

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	22.51	3.50	23.86	<=34.77	Pass
			13	22.31	3.50	23.66	<=34.77	Pass
			24	22.50	3.50	23.85	<=34.77	Pass
		12	0	21.73	3.50	23.08	<=34.77	Pass
			6	21.81	3.50	23.16	<=34.77	Pass
			13	21.80	3.50	23.15	<=34.77	Pass
		25	0	21.87	3.50	23.22	<=34.77	Pass
	782	1	0	22.62	3.50	23.97	<=34.77	Pass
			13	22.83	3.50	24.18	<=34.77	Pass
			24	22.86	3.50	24.21	<=34.77	Pass
		12	0	21.77	3.50	23.12	<=34.77	Pass
			6	21.90	3.50	23.25	<=34.77	Pass
			13	21.85	3.50	23.20	<=34.77	Pass
		25	0	21.79	3.50	23.14	<=34.77	Pass
	784.5	1	0	22.50	3.50	23.85	<=34.77	Pass
			13	22.84	3.50	24.19	<=34.77	Pass
			24	22.69	3.50	24.04	<=34.77	Pass
		12	0	21.78	3.50	23.13	<=34.77	Pass
			6	21.97	3.50	23.32	<=34.77	Pass
			13	21.98	3.50	23.33	<=34.77	Pass
		25	0	21.84	3.50	23.19	<=34.77	Pass
16QAM	779.5	1	0	22.16	3.50	23.51	<=34.77	Pass
			13	22.06	3.50	23.41	<=34.77	Pass
			24	22.28	3.50	23.63	<=34.77	Pass
		12	0	20.71	3.50	22.06	<=34.77	Pass
			6	20.83	3.50	22.18	<=34.77	Pass
			13	20.74	3.50	22.09	<=34.77	Pass
		25	0	20.88	3.50	22.23	<=34.77	Pass
	782	1	0	21.71	3.50	23.06	<=34.77	Pass
			13	21.61	3.50	22.96	<=34.77	Pass
			24	21.91	3.50	23.26	<=34.77	Pass
		12	0	20.50	3.50	21.85	<=34.77	Pass
			6	20.48	3.50	21.83	<=34.77	Pass
			13	20.71	3.50	22.06	<=34.77	Pass
		25	0	20.68	3.50	22.03	<=34.77	Pass
	784.5	1	0	22.12	3.50	23.47	<=34.77	Pass
			13	22.58	3.50	23.93	<=34.77	Pass
			24	22.27	3.50	23.62	<=34.77	Pass
		12	0	20.73	3.50	22.08	<=34.77	Pass
			6	20.68	3.50	22.03	<=34.77	Pass
			13	20.90	3.50	22.25	<=34.77	Pass
		25	0	20.71	3.50	22.06	<=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	22.58	3.50	23.93	<=34.77	Pass
			25	23.17	3.50	24.52	<=34.77	Pass
			49	23.04	3.50	24.39	<=34.77	Pass
		25	0	21.81	3.50	23.16	<=34.77	Pass
			13	21.83	3.50	23.18	<=34.77	Pass
			25	21.83	3.50	23.18	<=34.77	Pass
		50	0	21.70	3.50	23.05	<=34.77	Pass
		Note1: ERP=Conducted Power+Antenna Gain-2.15						

2. Frequency Stability

2.1 Test Result

2.1.1 B13_5MHz

Band: 13 / Bandwidth: 5MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	779.5	25	0	20	10.2	-2.117	-0.0027	-2.5 to 2.5	Pass
					12	-2.618	-0.0034	-2.5 to 2.5	Pass
					13.8	-2.031	-0.0026	-2.5 to 2.5	Pass
				-30	12	-2.360	-0.0030	-2.5 to 2.5	Pass
				-20	12	-2.303	-0.0030	-2.5 to 2.5	Pass
				-10	12	-2.604	-0.0033	-2.5 to 2.5	Pass
				0	12	-2.546	-0.0033	-2.5 to 2.5	Pass
				10	12	-1.874	-0.0024	-2.5 to 2.5	Pass
				30	12	-2.189	-0.0028	-2.5 to 2.5	Pass
				40	12	-1.802	-0.0023	-2.5 to 2.5	Pass
				50	12	-2.332	-0.0030	-2.5 to 2.5	Pass
	782	25	0	20	10.2	-0.958	-0.0012	-2.5 to 2.5	Pass
					12	-0.615	-0.0008	-2.5 to 2.5	Pass
					13.8	-1.030	-0.0013	-2.5 to 2.5	Pass
				-30	12	-1.359	-0.0017	-2.5 to 2.5	Pass
				-20	12	-0.715	-0.0009	-2.5 to 2.5	Pass
				-10	12	-1.216	-0.0016	-2.5 to 2.5	Pass
				0	12	-0.672	-0.0009	-2.5 to 2.5	Pass
				10	12	-0.772	-0.0010	-2.5 to 2.5	Pass
				30	12	-0.801	-0.0010	-2.5 to 2.5	Pass
				40	12	-0.916	-0.0012	-2.5 to 2.5	Pass
				50	12	-0.114	-0.0001	-2.5 to 2.5	Pass
	784.5	25	0	20	10.2	-0.758	-0.0010	-2.5 to 2.5	Pass
					12	-0.930	-0.0012	-2.5 to 2.5	Pass
					13.8	-0.372	-0.0005	-2.5 to 2.5	Pass
				-30	12	-0.672	-0.0009	-2.5 to 2.5	Pass
				-20	12	-0.529	-0.0007	-2.5 to 2.5	Pass
				-10	12	-0.186	-0.0002	-2.5 to 2.5	Pass
				0	12	-0.658	-0.0008	-2.5 to 2.5	Pass
				10	12	0.129	0.0002	-2.5 to 2.5	Pass
				30	12	-0.701	-0.0009	-2.5 to 2.5	Pass
				40	12	-0.916	-0.0012	-2.5 to 2.5	Pass
16QAM	779.5	25	0	20	10.2	-1.445	-0.0019	-2.5 to 2.5	Pass
					12	-2.046	-0.0026	-2.5 to 2.5	Pass
					13.8	-1.531	-0.0020	-2.5 to 2.5	Pass
				-30	12	-1.488	-0.0019	-2.5 to 2.5	Pass
				-20	12	-1.445	-0.0019	-2.5 to 2.5	Pass
				-10	12	-1.359	-0.0017	-2.5 to 2.5	Pass
				0	12	-1.745	-0.0022	-2.5 to 2.5	Pass
				10	12	-1.345	-0.0017	-2.5 to 2.5	Pass
				30	12	-1.359	-0.0017	-2.5 to 2.5	Pass
				40	12	-2.131	-0.0027	-2.5 to 2.5	Pass
				50	12	-2.060	-0.0026	-2.5 to 2.5	Pass
	782	25	0	20	10.2	-1.030	-0.0013	-2.5 to 2.5	Pass
					12	-0.930	-0.0012	-2.5 to 2.5	Pass
					13.8	-0.629	-0.0008	-2.5 to 2.5	Pass
				-30	12	-0.844	-0.0011	-2.5 to 2.5	Pass
				-20	12	-1.087	-0.0014	-2.5 to 2.5	Pass
				-10	12	-0.715	-0.0009	-2.5 to 2.5	Pass

				0	12	-0.887	-0.0011	-2.5 to 2.5	Pass
				10	12	-1.187	-0.0015	-2.5 to 2.5	Pass
				30	12	0.072	0.0001	-2.5 to 2.5	Pass
				40	12	-1.574	-0.0020	-2.5 to 2.5	Pass
				50	12	-0.730	-0.0009	-2.5 to 2.5	Pass
	784.5	25	0	20	10.2	-0.386	-0.0005	-2.5 to 2.5	Pass
					12	-0.243	-0.0003	-2.5 to 2.5	Pass
					13.8	-0.300	-0.0004	-2.5 to 2.5	Pass
				-30	12	-0.415	-0.0005	-2.5 to 2.5	Pass
				-20	12	0.329	0.0004	-2.5 to 2.5	Pass
				-10	12	0.000	0.0000	-2.5 to 2.5	Pass
				0	12	-0.386	-0.0005	-2.5 to 2.5	Pass
				10	12	0.329	0.0004	-2.5 to 2.5	Pass
				30	12	-0.415	-0.0005	-2.5 to 2.5	Pass
				40	12	-0.300	-0.0004	-2.5 to 2.5	Pass
				50	12	-0.386	-0.0005	-2.5 to 2.5	Pass

2.1.2 B13_10MHz

Band: 13 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	782	50	0	20	10.2	-0.958	-0.0012	-2.5 to 2.5	Pass
					12	-0.958	-0.0012	-2.5 to 2.5	Pass
					13.8	-1.173	-0.0015	-2.5 to 2.5	Pass
				-30	12	-0.587	-0.0008	-2.5 to 2.5	Pass
				-20	12	-1.087	-0.0014	-2.5 to 2.5	Pass
				-10	12	-0.687	-0.0009	-2.5 to 2.5	Pass
				0	12	-0.858	-0.0011	-2.5 to 2.5	Pass
				10	12	-0.930	-0.0012	-2.5 to 2.5	Pass
				30	12	-0.429	-0.0005	-2.5 to 2.5	Pass
				40	12	-0.401	-0.0005	-2.5 to 2.5	Pass
				50	12	-0.973	-0.0012	-2.5 to 2.5	Pass

3. Modulation Characteristics

3.1 Test Result

3.1.1 B13_5MHz

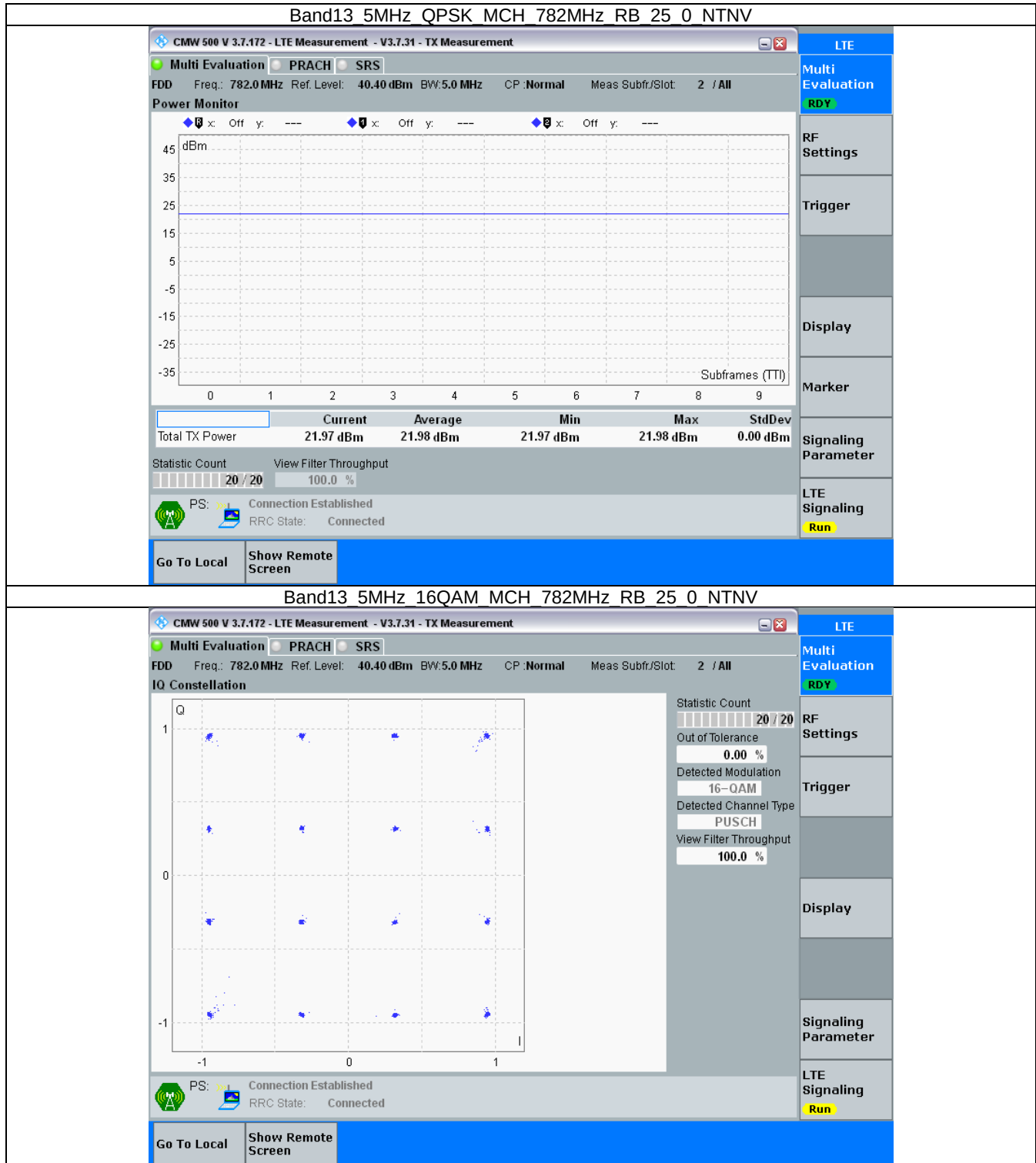
Band: 13 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Modulation Characteristics		Verdict
		Size	Offset	Result	Limit	
QPSK	782	25	0	Refer To Test Graph		Pass
16QAM	782	25	0	Refer To Test Graph		Pass

3.1.2 B13_10MHz

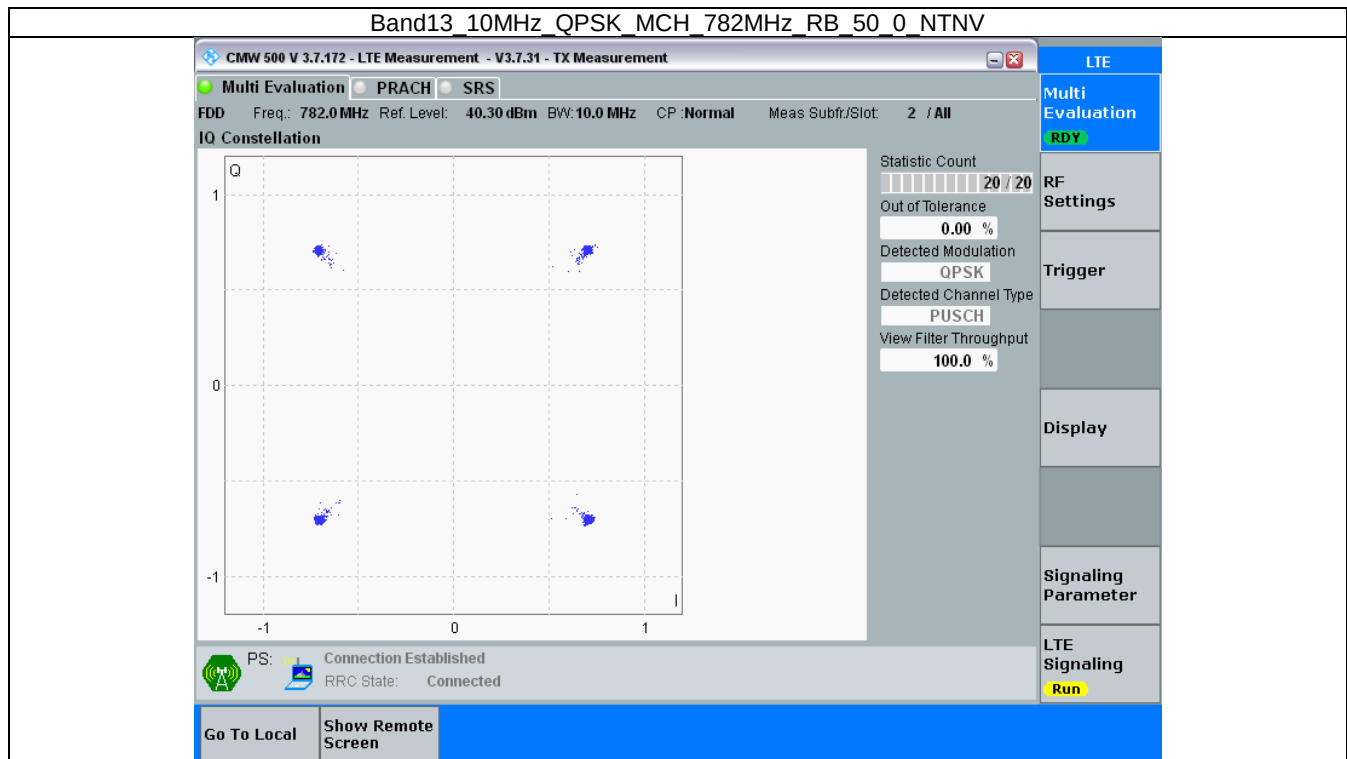
Band: 13 / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Modulation Characteristics		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	Refer To Test Graph		Pass

3.2 Test Graph

3.2.1 B13_5MHz



3.2.2 B13_10MHz



4. 99% & 26dB Bandwidth

4.1 Test Result

4.1.1 Band13_OBW

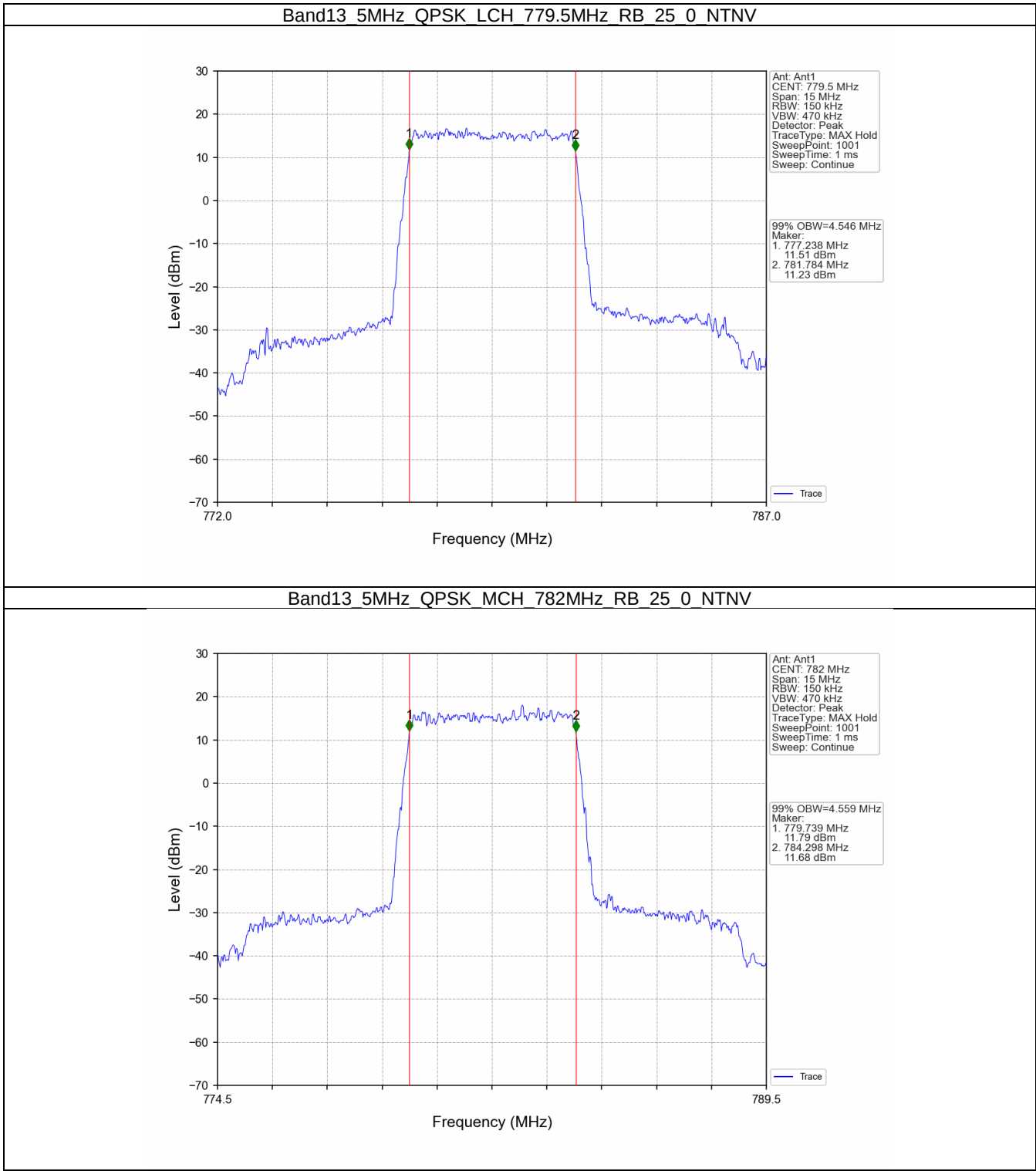
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	779.5	25	0	4.546	/	Pass
		782	25	0	4.559	/	Pass
		784.5	25	0	4.540	/	Pass
	16QAM	779.5	25	0	4.566	/	Pass
		782	25	0	4.551	/	Pass
		784.5	25	0	4.541	/	Pass
10	QPSK	782	50	0	9.059	/	Pass

4.1.2 Band13_XDB

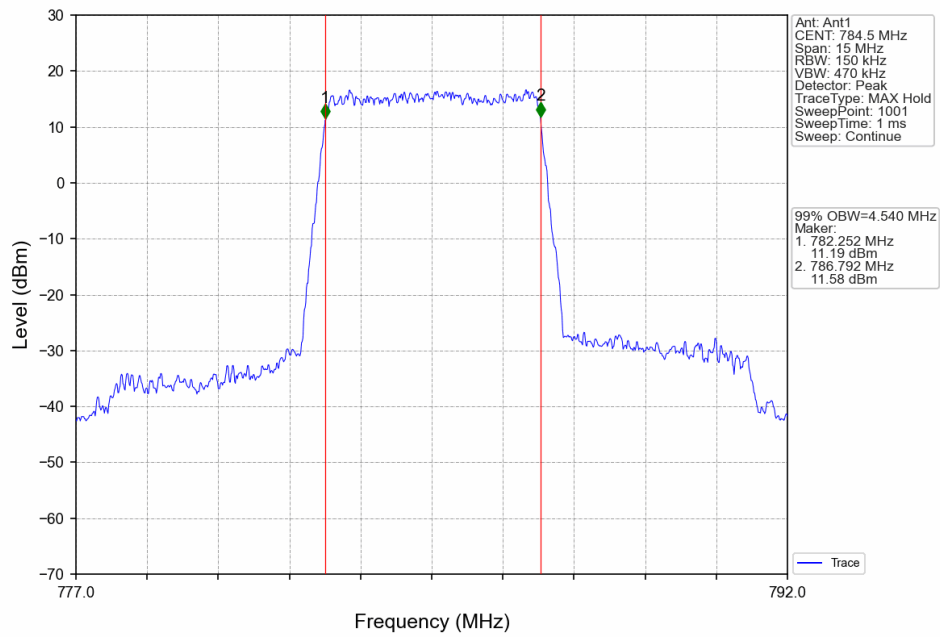
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	779.5	25	0	5.062	/	Pass
		782	25	0	5.103	/	Pass
		784.5	25	0	5.077	/	Pass
	16QAM	779.5	25	0	5.096	/	Pass
		782	25	0	5.076	/	Pass
		784.5	25	0	5.076	/	Pass
10	QPSK	782	50	0	9.984	/	Pass

4.2 Test Graph

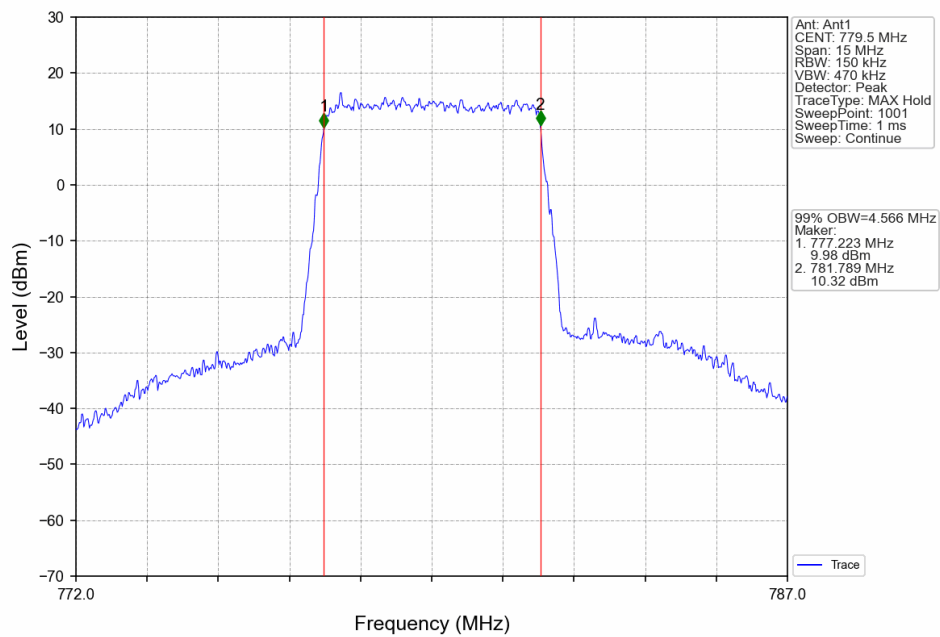
4.2.1 Band13_OBW



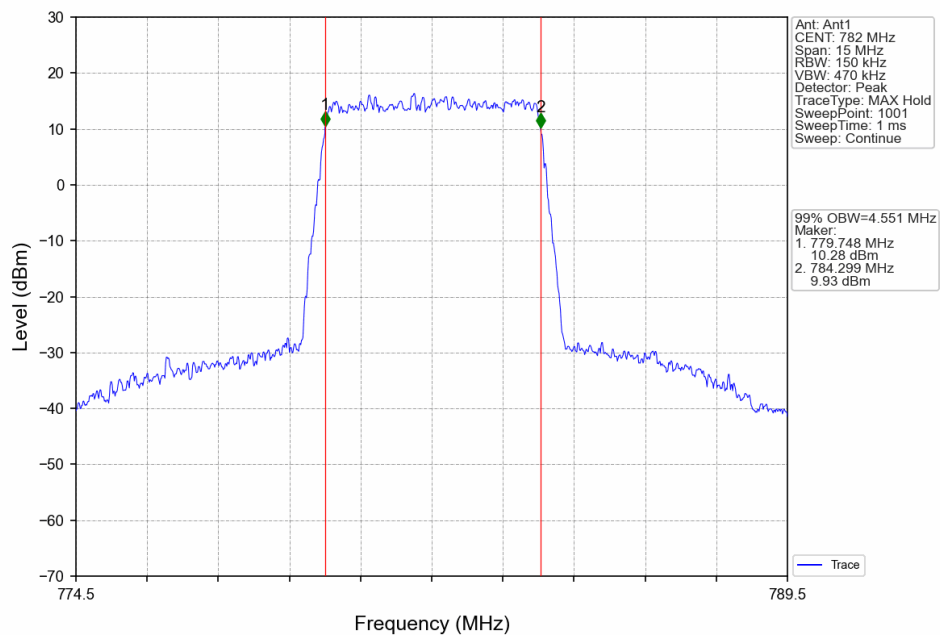
Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTV



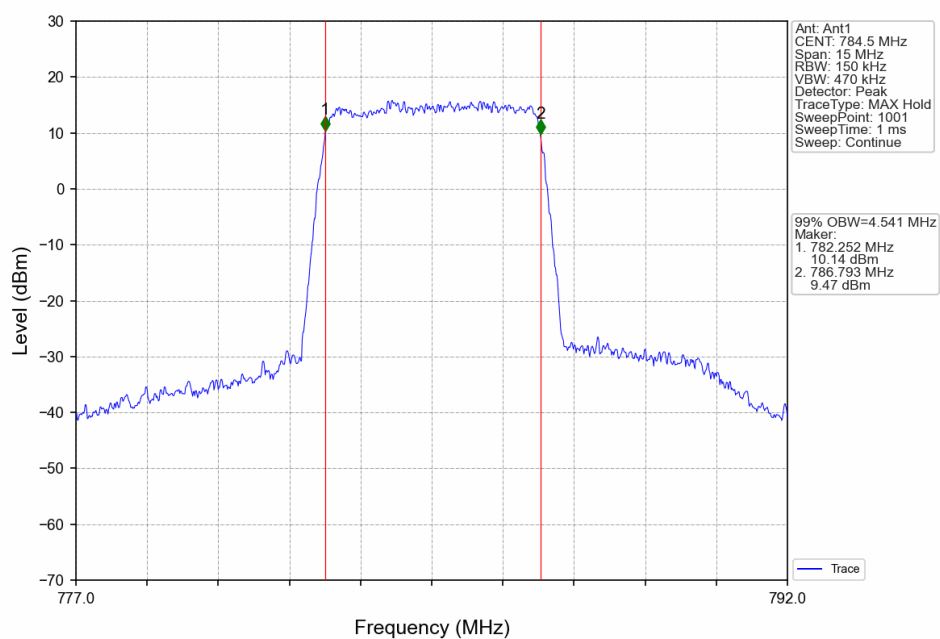
Band13 5MHz 16QAM LCH 779.5MHz RB 25 0 NTV

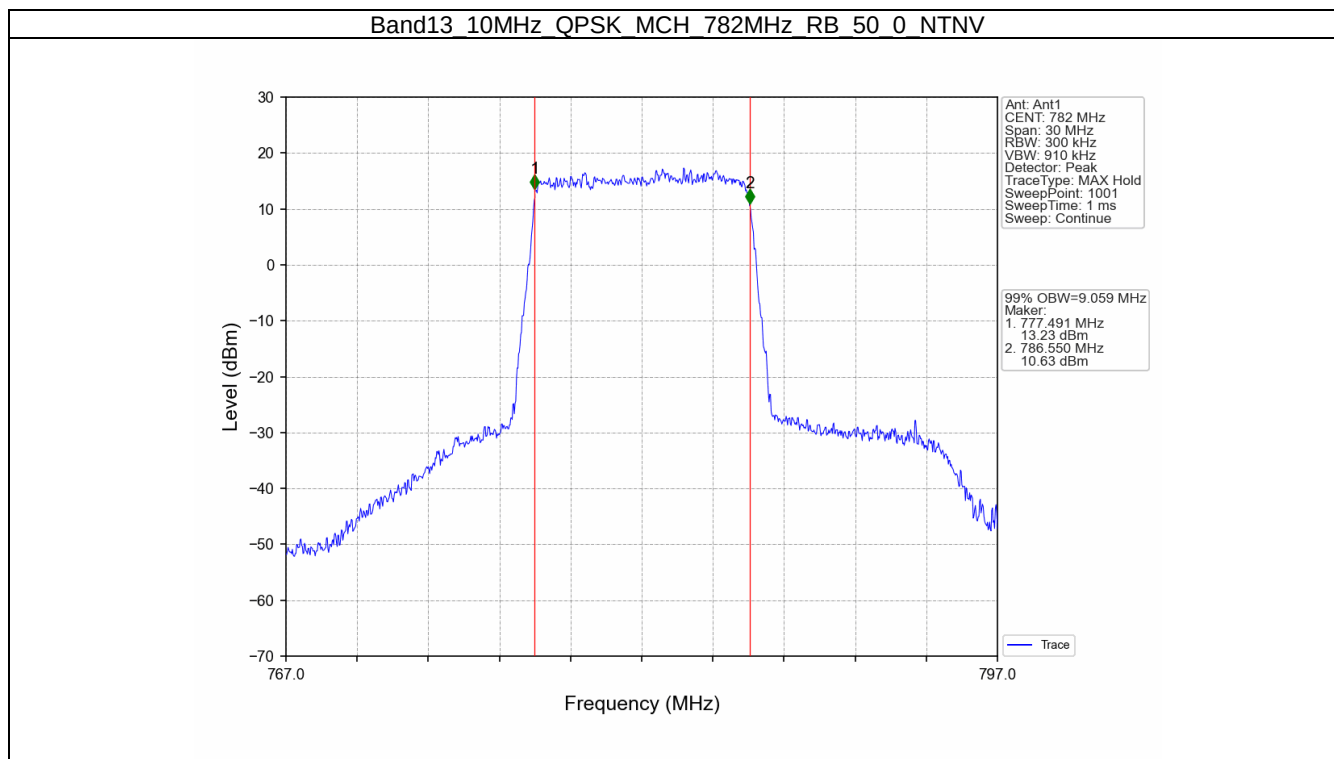


Band13 5MHz 16QAM MCH 782MHz RB 25 0 NTNV

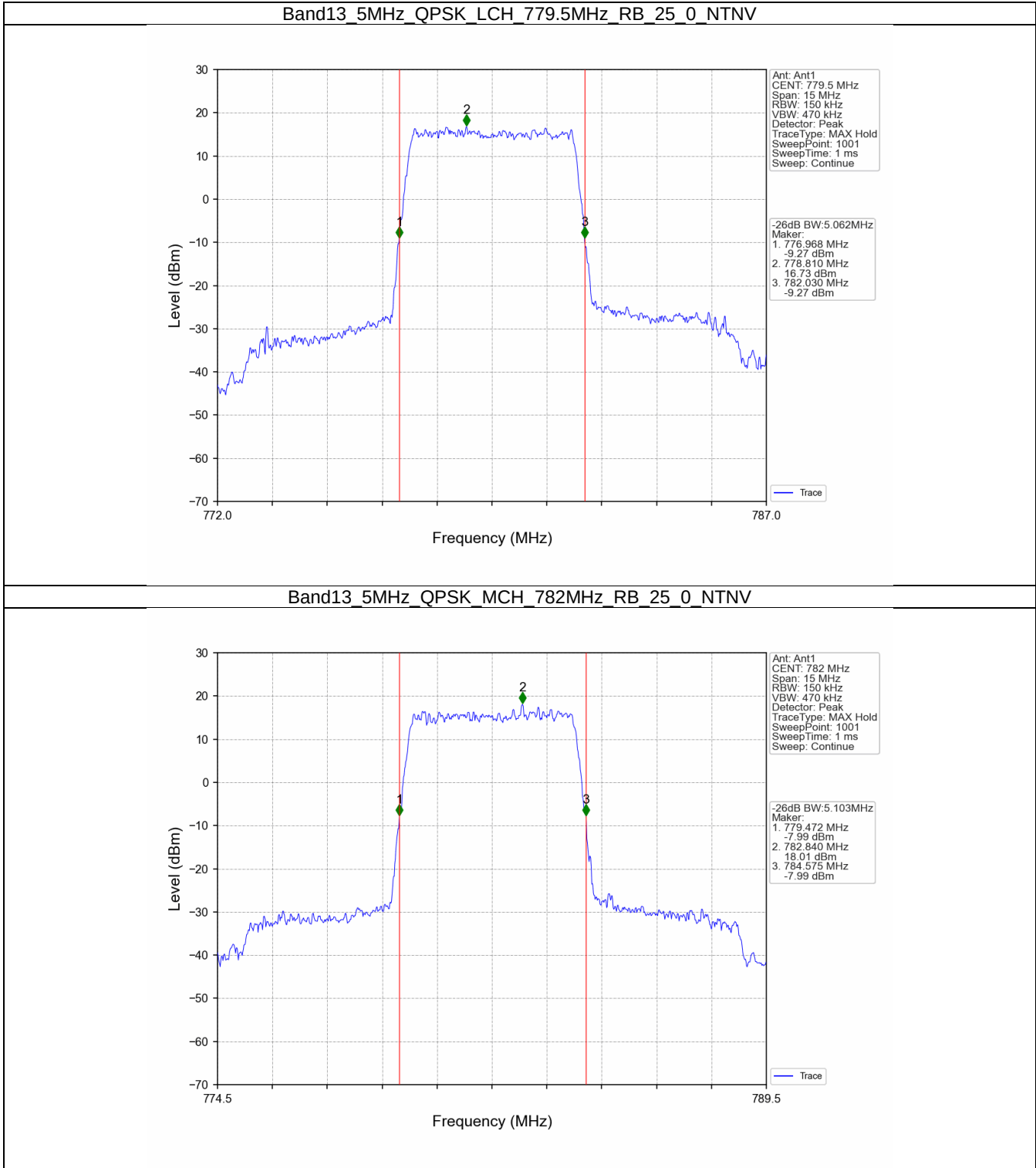


Band13 5MHz 16QAM HCH 784.5MHz RB 25 0 NTNV

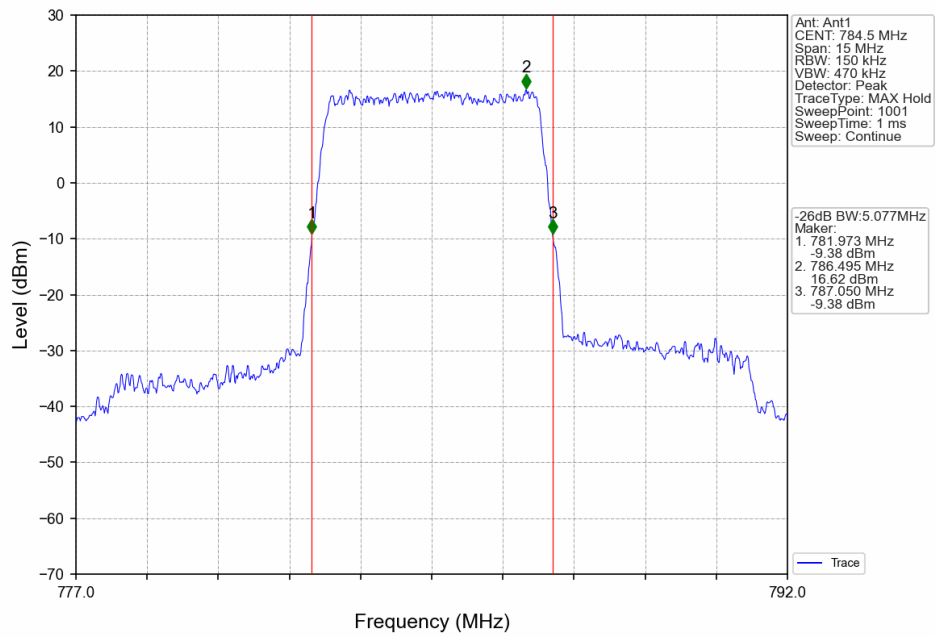




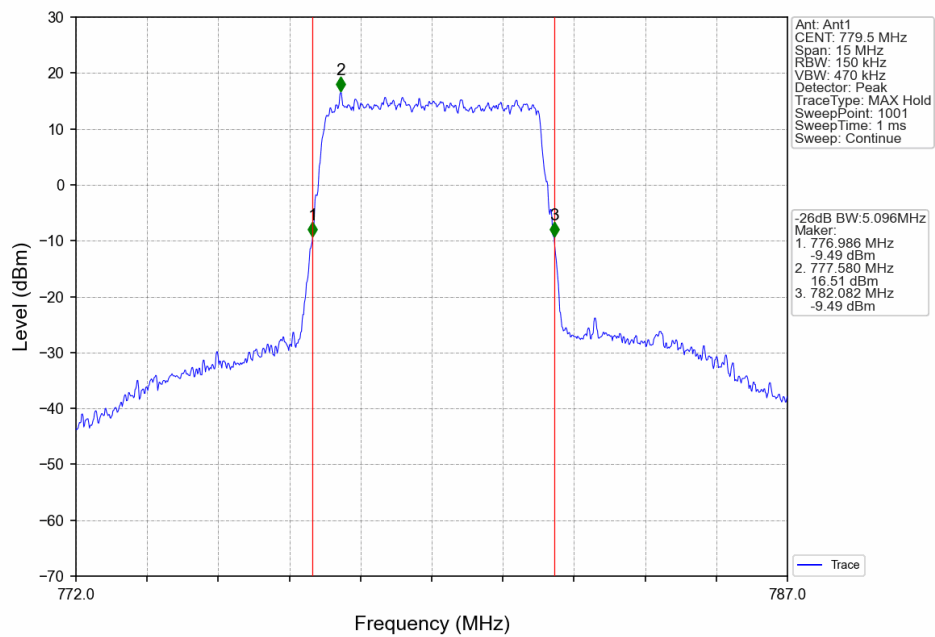
4.2.2 Band13_XDB



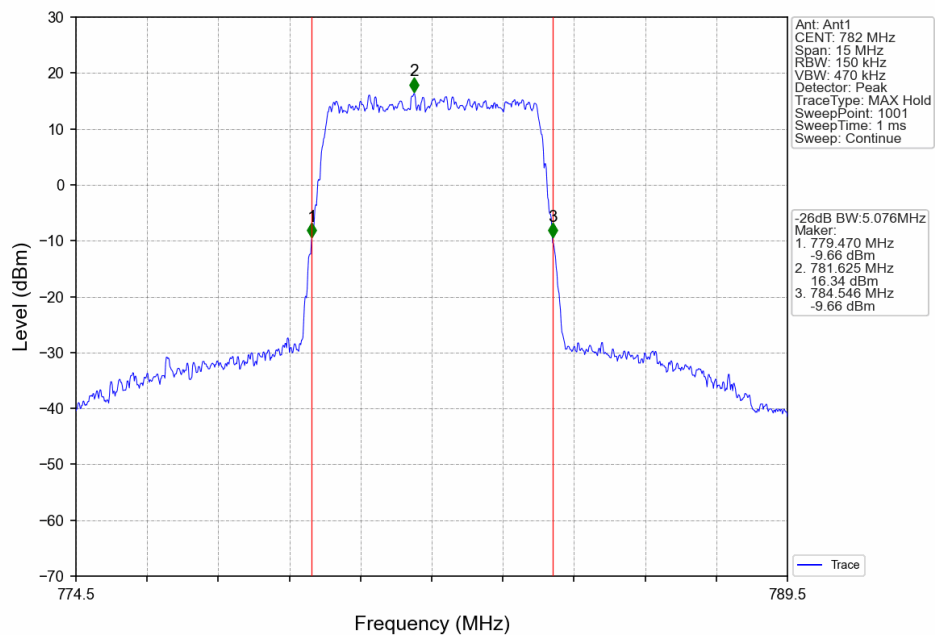
Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTV



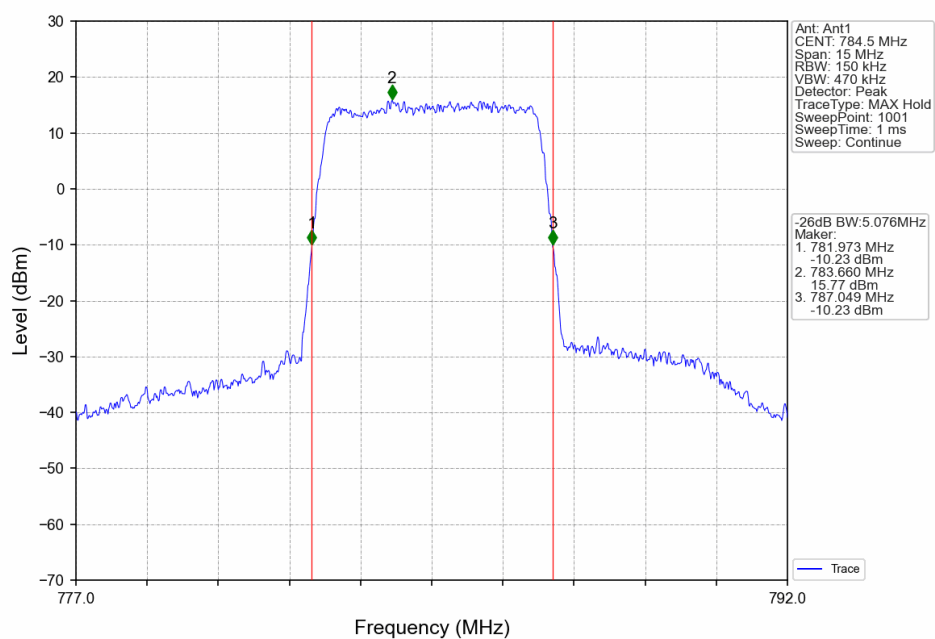
Band13 5MHz 16QAM LCH 779.5MHz RB 25 0 NTV

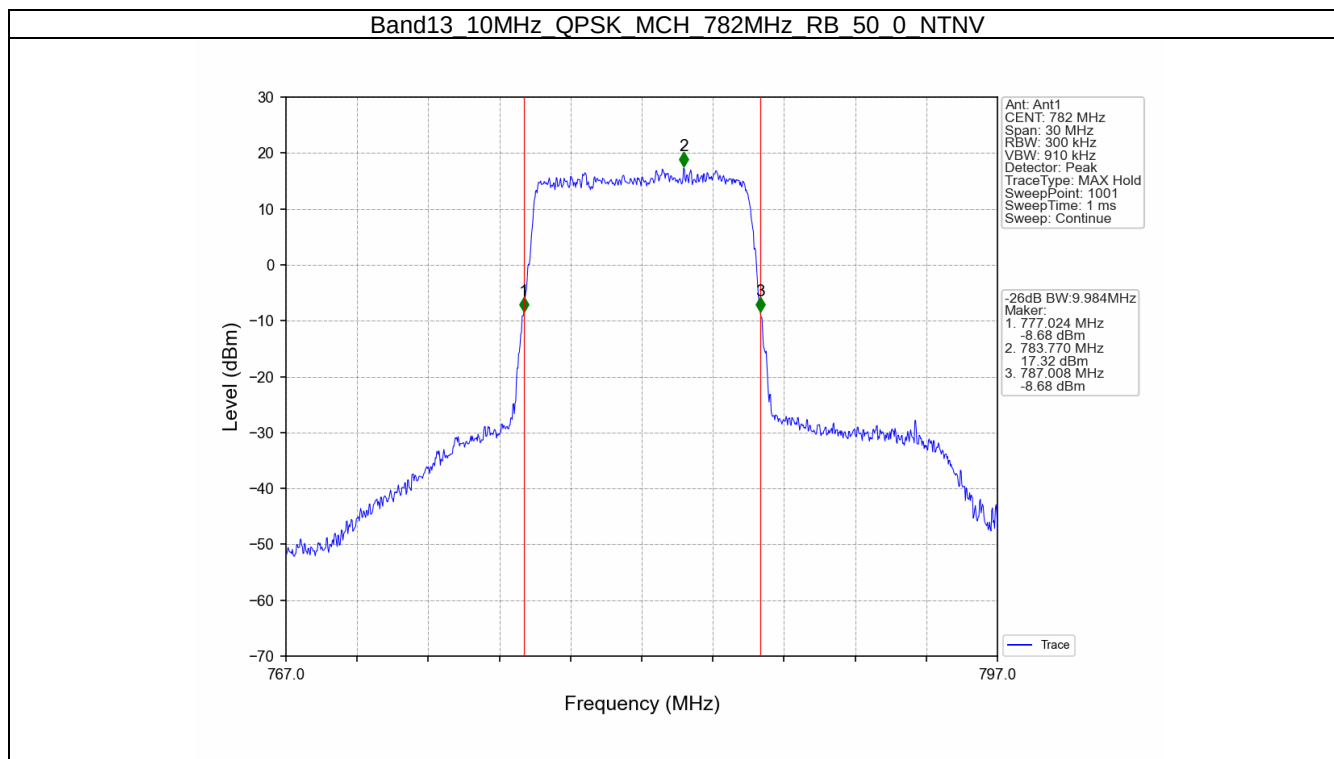


Band13 5MHz 16QAM MCH 782MHz RB 25 0 NTNV



Band13 5MHz 16QAM HCH 784.5MHz RB 25 0 NTNV





5. Peak-Average Ratio

5.1 Test Result

5.1.1 B13_5MHz

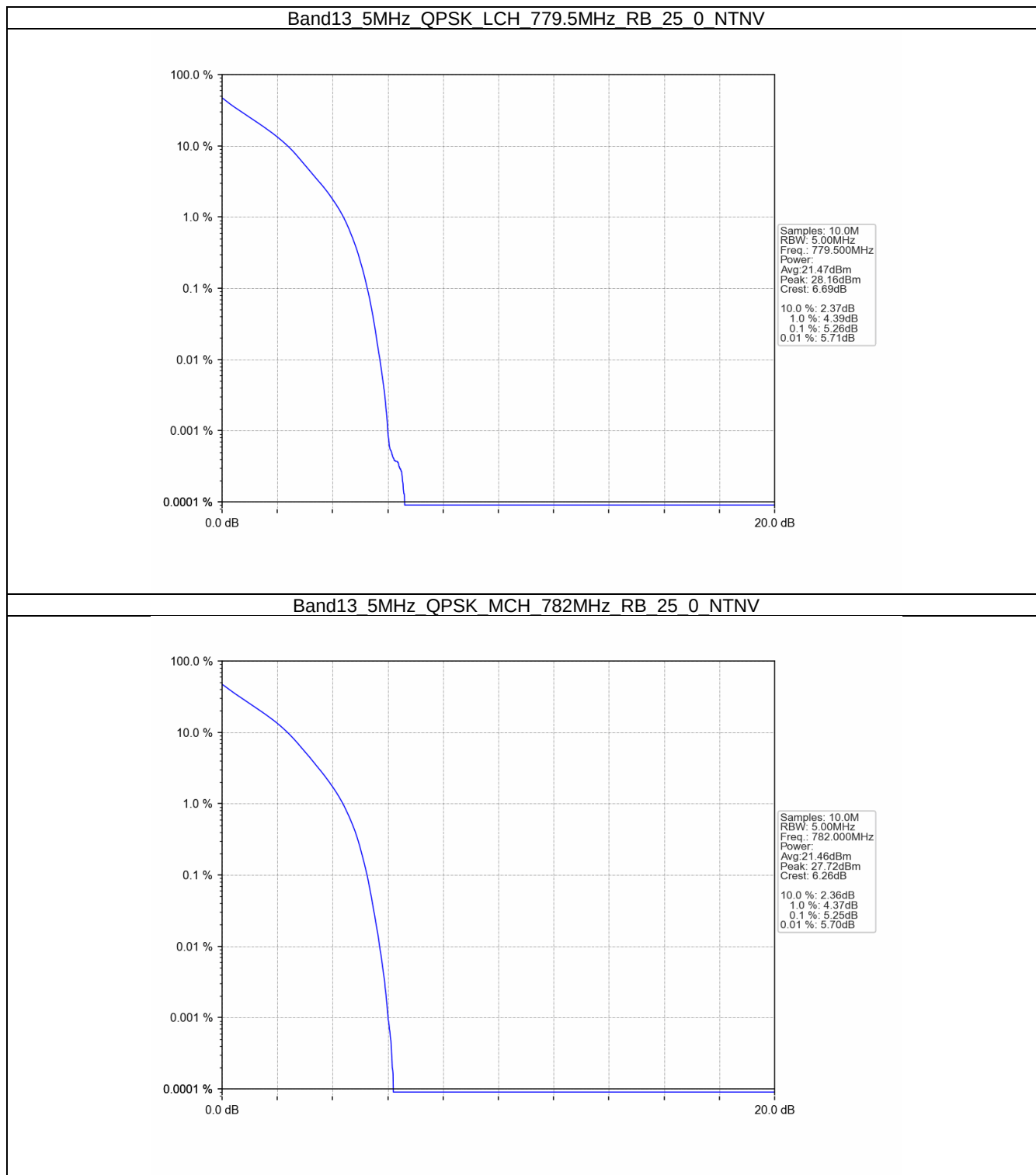
Band: 13 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	25	0	5.26	<=13	Pass
	782	25	0	5.25	<=13	Pass
	784.5	25	0	5.14	<=13	Pass
16QAM	779.5	25	0	5.99	<=13	Pass
	782	25	0	5.99	<=13	Pass
	784.5	25	0	5.94	<=13	Pass

5.1.2 B13_10MHz

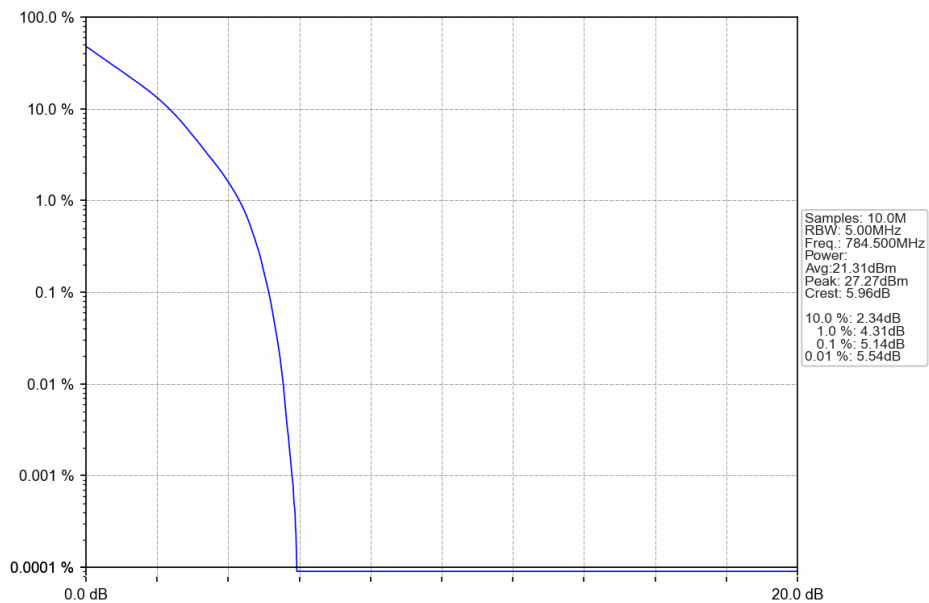
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.17	<=13	Pass

5.2 Test Graph

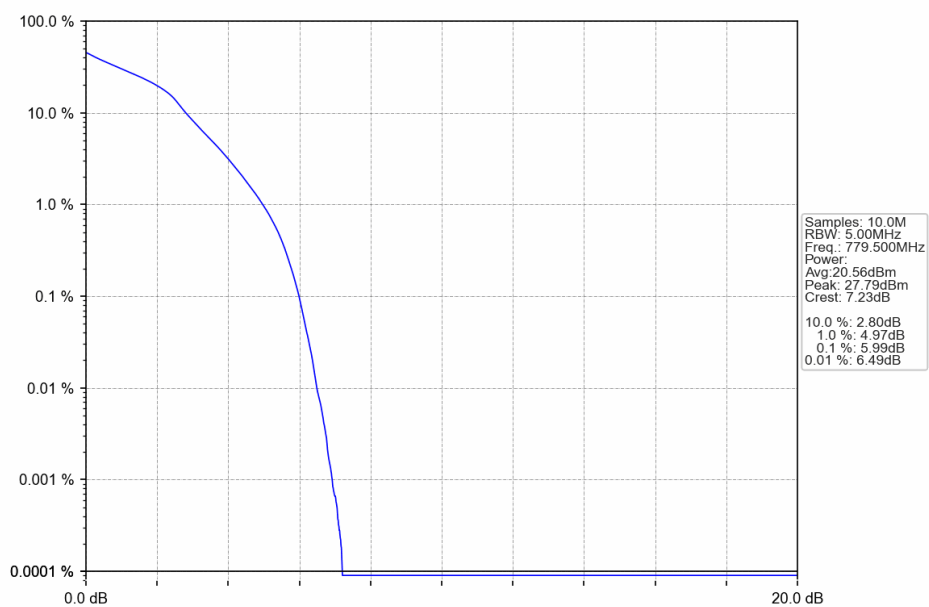
5.2.1 B13_5MHz



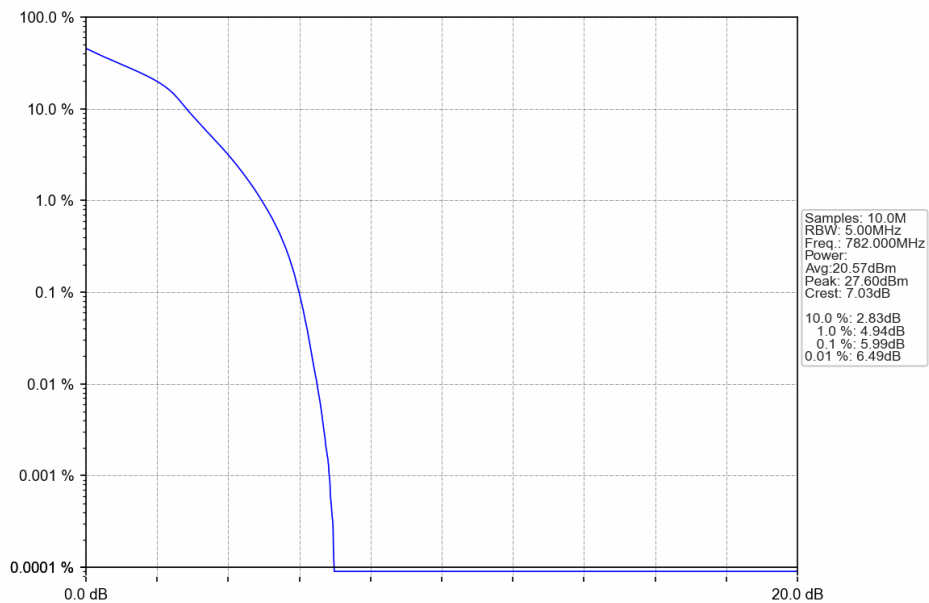
Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTNV



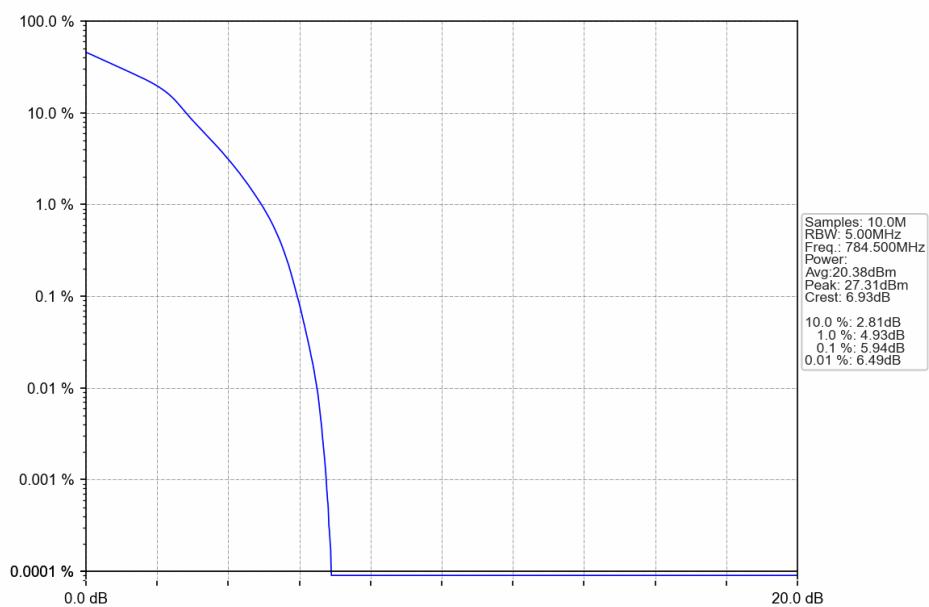
Band13 5MHz 16QAM LCH 779.5MHz RB 25 0 NTNV



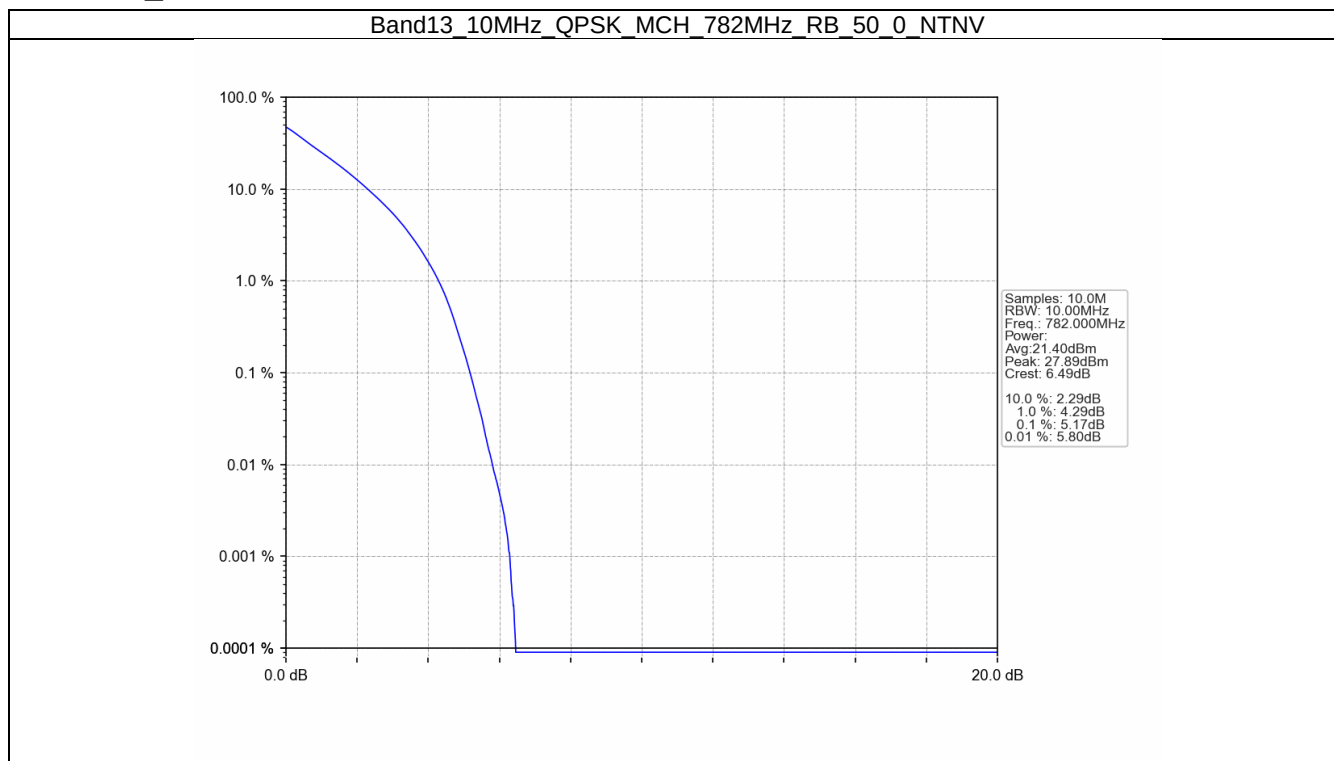
Band13 5MHz 16QAM MCH 782MHz RB 25 0 NTNV



Band13 5MHz 16QAM HCH 784.5MHz RB 25 0 NTNV



5.2.2 B13_10MHz



6. Spurious Emission

6.1 Test Result

6.1.1 B13_5MHz

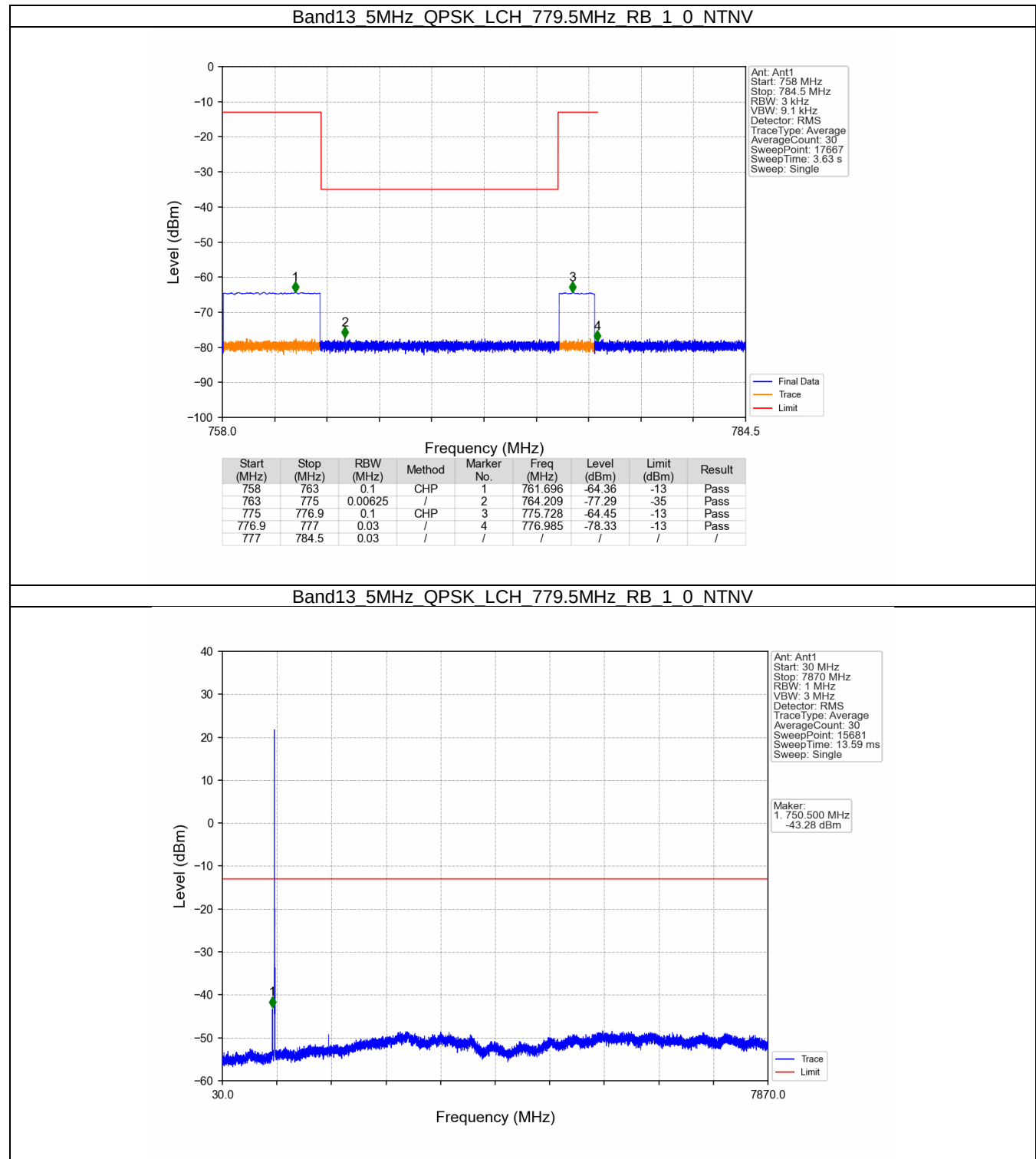
Band: 13 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
16QAM	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

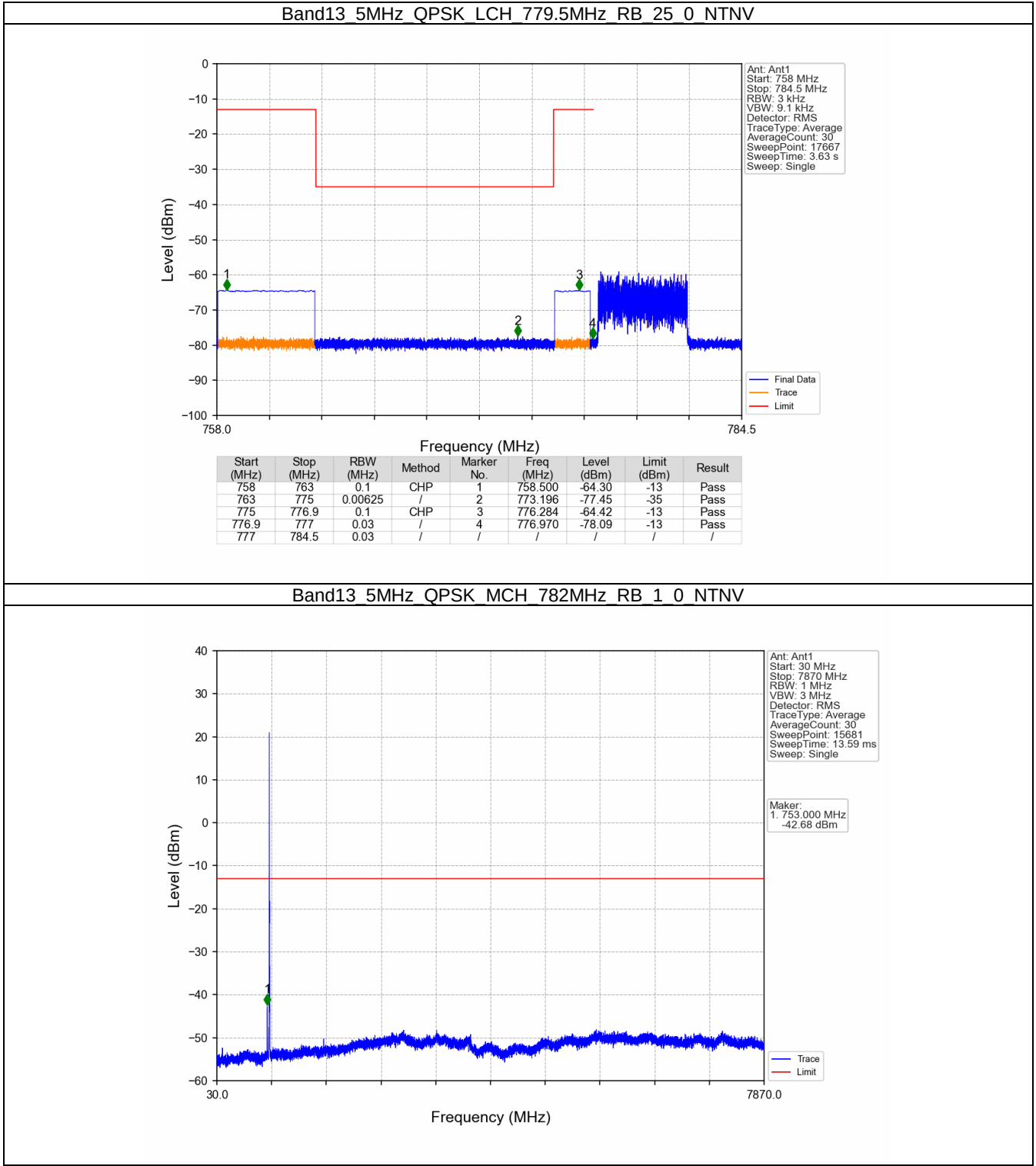
6.1.2 B13_10MHz

Band: 13 / Bandwidth: 10MHz / NTNV						
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

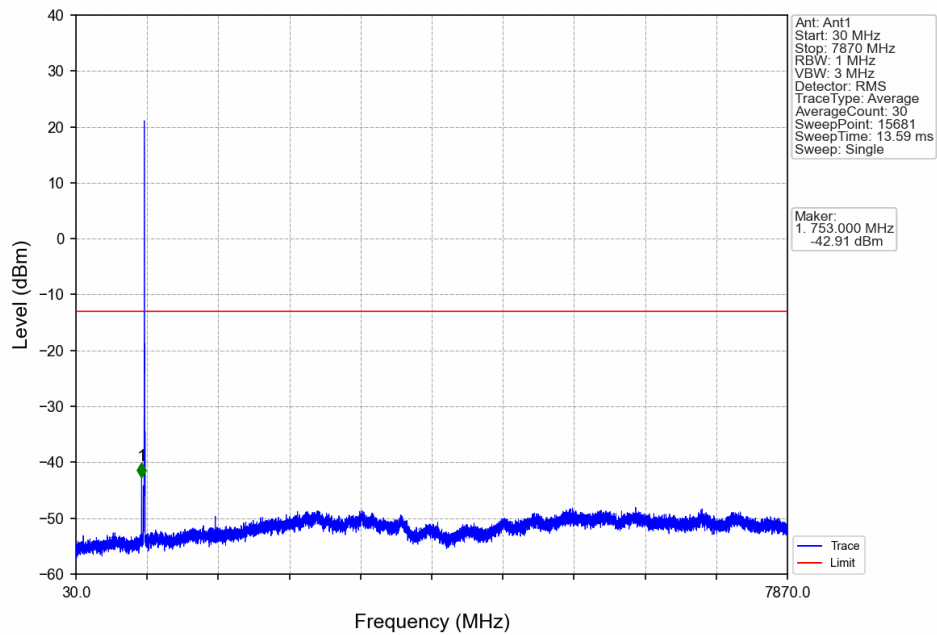
6.2 Test Graph

6.2.1 B13_5MHz

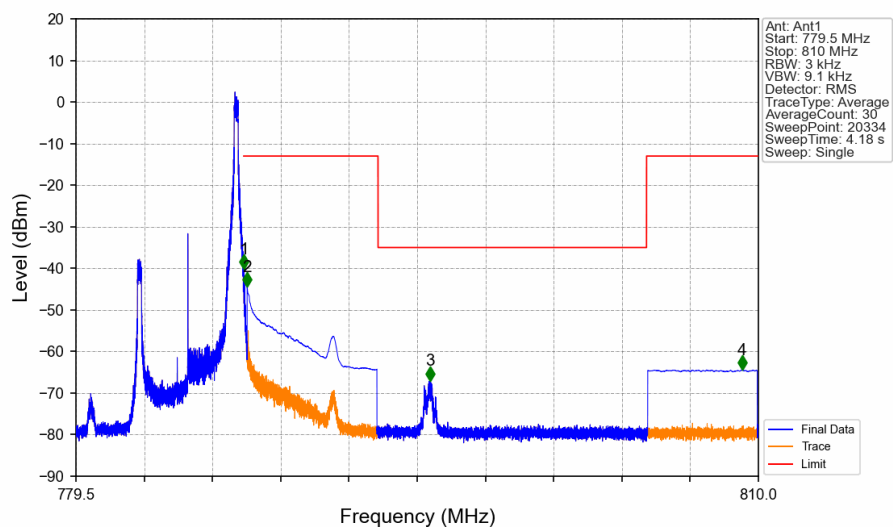




Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTN

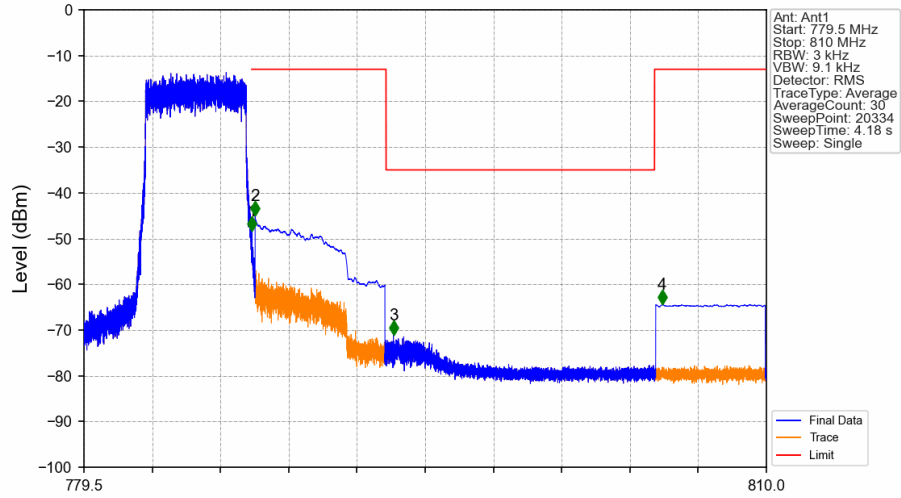


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTN



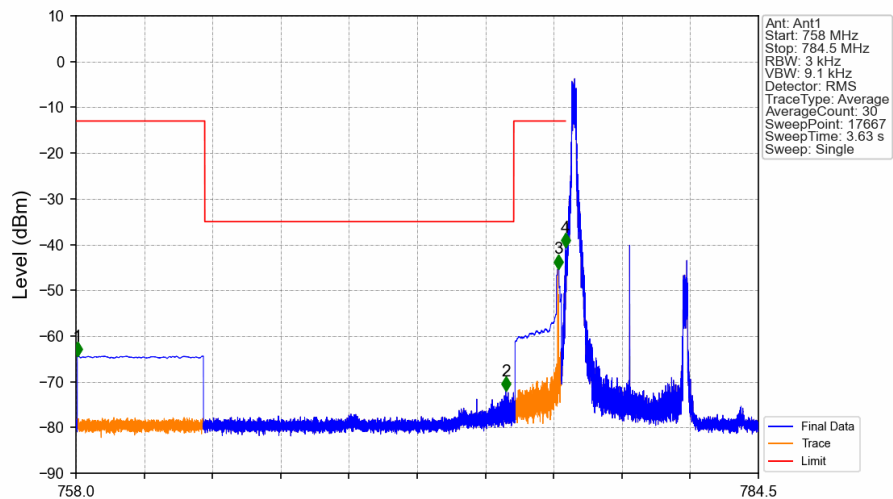
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	/	1	787.002	-40.16	-13	Pass
787	787.1	0.03	/	2	787.150	-44.35	-13	Pass
787.1	793	0.1	CHP	3	795.322	-67.01	-35	Pass
793	805	0.00625	/	4	809.269	-64.44	-13	Pass
805	810	0.1	CHP					

Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTNV



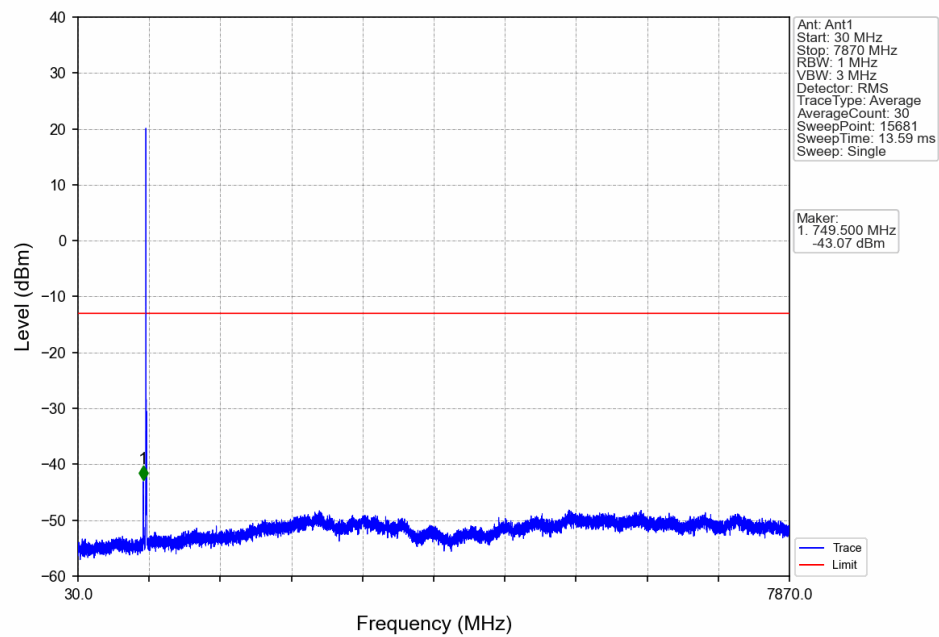
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	1	787.014	-48.39	-13	Pass
787.1	793	0.1	CHP	2	787.150	-45.03	-13	Pass
793	805	0.00625	/	3	793.329	-71.05	-35	Pass
805	810	0.1	CHP	4	805.348	-64.45	-13	Pass

Band13 5MHz 16QAM LCH 779.5MHz RB 1 0 NTNV

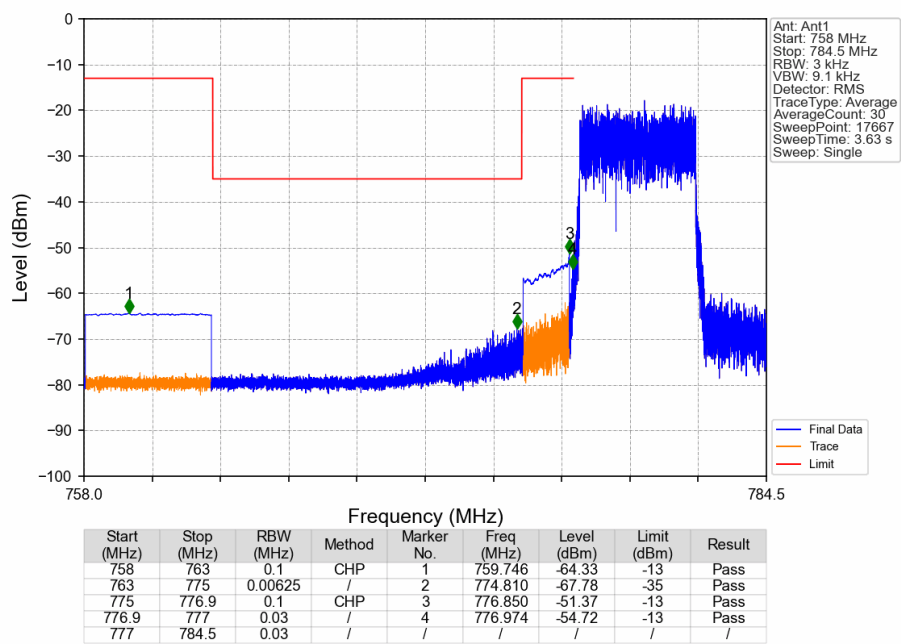


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	758.062	-64.37	-13	Pass
763	775	0.00625	/	2	774.690	-72.04	-35	Pass
775	776.9	0.1	CHP	3	776.743	-45.32	-13	Pass
776.9	777	0.03	/	4	777.000	-40.66	-13	Pass
777	784.5	0.03	/	/	/	/	/	/

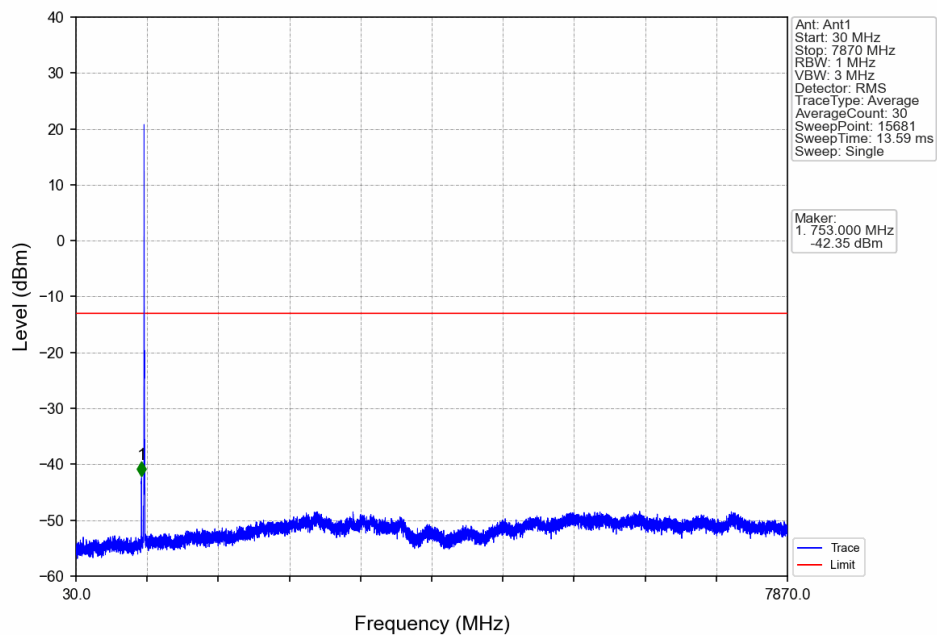
Band13 5MHz 16QAM LCH 779.5MHz RB 1 0 NTNV



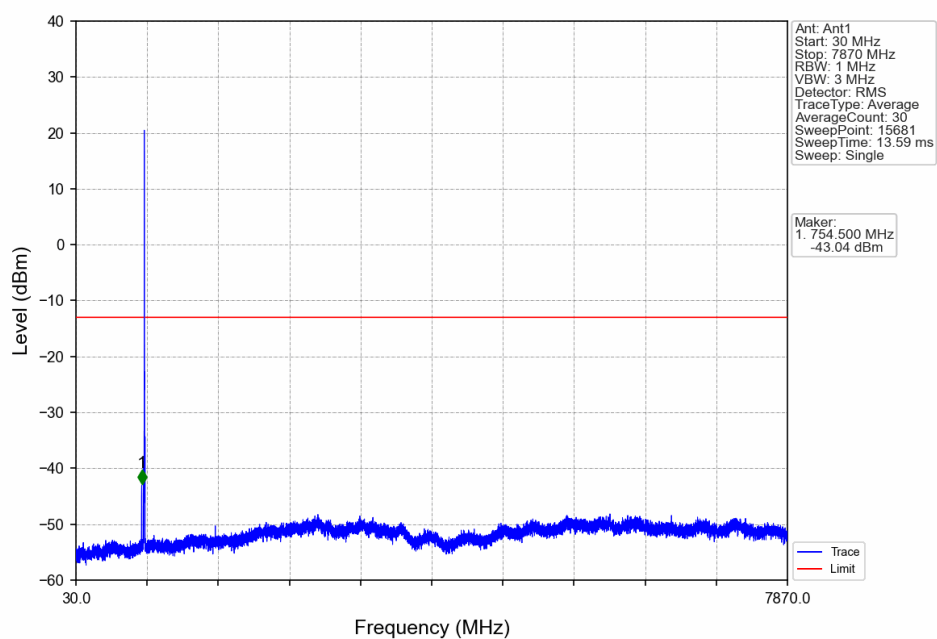
Band13 5MHz 16QAM LCH 779.5MHz RB 25 0 NTNV



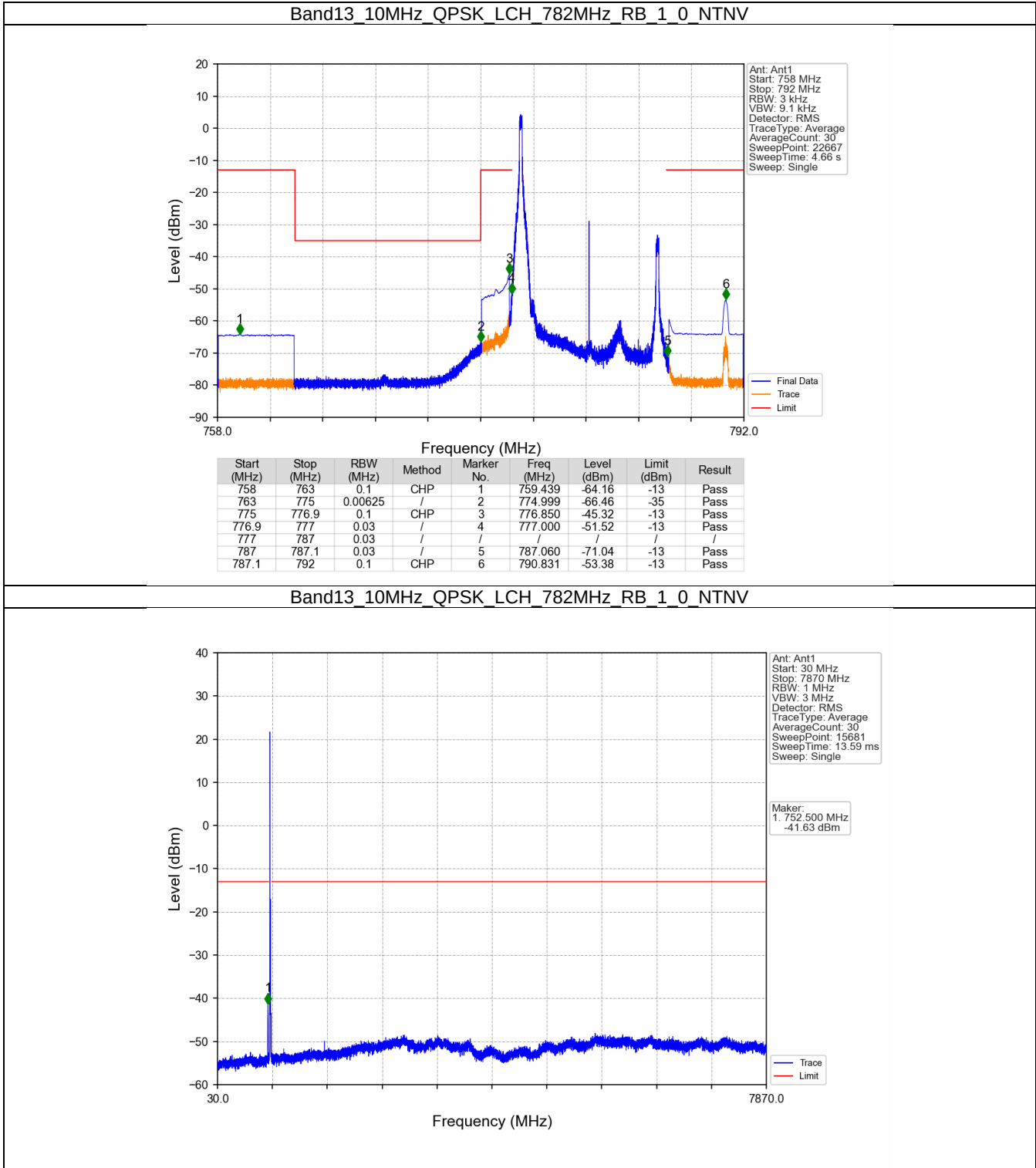
Band13 5MHz 16QAM MCH 782MHz RB 1 0 NTN



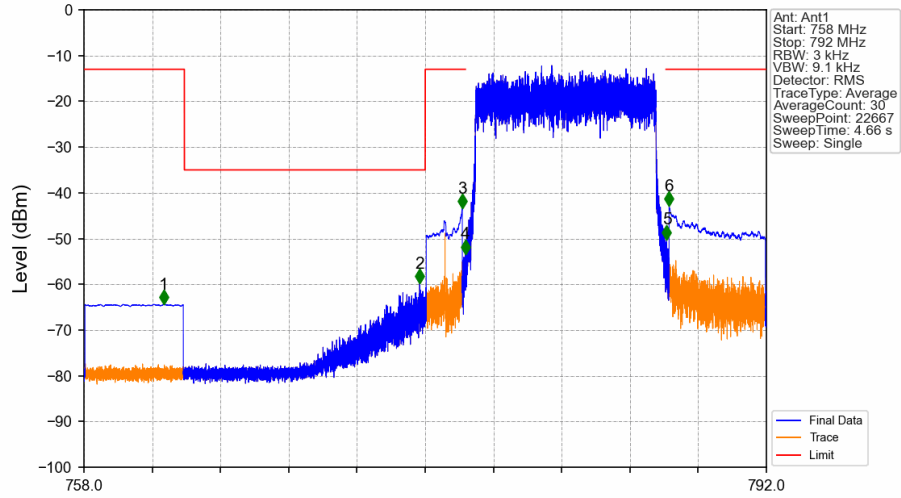
Band13 5MHz 16QAM HCH 784.5MHz RB 1 0 NTN



6.2.2 B13_10MHz

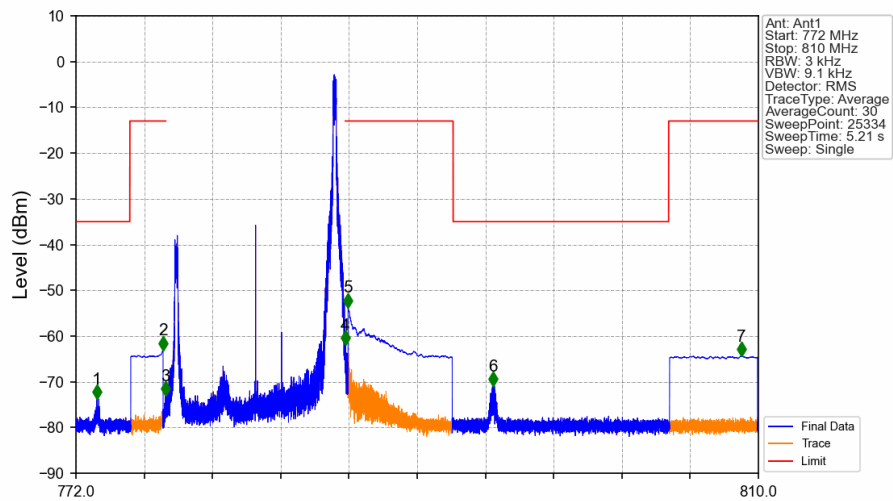


Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	761.981	-64.39	-13	Pass
763	775	0.00625	/	2	774.727	-59.80	-35	Pass
775	776.9	0.1	CHP	3	776.850	-43.42	-13	Pass
776.9	777	0.03	/	4	776.992	-53.37	-13	Pass
777	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	5	787.035	-50.20	-13	Pass
787.1	792	0.1	CHP	6	787.156	-42.89	-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	/	1	773.163	-73.78	-35	Pass
775	776.9	0.1	CHP	2	776.844	-63.11	-13	Pass
776.9	777	0.03	/	3	776.982	-73.10	-13	Pass
777	787	0.03	/	/	/	/	/	/
787	787.1	0.03	/	4	787.002	-62.00	-13	Pass
787.1	793	0.1	CHP	5	787.150	-53.78	-13	Pass
793	805	0.00625	/	6	795.213	-70.90	-35	Pass
805	810	0.1	CHP	7	809.065	-64.40	-13	Pass

