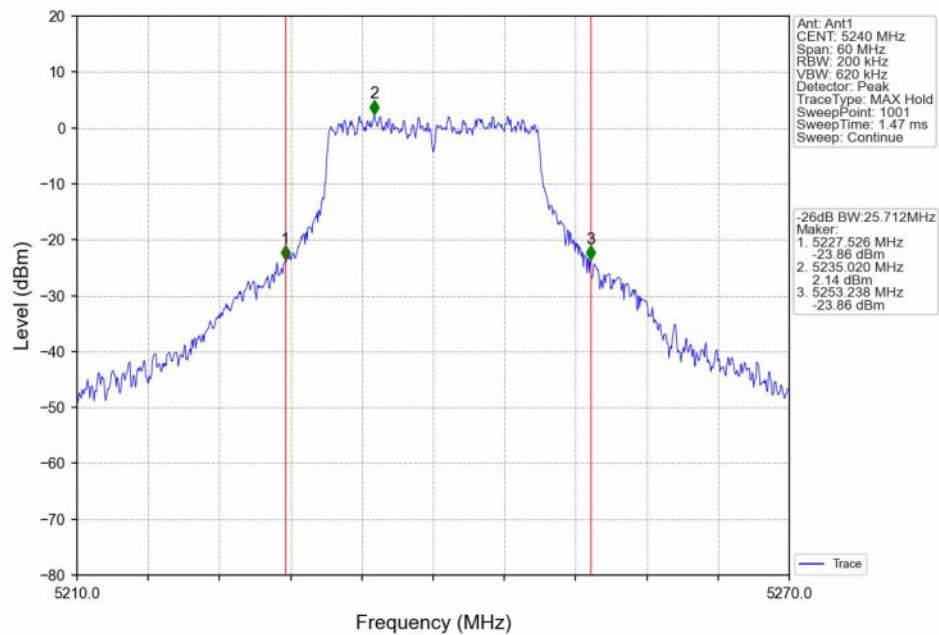


802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV

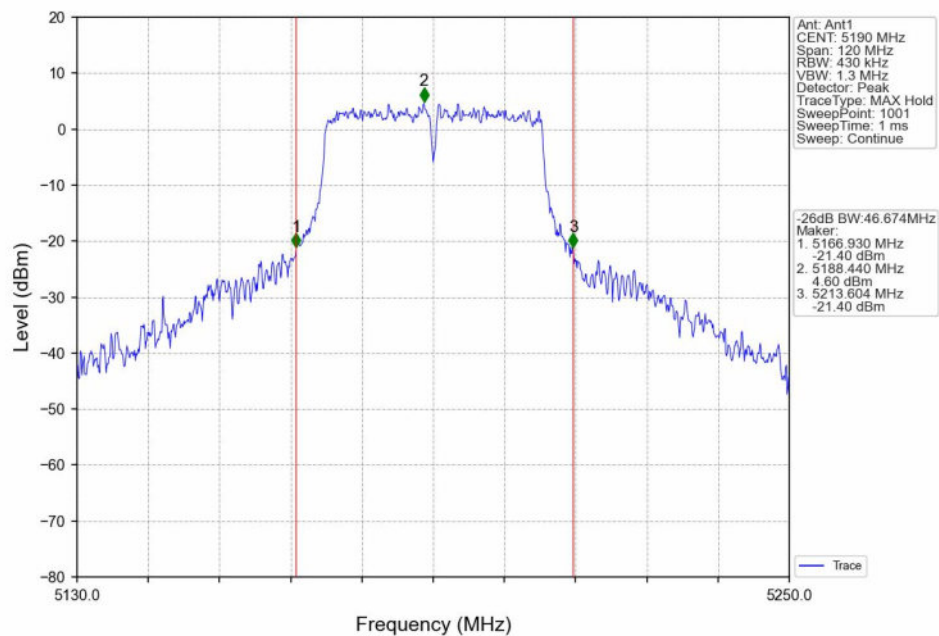


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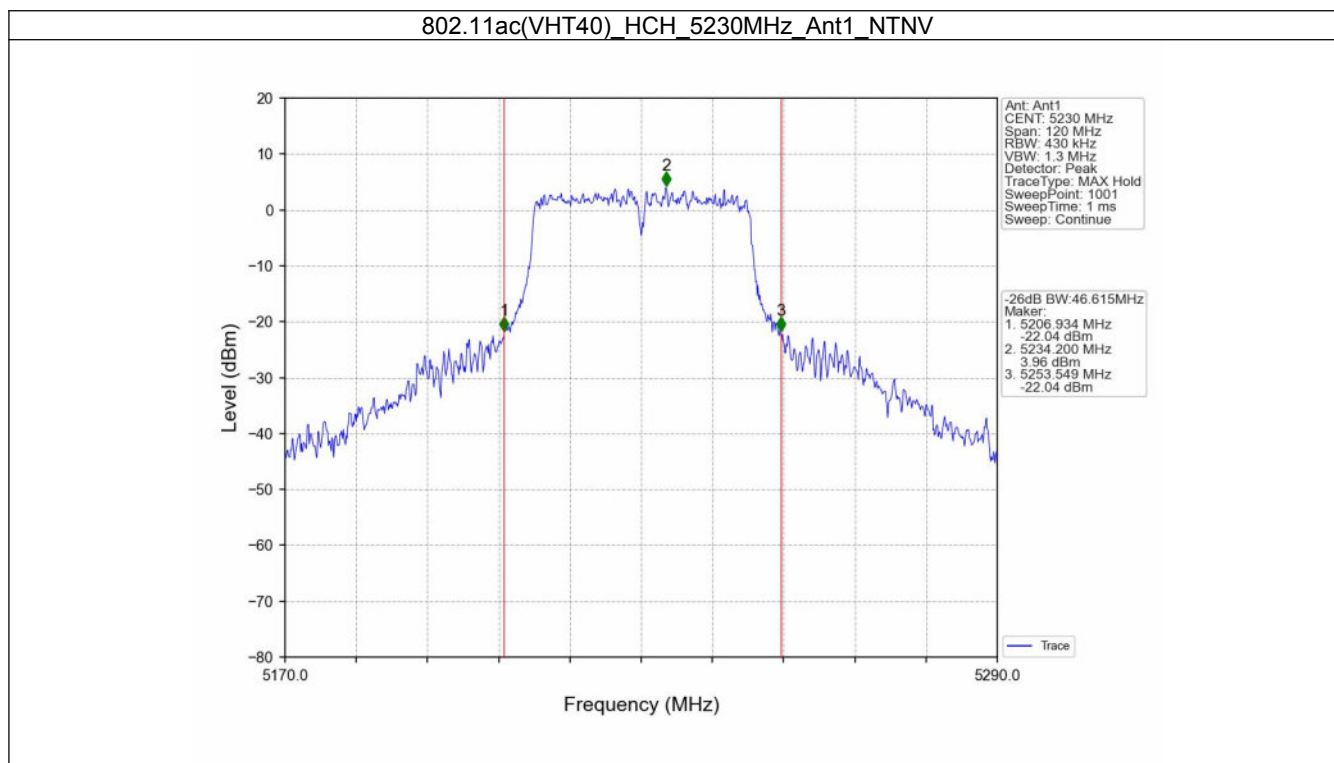
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



FCC ID: 2ASC7TAB702



FCC ID: 2ASC7TAB702

2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

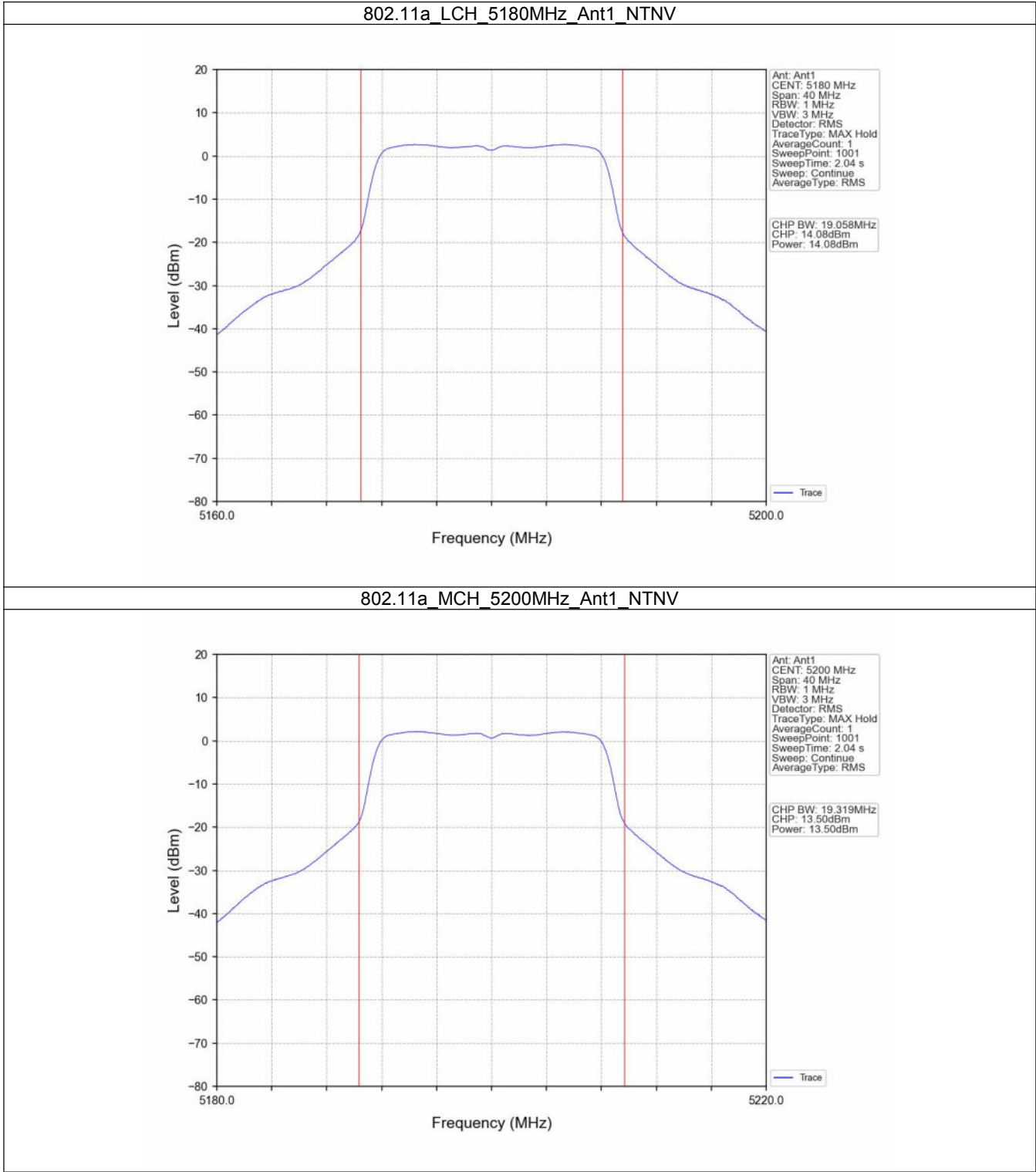
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	14.08	<=23.98	Pass
		5200	13.50	<=23.98	Pass
		5240	12.98	<=23.98	Pass
802.11n (HT20)	SISO	5180	13.59	<=23.98	Pass
		5200	13.31	<=23.98	Pass
		5240	12.83	<=23.98	Pass
802.11n (HT40)	SISO	5190	12.80	<=23.98	Pass
		5230	12.39	<=23.98	Pass
802.11ac (VHT20)	SISO	5180	13.62	<=23.98	Pass
		5200	13.13	<=23.98	Pass
		5240	12.52	<=23.98	Pass
802.11ac (VHT40)	SISO	5190	14.47	<=23.98	Pass
		5230	13.72	<=23.98	Pass

Note1: Antenna Gain: Ant1: 1.25dBi;

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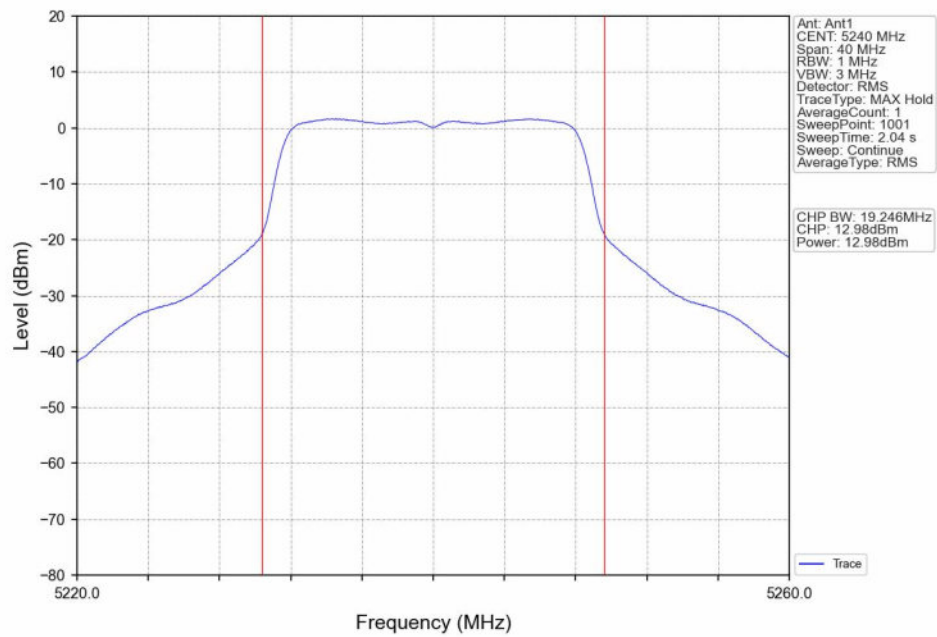
2.2 Test Graph

2.2.1 Power

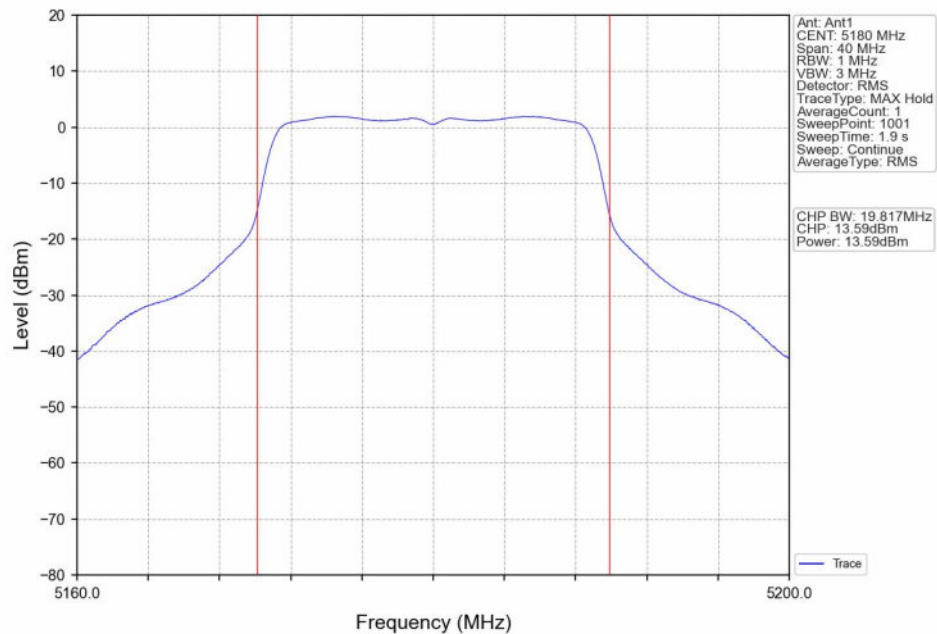


FCC ID: 2ASC7TAB702

802.11a_HCH_5240MHz_Ant1_NTNV

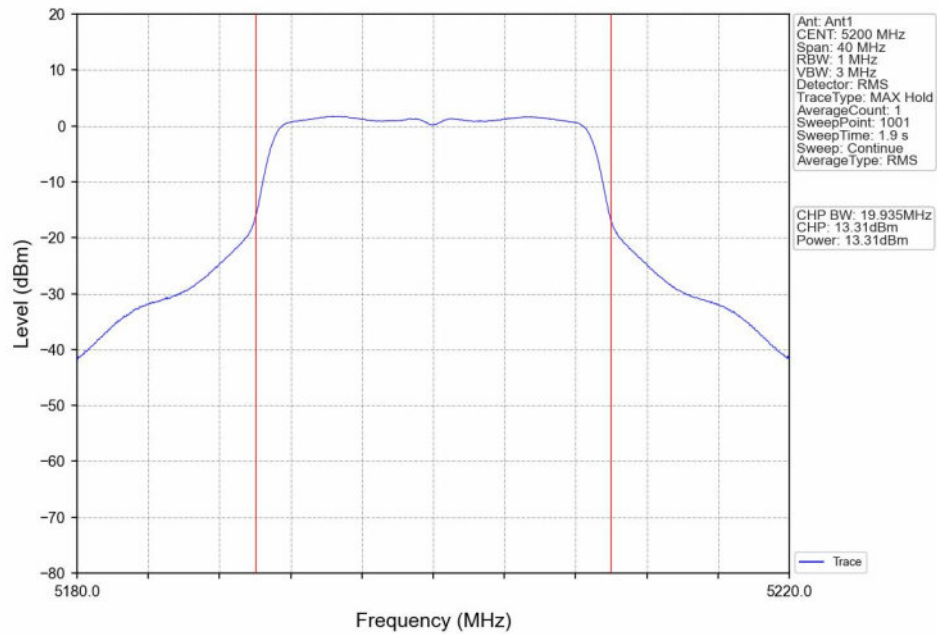


802.11n(HT20)_LCH_5180MHz_Ant1_NTNV

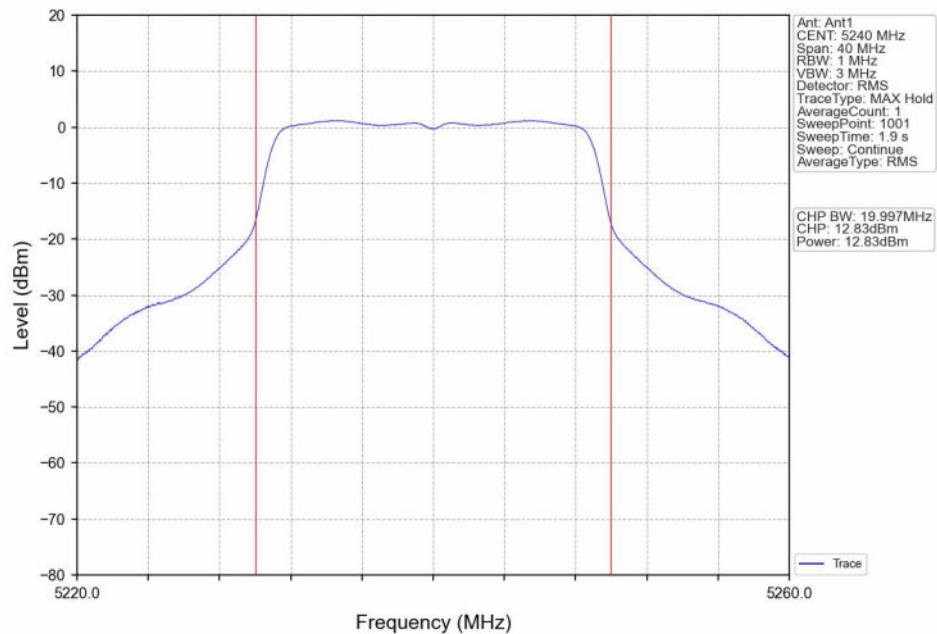


FCC ID: 2ASC7TAB702

802.11n(HT20)_MCH_5200MHz_Ant1_NTNV

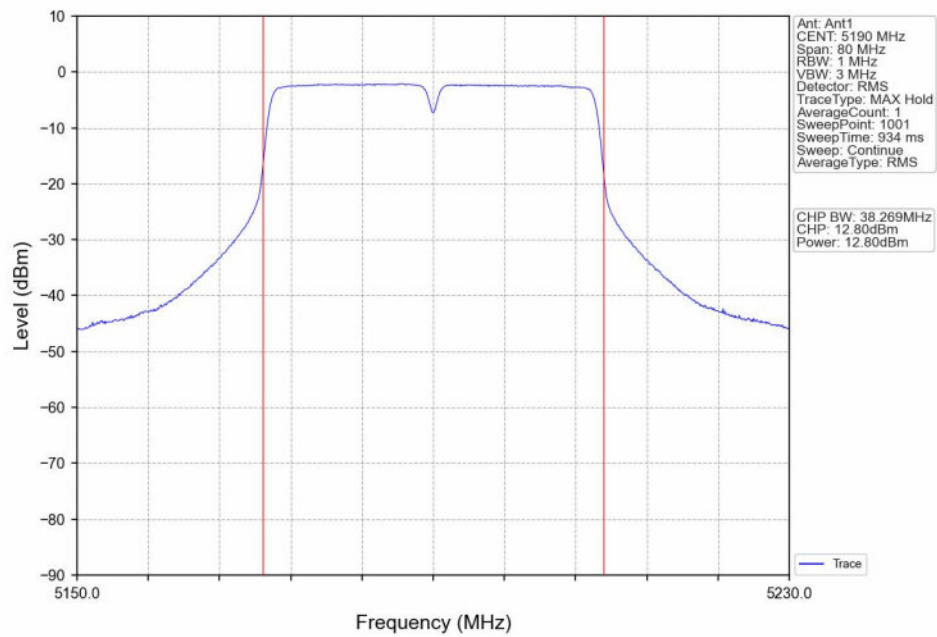


802.11n(HT20)_HCH_5240MHz_Ant1_NTNV

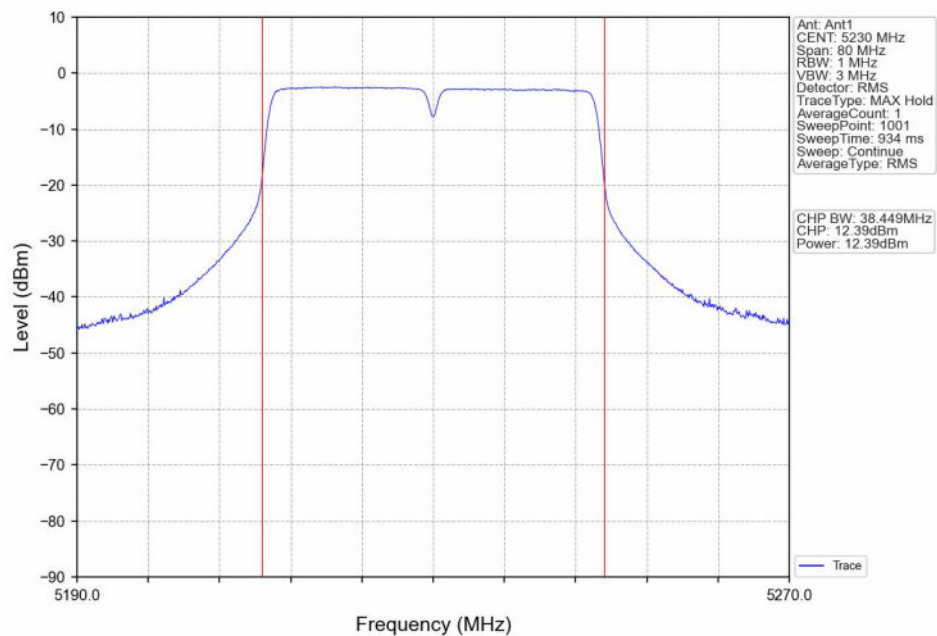


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802.11n(HT40)_LCH_5190MHz_Ant1_NTNV

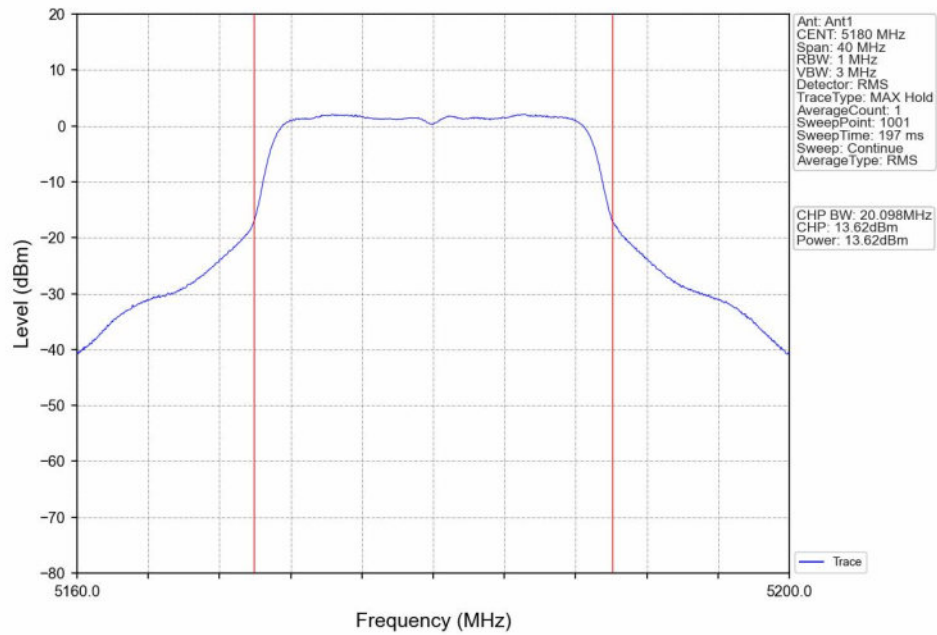


802.11n(HT40)_HCH_5230MHz_Ant1_NTNV

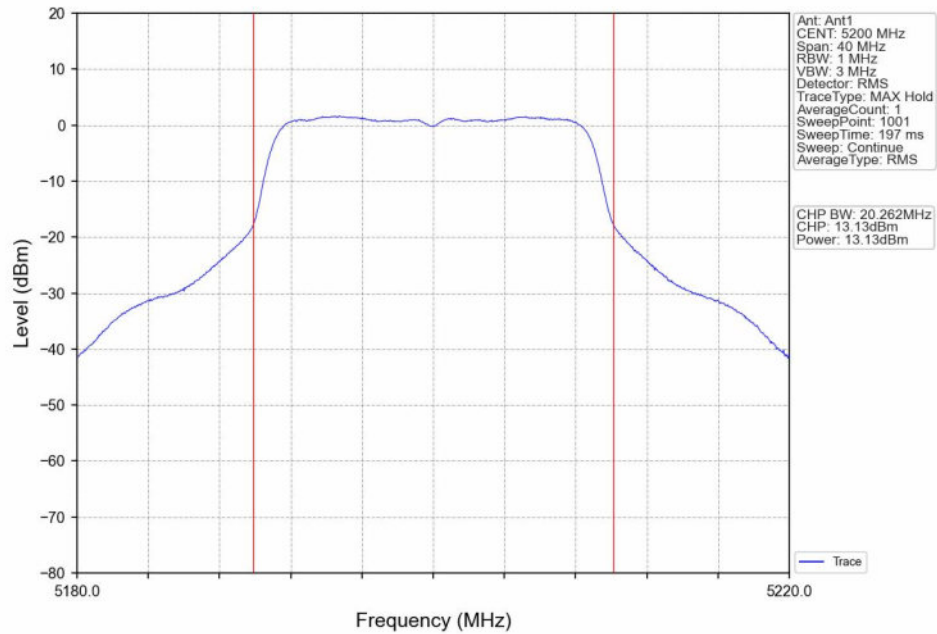


FCC ID: 2ASC7TAB702

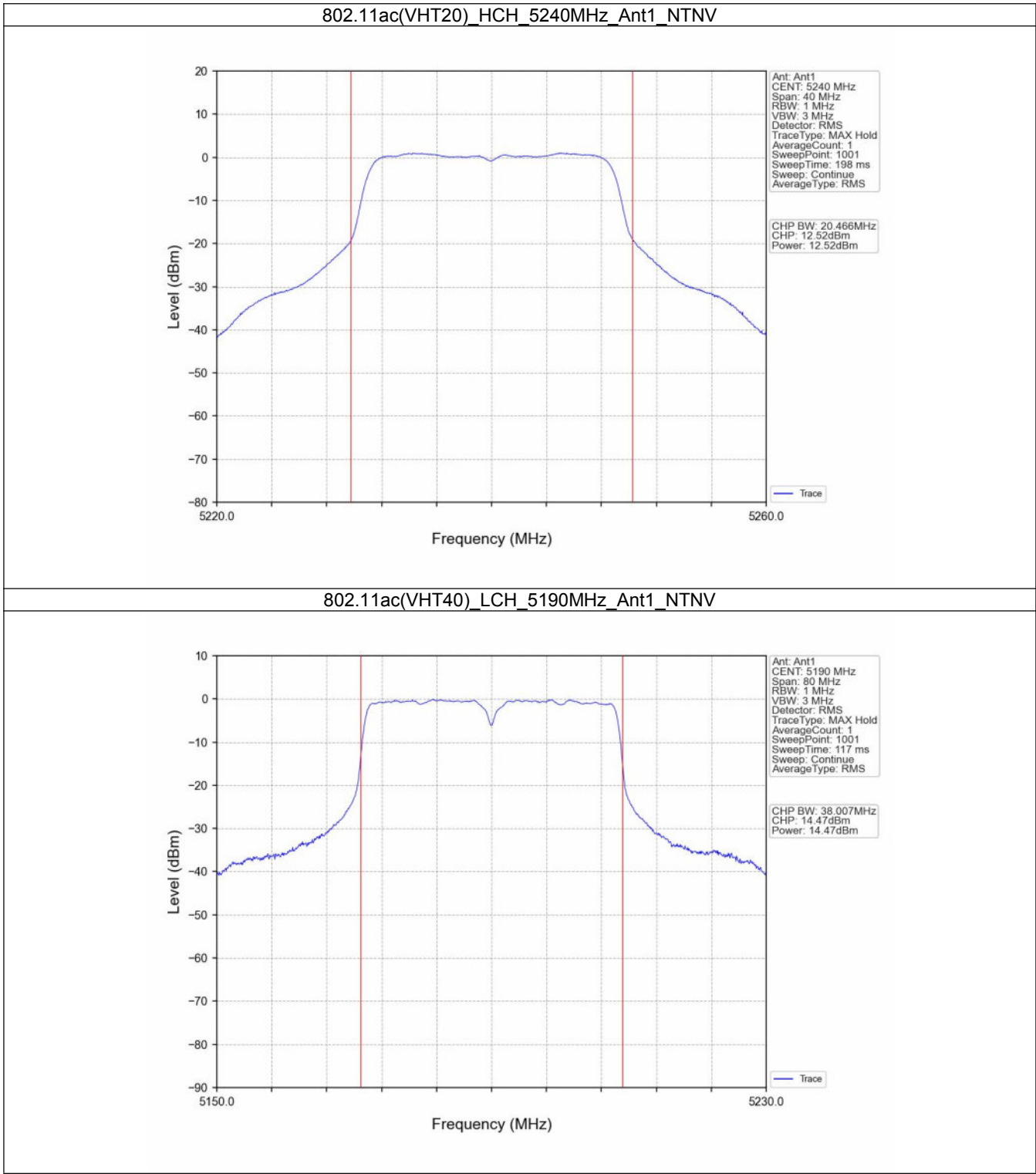
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



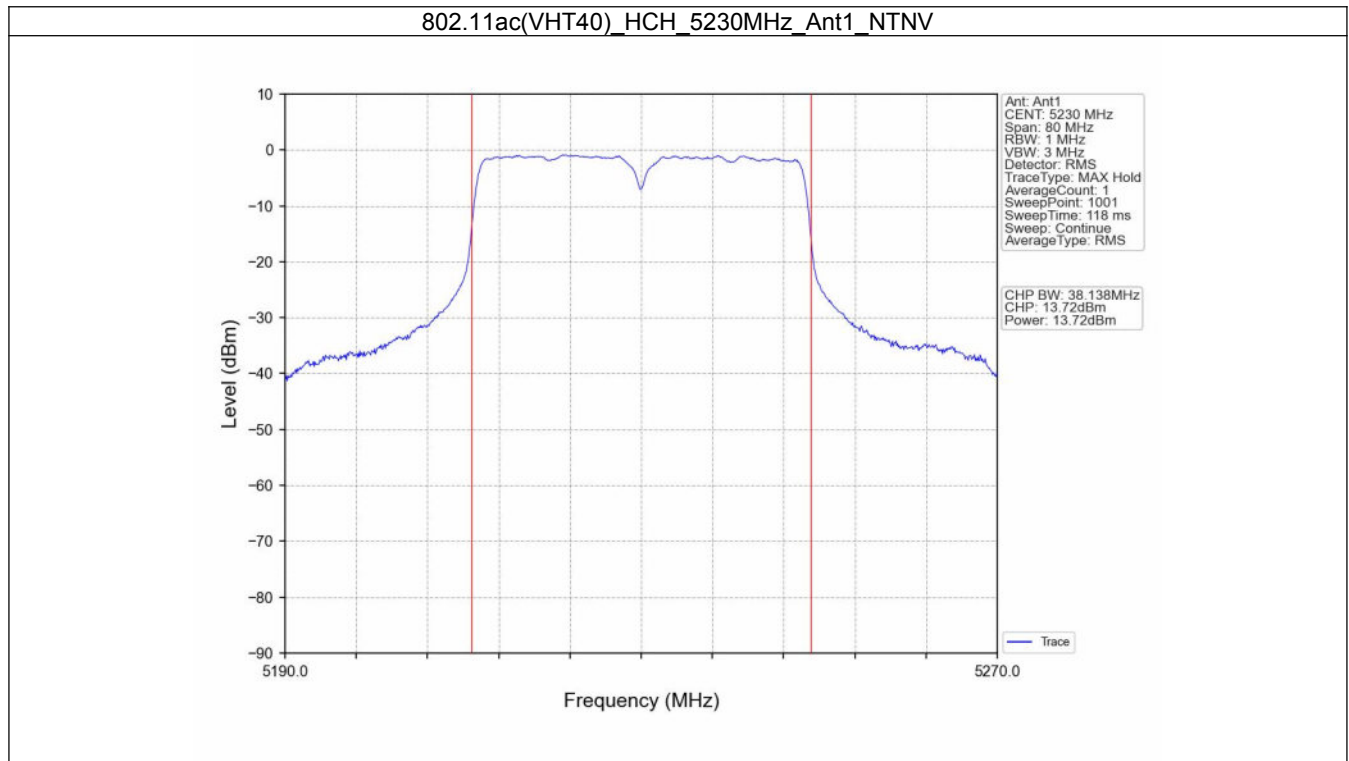
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



FCC ID: 2ASC7TAB702



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3. Maximum Power Spectral Density

3.1 Test Result

3.1.1 PSD

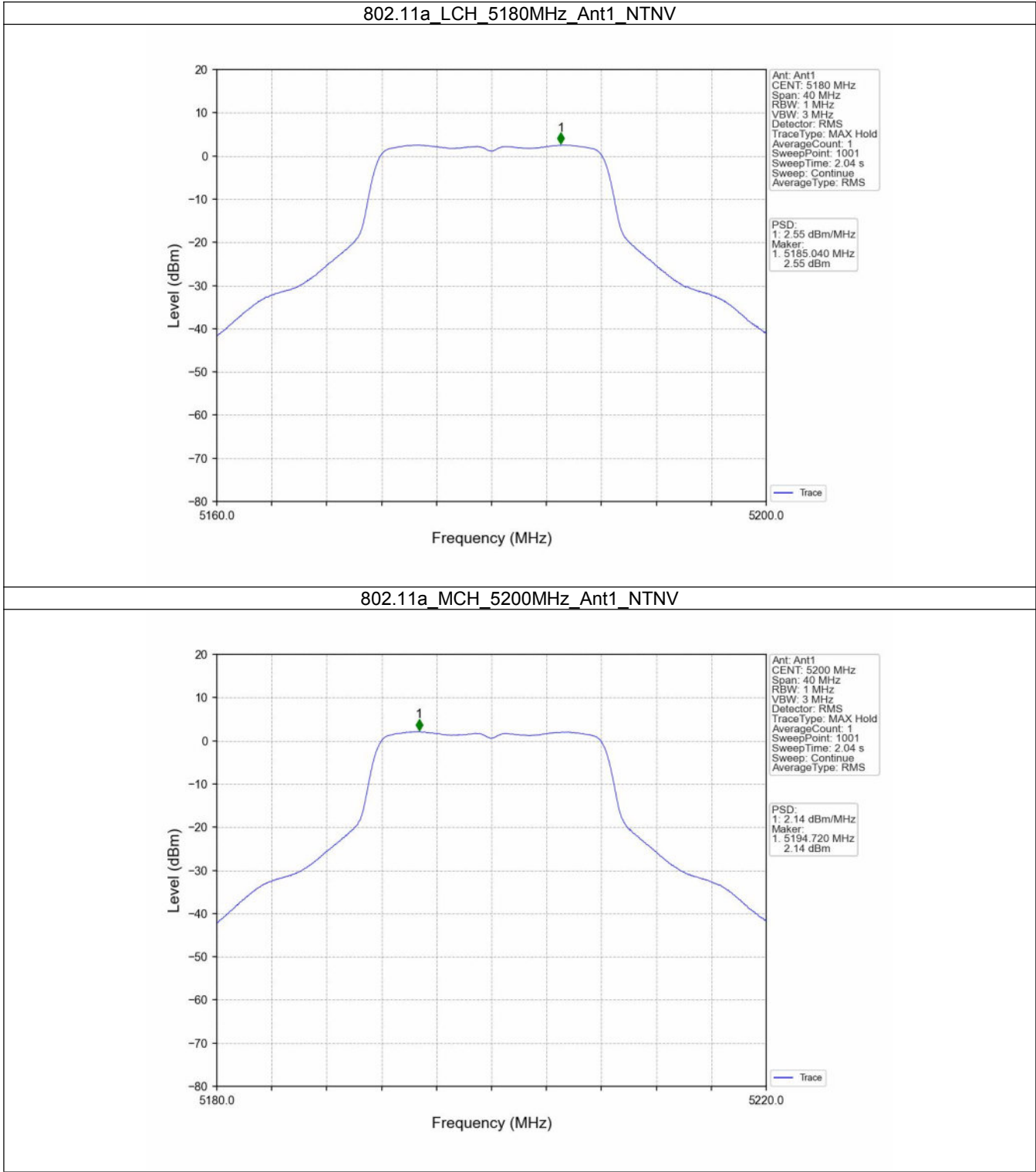
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	2.55	<=11	Pass
		5200	2.14	<=11	Pass
		5240	1.61	<=11	Pass
802.11n (HT20)	SISO	5180	1.91	<=11	Pass
		5200	1.68	<=11	Pass
		5240	1.18	<=11	Pass
802.11n (HT40)	SISO	5190	-2.16	<=11	Pass
		5230	-2.45	<=11	Pass
802.11ac (VHT20)	SISO	5180	1.98	<=11	Pass
		5200	1.56	<=11	Pass
		5240	1.03	<=11	Pass
802.11ac (VHT40)	SISO	5190	-0.10	<=11	Pass
		5230	-0.80	<=11	Pass

Note1: Antenna Gain: Ant1: 1.25dBi;

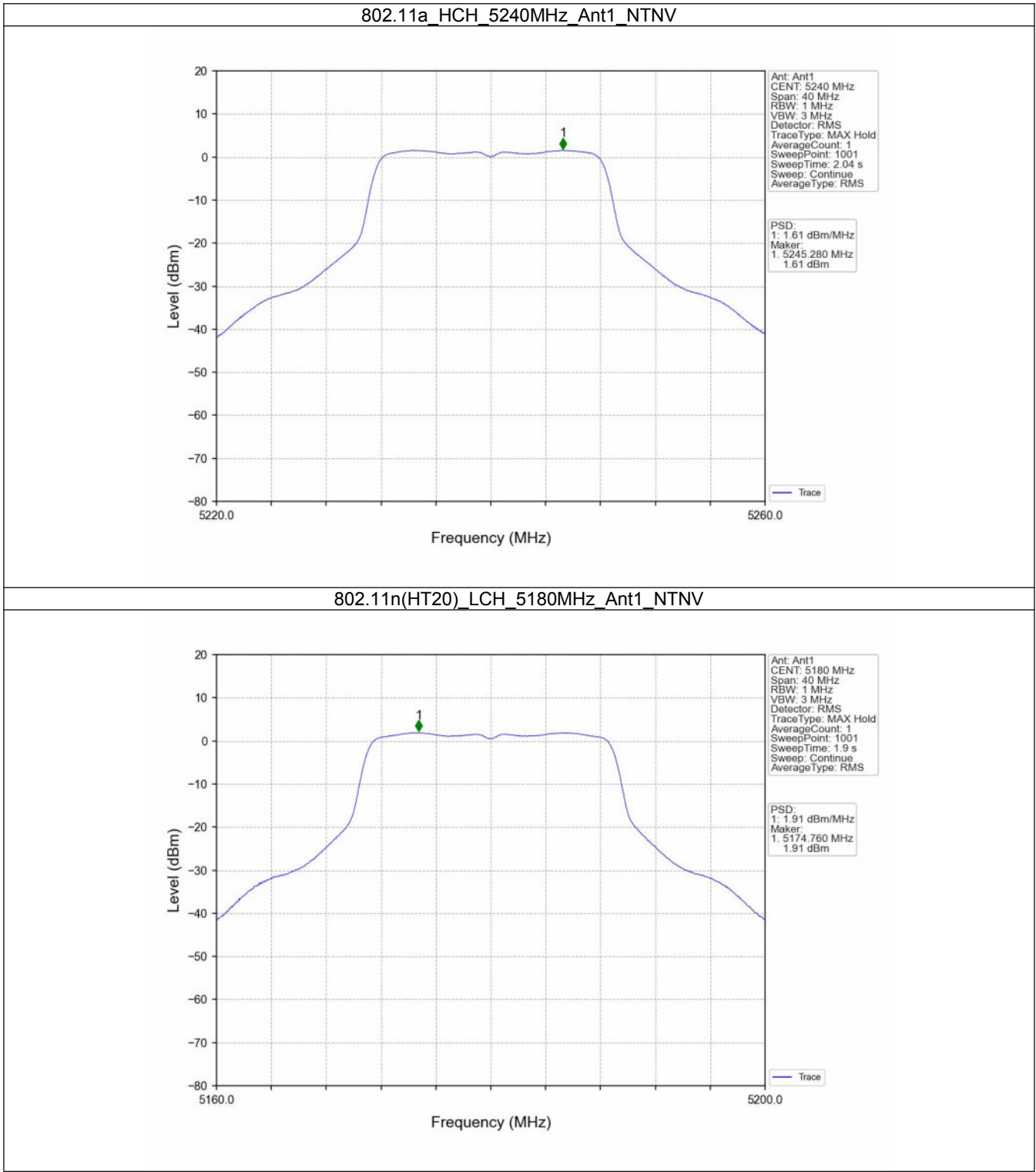
FCC ID: 2ASC7TAB702

3.2 Test Graph

3.2.1 PSD

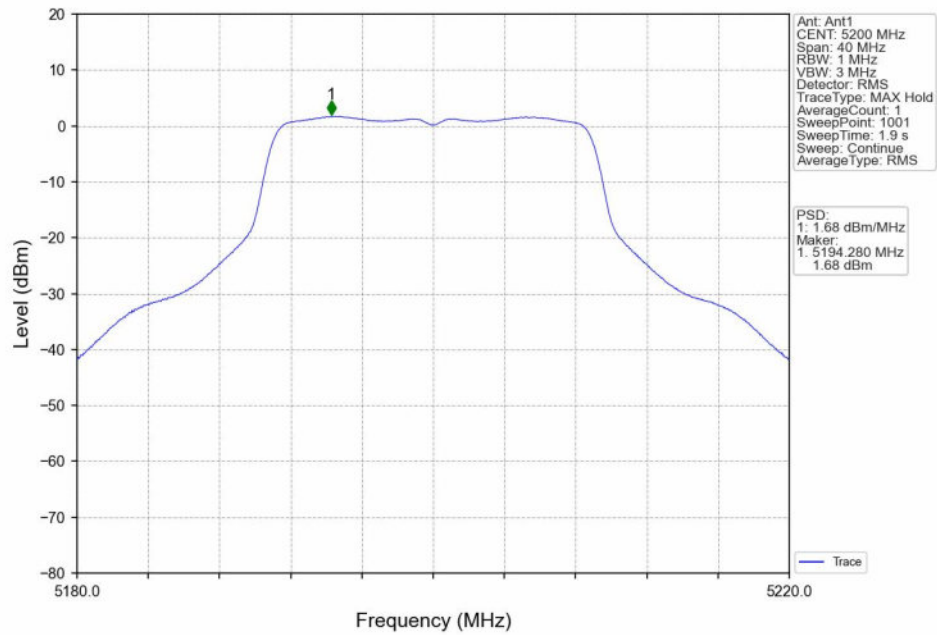


FCC ID: 2ASC7TAB702

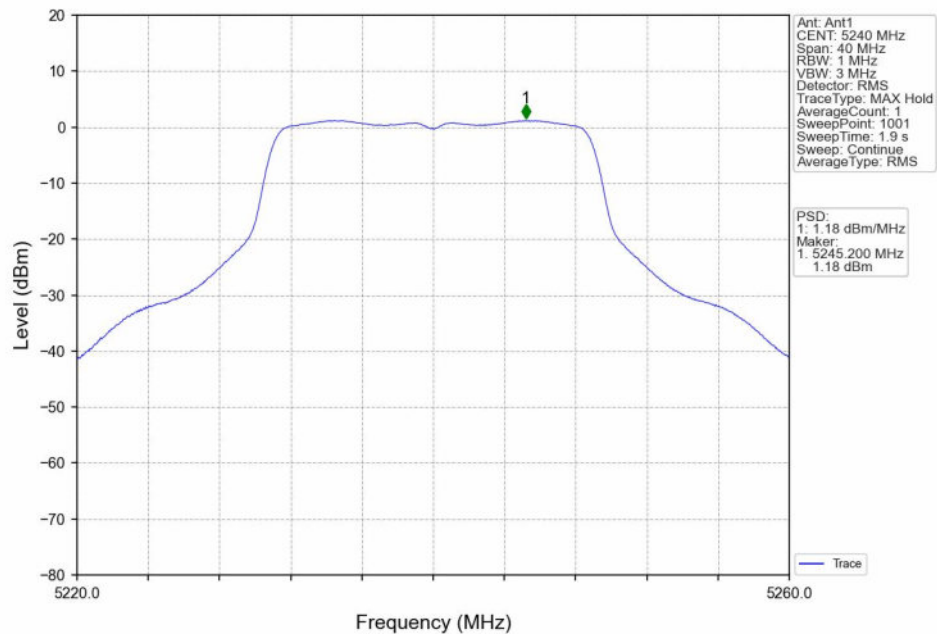


FCC ID: 2ASC7TAB702

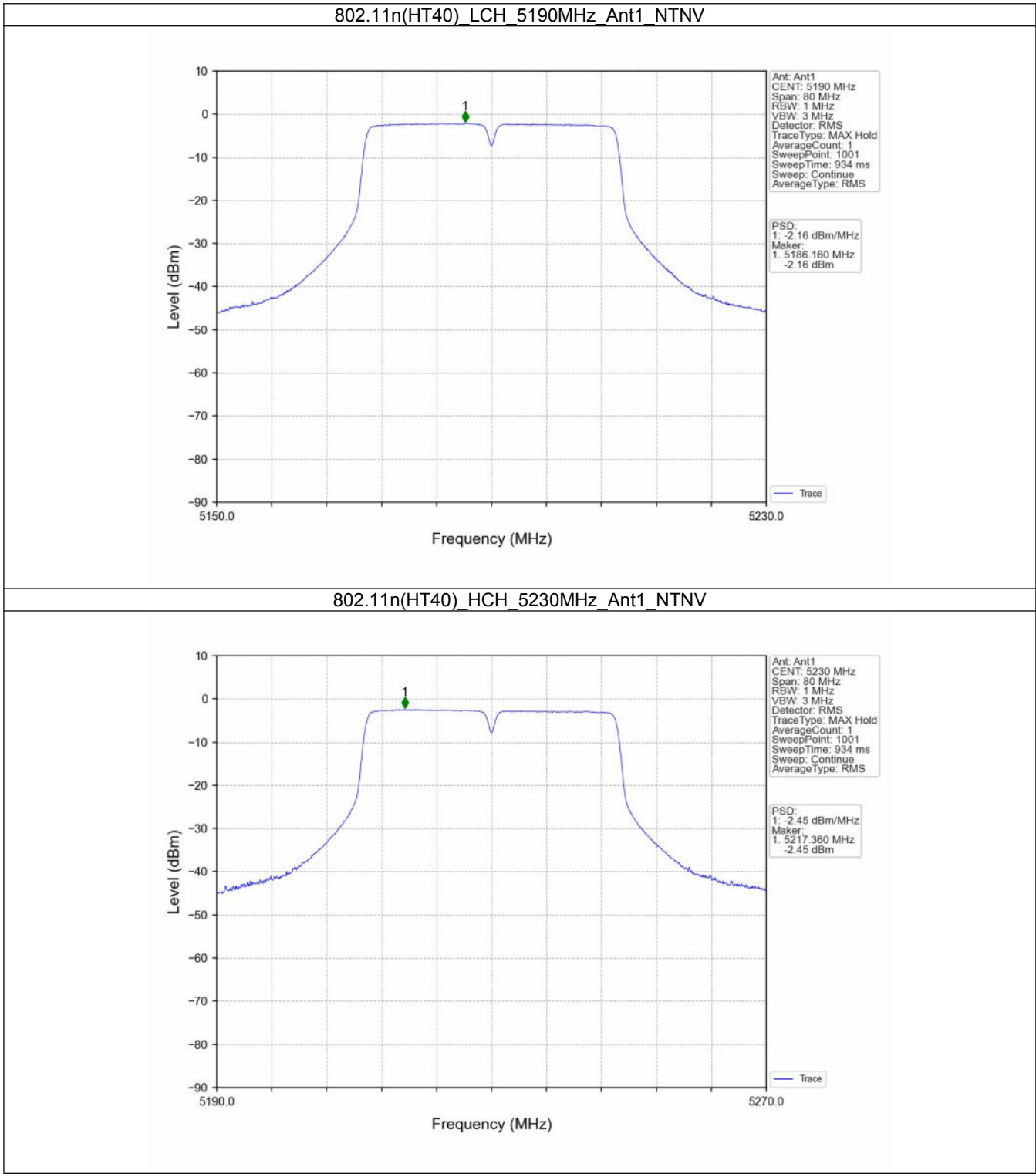
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



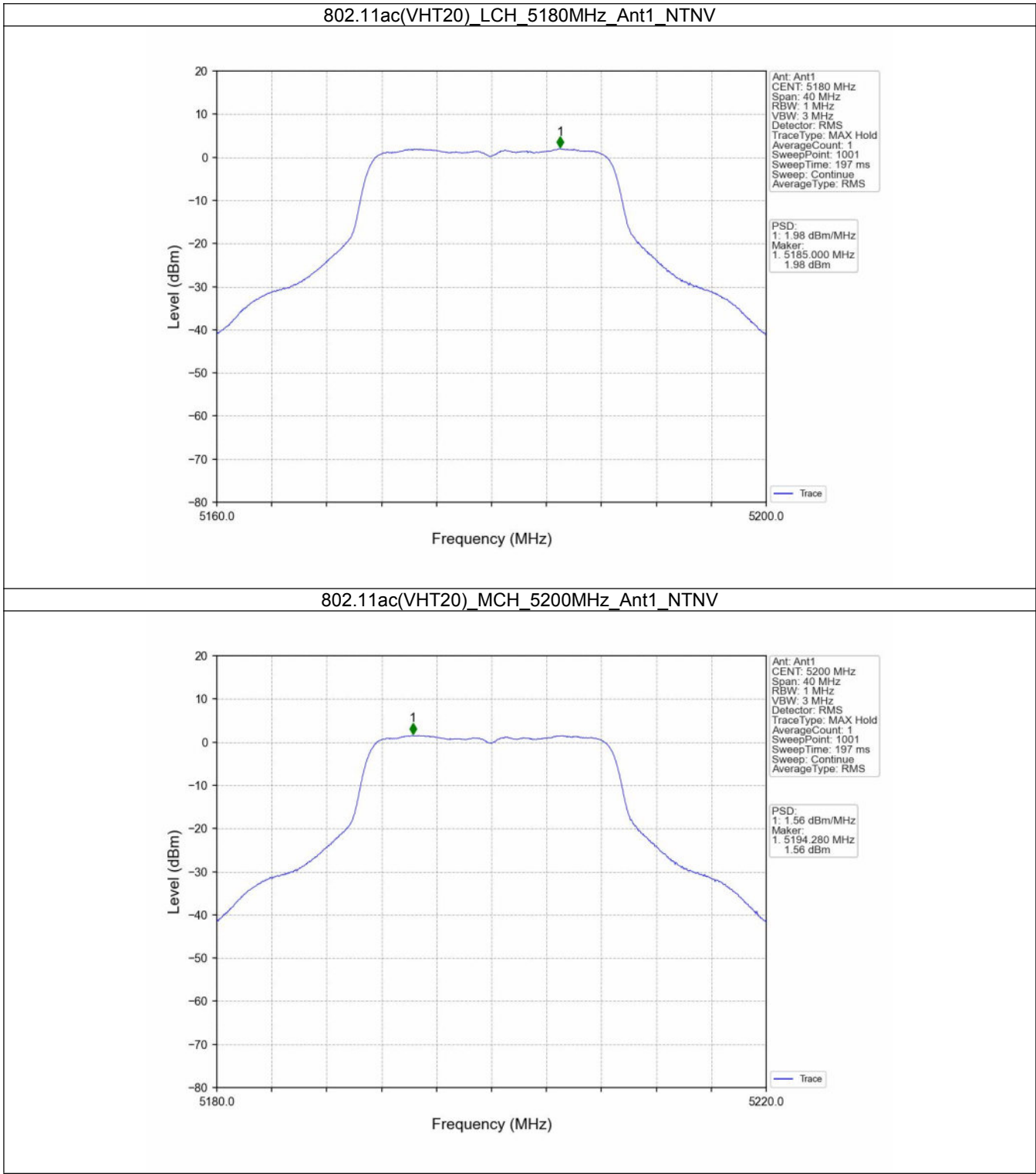
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



FCC ID: 2ASC7TAB702

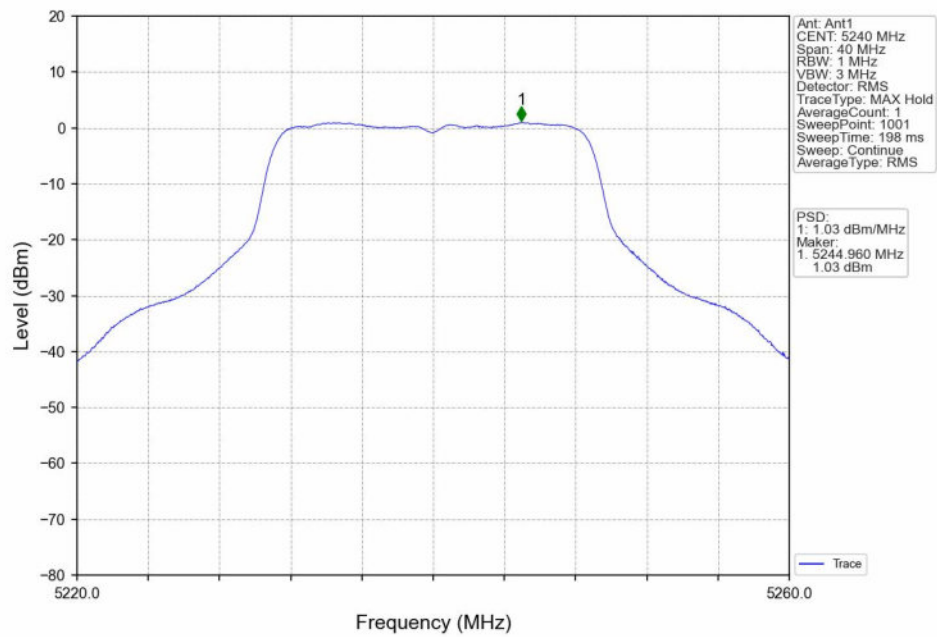


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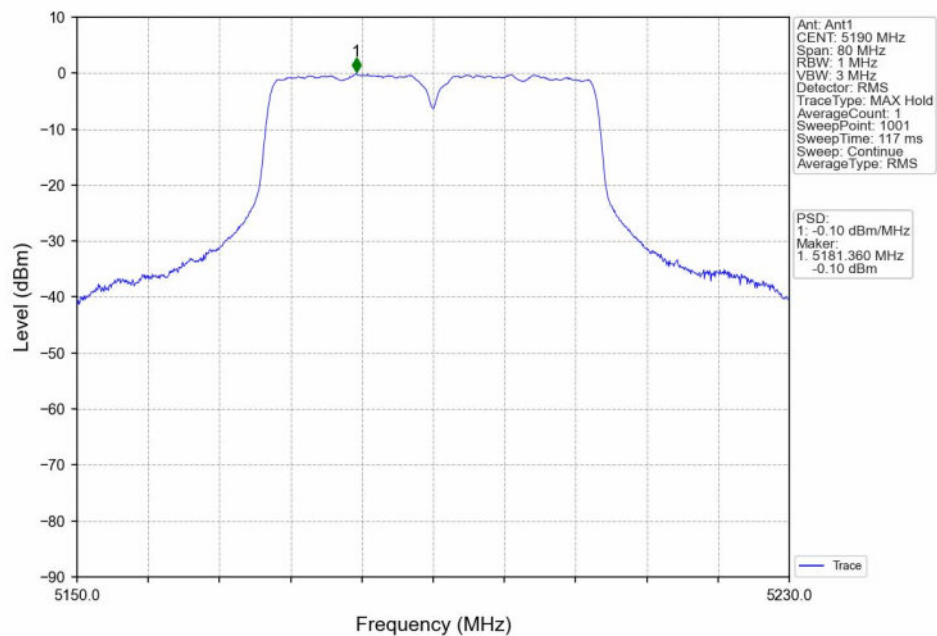


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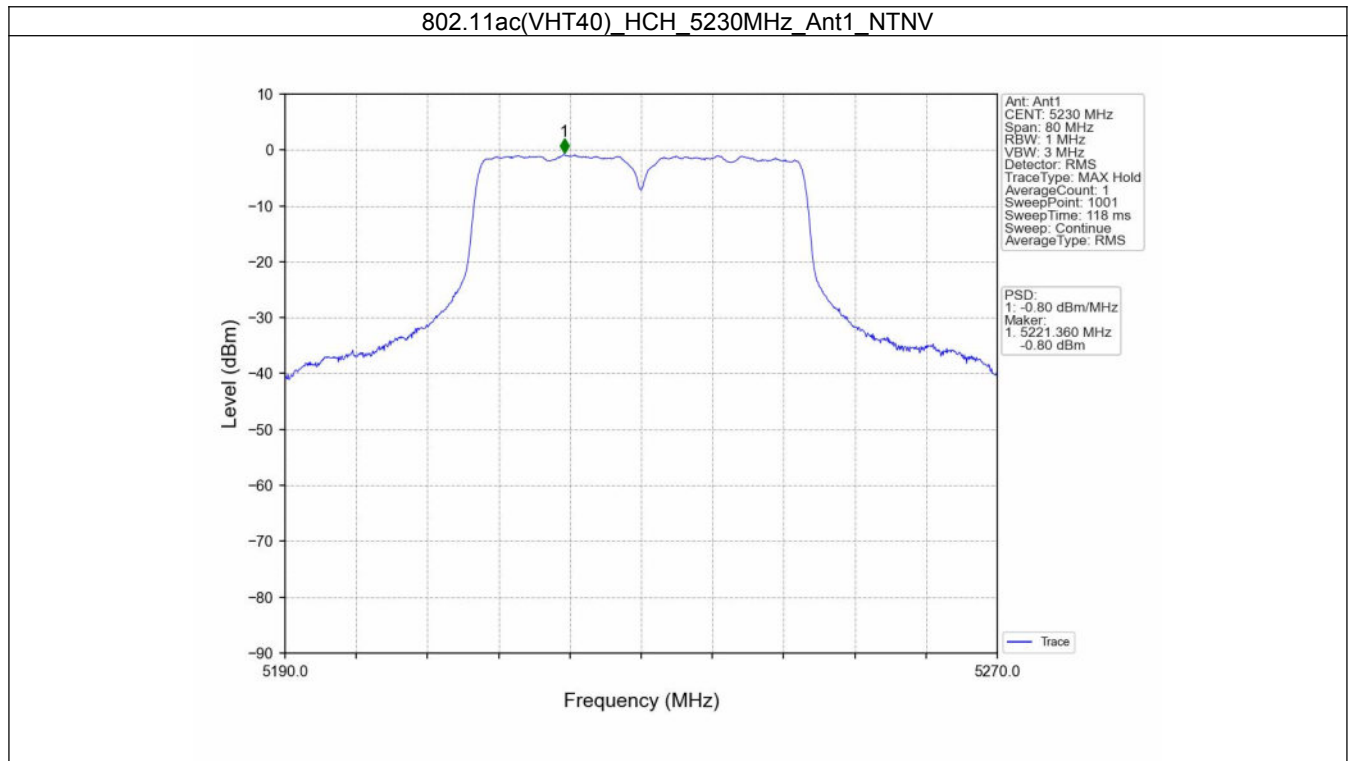
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



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FCC ID: 2ASC7TAB702

4. Frequency Stability

4.1 Test Result

4.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict
Carrier Wave	SISO	5180	20	102	5179.983	5150 to 5250	Pass
				120	5179.983	5150 to 5250	Pass
				138	5179.983	5150 to 5250	Pass
			-30	120	5179.983	5150 to 5250	Pass
			-20	120	5179.983	5150 to 5250	Pass
			-10	120	5179.983	5150 to 5250	Pass
			0	120	5179.983	5150 to 5250	Pass
			10	120	5179.983	5150 to 5250	Pass
			30	120	5179.983	5150 to 5250	Pass
			40	120	5179.983	5150 to 5250	Pass
			50	120	5179.983	5150 to 5250	Pass
		5200	20	102	5199.984	5150 to 5250	Pass
				120	5199.984	5150 to 5250	Pass
				138	5199.984	5150 to 5250	Pass
			-30	120	5199.984	5150 to 5250	Pass
			-20	120	5199.984	5150 to 5250	Pass
			-10	120	5199.985	5150 to 5250	Pass
			0	120	5199.984	5150 to 5250	Pass
			10	120	5199.985	5150 to 5250	Pass
			30	120	5199.985	5150 to 5250	Pass
			40	120	5199.984	5150 to 5250	Pass
			50	120	5199.985	5150 to 5250	Pass
		5240	20	102	5239.985	5150 to 5250	Pass
				120	5239.985	5150 to 5250	Pass
				138	5239.985	5150 to 5250	Pass
			-30	120	5239.984	5150 to 5250	Pass
			-20	120	5239.985	5150 to 5250	Pass
			-10	120	5239.985	5150 to 5250	Pass
			0	120	5239.985	5150 to 5250	Pass
			10	120	5239.985	5150 to 5250	Pass
			30	120	5239.985	5150 to 5250	Pass
			40	120	5239.985	5150 to 5250	Pass
			50	120	5239.985	5150 to 5250	Pass
		5190	20	102	5189.986	5150 to 5250	Pass
				120	5189.986	5150 to 5250	Pass
				138	5189.986	5150 to 5250	Pass
			-30	120	5189.986	5150 to 5250	Pass
			-20	120	5189.986	5150 to 5250	Pass
			-10	120	5189.986	5150 to 5250	Pass
			0	120	5189.986	5150 to 5250	Pass
			10	120	5189.986	5150 to 5250	Pass
			30	120	5189.986	5150 to 5250	Pass
			40	120	5189.987	5150 to 5250	Pass
			50	120	5189.986	5150 to 5250	Pass
		5230	20	102	5229.986	5150 to 5250	Pass
				120	5229.987	5150 to 5250	Pass
				138	5229.987	5150 to 5250	Pass

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			-30	120	5229.987	5150 to 5250	Pass
			-20	120	5229.987	5150 to 5250	Pass
			-10	120	5229.987	5150 to 5250	Pass
			0	120	5229.987	5150 to 5250	Pass
			10	120	5229.987	5150 to 5250	Pass
			30	120	5229.987	5150 to 5250	Pass
			40	120	5229.987	5150 to 5250	Pass
			50	120	5229.987	5150 to 5250	Pass