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Annex for 5G Wi-Fi Band 3

Test Report No.: CTL2604152051-WF03

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FCC ID: 2A94J-CP025

1. Duty Cycle

1.1 Test Result

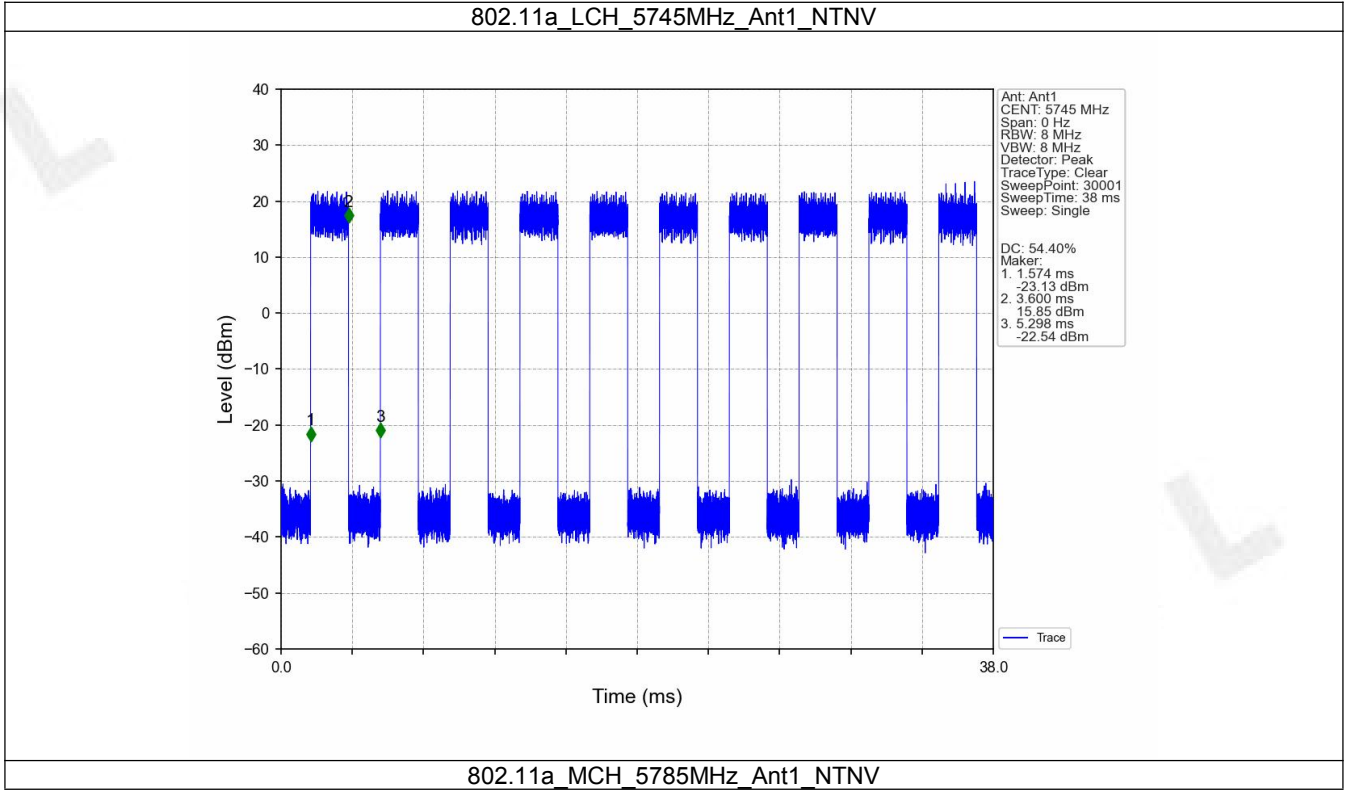
1.1.1 Ant1

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	/	/	2.026	3.724	54.40	2.64	0.03
		5785	/	/	2.024	3.724	54.35	2.65	0.03
		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	/	/	1.703	3.402	50.06	3.01	0.04
		5825	/	/	1.703	3.402	50.06	3.01	0.03
802.11ac (VHT20)	SISO	5745	/	/	1.708	3.406	50.15	3.00	0.03
		5785	/	/	1.707	3.406	50.12	3.00	0.04
		5825	/	/	1.707	3.407	50.10	3.00	0.05
802.11ax (HEW20)	SISO	5745	SU	/	1.452	3.152	46.07	3.37	0.03
		5785	SU	/	1.453	3.152	46.10	3.36	0.02
		5825	SU	/	1.453	3.153	46.08	3.36	0.04

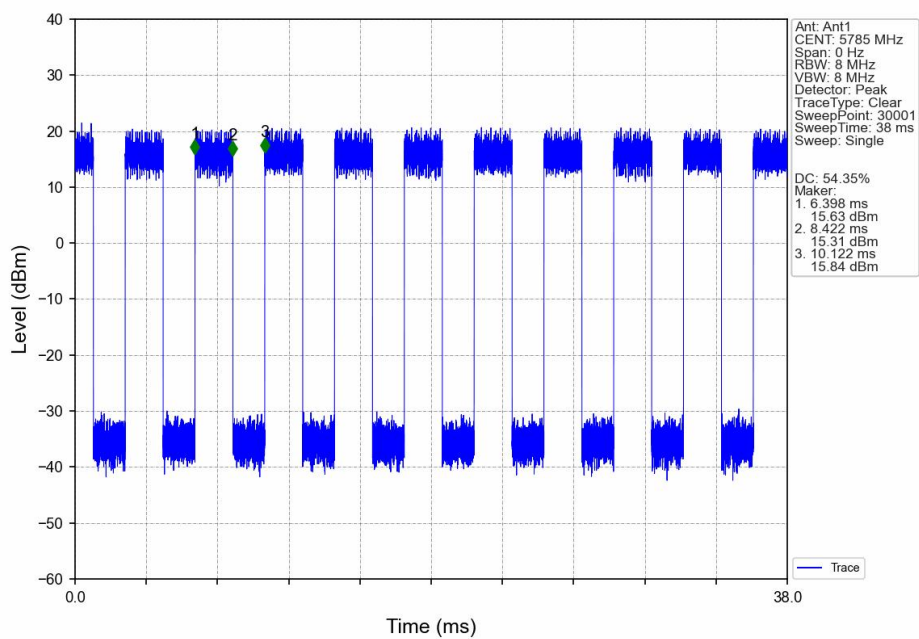
FCC ID: 2A94J-CP025

1.2 Test Graph

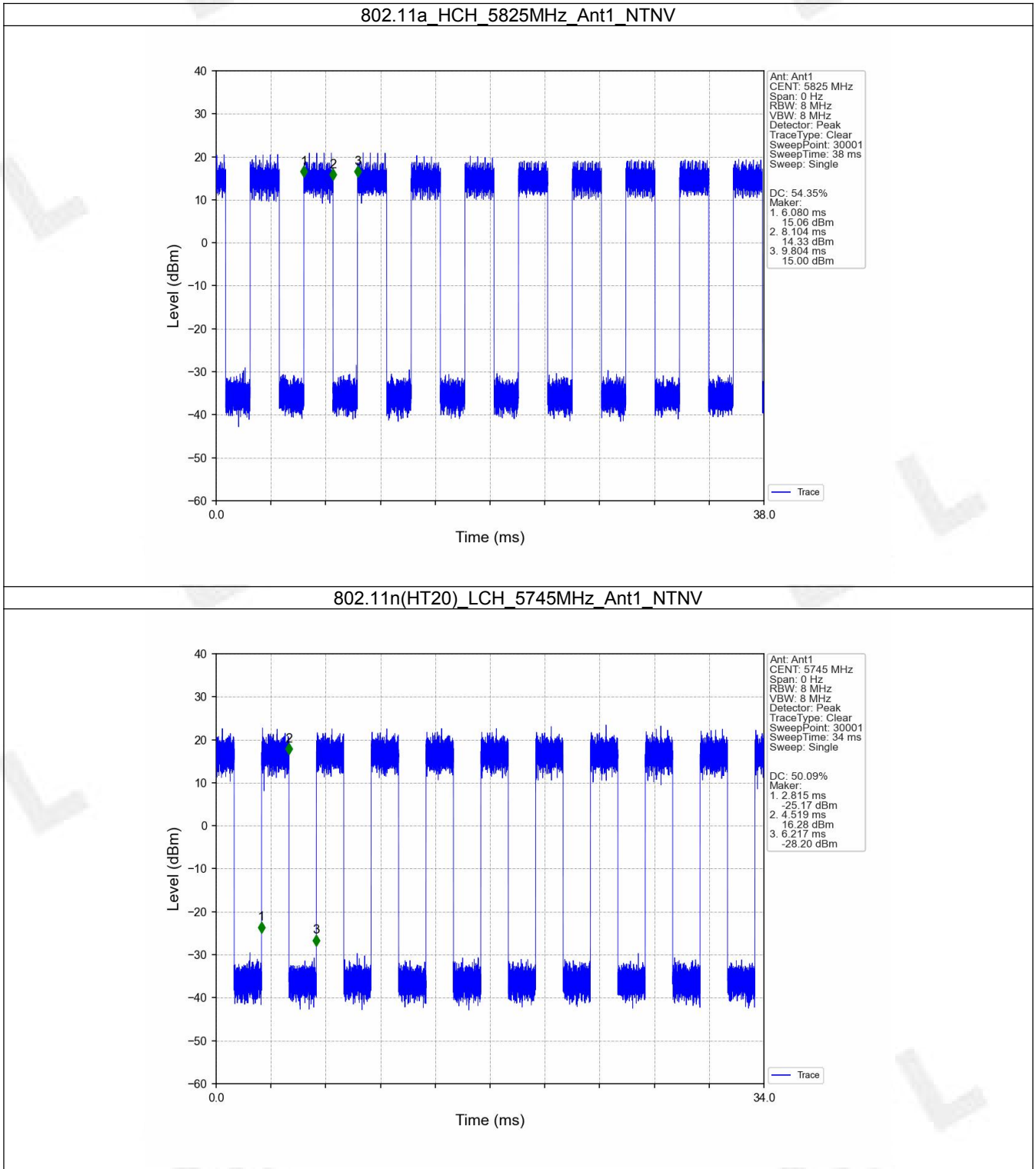
1.2.1 Ant1



FCC ID: 2A94J-CP025

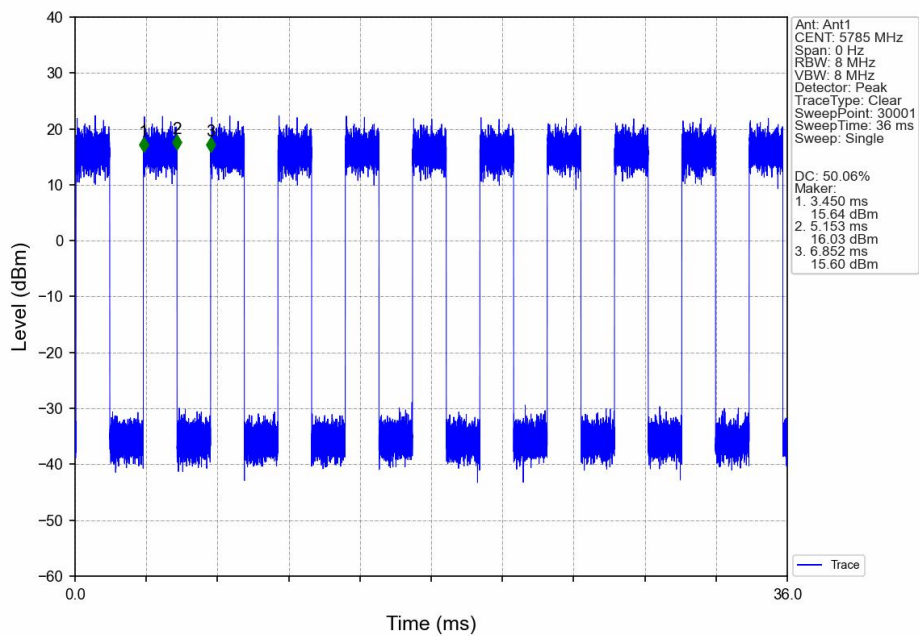


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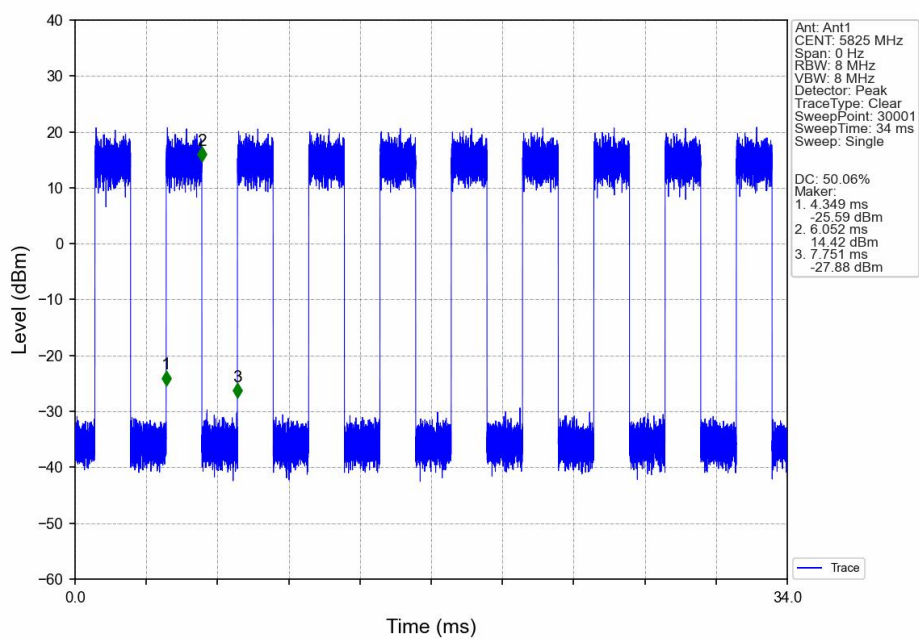


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802.11n(HT20)_MCH_5785MHz_Ant1_NTNV

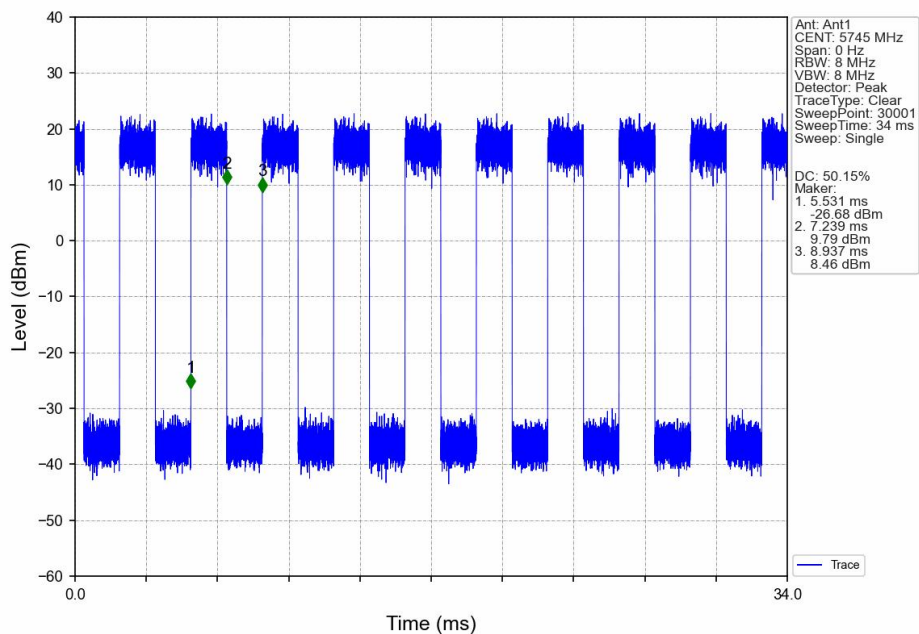


802.11n(HT20)_HCH_5825MHz_Ant1_NTNV

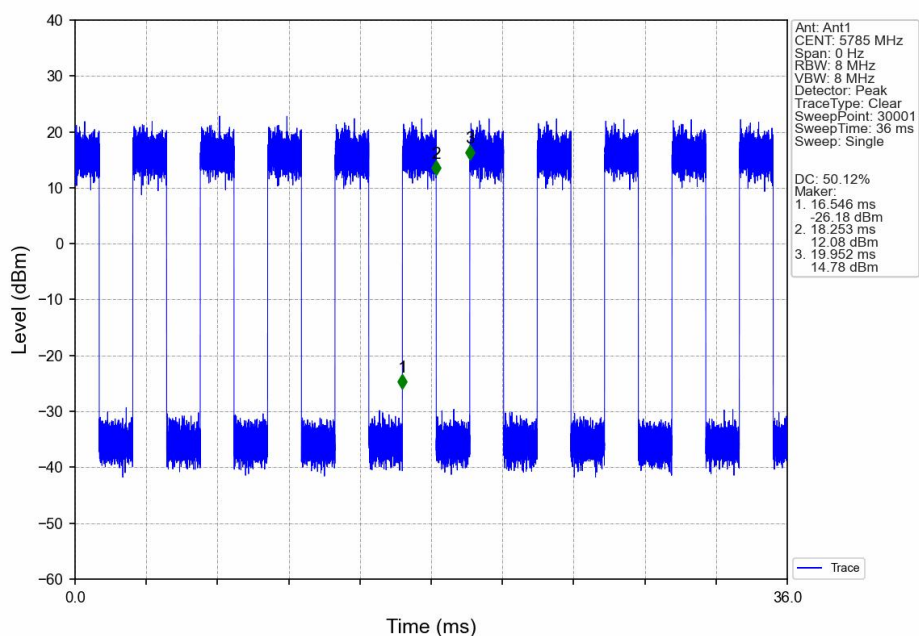


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

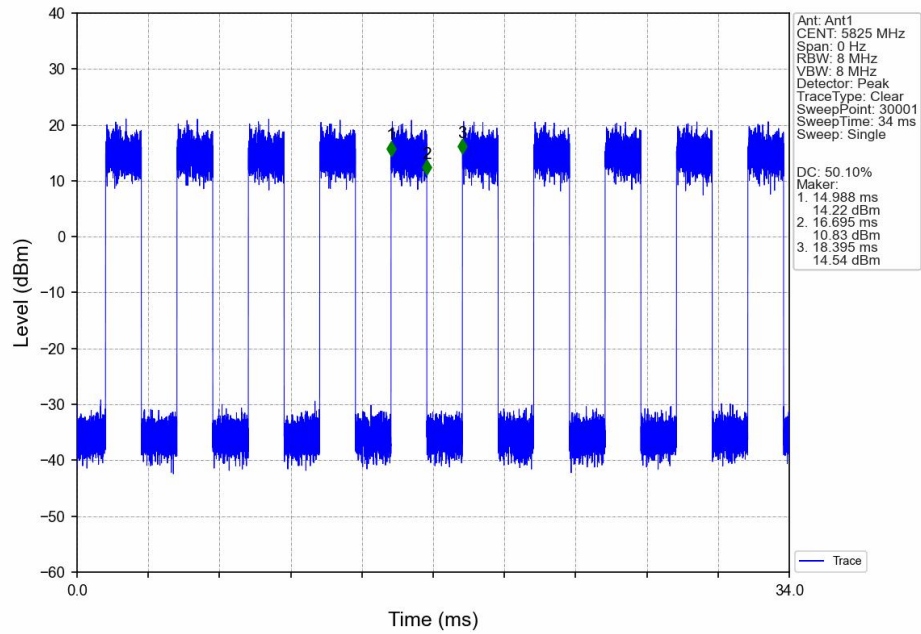


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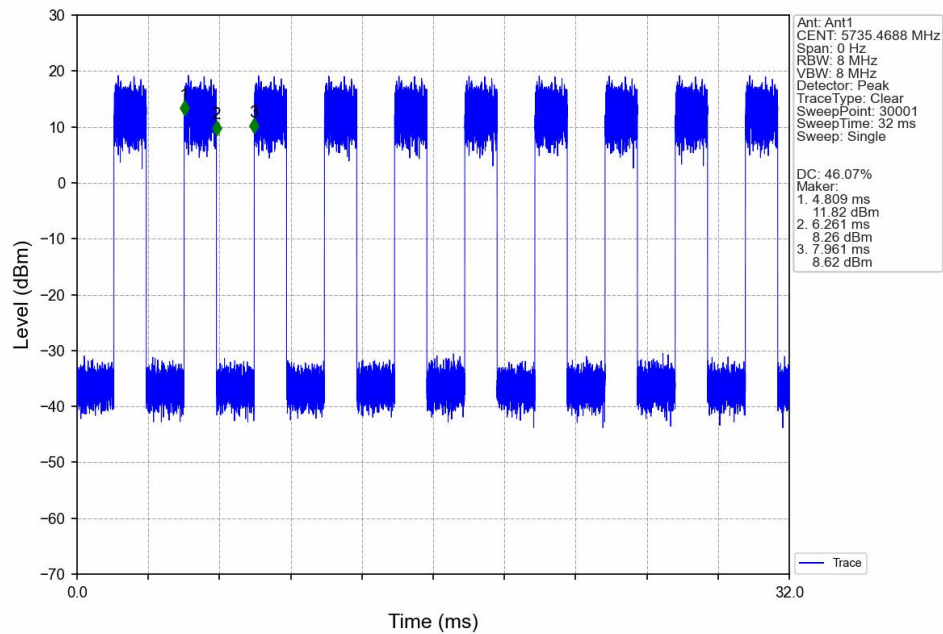


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802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV

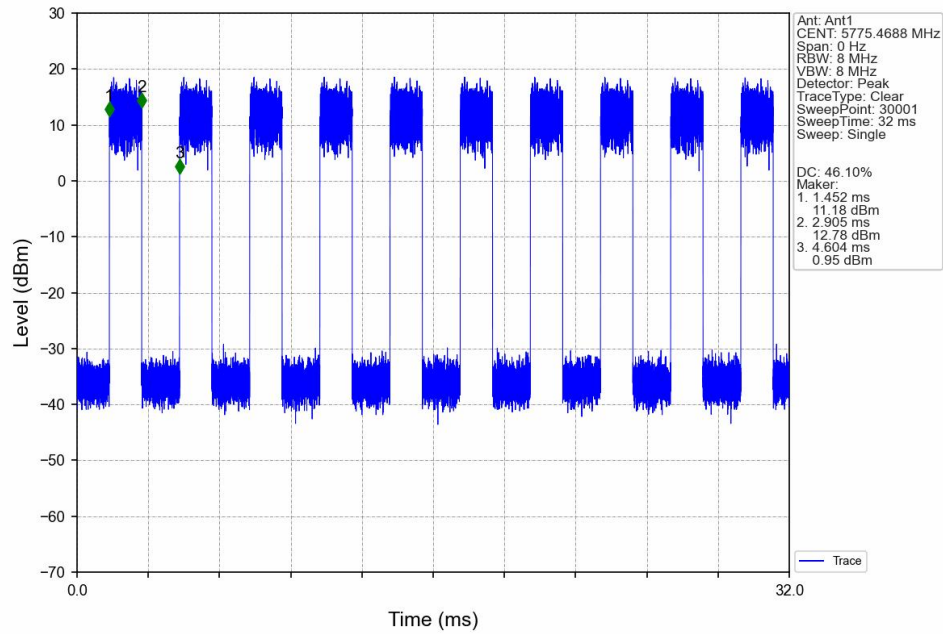


802.11ax(HEW20)_LCH_5745MHz_SU / Ant1_NTNV

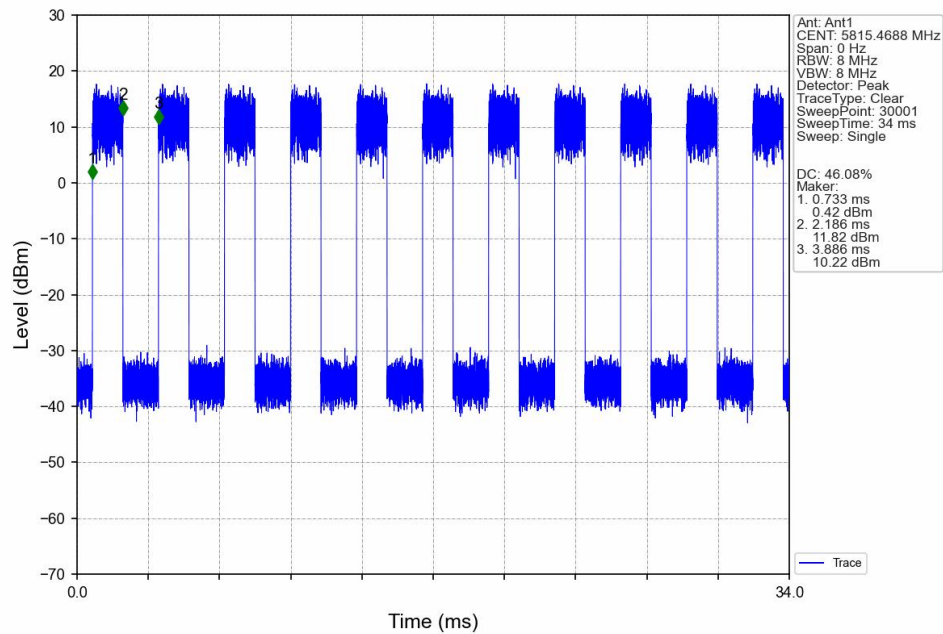


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802.11ax(HEW20)_MCH_5785MHz_SU_ / Ant1_NTNV



802.11ax(HEW20)_HCH_5825MHz_SU_ / Ant1_NTNV



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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	16.378	/	Pass
		5785	/	/	1	16.364	/	Pass
		5825	/	/	1	16.351	/	Pass
802.11n (HT20)	SISO	5745	/	/	1	17.543	/	Pass
		5785	/	/	1	17.553	/	Pass
		5825	/	/	1	17.518	/	Pass
802.11ac (VHT20)	SISO	5745	/	/	1	17.537	/	Pass
		5785	/	/	1	17.554	/	Pass
		5825	/	/	1	17.516	/	Pass
802.11ax (HEW20)	SISO	5745	SU	/	1	18.843	/	Pass
		5785	SU	/	1	18.856	/	Pass
		5825	SU	/	1	18.833	/	Pass

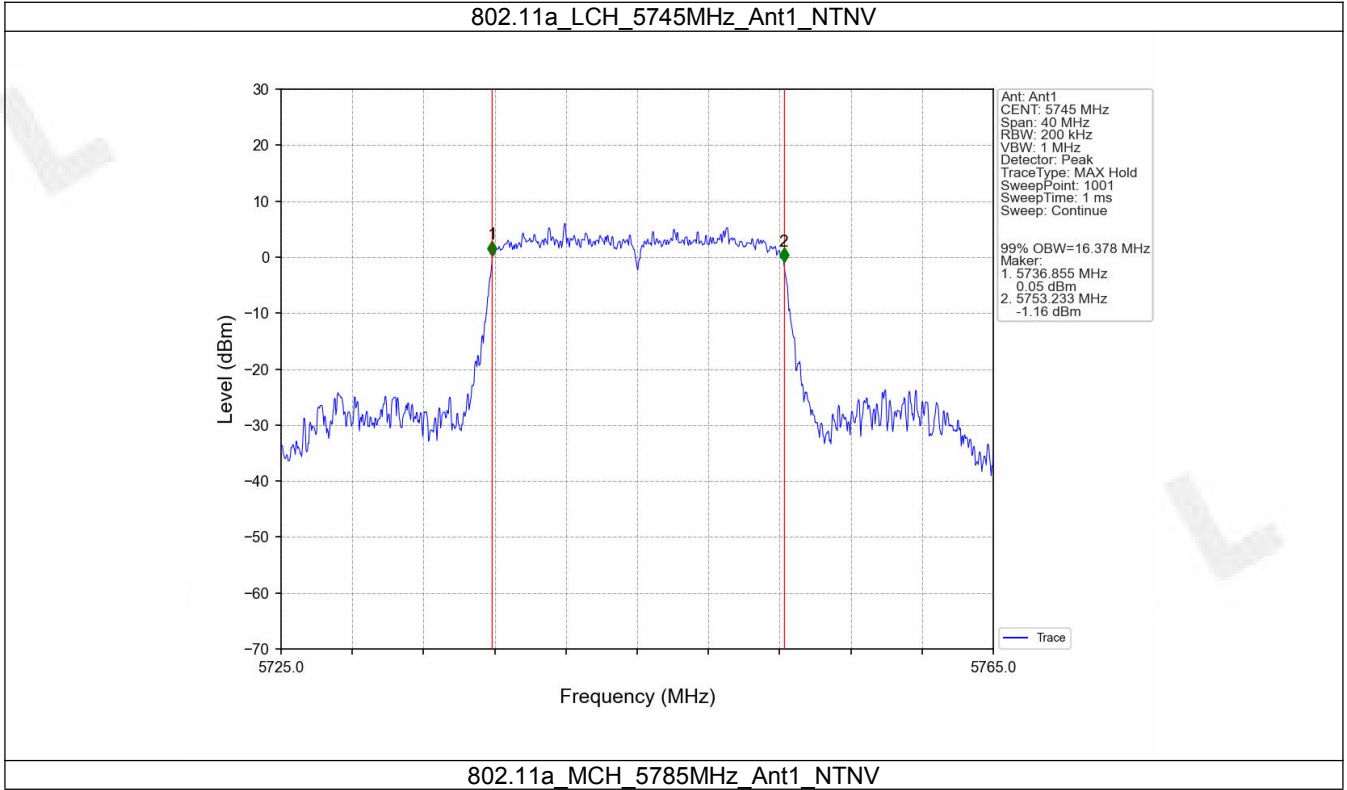
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11a	SISO	5745	/	/	1	16.330	>=0.5	Pass
		5785	/	/	1	16.344	>=0.5	Pass
		5825	/	/	1	16.372	>=0.5	Pass
802.11n (HT20)	SISO	5745	/	/	1	16.898	>=0.5	Pass
		5785	/	/	1	17.260	>=0.5	Pass
		5825	/	/	1	16.903	>=0.5	Pass
802.11ac (VHT20)	SISO	5745	/	/	1	17.262	>=0.5	Pass
		5785	/	/	1	16.906	>=0.5	Pass
		5825	/	/	1	17.303	>=0.5	Pass
802.11ax (HEW20)	SISO	5745	SU	/	1	18.287	>=0.5	Pass
		5785	SU	/	1	18.052	>=0.5	Pass
		5825	SU	/	1	18.464	>=0.5	Pass

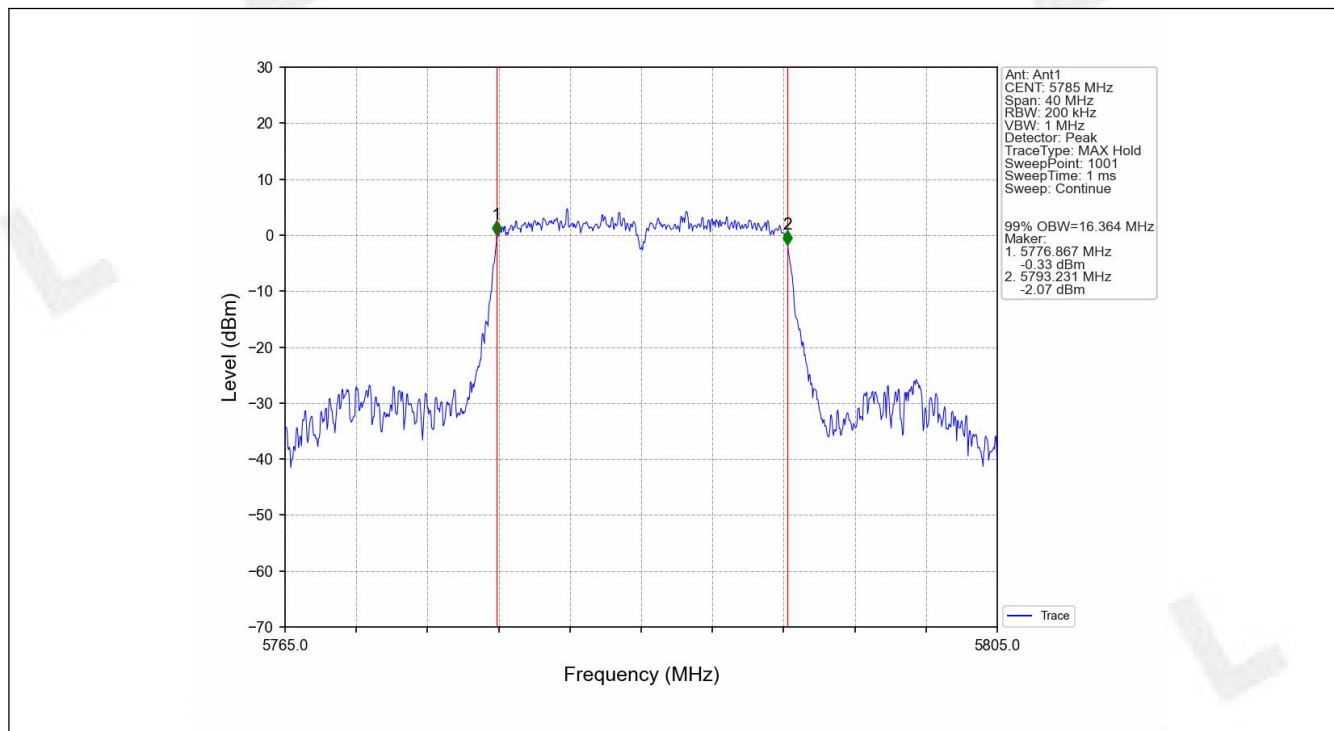
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2.2 Test Graph

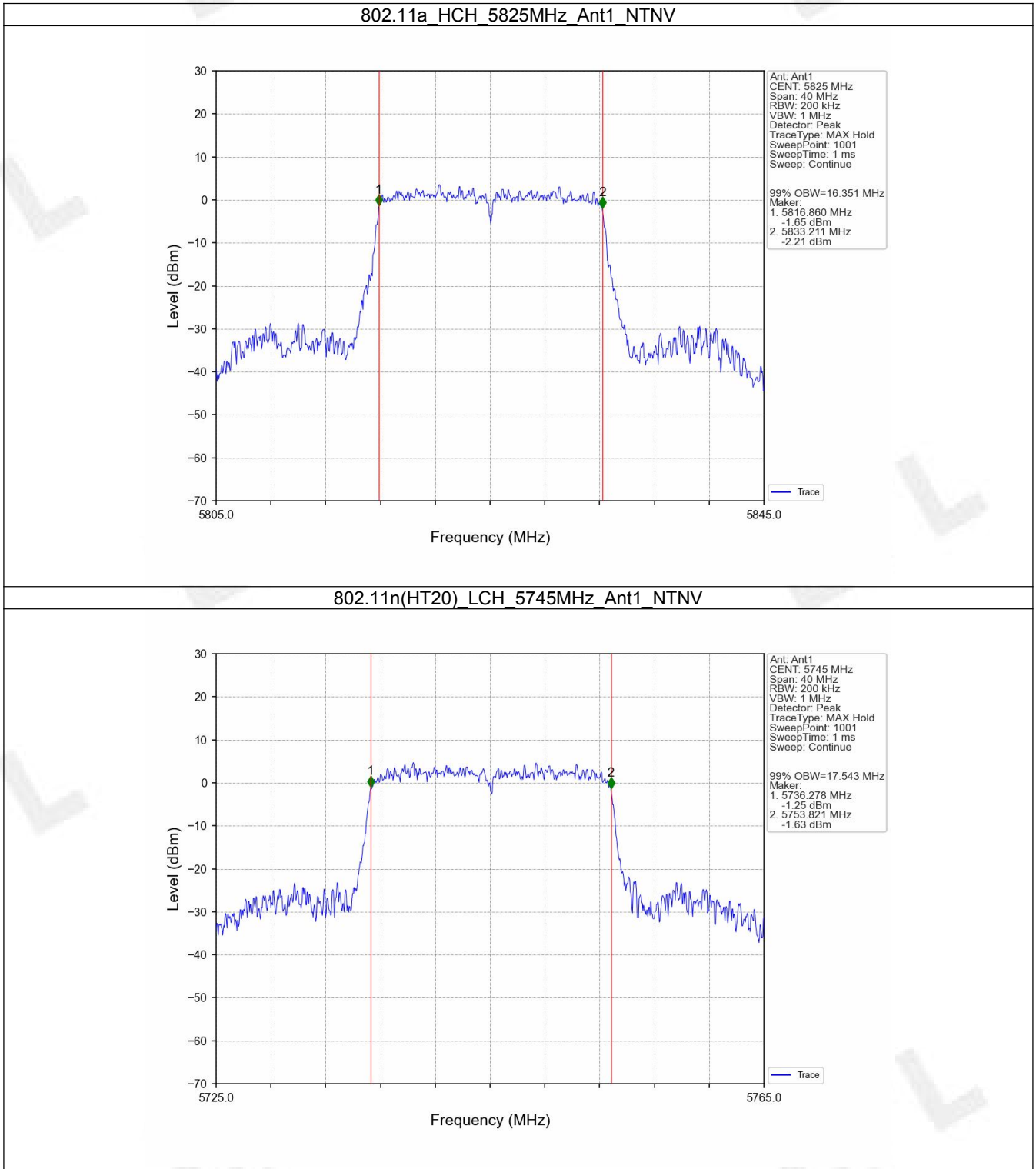
2.2.1 OBW



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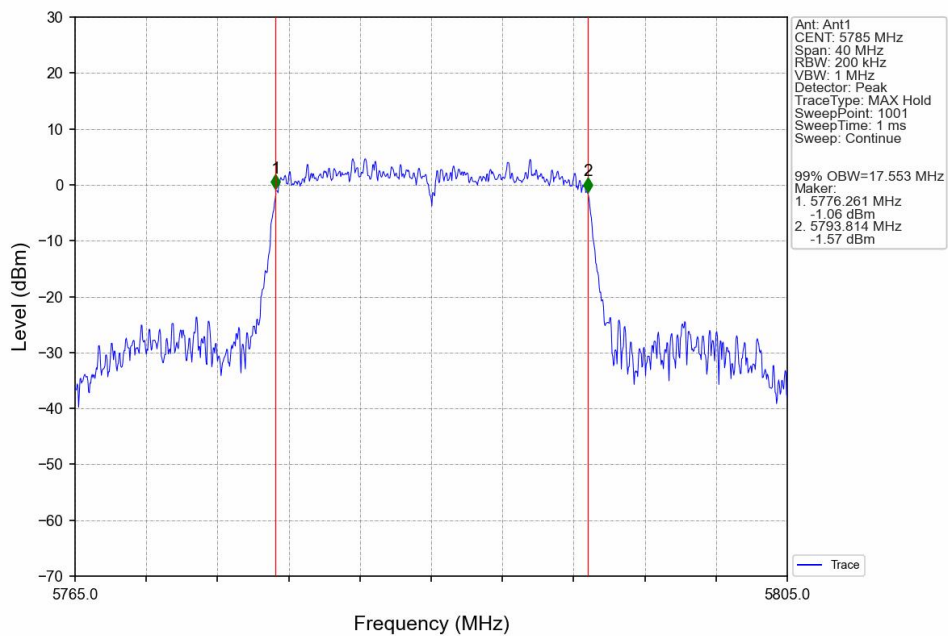


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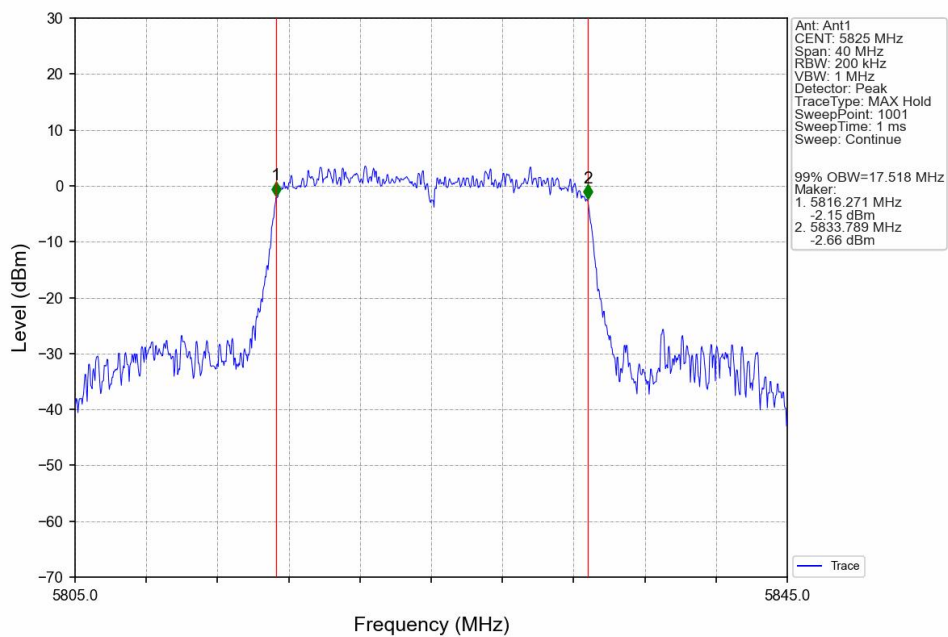


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802.11n(HT20)_MCH_5785MHz_Ant1_NTNV

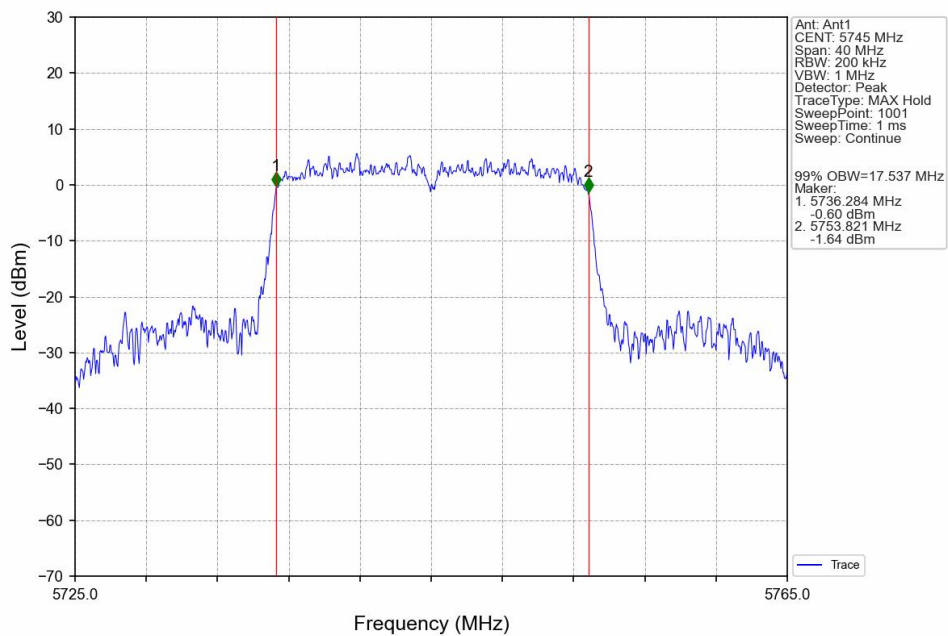


802.11n(HT20)_HCH_5825MHz_Ant1_NTNV

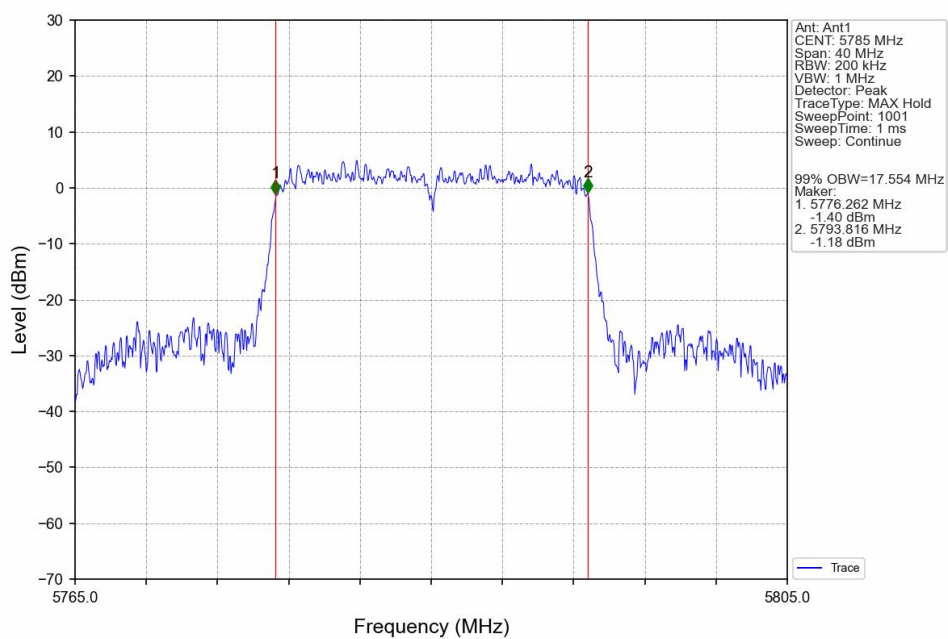


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

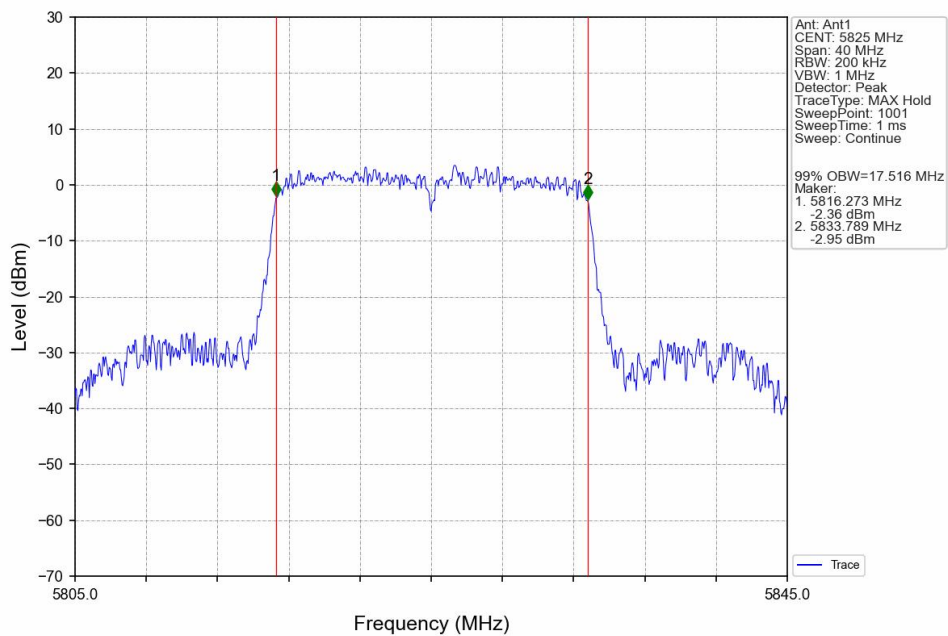


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

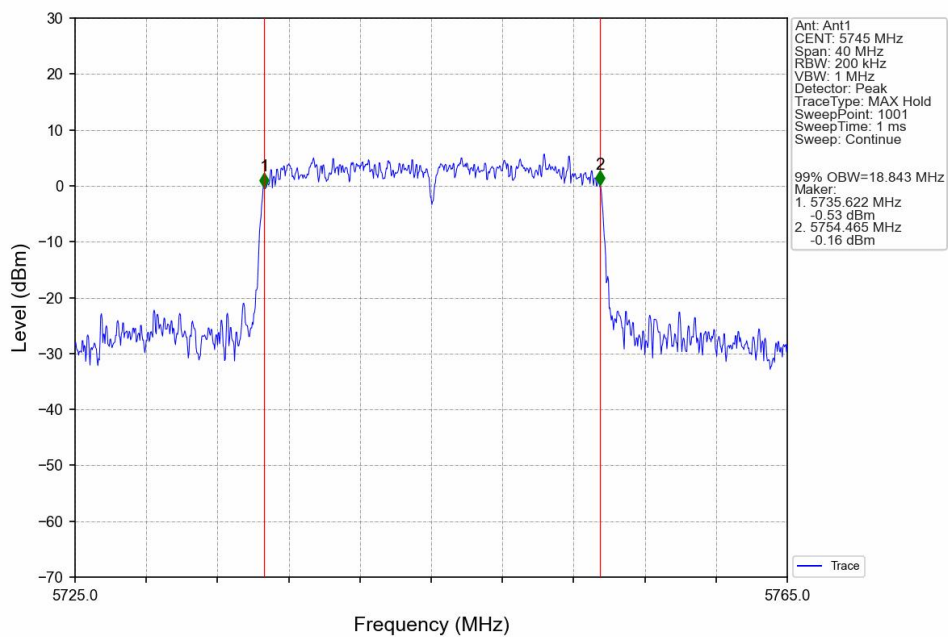


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802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV

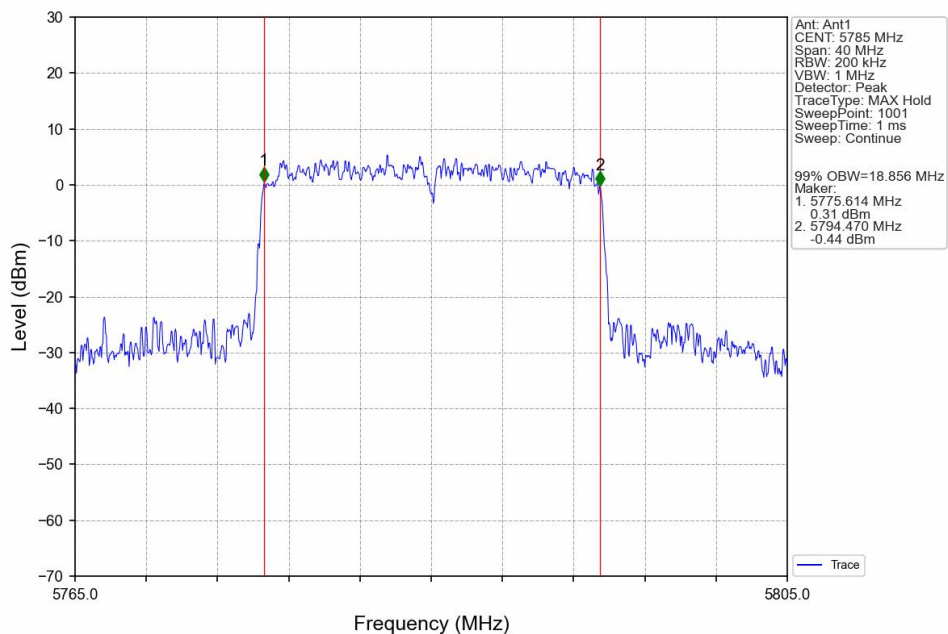


802.11ax(HEW20)_LCH_5745MHz_SU_ / Ant1_NTNV

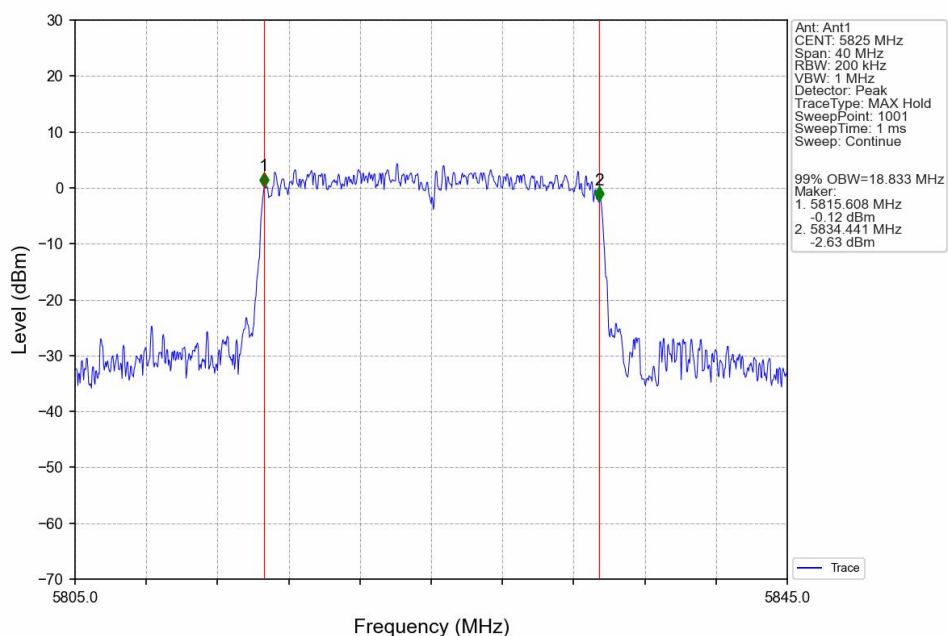


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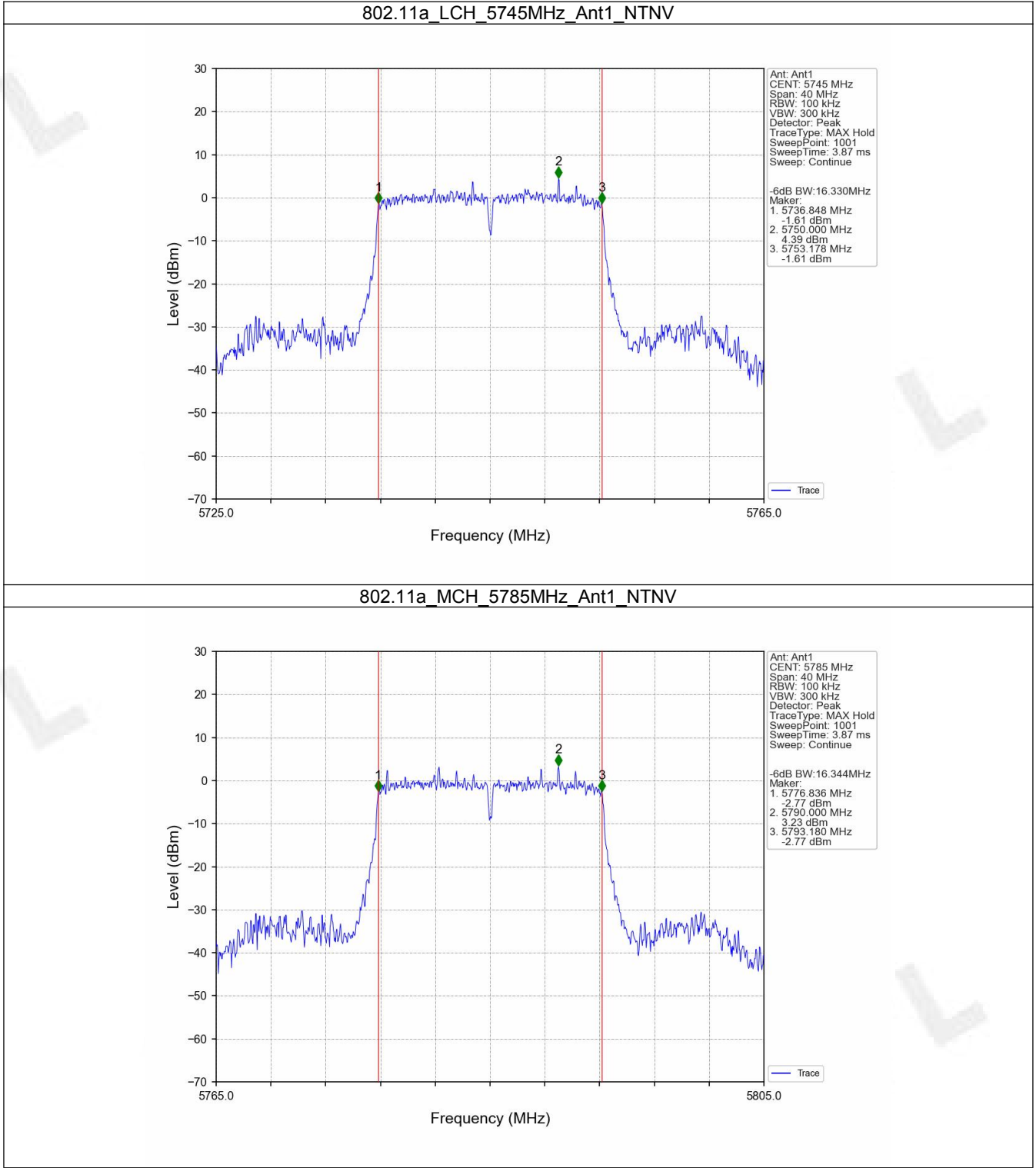


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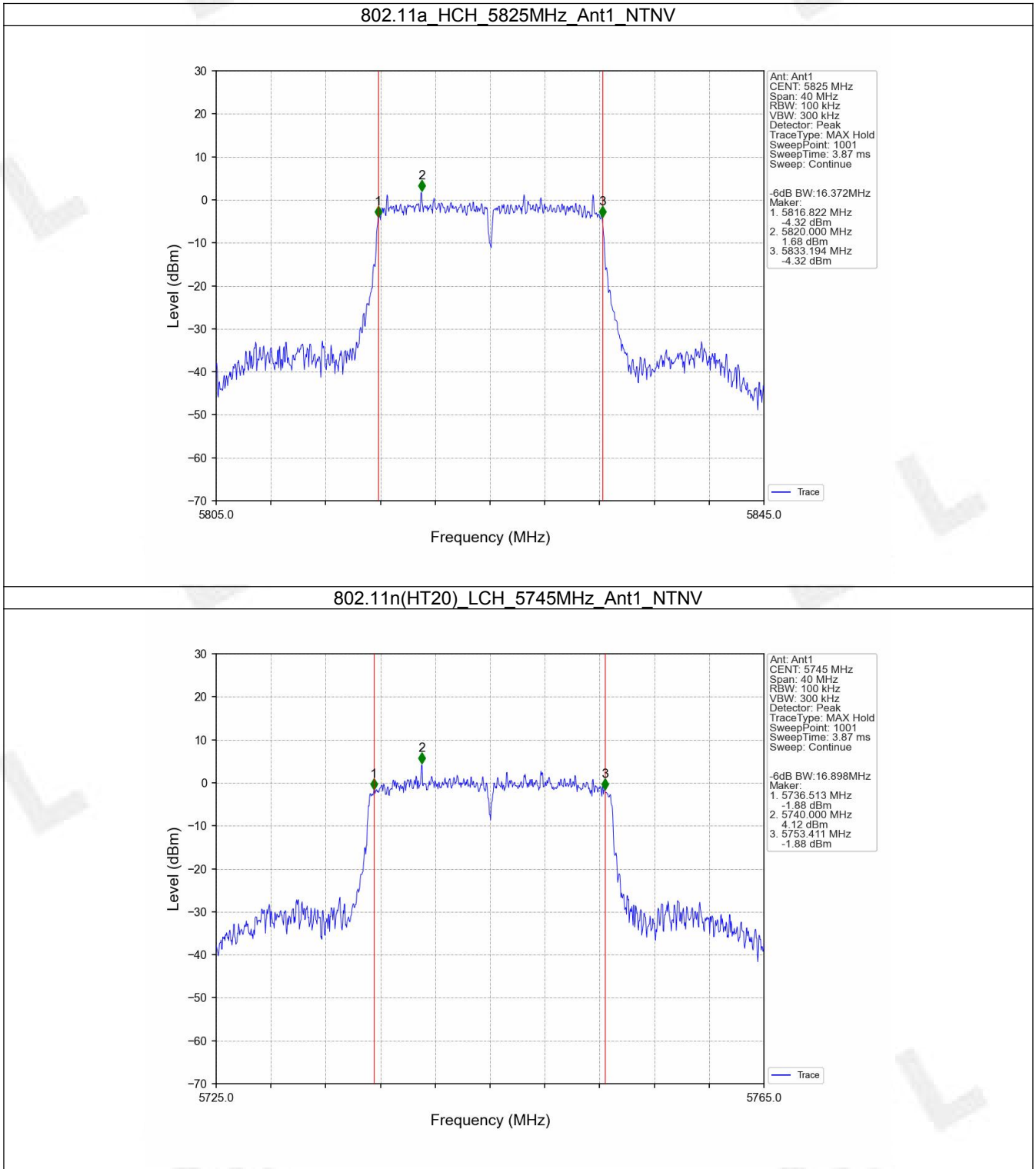


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2.2.2 6dB BW

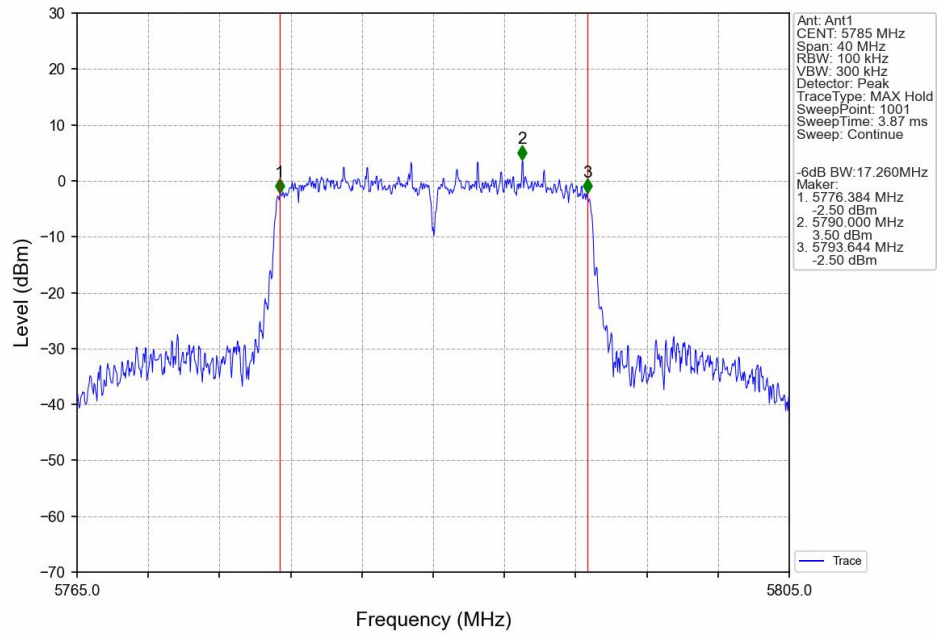


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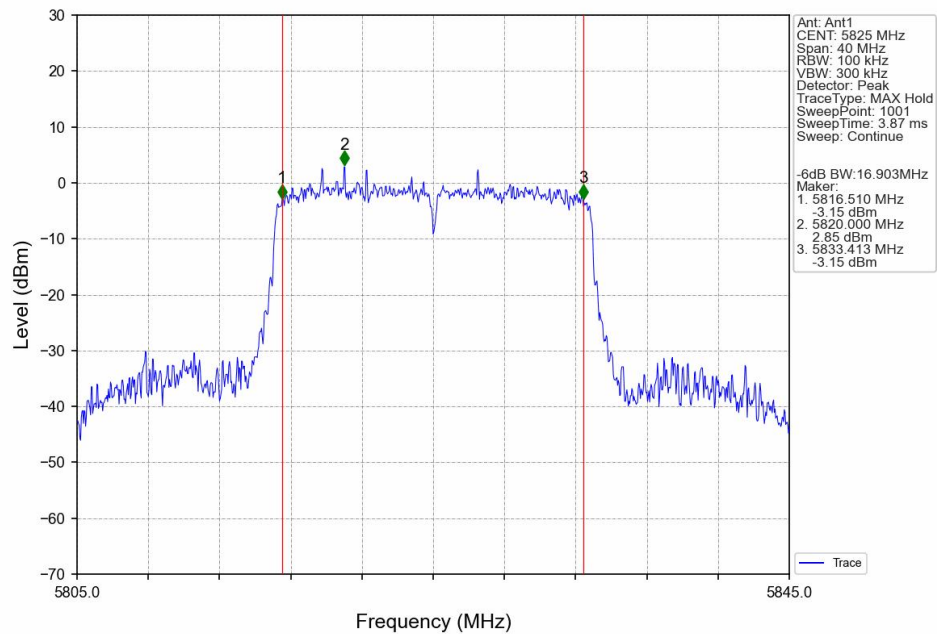


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802.11n(HT20)_MCH_5785MHz_Ant1_NTNV

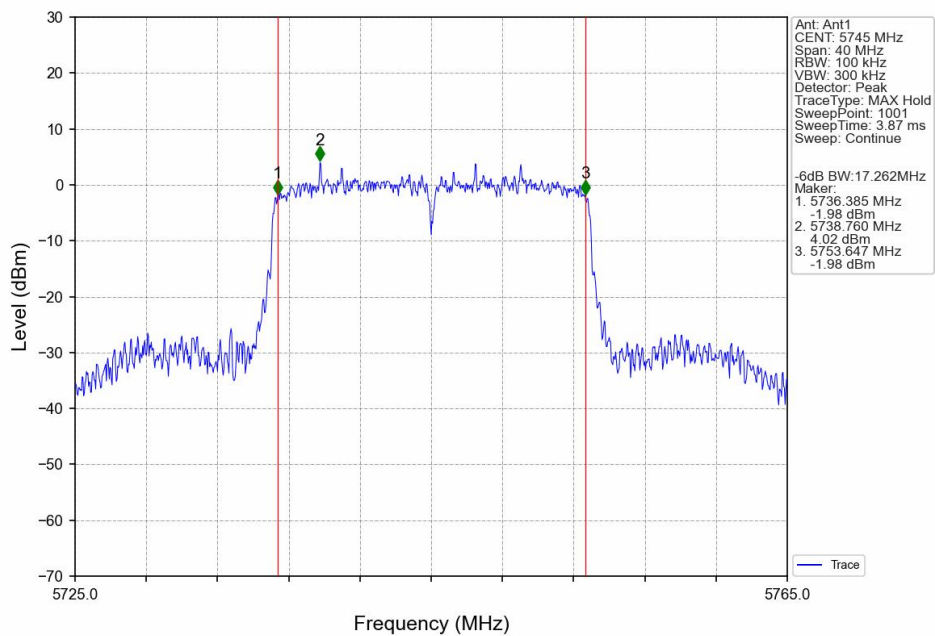


802.11n(HT20)_HCH_5825MHz_Ant1_NTNV

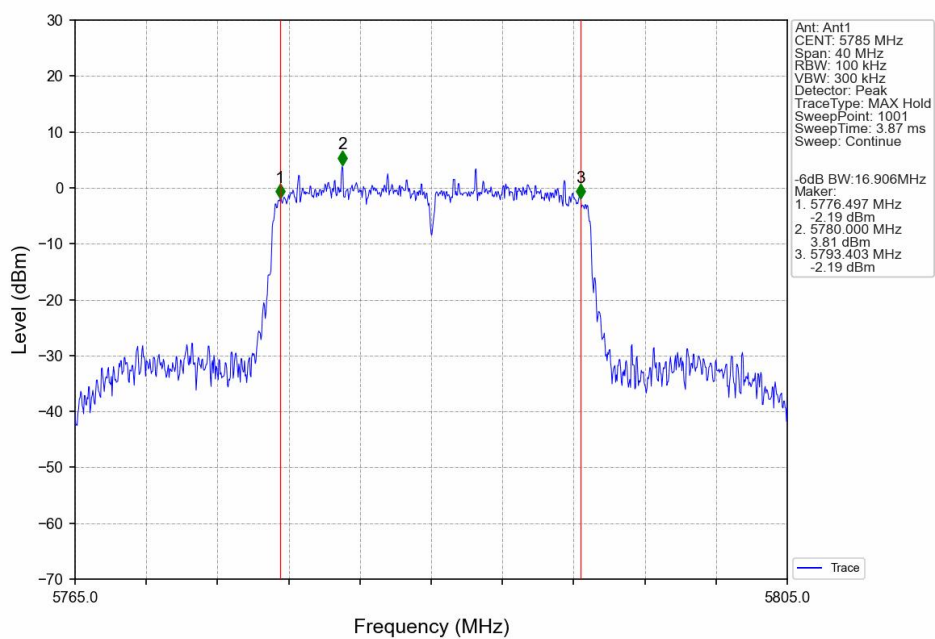


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

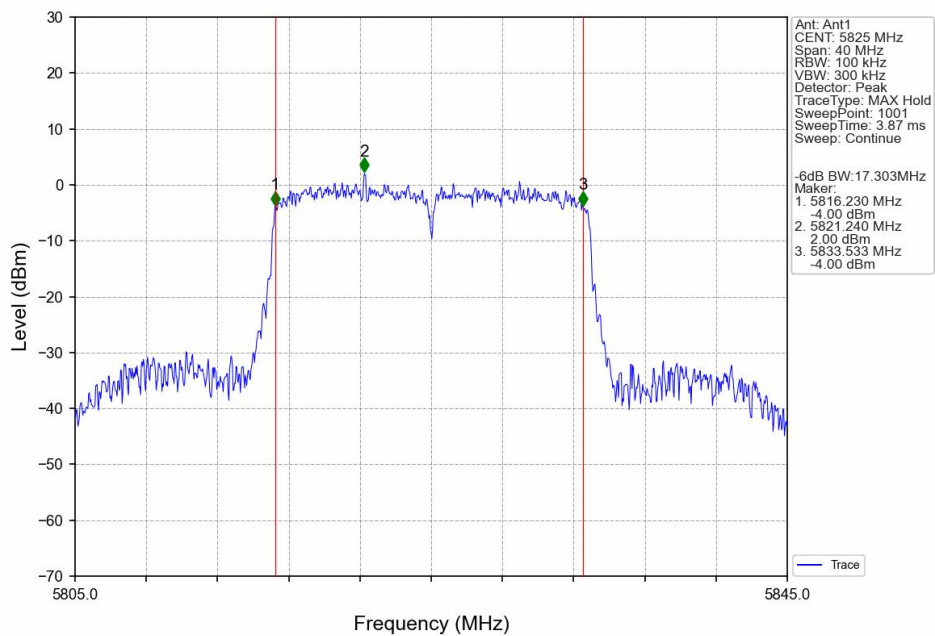


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

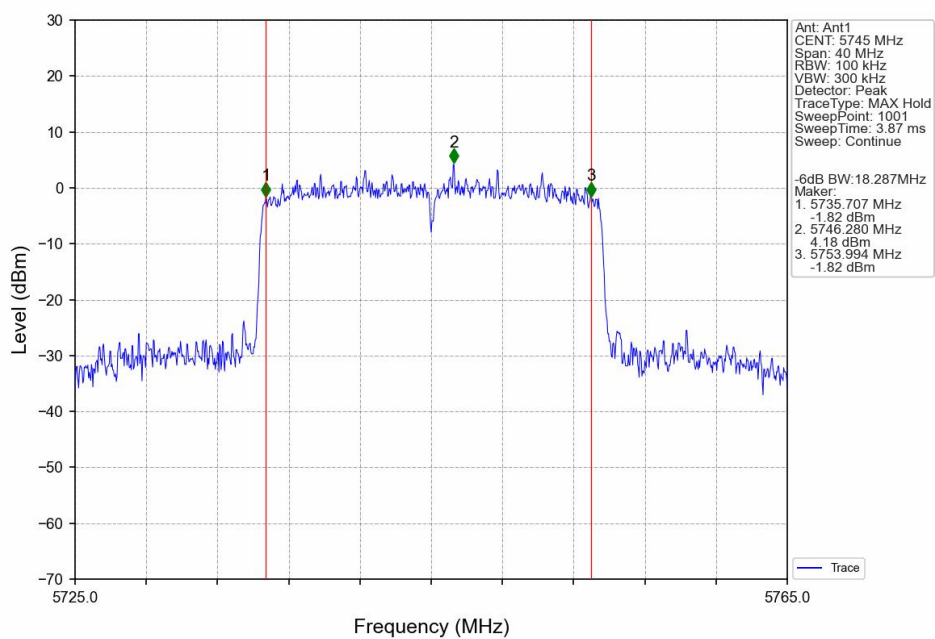


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802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV

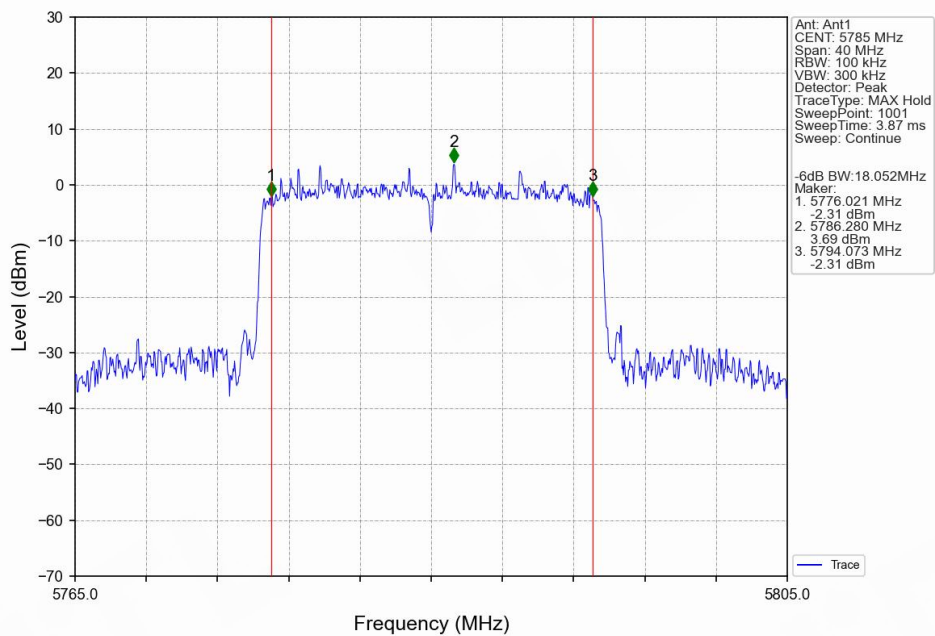


802.11ax(HEW20)_LCH_5745MHz_SU_ / Ant1_NTNV

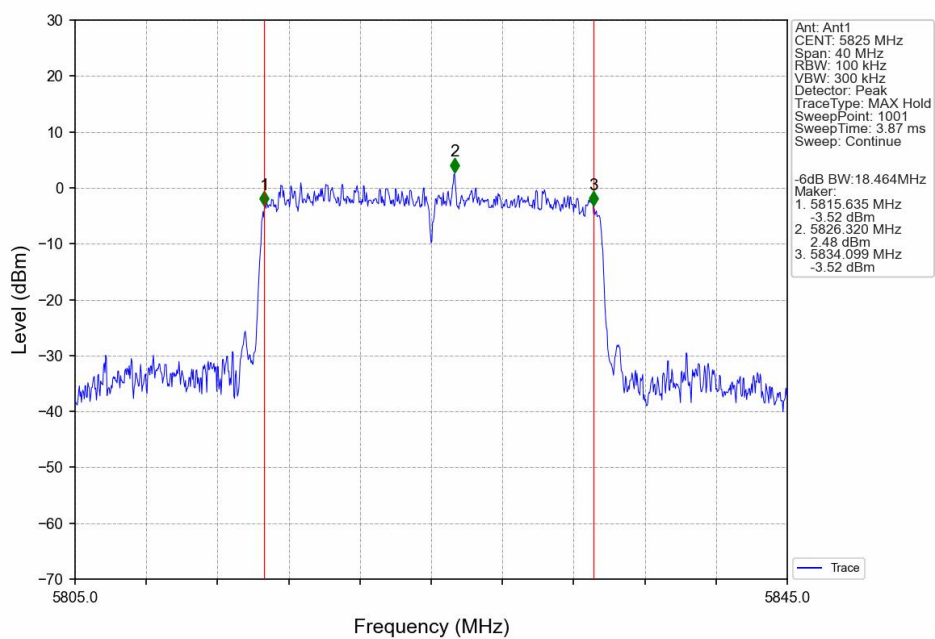


FCC ID: 2A94J-CP025

802.11ax(HEW20)_MCH_5785MHz_SU / Ant1_NTNV



802.11ax(HEW20)_HCH_5825MHz_SU / Ant1_NTNV



FCC ID: 2A94J-CP025

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	/	/	2.64	15.64	<=30	Pass
		5785	/	/	2.65	14.28	<=30	Pass
		5825	/	/	2.65	13.71	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	3.00	14.83	<=30	Pass
		5785	/	/	3.01	14.67	<=30	Pass
		5825	/	/	3.01	13.85	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	3.00	15.66	<=30	Pass
		5785	/	/	3.00	14.72	<=30	Pass
		5825	/	/	3.00	13.21	<=30	Pass
802.11ax (HEW20)	SISO	5745	SU	/	3.37	15.48	<=30	Pass
		5785	SU	/	3.36	15.02	<=30	Pass
		5825	SU	/	3.36	14.04	<=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-CP025

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	/	/	1.55	<=30	Pass
		5785	/	/	0.81	<=30	Pass
		5825	/	/	-0.26	<=30	Pass
802.11n (HT20)	SISO	5745	/	/	1.45	<=30	Pass
		5785	/	/	0.36	<=30	Pass
		5825	/	/	-0.33	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	/	2.01	<=30	Pass
		5785	/	/	1.22	<=30	Pass
		5825	/	/	0.02	<=30	Pass
802.11ax (HEW20)	SISO	5745	SU	/	1.08	<=30	Pass
		5785	SU	/	0.71	<=30	Pass
		5825	SU	/	0.13	<=30	Pass

Note1: Antenna Gain: Ant1: 0.50dBi;

Note2: RF Cable loss=0.5dB

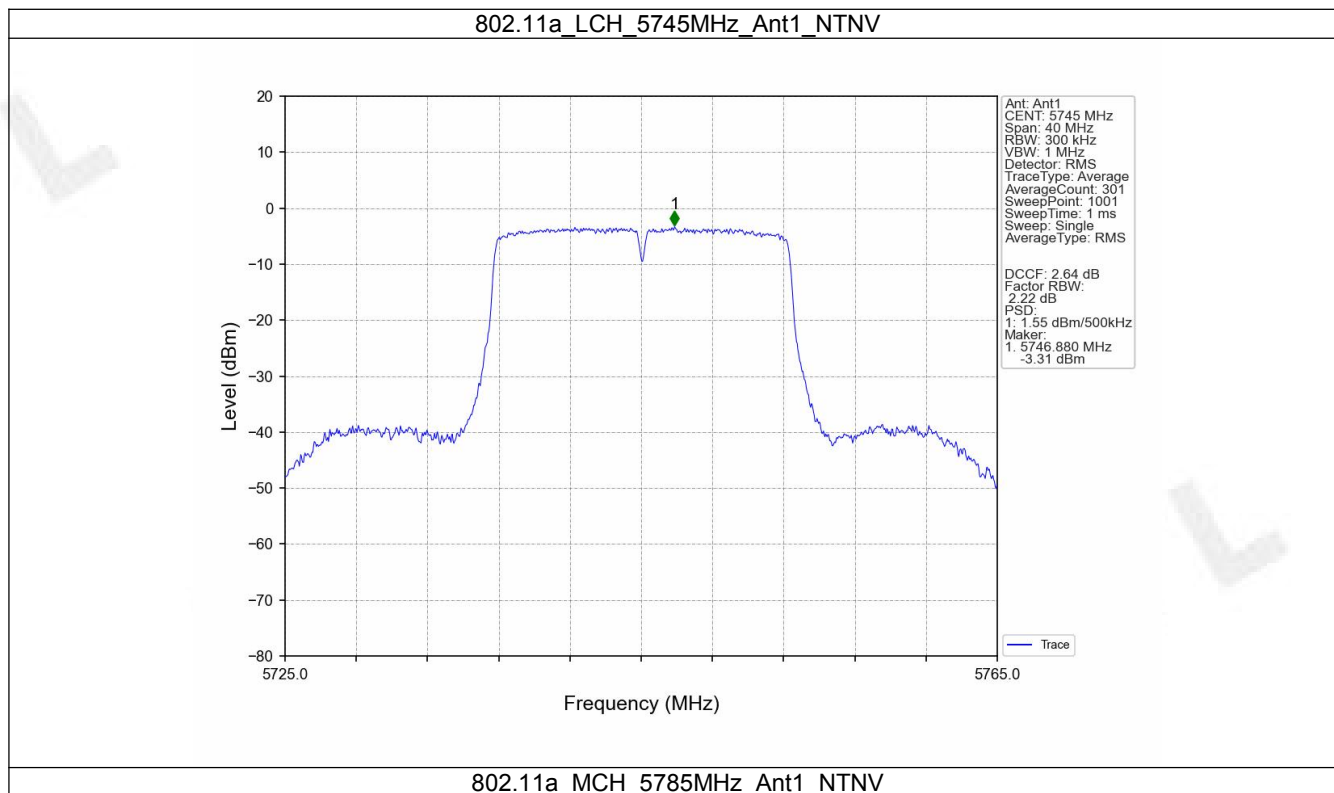
Note3: The test results include RF Cable loss.

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

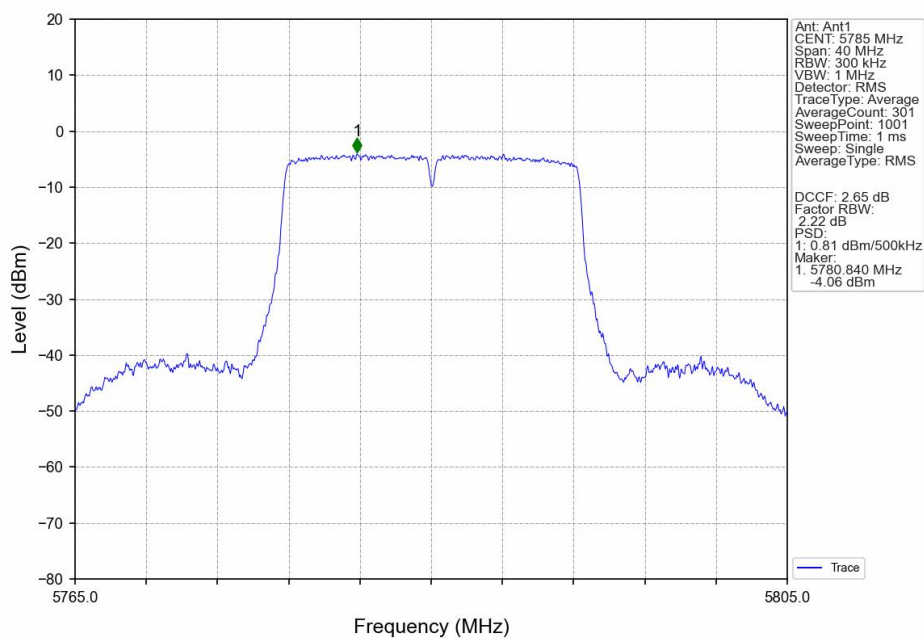
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4.2 Test Graph

4.2.1 PSD-Band3

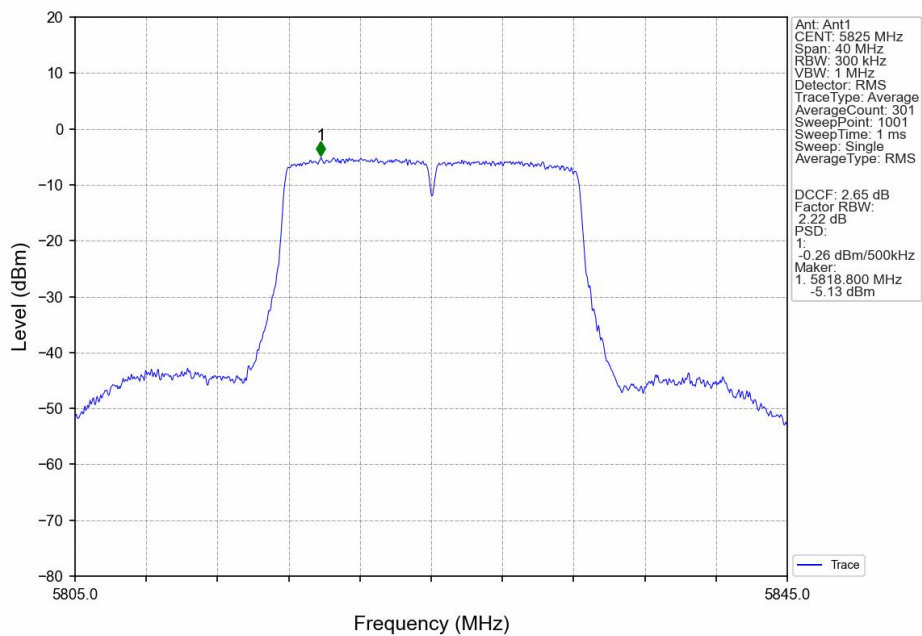


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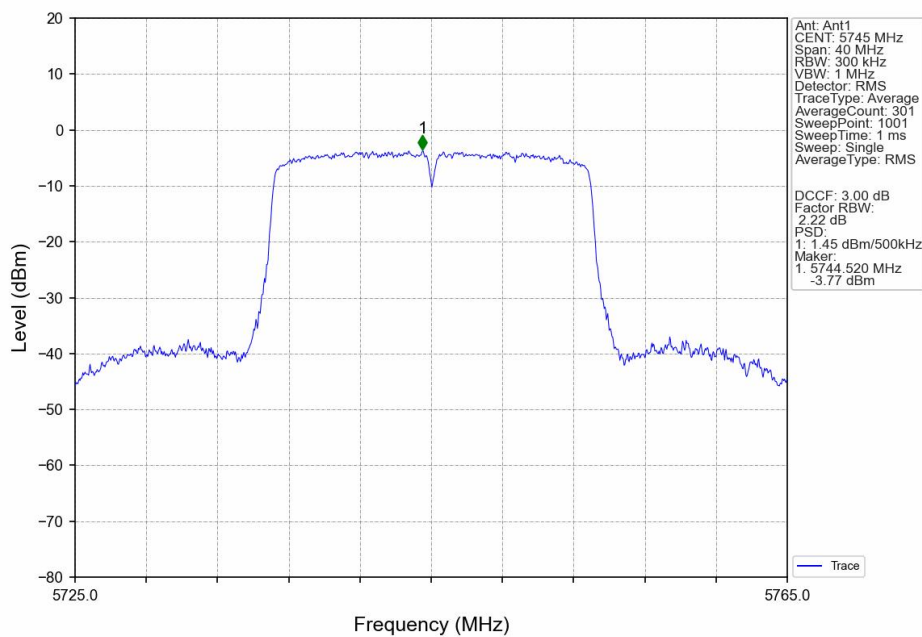


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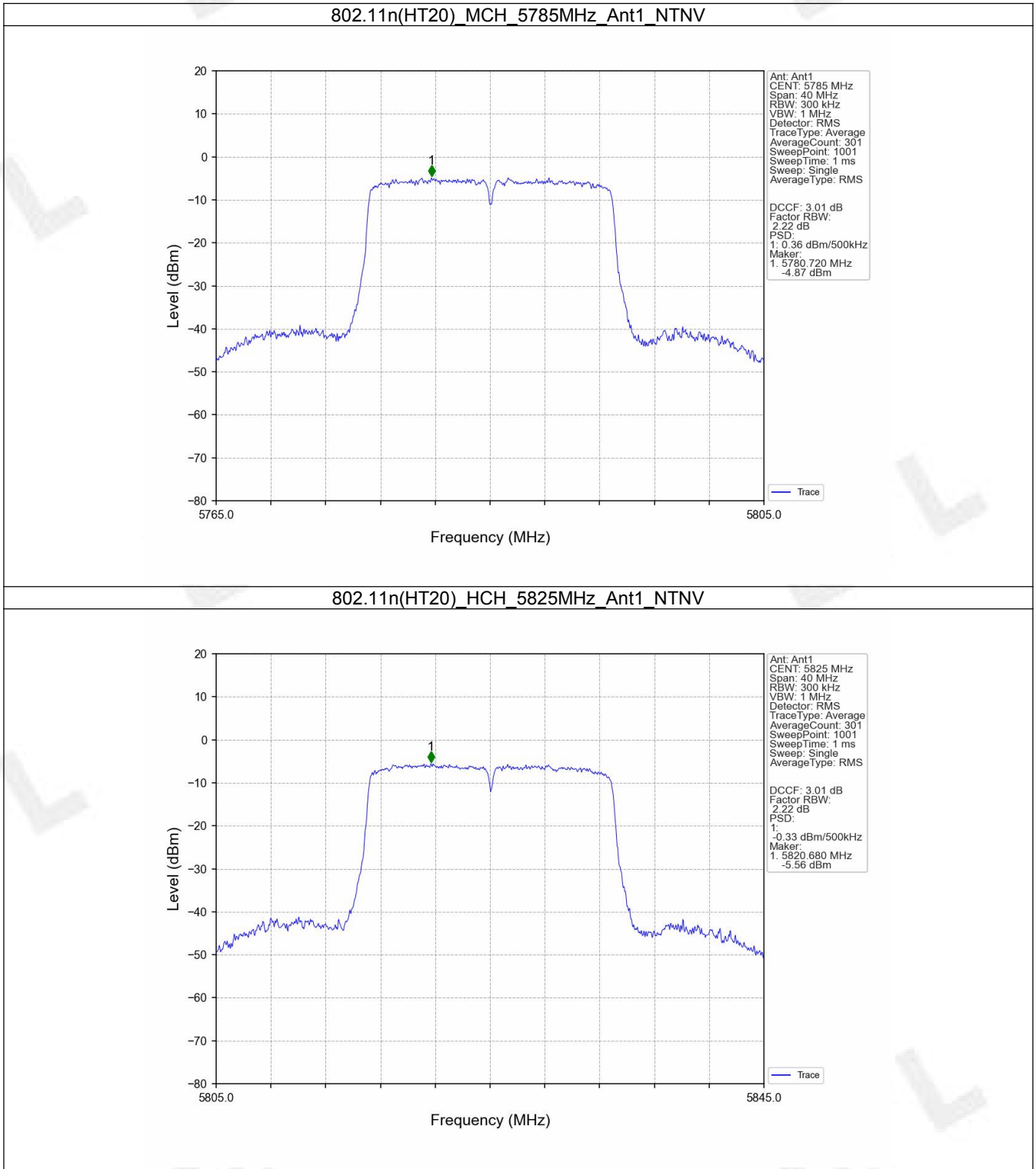
802.11a_HCH_5825MHz_Ant1_NTNV



802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

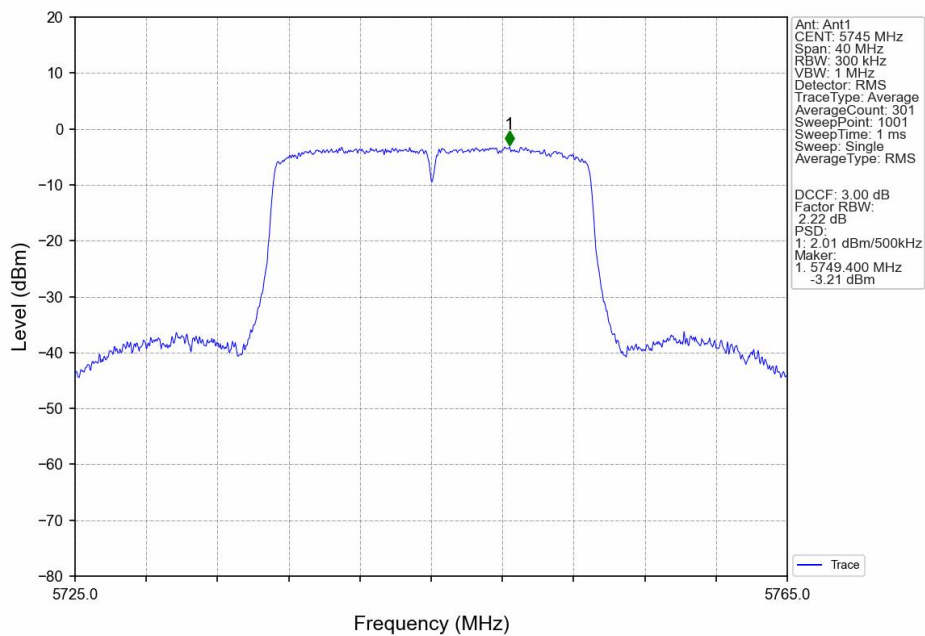


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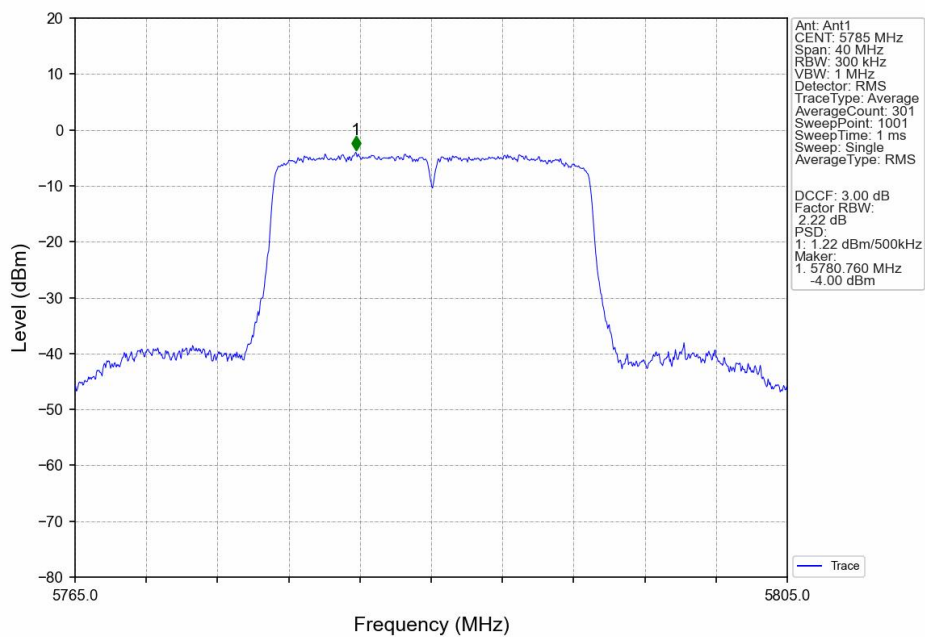


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

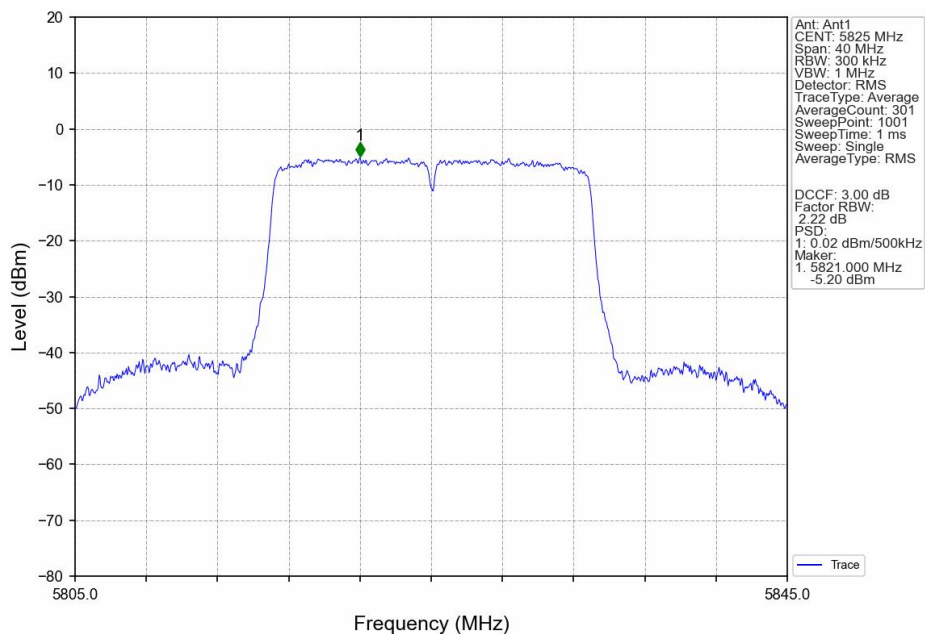


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

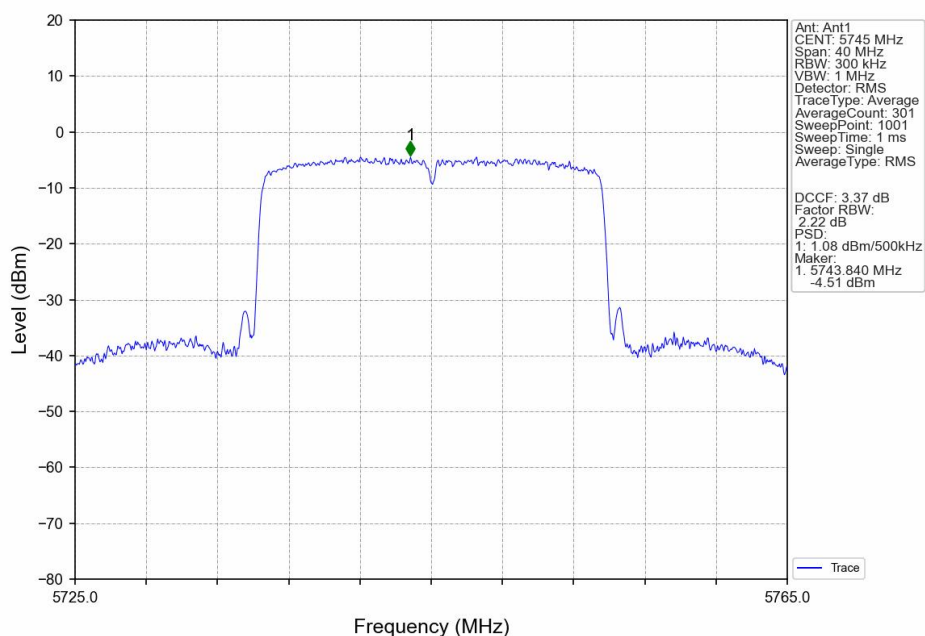


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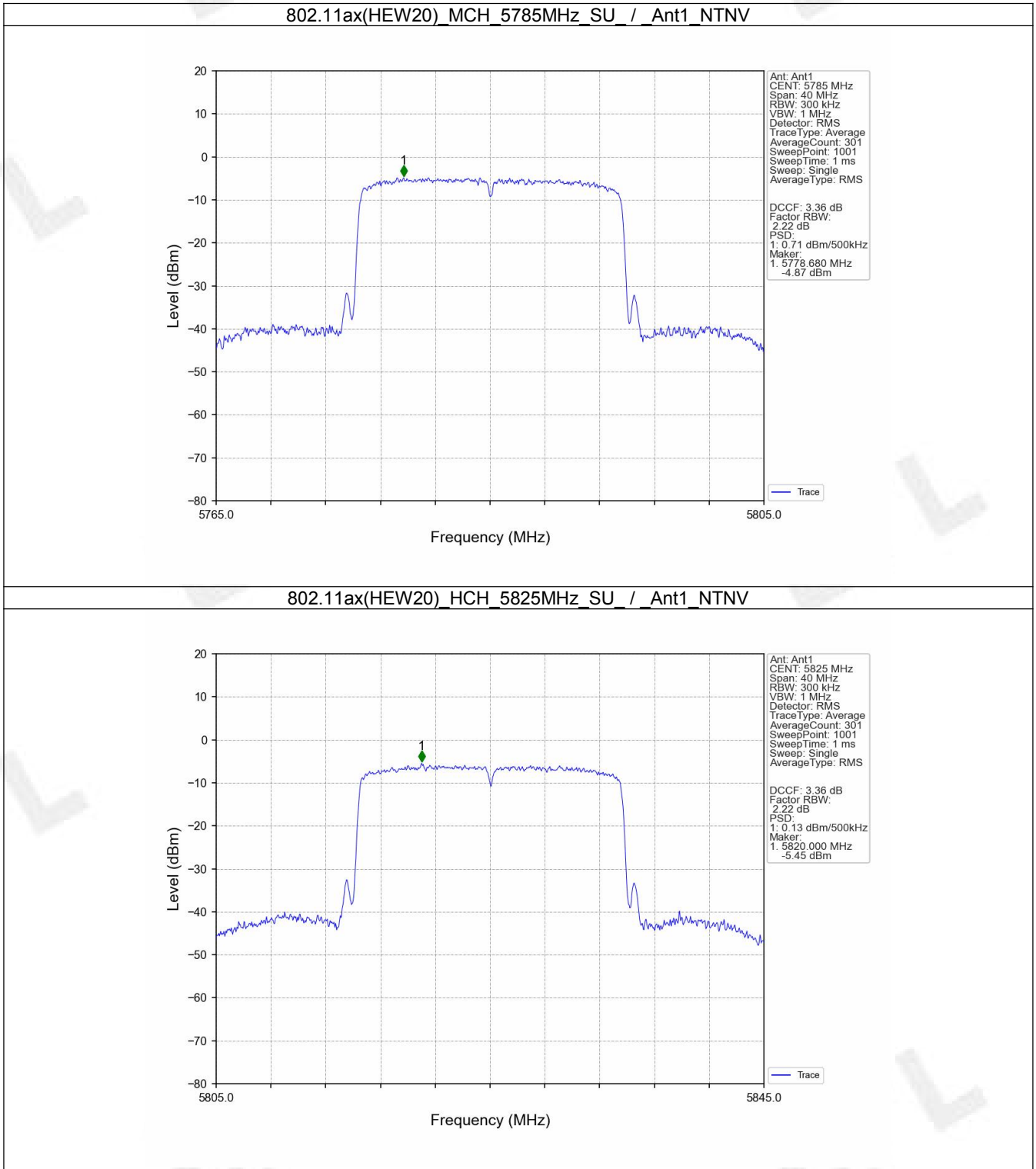
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



802.11ax(HEW20)_LCH_5745MHz_SU / Ant1_NTNV



FCC ID: 2A94J-CP025



FCC ID: 2A94J-CP025

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	5745.040	5725 to 5850	Pass
				NV	5745.055	5725 to 5850	Pass
				HV	5745.073	5725 to 5850	Pass
			-30	NV	5745.091	5725 to 5850	Pass
			-20	NV	5745.108	5725 to 5850	Pass
			-10	NV	5745.123	5725 to 5850	Pass
			0	NV	5745.140	5725 to 5850	Pass
			10	NV	5745.156	5725 to 5850	Pass
			30	NV	5745.175	5725 to 5850	Pass
			40	NV	5745.185	5725 to 5850	Pass
			50	NV	5745.193	5725 to 5850	Pass
		5785	20	LV	5785.093	5725 to 5850	Pass
				NV	5785.106	5725 to 5850	Pass
				HV	5785.120	5725 to 5850	Pass
			-30	NV	5785.132	5725 to 5850	Pass
			-20	NV	5785.149	5725 to 5850	Pass
			-10	NV	5785.158	5725 to 5850	Pass
			0	NV	5785.164	5725 to 5850	Pass
			10	NV	5785.168	5725 to 5850	Pass
			30	NV	5785.180	5725 to 5850	Pass
			40	NV	5785.190	5725 to 5850	Pass
			50	NV	5785.188	5725 to 5850	Pass
		5825	20	LV	5825.105	5725 to 5850	Pass
				NV	5825.119	5725 to 5850	Pass
				HV	5825.131	5725 to 5850	Pass
			-30	NV	5825.137	5725 to 5850	Pass
			-20	NV	5825.140	5725 to 5850	Pass
			-10	NV	5825.149	5725 to 5850	Pass
			0	NV	5825.162	5725 to 5850	Pass
			10	NV	5825.167	5725 to 5850	Pass
			30	NV	5825.175	5725 to 5850	Pass
			40	NV	5825.177	5725 to 5850	Pass
			50	NV	5825.172	5725 to 5850	Pass