

**Appendix A.9****1. Effective (Isotropic) Radiated Power Output Data****1.1 Test Result****1.1.1 B13_5MHz_ERP**

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	22.57	-2.38	18.04	<=34.77	Pass
			13	22.64	-2.38	18.11	<=34.77	Pass
			24	22.55	-2.38	18.02	<=34.77	Pass
		12	0	21.58	-2.38	17.05	<=34.77	Pass
			6	21.73	-2.38	17.20	<=34.77	Pass
			13	21.73	-2.38	17.20	<=34.77	Pass
		25	0	21.81	-2.38	17.28	<=34.77	Pass
	782	1	0	22.56	-2.38	18.03	<=34.77	Pass
			13	22.76	-2.38	18.23	<=34.77	Pass
			24	22.66	-2.38	18.13	<=34.77	Pass
		12	0	21.74	-2.38	17.21	<=34.77	Pass
			6	21.74	-2.38	17.21	<=34.77	Pass
			13	21.76	-2.38	17.23	<=34.77	Pass
		25	0	21.66	-2.38	17.13	<=34.77	Pass
	784.5	1	0	22.65	-2.38	18.12	<=34.77	Pass
			13	22.74	-2.38	18.21	<=34.77	Pass
			24	22.76	-2.38	18.23	<=34.77	Pass
		12	0	21.72	-2.38	17.19	<=34.77	Pass
			6	21.77	-2.38	17.24	<=34.77	Pass
			13	21.74	-2.38	17.21	<=34.77	Pass
		25	0	21.84	-2.38	17.31	<=34.77	Pass
16QAM	779.5	1	0	21.47	-2.38	16.94	<=34.77	Pass
			13	21.73	-2.38	17.20	<=34.77	Pass
			24	21.98	-2.38	17.45	<=34.77	Pass
		12	0	20.82	-2.38	16.29	<=34.77	Pass
			6	20.71	-2.38	16.18	<=34.77	Pass
			13	20.80	-2.38	16.27	<=34.77	Pass
		25	0	20.69	-2.38	16.16	<=34.77	Pass
	782	1	0	21.77	-2.38	17.24	<=34.77	Pass
			13	21.87	-2.38	17.34	<=34.77	Pass
			24	21.85	-2.38	17.32	<=34.77	Pass
		12	0	20.72	-2.38	16.19	<=34.77	Pass
			6	20.75	-2.38	16.22	<=34.77	Pass
			13	20.75	-2.38	16.22	<=34.77	Pass
		25	0	20.78	-2.38	16.25	<=34.77	Pass
	784.5	1	0	22.09	-2.38	17.56	<=34.77	Pass
			13	22.12	-2.38	17.59	<=34.77	Pass
			24	22.11	-2.38	17.58	<=34.77	Pass
		12	0	20.75	-2.38	16.22	<=34.77	Pass
			6	20.78	-2.38	16.25	<=34.77	Pass

64QAM	779.5	25	13	20.77	-2.38	16.24	<=34.77	Pass
			0	20.83	-2.38	16.30	<=34.77	Pass
	779.5	1	0	21.77	-2.38	17.24	<=34.77	Pass
			13	21.65	-2.38	17.12	<=34.77	Pass
			24	21.68	-2.38	17.15	<=34.77	Pass
		12	0	20.64	-2.38	16.11	<=34.77	Pass
			6	20.78	-2.38	16.25	<=34.77	Pass
			13	20.75	-2.38	16.22	<=34.77	Pass
	782	25	0	20.77	-2.38	16.24	<=34.77	Pass
			0	21.85	-2.38	17.32	<=34.77	Pass
			13	21.83	-2.38	17.30	<=34.77	Pass
		1	24	21.72	-2.38	17.19	<=34.77	Pass
			0	20.73	-2.38	16.20	<=34.77	Pass
			6	20.80	-2.38	16.27	<=34.77	Pass
		12	13	20.64	-2.38	16.11	<=34.77	Pass
			0	20.65	-2.38	16.12	<=34.77	Pass
			25	20.65	-2.38	16.12	<=34.77	Pass
	784.5	1	0	21.87	-2.38	17.34	<=34.77	Pass
			13	21.79	-2.38	17.26	<=34.77	Pass
			24	21.68	-2.38	17.15	<=34.77	Pass
		12	0	20.76	-2.38	16.23	<=34.77	Pass
			6	20.65	-2.38	16.12	<=34.77	Pass
			13	20.79	-2.38	16.26	<=34.77	Pass
		25	0	20.91	-2.38	16.38	<=34.77	Pass
256QAM	779.5	1	0	17.65	-2.38	13.12	<=34.77	Pass
			13	17.88	-2.38	13.35	<=34.77	Pass
			24	19.09	-2.38	14.56	<=34.77	Pass
		12	0	17.30	-2.38	12.77	<=34.77	Pass
			6	17.72	-2.38	13.19	<=34.77	Pass
			13	17.72	-2.38	13.19	<=34.77	Pass
		25	0	17.86	-2.38	13.33	<=34.77	Pass
	782	1	0	16.96	-2.38	12.43	<=34.77	Pass
			13	18.94	-2.38	14.41	<=34.77	Pass
			24	17.87	-2.38	13.34	<=34.77	Pass
		12	0	17.84	-2.38	13.31	<=34.77	Pass
			6	18.20	-2.38	13.67	<=34.77	Pass
			13	17.76	-2.38	13.23	<=34.77	Pass
		25	0	17.78	-2.38	13.25	<=34.77	Pass
	784.5	1	0	18.59	-2.38	14.06	<=34.77	Pass
			13	17.59	-2.38	13.06	<=34.77	Pass
			24	17.93	-2.38	13.40	<=34.77	Pass
		12	0	18.84	-2.38	14.31	<=34.77	Pass
			6	17.60	-2.38	13.07	<=34.77	Pass
			13	18.27	-2.38	13.74	<=34.77	Pass
		25	0	17.88	-2.38	13.35	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.1.2 B13_10MHz_ERP

Band: 13 / Bandwidth: 10MHz / NTN								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	

QPSK	782	1	0	22.59	-2.38	18.06	<=34.77	Pass
			25	22.69	-2.38	18.16	<=34.77	Pass
			49	22.68	-2.38	18.15	<=34.77	Pass
		25	0	21.72	-2.38	17.19	<=34.77	Pass
			13	21.78	-2.38	17.25	<=34.77	Pass
			25	21.83	-2.38	17.30	<=34.77	Pass
		50	0	21.75	-2.38	17.22	<=34.77	Pass
16QAM	782	1	0	21.86	-2.38	17.33	<=34.77	Pass
			25	21.97	-2.38	17.44	<=34.77	Pass
			49	21.90	-2.38	17.37	<=34.77	Pass
		25	0	20.82	-2.38	16.29	<=34.77	Pass
			13	20.90	-2.38	16.37	<=34.77	Pass
			25	20.89	-2.38	16.36	<=34.77	Pass
		50	0	20.70	-2.38	16.17	<=34.77	Pass
64QAM	782	1	0	21.53	-2.38	17.00	<=34.77	Pass
			25	21.48	-2.38	16.95	<=34.77	Pass
			49	21.62	-2.38	17.09	<=34.77	Pass
		25	0	20.70	-2.38	16.17	<=34.77	Pass
			13	20.55	-2.38	16.02	<=34.77	Pass
			25	20.97	-2.38	16.44	<=34.77	Pass
		50	0	20.77	-2.38	16.24	<=34.77	Pass
256QAM	782	1	0	17.72	-2.38	13.19	<=34.77	Pass
			25	18.29	-2.38	13.76	<=34.77	Pass
			49	16.20	-2.38	11.67	<=34.77	Pass
		25	0	17.48	-2.38	12.95	<=34.77	Pass
			13	17.93	-2.38	13.40	<=34.77	Pass
			25	17.83	-2.38	13.30	<=34.77	Pass
		50	0	17.83	-2.38	13.30	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

2. Frequency Stability

2.1 Test Result

2.1.1 B13_10MHz

Band: 13 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	782	50	0	20	LV	0.435	0.0006	-2.5 to 2.5	Pass
					NV	0.173	0.0002	-2.5 to 2.5	Pass
					HV	-0.221	-0.0003	-2.5 to 2.5	Pass
				-30	NV	-0.105	-0.0001	-2.5 to 2.5	Pass
				-20	NV	-1.101	-0.0014	-2.5 to 2.5	Pass
				-10	NV	-0.625	-0.0008	-2.5 to 2.5	Pass
				0	NV	-1.167	-0.0015	-2.5 to 2.5	Pass
				10	NV	0.928	0.0012	-2.5 to 2.5	Pass
				30	NV	-0.418	-0.0005	-2.5 to 2.5	Pass
				40	NV	-0.429	-0.0005	-2.5 to 2.5	Pass
				50	NV	-1.138	-0.0015	-2.5 to 2.5	Pass



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3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.478	/	Pass
	16QAM	782	25	0	4.505	/	Pass
	64QAM	782	25	0	4.497	/	Pass
	256QAM	782	25	0	4.514	/	Pass
10	QPSK	782	50	0	8.938	/	Pass
	16QAM	782	50	0	8.912	/	Pass
	64QAM	782	50	0	8.929	/	Pass
	256QAM	782	50	0	8.913	/	Pass

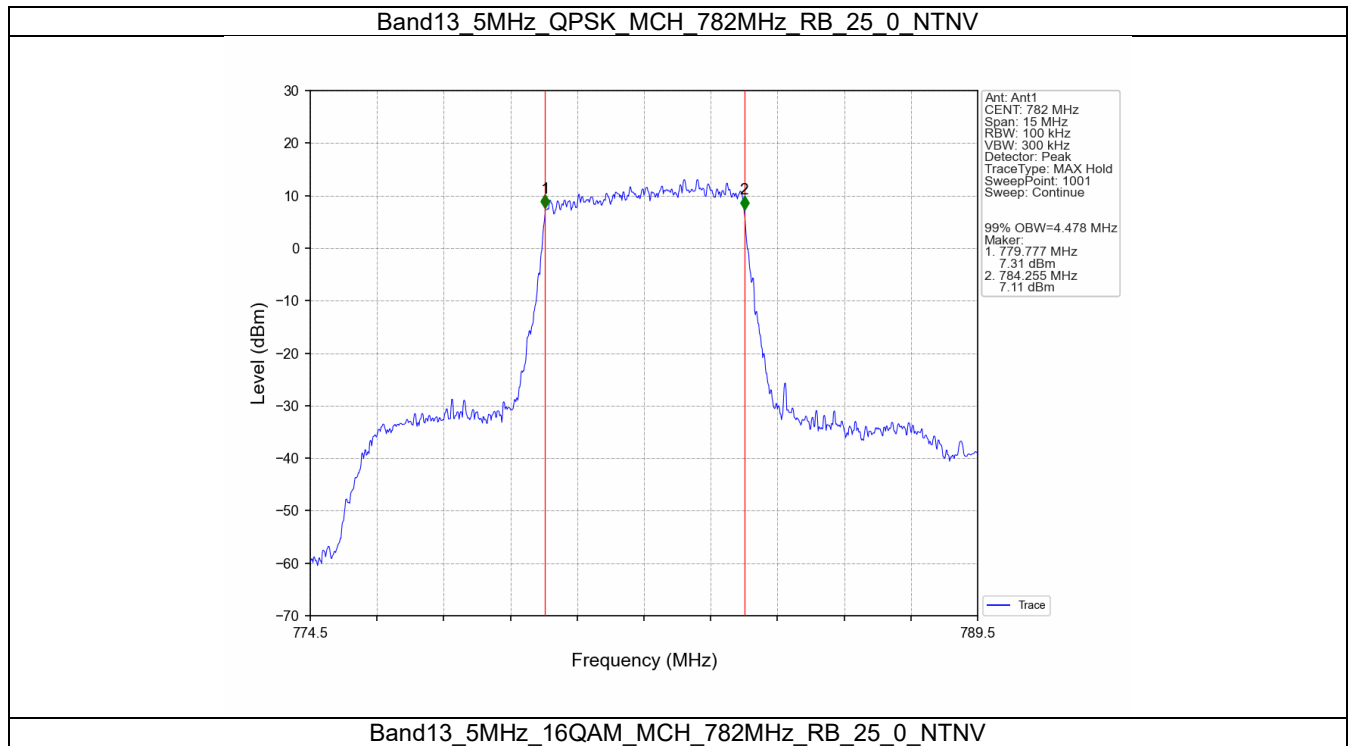
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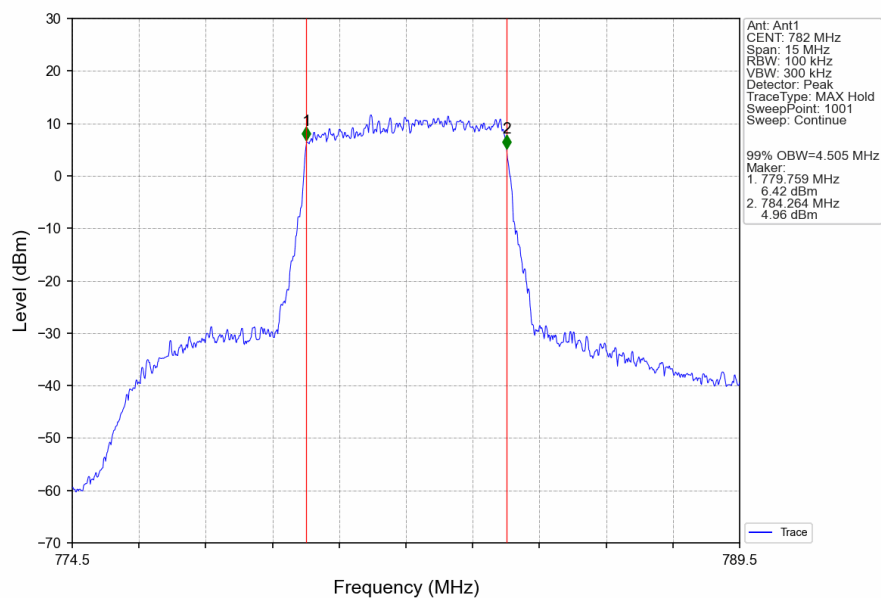
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.029	/	Pass
	16QAM	782	25	0	5.072	/	Pass
	64QAM	782	25	0	5.061	/	Pass
	256QAM	782	25	0	5.060	/	Pass
10	QPSK	782	50	0	9.595	/	Pass
	16QAM	782	50	0	9.591	/	Pass
	64QAM	782	50	0	9.663	/	Pass
	256QAM	782	50	0	9.628	/	Pass



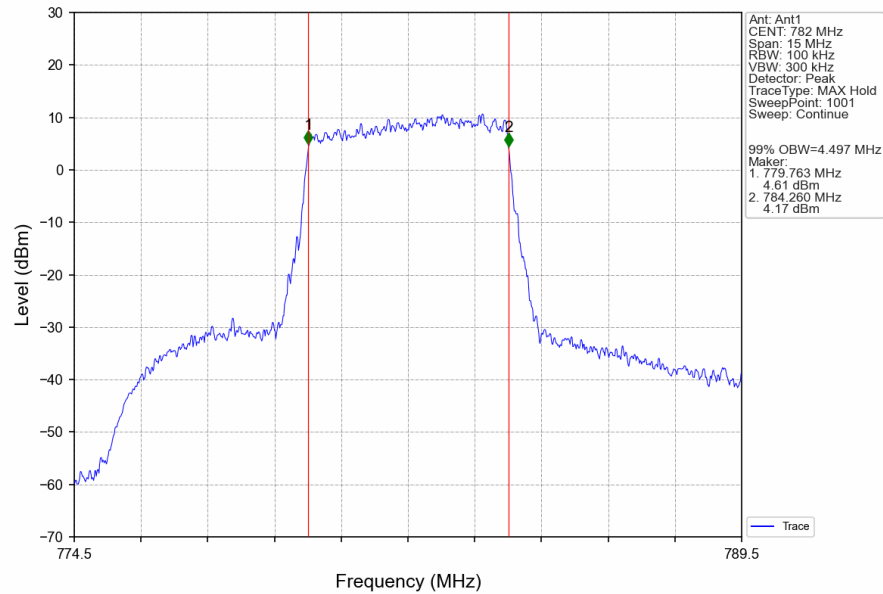
3.2 Test Graph

3.2.1 Band13_OBW

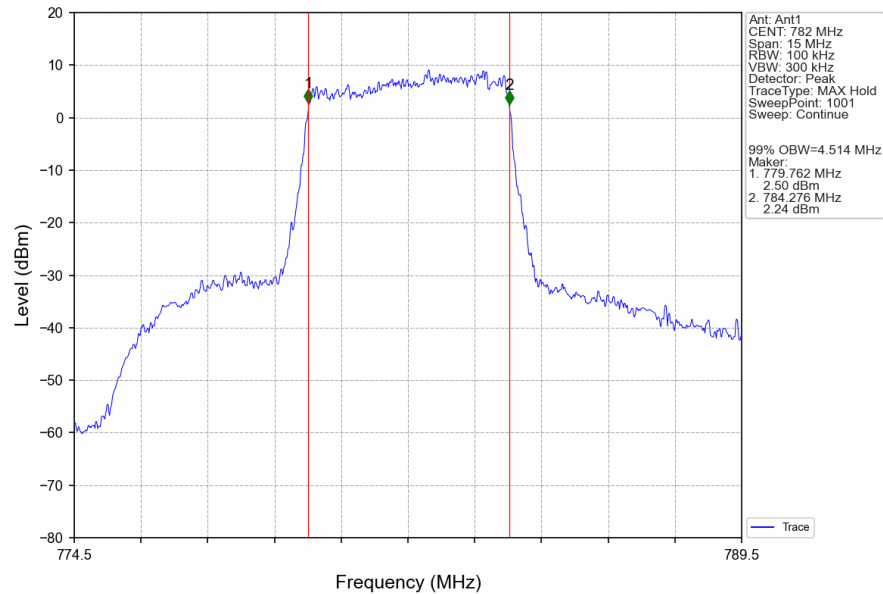




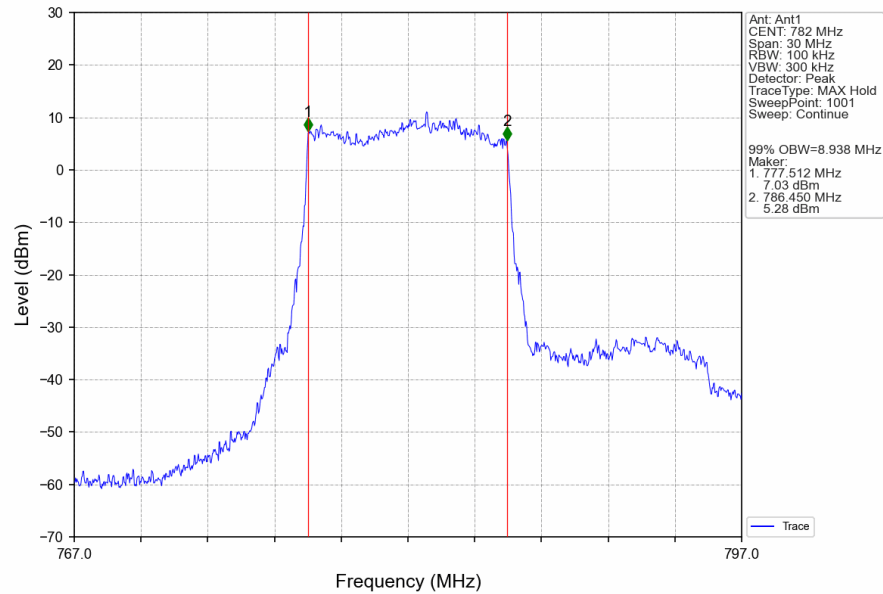
Band13_5MHz_64QAM_MCH_782MHz_RB_25_0_NTNV



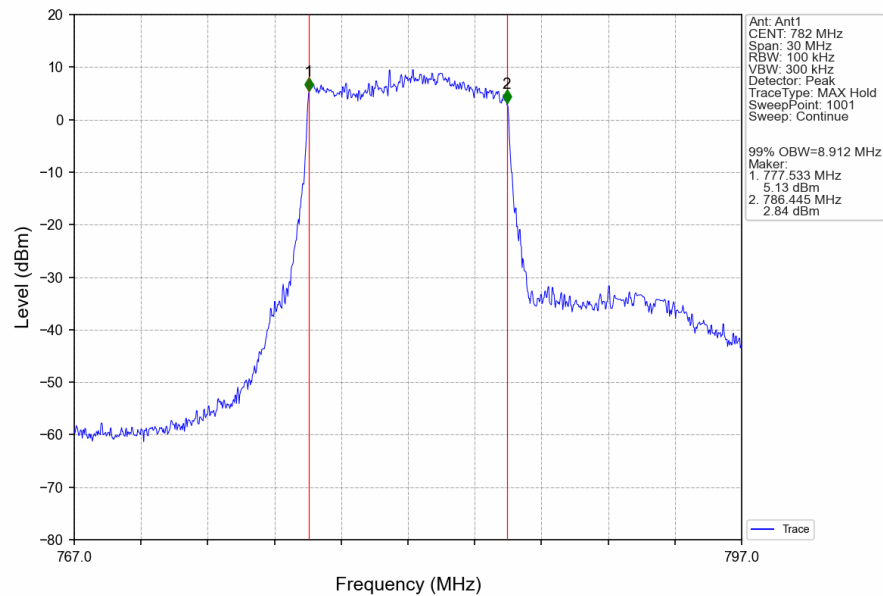
Band13_5MHz_256QAM_MCH_782MHz_RB_25_0_NTNV



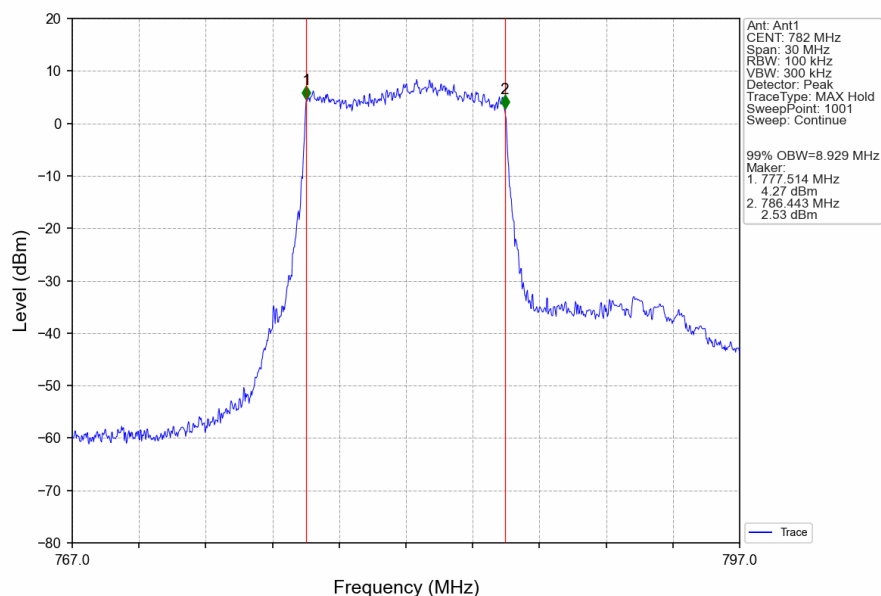
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



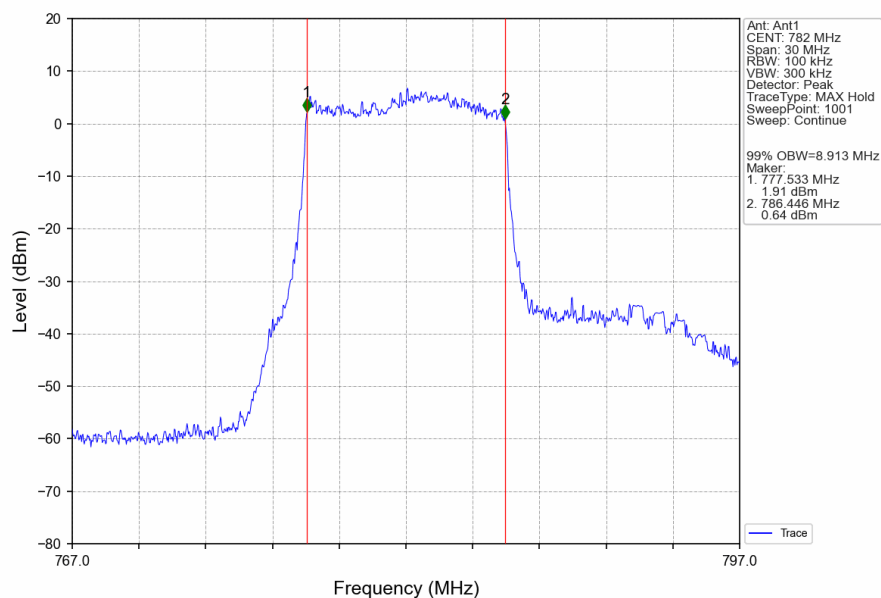
Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



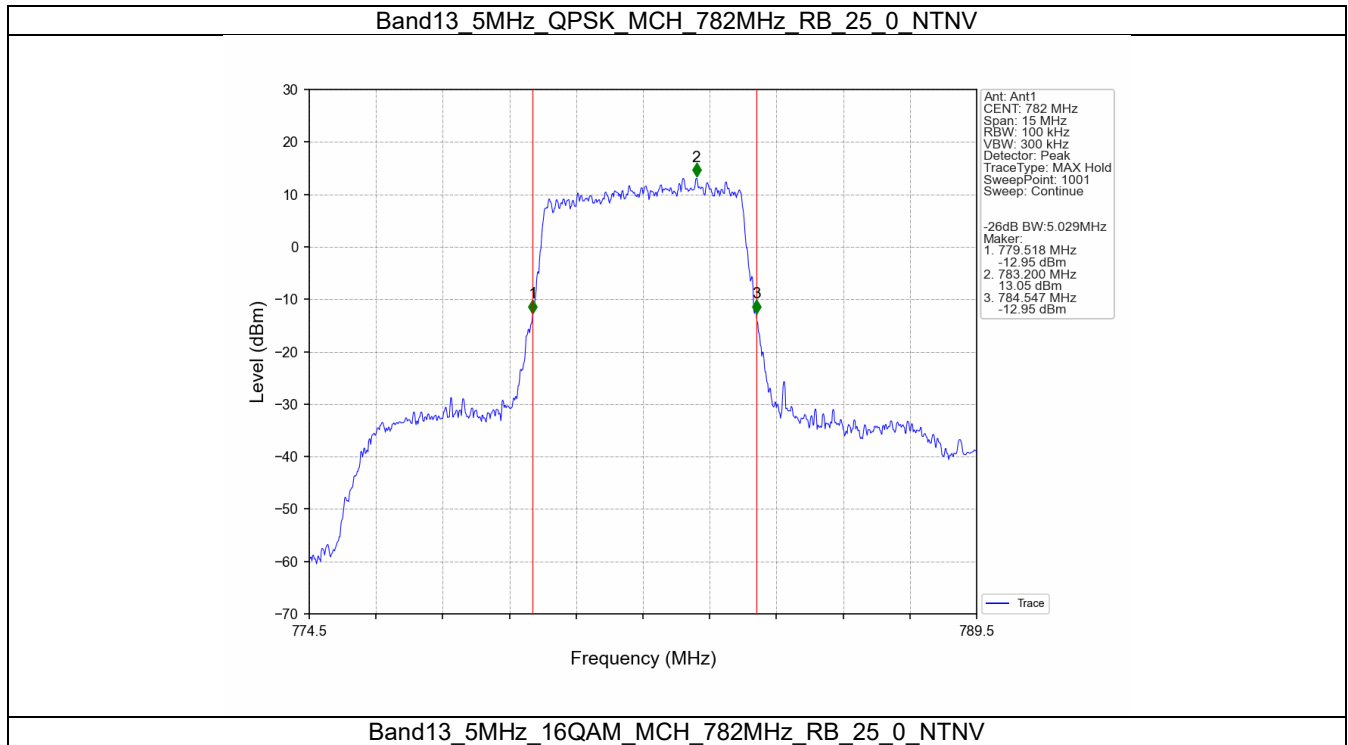
Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV

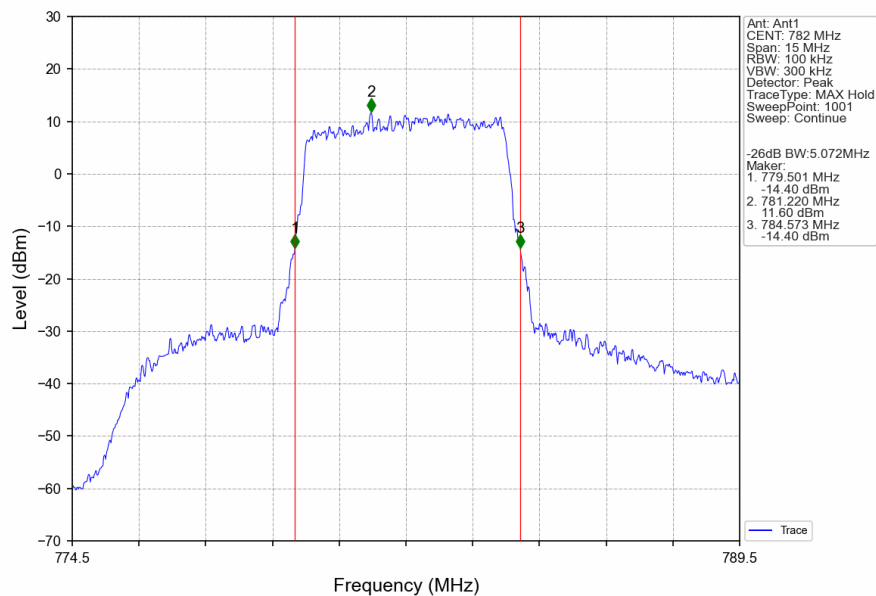


Band13_10MHz_256QAM_MCH_782MHz_RB_50_0_NTNV

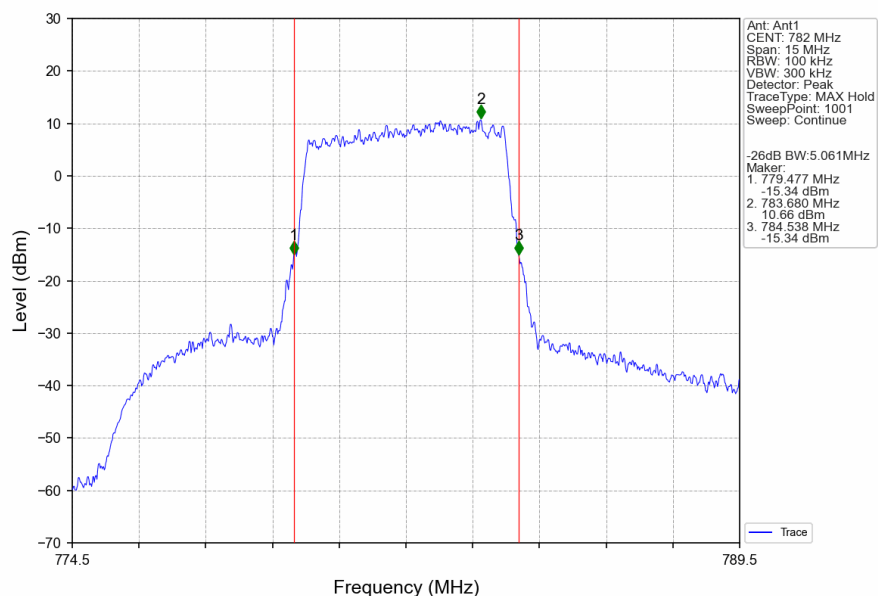


3.2.2 Band13_XDB

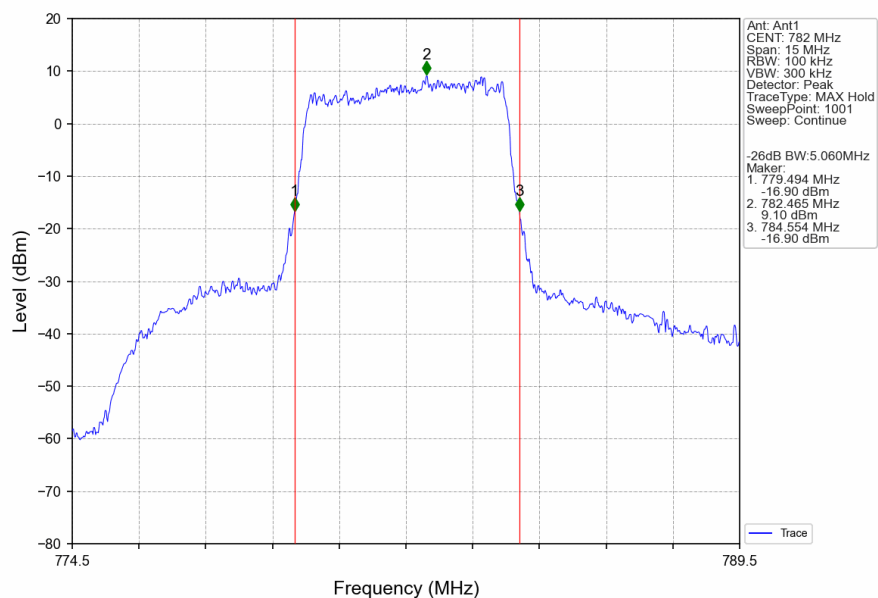




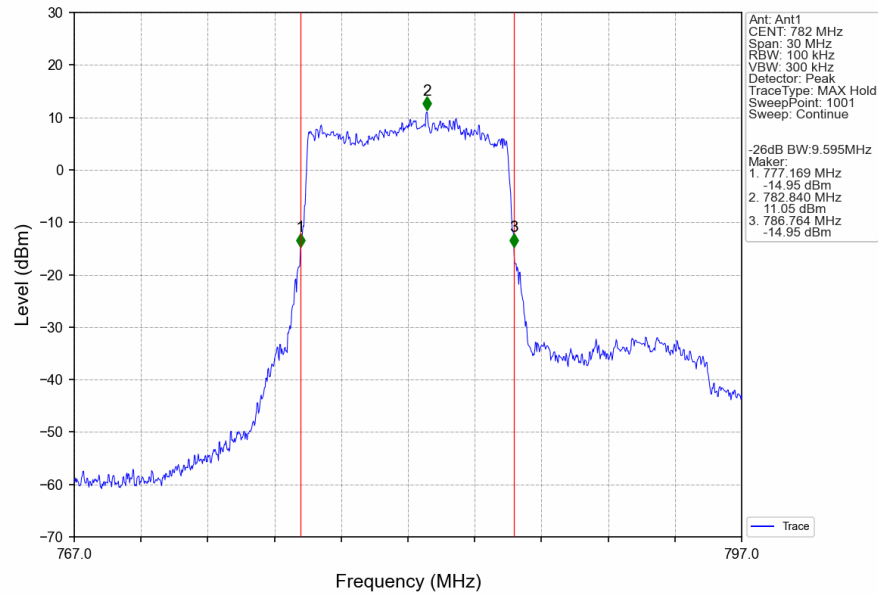
Band13_5MHz_64QAM_MCH_782MHz_RB_25_0_NTNV



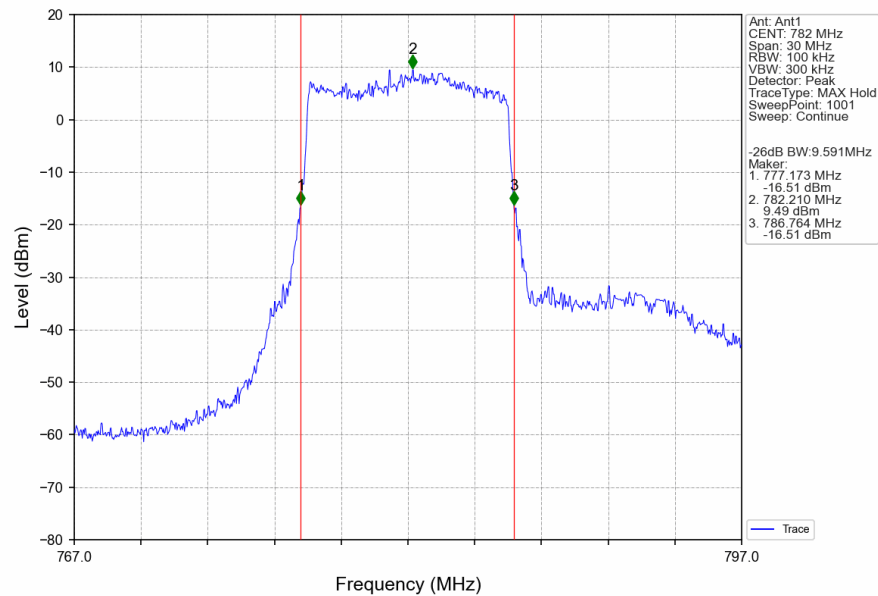
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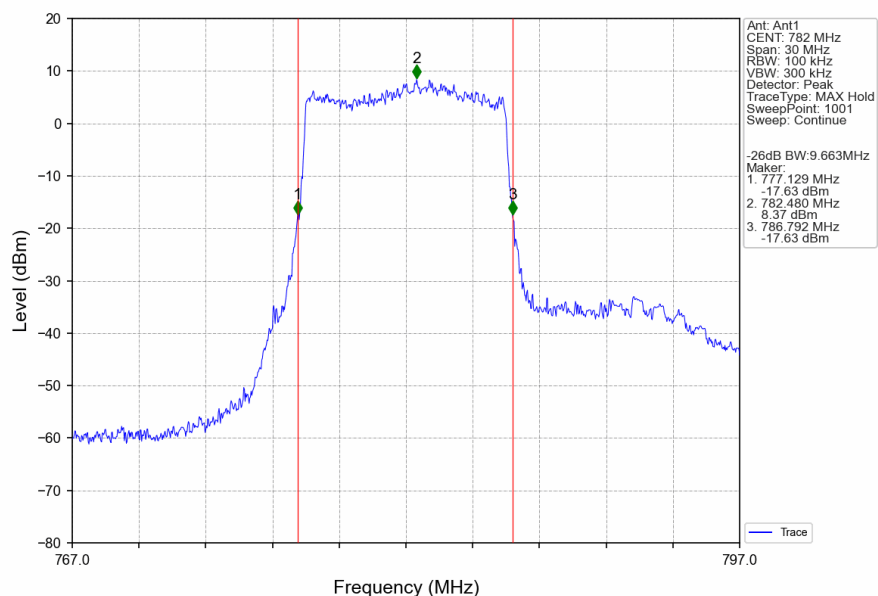
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



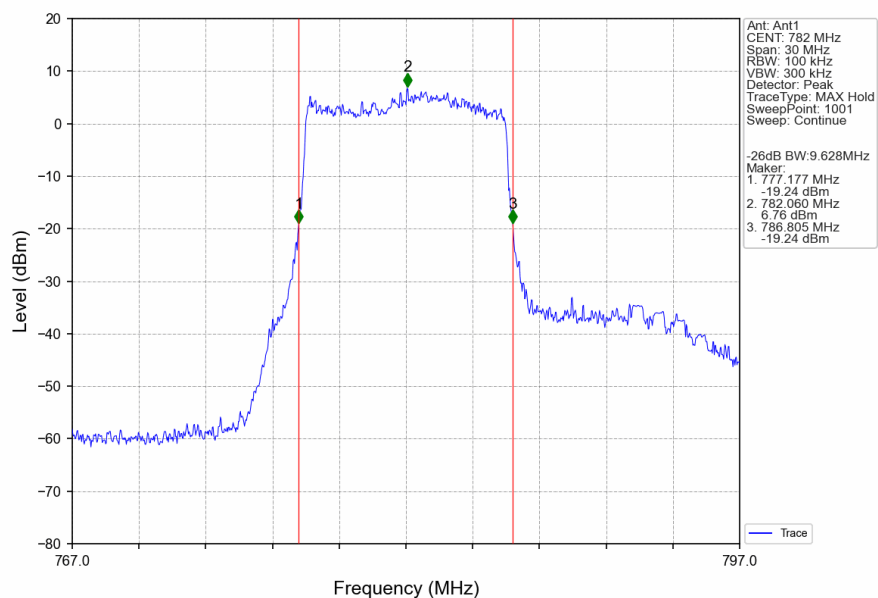
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Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_256QAM_MCH_782MHz_RB_50_0_NTNV





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4. Peak-Average Ratio

4.1 Test Result

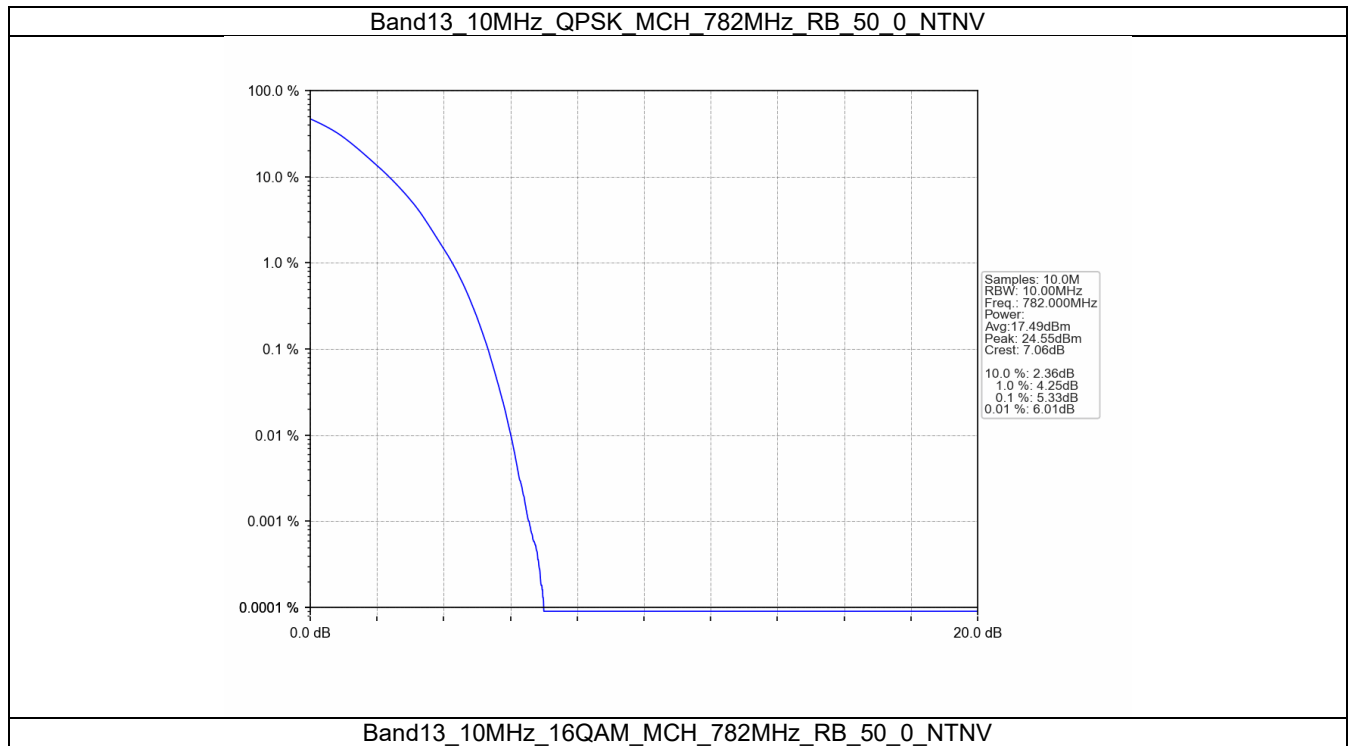
4.1.1 B13_10MHz

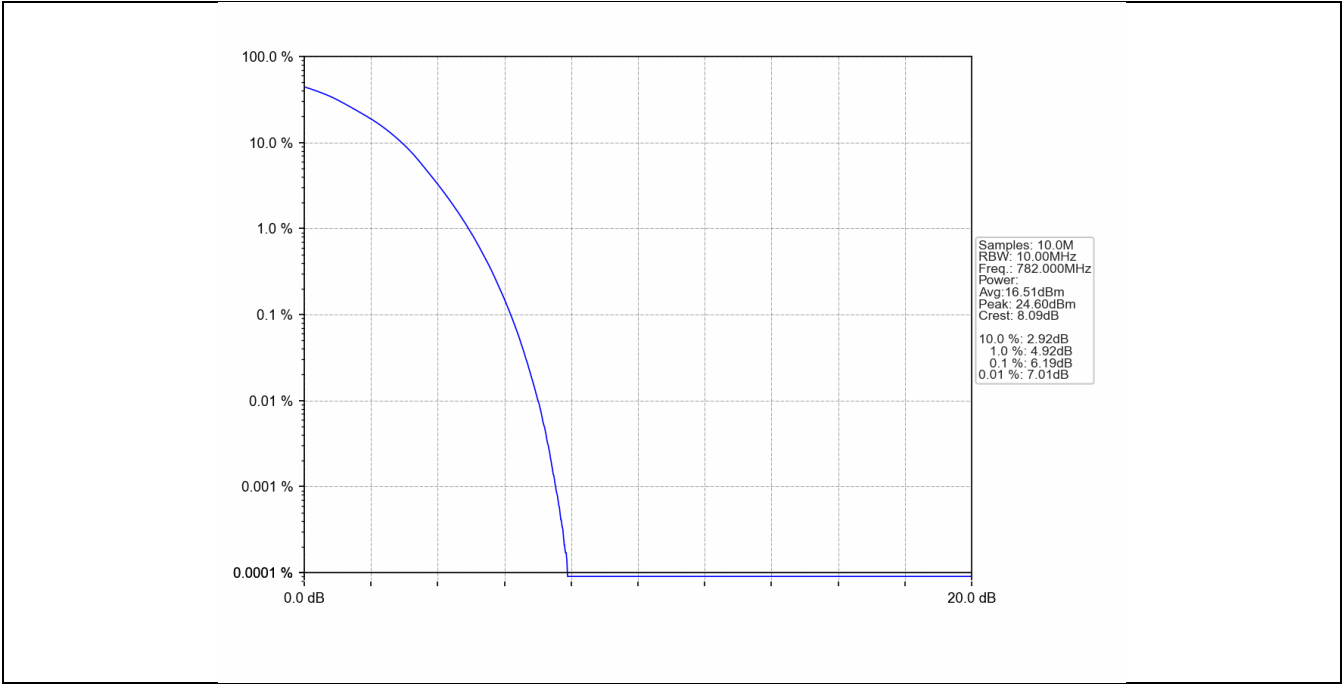
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.33	<=13	Pass
16QAM	782	50	0	6.19	<=13	Pass
64QAM	782	50	0	6.46	<=13	Pass
256QAM	782	50	0	6.55	<=13	Pass



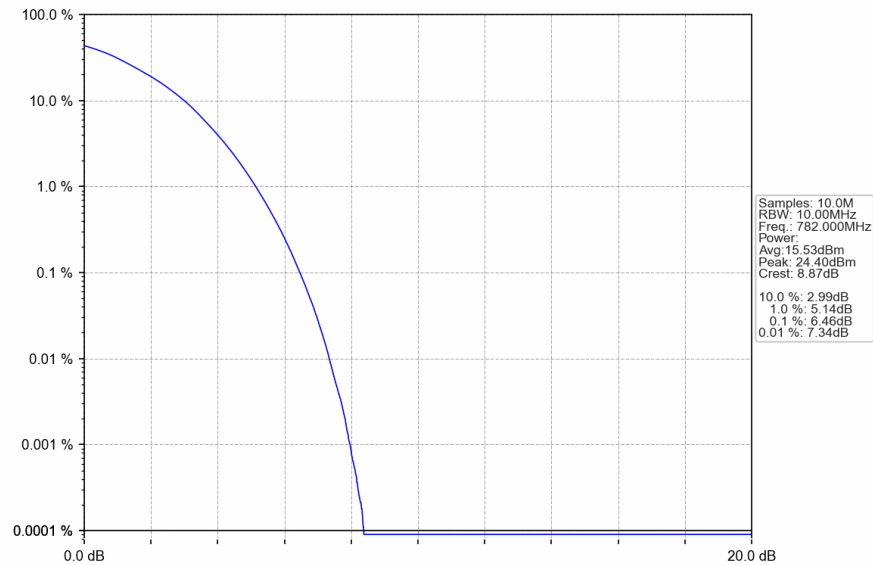
4.2 Test Graph

4.2.1 B13_10MHz

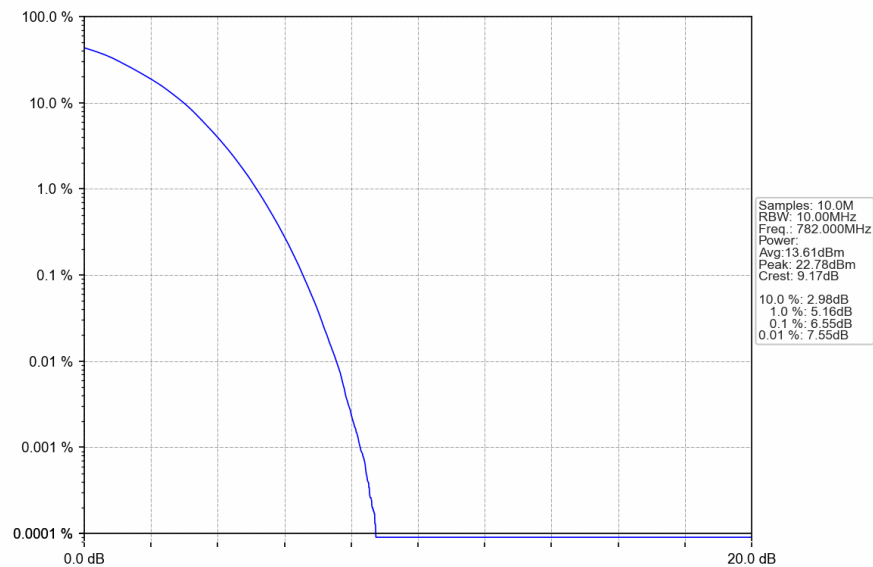




Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_256QAM_MCH_782MHz_RB_50_0_NTNV





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5. Spurious Emission

5.1 Test Result

5.1.1 B13_5MHz

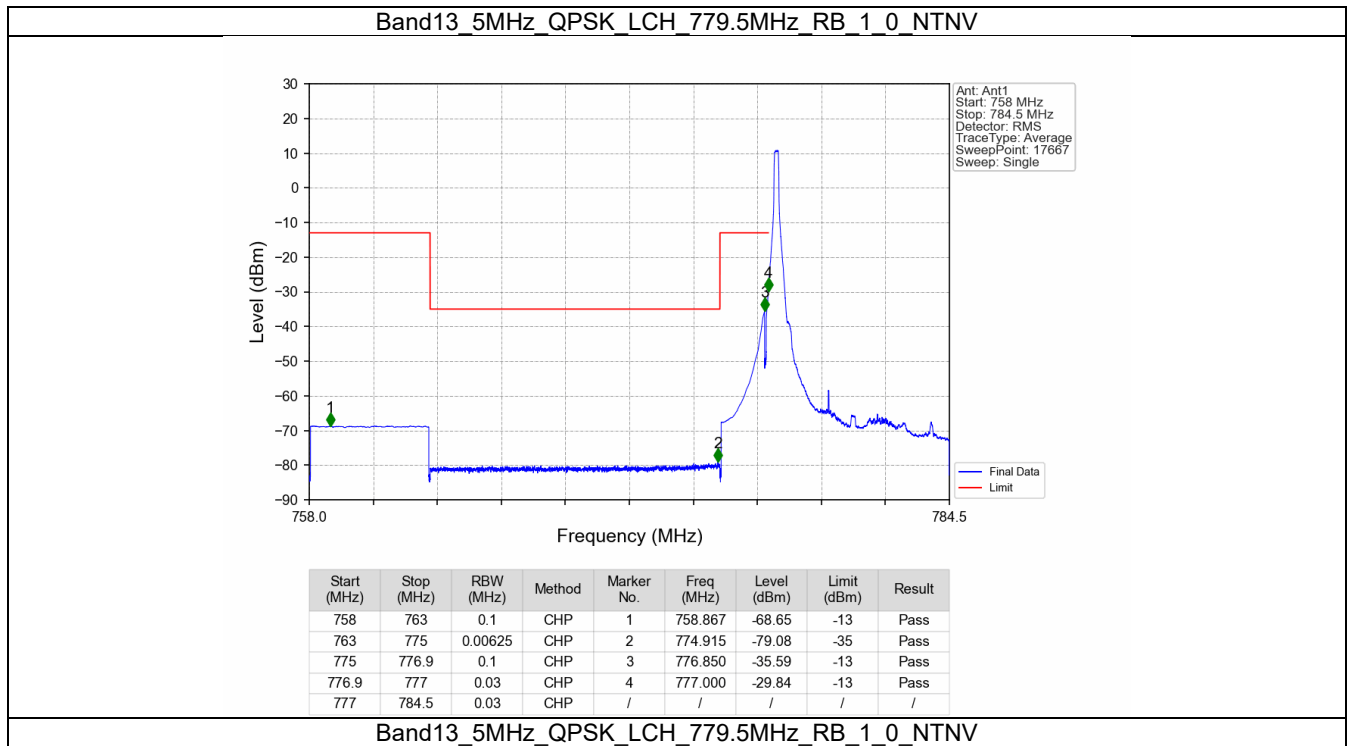
Band: 13 / Bandwidth: 5MHz / NTNV					
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission	
		Size	Offset	Result	Limit
QPSK	779.5	1	0	Refer To Test Graph	Pass
		25	0	Refer To Test Graph	Pass
	782	1	0	Refer To Test Graph	Pass
	784.5	1	0	Refer To Test Graph	Pass
			24	Refer To Test Graph	Pass
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

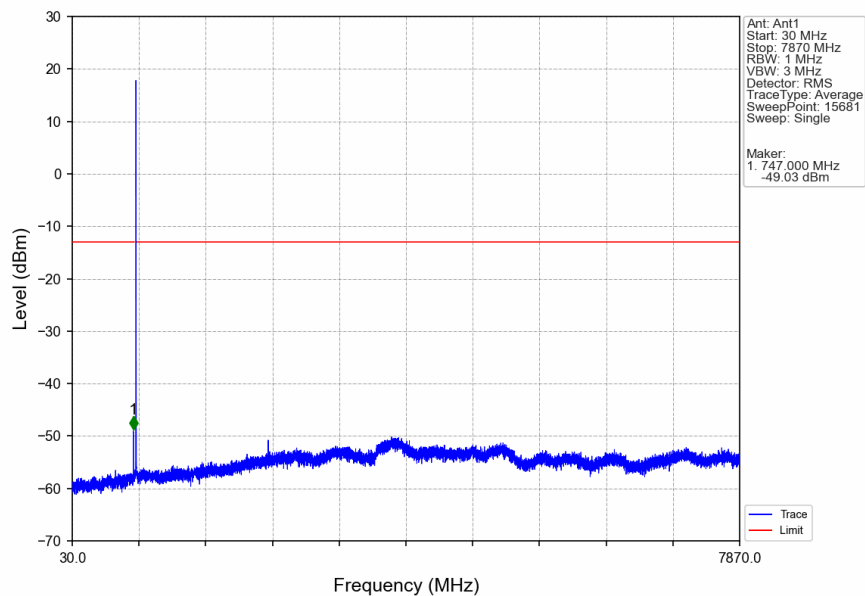
5.1.2 B13_10MHz

Band: 13 / Bandwidth: 10MHz / NTNV					
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission	
		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

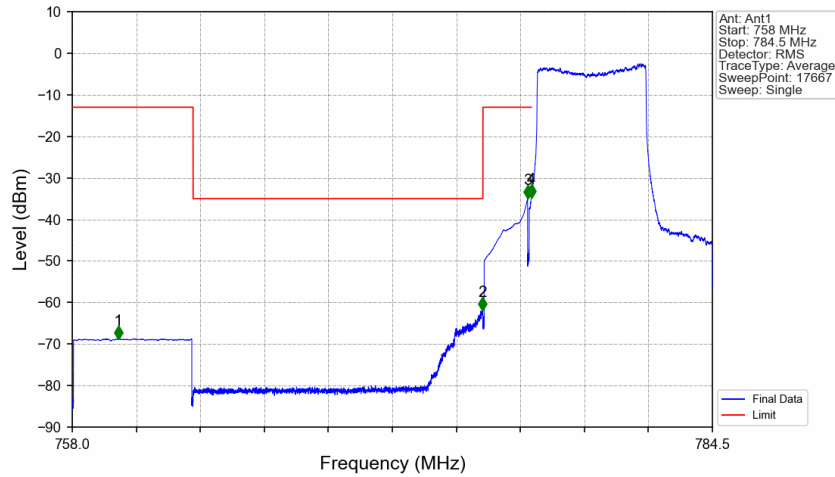
5.2 Test Graph

5.2.1 B13_5MHz



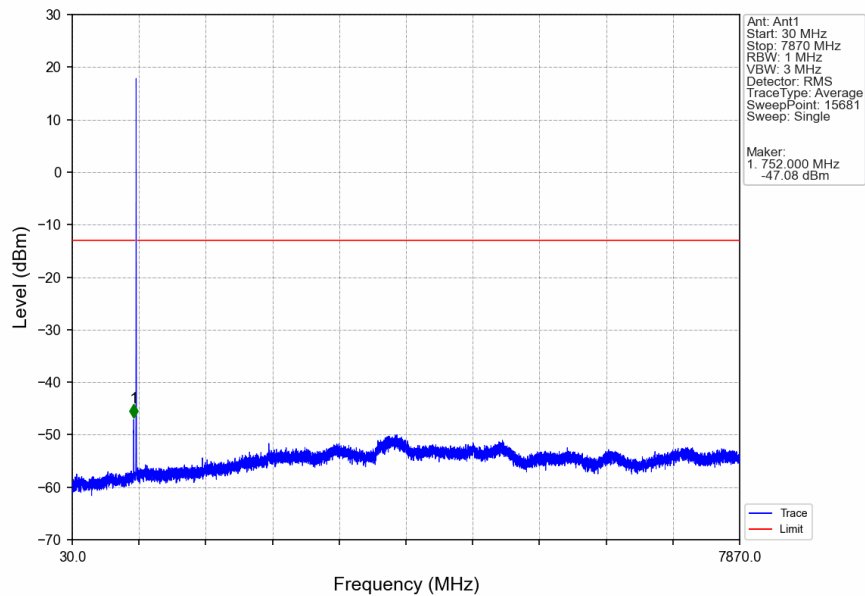


Band13_5MHz_QPSK_LCH_779.5MHz_RB_25_0_NTNV

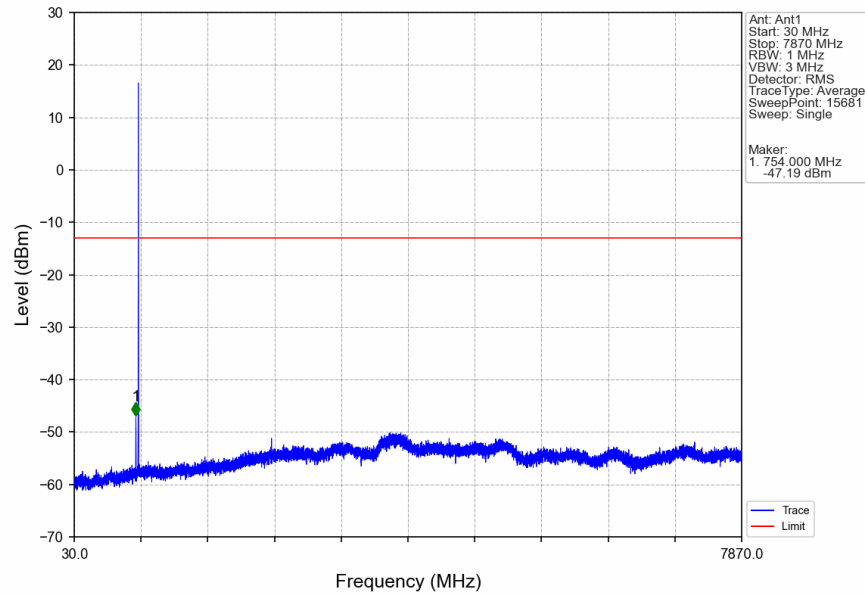


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	759.911	-68.73	-13	Pass
763	775	0.00625	CHP	2	774.981	-61.86	-35	Pass
775	776.9	0.1	CHP	3	776.850	-35.02	-13	Pass
776.9	777	0.03	CHP	4	777.000	-34.77	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

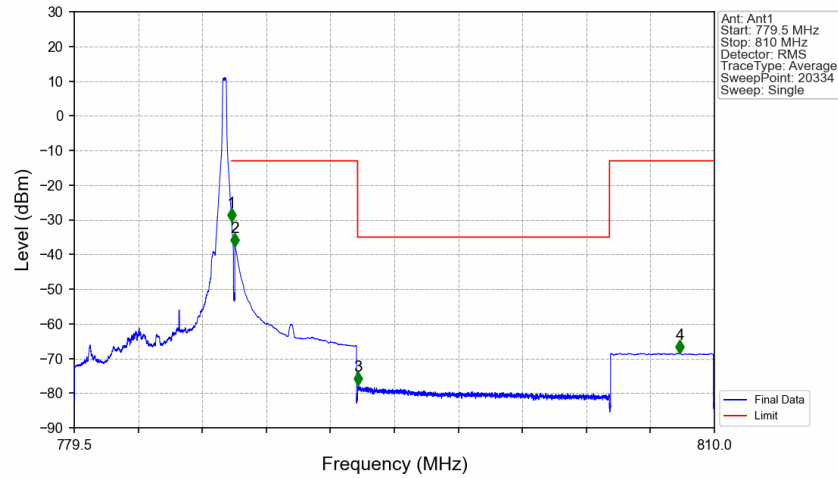
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Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_0_NTNV

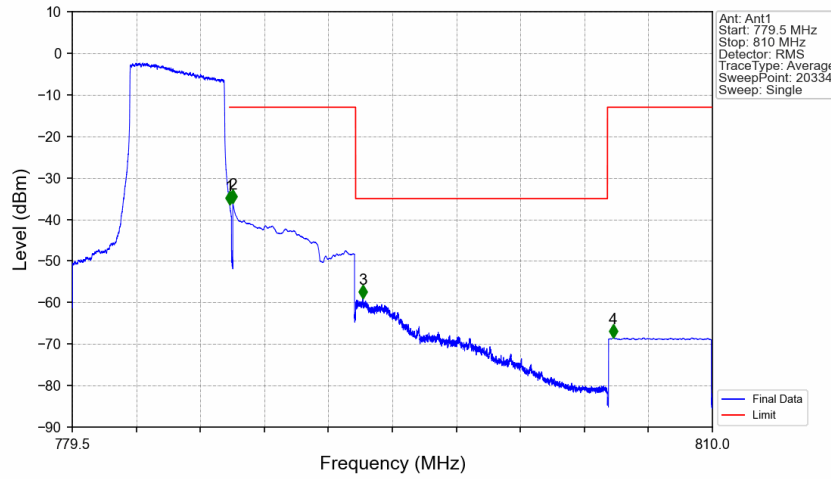


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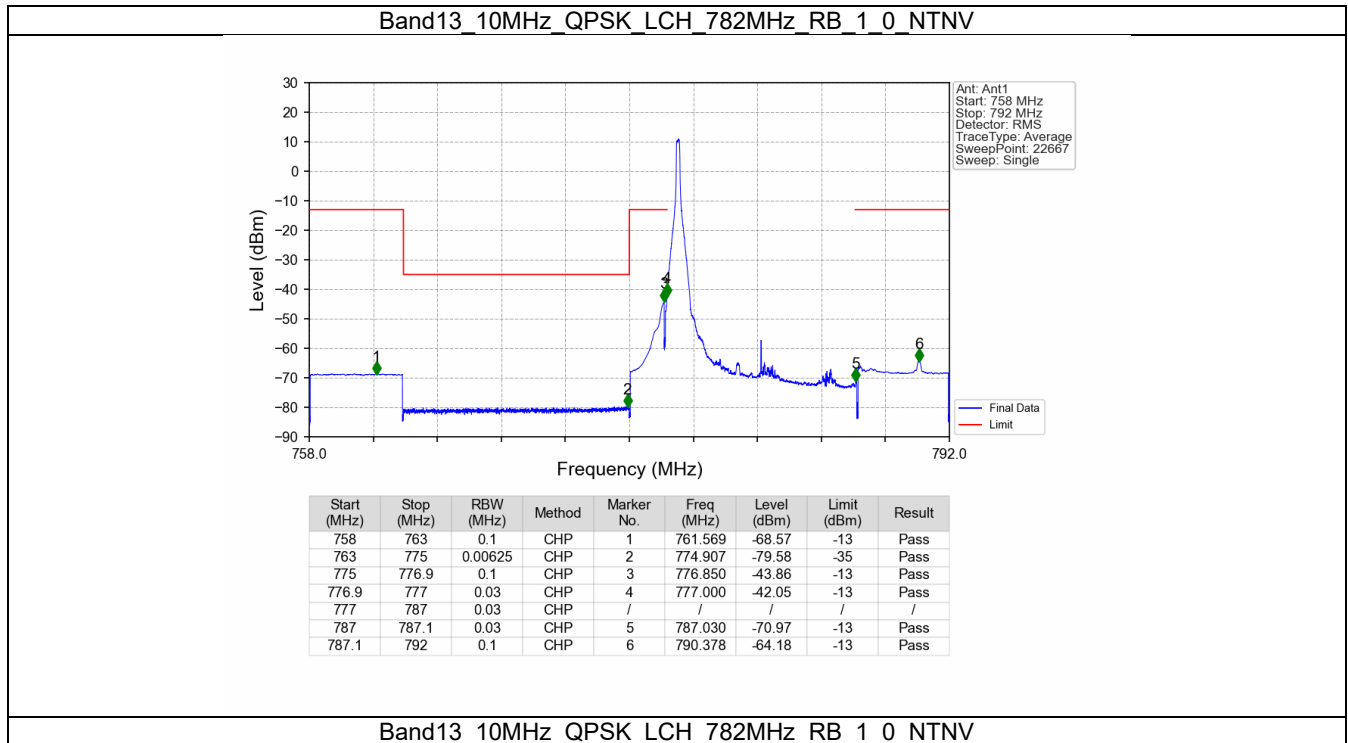
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-30.44	-13	Pass
787.1	793	0.1	CHP	2	787.150	-37.72	-13	Pass
793	805	0.00625	CHP	3	793.005	-77.72	-35	Pass
805	810	0.1	CHP	4	808.354	-68.45	-13	Pass

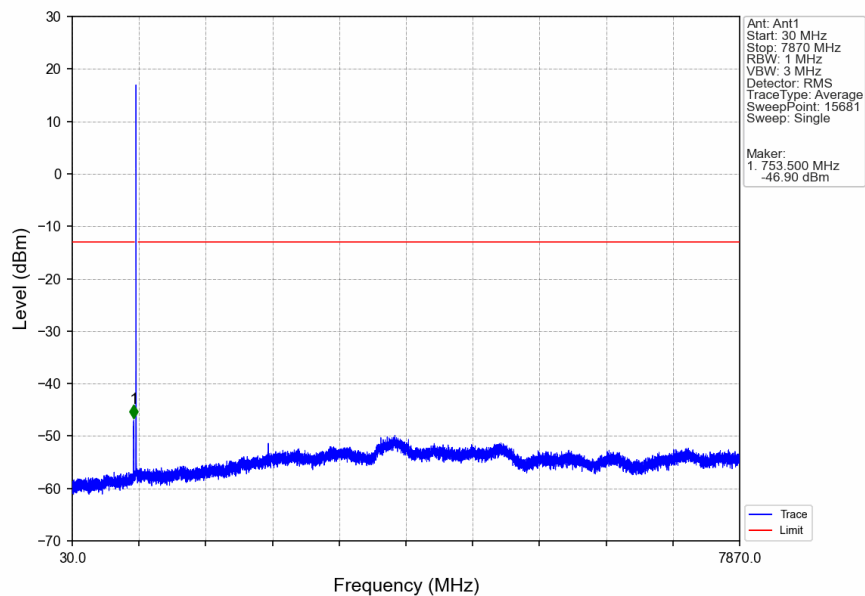
Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



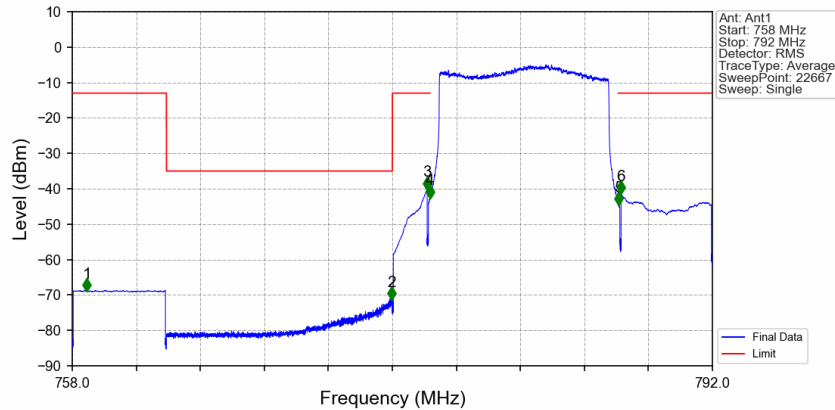
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-36.36	-13	Pass
787.1	793	0.1	CHP	2	787.150	-36.03	-13	Pass
793	805	0.00625	CHP	3	793.342	-59.06	-35	Pass
805	810	0.1	CHP	4	805.279	-68.47	-13	Pass

5.2.2 B13_10MHz



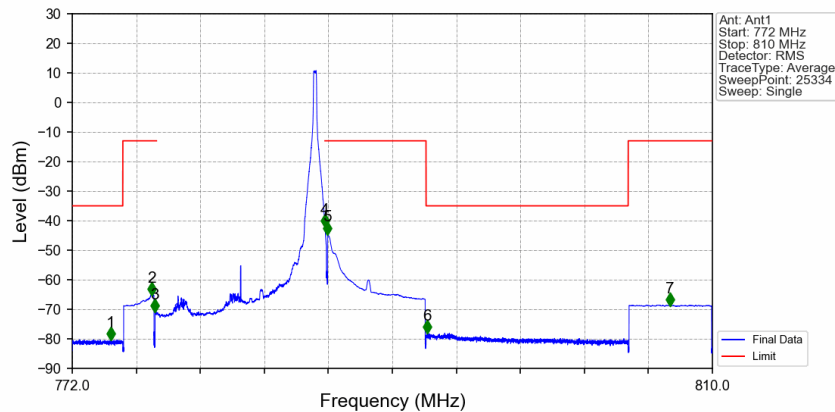


Band13_10MHz_QPSK_LCH_782MHz_RB_50_0_NTNV



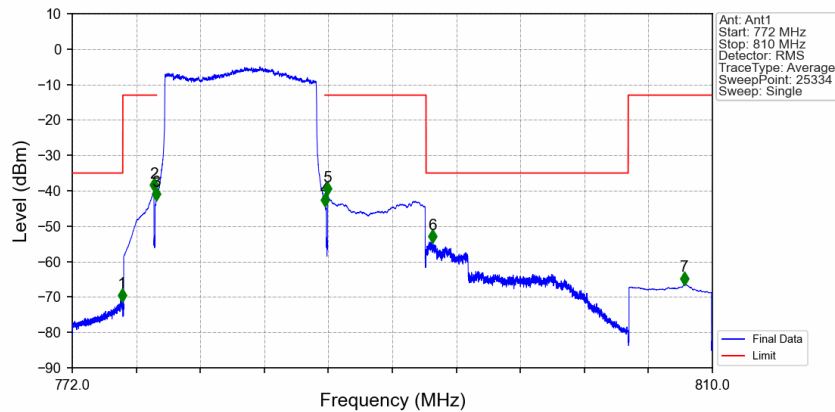
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	758.782	-68.72	-13	Pass
763	775	0.00625	CHP	2	774.955	-71.07	-35	Pass
775	776.9	0.1	CHP	3	776.847	-40.03	-13	Pass
776.9	777	0.03	CHP	4	776.995	-42.37	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.020	-44.41	-13	Pass
787.1	792	0.1	CHP	6	787.150	-41.21	-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	CHP	1	774.270	-80.13	-35	Pass
775	776.9	0.1	CHP	2	776.713	-65.01	-13	Pass
776.9	777	0.03	CHP	3	776.916	-70.67	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-41.86	-13	Pass
787.1	793	0.1	CHP	5	787.150	-44.34	-13	Pass
793	805	0.00625	CHP	6	793.066	-77.77	-35	Pass
805	810	0.1	CHP	7	807.474	-68.52	-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	CHP	1	774.957	-70.98	-35	Pass
775	776.9	0.1	CHP	2	776.848	-39.97	-13	Pass
776.9	777	0.03	CHP	3	776.979	-42.35	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-44.16	-13	Pass
787.1	793	0.1	CHP	5	787.150	-40.90	-13	Pass
793	805	0.00625	CHP	6	793.362	-54.37	-35	Pass
805	810	0.1	CHP	7	808.336	-66.26	-13	Pass

---End of Attachment---