

1. Effective (Isotropic) Radiated Power Output Data

1.1 B13_5MHz_ERP

1.1.1 Test Result

Band: 13 / Bandwidth: 5MHz / NTN										
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict		
		Size	Offset			Result	Limit			
QPSK	779.5	1	0	23.87	-0.7	21.02	<=34.77	Pass		
			13	23.8	-0.7	20.95	<=34.77	Pass		
			24	23.71	-0.7	20.86	<=34.77	Pass		
		12	0	22.81	-0.7	19.96	<=34.77	Pass		
			6	22.77	-0.7	19.92	<=34.77	Pass		
			13	22.71	-0.7	19.86	<=34.77	Pass		
		25	0	22.75	-0.7	19.9	<=34.77	Pass		
		782	1	0	23.71	-0.7	20.86	<=34.77	Pass	
				13	23.72	-0.7	20.87	<=34.77	Pass	
	24			23.66	-0.7	20.81	<=34.77	Pass		
	12		0	22.74	-0.7	19.89	<=34.77	Pass		
			6	22.77	-0.7	19.92	<=34.77	Pass		
			13	22.73	-0.7	19.88	<=34.77	Pass		
	25		0	22.75	-0.7	19.9	<=34.77	Pass		
	784.5		1	0	23.66	-0.7	20.81	<=34.77	Pass	
				13	23.77	-0.7	20.92	<=34.77	Pass	
		24		23.67	-0.7	20.82	<=34.77	Pass		
		12	0	22.64	-0.7	19.79	<=34.77	Pass		
			6	22.76	-0.7	19.91	<=34.77	Pass		
			13	22.73	-0.7	19.88	<=34.77	Pass		
		25	0	22.74	-0.7	19.89	<=34.77	Pass		
		16QAM	779.5	1	0	22.91	-0.7	20.06	<=34.77	Pass
					13	22.96	-0.7	20.11	<=34.77	Pass
	24				22.81	-0.7	19.96	<=34.77	Pass	
12	0			21.82	-0.7	18.97	<=34.77	Pass		
	6			21.78	-0.7	18.93	<=34.77	Pass		
	13			21.73	-0.7	18.88	<=34.77	Pass		
25	0			21.77	-0.7	18.92	<=34.77	Pass		
782	1			0	22.88	-0.7	20.03	<=34.77	Pass	
				13	22.88	-0.7	20.03	<=34.77	Pass	
			24	22.92	-0.7	20.07	<=34.77	Pass		
12	0		21.74	-0.7	18.89	<=34.77	Pass			

			6	21.79	-0.7	18.94	<=34.77	Pass
			13	21.76	-0.7	18.91	<=34.77	Pass
		25	0	21.77	-0.7	18.92	<=34.77	Pass
	784.5	1	0	22.92	-0.7	20.07	<=34.77	Pass
			13	22.94	-0.7	20.09	<=34.77	Pass
			24	22.83	-0.7	19.98	<=34.77	Pass
		12	0	21.69	-0.7	18.84	<=34.77	Pass
			6	21.8	-0.7	18.95	<=34.77	Pass
			13	21.76	-0.7	18.91	<=34.77	Pass
		25	0	21.78	-0.7	18.93	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.2 B13_10MHz_ERP

1.2.1 Test Result

Band: 13 / Bandwidth: 10MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	782	1	0	23.69	-0.7	20.84	<=34.77	Pass
			25	23.69	-0.7	20.84	<=34.77	Pass
			49	23.59	-0.7	20.74	<=34.77	Pass
		25	0	22.85	-0.7	20	<=34.77	Pass
			13	22.78	-0.7	19.93	<=34.77	Pass
			25	22.73	-0.7	19.88	<=34.77	Pass
50	0	22.99	-0.7	20.14	<=34.77	Pass		
16QAM	782	1	0	22.98	-0.7	20.13	<=34.77	Pass
			25	22.9	-0.7	20.05	<=34.77	Pass
			49	22.81	-0.7	19.96	<=34.77	Pass
		25	0	21.86	-0.7	19.01	<=34.77	Pass
			13	21.82	-0.7	18.97	<=34.77	Pass
			25	21.79	-0.7	18.94	<=34.77	Pass
		50	0	21.99	-0.7	19.14	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

2. Frequency Stability

2.1 B13_10MHz

2.1.1 Test Result

Band: 13 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	782	50	0	20	3.27	-1.191	-0.0015	-2.5 to 2.5	Pass
					3.85	0.093	0.0001	-2.5 to 2.5	Pass
					4.43	-0.450	-0.0006	-2.5 to 2.5	Pass
				-30	3.85	-0.536	-0.0007	-2.5 to 2.5	Pass
				-20	3.85	0.199	0.0003	-2.5 to 2.5	Pass
				-10	3.85	-0.531	-0.0007	-2.5 to 2.5	Pass
				0	3.85	0.615	0.0008	-2.5 to 2.5	Pass
				10	3.85	-0.658	-0.0008	-2.5 to 2.5	Pass
				30	3.85	0.491	0.0006	-2.5 to 2.5	Pass
				40	3.85	0.304	0.0004	-2.5 to 2.5	Pass
50	3.85	-0.017	0.0000	-2.5 to 2.5	Pass				

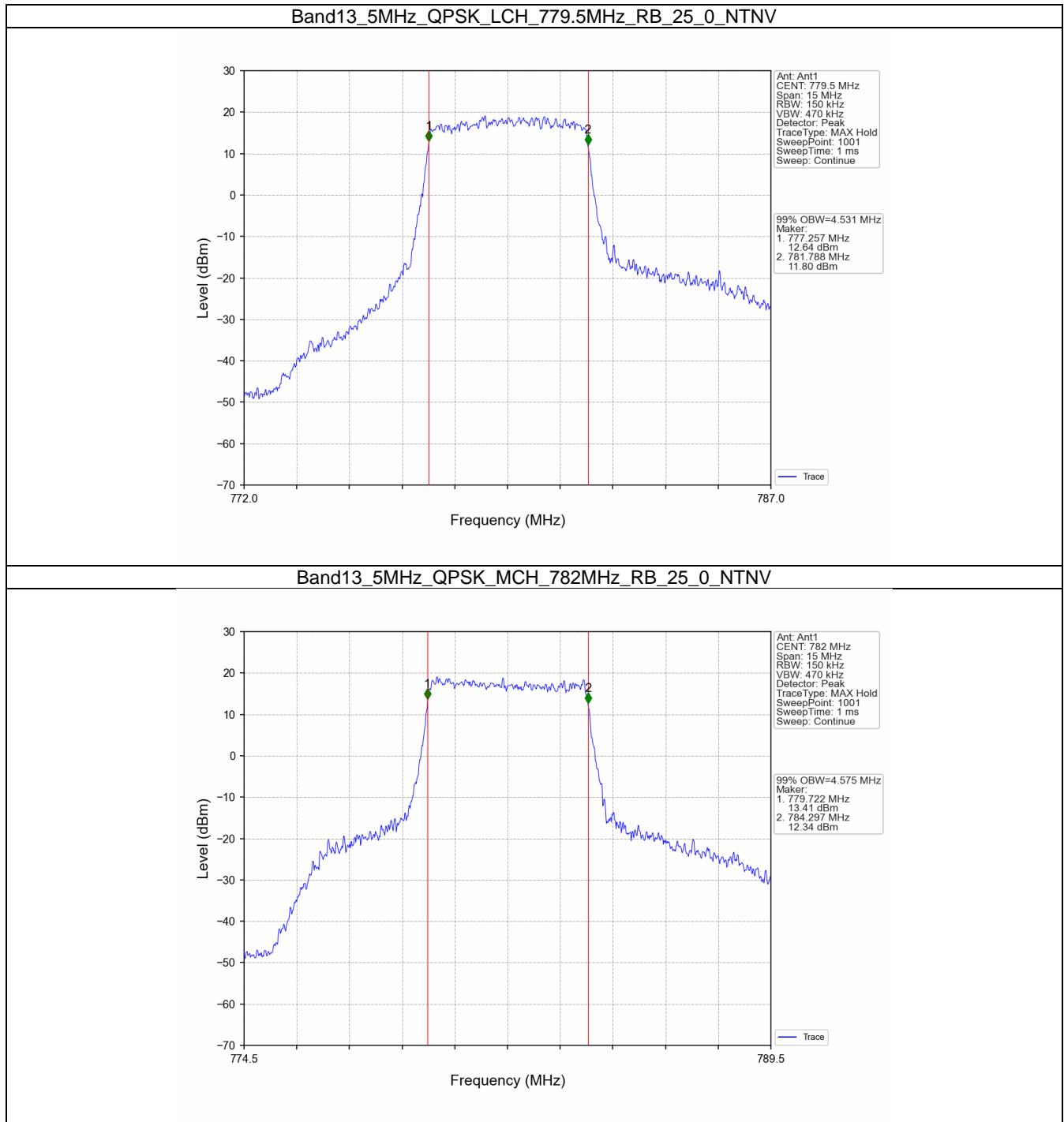
3. 99% & 26dB Bandwidth

3.1 Band13_OBW

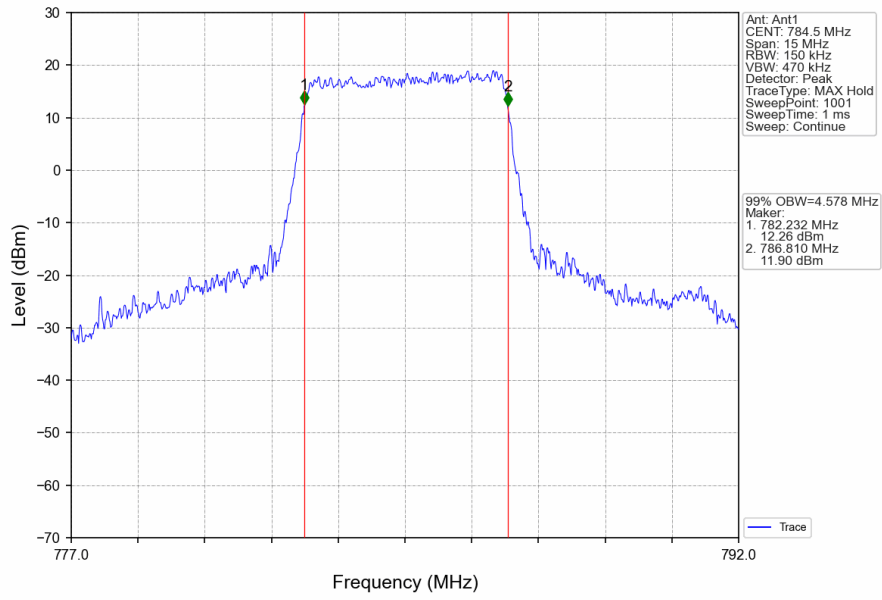
3.1.1 Test Result

Band: 13 / NTN							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	779.5	25	0	4.531	/	Pass
		782	25	0	4.575	/	Pass
		784.5	25	0	4.578	/	Pass
	16QAM	779.5	25	0	4.553	/	Pass
		782	25	0	4.593	/	Pass
		784.5	25	0	4.579	/	Pass
10	QPSK	782	50	0	9.060	/	Pass
	16QAM	782	50	0	9.077	/	Pass

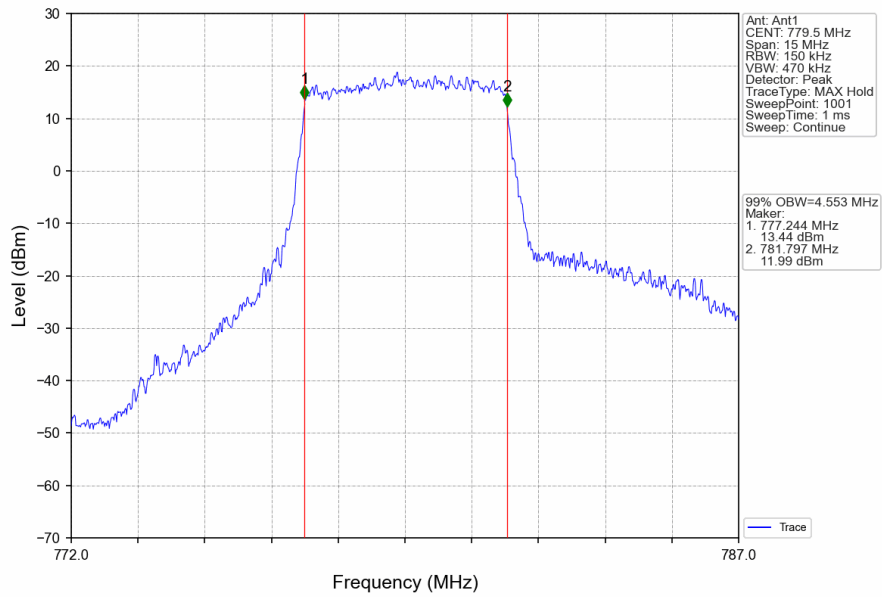
3.1.2 Test Graph



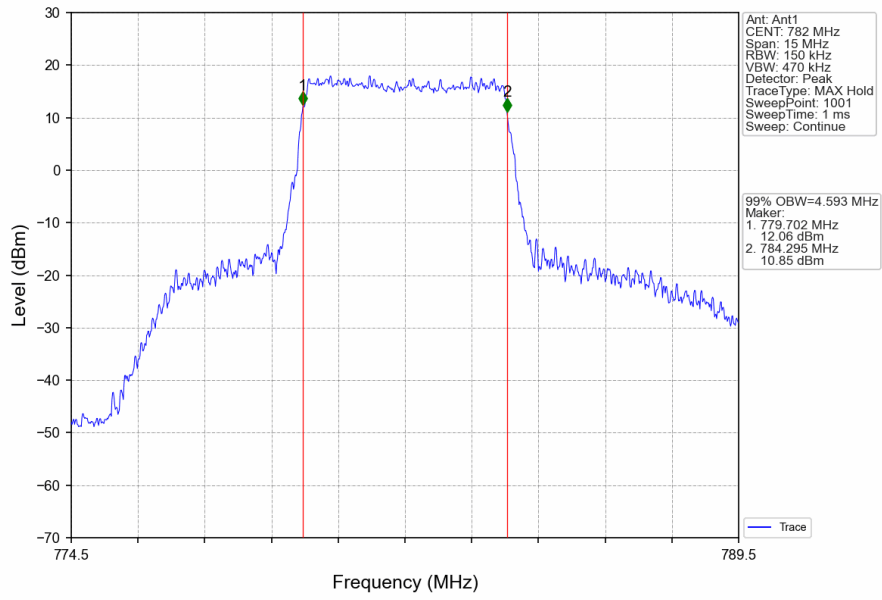
Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



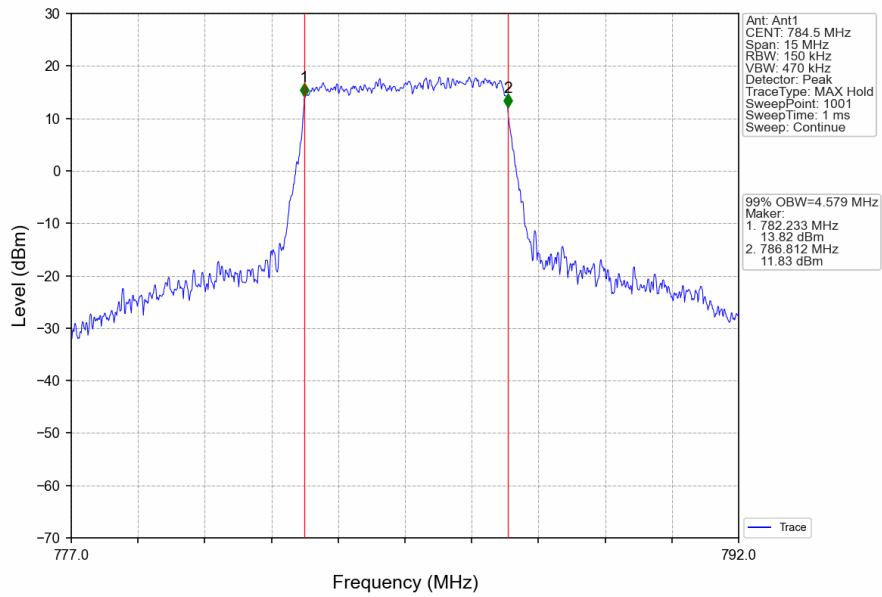
Band13_5MHz_16QAM_LCH_779.5MHz_RB_25_0_NTNV



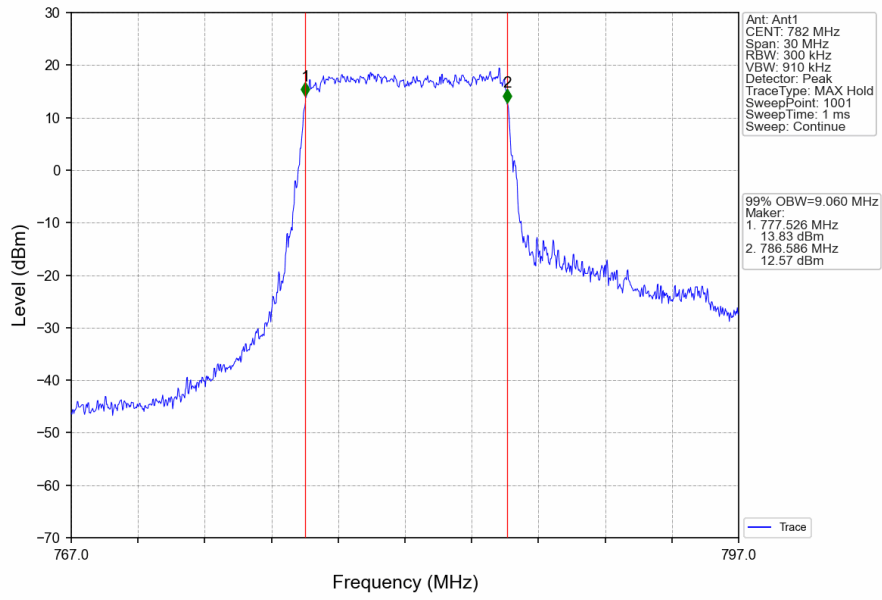
Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV



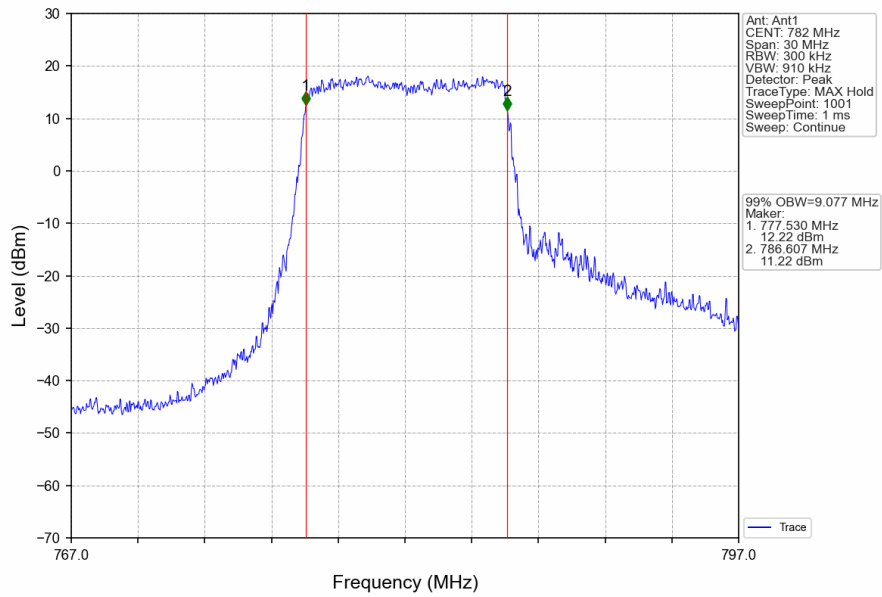
Band13_5MHz_16QAM_HCH_784.5MHz_RB_25_0_NTNV



Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV

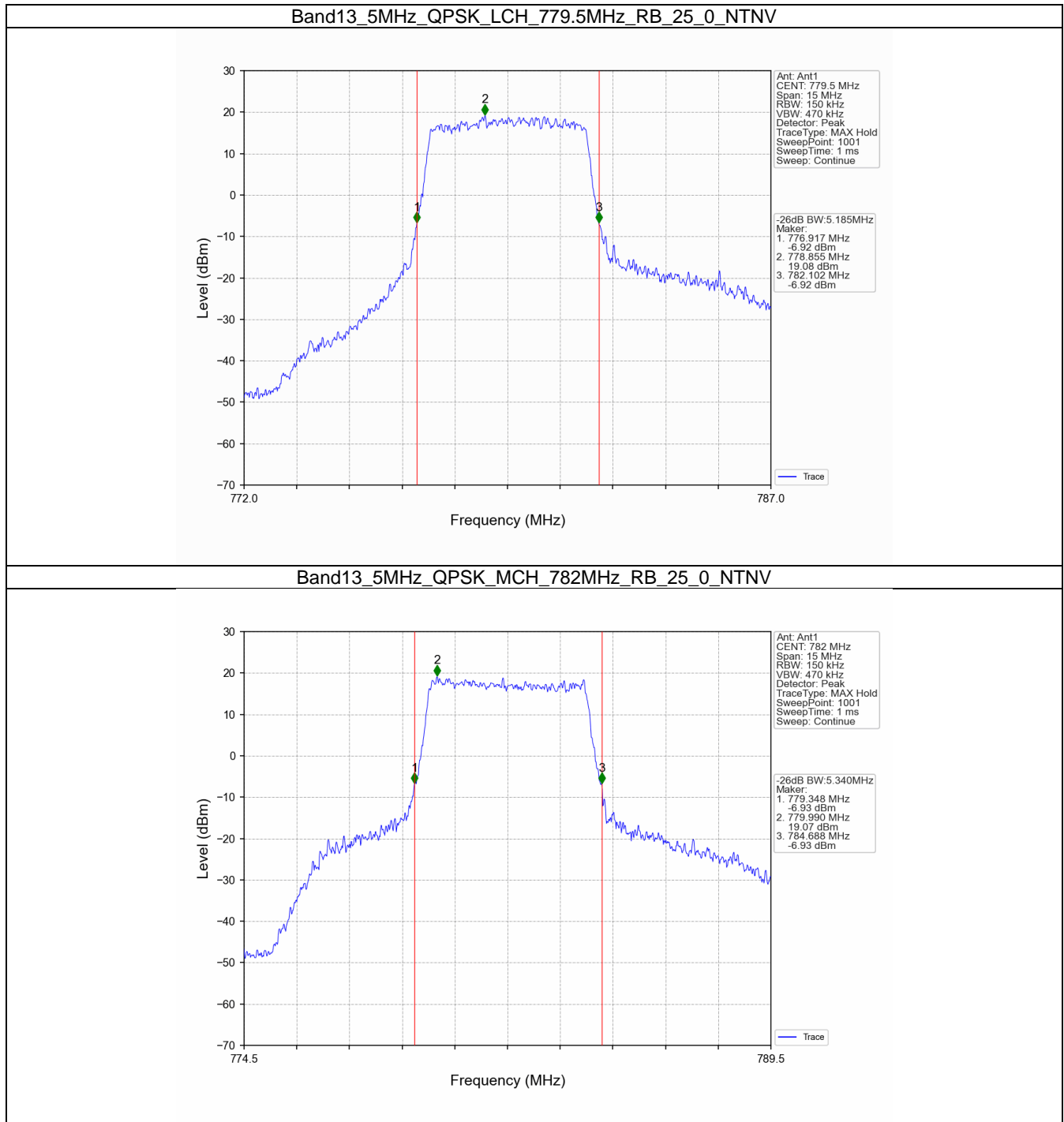


3.2 Band13_XDB

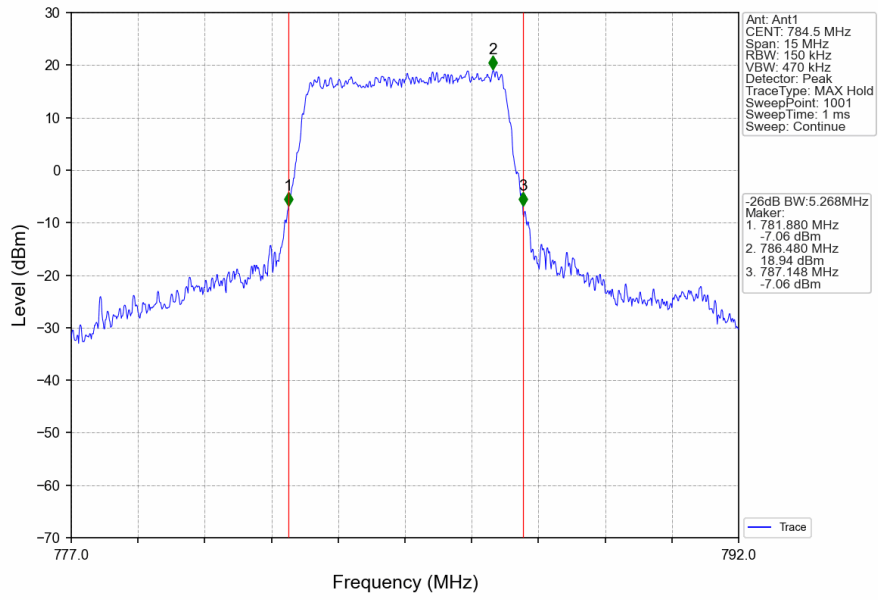
3.2.1 Test Result

Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	779.5	25	0	5.185	/	Pass
		782	25	0	5.340	/	Pass
		784.5	25	0	5.268	/	Pass
	16QAM	779.5	25	0	5.170	/	Pass
		782	25	0	5.260	/	Pass
		784.5	25	0	5.290	/	Pass
10	QPSK	782	50	0	10.073	/	Pass
	16QAM	782	50	0	10.143	/	Pass

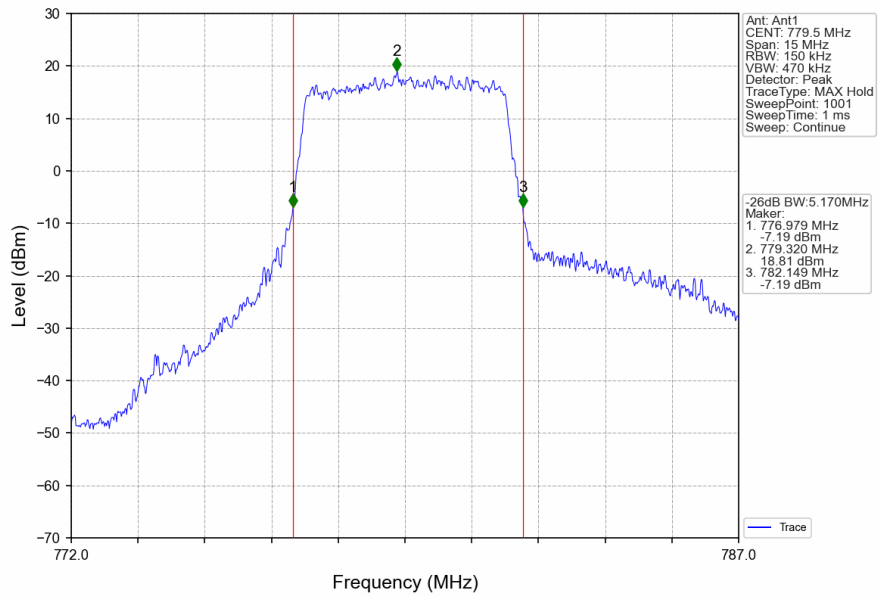
3.2.2 Test Graph



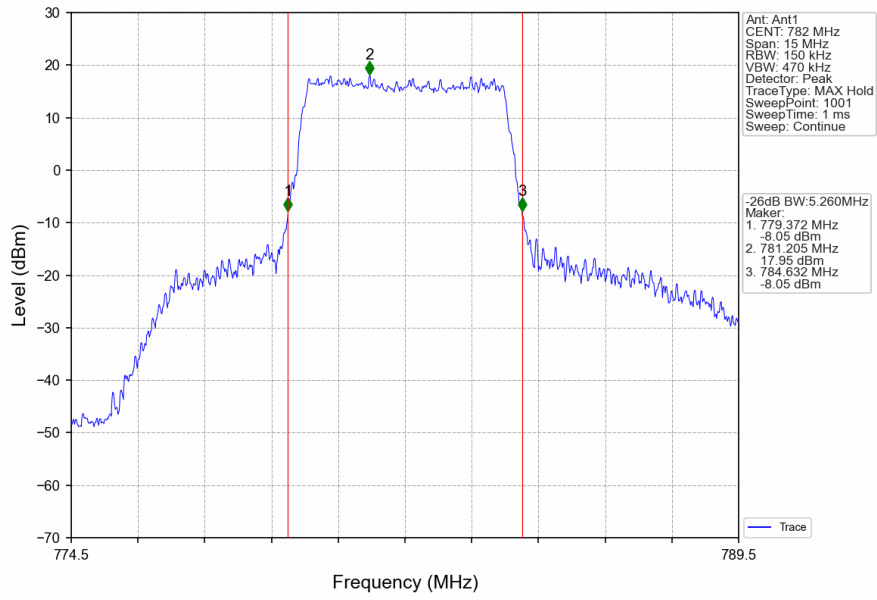
Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



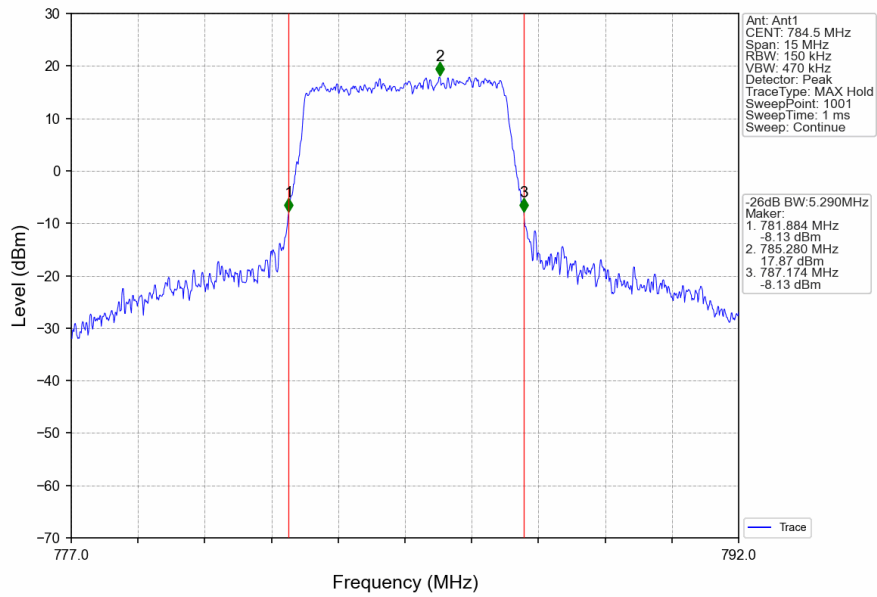
Band13_5MHz_16QAM_LCH_779.5MHz_RB_25_0_NTNV



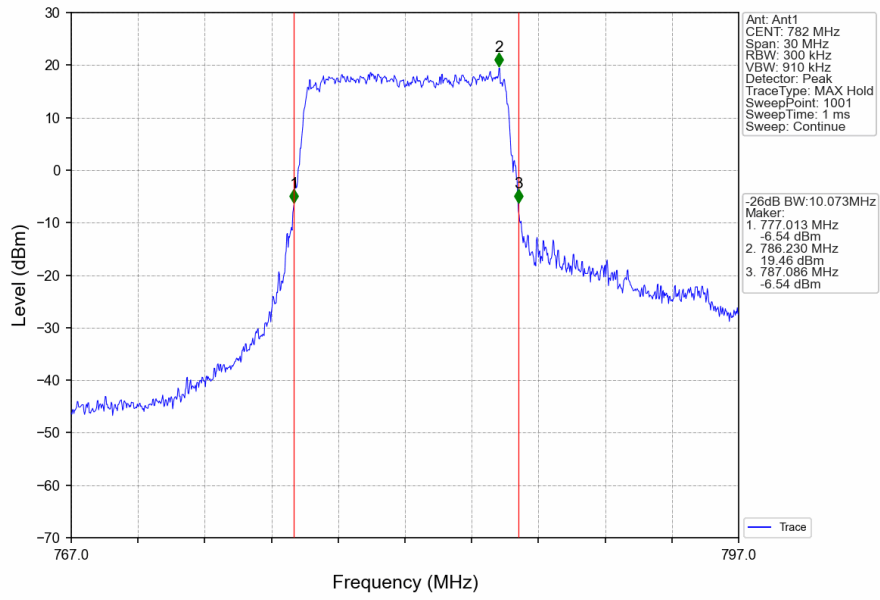
Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV



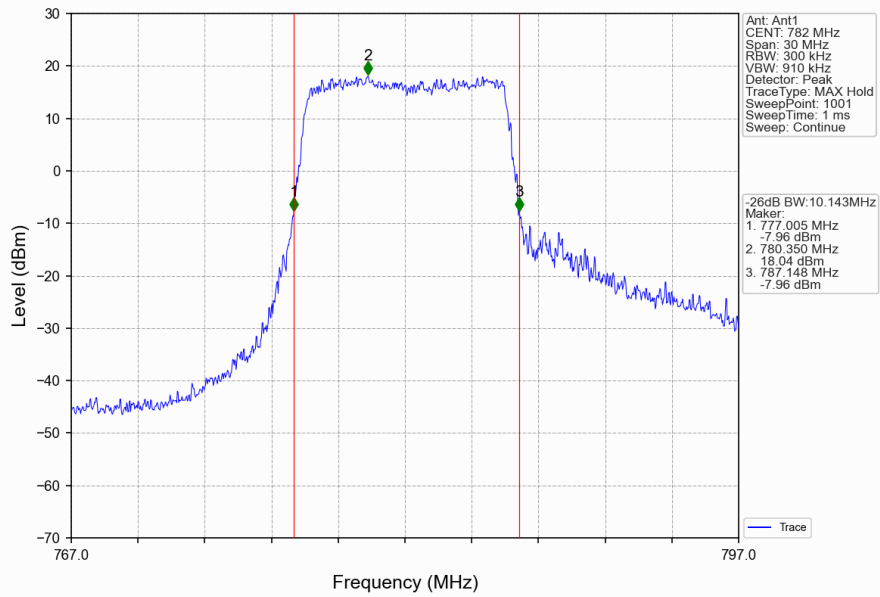
Band13_5MHz_16QAM_HCH_784.5MHz_RB_25_0_NTNV



Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



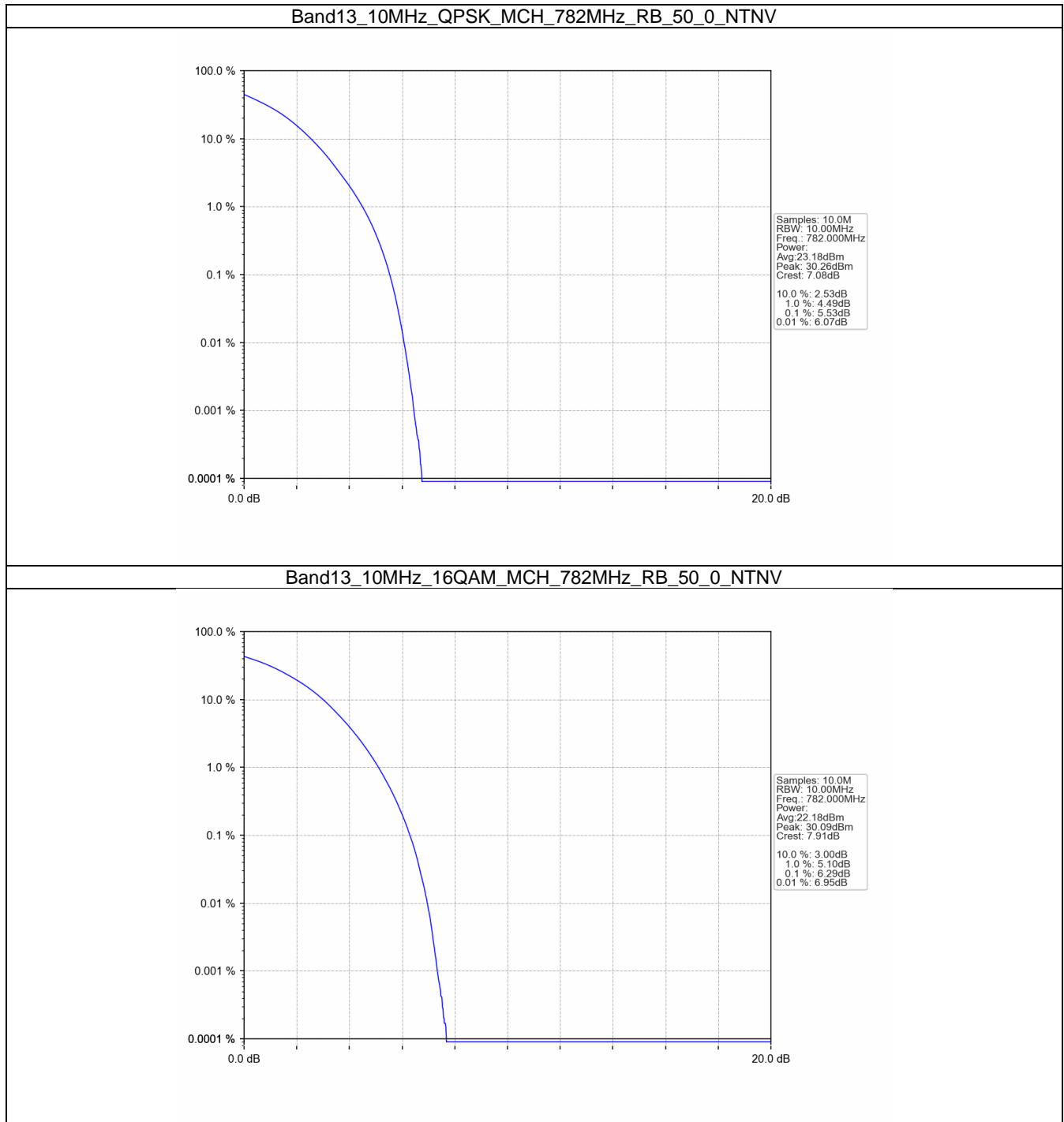
4. Peak-Average Ratio

4.1 B13_10MHz

4.1.1 Test Result

Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.53	<=13	Pass
16QAM	782	50	0	6.29	<=13	Pass

4.1.2 Test Graph



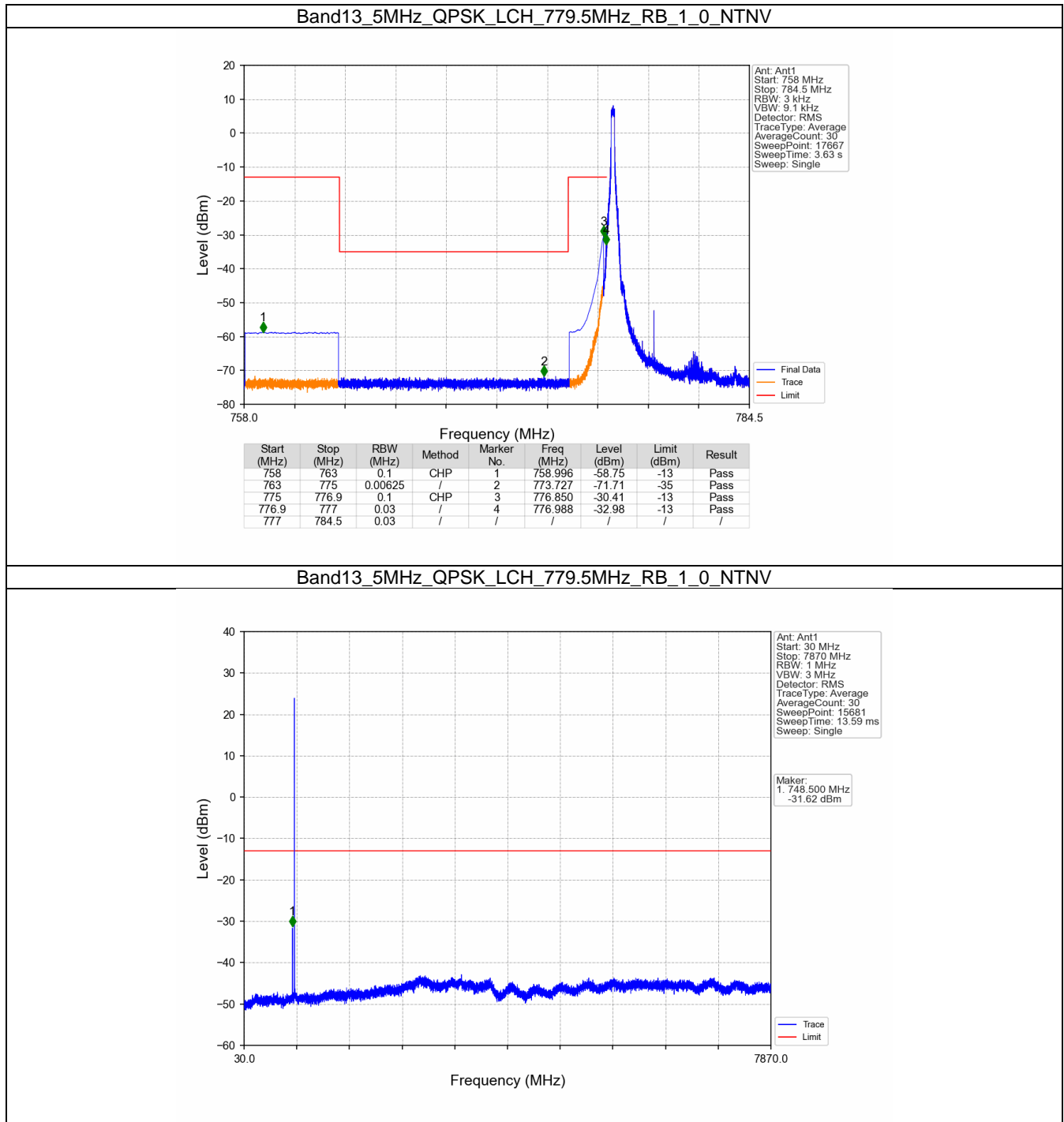
5. Spurious Emission

5.1 B13_5MHz

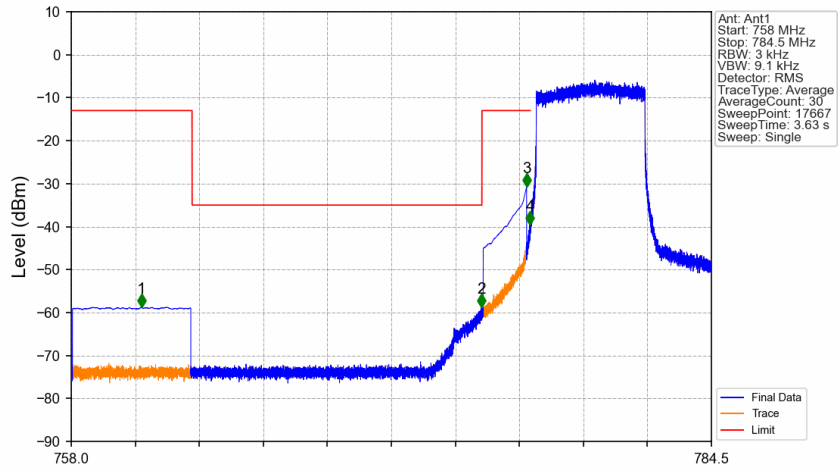
5.1.1 Test Result

Band: 13 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph	Pass	
		25	0	Refer To Test Graph	Pass	
	782	1	0	Refer To Test Graph	Pass	
		1	0	Refer To Test Graph	Pass	
	784.5	1	24	Refer To Test Graph	Pass	
		25	0	Refer To Test Graph	Pass	

5.1.2 Test Graph

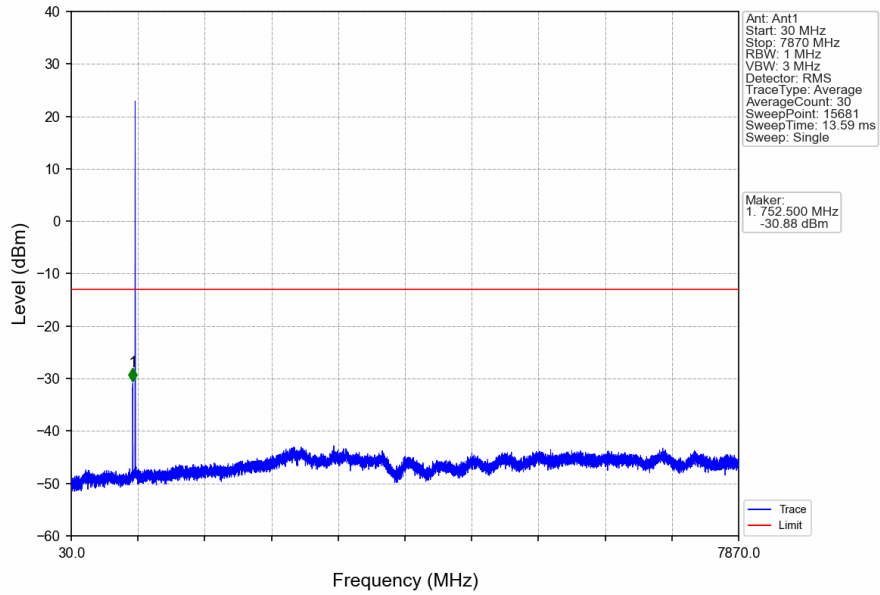


Band13_5MHz_QPSK_LCH_779.5MHz_RB_25_0_NTNV

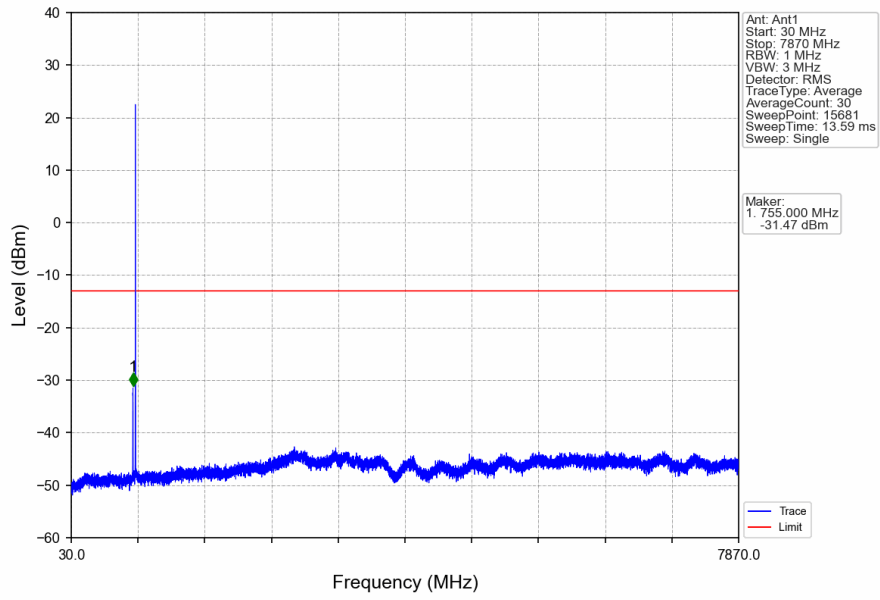


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.906	-58.76	-13	Pass
763	775	0.00625	/	2	774.978	-58.78	-35	Pass
775	776.9	0.1	CHP	3	776.850	-30.71	-13	Pass
776.9	777	0.03	/	4	776.985	-39.52	-13	Pass
777	784.5	0.03	/	/	/	/	/	/

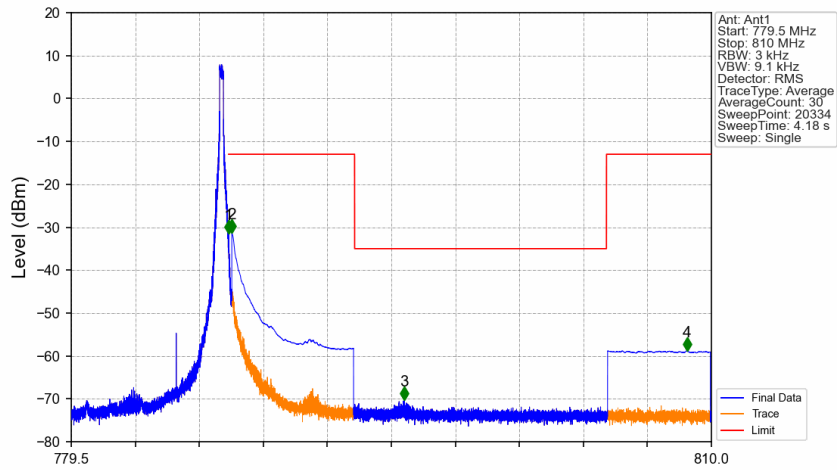
Band13_5MHz_QPSK_MCH_782MHz_RB_1_0_NTNV



Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_0_NTNV

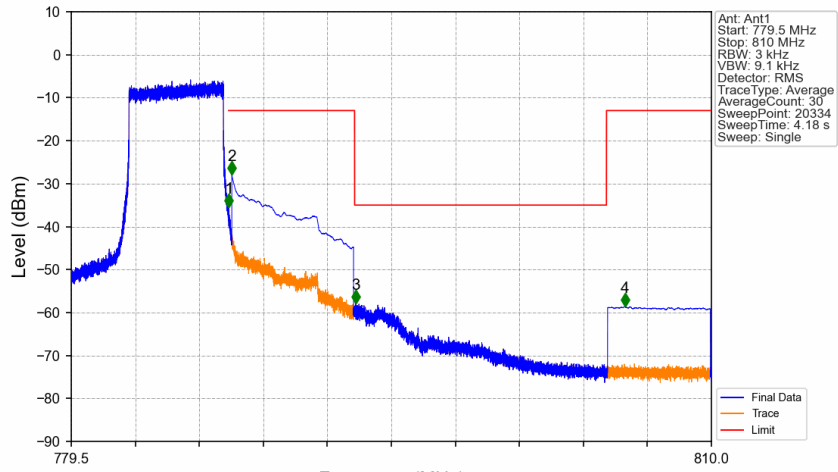


Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_24_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	1	787.000	-31.53	-13	Pass
787.1	793	0.1	CHP	2	787.150	-31.33	-13	Pass
793	805	0.00625	/	3	795.375	-70.36	-35	Pass
805	810	0.1	CHP	4	808.843	-58.81	-13	Pass

Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



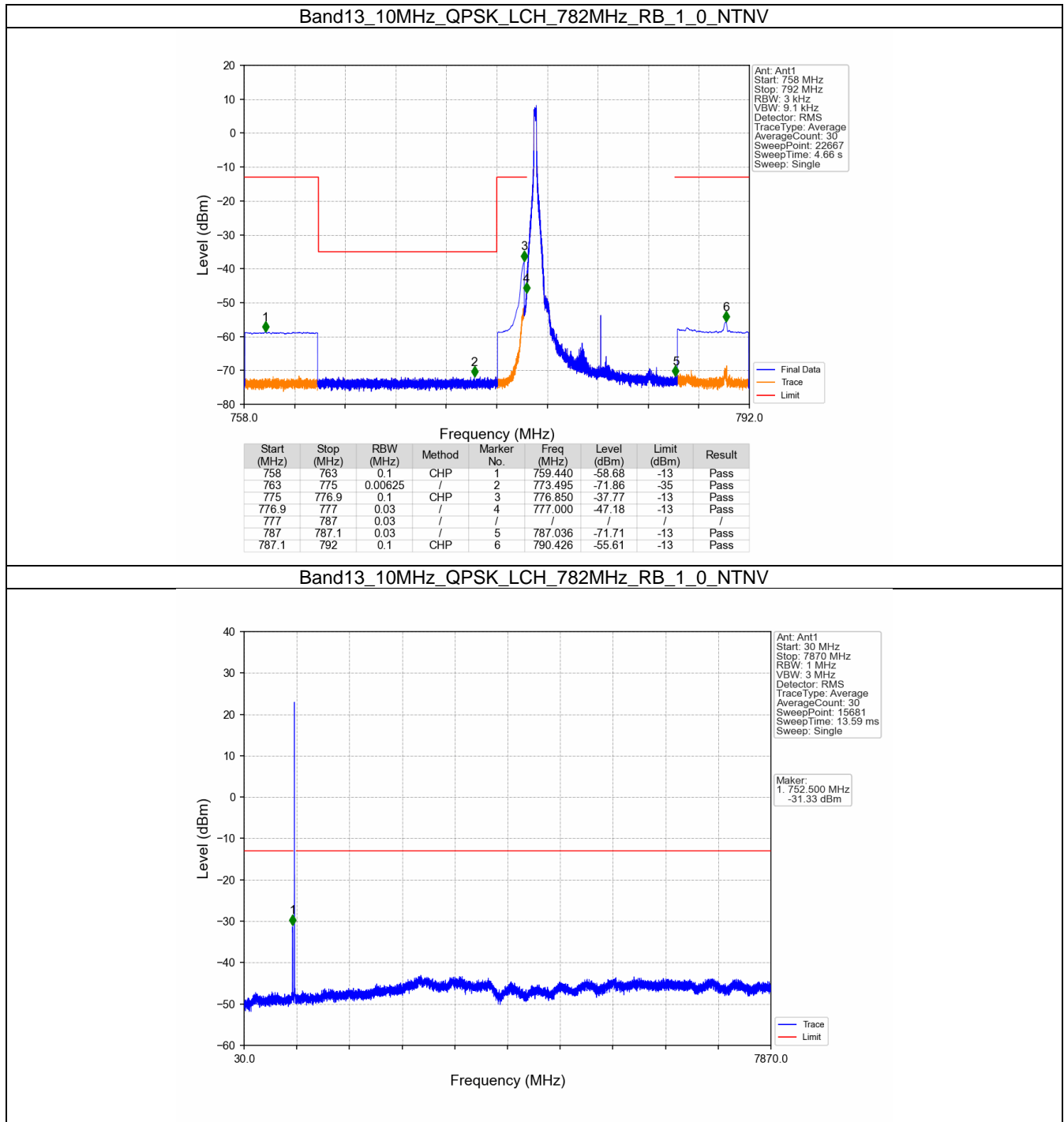
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	1	787.012	-35.54	-13	Pass
787.1	793	0.1	CHP	2	787.150	-27.92	-13	Pass
793	805	0.00625	/	3	793.041	-57.95	-35	Pass
805	810	0.1	CHP	4	805.875	-58.61	-13	Pass

5.2 B13_10MHz

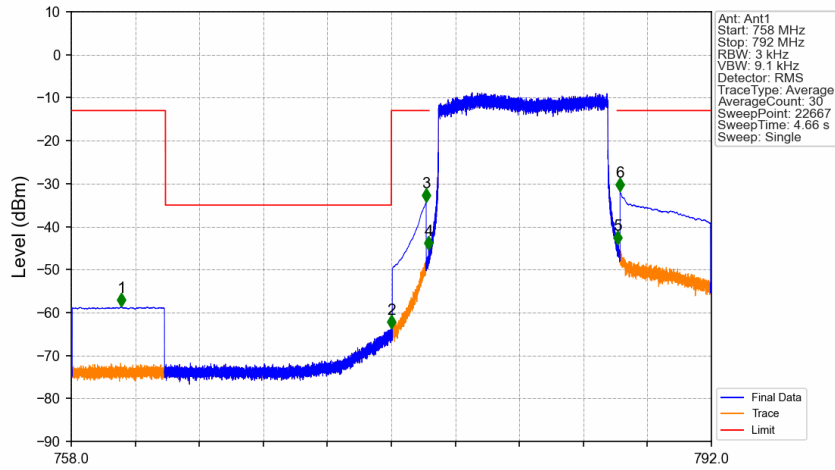
5.2.1 Test Result

Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2.2 Test Graph

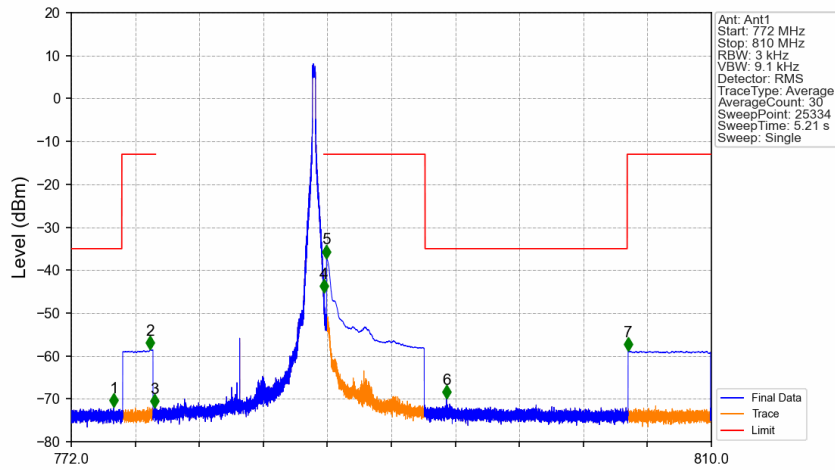


Band13_10MHz_QPSK_LCH_782MHz_RB_50_0_NTNV



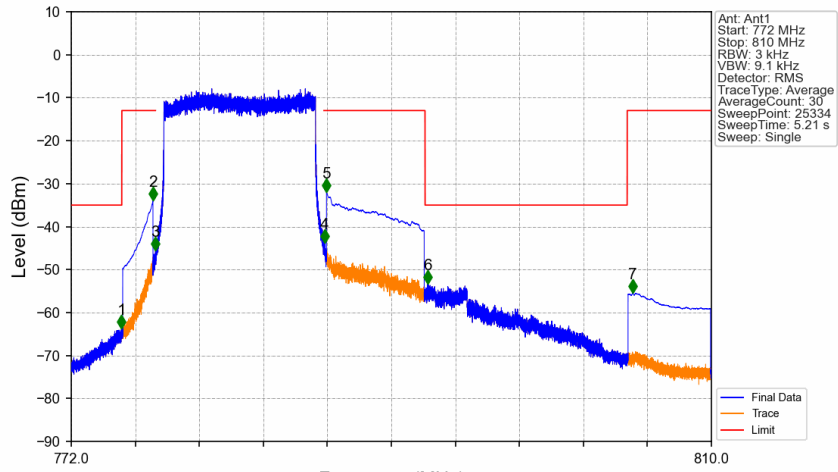
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.666	-58.66	-13	Pass
763	775	0.00625	/	2	775.000	-63.73	-35	Pass
775	776.9	0.1	CHP	3	776.850	-34.27	-13	Pass
776.9	777	0.03	/	4	776.985	-45.45	-13	Pass
777	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	5	787.003	-44.09	-13	Pass
787.1	792	0.1	CHP	6	787.150	-31.87	-13	Pass

Band13_10MHz_QPSK_HCH_782MHz_RB_1_49_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	/	1	774.535	-71.91	-35	Pass
775	776.9	0.1	CHP	2	776.682	-58.55	-13	Pass
776.9	777	0.03	/	3	776.923	-72.02	-13	Pass
777	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	4	787.002	-45.33	-13	Pass
787.1	793	0.1	CHP	5	787.152	-37.26	-13	Pass
793	805	0.00625	/	6	794.272	-69.96	-35	Pass
805	810	0.1	CHP	7	805.059	-58.88	-13	Pass

Band13_10MHz_QPSK_HCH_782MHz_RB_50_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	/	1	774.984	-63.72	-35	Pass
775	776.9	0.1	CHP	2	776.850	-33.99	-13	Pass
776.9	777	0.03	/	3	777.000	-45.63	-13	Pass
777	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	4	787.045	-43.85	-13	Pass
787.1	793	0.1	CHP	5	787.150	-32.04	-13	Pass
793	805	0.00625	/	6	793.168	-53.33	-35	Pass
805	810	0.1	CHP	7	805.317	-55.46	-13	Pass