

Appendix RF Test Data for 5GWIFI

FCC ID : 2A4WP-GMB2100A1

IC : 28295-GMB2100A1

Company: : Shenzhen Speediance Living Technology Co., Ltd

EUT : Interactive Multi-Media DigitalFitness Equipment

Model(HVIN) : GMB2100A1

Reviewed By : *Heber He*

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

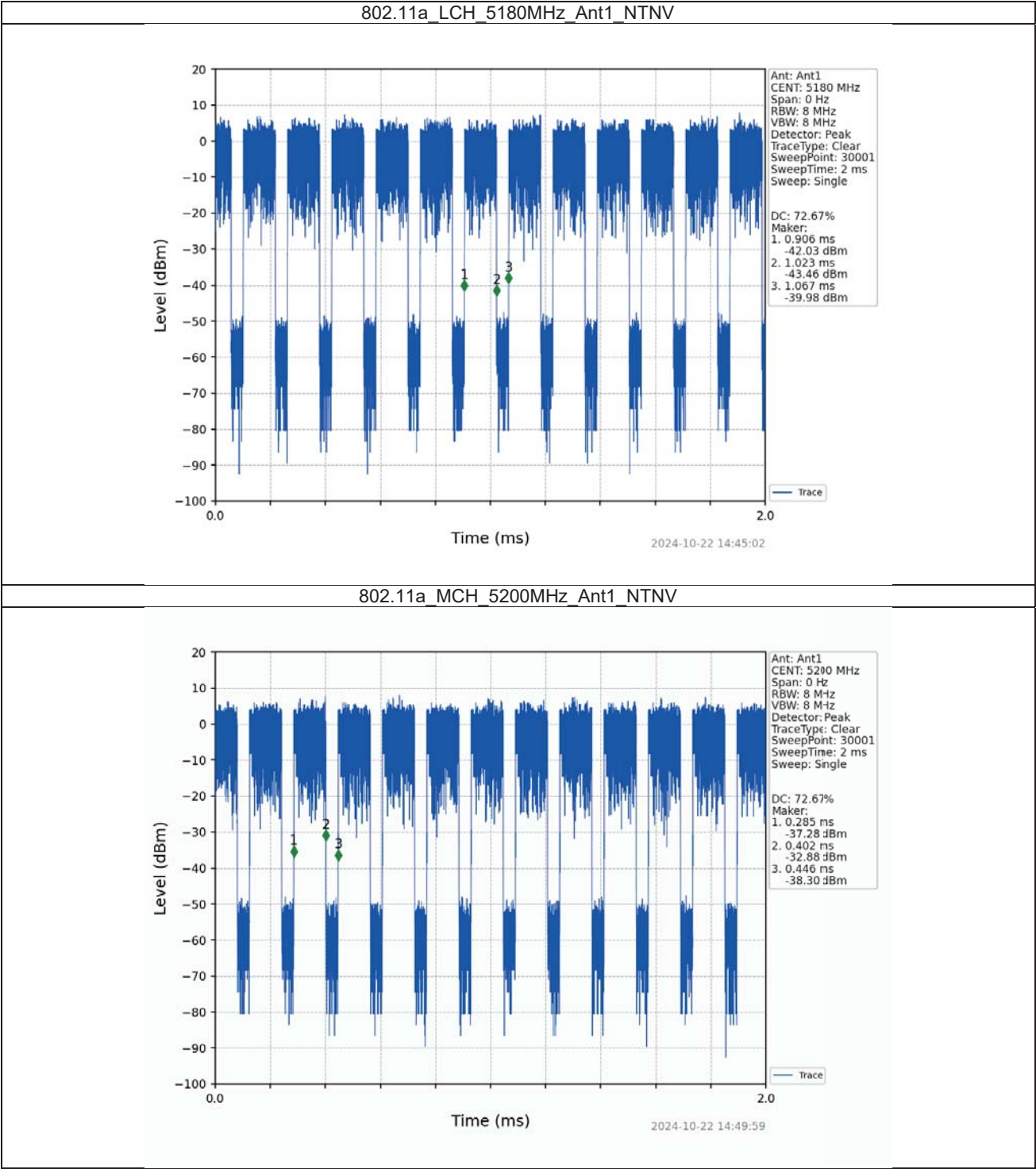
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	0.117	0.161	72.67	1.39	0.08
		5200	0.117	0.161	72.67	1.39	0.08
		5240	0.117	0.161	72.67	1.39	0.09
		5260	0.117	0.161	72.67	1.39	0.12
		5300	0.117	0.161	72.67	1.39	0.12
		5320	0.117	0.161	72.67	1.39	0.08
		5500	0.118	0.161	73.29	1.35	0.18
		5580	0.117	0.161	72.67	1.39	0.12
		5700	0.117	0.161	72.67	1.39	0.04
		5745	85.390	85.823	99.50	0.02	0.00
		5785	0.117	0.161	72.67	1.39	0.12
		5825	0.117	0.161	72.67	1.39	0.08
802.11n (HT20)	MIMO	5180	0.081	0.125	64.80	1.88	0.16
		5200	0.081	0.125	64.80	1.88	0.12
		5240	0.081	0.125	64.80	1.88	0.11
		5260	0.081	0.125	64.80	1.88	0.09
		5300	0.081	0.125	64.80	1.88	0.16
		5320	0.081	0.125	64.80	1.88	0.13
		5500	0.081	0.134	60.45	2.19	4.37
		5580	0.081	0.125	64.80	1.88	0.23
		5700	0.081	0.125	64.80	1.88	0.20
		5745	50.994	51.480	99.06	0.04	0.00
		5785	0.080	0.125	64.00	1.94	0.11
		5825	0.081	0.125	64.80	1.88	0.12
802.11n (HT40)	MIMO	5190	0.062	0.106	58.49	2.33	0.18
		5230	0.062	0.106	58.49	2.33	0.17
		5270	0.063	0.106	59.43	2.26	0.16
		5310	0.062	0.106	58.49	2.33	0.13
		5510	0.063	0.106	59.43	2.26	0.23
		5550	0.063	0.106	59.43	2.26	0.16
		5670	0.062	0.106	58.49	2.33	0.19
		5755	75.277	75.624	99.54	0.02	0.00
		5795	0.077	0.120	64.17	1.93	0.11
802.11ac (VHT20)	MIMO	5180	0.125	0.168	74.40	1.28	0.19
		5200	0.125	0.168	74.40	1.28	0.16
		5240	0.122	0.168	72.62	1.39	0.12
		5260	0.123	0.168	73.21	1.35	0.12
		5300	0.125	0.168	74.40	1.28	0.16
		5320	0.124	0.168	73.81	1.32	0.08
		5500	0.124	0.168	73.81	1.32	0.08
		5580	0.126	0.169	74.56	1.28	0.11
		5700	0.123	0.168	73.21	1.35	0.08
		5745	0.124	0.240	51.67	2.87	22.15
		5785	0.124	0.168	73.81	1.32	0.12
		5825	0.124	0.168	73.81	1.32	0.08
802.11ac	MIMO	5190	0.084	0.128	65.62	1.83	0.08

(VHT40)		5230	0.085	0.128	66.41	1.78	0.13
		5270	0.083	0.128	64.84	1.88	0.11
		5310	0.083	0.128	64.84	1.88	0.03
		5510	0.084	0.164	51.22	2.91	14.35
		5550	0.084	0.128	65.63	1.83	0.11
		5670	0.085	0.128	66.41	1.78	0.21
		5755	0.084	0.128	65.63	1.83	0.08
		5795	0.084	0.128	65.63	1.83	0.15
802.11ac (VHT80)	MIMO	5210	0.062	0.106	58.49	2.33	0.13
		5290	0.062	0.124	50.00	3.01	8.54
		5530	0.062	0.106	58.49	2.33	0.17
		5610	0.062	0.106	58.49	2.33	41.35
		5775	0.063	0.106	59.43	2.26	0.13

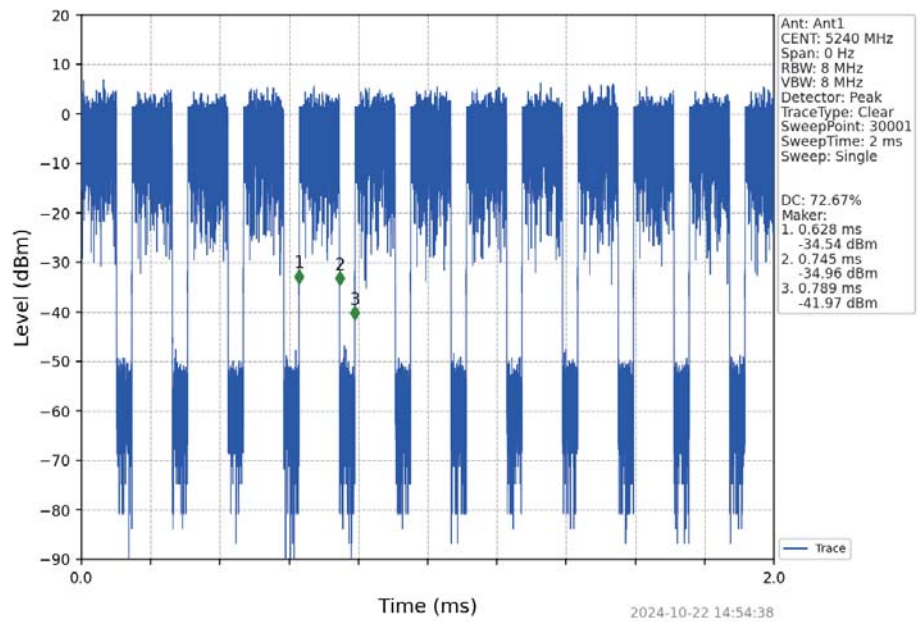
Note:Channel 5610MHz is only use for FCC test data.

1.2 Test Graph

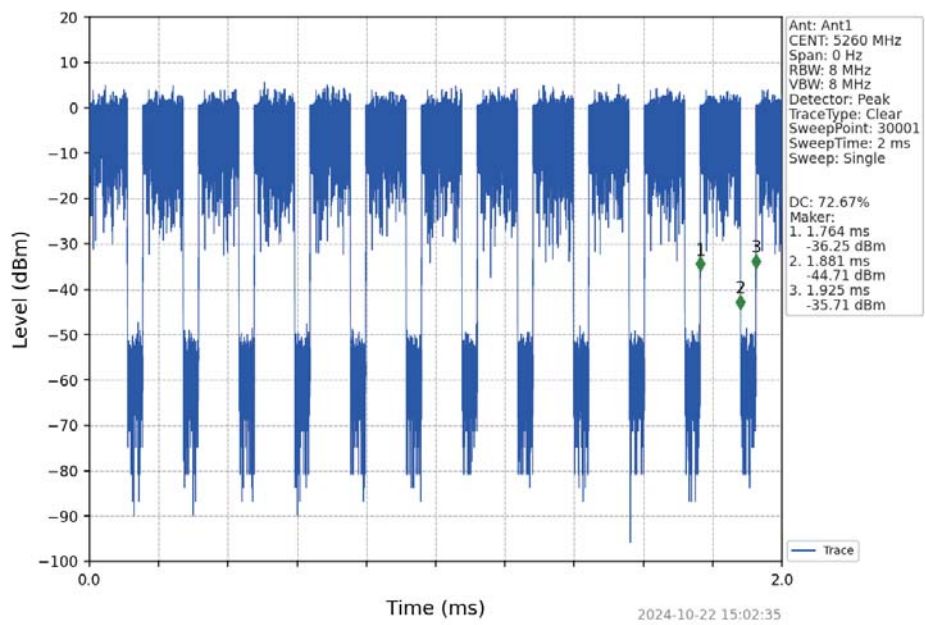
1.2.1 Ant1



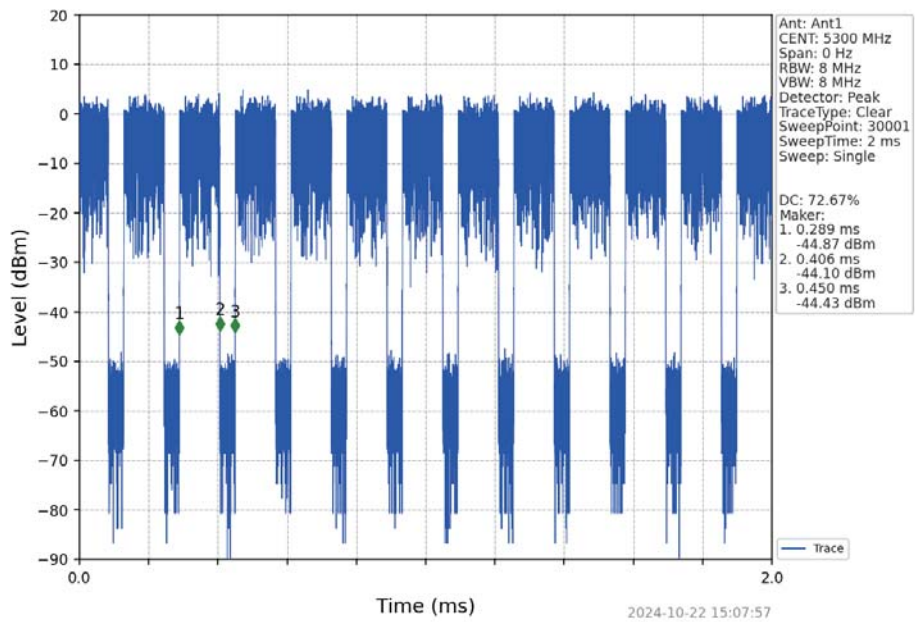
802.11a HCH 5240MHz Ant1 NTN



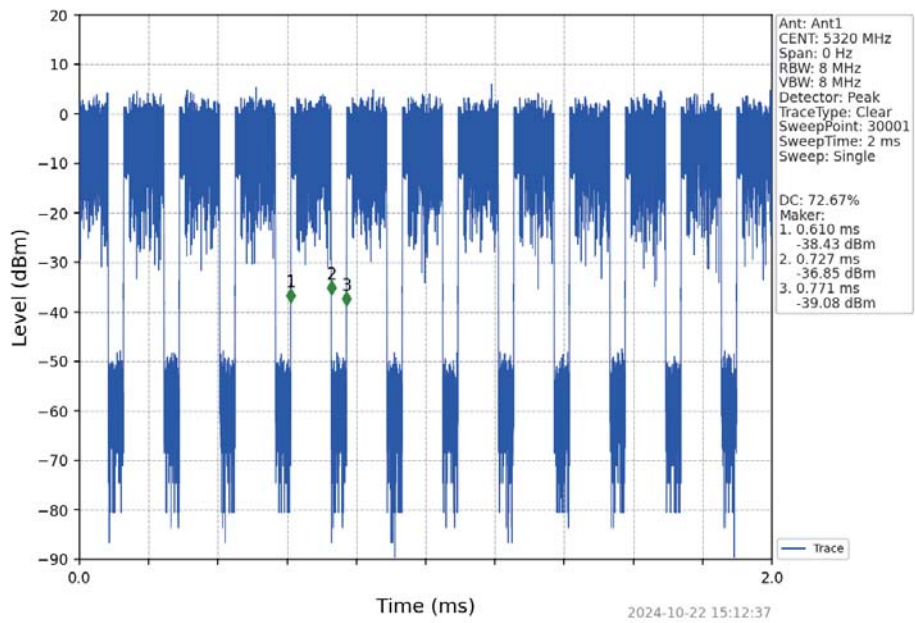
802.11a LCH 5260MHz Ant1 NTN



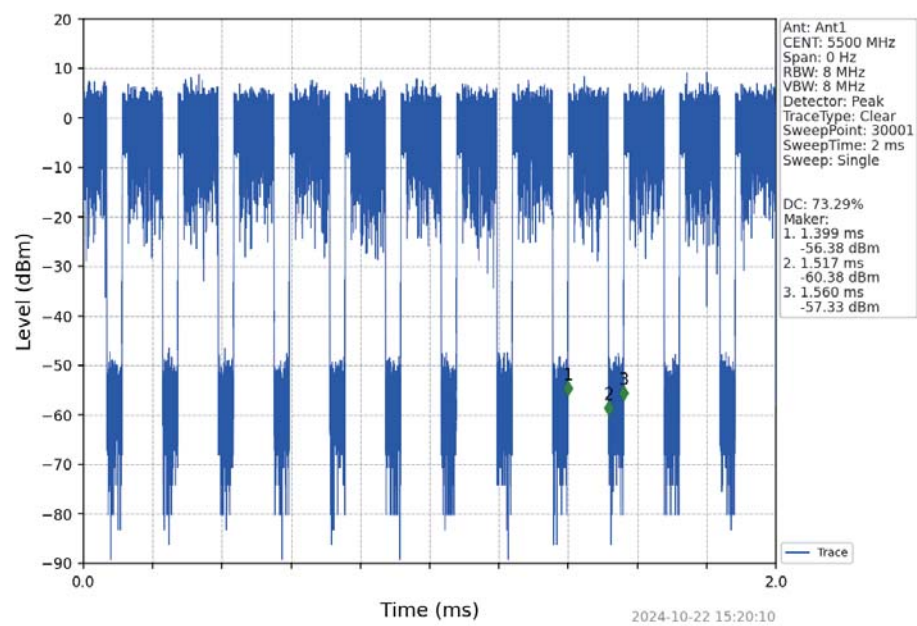
802.11a MCH 5300MHz Ant1 NTN



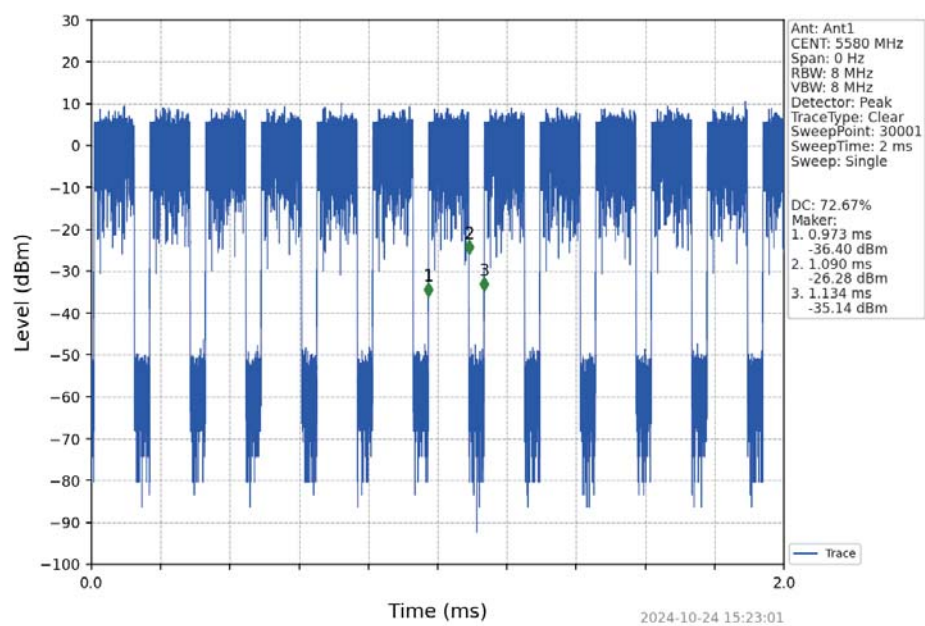
802.11a HCH 5320MHz Ant1 NTN



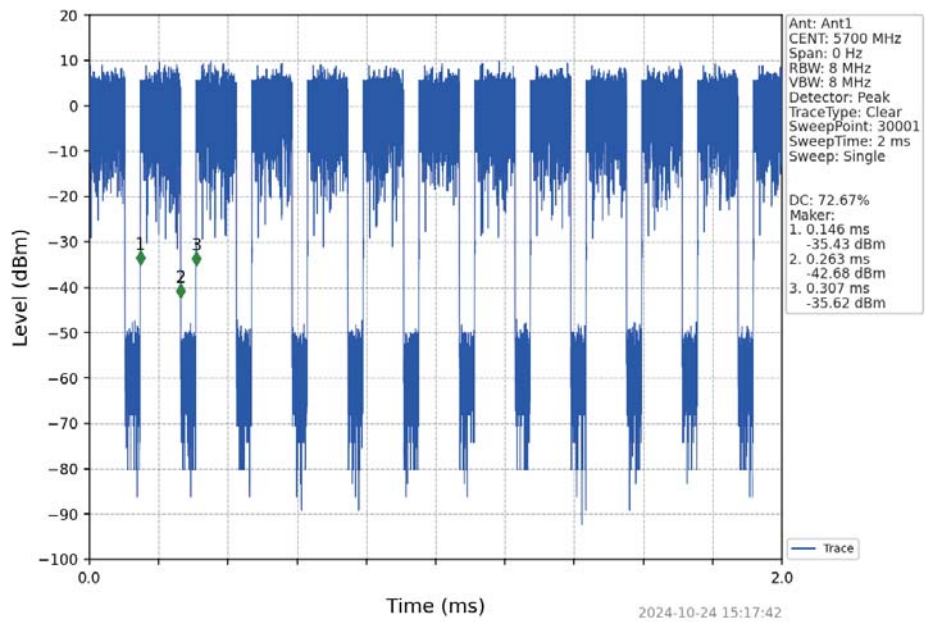
802.11a LCH 5500MHz Ant1_NTNV



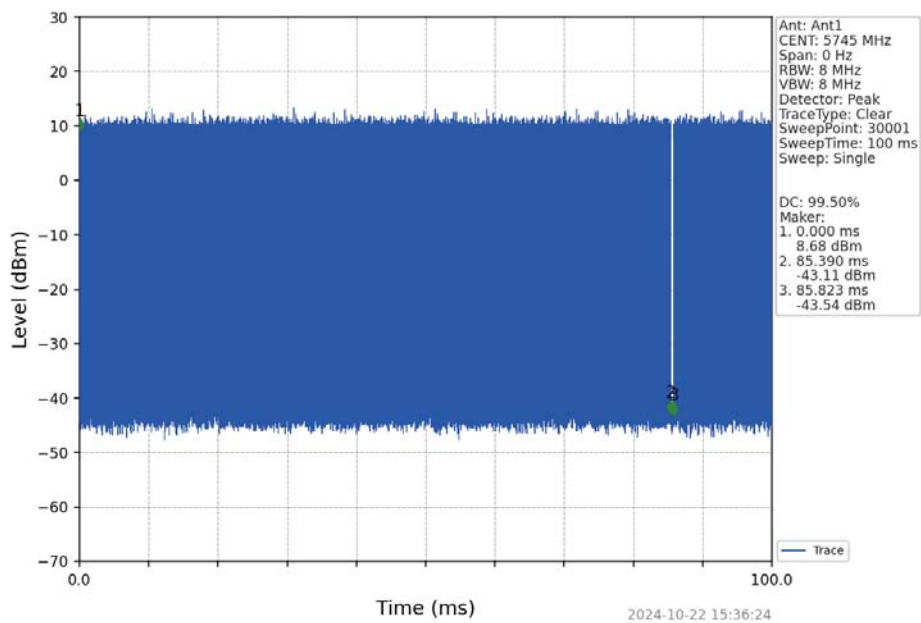
802.11a MCH 5580MHz Ant1_NTNV



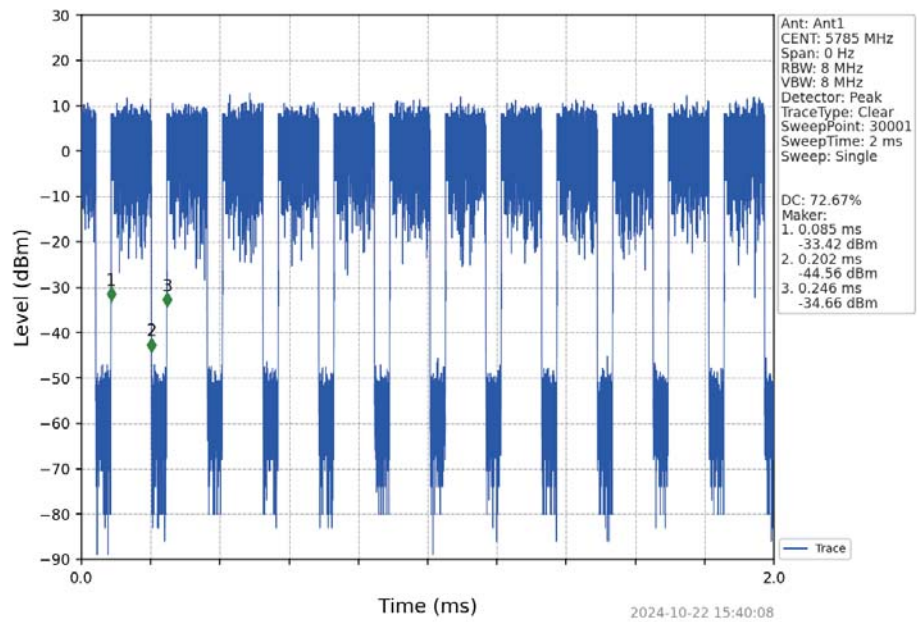
802.11a HCH 5700MHz Ant1 NTN



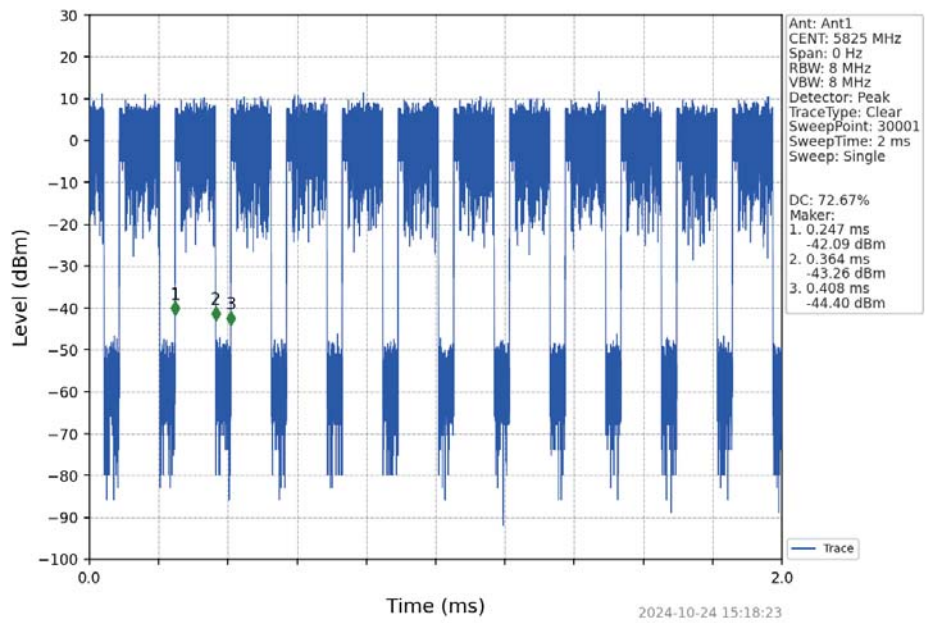
802.11a LCH 5745MHz Ant1 NTN



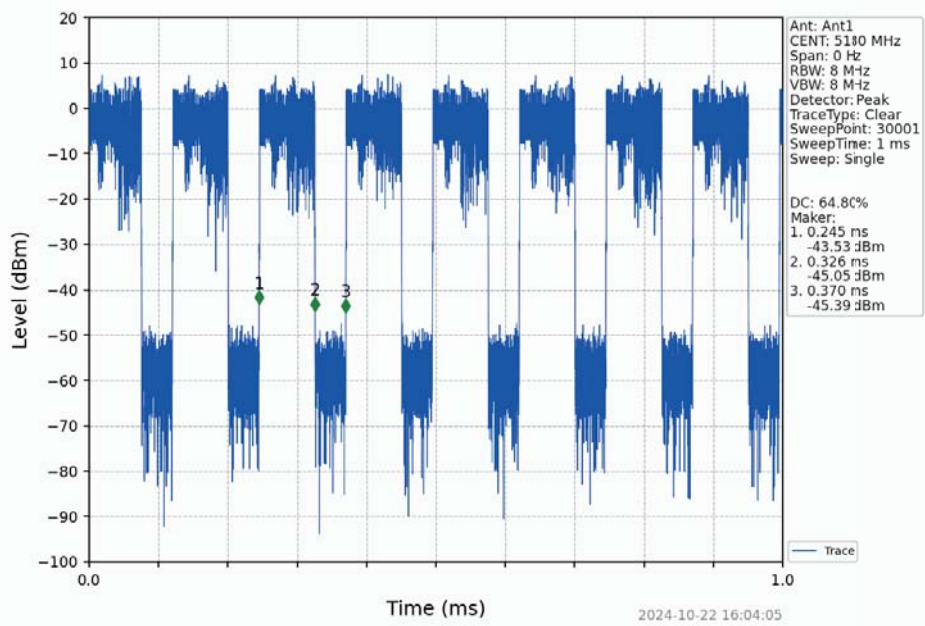
802.11a MCH 5785MHz Ant1 NTN



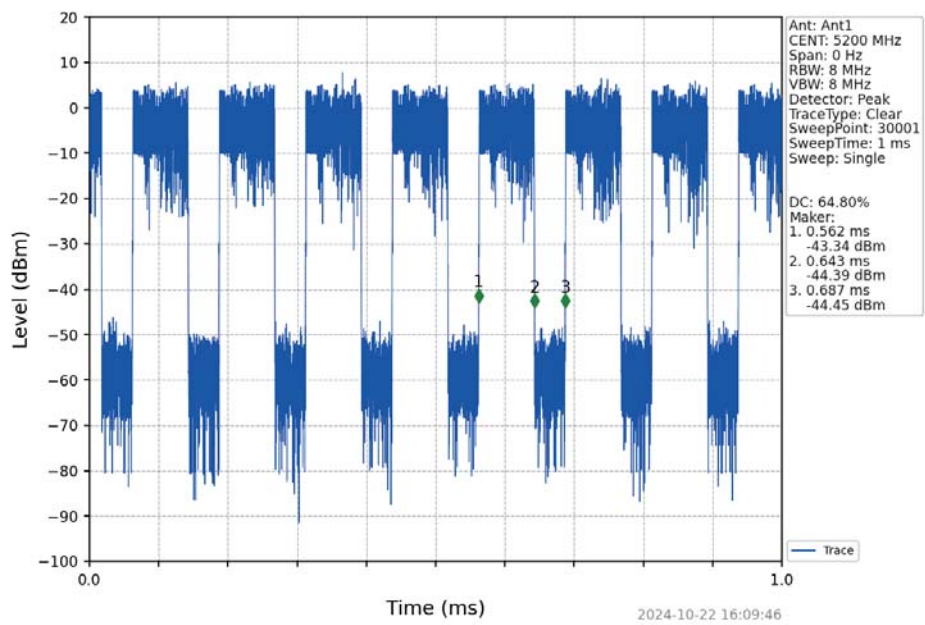
802.11a HCH 5825MHz Ant1 NTN



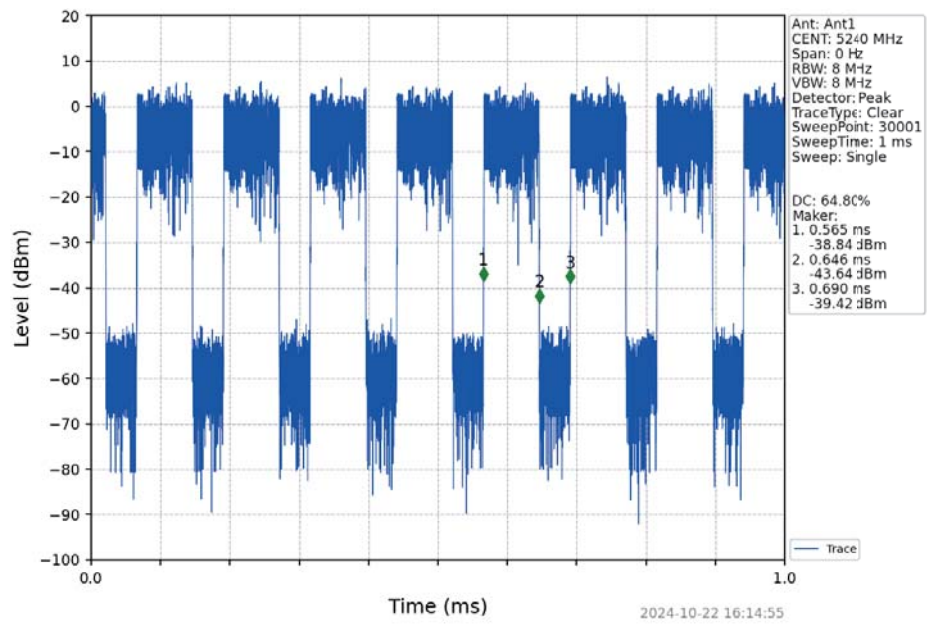
802.11n(HT20) LCH 5180MHz Ant1 NTNV



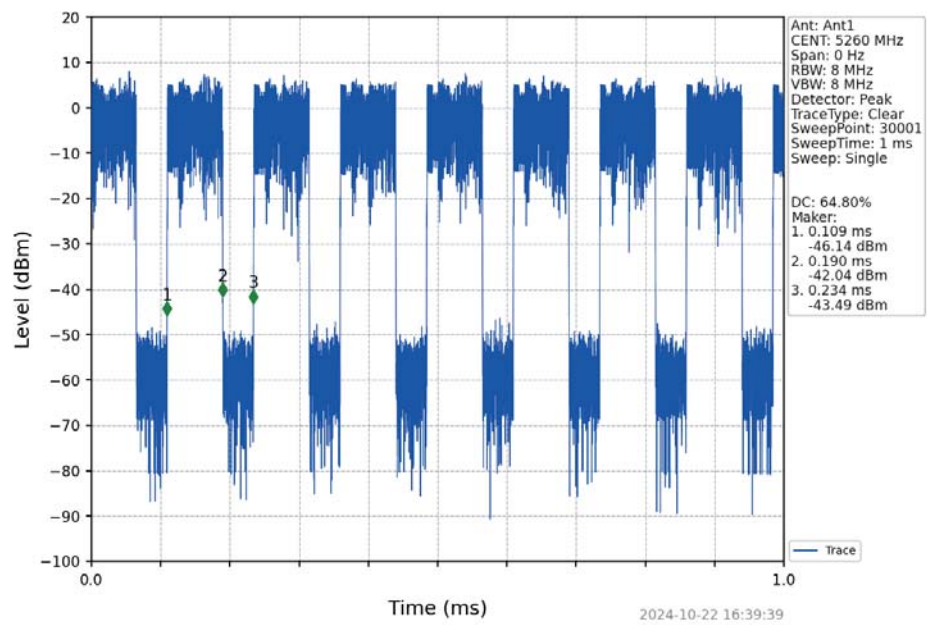
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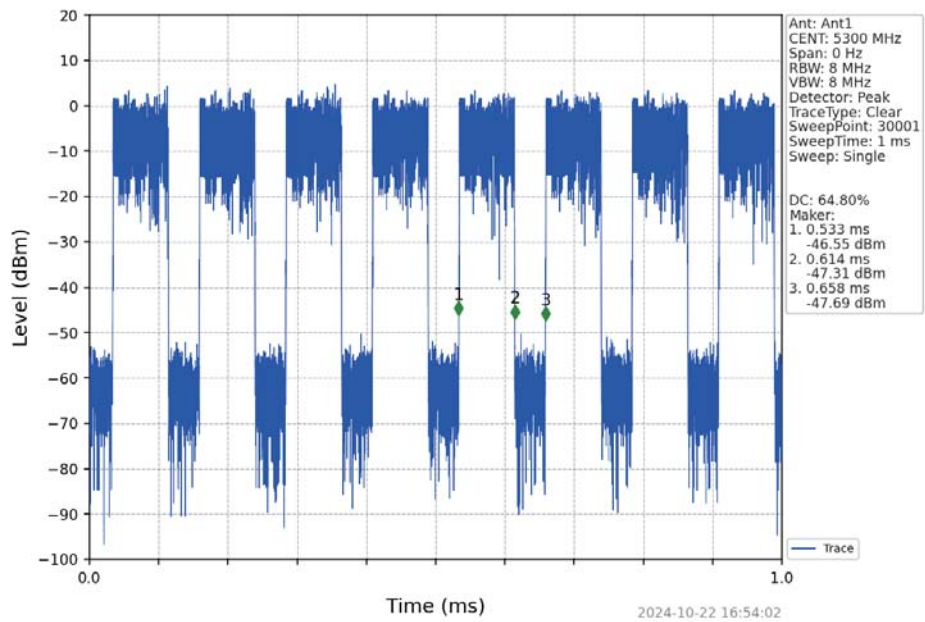
802.11n(HT20) HCH 5240MHz Ant1 NTV



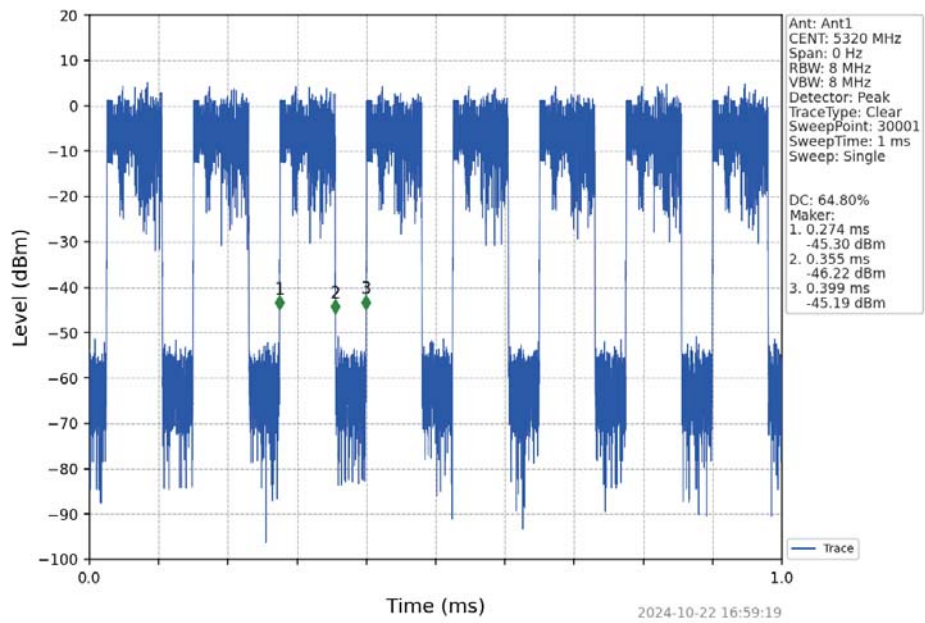
802.11n(HT20) LCH 5260MHz Ant1 NTV



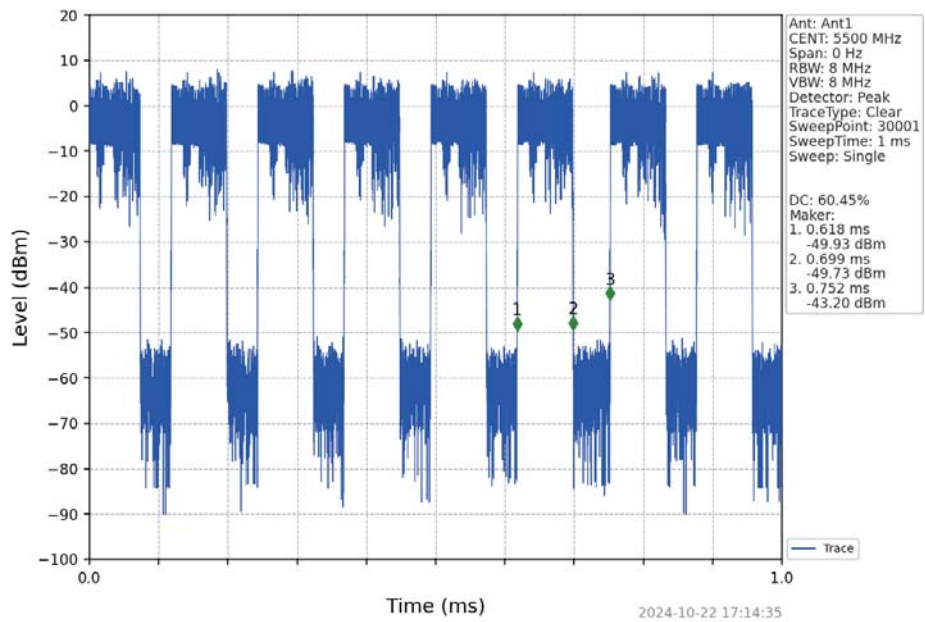
802.11n(HT20) MCH 5300MHz Ant1 NTNV



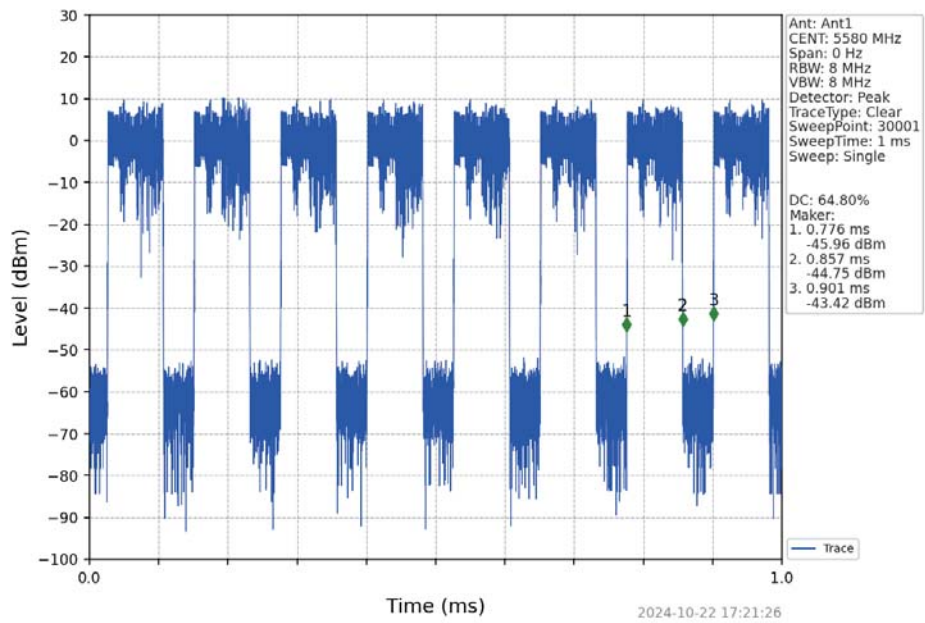
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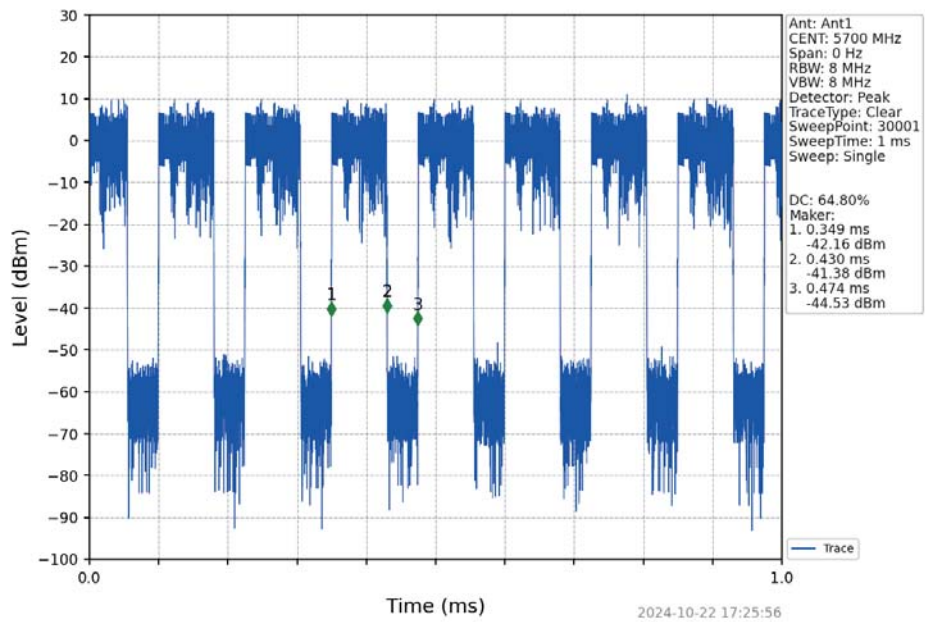
802.11n(HT20) LCH 5500MHz Ant1 NTNV



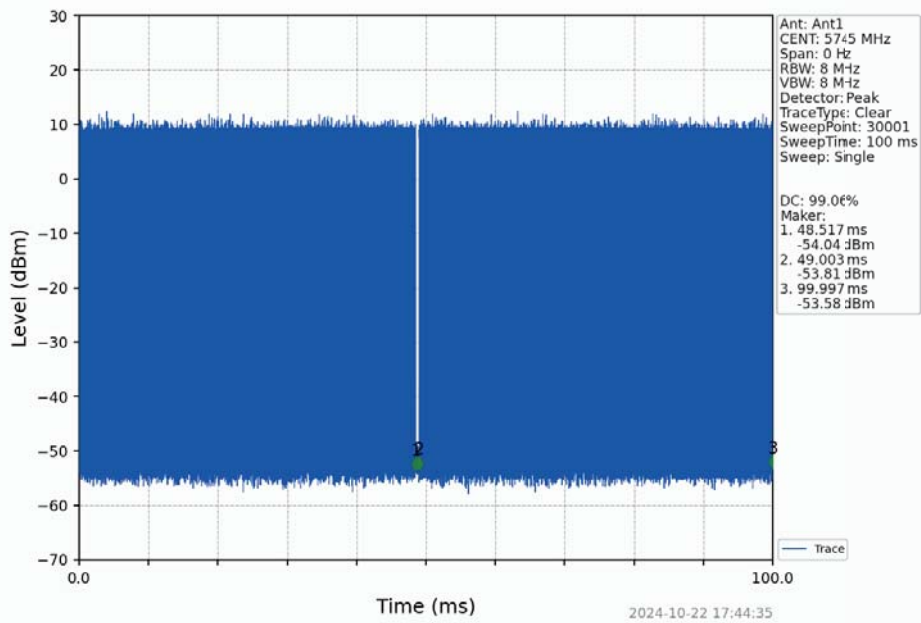
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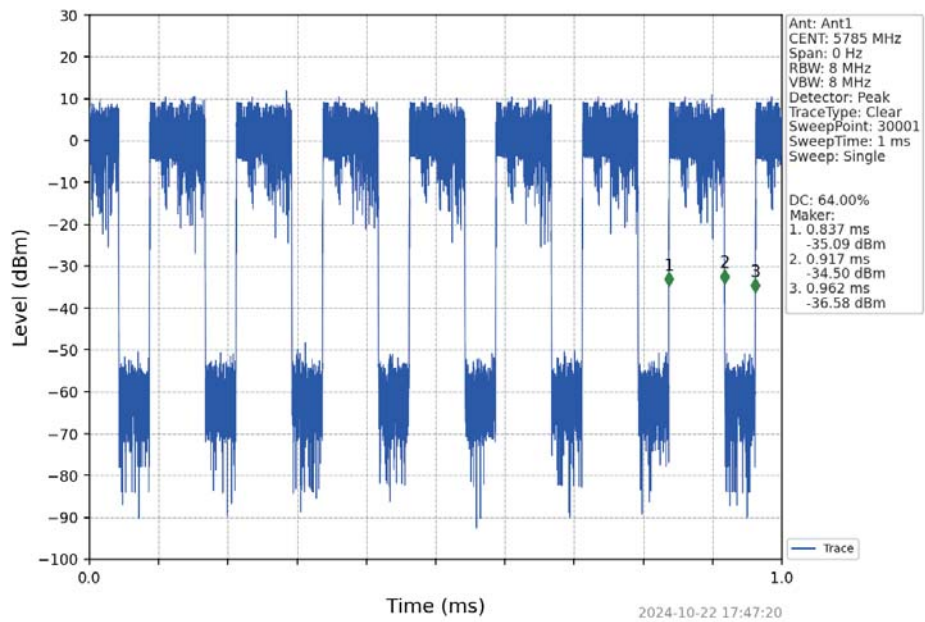
802.11n(HT20) HCH 5700MHz Ant1 NTN



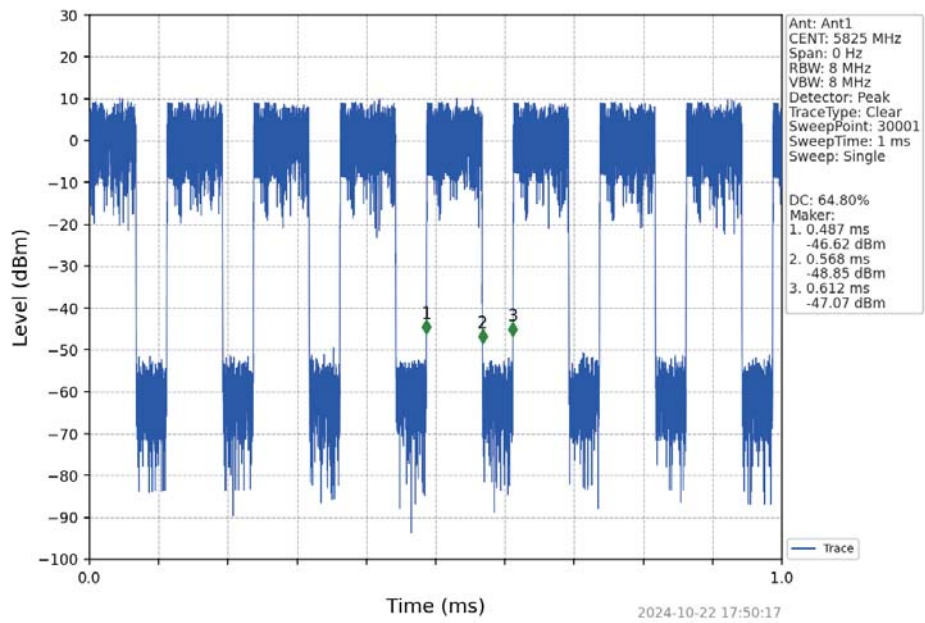
802.11n(HT20) LCH 5745MHz Ant1 NTN



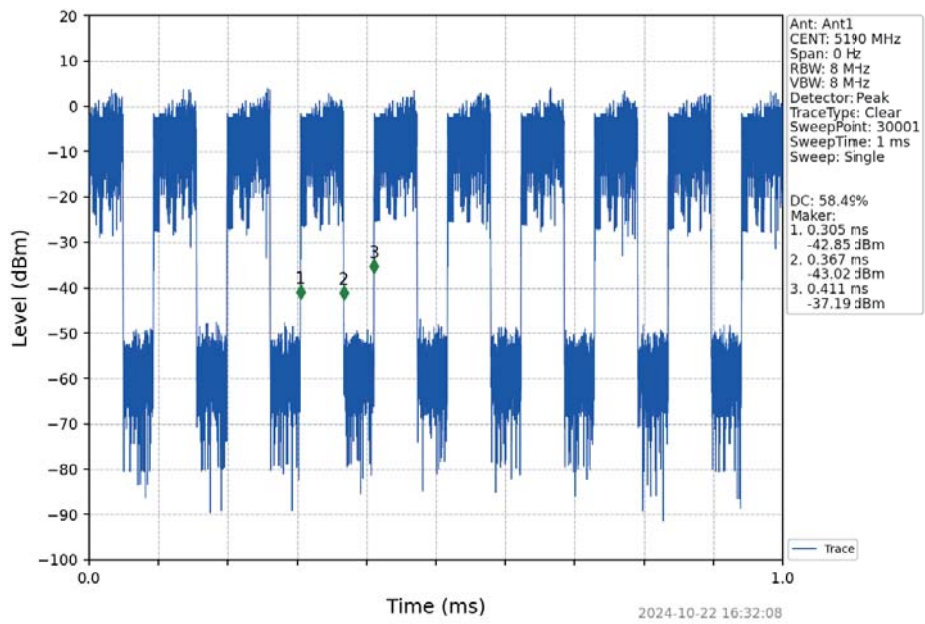
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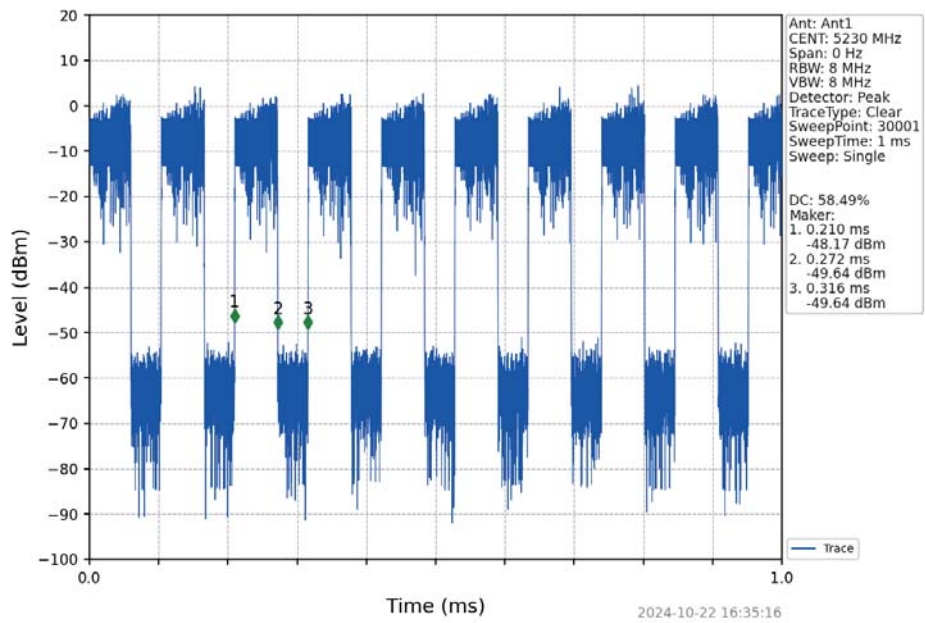
802.11n(HT20) HCH 5825MHz Ant1 NTV



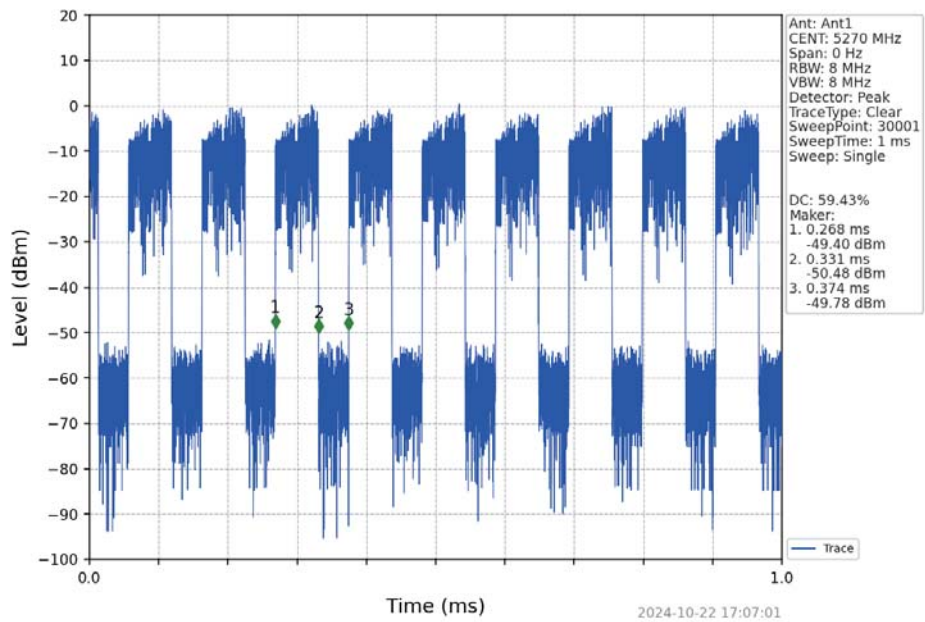
802.11n(HT40) LCH 5190MHz Ant1 NTV



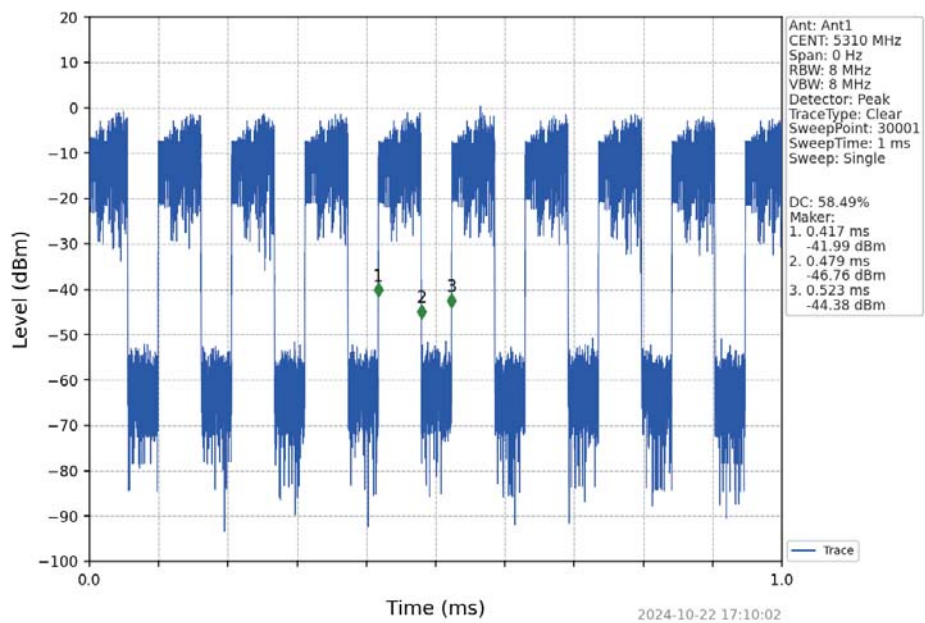
802.11n(HT40) HCH 5230MHz Ant1 NTV



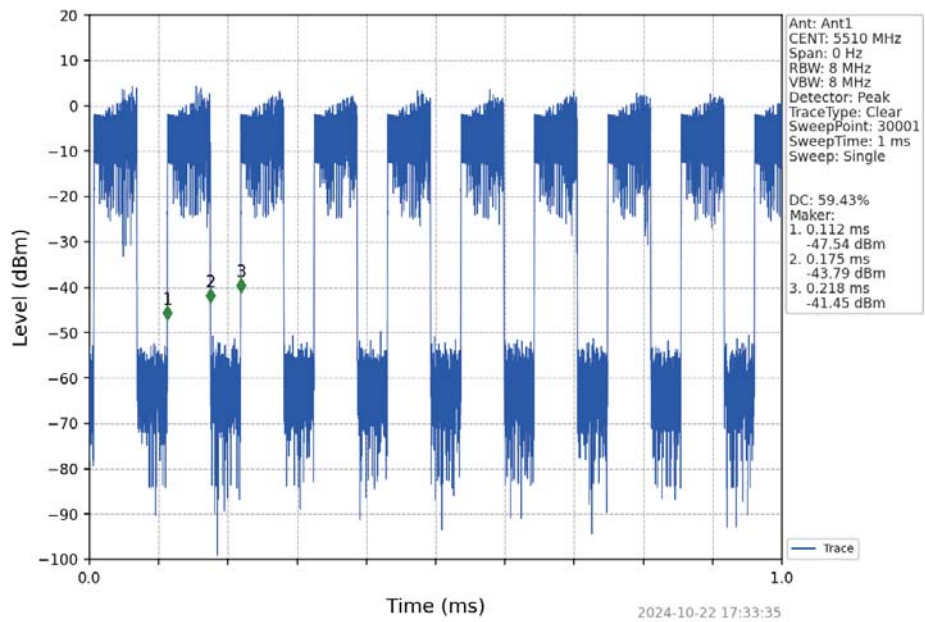
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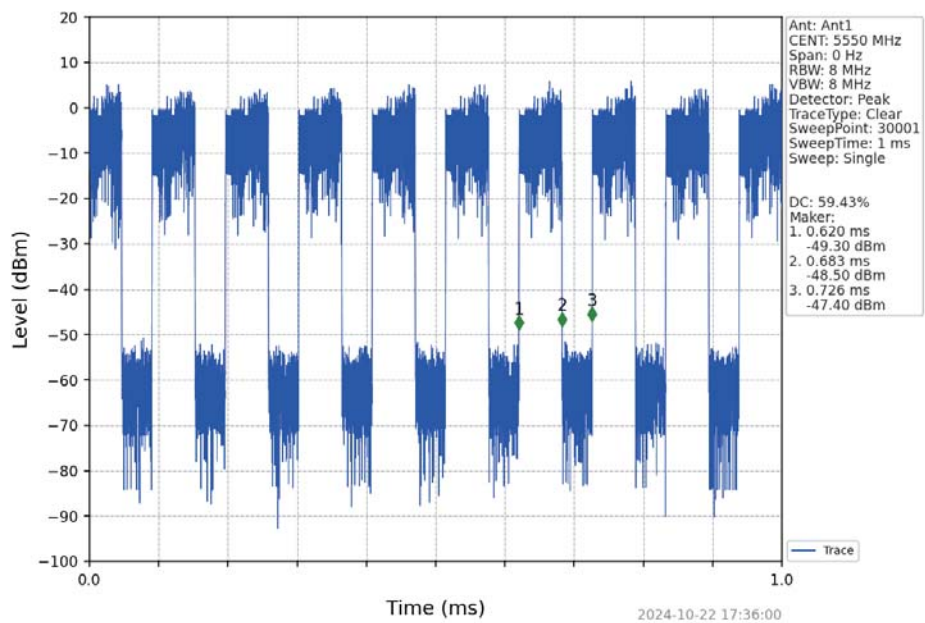
802.11n(HT40) HCH 5310MHz Ant1 NTNV



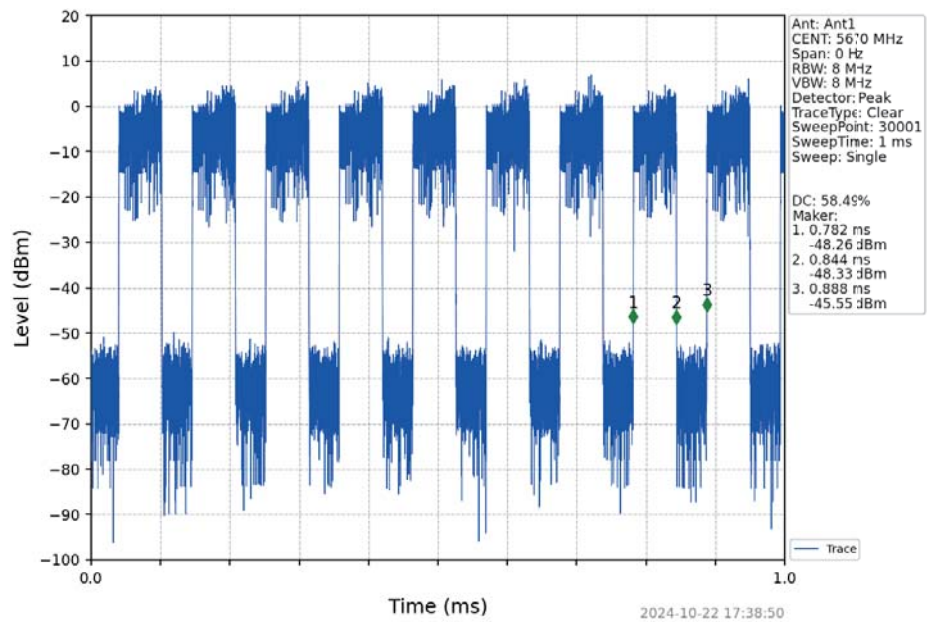
802.11n(HT40) LCH 5510MHz Ant1 NTNV



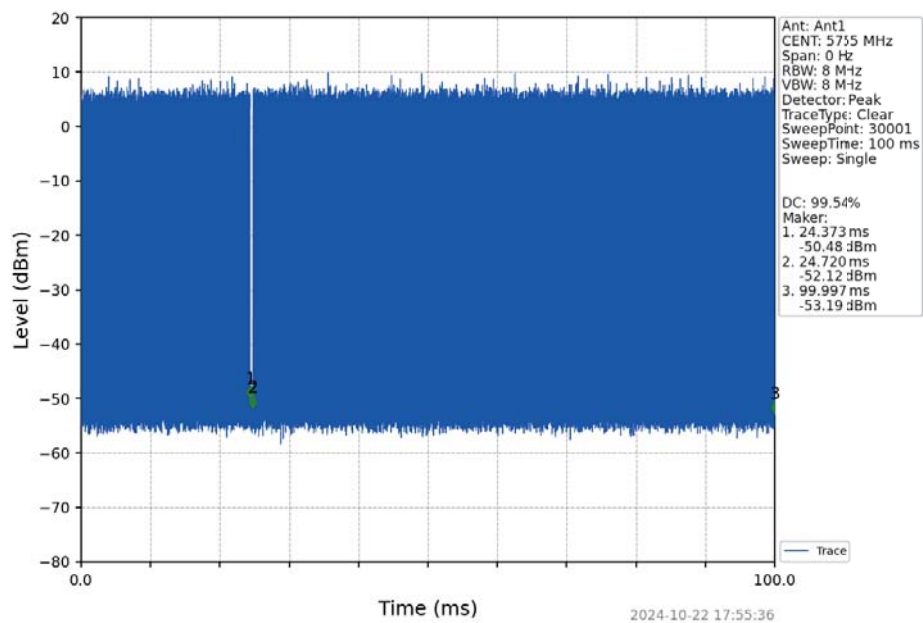
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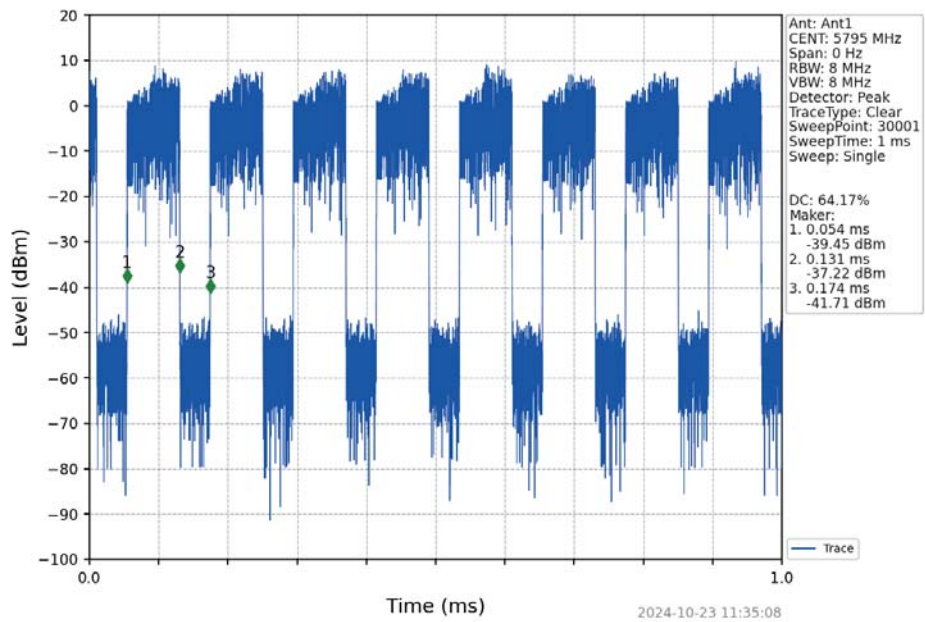
802.11n(HT40) HCH 5670MHz Ant1 NTNV



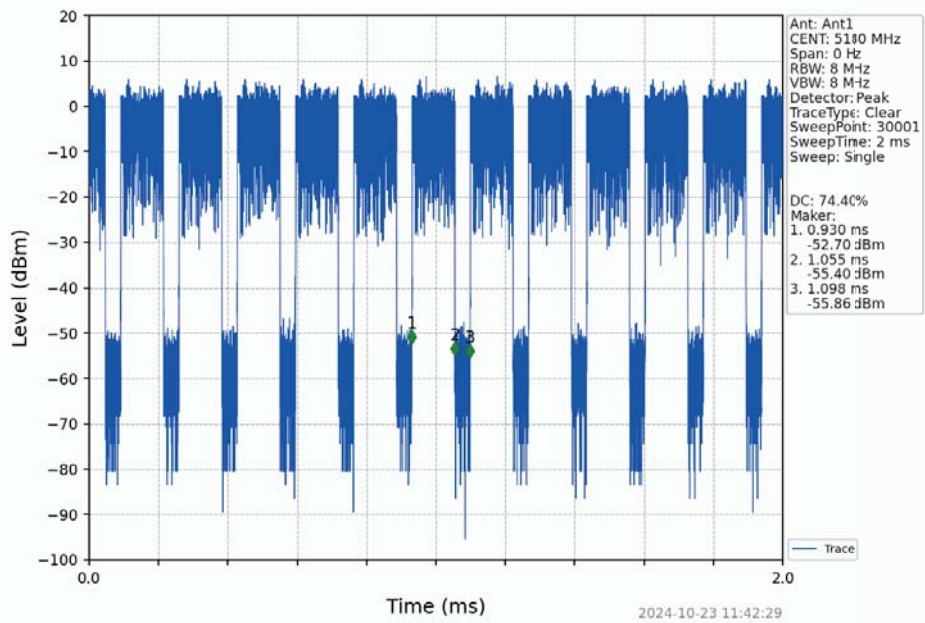
802.11n(HT40) LCH 5755MHz Ant1 NTNV



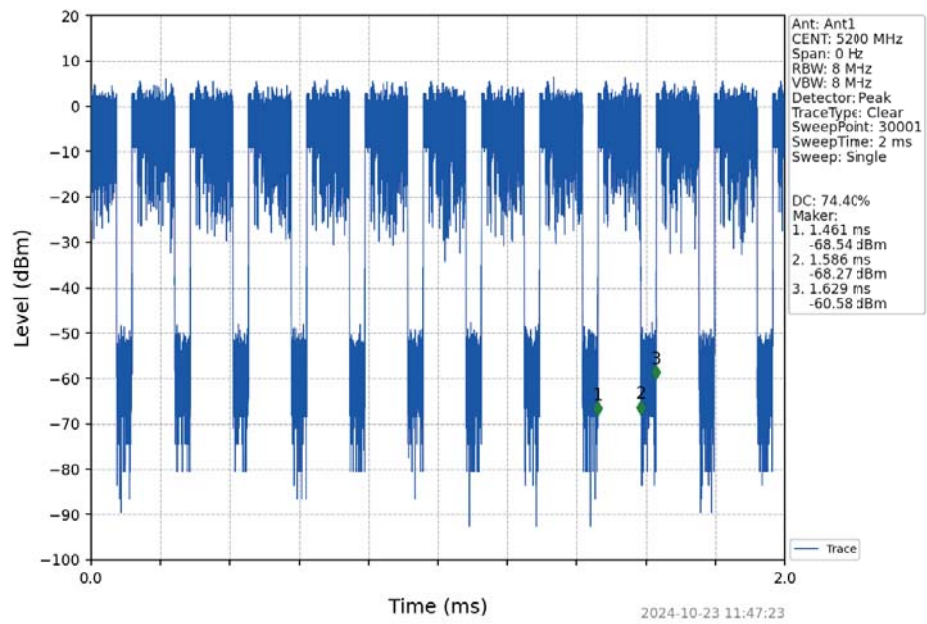
802.11n(HT40) HCH 5795MHz Ant1 NTNV



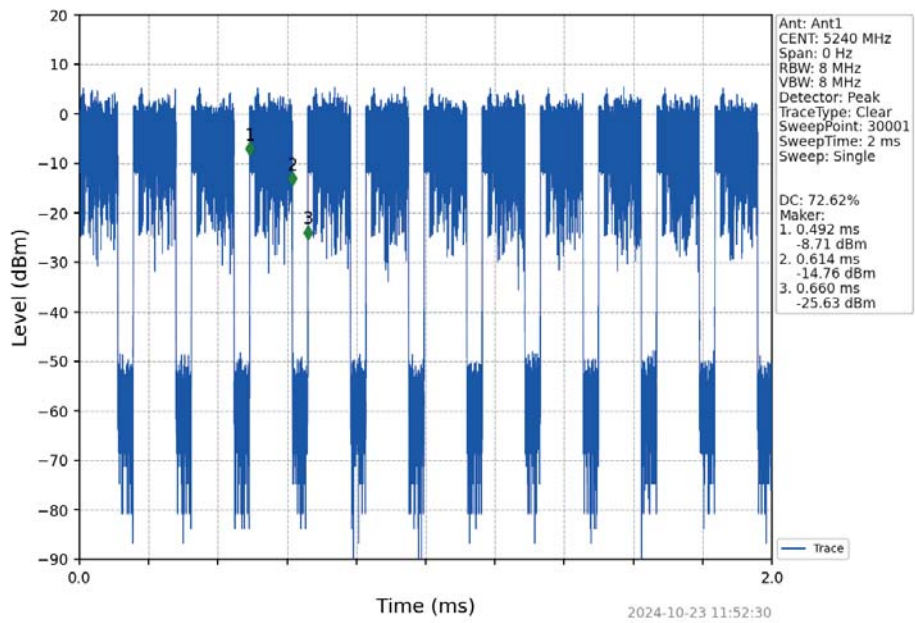
802.11ac(VHT20) LCH 5180MHz Ant1 NTNV



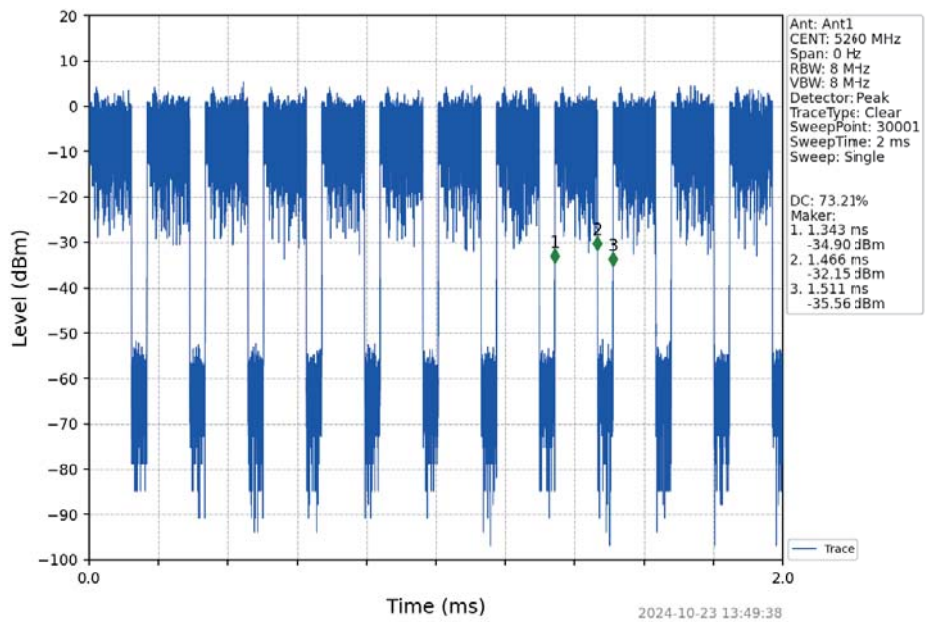
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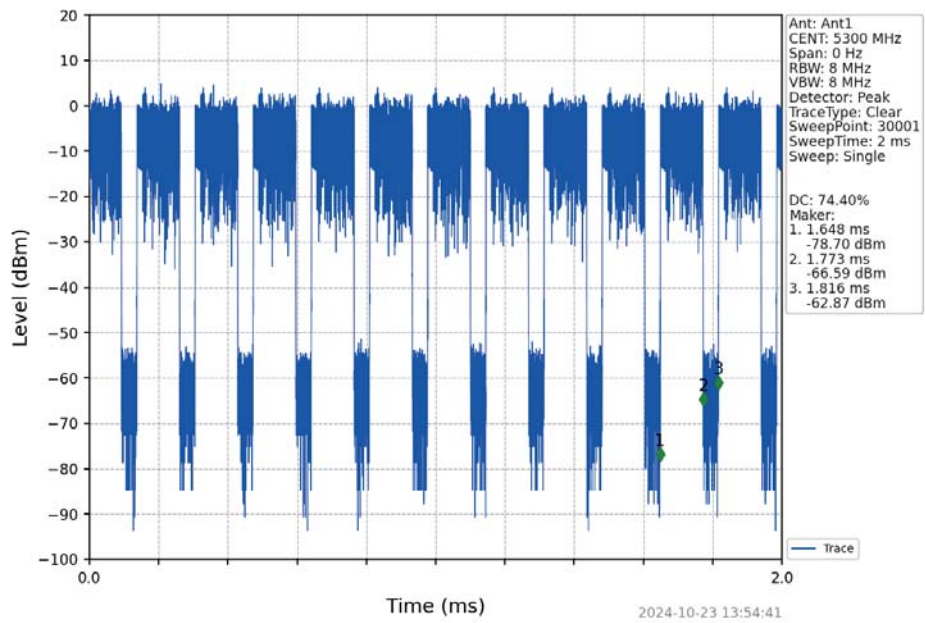
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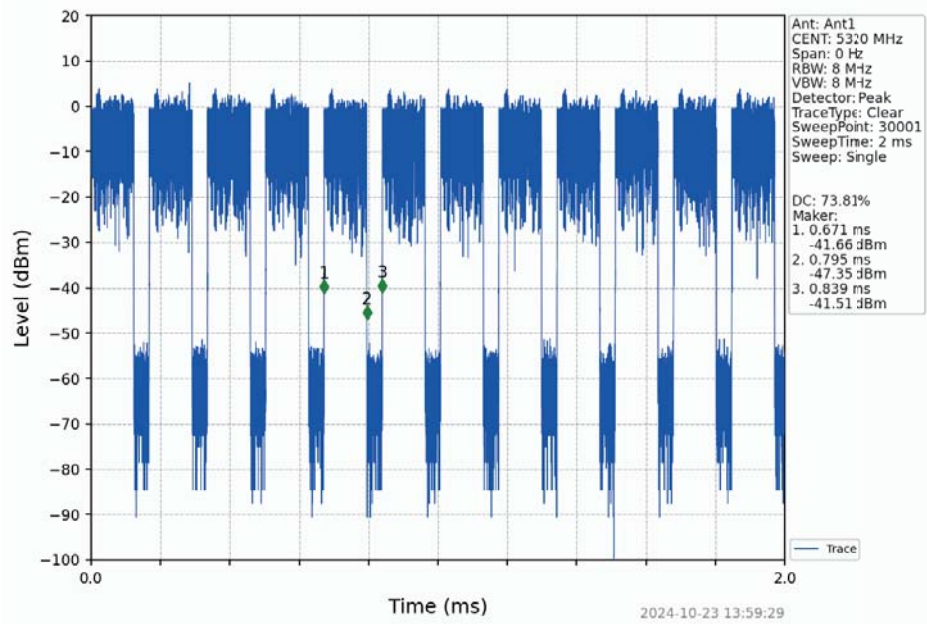
802.11ac(VHT20) LCH 5260MHz Ant1 NTN



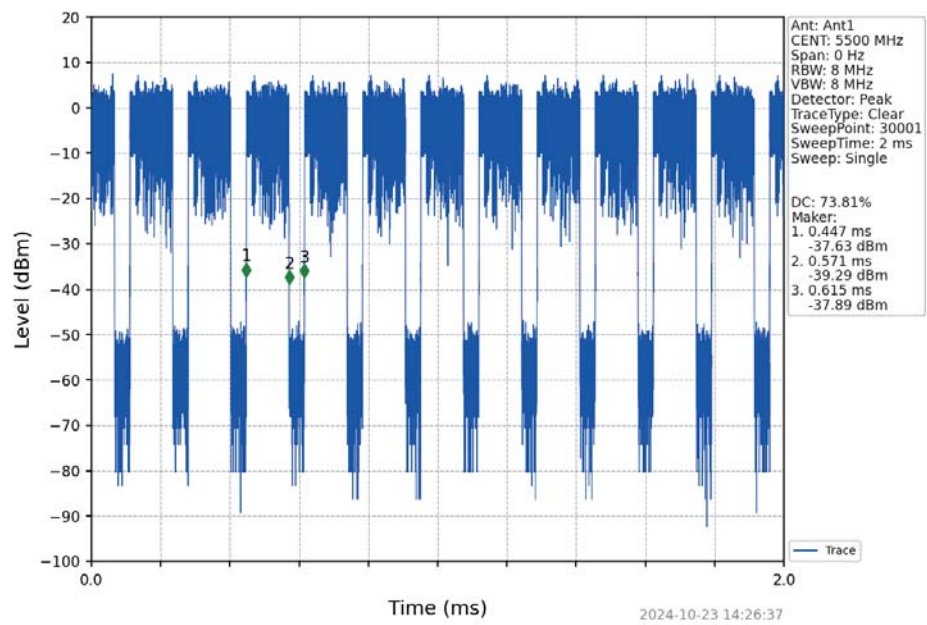
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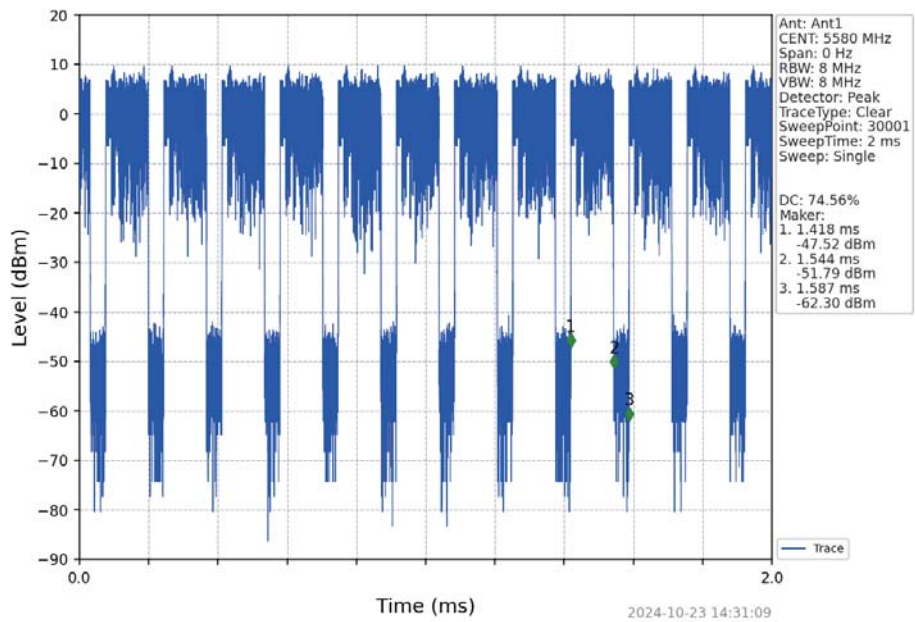
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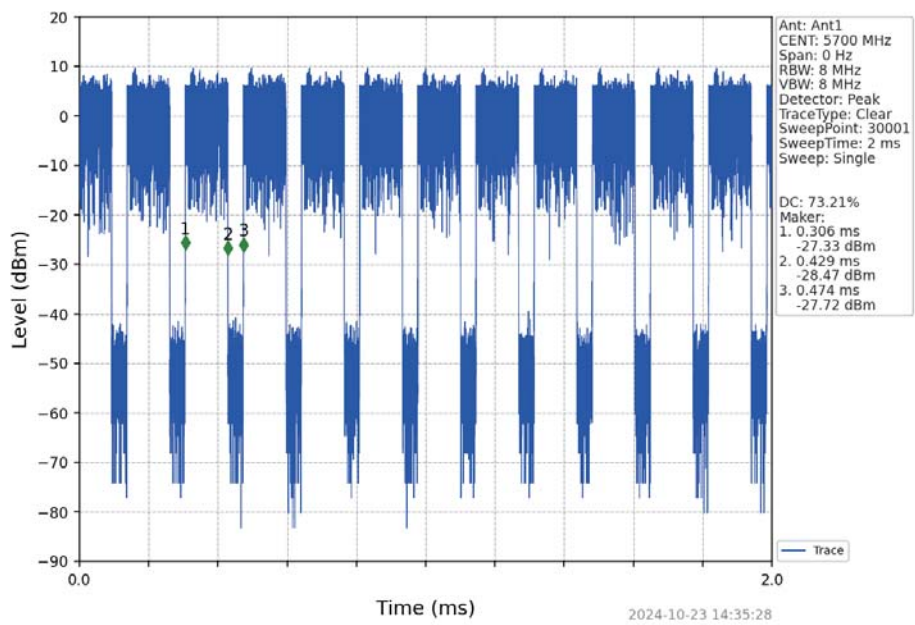
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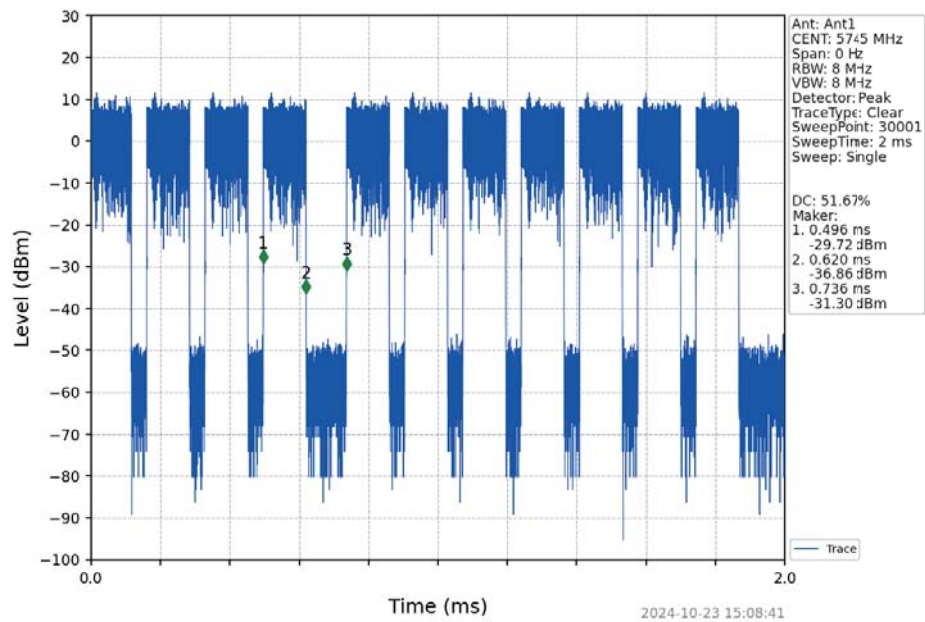
802.11ac(VHT20) MCH 5580MHz Ant1 NTN



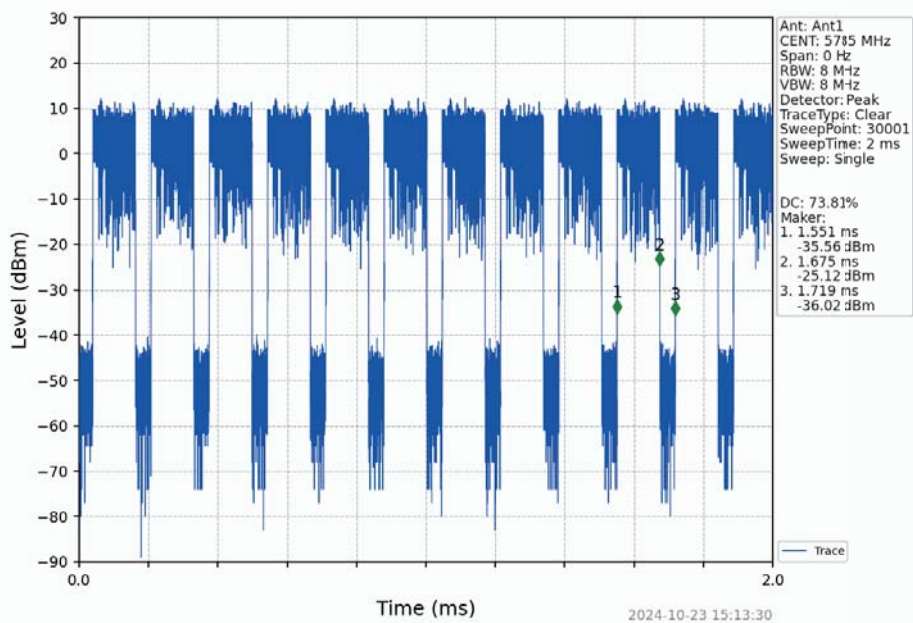
802.11ac(VHT20) HCH 5700MHz Ant1 NTN



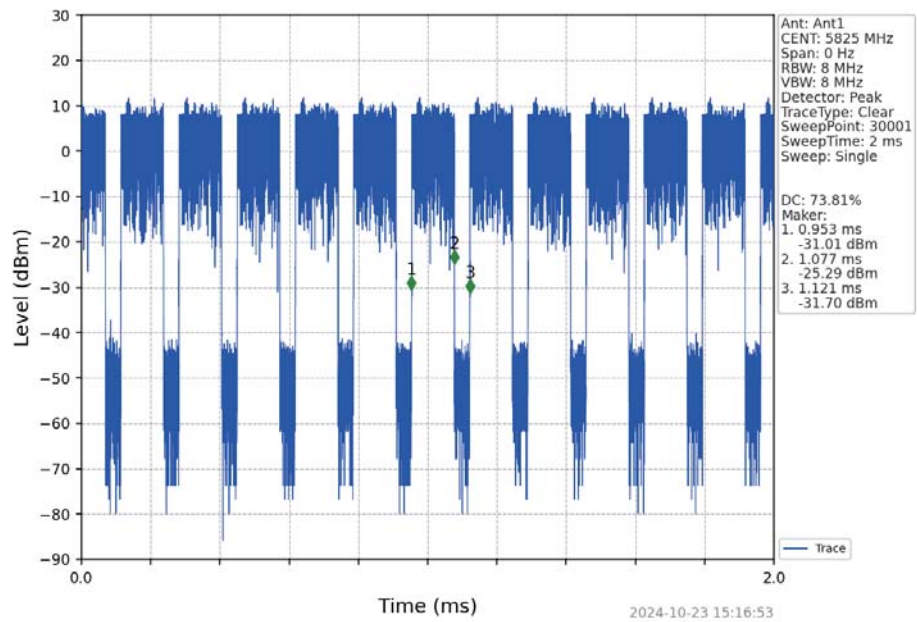
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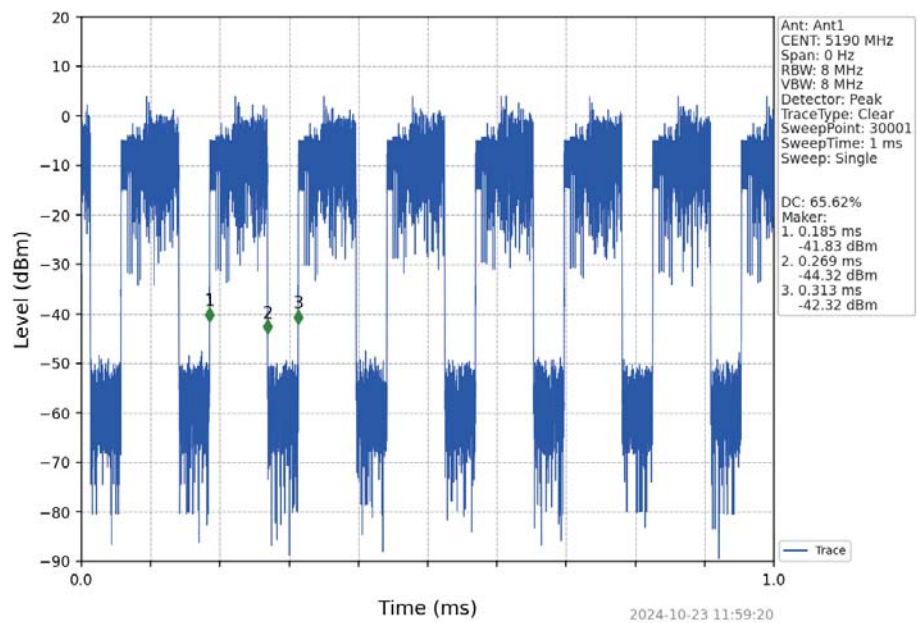
802.11ac(VHT20) MCH 5785MHz Ant1 NTN



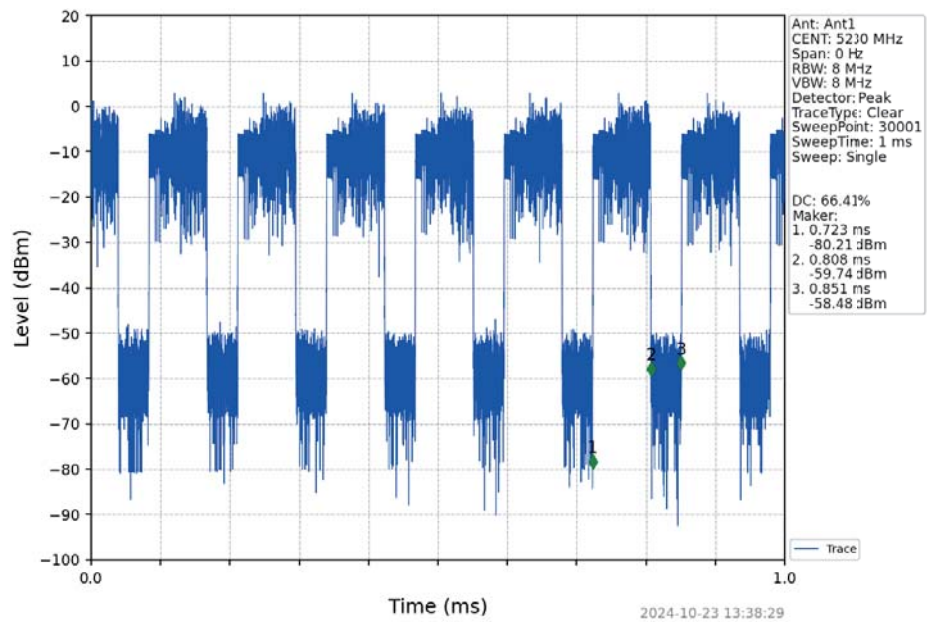
802.11ac(VHT20) HCH 5825MHz Ant1 NTNV



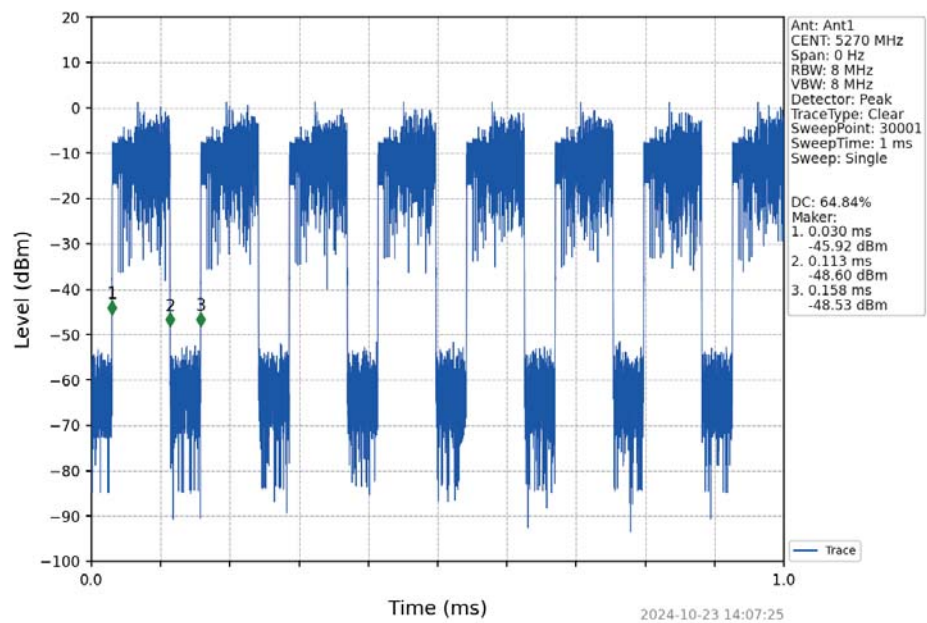
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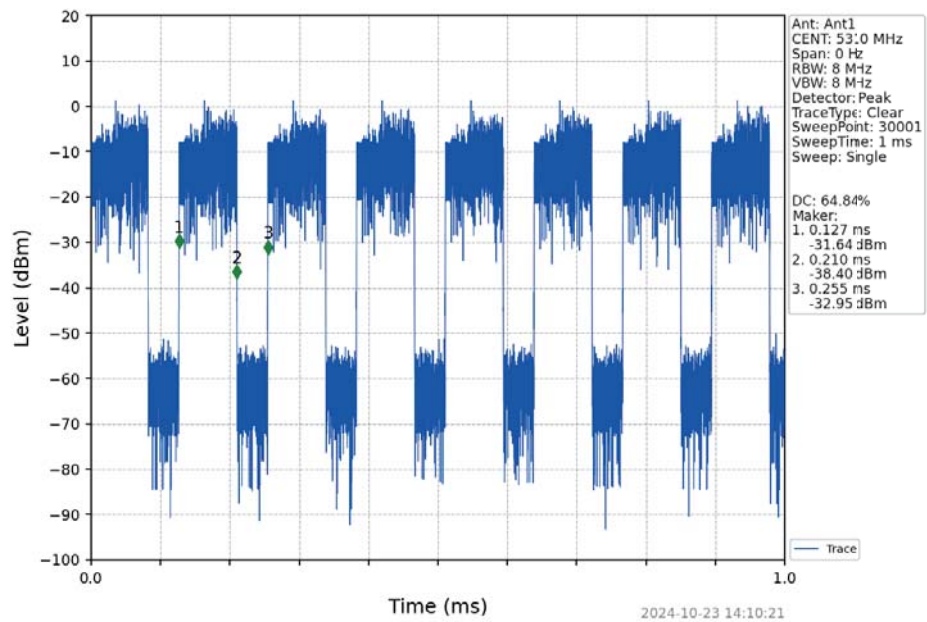
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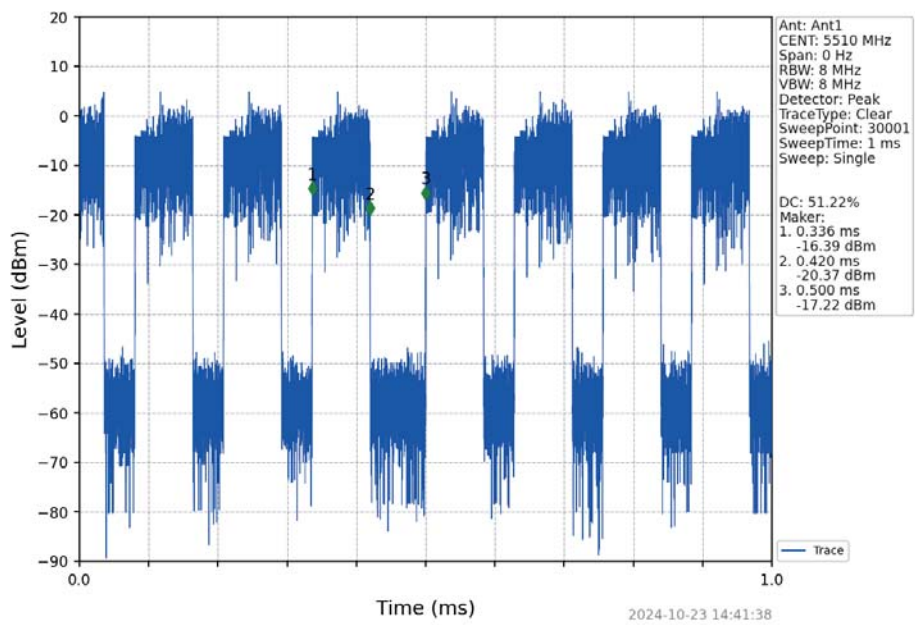
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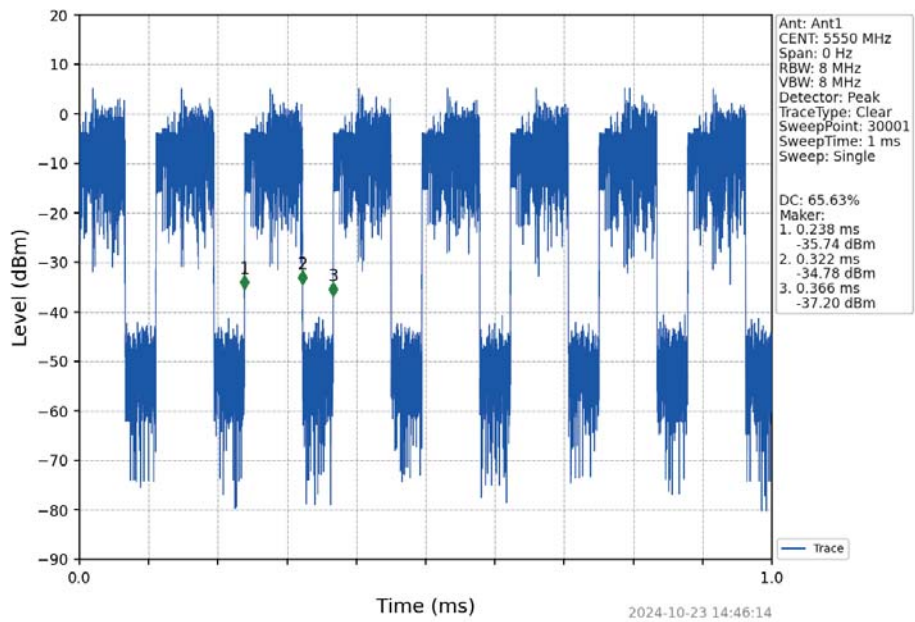
802.11ac(VHT40) HCH 5310MHz Ant1 NTN



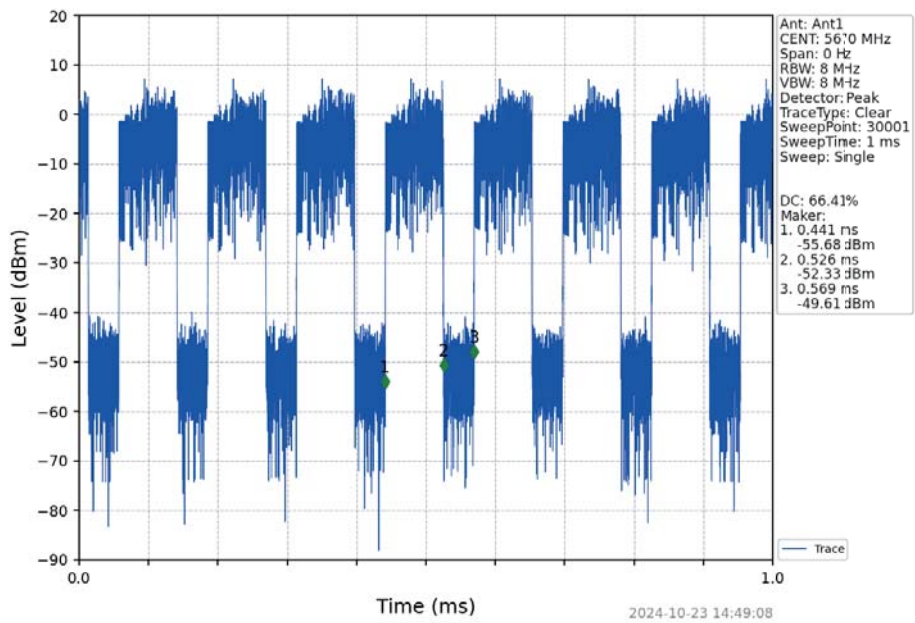
802.11ac(VHT40) LCH 5510MHz Ant1 NTN



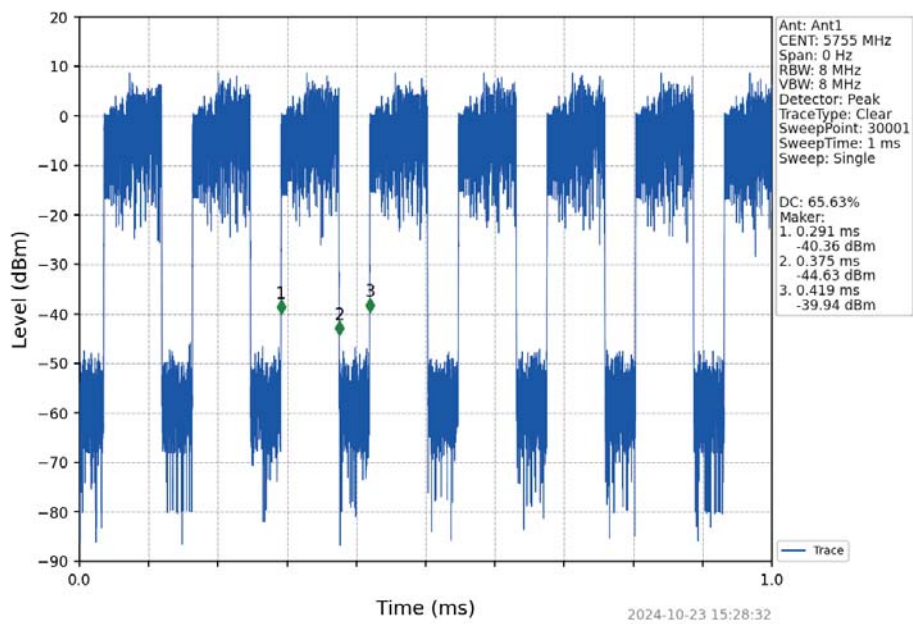
802.11ac(VHT40) MCH 5550MHz Ant1 NTN



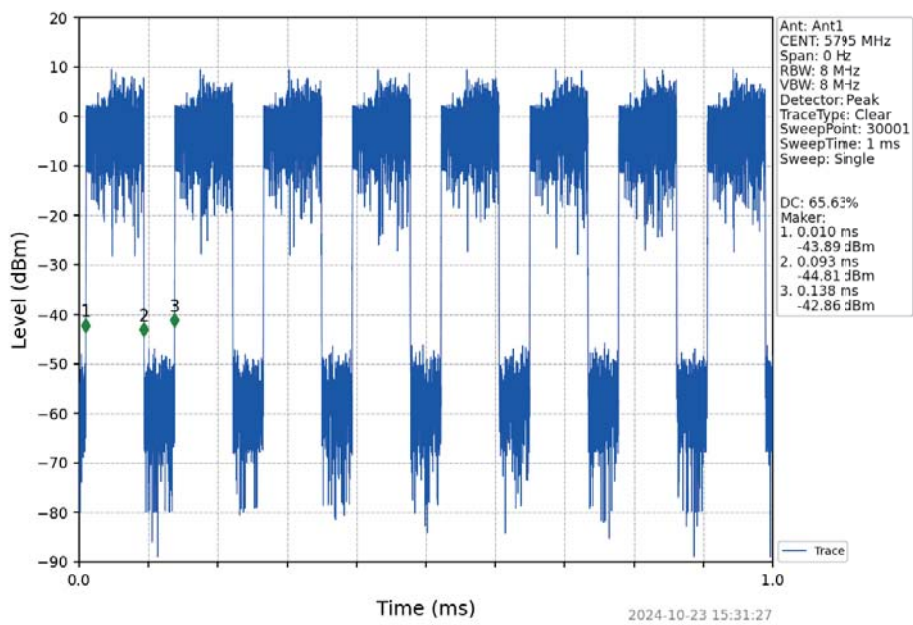
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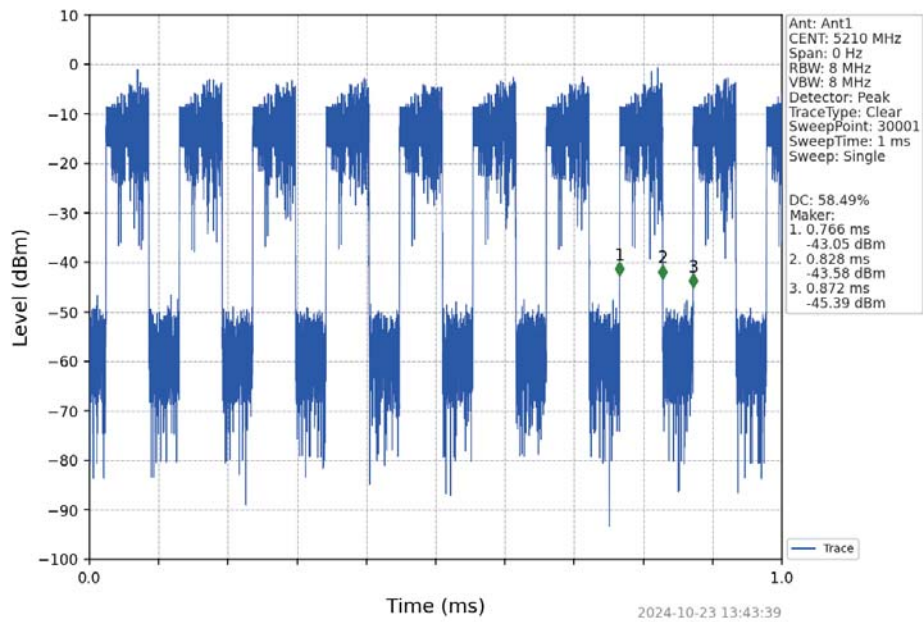
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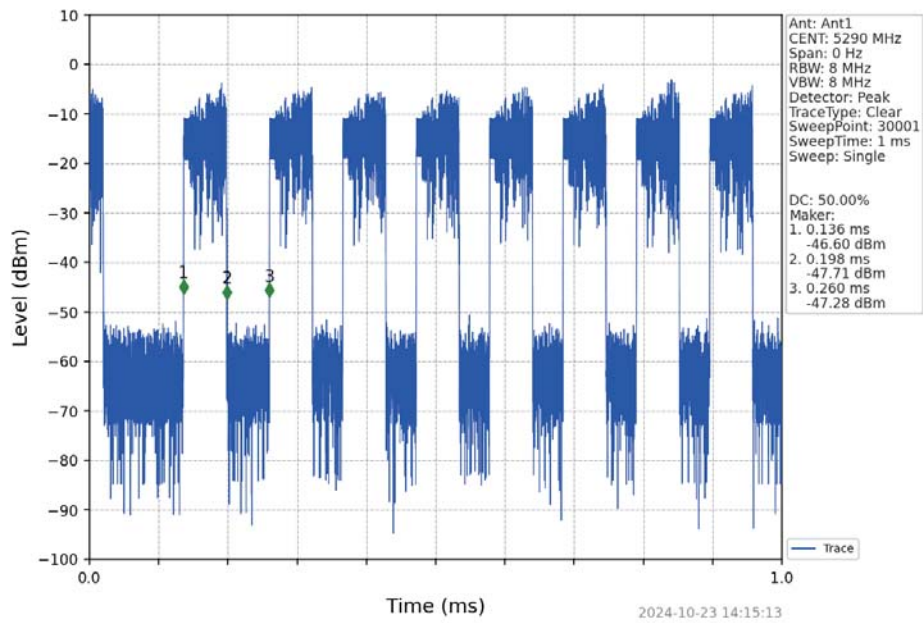
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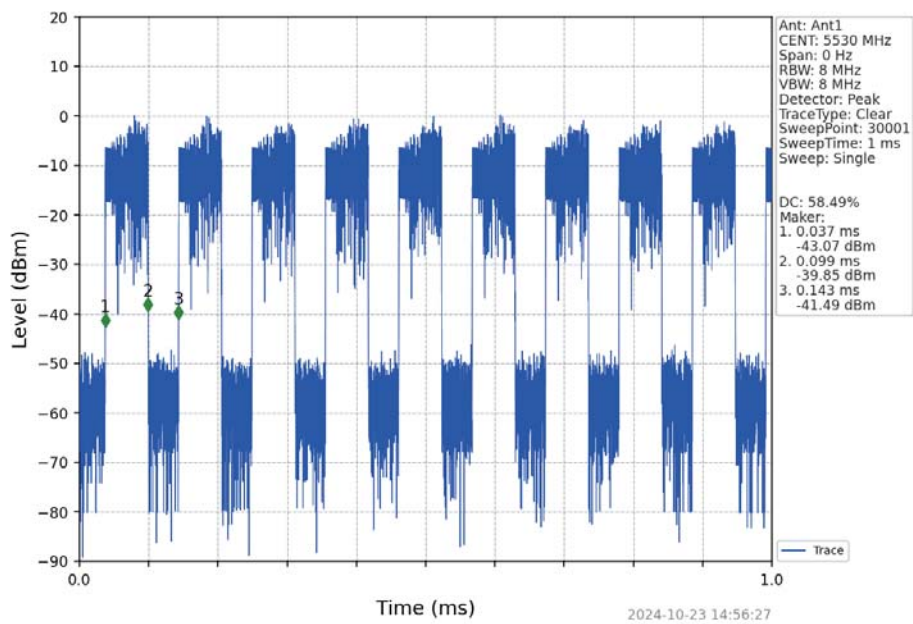
802.11ac(VHT80) MCH 5210MHz Ant1 NTN



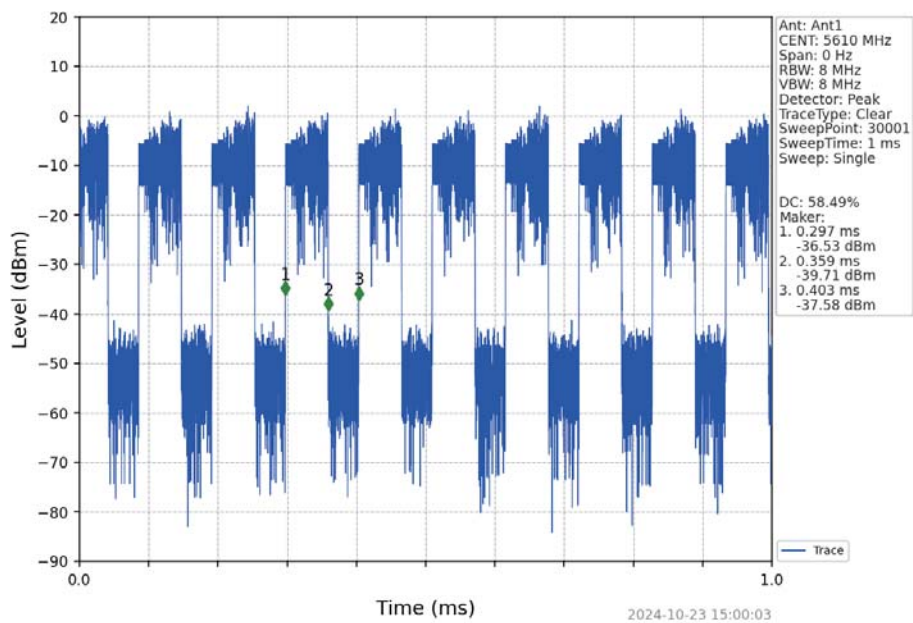
802.11ac(VHT80) MCH 5290MHz Ant1 NTN



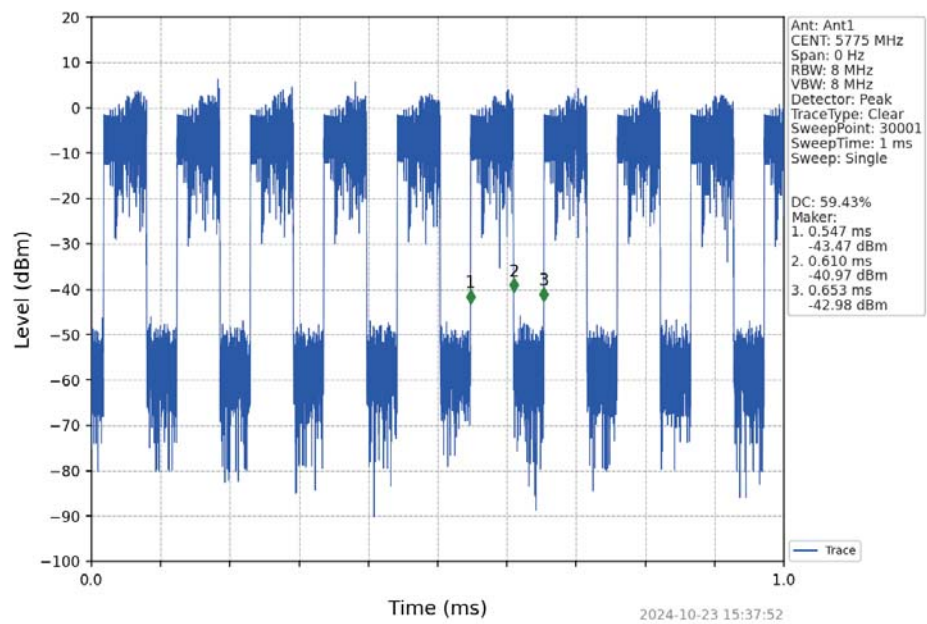
802.11ac(VHT80) LCH 5530MHz Ant1 NTN



802.11ac(VHT80) HCH 5610MHz Ant1 NTN



802.11ac(VHT80) MCH 5775MHz Ant1 NTN



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	17.972	/	Pass
		5200	1	17.869	/	Pass
		5240	1	17.998	/	Pass
		5260	1	18.049	/	Pass
		5300	1	17.939	/	Pass
		5320	1	18.073	/	Pass
		5500	1	18.067	/	Pass
		5580	1	18.287	/	Pass
		5700	1	19.194	/	Pass
		5745	1	23.341	/	Pass
		5785	1	19.317	/	Pass
		5825	1	18.932	/	Pass
802.11n (HT20)	MIMO	5180	1	18.409	/	Pass
		5200	1	18.403	/	Pass
		5240	1	18.464	/	Pass
		5260	1	18.801	/	Pass
		5300	1	18.407	/	Pass
		5320	1	18.393	/	Pass
		5500	1	18.486	/	Pass
		5580	1	18.475	/	Pass
		5700	1	18.756	/	Pass
		5745	1	21.471	/	Pass
		5785	1	19.544	/	Pass
		5825	1	19.396	/	Pass
802.11n (HT40)	MIMO	5190	1	36.848	/	Pass
		5230	1	37.150	/	Pass
		5270	1	37.007	/	Pass
		5310	1	37.121	/	Pass
		5510	1	37.115	/	Pass
		5550	1	37.111	/	Pass
		5670	1	39.227	/	Pass
		5755	1	43.308	/	Pass
		5795	1	37.480	/	Pass
802.11ac (VHT20)	MIMO	5180	1	18.529	/	Pass
		5200	1	18.542	/	Pass
		5240	1	18.576	/	Pass
		5260	1	18.580	/	Pass
		5300	1	18.660	/	Pass
		5320	1	18.644	/	Pass
		5500	1	18.543	/	Pass
		5580	1	18.610	/	Pass
		5700	1	18.697	/	Pass
		5745	1	22.590	/	Pass
		5785	1	22.235	/	Pass
		5825	1	19.988	/	Pass
802.11ac (VHT40)	MIMO	5190	1	37.291	/	Pass
		5230	1	37.258	/	Pass

		5270	1	37.468	/	Pass
		5310	1	37.520	/	Pass
		5510	1	37.379	/	Pass
		5550	1	37.191	/	Pass
		5670	1	37.519	/	Pass
		5755	1	39.079	/	Pass
		5795	1	38.363	/	Pass
802.11ac (VHT80)	MIMO	5210	1	76.654	/	Pass
		5290	1	76.914	/	Pass
		5530	1	76.887	/	Pass
		5610	1	76.790	/	Pass
		5775	1	84.454	/	Pass

2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	1	16.424	≥ 0.5	Pass
		5785	1	16.434	≥ 0.5	Pass
		5825	1	16.425	≥ 0.5	Pass
802.11n (HT20)	MIMO	5745	1	17.609	≥ 0.5	Pass
		5785	1	17.606	≥ 0.5	Pass
		5825	1	17.671	≥ 0.5	Pass
802.11n (HT40)	MIMO	5755	1	35.796	≥ 0.5	Pass
		5795	1	36.153	≥ 0.5	Pass
802.11ac (VHT20)	MIMO	5745	1	17.611	≥ 0.5	Pass
		5785	1	17.594	≥ 0.5	Pass
		5825	1	17.632	≥ 0.5	Pass
802.11ac (VHT40)	MIMO	5755	1	36.013	≥ 0.5	Pass
		5795	1	35.695	≥ 0.5	Pass
802.11ac (VHT80)	MIMO	5775	1	75.542	≥ 0.5	Pass

2.1.3 26dB BW

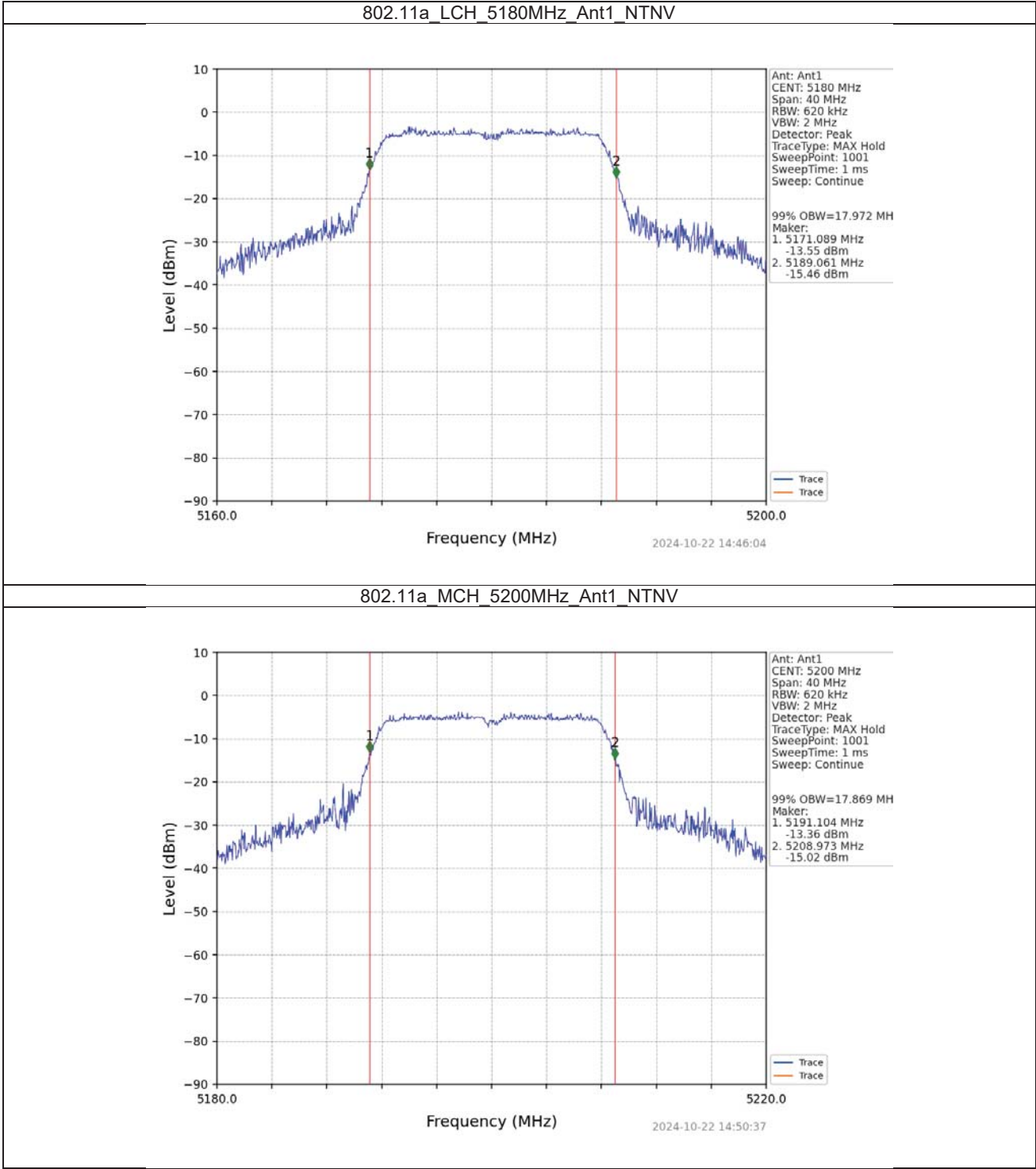
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	25.183	/	Pass
		5200	1	26.192	/	Pass
		5240	1	23.389	/	Pass
		5260	1	23.902	/	Pass
		5300	1	24.050	/	Pass
		5320	1	26.257	/	Pass
		5500	1	28.050	/	Pass
		5580	1	28.501	/	Pass
802.11n (HT20)	MIMO	5700	1	37.351	/	Pass
		5180	1	26.740	/	Pass
		5200	1	27.843	/	Pass
		5240	1	25.513	/	Pass
		5260	1	28.577	/	Pass
		5300	1	25.474	/	Pass
		5320	1	26.272	/	Pass
		5500	1	24.230	/	Pass
802.11n	MIMO	5580	1	32.398	/	Pass
		5700	1	36.922	/	Pass
802.11n	MIMO	5190	1	45.980	/	Pass

(HT40)		5230	1	50.884	/	Pass
		5270	1	44.748	/	Pass
		5310	1	43.612	/	Pass
		5510	1	61.216	/	Pass
		5550	1	62.120	/	Pass
		5670	1	77.012	/	Pass
802.11ac (VHT20)	MIMO	5180	1	26.583	/	Pass
		5200	1	28.463	/	Pass
		5240	1	25.958	/	Pass
		5260	1	25.589	/	Pass
		5300	1	28.155	/	Pass
		5320	1	29.292	/	Pass
		5500	1	27.468	/	Pass
		5580	1	27.885	/	Pass
802.11ac (VHT40)	MIMO	5700	1	29.251	/	Pass
		5190	1	51.961	/	Pass
		5230	1	52.732	/	Pass
		5270	1	52.505	/	Pass
		5310	1	53.566	/	Pass
		5510	1	60.680	/	Pass
		5550	1	55.253	/	Pass
802.11ac (VHT80)	MIMO	5670	1	74.975	/	Pass
		5210	1	85.027	/	Pass
		5290	1	88.083	/	Pass
		5530	1	85.939	/	Pass
		5610	1	86.937	/	Pass

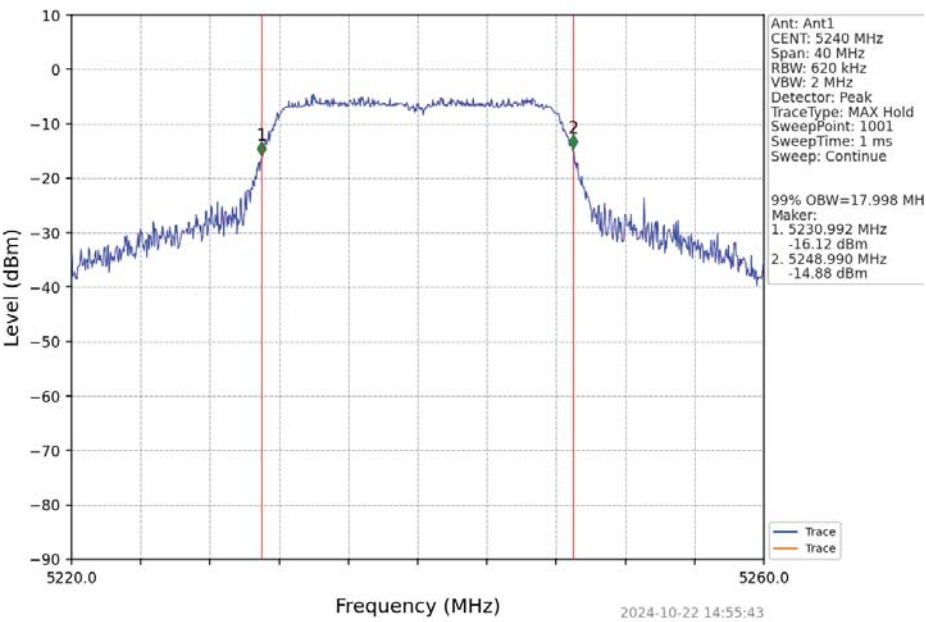
Note3:Channel 5610MHz is only use for FCC test data.

2.2 Test Graph

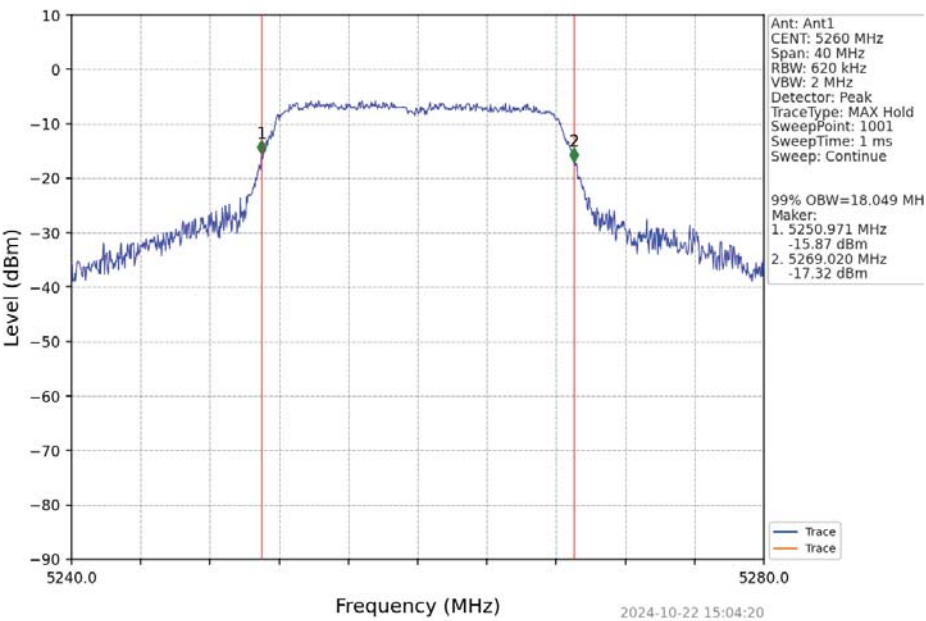
2.2.1 OBW



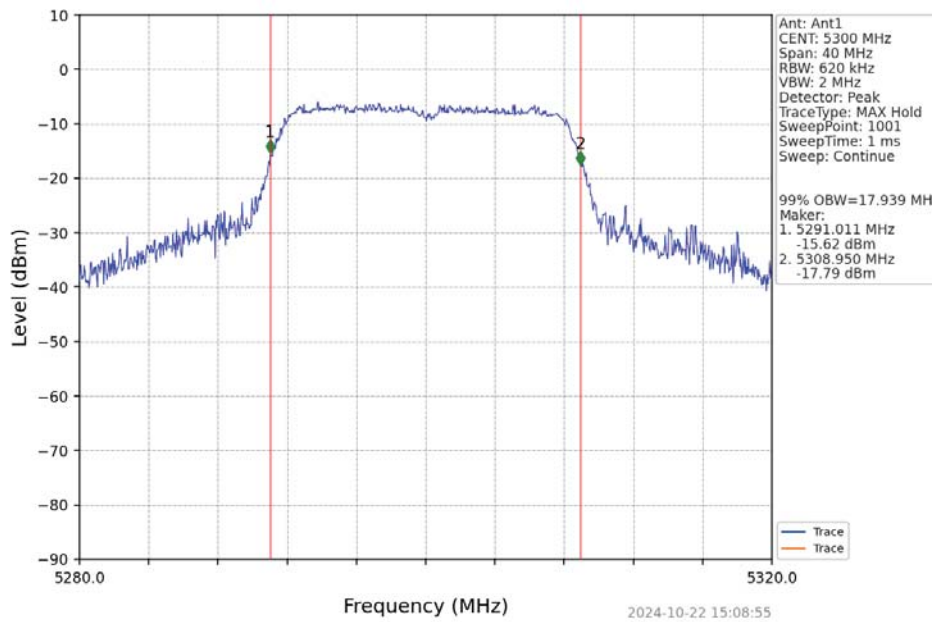
802.11a HCH 5240MHz Ant1 NTN



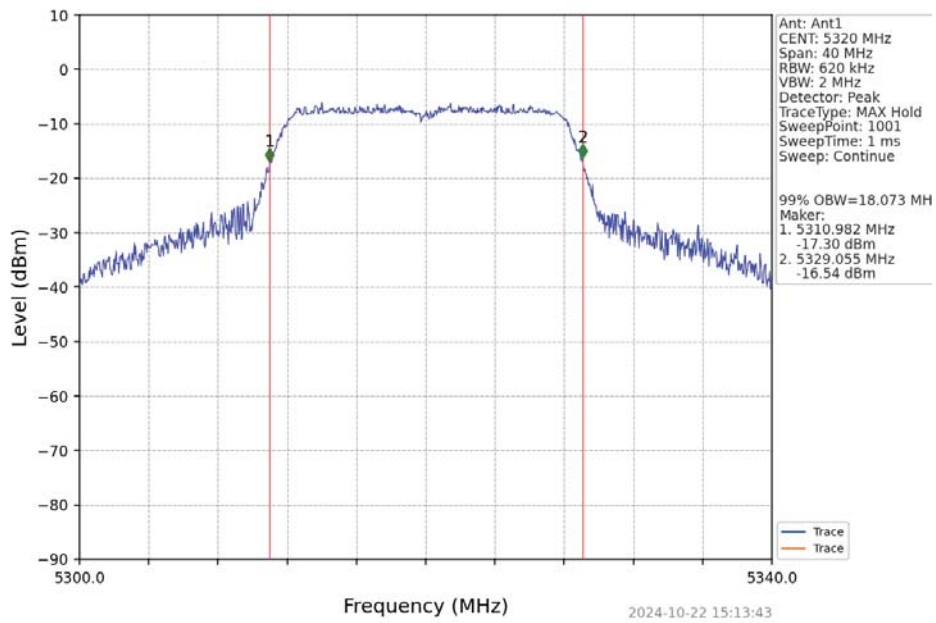
802.11a LCH 5260MHz Ant1 NTN



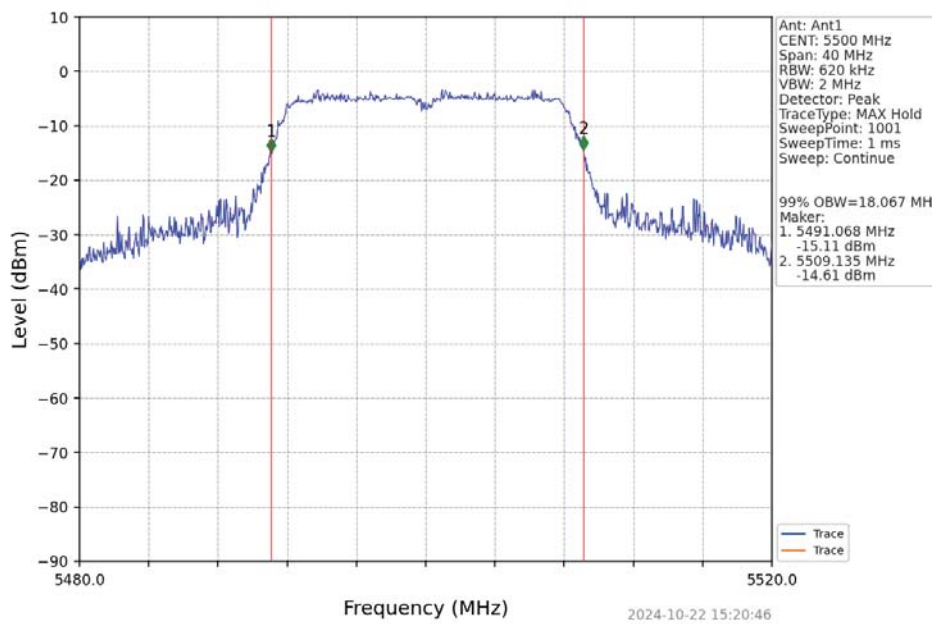
802.11a MCH 5300MHz Ant1 NTN



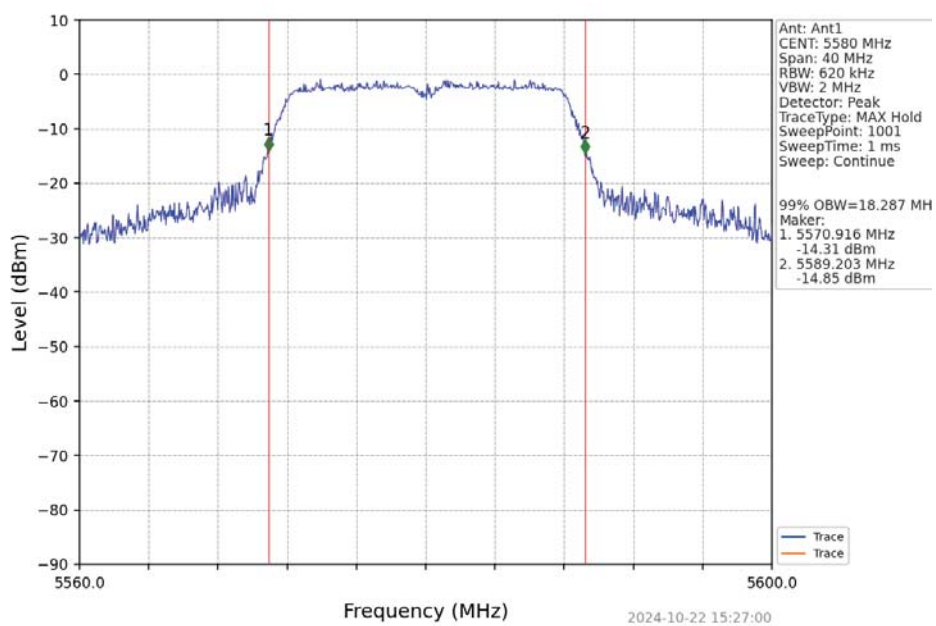
802.11a HCH 5320MHz Ant1 NTN



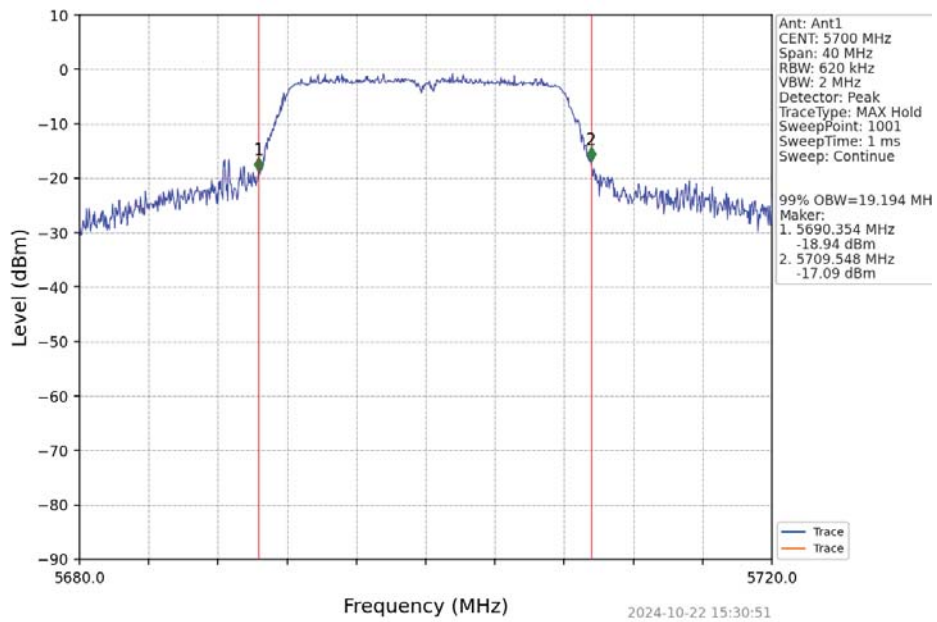
802.11a LCH 5500MHz Ant1_NTNV



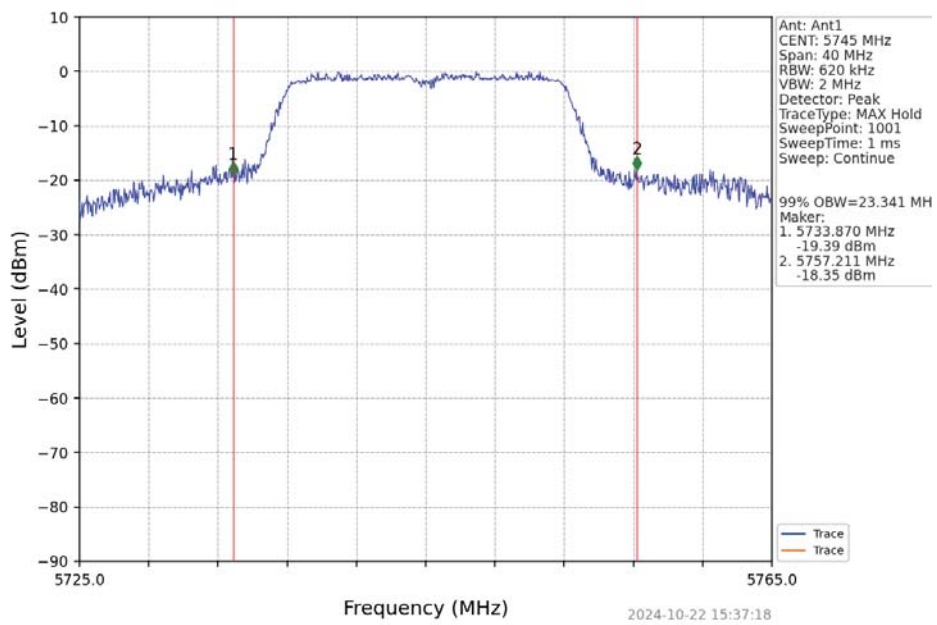
802.11a MCH 5580MHz Ant1_NTNV



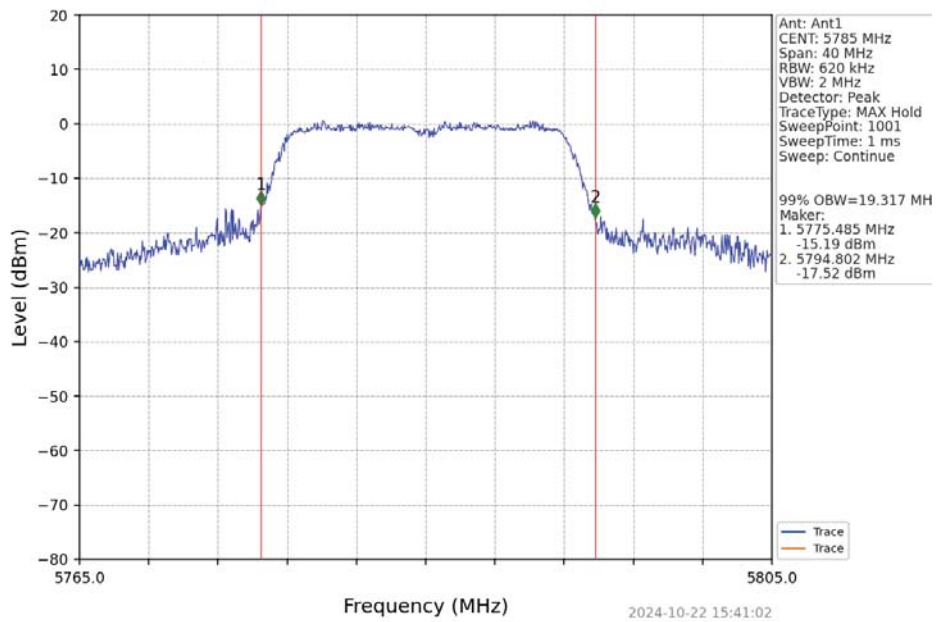
802.11a HCH 5700MHz Ant1_NTNV



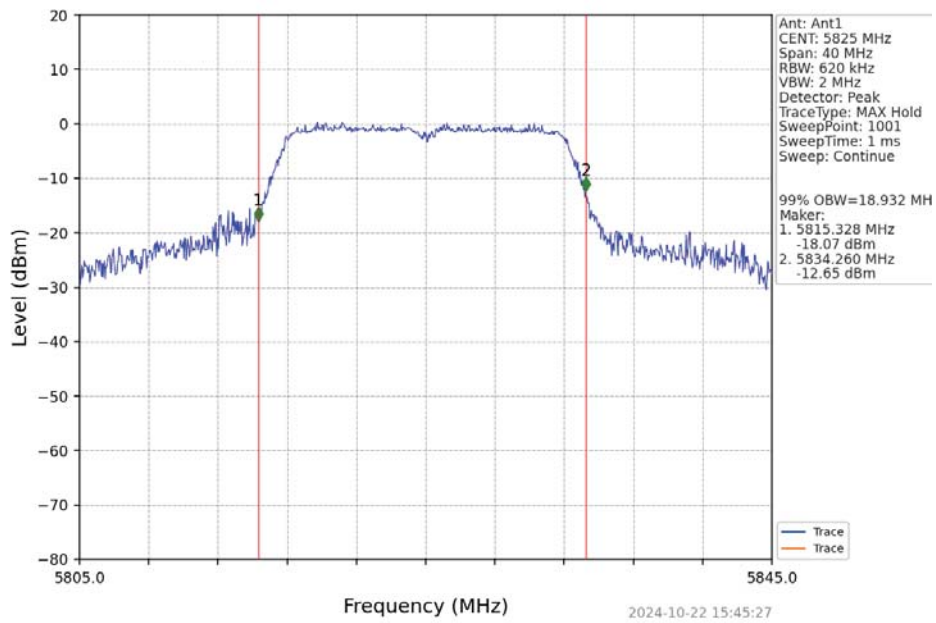
802.11a LCH 5745MHz Ant1_NTNV



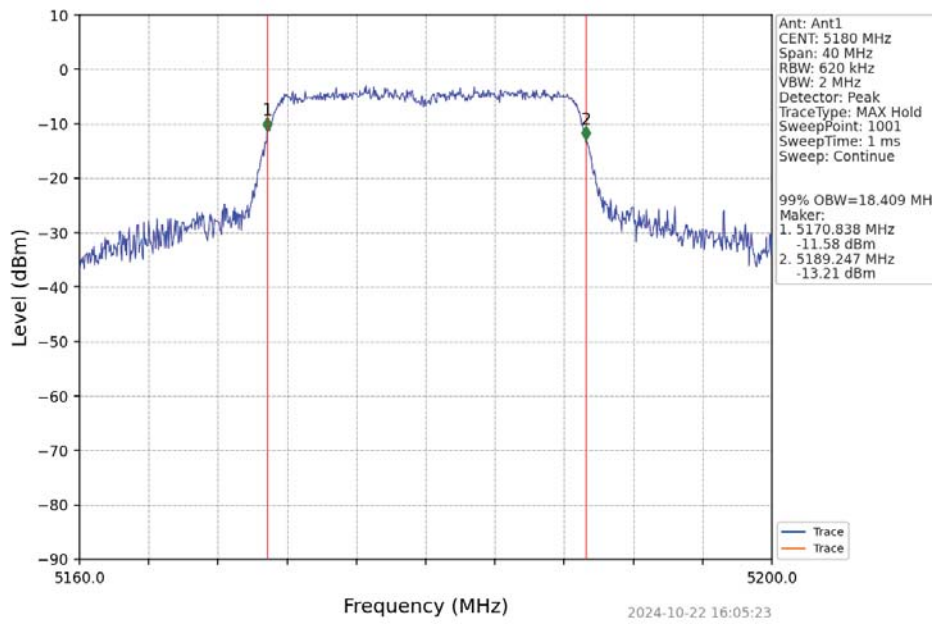
802.11a MCH 5785MHz Ant1 NTN



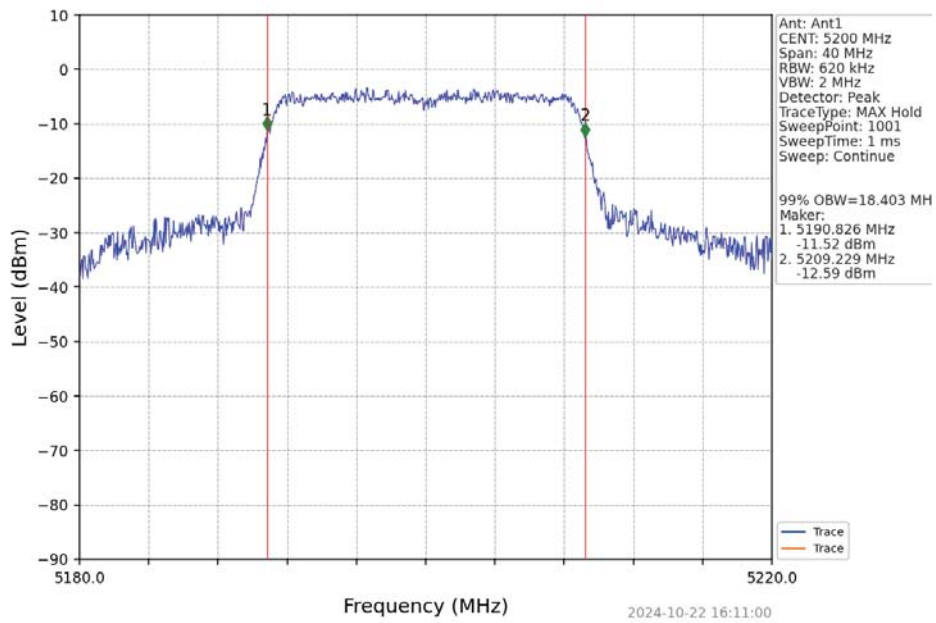
802.11a HCH 5825MHz Ant1 NTN



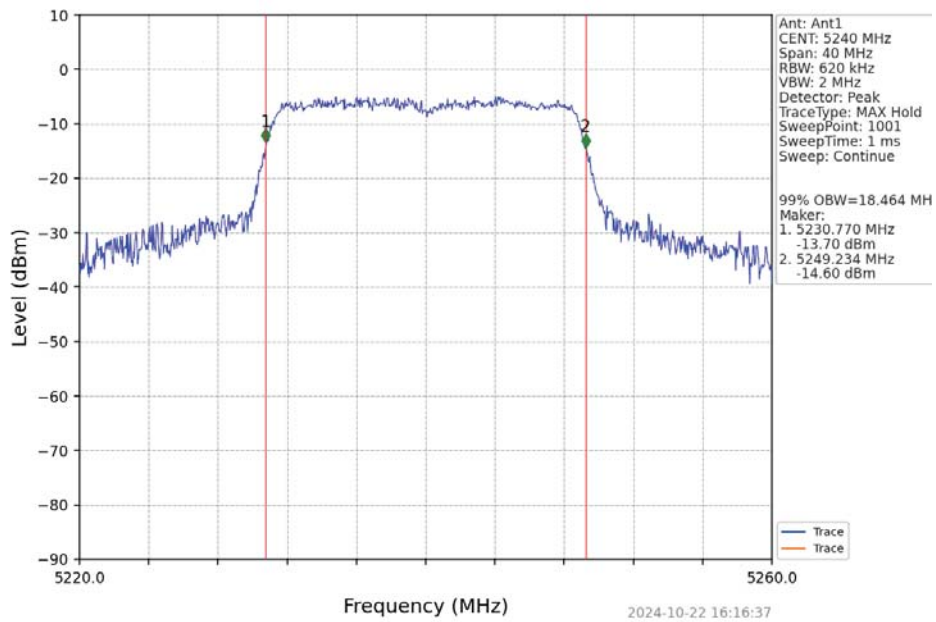
802.11n(HT20) LCH 5180MHz Ant1 NTNV



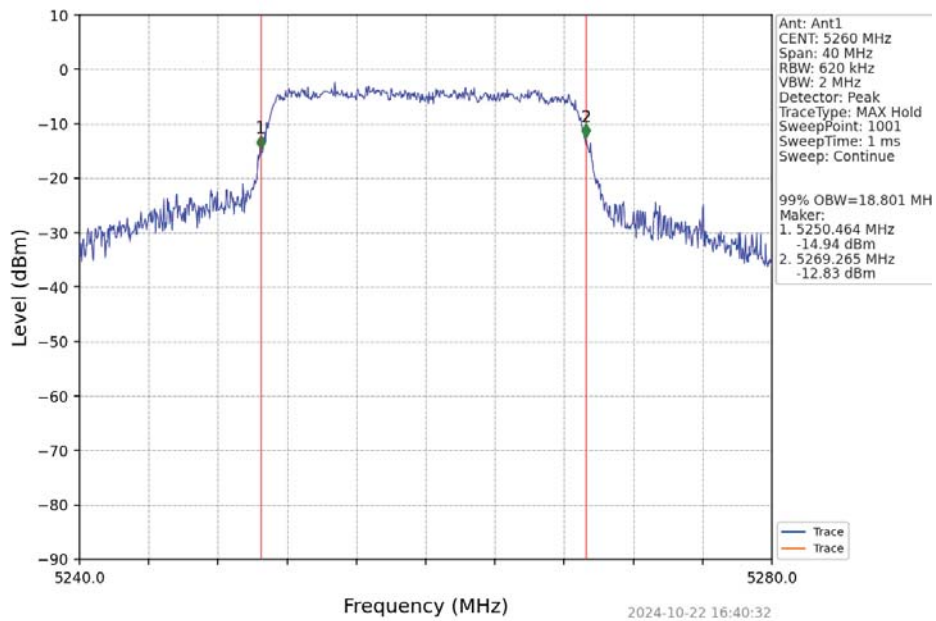
802.11n(HT20) MCH 5200MHz Ant1 NTNV



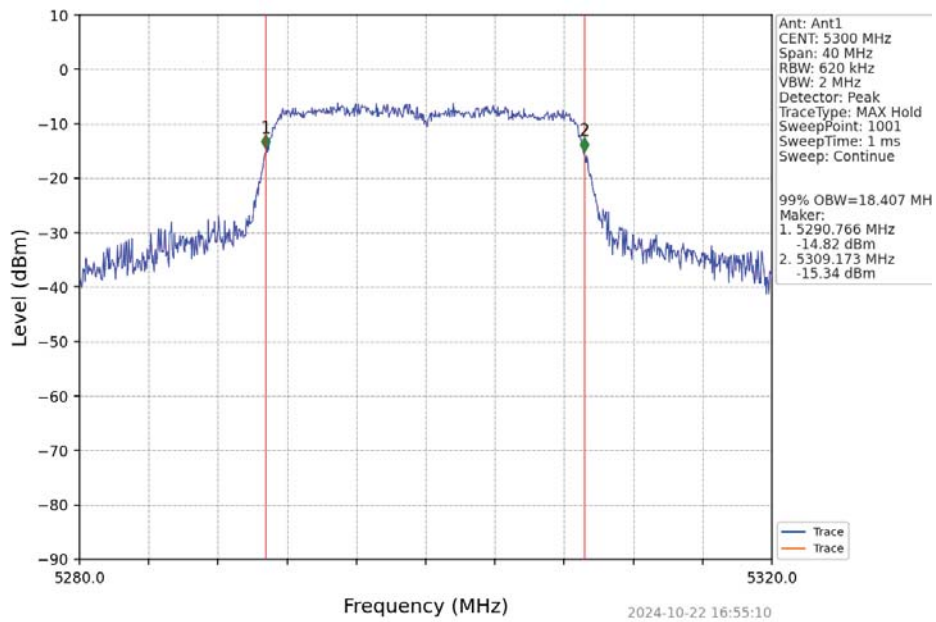
802.11n(HT20) HCH 5240MHz Ant1 NTNV



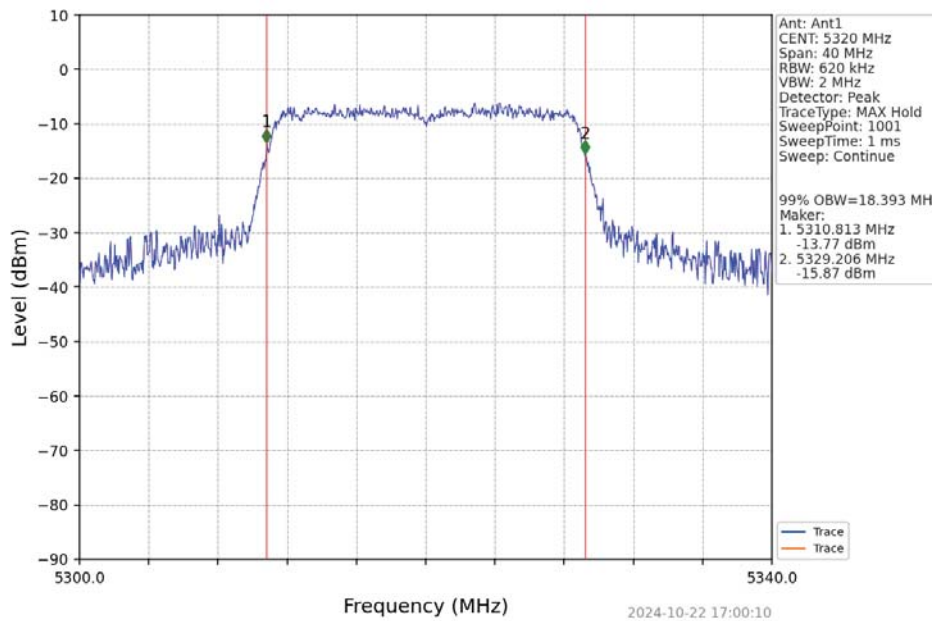
802.11n(HT20) LCH 5260MHz Ant1 NTNV



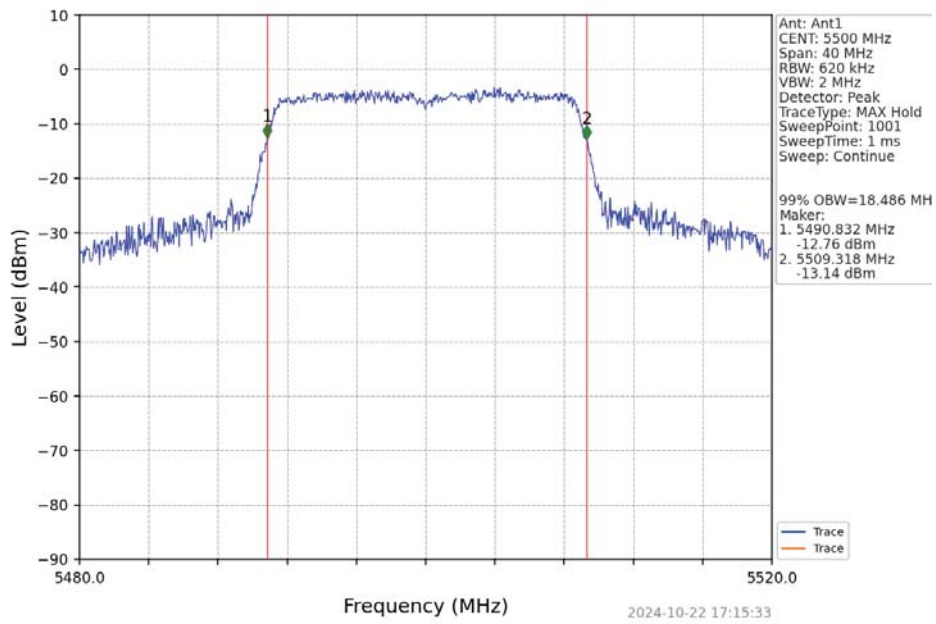
802.11n(HT20) MCH 5300MHz Ant1 NTN



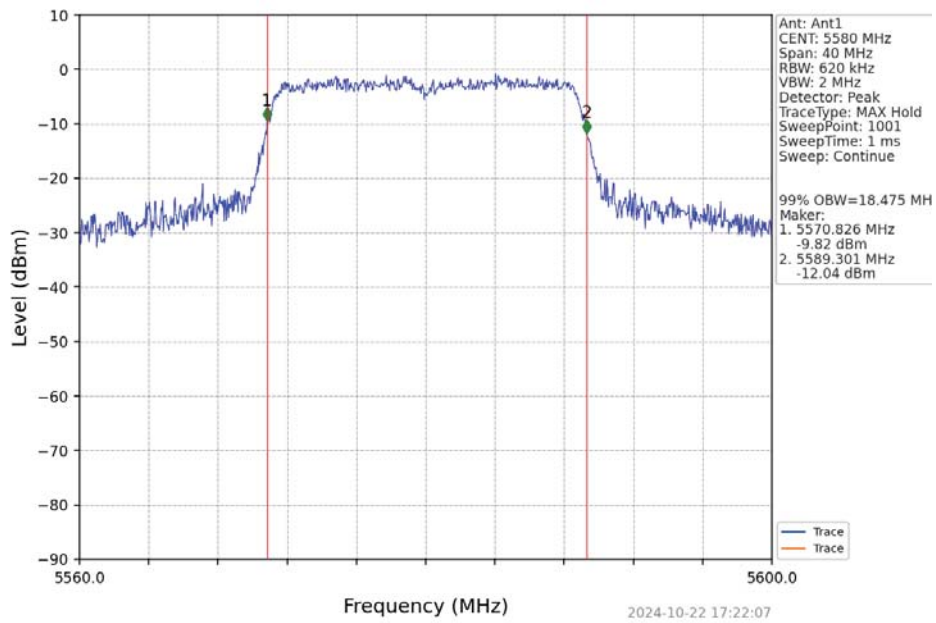
802.11n(HT20) HCH 5320MHz Ant1 NTN



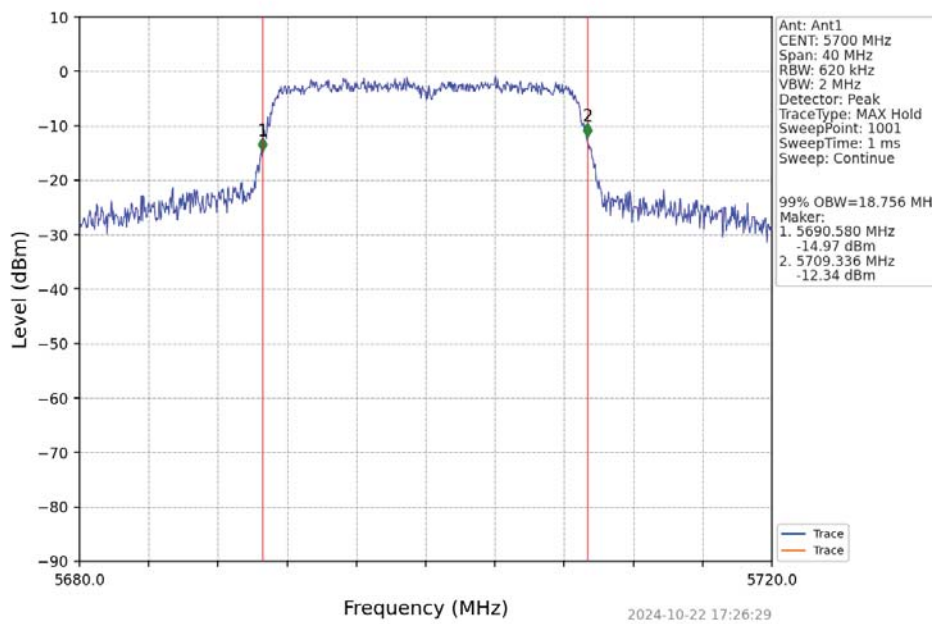
802.11n(HT20) LCH 5500MHz Ant1 NTNV



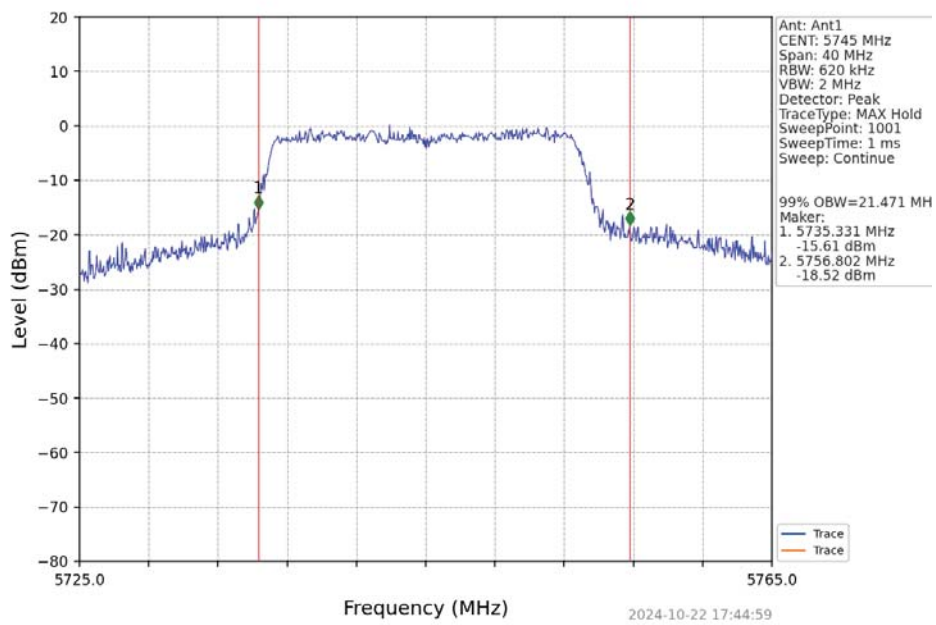
802.11n(HT20) MCH 5580MHz Ant1 NTNV



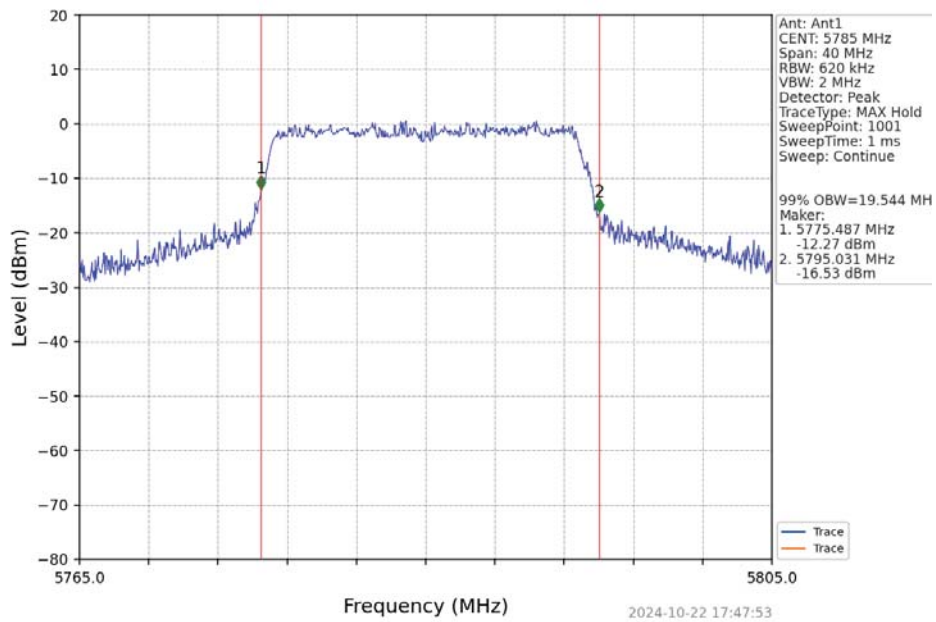
802.11n(HT20) HCH 5700MHz Ant1 NTN



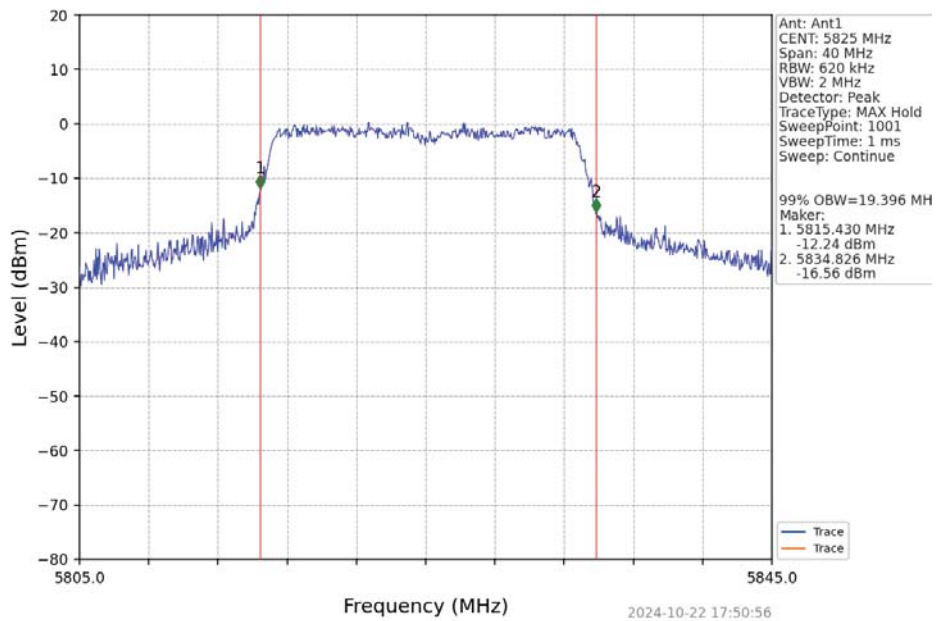
802.11n(HT20) LCH 5745MHz Ant1 NTN



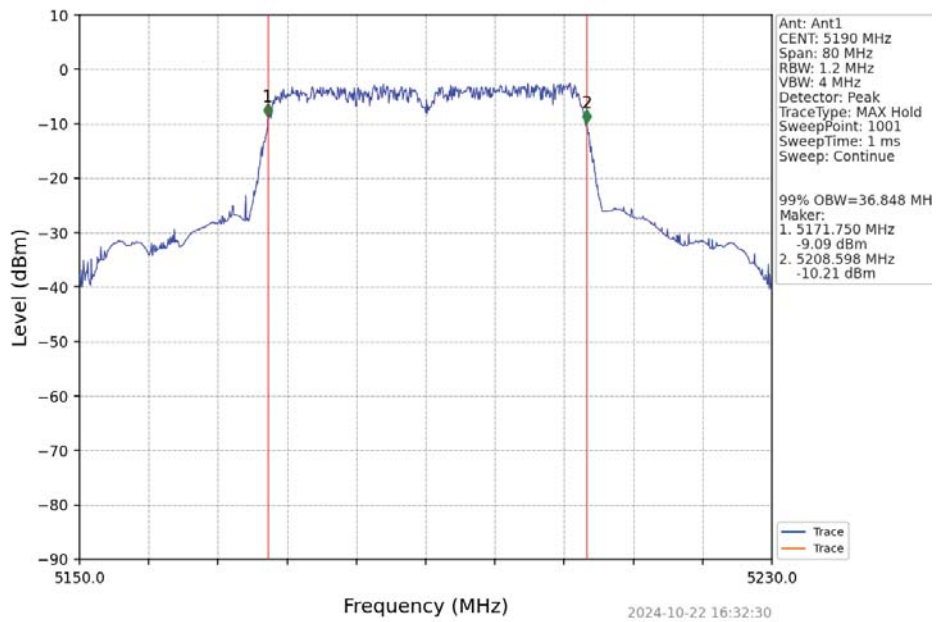
802.11n(HT20) MCH 5785MHz Ant1 NTNV



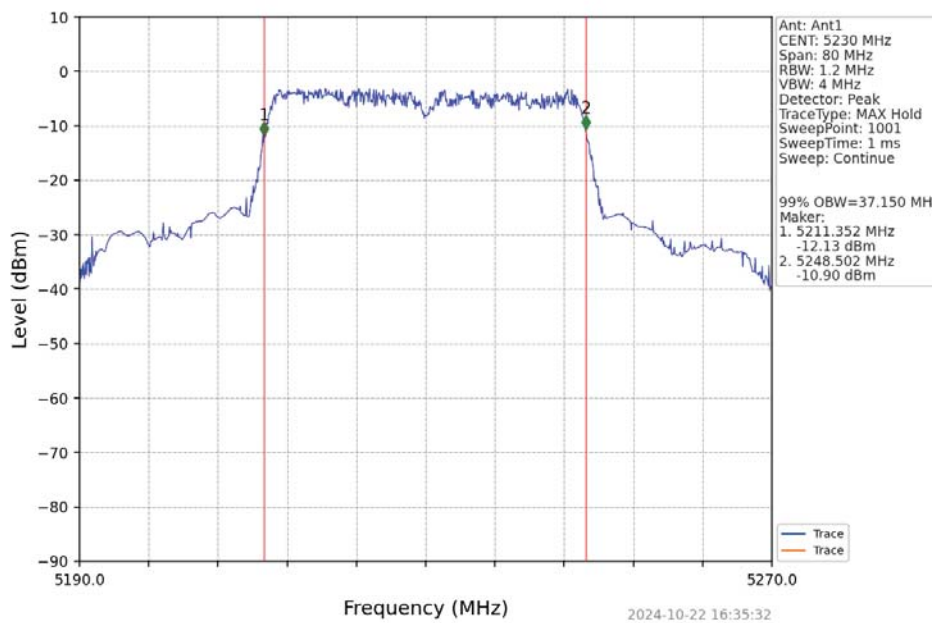
802.11n(HT20) HCH 5825MHz Ant1 NTNV



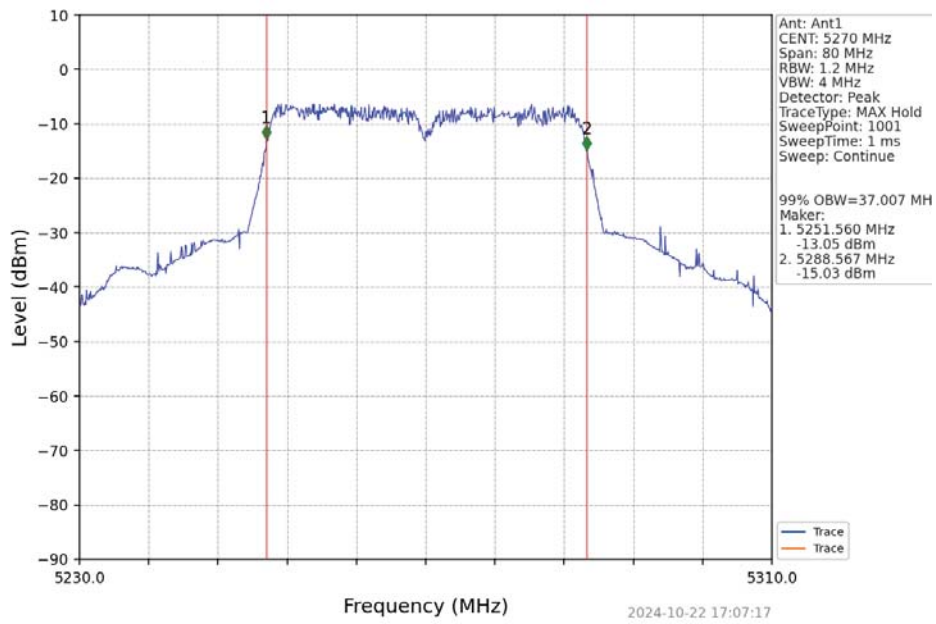
802.11n(HT40) LCH 5190MHz Ant1 NTVN



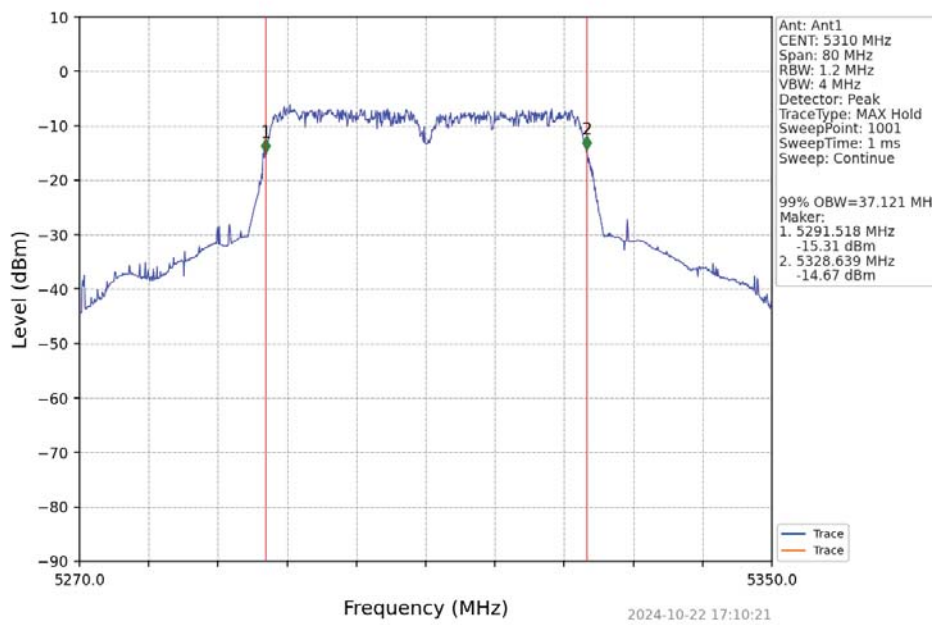
802.11n(HT40) HCH 5230MHz Ant1 NTVN



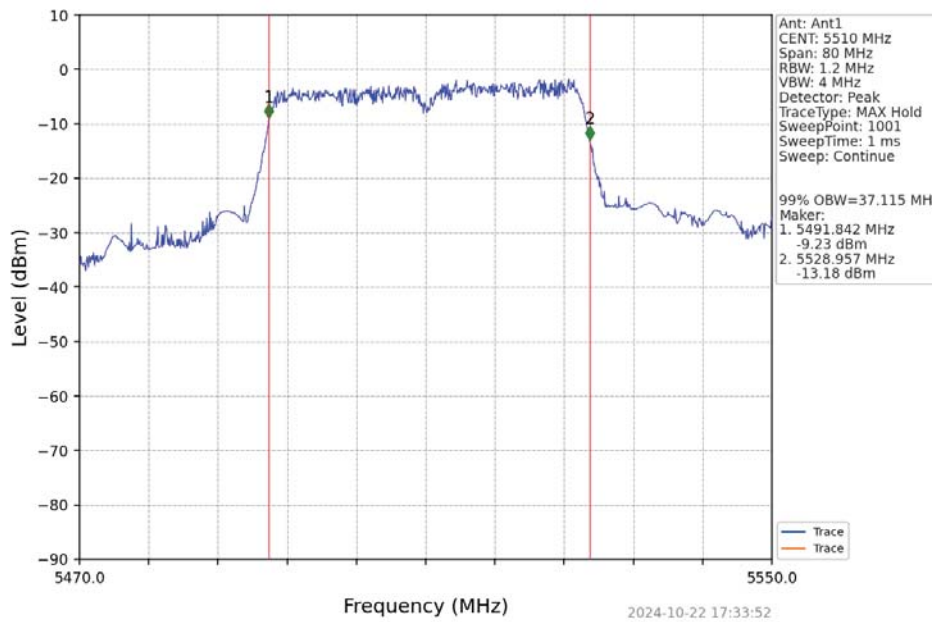
802.11n(HT40) LCH 5270MHz Ant1 NTVN



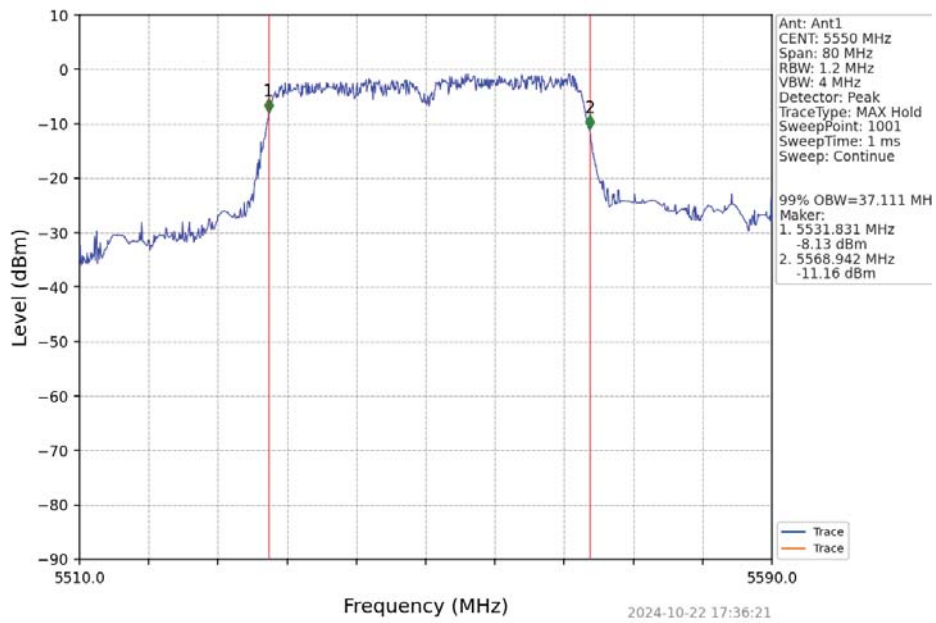
802.11n(HT40) HCH 5310MHz Ant1 NTVN



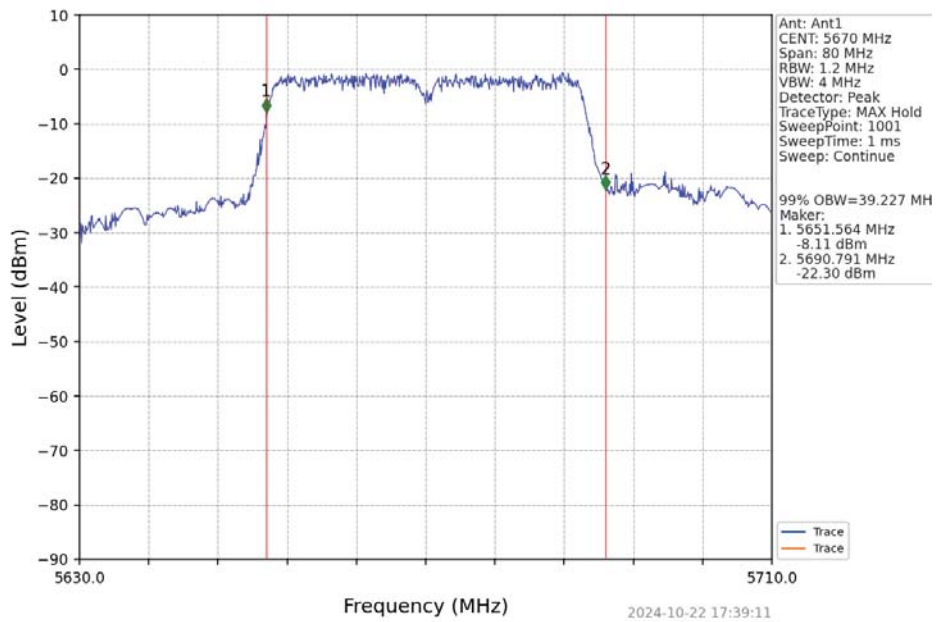
802.11n(HT40) LCH 5510MHz Ant1 NTVN



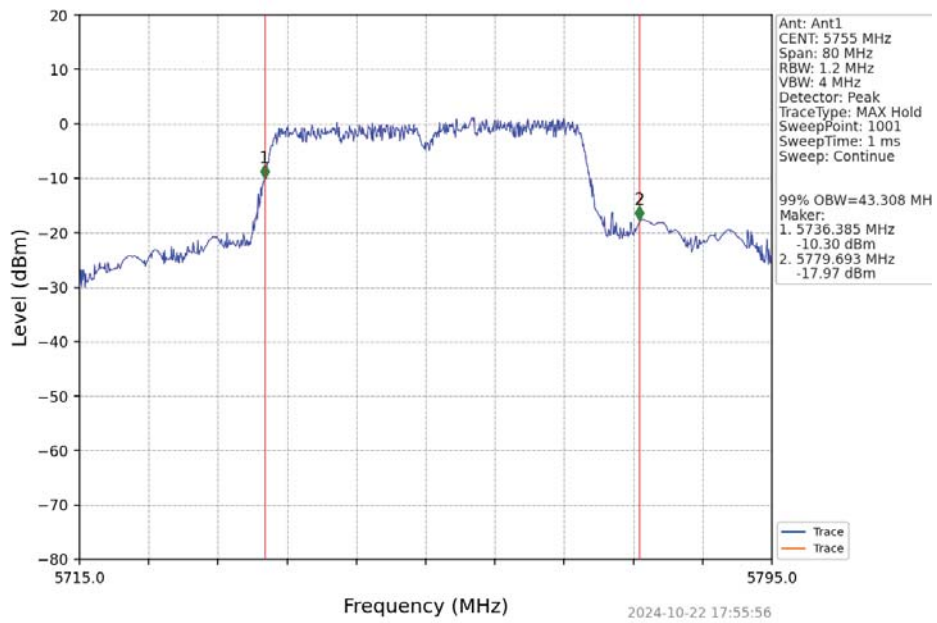
802.11n(HT40) MCH 5550MHz Ant1 NTVN



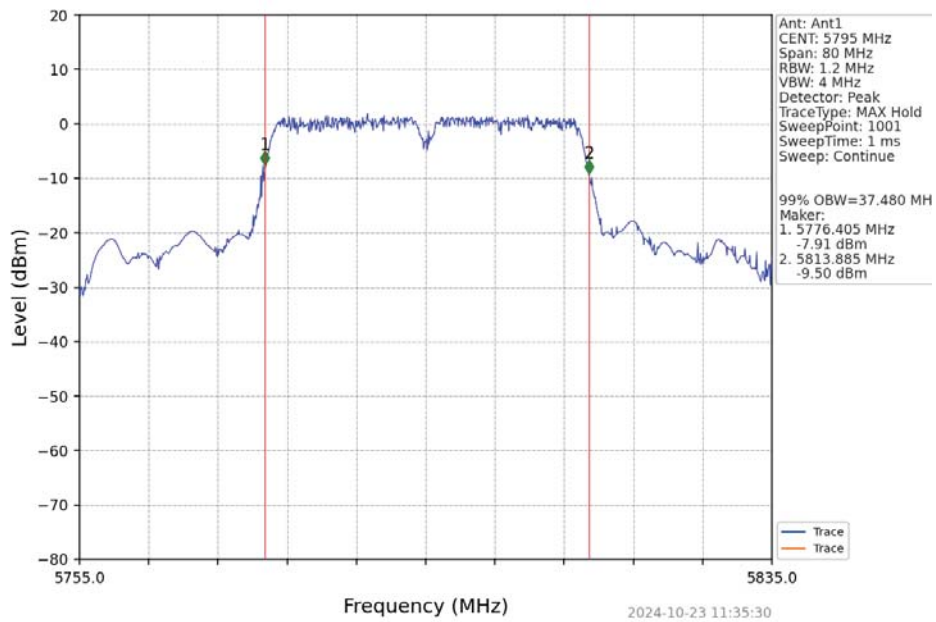
802.11n(HT40) HCH 5670MHz Ant1 NTNV



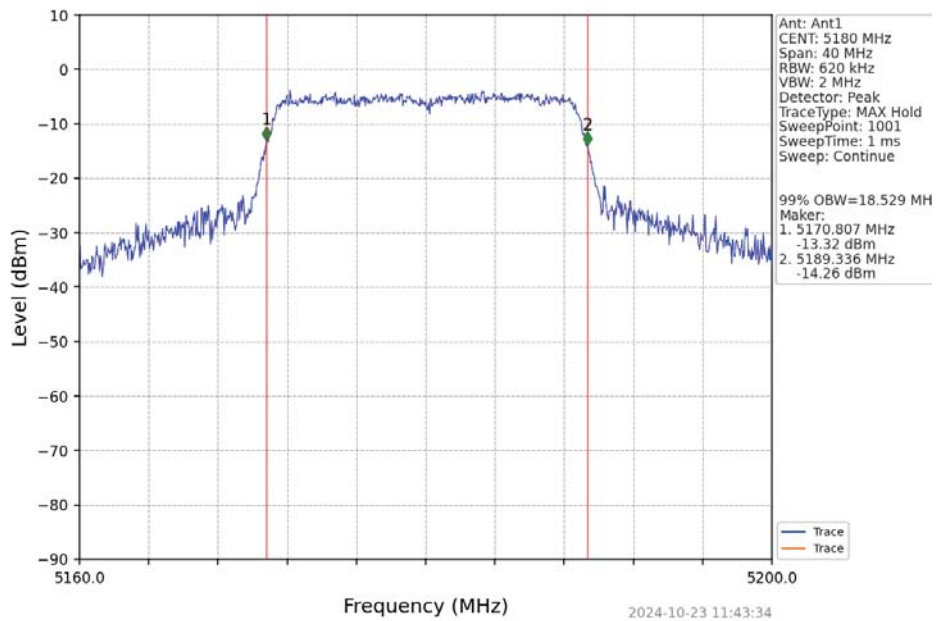
802.11n(HT40) LCH 5755MHz Ant1 NTNV



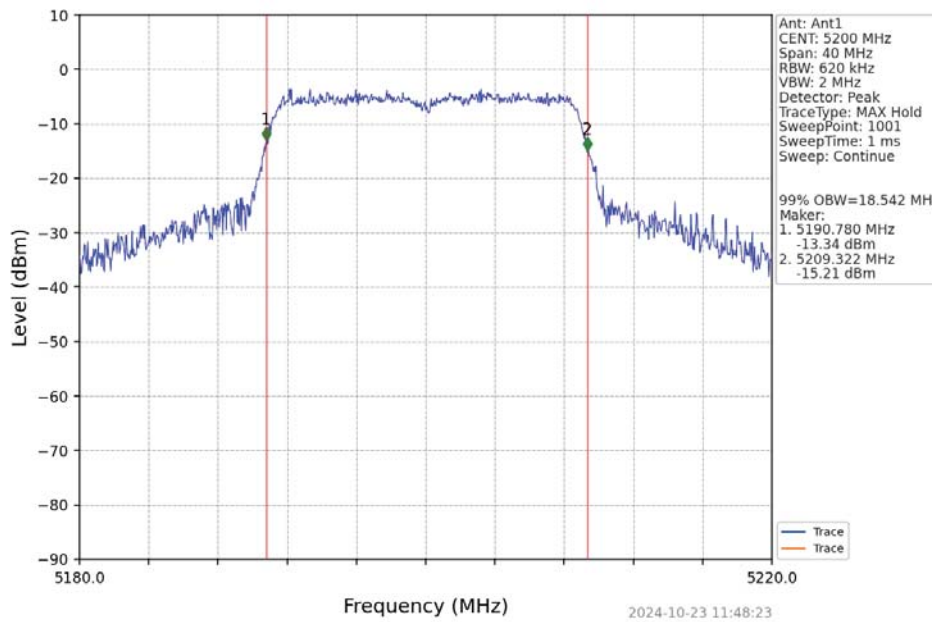
802.11n(HT40) HCH 5795MHz Ant1 NTN



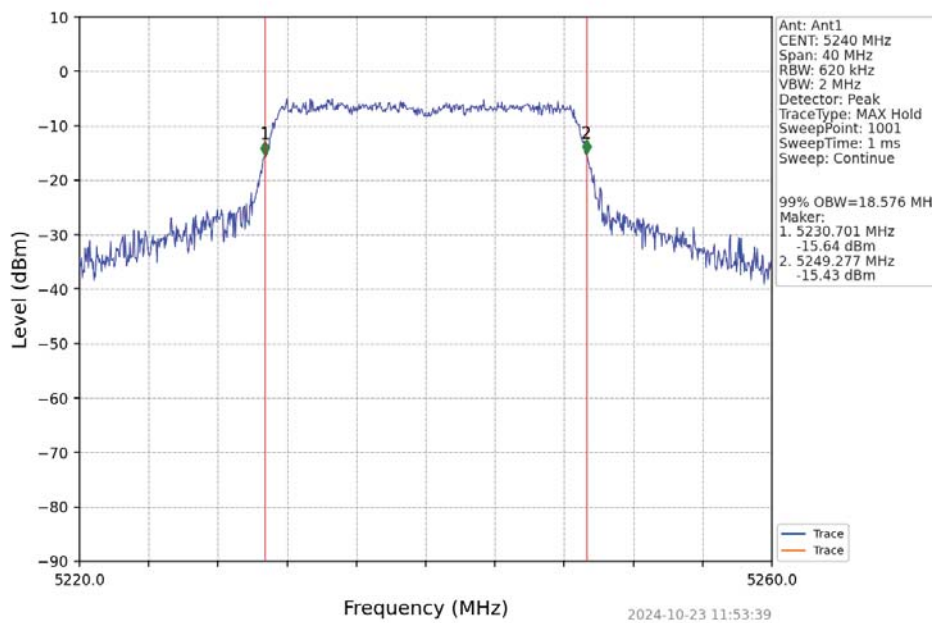
802.11ac(VHT20) LCH 5180MHz Ant1 NTN



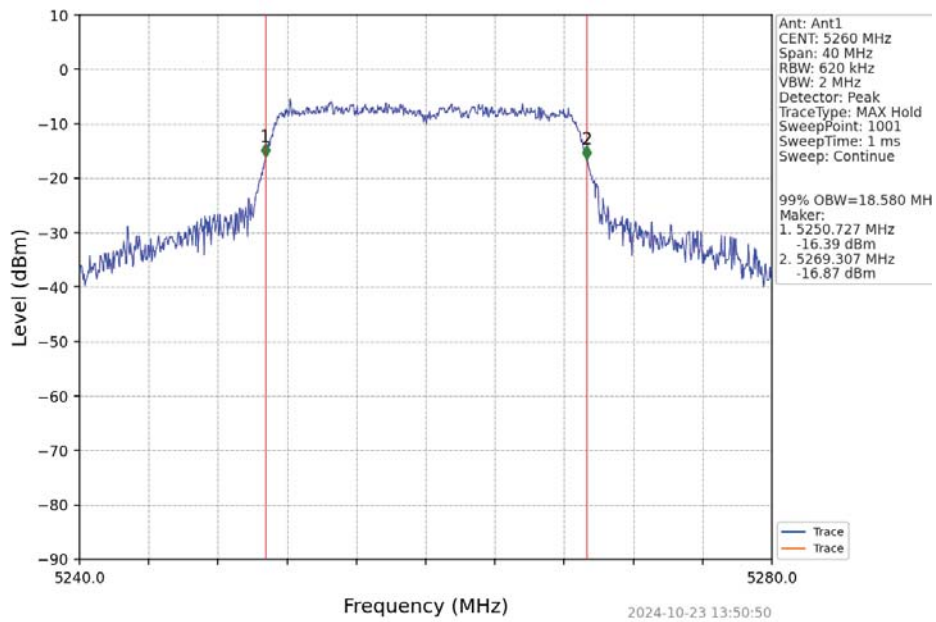
802.11ac(VHT20) MCH 5200MHz Ant1 NTN



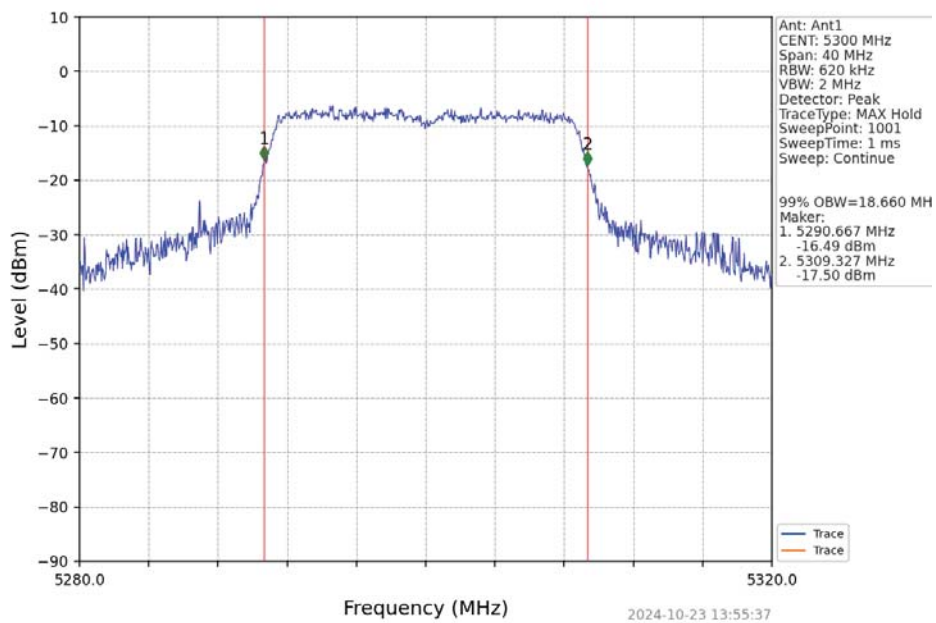
802.11ac(VHT20) HCH 5240MHz Ant1 NTN



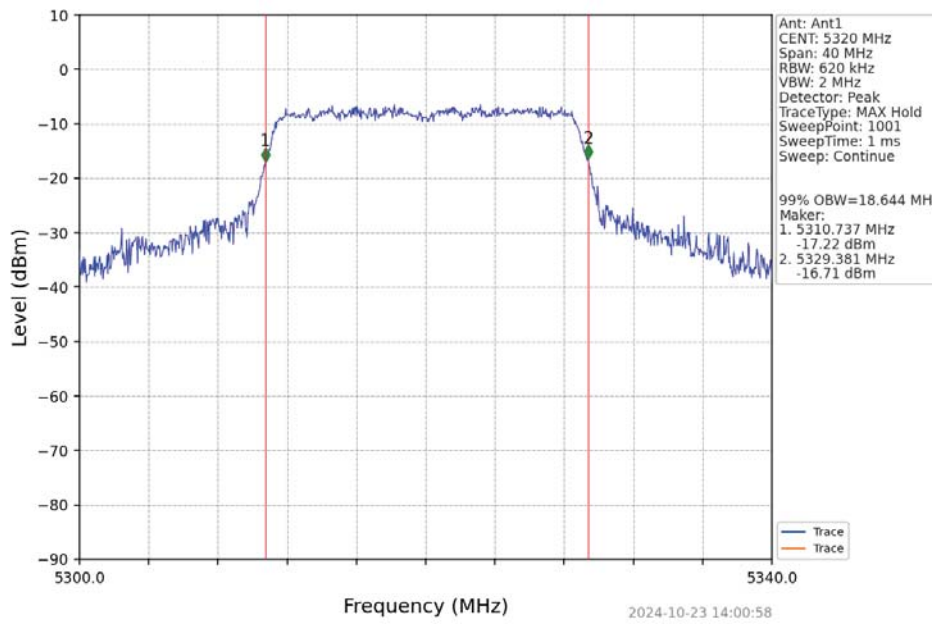
802.11ac(VHT20) LCH 5260MHz Ant1 NTN



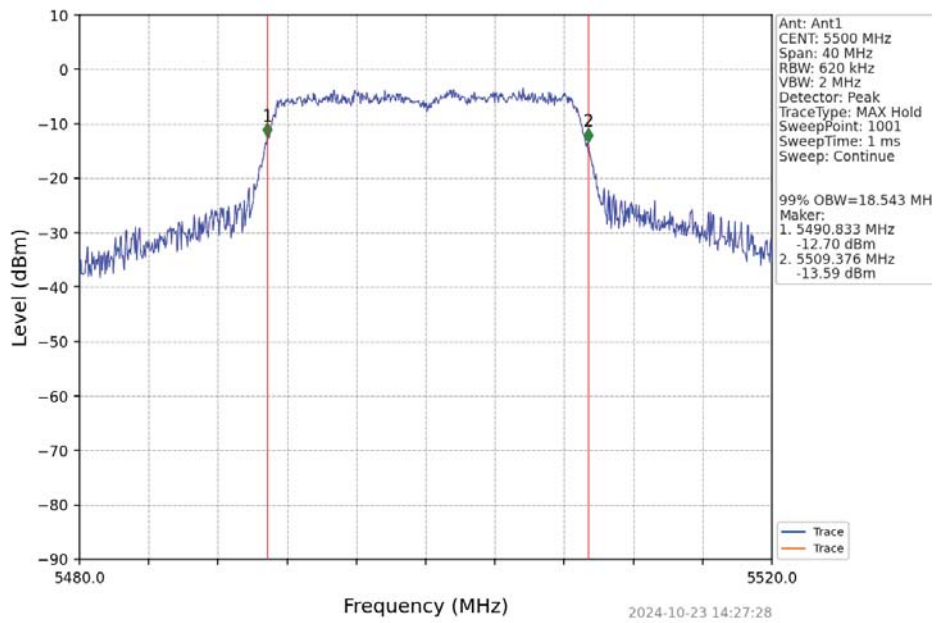
802.11ac(VHT20) MCH 5300MHz Ant1 NTN



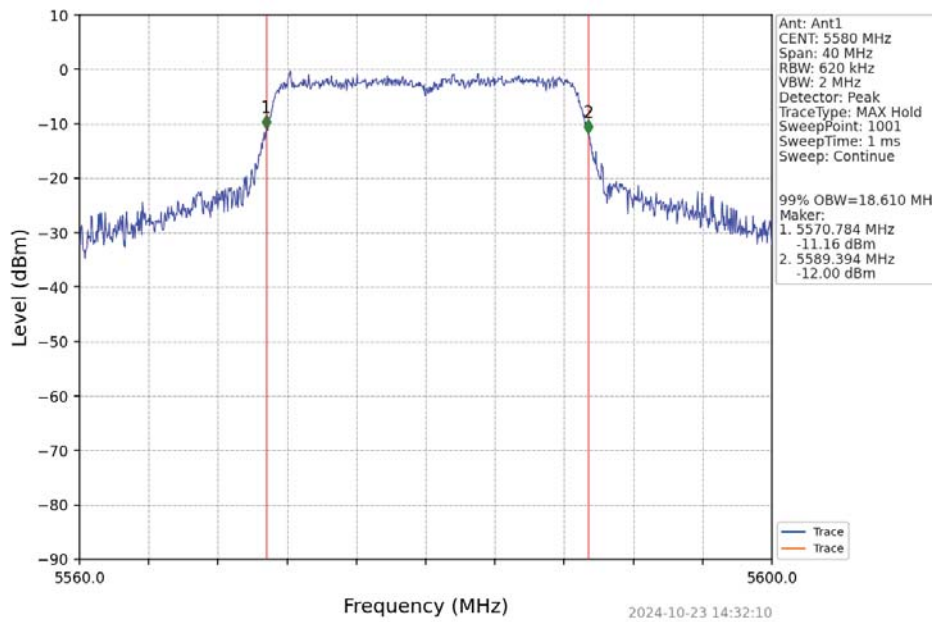
802.11ac(VHT20) HCH 5320MHz Ant1 NTN



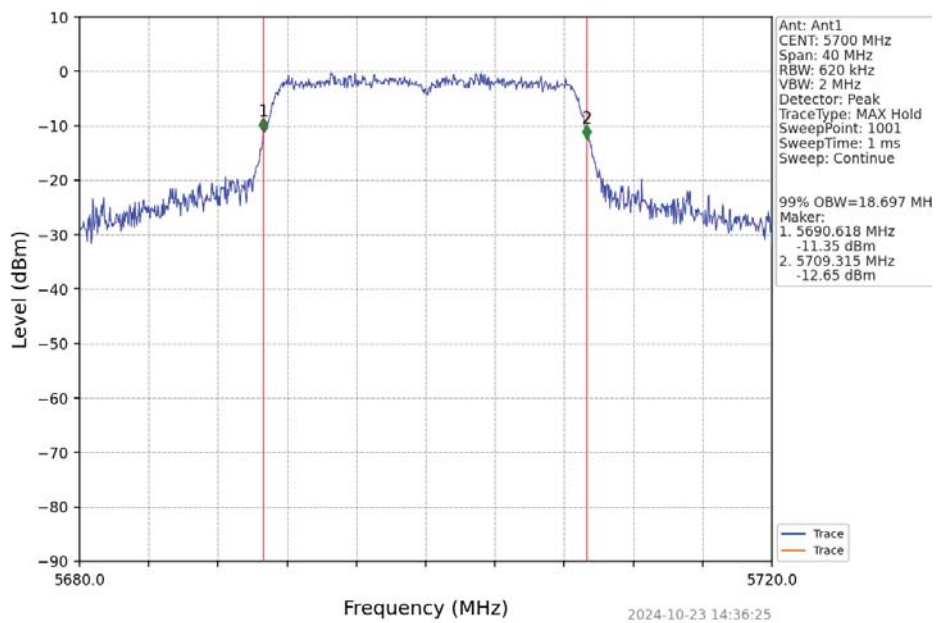
802.11ac(VHT20) LCH 5500MHz Ant1 NTN



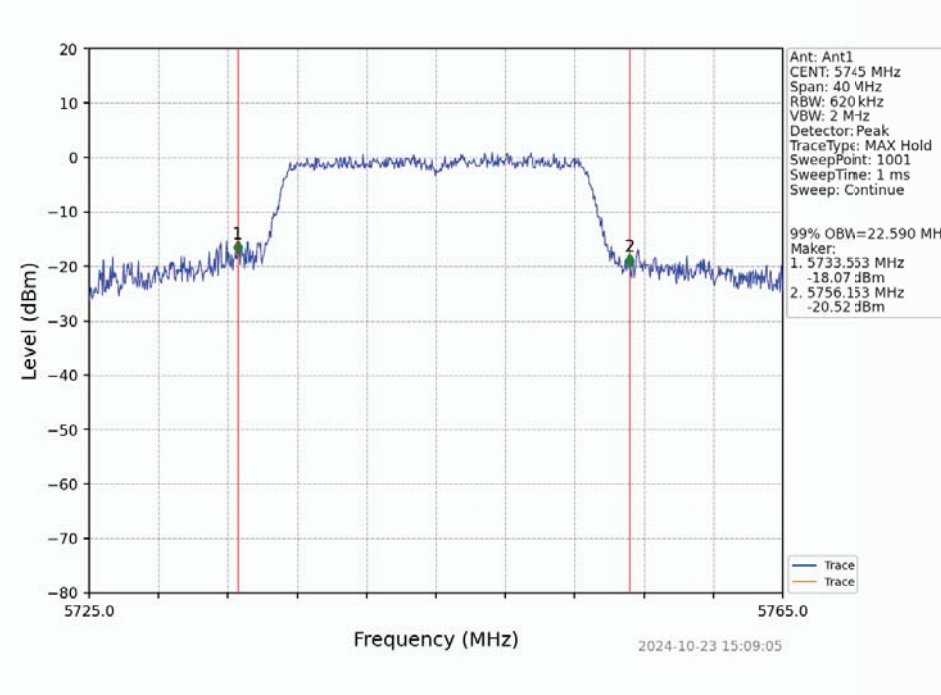
802.11ac(VHT20) MCH 5580MHz Ant1 NTN



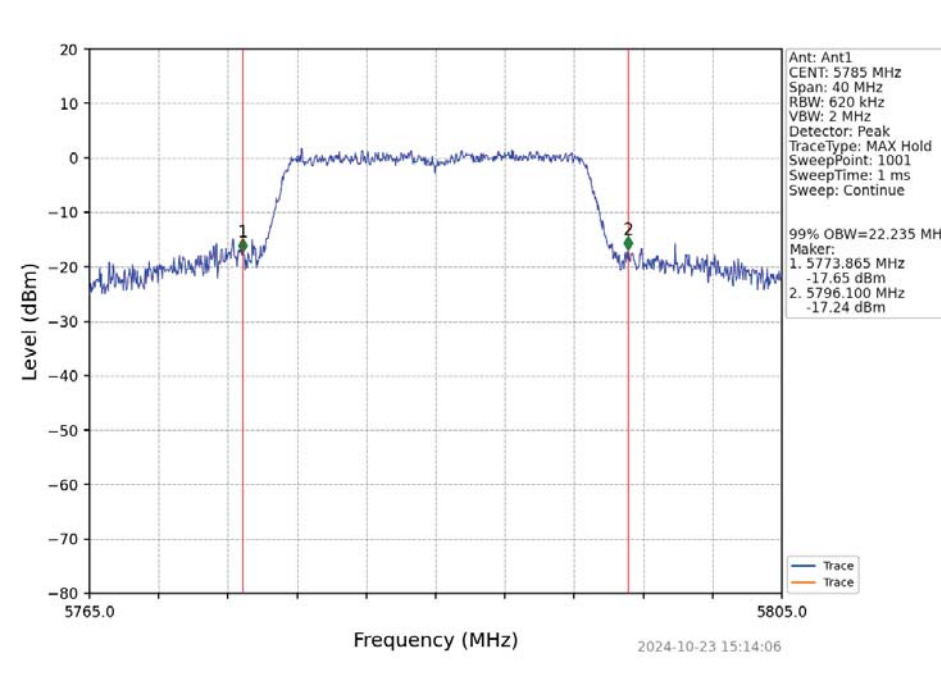
802.11ac(VHT20) HCH 5700MHz Ant1 NTN



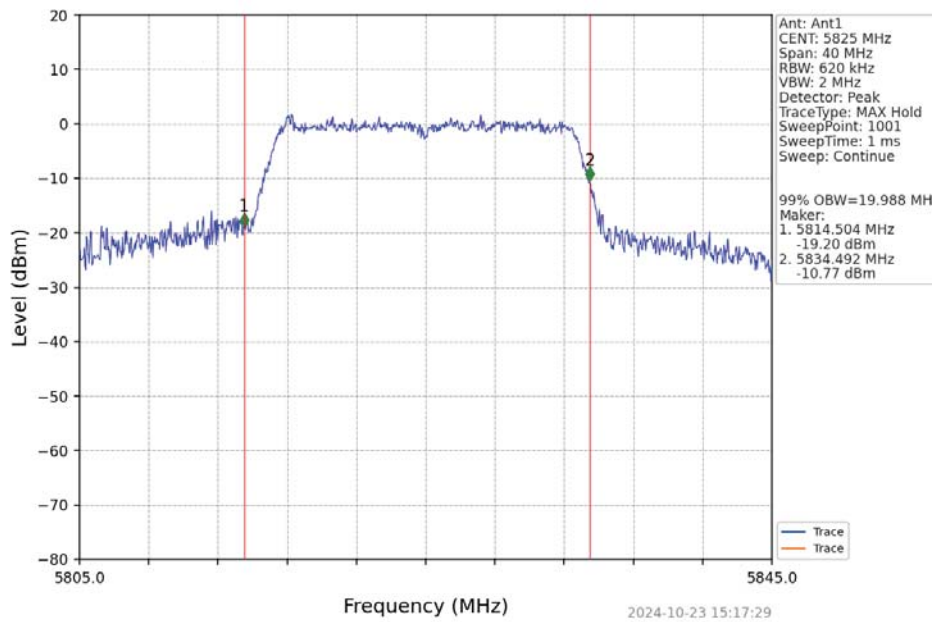
802.11ac(VHT20) LCH 5745MHz Ant1 NTN



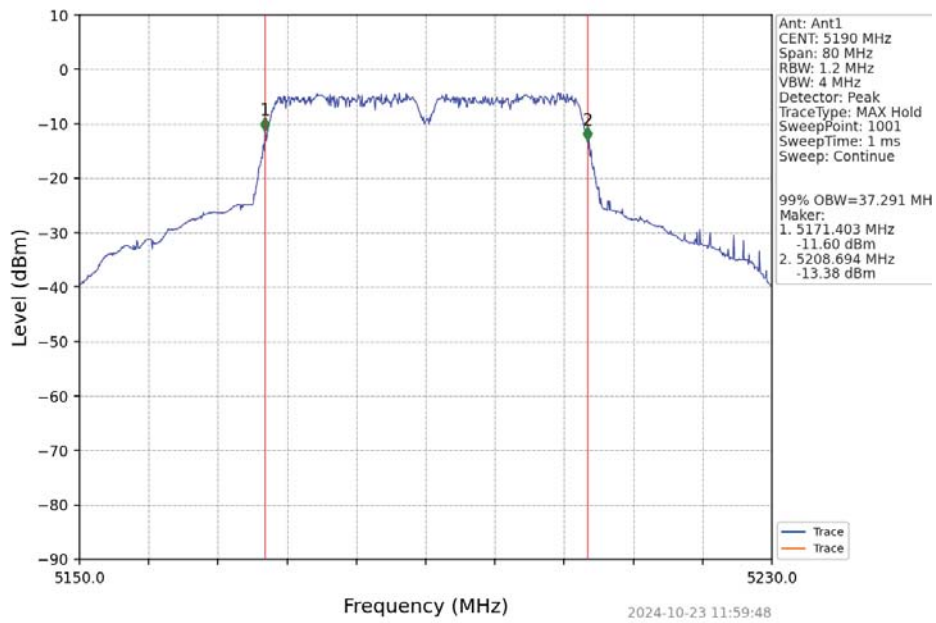
802.11ac(VHT20) MCH 5785MHz Ant1 NTN



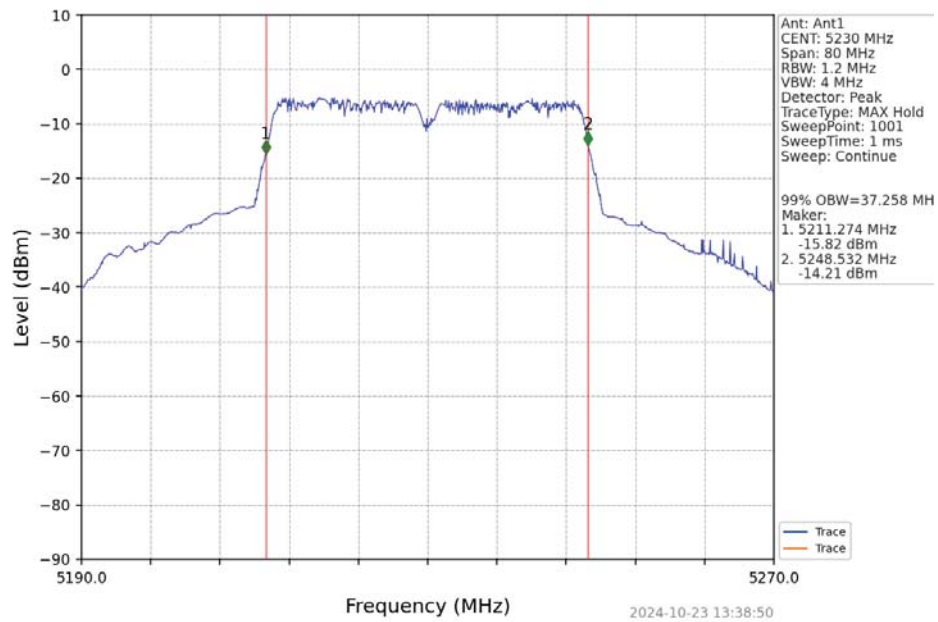
802.11ac(VHT20) HCH 5825MHz Ant1 NTN



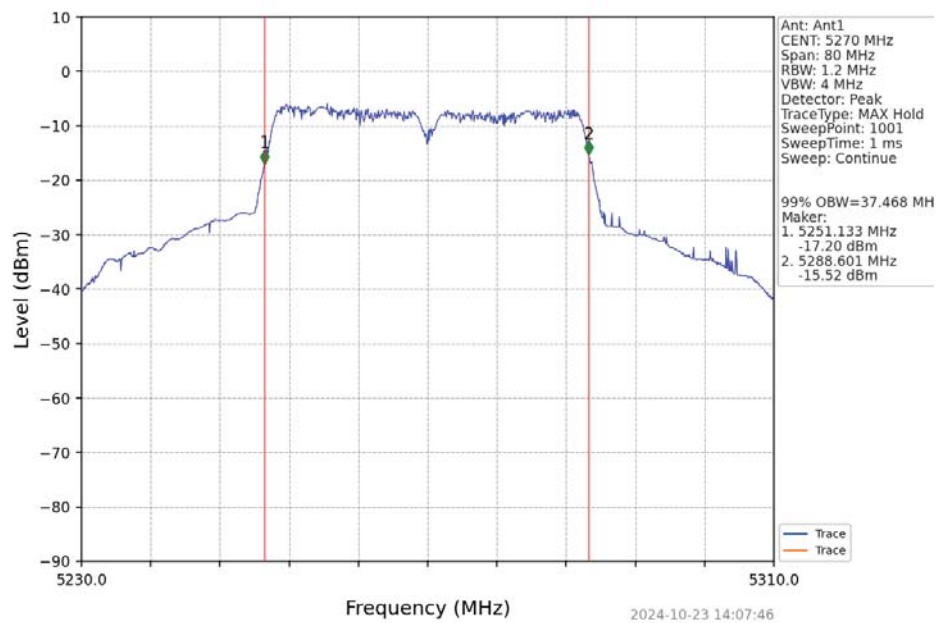
802.11ac(VHT40) LCH 5190MHz Ant1 NTN



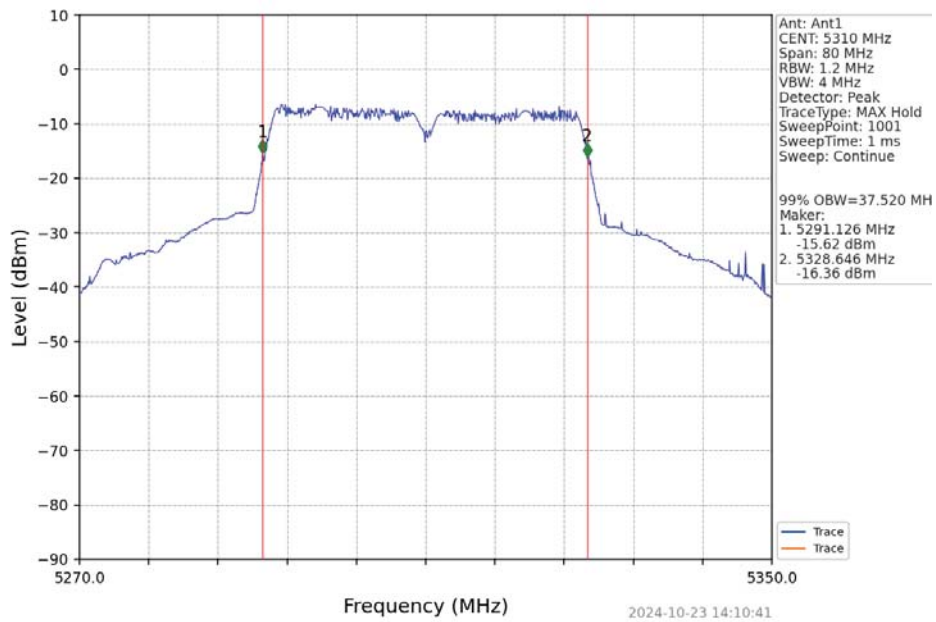
802.11ac(VHT40) HCH 5230MHz Ant1 NTN



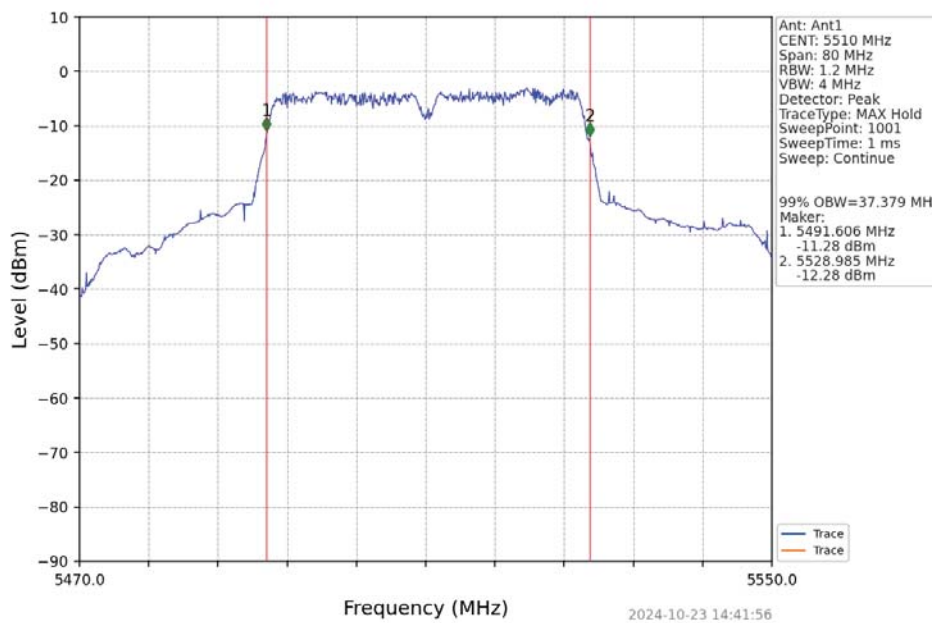
802.11ac(VHT40) LCH 5270MHz Ant1 NTN



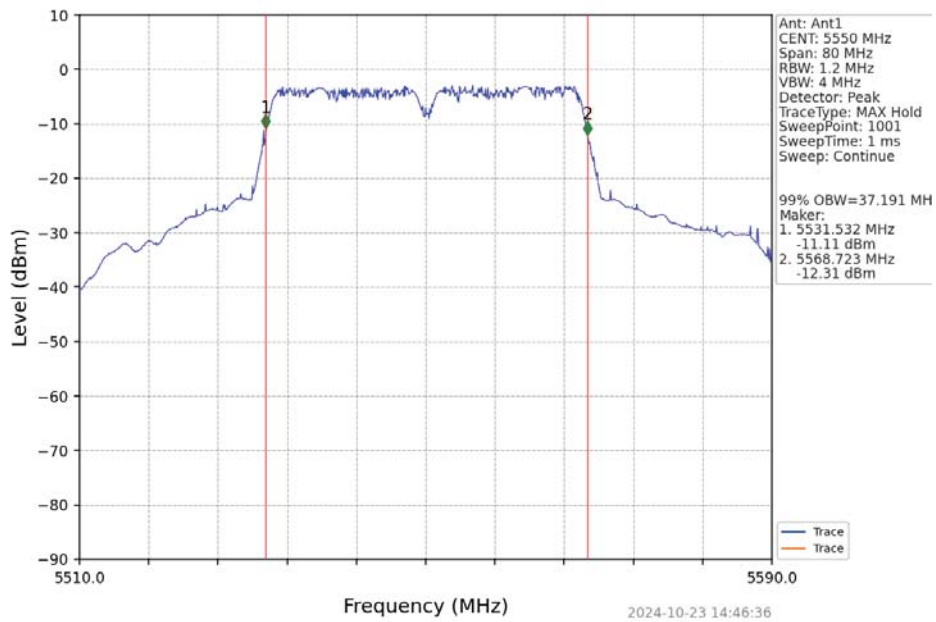
802.11ac(VHT40) HCH 5310MHz Ant1 NTN



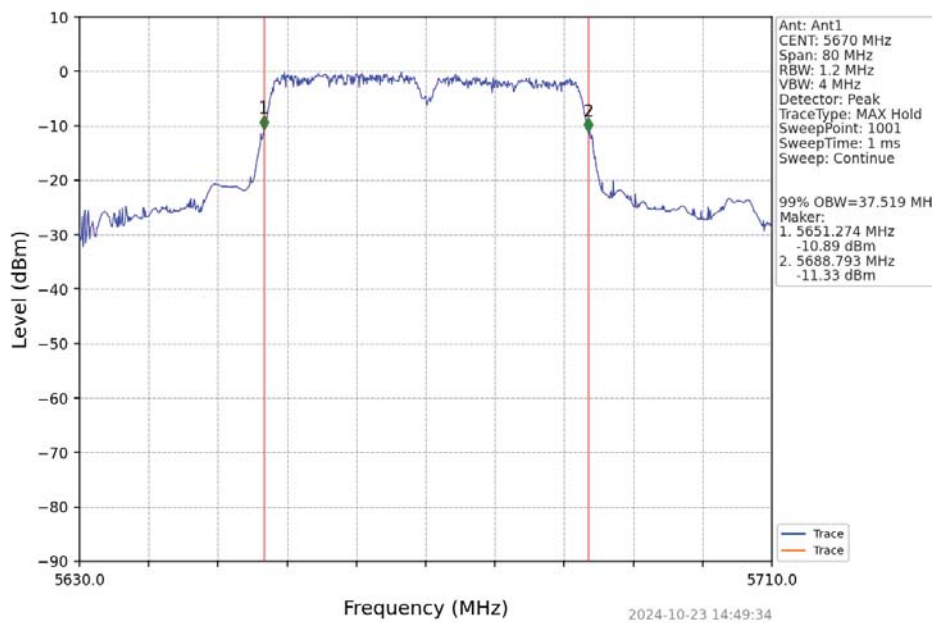
802.11ac(VHT40) LCH 5510MHz Ant1 NTN



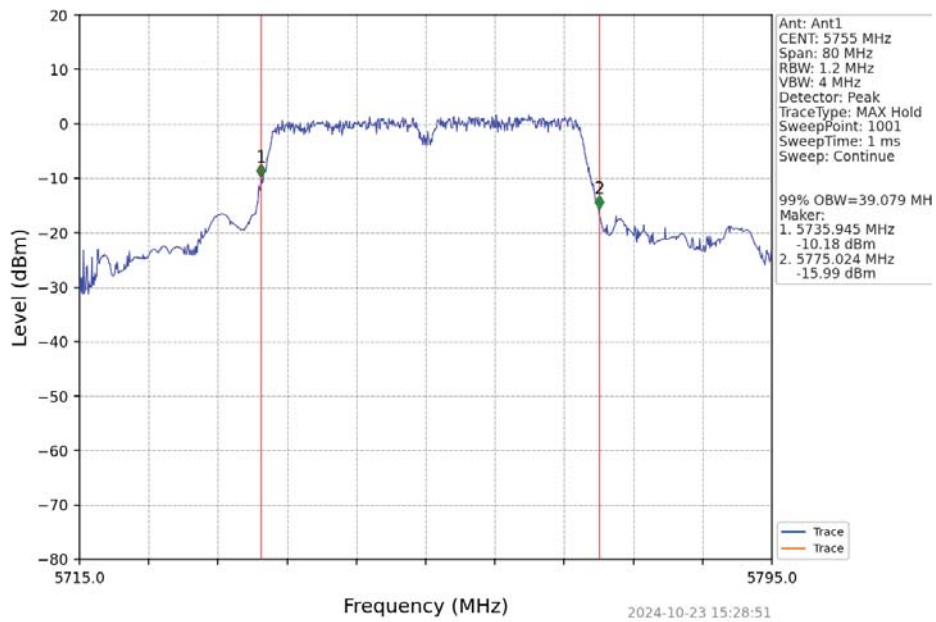
802.11ac(VHT40) MCH 5550MHz Ant1 NTN



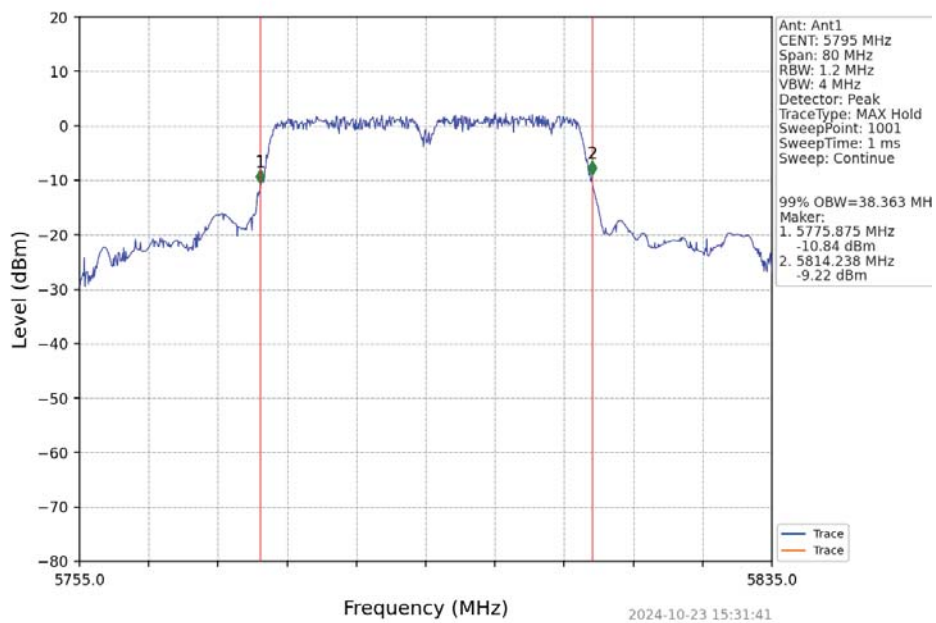
802.11ac(VHT40) HCH 5670MHz Ant1 NTN



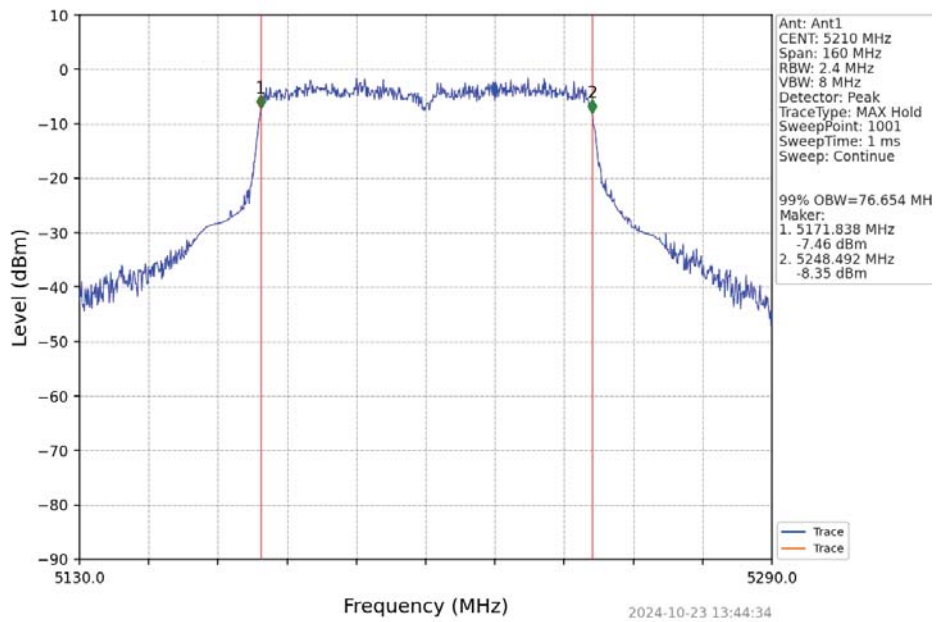
802.11ac(VHT40) LCH 5755MHz Ant1 NTN



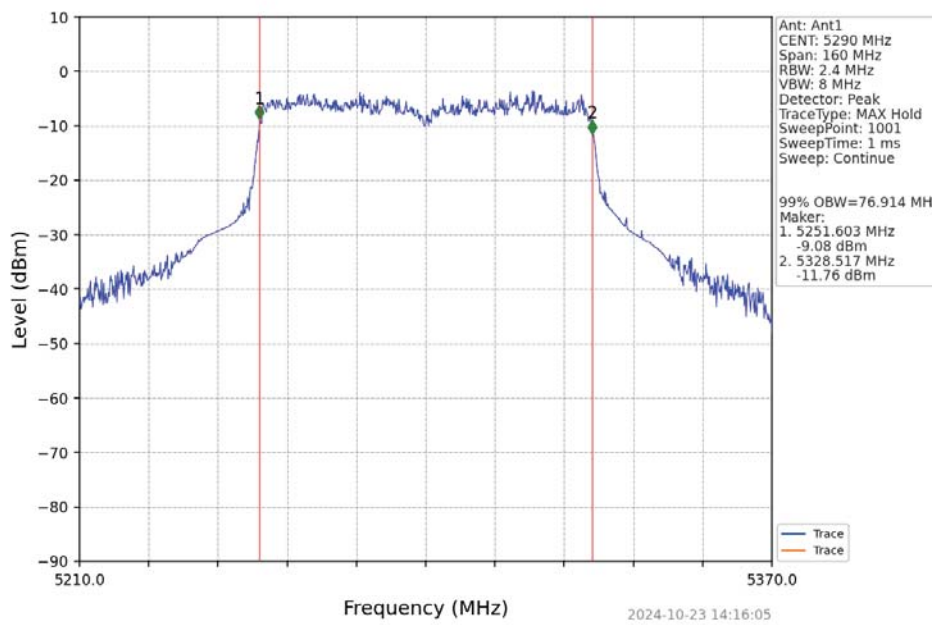
802.11ac(VHT40) HCH 5795MHz Ant1 NTN



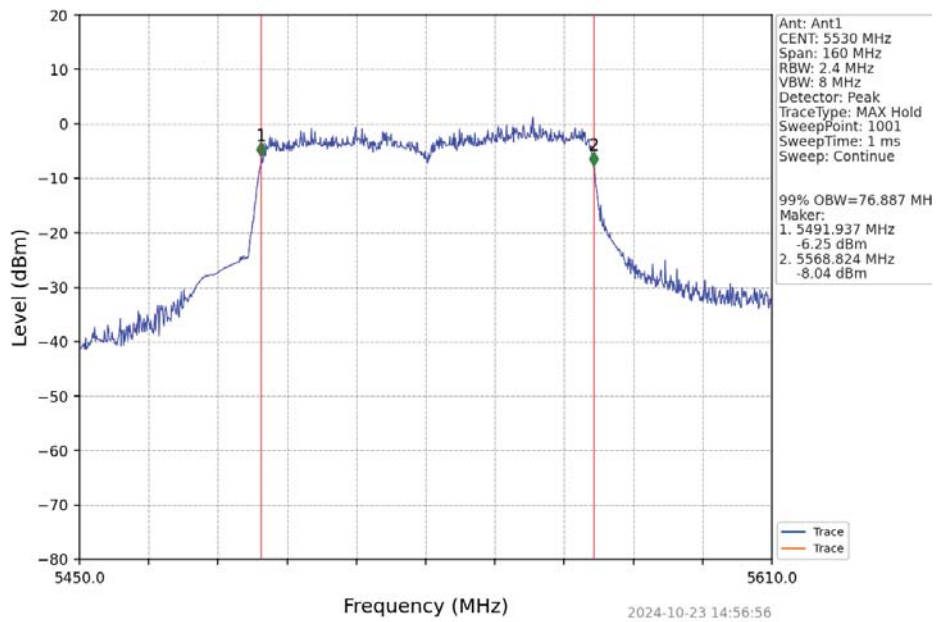
802.11ac(VHT80) MCH 5210MHz Ant1 NTN



802.11ac(VHT80) MCH 5290MHz Ant1 NTN



802.11ac(VHT80) LCH 5530MHz Ant1 NTN



802.11ac(VHT80) HCH 5610MHz Ant1 NTN

