

RF Test Data

For

Project No.:	RF251027002-03-001
Client:	Autel Robotics Co., Ltd.
Manufacturer:	Autel Robotics Co., Ltd.
Product Description:	Dragonfish Repeater
Model(s):	DFRP
Test Engineer:	Jason Huang
Test Date:	2025-11-11

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Unwanted Emissions In Non-restricted Frequency Bands	Pass
Frequency Error	Pass

1. Duty Cycle

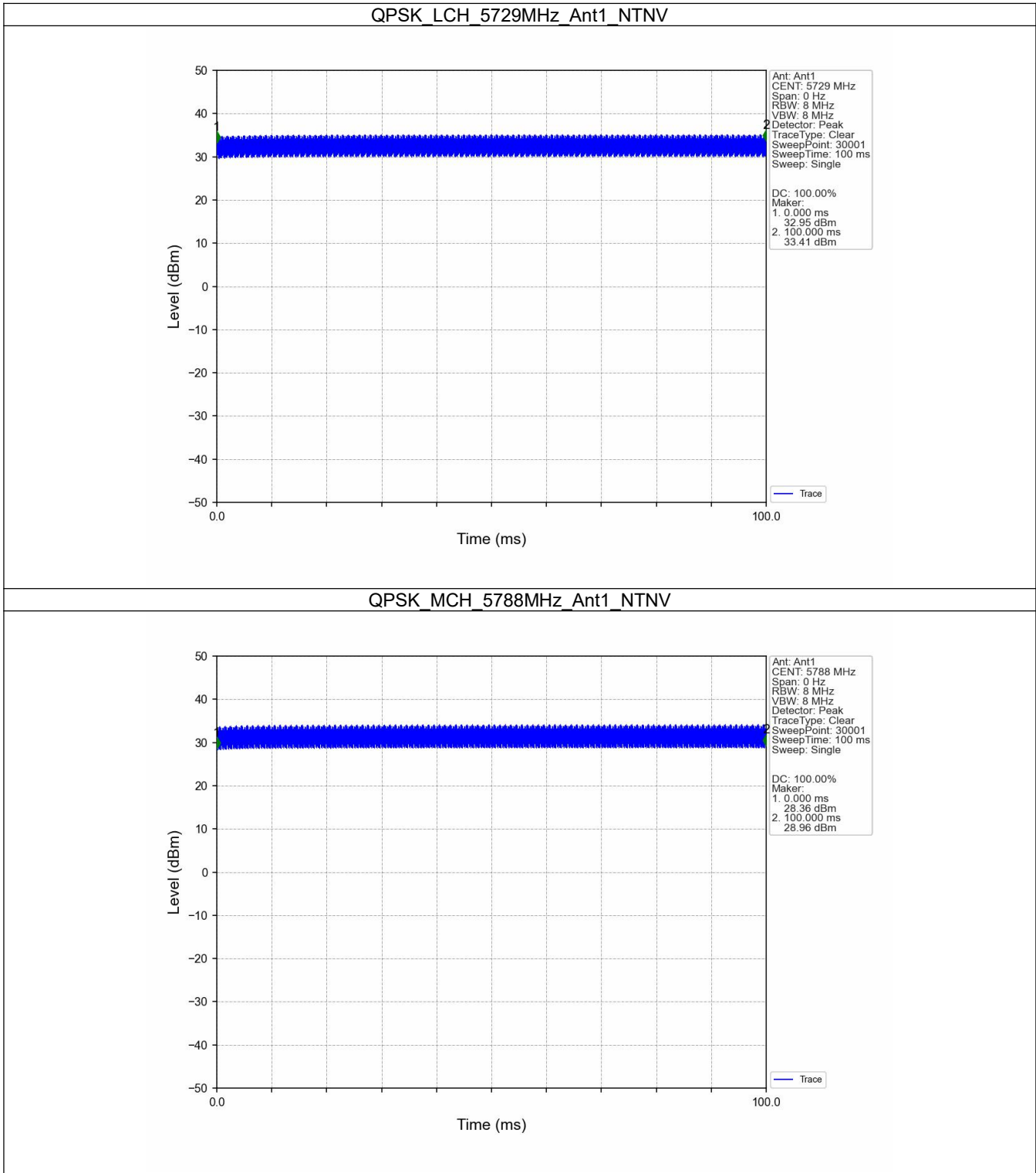
1.1 Test Result

1.1.1 Ant1

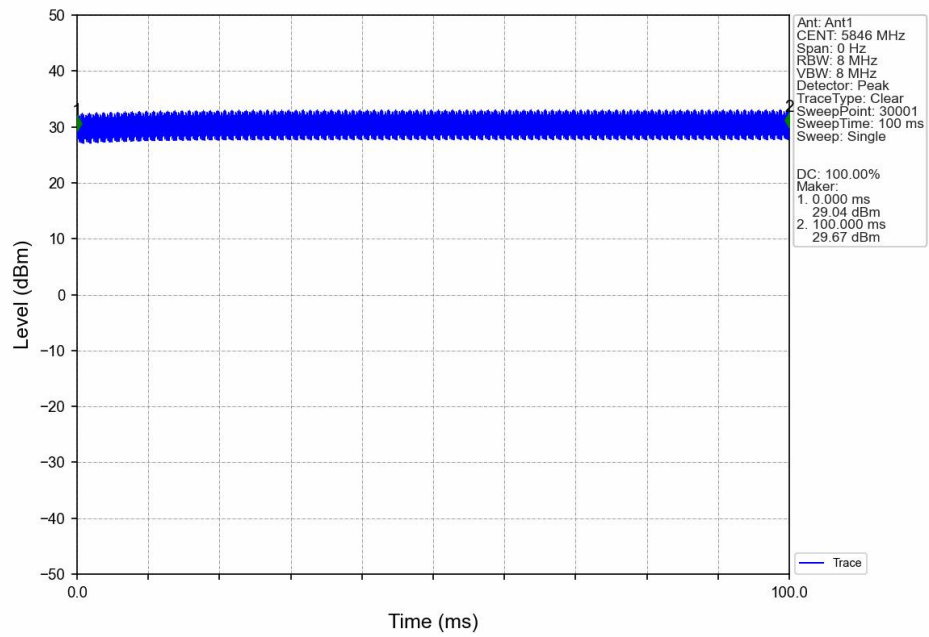
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
QPSK	MIMO	5729	100.000	100.000	100.00	0.00	0.00
		5788	100.000	100.000	100.00	0.00	0.00
		5846	100.000	100.000	100.00	0.00	0.00
16QAM	MIMO	5729	100.000	100.000	100.00	0.00	0.00
		5788	100.000	100.000	100.00	0.00	0.00
		5846	100.000	100.000	100.00	0.00	0.00

1.2 Test Graph

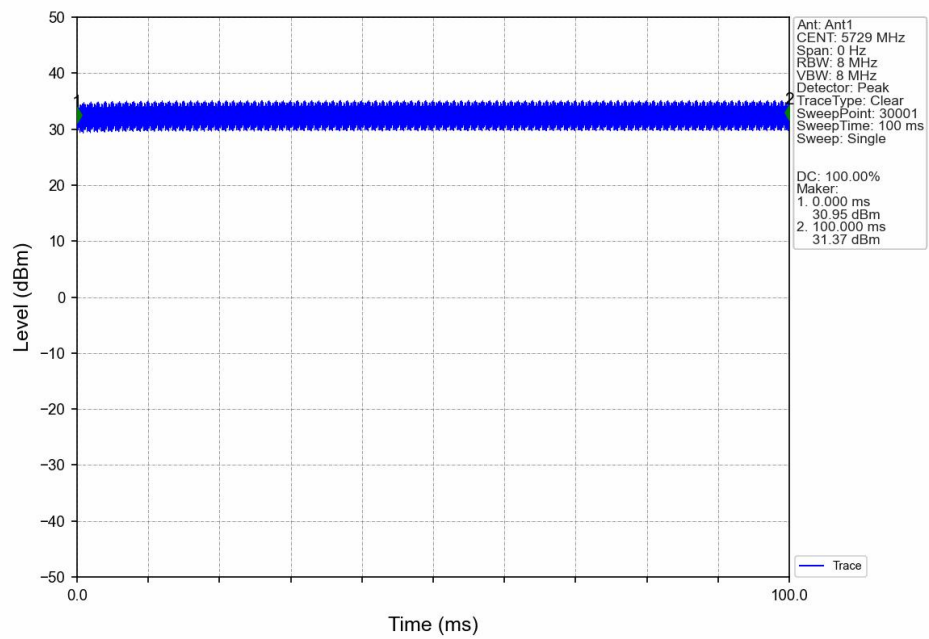
1.2.1 Ant1



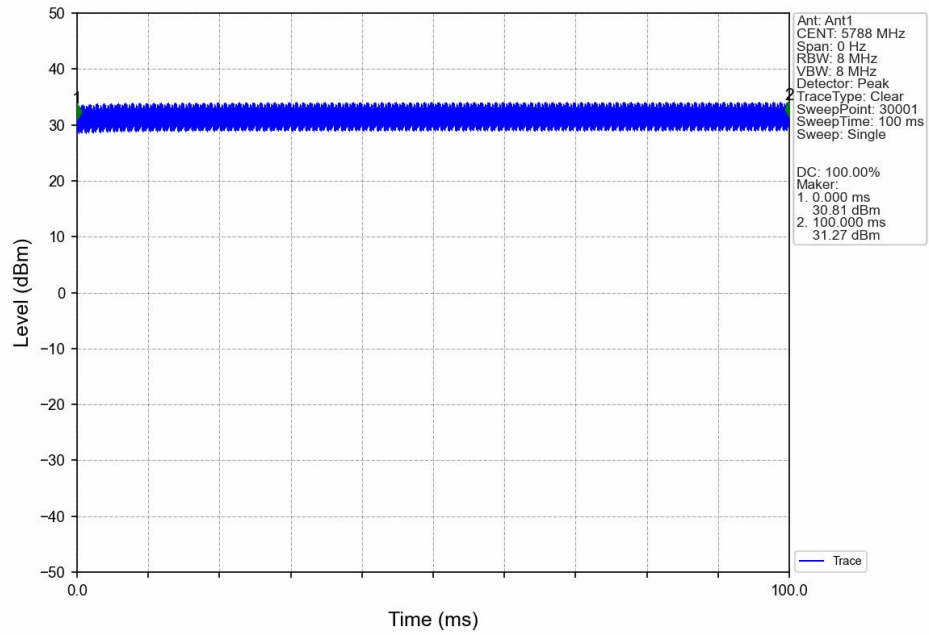
QPSK_HCH_5846MHz_Ant1_NTNV



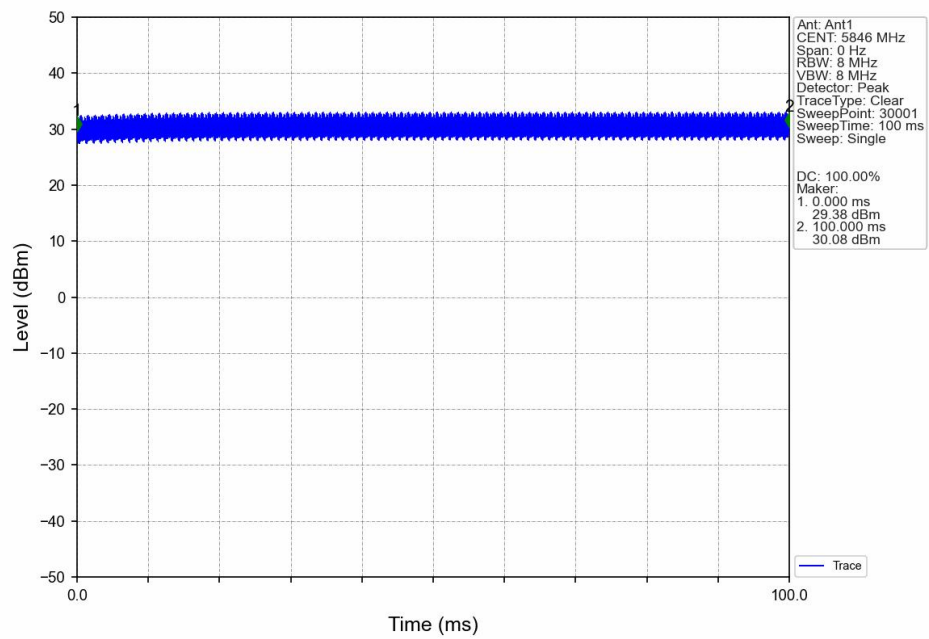
16QAM_LCH_5729MHz_Ant1_NTNV



16QAM_MCH_5788MHz_Ant1_NTNV



16QAM_HCH_5846MHz_Ant1_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

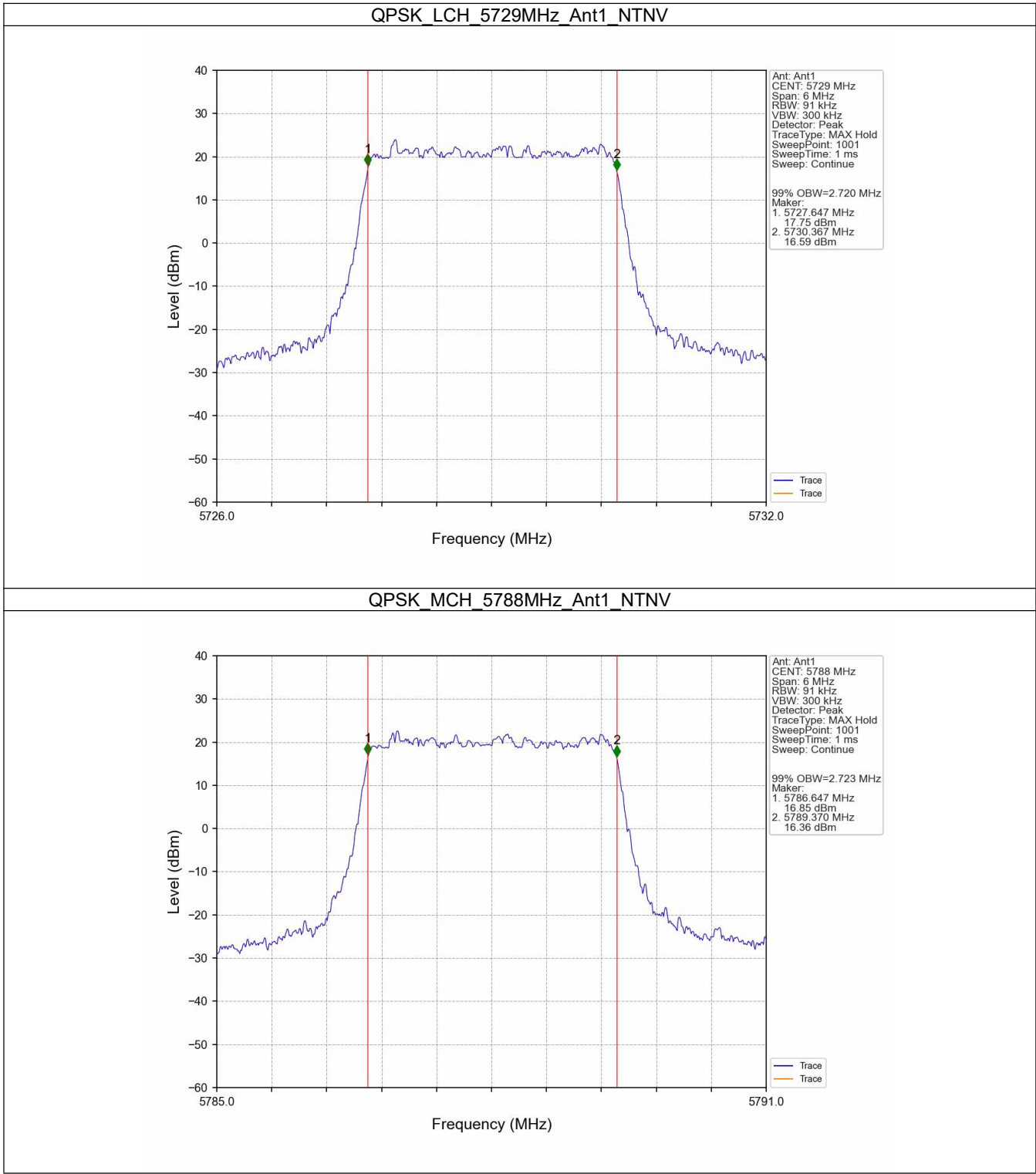
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
QPSK	MIMO	5729	1	2.720	/	Pass
		5788	1	2.723	/	Pass
		5846	1	2.724	/	Pass
16QAM	MIMO	5729	1	2.722	/	Pass
		5788	1	2.719	/	Pass
		5846	1	2.723	/	Pass

2.1.2 6dB BW

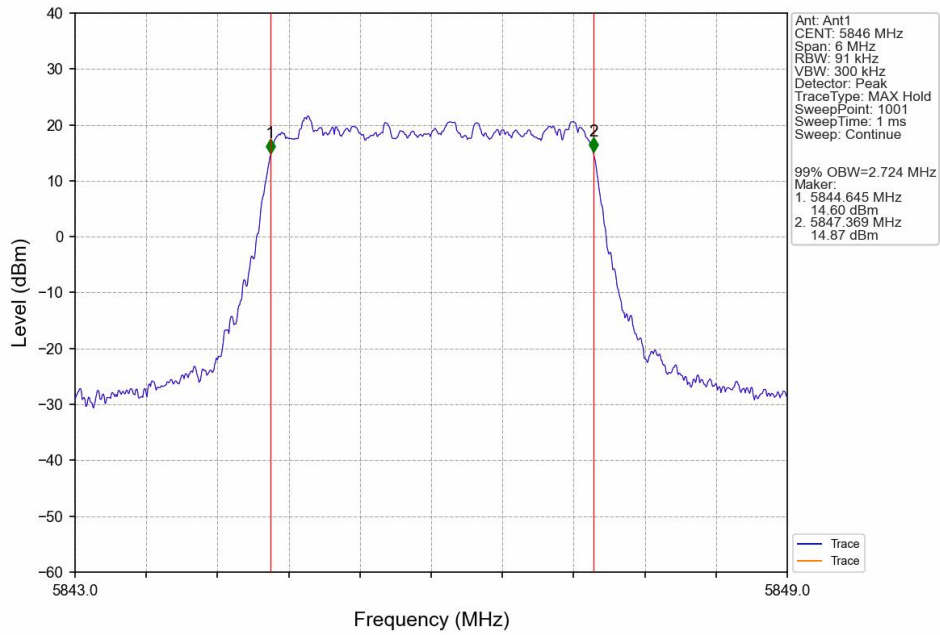
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
QPSK	MIMO	5729	1	2.703	≥ 0.5	Pass
		5788	1	2.710	≥ 0.5	Pass
		5846	1	2.700	≥ 0.5	Pass
16QAM	MIMO	5729	1	2.708	≥ 0.5	Pass
		5788	1	2.705	≥ 0.5	Pass
		5846	1	2.703	≥ 0.5	Pass

2.2 Test Graph

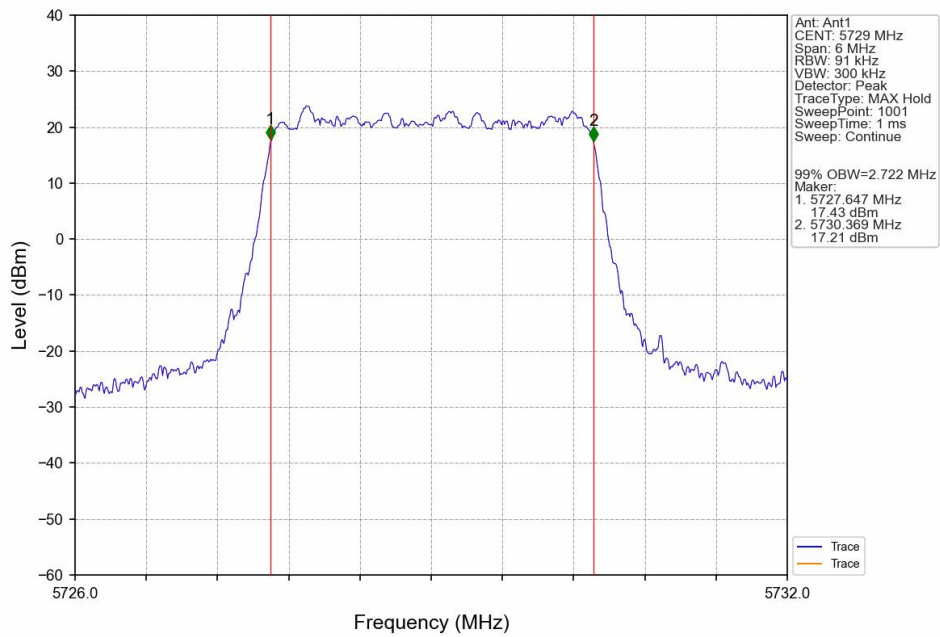
2.2.1 OBW



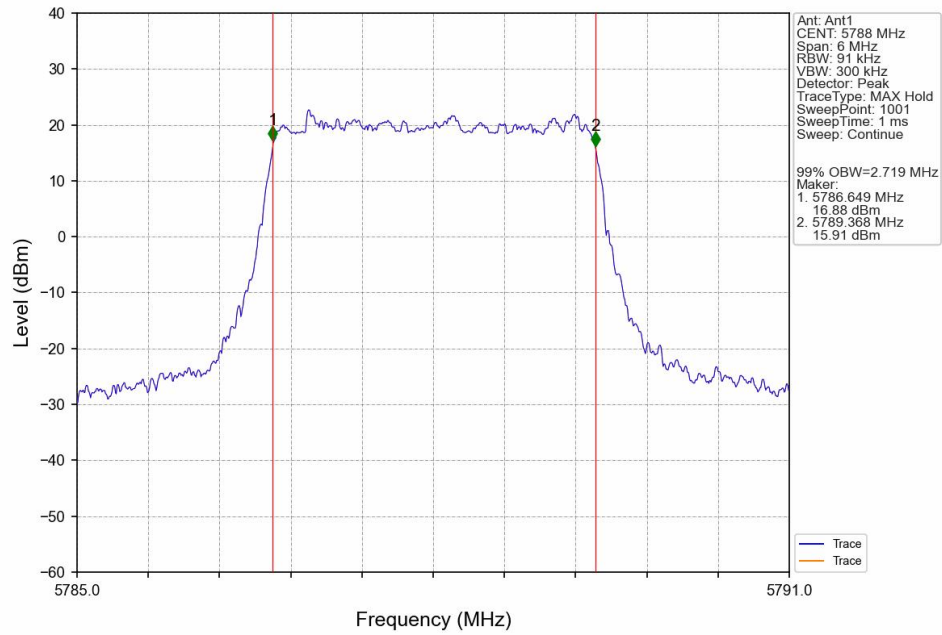
QPSK_HCH_5846MHz_Ant1_NTNV



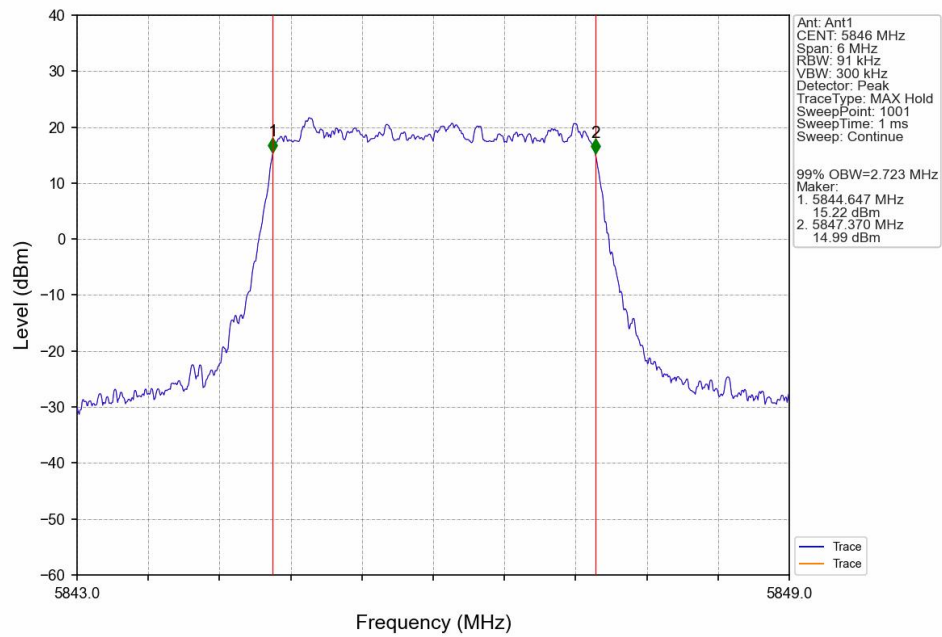
16QAM_LCH_5729MHz_Ant1_NTNV



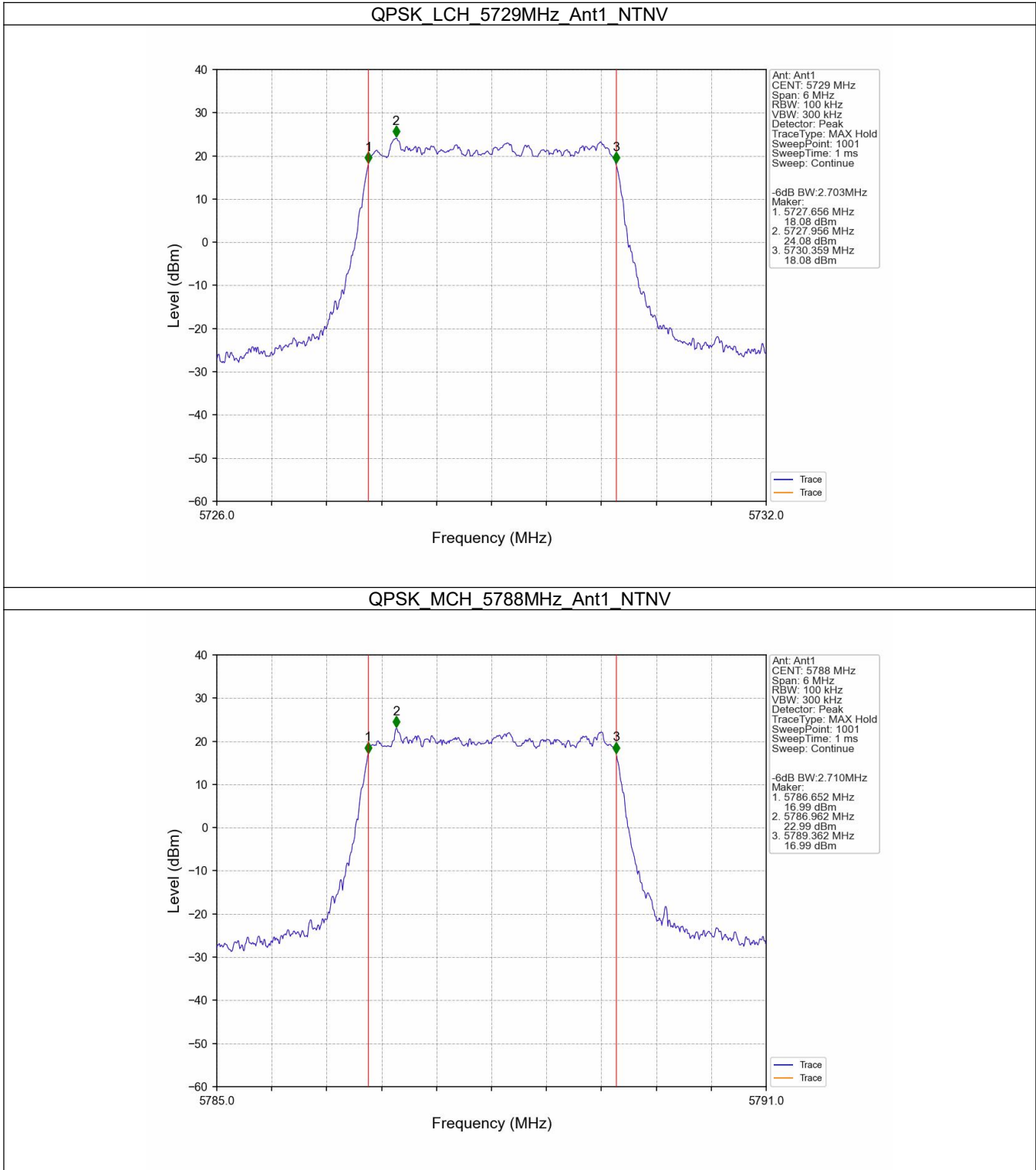
16QAM_MCH_5788MHz_Ant1_NTNV



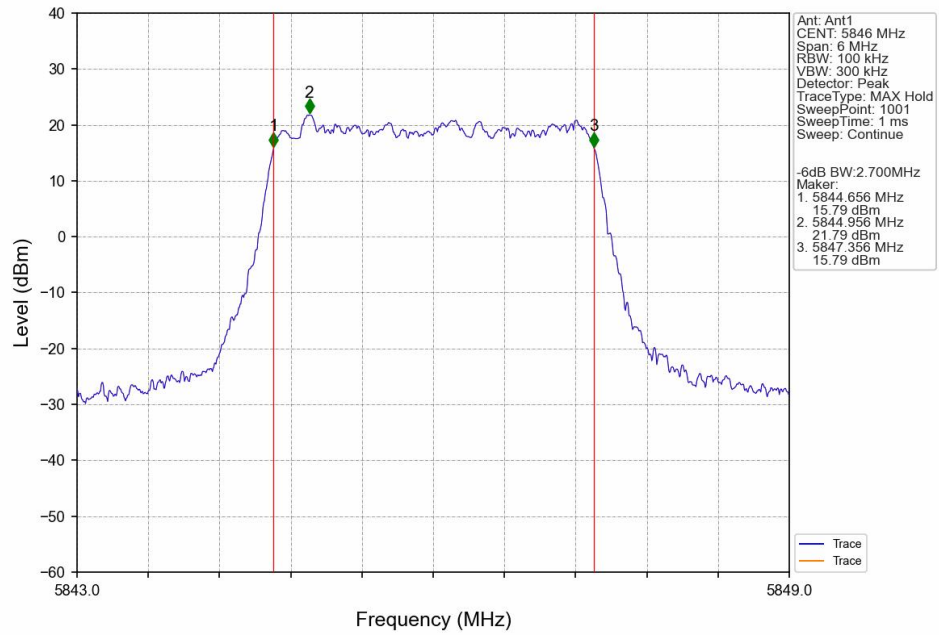
16QAM_HCH_5846MHz_Ant1_NTNV



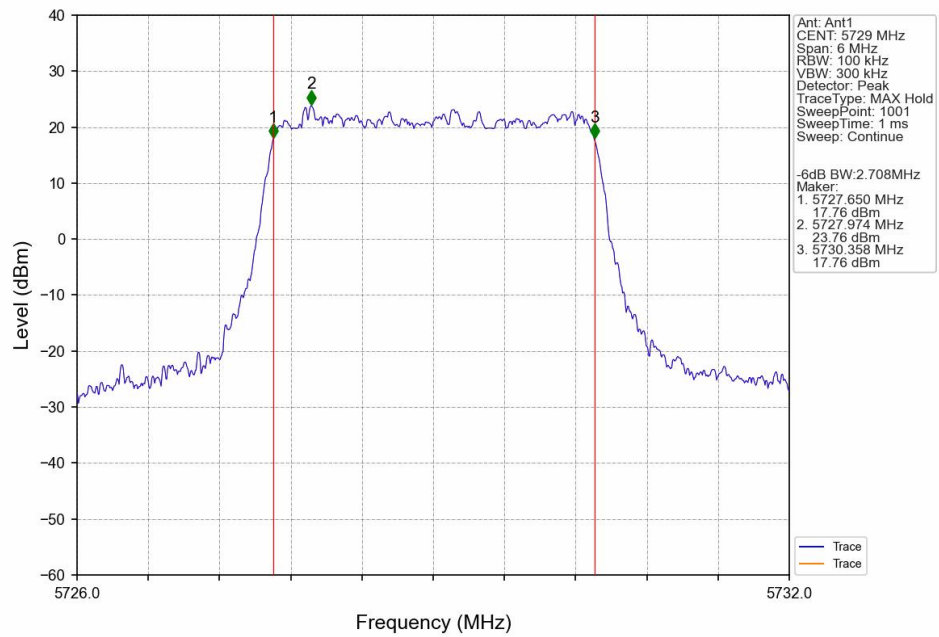
2.2.2 6dB BW



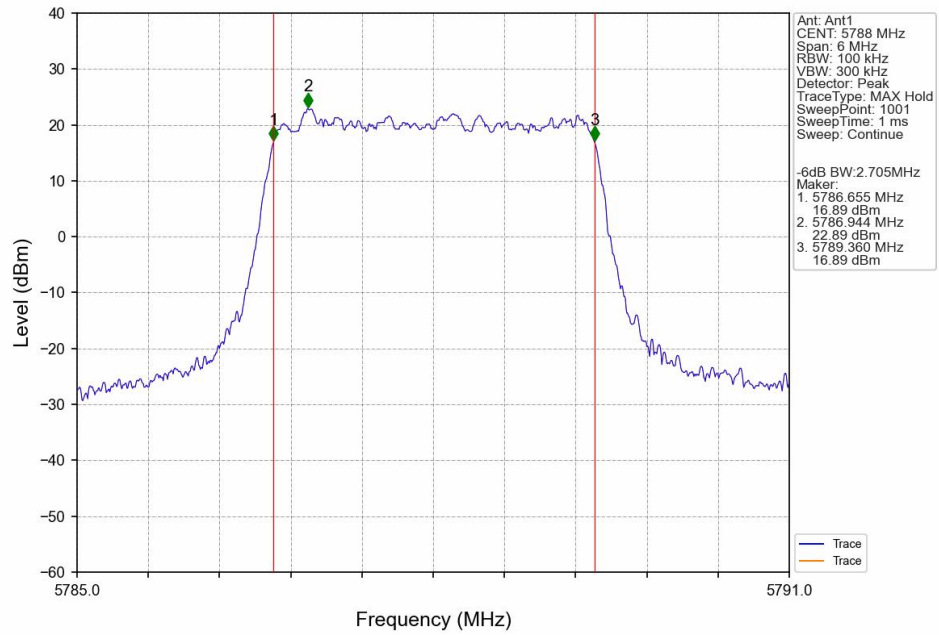
QPSK_HCH_5846MHz_Ant1_NTNV



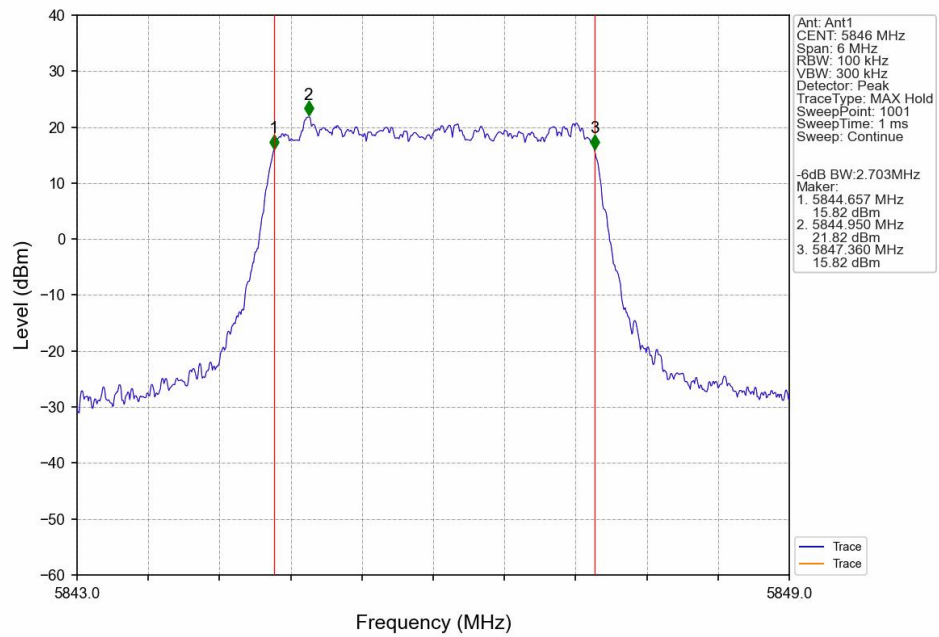
16QAM_LCH_5729MHz_Ant1_NTNV



16QAM_MCH_5788MHz_Ant1_NTNV



16QAM_HCH_5846MHz_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	ANT2	MIMO	Limit	
QPSK	MIMO	5729	21.59	19.25	23.59	<=25.43	Pass
		5788	20.47	18.13	22.47	<=25.43	Pass
		5846	18.86	16.74	20.94	<=25.43	Pass
16QAM	MIMO	5729	21.50	19.20	23.51	<=25.43	Pass
		5788	20.38	18.06	22.38	<=25.43	Pass
		5846	18.87	16.75	20.95	<=25.43	Pass
Note1: Antenna Gain: Ant1: 7.56dBi; Ant2: 7.56dBi; Note2: Directional Gain: Band3: 10.57dBi							

4. Maximum Power Spectral Density

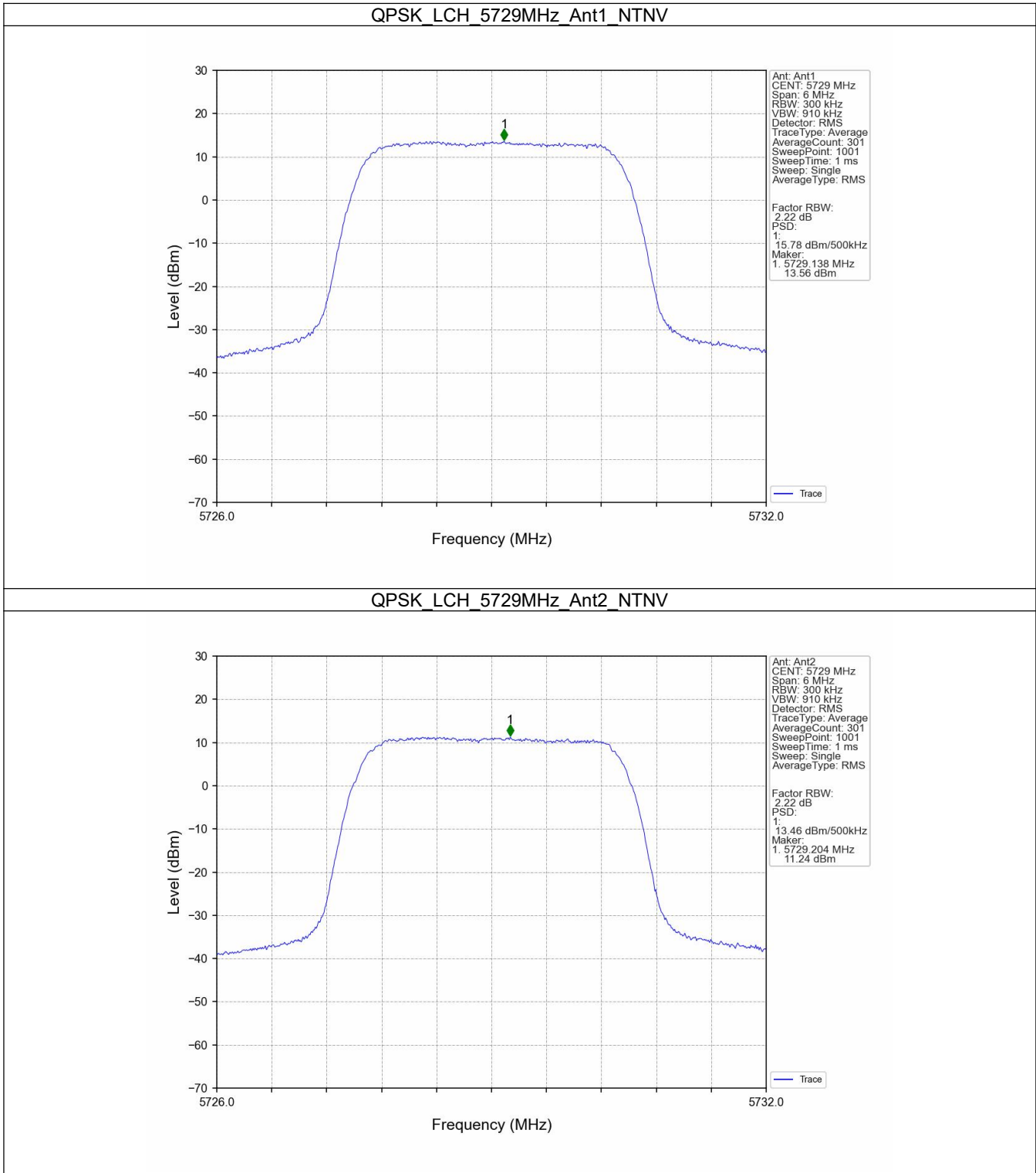
4.1 Test Result

4.1.1 PSD-Band3

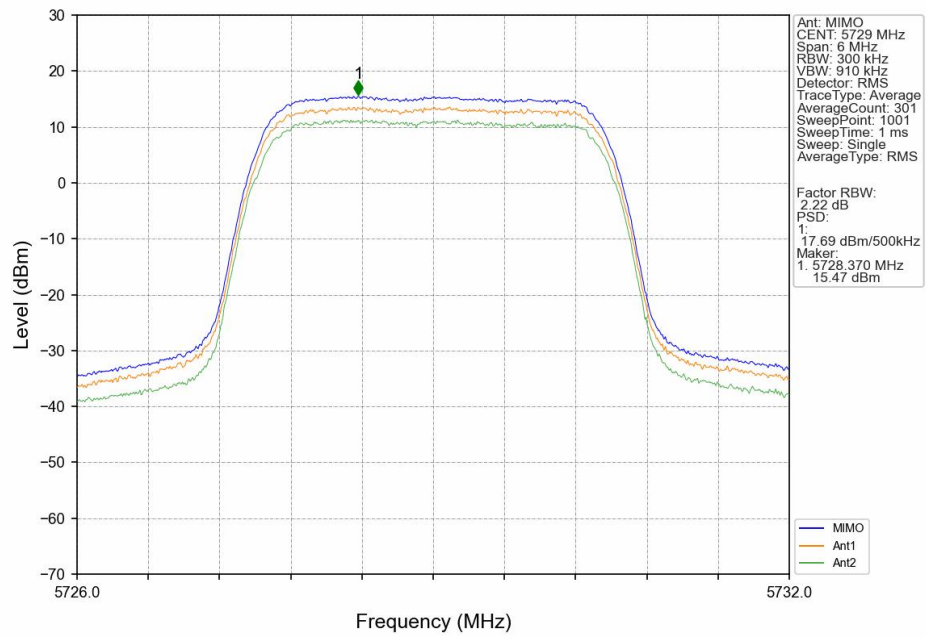
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/500kHz)				Verdict
			ANT1	ANT2	MIMO	Limit	
QPSK	MIMO	5729	15.78	13.46	17.69	<=25.43	Pass
		5788	14.70	12.47	16.63	<=25.43	Pass
		5846	13.13	11.03	15.09	<=25.43	Pass
16QAM	MIMO	5729	15.71	13.39	17.63	<=25.43	Pass
		5788	14.70	12.31	16.66	<=25.43	Pass
		5846	13.23	11.17	15.18	<=25.43	Pass
Note1: Antenna Gain: Ant1: 7.56dBi; Ant2: 7.56dBi; Note2: Directional Gain: Band3: 10.57dBi							

4.2 Test Graph

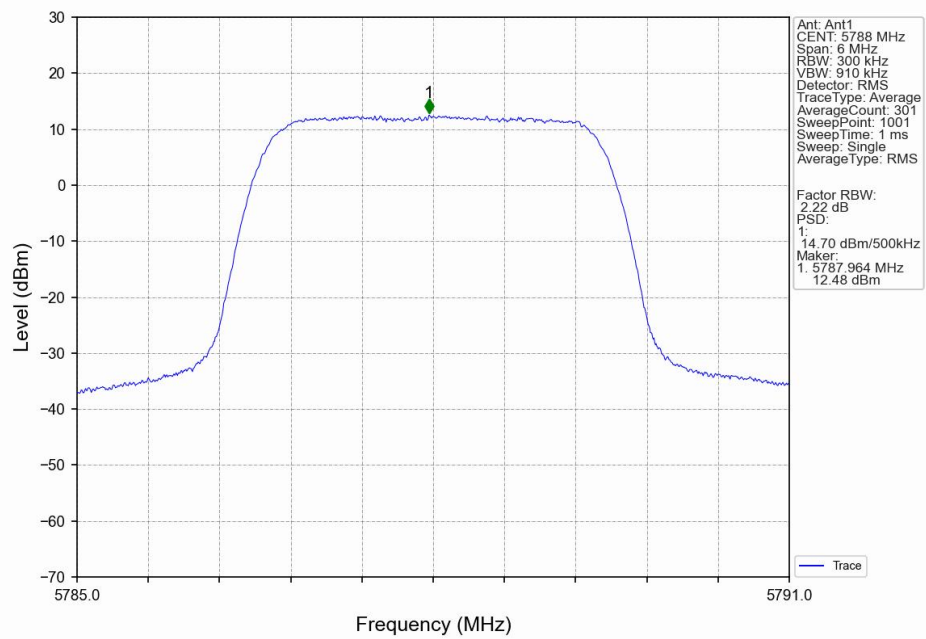
4.2.1 PSD-Band3



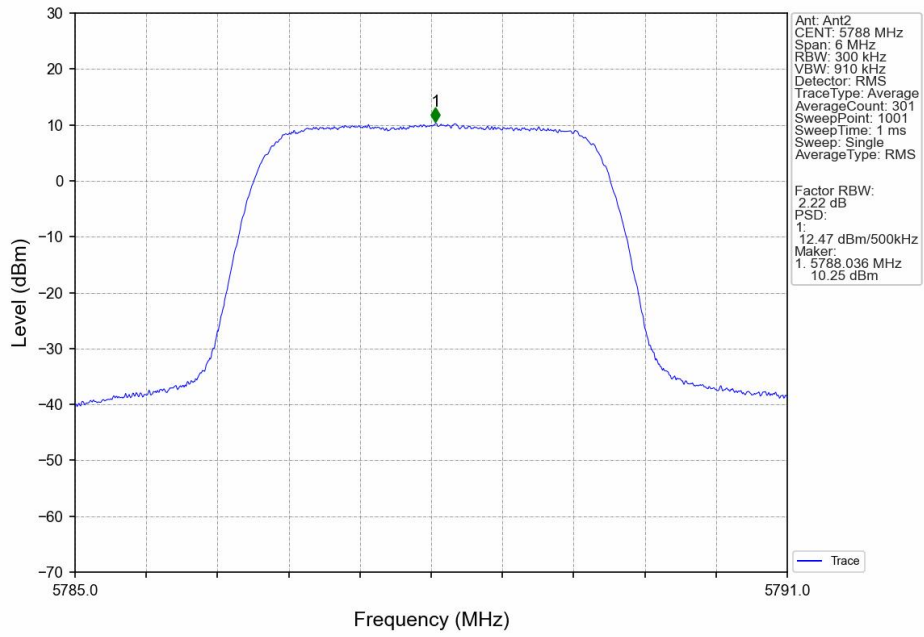
QPSK_LCH_5729MHz_MIMO_NTNV



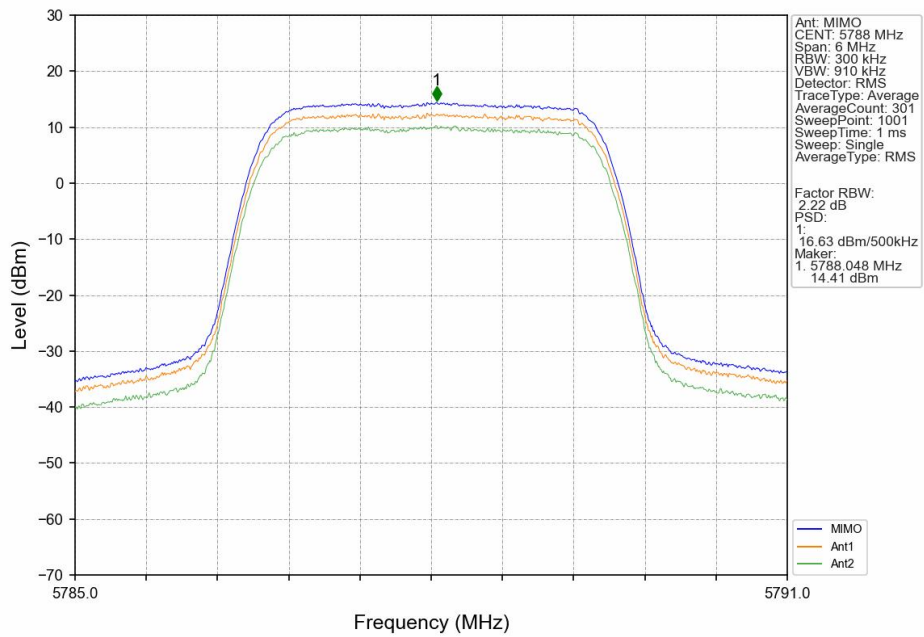
QPSK_MCH_5788MHz_Ant1_NTNV



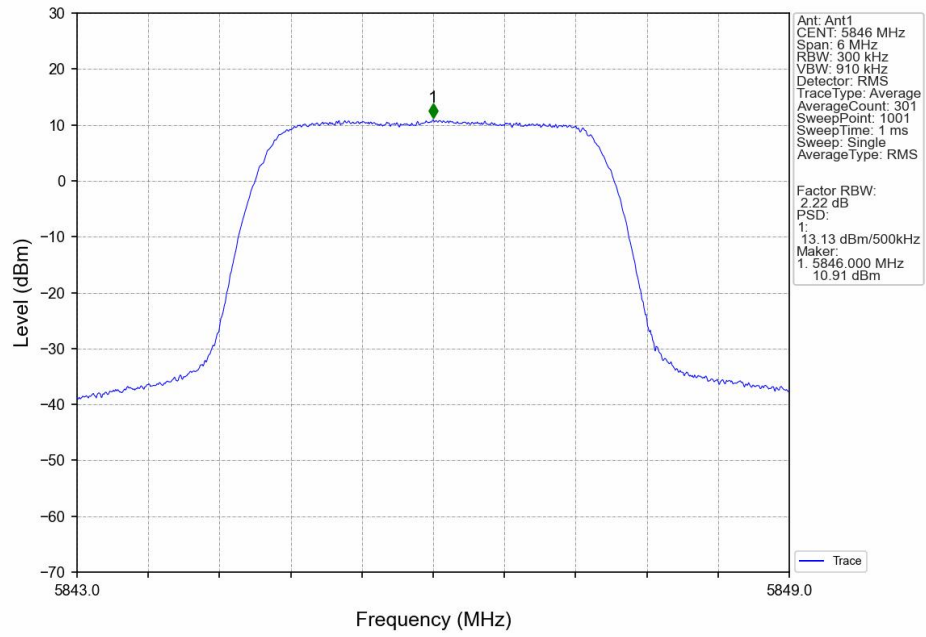
QPSK_MCH_5788MHz_Ant2_NTNV



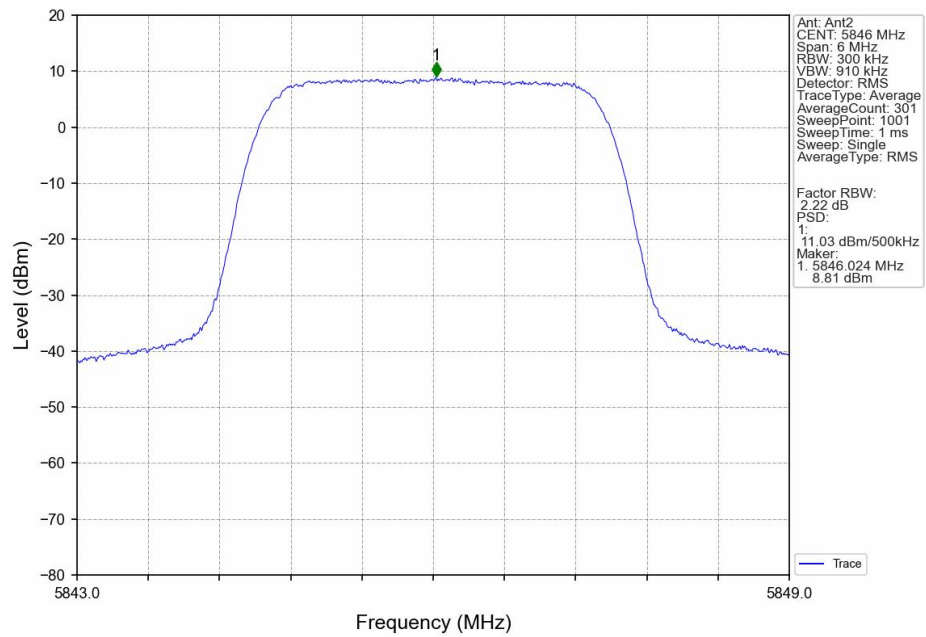
QPSK_MCH_5788MHz_MIMO_NTNV



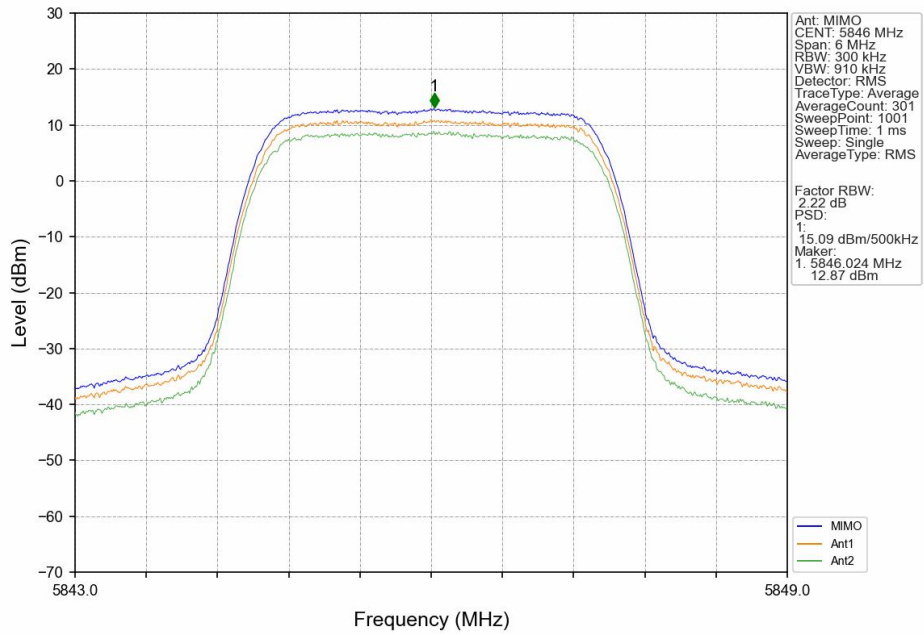
QPSK_HCH_5846MHz_Ant1_NTNV



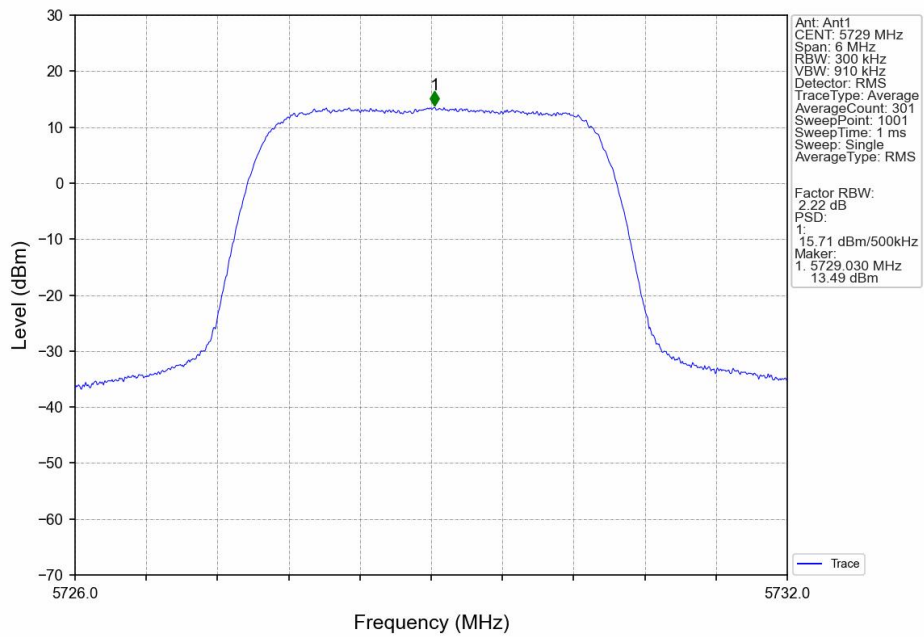
QPSK_HCH_5846MHz_Ant2_NTNV



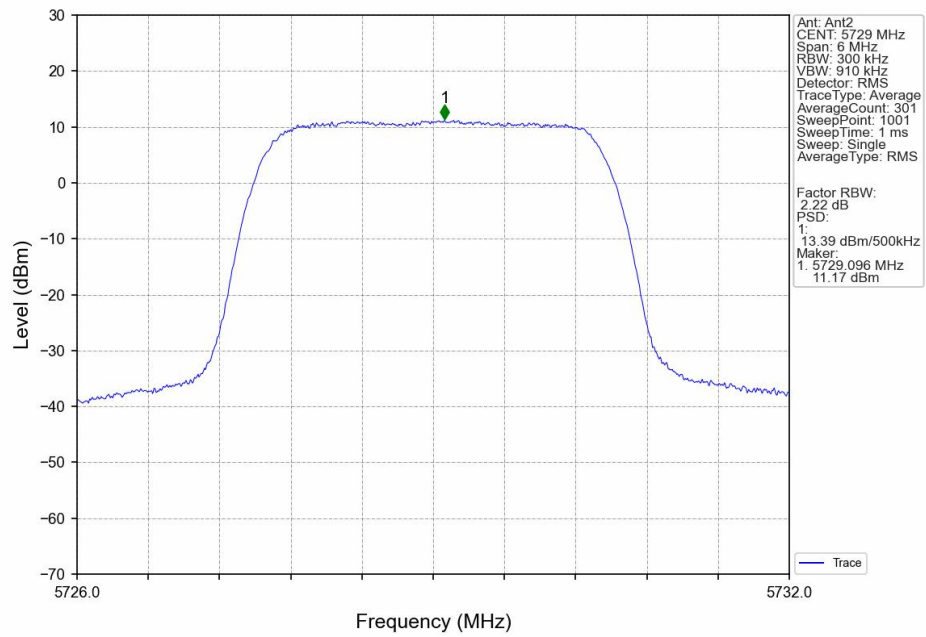
QPSK_HCH_5846MHz_MIMO_NTNV



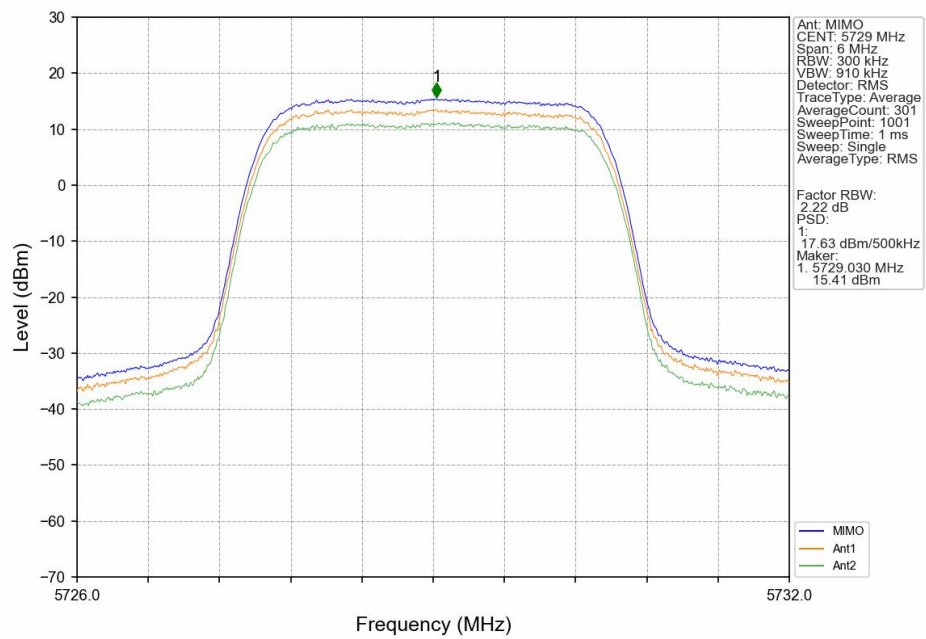
16QAM_LCH_5729MHz_Ant1_NTNV



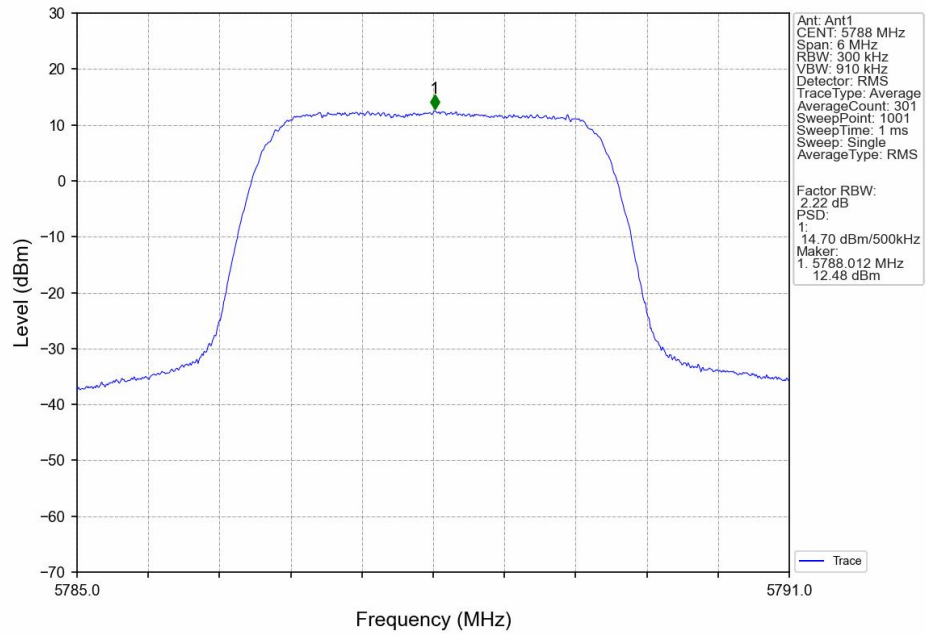
16QAM_LCH_5729MHz_Ant2_NTNV



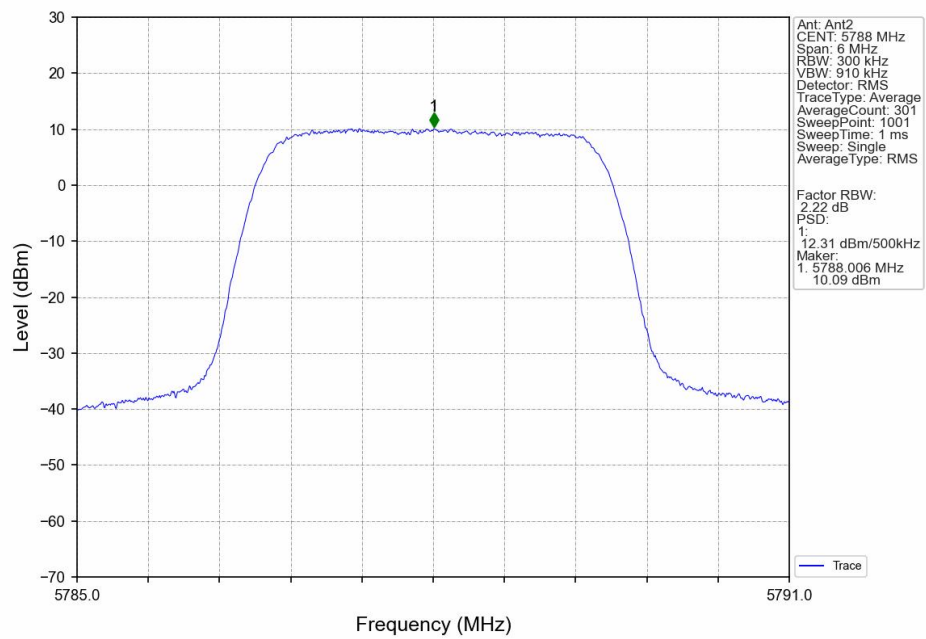
16QAM_LCH_5729MHz_MIMO_NTNV



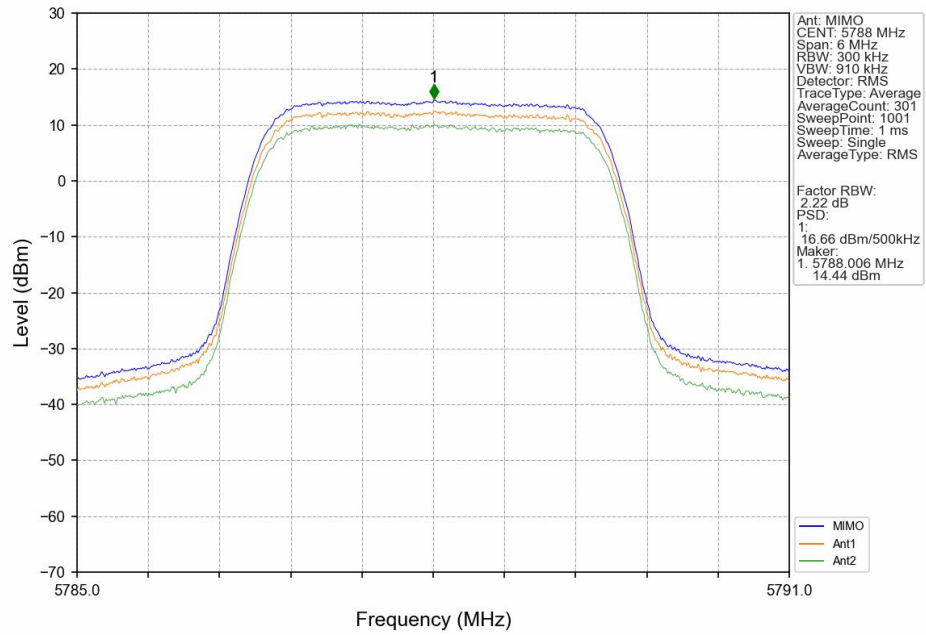
16QAM_MCH_5788MHz_Ant1_NTNV



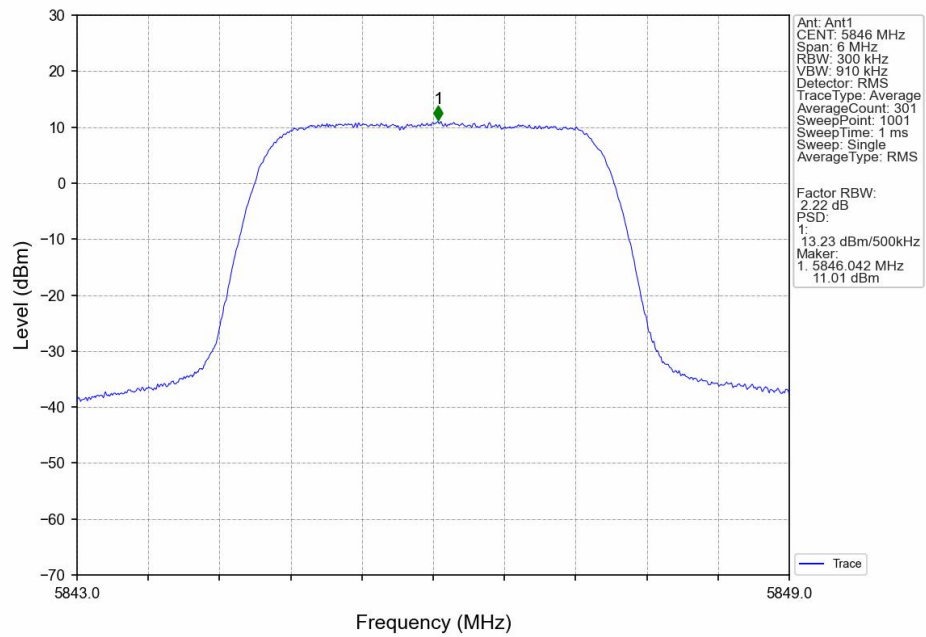
16QAM_MCH_5788MHz_Ant2_NTNV



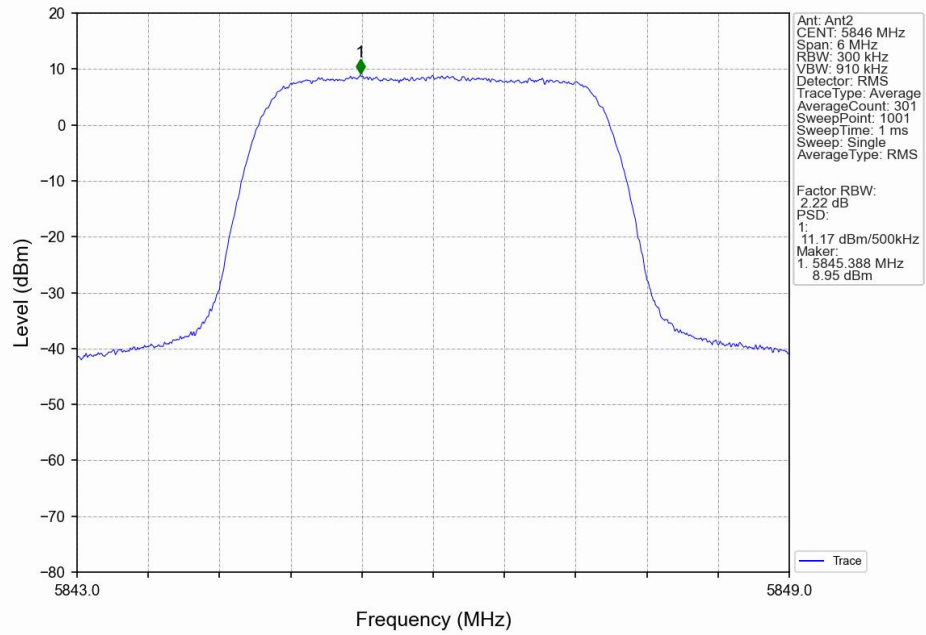
16QAM_MCH_5788MHz_MIMO_NTNV



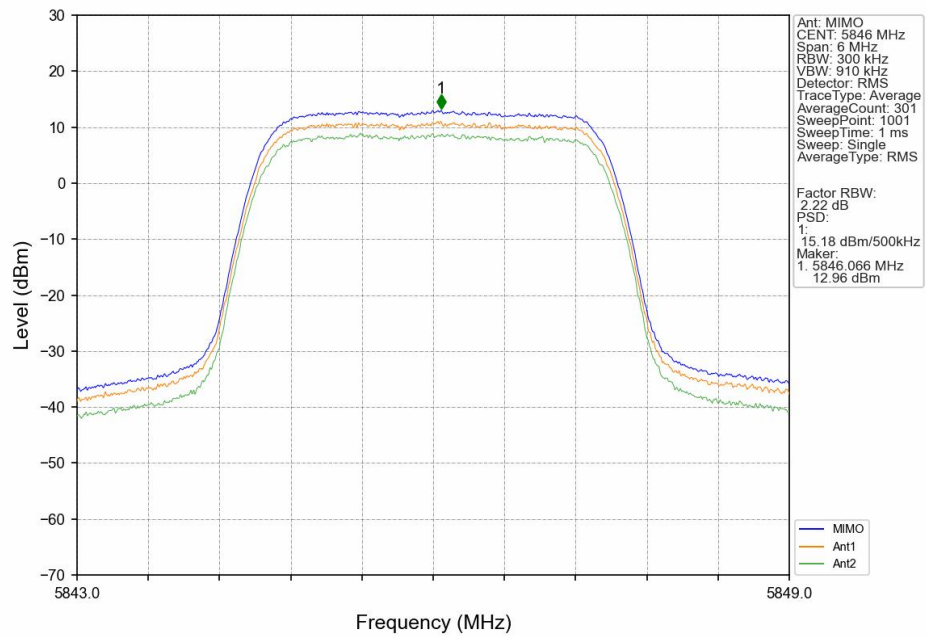
16QAM_HCH_5846MHz_Ant1_NTNV



16QAM_HCH_5846MHz_Ant2_NTNV



16QAM_HCH_5846MHz_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	5729	20	102	5729.006	5725 to 5850	Pass
				120	5728.997	5725 to 5850	Pass
				138	5729.009	5725 to 5850	Pass
			-30	120	5729.000	5725 to 5850	Pass
			-20	120	5729.021	5725 to 5850	Pass
			-10	120	5729.003	5725 to 5850	Pass
			0	120	5729.000	5725 to 5850	Pass
			10	120	5729.009	5725 to 5850	Pass
			30	120	5729.003	5725 to 5850	Pass
			40	120	5729.006	5725 to 5850	Pass
			50	120	5729.012	5725 to 5850	Pass
		5788	20	102	5788.006	5725 to 5850	Pass
				120	5788.006	5725 to 5850	Pass
				138	5788.000	5725 to 5850	Pass
			-30	120	5788.006	5725 to 5850	Pass
			-20	120	5788.000	5725 to 5850	Pass
			-10	120	5787.994	5725 to 5850	Pass
			0	120	5788.003	5725 to 5850	Pass
			10	120	5788.006	5725 to 5850	Pass
			30	120	5788.012	5725 to 5850	Pass
			40	120	5788.003	5725 to 5850	Pass
			50	120	5788.000	5725 to 5850	Pass
		5846	20	102	5846.006	5725 to 5850	Pass
				120	5846.012	5725 to 5850	Pass
				138	5846.000	5725 to 5850	Pass
			-30	120	5846.009	5725 to 5850	Pass
			-20	120	5846.000	5725 to 5850	Pass
			-10	120	5846.009	5725 to 5850	Pass
			0	120	5846.000	5725 to 5850	Pass
			10	120	5846.006	5725 to 5850	Pass
			30	120	5846.006	5725 to 5850	Pass
			40	120	5846.015	5725 to 5850	Pass
			50	120	5846.006	5725 to 5850	Pass
16QAM	MIMO	5729	20	102	5729.006	5725 to 5850	Pass
				120	5729.006	5725 to 5850	Pass
				138	5729.009	5725 to 5850	Pass
			-30	120	5729.006	5725 to 5850	Pass
			-20	120	5729.015	5725 to 5850	Pass
			-10	120	5729.000	5725 to 5850	Pass
			0	120	5729.006	5725 to 5850	Pass
			10	120	5729.000	5725 to 5850	Pass
			30	120	5729.009	5725 to 5850	Pass
			40	120	5729.006	5725 to 5850	Pass
			50	120	5729.003	5725 to 5850	Pass
		5788	20	102	5788.009	5725 to 5850	Pass
				120	5788.009	5725 to 5850	Pass

				138	5788.009	5725 to 5850	Pass
			-30	120	5788.003	5725 to 5850	Pass
			-20	120	5788.006	5725 to 5850	Pass
			-10	120	5788.015	5725 to 5850	Pass
			0	120	5788.009	5725 to 5850	Pass
			10	120	5788.009	5725 to 5850	Pass
			30	120	5788.003	5725 to 5850	Pass
			40	120	5788.009	5725 to 5850	Pass
			50	120	5788.009	5725 to 5850	Pass
		5846	20	102	5846.006	5725 to 5850	Pass
				120	5846.003	5725 to 5850	Pass
				138	5846.006	5725 to 5850	Pass
			-30	120	5846.009	5725 to 5850	Pass
			-20	120	5846.009	5725 to 5850	Pass
			-10	120	5846.006	5725 to 5850	Pass
			0	120	5846.006	5725 to 5850	Pass
			10	120	5846.003	5725 to 5850	Pass
			30	120	5846.009	5725 to 5850	Pass
			40	120	5846.006	5725 to 5850	Pass
			50	120	5846.003	5725 to 5850	Pass

6. Form731

6.1 Test Result

6.1.1 Form731

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
5729	5846	0.2286	23.59