

RF Test Report

For

Project No.:	RF251027002-01-003
Client:	Autel Robotics Co., Ltd.
Manufacturer:	Autel Robotics Co., Ltd.
Product Description:	OmniLink
Model No.:	Nest RF-6
Test Engineer:	Jason Huang
Test Date:	2025-10-28

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Frequency Stability	Pass

1. Duty Cycle

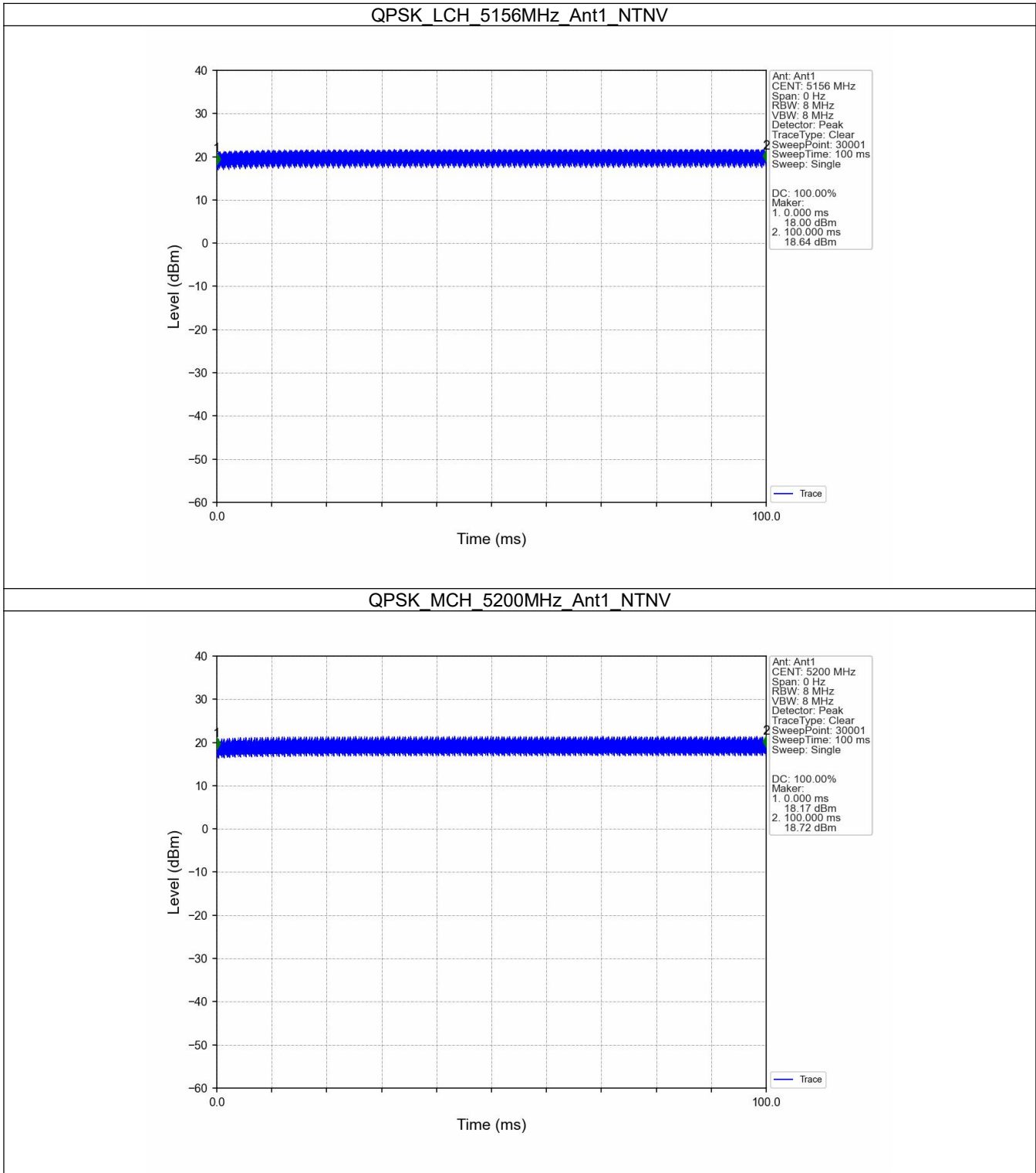
1.1 Test Result

1.1.1 Ant1

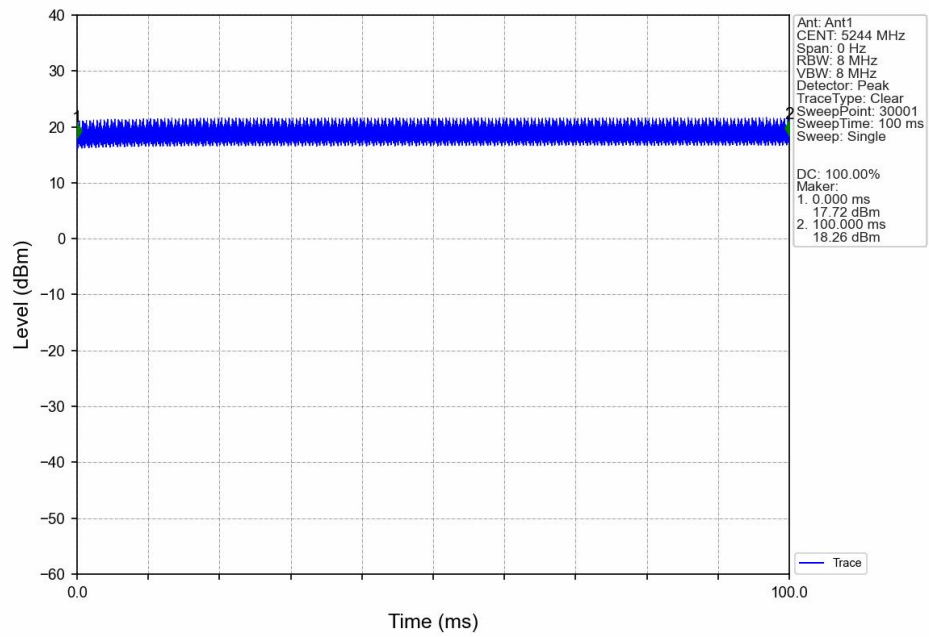
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
QPSK	MIMO	5156	100.000	100.000	100.00	0.00	0.00
		5200	100.000	100.000	100.00	0.00	0.00
		5244	100.000	100.000	100.00	0.00	0.00
16QAM	MIMO	5156	100.000	100.000	100.00	0.00	0.00
		5200	100.000	100.000	100.00	0.00	0.00
		5244	100.000	100.000	100.00	0.00	0.00

1.2 Test Graph

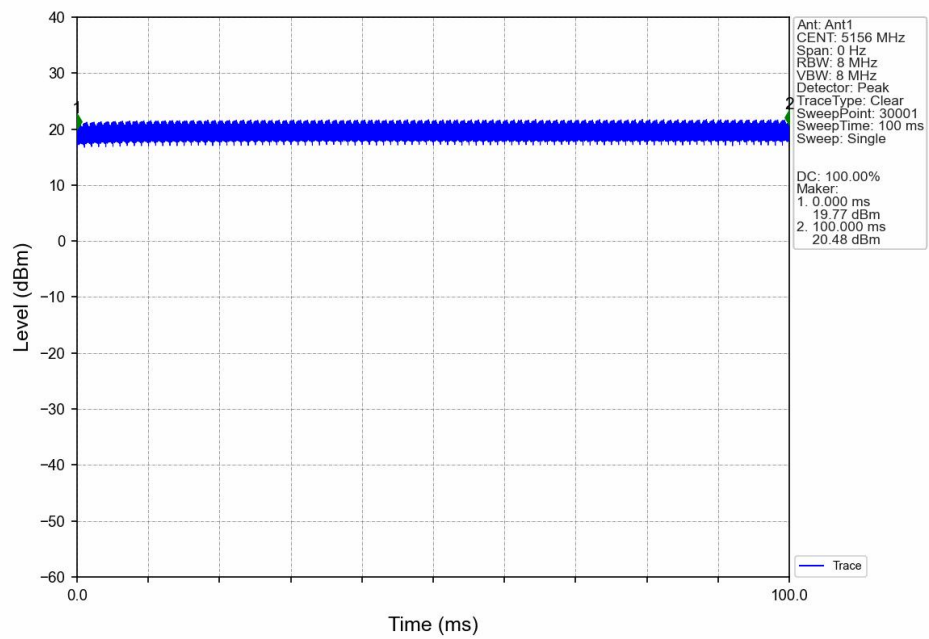
1.2.1 Ant1



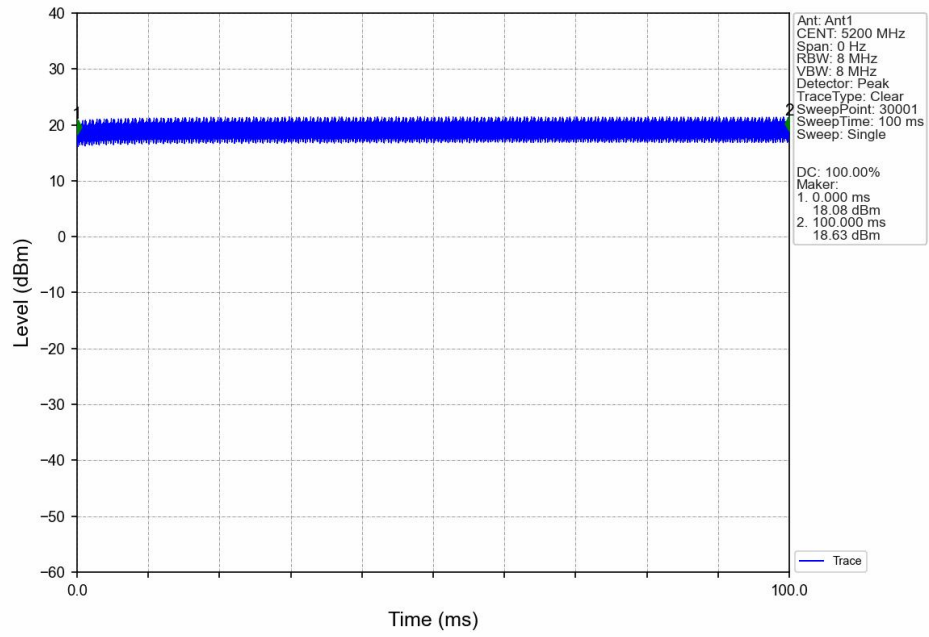
QPSK_HCH_5244MHz_Ant1_NTNV



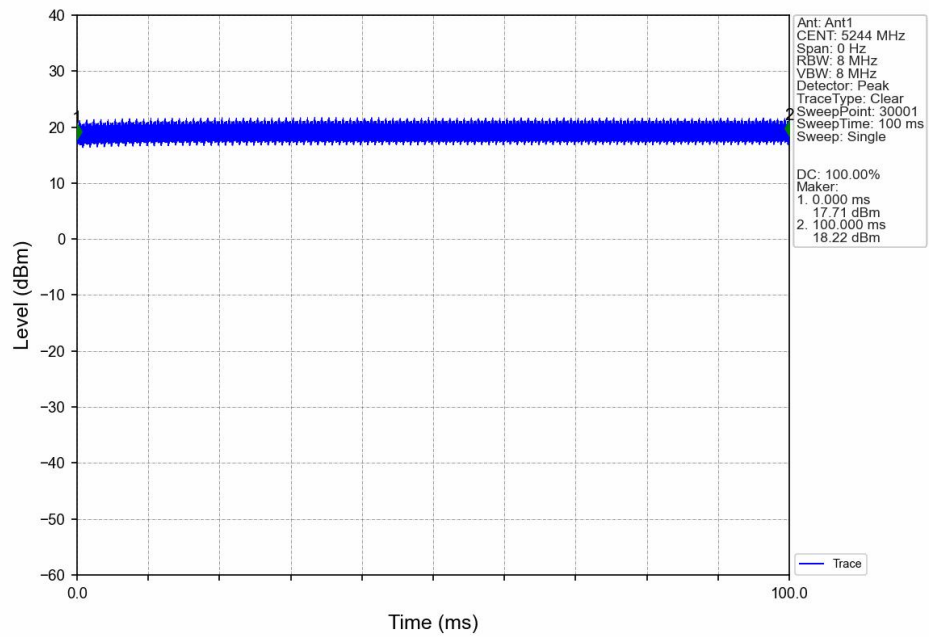
16QAM_LCH_5156MHz_Ant1_NTNV



16QAM_MCH_5200MHz_Ant1_NTNV



16QAM_HCH_5244MHz_Ant1_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

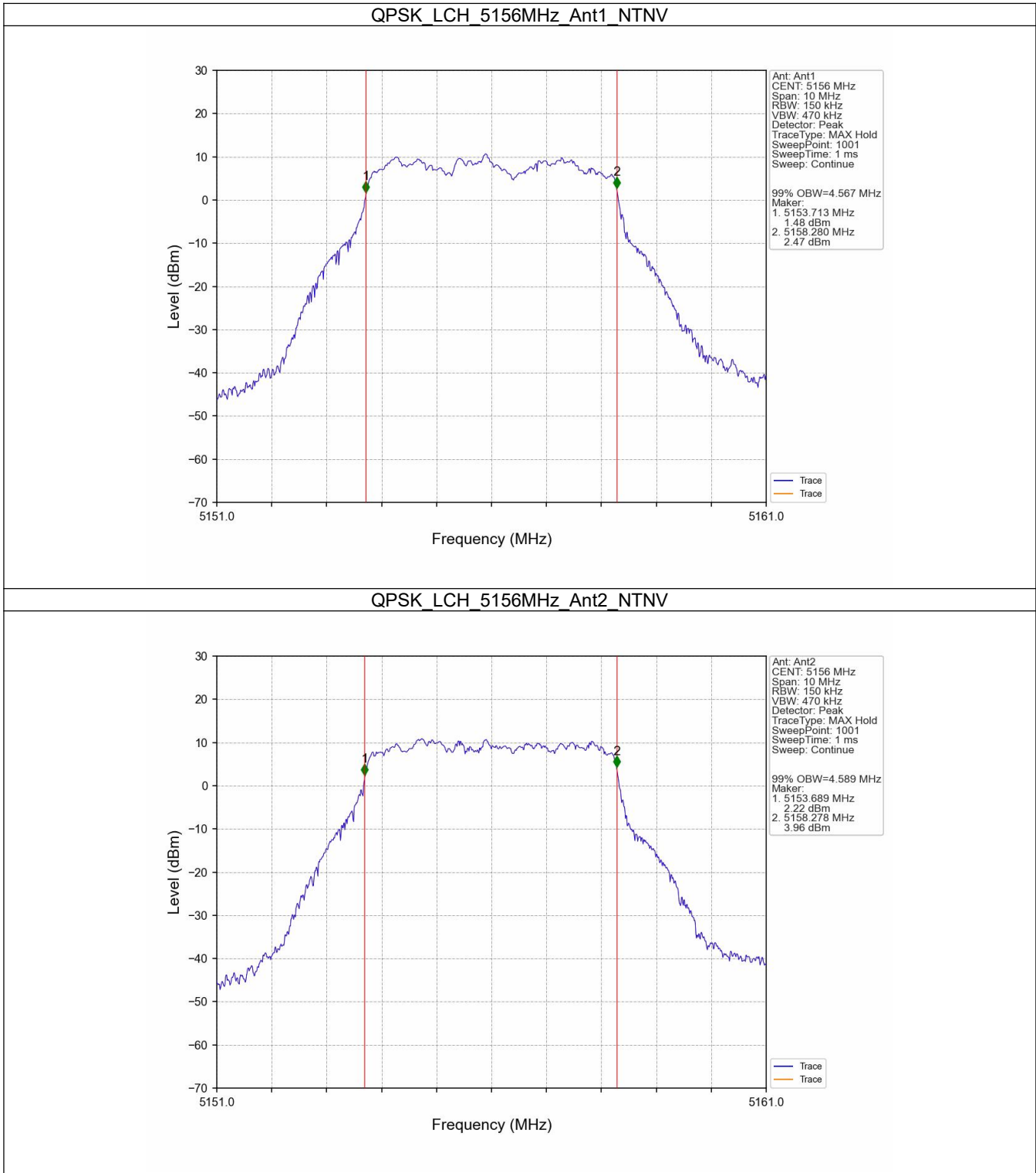
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
QPSK	MIMO	5156	1	4.567	/	Pass
			2	4.589	/	Pass
		5200	1	4.611	/	Pass
			2	4.576	/	Pass
		5244	1	4.620	/	Pass
			2	4.611	/	Pass
16QAM	MIMO	5156	1	4.573	/	Pass
			2	4.601	/	Pass
		5200	1	4.613	/	Pass
			2	4.582	/	Pass
		5244	1	4.591	/	Pass
			2	4.586	/	Pass

2.1.2 26dB BW

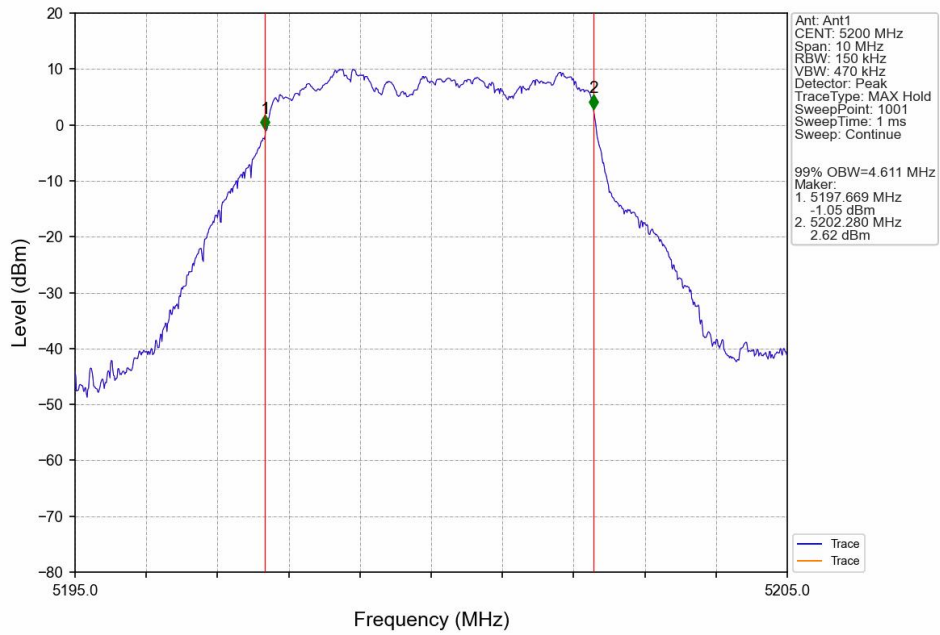
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
QPSK	MIMO	5156	1	5.272	/	Pass
			2	5.343	/	Pass
		5200	1	5.237	/	Pass
			2	5.251	/	Pass
		5244	1	5.313	/	Pass
			2	5.398	/	Pass
16QAM	MIMO	5156	1	5.451	/	Pass
			2	5.343	/	Pass
		5200	1	5.255	/	Pass
			2	5.349	/	Pass
		5244	1	5.250	/	Pass
			2	5.276	/	Pass

2.2 Test Graph

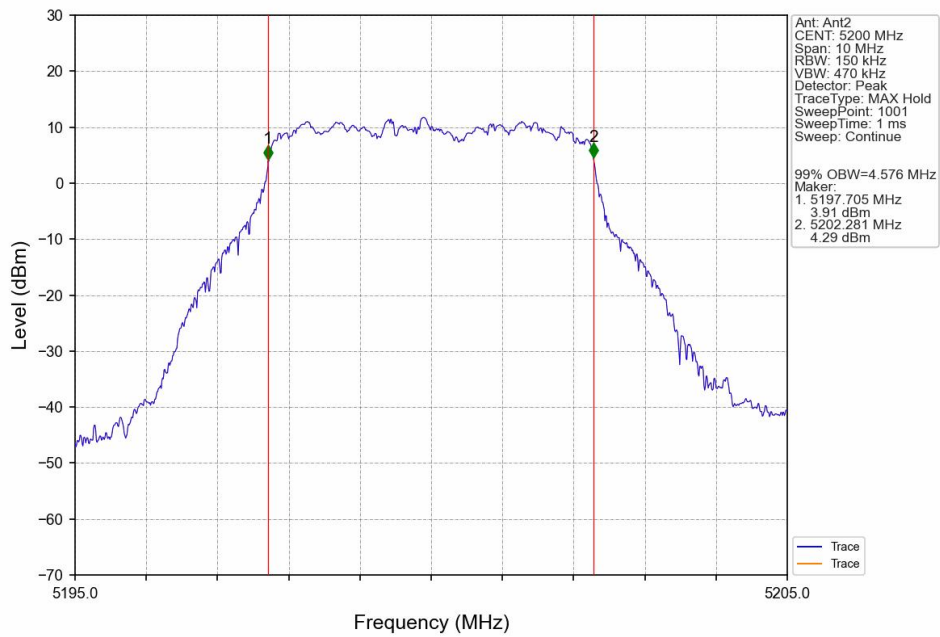
2.2.1 OBW



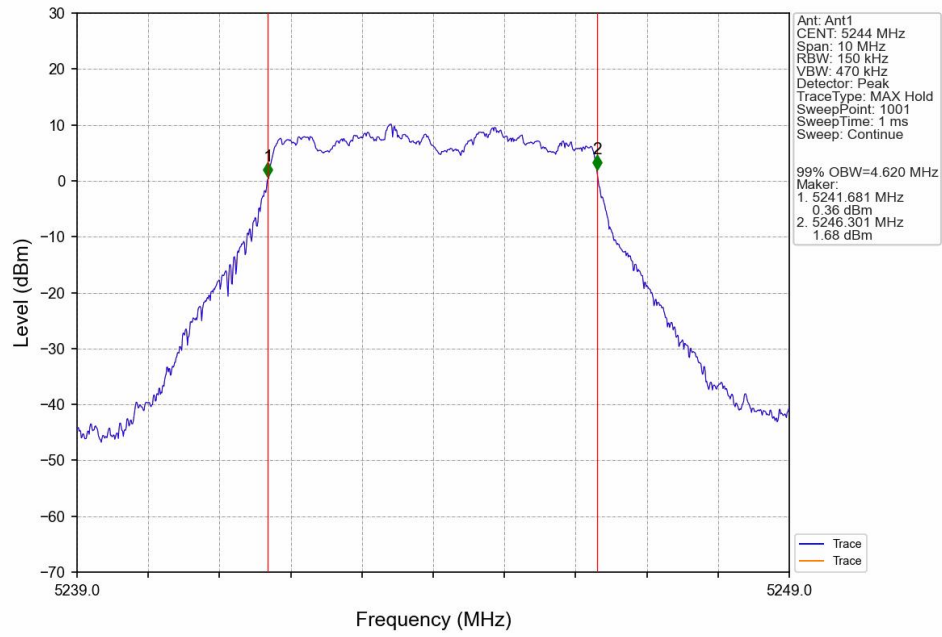
QPSK_MCH_5200MHz_Ant1_NTNV



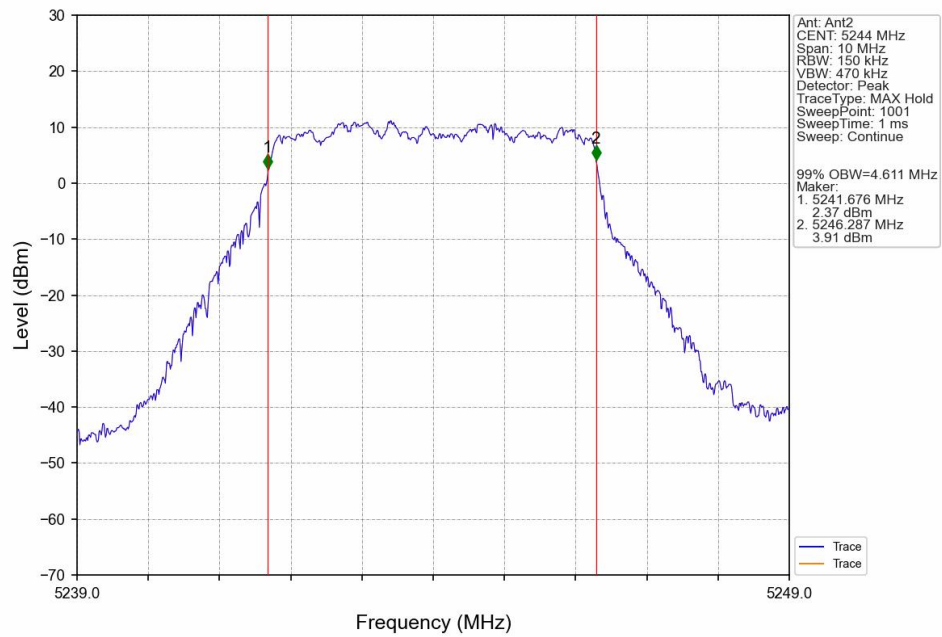
QPSK_MCH_5200MHz_Ant2_NTNV



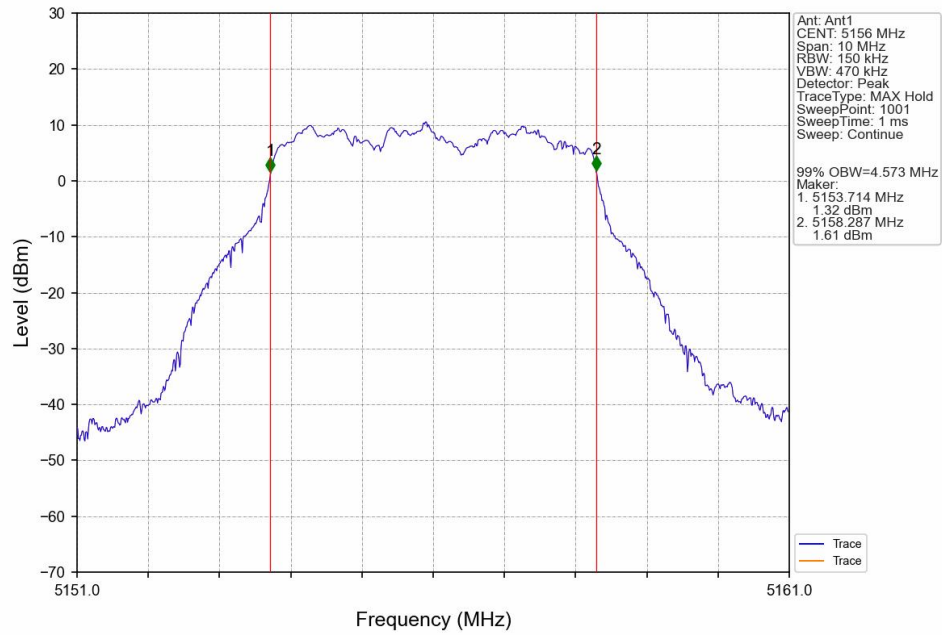
QPSK_HCH_5244MHz_Ant1_NTNV



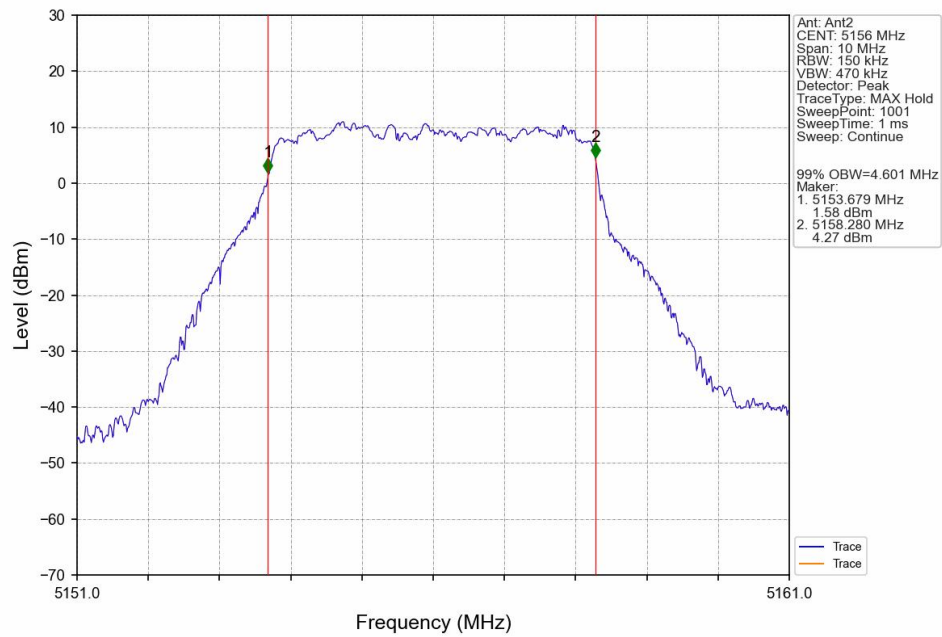
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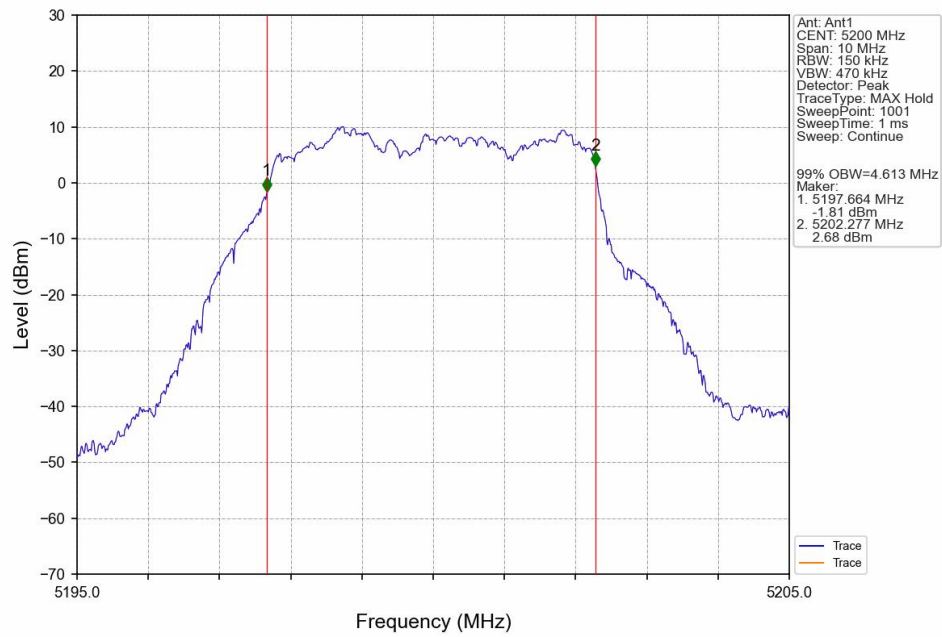
16QAM_LCH_5156MHz_Ant1_NTNV



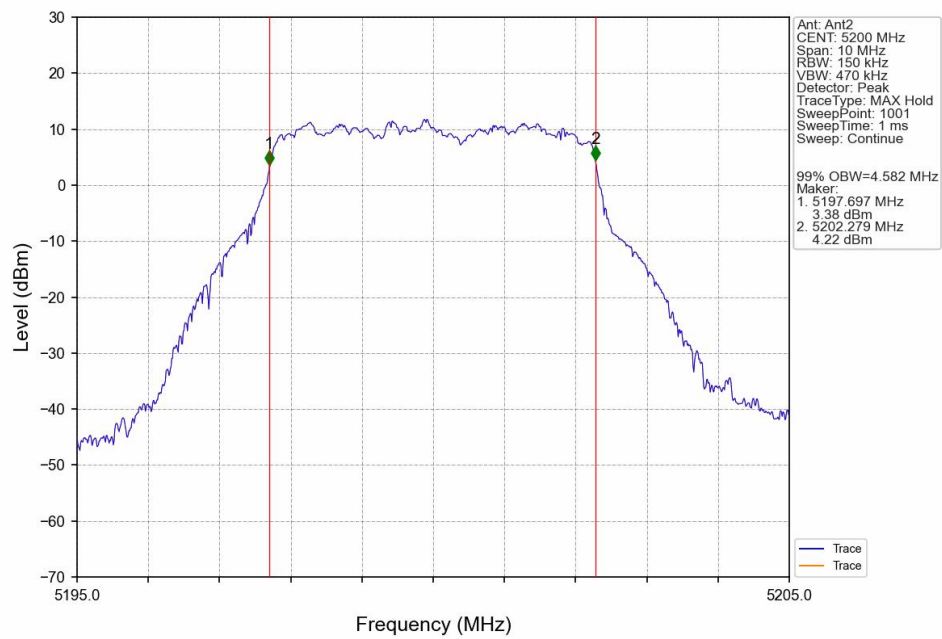
16QAM_LCH_5156MHz_Ant2_NTNV



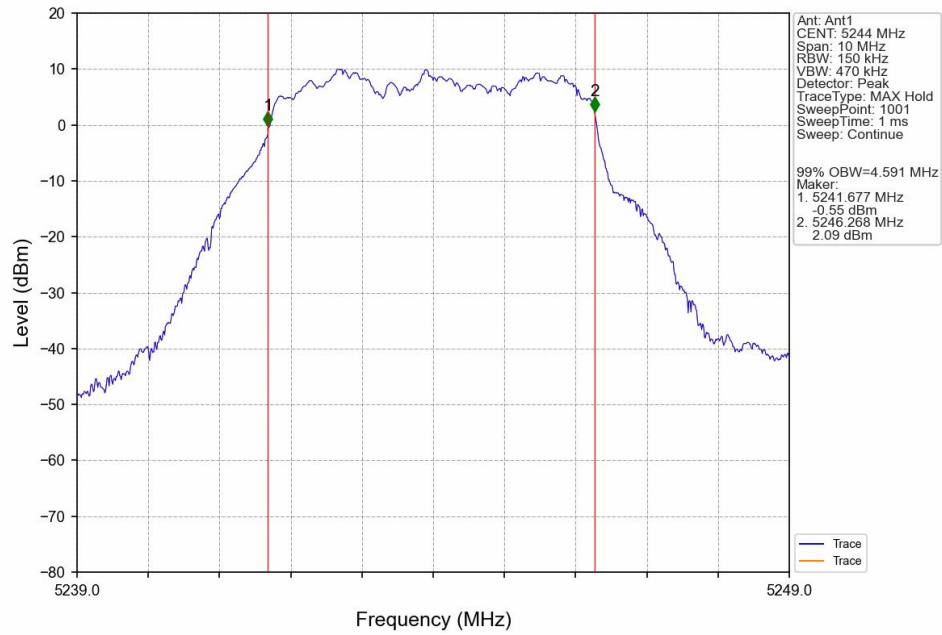
16QAM_MCH_5200MHz_Ant1_NTNV



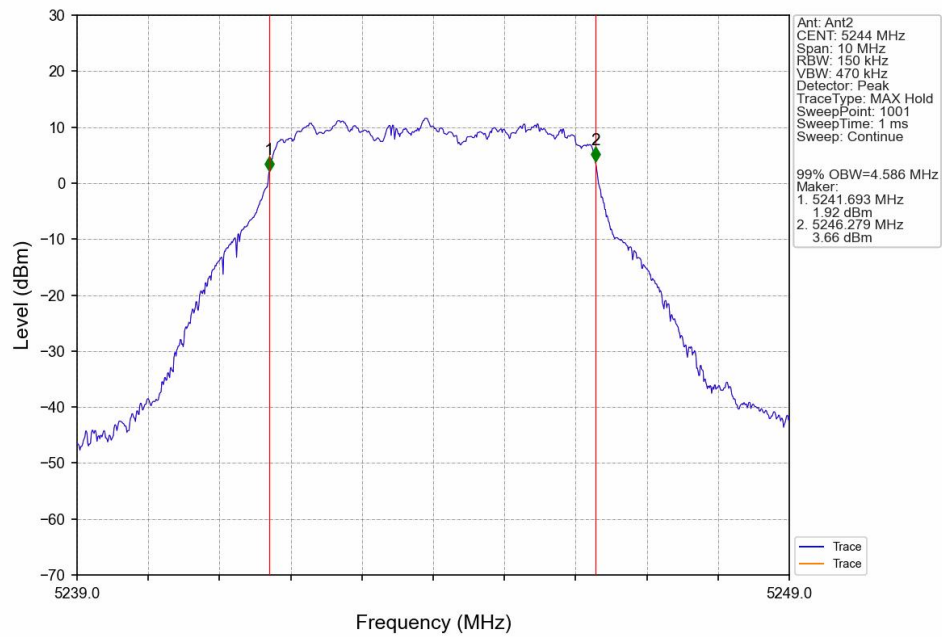
16QAM_MCH_5200MHz_Ant2_NTNV



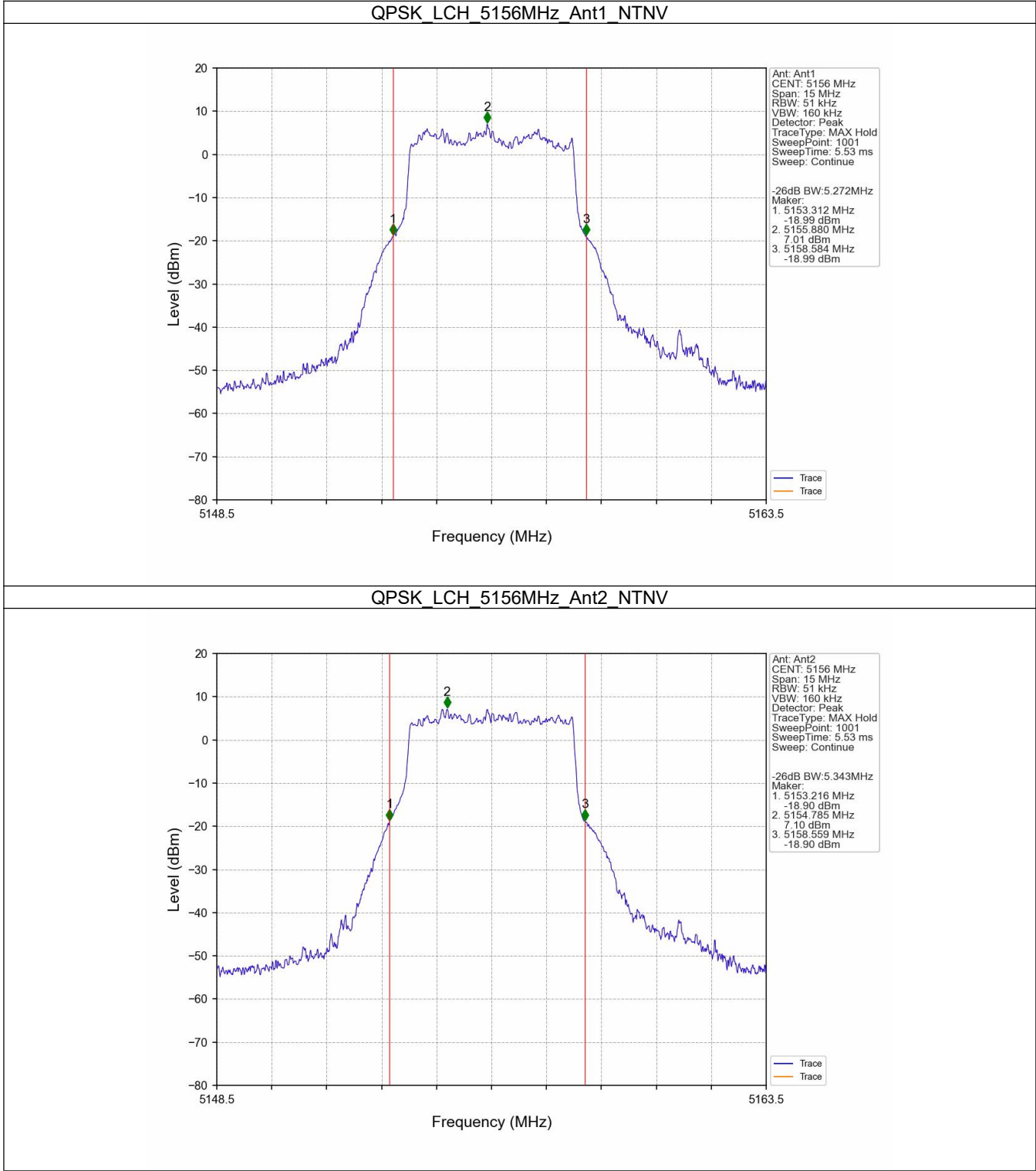
16QAM_HCH_5244MHz_Ant1_NTNV



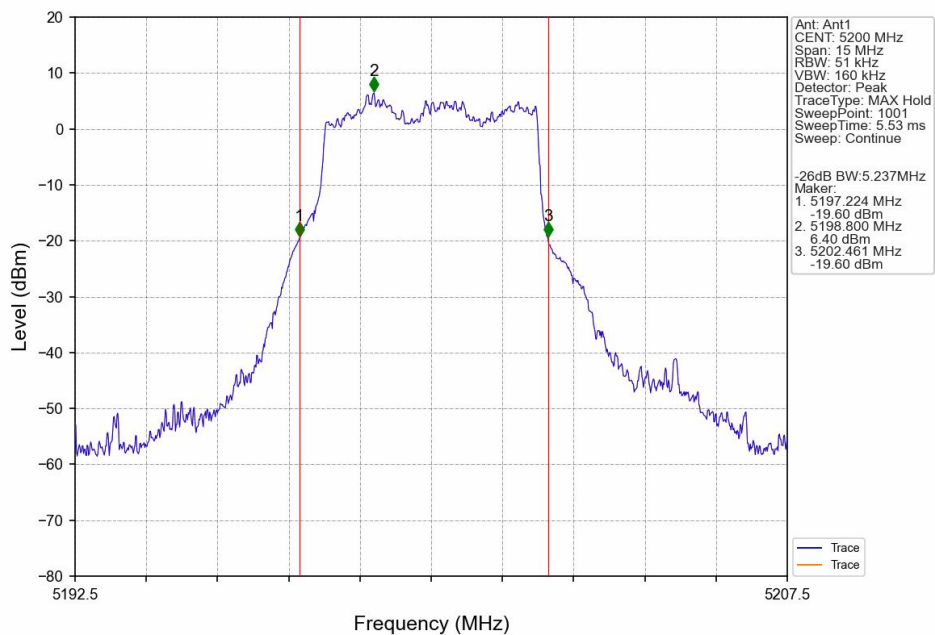
16QAM_HCH_5244MHz_Ant2_NTNV



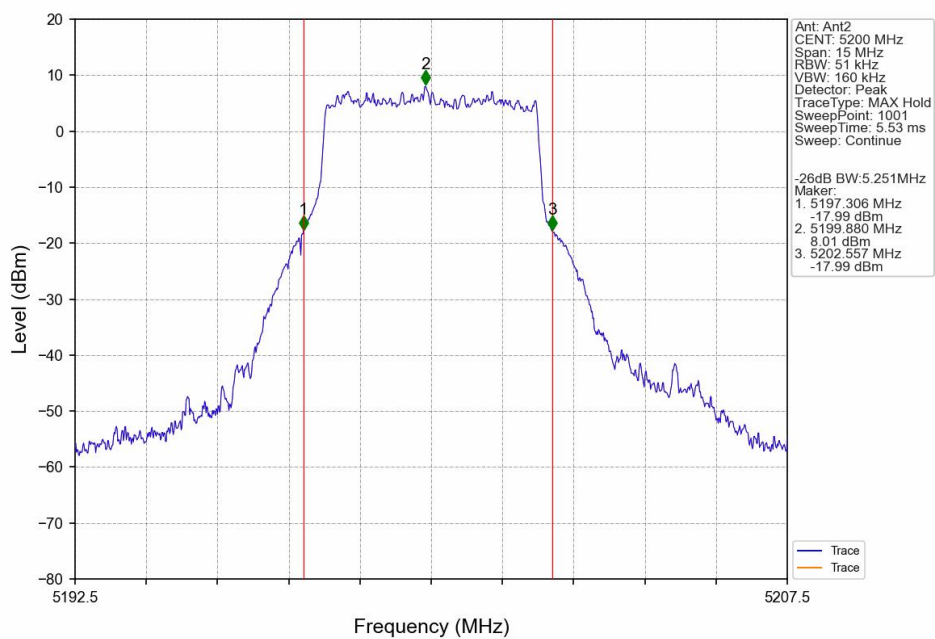
2.2.2 26dB BW



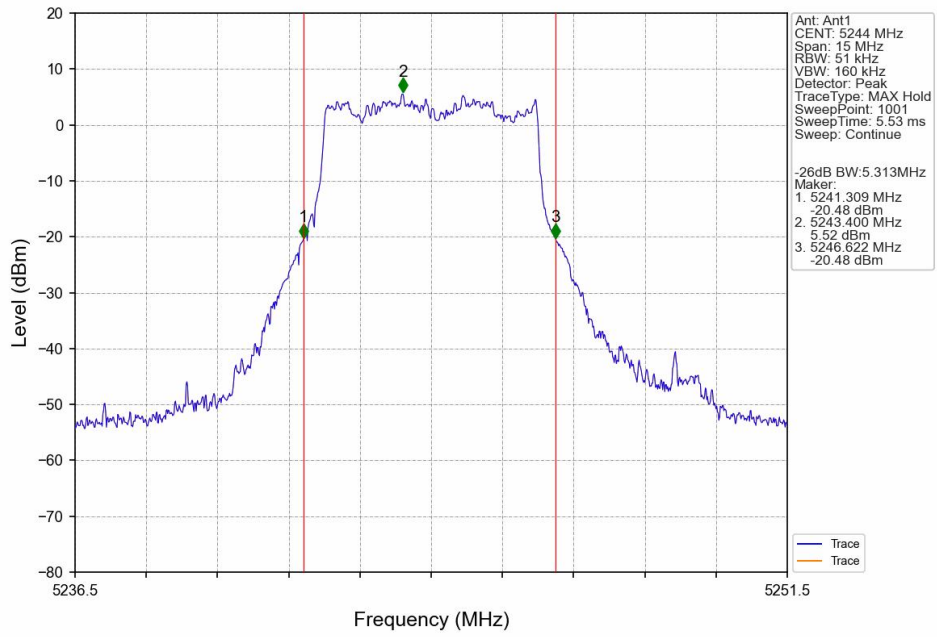
QPSK_MCH_5200MHz_Ant1_NTNV



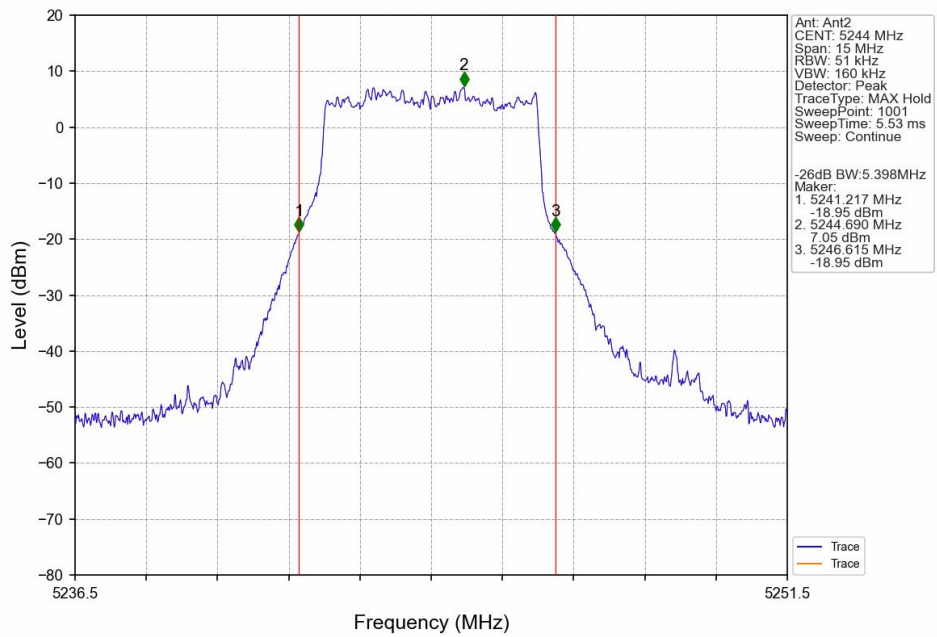
QPSK_MCH_5200MHz_Ant2_NTNV



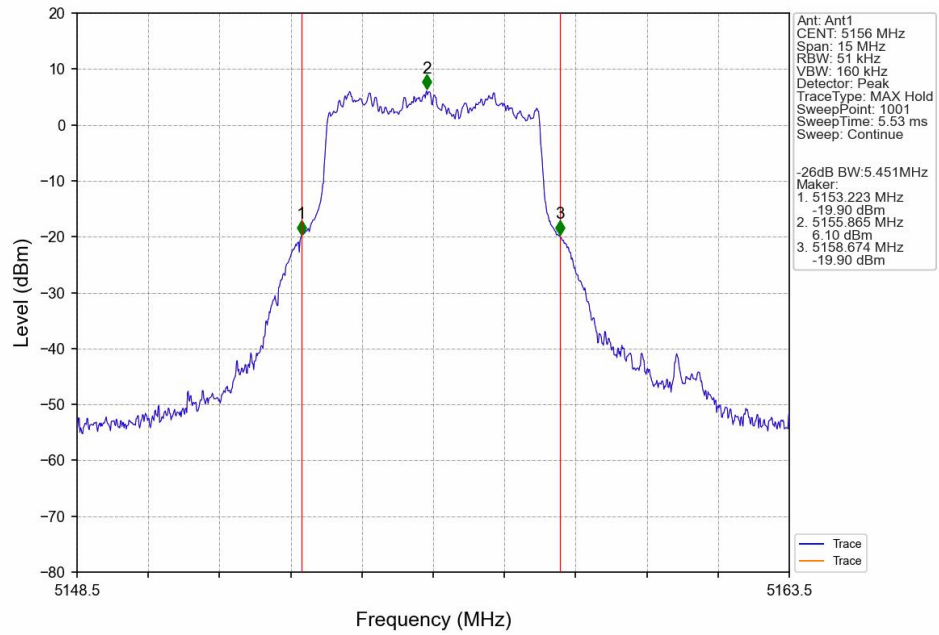
QPSK_HCH_5244MHz_Ant1_NTNV



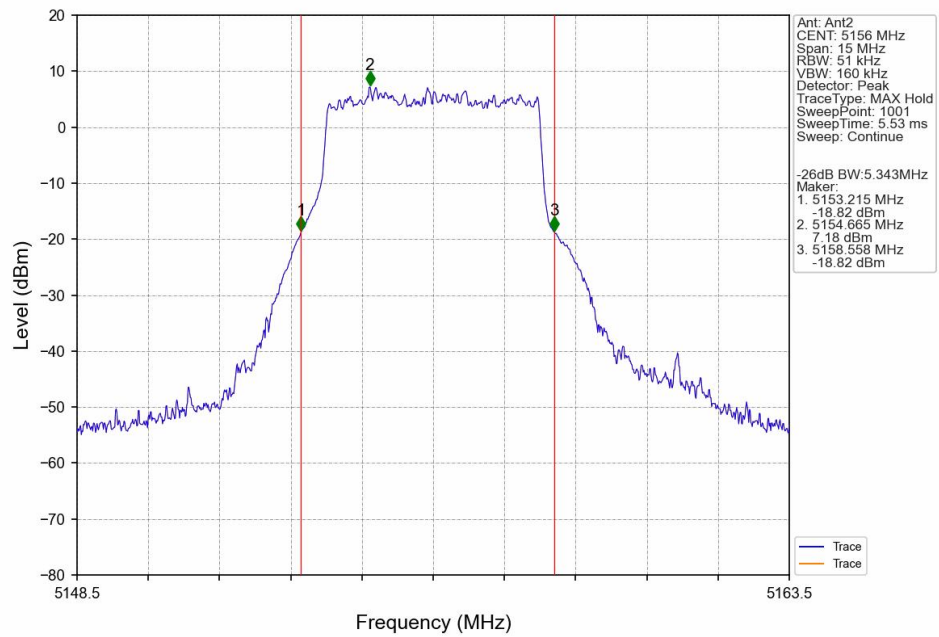
QPSK_HCH_5244MHz_Ant2_NTNV



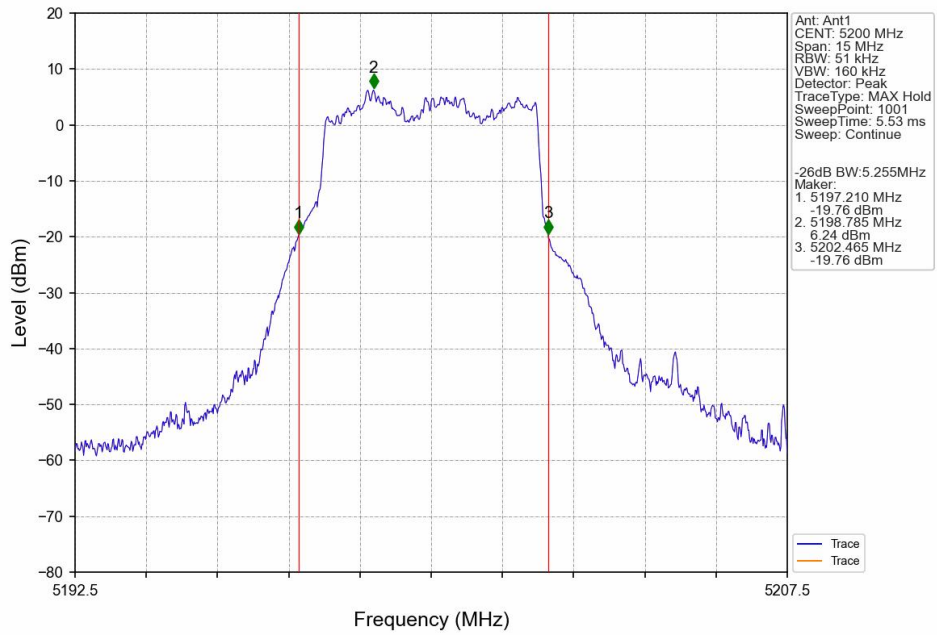
16QAM_LCH_5156MHz_Ant1_NTNV



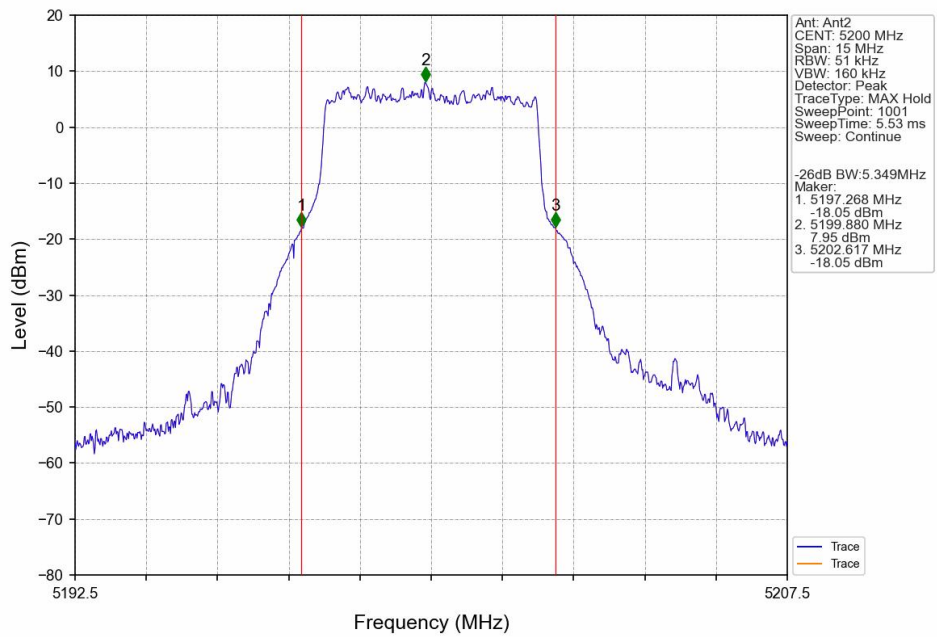
16QAM_LCH_5156MHz_Ant2_NTNV



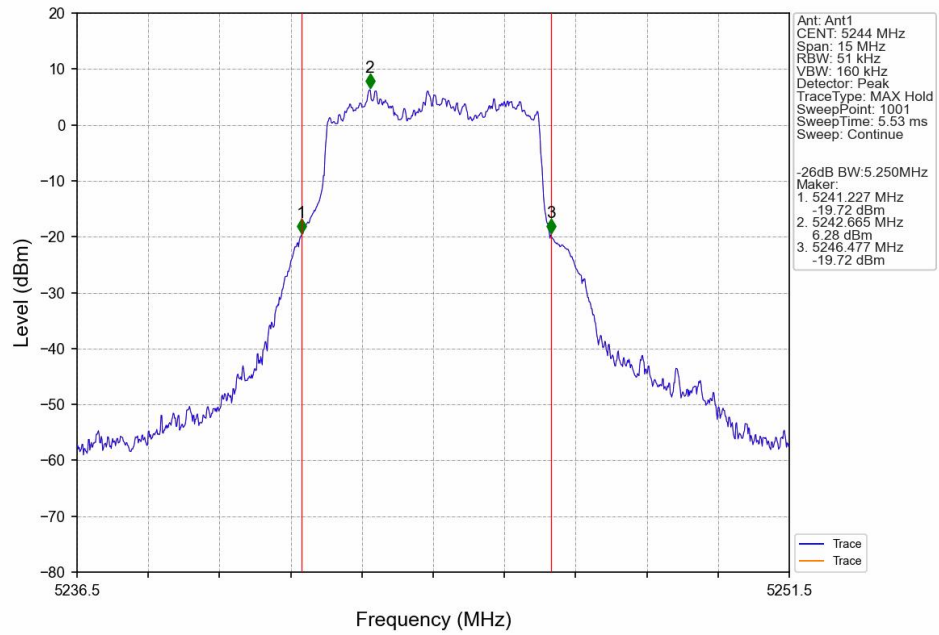
16QAM_MCH_5200MHz_Ant1_NTNV



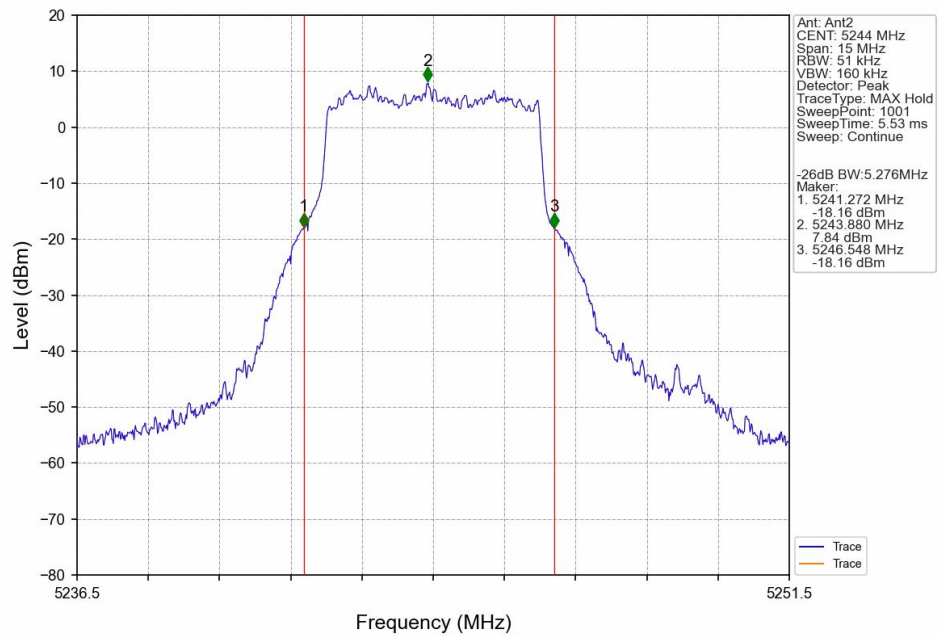
16QAM_MCH_5200MHz_Ant2_NTNV



16QAM_HCH_5244MHz_Ant1_NTNV



16QAM_HCH_5244MHz_Ant2_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	ANT2	MIMO	Limit	
QPSK	MIMO	5156	10.29	10.36	13.34	<=23.37	Pass
		5200	10.33	10.94	13.66	<=23.37	Pass
		5244	10.15	10.83	13.51	<=23.37	Pass
16QAM	MIMO	5156	10.42	10.35	13.40	<=23.37	Pass
		5200	10.33	10.92	13.65	<=23.37	Pass
		5244	9.93	10.68	13.33	<=23.37	Pass
Note1: Antenna Gain: Ant1: 3.60dBi; Ant2: 3.60dBi; Note2: Directional Gain: Band1: 6.61dBi							

4. Maximum Power Spectral Density

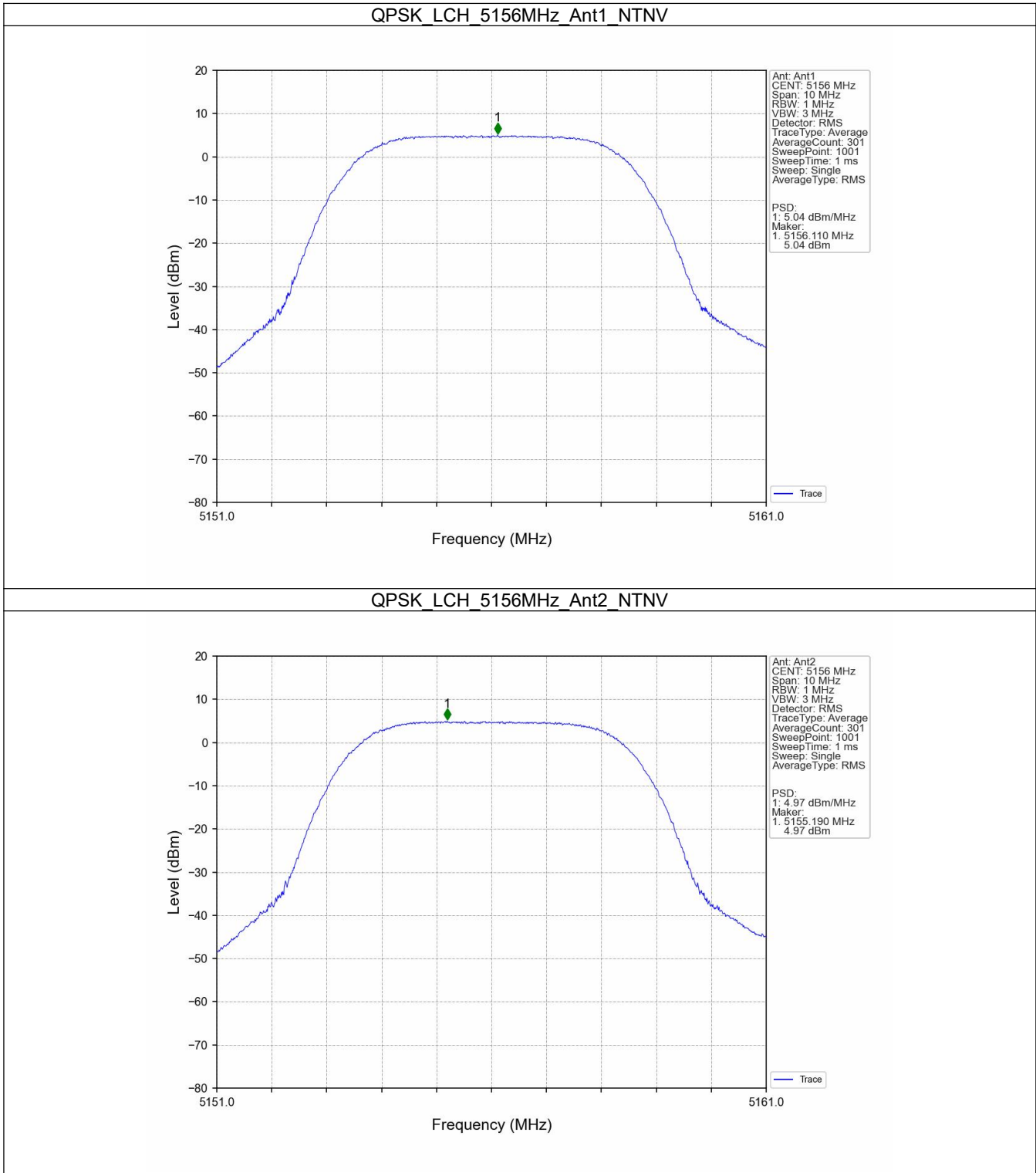
4.1 Test Result

4.1.1 PSD

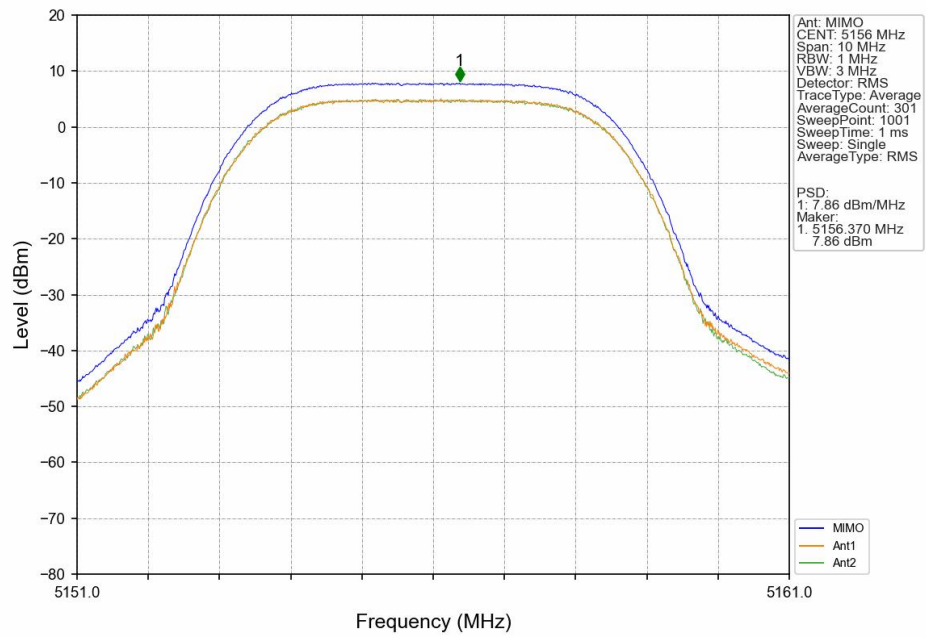
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)				Verdict
			ANT1	ANT2	MIMO	Limit	
QPSK	MIMO	5156	5.04	4.97	7.86	<=10.39	Pass
		5200	4.96	5.59	8.19	<=10.39	Pass
		5244	4.79	5.47	8.01	<=10.39	Pass
16QAM	MIMO	5156	4.88	4.89	7.77	<=10.39	Pass
		5200	4.95	5.62	8.17	<=10.39	Pass
		5244	4.51	5.26	7.78	<=10.39	Pass
Note1: Antenna Gain: Ant1: 3.60dBi; Ant2: 3.60dBi; Note2: Directional Gain: Band1: 6.61dBi							

4.2 Test Graph

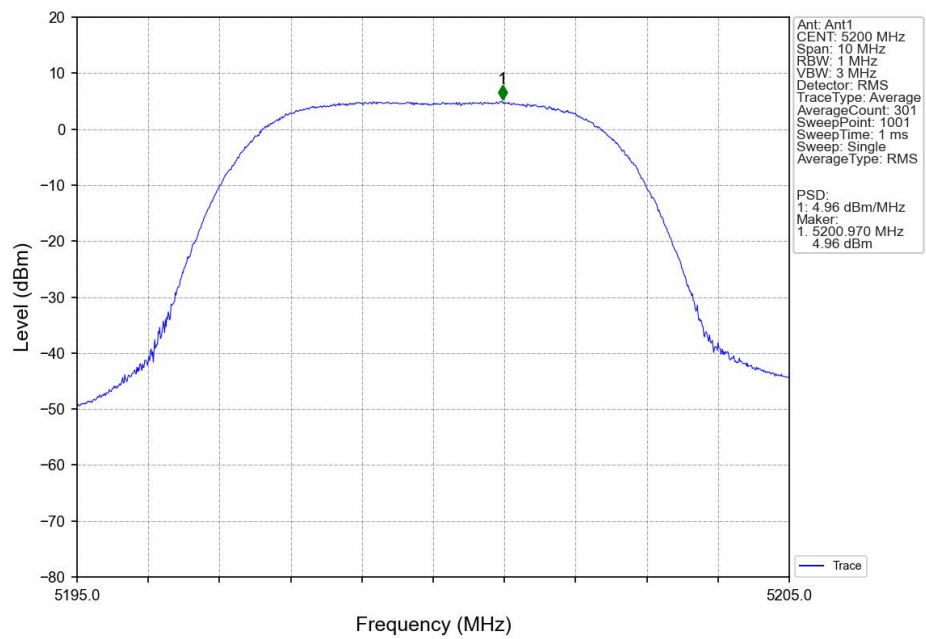
4.2.1 PSD



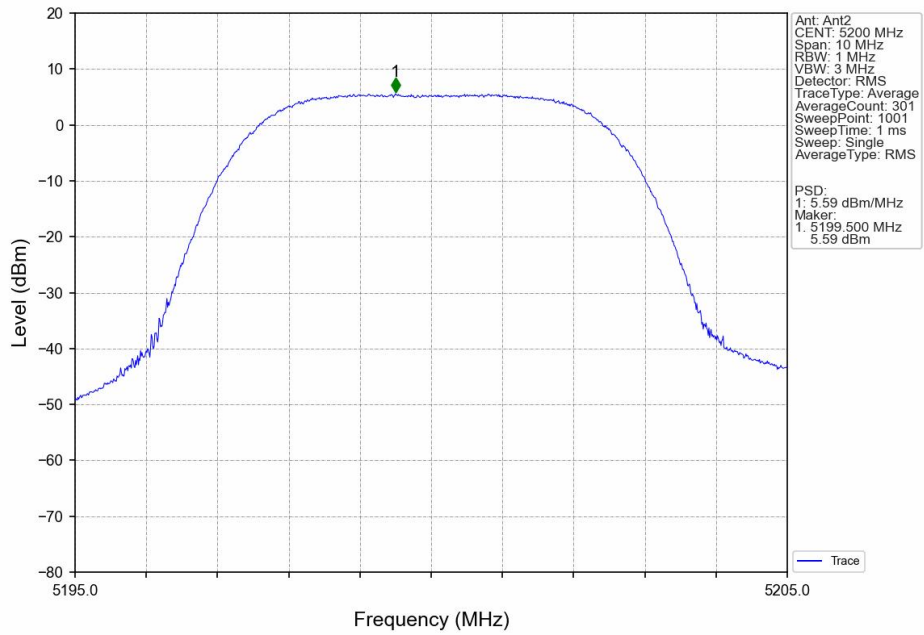
QPSK_LCH_5156MHz_MIMO_NTNV



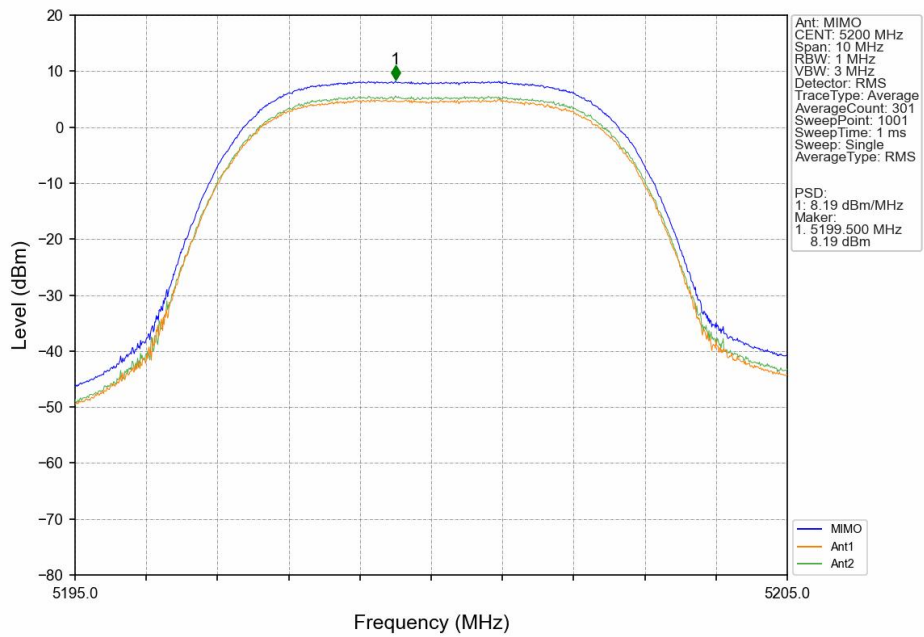
QPSK_MCH_5200MHz_Ant1_NTNV



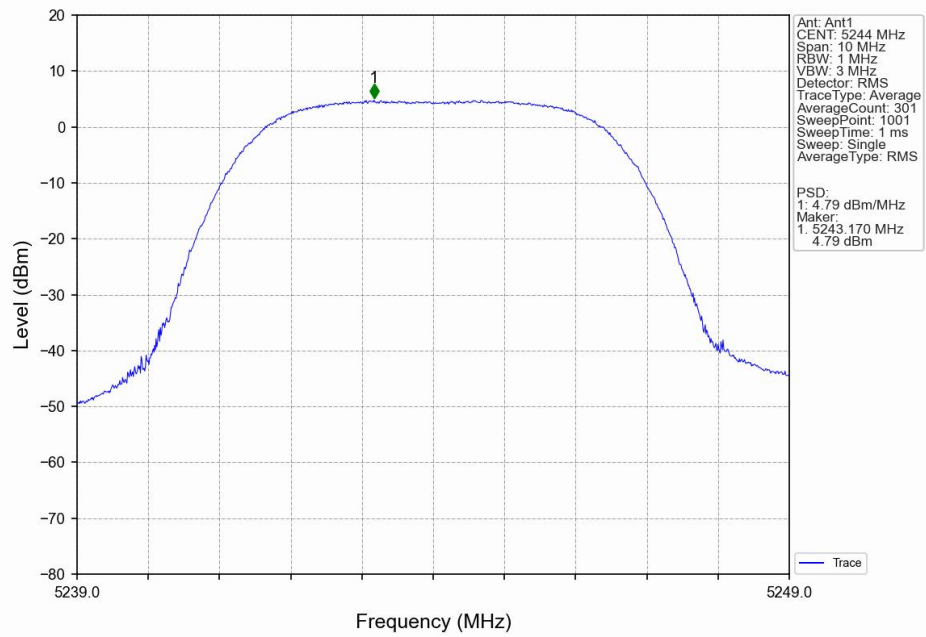
QPSK_MCH_5200MHz_Ant2_NTNV



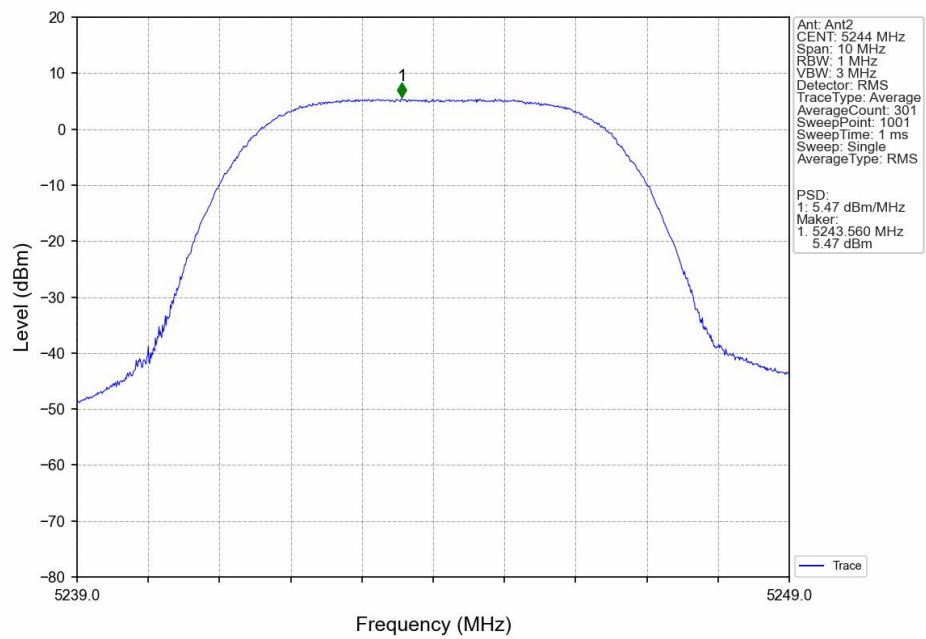
QPSK_MCH_5200MHz_MIMO_NTNV



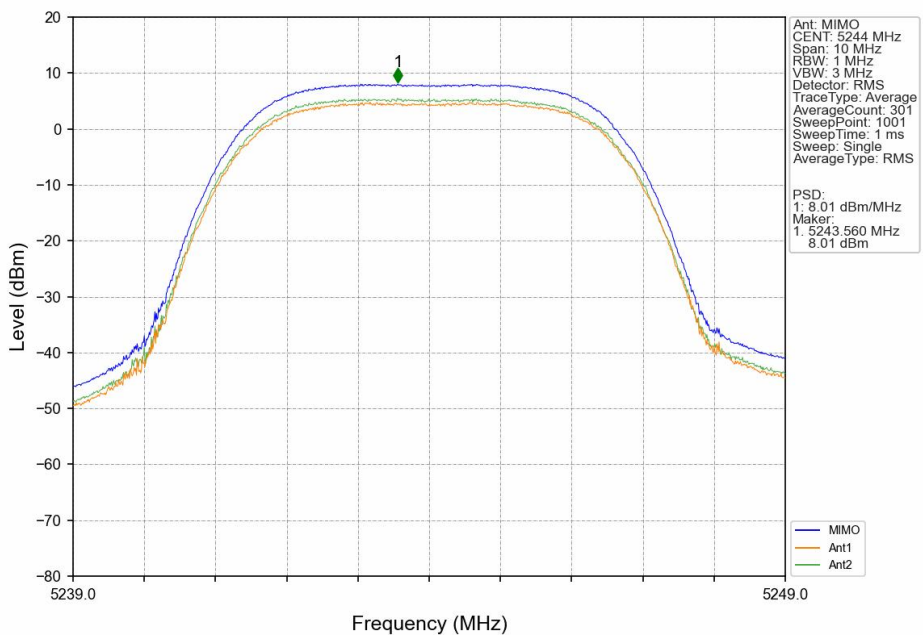
QPSK_HCH_5244MHz_Ant1_NTNV



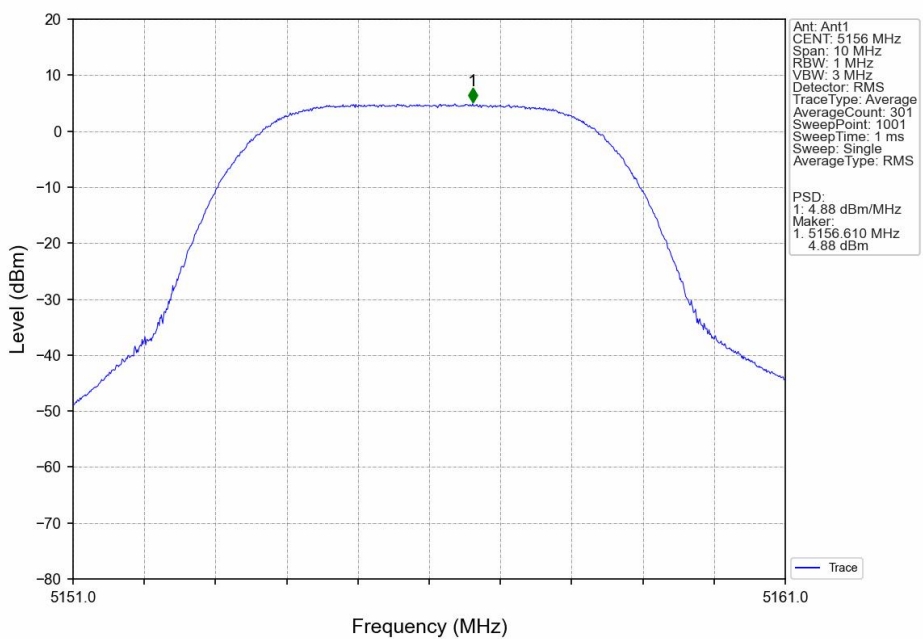
QPSK_HCH_5244MHz_Ant2_NTNV



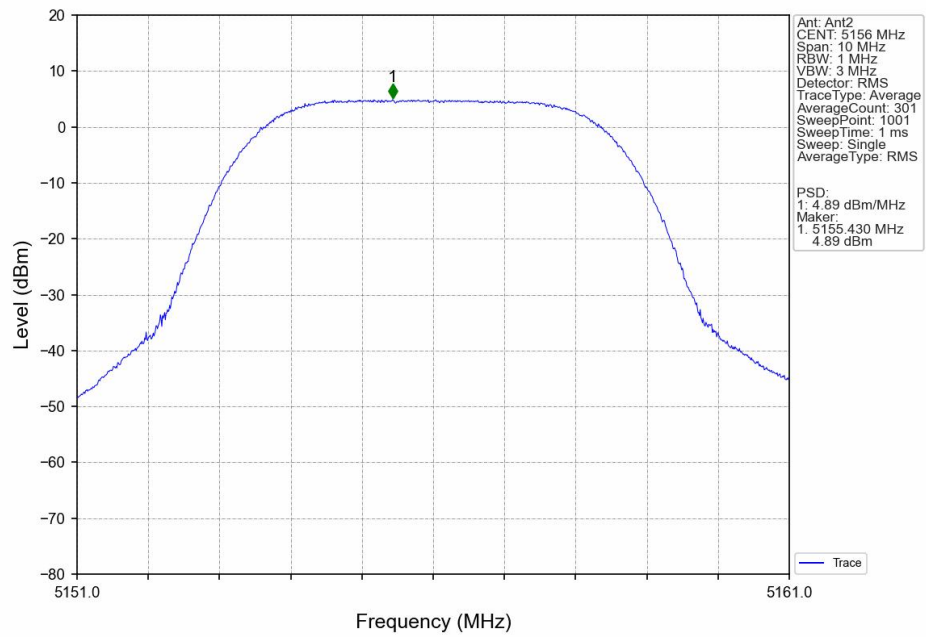
QPSK_HCH_5244MHz_MIMO_NTNV



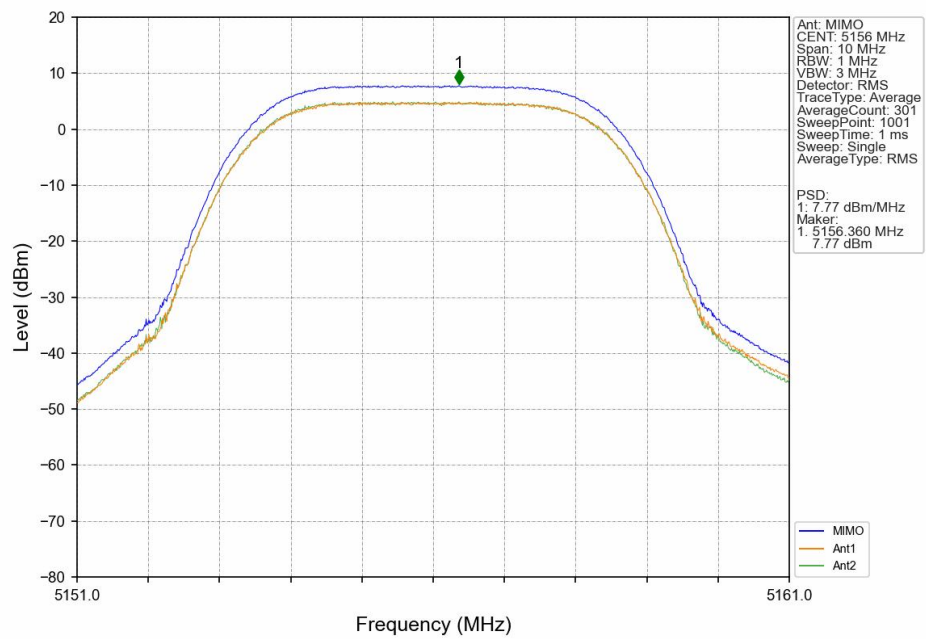
16QAM_LCH_5156MHz_Ant1_NTNV



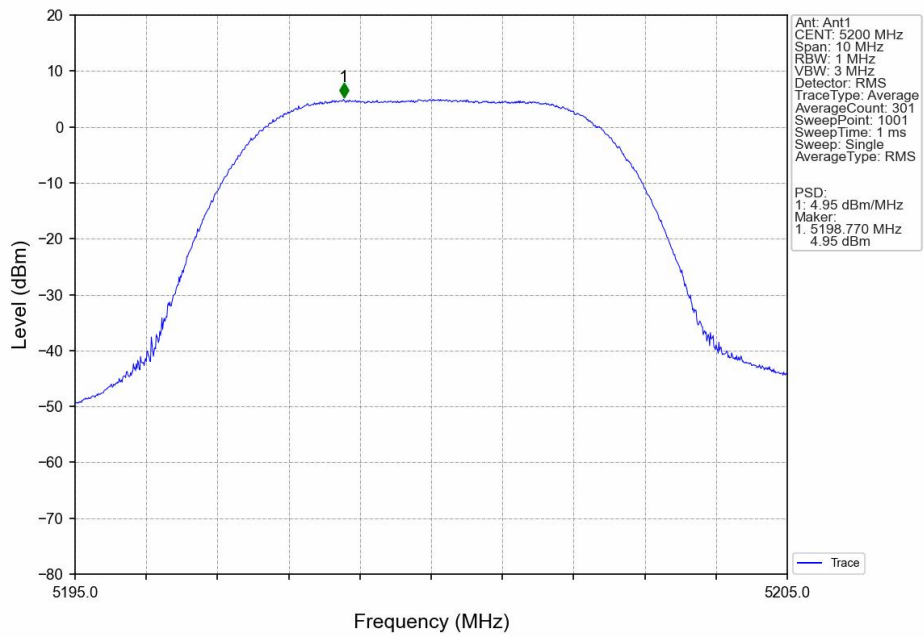
16QAM_LCH_5156MHz_Ant2_NTNV



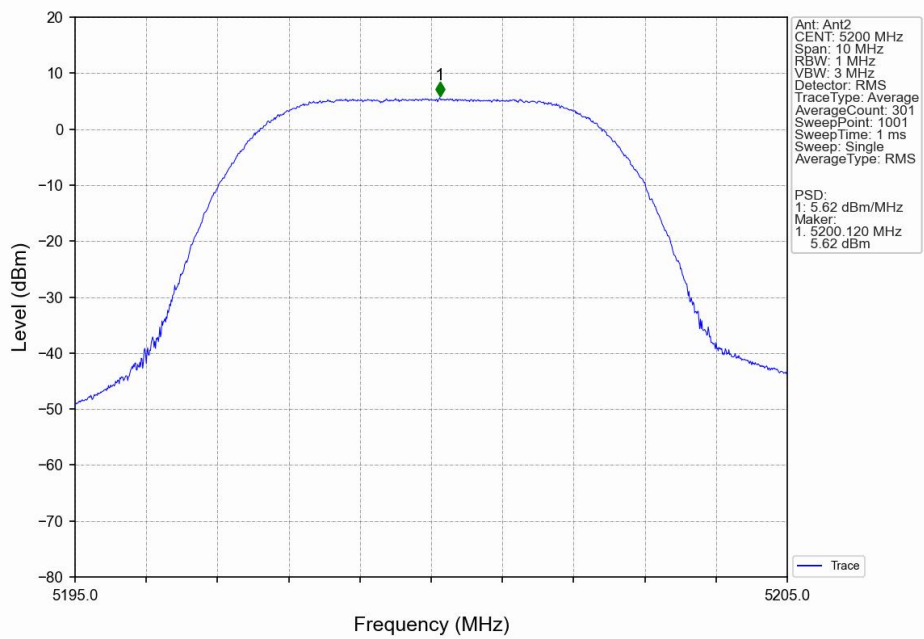
16QAM_LCH_5156MHz_MIMO_NTNV



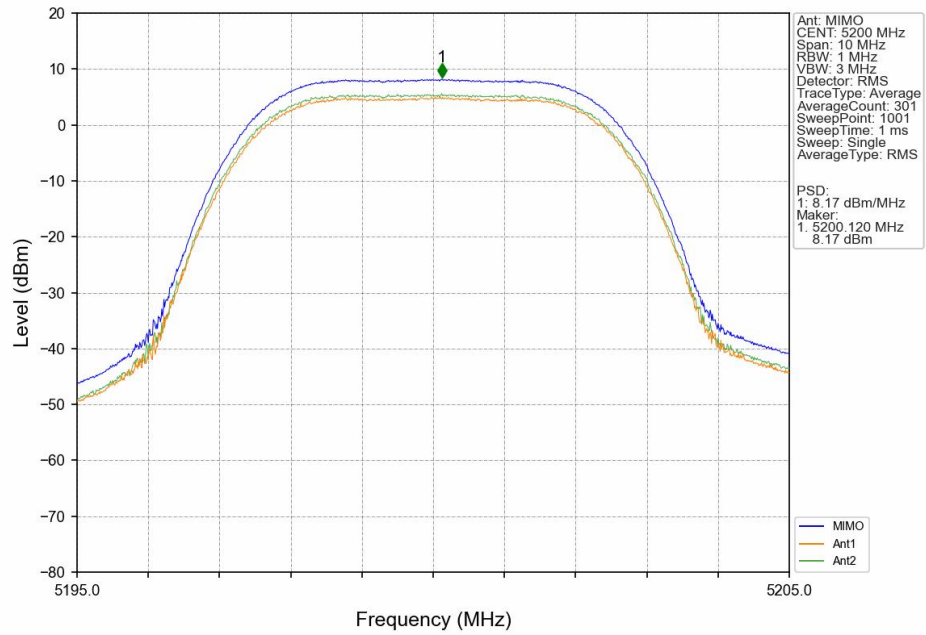
16QAM_MCH_5200MHz_Ant1_NTNV



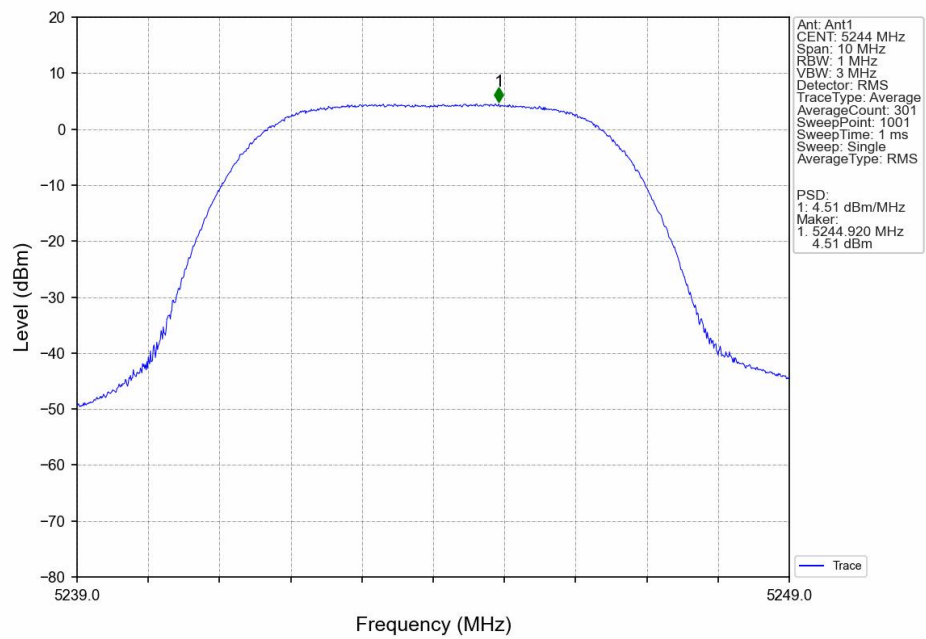
16QAM_MCH_5200MHz_Ant2_NTNV



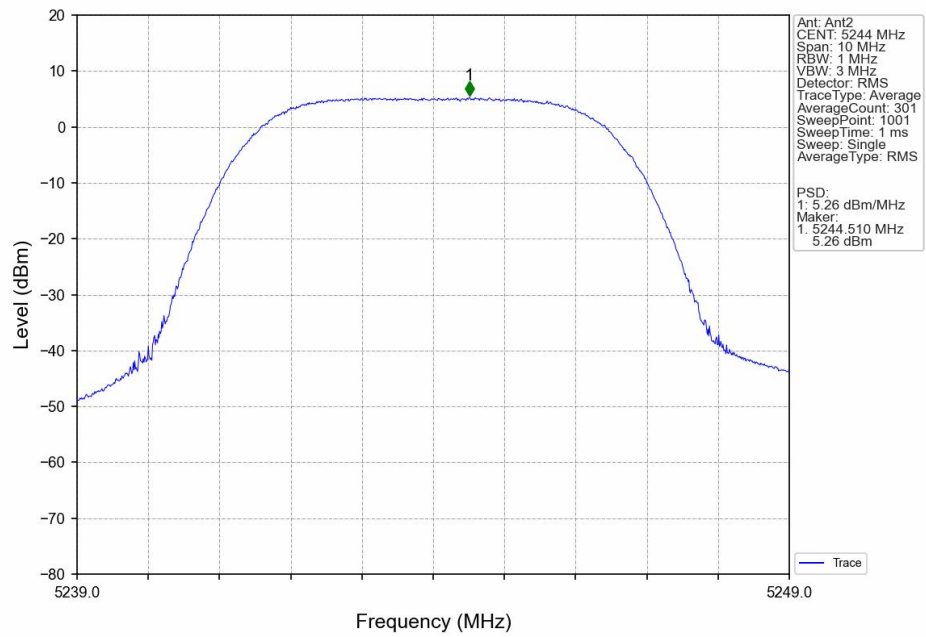
16QAM_MCH_5200MHz_MIMO_NTNV



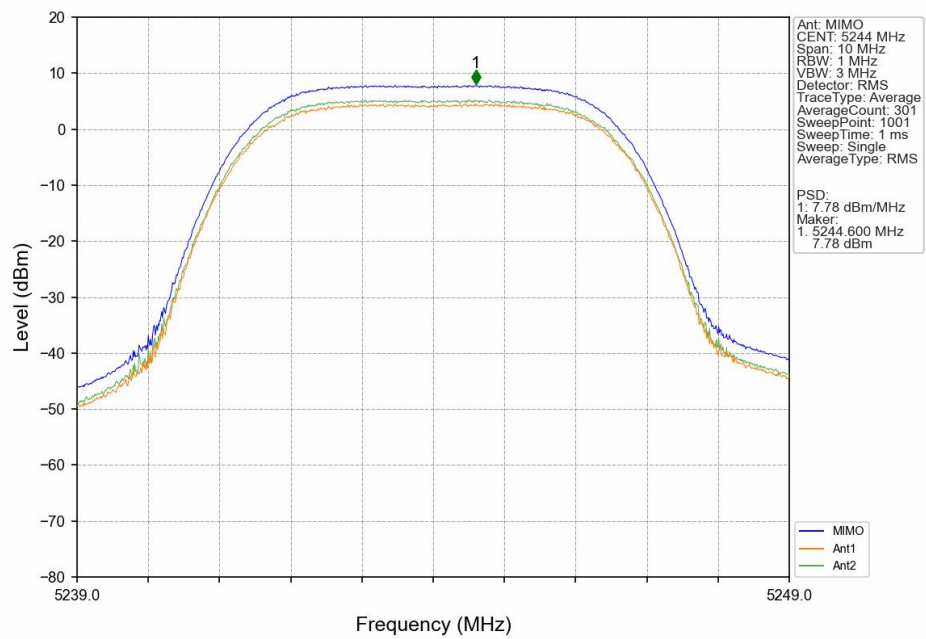
16QAM_HCH_5244MHz_Ant1_NTNV



16QAM_HCH_5244MHz_Ant2_NTNV



16QAM_HCH_5244MHz_MIMO_NTNV



5. Frequency Stability

5.1 Test Result

5.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict
QPSK	MIMO	5156	20	102	5156.000	5150 to 5250	Pass
				120	5155.995	5150 to 5250	Pass
				138	5156.005	5150 to 5250	Pass
			-30	120	5156.005	5150 to 5250	Pass
			-20	120	5156.010	5150 to 5250	Pass
			-10	120	5156.005	5150 to 5250	Pass
			0	120	5156.010	5150 to 5250	Pass
			10	120	5156.000	5150 to 5250	Pass
			30	120	5156.000	5150 to 5250	Pass
			40	120	5156.005	5150 to 5250	Pass
			50	120	5156.010	5150 to 5250	Pass
		5200	20	102	5200.005	5150 to 5250	Pass
				120	5200.015	5150 to 5250	Pass
				138	5200.010	5150 to 5250	Pass
			-30	120	5200.020	5150 to 5250	Pass
			-20	120	5200.030	5150 to 5250	Pass
			-10	120	5200.020	5150 to 5250	Pass
			0	120	5200.010	5150 to 5250	Pass
			10	120	5200.020	5150 to 5250	Pass
			30	120	5200.010	5150 to 5250	Pass
			40	120	5200.015	5150 to 5250	Pass
			50	120	5200.015	5150 to 5250	Pass
		5244	20	102	5244.005	5150 to 5250	Pass
				120	5243.995	5150 to 5250	Pass
				138	5243.995	5150 to 5250	Pass
			-30	120	5244.000	5150 to 5250	Pass
			-20	120	5243.995	5150 to 5250	Pass
			-10	120	5244.000	5150 to 5250	Pass
			0	120	5244.000	5150 to 5250	Pass
			10	120	5244.000	5150 to 5250	Pass
			30	120	5244.010	5150 to 5250	Pass
			40	120	5244.000	5150 to 5250	Pass
			50	120	5244.000	5150 to 5250	Pass
16QAM	MIMO	5156	20	102	5156.010	5150 to 5250	Pass
				120	5156.005	5150 to 5250	Pass
				138	5155.995	5150 to 5250	Pass
			-30	120	5156.000	5150 to 5250	Pass
			-20	120	5156.000	5150 to 5250	Pass
			-10	120	5156.015	5150 to 5250	Pass
			0	120	5156.000	5150 to 5250	Pass
			10	120	5155.995	5150 to 5250	Pass
			30	120	5156.015	5150 to 5250	Pass
			40	120	5156.015	5150 to 5250	Pass
			50	120	5155.990	5150 to 5250	Pass
		5200	20	102	5200.010	5150 to 5250	Pass
				120	5200.010	5150 to 5250	Pass

				138	5200.030	5150 to 5250	Pass
			-30	120	5200.020	5150 to 5250	Pass
			-20	120	5200.030	5150 to 5250	Pass
			-10	120	5200.025	5150 to 5250	Pass
			0	120	5200.020	5150 to 5250	Pass
			10	120	5200.015	5150 to 5250	Pass
			30	120	5200.025	5150 to 5250	Pass
			40	120	5200.010	5150 to 5250	Pass
			50	120	5200.015	5150 to 5250	Pass
		5244	20	102	5244.005	5150 to 5250	Pass
				120	5244.005	5150 to 5250	Pass
				138	5243.995	5150 to 5250	Pass
			-30	120	5244.000	5150 to 5250	Pass
			-20	120	5243.990	5150 to 5250	Pass
			-10	120	5243.990	5150 to 5250	Pass
			0	120	5244.000	5150 to 5250	Pass
			10	120	5244.010	5150 to 5250	Pass
			30	120	5243.985	5150 to 5250	Pass
			40	120	5244.010	5150 to 5250	Pass
			50	120	5243.990	5150 to 5250	Pass

6. Form731

6.1 Test Result

6.1.1 Form731

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
5156	5244	0.0232	13.66