

Appendix - 5G WIFI

1. Duty Cycle

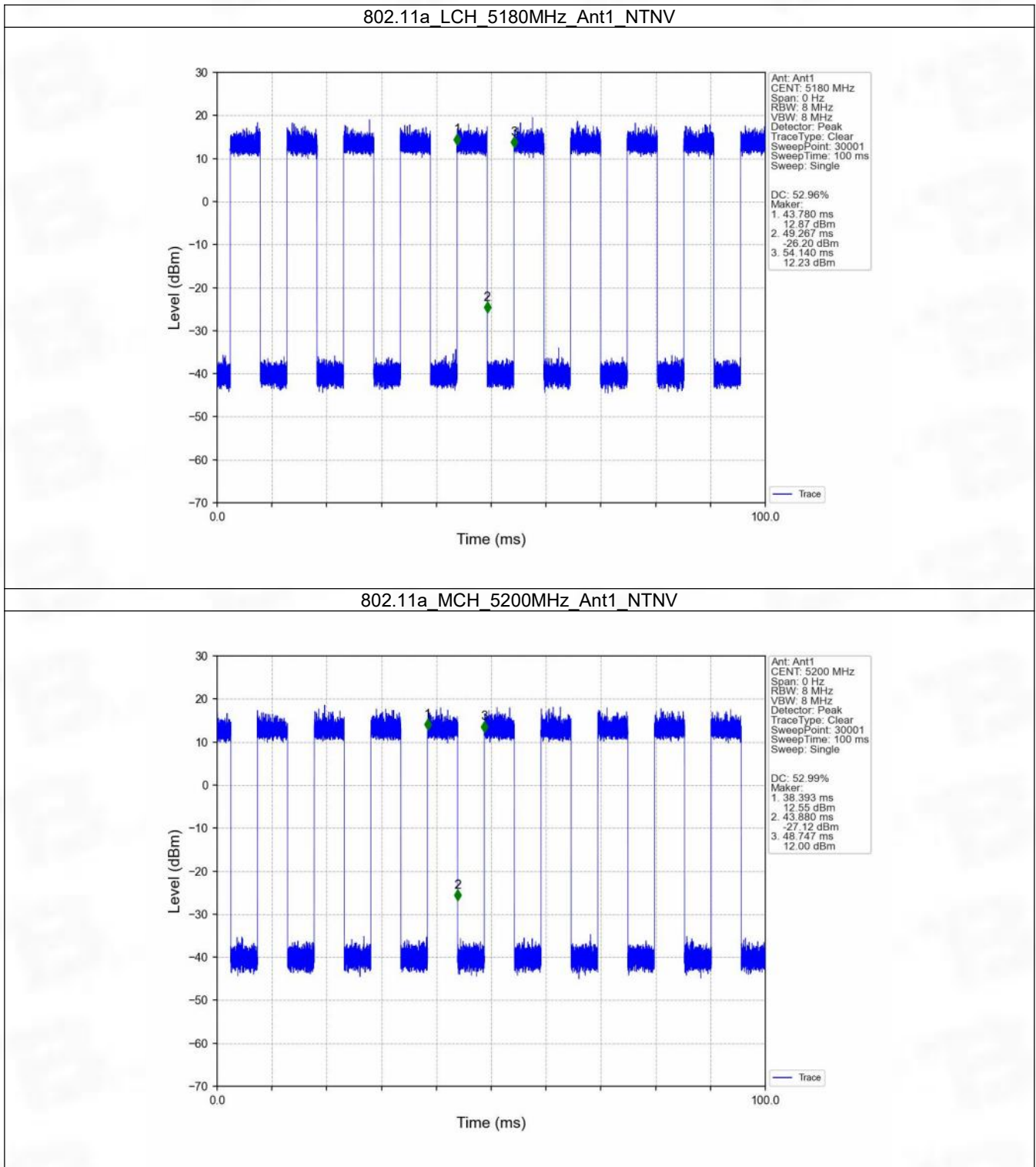
1.1 Test Result

1.1.1 Ant1

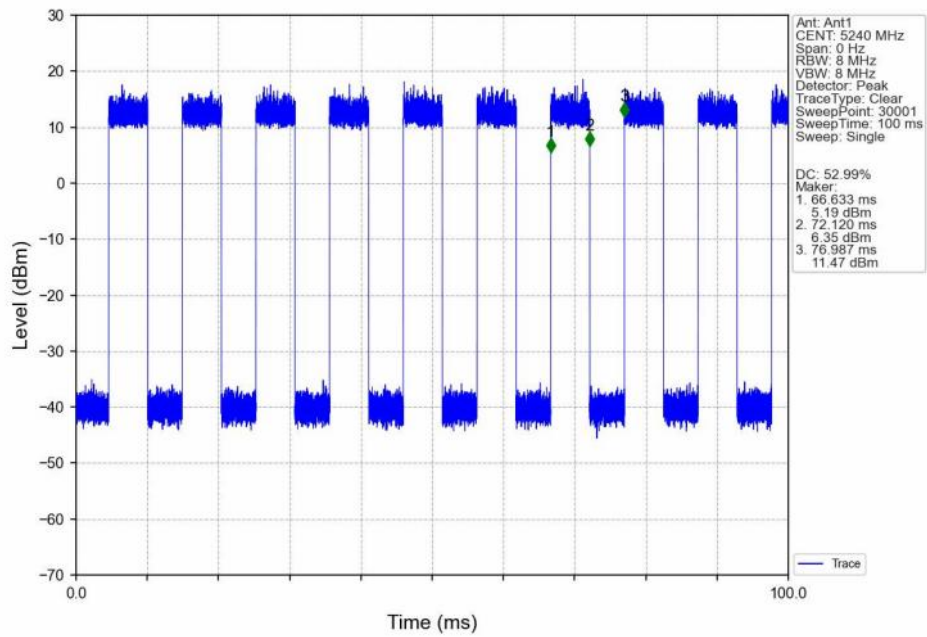
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	5.487	10.360	52.96	2.76	0.17
		5200	5.487	10.354	52.99	2.76	0.07
		5240	5.487	10.354	52.99	2.76	0.07
802.11n (HT20)	SISO	5180	5.374	10.354	51.90	2.85	0.07
		5200	5.377	10.353	51.94	2.85	0.07
		5240	5.373	10.347	51.93	2.85	0.07
802.11n (HT40)	SISO	5190	3.021	6.349	47.58	3.23	0.09
		5230	3.022	6.349	47.60	3.22	0.10
802.11ac (VHT20)	SISO	5180	5.384	10.350	52.02	2.84	0.07
		5200	5.380	10.346	52.00	2.84	0.07
		5240	5.380	10.347	52.00	2.84	0.07
802.11ac (VHT40)	SISO	5190	5.164	10.354	49.87	3.02	0.05
		5230	5.163	10.353	49.87	3.02	0.05

1.2 Test Graph

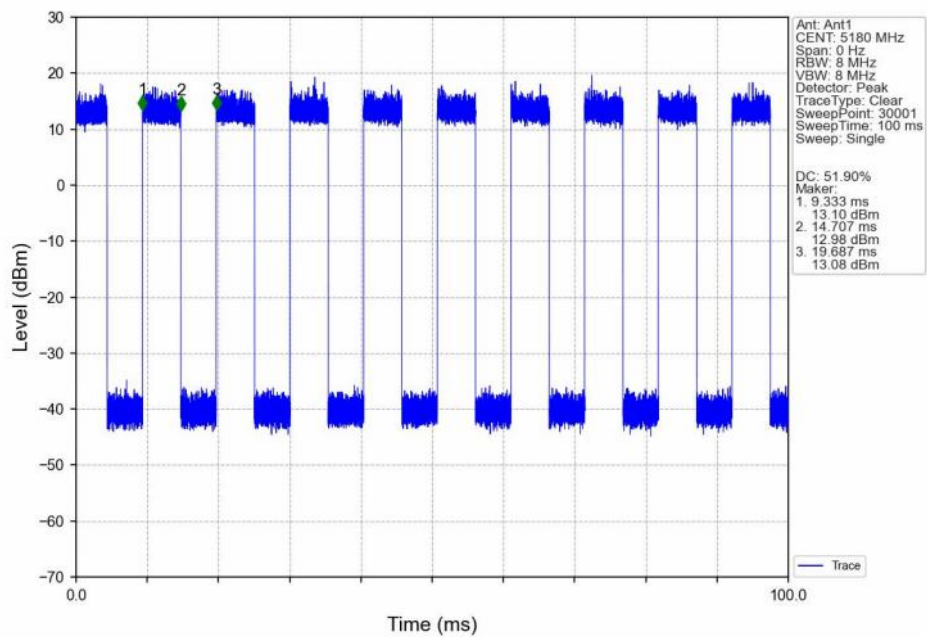
1.2.1 Ant1



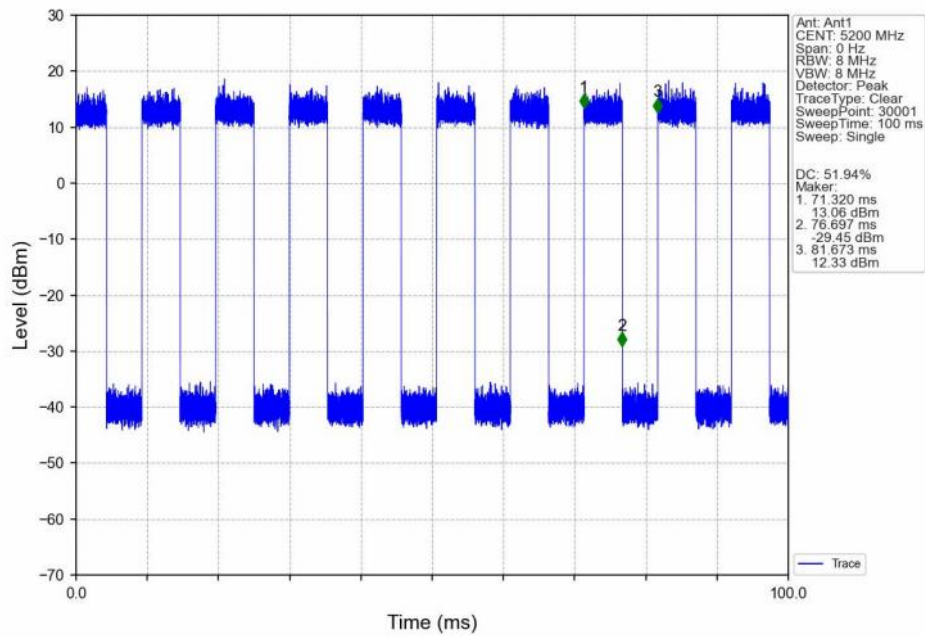
802.11a HCH 5240MHz_Ant1_NTNV



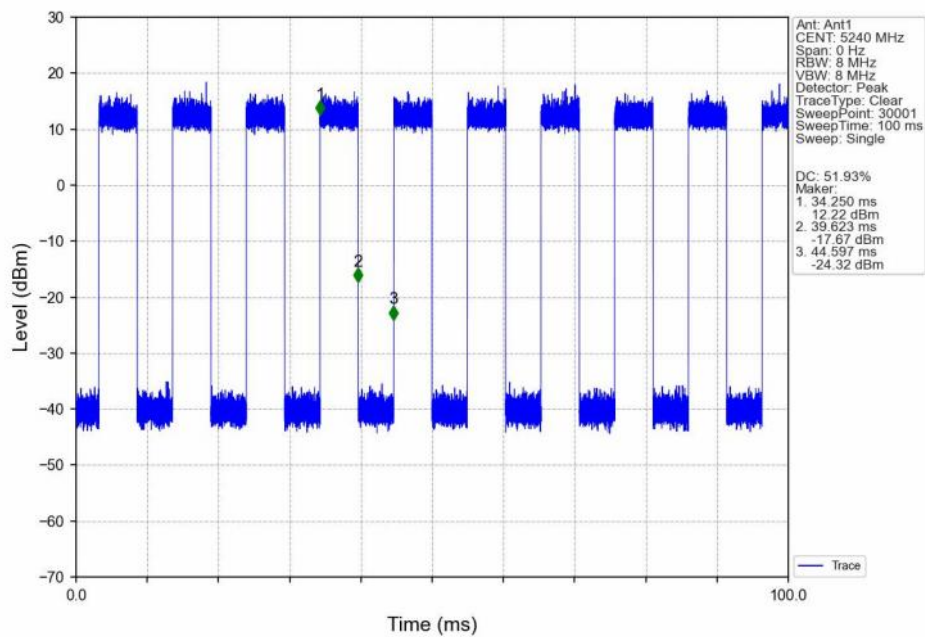
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



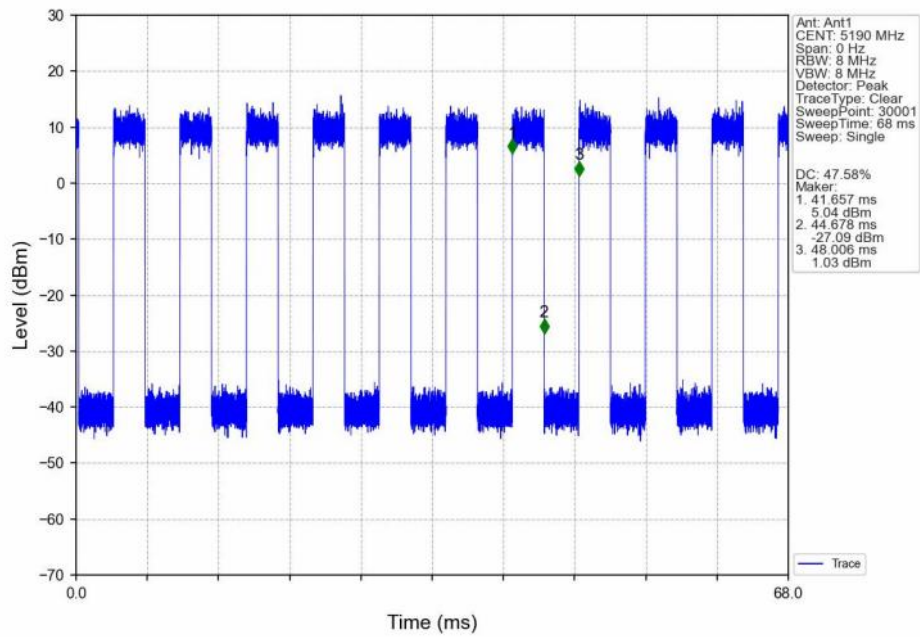
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



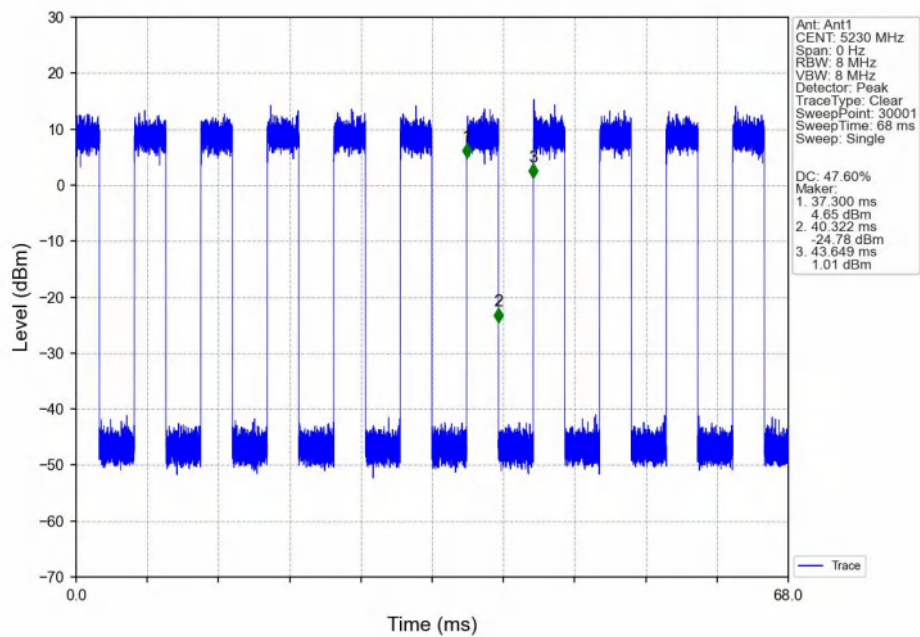
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



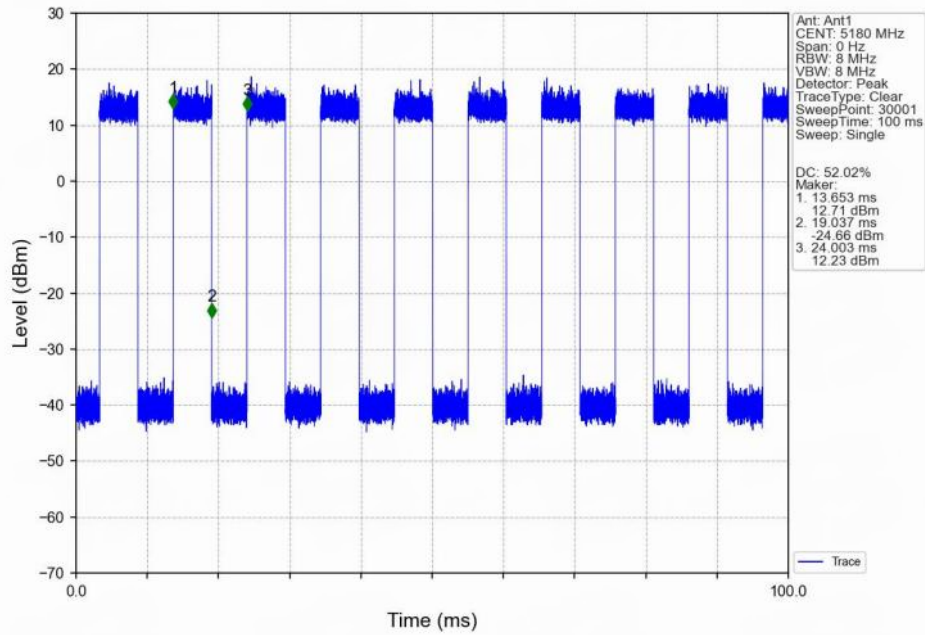
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



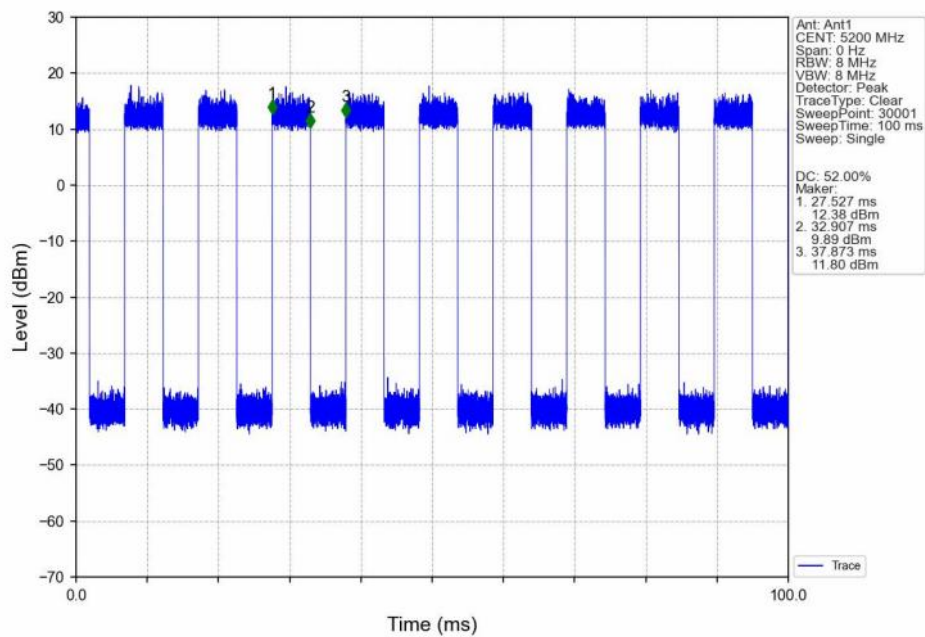
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



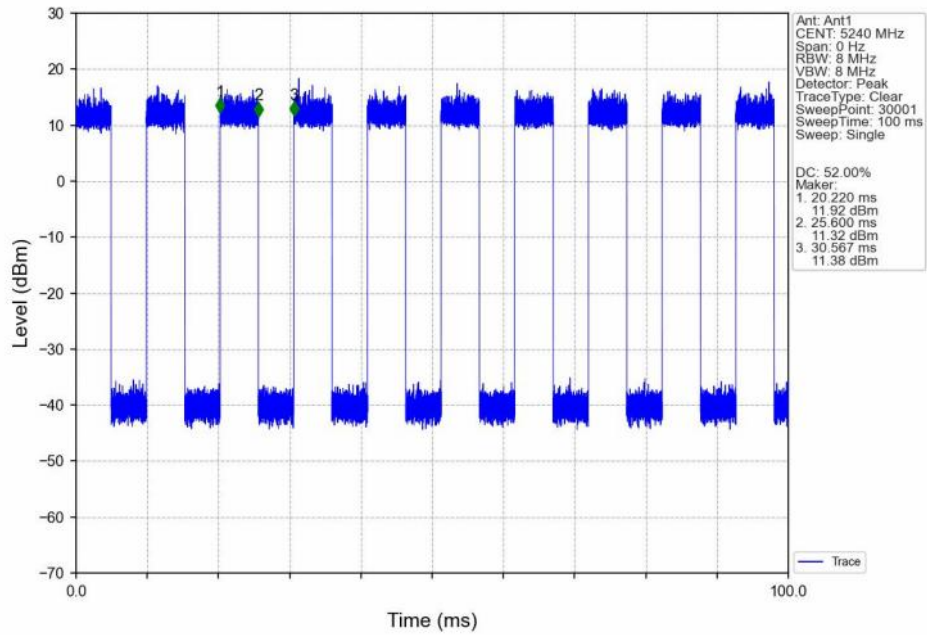
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



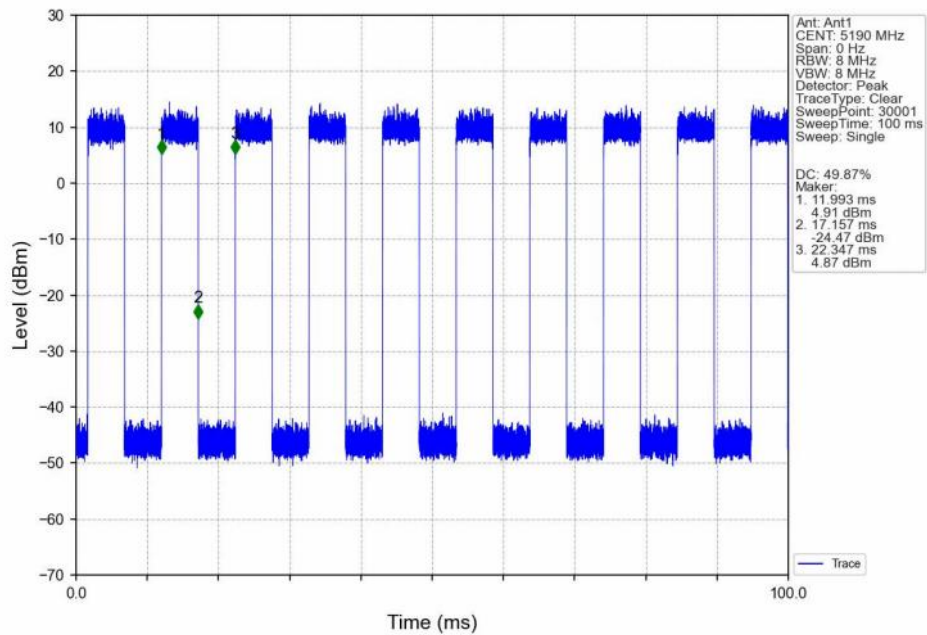
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV

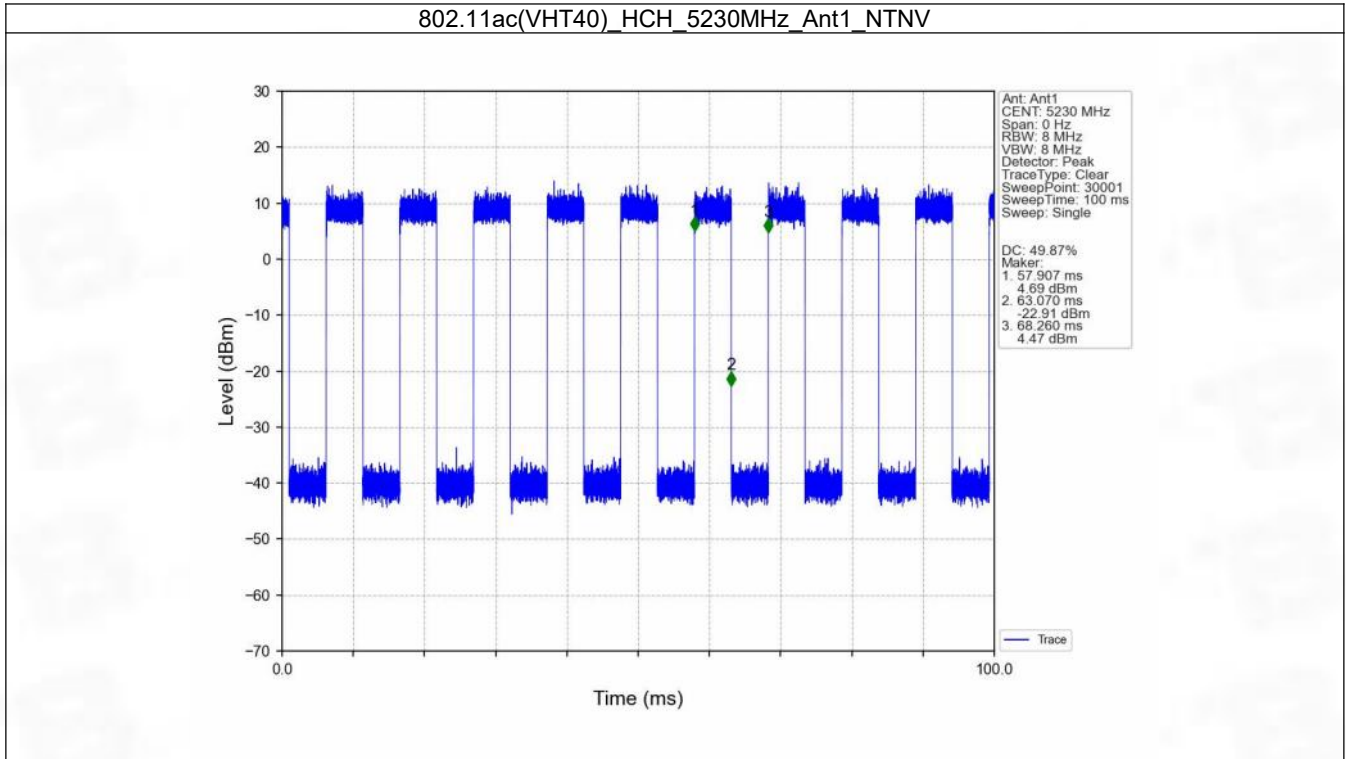


802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV





2. Bandwidth

2.1 Test Result

2.1.1 OBW

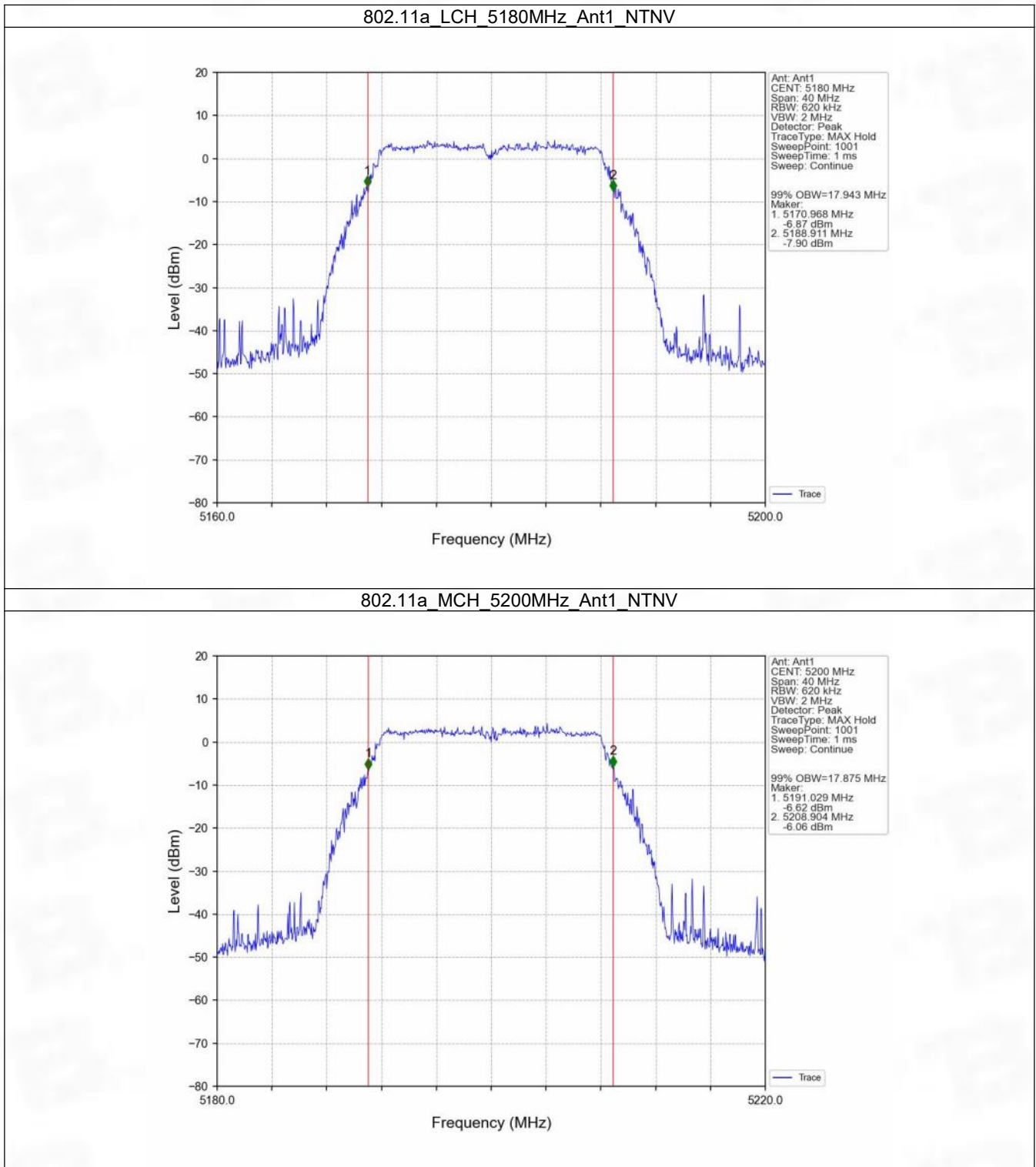
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	17.943	/	Pass
		5200	1	17.875	/	Pass
		5240	1	17.910	/	Pass
802.11n (HT20)	SISO	5180	1	18.808	/	Pass
		5200	1	18.811	/	Pass
		5240	1	18.637	/	Pass
802.11n (HT40)	SISO	5190	1	36.987	/	Pass
		5230	1	36.966	/	Pass
802.11ac (VHT20)	SISO	5180	1	18.700	/	Pass
		5200	1	18.751	/	Pass
		5240	1	18.849	/	Pass
802.11ac (VHT40)	SISO	5190	1	36.866	/	Pass
		5230	1	36.866	/	Pass

2.1.2 26dB BW

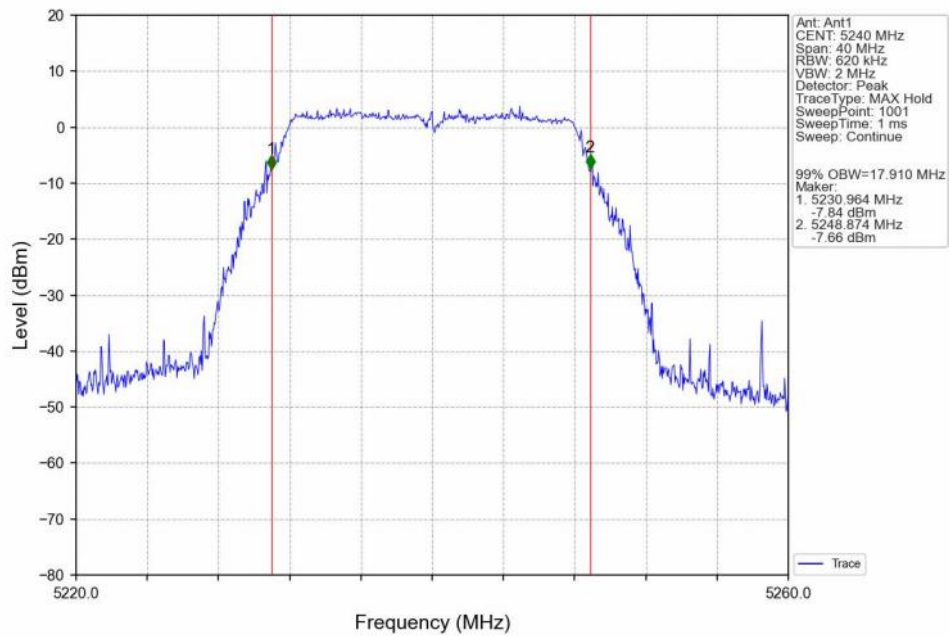
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	21.374	/	Pass
		5200	1	21.356	/	Pass
		5240	1	21.533	/	Pass
802.11n (HT20)	SISO	5180	1	21.678	/	Pass
		5200	1	21.500	/	Pass
		5240	1	21.603	/	Pass
802.11n (HT40)	SISO	5190	1	40.373	/	Pass
		5230	1	40.729	/	Pass
802.11ac (VHT20)	SISO	5180	1	21.631	/	Pass
		5200	1	21.588	/	Pass
		5240	1	21.992	/	Pass
802.11ac (VHT40)	SISO	5190	1	40.459	/	Pass
		5230	1	40.561	/	Pass

2.2 Test Graph

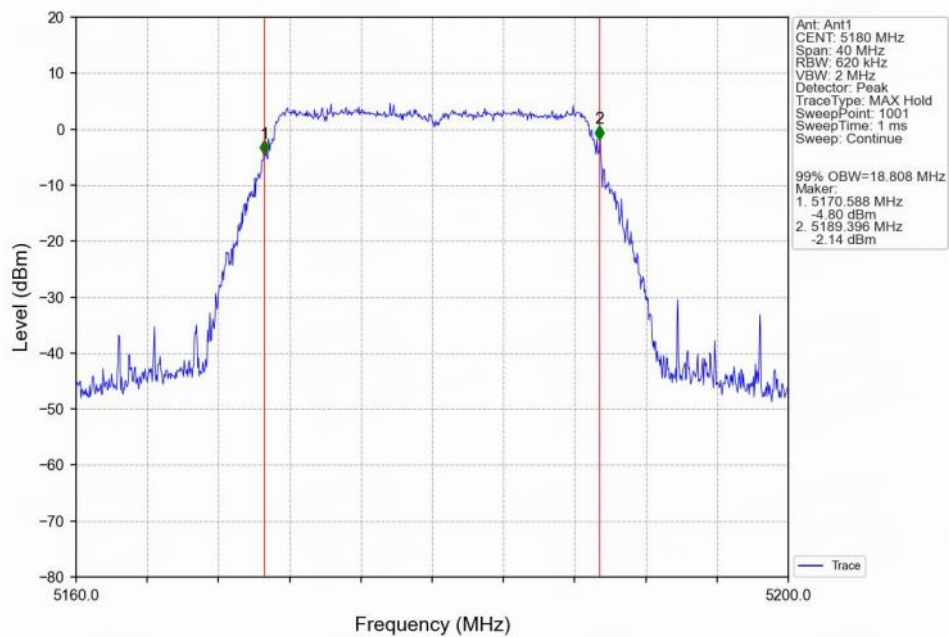
2.2.1 OBW



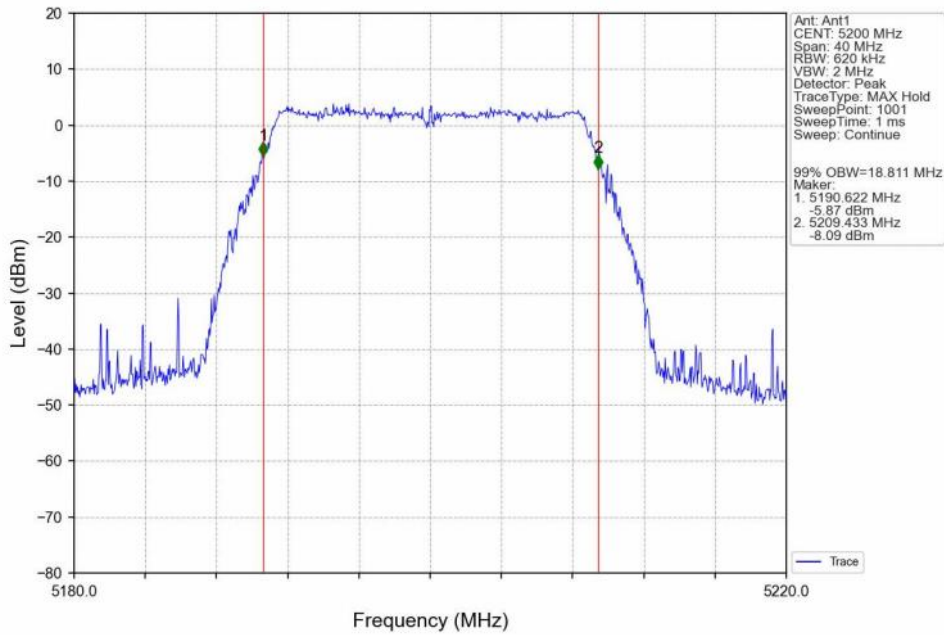
802.11a_HCH_5240MHz_Ant1_NTNV



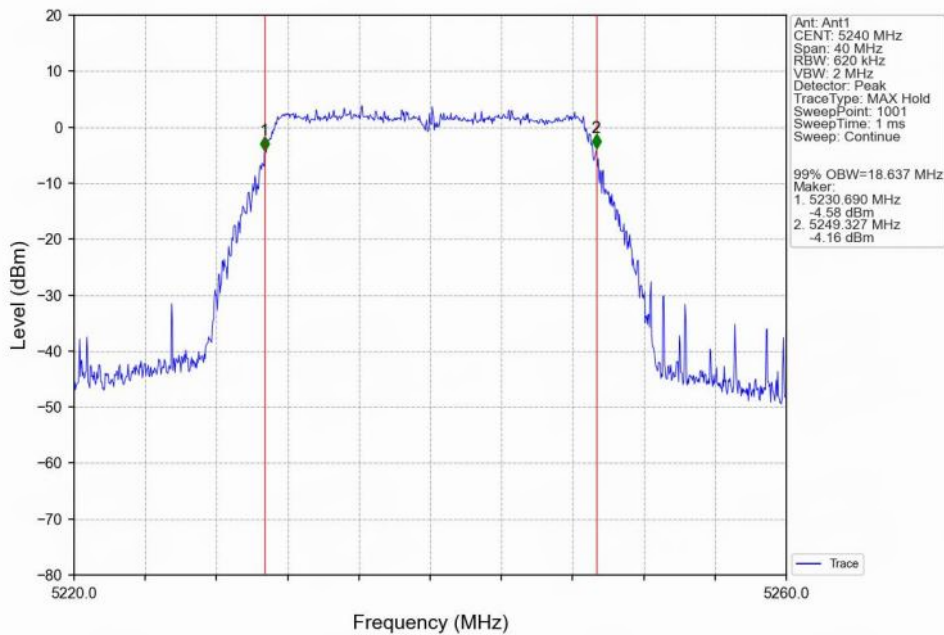
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



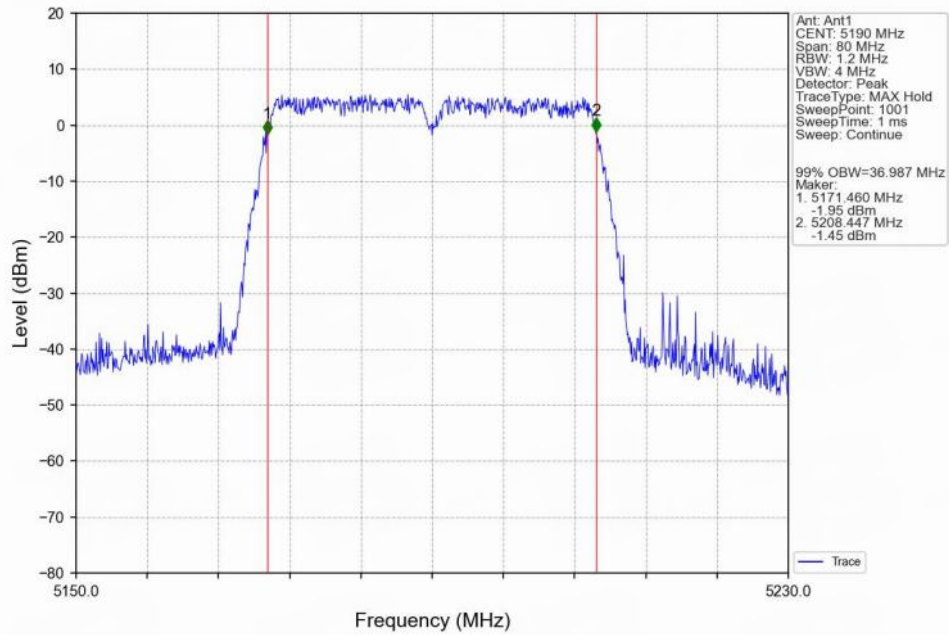
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



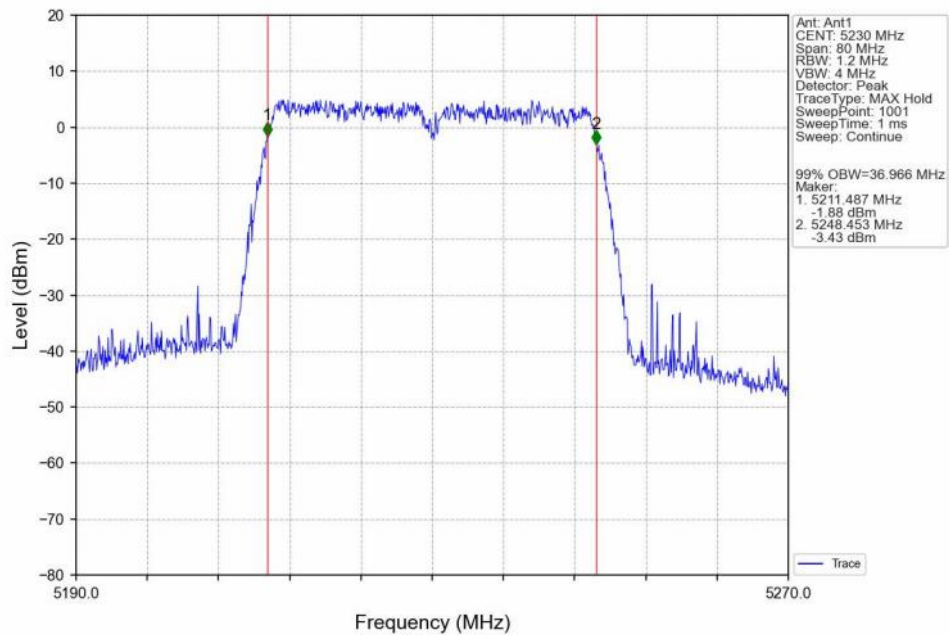
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



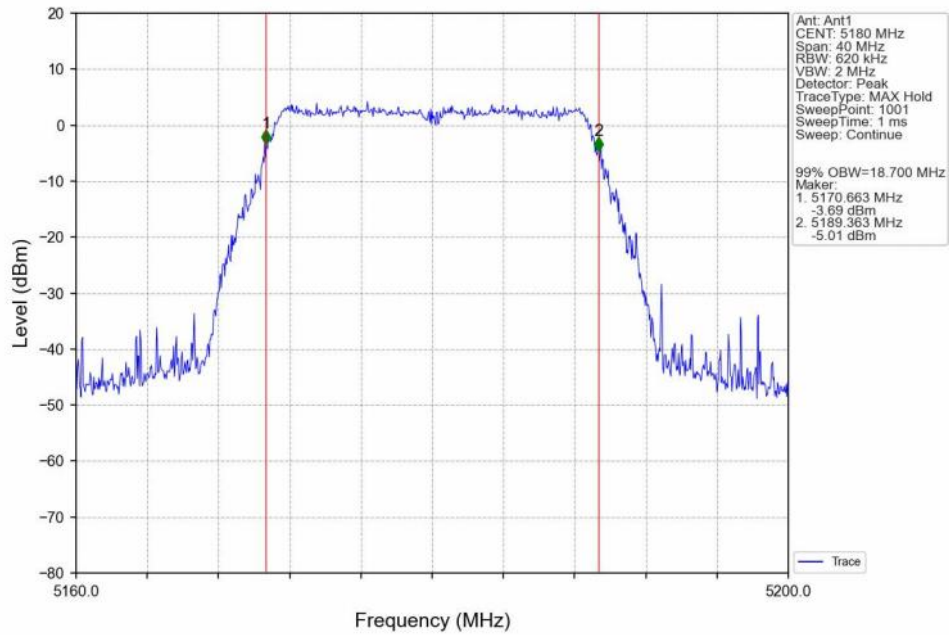
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



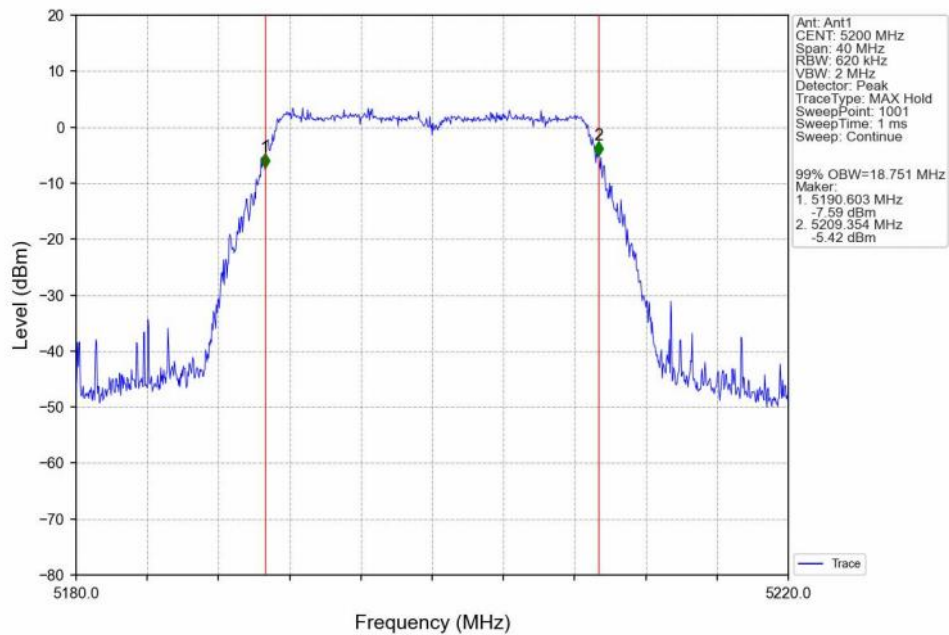
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



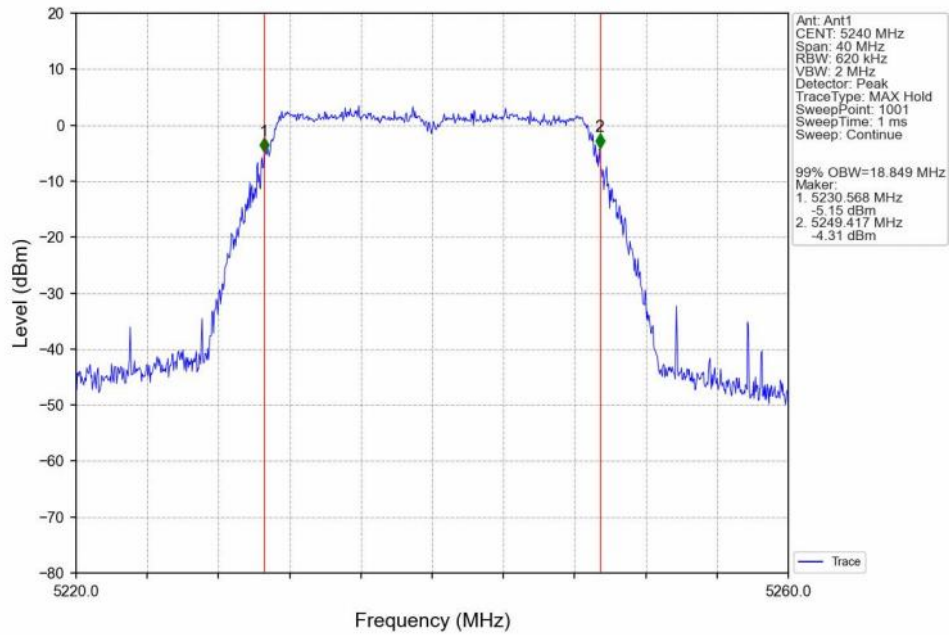
802.11ac(VHT20) LCH 5180MHz_Ant1_NTNV



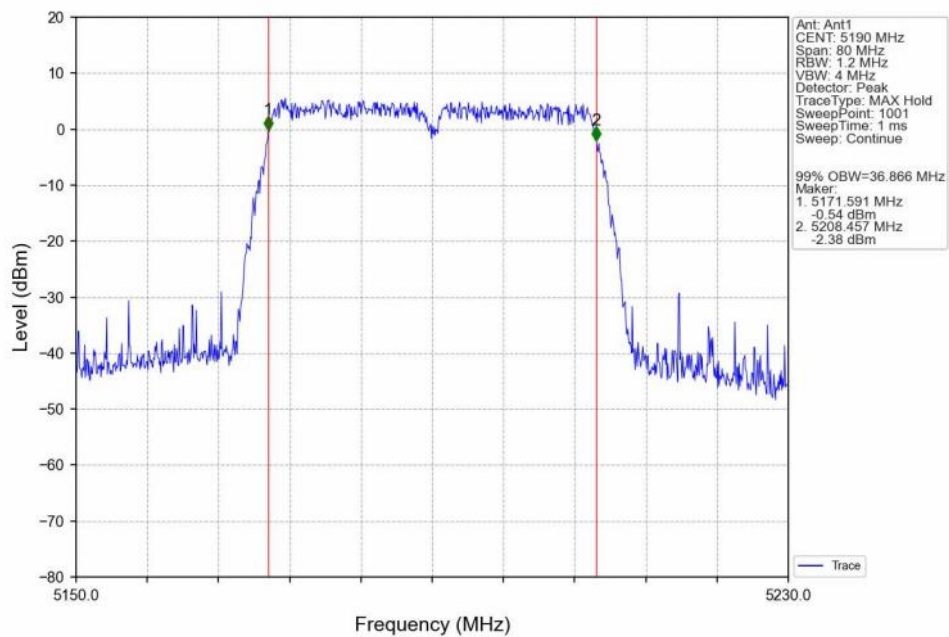
802.11ac(VHT20) MCH 5200MHz_Ant1_NTNV



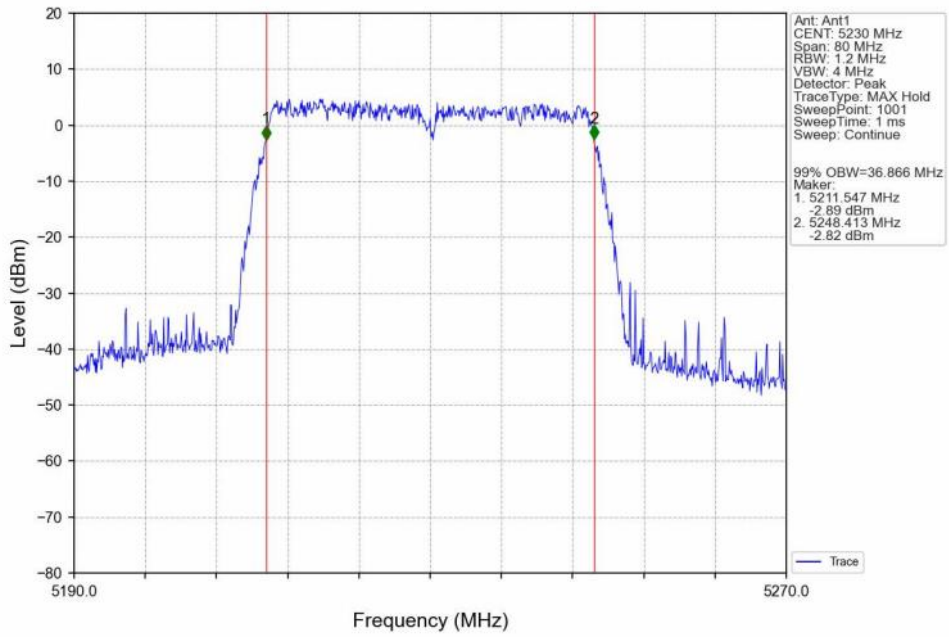
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



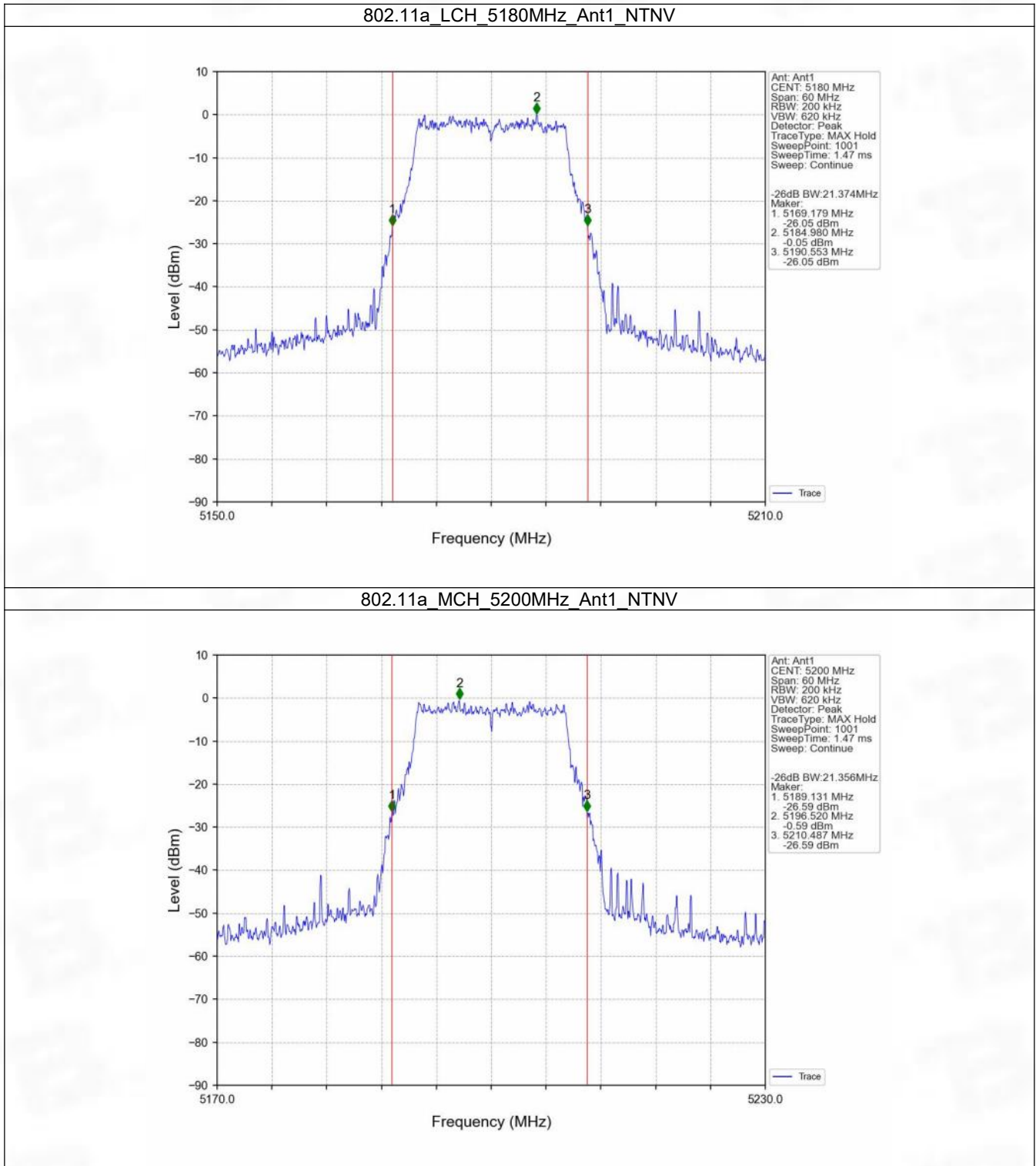
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



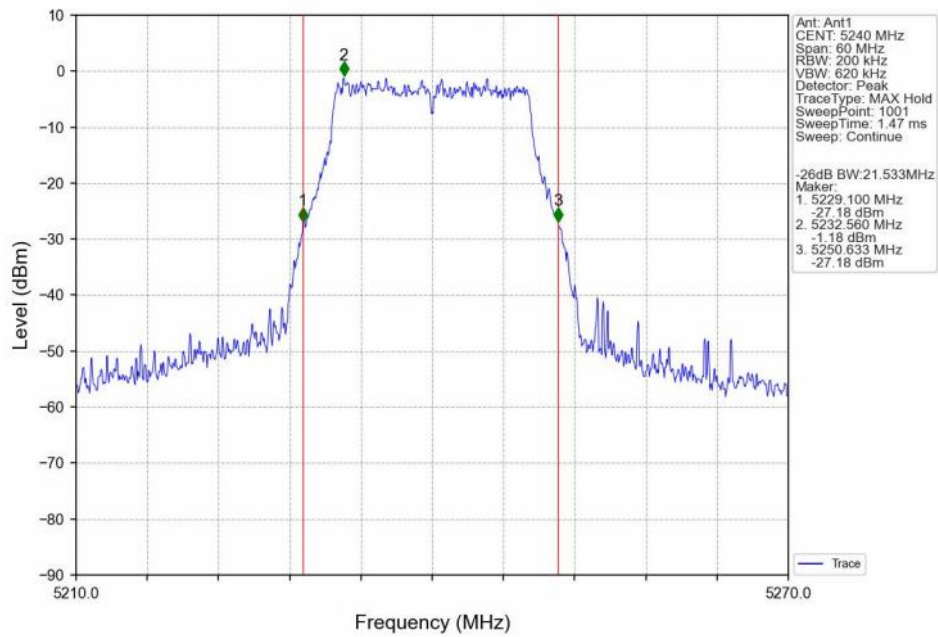
802.11ac(VHT40) HCH 5230MHz_Ant1_NTNV



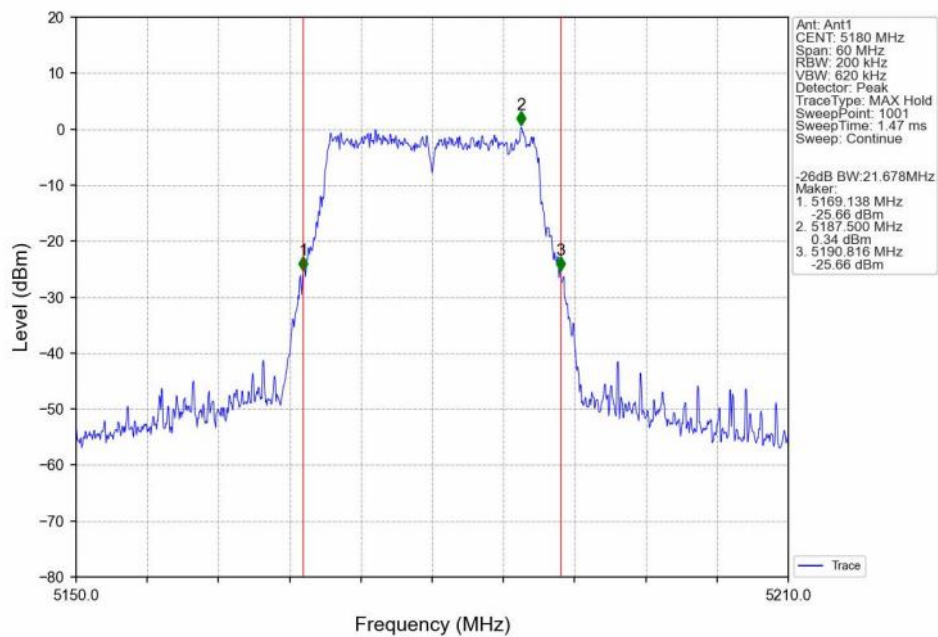
2.2.2 26dB BW



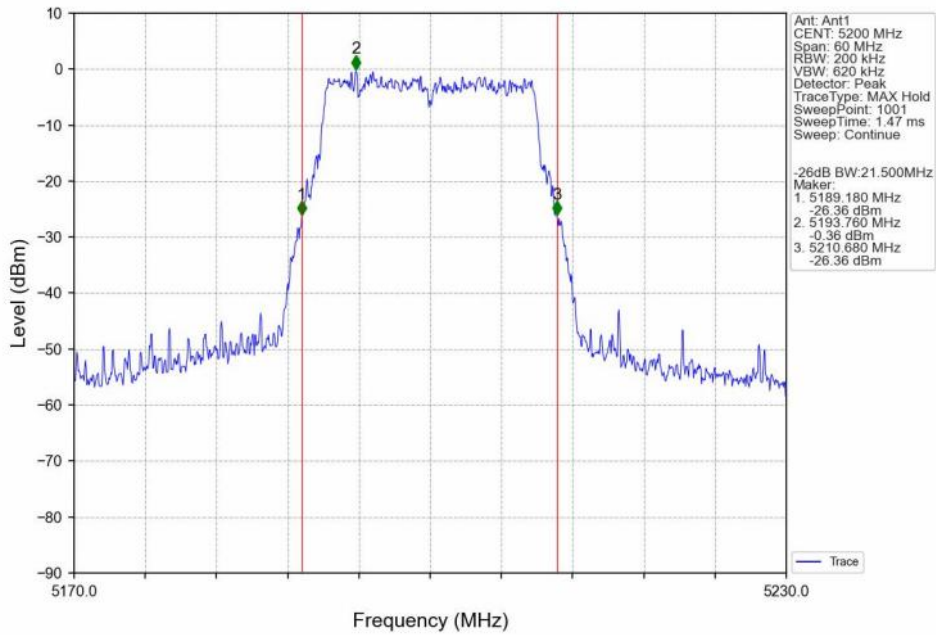
802.11a_HCH_5240MHz_Ant1_NTNV



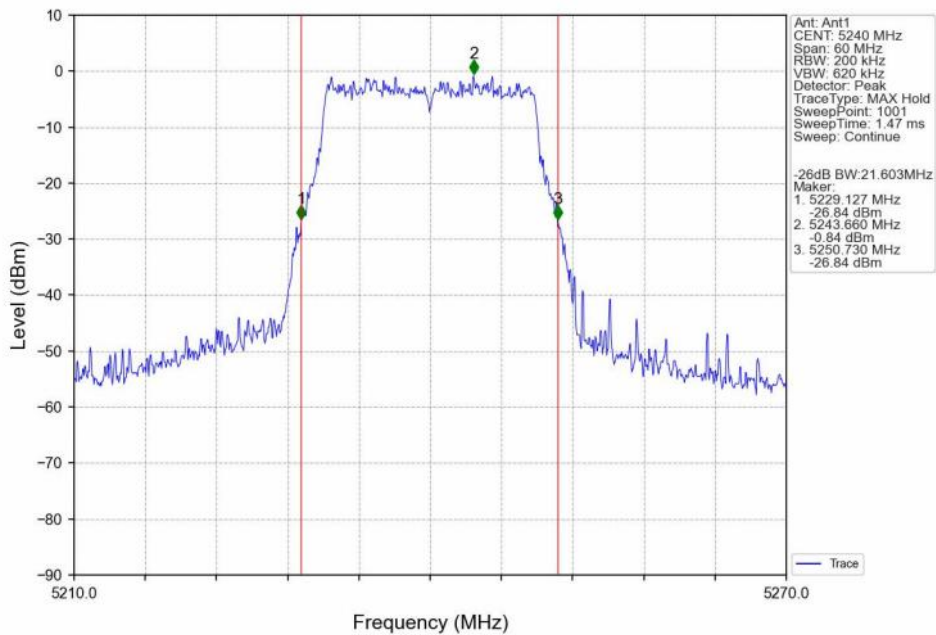
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



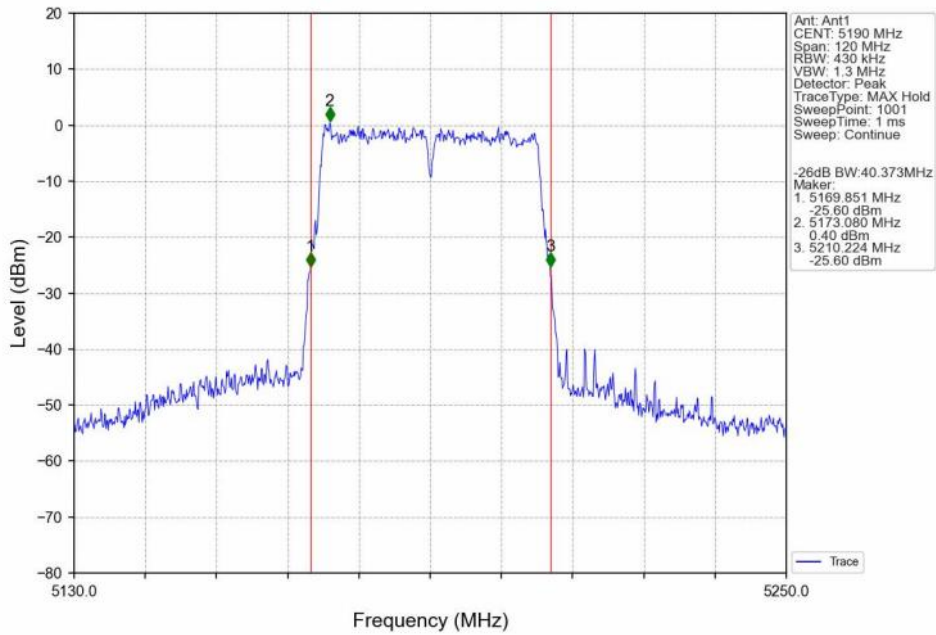
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



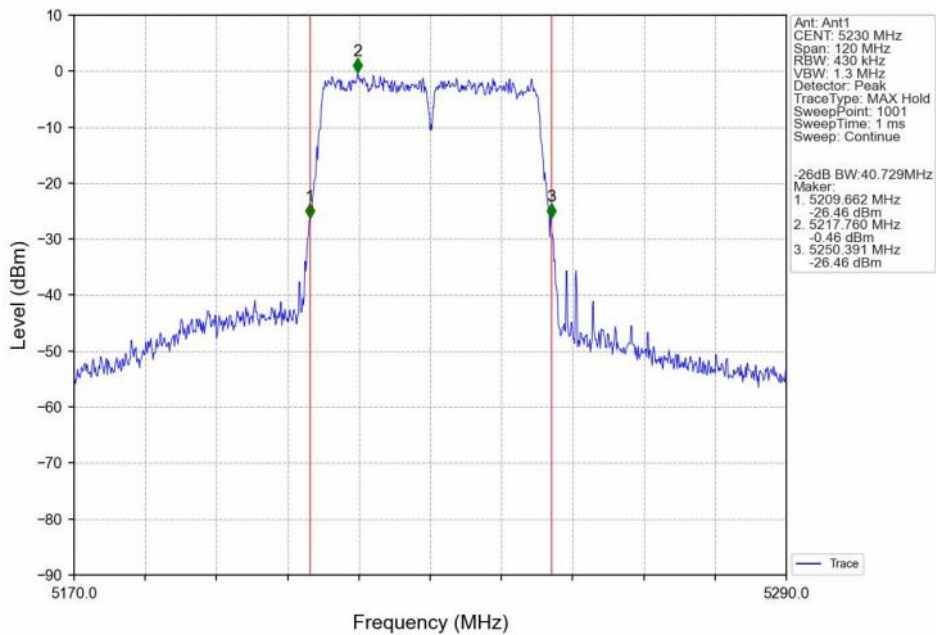
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



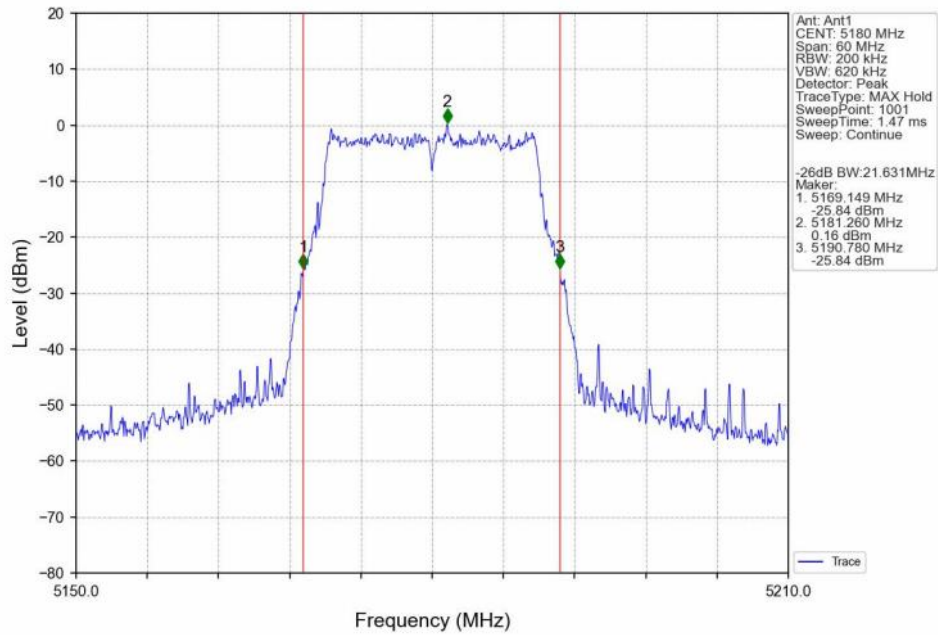
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



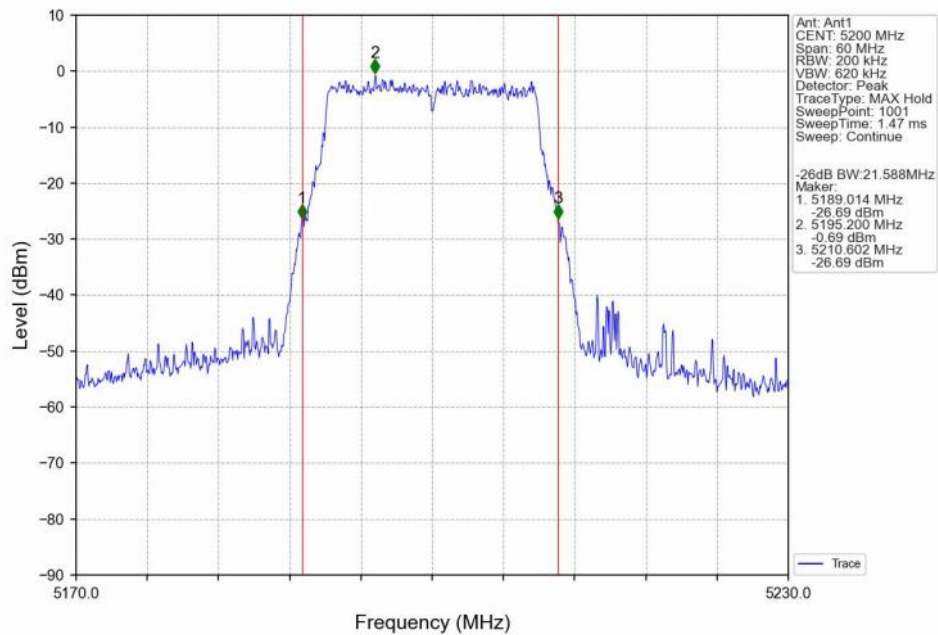
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



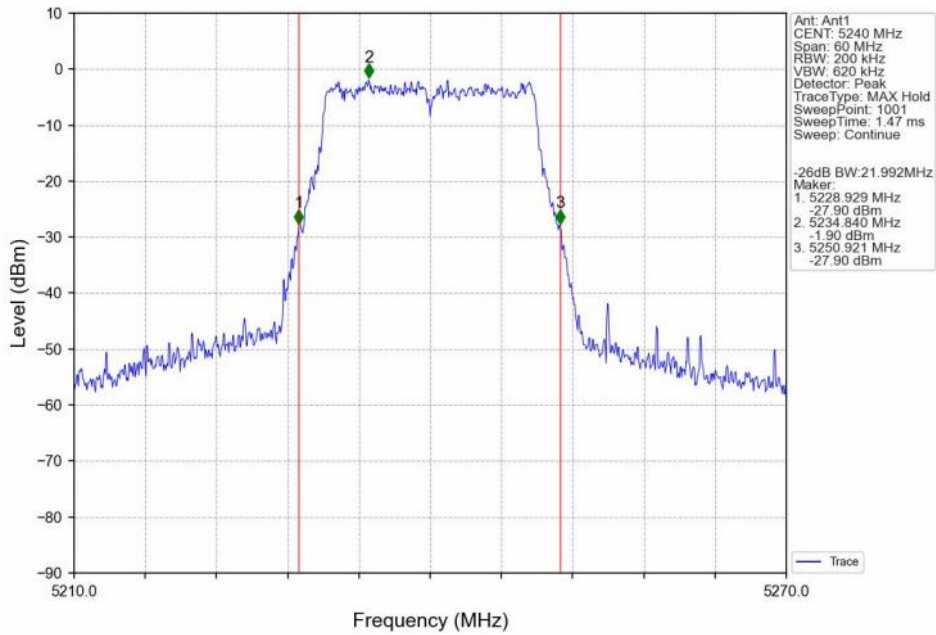
802.11ac(VHT20) LCH 5180MHz_Ant1_NTNV



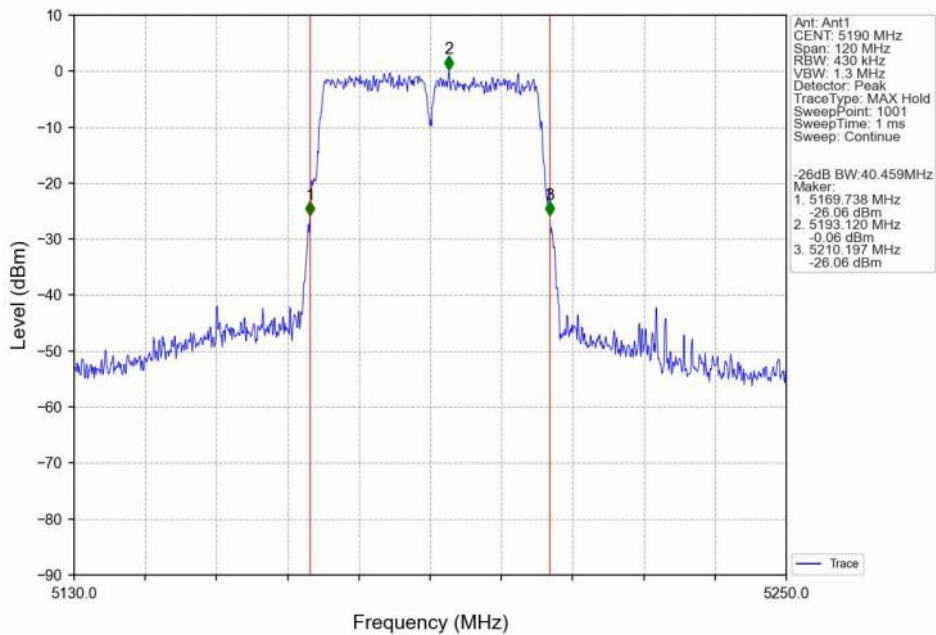
802.11ac(VHT20) MCH 5200MHz_Ant1_NTNV

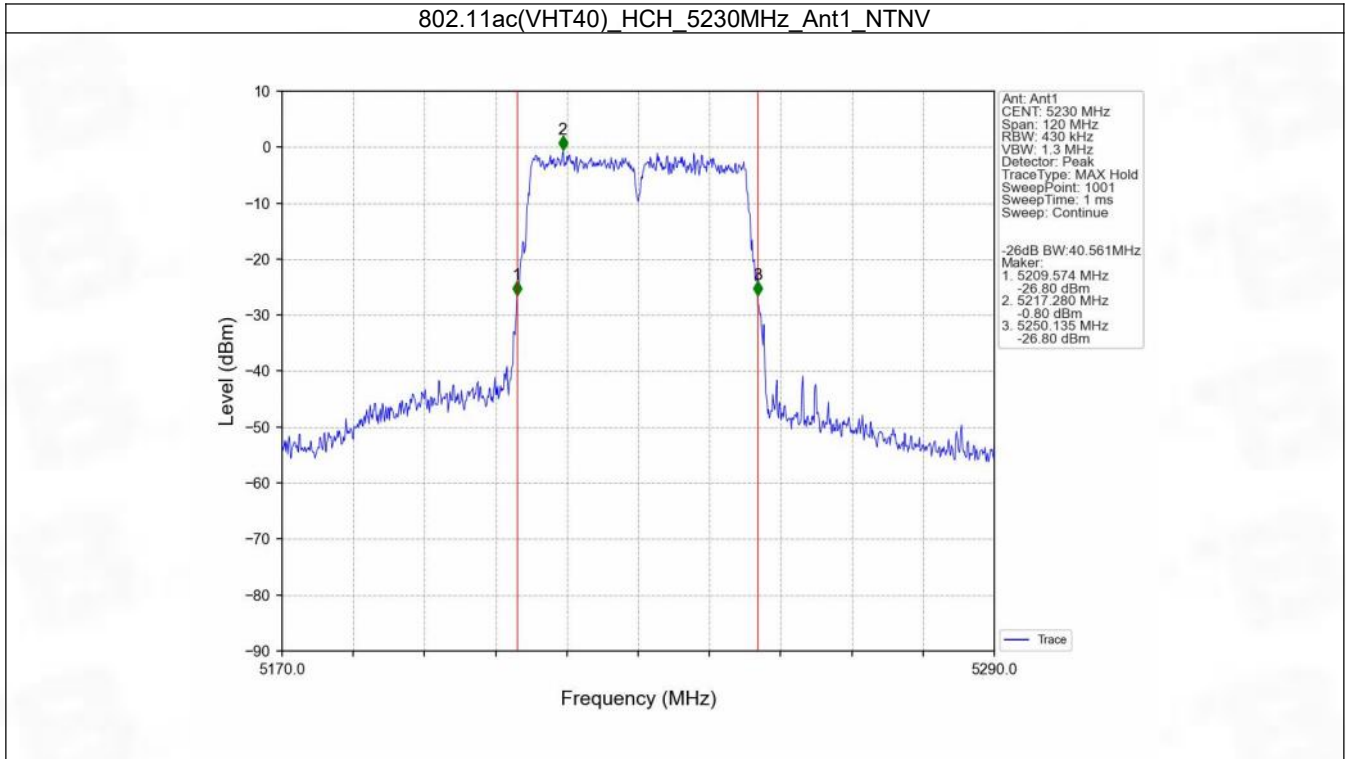


802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV





3. Maximum Conducted Output Power

3.1 Test Result

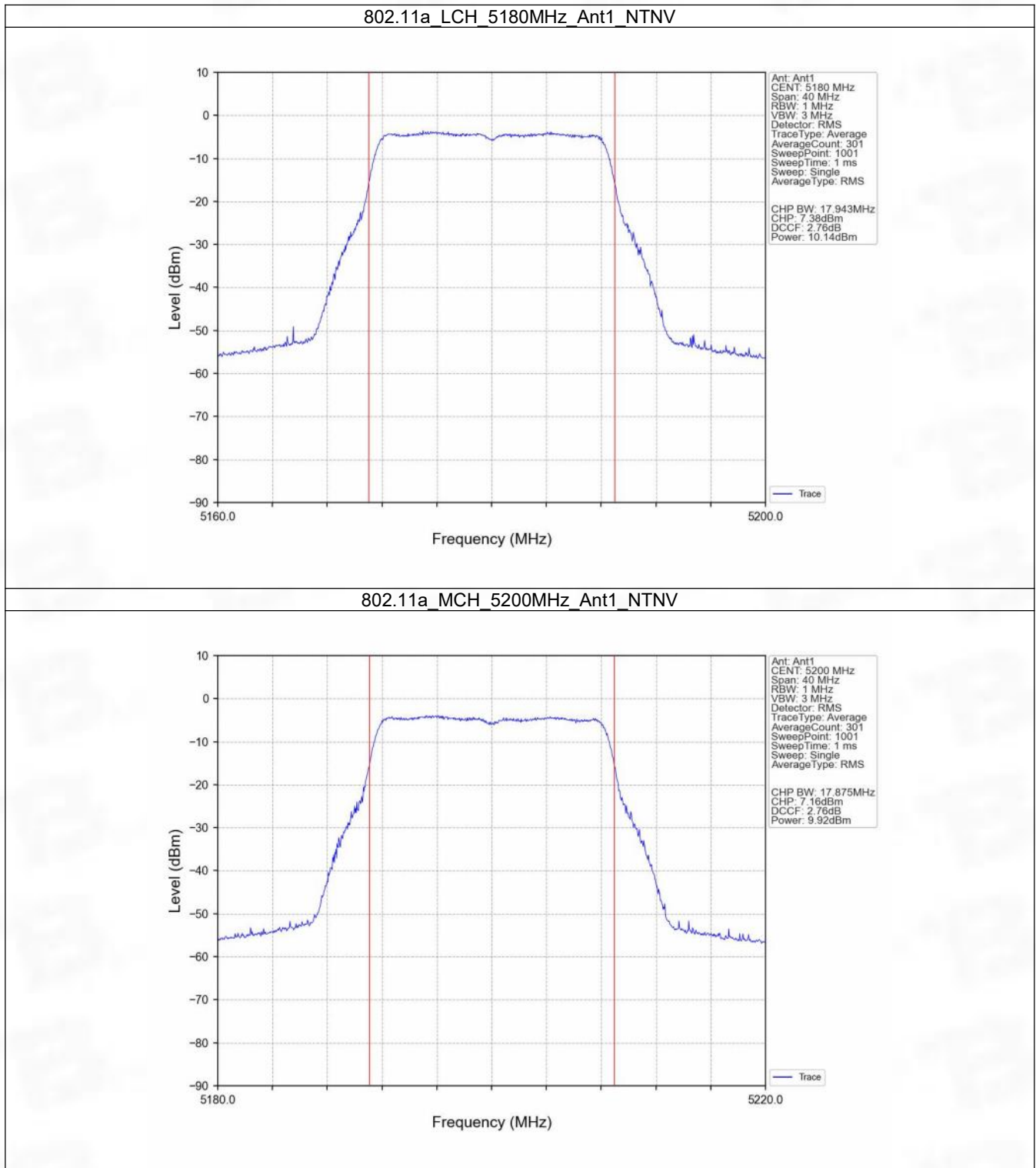
3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	10.14	<=23.98	Pass
		5200	9.92	<=23.98	Pass
		5240	9.88	<=23.98	Pass
802.11n (HT20)	SISO	5180	10.86	<=23.98	Pass
		5200	10.33	<=23.98	Pass
		5240	10.06	<=23.98	Pass
802.11n (HT40)	SISO	5190	10.33	<=23.98	Pass
		5230	9.54	<=23.98	Pass
802.11ac (VHT20)	SISO	5180	10.28	<=23.98	Pass
		5200	9.67	<=23.98	Pass
		5240	9.37	<=23.98	Pass
802.11ac (VHT40)	SISO	5190	10.44	<=23.98	Pass
		5230	9.82	<=23.98	Pass

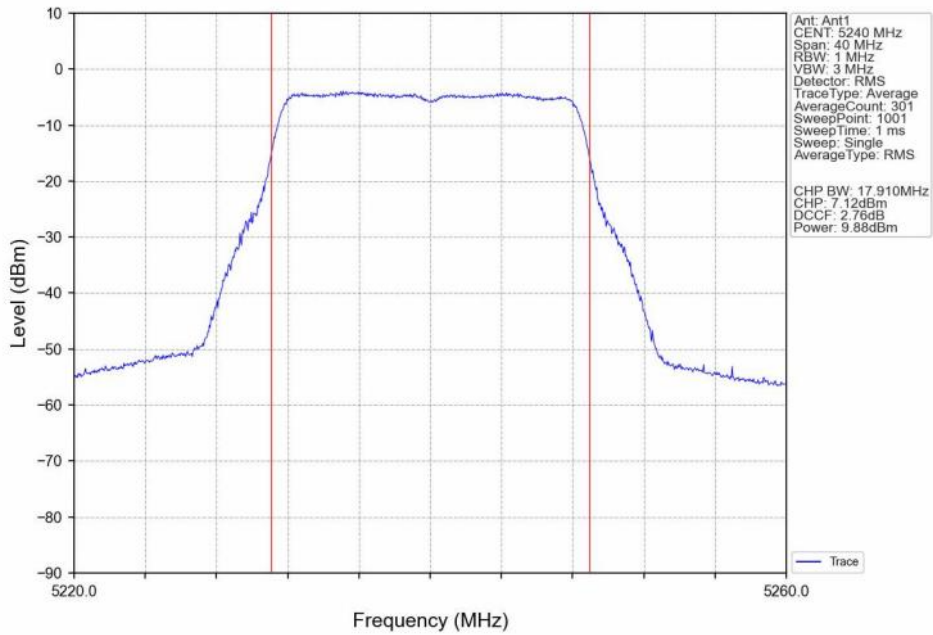
Note1: Antenna Gain: Ant1: 1.91dBi;

3.2 Test Graph

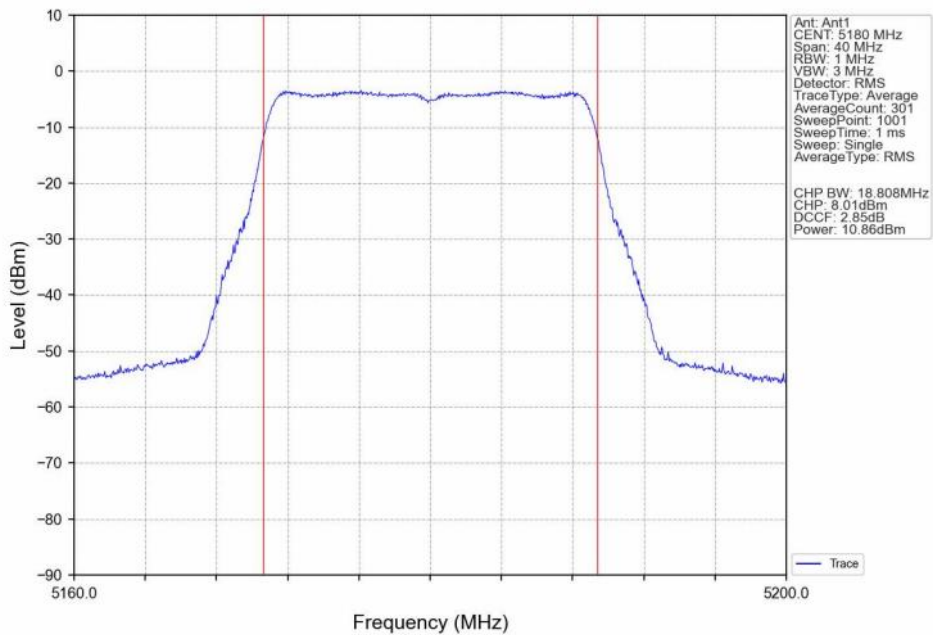
3.2.1 Power



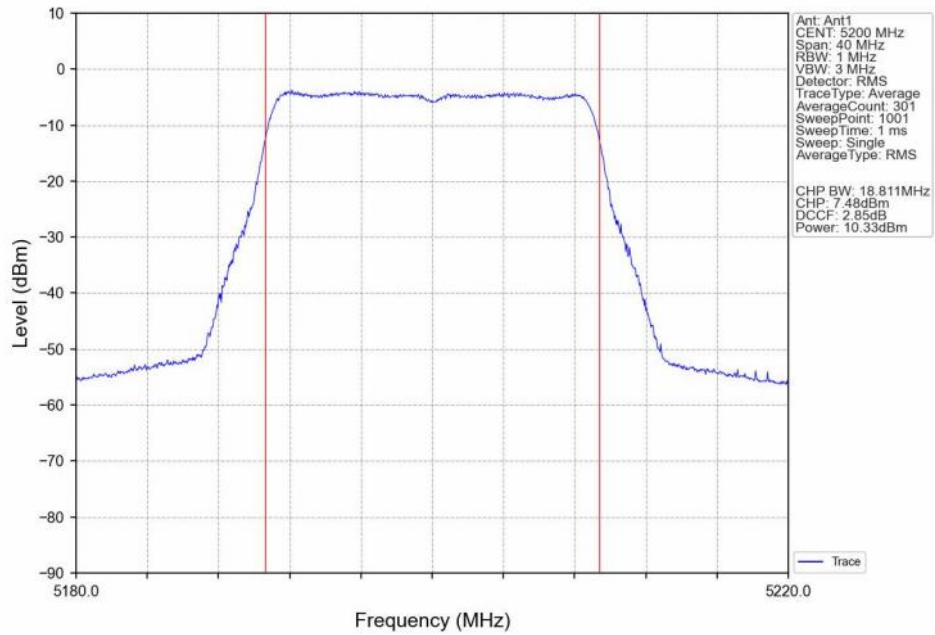
802.11a HCH 5240MHz_Ant1_NTNV



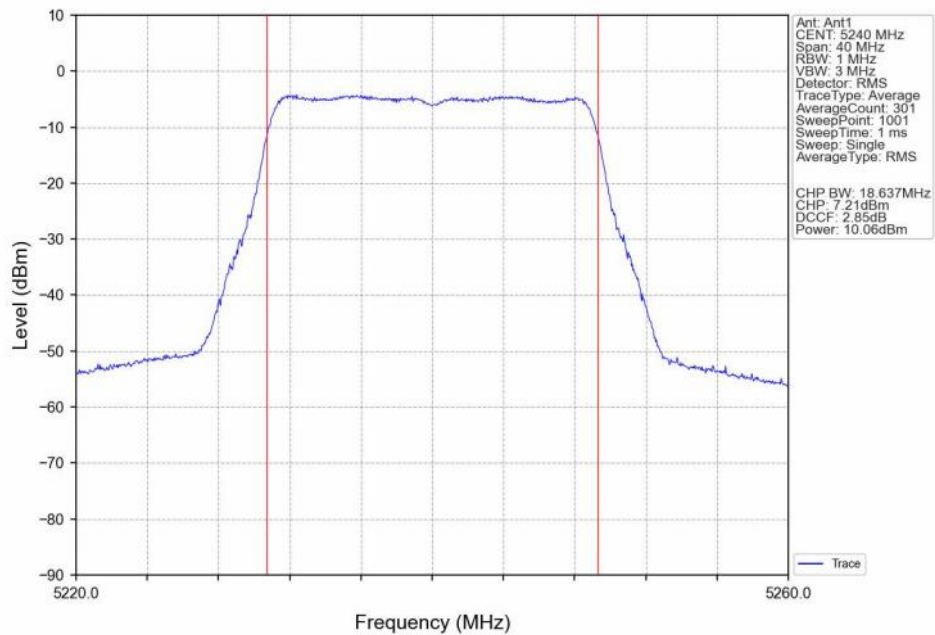
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



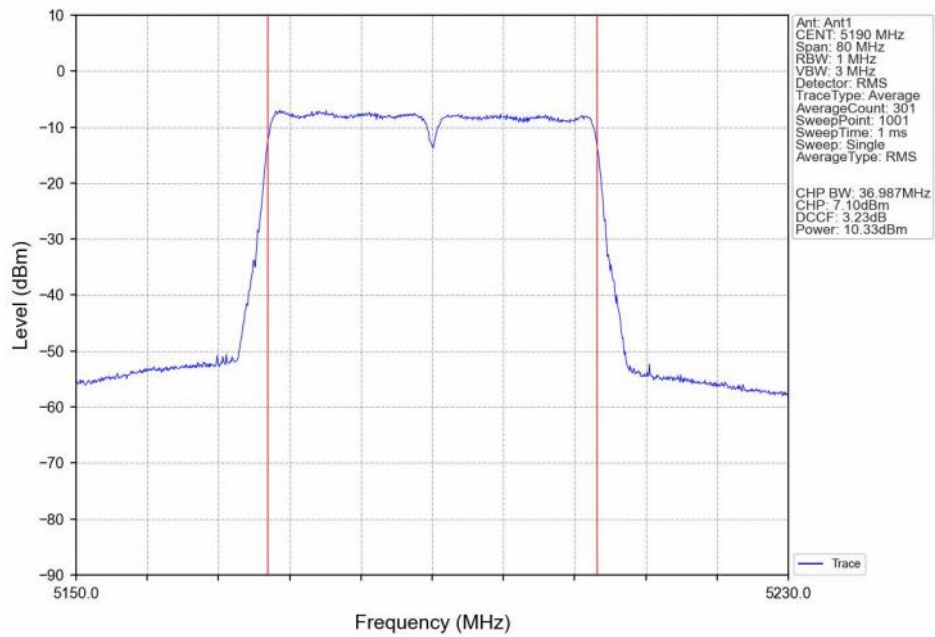
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



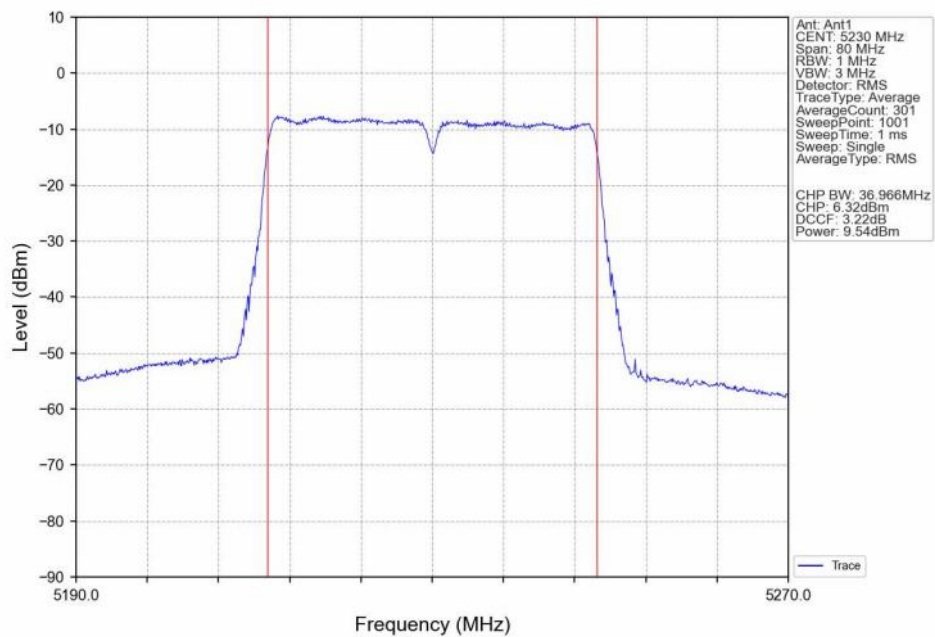
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



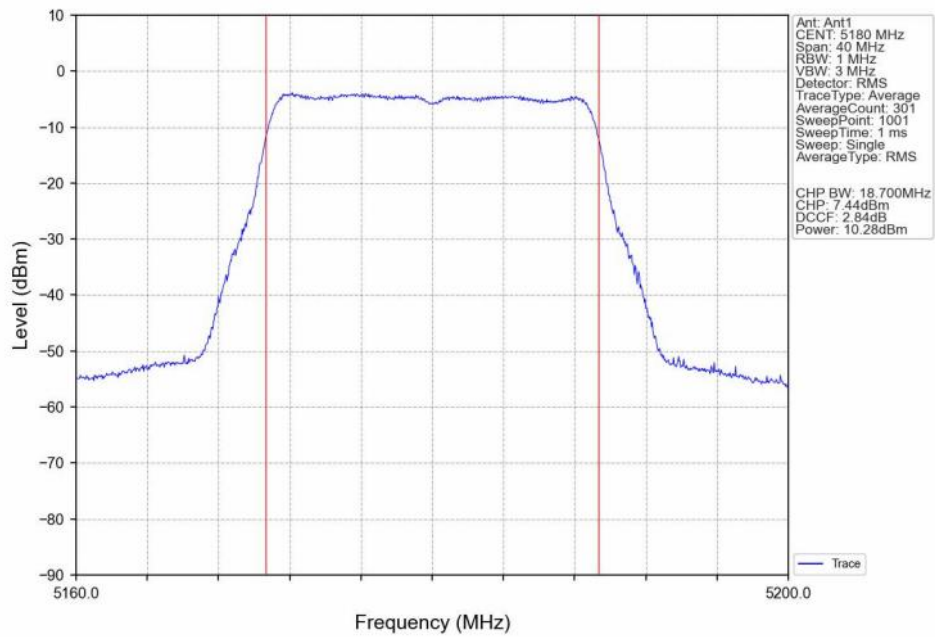
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



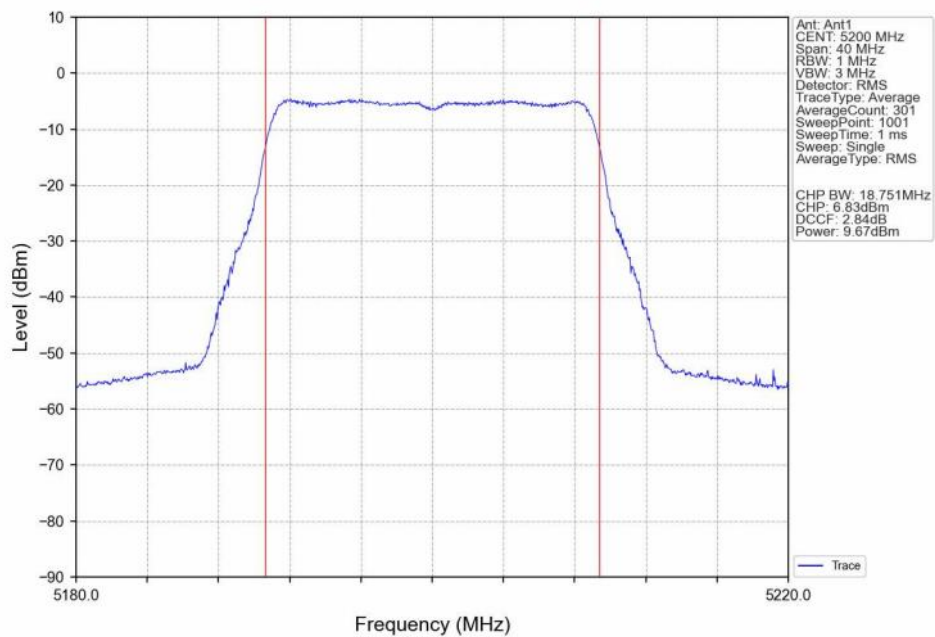
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



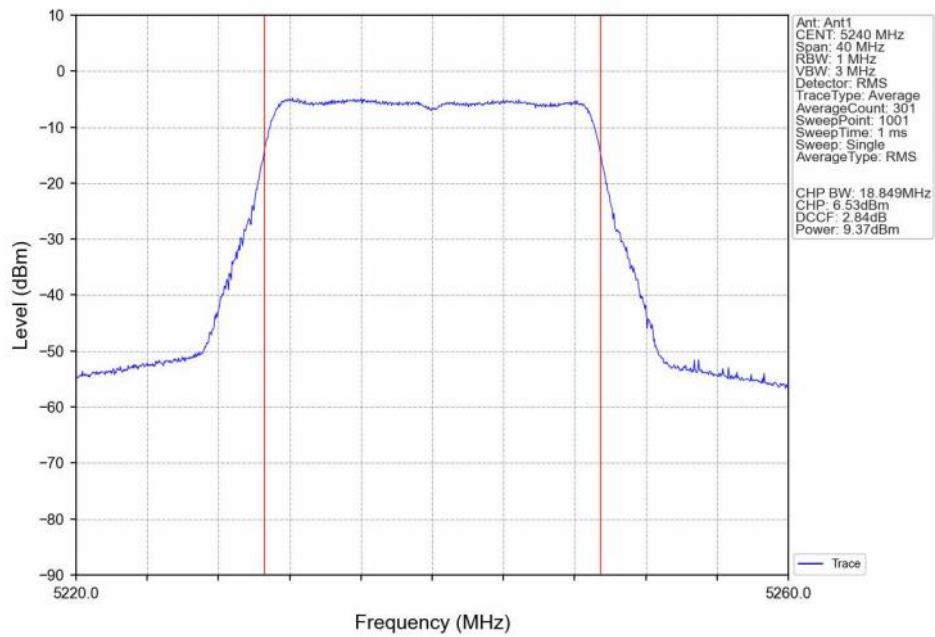
802.11ac(VHT20) LCH 5180MHz_Ant1_NTNV



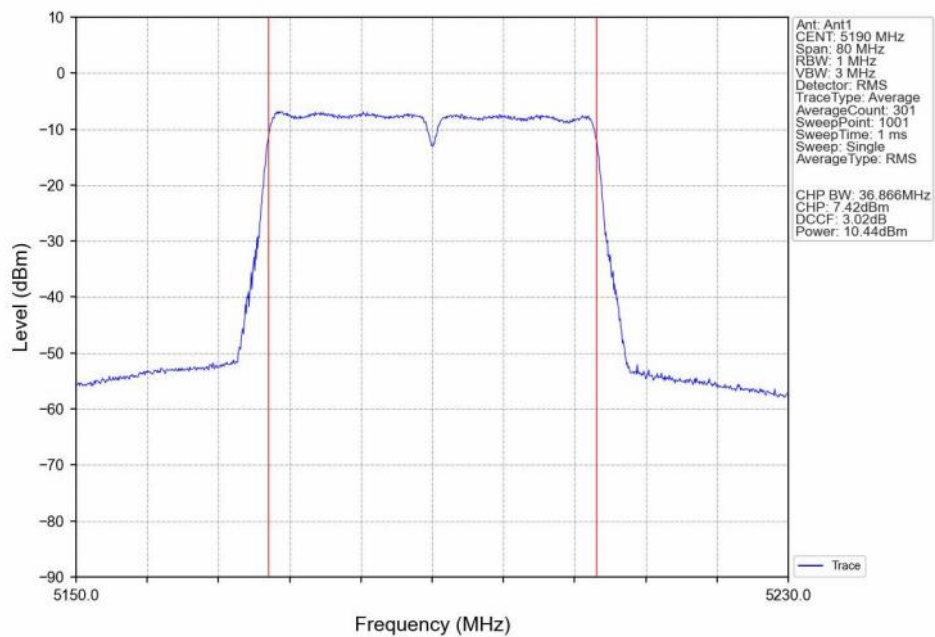
802.11ac(VHT20) MCH 5200MHz_Ant1_NTNV

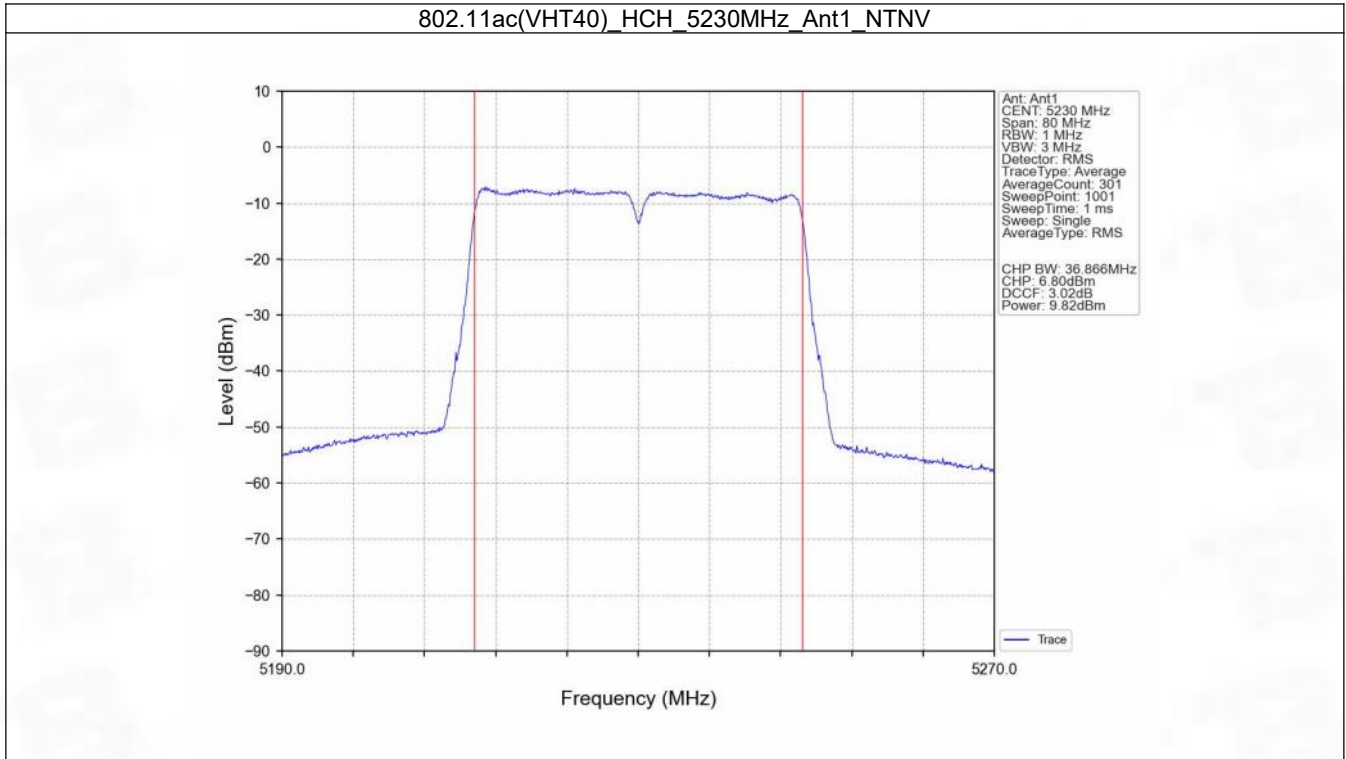


802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV





4. Maximum Power Spectral Density

4.1 Test Result

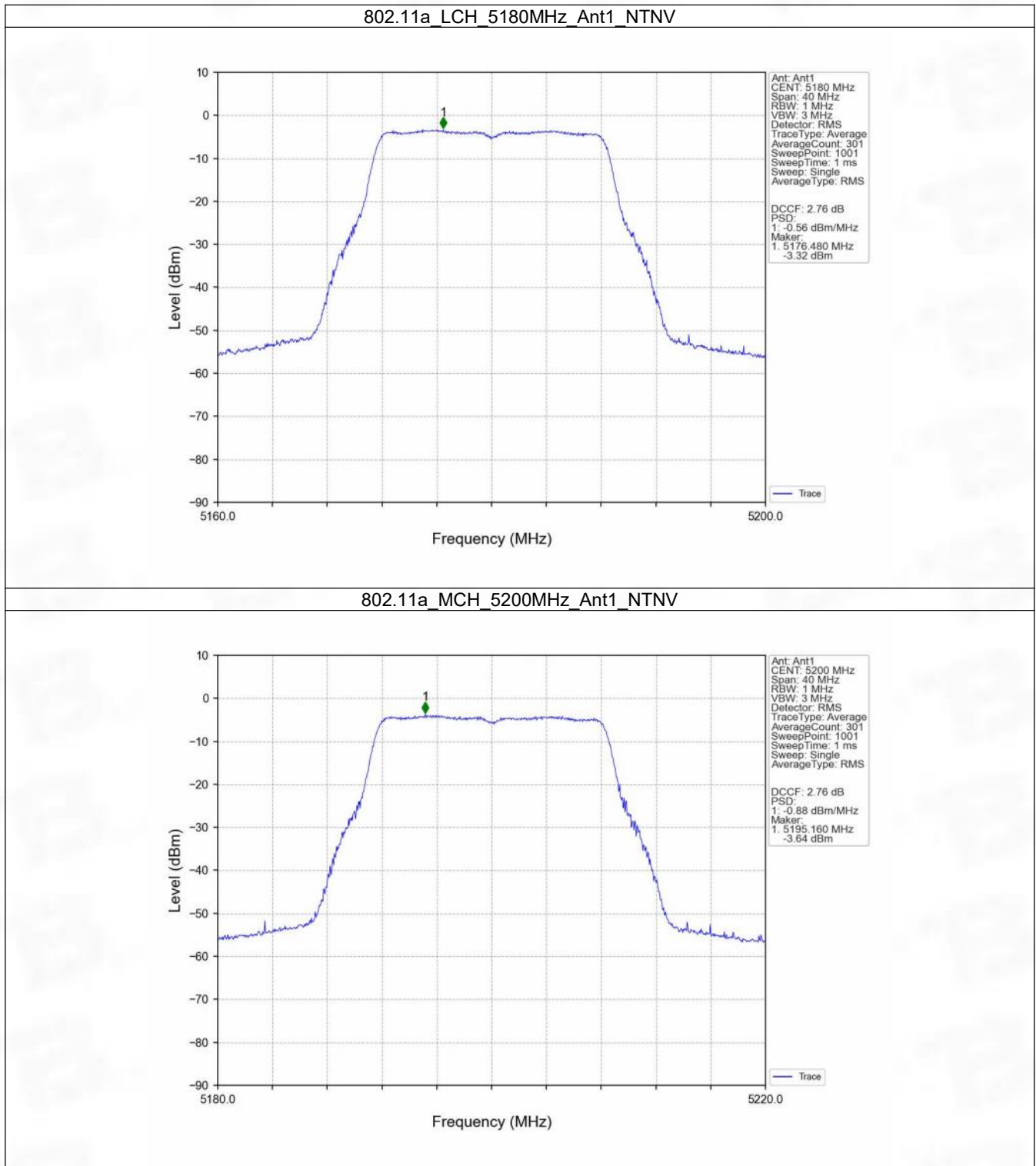
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	-0.56	<=11	Pass
		5200	-0.88	<=11	Pass
		5240	-1.30	<=11	Pass
802.11n (HT20)	SISO	5180	-0.48	<=11	Pass
		5200	-1.26	<=11	Pass
		5240	-1.84	<=11	Pass
802.11n (HT40)	SISO	5190	-3.53	<=11	Pass
		5230	-3.99	<=11	Pass
802.11ac (VHT20)	SISO	5180	-1.14	<=11	Pass
		5200	-1.56	<=11	Pass
		5240	-1.86	<=11	Pass
802.11ac (VHT40)	SISO	5190	-3.87	<=11	Pass
		5230	-4.36	<=11	Pass

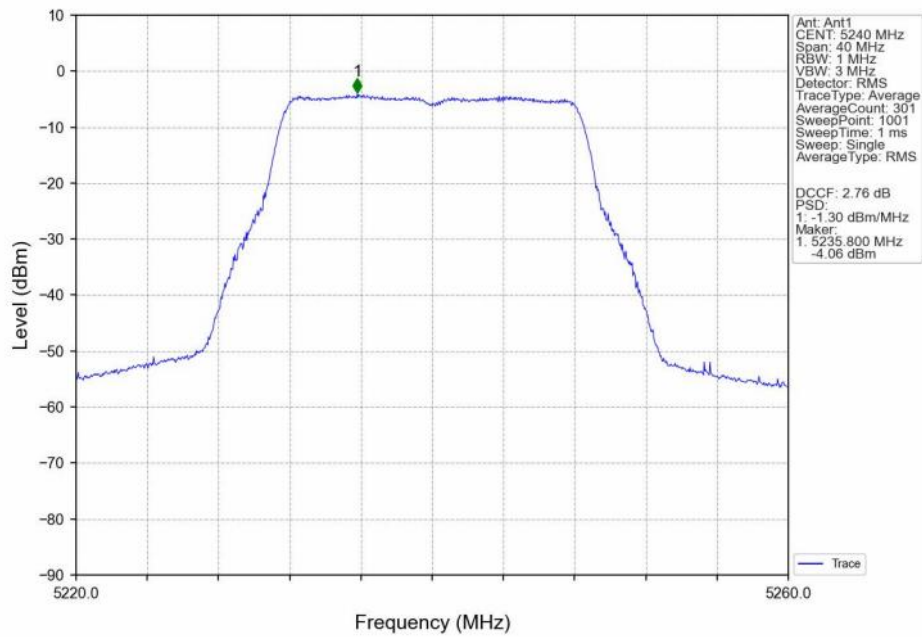
Note1: Antenna Gain: Ant1: 1.91dBi;

4.2 Test Graph

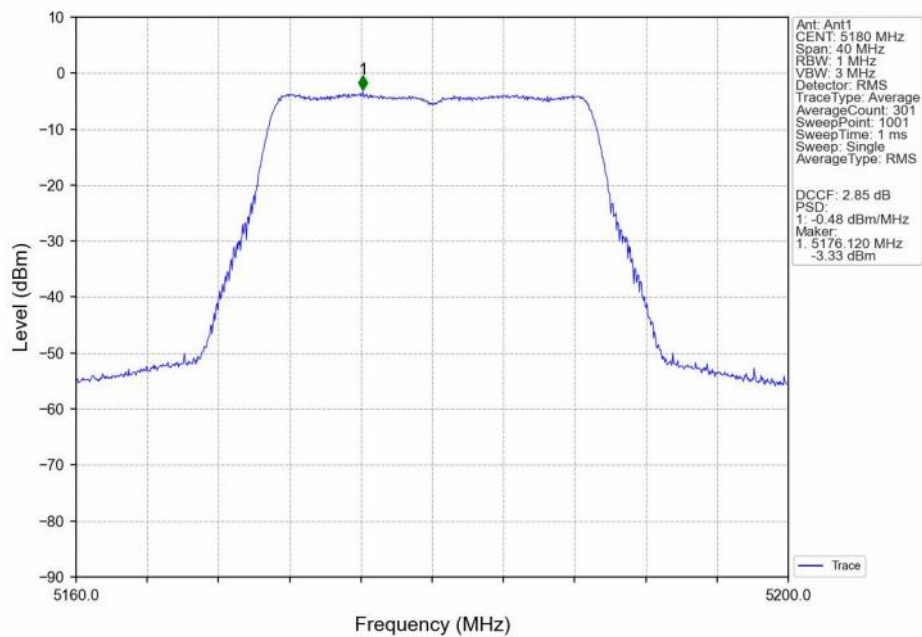
4.2.1 PSD



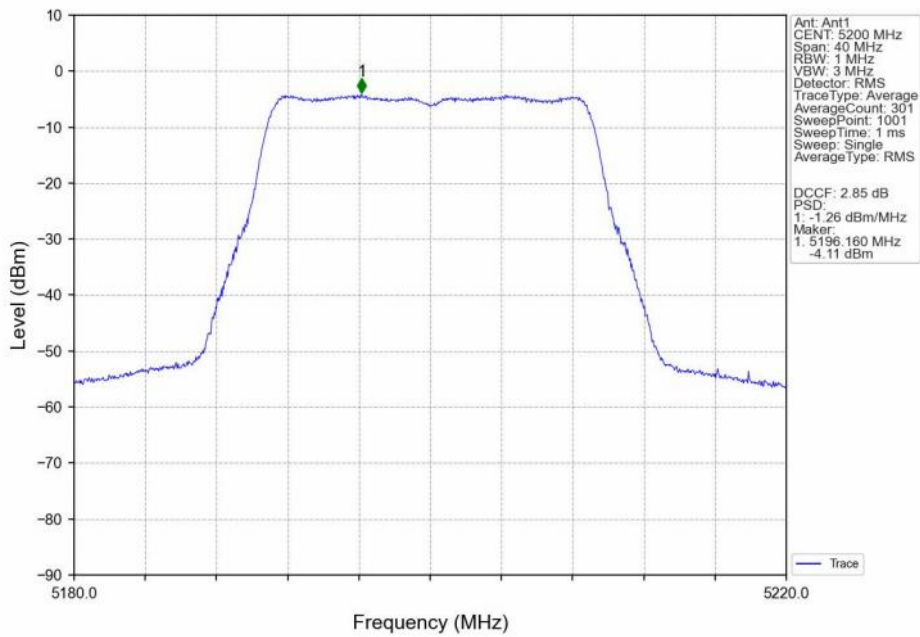
802.11a HCH 5240MHz_Ant1_NTNV



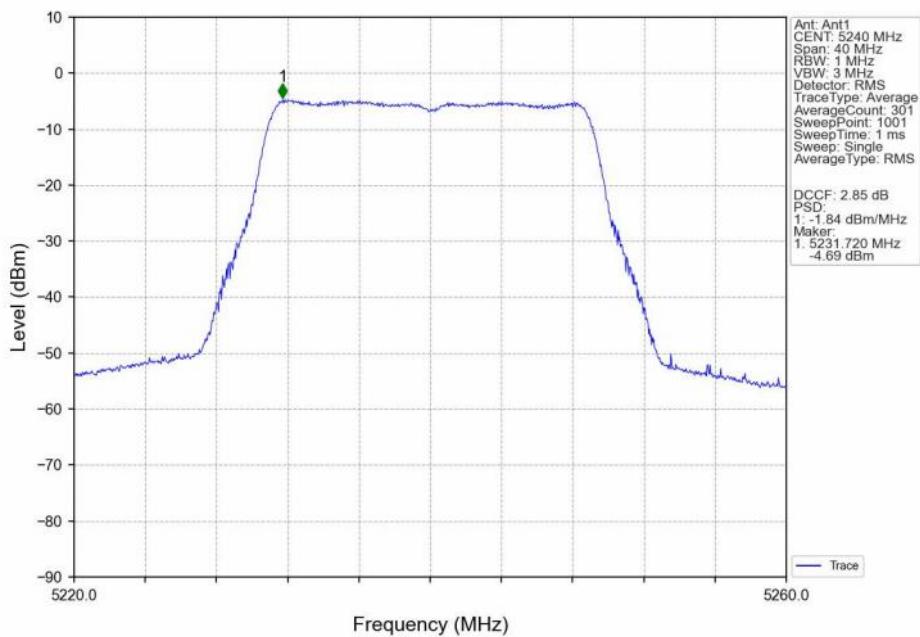
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



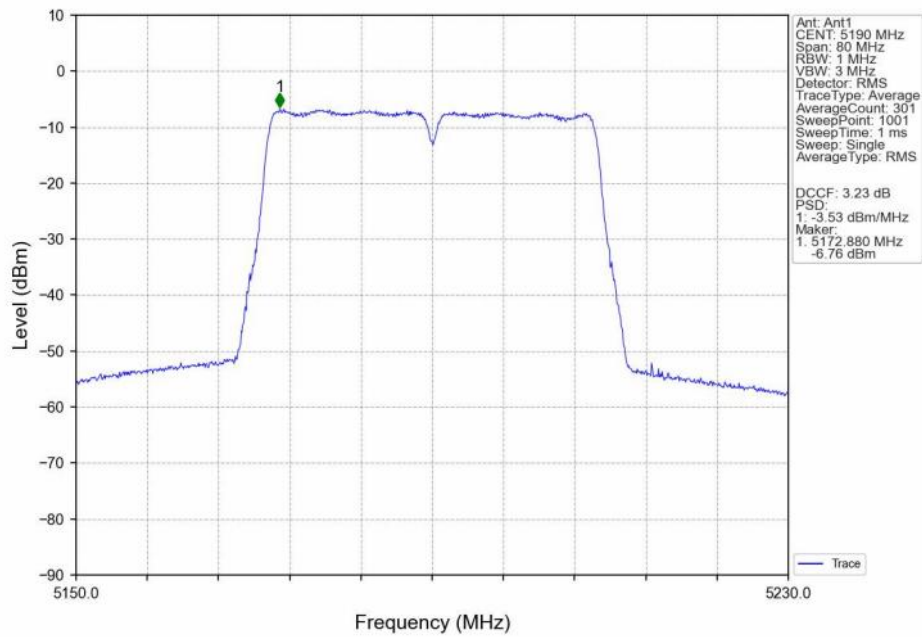
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



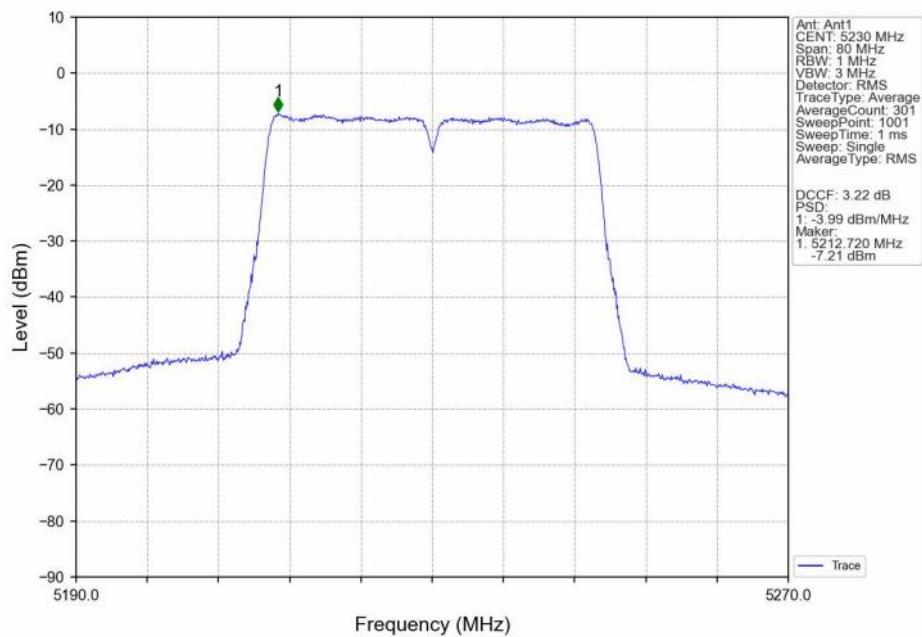
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



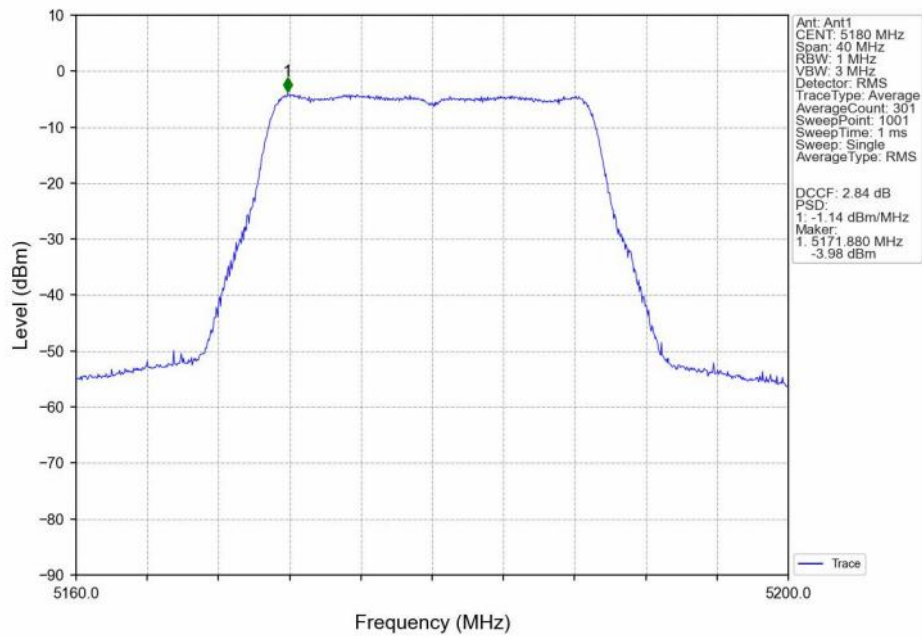
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



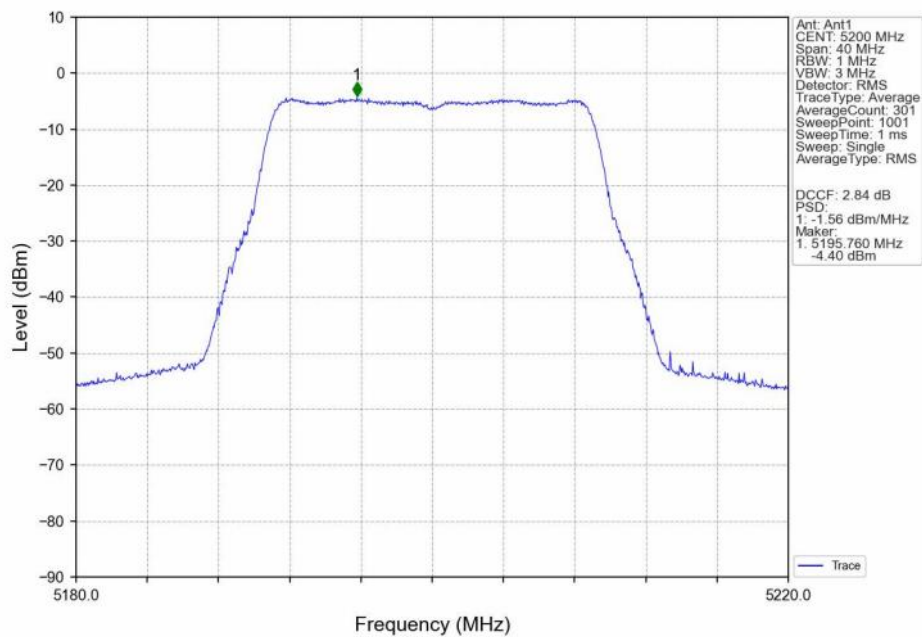
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



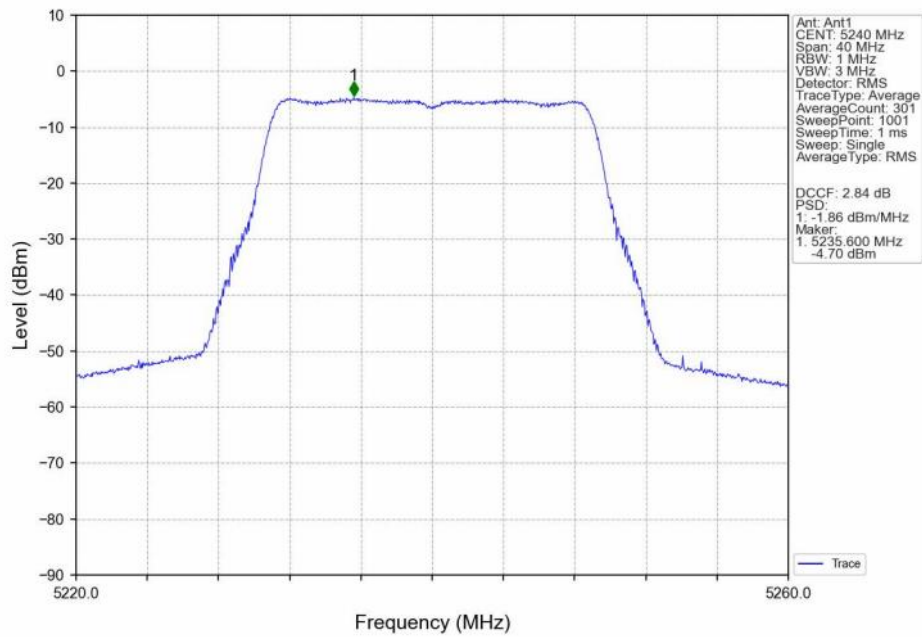
802.11ac(VHT20) LCH 5180MHz_Ant1_NTNV



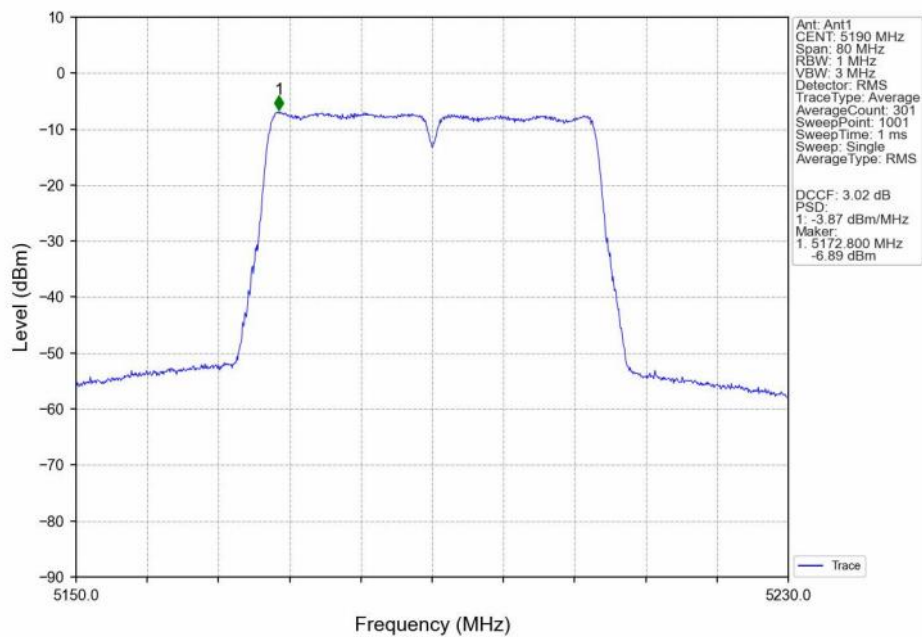
802.11ac(VHT20) MCH 5200MHz_Ant1_NTNV

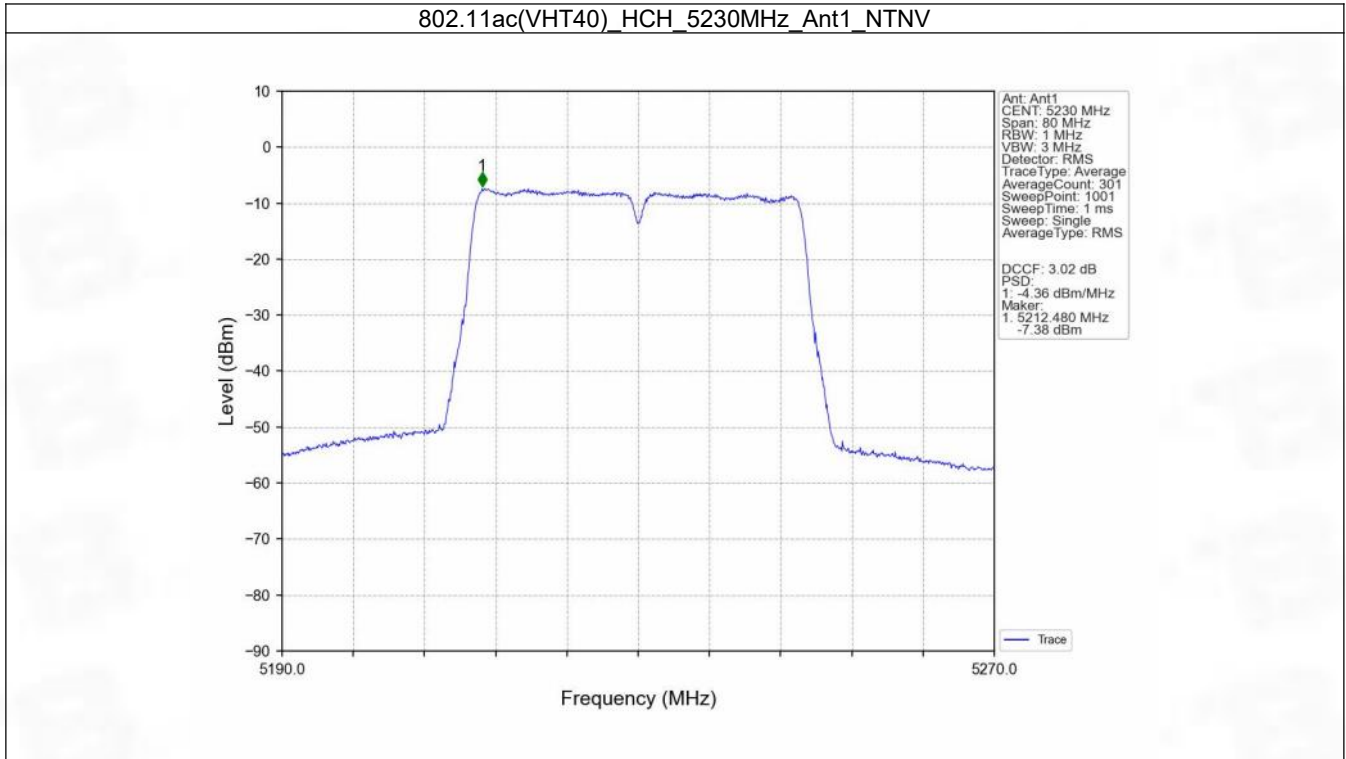


802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV





5. Unwanted Emissions In Restricted Frequency Bands

Note: We found that the emission above 25GHz was below the limit by 20 dB. Therefore, it was not show in the report.

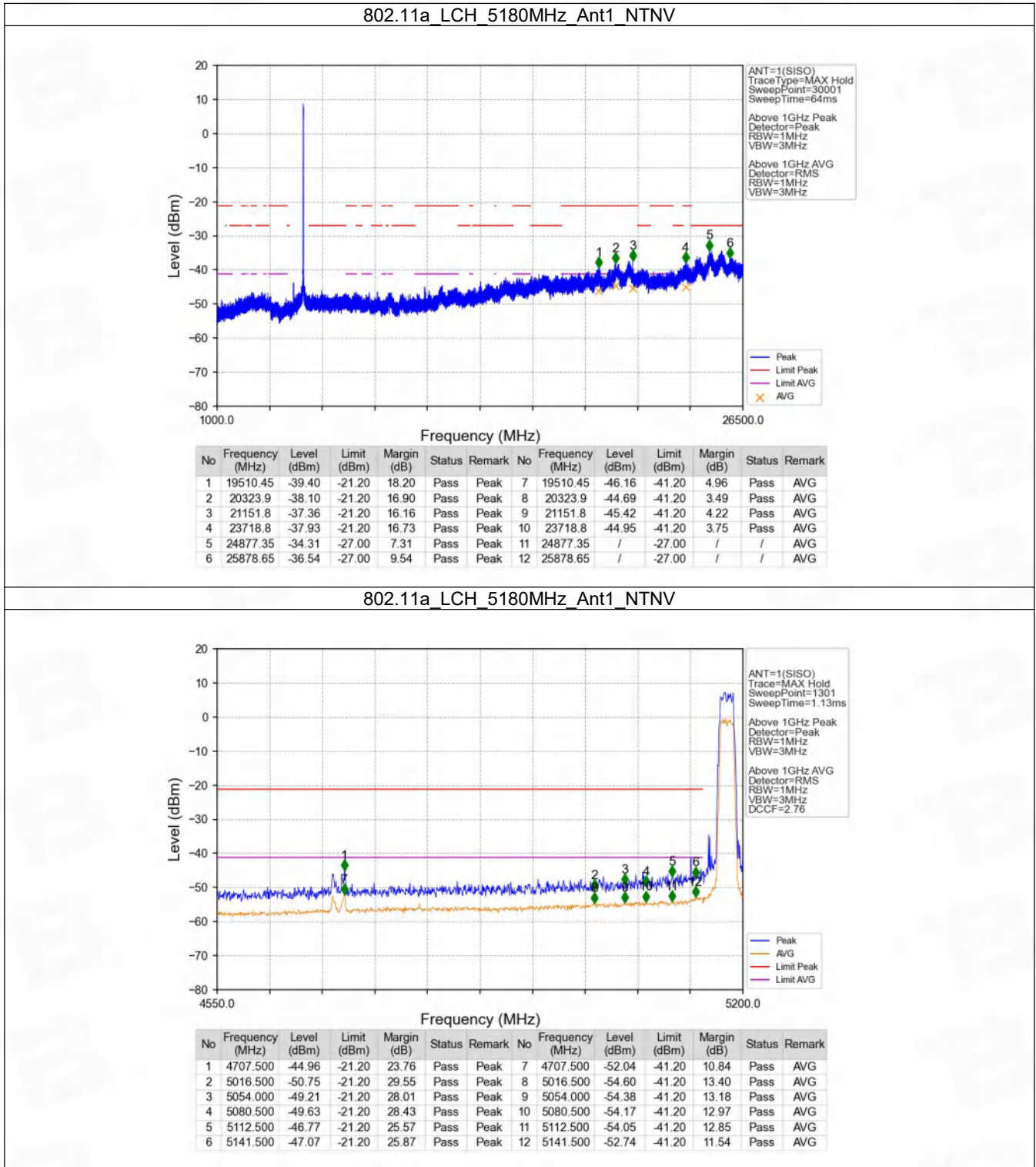
5.1 Test Result

5.1.1 RSE

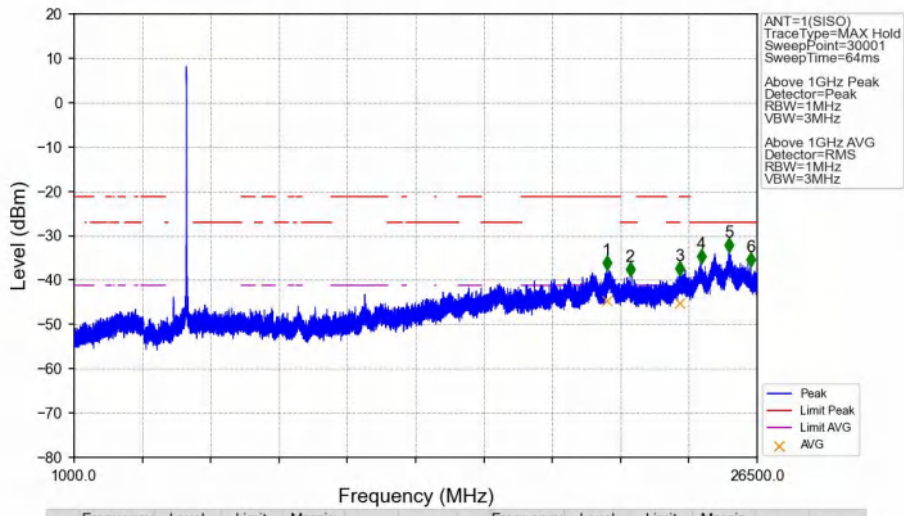
Mode	TX Type	Frequency (MHz)	ANT	Level of Unwanted Emissions (dBm)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	Refer To Test Graph	Pass	
		5200	1	Refer To Test Graph	Pass	
		5240	1	Refer To Test Graph	Pass	
802.11n (HT20)	SISO	5180	1	Refer To Test Graph	Pass	
		5200	1	Refer To Test Graph	Pass	
		5240	1	Refer To Test Graph	Pass	
802.11n (HT40)	SISO	5190	1	Refer To Test Graph	Pass	
		5230	1	Refer To Test Graph	Pass	
802.11ac (VHT20)	SISO	5180	1	Refer To Test Graph	Pass	
		5200	1	Refer To Test Graph	Pass	
		5240	1	Refer To Test Graph	Pass	
802.11ac (VHT40)	SISO	5190	1	Refer To Test Graph	Pass	
		5230	1	Refer To Test Graph	Pass	

5.2 Test Graph

5.2.1 RSE

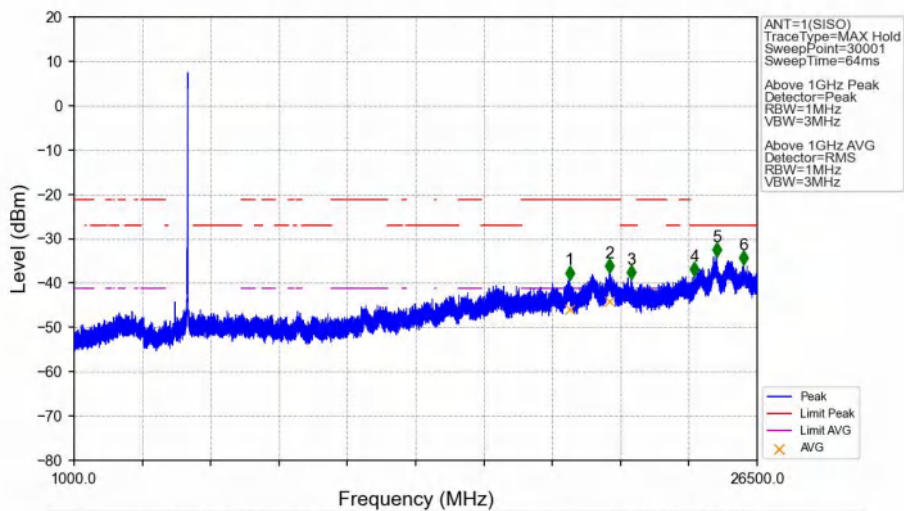


802.11a_MCH_5200MHz_Ant1_NTNV



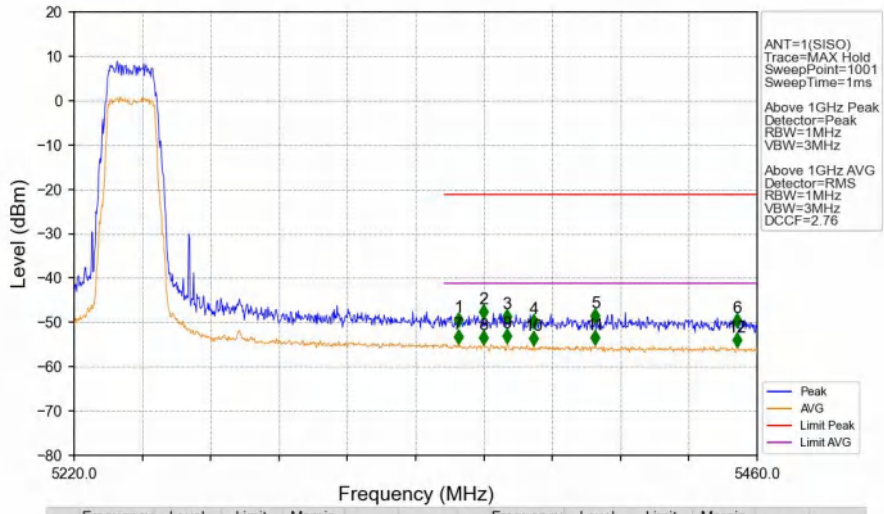
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	20894.25	-37.69	-21.20	16.49	Pass	Peak	7	20894.25	-44.66	-41.20	3.46	Pass	AVG
2	21755.3	-39.15	-27.00	12.15	Pass	Peak	8	21755.3	/	-27.00	/	/	AVG
3	23605.75	-38.97	-21.20	17.77	Pass	Peak	9	23605.75	-45.24	-41.20	4.04	Pass	AVG
4	24408.15	-36.20	-27.00	9.20	Pass	Peak	10	24408.15	/	-27.00	/	/	AVG
5	25441.75	-33.66	-27.00	6.66	Pass	Peak	11	25441.75	/	-27.00	/	/	AVG
6	26256.05	-36.89	-27.00	9.89	Pass	Peak	12	26256.05	/	-27.00	/	/	AVG

802.11a_HCH_5240MHz_Ant1_NTNV



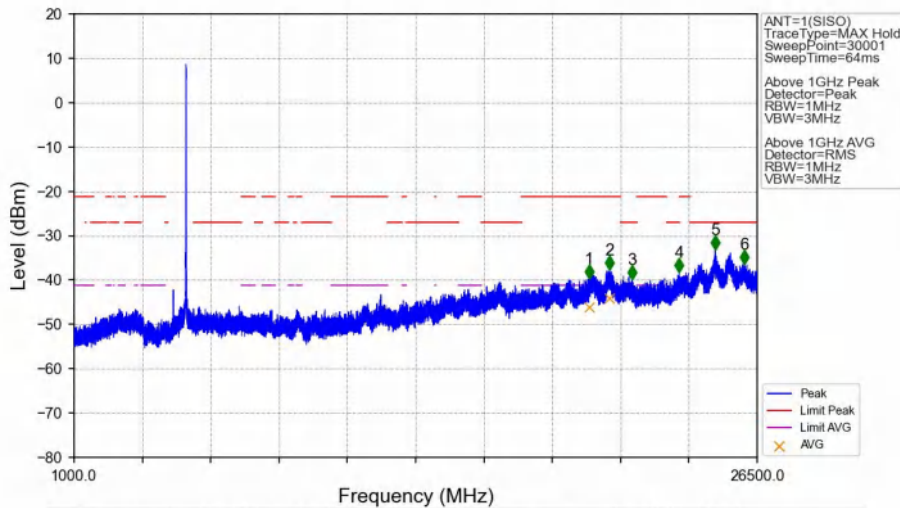
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	19496	-39.23	-21.20	18.03	Pass	Peak	7	19496	-45.94	-41.20	4.74	Pass	AVG
2	20988.6	-37.71	-21.20	16.51	Pass	Peak	8	20988.6	-44.14	-41.20	2.94	Pass	AVG
3	21798.65	-39.06	-27.00	12.06	Pass	Peak	9	21798.65	/	-27.00	/	/	AVG
4	24159.95	-38.35	-27.00	11.35	Pass	Peak	10	24159.95	/	-27.00	/	/	AVG
5	24998.9	-33.96	-27.00	6.96	Pass	Peak	11	24998.9	/	-27.00	/	/	AVG
6	25995.1	-35.81	-27.00	8.81	Pass	Peak	12	25995.1	/	-27.00	/	/	AVG

802.11a HCH 5240MHz_Ant1_NTNV



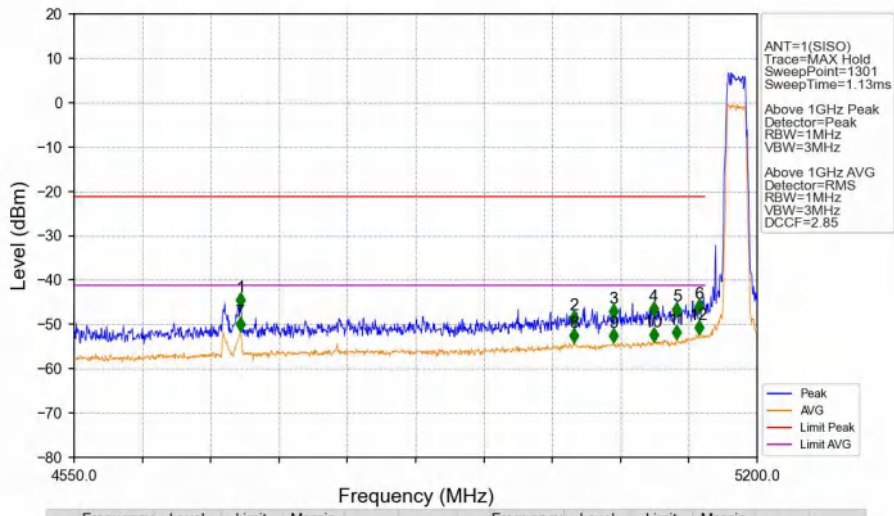
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5355.120	-51.07	-21.20	29.87	Pass	Peak	7	5355.120	-54.87	-41.20	13.67	Pass	AVG
2	5363.760	-49.18	-21.20	27.98	Pass	Peak	8	5363.760	-55.08	-41.20	13.88	Pass	AVG
3	5372.160	-50.32	-21.20	29.12	Pass	Peak	9	5372.160	-54.68	-41.20	13.48	Pass	AVG
4	5381.520	-51.32	-21.20	30.12	Pass	Peak	10	5381.520	-55.10	-41.20	13.90	Pass	AVG
5	5403.120	-50.00	-21.20	28.80	Pass	Peak	11	5403.120	-54.96	-41.20	13.76	Pass	AVG
6	5453.040	-51.17	-21.20	29.97	Pass	Peak	12	5453.040	-55.47	-41.20	14.27	Pass	AVG

802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



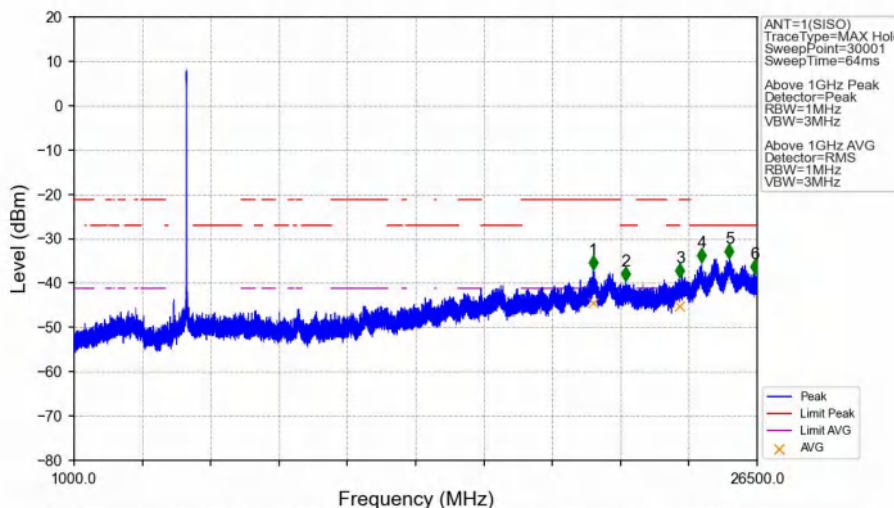
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	20228.7	-39.63	-21.20	18.43	Pass	Peak	7	20228.7	-46.04	-41.20	4.84	Pass	AVG
2	20997.1	-37.66	-21.20	16.46	Pass	Peak	8	20997.1	-44.07	-41.20	2.87	Pass	AVG
3	21827.55	-39.84	-27.00	12.84	Pass	Peak	9	21827.55	/	-27.00	/	/	AVG
4	23587.9	-38.17	-27.00	11.17	Pass	Peak	10	23587.9	/	-27.00	/	/	AVG
5	24936	-33.17	-27.00	6.17	Pass	Peak	11	24936	/	-27.00	/	/	AVG
6	26030.8	-36.34	-27.00	9.34	Pass	Peak	12	26030.8	/	-27.00	/	/	AVG

802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



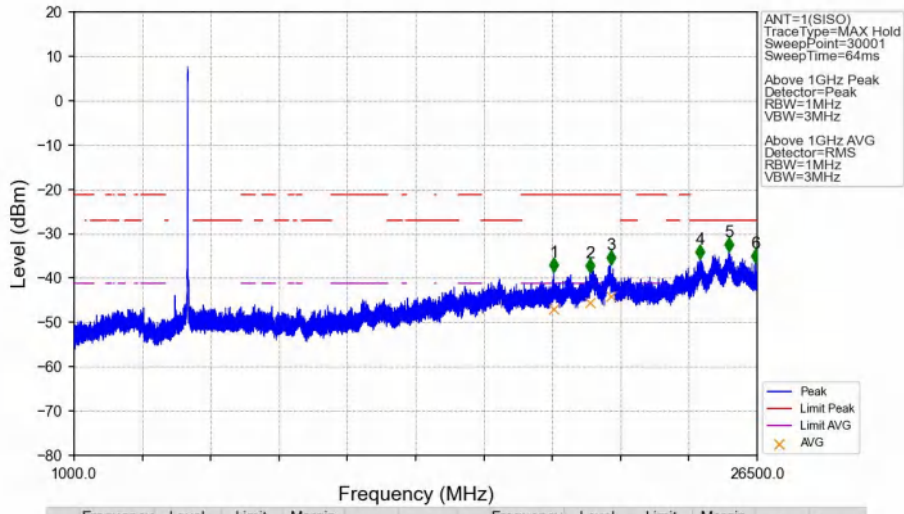
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4708.500	-46.07	-21.20	24.87	Pass	Peak	7	4708.500	-51.55	-41.20	10.35	Pass	AVG
2	5025.500	-50.14	-21.20	28.94	Pass	Peak	8	5025.500	-54.07	-41.20	12.87	Pass	AVG
3	5063.000	-48.57	-21.20	27.37	Pass	Peak	9	5063.000	-54.08	-41.20	12.88	Pass	AVG
4	5101.500	-48.03	-21.20	26.83	Pass	Peak	10	5101.500	-53.88	-41.20	12.68	Pass	AVG
5	5123.500	-48.16	-21.20	26.96	Pass	Peak	11	5123.500	-53.36	-41.20	12.16	Pass	AVG
6	5144.500	-47.55	-21.20	26.35	Pass	Peak	12	5144.500	-52.32	-41.20	11.12	Pass	AVG

802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



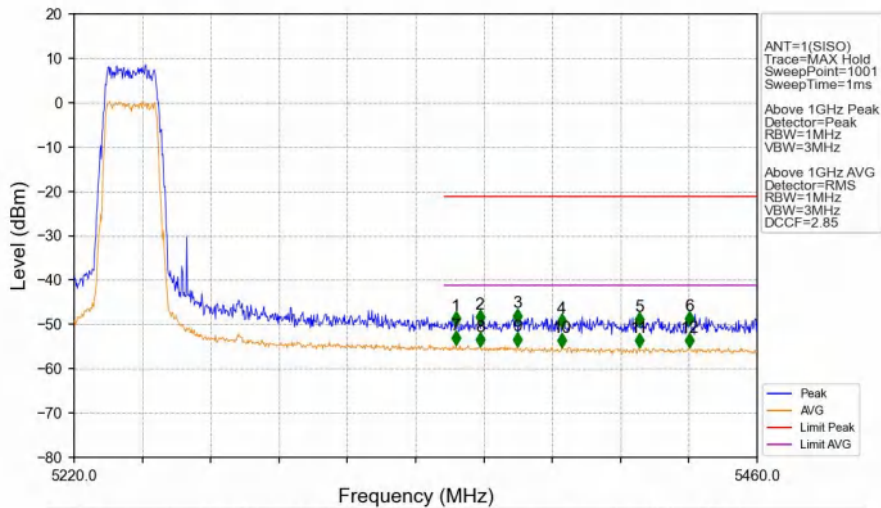
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	20373.2	-36.89	-21.20	15.69	Pass	Peak	7	20373.2	-44.54	-41.20	3.34	Pass	AVG
2	21594.65	-39.51	-27.00	12.51	Pass	Peak	8	21594.65	/	-27.00	/	/	AVG
3	23621.05	-38.82	-21.20	17.62	Pass	Peak	9	23621.05	-45.23	-41.20	4.03	Pass	AVG
4	24432.8	-35.33	-27.00	8.33	Pass	Peak	10	24432.8	/	-27.00	/	/	AVG
5	25459.6	-34.37	-27.00	7.37	Pass	Peak	11	25459.6	/	-27.00	/	/	AVG
6	26408.2	-37.81	-27.00	10.81	Pass	Peak	12	26408.2	/	-27.00	/	/	AVG

802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



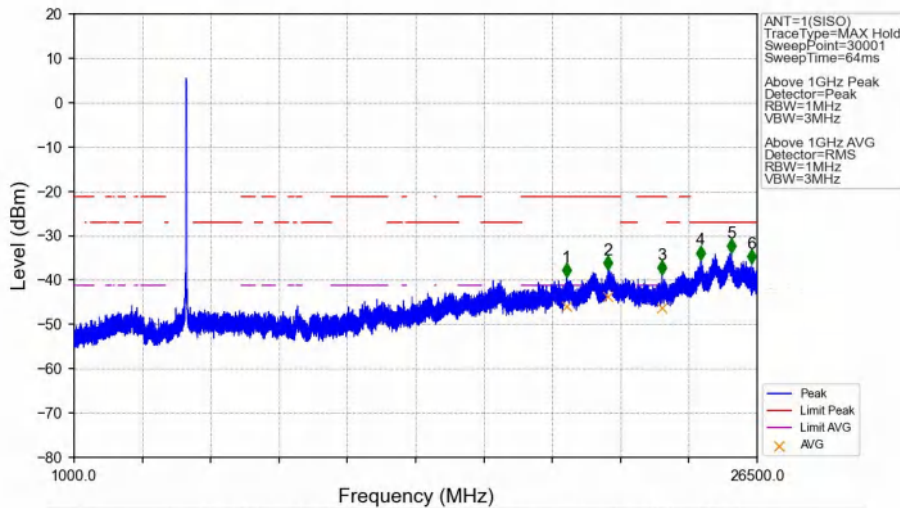
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	18915.45	-38.65	-21.20	17.45	Pass	Peak	7	18915.45	-47.02	-41.20	5.82	Pass	AVG
2	20260.15	-38.84	-21.20	17.64	Pass	Peak	8	20260.15	-45.62	-41.20	4.42	Pass	AVG
3	21030.25	-36.95	-21.20	15.75	Pass	Peak	9	21030.25	-44.18	-41.20	2.98	Pass	AVG
4	24365.65	-35.76	-27.00	8.76	Pass	Peak	10	24365.65	/	-27.00	/	/	AVG
5	25430.7	-34.04	-27.00	7.04	Pass	Peak	11	25430.7	/	-27.00	/	/	AVG
6	26432.85	-36.57	-27.00	9.57	Pass	Peak	12	26432.85	/	-27.00	/	/	AVG

802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



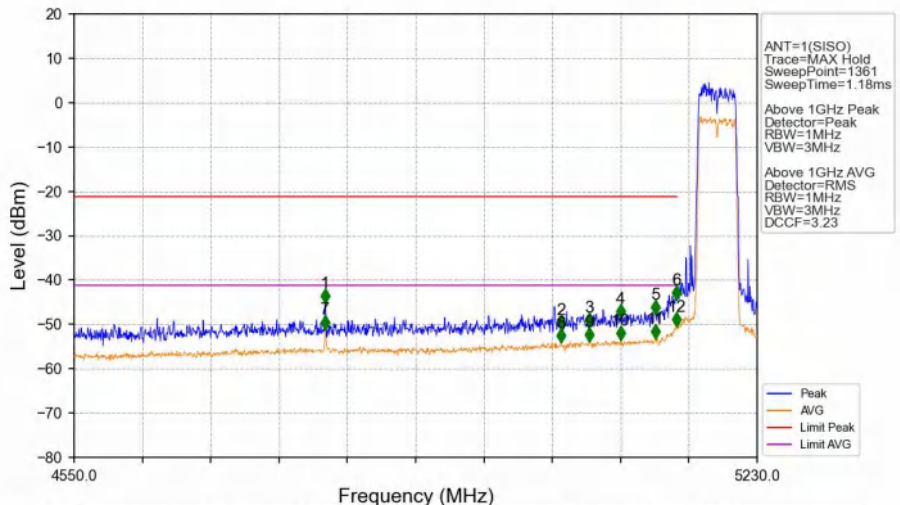
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5354.160	-50.30	-21.20	29.10	Pass	Peak	7	5354.160	-54.69	-41.20	13.49	Pass	AVG
2	5362.560	-49.85	-21.20	28.65	Pass	Peak	8	5362.560	-54.99	-41.20	13.79	Pass	AVG
3	5375.760	-49.61	-21.20	28.41	Pass	Peak	9	5375.760	-54.90	-41.20	13.70	Pass	AVG
4	5391.360	-50.80	-21.20	29.60	Pass	Peak	10	5391.360	-55.16	-41.20	13.96	Pass	AVG
5	5418.480	-50.46	-21.20	29.26	Pass	Peak	11	5418.480	-55.24	-41.20	14.04	Pass	AVG
6	5436.240	-50.30	-21.20	29.10	Pass	Peak	12	5436.240	-55.15	-41.20	13.95	Pass	AVG

802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



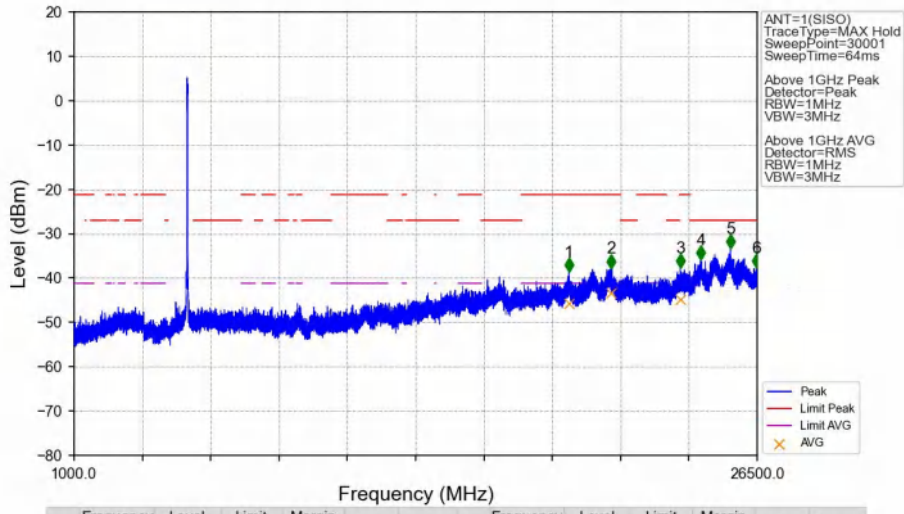
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	19388.05	-39.33	-21.20	18.13	Pass	Peak	7	19388.05	-46.02	-41.20	4.82	Pass	AVG
2	20932.5	-37.60	-21.20	16.40	Pass	Peak	8	20932.5	-43.71	-41.20	2.51	Pass	AVG
3	22949.55	-38.76	-21.20	17.56	Pass	Peak	9	22949.55	-46.32	-41.20	5.12	Pass	AVG
4	24385.2	-35.41	-27.00	8.41	Pass	Peak	10	24385.2	/	-27.00	/	/	AVG
5	25533.55	-33.88	-27.00	6.88	Pass	Peak	11	25533.55	/	-27.00	/	/	AVG
6	26301.1	-36.25	-27.00	9.25	Pass	Peak	12	26301.1	/	-27.00	/	/	AVG

802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



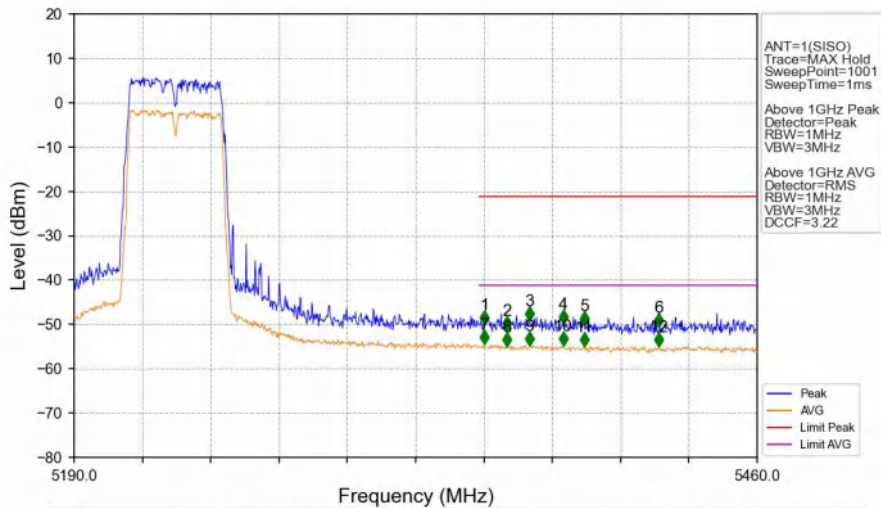
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4800.000	-45.11	-21.20	23.91	Pass	Peak	7	4800.000	-51.07	-41.20	9.87	Pass	AVG
2	5034.500	-51.08	-21.20	29.88	Pass	Peak	8	5034.500	-54.03	-41.20	12.83	Pass	AVG
3	5063.000	-50.63	-21.20	29.43	Pass	Peak	9	5063.000	-53.96	-41.20	12.76	Pass	AVG
4	5094.000	-48.54	-21.20	27.34	Pass	Peak	10	5094.000	-53.48	-41.20	12.28	Pass	AVG
5	5128.500	-47.77	-21.20	26.57	Pass	Peak	11	5128.500	-53.22	-41.20	12.02	Pass	AVG
6	5150.000	-44.47	-21.20	23.27	Pass	Peak	12	5150.000	-50.40	-41.20	9.20	Pass	AVG

802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



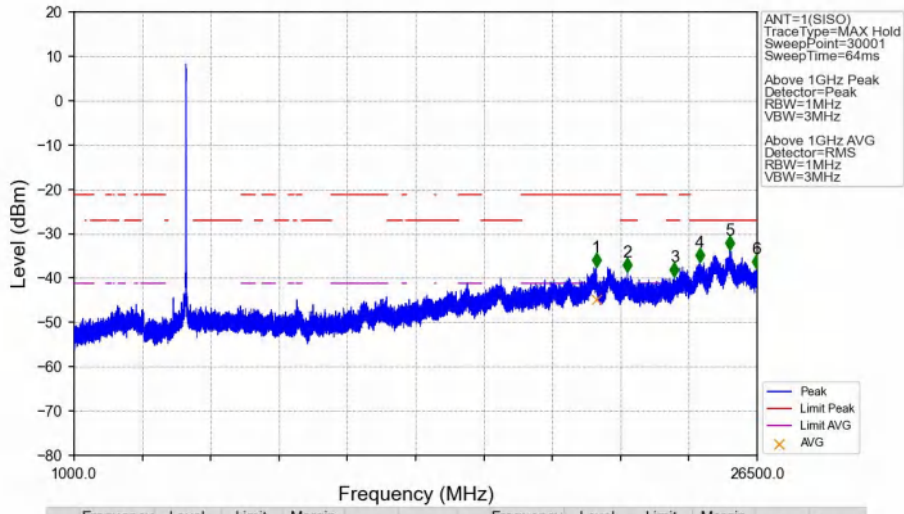
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	19469.65	-38.68	-21.20	17.48	Pass	Peak	7	19469.65	-45.79	-41.20	4.59	Pass	AVG
2	21048.1	-37.78	-21.20	16.58	Pass	Peak	8	21048.1	-43.47	-41.20	2.27	Pass	AVG
3	23623.6	-37.67	-21.20	16.47	Pass	Peak	9	23623.6	-44.91	-41.20	3.71	Pass	AVG
4	24392	-35.93	-27.00	8.93	Pass	Peak	10	24392	/	-27.00	/	/	AVG
5	25498.7	-33.27	-27.00	6.27	Pass	Peak	11	25498.7	/	-27.00	/	/	AVG
6	26466.85	-37.66	-27.00	10.66	Pass	Peak	12	26466.85	/	-27.00	/	/	AVG

802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



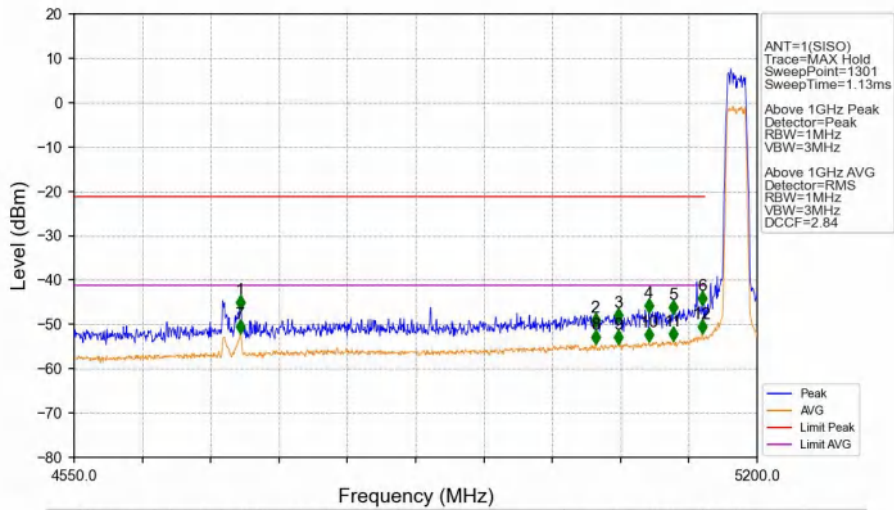
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5352.270	-49.99	-21.20	28.79	Pass	Peak	7	5352.270	-54.42	-41.20	13.22	Pass	AVG
2	5361.180	-51.30	-21.20	30.10	Pass	Peak	8	5361.180	-54.92	-41.20	13.72	Pass	AVG
3	5370.090	-49.21	-21.20	28.01	Pass	Peak	9	5370.090	-54.82	-41.20	13.62	Pass	AVG
4	5383.320	-49.97	-21.20	28.77	Pass	Peak	10	5383.320	-54.88	-41.20	13.68	Pass	AVG
5	5391.690	-50.18	-21.20	28.98	Pass	Peak	11	5391.690	-55.01	-41.20	13.81	Pass	AVG
6	5421.120	-50.55	-21.20	29.35	Pass	Peak	12	5421.120	-55.02	-41.20	13.82	Pass	AVG

802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



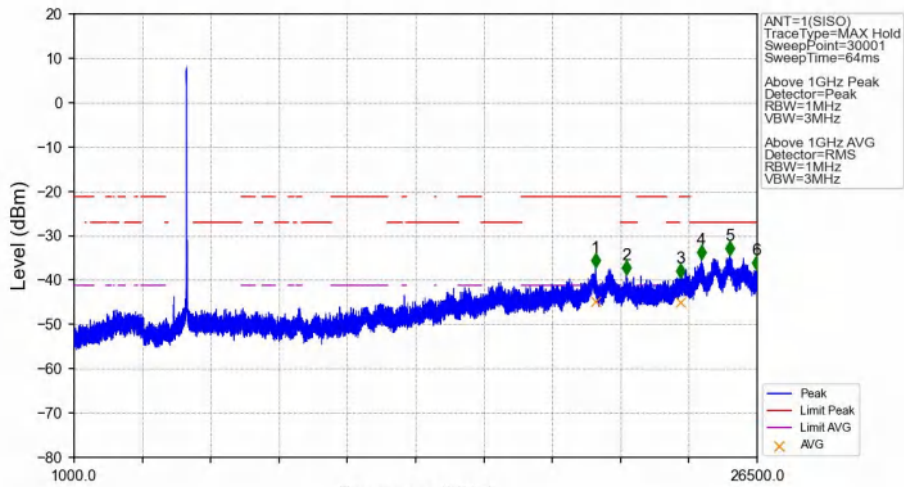
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	20490.5	-37.46	-21.20	16.26	Pass	Peak	7	20490.5	-44.90	-41.20	3.70	Pass	AVG
2	21658.4	-38.59	-27.00	11.59	Pass	Peak	8	21658.4	/	-27.00	/	/	AVG
3	23410.25	-39.75	-27.00	12.75	Pass	Peak	9	23410.25	/	-27.00	/	/	AVG
4	24352.9	-36.49	-27.00	9.49	Pass	Peak	10	24352.9	/	-27.00	/	/	AVG
5	25468.1	-33.76	-27.00	6.76	Pass	Peak	11	25468.1	/	-27.00	/	/	AVG
6	26466	-37.87	-27.00	10.87	Pass	Peak	12	26466	/	-27.00	/	/	AVG

802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



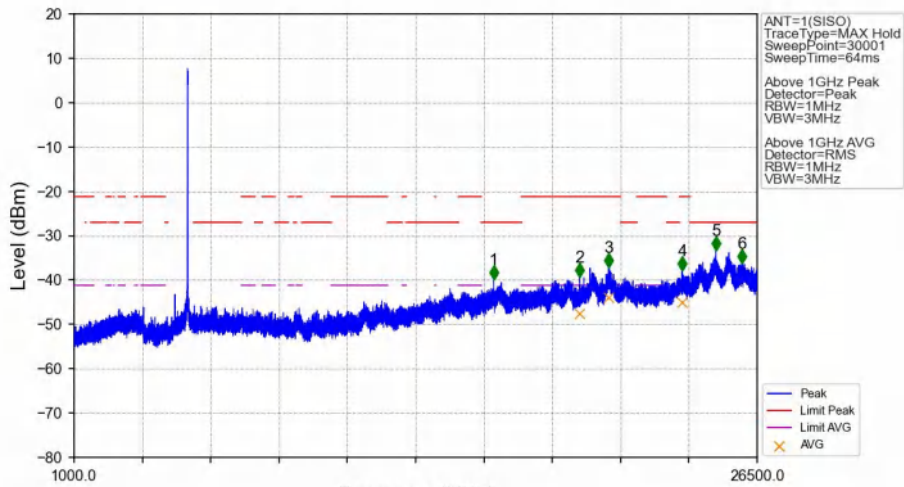
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4708.000	-46.65	-21.20	25.45	Pass	Peak	7	4708.000	-52.00	-41.20	10.80	Pass	AVG
2	5046.000	-50.61	-21.20	29.41	Pass	Peak	8	5046.000	-54.52	-41.20	13.32	Pass	AVG
3	5068.000	-49.60	-21.20	28.40	Pass	Peak	9	5068.000	-54.36	-41.20	13.16	Pass	AVG
4	5097.000	-47.27	-21.20	26.07	Pass	Peak	10	5097.000	-53.97	-41.20	12.77	Pass	AVG
5	5120.000	-47.63	-21.20	26.43	Pass	Peak	11	5120.000	-53.63	-41.20	12.43	Pass	AVG
6	5147.500	-45.74	-21.20	24.54	Pass	Peak	12	5147.500	-52.16	-41.20	10.96	Pass	AVG

802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



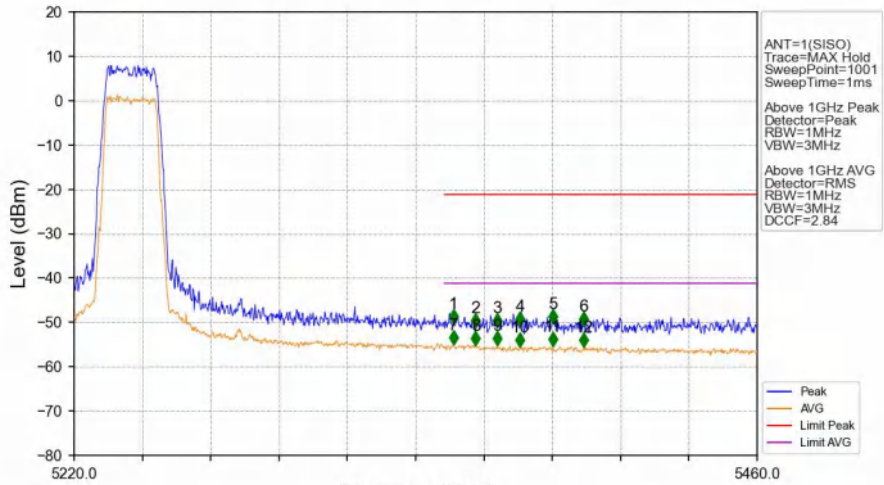
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	20467.55	-37.11	-21.20	15.91	Pass	Peak	7	20467.55	-44.91	-41.20	3.71	Pass	AVG
2	21614.2	-38.83	-27.00	11.83	Pass	Peak	8	21614.2	/	-27.00	/	/	AVG
3	23630.4	-39.49	-21.20	18.29	Pass	Peak	9	23630.4	-44.96	-41.20	3.76	Pass	AVG
4	24410.7	-35.35	-27.00	8.35	Pass	Peak	10	24410.7	/	-27.00	/	/	AVG
5	25477.45	-34.39	-27.00	7.39	Pass	Peak	11	25477.45	/	-27.00	/	/	AVG
6	26471.95	-37.74	-27.00	10.74	Pass	Peak	12	26471.95	/	-27.00	/	/	AVG

802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



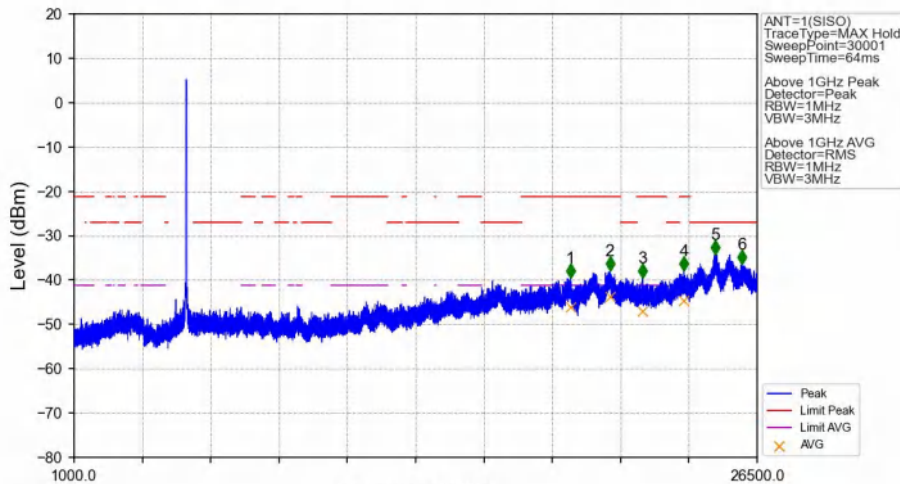
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	16662.1	-39.91	-27.00	12.91	Pass	Peak	7	16662.1	/	-27.00	/	/	AVG
2	19875.1	-39.30	-21.20	18.10	Pass	Peak	8	19875.1	-47.51	-41.20	6.31	Pass	AVG
3	20955.45	-37.09	-21.20	15.89	Pass	Peak	9	20955.45	-44.00	-41.20	2.80	Pass	AVG
4	23699.25	-37.92	-21.20	16.72	Pass	Peak	10	23699.25	-44.95	-41.20	3.75	Pass	AVG
5	24953.85	-33.39	-27.00	6.39	Pass	Peak	11	24953.85	/	-27.00	/	/	AVG
6	25925.4	-36.26	-27.00	9.26	Pass	Peak	12	25925.4	/	-27.00	/	/	AVG

802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



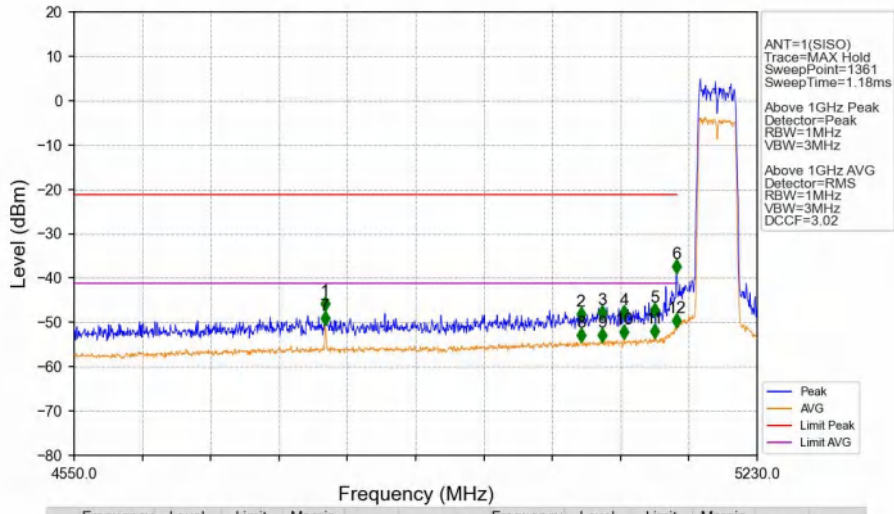
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5353.200	-50.26	-21.20	29.06	Pass	Peak	7	5353.200	-55.04	-41.20	13.84	Pass	AVG
2	5361.120	-51.11	-21.20	29.91	Pass	Peak	8	5361.120	-55.23	-41.20	14.03	Pass	AVG
3	5368.560	-51.13	-21.20	29.93	Pass	Peak	9	5368.560	-55.17	-41.20	13.97	Pass	AVG
4	5376.720	-50.72	-21.20	29.52	Pass	Peak	10	5376.720	-55.51	-41.20	14.31	Pass	AVG
5	5388.240	-50.25	-21.20	29.05	Pass	Peak	11	5388.240	-55.38	-41.20	14.18	Pass	AVG
6	5399.040	-50.85	-21.20	29.65	Pass	Peak	12	5399.040	-55.50	-41.20	14.30	Pass	AVG

802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



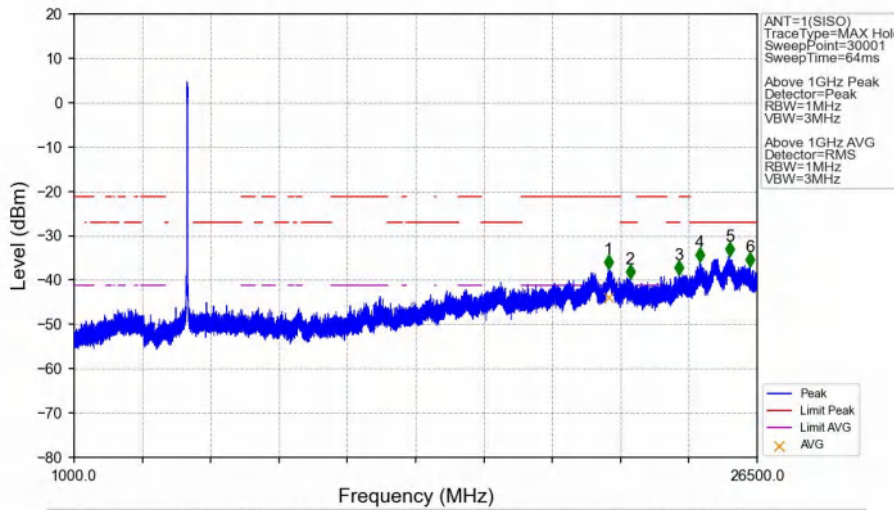
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	19528.3	-39.59	-21.20	18.39	Pass	Peak	7	19528.3	-46.05	-41.20	4.85	Pass	AVG
2	21002.2	-37.88	-21.20	16.68	Pass	Peak	8	21002.2	-43.82	-41.20	2.62	Pass	AVG
3	22216	-39.58	-21.20	18.38	Pass	Peak	9	22216	-47.04	-41.20	5.84	Pass	AVG
4	23763.85	-37.89	-21.20	16.69	Pass	Peak	10	23763.85	-44.58	-41.20	3.38	Pass	AVG
5	24934.3	-34.16	-27.00	7.16	Pass	Peak	11	24934.3	/	-27.00	/	/	AVG
6	25917.75	-36.39	-27.00	9.39	Pass	Peak	12	25917.75	/	-27.00	/	/	AVG

802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



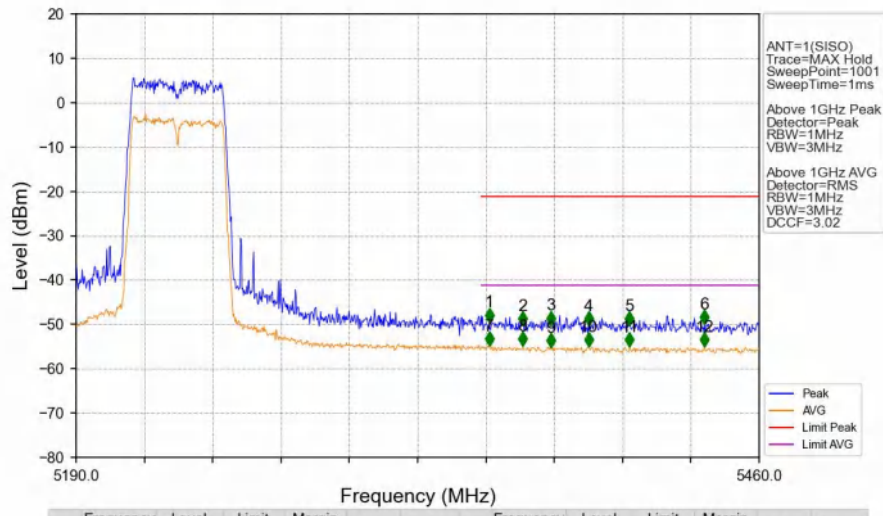
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4800.000	-47.35	-21.20	26.15	Pass	Peak	7	4800.000	-50.58	-41.20	9.38	Pass	AVG
2	5054.500	-49.68	-21.20	28.48	Pass	Peak	8	5054.500	-54.41	-41.20	13.21	Pass	AVG
3	5075.500	-49.33	-21.20	28.13	Pass	Peak	9	5075.500	-54.47	-41.20	13.27	Pass	AVG
4	5097.500	-49.29	-21.20	28.09	Pass	Peak	10	5097.500	-53.65	-41.20	12.45	Pass	AVG
5	5128.000	-48.87	-21.20	27.67	Pass	Peak	11	5128.000	-53.62	-41.20	12.42	Pass	AVG
6	5150.000	-38.98	-21.20	17.78	Pass	Peak	12	5150.000	-51.08	-41.20	9.88	Pass	AVG

802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	20942.7	-37.52	-21.20	16.32	Pass	Peak	7	20942.7	-43.86	-41.20	2.66	Pass	AVG
2	21757	-39.71	-27.00	12.71	Pass	Peak	8	21757	/	-27.00	/	/	AVG
3	23584.5	-38.81	-27.00	11.81	Pass	Peak	9	23584.5	/	-27.00	/	/	AVG
4	24360.55	-35.79	-27.00	8.79	Pass	Peak	10	24360.55	/	-27.00	/	/	AVG
5	25462.15	-34.65	-27.00	7.65	Pass	Peak	11	25462.15	/	-27.00	/	/	AVG
6	26229.7	-36.95	-27.00	9.95	Pass	Peak	12	26229.7	/	-27.00	/	/	AVG

802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5353.350	-49.43	-21.20	28.23	Pass	Peak	7	5353.350	-54.84	-41.20	13.64	Pass	AVG
2	5366.580	-50.30	-21.20	29.10	Pass	Peak	8	5366.580	-54.89	-41.20	13.69	Pass	AVG
3	5377.650	-50.16	-21.20	28.96	Pass	Peak	9	5377.650	-55.12	-41.20	13.92	Pass	AVG
4	5392.500	-50.17	-21.20	28.97	Pass	Peak	10	5392.500	-55.05	-41.20	13.85	Pass	AVG
5	5408.700	-50.30	-21.20	29.10	Pass	Peak	11	5408.700	-55.07	-41.20	13.87	Pass	AVG
6	5438.400	-49.89	-21.20	28.69	Pass	Peak	12	5438.400	-55.04	-41.20	13.84	Pass	AVG

6. Frequency Stability

6.1 Test Result

6.1.1 Ant1

Mode	TX Type	Frequency (MHz)	Temperature (°C)	Ant1			Verdict			
				Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)				
802.11a	SISO	5180	20	102	5179.980	5150 to 5250	Pass			
				120	5180.040	5150 to 5250	Pass			
				138	5180.060	5150 to 5250	Pass			
			-30	120	5180.000	5150 to 5250	Pass			
				-20	120	5179.960	5150 to 5250	Pass		
				-10	120	5180.000	5150 to 5250	Pass		
			5200	20	0	120	5180.020	5150 to 5250	Pass	
					10	120	5180.000	5150 to 5250	Pass	
					30	120	5180.060	5150 to 5250	Pass	
		-30		40	120	5180.020	5150 to 5250	Pass		
				-20	120	5180.060	5150 to 5250	Pass		
				-10	120	5180.060	5150 to 5250	Pass		
		5240		20	0	120	5180.060	5150 to 5250	Pass	
					10	120	5180.060	5150 to 5250	Pass	
					30	120	5180.060	5150 to 5250	Pass	
			-30	40	120	5180.060	5150 to 5250	Pass		
				-20	120	5180.060	5150 to 5250	Pass		
				-10	120	5180.060	5150 to 5250	Pass		
			5240	20	0	120	5180.060	5150 to 5250	Pass	
					10	120	5180.060	5150 to 5250	Pass	
					30	120	5180.060	5150 to 5250	Pass	
		-30		40	120	5180.060	5150 to 5250	Pass		
				-20	120	5180.060	5150 to 5250	Pass		
				-10	120	5180.060	5150 to 5250	Pass		
		802.11n (HT20)		SISO	5180	20	102	5180.020	5150 to 5250	Pass
							120	5179.960	5150 to 5250	Pass
							138	5180.020	5150 to 5250	Pass
			-30			120	5180.020	5150 to 5250	Pass	
						-20	120	5179.980	5150 to 5250	Pass
						-10	120	5180.020	5150 to 5250	Pass
5200	0		120			5179.980	5150 to 5250	Pass		
	10		120			5180.060	5150 to 5250	Pass		
	30		120			5180.040	5150 to 5250	Pass		
	40		120		5180.020	5150 to 5250	Pass			
	50		120		5179.960	5150 to 5250	Pass			
	20		120		5179.960	5150 to 5250	Pass			
5200	20		102		5200.000	5150 to 5250	Pass			
			120		5200.020	5150 to 5250	Pass			
			138		5199.960	5150 to 5250	Pass			

			-30	120	5200.060	5150 to 5250	Pass
			-20	120	5199.980	5150 to 5250	Pass
			-10	120	5200.000	5150 to 5250	Pass
			0	120	5199.980	5150 to 5250	Pass
			10	120	5200.020	5150 to 5250	Pass
			30	120	5200.040	5150 to 5250	Pass
			40	120	5200.040	5150 to 5250	Pass
			50	120	5200.000	5150 to 5250	Pass
		5240	20	102	5240.000	5150 to 5250	Pass
				120	5239.960	5150 to 5250	Pass
				138	5240.060	5150 to 5250	Pass
			-30	120	5239.880	5150 to 5250	Pass
			-20	120	5239.960	5150 to 5250	Pass
			-10	120	5240.040	5150 to 5250	Pass
			0	120	5239.980	5150 to 5250	Pass
			10	120	5240.000	5150 to 5250	Pass
			30	120	5239.980	5150 to 5250	Pass
40	120	5239.960	5150 to 5250	Pass			
50	120	5240.020	5150 to 5250	Pass			
802.11n (HT40)	SISO	5190	20	102	5189.960	5150 to 5250	Pass
				120	5190.040	5150 to 5250	Pass
				138	5190.000	5150 to 5250	Pass
			-30	120	5190.040	5150 to 5250	Pass
			-20	120	5190.080	5150 to 5250	Pass
			-10	120	5190.000	5150 to 5250	Pass
			0	120	5189.960	5150 to 5250	Pass
			10	120	5190.040	5150 to 5250	Pass
			30	120	5189.960	5150 to 5250	Pass
		40	120	5190.000	5150 to 5250	Pass	
		50	120	5190.000	5150 to 5250	Pass	
		5230	20	102	5230.080	5150 to 5250	Pass
				120	5230.000	5150 to 5250	Pass
				138	5230.080	5150 to 5250	Pass
			-30	120	5230.040	5150 to 5250	Pass
			-20	120	5229.920	5150 to 5250	Pass
			-10	120	5229.920	5150 to 5250	Pass
0	120		5230.000	5150 to 5250	Pass		
10	120		5230.000	5150 to 5250	Pass		
30	120	5229.960	5150 to 5250	Pass			
40	120	5230.000	5150 to 5250	Pass			
50	120	5230.000	5150 to 5250	Pass			
802.11ac (VHT20)	SISO	5180	20	102	5179.960	5150 to 5250	Pass
				120	5180.080	5150 to 5250	Pass
				138	5179.980	5150 to 5250	Pass
			-30	120	5180.020	5150 to 5250	Pass
			-20	120	5179.960	5150 to 5250	Pass
			-10	120	5179.900	5150 to 5250	Pass
			0	120	5180.060	5150 to 5250	Pass
			10	120	5179.960	5150 to 5250	Pass
			30	120	5180.020	5150 to 5250	Pass
		40	120	5179.980	5150 to 5250	Pass	
		50	120	5179.920	5150 to 5250	Pass	
		5200	20	102	5200.020	5150 to 5250	Pass
				120	5199.980	5150 to 5250	Pass
				138	5199.980	5150 to 5250	Pass
			-30	120	5199.980	5150 to 5250	Pass
			-20	120	5200.000	5150 to 5250	Pass
			-10	120	5199.980	5150 to 5250	Pass
0	120		5199.980	5150 to 5250	Pass		
10	120		5199.960	5150 to 5250	Pass		

		5240	30	120	5199.980	5150 to 5250	Pass
			40	120	5199.980	5150 to 5250	Pass
			50	120	5199.980	5150 to 5250	Pass
		5240	20	102	5239.980	5150 to 5250	Pass
				120	5240.000	5150 to 5250	Pass
				138	5239.980	5150 to 5250	Pass
			-30	120	5240.020	5150 to 5250	Pass
			-20	120	5239.960	5150 to 5250	Pass
			-10	120	5240.020	5150 to 5250	Pass
			0	120	5239.960	5150 to 5250	Pass
			10	120	5239.920	5150 to 5250	Pass
			30	120	5239.960	5150 to 5250	Pass
			40	120	5239.980	5150 to 5250	Pass
			50	120	5239.920	5150 to 5250	Pass
			802.11ac (VHT40)	SISO	5190	20	102
120	5189.960	5150 to 5250					Pass
138	5189.960	5150 to 5250					Pass
-30	120	5190.000				5150 to 5250	Pass
-20	120	5189.960				5150 to 5250	Pass
-10	120	5190.000				5150 to 5250	Pass
0	120	5189.960				5150 to 5250	Pass
10	120	5189.960				5150 to 5250	Pass
30	120	5189.960				5150 to 5250	Pass
40	120	5190.040				5150 to 5250	Pass
50	120	5189.920				5150 to 5250	Pass
5230	20	102				5229.960	5150 to 5250
		120			5230.040	5150 to 5250	Pass
		138			5229.880	5150 to 5250	Pass
	-30	120			5230.080	5150 to 5250	Pass
	-20	120			5229.960	5150 to 5250	Pass
	-10	120			5229.960	5150 to 5250	Pass
	0	120			5230.040	5150 to 5250	Pass
	10	120			5230.000	5150 to 5250	Pass
	30	120			5229.880	5150 to 5250	Pass
	40	120			5230.040	5150 to 5250	Pass
	50	120			5229.920	5150 to 5250	Pass

7. Form731

7.1 Test Result

7.1.1 Form731

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
5180	5240	0.0122	10.86
5190	5230	0.0111	10.44