

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 B13_5MHz_ERP

Band: 13 / Bandwidth: 5MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	779.5	1	0	23.40	-5.29	15.96	<=34.77	Pass
			13	23.77	-5.29	16.33	<=34.77	Pass
			24	23.64	-5.29	16.20	<=34.77	Pass
		12	0	22.79	-5.29	15.35	<=34.77	Pass
			6	22.79	-5.29	15.35	<=34.77	Pass
			13	22.79	-5.29	15.35	<=34.77	Pass
		25	0	22.78	-5.29	15.34	<=34.77	Pass
	782	1	0	23.58	-5.29	16.14	<=34.77	Pass
			13	23.78	-5.29	16.34	<=34.77	Pass
			24	23.57	-5.29	16.13	<=34.77	Pass
		12	0	22.86	-5.29	15.42	<=34.77	Pass
			6	22.88	-5.29	15.44	<=34.77	Pass
			13	22.83	-5.29	15.39	<=34.77	Pass
		25	0	22.88	-5.29	15.44	<=34.77	Pass
	784.5	1	0	23.79	-5.29	16.35	<=34.77	Pass
			13	23.35	-5.29	15.91	<=34.77	Pass
			24	23.78	-5.29	16.34	<=34.77	Pass
		12	0	22.89	-5.29	15.45	<=34.77	Pass
			6	22.84	-5.29	15.40	<=34.77	Pass
			13	22.87	-5.29	15.43	<=34.77	Pass
		25	0	22.89	-5.29	15.45	<=34.77	Pass
16QAM	779.5	1	0	23.00	-5.29	15.56	<=34.77	Pass
			13	23.03	-5.29	15.59	<=34.77	Pass
			24	23.07	-5.29	15.63	<=34.77	Pass
		12	0	21.83	-5.29	14.39	<=34.77	Pass
			6	21.77	-5.29	14.33	<=34.77	Pass
			13	21.79	-5.29	14.35	<=34.77	Pass
		25	0	21.77	-5.29	14.33	<=34.77	Pass
	782	1	0	22.72	-5.29	15.28	<=34.77	Pass
			13	22.88	-5.29	15.44	<=34.77	Pass
			24	22.82	-5.29	15.38	<=34.77	Pass
		12	0	21.81	-5.29	14.37	<=34.77	Pass
			6	21.87	-5.29	14.43	<=34.77	Pass
			13	21.81	-5.29	14.37	<=34.77	Pass
		25	0	21.92	-5.29	14.48	<=34.77	Pass
	784.5	1	0	23.02	-5.29	15.58	<=34.77	Pass
			13	22.81	-5.29	15.37	<=34.77	Pass
			24	22.74	-5.29	15.30	<=34.77	Pass
		12	0	21.90	-5.29	14.46	<=34.77	Pass
			6	21.88	-5.29	14.44	<=34.77	Pass
			13	21.83	-5.29	14.39	<=34.77	Pass
		25	0	21.87	-5.29	14.43	<=34.77	Pass
64QAM	779.5	1	0	21.93	-5.29	14.49	<=34.77	Pass
			13	21.87	-5.29	14.43	<=34.77	Pass
			24	21.99	-5.29	14.55	<=34.77	Pass
		12	0	20.80	-5.29	13.36	<=34.77	Pass
			6	20.85	-5.29	13.41	<=34.77	Pass
			13	20.78	-5.29	13.34	<=34.77	Pass
		25	0	20.74	-5.29	13.30	<=34.77	Pass

	782	1	0	21.62	-5.29	14.18	<=34.77	Pass	
			13	21.91	-5.29	14.47	<=34.77	Pass	
			24	21.55	-5.29	14.11	<=34.77	Pass	
		12	0	20.83	-5.29	13.39	<=34.77	Pass	
			6	20.81	-5.29	13.37	<=34.77	Pass	
			13	20.85	-5.29	13.41	<=34.77	Pass	
		25	0	20.81	-5.29	13.37	<=34.77	Pass	
		784.5	1	0	21.47	-5.29	14.03	<=34.77	Pass
				13	21.47	-5.29	14.03	<=34.77	Pass
	24			21.48	-5.29	14.04	<=34.77	Pass	
	12		0	20.90	-5.29	13.46	<=34.77	Pass	
			6	20.88	-5.29	13.44	<=34.77	Pass	
			13	20.87	-5.29	13.43	<=34.77	Pass	
	25	0	20.83	-5.29	13.39	<=34.77	Pass		
256QAM	779.5	1	0	18.78	-5.29	11.34	<=34.77	Pass	
			13	18.78	-5.29	11.34	<=34.77	Pass	
			24	18.80	-5.29	11.36	<=34.77	Pass	
		12	0	18.72	-5.29	11.28	<=34.77	Pass	
			6	18.76	-5.29	11.32	<=34.77	Pass	
			13	18.73	-5.29	11.29	<=34.77	Pass	
		25	0	18.73	-5.29	11.29	<=34.77	Pass	
	782	1	0	18.77	-5.29	11.33	<=34.77	Pass	
			13	18.86	-5.29	11.42	<=34.77	Pass	
			24	18.72	-5.29	11.28	<=34.77	Pass	
		12	0	18.75	-5.29	11.31	<=34.77	Pass	
			6	18.71	-5.29	11.27	<=34.77	Pass	
			13	18.74	-5.29	11.30	<=34.77	Pass	
	25	0	18.75	-5.29	11.31	<=34.77	Pass		
	784.5	1	0	18.90	-5.29	11.46	<=34.77	Pass	
			13	18.87	-5.29	11.43	<=34.77	Pass	
			24	18.87	-5.29	11.43	<=34.77	Pass	
		12	0	18.76	-5.29	11.32	<=34.77	Pass	
			6	18.82	-5.29	11.38	<=34.77	Pass	
			13	18.79	-5.29	11.35	<=34.77	Pass	
	25	0	18.81	-5.29	11.37	<=34.77	Pass		
Note1: ERP=Conducted Power+Antenna Gain-2.15									

1.1.2 B13_10MHz_ERP

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	23.57	-5.29	16.13	<=34.77	Pass
			25	23.72	-5.29	16.28	<=34.77	Pass
			49	23.80	-5.29	16.36	<=34.77	Pass
		25	0	22.91	-5.29	15.47	<=34.77	Pass
			13	22.85	-5.29	15.41	<=34.77	Pass
			25	22.86	-5.29	15.42	<=34.77	Pass
		50	0	22.89	-5.29	15.45	<=34.77	Pass
16QAM	782	1	0	23.04	-5.29	15.60	<=34.77	Pass
			25	22.90	-5.29	15.46	<=34.77	Pass
			49	23.02	-5.29	15.58	<=34.77	Pass
		25	0	21.89	-5.29	14.45	<=34.77	Pass
			13	21.81	-5.29	14.37	<=34.77	Pass
			25	21.76	-5.29	14.32	<=34.77	Pass
		50	0	21.85	-5.29	14.41	<=34.77	Pass
64QAM	782	1	0	21.71	-5.29	14.27	<=34.77	Pass

			25	21.81	-5.29	14.37	<=34.77	Pass
			49	21.98	-5.29	14.54	<=34.77	Pass
		25	0	20.64	-5.29	13.20	<=34.77	Pass
			13	20.71	-5.29	13.27	<=34.77	Pass
			25	20.75	-5.29	13.31	<=34.77	Pass
		50	0	20.80	-5.29	13.36	<=34.77	Pass
		256QAM	782	1	0	18.83	-5.29	11.39
25	18.88				-5.29	11.44	<=34.77	Pass
49	18.89				-5.29	11.45	<=34.77	Pass
25	0			18.72	-5.29	11.28	<=34.77	Pass
	13			18.62	-5.29	11.18	<=34.77	Pass
	25			18.77	-5.29	11.33	<=34.77	Pass
50	0			18.74	-5.29	11.30	<=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	2.200	0.0028	-2.5 to 2.5	Pass
					NV	2.300	0.0029	-2.5 to 2.5	Pass
					HV	0.800	0.0010	-2.5 to 2.5	Pass
				-30	NV	4.800	0.0061	-2.5 to 2.5	Pass
				-20	NV	-0.500	-0.0006	-2.5 to 2.5	Pass
				-10	NV	2.700	0.0035	-2.5 to 2.5	Pass
				0	NV	2.400	0.0031	-2.5 to 2.5	Pass
				10	NV	0.200	0.0003	-2.5 to 2.5	Pass
				30	NV	-1.800	-0.0023	-2.5 to 2.5	Pass
				40	NV	1.100	0.0014	-2.5 to 2.5	Pass
				50	NV	-3.000	-0.0038	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

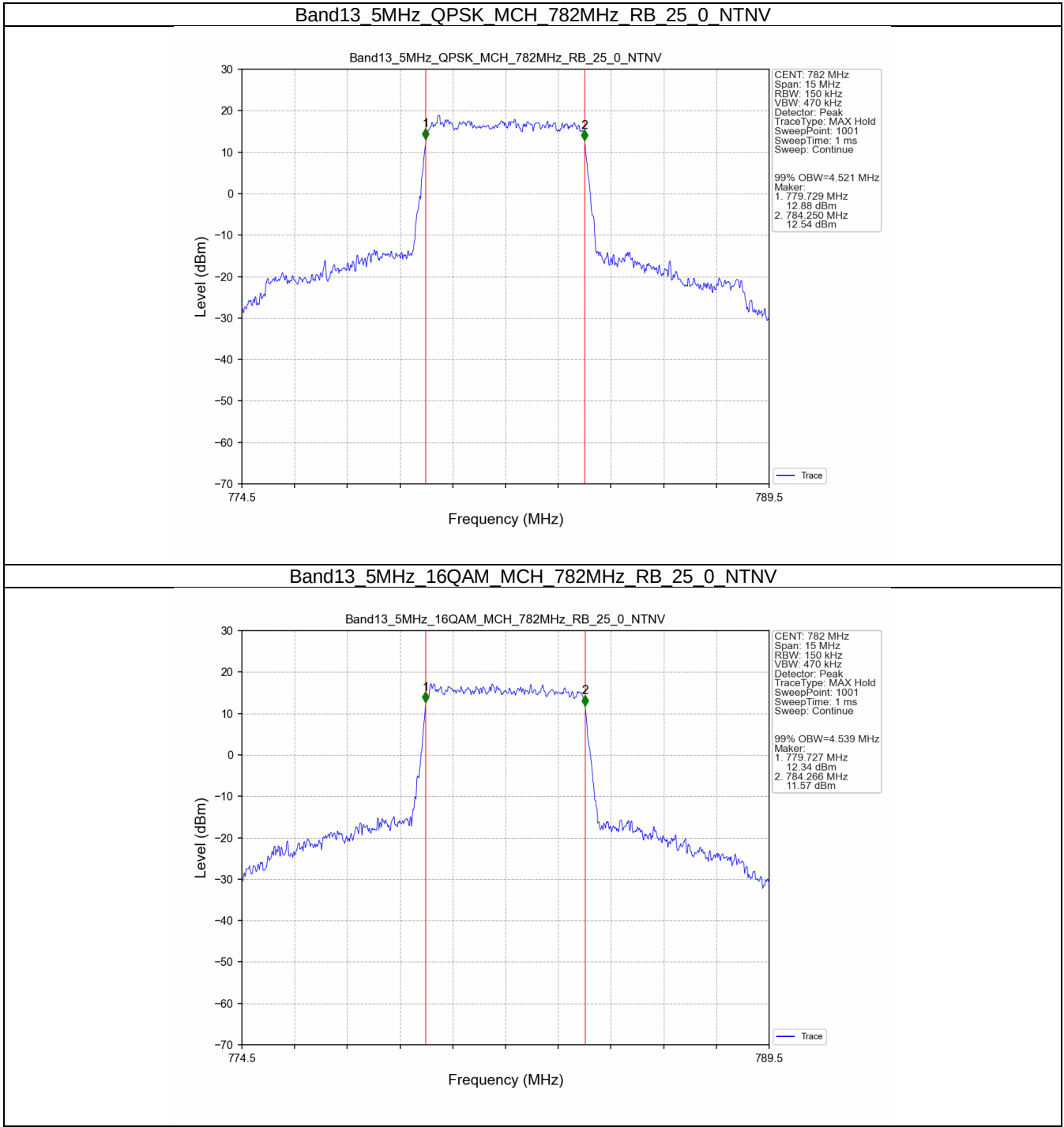
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.521	/	Pass
	16QAM	782	25	0	4.539	/	Pass
	64QAM	782	25	0	4.532	/	Pass
	256QAM	782	25	0	4.513	/	Pass
10	QPSK	782	50	0	9.086	/	Pass
	16QAM	782	50	0	9.037	/	Pass
	64QAM	782	50	0	9.047	/	Pass
	256QAM	782	50	0	9.001	/	Pass

3.1.2 Band13_XDB

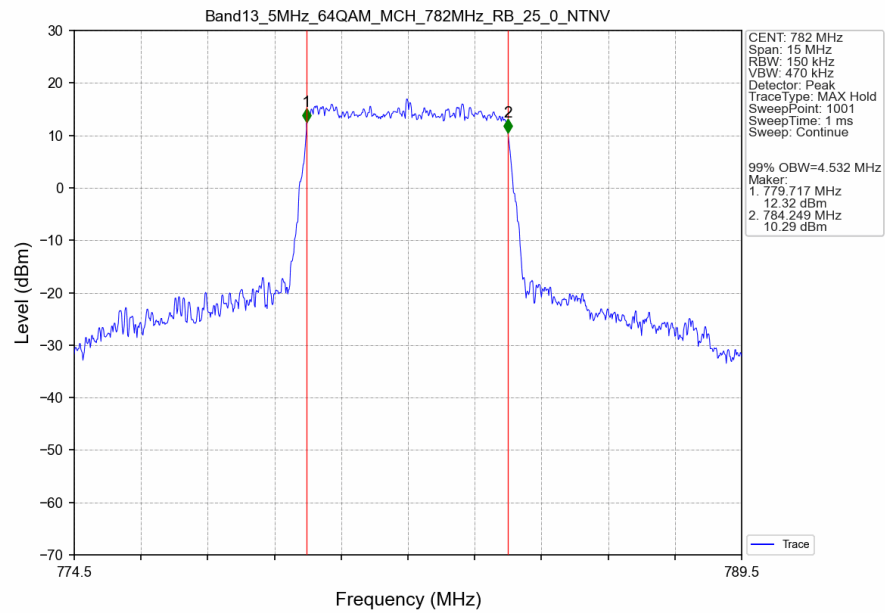
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.074	/	Pass
	16QAM	782	25	0	5.055	/	Pass
	64QAM	782	25	0	5.036	/	Pass
	256QAM	782	25	0	5.031	/	Pass
10	QPSK	782	50	0	9.945	/	Pass
	16QAM	782	50	0	9.936	/	Pass
	64QAM	782	50	0	9.936	/	Pass
	256QAM	782	50	0	9.898	/	Pass

3.2 Test Graph

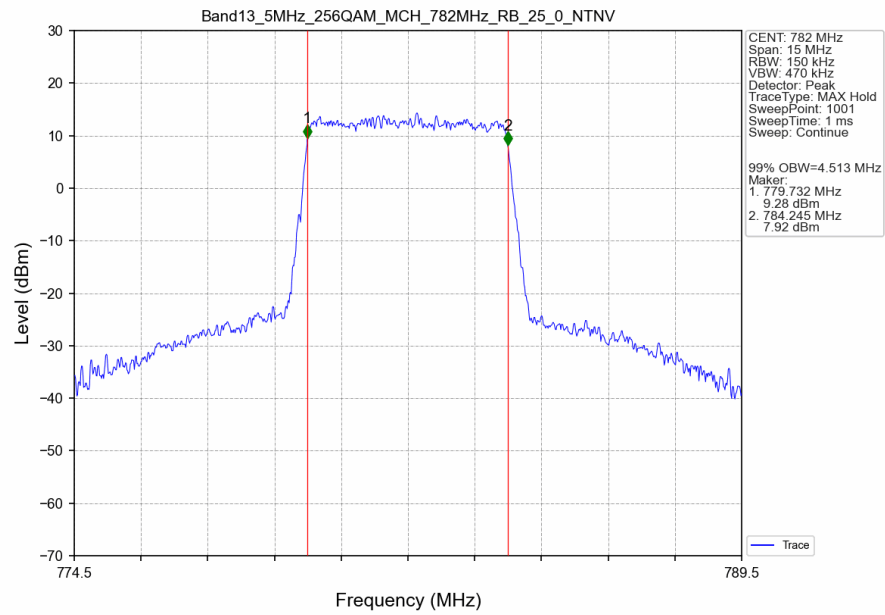
3.2.1 Band13_OBW



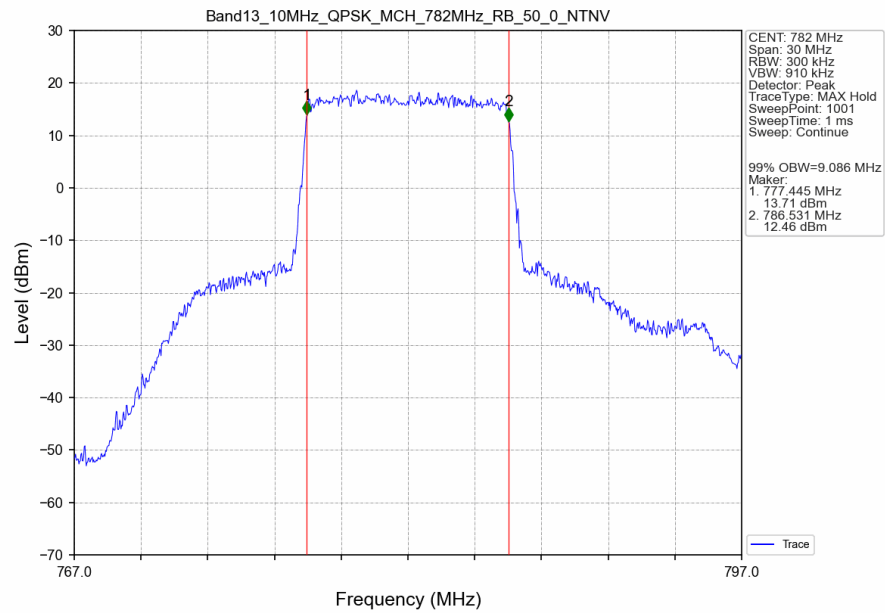
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTV



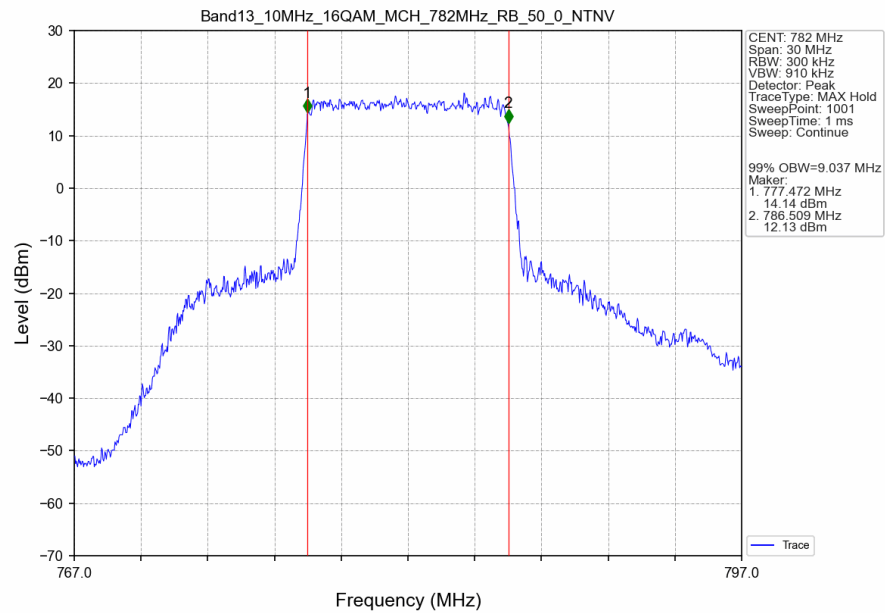
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTV



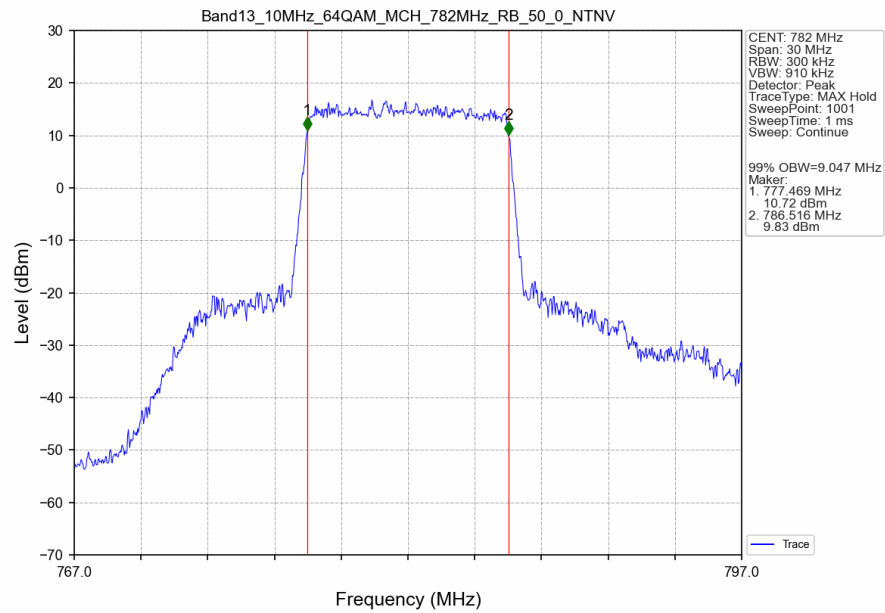
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



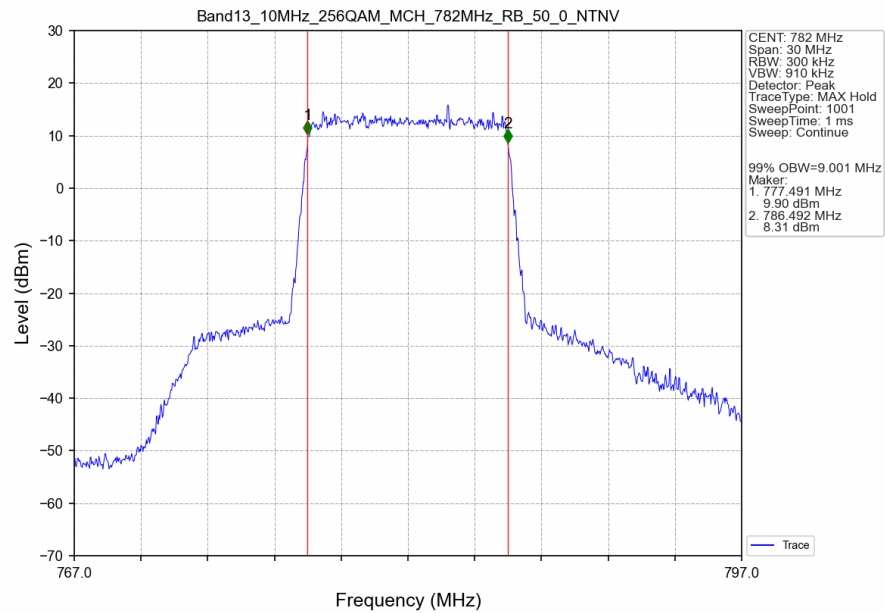
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



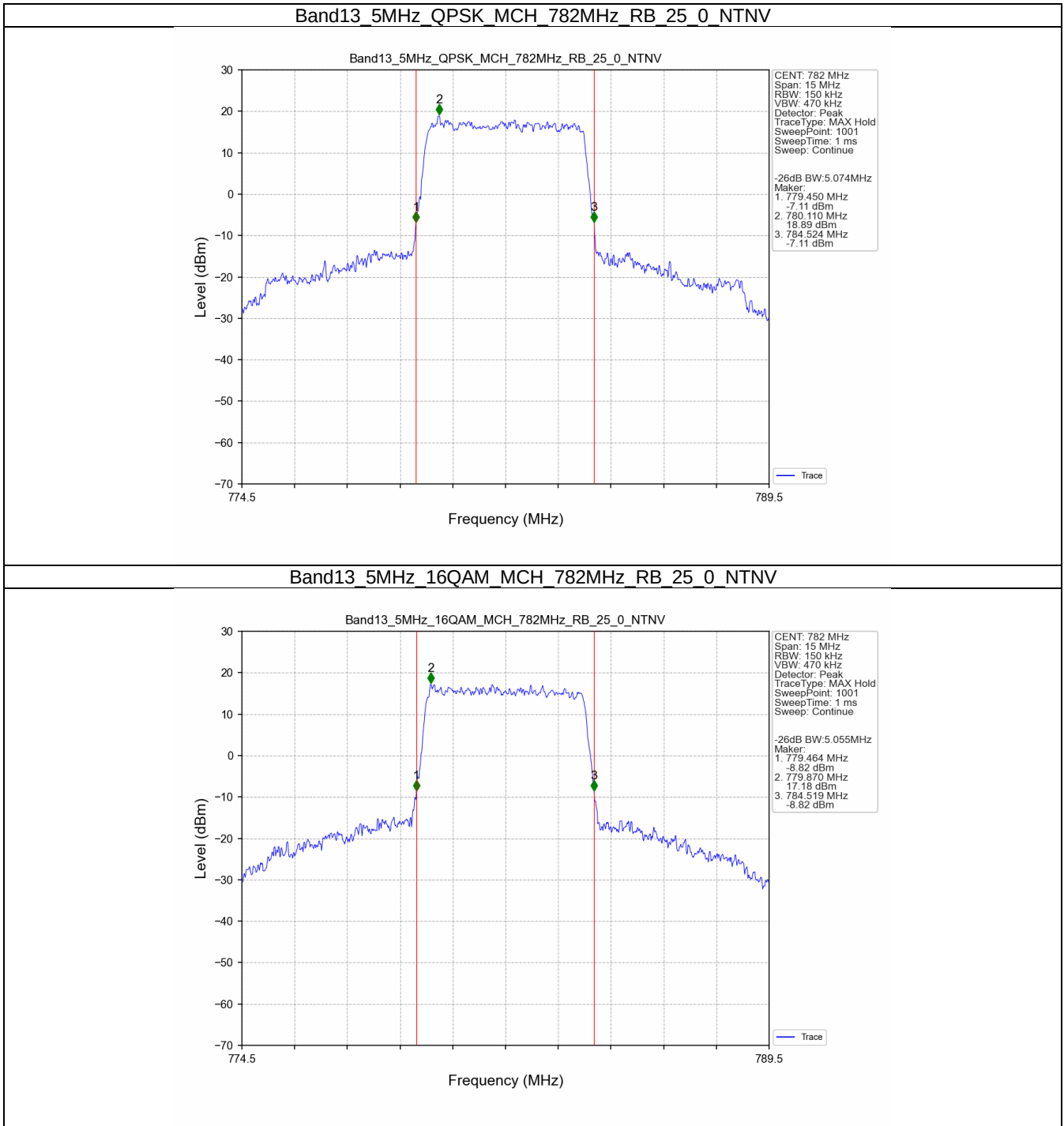
Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTV



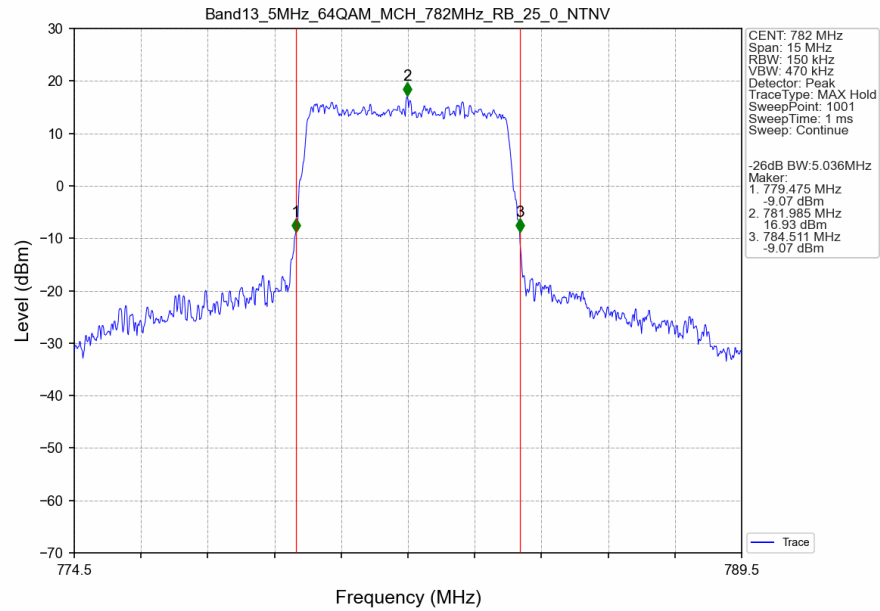
Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTV



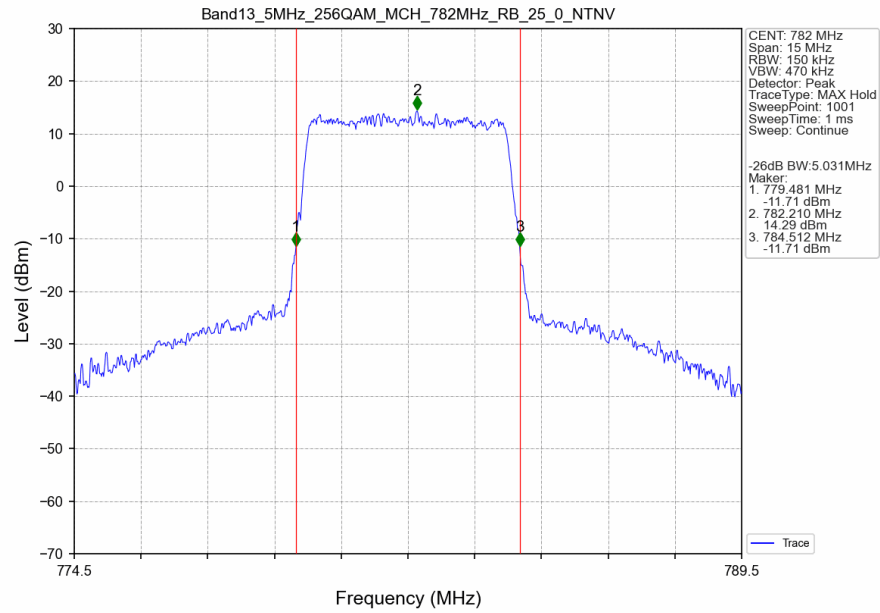
3.2.2 Band13_XDB



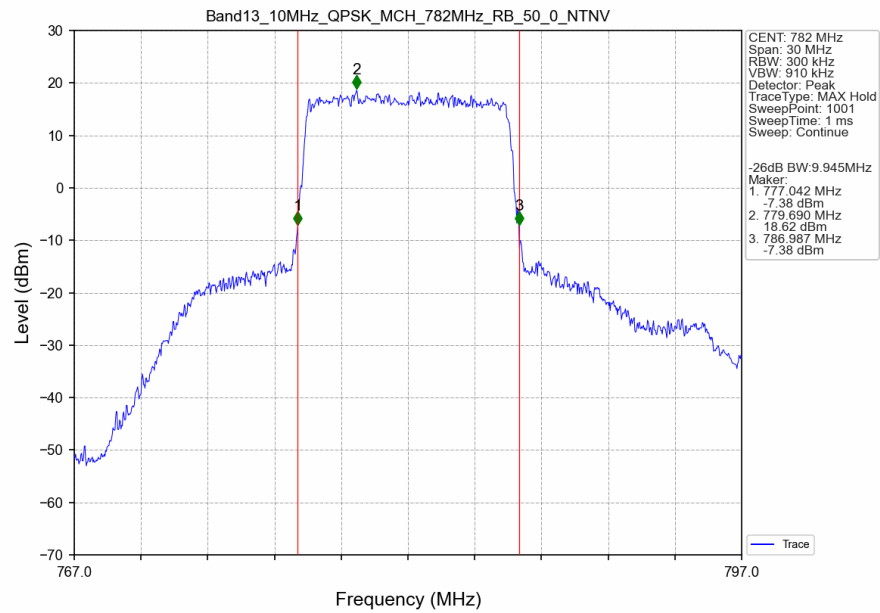
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTV



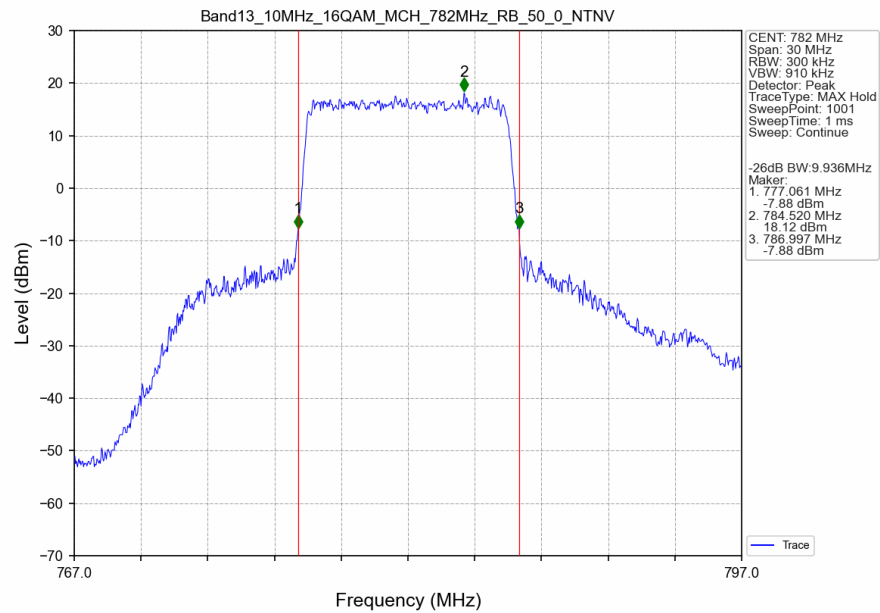
Band13_5MHz_256QAM_MCH_782MHz_RB_25_0_NTV



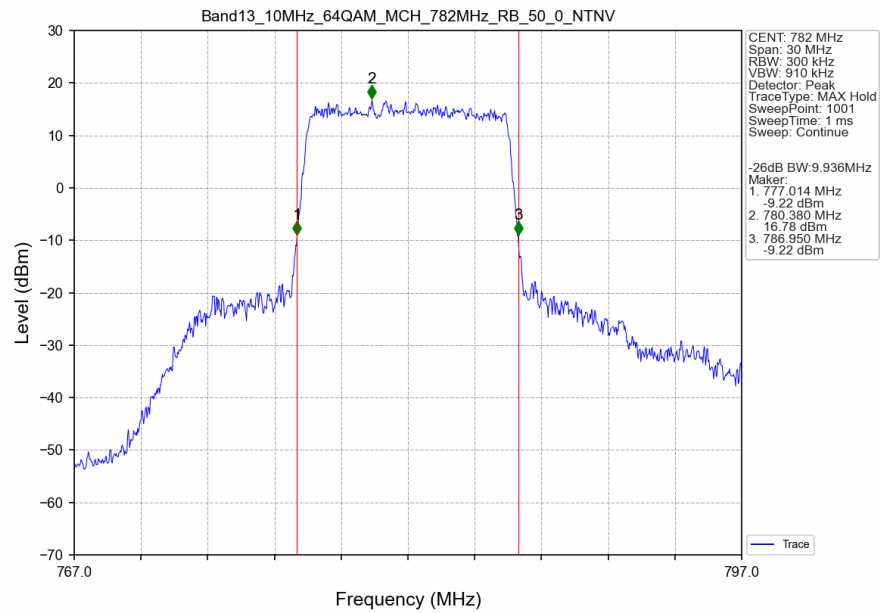
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



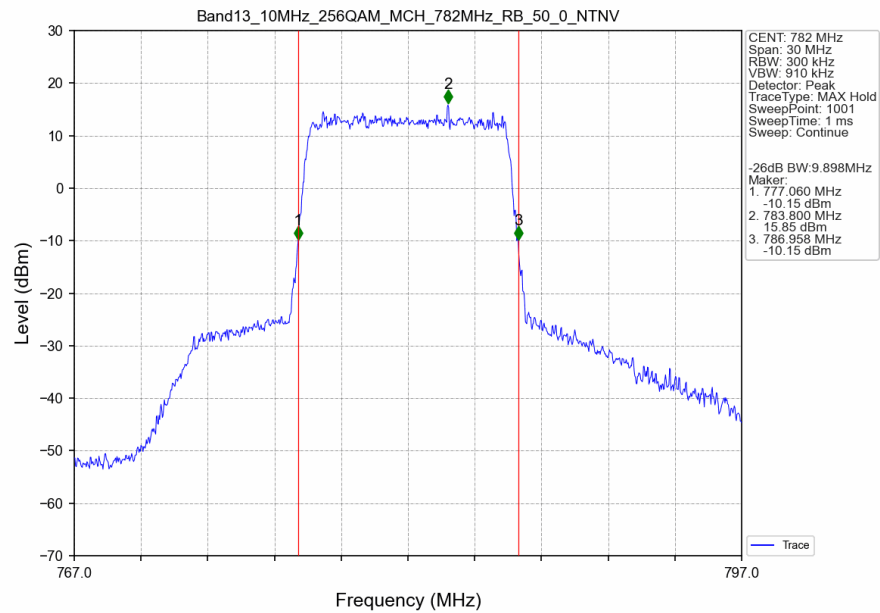
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTNV



Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTNV



4. Peak-Average Ratio

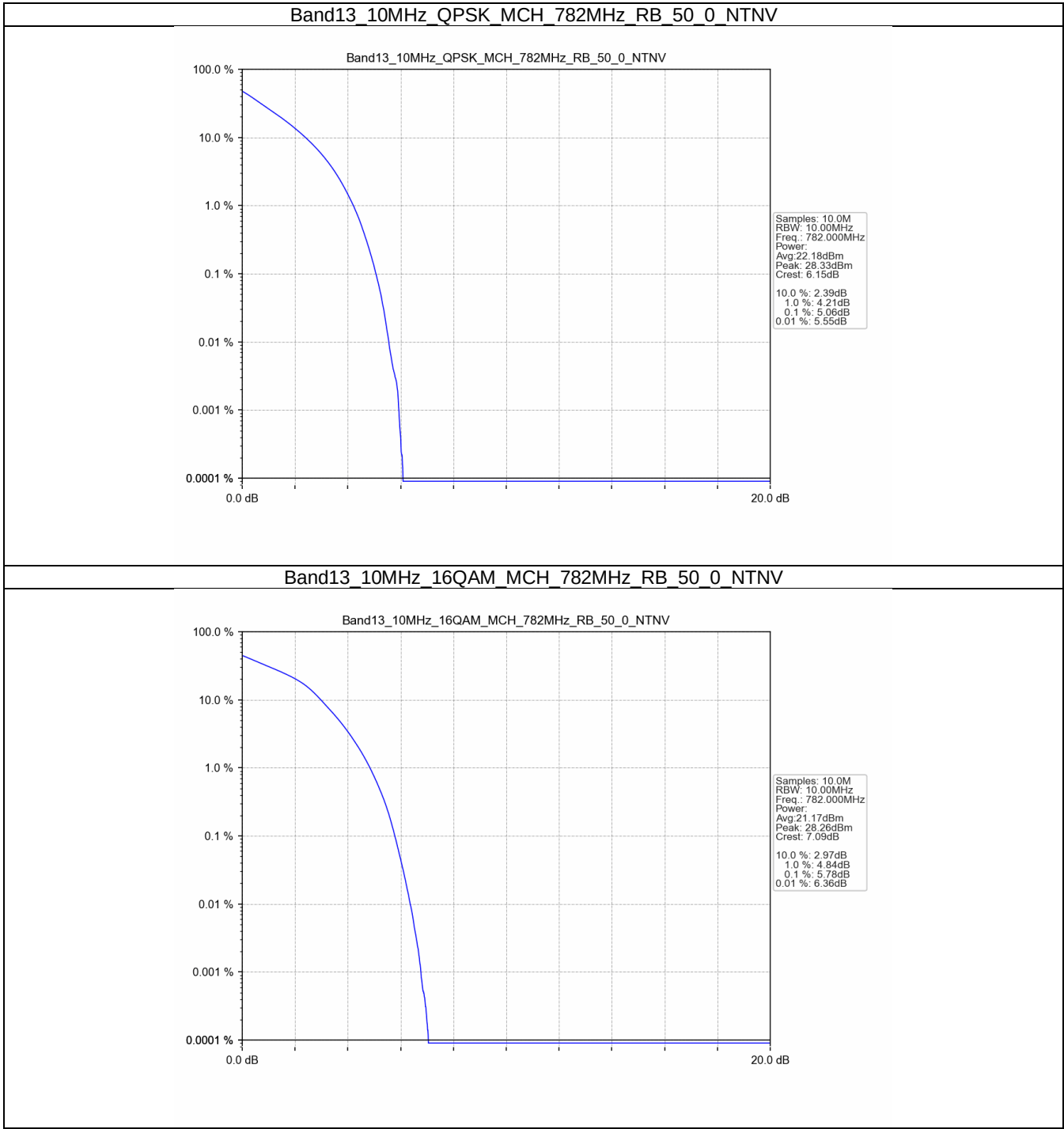
4.1 Test Result

4.1.1 B13_10MHz

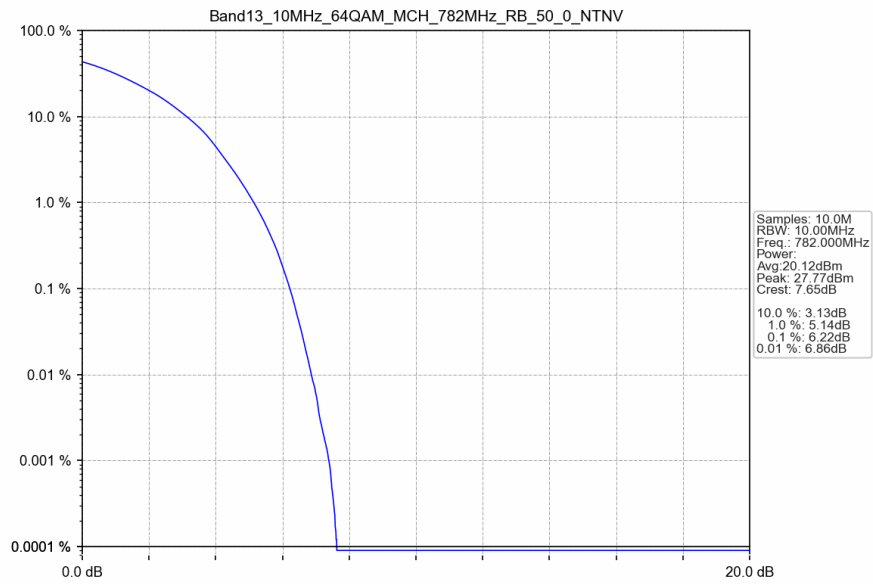
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.06	<=13	Pass
16QAM	782	50	0	5.78	<=13	Pass
64QAM	782	50	0	6.22	<=13	Pass
256QAM	782	50	0	6.68	<=13	Pass

4.2 Test Graph

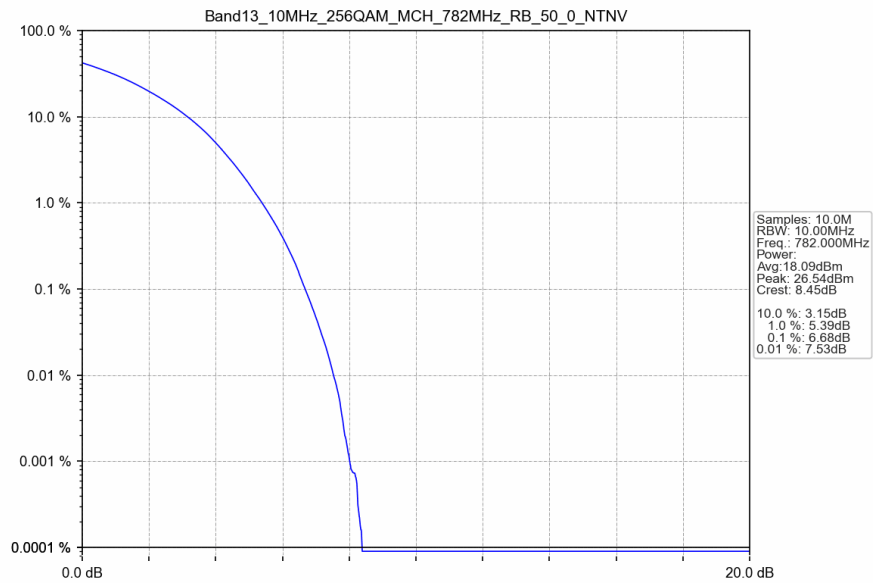
4.2.1 B13_10MHz



Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTNV



Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTNV



5. Spurious Emission

5.1 Test Result

5.1.1 B13_5MHz

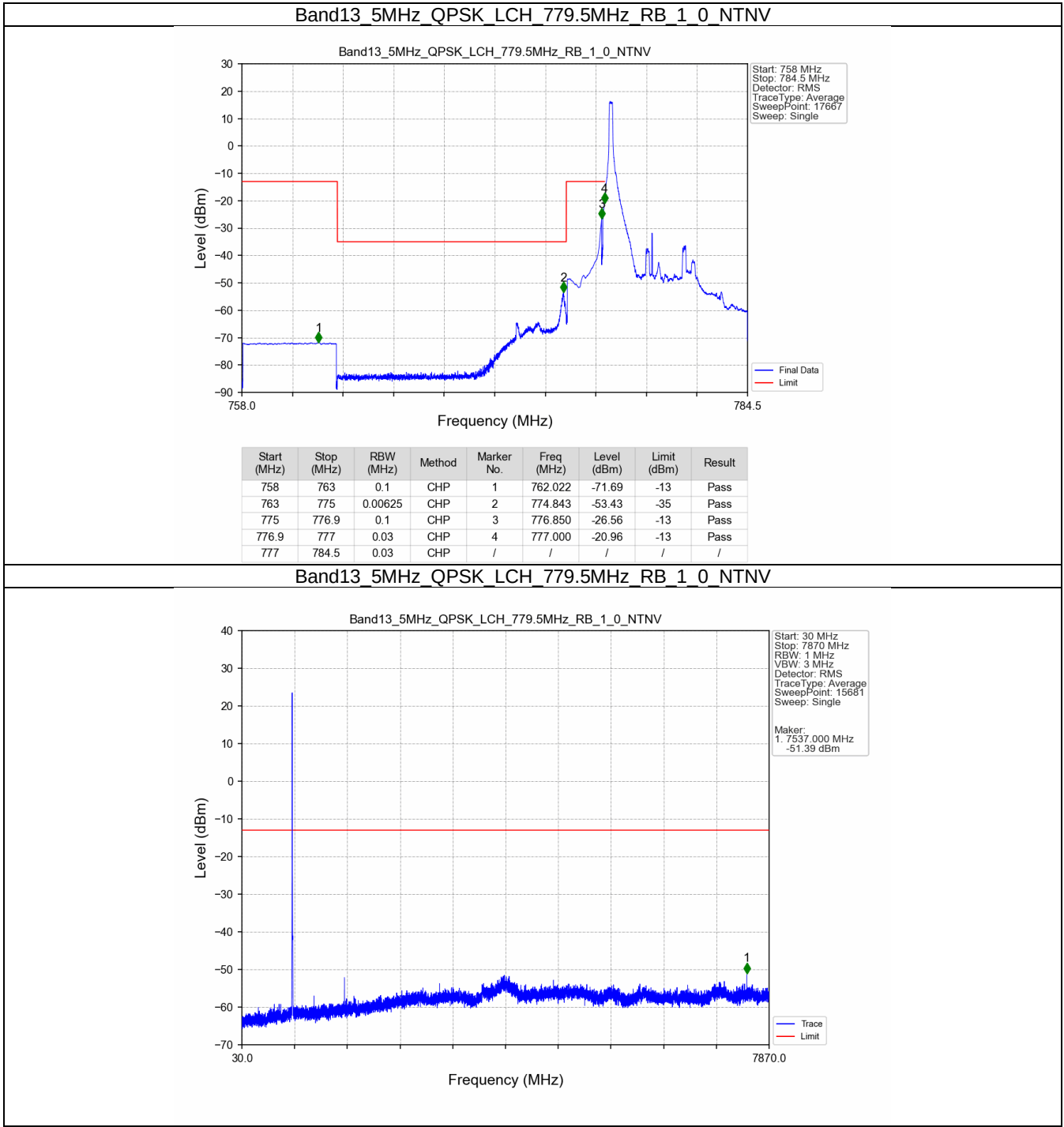
Band: 13 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B13_10MHz

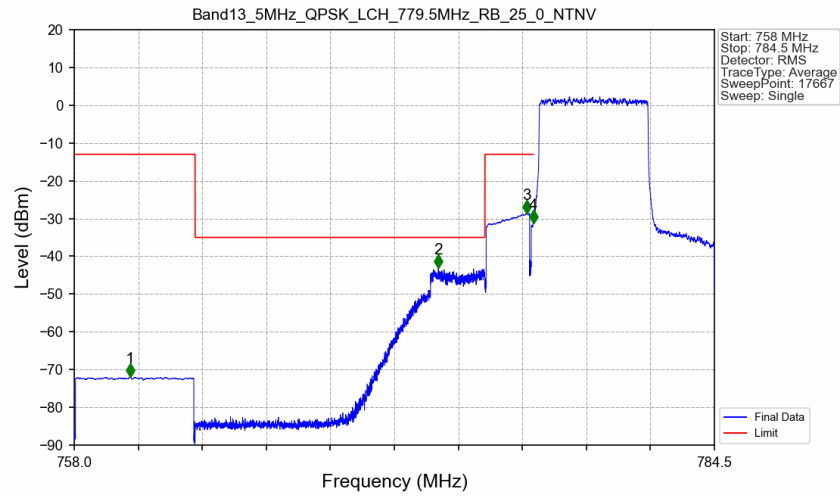
Band: 13 / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

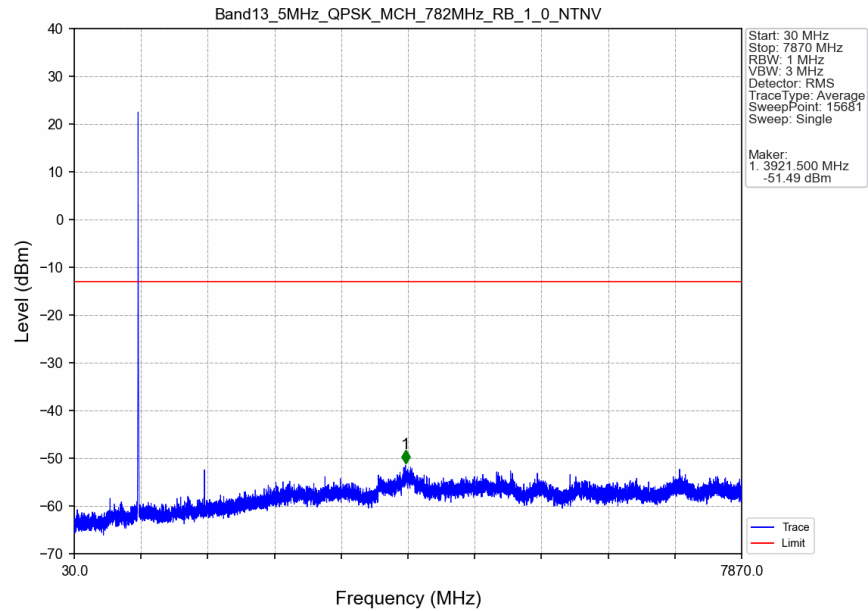
5.2.1 B13_5MHz



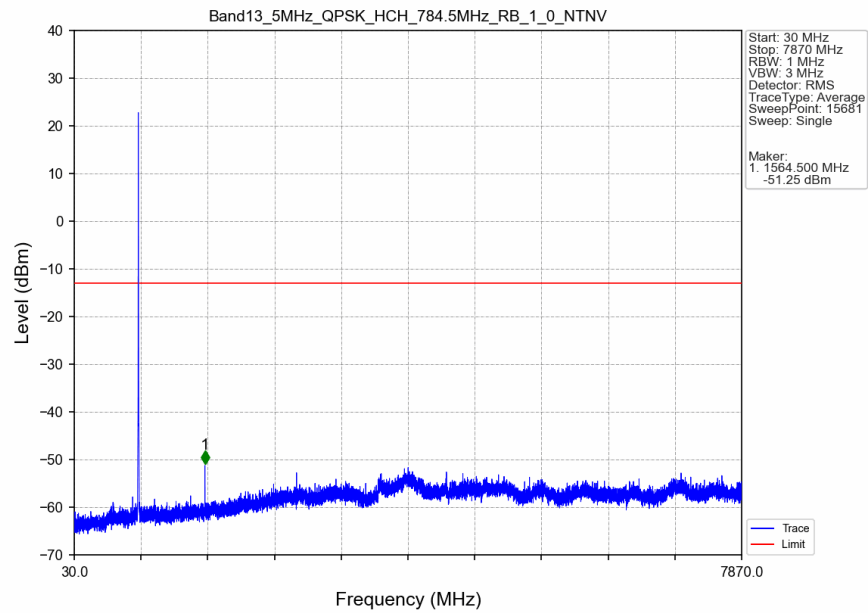
Band13 5MHz QPSK LCH 779.5MHz RB 25 0 NTNV



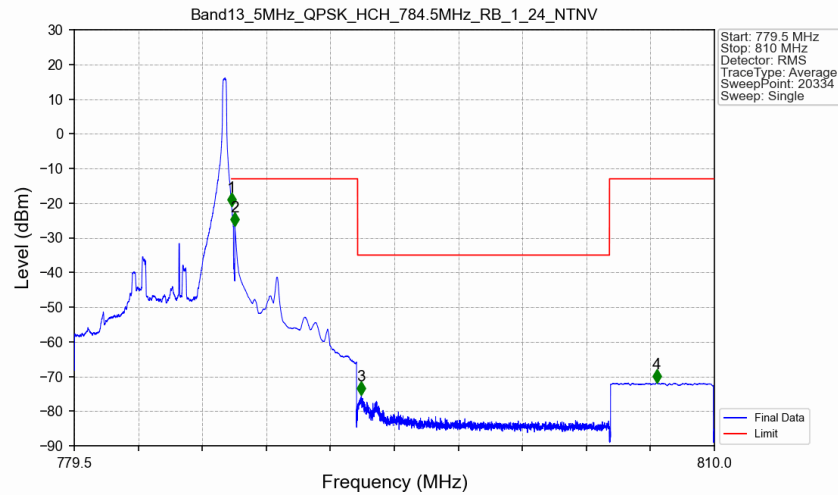
Band13 5MHz QPSK MCH 782MHz RB 1 0 NTNV



Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTN

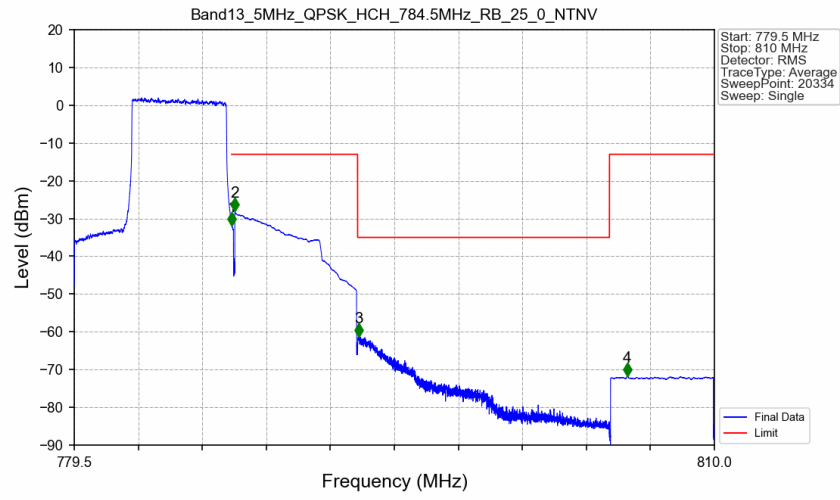


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTN



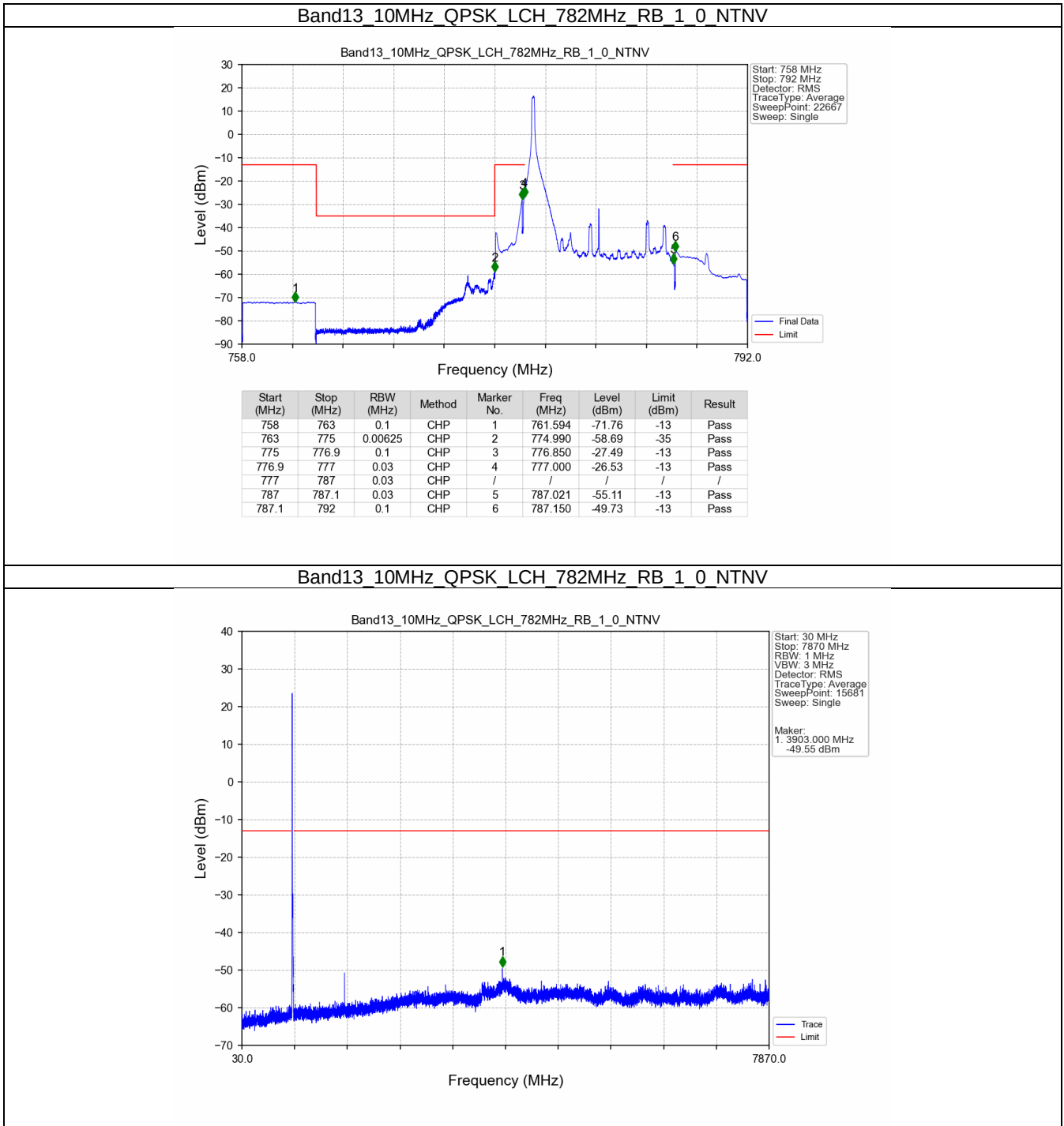
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-20.94	-13	Pass
787.1	793	0.1	CHP	2	787.150	-26.65	-13	Pass
793	805	0.00625	CHP	3	793.176	-75.22	-35	Pass
805	810	0.1	CHP	4	807.256	-71.86	-13	Pass

Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTNV

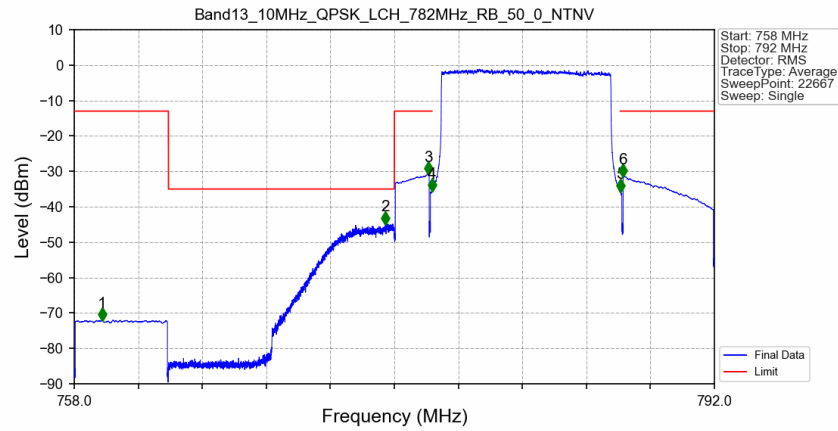


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.002	-31.80	-13	Pass
787.1	793	0.1	CHP	2	787.150	-28.12	-13	Pass
793	805	0.00625	CHP	3	793.072	-61.31	-35	Pass
805	810	0.1	CHP	4	805.842	-71.80	-13	Pass

5.2.2 B13_10MHz

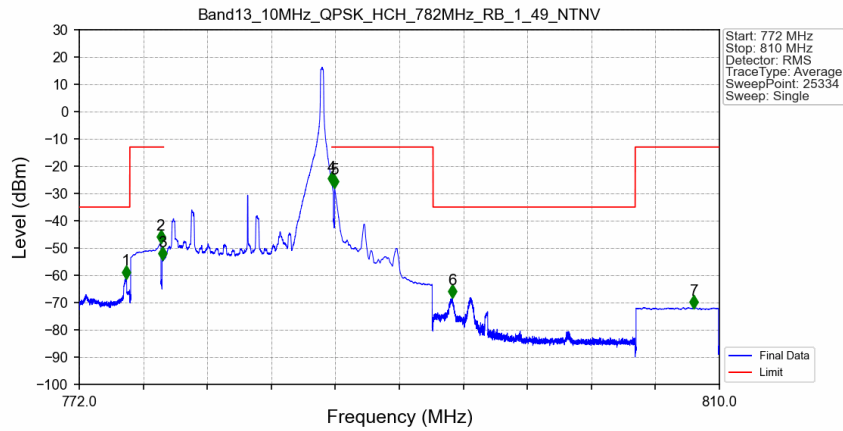


Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



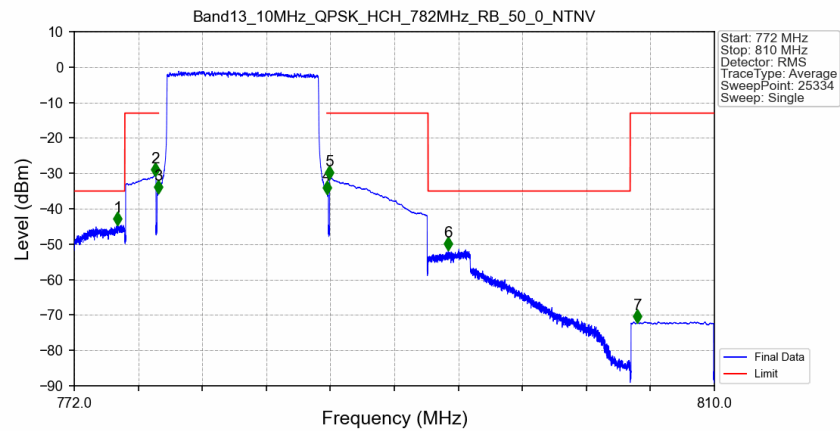
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	759.484	-71.93	-13	Pass
763	775	0.00625	CHP	2	774.535	-44.70	-35	Pass
775	776.9	0.1	CHP	3	776.815	-30.76	-13	Pass
776.9	777	0.03	CHP	4	777.000	-35.43	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.003	-35.52	-13	Pass
787.1	792	0.1	CHP	6	787.152	-31.40	-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	774.780	-60.85	-35	Pass
775	776.9	0.1	CHP	2	776.833	-47.95	-13	Pass
776.9	777	0.03	CHP	3	776.935	-54.03	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-26.60	-13	Pass
787.1	793	0.1	CHP	5	787.150	-27.52	-13	Pass
793	805	0.00625	CHP	6	794.155	-67.99	-35	Pass
805	810	0.1	CHP	7	808.491	-71.80	-13	Pass

Band13 10MHz QPSK HCH 782MHz RB 50 0 NTN



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	CHP	1	774.582	-44.44	-35	Pass
775	776.9	0.1	CHP	2	776.802	-30.45	-13	Pass
776.9	777	0.03	CHP	3	777.000	-35.41	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.002	-35.55	-13	Pass
787.1	793	0.1	CHP	5	787.153	-31.34	-13	Pass
793	805	0.00625	CHP	6	794.202	-51.47	-35	Pass
805	810	0.1	CHP	7	805.440	-71.90	-13	Pass