

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	22.93	-2.32	18.46	<=34.77	Pass
			13	22.94	-2.32	18.47	<=34.77	Pass
			24	22.77	-2.32	18.30	<=34.77	Pass
		12	0	21.94	-2.32	17.47	<=34.77	Pass
			6	22.09	-2.32	17.62	<=34.77	Pass
			13	22.02	-2.32	17.55	<=34.77	Pass
		25	0	22.02	-2.32	17.55	<=34.77	Pass
	782	1	0	22.98	-2.32	18.51	<=34.77	Pass
			13	22.98	-2.32	18.51	<=34.77	Pass
			24	22.84	-2.32	18.37	<=34.77	Pass
		12	0	21.97	-2.32	17.50	<=34.77	Pass
			6	21.96	-2.32	17.49	<=34.77	Pass
			13	22.01	-2.32	17.54	<=34.77	Pass
		25	0	22.00	-2.32	17.53	<=34.77	Pass
	784.5	1	0	22.93	-2.32	18.46	<=34.77	Pass
			13	22.87	-2.32	18.40	<=34.77	Pass
			24	22.78	-2.32	18.31	<=34.77	Pass
		12	0	21.96	-2.32	17.49	<=34.77	Pass
			6	21.95	-2.32	17.48	<=34.77	Pass
			13	21.93	-2.32	17.46	<=34.77	Pass
		25	0	21.98	-2.32	17.51	<=34.77	Pass
16QAM	779.5	1	0	21.76	-2.32	17.29	<=34.77	Pass
			13	22.19	-2.32	17.72	<=34.77	Pass
			24	22.11	-2.32	17.64	<=34.77	Pass
		12	0	21.03	-2.32	16.56	<=34.77	Pass
			6	21.08	-2.32	16.61	<=34.77	Pass
			13	21.04	-2.32	16.57	<=34.77	Pass
		25	0	21.02	-2.32	16.55	<=34.77	Pass
	782	1	0	22.14	-2.32	17.67	<=34.77	Pass
			13	22.36	-2.32	17.89	<=34.77	Pass
			24	22.25	-2.32	17.78	<=34.77	Pass
		12	0	20.93	-2.32	16.46	<=34.77	Pass
			6	20.95	-2.32	16.48	<=34.77	Pass
			13	21.06	-2.32	16.59	<=34.77	Pass
		25	0	20.91	-2.32	16.44	<=34.77	Pass
	784.5	1	0	22.32	-2.32	17.85	<=34.77	Pass
			13	22.31	-2.32	17.84	<=34.77	Pass
			24	22.24	-2.32	17.77	<=34.77	Pass
		12	0	20.91	-2.32	16.44	<=34.77	Pass
			6	20.95	-2.32	16.48	<=34.77	Pass
			13	21.04	-2.32	16.57	<=34.77	Pass
		25	0	20.94	-2.32	16.47	<=34.77	Pass
64QAM	779.5	1	0	22.21	-2.32	17.74	<=34.77	Pass
			13	21.77	-2.32	17.30	<=34.77	Pass
			24	21.84	-2.32	17.37	<=34.77	Pass
		12	0	20.98	-2.32	16.51	<=34.77	Pass
			6	21.05	-2.32	16.58	<=34.77	Pass
			13	20.95	-2.32	16.48	<=34.77	Pass
		25	0	20.98	-2.32	16.51	<=34.77	Pass

	782	1	0	21.72	-2.32	17.25	<=34.77	Pass
			13	22.35	-2.32	17.88	<=34.77	Pass
			24	22.13	-2.32	17.66	<=34.77	Pass
		12	0	20.92	-2.32	16.45	<=34.77	Pass
			6	20.79	-2.32	16.32	<=34.77	Pass
			13	21.05	-2.32	16.58	<=34.77	Pass
		25	0	20.95	-2.32	16.48	<=34.77	Pass
	784.5	1	0	22.07	-2.32	17.60	<=34.77	Pass
			13	22.04	-2.32	17.57	<=34.77	Pass
			24	21.73	-2.32	17.26	<=34.77	Pass
		12	0	21.04	-2.32	16.57	<=34.77	Pass
			6	20.95	-2.32	16.48	<=34.77	Pass
			13	20.99	-2.32	16.52	<=34.77	Pass
		25	0	20.90	-2.32	16.43	<=34.77	Pass
256QAM	779.5	1	0	17.98	-2.32	13.51	<=34.77	Pass
			13	18.07	-2.32	13.60	<=34.77	Pass
			24	18.01	-2.32	13.54	<=34.77	Pass
		12	0	17.94	-2.32	13.47	<=34.77	Pass
			6	18.06	-2.32	13.59	<=34.77	Pass
			13	17.98	-2.32	13.51	<=34.77	Pass
		25	0	18.07	-2.32	13.60	<=34.77	Pass
	782	1	0	18.18	-2.32	13.71	<=34.77	Pass
			13	18.19	-2.32	13.72	<=34.77	Pass
			24	18.04	-2.32	13.57	<=34.77	Pass
		12	0	18.04	-2.32	13.57	<=34.77	Pass
			6	18.03	-2.32	13.56	<=34.77	Pass
			13	18.04	-2.32	13.57	<=34.77	Pass
		25	0	18.06	-2.32	13.59	<=34.77	Pass
	784.5	1	0	17.79	-2.32	13.32	<=34.77	Pass
			13	18.10	-2.32	13.63	<=34.77	Pass
			24	18.07	-2.32	13.60	<=34.77	Pass
		12	0	17.94	-2.32	13.47	<=34.77	Pass
			6	18.08	-2.32	13.61	<=34.77	Pass
			13	18.02	-2.32	13.55	<=34.77	Pass
		25	0	17.98	-2.32	13.51	<=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	22.94	-2.32	18.47	<=34.77	Pass
			25	22.90	-2.32	18.43	<=34.77	Pass
			49	22.57	-2.32	18.10	<=34.77	Pass
		25	0	22.04	-2.32	17.57	<=34.77	Pass
			13	21.94	-2.32	17.47	<=34.77	Pass
			25	21.99	-2.32	17.52	<=34.77	Pass
		50	0	21.93	-2.32	17.46	<=34.77	Pass
16QAM	782	1	0	22.08	-2.32	17.61	<=34.77	Pass
			25	21.39	-2.32	16.92	<=34.77	Pass
			49	21.61	-2.32	17.14	<=34.77	Pass
		25	0	21.04	-2.32	16.57	<=34.77	Pass
			13	20.97	-2.32	16.50	<=34.77	Pass
			25	21.01	-2.32	16.54	<=34.77	Pass
		50	0	21.00	-2.32	16.53	<=34.77	Pass
64QAM	782	1	0	21.98	-2.32	17.51	<=34.77	Pass

			25	21.85	-2.32	17.38	<=34.77	Pass		
			49	22.19	-2.32	17.72	<=34.77	Pass		
		25	0	21.03	-2.32	16.56	<=34.77	Pass		
			13	21.05	-2.32	16.58	<=34.77	Pass		
			25	21.02	-2.32	16.55	<=34.77	Pass		
		50	0	20.93	-2.32	16.46	<=34.77	Pass		
		256QAM	782	1	0	18.11	-2.32	13.64	<=34.77	Pass
					25	18.06	-2.32	13.59	<=34.77	Pass
49	17.98				-2.32	13.51	<=34.77	Pass		
25	0			18.05	-2.32	13.58	<=34.77	Pass		
	13			17.97	-2.32	13.50	<=34.77	Pass		
	25			17.99	-2.32	13.52	<=34.77	Pass		
50	0			17.99	-2.32	13.52	<=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	-1.200	-0.0015	-2.5 to 2.5	Pass
					NV	-0.100	-0.0001	-2.5 to 2.5	Pass
					HV	0.500	0.0006	-2.5 to 2.5	Pass
				-30	NV	0.200	0.0003	-2.5 to 2.5	Pass
				-20	NV	0.400	0.0005	-2.5 to 2.5	Pass
				-10	NV	1.200	0.0015	-2.5 to 2.5	Pass
				0	NV	-0.600	-0.0008	-2.5 to 2.5	Pass
				10	NV	-0.200	-0.0003	-2.5 to 2.5	Pass
				30	NV	1.400	0.0018	-2.5 to 2.5	Pass
				40	NV	-0.200	-0.0003	-2.5 to 2.5	Pass
				50	NV	0.800	0.0010	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

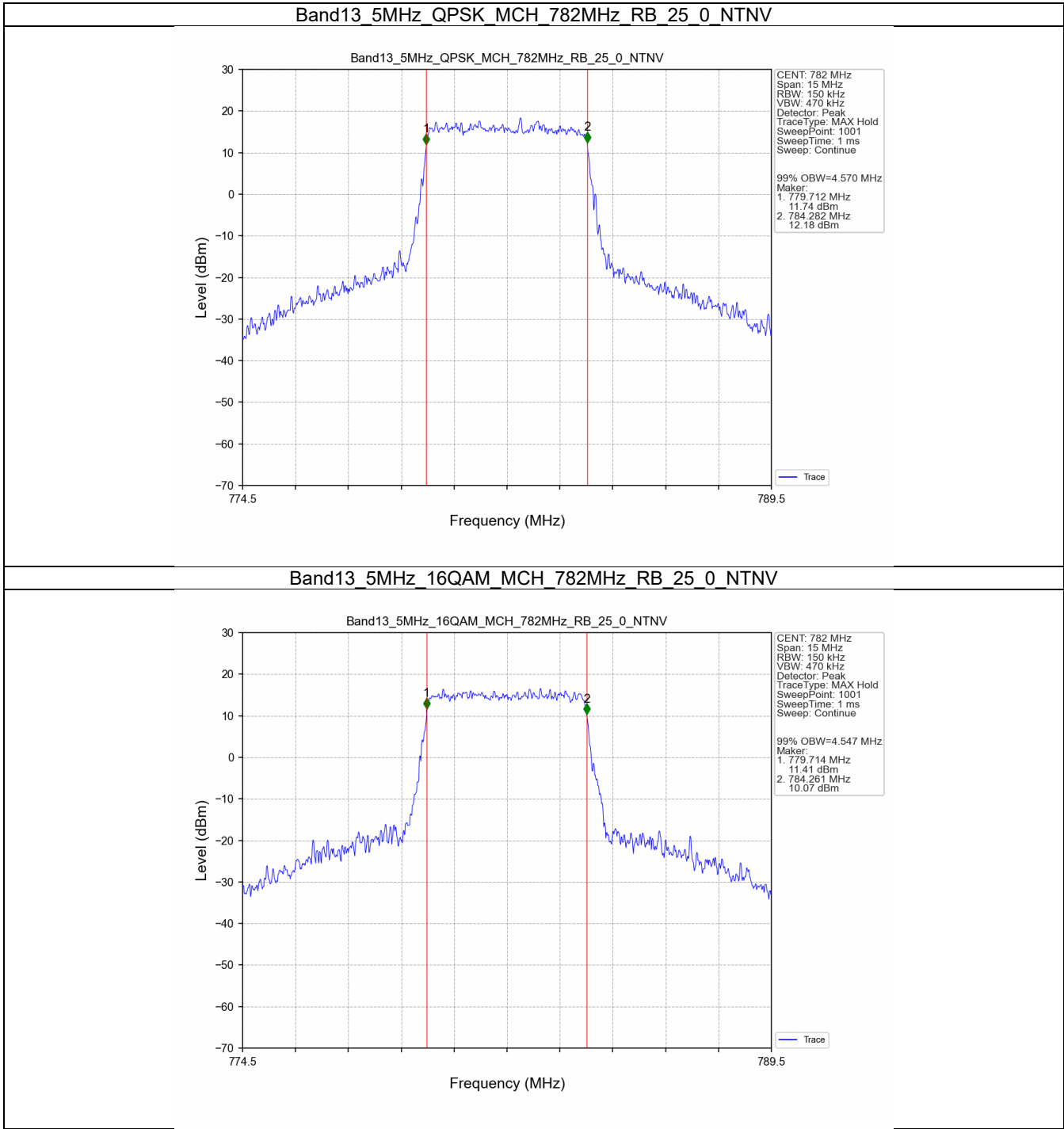
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.570	/	Pass
	16QAM	782	25	0	4.547	/	Pass
	64QAM	782	25	0	4.571	/	Pass
	256QAM	782	25	0	4.553	/	Pass
10	QPSK	782	50	0	9.070	/	Pass
	16QAM	782	50	0	9.074	/	Pass
	64QAM	782	50	0	8.982	/	Pass
	256QAM	782	50	0	9.062	/	Pass

3.1.2 Band13_XDB

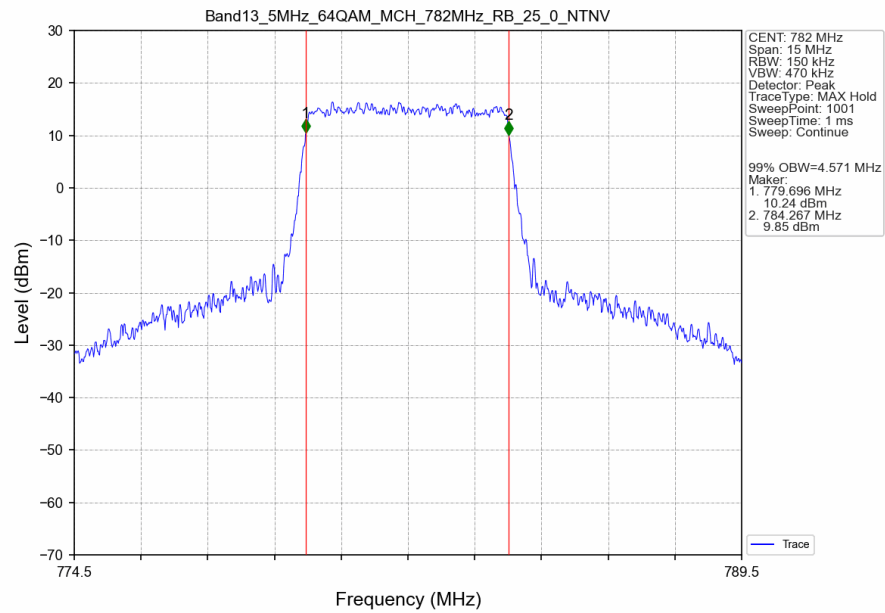
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.238	/	Pass
	16QAM	782	25	0	5.300	/	Pass
	64QAM	782	25	0	5.209	/	Pass
	256QAM	782	25	0	5.220	/	Pass
10	QPSK	782	50	0	10.179	/	Pass
	16QAM	782	50	0	10.196	/	Pass
	64QAM	782	50	0	9.756	/	Pass
	256QAM	782	50	0	10.237	/	Pass

3.2 Test Graph

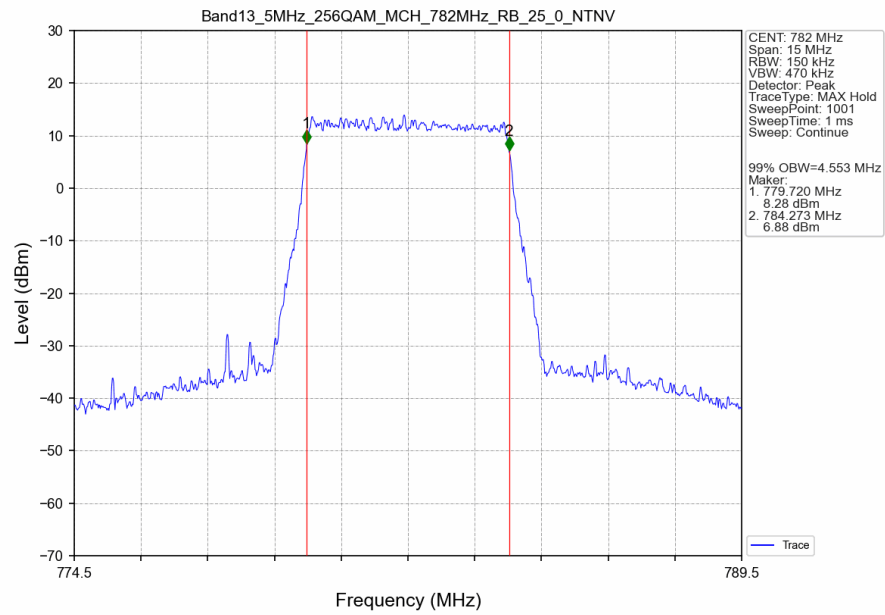
3.2.1 Band13_OBW



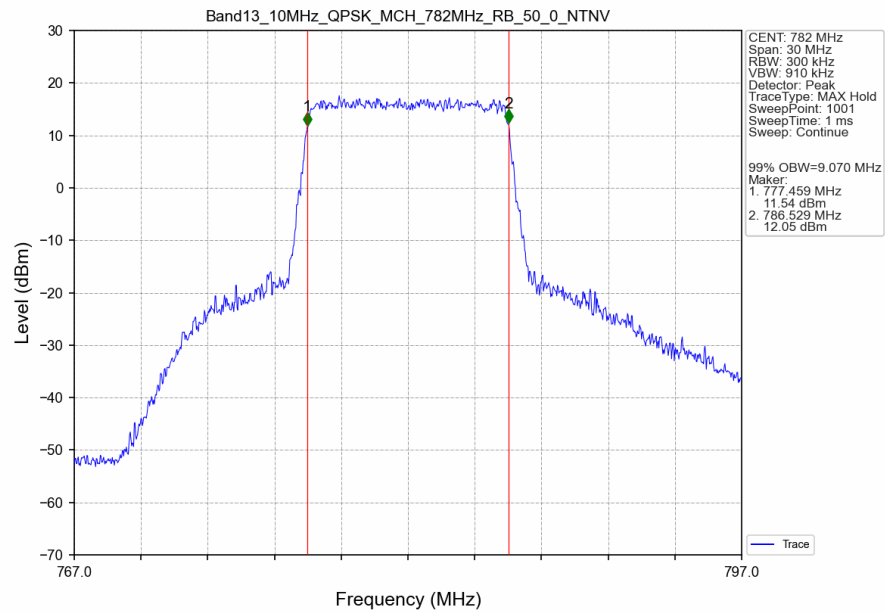
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTN



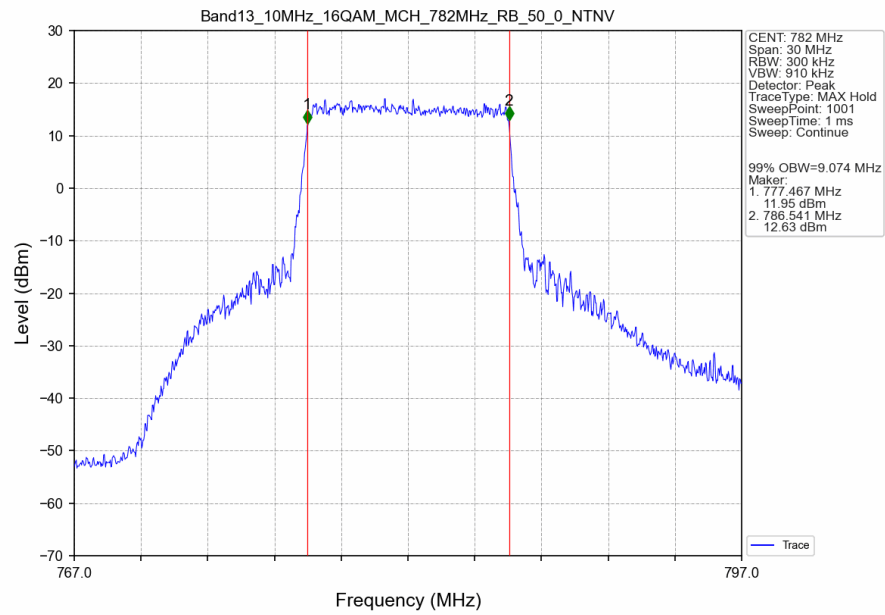
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTN



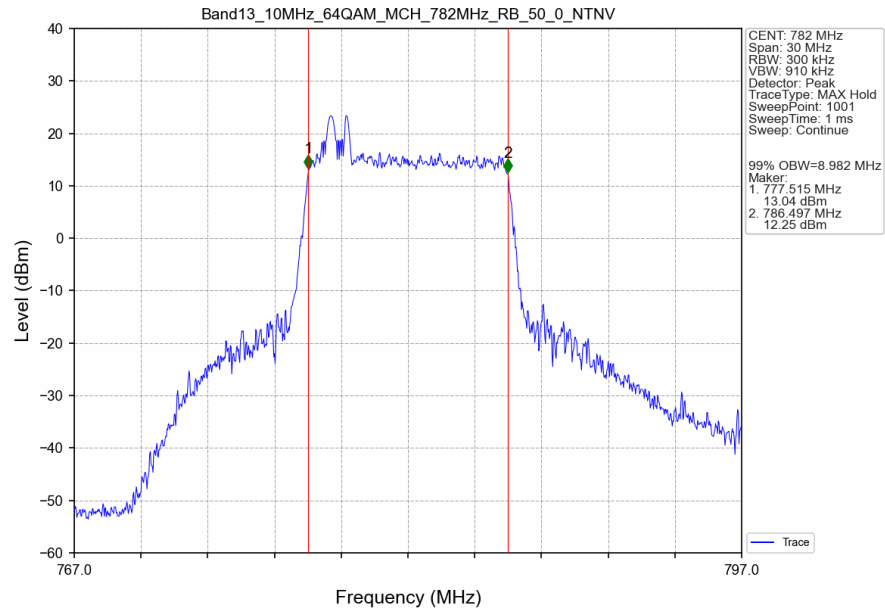
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



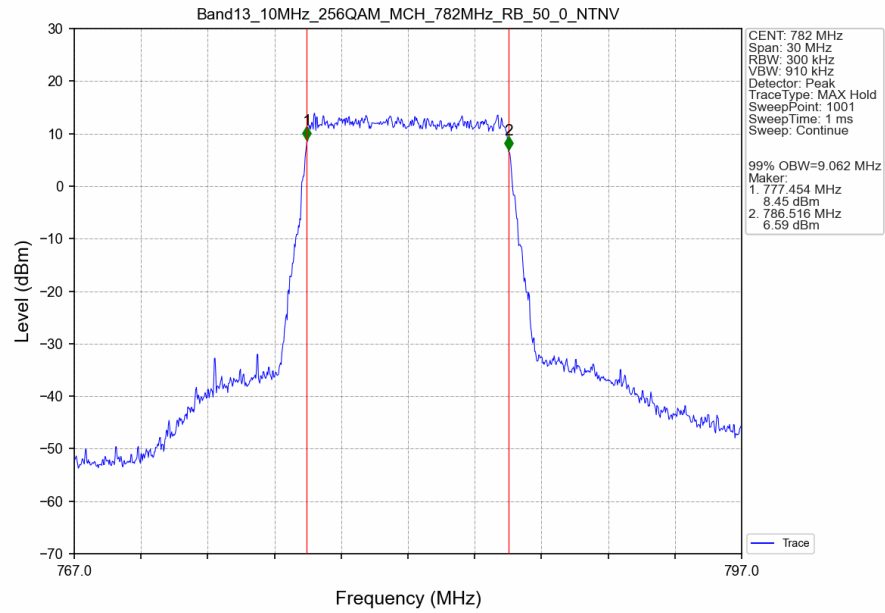
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



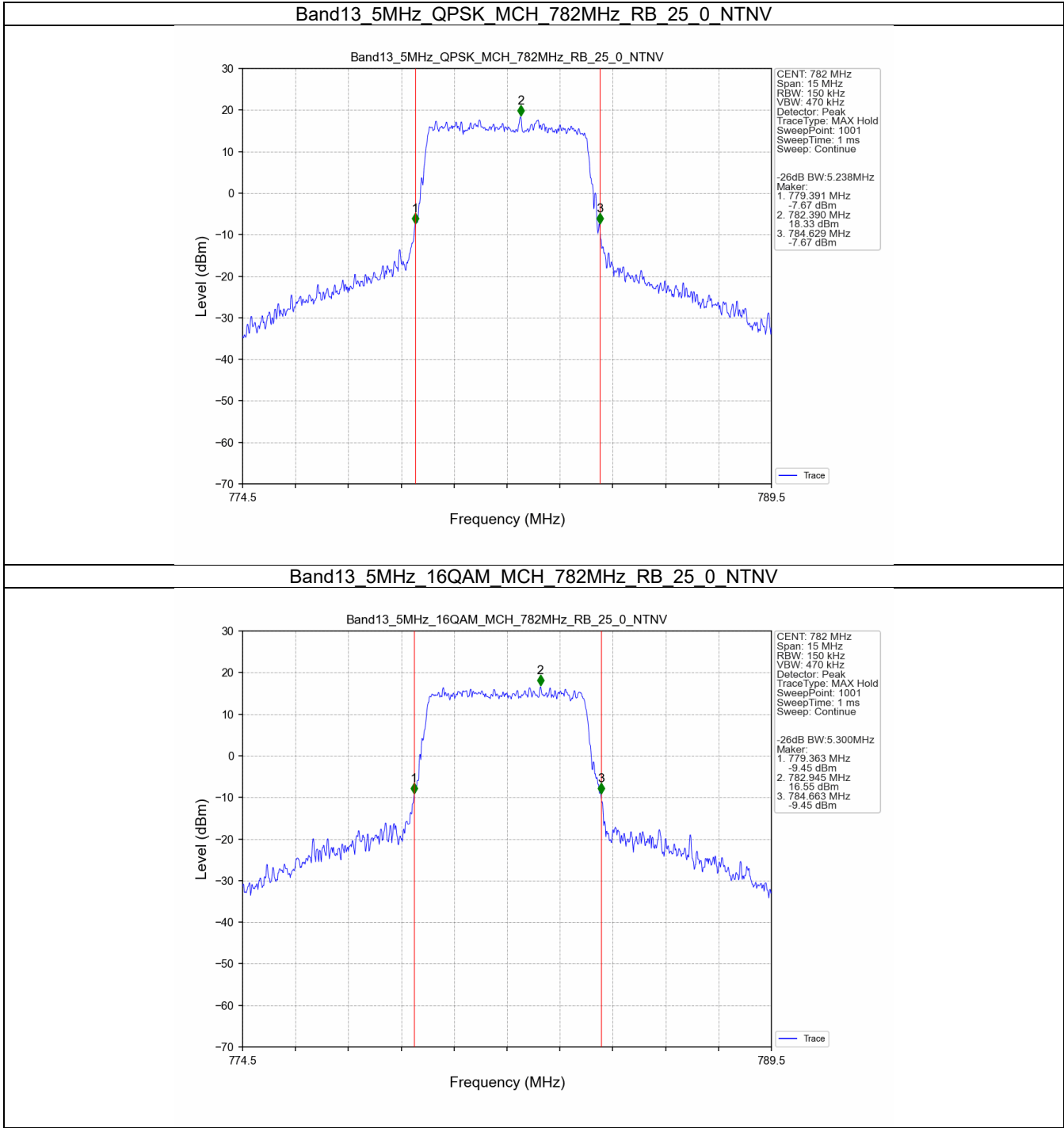
Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTV



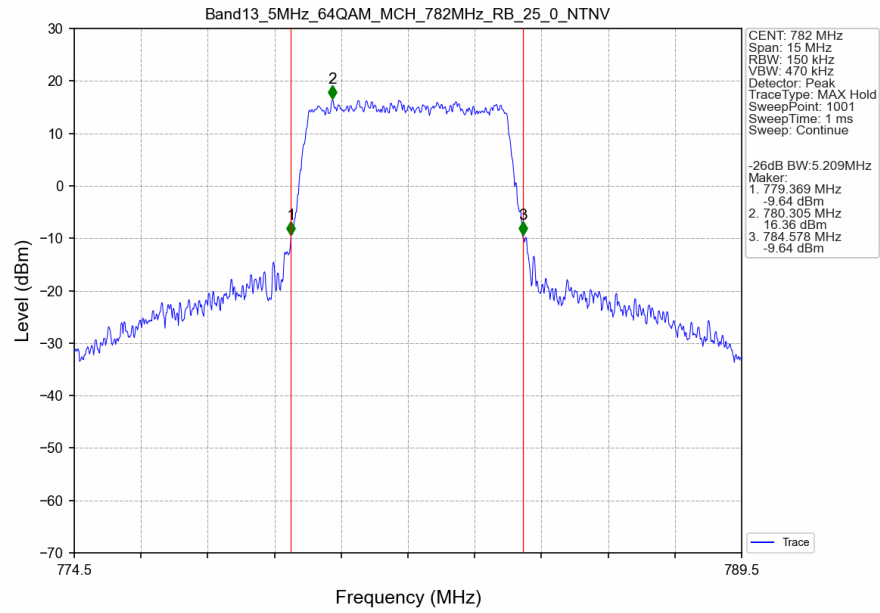
Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTV



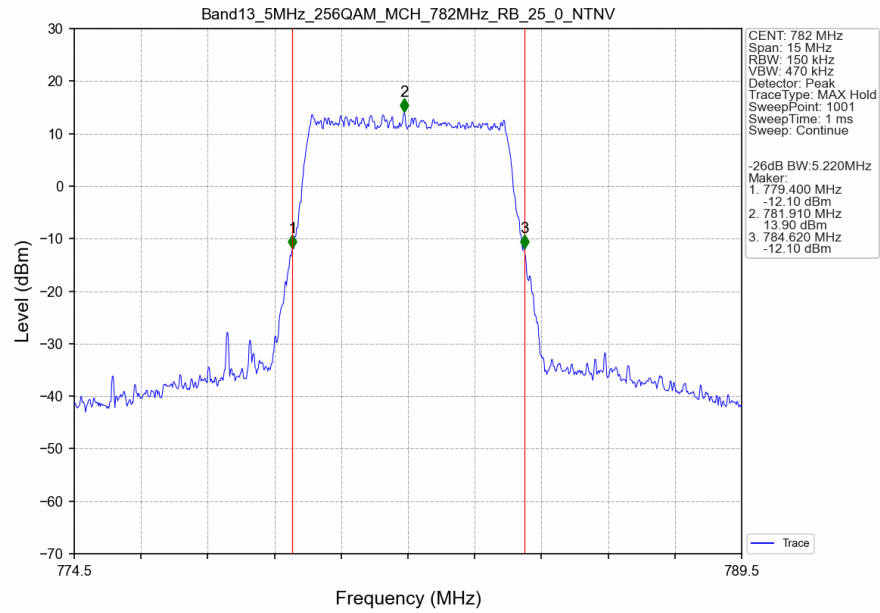
3.2.2 Band13_XDB



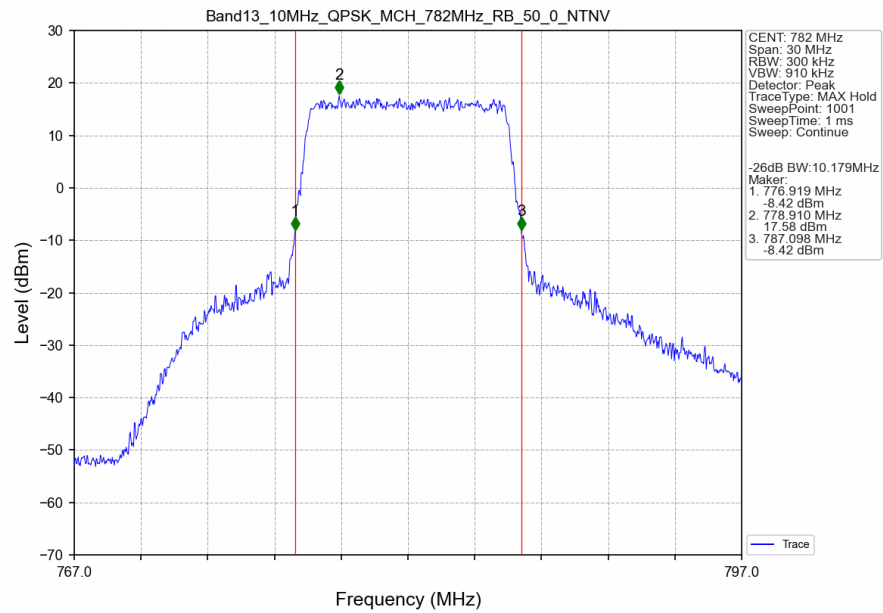
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTV



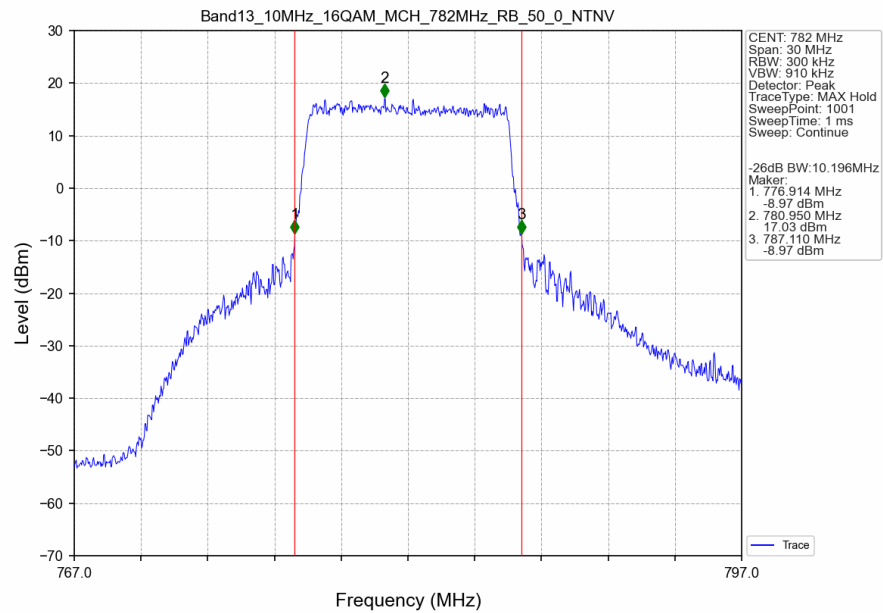
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTV



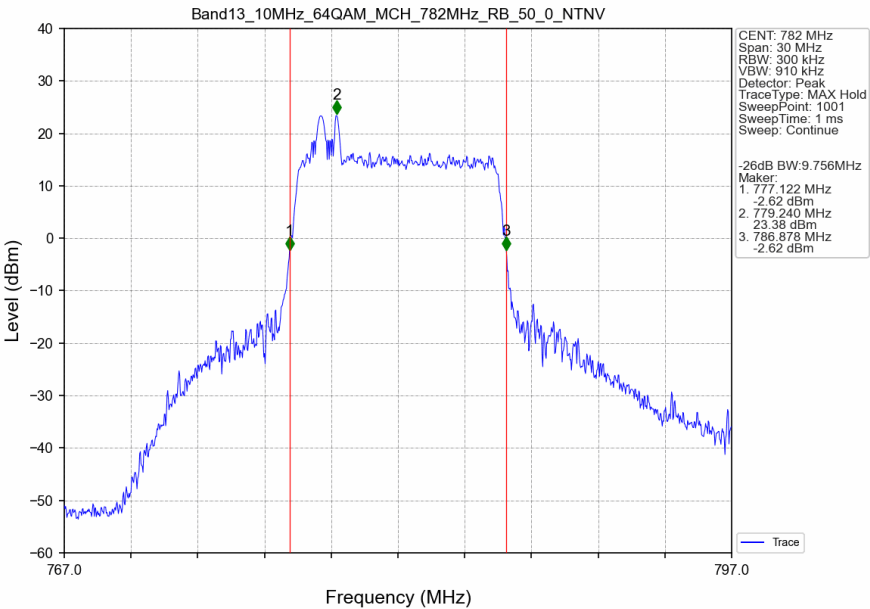
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTN



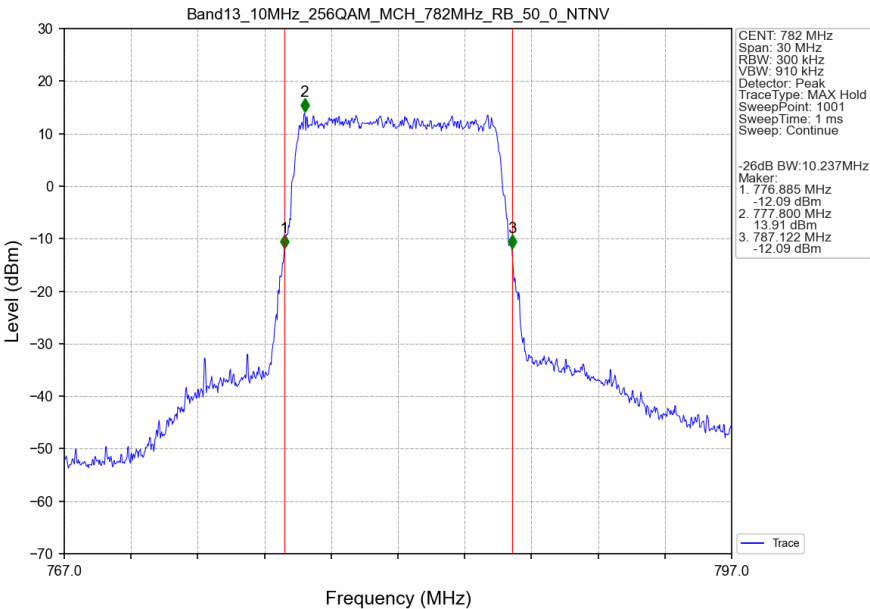
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTN



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



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



4. Peak-Average Ratio

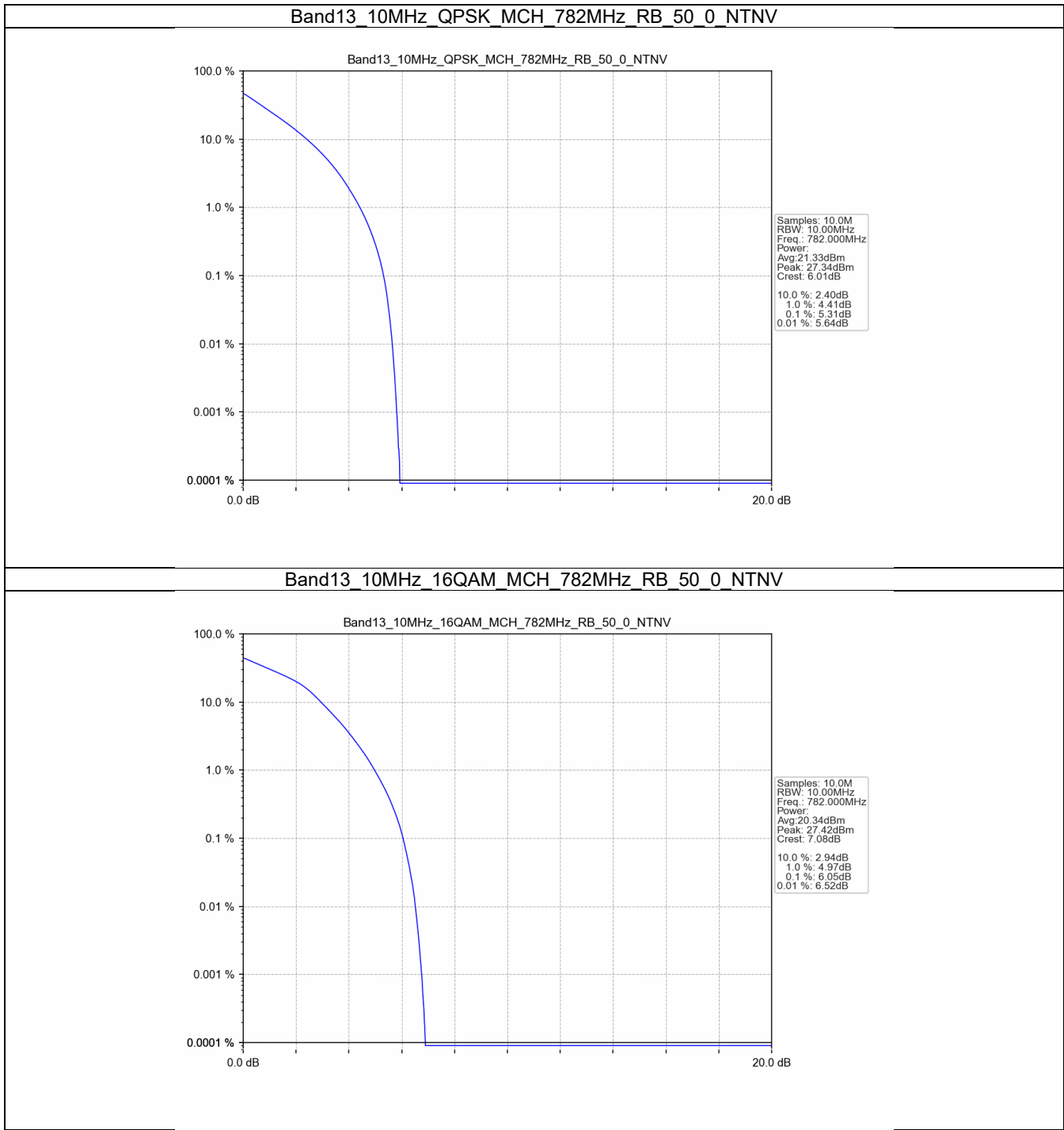
4.1 Test Result

4.1.1 B13_10MHz

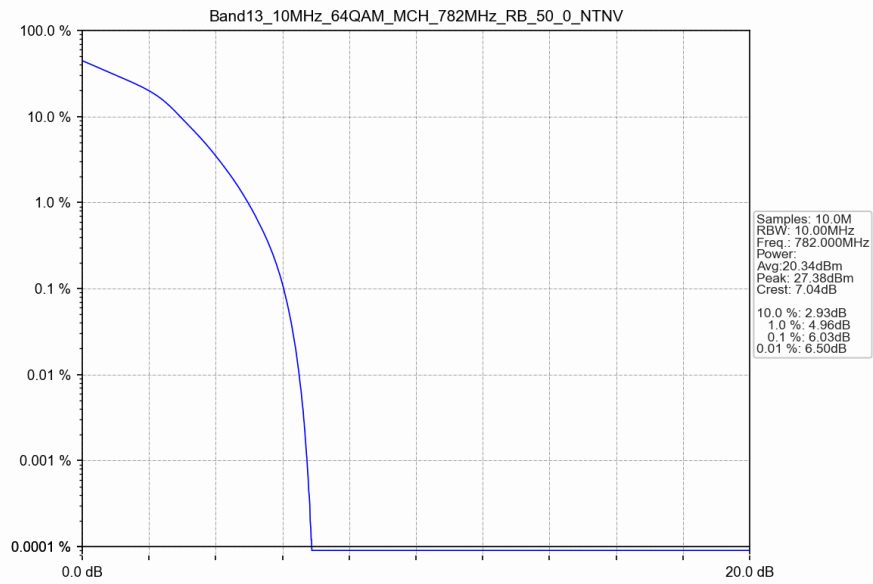
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.31	<=13	Pass
16QAM	782	50	0	6.05	<=13	Pass
64QAM	782	50	0	6.03	<=13	Pass
256QAM	782	50	0	7.27	<=13	Pass

4.2 Test Graph

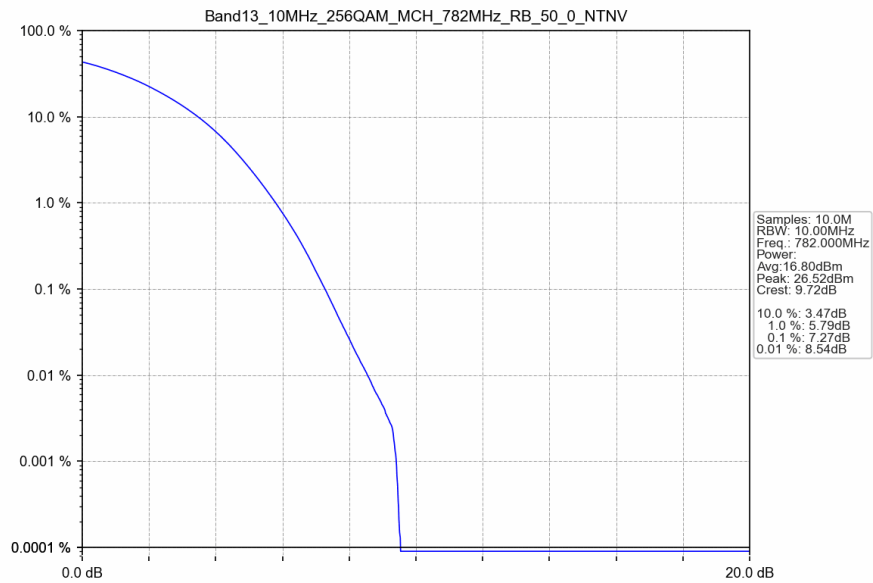
4.2.1 B13_10MHz



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

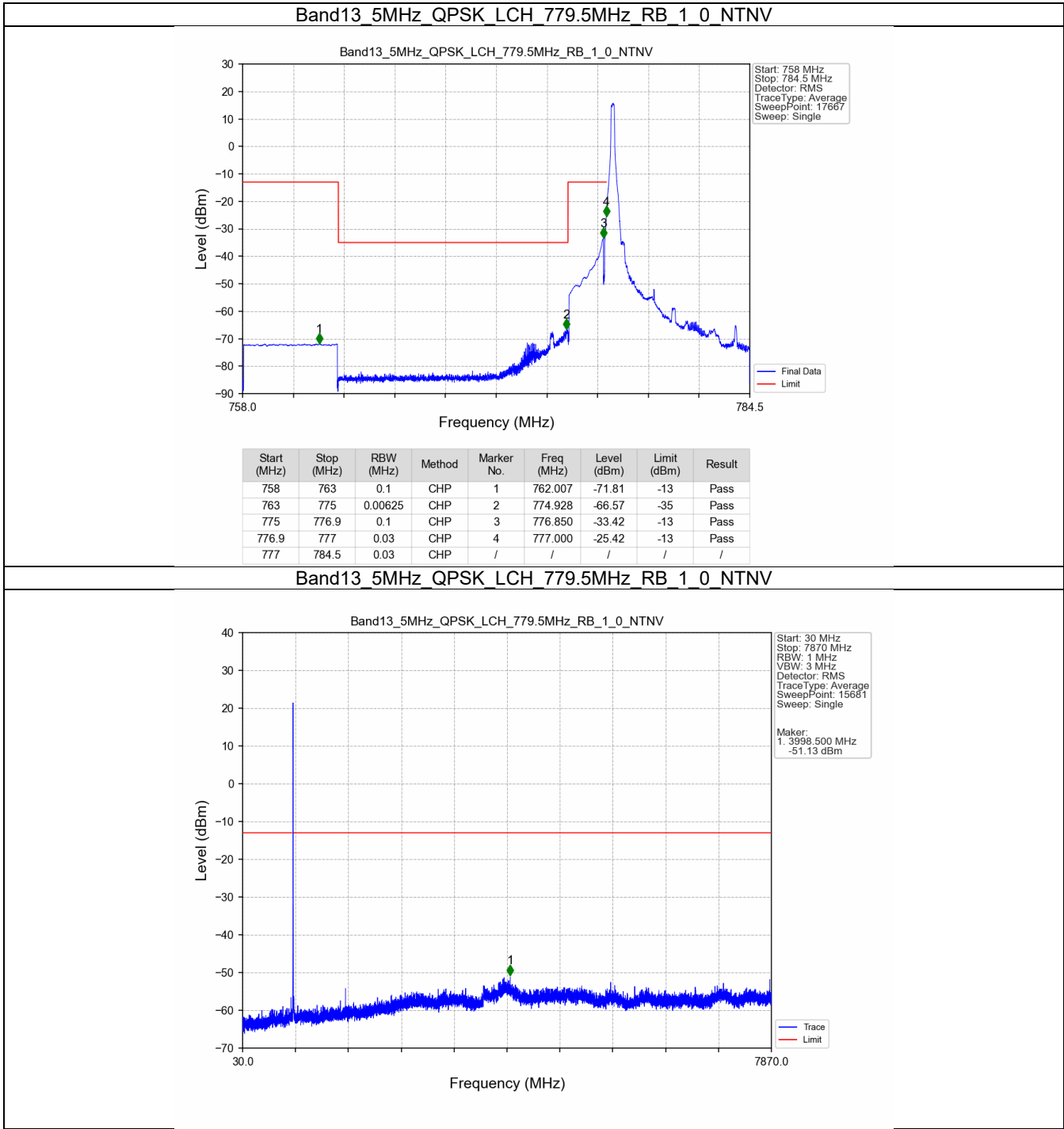
Band: 13 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B13_10MHz

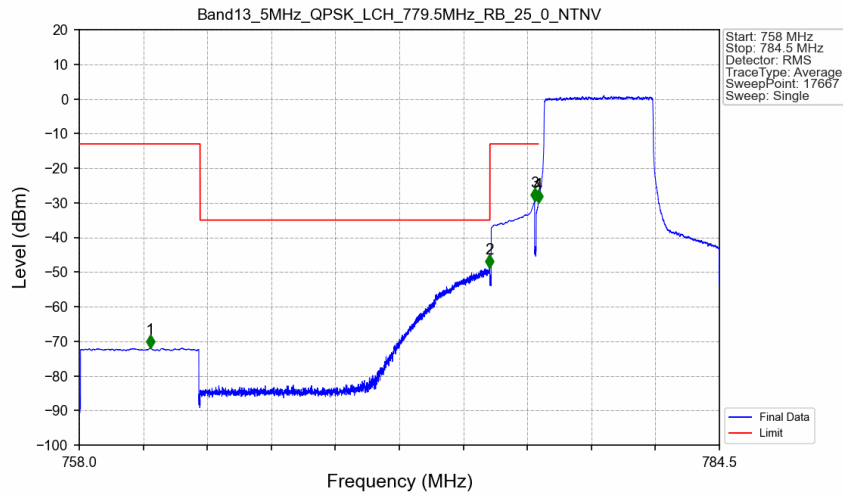
Band: 13 / Bandwidth: 10MHz / NTVN						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

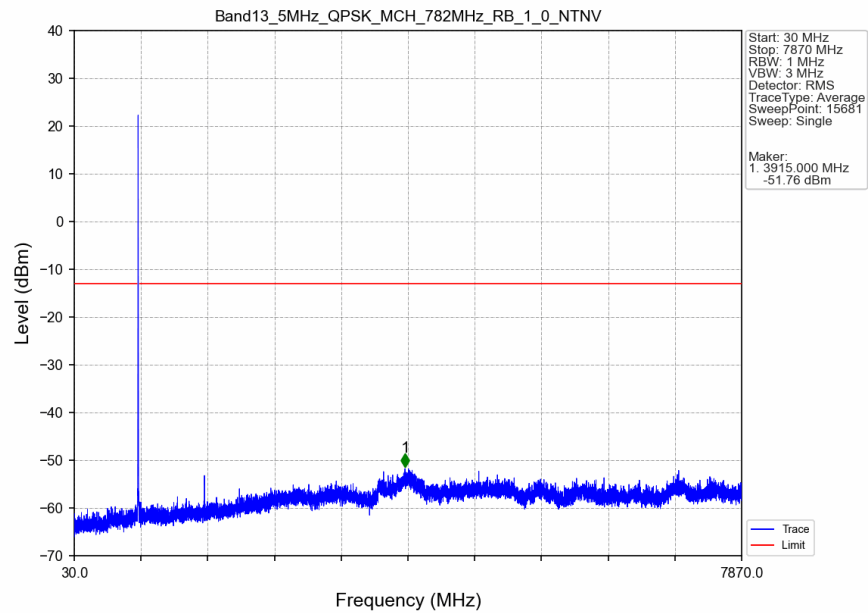
5.2.1 B13_5MHz



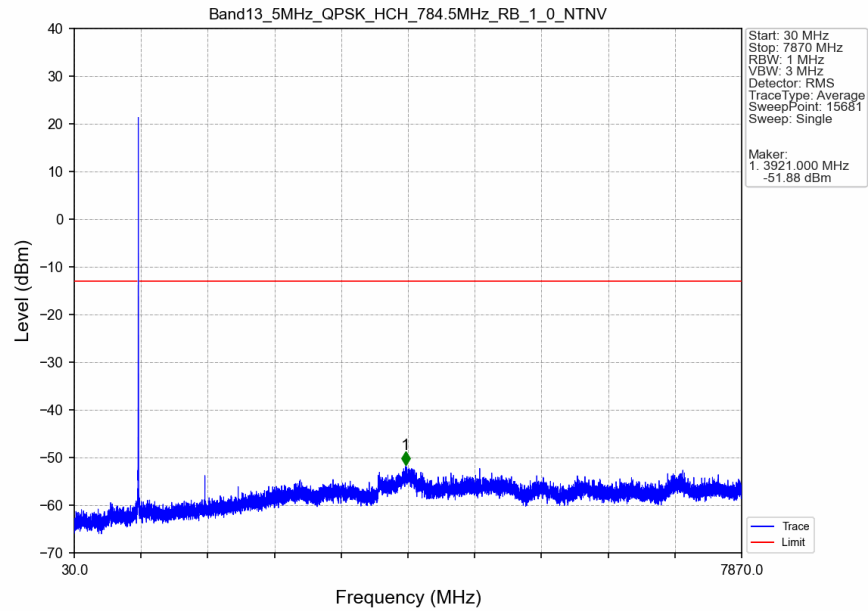
Band13 5MHz QPSK LCH 779.5MHz RB 25 0 NTNV



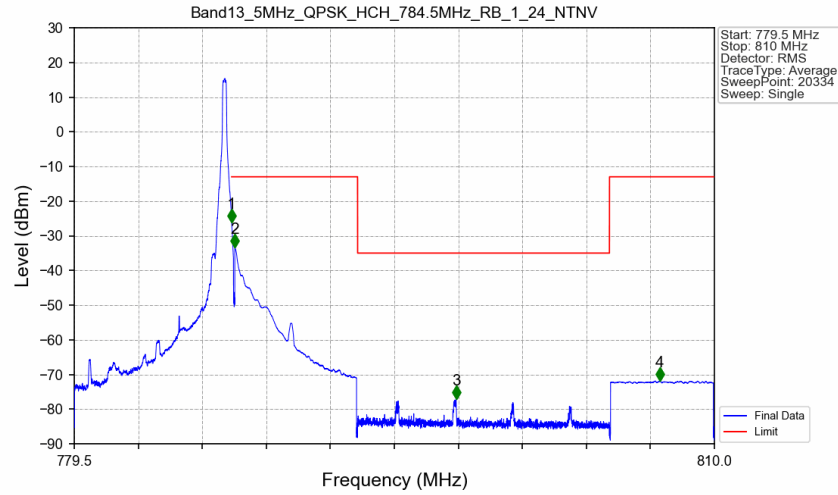
Band13 5MHz QPSK MCH 782MHz RB 1 0 NTNV



Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTV

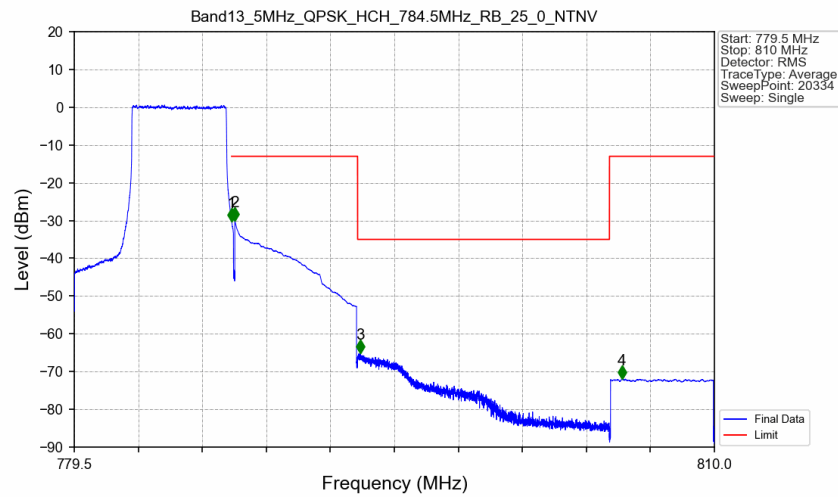


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTV



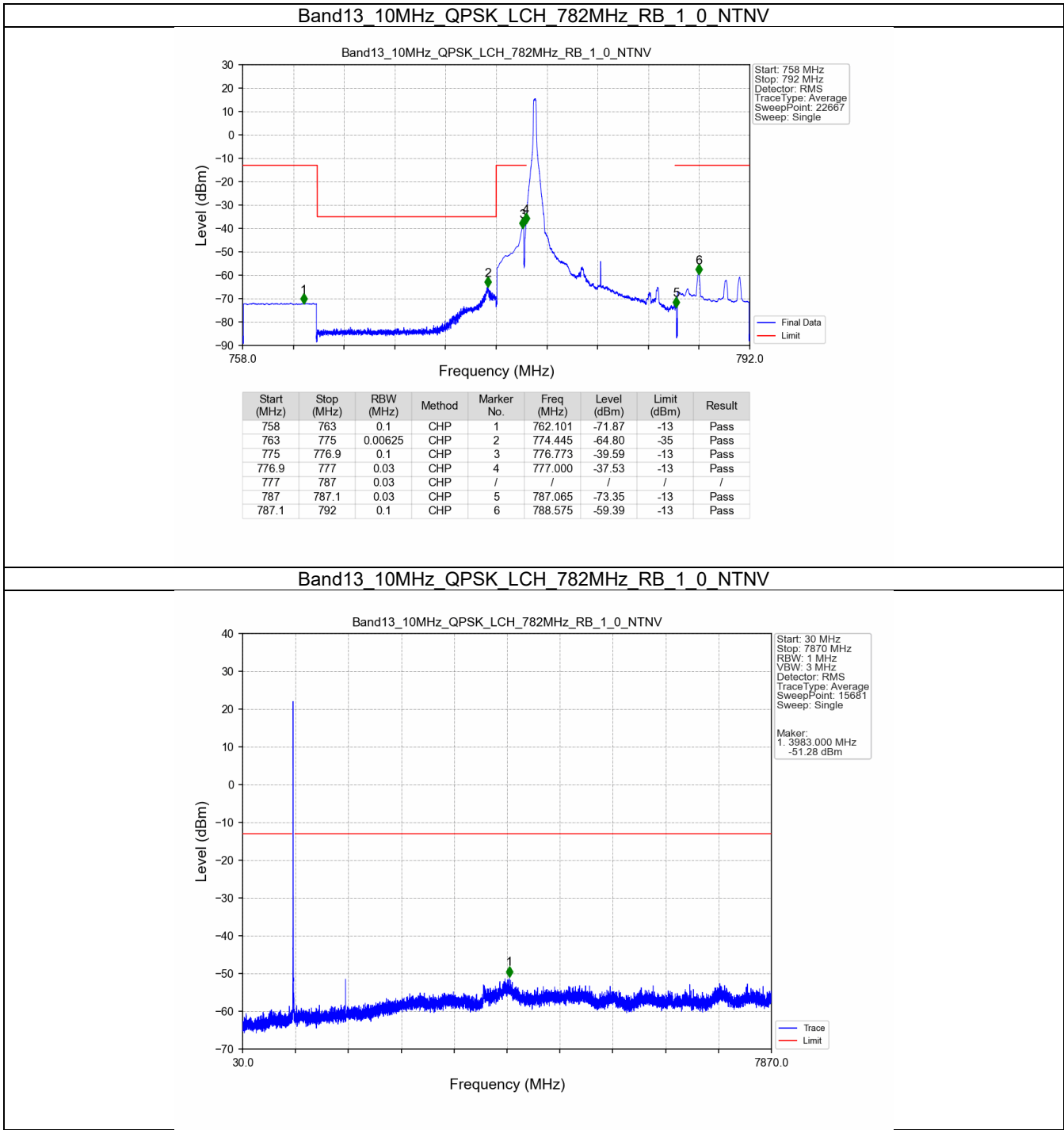
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-26.18	-13	Pass
787.1	793	0.1	CHP	2	787.150	-33.34	-13	Pass
793	805	0.00625	CHP	3	797.691	-77.00	-35	Pass
805	810	0.1	CHP	4	807.388	-71.87	-13	Pass

Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTN

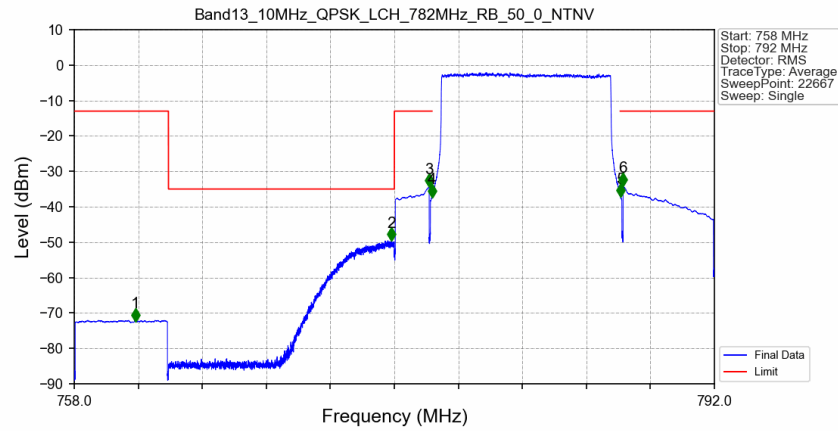


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-30.19	-13	Pass
787.1	793	0.1	CHP	2	787.150	-29.98	-13	Pass
793	805	0.00625	CHP	3	793.134	-65.11	-35	Pass
805	810	0.1	CHP	4	805.599	-71.93	-13	Pass

5.2.2 B13_10MHz

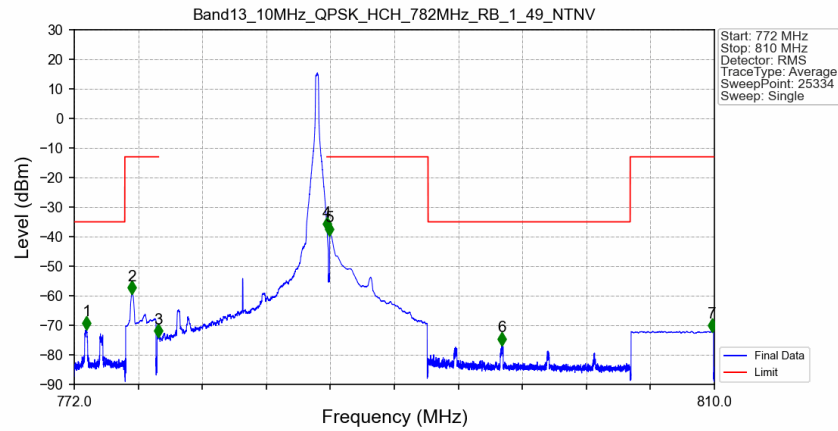


Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



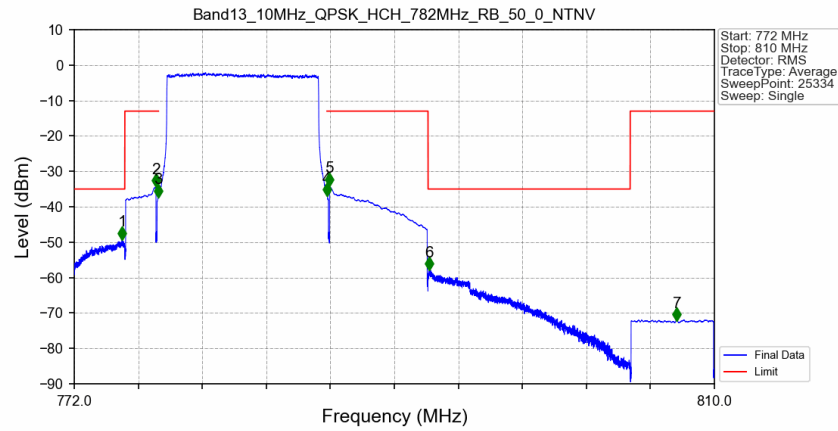
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	761.252	-72.06	-13	Pass
763	775	0.00625	CHP	2	774.853	-49.33	-35	Pass
775	776.9	0.1	CHP	3	776.850	-34.11	-13	Pass
776.9	777	0.03	CHP	4	776.998	-37.00	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.000	-36.94	-13	Pass
787.1	792	0.1	CHP	6	787.150	-33.82	-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	772.734	-71.04	-35	Pass
775	776.9	0.1	CHP	2	775.434	-59.13	-13	Pass
776.9	777	0.03	CHP	3	776.971	-73.76	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-37.55	-13	Pass
787.1	793	0.1	CHP	5	787.150	-39.21	-13	Pass
793	805	0.00625	CHP	6	797.379	-76.40	-35	Pass
805	810	0.1	CHP	7	809.877	-71.84	-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	774.837	-48.98	-35	Pass
775	776.9	0.1	CHP	2	776.847	-34.14	-13	Pass
776.9	777	0.03	CHP	3	777.000	-37.05	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.002	-36.73	-13	Pass
787.1	793	0.1	CHP	5	787.150	-33.82	-13	Pass
793	805	0.00625	CHP	6	793.062	-57.69	-35	Pass
805	810	0.1	CHP	7	807.775	-71.95	-13	Pass