

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	23.80	-4.85	16.80	<=34.77	Pass
			13	23.93	-4.85	16.93	<=34.77	Pass
			24	23.86	-4.85	16.86	<=34.77	Pass
		12	0	22.66	-4.85	15.66	<=34.77	Pass
			6	22.77	-4.85	15.77	<=34.77	Pass
			13	22.79	-4.85	15.79	<=34.77	Pass
		25	0	22.77	-4.85	15.77	<=34.77	Pass
	782	1	0	23.76	-4.85	16.76	<=34.77	Pass
			13	23.83	-4.85	16.83	<=34.77	Pass
			24	23.85	-4.85	16.85	<=34.77	Pass
		12	0	22.81	-4.85	15.81	<=34.77	Pass
			6	22.79	-4.85	15.79	<=34.77	Pass
			13	22.80	-4.85	15.80	<=34.77	Pass
		25	0	22.82	-4.85	15.82	<=34.77	Pass
	784.5	1	0	23.89	-4.85	16.89	<=34.77	Pass
			13	23.85	-4.85	16.85	<=34.77	Pass
			24	23.84	-4.85	16.84	<=34.77	Pass
		12	0	22.85	-4.85	15.85	<=34.77	Pass
			6	22.79	-4.85	15.79	<=34.77	Pass
			13	22.82	-4.85	15.82	<=34.77	Pass
		25	0	22.86	-4.85	15.86	<=34.77	Pass
16QAM	779.5	1	0	22.53	-4.85	15.53	<=34.77	Pass
			13	22.66	-4.85	15.66	<=34.77	Pass
			24	22.62	-4.85	15.62	<=34.77	Pass
		12	0	21.71	-4.85	14.71	<=34.77	Pass
			6	21.86	-4.85	14.86	<=34.77	Pass
			13	21.83	-4.85	14.83	<=34.77	Pass
		25	0	21.79	-4.85	14.79	<=34.77	Pass
	782	1	0	23.02	-4.85	16.02	<=34.77	Pass
			13	23.08	-4.85	16.08	<=34.77	Pass
			24	23.08	-4.85	16.08	<=34.77	Pass
		12	0	21.88	-4.85	14.88	<=34.77	Pass
			6	21.84	-4.85	14.84	<=34.77	Pass
			13	21.85	-4.85	14.85	<=34.77	Pass
		25	0	21.79	-4.85	14.79	<=34.77	Pass
	784.5	1	0	22.94	-4.85	15.94	<=34.77	Pass
			13	22.93	-4.85	15.93	<=34.77	Pass
			24	22.95	-4.85	15.95	<=34.77	Pass
		12	0	21.87	-4.85	14.87	<=34.77	Pass
			6	21.82	-4.85	14.82	<=34.77	Pass
			13	21.80	-4.85	14.80	<=34.77	Pass
		25	0	21.84	-4.85	14.84	<=34.77	Pass
64QAM	779.5	1	0	21.67	-4.85	14.67	<=34.77	Pass
			13	21.75	-4.85	14.75	<=34.77	Pass
			24	21.72	-4.85	14.72	<=34.77	Pass
		12	0	20.80	-4.85	13.80	<=34.77	Pass
			6	20.86	-4.85	13.86	<=34.77	Pass
			13	20.87	-4.85	13.87	<=34.77	Pass
		25	0	20.79	-4.85	13.79	<=34.77	Pass

	782	1	0	22.16	-4.85	15.16	<=34.77	Pass
			13	22.22	-4.85	15.22	<=34.77	Pass
			24	22.24	-4.85	15.24	<=34.77	Pass
		12	0	20.83	-4.85	13.83	<=34.77	Pass
			6	20.80	-4.85	13.80	<=34.77	Pass
			13	20.77	-4.85	13.77	<=34.77	Pass
		25	0	20.82	-4.85	13.82	<=34.77	Pass
	784.5	1	0	22.09	-4.85	15.09	<=34.77	Pass
			13	22.05	-4.85	15.05	<=34.77	Pass
			24	22.06	-4.85	15.06	<=34.77	Pass
		12	0	20.95	-4.85	13.95	<=34.77	Pass
			6	20.94	-4.85	13.94	<=34.77	Pass
			13	20.96	-4.85	13.96	<=34.77	Pass
		25	0	20.91	-4.85	13.91	<=34.77	Pass
256QAM	779.5	1	0	18.59	-4.85	11.59	<=34.77	Pass
			13	18.61	-4.85	11.61	<=34.77	Pass
			24	18.60	-4.85	11.60	<=34.77	Pass
		12	0	18.78	-4.85	11.78	<=34.77	Pass
			6	18.82	-4.85	11.82	<=34.77	Pass
			13	18.86	-4.85	11.86	<=34.77	Pass
		25	0	18.88	-4.85	11.88	<=34.77	Pass
	782	1	0	19.06	-4.85	12.06	<=34.77	Pass
			13	19.04	-4.85	12.04	<=34.77	Pass
			24	19.04	-4.85	12.04	<=34.77	Pass
		12	0	18.89	-4.85	11.89	<=34.77	Pass
			6	18.87	-4.85	11.87	<=34.77	Pass
			13	18.85	-4.85	11.85	<=34.77	Pass
		25	0	18.84	-4.85	11.84	<=34.77	Pass
	784.5	1	0	18.90	-4.85	11.90	<=34.77	Pass
			13	18.89	-4.85	11.89	<=34.77	Pass
			24	18.86	-4.85	11.86	<=34.77	Pass
		12	0	18.87	-4.85	11.87	<=34.77	Pass
			6	18.88	-4.85	11.88	<=34.77	Pass
			13	18.88	-4.85	11.88	<=34.77	Pass
		25	0	18.89	-4.85	11.89	<=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	23.84	-4.85	16.84	<=34.77	Pass
			25	23.87	-4.85	16.87	<=34.77	Pass
			49	23.78	-4.85	16.78	<=34.77	Pass
		25	0	22.74	-4.85	15.74	<=34.77	Pass
			13	22.80	-4.85	15.80	<=34.77	Pass
			25	22.83	-4.85	15.83	<=34.77	Pass
		50	0	22.78	-4.85	15.78	<=34.77	Pass
16QAM	782	1	0	23.22	-4.85	16.22	<=34.77	Pass
			25	23.42	-4.85	16.42	<=34.77	Pass
			49	23.35	-4.85	16.35	<=34.77	Pass
		25	0	21.80	-4.85	14.80	<=34.77	Pass
			13	21.84	-4.85	14.84	<=34.77	Pass
			25	21.85	-4.85	14.85	<=34.77	Pass
		50	0	21.78	-4.85	14.78	<=34.77	Pass
64QAM	782	1	0	22.06	-4.85	15.06	<=34.77	Pass

		25	25	22.09	-4.85	15.09	<=34.77	Pass
			49	22.04	-4.85	15.04	<=34.77	Pass
			0	20.81	-4.85	13.81	<=34.77	Pass
			13	20.85	-4.85	13.85	<=34.77	Pass
			25	20.85	-4.85	13.85	<=34.77	Pass
		50	0	20.81	-4.85	13.81	<=34.77	Pass
			0	19.29	-4.85	12.29	<=34.77	Pass
		1	25	19.24	-4.85	12.24	<=34.77	Pass
			49	19.23	-4.85	12.23	<=34.77	Pass
			0	18.83	-4.85	11.83	<=34.77	Pass
256QAM	782	25	13	18.85	-4.85	11.85	<=34.77	Pass
			25	18.85	-4.85	11.85	<=34.77	Pass
			0	18.80	-4.85	11.80	<=34.77	Pass
		50	0	18.80	-4.85	11.80	<=34.77	Pass
			0	18.80	-4.85	11.80	<=34.77	Pass
			0	18.80	-4.85	11.80	<=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	-1.646	-0.0021	-2.5 to 2.5	Pass
					NV	-0.671	-0.0009	-2.5 to 2.5	Pass
					HV	-1.068	-0.0014	-2.5 to 2.5	Pass
				-30	NV	-1.589	-0.0020	-2.5 to 2.5	Pass
				-20	NV	2.109	0.0027	-2.5 to 2.5	Pass
				-10	NV	-0.254	-0.0003	-2.5 to 2.5	Pass
				0	NV	0.570	0.0007	-2.5 to 2.5	Pass
				10	NV	0.244	0.0003	-2.5 to 2.5	Pass
				30	NV	-2.835	-0.0036	-2.5 to 2.5	Pass
				40	NV	0.012	0.0000	-2.5 to 2.5	Pass
				50	NV	-1.744	-0.0022	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

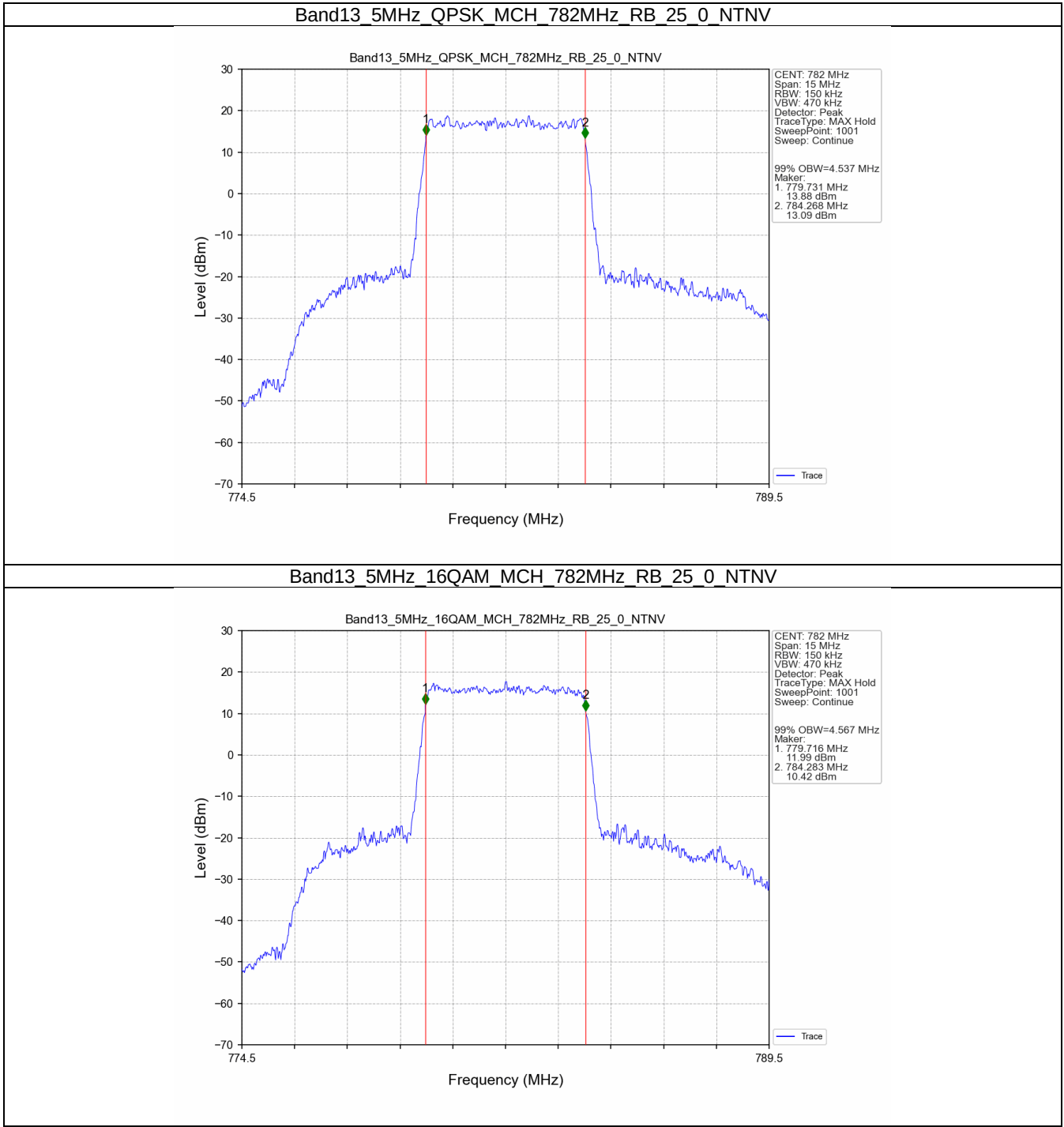
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.537	/	Pass
	16QAM	782	25	0	4.567	/	Pass
	64QAM	782	25	0	4.556	/	Pass
	256QAM	782	25	0	4.553	/	Pass
10	QPSK	782	50	0	9.012	/	Pass
	16QAM	782	50	0	9.034	/	Pass
	64QAM	782	50	0	9.020	/	Pass
	256QAM	782	50	0	9.002	/	Pass

3.1.2 Band13_XDB

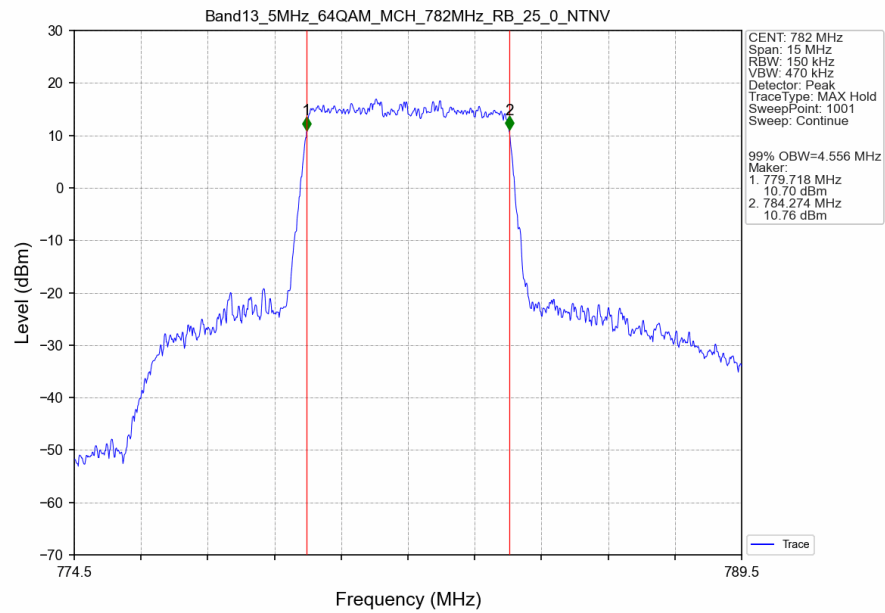
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.040	/	Pass
	16QAM	782	25	0	5.072	/	Pass
	64QAM	782	25	0	5.077	/	Pass
	256QAM	782	25	0	5.047	/	Pass
10	QPSK	782	50	0	9.953	/	Pass
	16QAM	782	50	0	9.943	/	Pass
	64QAM	782	50	0	9.887	/	Pass
	256QAM	782	50	0	9.995	/	Pass

3.2 Test Graph

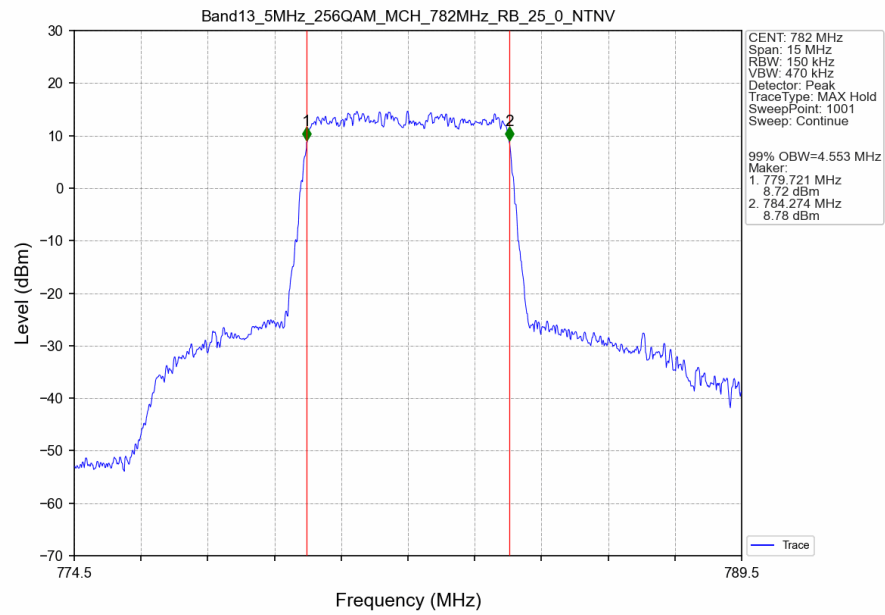
3.2.1 Band13_OBW



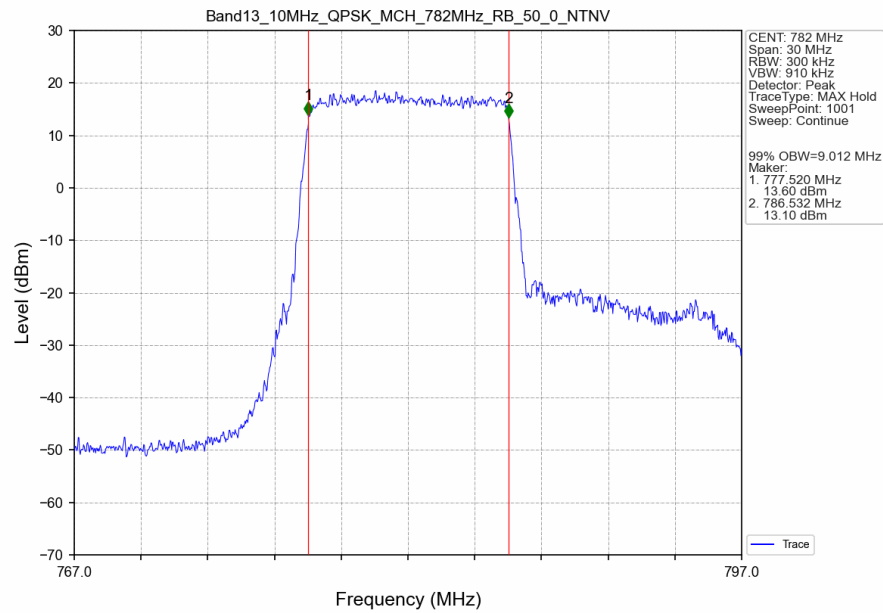
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTV



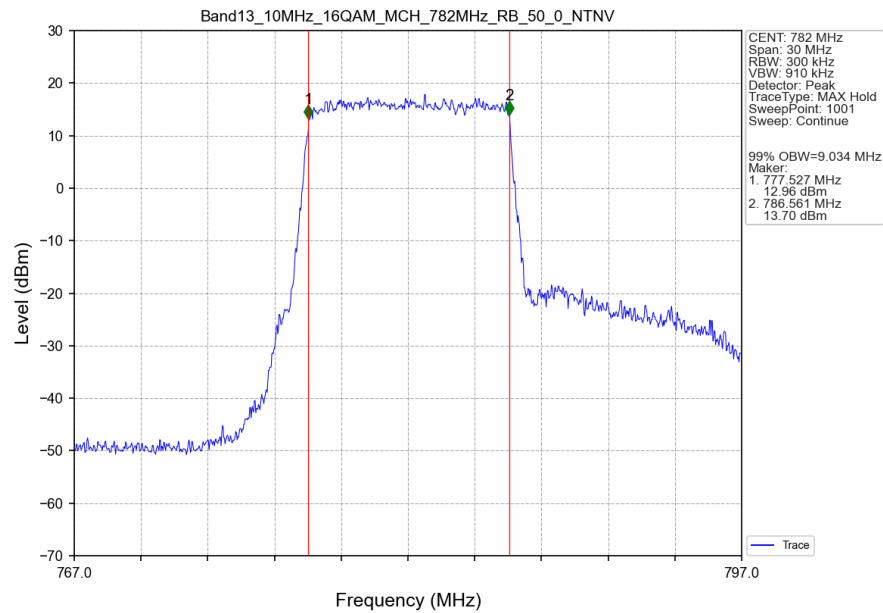
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTV



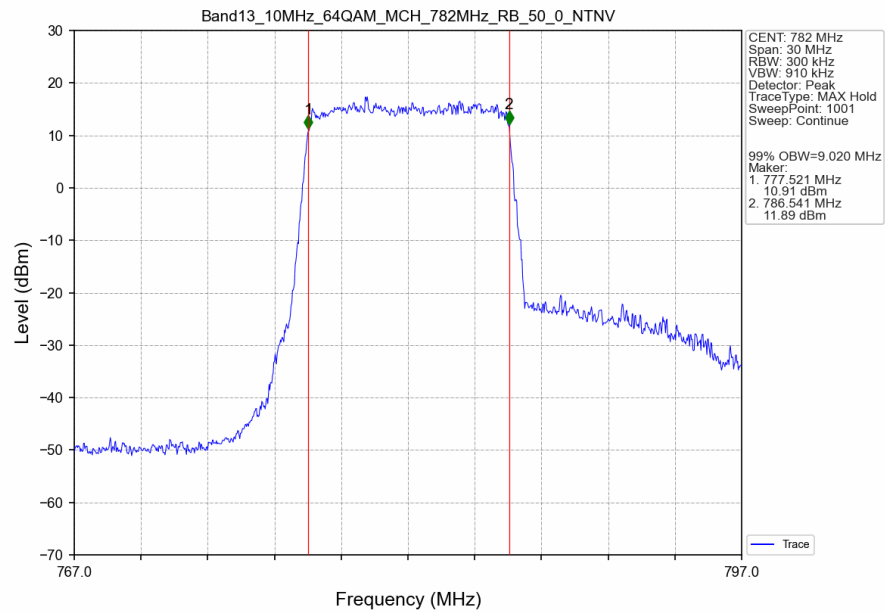
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



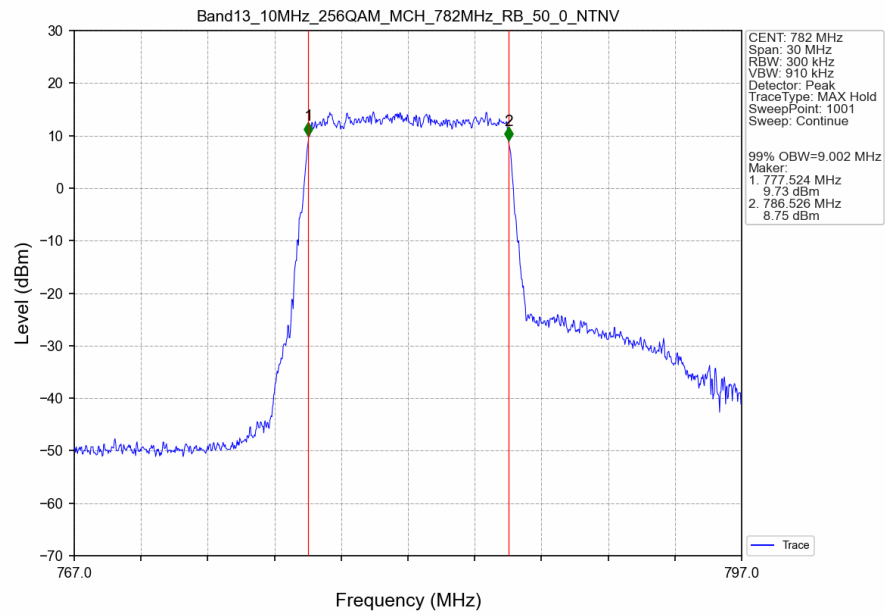
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



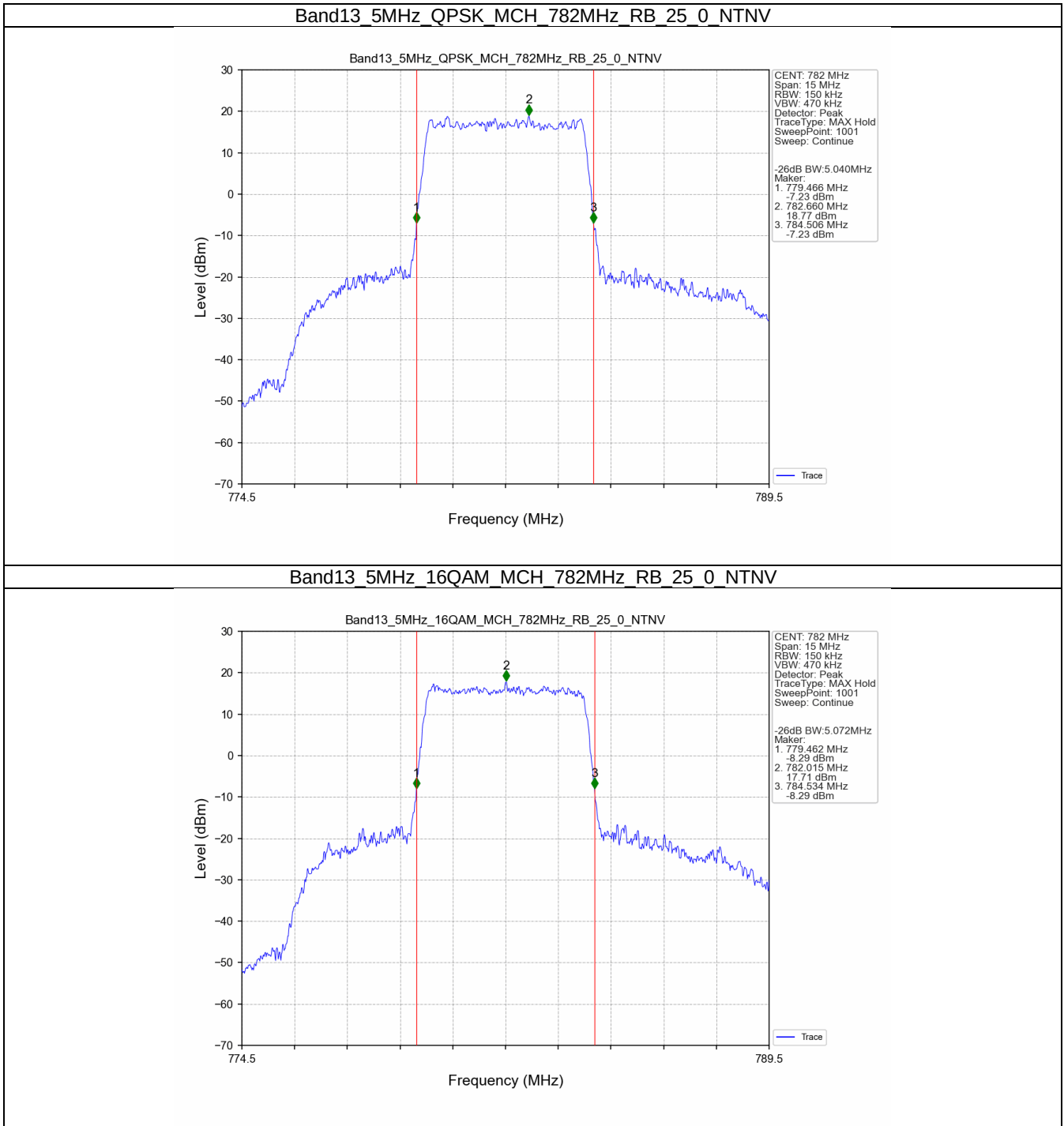
Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTV



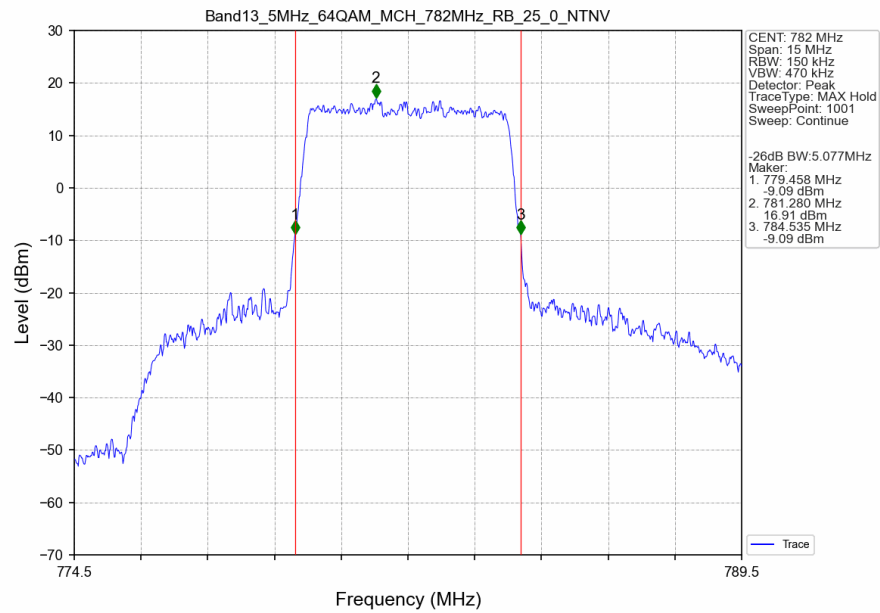
Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTV



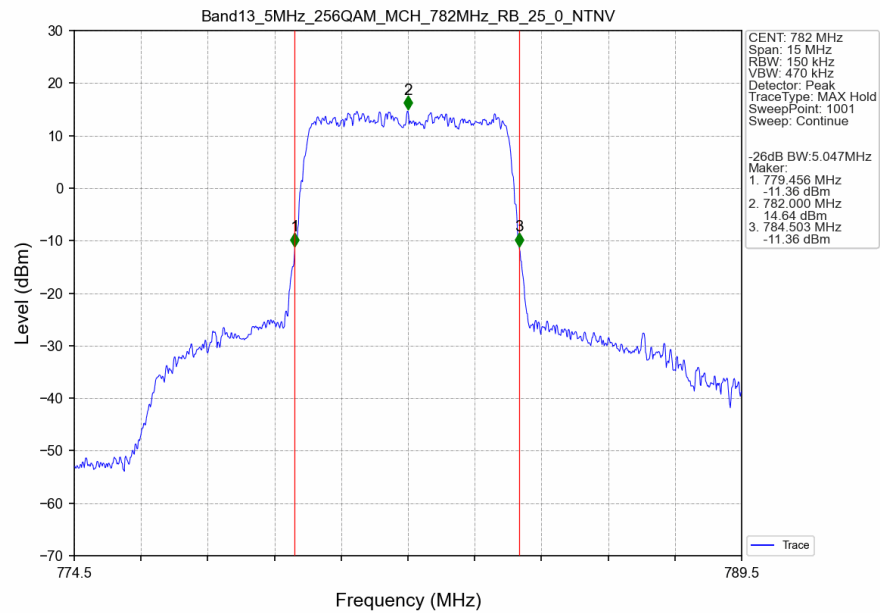
3.2.2 Band13_XDB



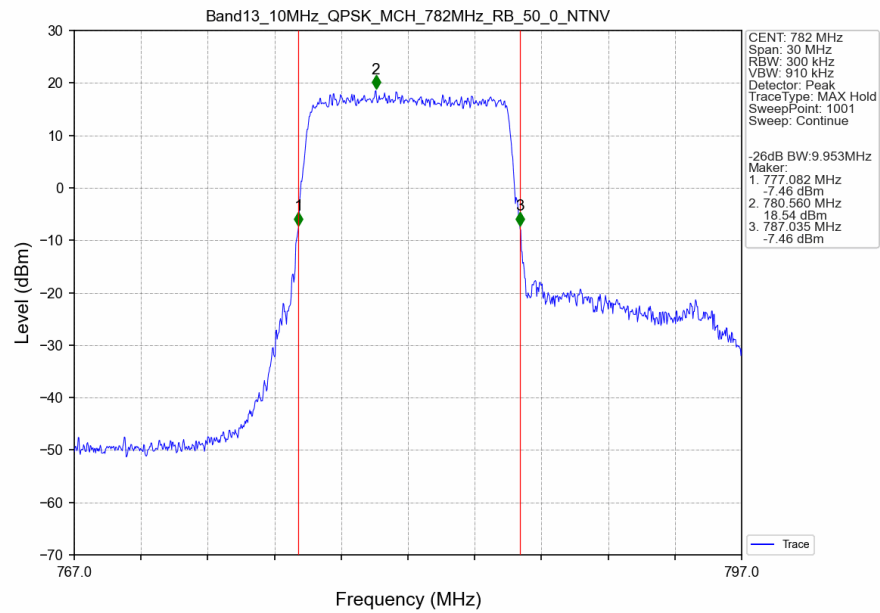
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTNV



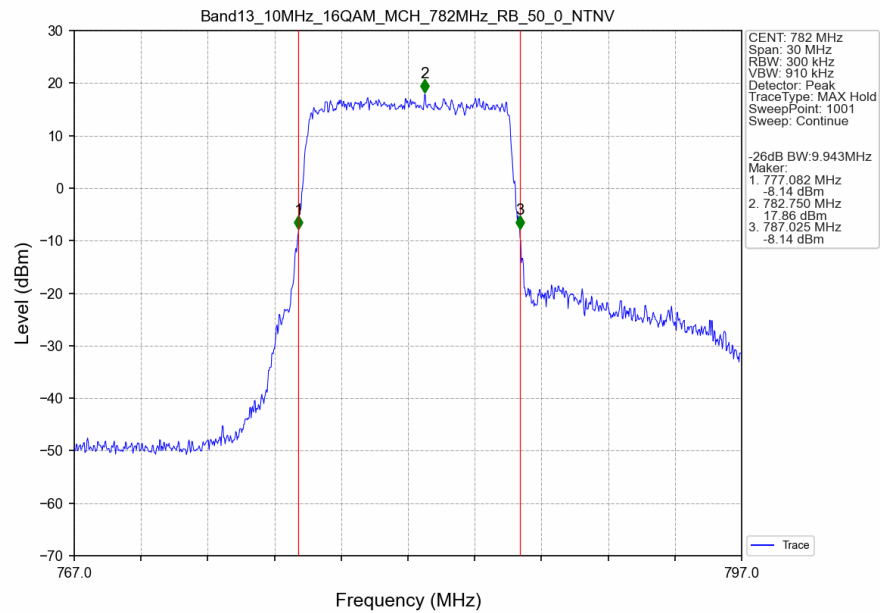
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTNV



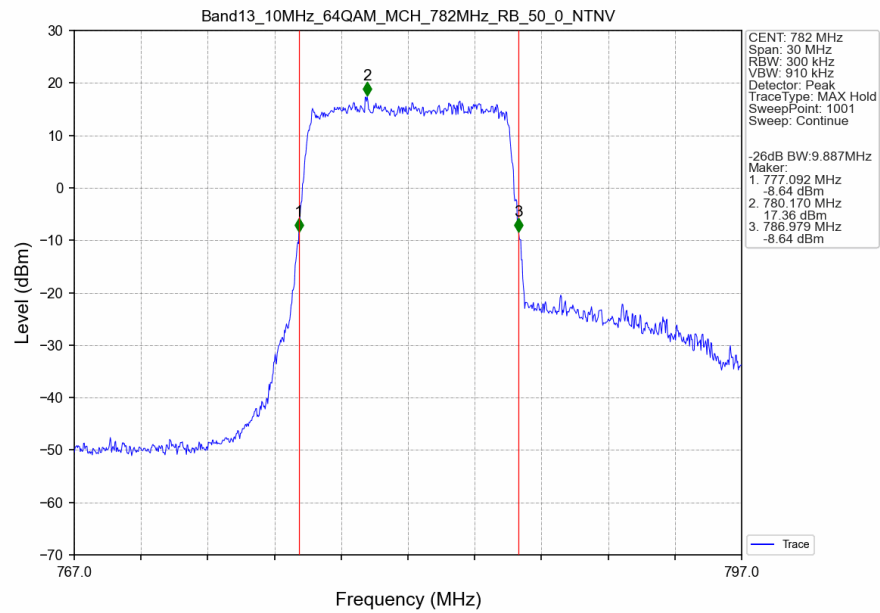
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



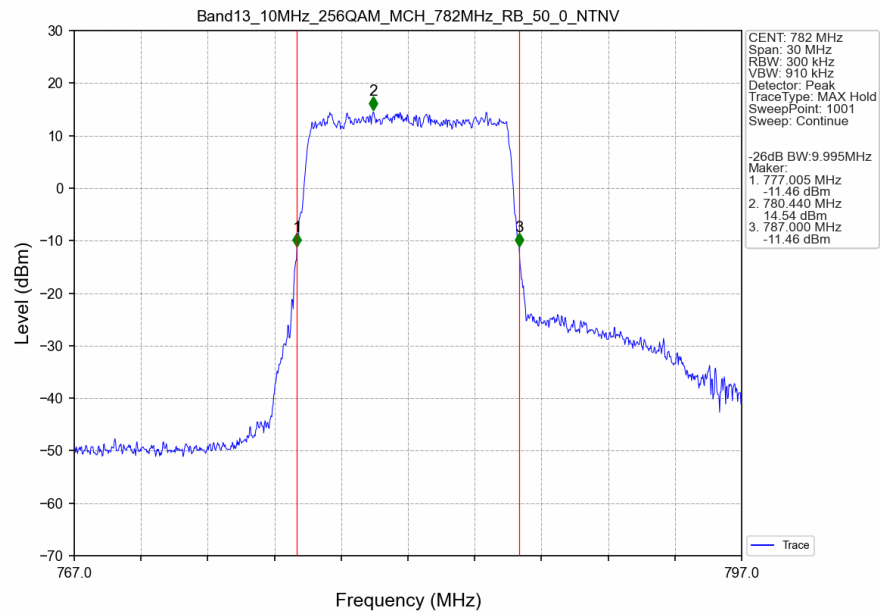
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



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



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



4. Peak-Average Ratio

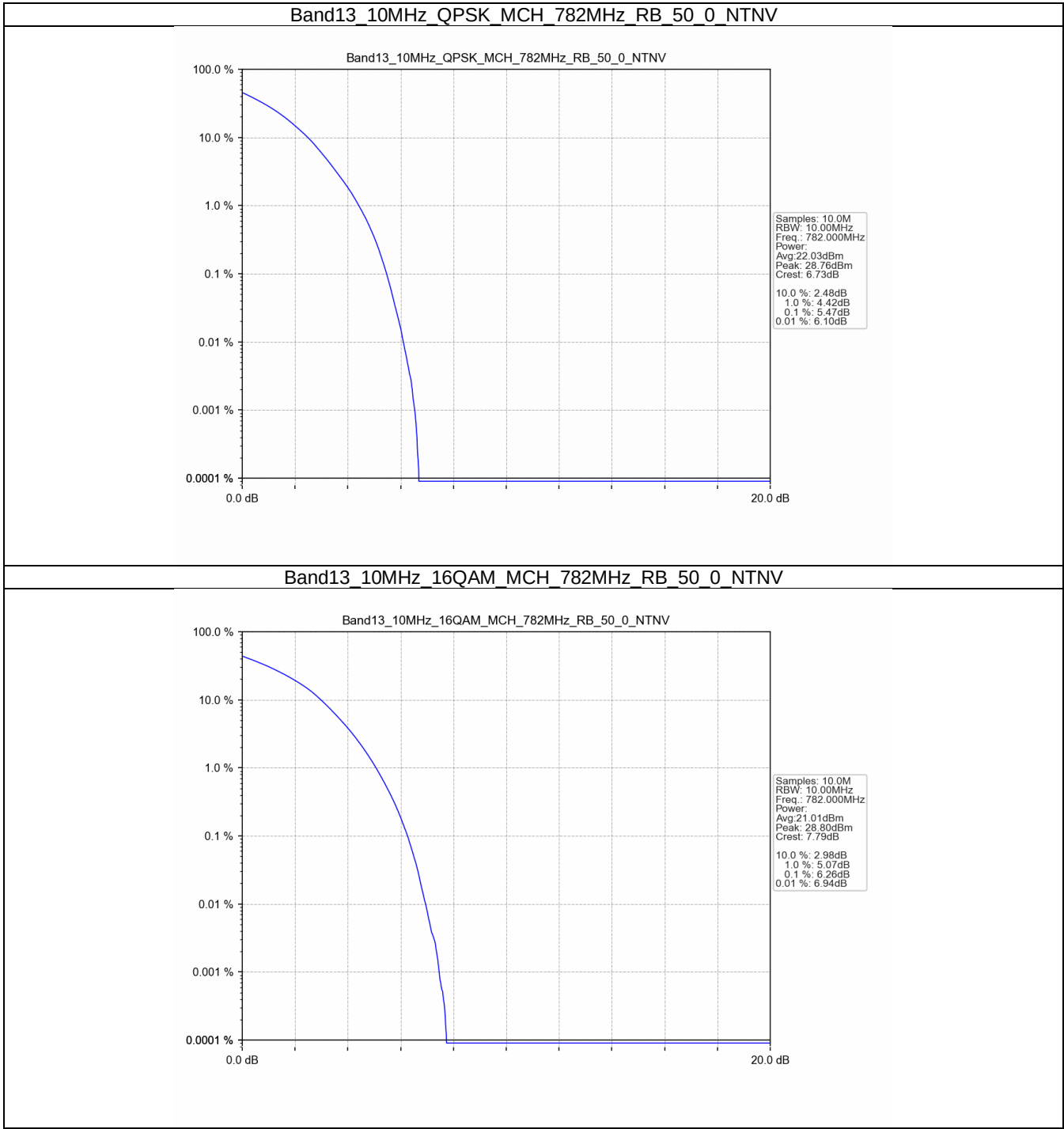
4.1 Test Result

4.1.1 B13_10MHz

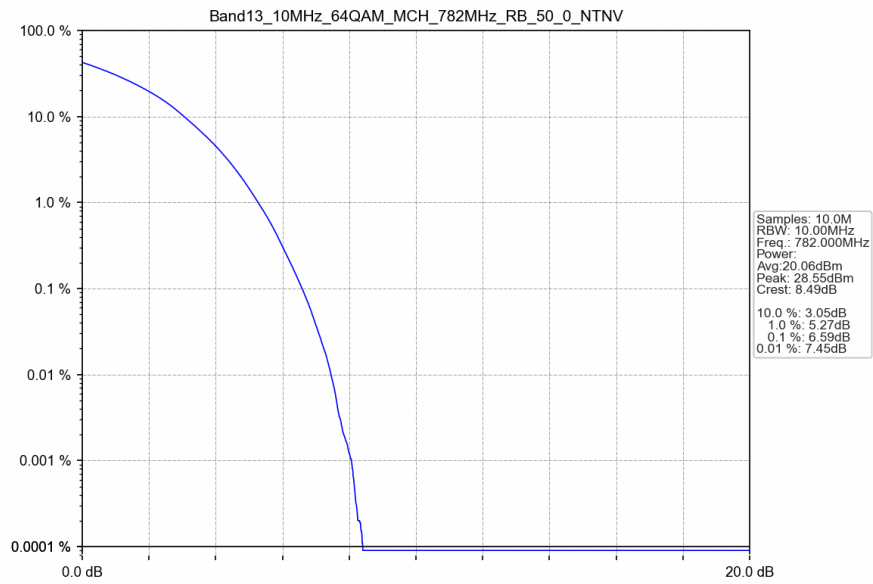
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.47	<=13	Pass
16QAM	782	50	0	6.26	<=13	Pass
64QAM	782	50	0	6.59	<=13	Pass
256QAM	782	50	0	6.83	<=13	Pass

4.2 Test Graph

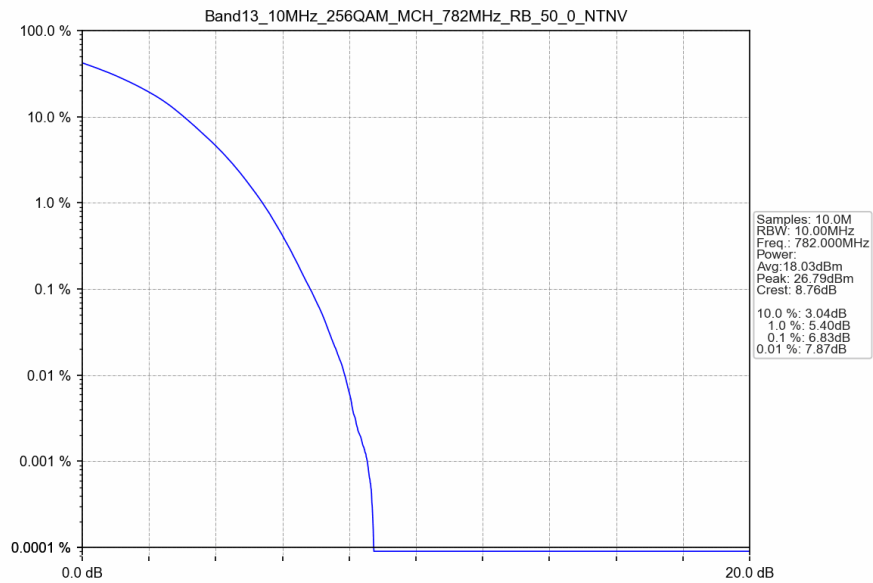
4.2.1 B13_10MHz



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

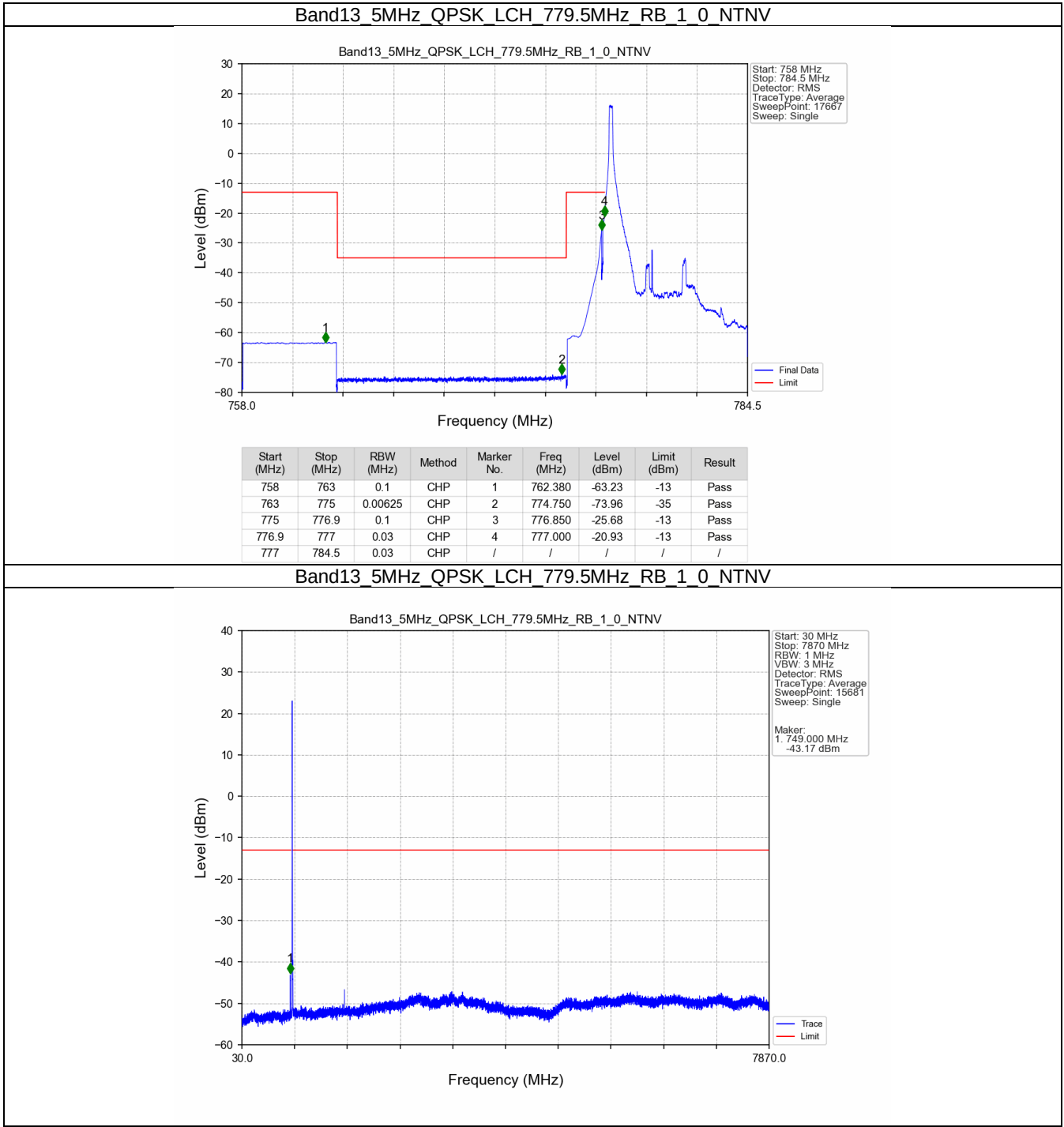
Band: 13 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B13_10MHz

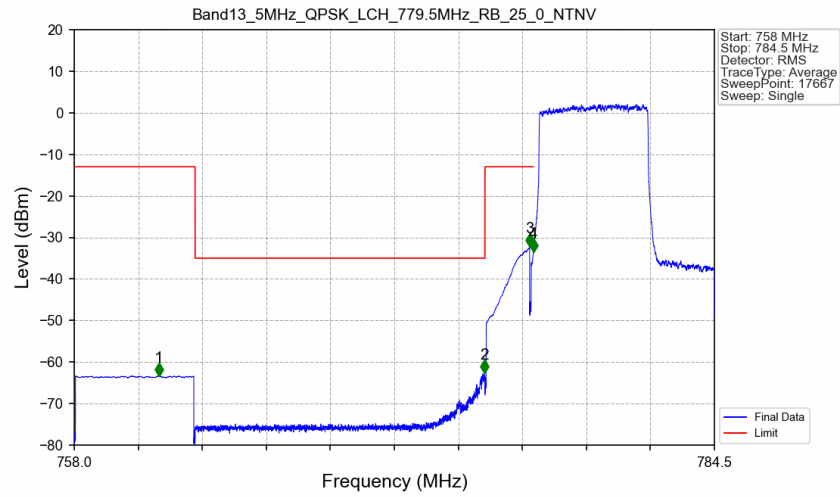
Band: 13 / Bandwidth: 10MHz / NTVN						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

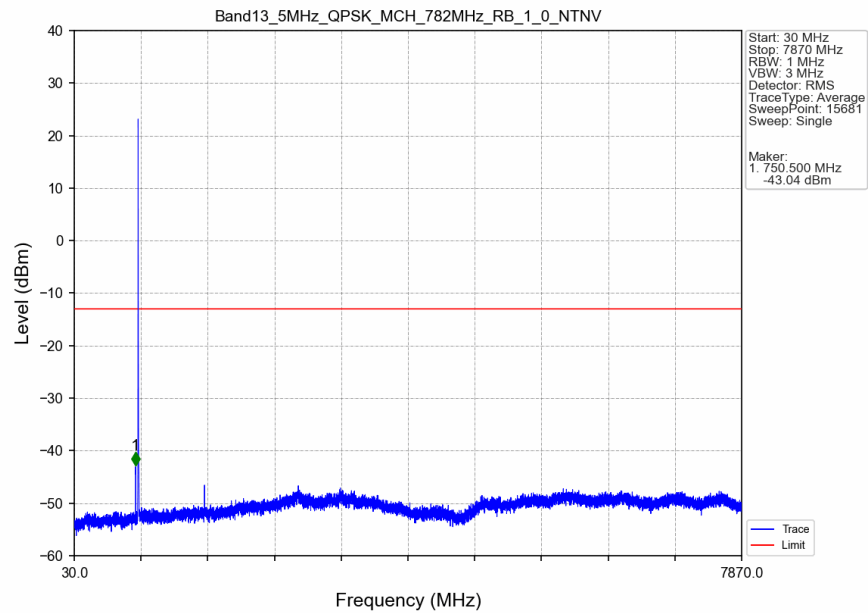
5.2.1 B13_5MHz



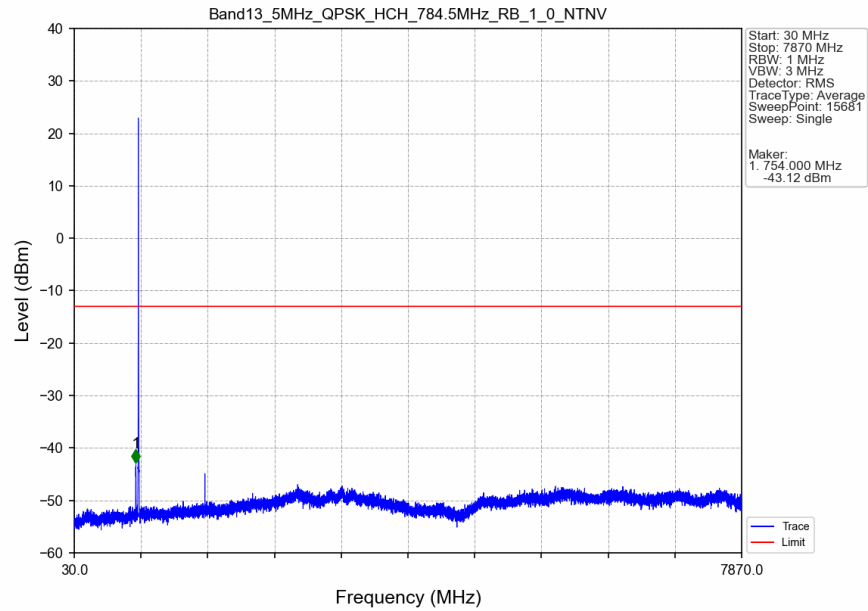
Band13 5MHz QPSK LCH 779.5MHz RB 25 0 NTV



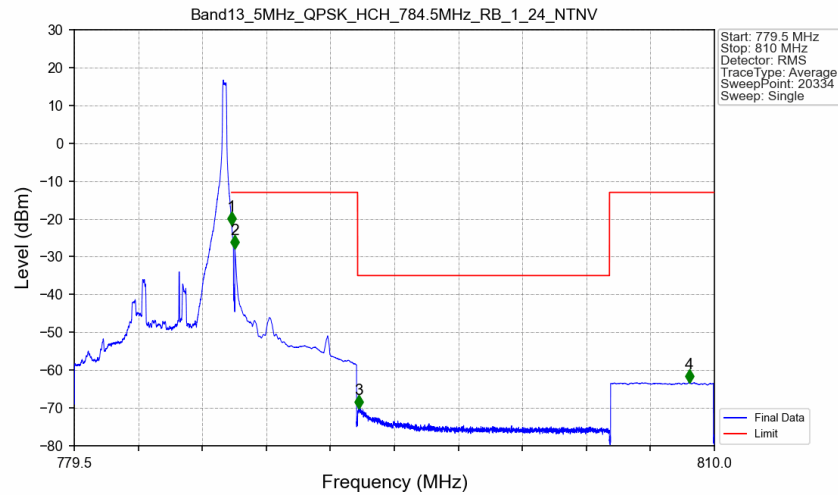
Band13 5MHz QPSK MCH 782MHz RB 1 0 NTV



Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTN

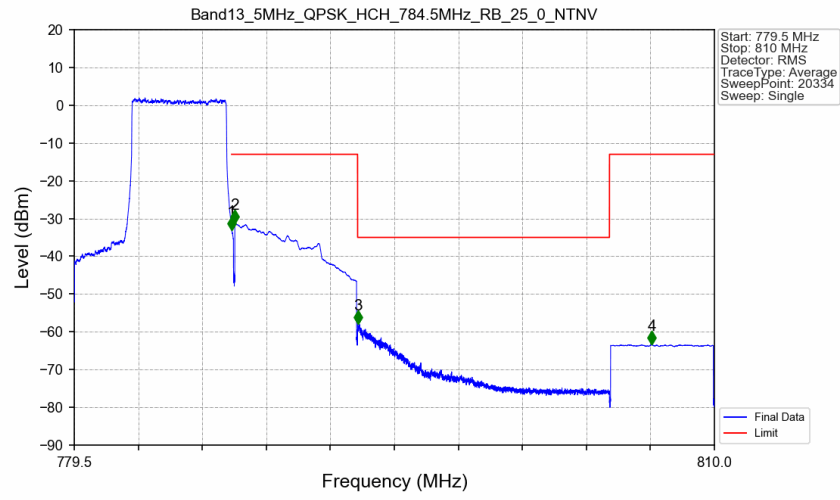


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTN



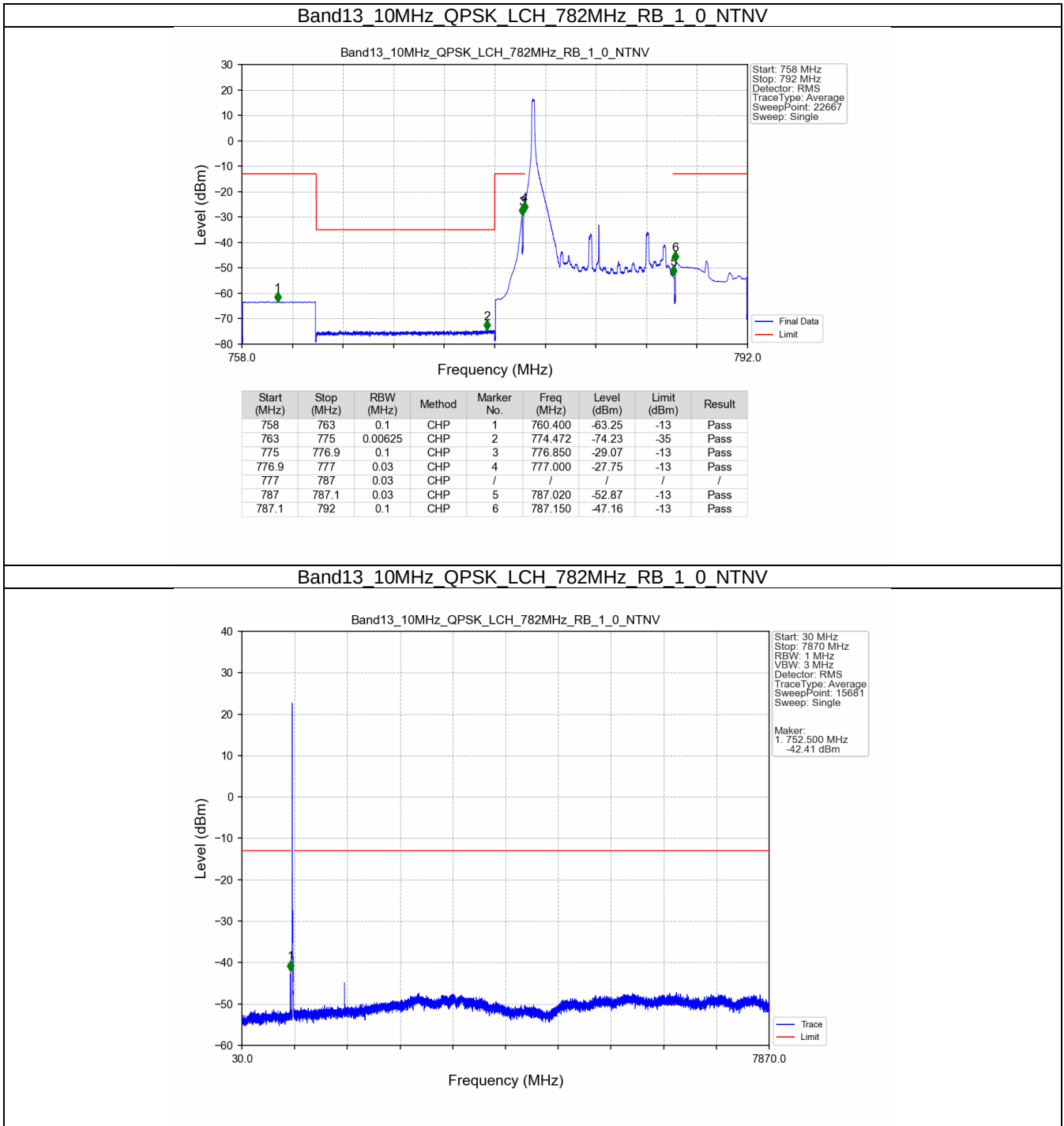
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-21.67	-13	Pass
787.1	793	0.1	CHP	2	787.150	-27.75	-13	Pass
793	805	0.00625	CHP	3	793.054	-70.14	-35	Pass
805	810	0.1	CHP	4	808.792	-63.32	-13	Pass

Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTN

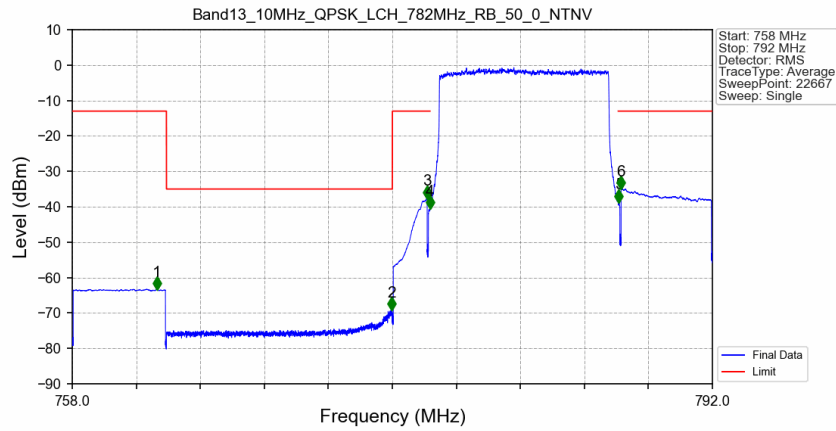


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-33.00	-13	Pass
787.1	793	0.1	CHP	2	787.150	-31.28	-13	Pass
793	805	0.00625	CHP	3	793.003	-57.94	-35	Pass
805	810	0.1	CHP	4	807.015	-63.38	-13	Pass

5.2.2 B13_10MHz

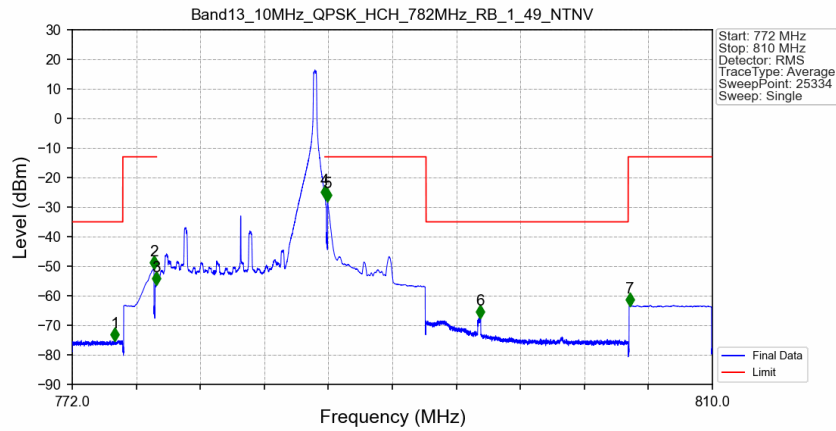


Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



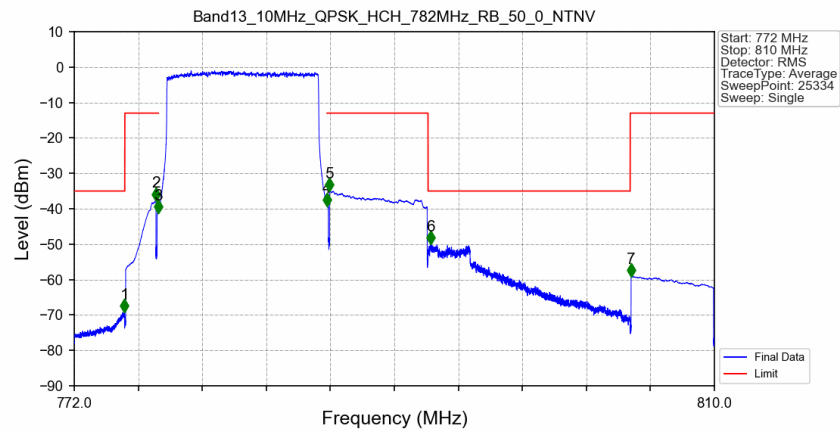
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.496	-63.22	-13	Pass
763	775	0.00625	CHP	2	774.973	-69.01	-35	Pass
775	776.9	0.1	CHP	3	776.848	-37.45	-13	Pass
776.9	777	0.03	CHP	4	776.991	-40.37	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.033	-38.53	-13	Pass
787.1	792	0.1	CHP	6	787.150	-34.81	-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	774.520	-74.95	-35	Pass
775	776.9	0.1	CHP	2	776.848	-50.62	-13	Pass
776.9	777	0.03	CHP	3	777.000	-56.02	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-26.69	-13	Pass
787.1	793	0.1	CHP	5	787.150	-27.71	-13	Pass
793	805	0.00625	CHP	6	796.225	-67.31	-35	Pass
805	810	0.1	CHP	7	805.116	-63.29	-13	Pass

Band13 10MHz QPSK HCH 782MHz RB 50 0 NTV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	CHP	1	774.972	-68.91	-35	Pass
775	776.9	0.1	CHP	2	776.848	-37.45	-13	Pass
776.9	777	0.03	CHP	3	776.992	-40.90	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-38.92	-13	Pass
787.1	793	0.1	CHP	5	787.150	-34.81	-13	Pass
793	805	0.00625	CHP	6	793.149	-49.73	-35	Pass
805	810	0.1	CHP	7	805.062	-58.91	-13	Pass