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Annex for 5G Wi-Fi Band 3

Test Report No.: CTL2604152052-WF03

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FCC ID: 2A94J-CP027

1. Duty Cycle

1.1 Test Result

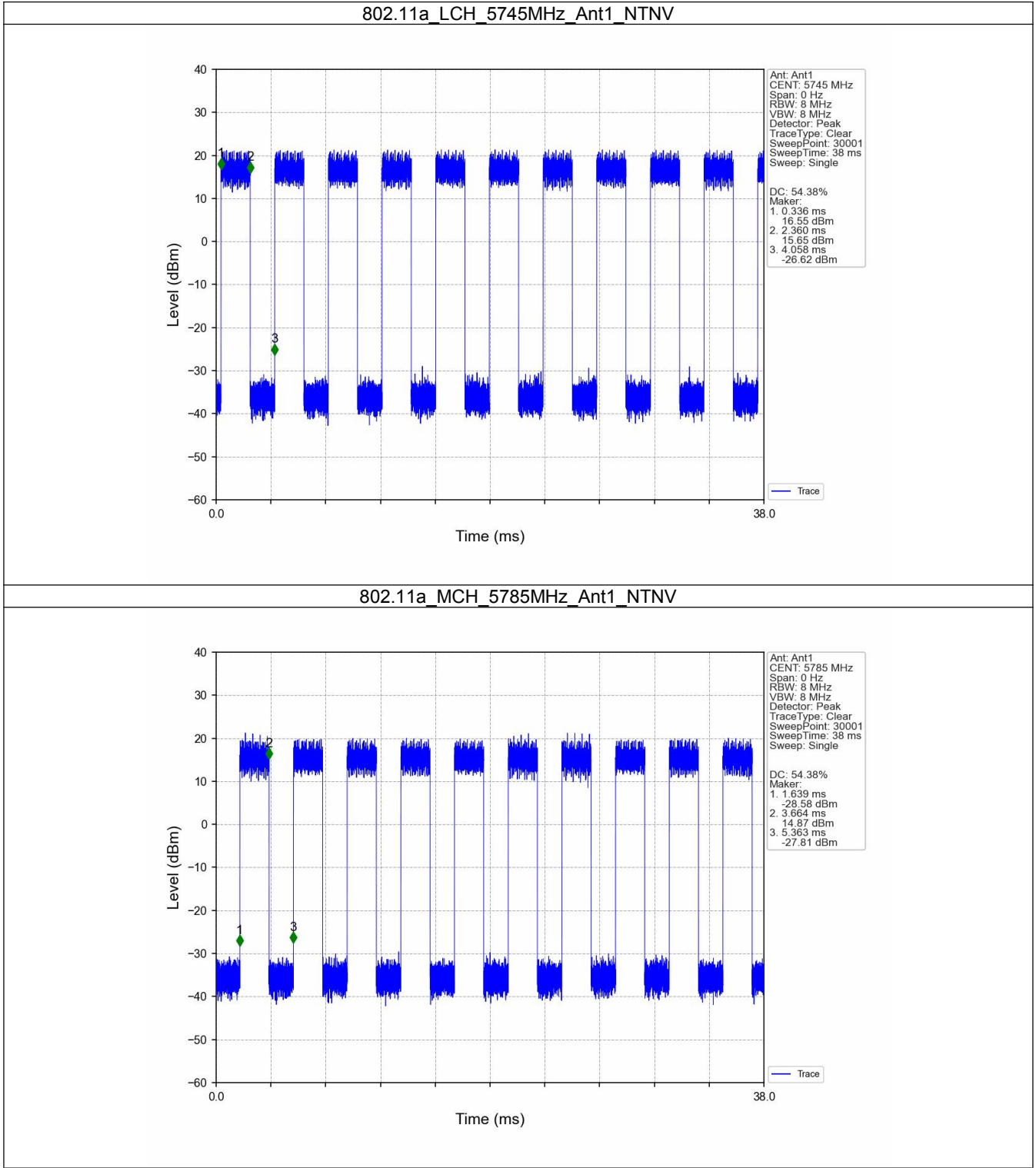
1.1.1 Ant1

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	5745	/	/	2.024	3.722	54.38	2.65	0.05
		5785	/	/	2.025	3.724	54.38	2.65	0.02
		5825	/	/	2.024	3.724	54.35	2.65	0.03
802.11n (HT20)	SISO	5745	/	/	1.704	3.402	50.09	3.00	0.02
		5785	/	/	1.702	3.402	50.03	3.01	0.04
		5825	/	/	1.703	3.402	50.06	3.01	0.04
802.11ac (VHT20)	SISO	5745	/	/	1.708	3.407	50.13	3.00	0.04
		5785	/	/	1.707	3.407	50.10	3.00	0.07
		5825	/	/	1.706	3.405	50.10	3.00	0.04
802.11ax (HEW20)	SISO	5745	SU	/	1.453	3.152	46.10	3.36	0.03
		5785	SU	/	1.453	3.152	46.10	3.36	0.03
		5825	SU	/	1.453	3.153	46.08	3.36	0.04

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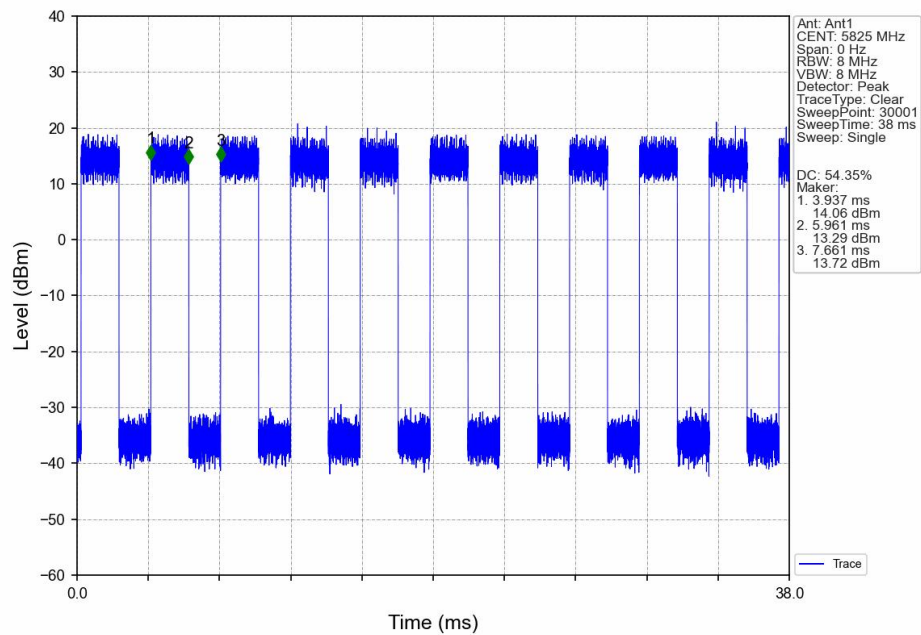
1.2 Test Graph

1.2.1 Ant1

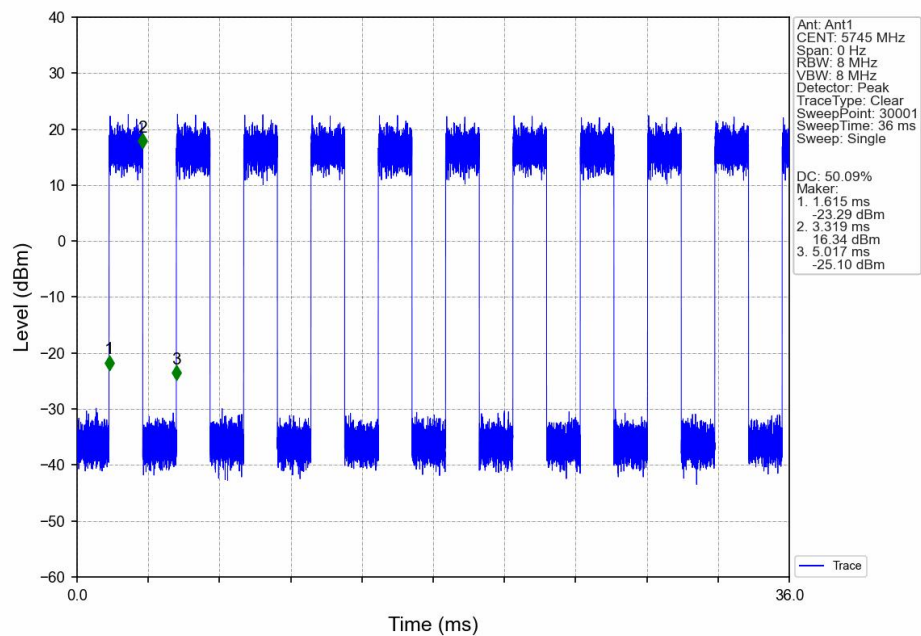


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802.11a_HCH_5825MHz_Ant1_NTNV

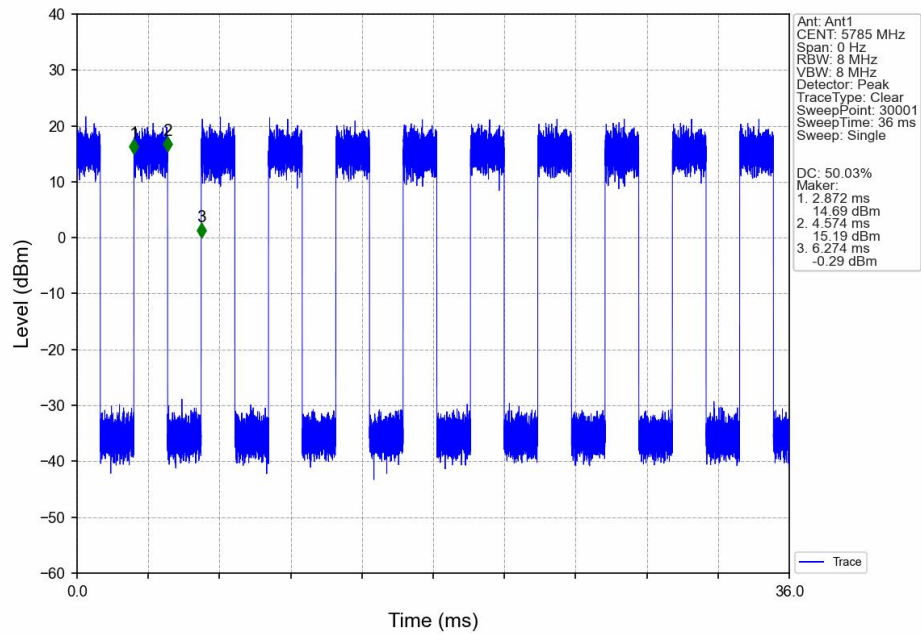


802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

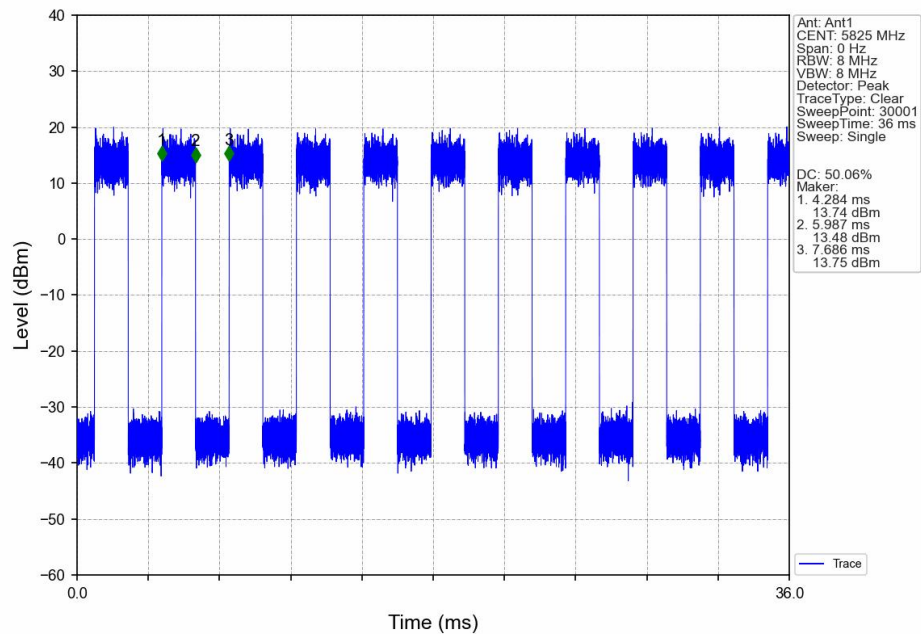


FCC ID: 2A94J-CP027

802.11n(HT20)_MCH_5785MHz_Ant1_NTNV

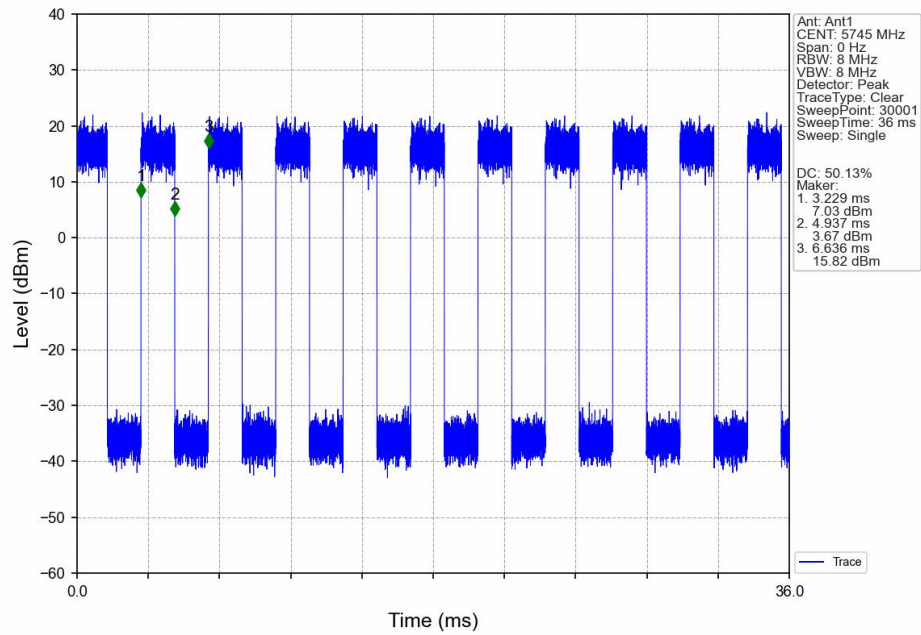


802.11n(HT20)_HCH_5825MHz_Ant1_NTNV

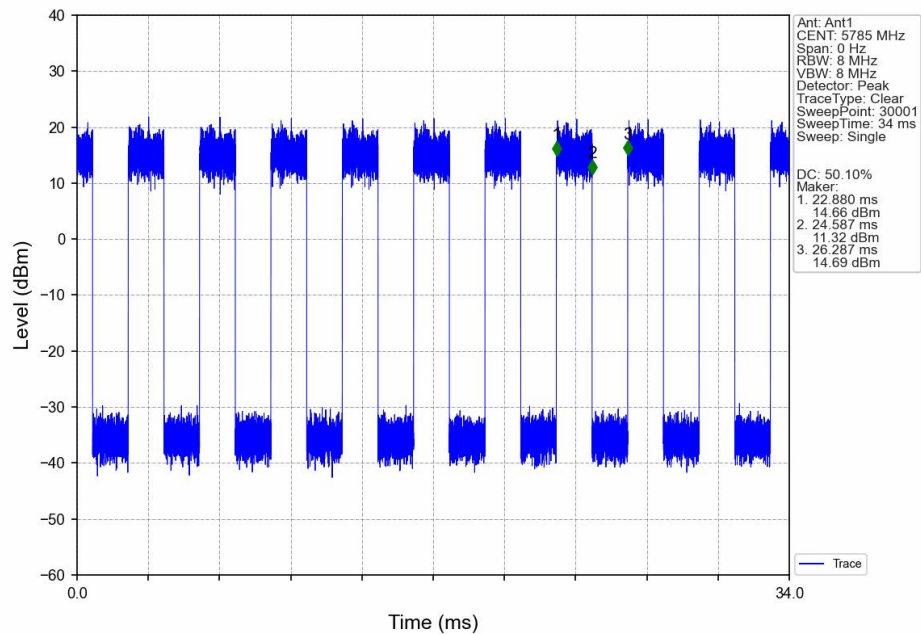


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

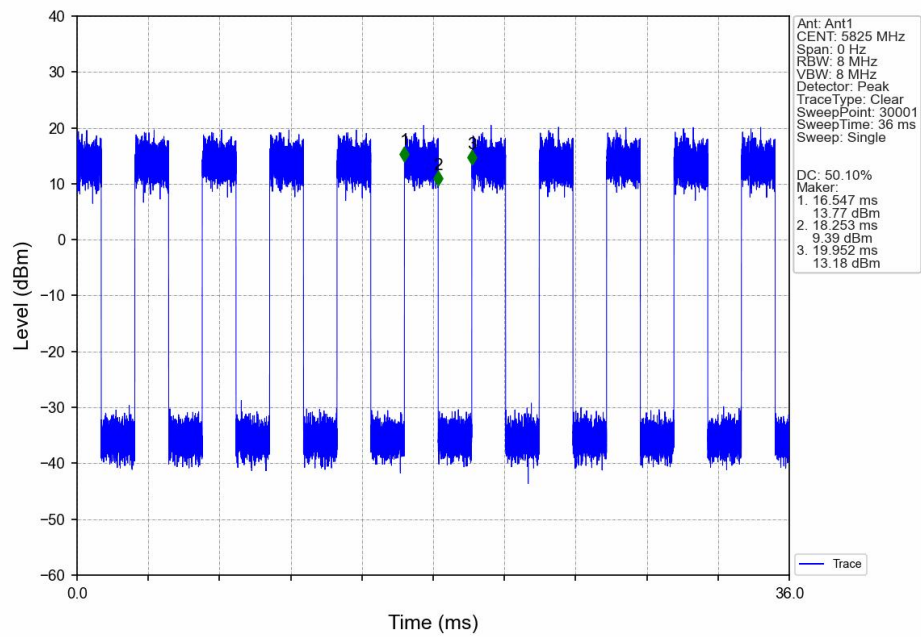


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

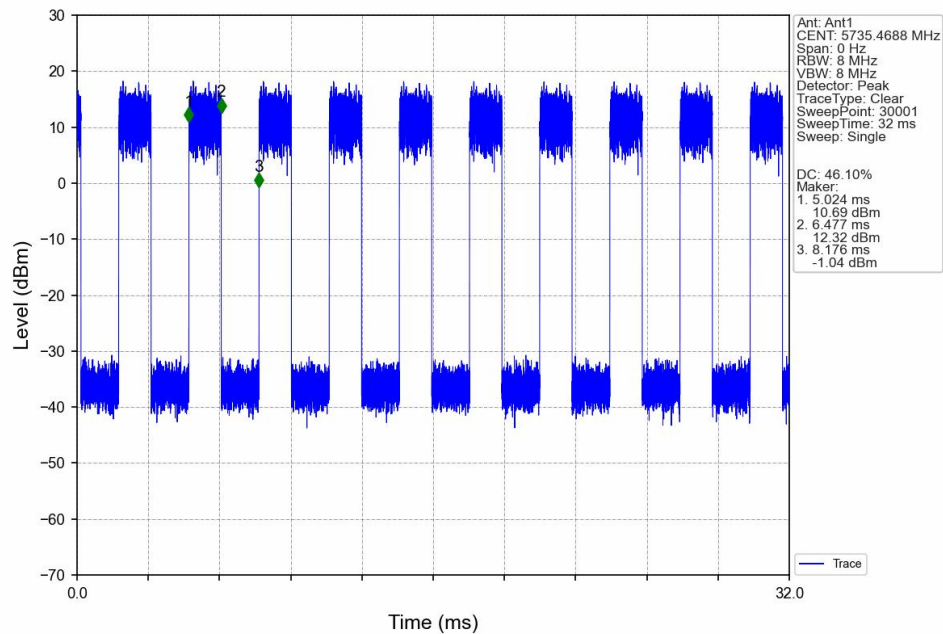


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802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV

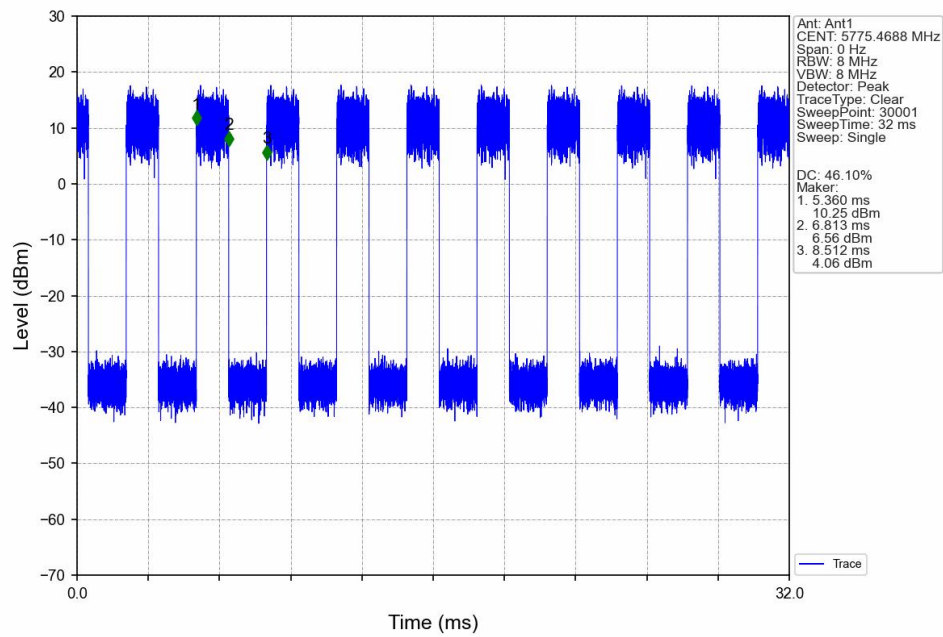


802.11ax(HEW20)_LCH_5745MHz_SU_ / _Ant1_NTNV

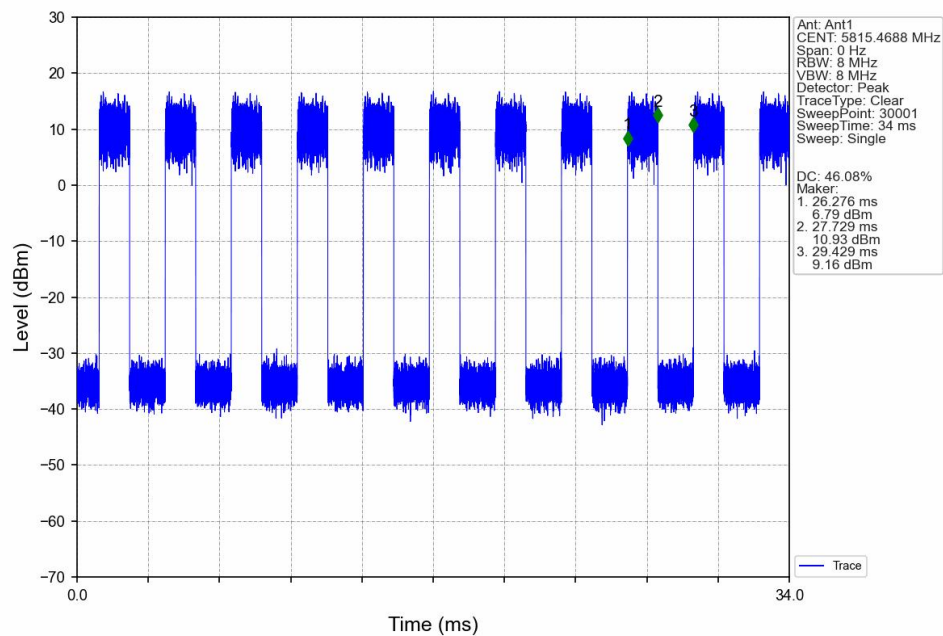


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802.11ax(HEW20)_MCH_5785MHz_SU_ / Ant1_NTNV



802.11ax(HEW20)_HCH_5825MHz_SU_ / Ant1_NTNV



FCC ID: 2A94J-CP027

2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz)		Verdict
						Result	Limit	
802.11a	SISO	5745	/	/	1	16.379	/	Pass
		5785	/	/	1	16.378	/	Pass
		5825	/	/	1	16.350	/	Pass
802.11n (HT20)	SISO	5745	/	/	1	17.511	/	Pass
		5785	/	/	1	17.526	/	Pass
		5825	/	/	1	17.522	/	Pass
802.11ac (VHT20)	SISO	5745	/	/	1	17.523	/	Pass
		5785	/	/	1	17.517	/	Pass
		5825	/	/	1	17.549	/	Pass
802.11ax (HEW20)	SISO	5745	SU	/	1	18.768	/	Pass
		5785	SU	/	1	18.787	/	Pass
		5825	SU	/	1	18.778	/	Pass

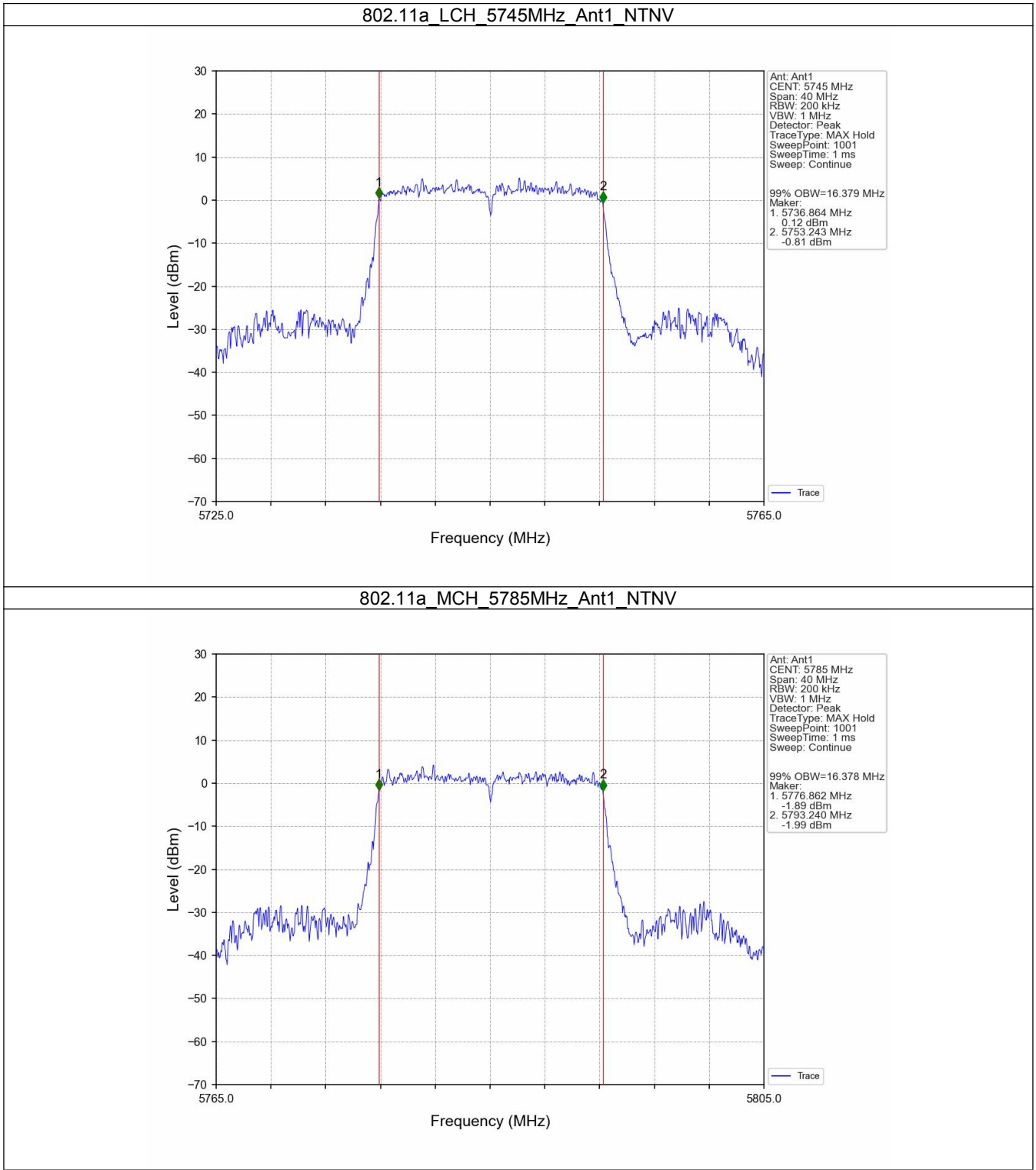
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11a	SISO	5745	/	/	1	16.402	>=0.5	Pass
		5785	/	/	1	16.381	>=0.5	Pass
		5825	/	/	1	16.134	>=0.5	Pass
802.11n (HT20)	SISO	5745	/	/	1	16.882	>=0.5	Pass
		5785	/	/	1	17.150	>=0.5	Pass
		5825	/	/	1	17.215	>=0.5	Pass
802.11ac (VHT20)	SISO	5745	/	/	1	16.907	>=0.5	Pass
		5785	/	/	1	16.991	>=0.5	Pass
		5825	/	/	1	17.019	>=0.5	Pass
802.11ax (HEW20)	SISO	5745	SU	/	1	18.312	>=0.5	Pass
		5785	SU	/	1	18.235	>=0.5	Pass
		5825	SU	/	1	18.671	>=0.5	Pass

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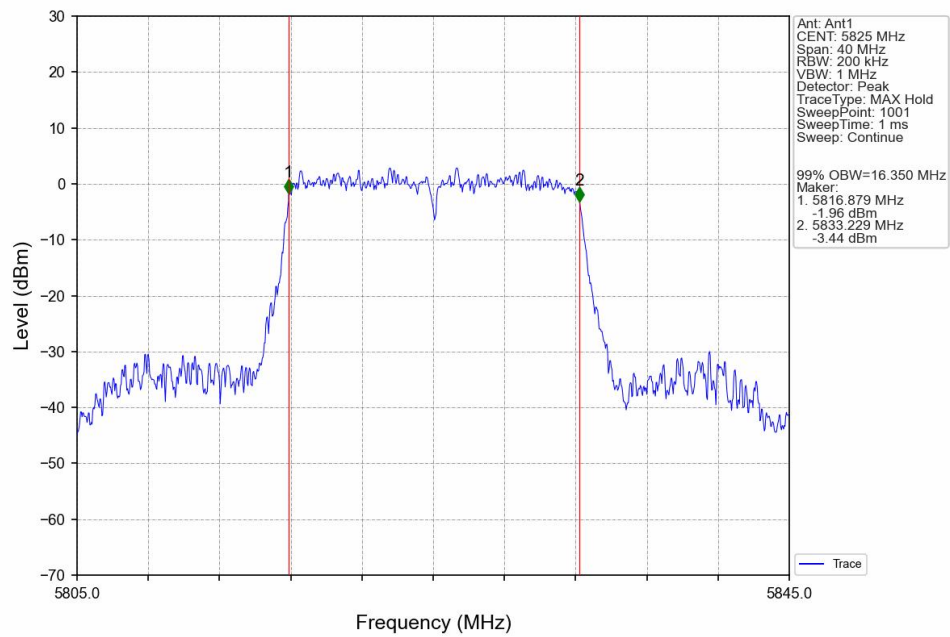
2.2 Test Graph

2.2.1 OBW

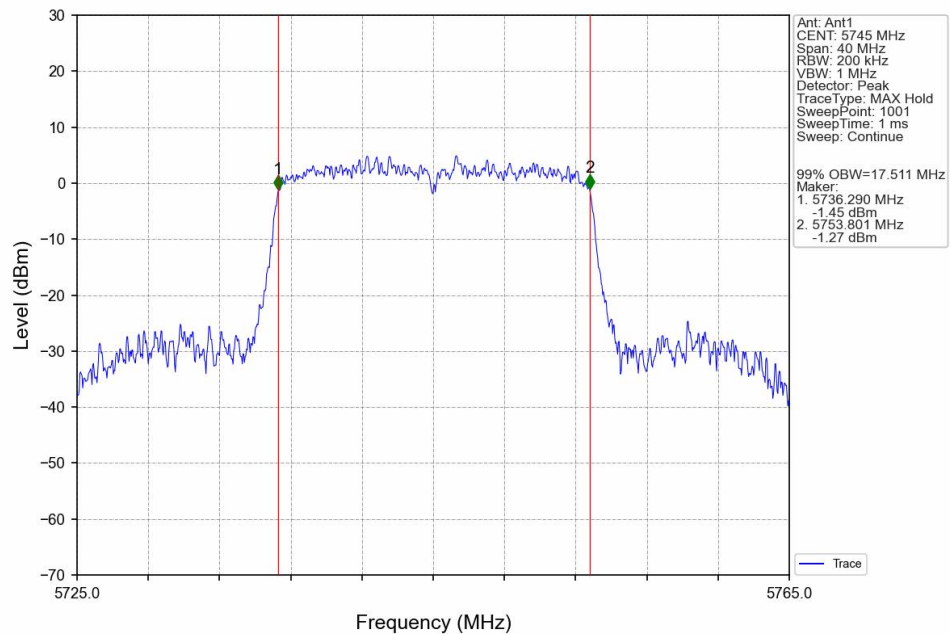


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802.11a_HCH_5825MHz_Ant1_NTNV

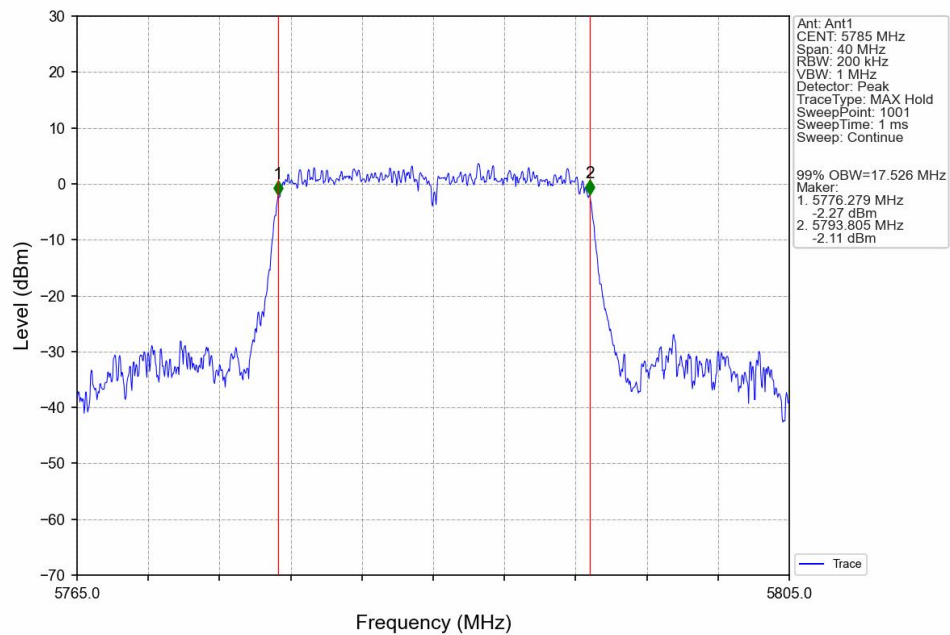


802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

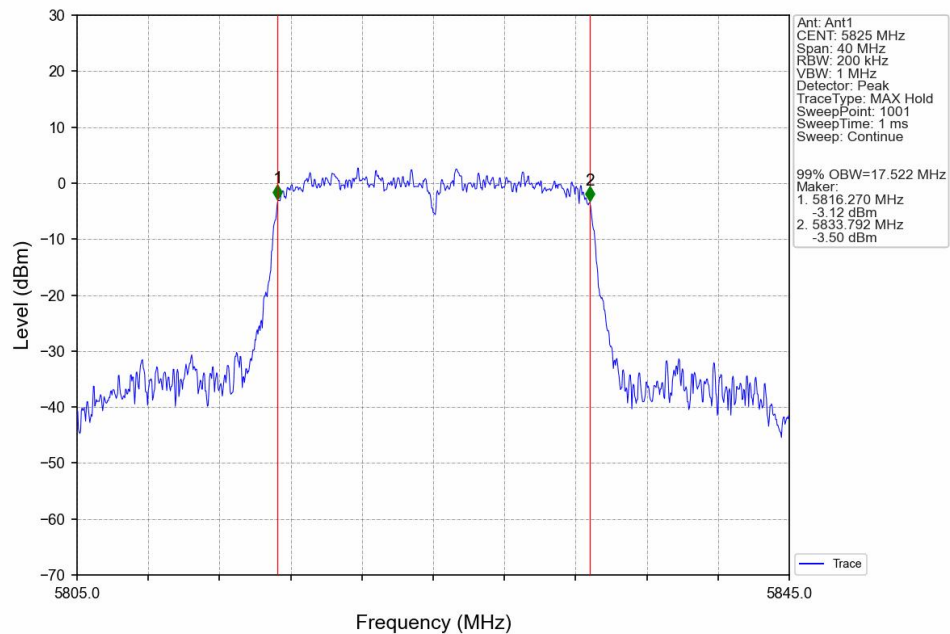


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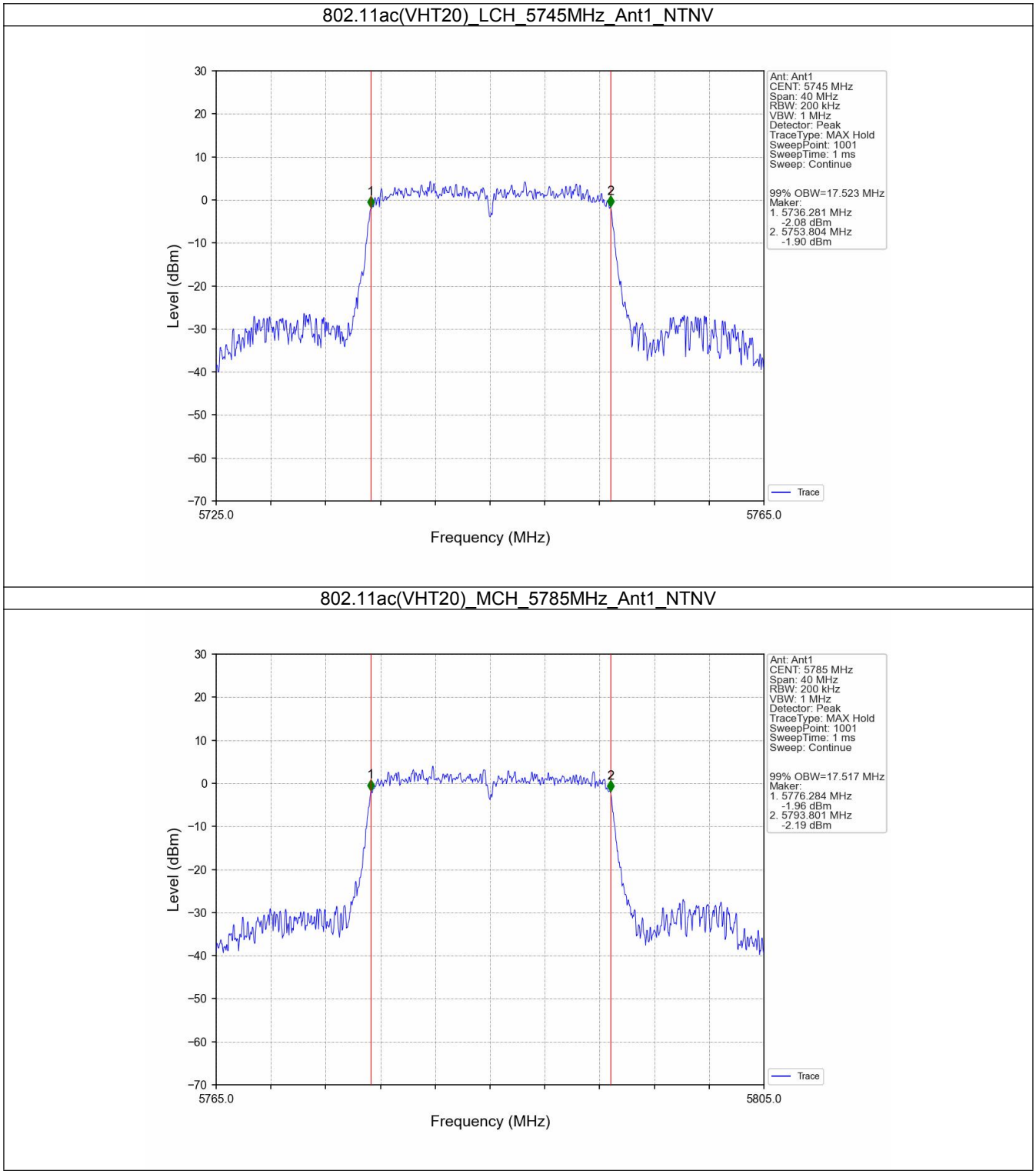
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



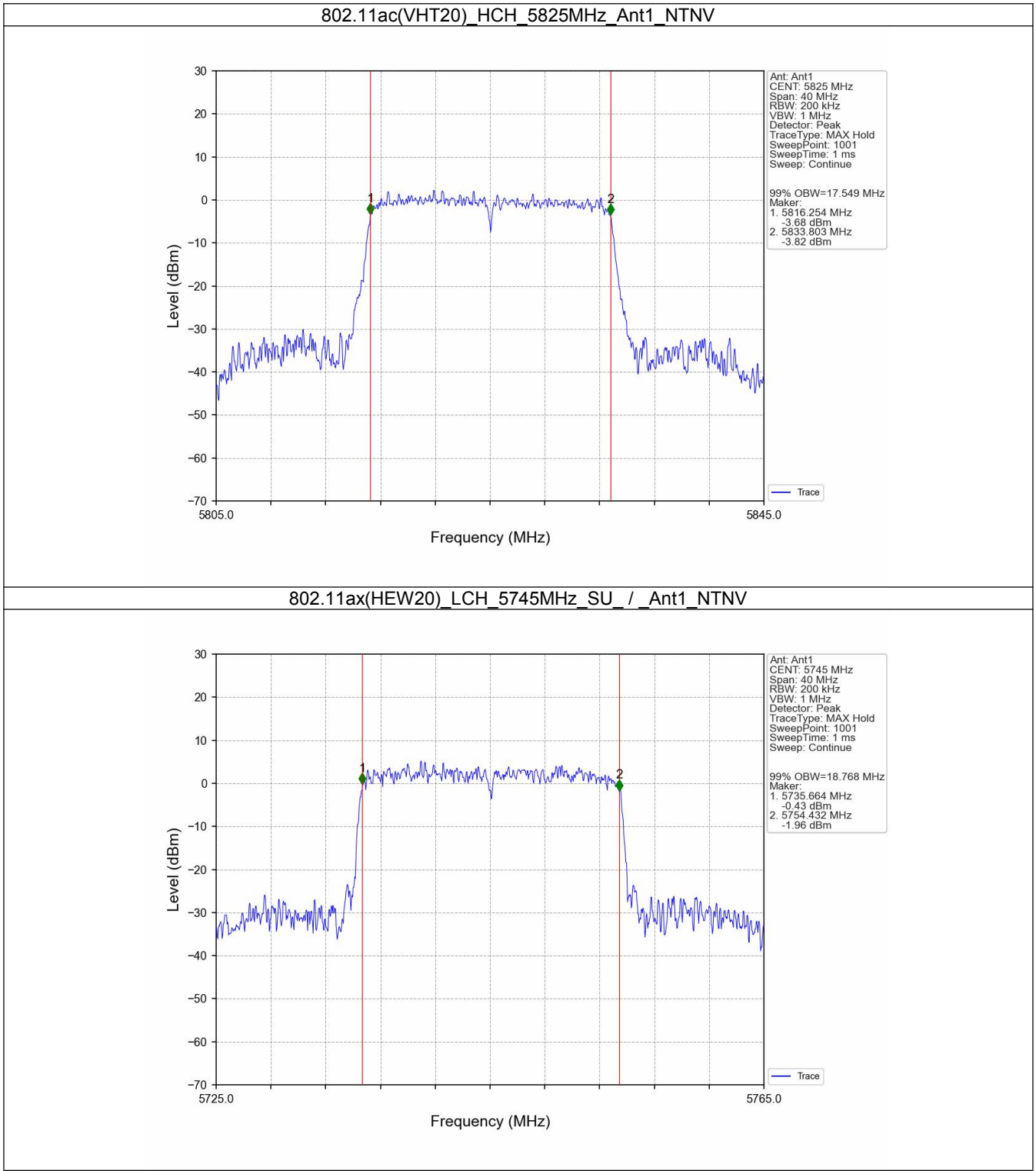
802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



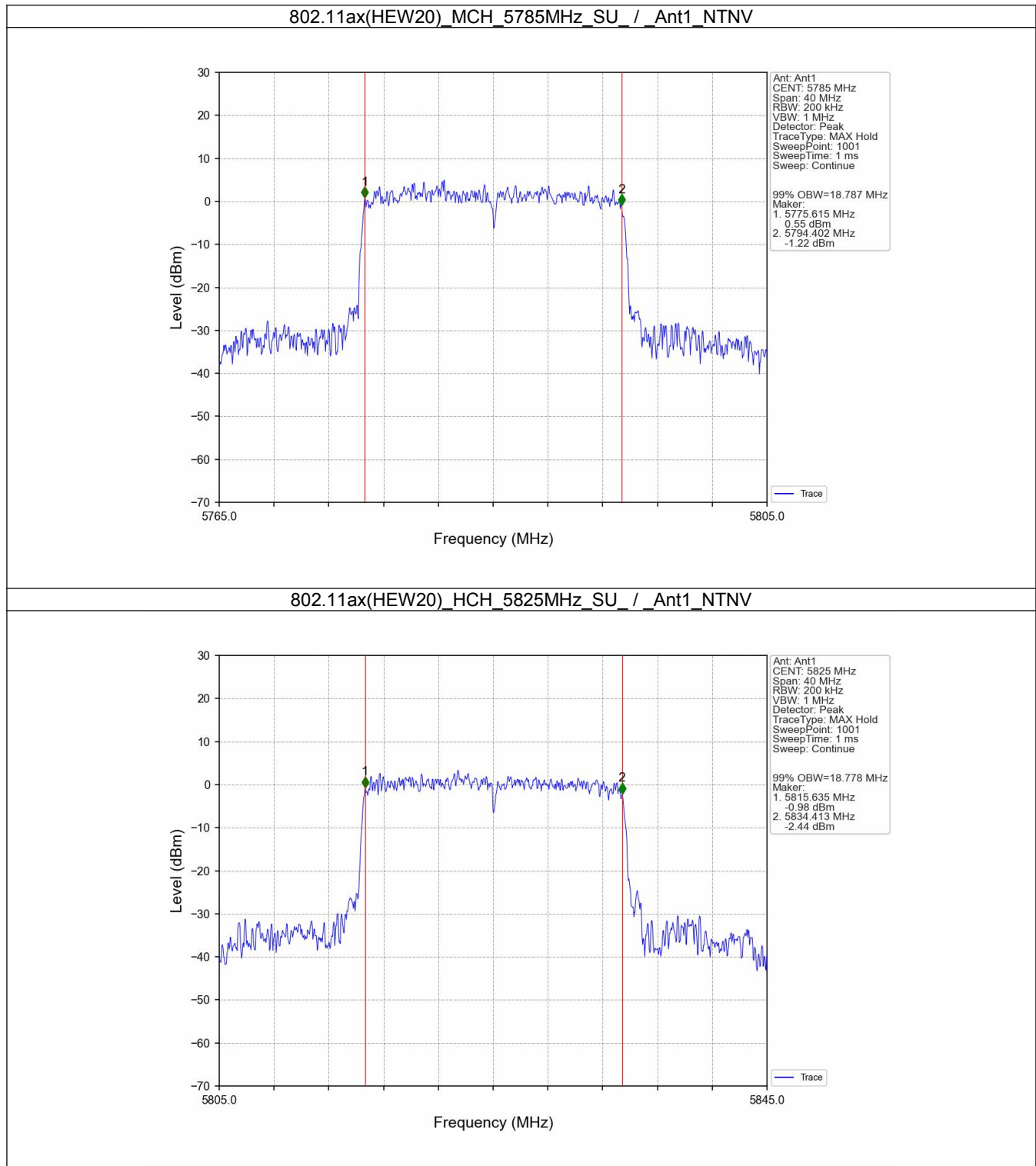
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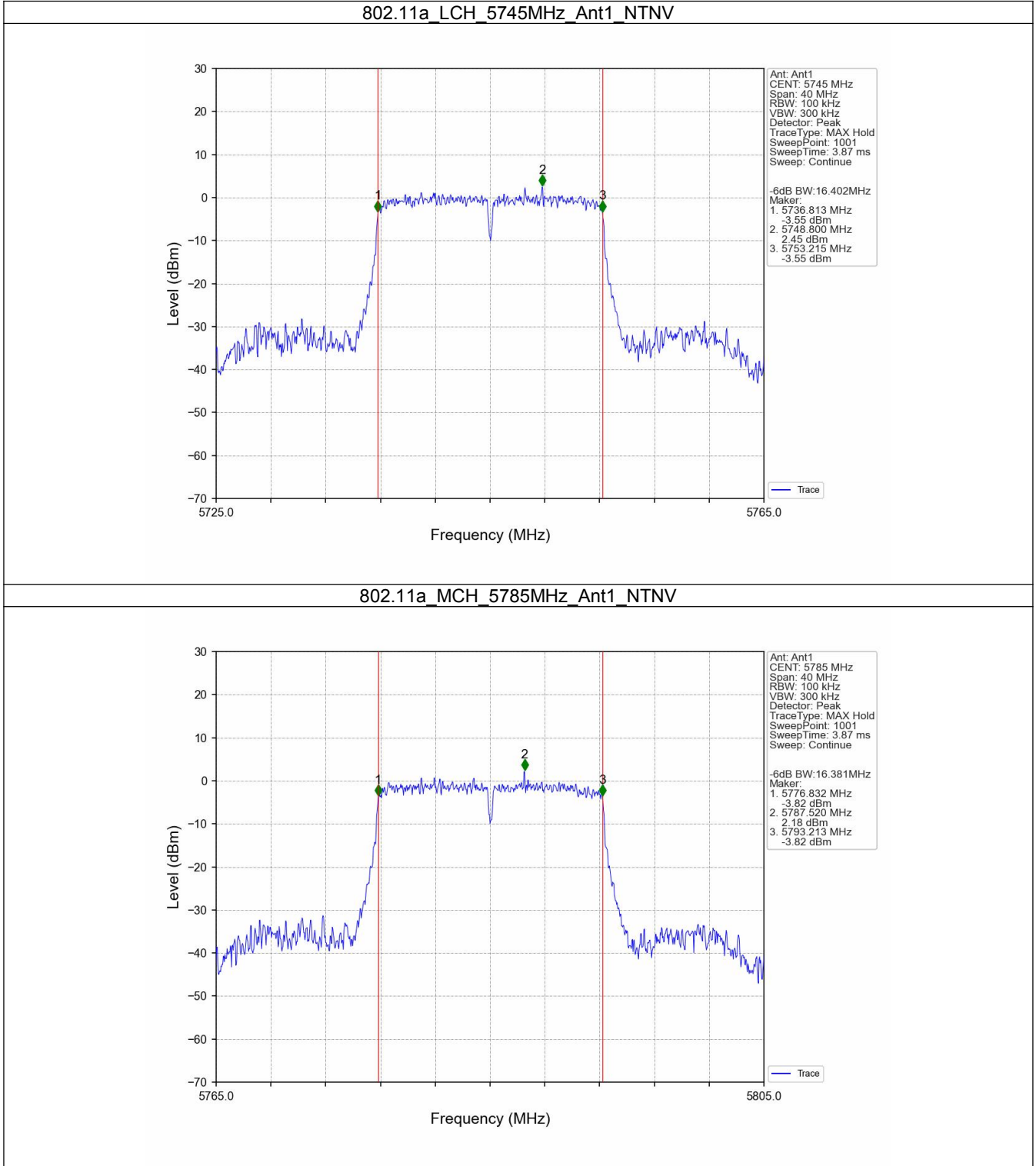


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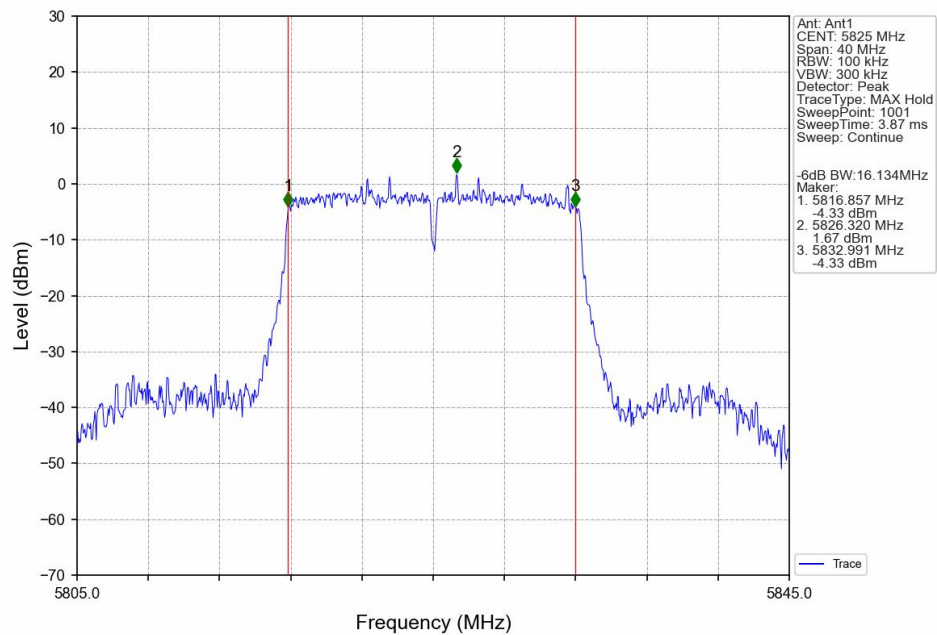
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2.2.2 6dB BW

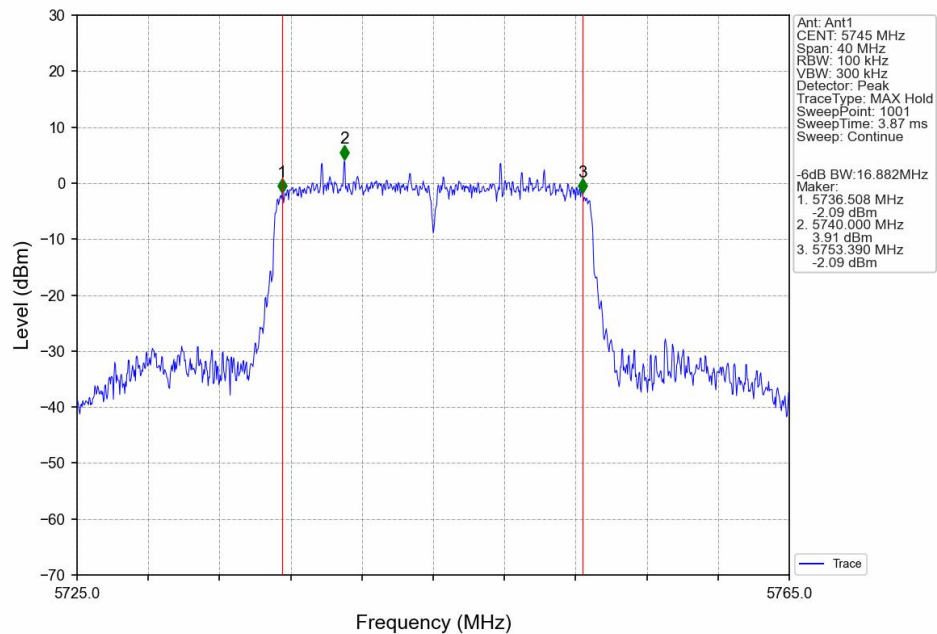


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802.11a_HCH_5825MHz_Ant1_NTNV

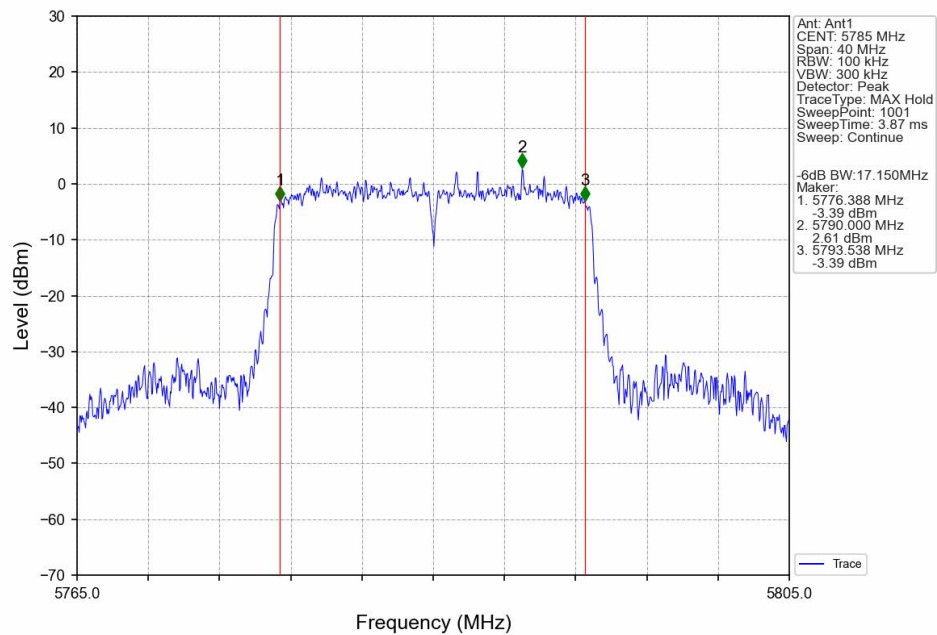


802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

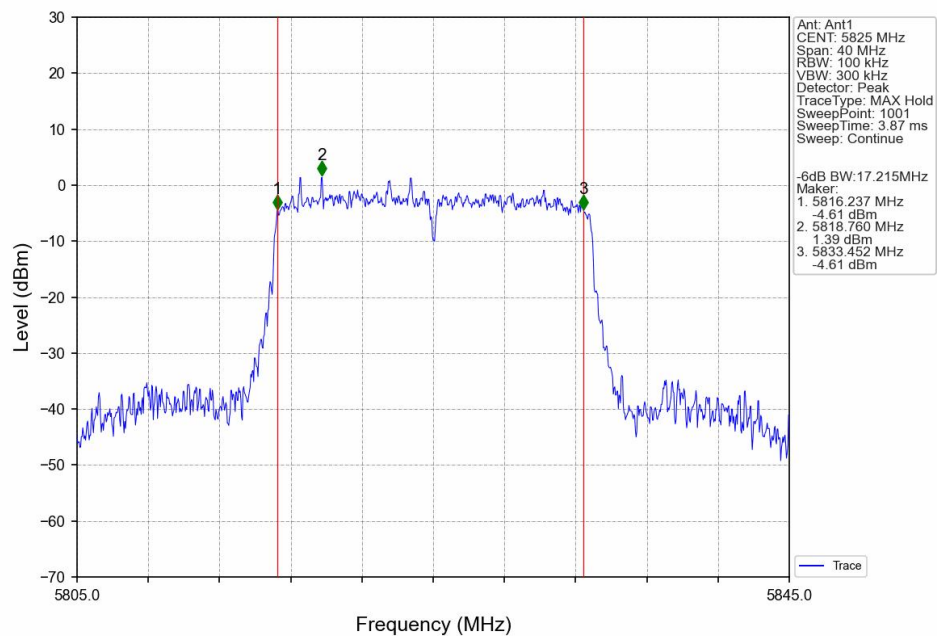


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802.11n(HT20)_MCH_5785MHz_Ant1_NTNV

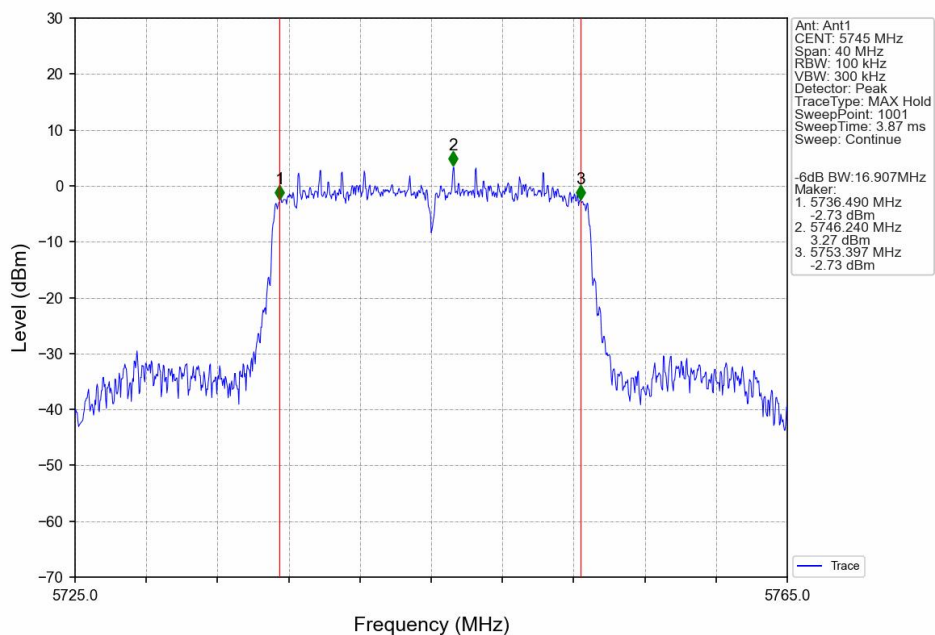


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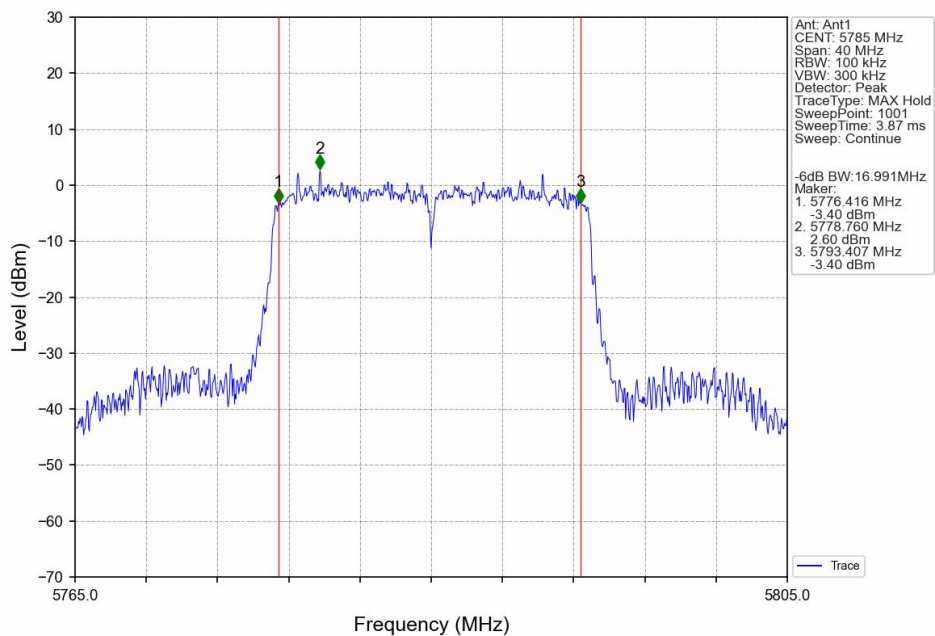


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

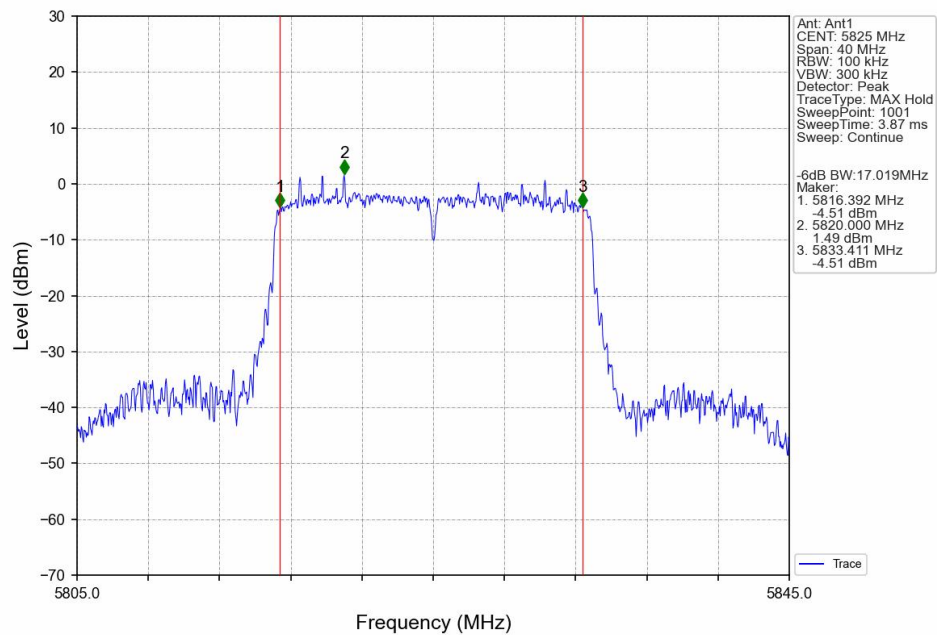


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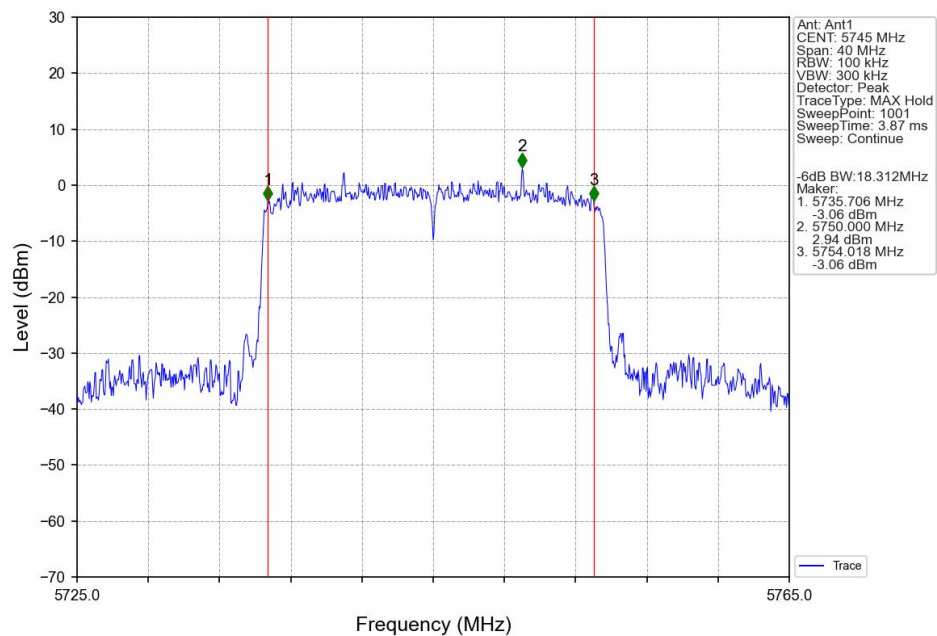


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802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV

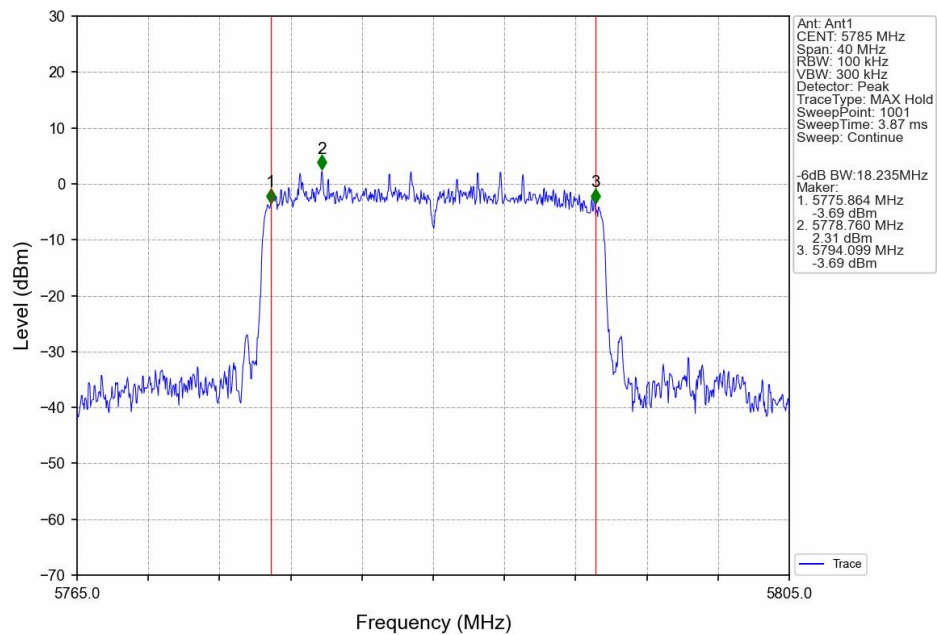


802.11ax(HEW20)_LCH_5745MHz_SU_/_Ant1_NTNV

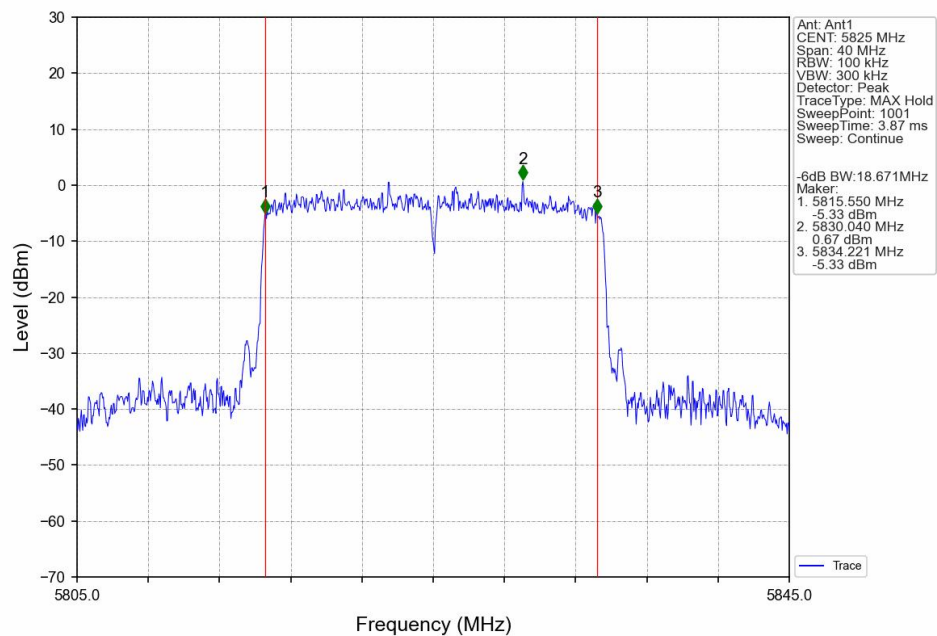


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802.11ax(HEW20)_MCH_5785MHz_SU_ / _Ant1_NTNV



802.11ax(HEW20)_HCH_5825MHz_SU_ / _Ant1_NTNV



FCC ID: 2A94J-CP027

3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum Average Conducted Output Power (dBm)			Verdict
					Duty Cycle Correction Factor (dB)	ANT1	Limit	
802.11a	SISO	5745	/	/	2.65	15.00	<=30	Pass
		5785	/	/	2.65	14.10	<=30	Pass
		5825	/	/	2.65	13.14	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	3.00	14.26	<=30	Pass
		5785	/	/	3.01	14.15	<=30	Pass
		5825	/	/	3.01	12.24	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	3.00	14.54	<=30	Pass
		5785	/	/	3.00	13.72	<=30	Pass
		5825	/	/	3.00	12.77	<=30	Pass
802.11ax (HEW20)	SISO	5745	SU	/	3.36	14.58	<=30	Pass
		5785	SU	/	3.36	13.89	<=30	Pass
		5825	SU	/	3.36	12.97	<=30	Pass
Note1: Antenna Gain: Ant1: 0.50dBi; Note2: RF Cable loss=0.5dB Note3: The test results include RF Cable loss. Note4: Maximum Average Conducted Output Power=DCCF+Maker;								

FCC ID: 2A94J-CP027

4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD-Band3

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/500kHz)		Verdict
					ANT1	Limit	
802.11a	SISO	5745	/	/	0.97	<=30	Pass
		5785	/	/	0.17	<=30	Pass
		5825	/	/	-0.61	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	0.51	<=30	Pass
		5785	/	/	0.07	<=30	Pass
		5825	/	/	-1.08	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	0.89	<=30	Pass
		5785	/	/	0.39	<=30	Pass
		5825	/	/	-1.20	<=30	Pass
802.11ax (HEW20)	SISO	5745	SU	/	0.61	<=30	Pass
		5785	SU	/	-0.48	<=30	Pass
		5825	SU	/	-1.44	<=30	Pass

Note1: Antenna Gain: Ant1: 0.50dBi;

Note2: RF Cable loss=0.5dB

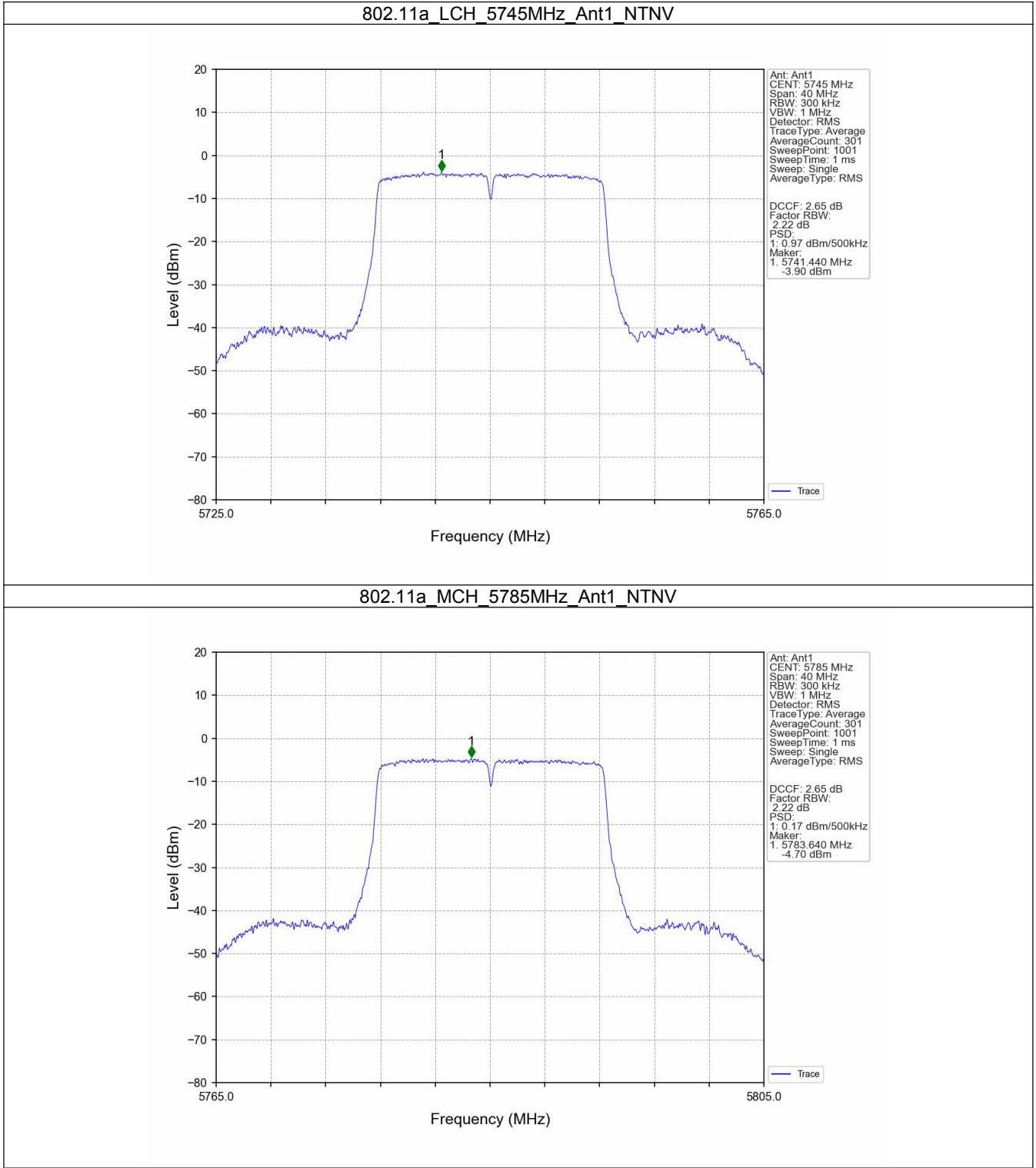
Note3: The test results include RF Cable loss.

Note4: Maximum PSD=DCCF+Maker+factor RBW;

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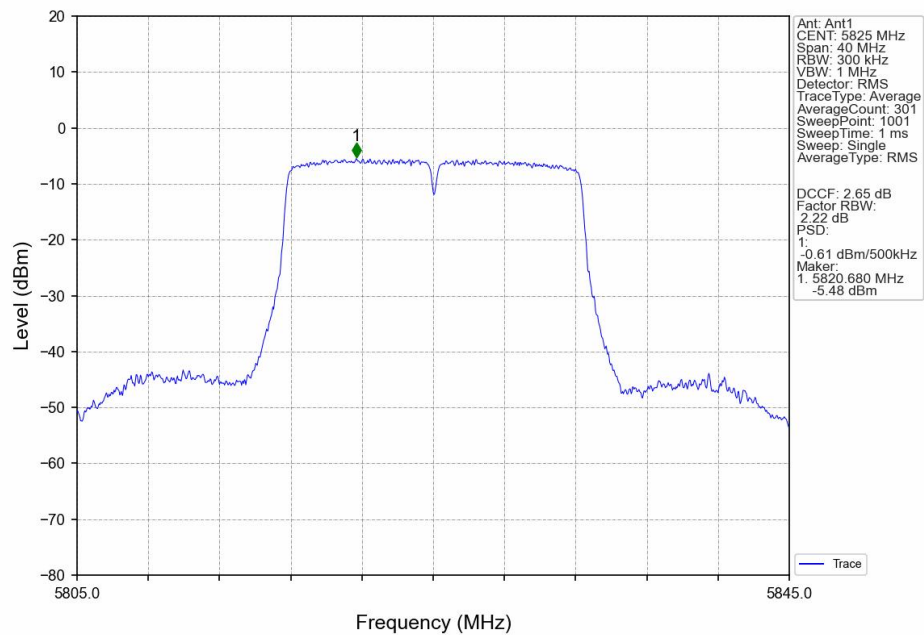
4.2 Test Graph

4.2.1 PSD-Band3

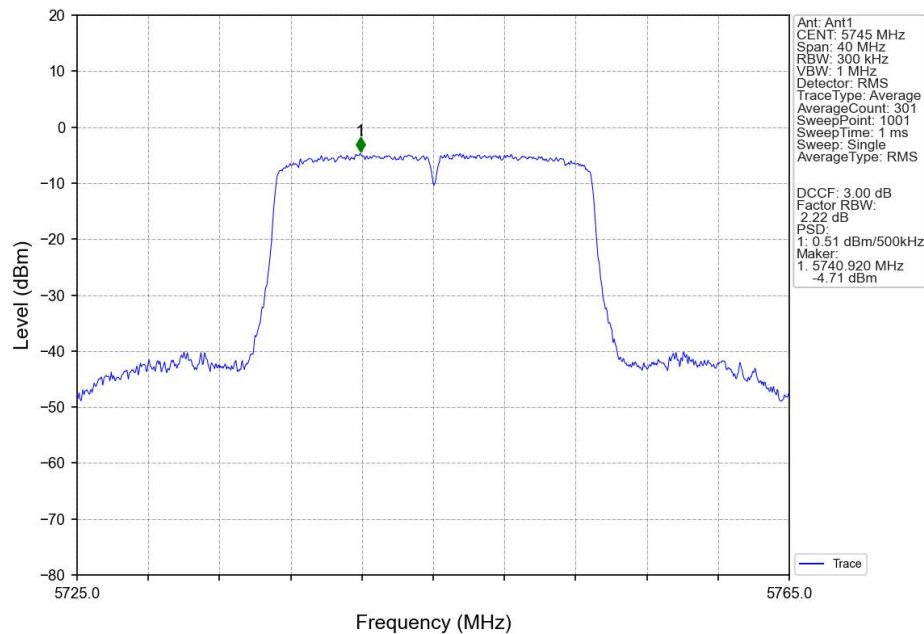


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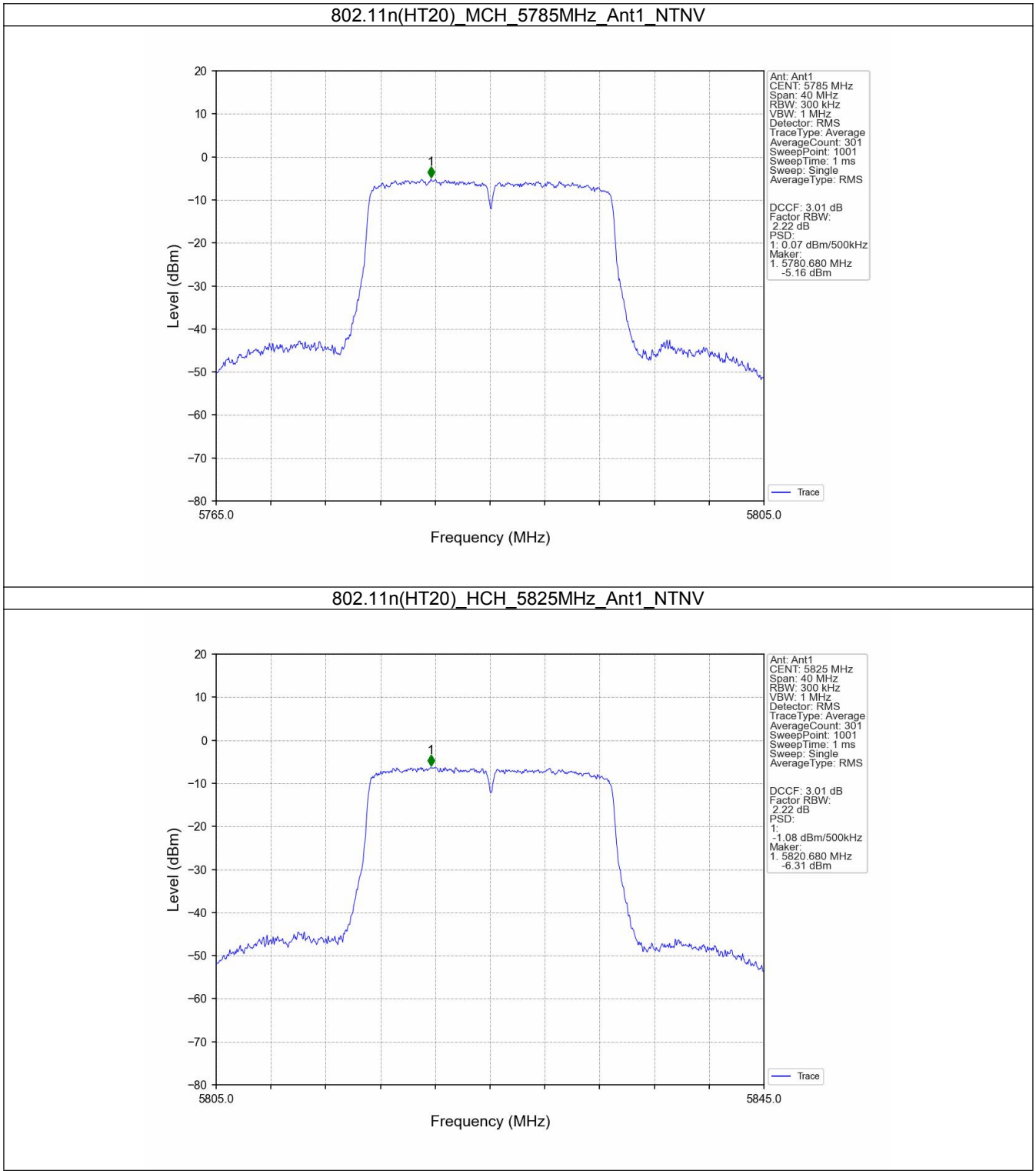
802.11a_HCH_5825MHz_Ant1_NTNV



802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

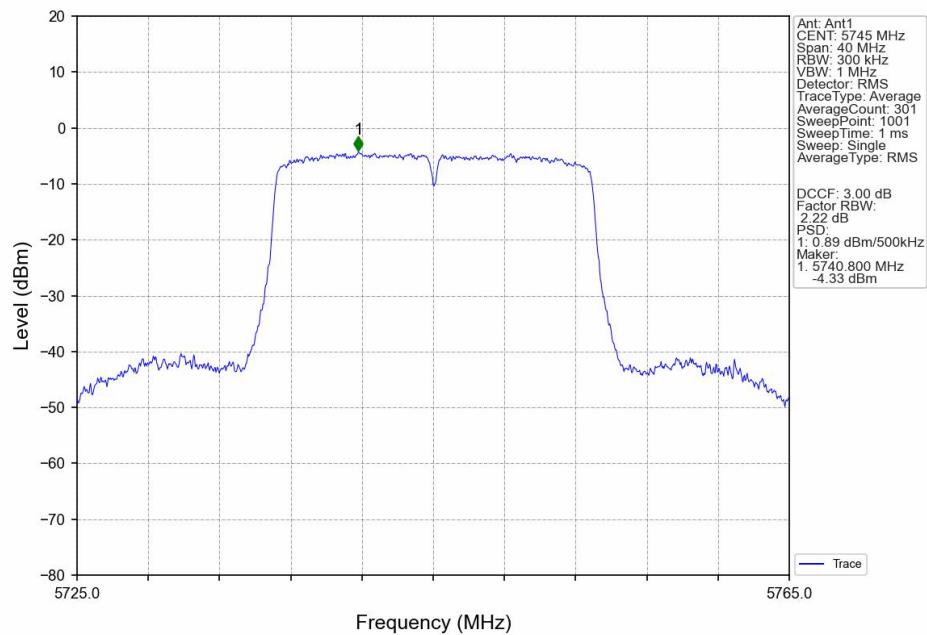


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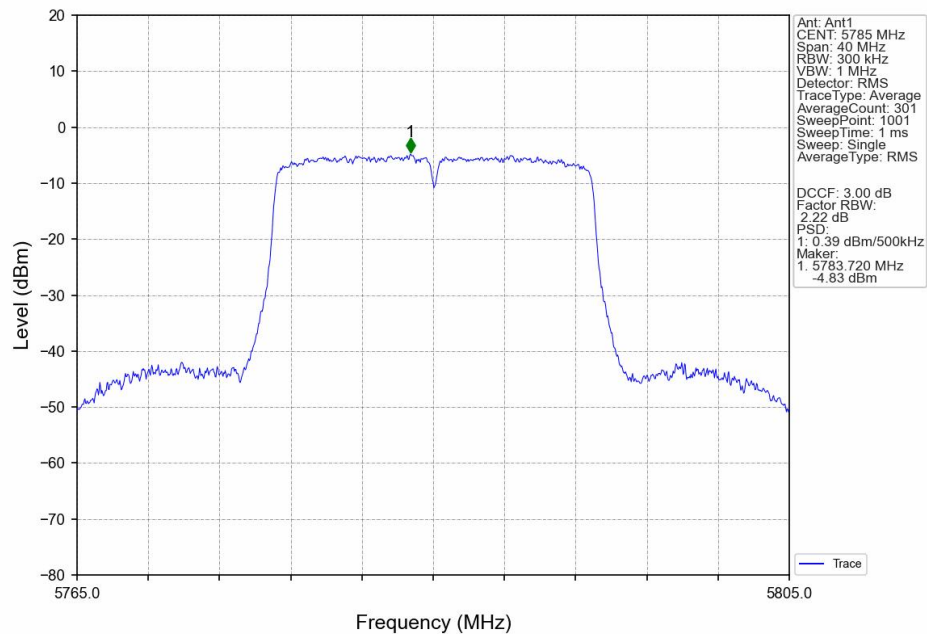


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

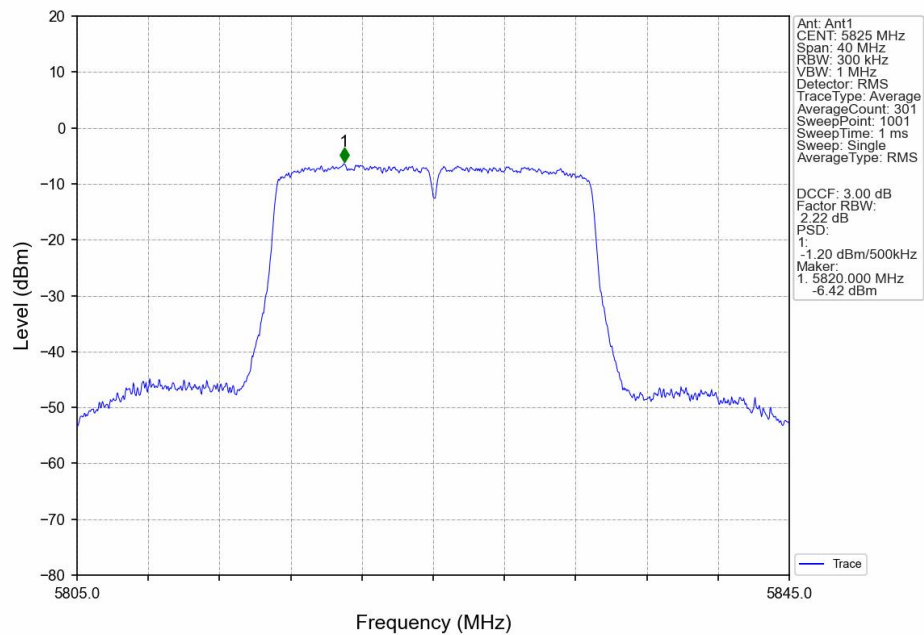


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

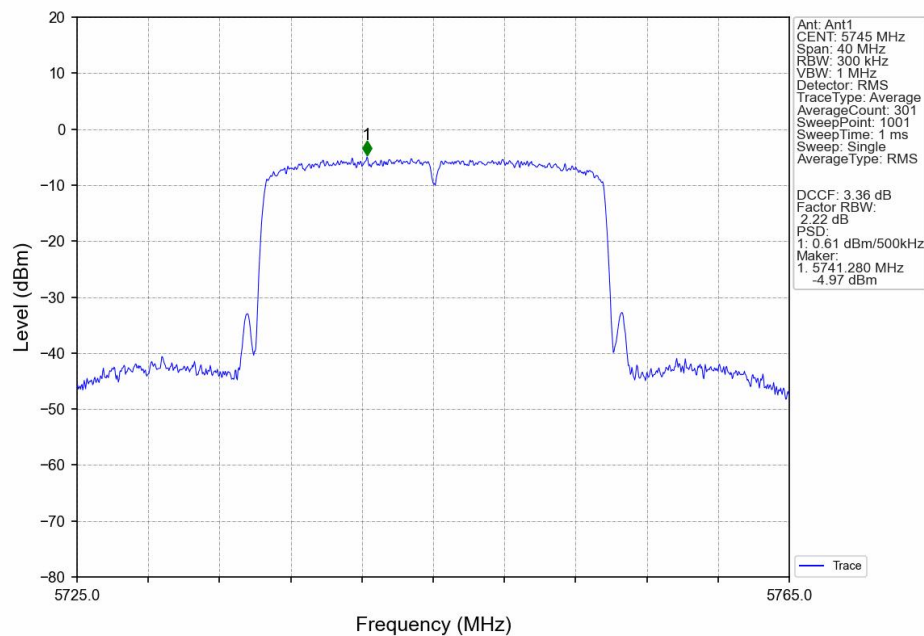


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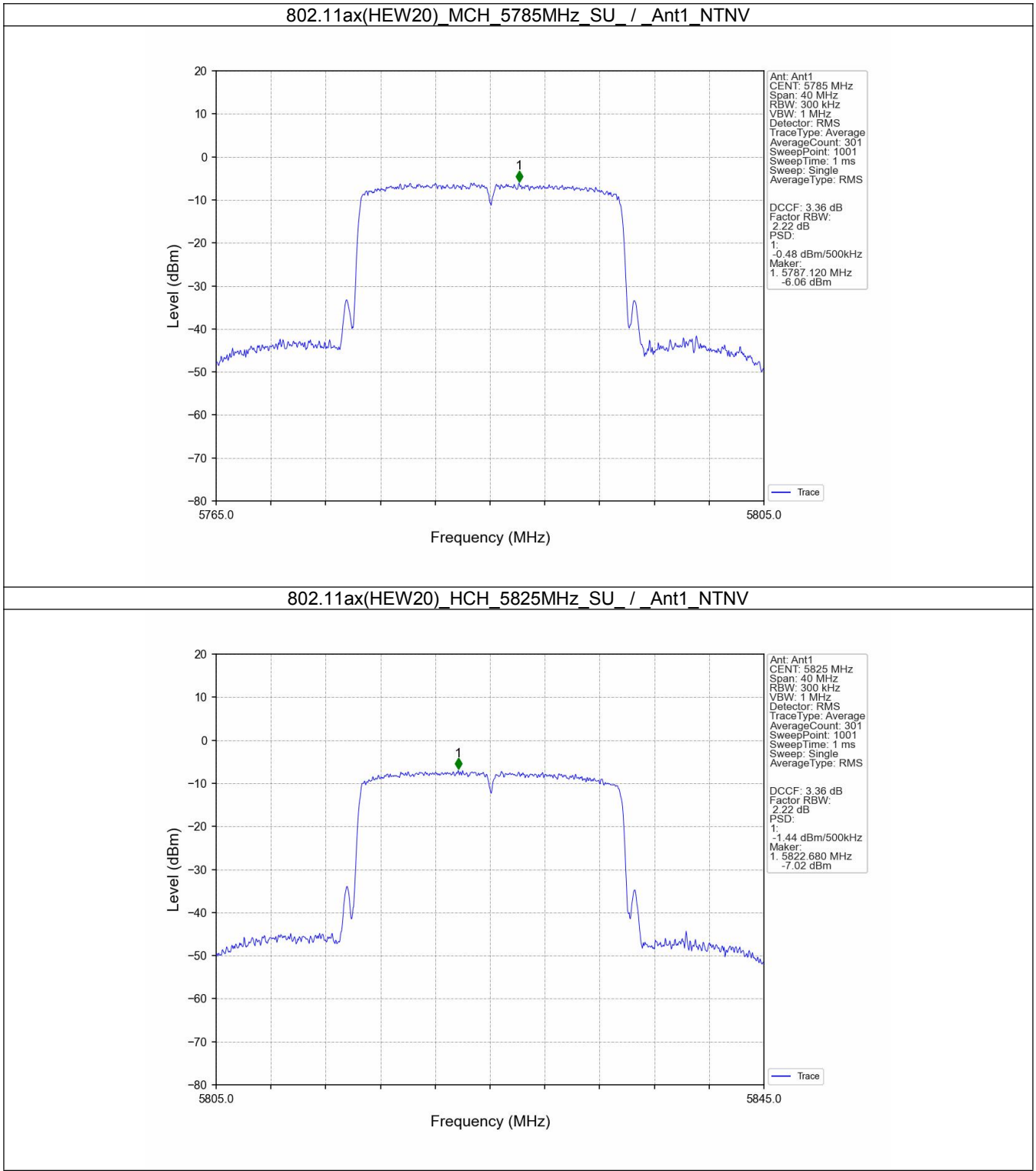
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



802.11ax(HEW20)_LCH_5745MHz_SU_/_Ant1_NTNV



FCC ID: 2A94J-CP027



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5. Frequency Stability

5.1 Test Result

5.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage	Measured Frequency (MHz)	Limit (MHz)	Verdict
Carrier Wave	SISO	5745	20	LV	5745.061	5725 to 5850	Pass
				NV	5745.084	5725 to 5850	Pass
				HV	5745.107	5725 to 5850	Pass
			-30	NV	5745.130	5725 to 5850	Pass
			-20	NV	5745.153	5725 to 5850	Pass
			-10	NV	5745.179	5725 to 5850	Pass
			0	NV	5745.195	5725 to 5850	Pass
			10	NV	5745.213	5725 to 5850	Pass
			30	NV	5745.228	5725 to 5850	Pass
			40	NV	5745.239	5725 to 5850	Pass
			50	NV	5745.258	5725 to 5850	Pass
		5785	20	LV	5785.128	5725 to 5850	Pass
				NV	5785.149	5725 to 5850	Pass
				HV	5785.165	5725 to 5850	Pass
			-30	NV	5785.181	5725 to 5850	Pass
			-20	NV	5785.193	5725 to 5850	Pass
			-10	NV	5785.203	5725 to 5850	Pass
			0	NV	5785.213	5725 to 5850	Pass
			10	NV	5785.224	5725 to 5850	Pass
			30	NV	5785.228	5725 to 5850	Pass
			40	NV	5785.242	5725 to 5850	Pass
			50	NV	5785.257	5725 to 5850	Pass
		5825	20	LV	5825.143	5725 to 5850	Pass
				NV	5825.158	5725 to 5850	Pass
				HV	5825.174	5725 to 5850	Pass
			-30	NV	5825.187	5725 to 5850	Pass
			-20	NV	5825.199	5725 to 5850	Pass
			-10	NV	5825.216	5725 to 5850	Pass
			0	NV	5825.229	5725 to 5850	Pass
			10	NV	5825.243	5725 to 5850	Pass
			30	NV	5825.255	5725 to 5850	Pass
			40	NV	5825.265	5725 to 5850	Pass
			50	NV	5825.276	5725 to 5850	Pass

FCC ID: 2A94J-CP027

6. Form731

6.1 Test Result

6.1.1 Form731

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
5745	5825	0.0316	15.00