

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	23.86	-1.20	20.51	<=34.77	Pass
			13	24.08	-1.20	20.73	<=34.77	Pass
			24	24.07	-1.20	20.72	<=34.77	Pass
		12	0	23.11	-1.20	19.76	<=34.77	Pass
			6	23.11	-1.20	19.76	<=34.77	Pass
			13	23.13	-1.20	19.78	<=34.77	Pass
		25	0	23.16	-1.20	19.81	<=34.77	Pass
	782	1	0	23.87	-1.20	20.52	<=34.77	Pass
			13	24.08	-1.20	20.73	<=34.77	Pass
			24	24.03	-1.20	20.68	<=34.77	Pass
		12	0	23.16	-1.20	19.81	<=34.77	Pass
			6	23.13	-1.20	19.78	<=34.77	Pass
			13	23.15	-1.20	19.80	<=34.77	Pass
		25	0	23.15	-1.20	19.80	<=34.77	Pass
	784.5	1	0	24.05	-1.20	20.70	<=34.77	Pass
			13	24.02	-1.20	20.67	<=34.77	Pass
			24	23.99	-1.20	20.64	<=34.77	Pass
		12	0	23.15	-1.20	19.80	<=34.77	Pass
			6	23.09	-1.20	19.74	<=34.77	Pass
			13	23.08	-1.20	19.73	<=34.77	Pass
		25	0	23.14	-1.20	19.79	<=34.77	Pass
16QAM	779.5	1	0	23.04	-1.20	19.69	<=34.77	Pass
			13	23.20	-1.20	19.85	<=34.77	Pass
			24	23.28	-1.20	19.93	<=34.77	Pass
		12	0	22.11	-1.20	18.76	<=34.77	Pass
			6	22.13	-1.20	18.78	<=34.77	Pass
			13	22.18	-1.20	18.83	<=34.77	Pass
		25	0	22.14	-1.20	18.79	<=34.77	Pass
	782	1	0	23.14	-1.20	19.79	<=34.77	Pass
			13	23.05	-1.20	19.70	<=34.77	Pass
			24	23.01	-1.20	19.66	<=34.77	Pass
		12	0	22.15	-1.20	18.80	<=34.77	Pass
			6	22.13	-1.20	18.78	<=34.77	Pass
			13	22.08	-1.20	18.73	<=34.77	Pass
		25	0	22.16	-1.20	18.81	<=34.77	Pass
	784.5	1	0	23.33	-1.20	19.98	<=34.77	Pass
			13	23.06	-1.20	19.71	<=34.77	Pass
			24	23.23	-1.20	19.88	<=34.77	Pass
		12	0	21.95	-1.20	18.60	<=34.77	Pass
			6	22.13	-1.20	18.78	<=34.77	Pass
			13	22.06	-1.20	18.71	<=34.77	Pass
		25	0	22.11	-1.20	18.76	<=34.77	Pass
64QAM	779.5	1	0	21.77	-1.20	18.42	<=34.77	Pass
			13	22.07	-1.20	18.72	<=34.77	Pass
			24	21.80	-1.20	18.45	<=34.77	Pass
		12	0	21.12	-1.20	17.77	<=34.77	Pass
			6	21.13	-1.20	17.78	<=34.77	Pass
			13	21.15	-1.20	17.80	<=34.77	Pass
		25	0	21.11	-1.20	17.76	<=34.77	Pass

	782	1	0	22.12	-1.20	18.77	<=34.77	Pass
			13	22.03	-1.20	18.68	<=34.77	Pass
			24	22.24	-1.20	18.89	<=34.77	Pass
		12	0	21.14	-1.20	17.79	<=34.77	Pass
			6	21.18	-1.20	17.83	<=34.77	Pass
			13	21.12	-1.20	17.77	<=34.77	Pass
		25	0	21.13	-1.20	17.78	<=34.77	Pass
	784.5	1	0	22.10	-1.20	18.75	<=34.77	Pass
			13	22.01	-1.20	18.66	<=34.77	Pass
			24	22.16	-1.20	18.81	<=34.77	Pass
		12	0	21.00	-1.20	17.65	<=34.77	Pass
			6	21.10	-1.20	17.75	<=34.77	Pass
			13	21.11	-1.20	17.76	<=34.77	Pass
		25	0	21.08	-1.20	17.73	<=34.77	Pass
256QAM	779.5	1	0	19.13	-1.20	15.78	<=34.77	Pass
			13	19.21	-1.20	15.86	<=34.77	Pass
			24	19.20	-1.20	15.85	<=34.77	Pass
		12	0	19.14	-1.20	15.79	<=34.77	Pass
			6	19.16	-1.20	15.81	<=34.77	Pass
			13	19.19	-1.20	15.84	<=34.77	Pass
		25	0	19.17	-1.20	15.82	<=34.77	Pass
	782	1	0	19.22	-1.20	15.87	<=34.77	Pass
			13	19.26	-1.20	15.91	<=34.77	Pass
			24	19.24	-1.20	15.89	<=34.77	Pass
		12	0	19.17	-1.20	15.82	<=34.77	Pass
			6	19.18	-1.20	15.83	<=34.77	Pass
			13	19.21	-1.20	15.86	<=34.77	Pass
		25	0	19.18	-1.20	15.83	<=34.77	Pass
	784.5	1	0	19.27	-1.20	15.92	<=34.77	Pass
			13	19.15	-1.20	15.80	<=34.77	Pass
			24	19.14	-1.20	15.79	<=34.77	Pass
		12	0	19.19	-1.20	15.84	<=34.77	Pass
			6	19.15	-1.20	15.80	<=34.77	Pass
			13	19.11	-1.20	15.76	<=34.77	Pass
		25	0	19.17	-1.20	15.82	<=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	24.06	-1.20	20.71	<=34.77	Pass
			25	24.26	-1.20	20.91	<=34.77	Pass
			49	24.04	-1.20	20.69	<=34.77	Pass
		25	0	22.77	-1.20	19.42	<=34.77	Pass
			13	23.14	-1.20	19.79	<=34.77	Pass
			25	23.10	-1.20	19.75	<=34.77	Pass
		50	0	23.14	-1.20	19.79	<=34.77	Pass
16QAM	782	1	0	23.08	-1.20	19.73	<=34.77	Pass
			25	23.02	-1.20	19.67	<=34.77	Pass
			49	23.02	-1.20	19.67	<=34.77	Pass
		25	0	21.89	-1.20	18.54	<=34.77	Pass
			13	22.14	-1.20	18.79	<=34.77	Pass
			25	22.10	-1.20	18.75	<=34.77	Pass
		50	0	22.14	-1.20	18.79	<=34.77	Pass
64QAM	782	1	0	21.63	-1.20	18.28	<=34.77	Pass

			25	22.17	-1.20	18.82	<=34.77	Pass
			49	21.94	-1.20	18.59	<=34.77	Pass
		25	0	20.95	-1.20	17.60	<=34.77	Pass
			13	21.12	-1.20	17.77	<=34.77	Pass
			25	21.07	-1.20	17.72	<=34.77	Pass
		50	0	21.13	-1.20	17.78	<=34.77	Pass
		256QAM	782	1	0	19.34	-1.20	15.99
25	18.82				-1.20	15.47	<=34.77	Pass
49	19.20				-1.20	15.85	<=34.77	Pass
25	0			19.15	-1.20	15.80	<=34.77	Pass
	13			19.16	-1.20	15.81	<=34.77	Pass
	25			19.16	-1.20	15.81	<=34.77	Pass
50	0			19.14	-1.20	15.79	<=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	-6.000	-0.0077	-2.5 to 2.5	Pass
					NV	-1.100	-0.0014	-2.5 to 2.5	Pass
					HV	-5.900	-0.0075	-2.5 to 2.5	Pass
				-30	NV	-5.500	-0.0070	-2.5 to 2.5	Pass
				-20	NV	-2.900	-0.0037	-2.5 to 2.5	Pass
				-10	NV	0.500	0.0006	-2.5 to 2.5	Pass
				0	NV	-1.800	-0.0023	-2.5 to 2.5	Pass
				10	NV	-2.100	-0.0027	-2.5 to 2.5	Pass
				30	NV	-6.600	-0.0084	-2.5 to 2.5	Pass
				40	NV	-0.100	-0.0001	-2.5 to 2.5	Pass
				50	NV	-0.400	-0.0005	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

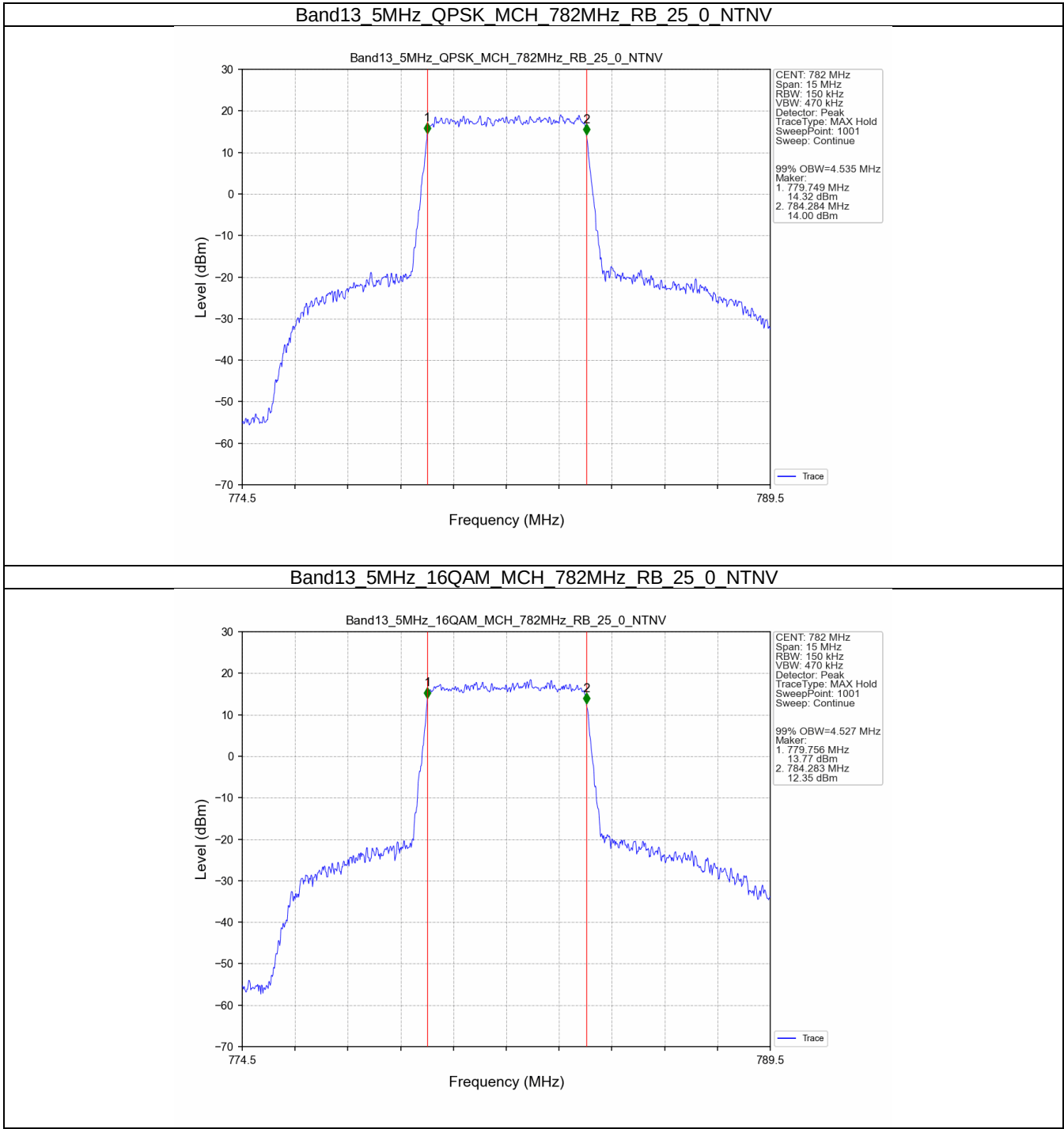
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.535	/	Pass
	16QAM	782	25	0	4.527	/	Pass
	64QAM	782	25	0	4.529	/	Pass
	256QAM	782	25	0	4.523	/	Pass
10	QPSK	782	50	0	9.072	/	Pass
	16QAM	782	50	0	9.002	/	Pass
	64QAM	782	50	0	9.034	/	Pass
	256QAM	782	50	0	9.007	/	Pass

3.1.2 Band13_XDB

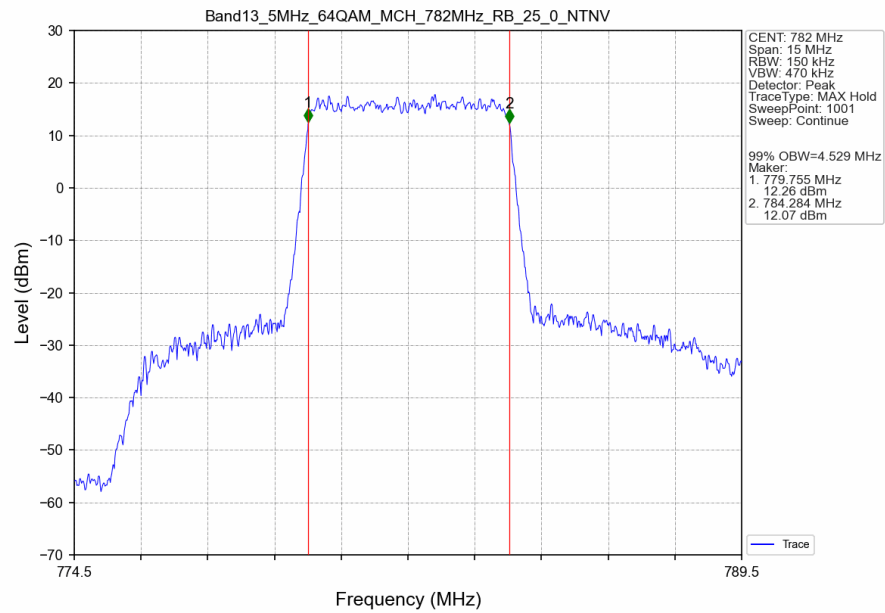
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.057	/	Pass
	16QAM	782	25	0	5.056	/	Pass
	64QAM	782	25	0	5.033	/	Pass
	256QAM	782	25	0	5.033	/	Pass
10	QPSK	782	50	0	9.896	/	Pass
	16QAM	782	50	0	9.959	/	Pass
	64QAM	782	50	0	9.931	/	Pass
	256QAM	782	50	0	9.869	/	Pass

3.2 Test Graph

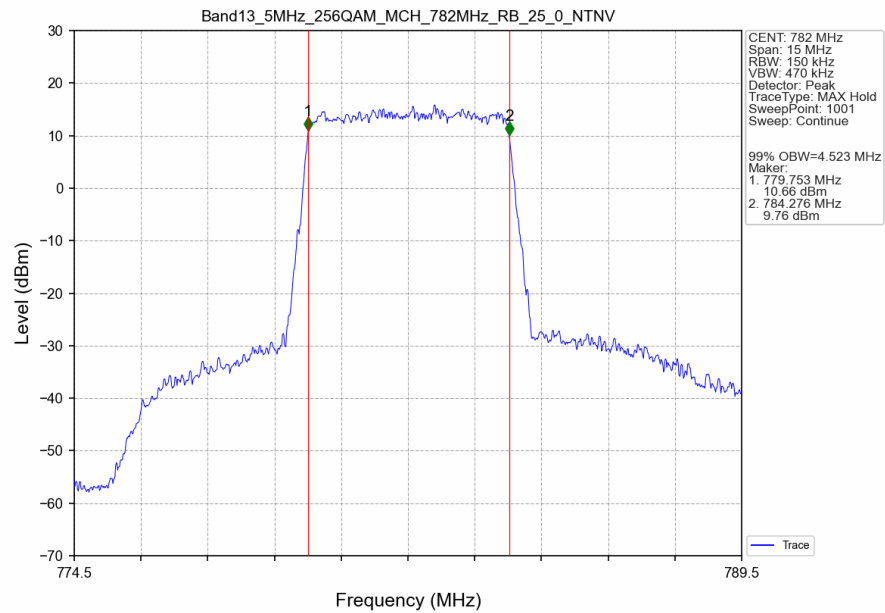
3.2.1 Band13_OBW



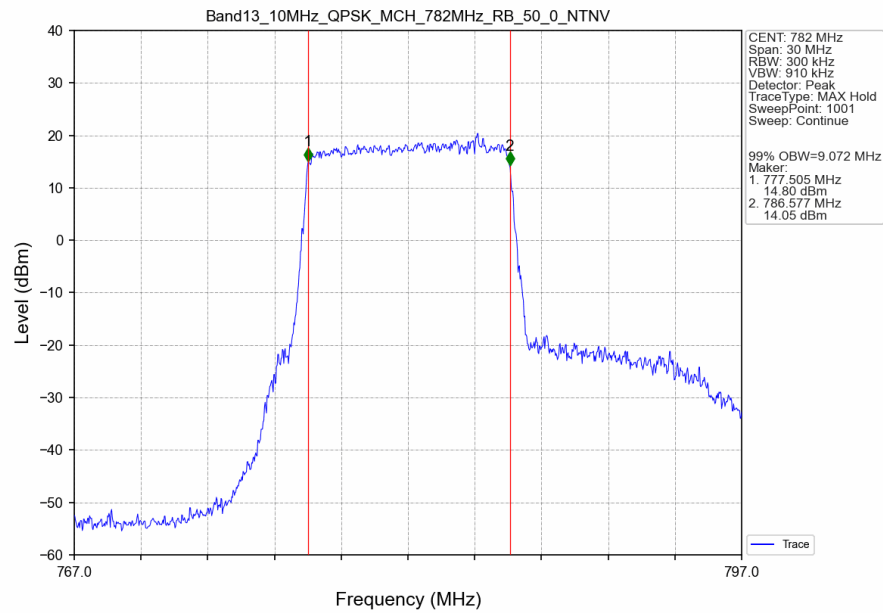
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTNV



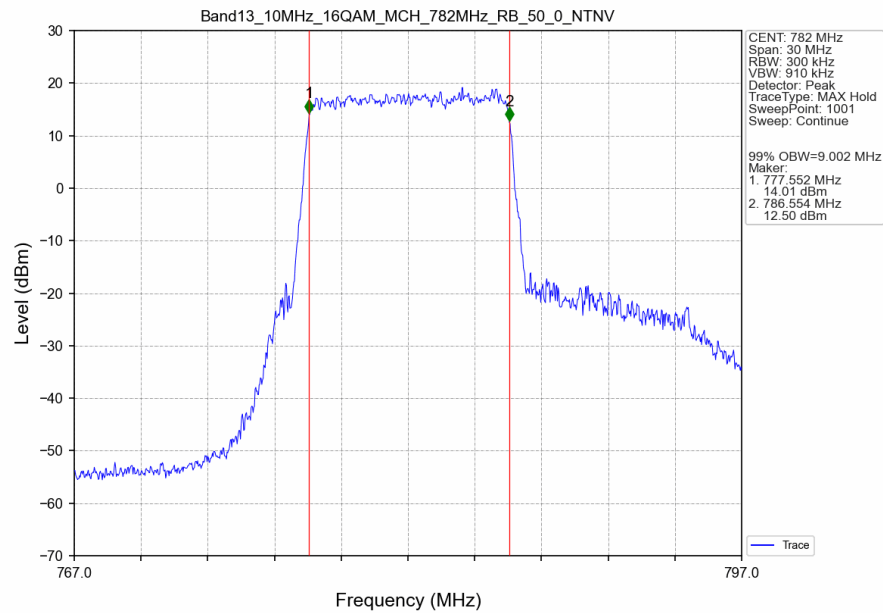
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTNV



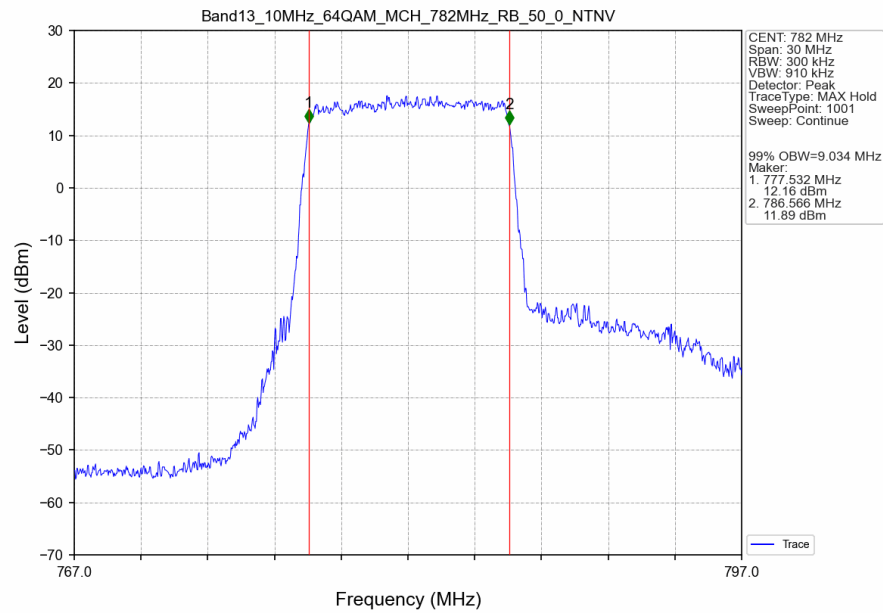
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



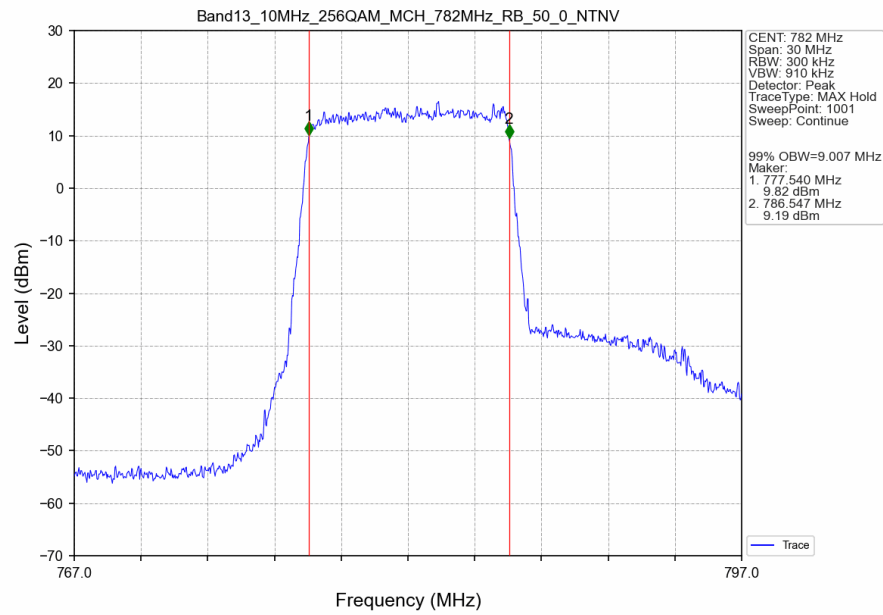
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



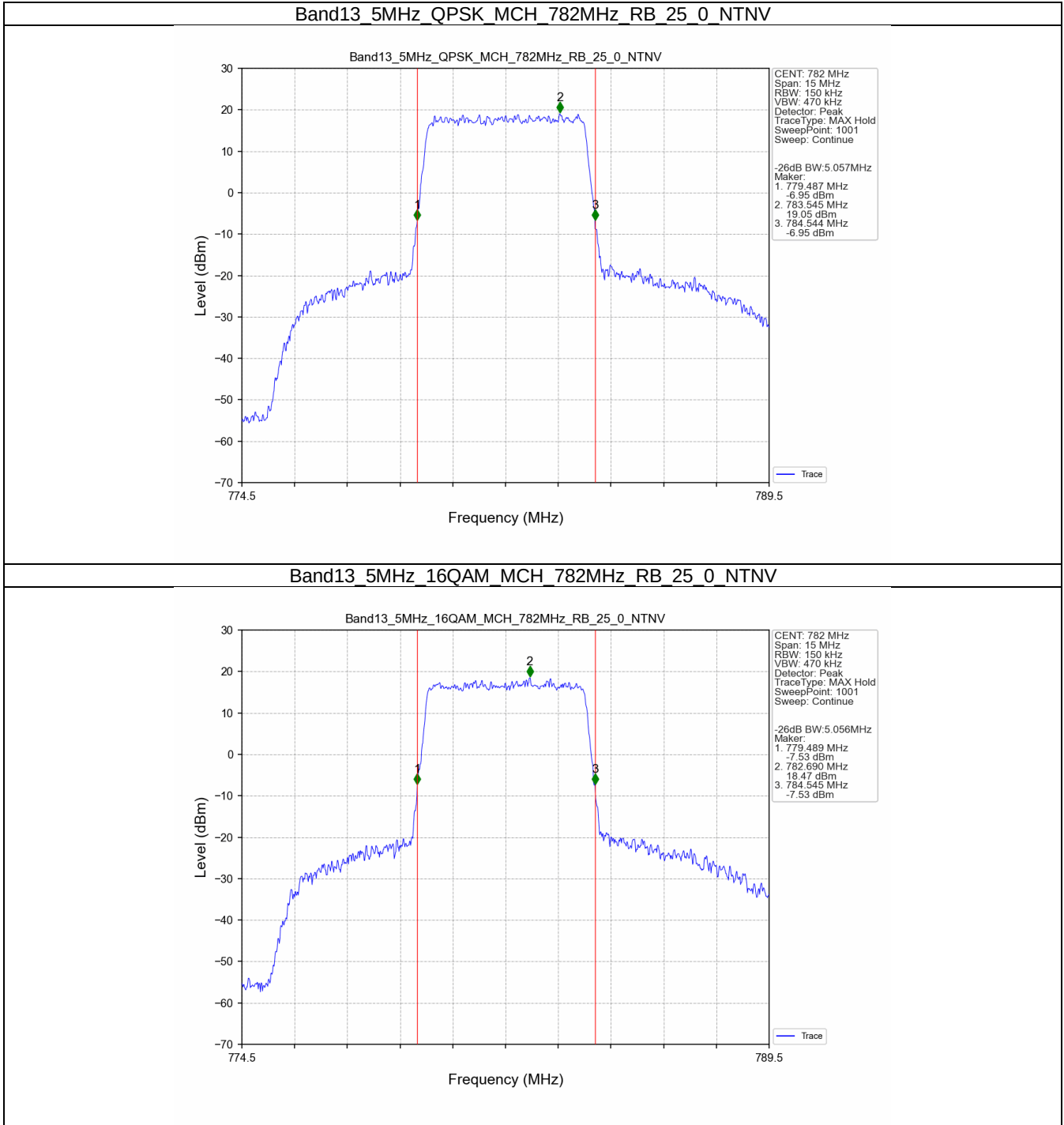
Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTV



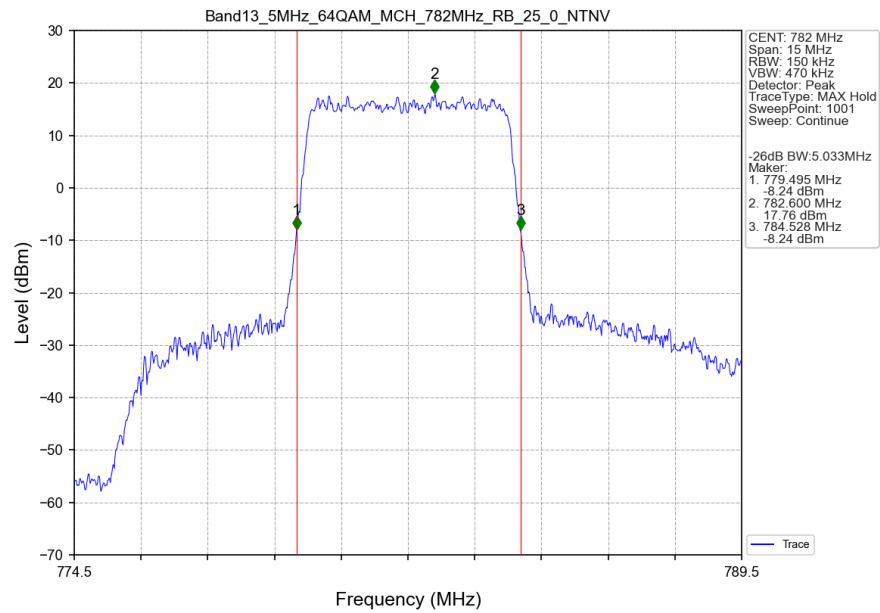
Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTV



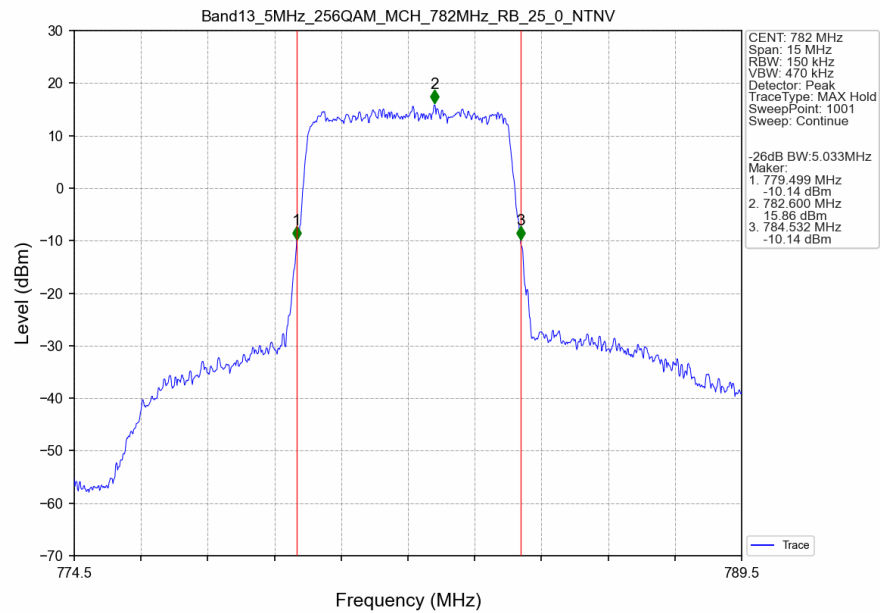
3.2.2 Band13_XDB



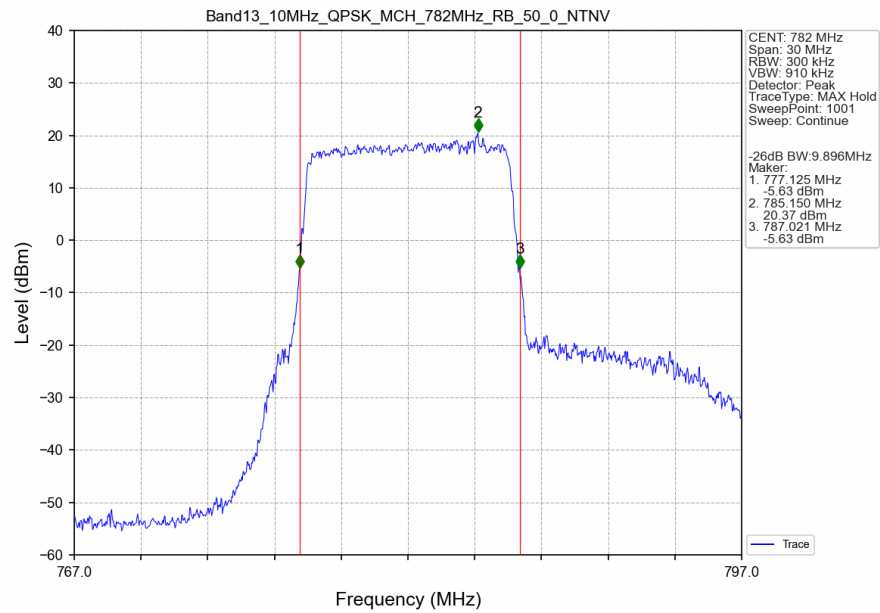
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTNV



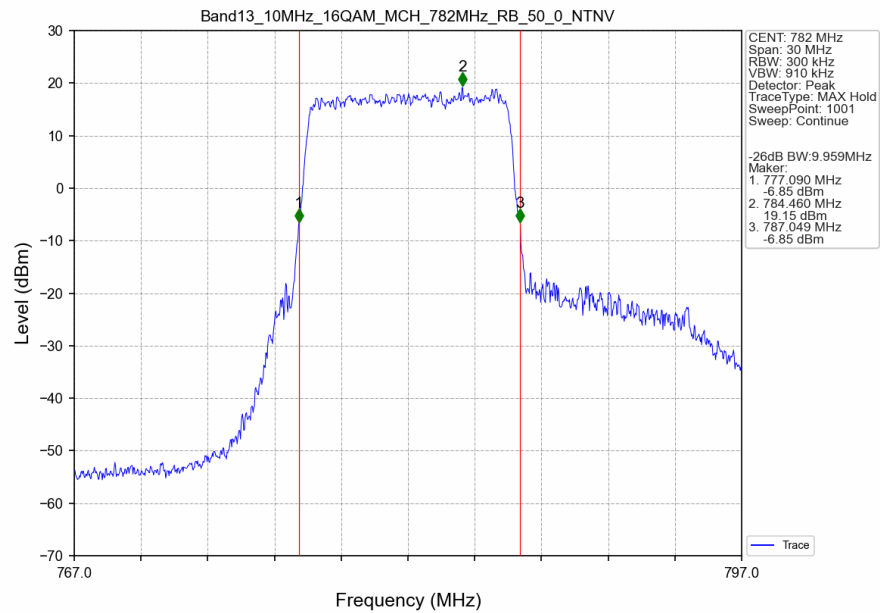
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTNV



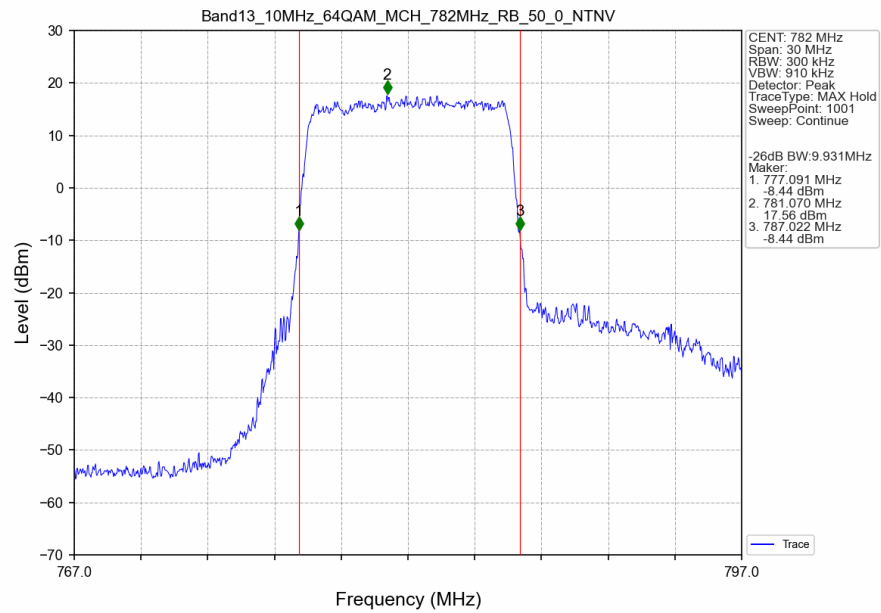
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



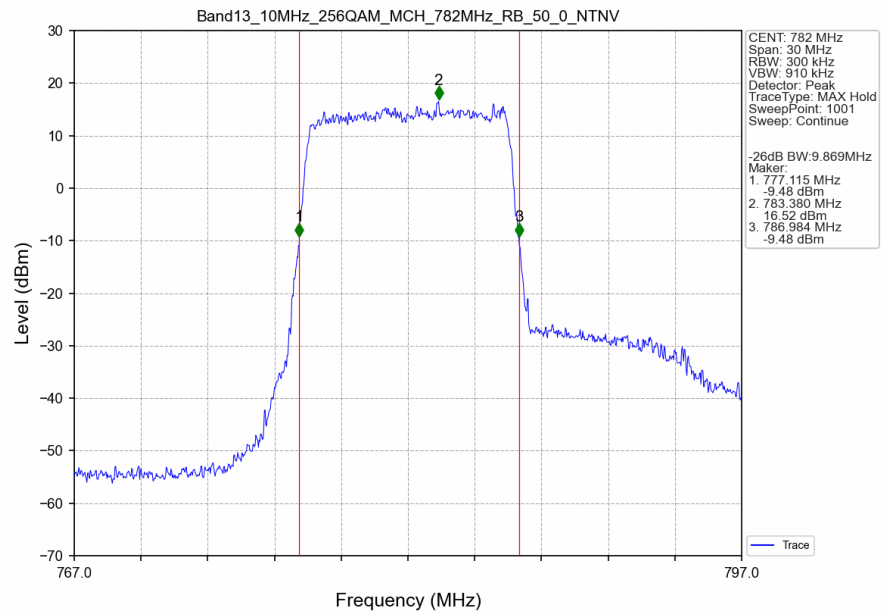
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



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



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



4. Peak-Average Ratio

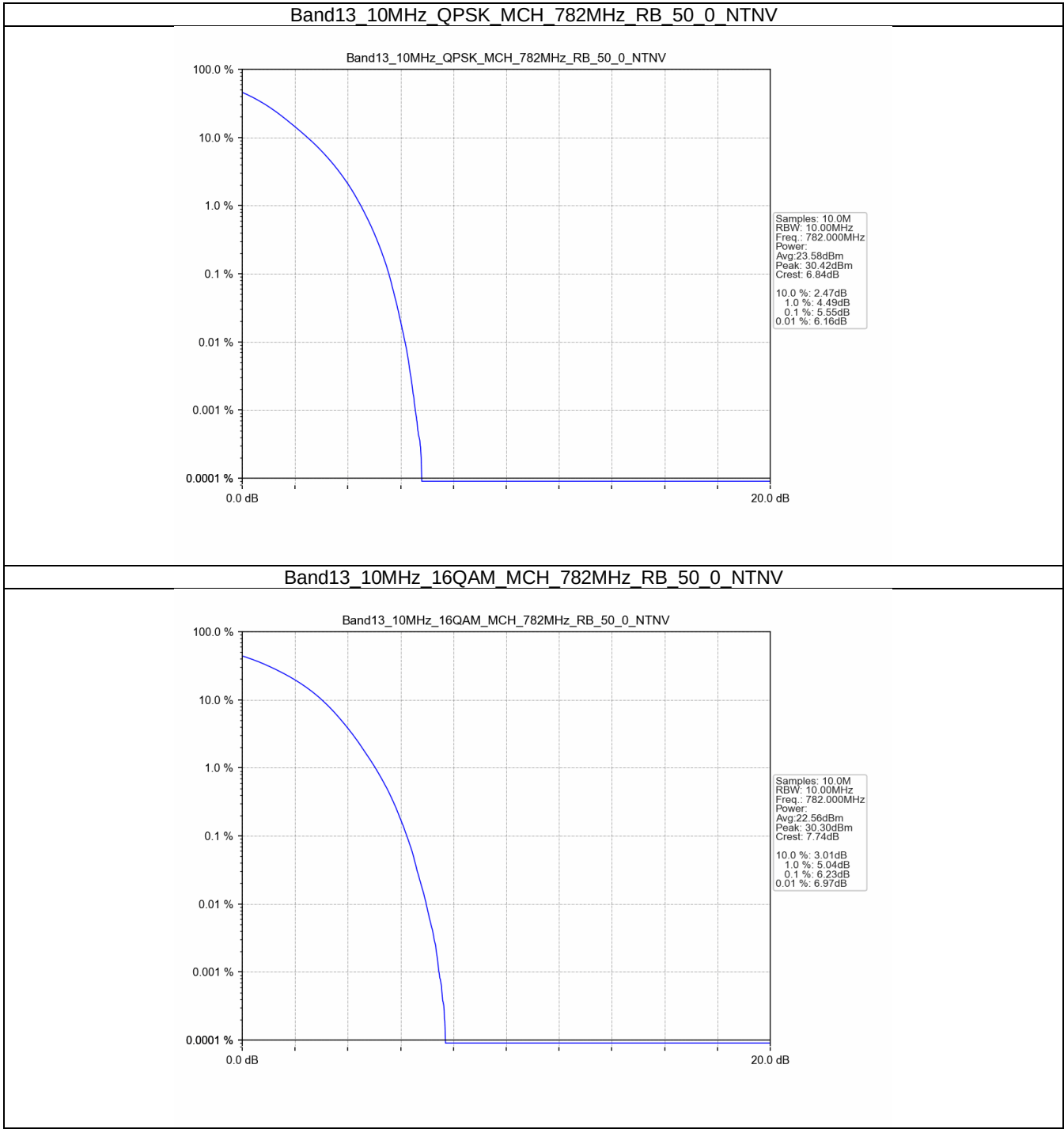
4.1 Test Result

4.1.1 B13_10MHz

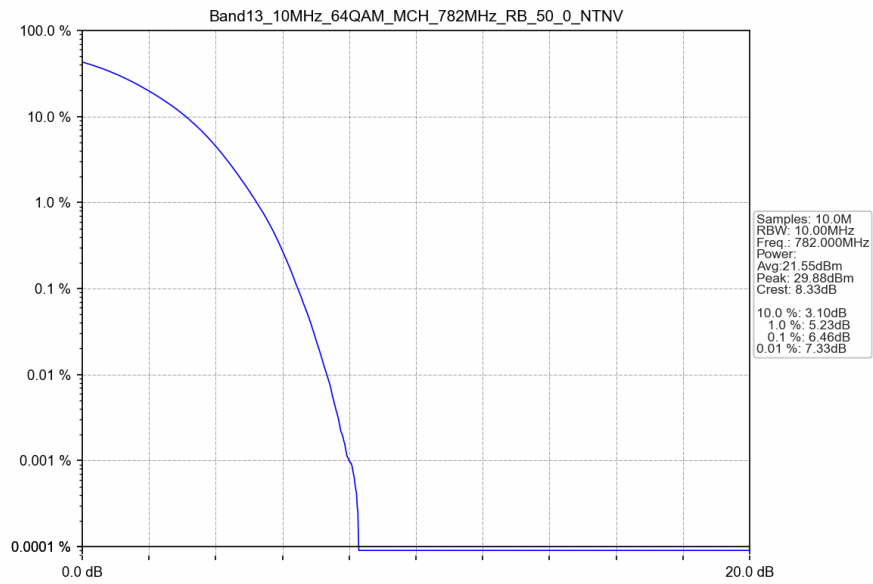
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.55	<=13	Pass
16QAM	782	50	0	6.23	<=13	Pass
64QAM	782	50	0	6.46	<=13	Pass
256QAM	782	50	0	6.66	<=13	Pass

4.2 Test Graph

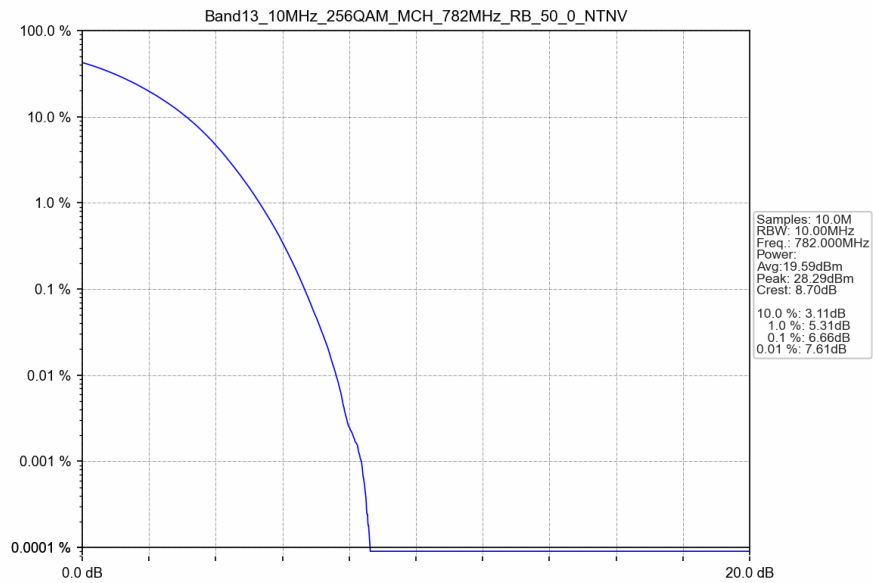
4.2.1 B13_10MHz



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

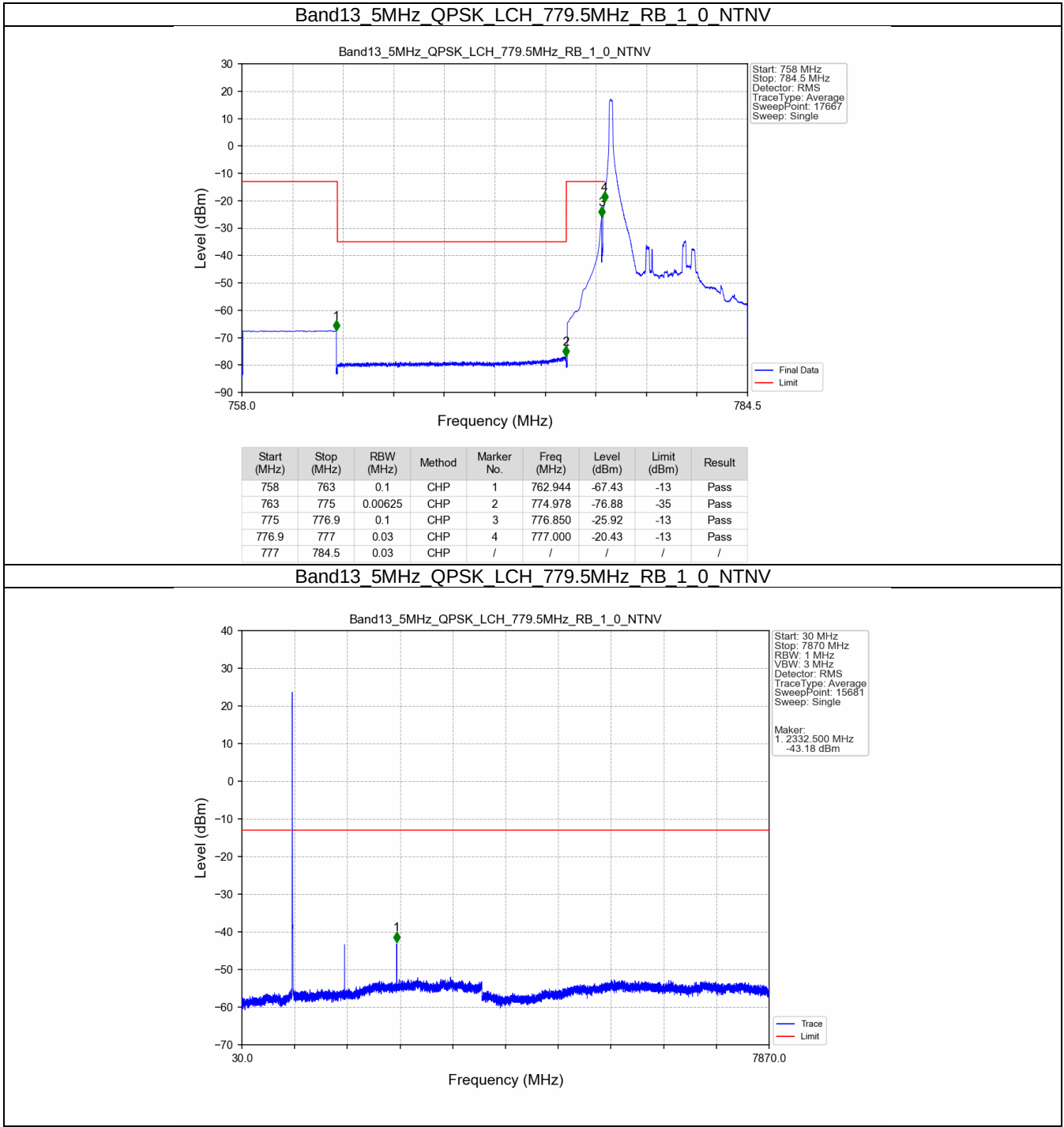
Band: 13 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B13_10MHz

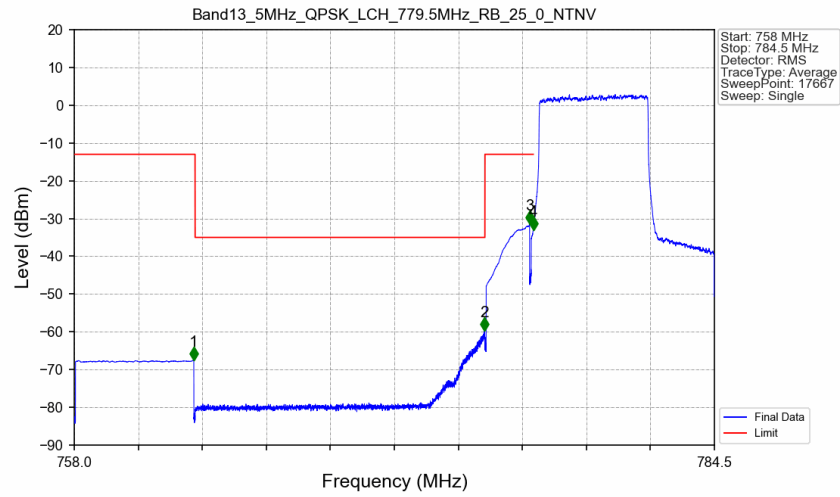
Band: 13 / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

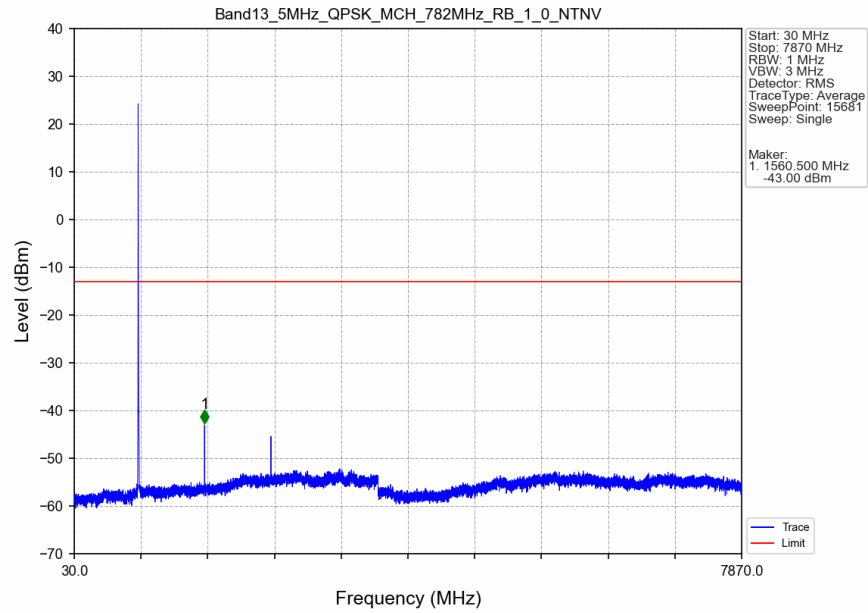
5.2.1 B13_5MHz



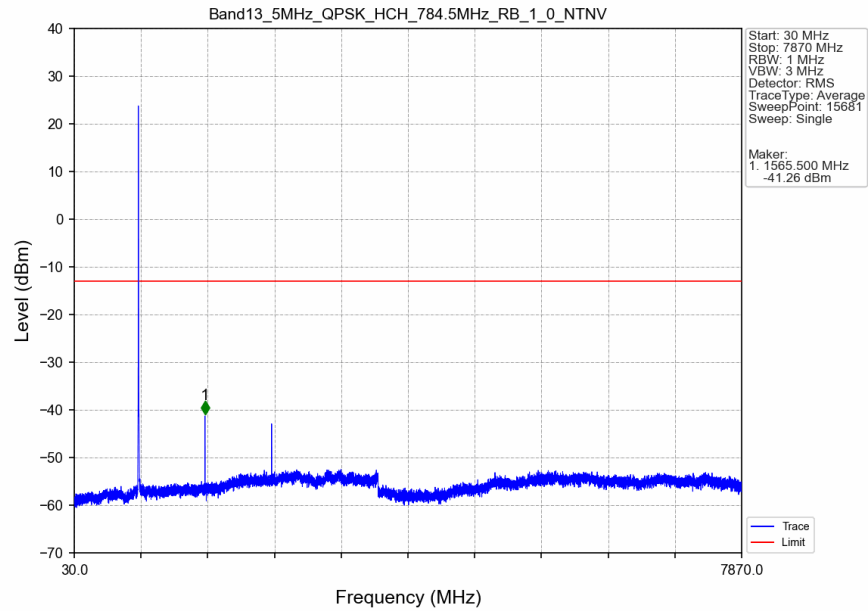
Band13 5MHz QPSK LCH 779.5MHz RB 25 0 NTV



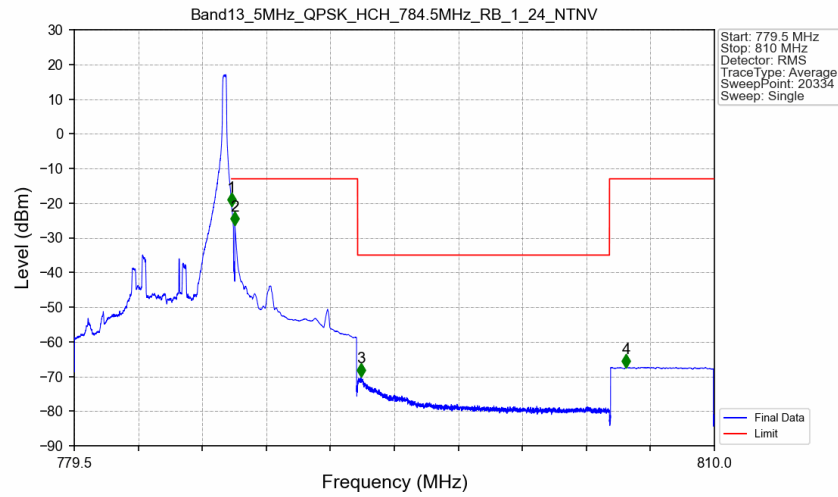
Band13 5MHz QPSK MCH 782MHz RB 1 0 NTV



Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTNV

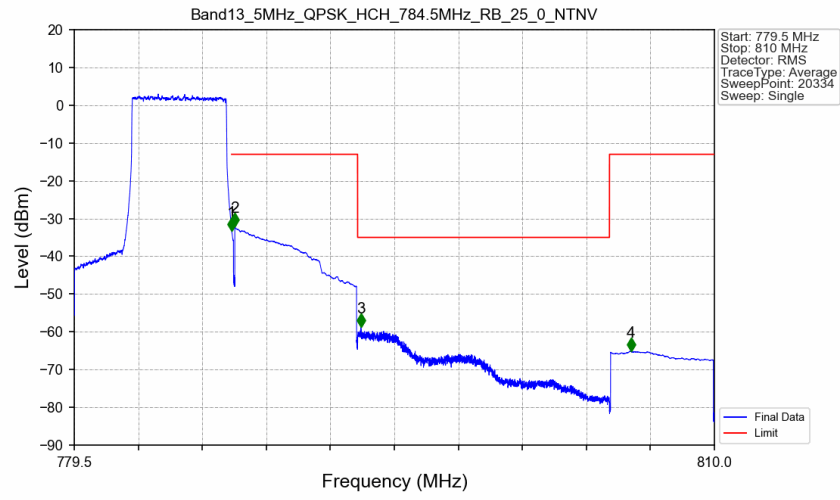


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTNV



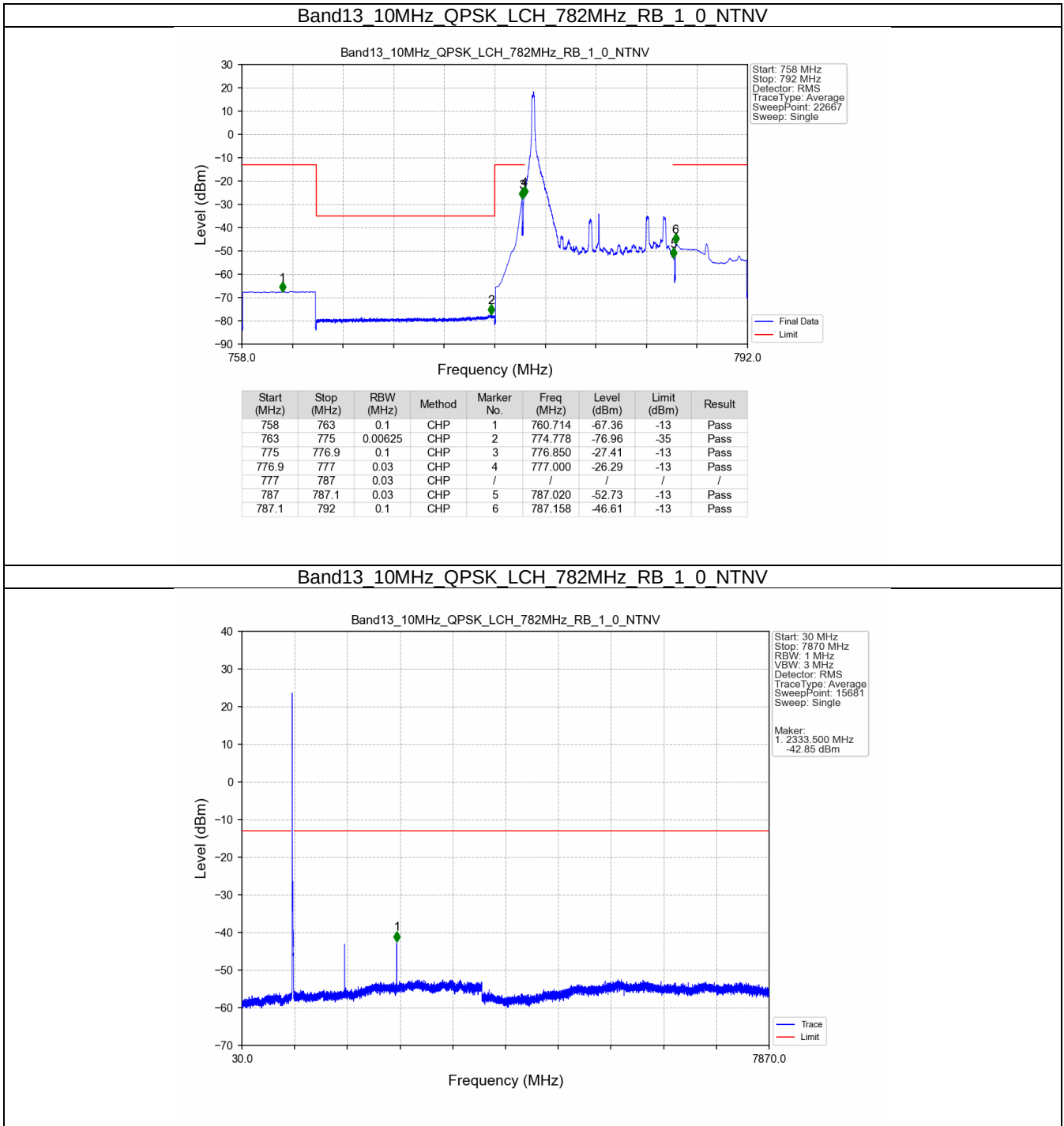
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-20.90	-13	Pass
787.1	793	0.1	CHP	2	787.150	-26.42	-13	Pass
793	805	0.00625	CHP	3	793.159	-69.98	-35	Pass
805	810	0.1	CHP	4	805.794	-67.33	-13	Pass

Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTN

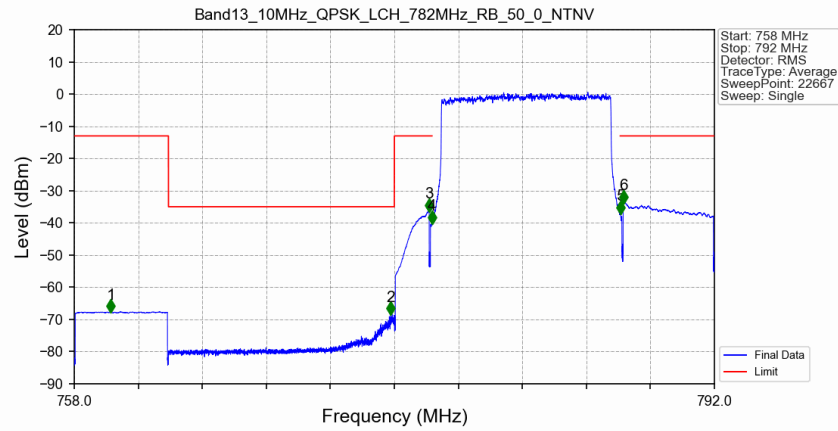


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-33.30	-13	Pass
787.1	793	0.1	CHP	2	787.150	-32.05	-13	Pass
793	805	0.00625	CHP	3	793.159	-58.60	-35	Pass
805	810	0.1	CHP	4	806.019	-65.12	-13	Pass

5.2.2 B13_10MHz

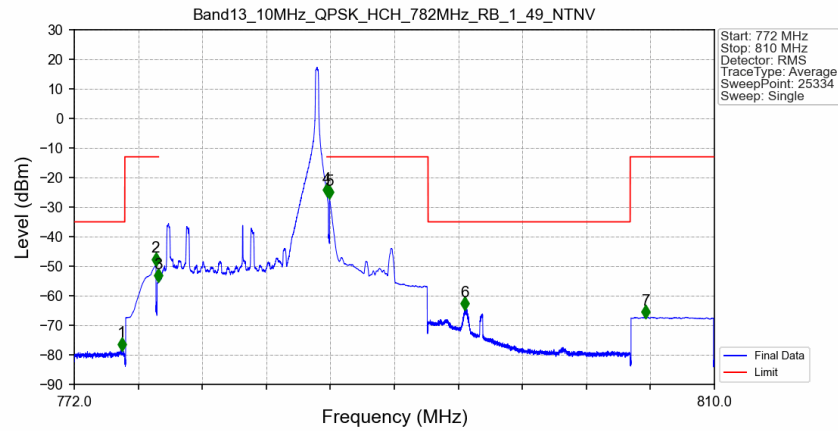


Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



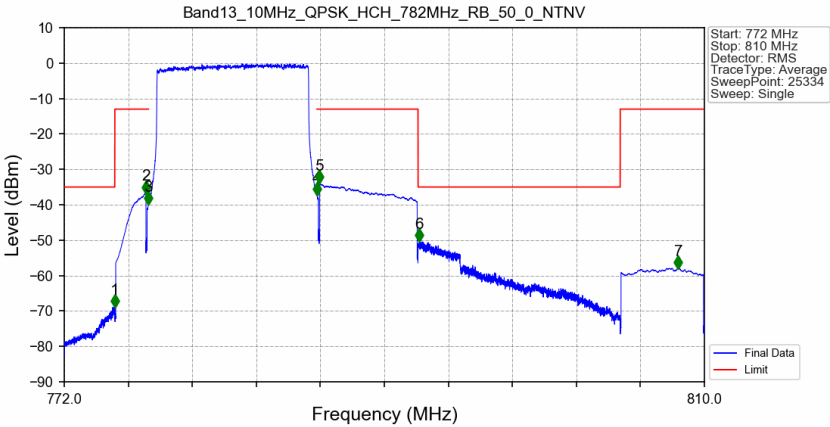
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	759.938	-67.58	-13	Pass
763	775	0.00625	CHP	2	774.809	-68.33	-35	Pass
775	776.9	0.1	CHP	3	776.848	-36.19	-13	Pass
776.9	777	0.03	CHP	4	776.998	-39.94	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.000	-36.90	-13	Pass
787.1	792	0.1	CHP	6	787.185	-33.61	-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	774.808	-78.25	-35	Pass
775	776.9	0.1	CHP	2	776.830	-49.48	-13	Pass
776.9	777	0.03	CHP	3	776.998	-55.04	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-26.10	-13	Pass
787.1	793	0.1	CHP	5	787.150	-26.75	-13	Pass
793	805	0.00625	CHP	6	795.175	-64.48	-35	Pass
805	810	0.1	CHP	7	805.929	-67.25	-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	774.996	-68.79	-35	Pass
775	776.9	0.1	CHP	2	776.848	-36.60	-13	Pass
776.9	777	0.03	CHP	3	777.000	-39.66	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-37.13	-13	Pass
787.1	793	0.1	CHP	5	787.150	-33.67	-13	Pass
793	805	0.00625	CHP	6	793.077	-50.19	-35	Pass
805	810	0.1	CHP	7	808.443	-57.87	-13	Pass