



Annex for 5G Wi-Fi BAND3

Test Report No.: CTL2409269021-WF04

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FCCID: SMQ-UWM3

1. Bandwidth

1.1 Test Result

1.1.1 OBW

Mode	TX Type	Frequency (MHz)	RU	ANT	99% Occupied Bandwidth (MHz)		Verdict
					Result	Limit	
802.11a	SISO	5745	/	1	17.796	/	Pass
		5785	/	1	17.784	/	Pass
		5825	/	1	17.722	/	Pass
802.11n (HT20)	SISO	5745	/	1	17.840	/	Pass
		5785	/	1	17.766	/	Pass
		5825	/	1	17.748	/	Pass
802.11n (HT40)	SISO	5755	/	1	37.186	/	Pass
		5795	/	1	37.311	/	Pass
802.11ac (VHT20)	SISO	5745	/	1	18.609	/	Pass
		5785	/	1	18.653	/	Pass
		5825	/	1	18.614	/	Pass
802.11ac (VHT40)	SISO	5755	/	1	37.226	/	Pass
		5795	/	1	37.204	/	Pass
802.11ac (VHT80)	SISO	5775	/	1	77.220	/	Pass
802.11ax (HEW20)	SISO	5745	SU	1	19.290	/	Pass
		5785	SU	1	19.254	/	Pass
		5825	SU	1	19.265	/	Pass
802.11ax (HEW40)	SISO	5755	SU	1	38.514	/	Pass
		5795	SU	1	38.485	/	Pass
802.11ax (HEW80)	SISO	5775	SU	1	76.937	/	Pass

1.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	RU	ANT	6dB Bandwidth (MHz)		Verdict
					Result	Limit	
802.11a	SISO	5745	/	1	16.407	>=0.5	Pass
		5785	/	1	16.408	>=0.5	Pass
		5825	/	1	16.388	>=0.5	Pass
802.11n (HT20)	SISO	5745	/	1	16.437	>=0.5	Pass
		5785	/	1	16.364	>=0.5	Pass
		5825	/	1	16.414	>=0.5	Pass
802.11n (HT40)	SISO	5755	/	1	36.397	>=0.5	Pass
		5795	/	1	36.377	>=0.5	Pass
802.11ac (VHT20)	SISO	5745	/	1	17.625	>=0.5	Pass
		5785	/	1	17.589	>=0.5	Pass
		5825	/	1	17.616	>=0.5	Pass
802.11ac (VHT40)	SISO	5755	/	1	36.405	>=0.5	Pass
		5795	/	1	36.429	>=0.5	Pass
802.11ac (VHT80)	SISO	5775	/	1	75.776	>=0.5	Pass
802.11ax (HEW20)	SISO	5745	SU	1	18.898	>=0.5	Pass
		5785	SU	1	18.689	>=0.5	Pass
		5825	SU	1	18.566	>=0.5	Pass
802.11ax	SISO	5755	SU	1	38.034	>=0.5	Pass

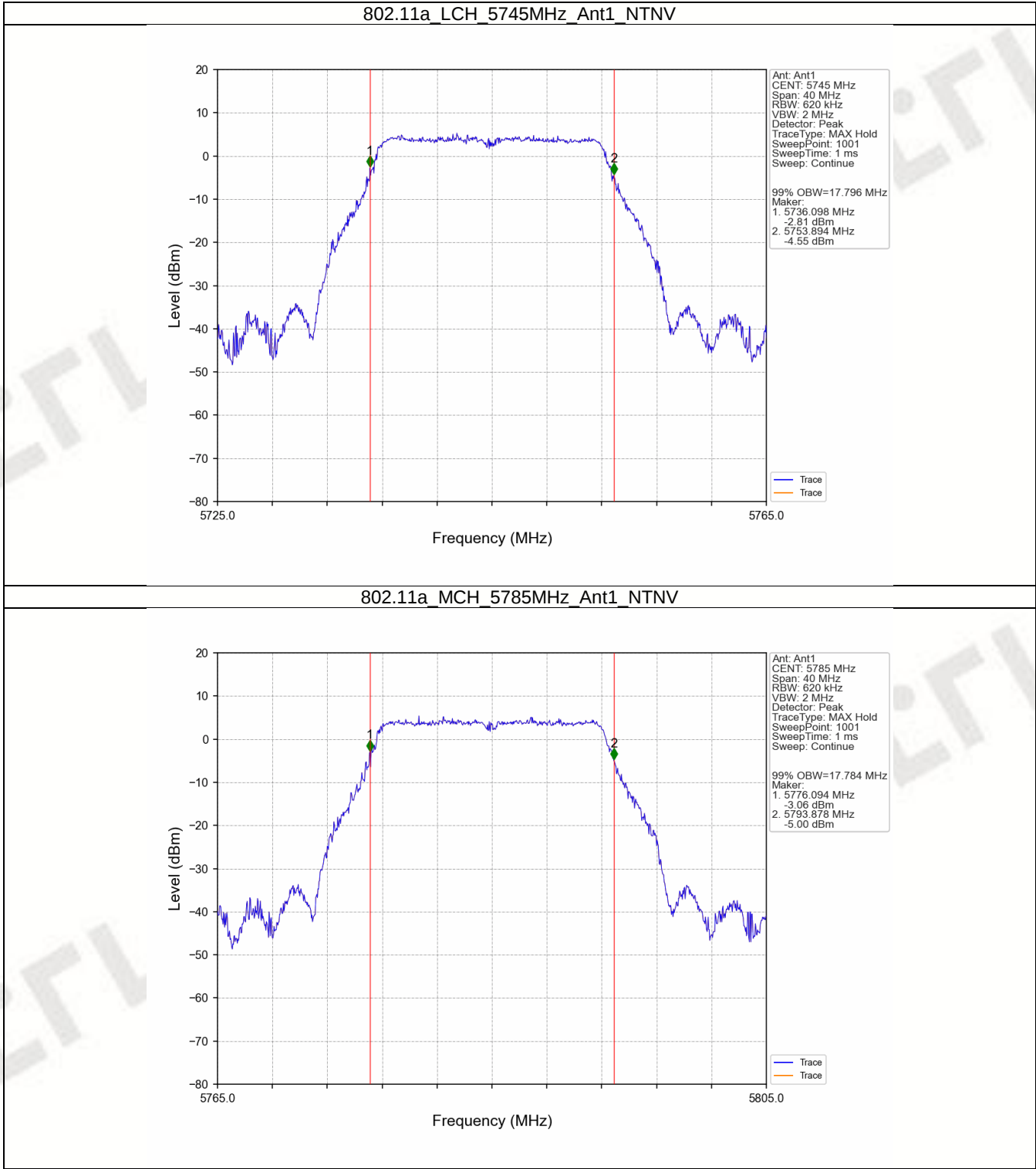
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(HEW40)		5795	SU	1	37.993	≥ 0.5	Pass
802.11ax (HEW80)	SISO	5775	SU	1	65.058	≥ 0.5	Pass

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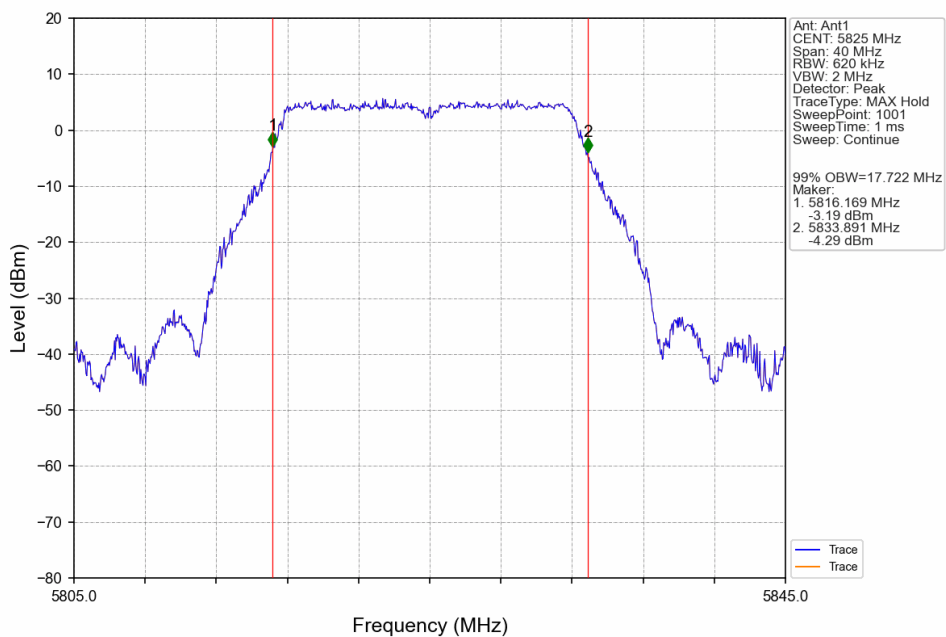
1.2 Test Graph

1.2.1 OBW

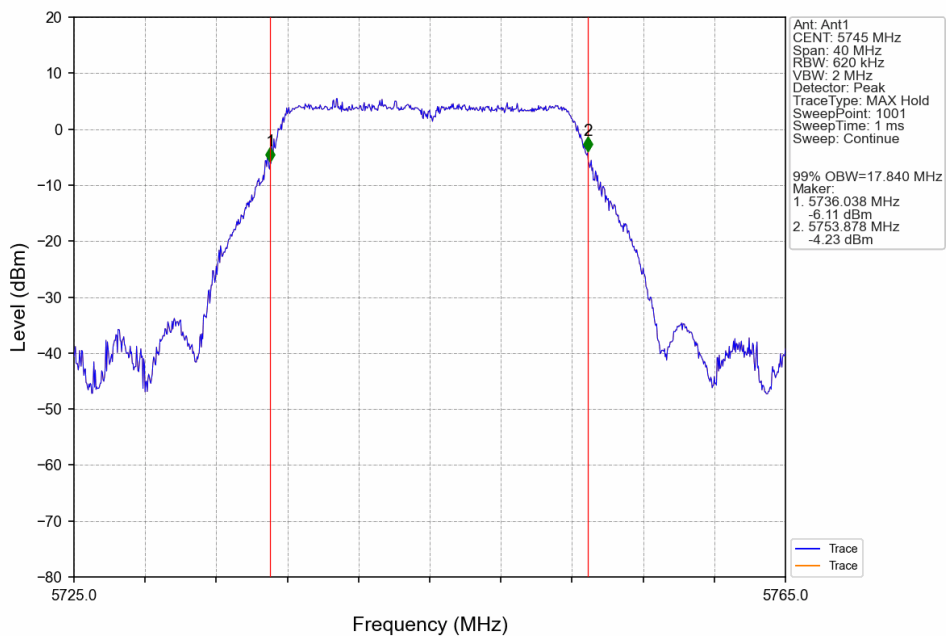


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802.11a_HCH_5825MHz_Ant1_NTNV

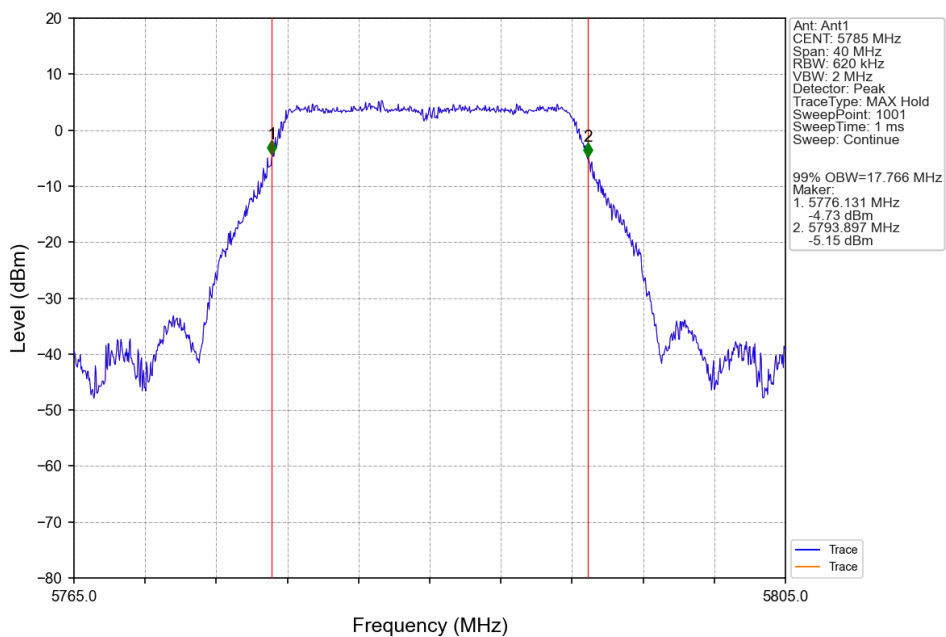


802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

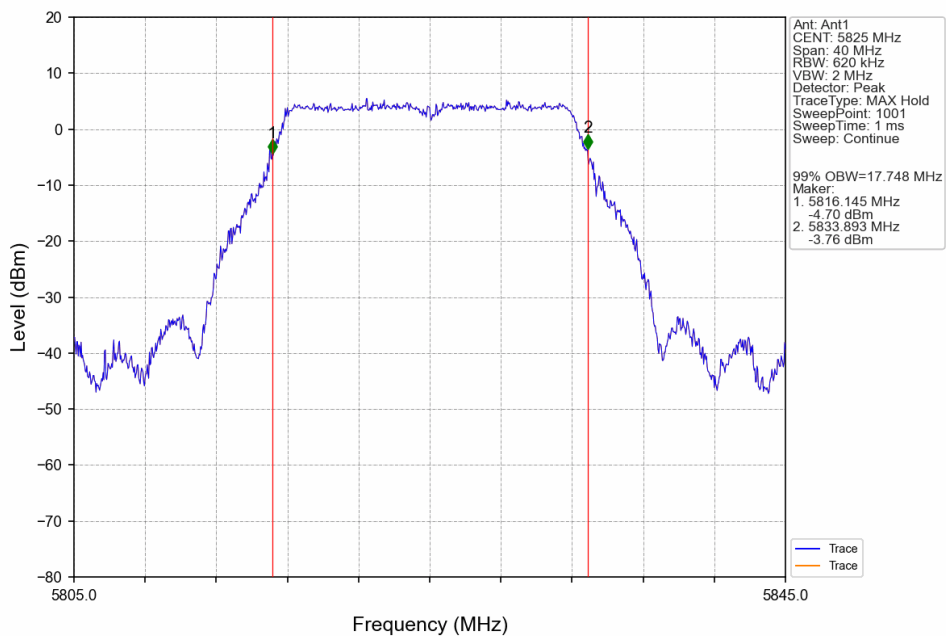


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802.11n(HT20)_MCH_5785MHz_Ant1_NTNV

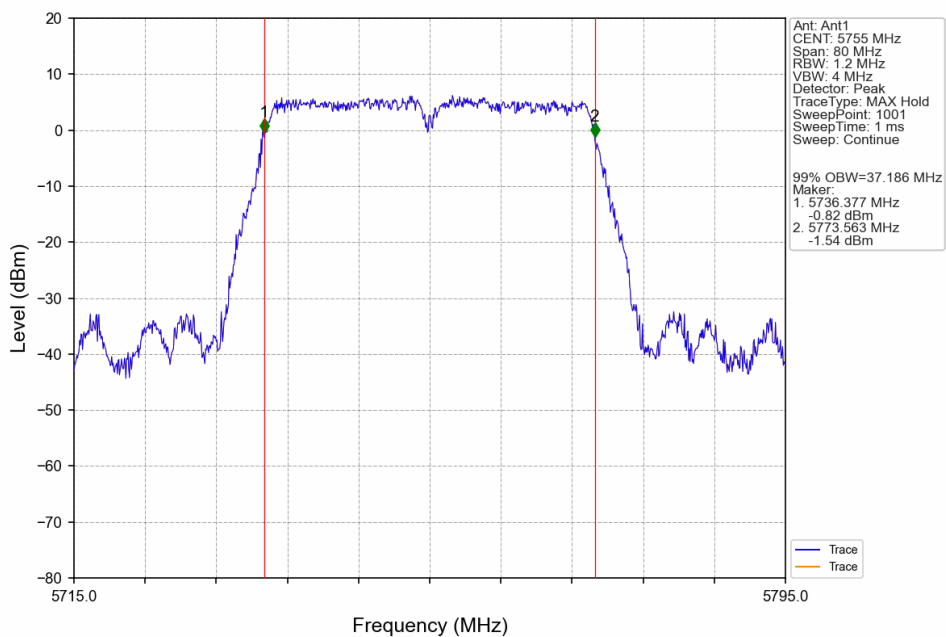


802.11n(HT20)_HCH_5825MHz_Ant1_NTNV

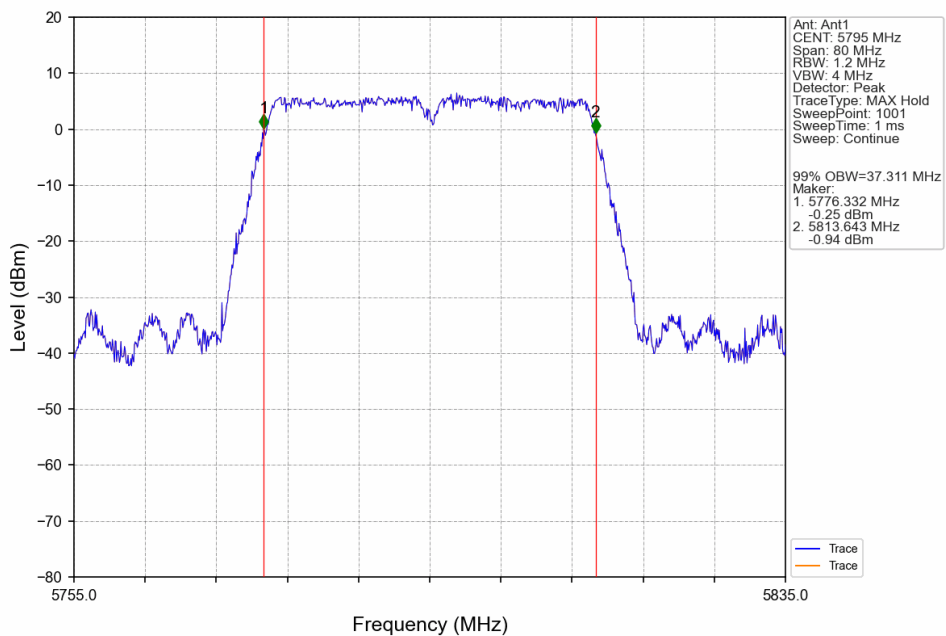


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802.11n(HT40)_LCH_5755MHz_Ant1_NTNV

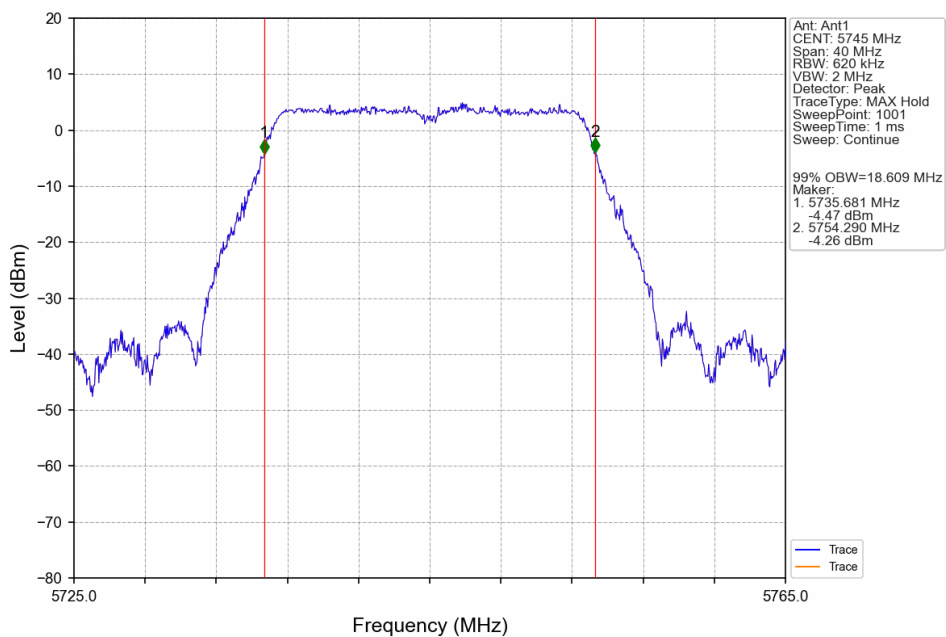


802.11n(HT40)_HCH_5795MHz_Ant1_NTNV

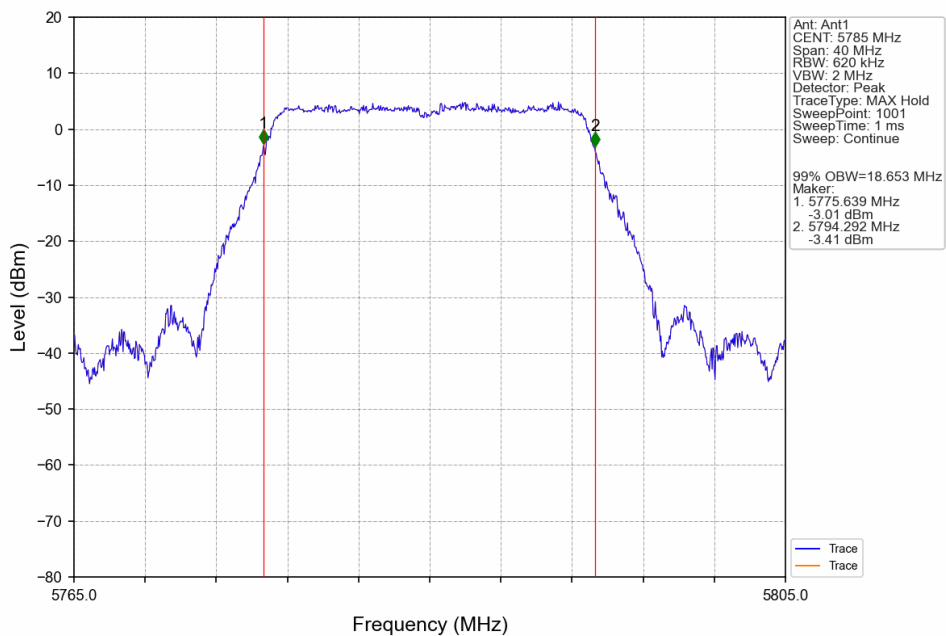


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

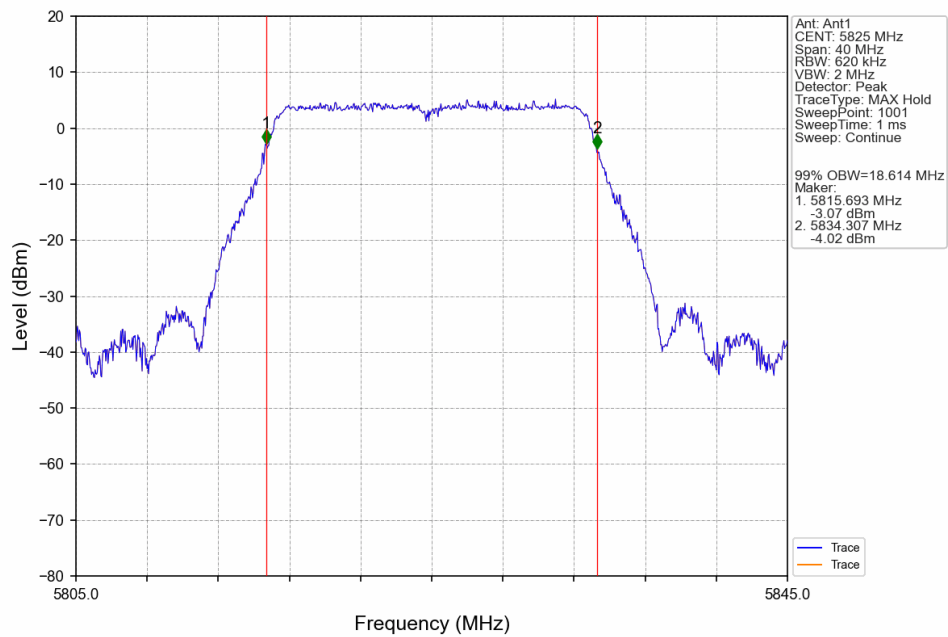


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

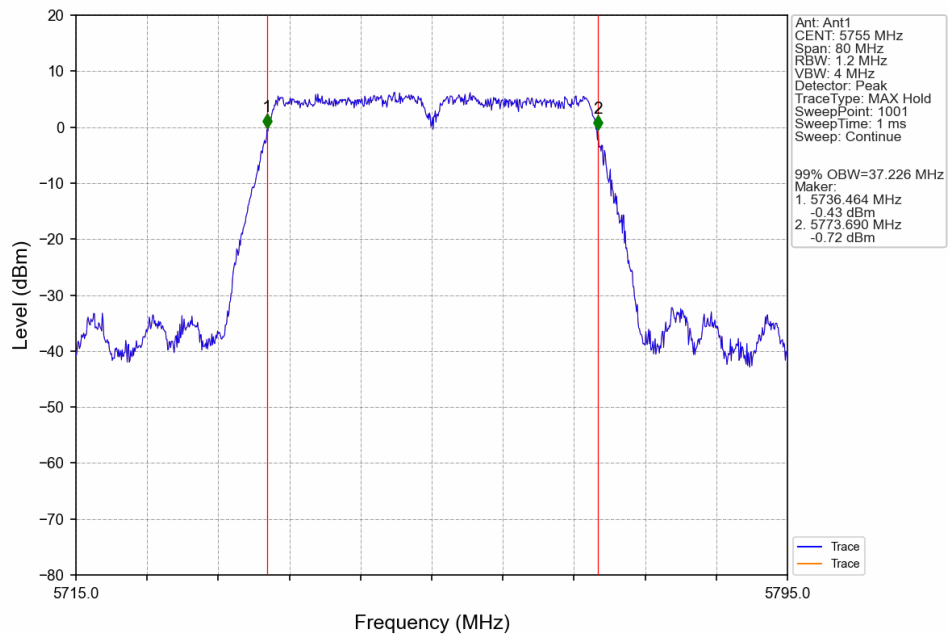


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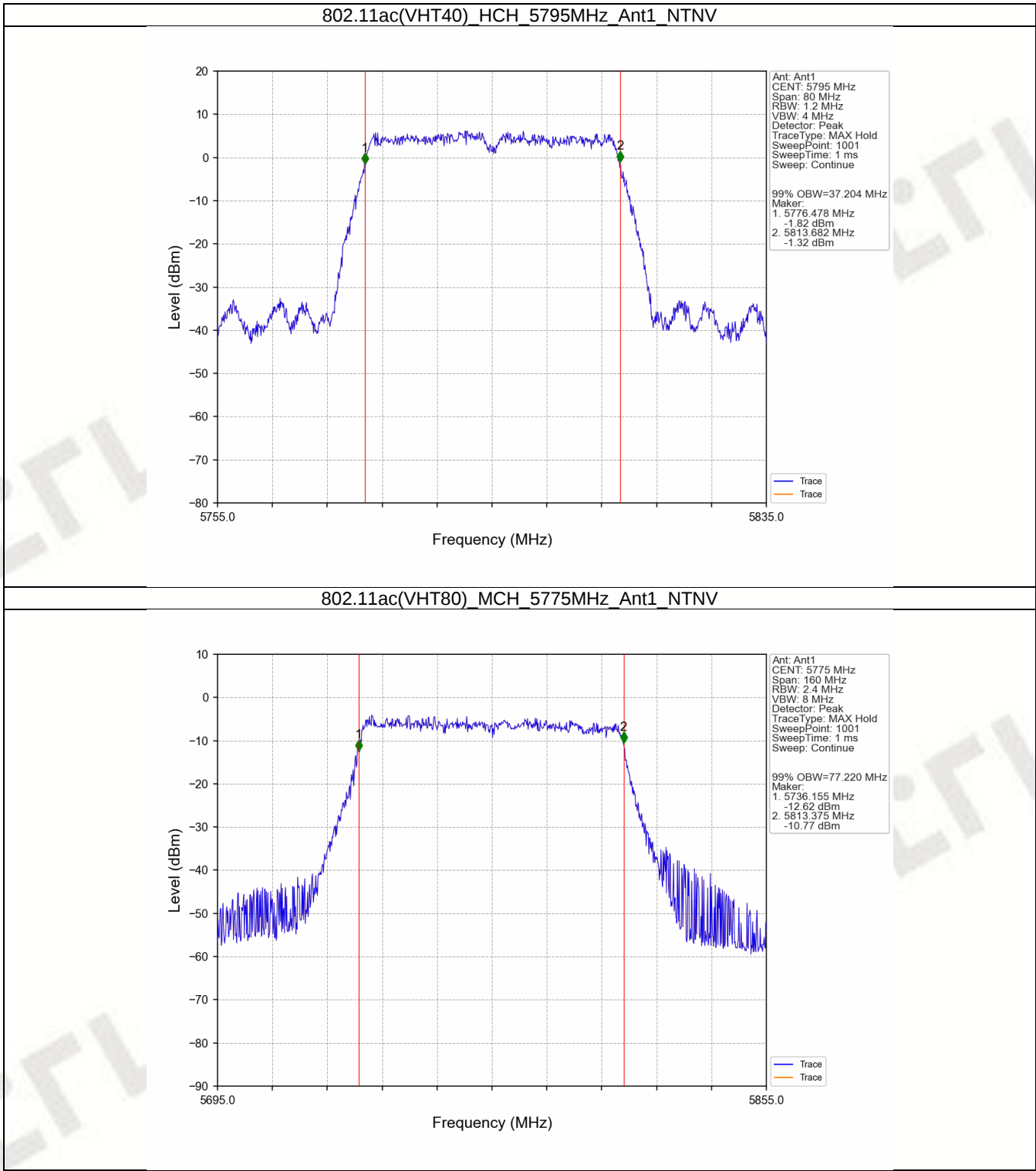
802.11ac(VHT20) HCH 5825MHz Ant1_NTNV



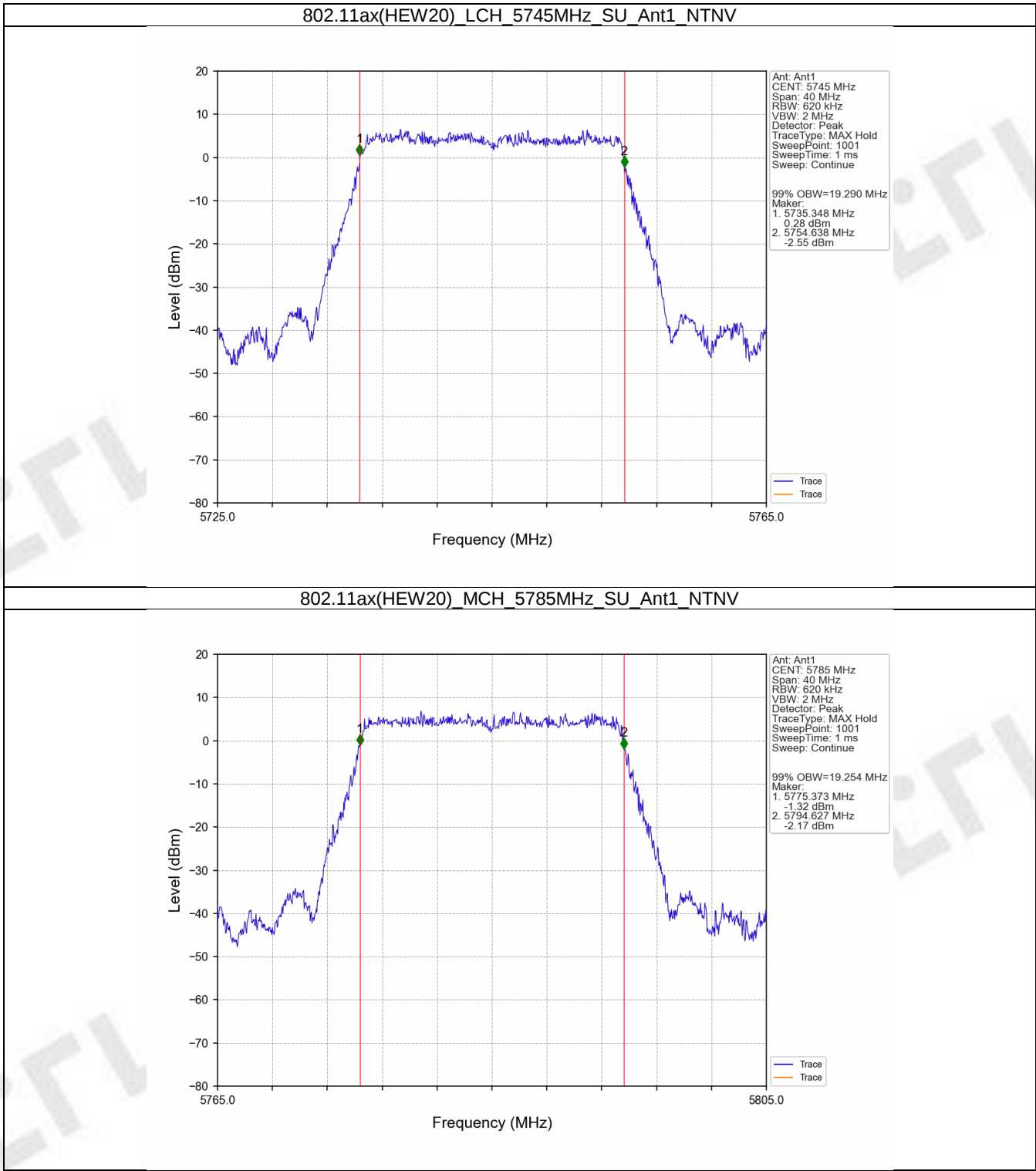
802.11ac(VHT40) LCH 5755MHz Ant1_NTNV



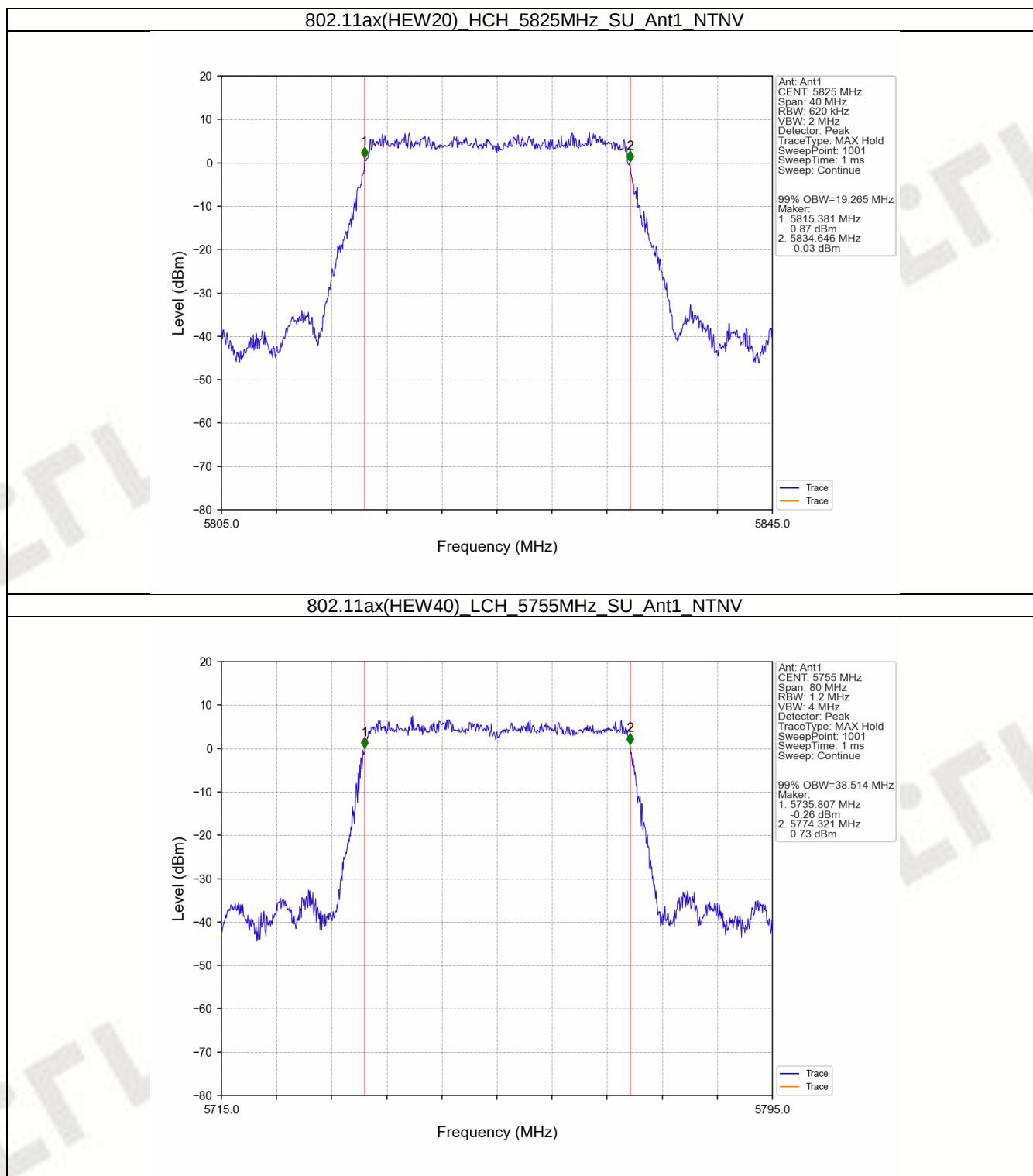
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FCCID: SMQ-UWM3

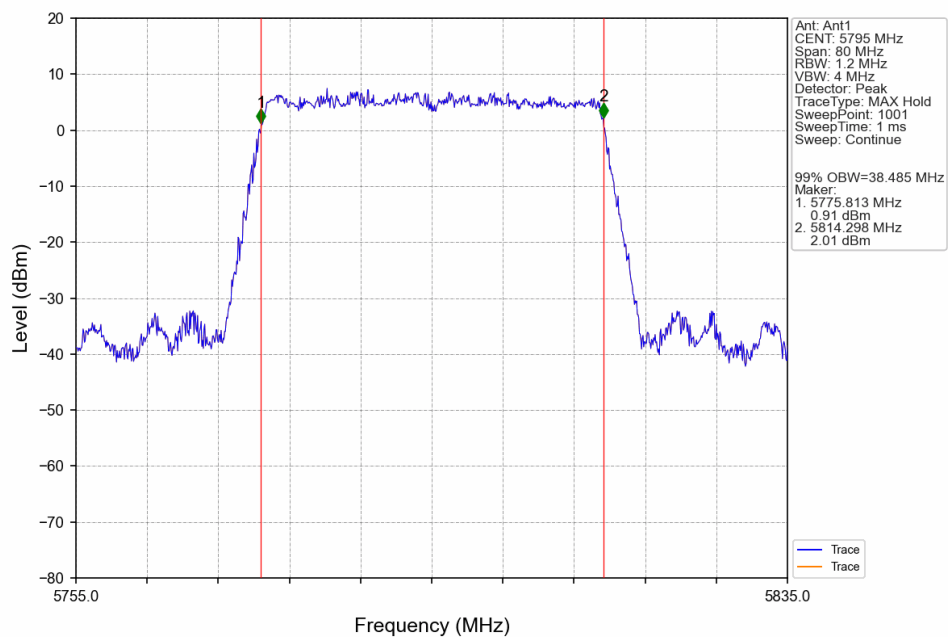


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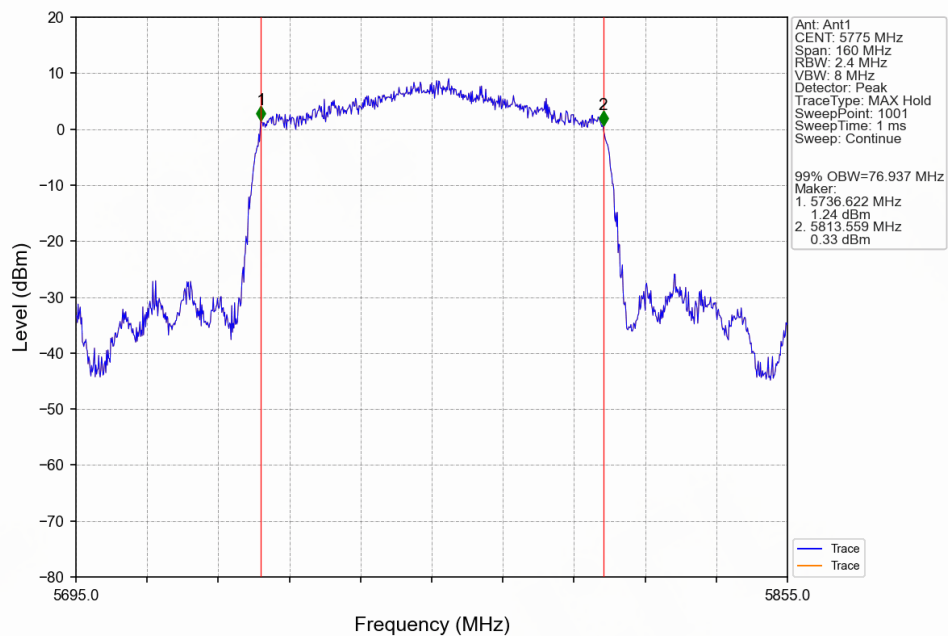


FCCID: SMQ-UWM3

802.11ax(HEW40)_HCH_5795MHz_SU_Ant1_NTNV

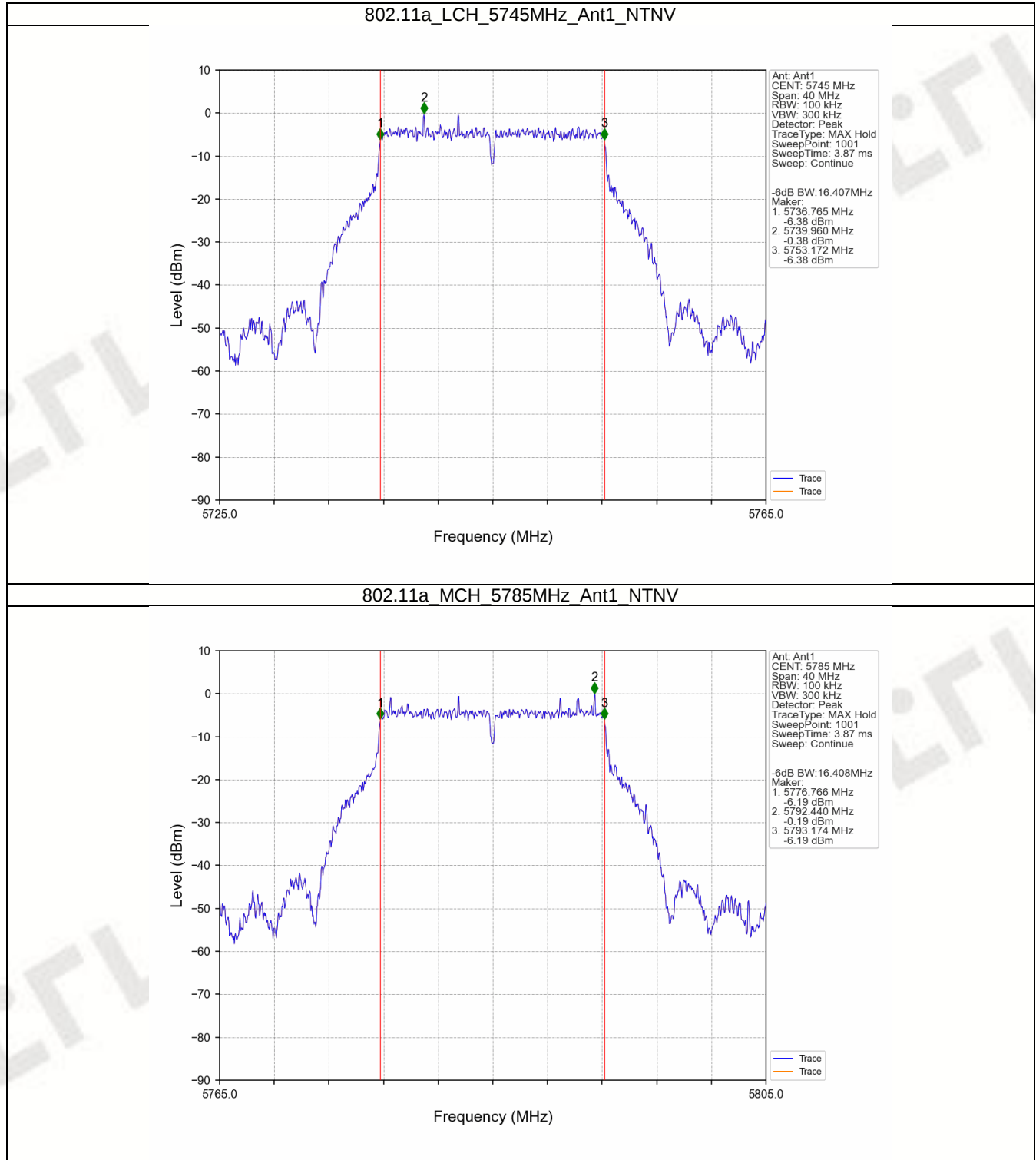


802.11ax(HEW80)_MCH_5775MHz_SU_Ant1_NTNV

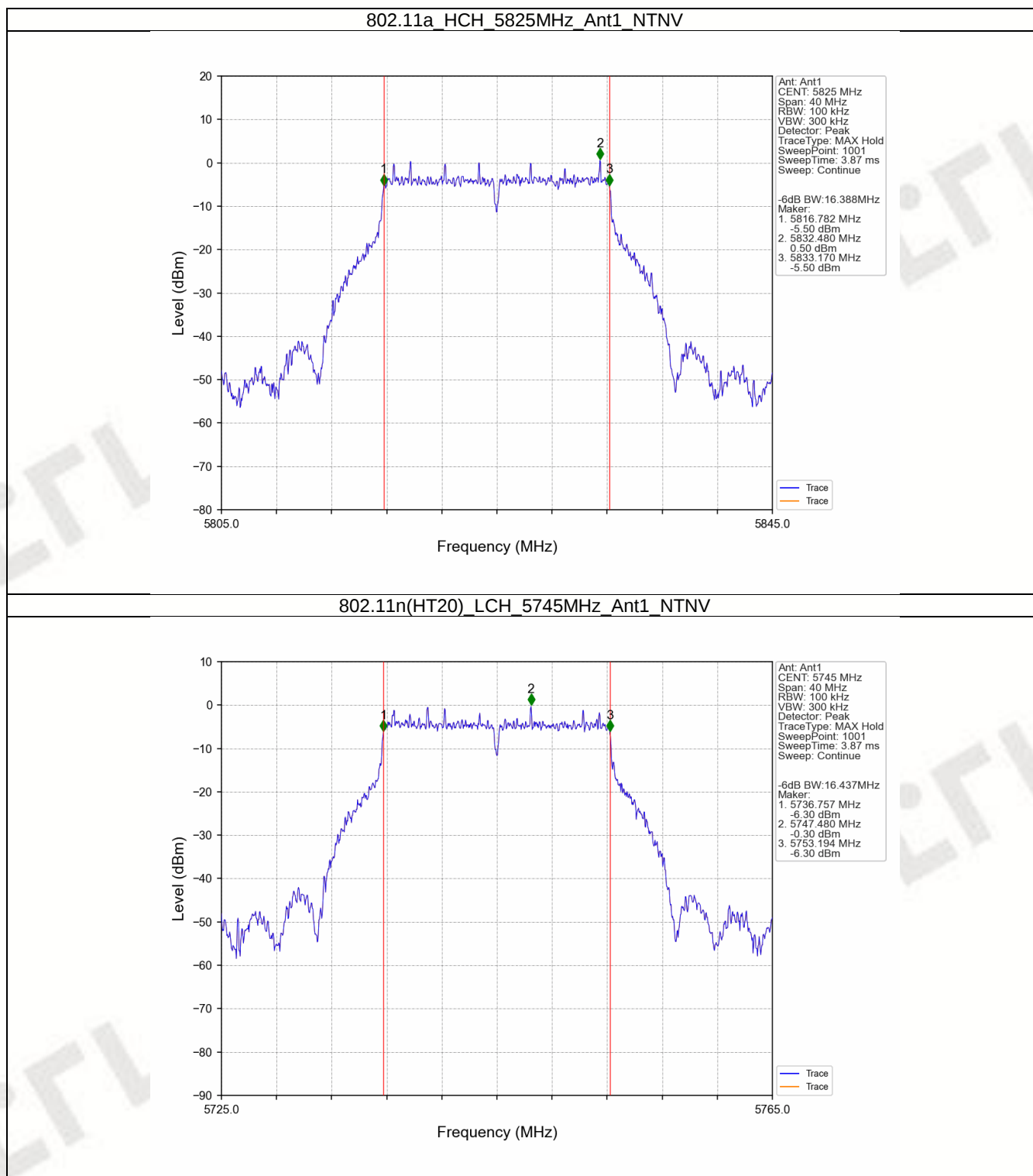


FCCID: SMQ-UWM3

1.2.2 6dB BW

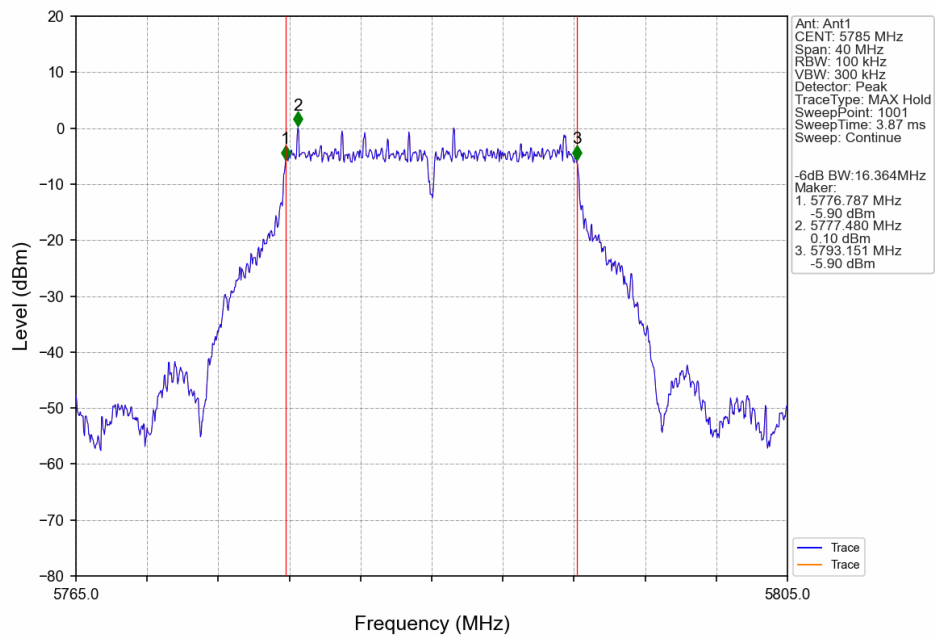


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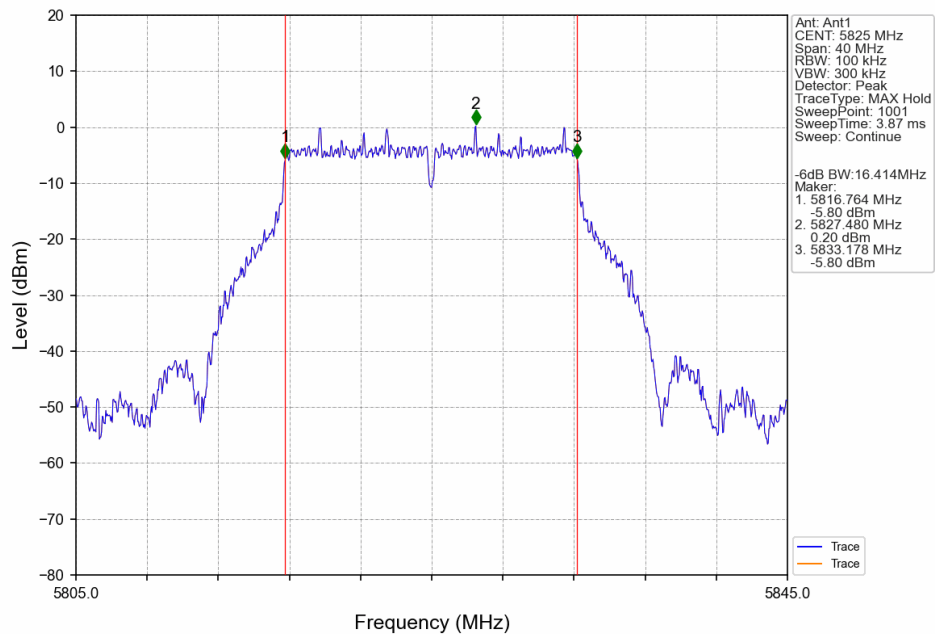


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802.11n(HT20) MCH 5785MHz Ant1_NTNV

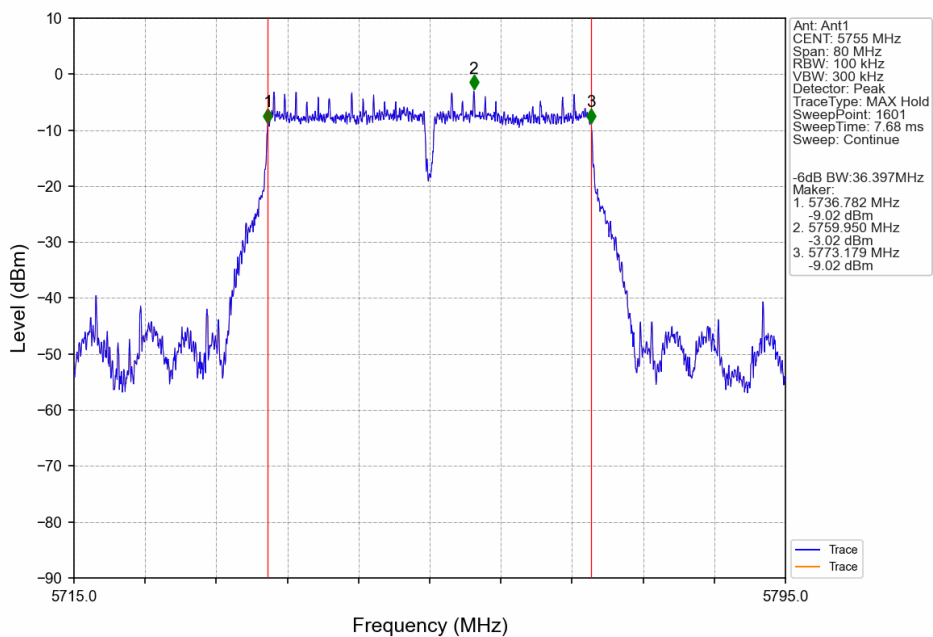


802.11n(HT20) HCH 5825MHz Ant1_NTNV

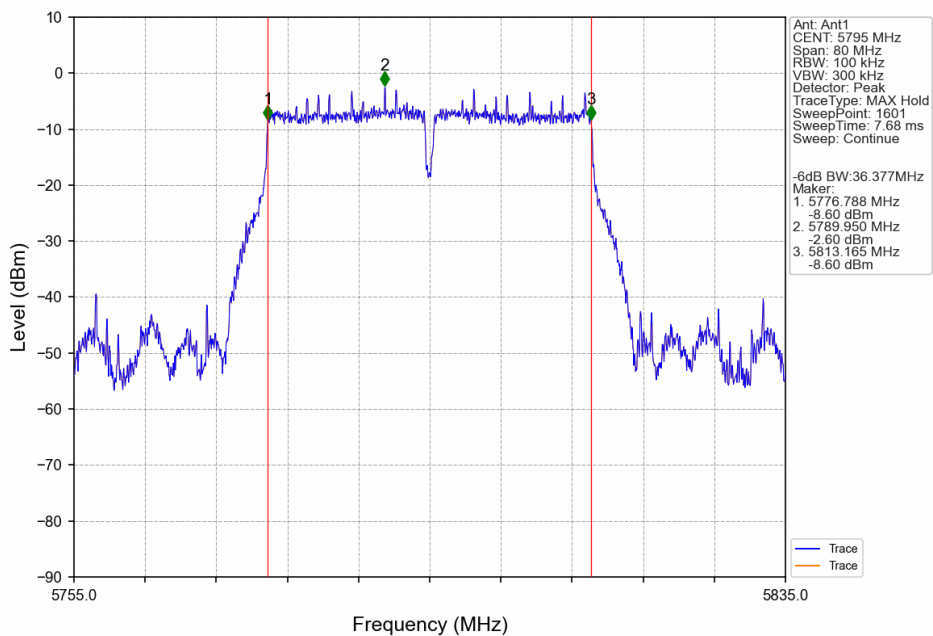


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802.11n(HT40)_LCH_5755MHz_Ant1_NTNV

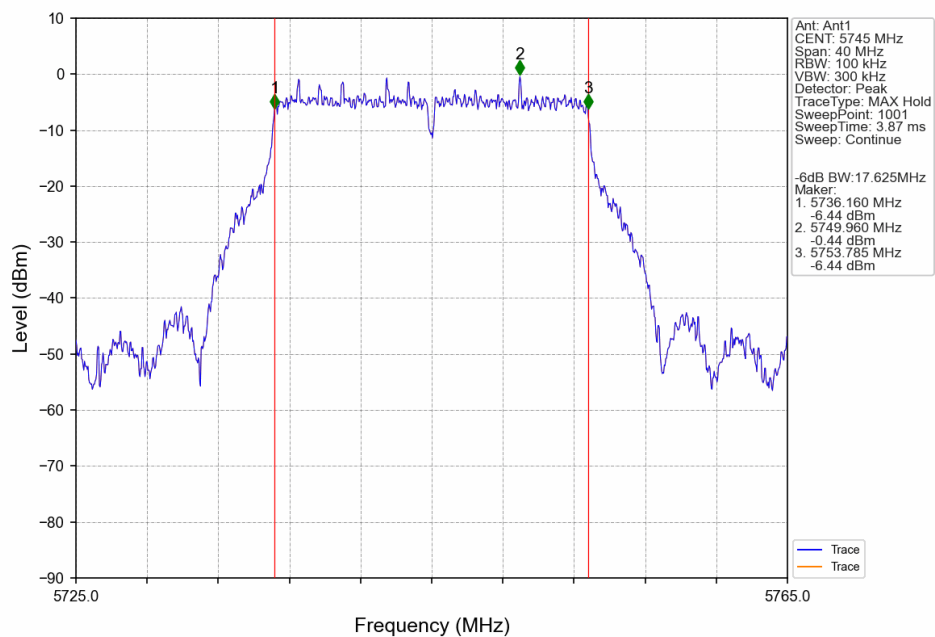


802.11n(HT40)_HCH_5795MHz_Ant1_NTNV

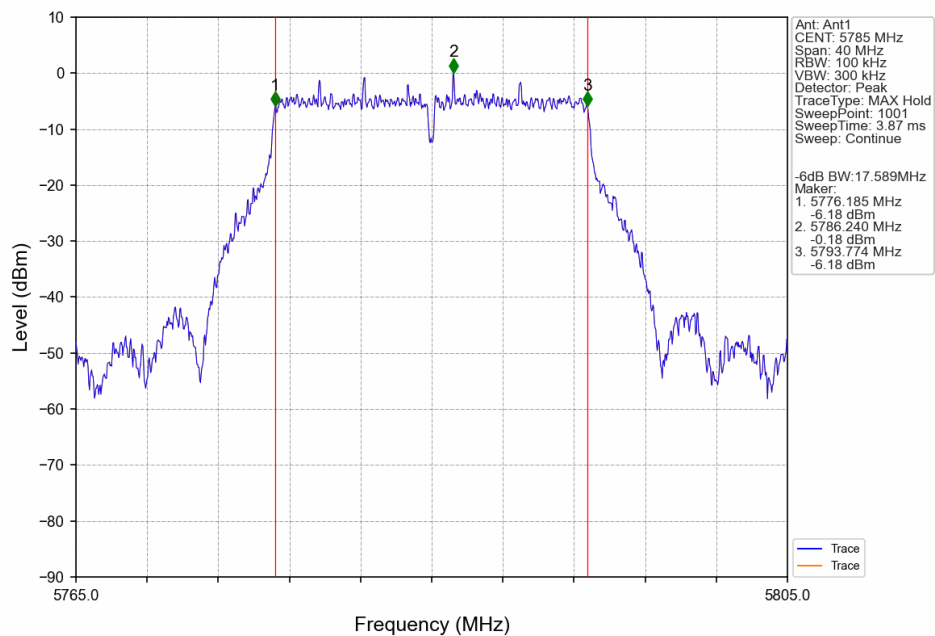


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

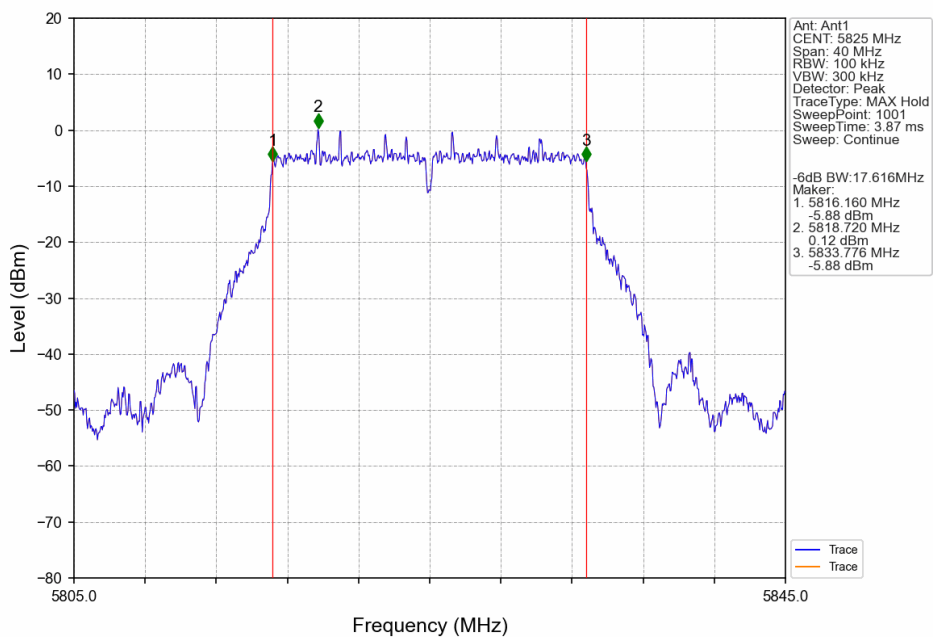


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

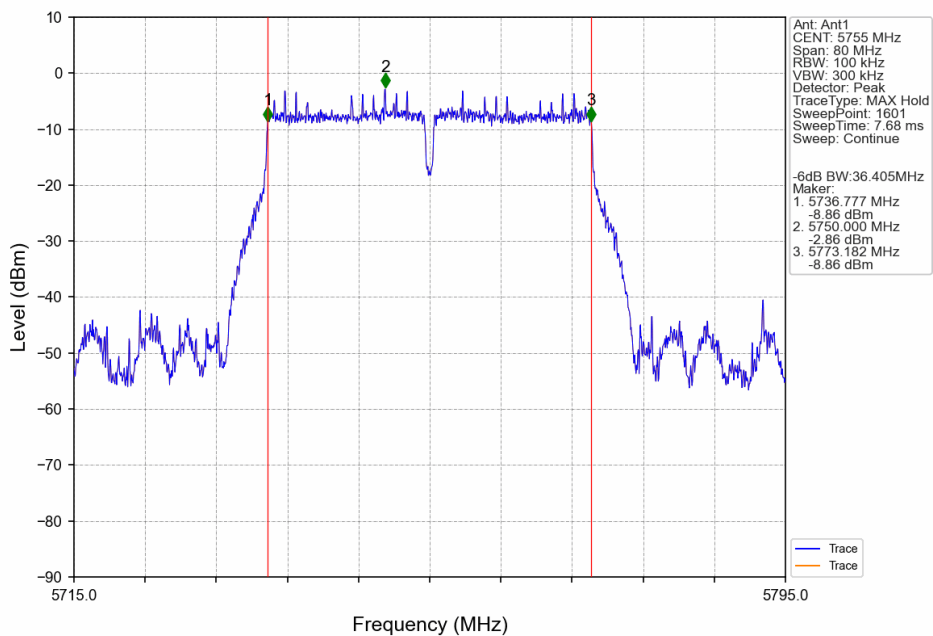


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802.11ac(VHT20) HCH 5825MHz Ant1_NTNV

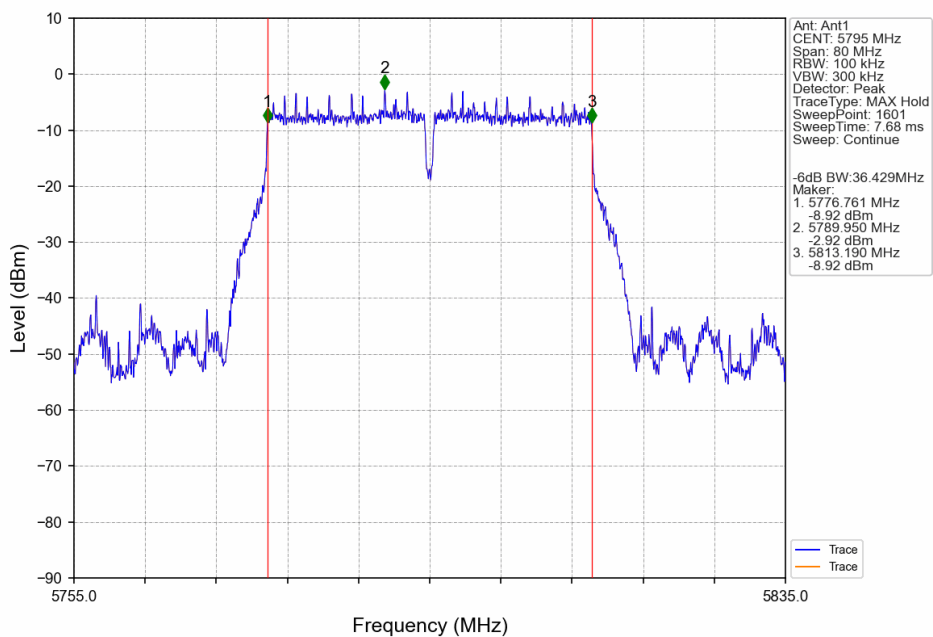


802.11ac(VHT40) LCH 5755MHz Ant1_NTNV

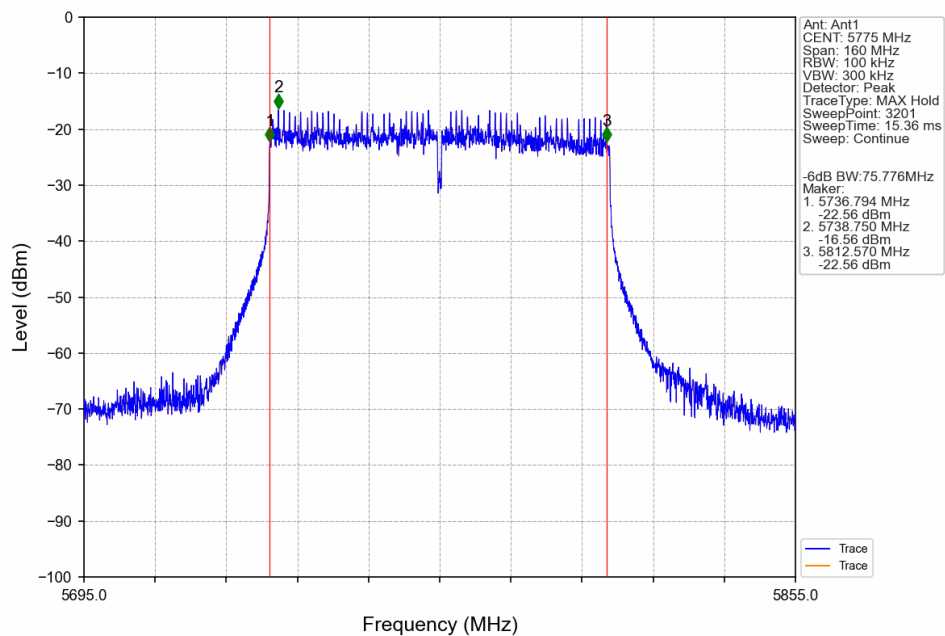


FCCID: SMQ-UWM3

802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV

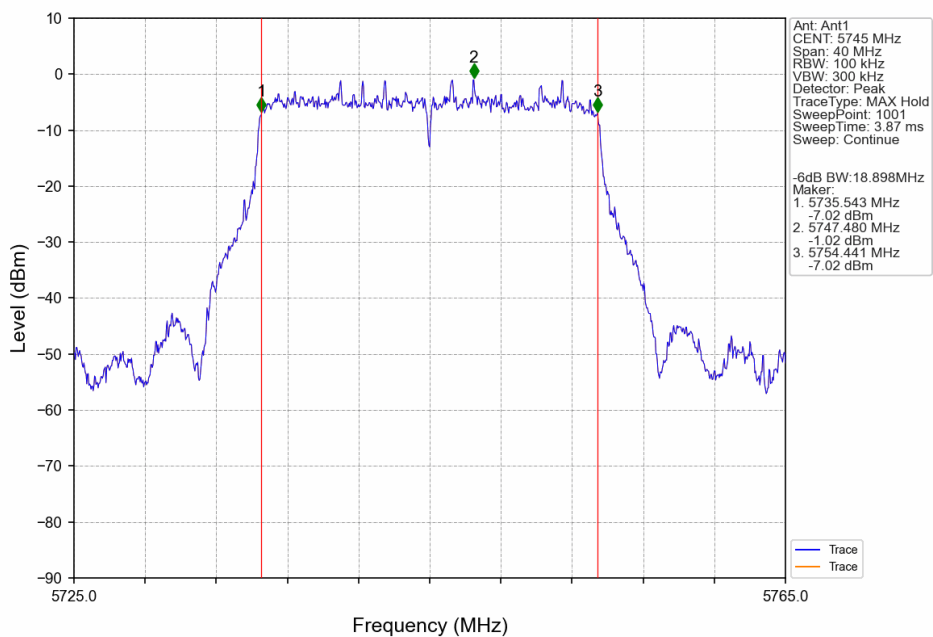


802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV

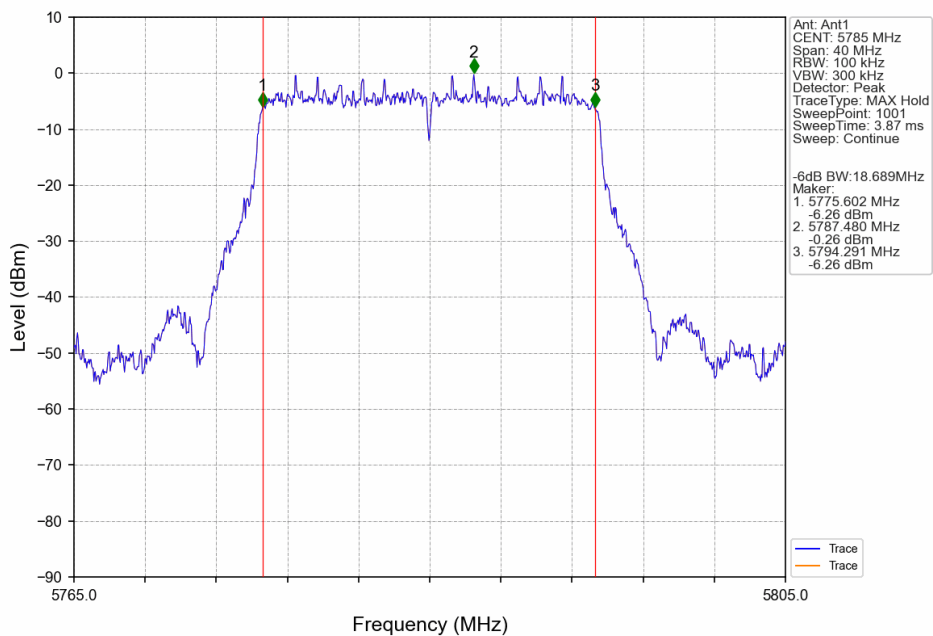


FCCID: SMQ-UWM3

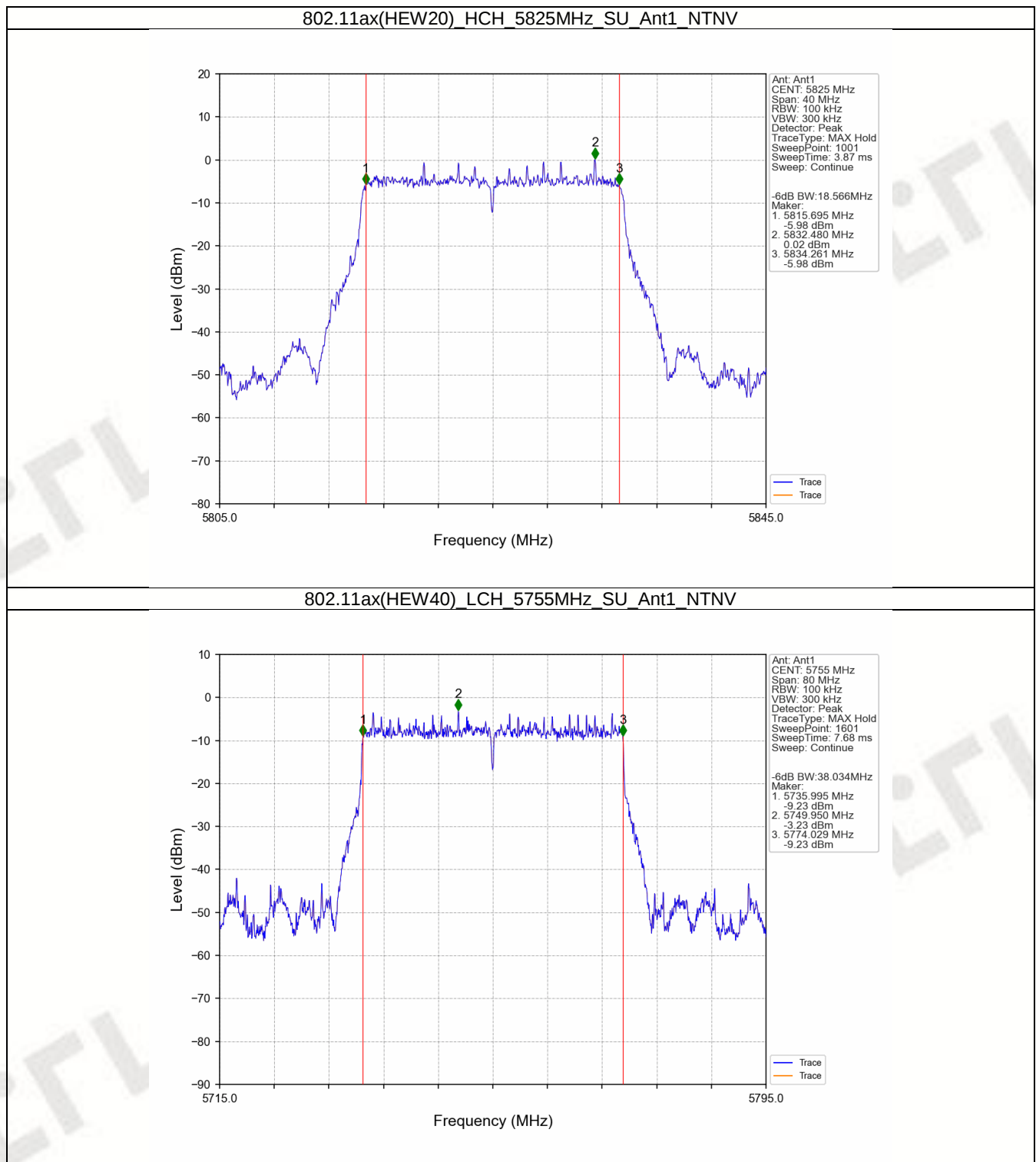
802.11ax(HEW20)_LCH_5745MHz_SU_Ant1_NTNV



802.11ax(HEW20)_MCH_5785MHz_SU_Ant1_NTNV

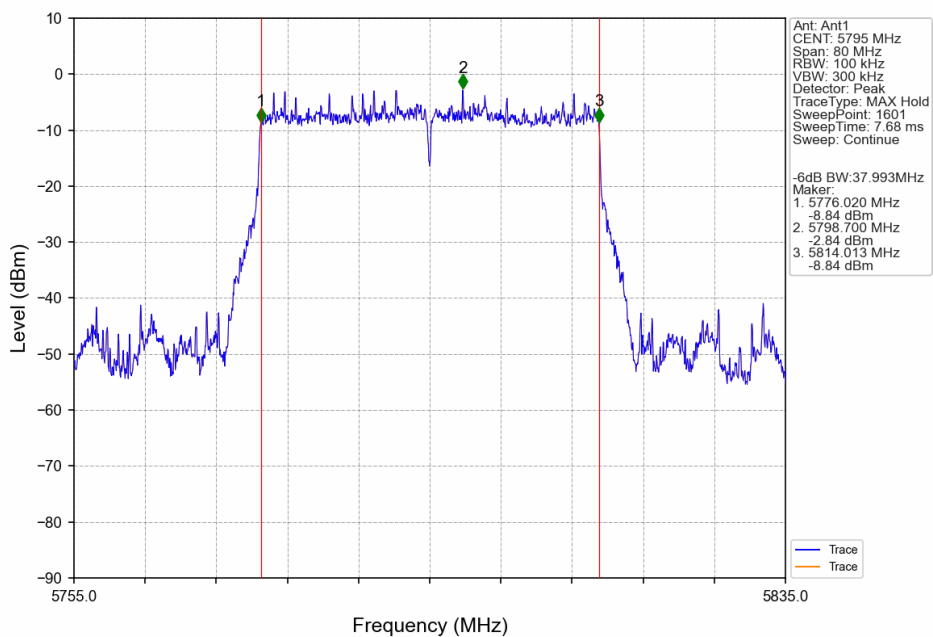


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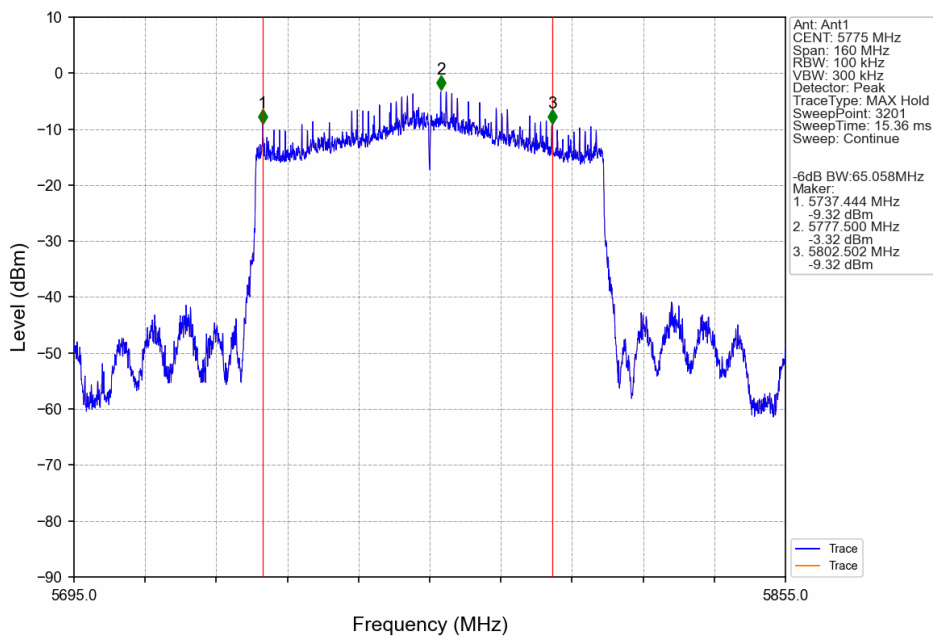


FCCID: SMQ-UWM3

802.11ax(HEW40)_HCH_5795MHz_SU_Ant1_NTNV



802.11ax(HEW80)_MCH_5775MHz_SU_Ant1_NTNV



2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

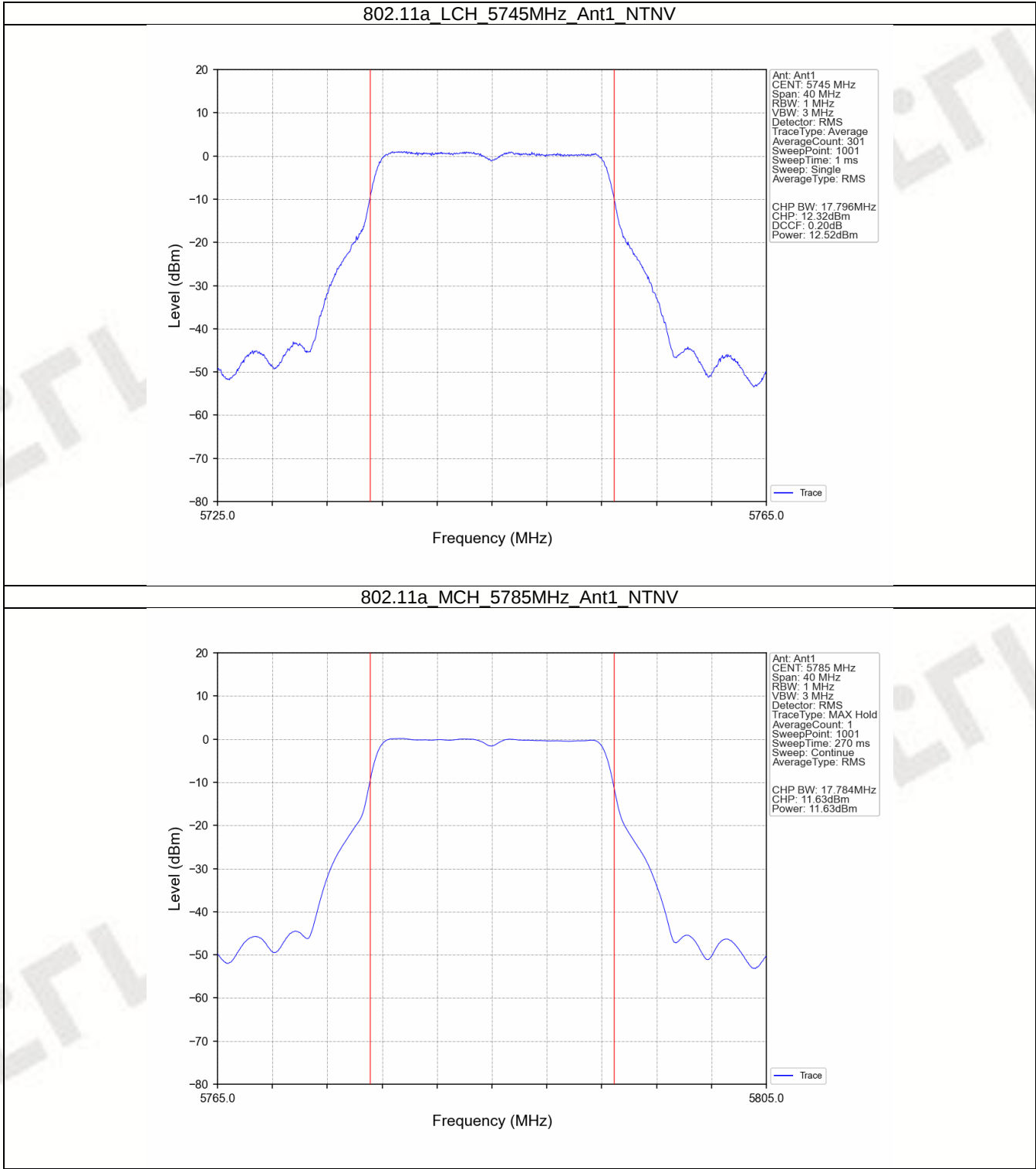
Mode	TX Type	Frequency (MHz)	RU	Maximum Average Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
802.11a	SISO	5745	/	12.52	<=30	Pass
		5785	/	11.63	<=30	Pass
		5825	/	11.49	<=30	Pass
802.11n (HT20)	SISO	5745	/	12.58	<=30	Pass
		5785	/	11.66	<=30	Pass
		5825	/	11.48	<=30	Pass
802.11n (HT40)	SISO	5755	/	12.64	<=30	Pass
		5795	/	11.70	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	12.46	<=30	Pass
		5785	/	11.54	<=30	Pass
		5825	/	11.41	<=30	Pass
802.11ac (VHT40)	SISO	5755	/	12.49	<=30	Pass
		5795	/	11.65	<=30	Pass
802.11ac (VHT80)	SISO	5775	/	12.86	<=30	Pass
802.11ax (HEW20)	SISO	5745	SU	12.16	<=30	Pass
		5785	SU	11.87	<=30	Pass
		5825	SU	11.21	<=30	Pass
802.11ax (HEW40)	SISO	5755	SU	12.21	<=30	Pass
		5795	SU	11.76	<=30	Pass
802.11ax (HEW80)	SISO	5775	SU	11.95	<=30	Pass

Note1: Antenna Gain: Ant1: 3.41dBi;

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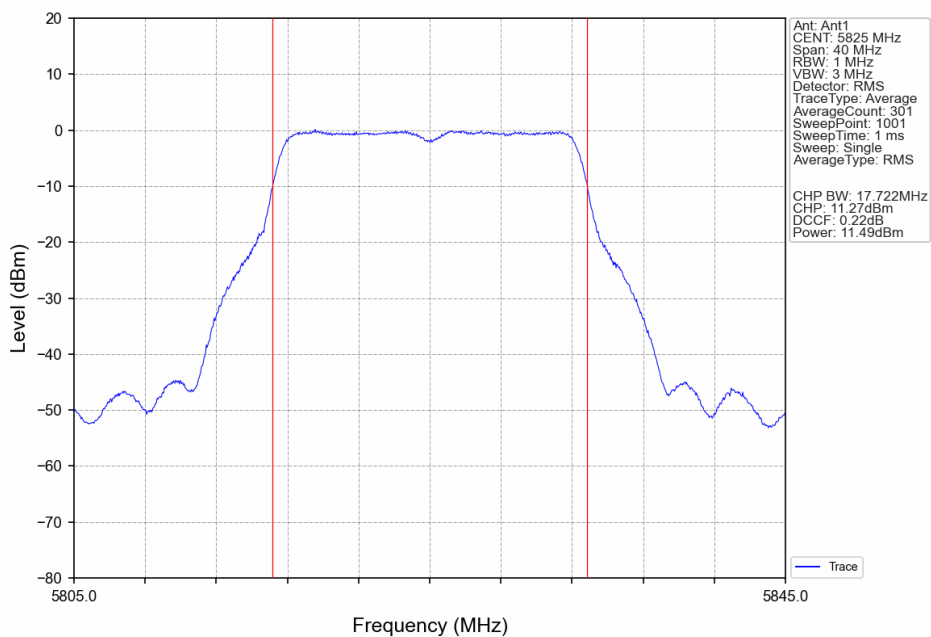
2.2 Test Graph

2.2.1 Power

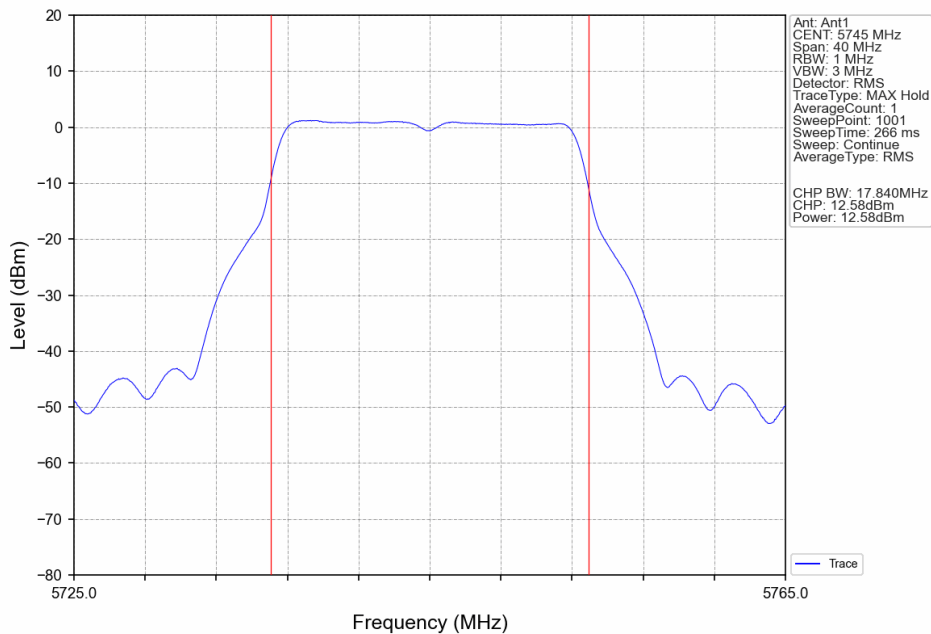


FCCID: SMQ-UWM3

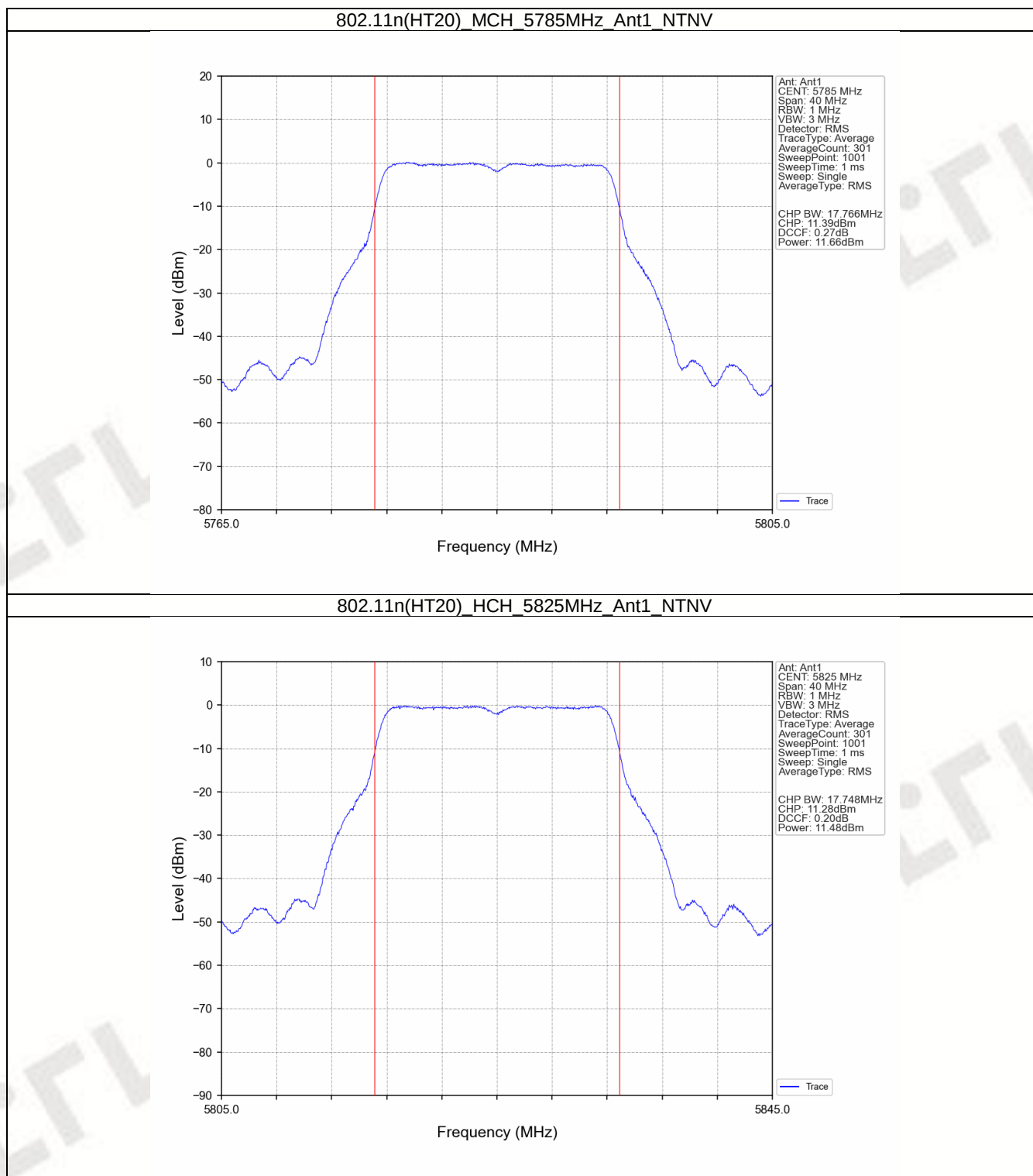
802.11a_HCH_5825MHz_Ant1_NTNV



802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

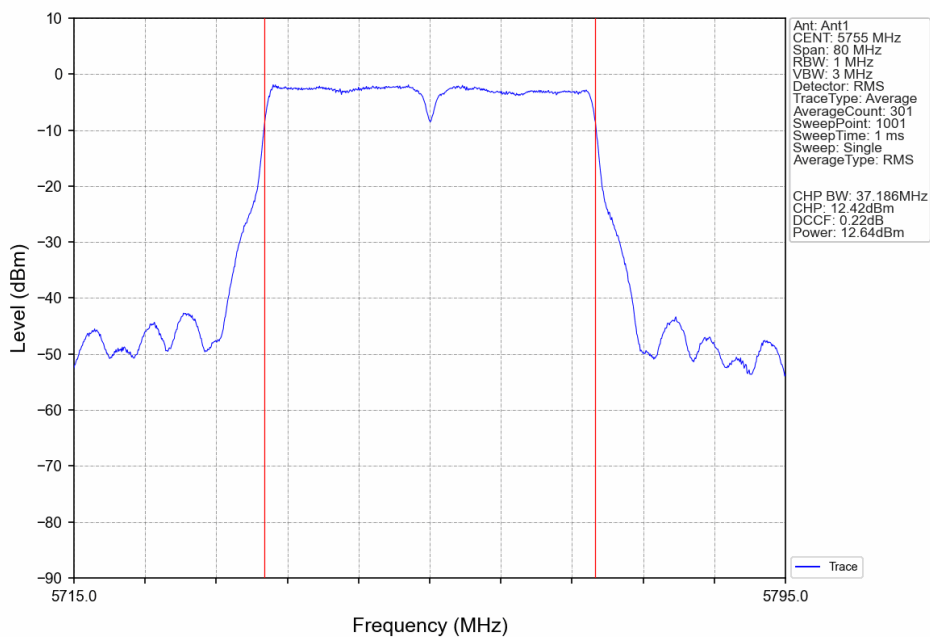


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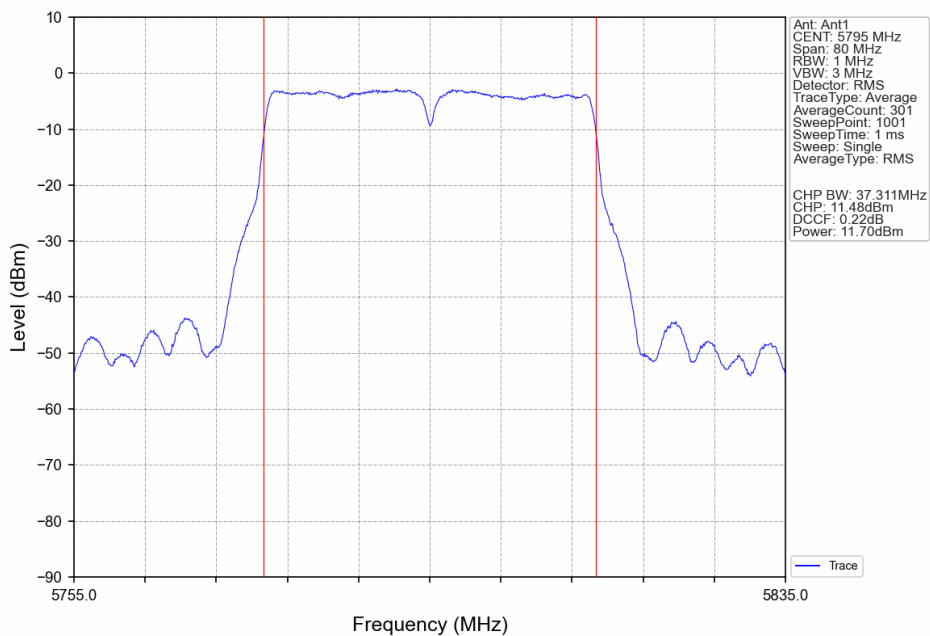


FCCID: SMQ-UWM3

802.11n(HT40)_LCH_5755MHz_Ant1_NTNV

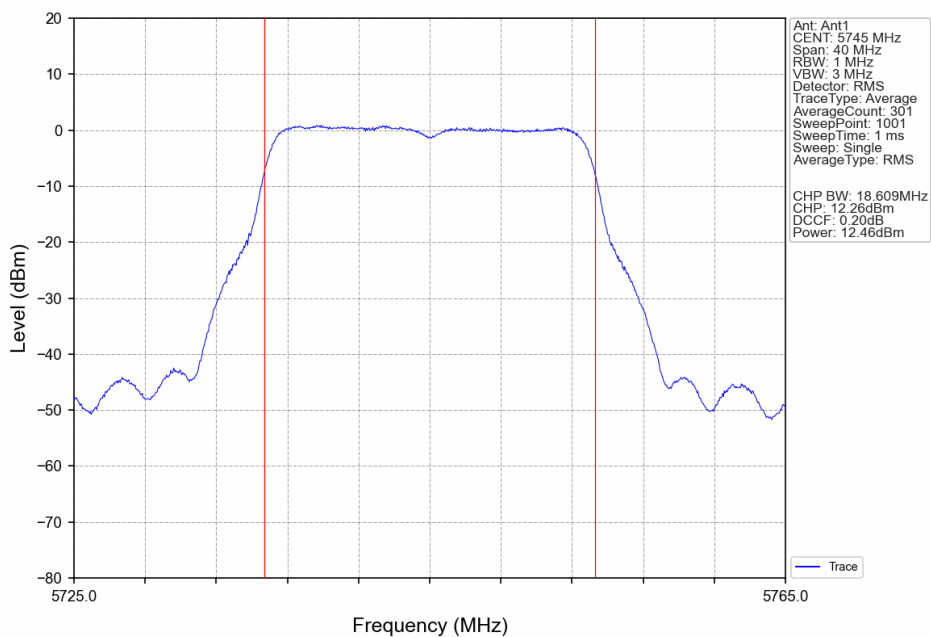


802.11n(HT40)_HCH_5795MHz_Ant1_NTNV

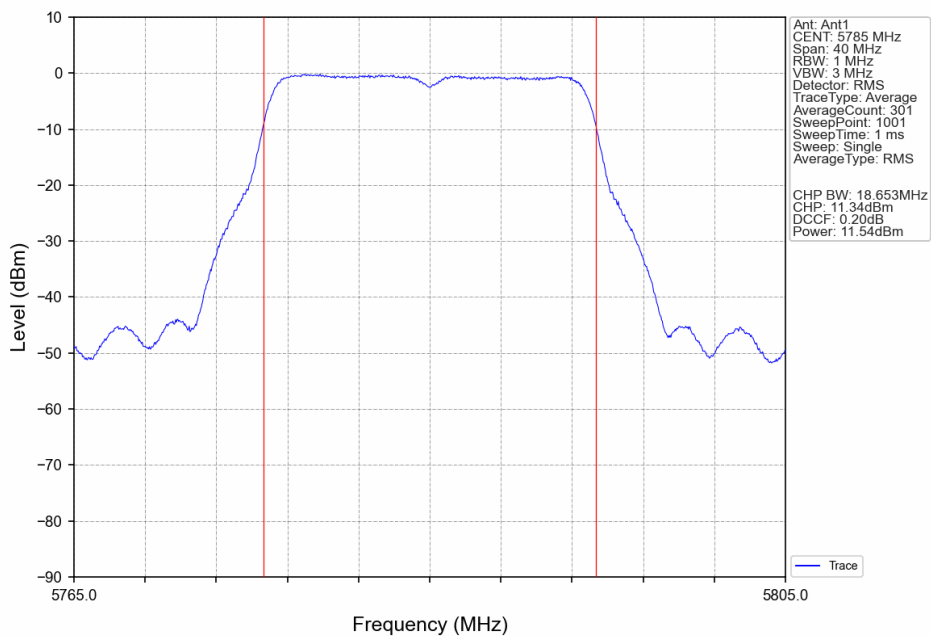


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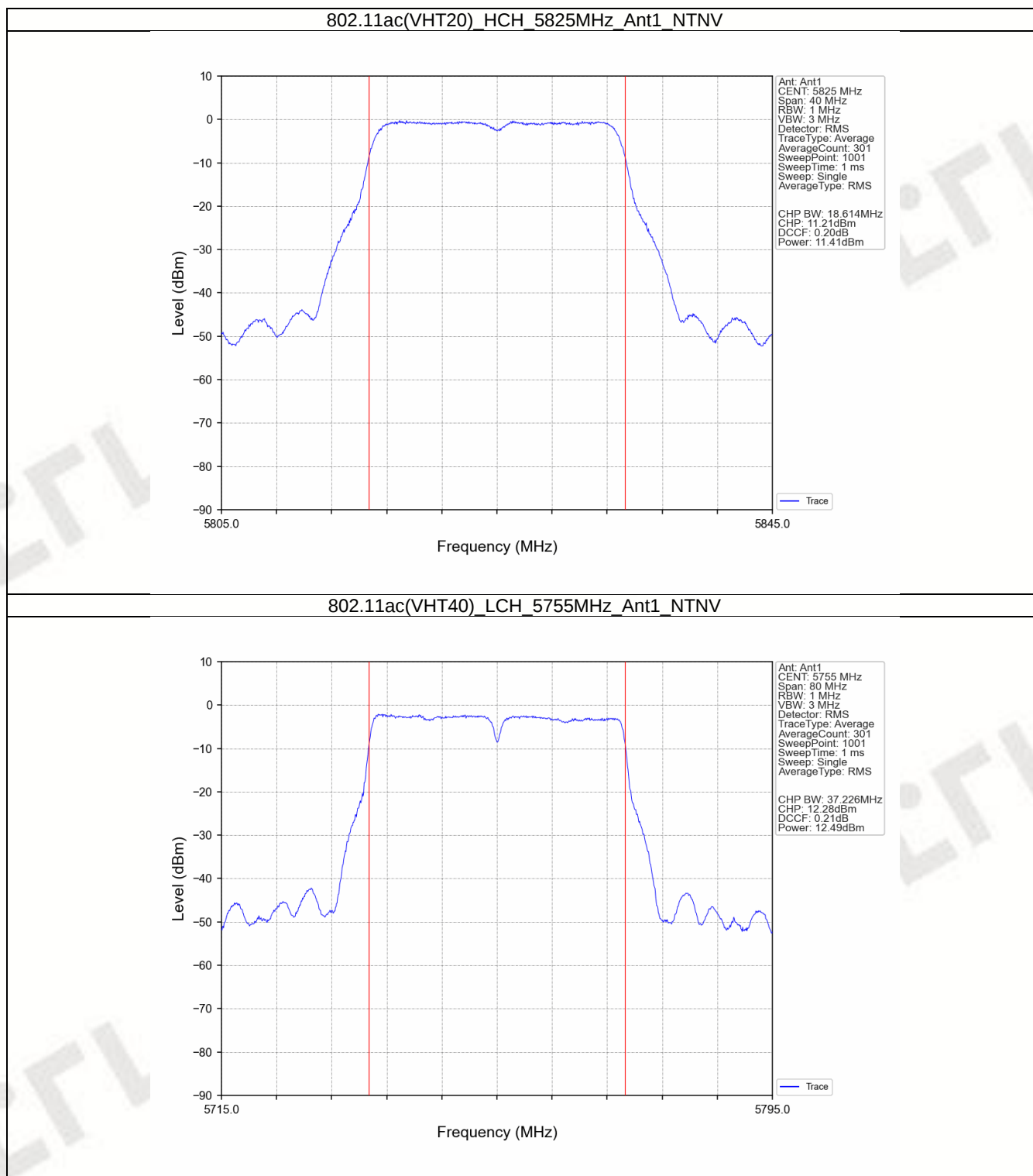
802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

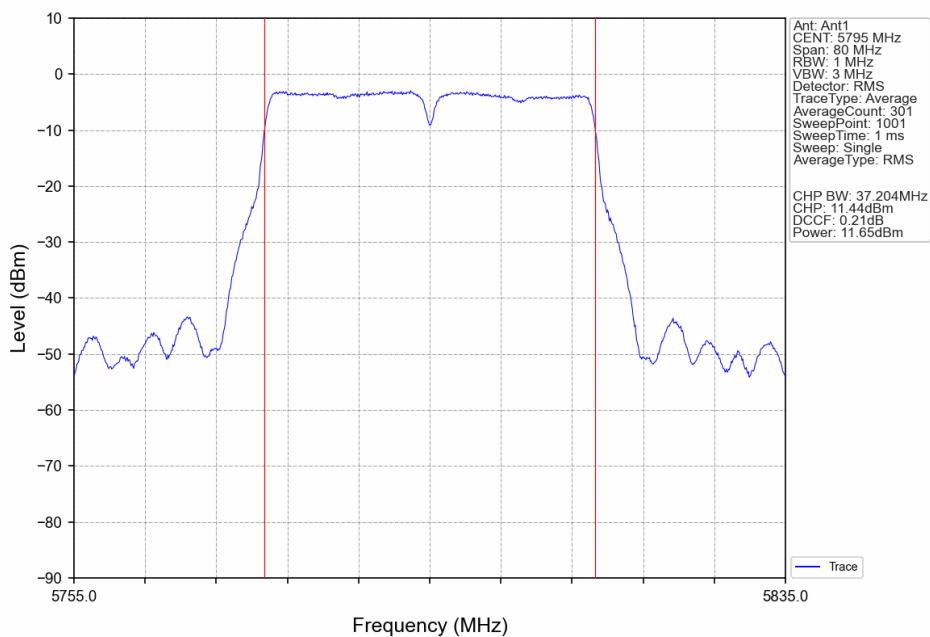


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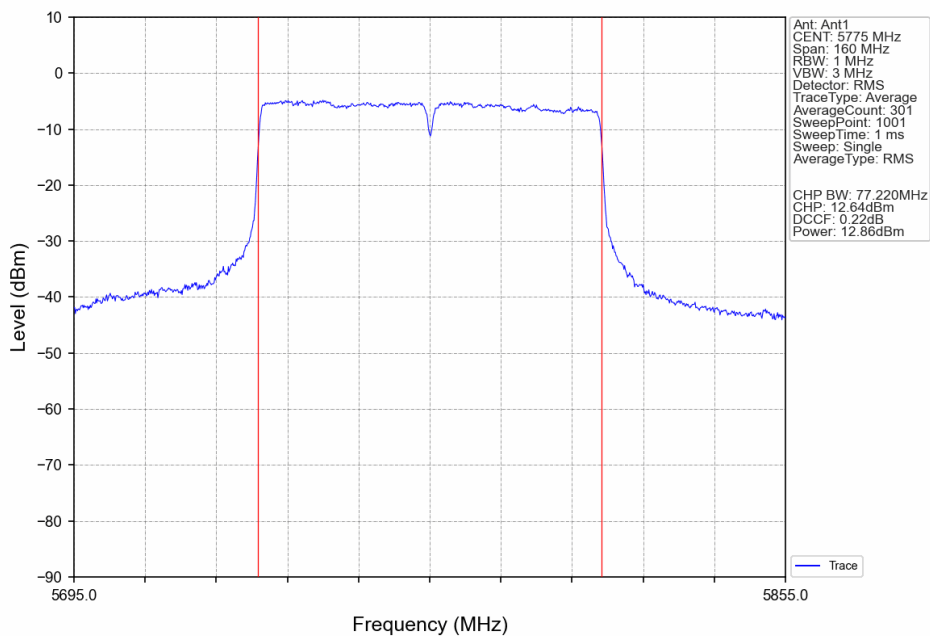


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802.11ac(VHT40) HCH 5795MHz Ant1_NTNV

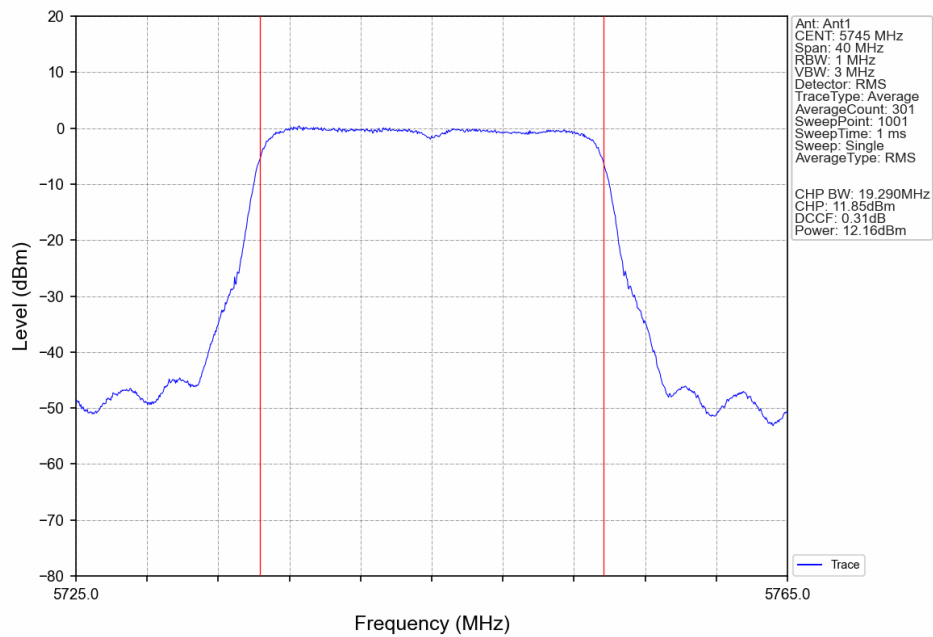


802.11ac(VHT80) MCH 5775MHz Ant1_NTNV

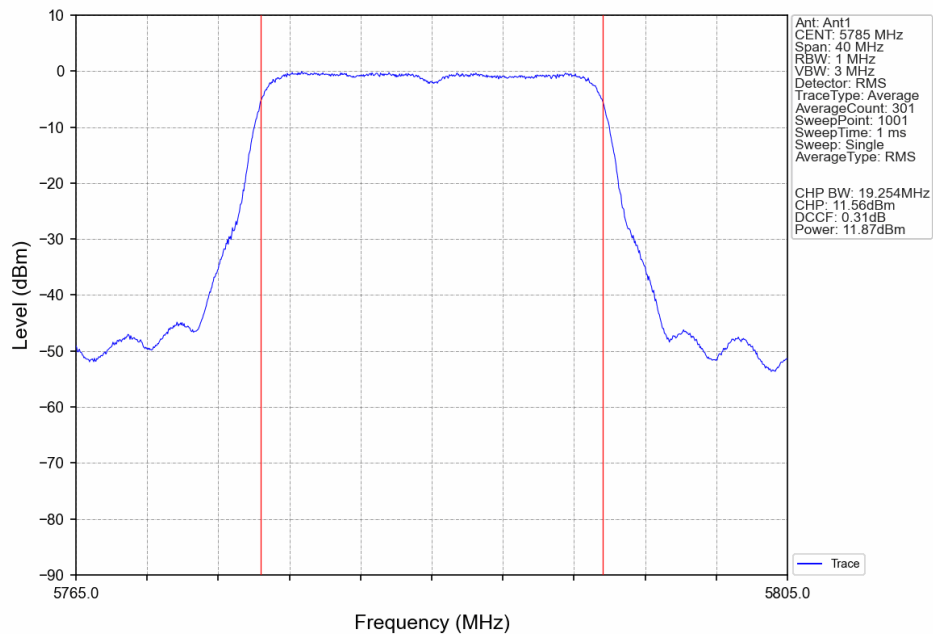


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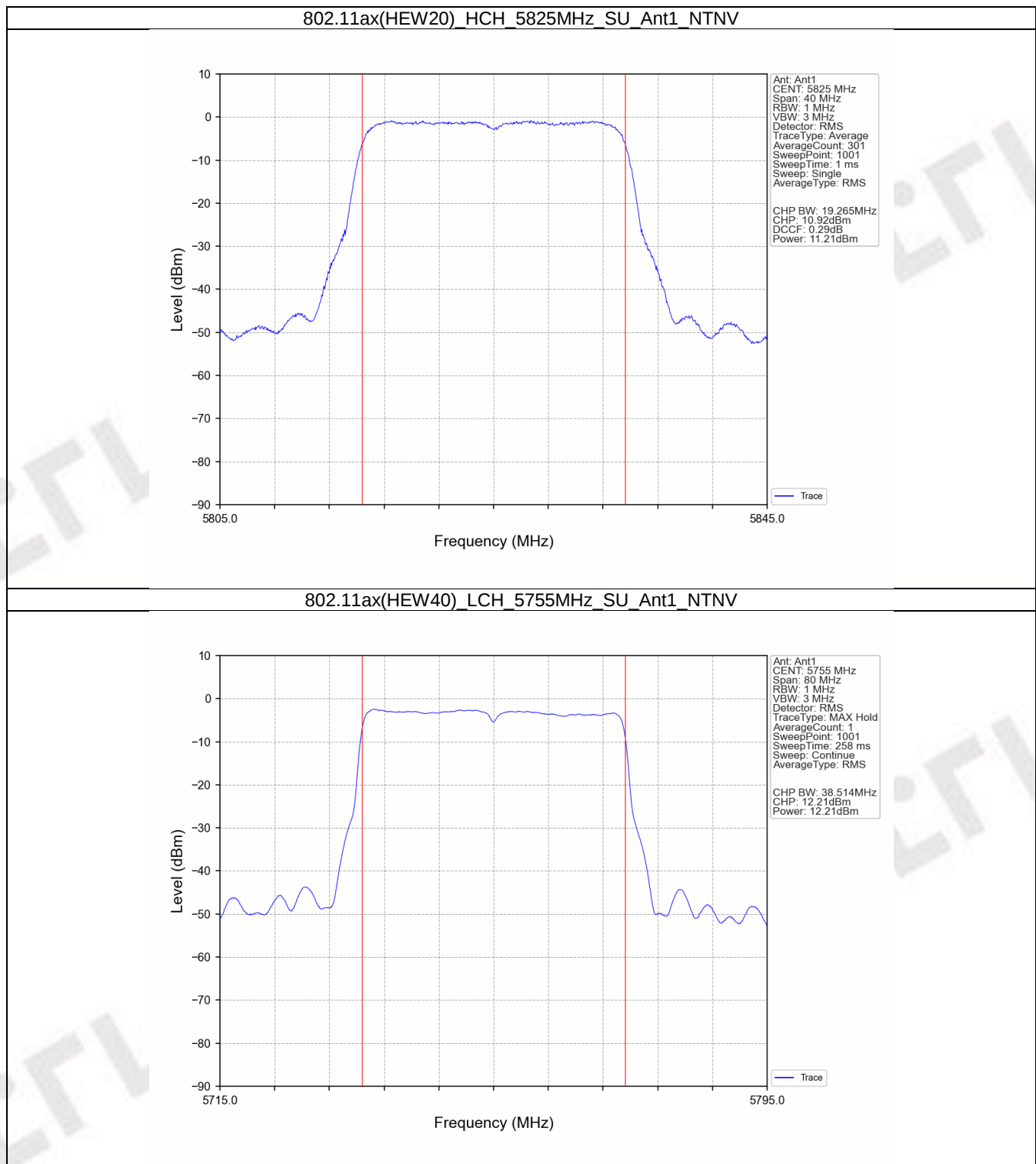
802.11ax(HEW20)_LCH_5745MHz_SU_Ant1_NTNV



802.11ax(HEW20)_MCH_5785MHz_SU_Ant1_NTNV

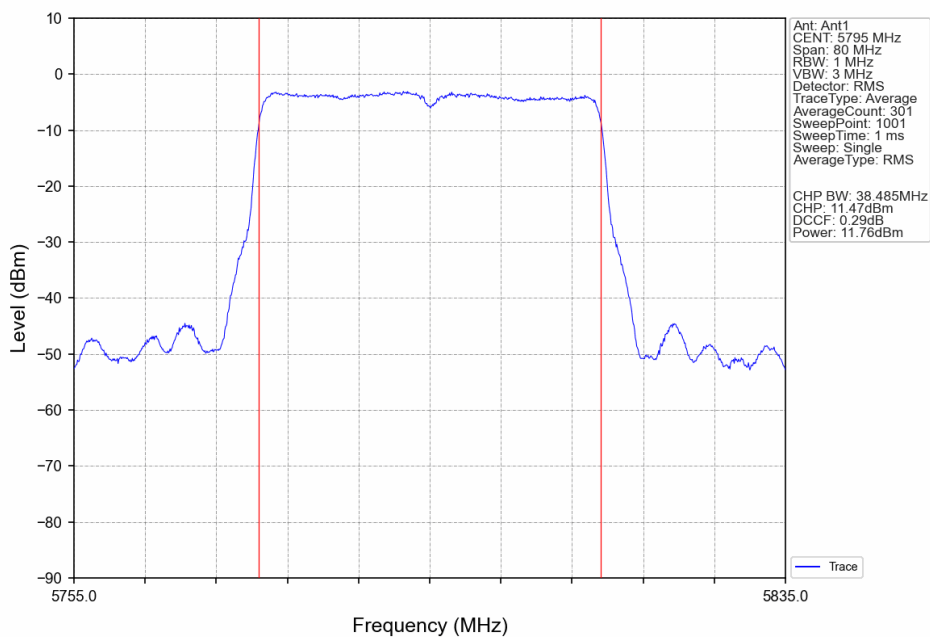


FCCID: SMQ-UWM3

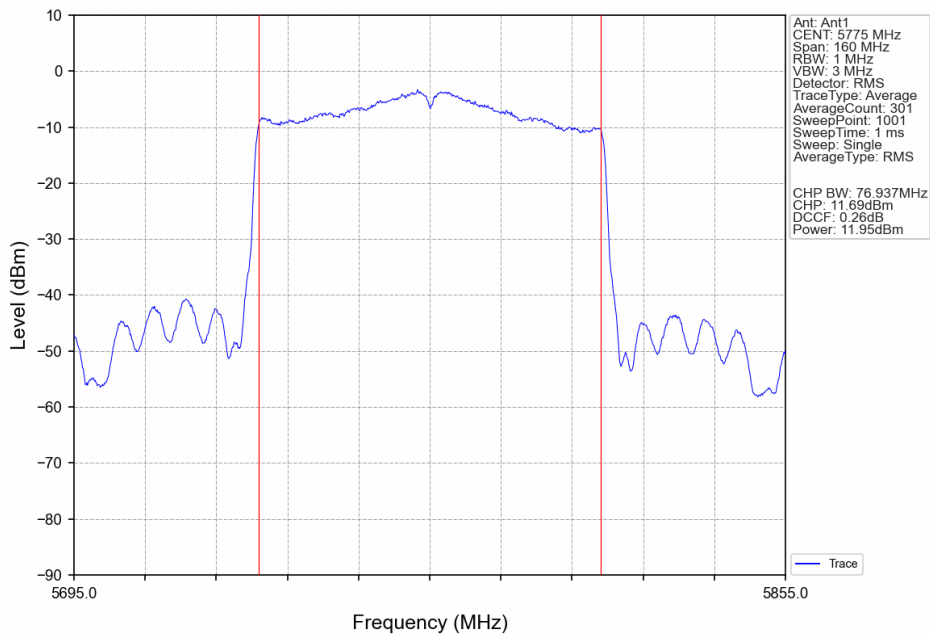


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802.11ax(HEW40)_HCH_5795MHz_SU_Ant1_NTNV



802.11ax(HEW80)_MCH_5775MHz_SU_Ant1_NTNV



FCCID: SMQ-UWM3

3. Maximum Power Spectral Density

3.1 Test Result

3.1.1 PSD-Band3

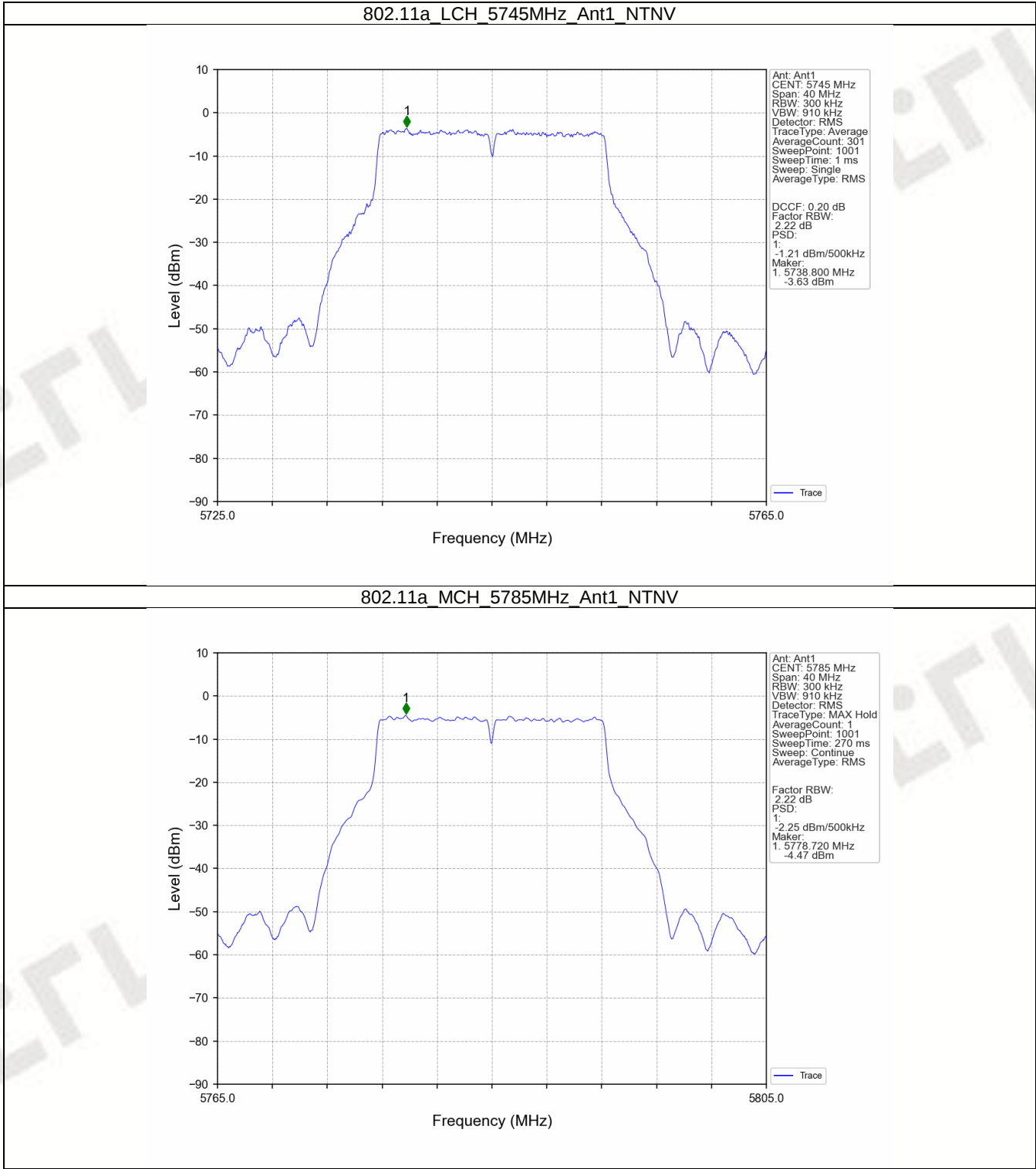
Mode	TX Type	Frequency (MHz)	RU	Maximum PSD (dBm/500kHz)		Verdict
				ANT1	Limit	
802.11a	SISO	5745	/	-1.21	<=30	Pass
		5785	/	-2.25	<=30	Pass
		5825	/	-2.38	<=30	Pass
802.11n (HT20)	SISO	5745	/	-1.24	<=30	Pass
		5785	/	-2.14	<=30	Pass
		5825	/	-2.32	<=30	Pass
802.11n (HT40)	SISO	5755	/	-4.13	<=30	Pass
		5795	/	-5.16	<=30	Pass
802.11ac (VHT20)	SISO	5745	/	-1.41	<=30	Pass
		5785	/	-2.55	<=30	Pass
		5825	/	-2.54	<=30	Pass
802.11ac (VHT40)	SISO	5755	/	-4.50	<=30	Pass
		5795	/	-5.09	<=30	Pass
802.11ac (VHT80)	SISO	5775	/	-7.08	<=30	Pass
802.11ax (HEW20)	SISO	5745	SU	-1.97	<=30	Pass
		5785	SU	-2.12	<=30	Pass
		5825	SU	-2.87	<=30	Pass
802.11ax (HEW40)	SISO	5755	SU	-5.05	<=30	Pass
		5795	SU	-5.16	<=30	Pass
802.11ax (HEW80)	SISO	5775	SU	-5.58	<=30	Pass

Note1: Antenna Gain: Ant1: 3.41dBi;

FCCID: SMQ-UWM3

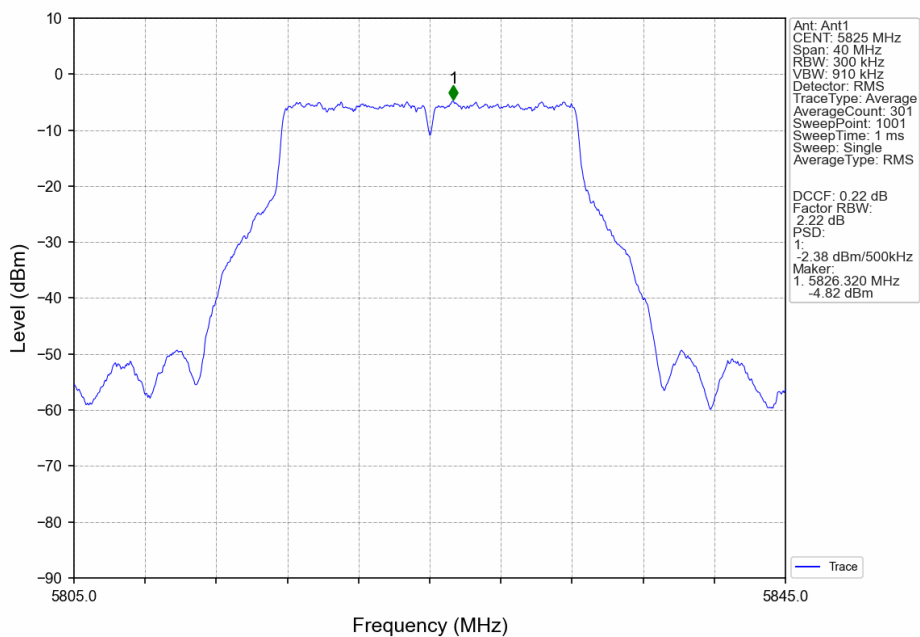
3.2 Test Graph

3.2.1 PSD-Band3

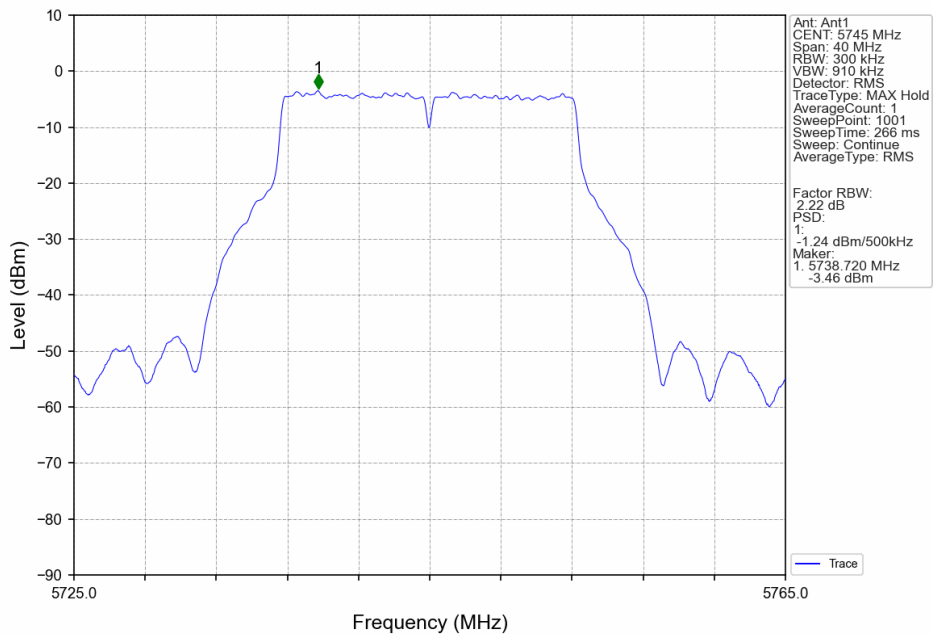


FCCID: SMQ-UWM3

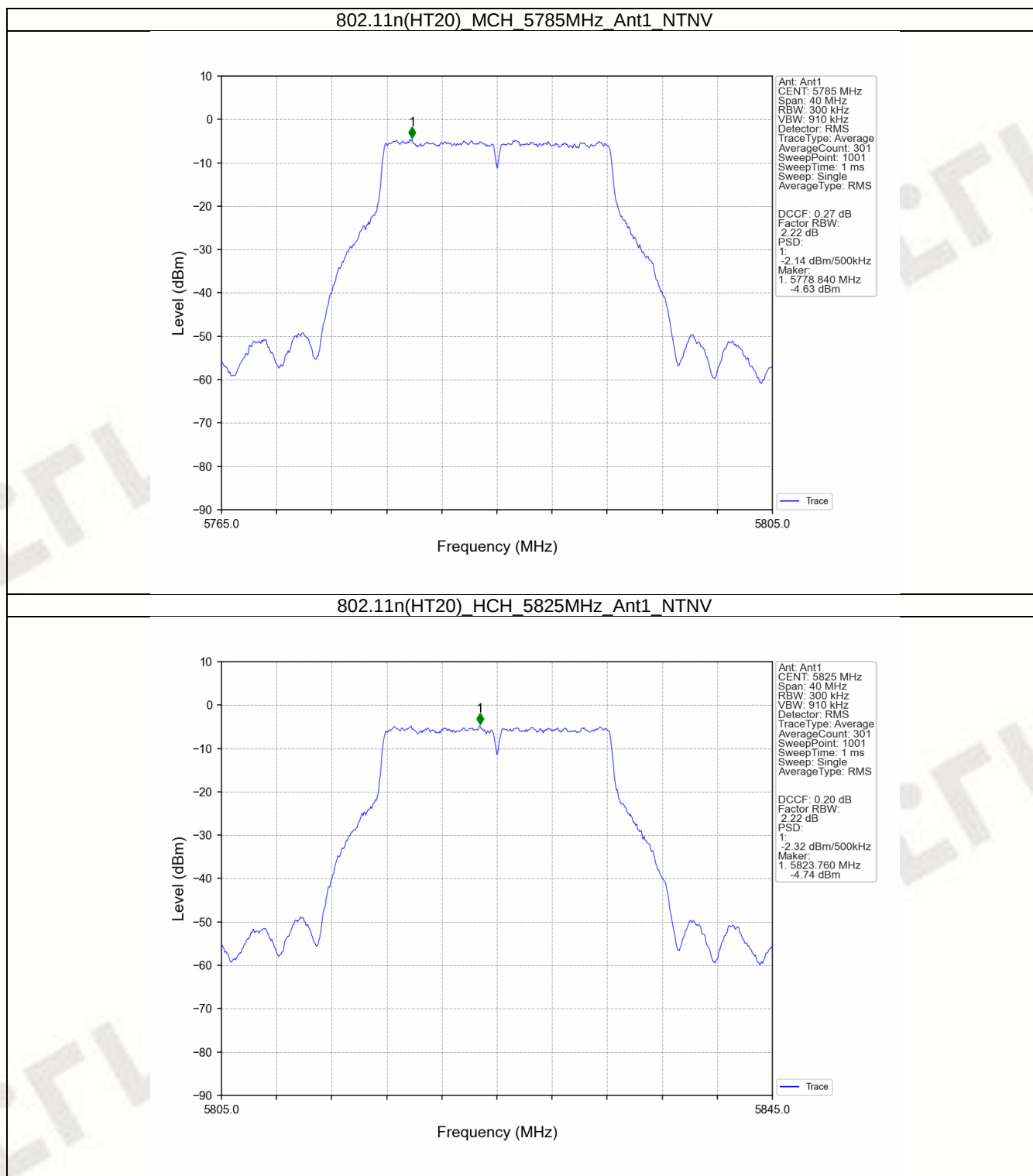
802.11a_HCH_5825MHz_Ant1_NTNV



802.11n(HT20)_LCH_5745MHz_Ant1_NTNV

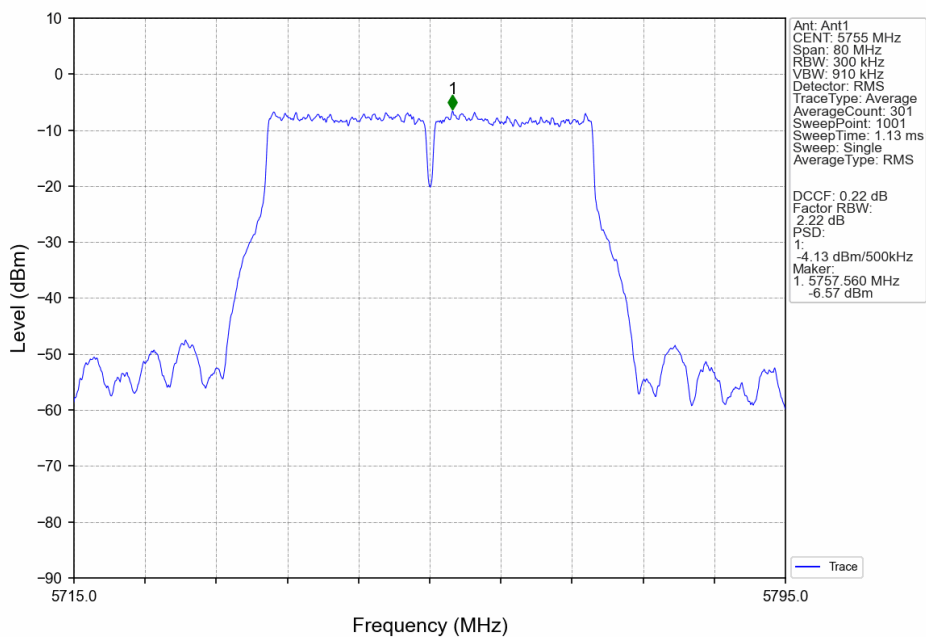


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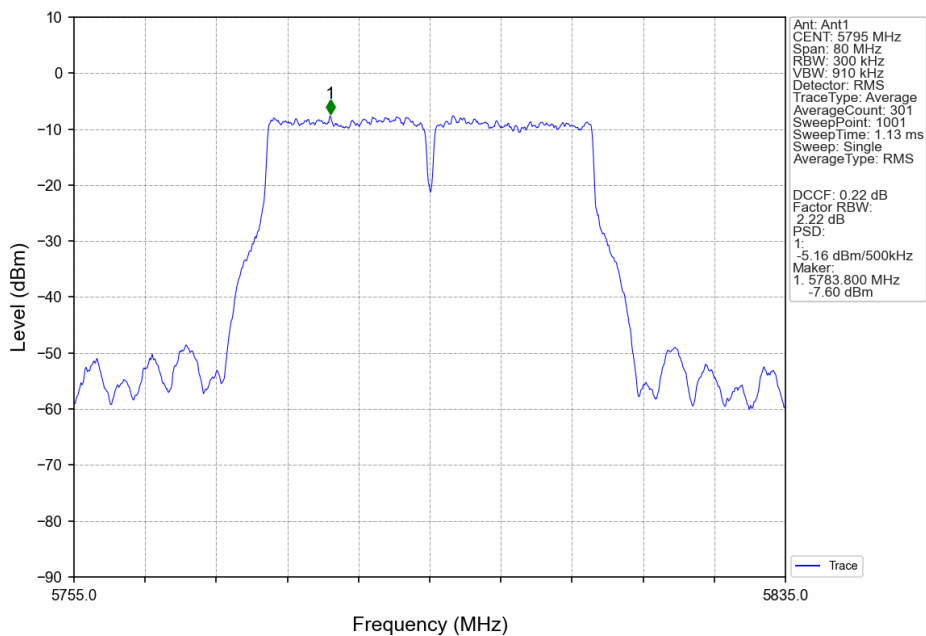


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802.11n(HT40)_LCH_5755MHz_Ant1_NTNV

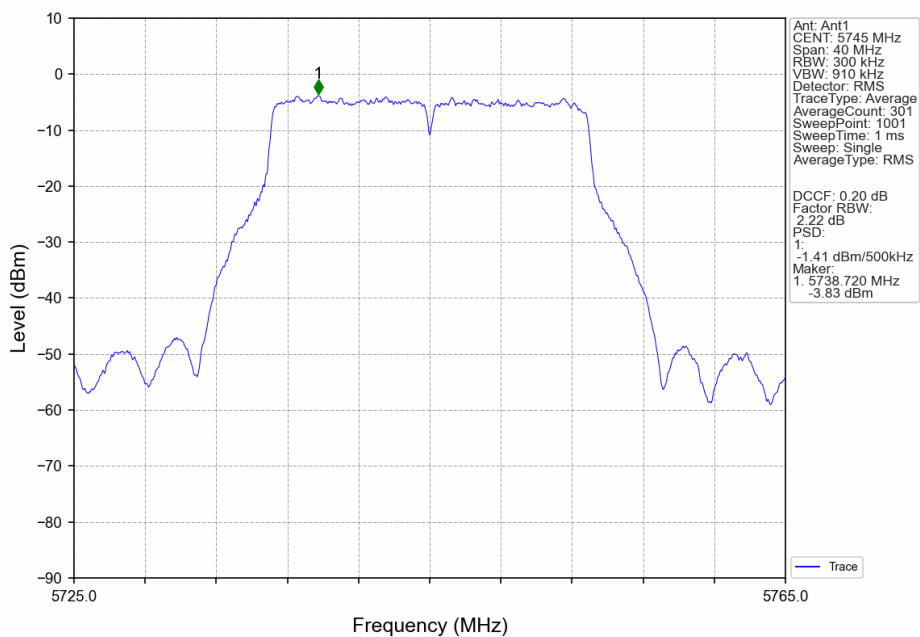


802.11n(HT40)_HCH_5795MHz_Ant1_NTNV

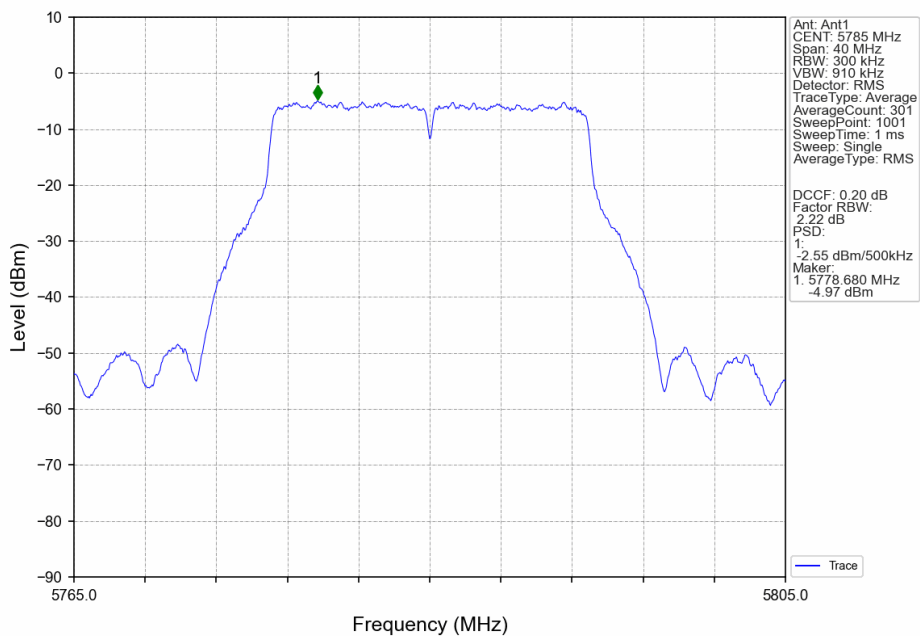


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802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV

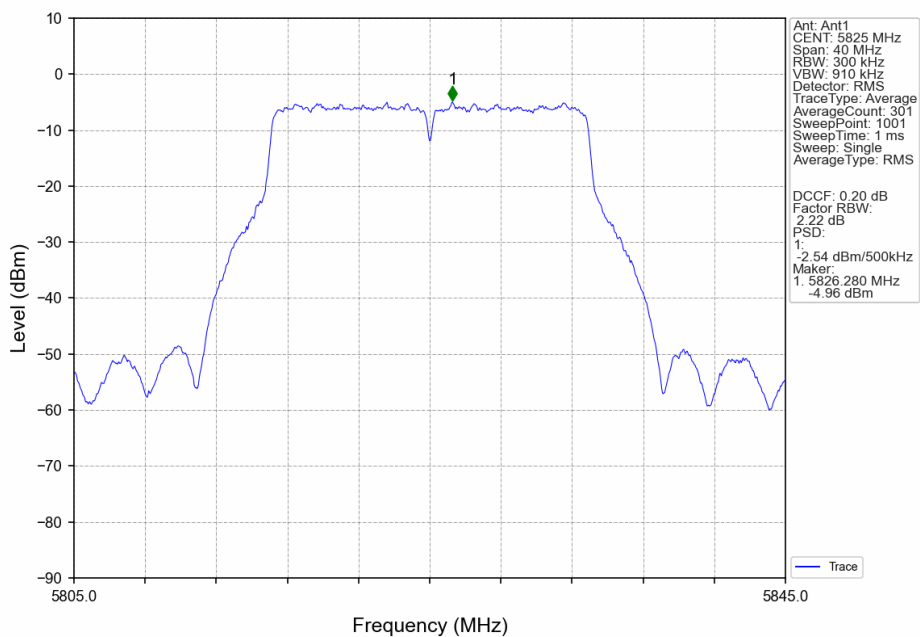


802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV

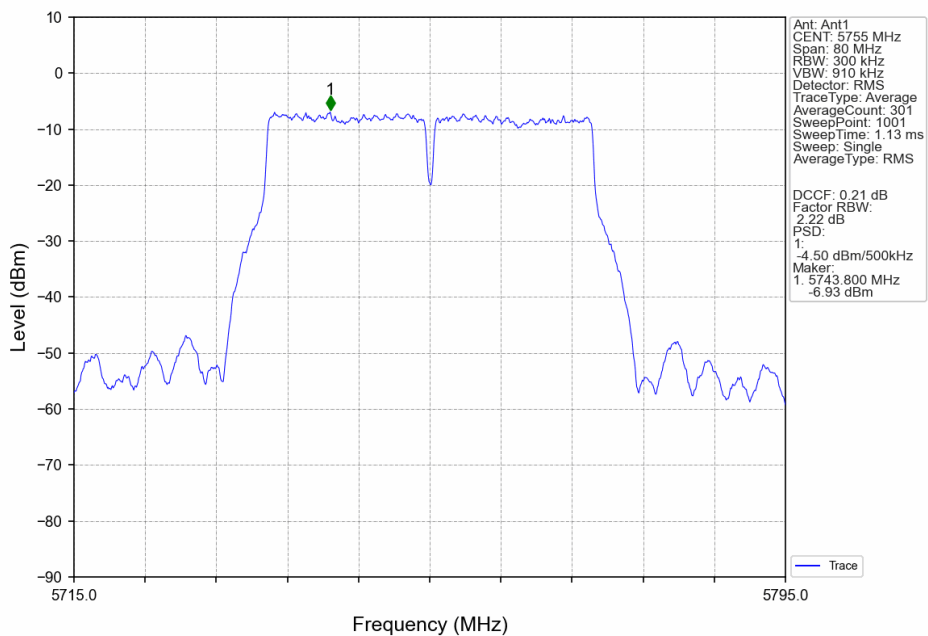


FCCID: SMQ-UWM3

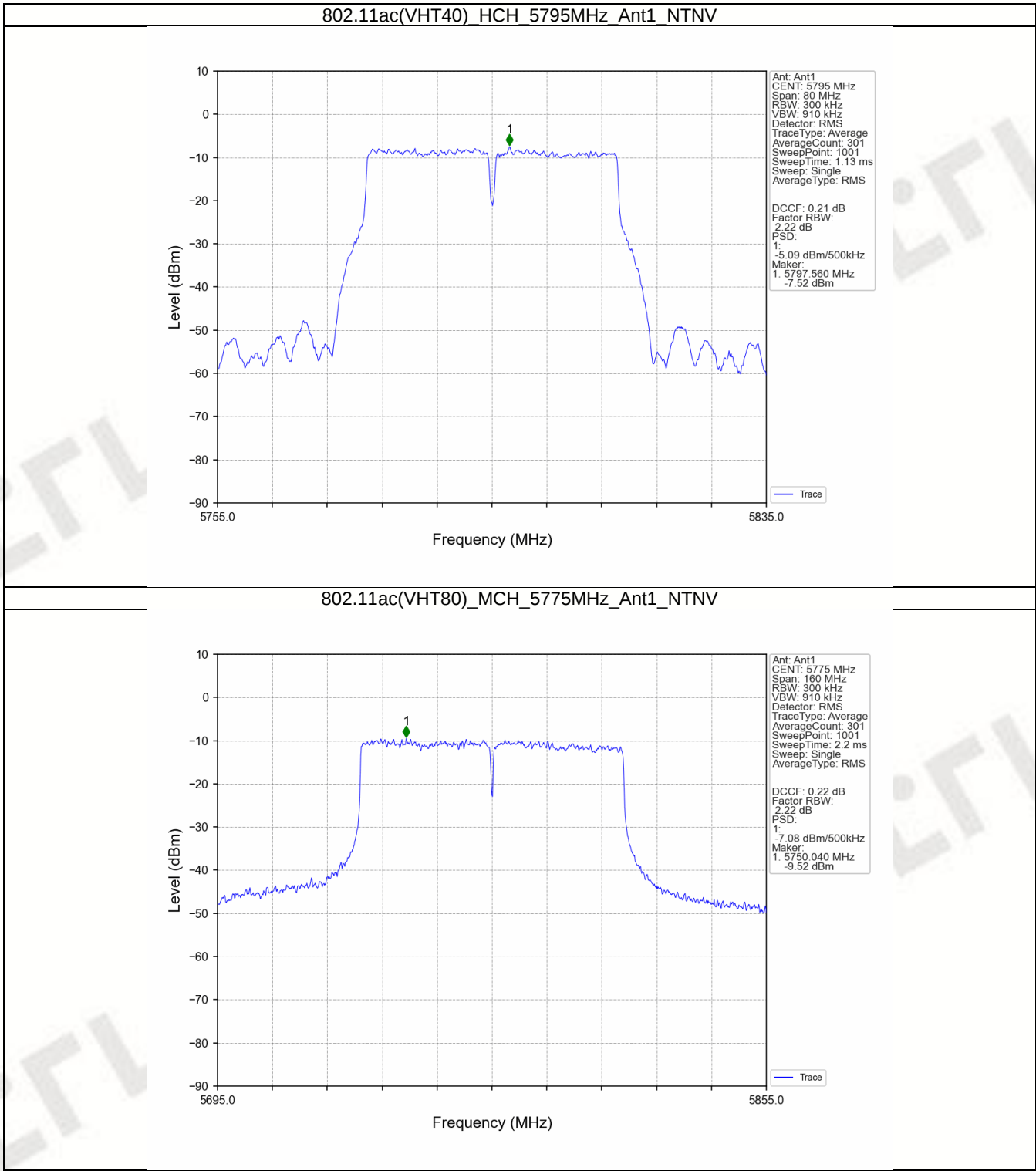
802.11ac(VHT20) HCH 5825MHz Ant1_NTNV



802.11ac(VHT40) LCH 5755MHz Ant1_NTNV

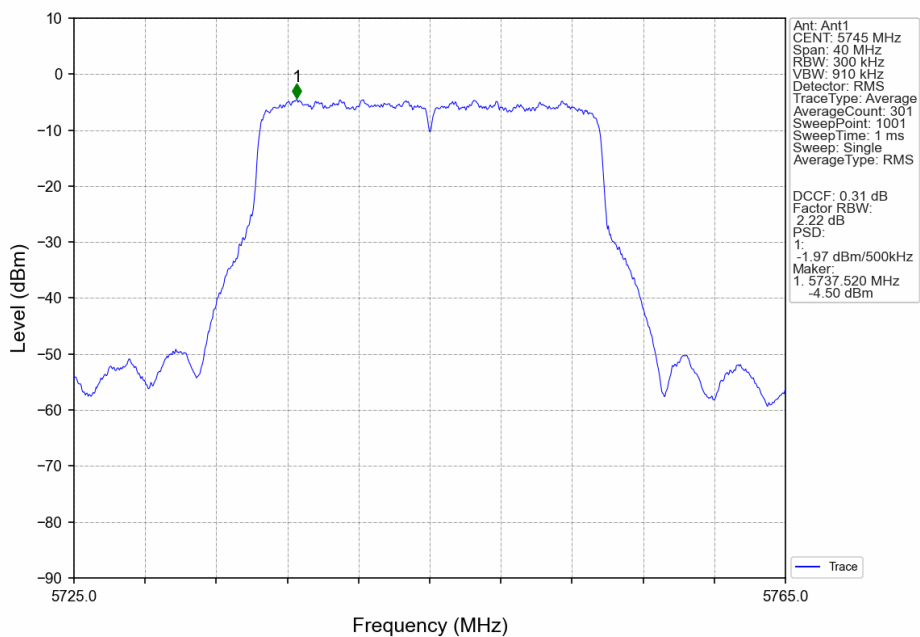


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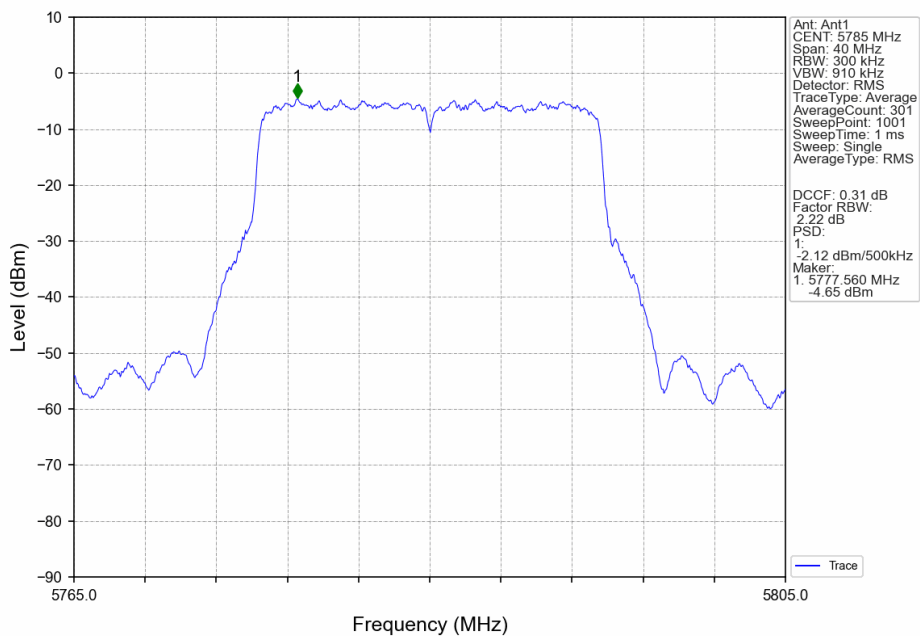


FCCID: SMQ-UWM3

802.11ax(HEW20)_LCH_5745MHz_SU_Ant1_NTNV

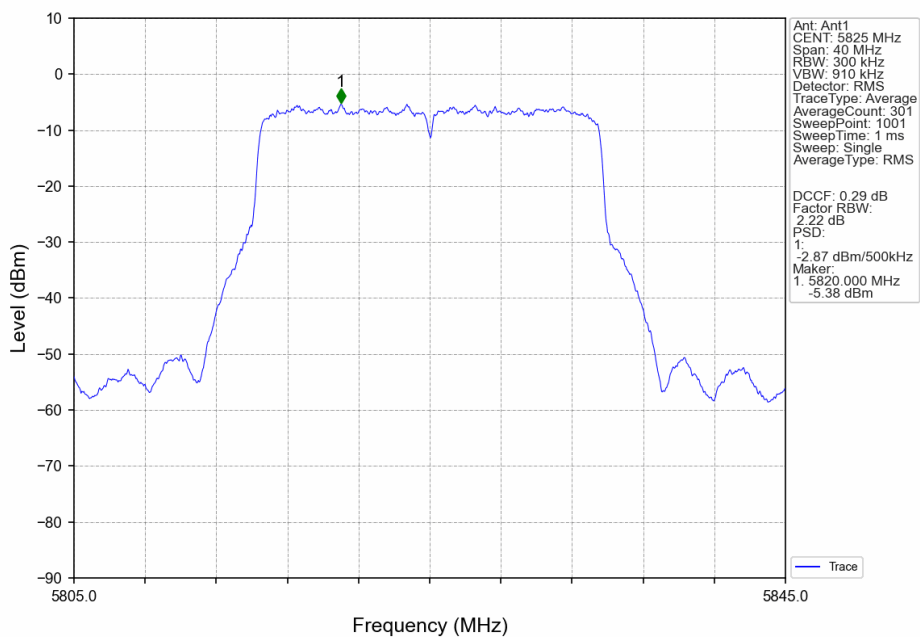


802.11ax(HEW20)_MCH_5785MHz_SU_Ant1_NTNV

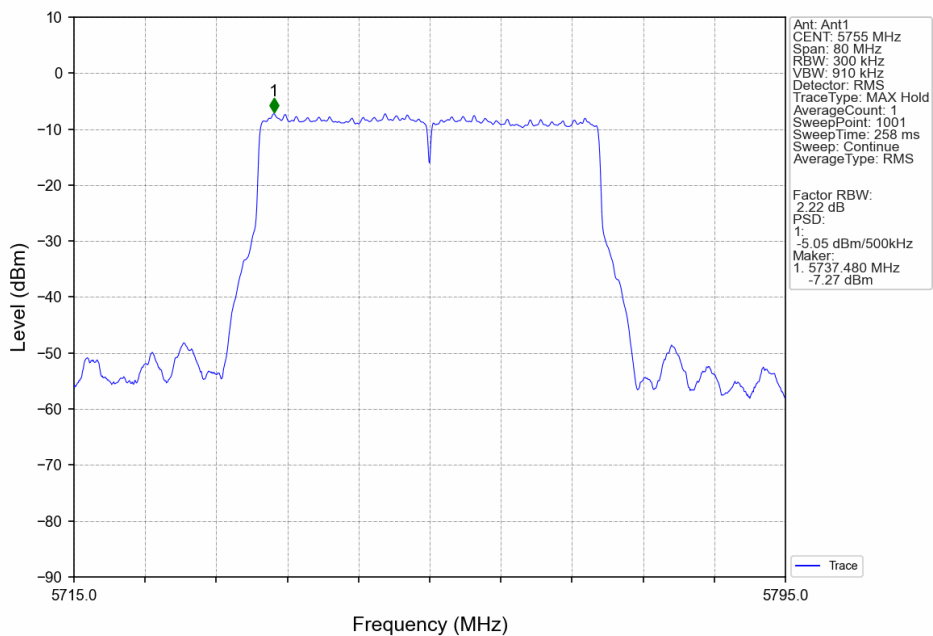


FCCID: SMQ-UWM3

802.11ax(HEW20)_HCH_5825MHz_SU_Ant1_NTNV

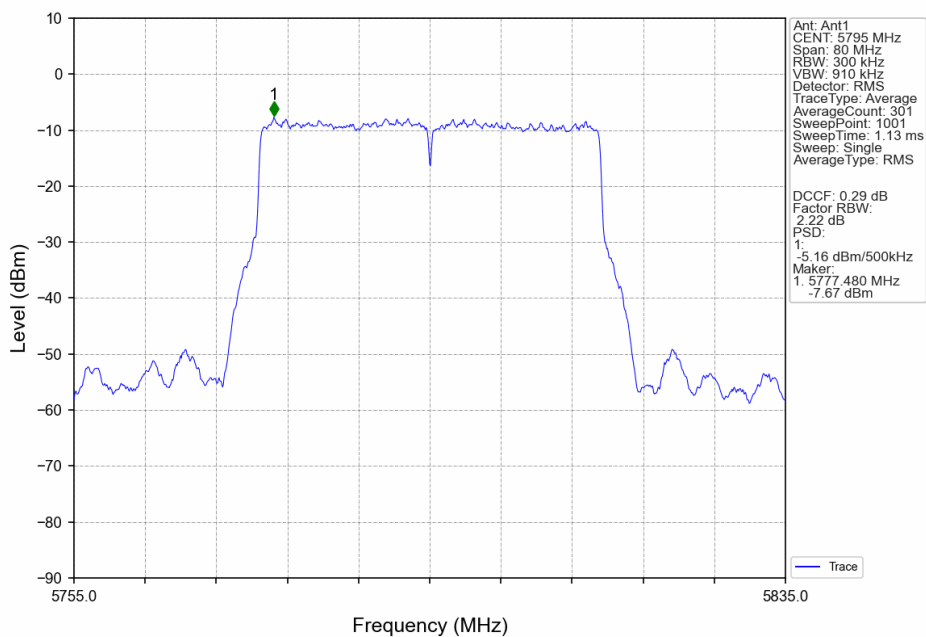


802.11ax(HEW40)_LCH_5755MHz_SU_Ant1_NTNV

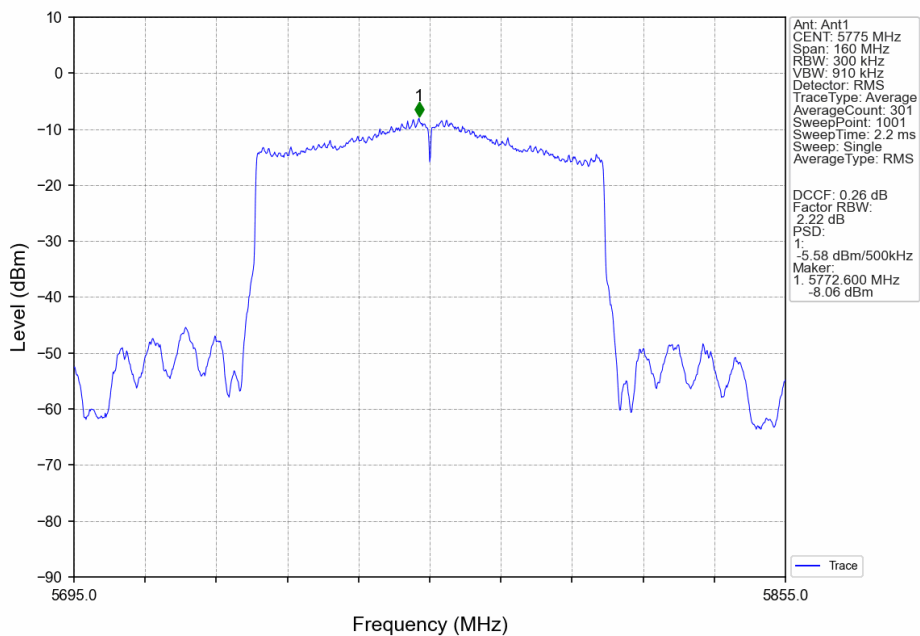


FCCID: SMQ-UWM3

802.11ax(HEW40)_HCH_5795MHz_SU_Ant1_NTNV



802.11ax(HEW80)_MCH_5775MHz_SU_Ant1_NTNV



FCCID: SMQ-UWM3

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	5745	20	102	5744.960	5725 to 5850	Pass
				120	5744.960	5725 to 5850	Pass
				138	5744.960	5725 to 5850	Pass
			-30	120	5744.960	5725 to 5850	Pass
			-20	120	5744.960	5725 to 5850	Pass
			-10	120	5744.960	5725 to 5850	Pass
			0	120	5744.960	5725 to 5850	Pass
			10	120	5744.960	5725 to 5850	Pass
			30	120	5744.960	5725 to 5850	Pass
			40	120	5744.960	5725 to 5850	Pass
			50	120	5744.960	5725 to 5850	Pass
		5785	20	102	5784.960	5725 to 5850	Pass
				120	5784.960	5725 to 5850	Pass
				138	5784.960	5725 to 5850	Pass
			-30	120	5784.960	5725 to 5850	Pass
			-20	120	5784.960	5725 to 5850	Pass
			-10	120	5784.960	5725 to 5850	Pass
			0	120	5784.960	5725 to 5850	Pass
			10	120	5784.960	5725 to 5850	Pass
			30	120	5784.960	5725 to 5850	Pass
			40	120	5784.960	5725 to 5850	Pass
			50	120	5784.960	5725 to 5850	Pass
		5825	20	102	5824.959	5725 to 5850	Pass
				120	5824.959	5725 to 5850	Pass
				138	5824.959	5725 to 5850	Pass
			-30	120	5824.959	5725 to 5850	Pass
			-20	120	5824.959	5725 to 5850	Pass
			-10	120	5824.959	5725 to 5850	Pass
			0	120	5824.959	5725 to 5850	Pass
			10	120	5824.959	5725 to 5850	Pass
			30	120	5824.959	5725 to 5850	Pass
			40	120	5824.959	5725 to 5850	Pass
			50	120	5824.960	5725 to 5850	Pass
		5755	20	102	5754.960	5725 to 5850	Pass
				120	5754.960	5725 to 5850	Pass
				138	5754.960	5725 to 5850	Pass
			-30	120	5754.960	5725 to 5850	Pass
			-20	120	5754.960	5725 to 5850	Pass
			-10	120	5754.960	5725 to 5850	Pass
			0	120	5754.960	5725 to 5850	Pass
			10	120	5754.960	5725 to 5850	Pass
			30	120	5754.960	5725 to 5850	Pass
			40	120	5754.960	5725 to 5850	Pass
			50	120	5754.960	5725 to 5850	Pass

FCCID: SMQ-UWM3

		5795	20	102	5794.960	5725 to 5850	Pass
				120	5794.960	5725 to 5850	Pass
				138	5794.960	5725 to 5850	Pass
			-30	120	5794.960	5725 to 5850	Pass
			-20	120	5794.960	5725 to 5850	Pass
			-10	120	5794.960	5725 to 5850	Pass
			0	120	5794.960	5725 to 5850	Pass
			10	120	5794.960	5725 to 5850	Pass
			30	120	5794.960	5725 to 5850	Pass
			40	120	5794.960	5725 to 5850	Pass
		5775	20	102	5774.960	5725 to 5850	Pass
				120	5774.960	5725 to 5850	Pass
				138	5774.960	5725 to 5850	Pass
			-30	120	5774.960	5725 to 5850	Pass
			-20	120	5774.960	5725 to 5850	Pass
			-10	120	5774.960	5725 to 5850	Pass
			0	120	5774.960	5725 to 5850	Pass
			10	120	5774.960	5725 to 5850	Pass
			30	120	5774.960	5725 to 5850	Pass
			40	120	5774.960	5725 to 5850	Pass
			50	120	5774.960	5725 to 5850	Pass