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	24.32	-5.83	16.34	<=34.77	Pass
			24	24.45	-5.83	16.47	<=34.77	Pass
		25	0	23.31	-5.83	15.33	<=34.77	Pass
	782	1	0	24.28	-5.83	16.30	<=34.77	Pass
			24	24.38	-5.83	16.40	<=34.77	Pass
		25	0	23.33	-5.83	15.35	<=34.77	Pass
	784.5	1	0	24.38	-5.83	16.40	<=34.77	Pass
			24	24.45	-5.83	16.47	<=34.77	Pass
		25	0	23.33	-5.83	15.35	<=34.77	Pass
16QAM	779.5	1	0	23.10	-5.83	15.12	<=34.77	Pass
			24	23.19	-5.83	15.21	<=34.77	Pass
		25	0	22.33	-5.83	14.35	<=34.77	Pass
	782	1	0	23.50	-5.83	15.52	<=34.77	Pass
			24	23.54	-5.83	15.56	<=34.77	Pass
		25	0	22.32	-5.83	14.34	<=34.77	Pass
	784.5	1	0	23.37	-5.83	15.39	<=34.77	Pass
			24	23.43	-5.83	15.45	<=34.77	Pass
		25	0	22.34	-5.83	14.36	<=34.77	Pass
64QAM	779.5	1	0	22.24	-5.83	14.26	<=34.77	Pass
			24	22.32	-5.83	14.34	<=34.77	Pass
		25	0	21.31	-5.83	13.33	<=34.77	Pass
	782	1	0	22.50	-5.83	14.52	<=34.77	Pass
			24	22.55	-5.83	14.57	<=34.77	Pass
		25	0	21.31	-5.83	13.33	<=34.77	Pass
	784.5	1	0	22.31	-5.83	14.33	<=34.77	Pass
			24	22.32	-5.83	14.34	<=34.77	Pass
		25	0	21.34	-5.83	13.36	<=34.77	Pass
256QAM	779.5	1	0	18.95	-5.83	10.97	<=34.77	Pass
			24	19.09	-5.83	11.11	<=34.77	Pass
		25	0	19.36	-5.83	11.38	<=34.77	Pass
	782	1	0	19.36	-5.83	11.38	<=34.77	Pass
			24	19.40	-5.83	11.42	<=34.77	Pass
		25	0	19.34	-5.83	11.36	<=34.77	Pass
	784.5	1	0	19.04	-5.83	11.06	<=34.77	Pass
			24	19.08	-5.83	11.10	<=34.77	Pass
		25	0	19.34	-5.83	11.36	<=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	24.32	-5.83	16.34	<=34.77	Pass
			49	24.45	-5.83	16.47	<=34.77	Pass
		50	0	23.24	-5.83	15.26	<=34.77	Pass
16QAM	782	1	0	23.82	-5.83	15.84	<=34.77	Pass

			49	23.85	-5.83	15.87	<=34.77	Pass
		50	0	22.26	-5.83	14.28	<=34.77	Pass
64QAM	782	1	0	22.53	-5.83	14.55	<=34.77	Pass
			49	22.63	-5.83	14.65	<=34.77	Pass
		50	0	21.27	-5.83	13.29	<=34.77	Pass
256QAM	782	1	0	19.68	-5.83	11.70	<=34.77	Pass
			49	19.80	-5.83	11.82	<=34.77	Pass
		50	0	19.26	-5.83	11.28	<=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 (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	782	50	0	20	3.7	-3.076	-0.0039	-2.5 to 2.5	Pass
					3.91	-4.349	-0.0056	-2.5 to 2.5	Pass
					4.3	-3.276	-0.0042	-2.5 to 2.5	Pass
				-30	3.91	-4.063	-0.0052	-2.5 to 2.5	Pass
				-20	3.91	-0.858	-0.0011	-2.5 to 2.5	Pass
				-10	3.91	-1.674	-0.0021	-2.5 to 2.5	Pass
				0	3.91	-3.176	-0.0041	-2.5 to 2.5	Pass
				10	3.91	0.029	0.0000	-2.5 to 2.5	Pass
				30	3.91	-0.558	-0.0007	-2.5 to 2.5	Pass
				40	3.91	0.186	0.0002	-2.5 to 2.5	Pass
				50	3.91	-0.930	-0.0012	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

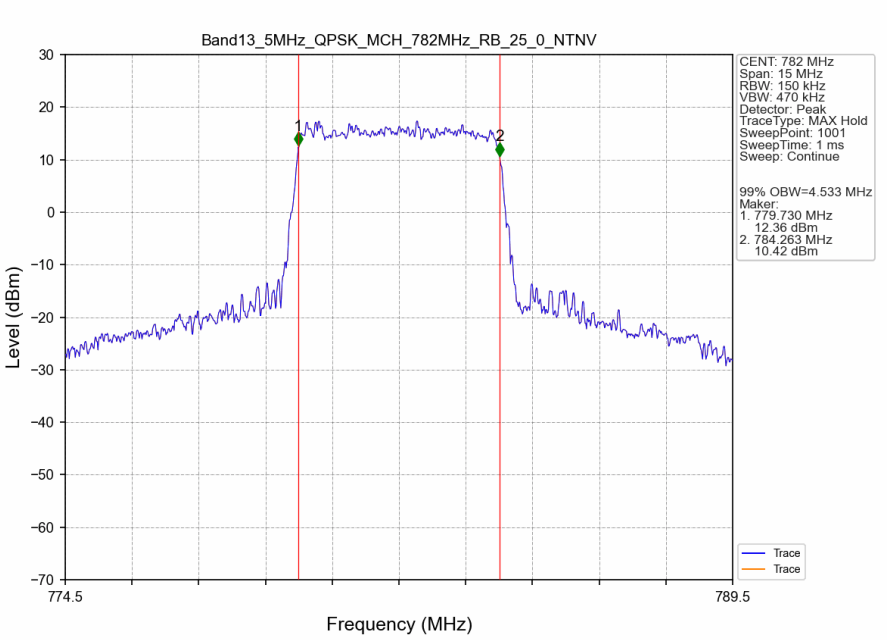
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.533	/	Pass
	16QAM	782	25	0	4.539	/	Pass
10	QPSK	782	50	0	9.029	/	Pass
	16QAM	782	50	0	9.028	/	Pass

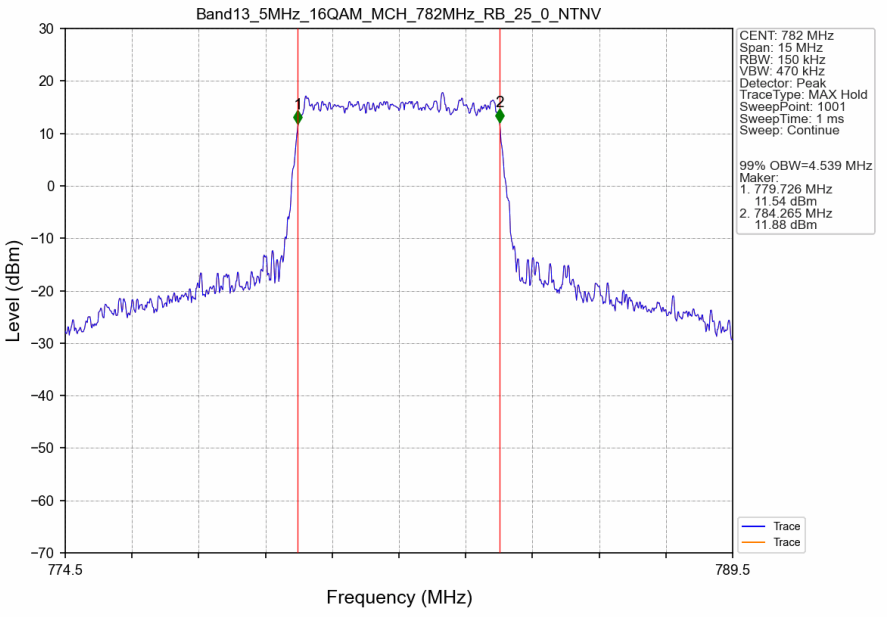
3.1.2 Band13_XDB

Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.054	/	Pass
	16QAM	782	25	0	5.019	/	Pass
10	QPSK	782	50	0	10.045	/	Pass
	16QAM	782	50	0	10.260	/	Pass

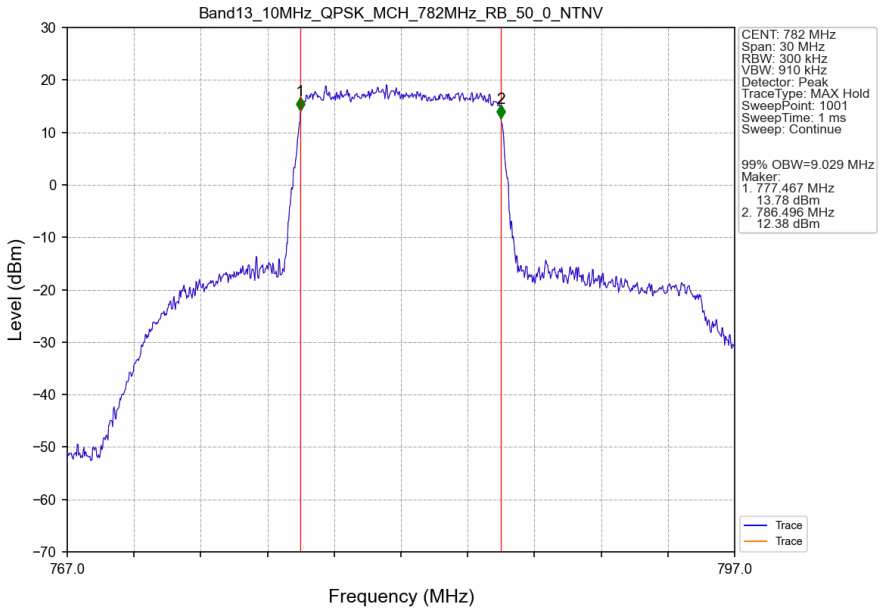
3.2 Test Graph

3.2.1 Band13_OBW

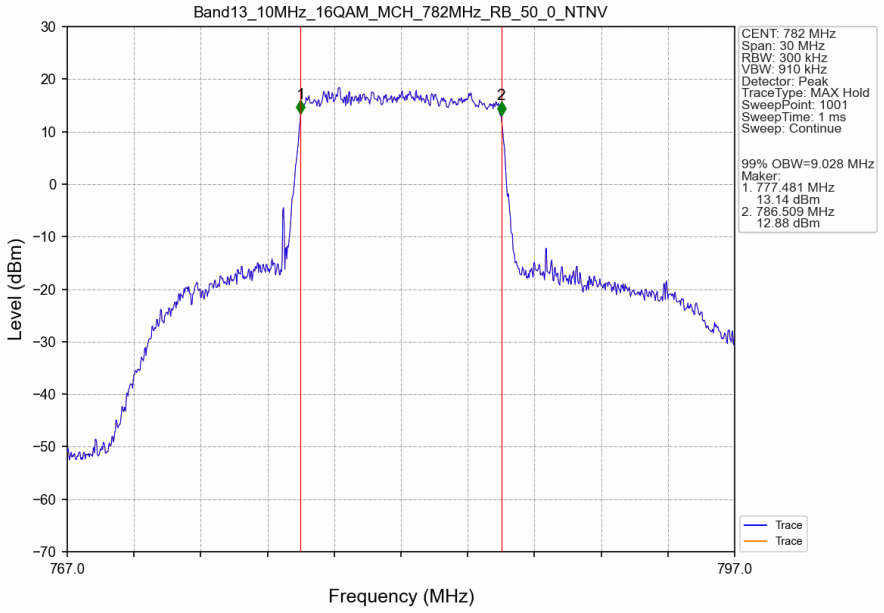
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV


Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV


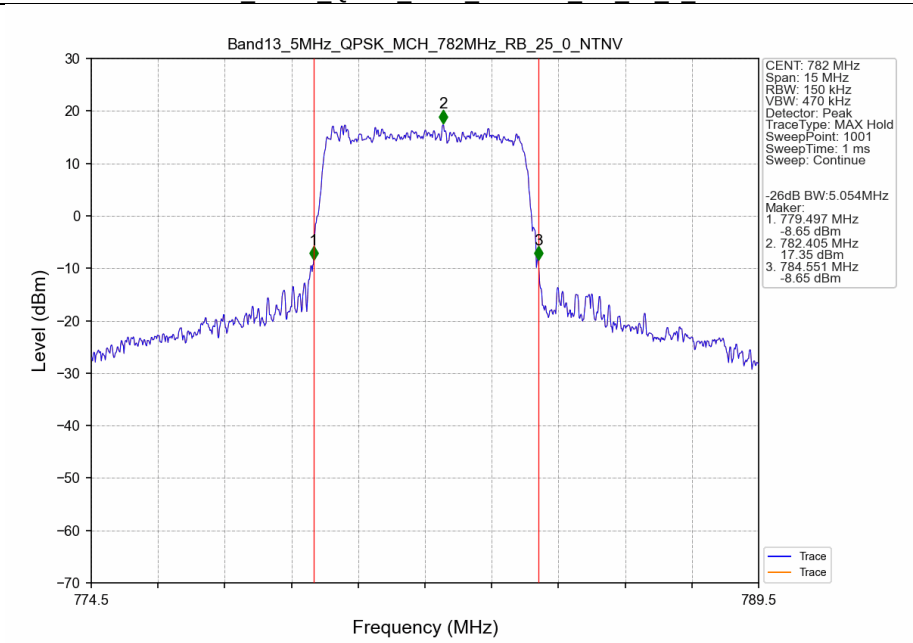
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV

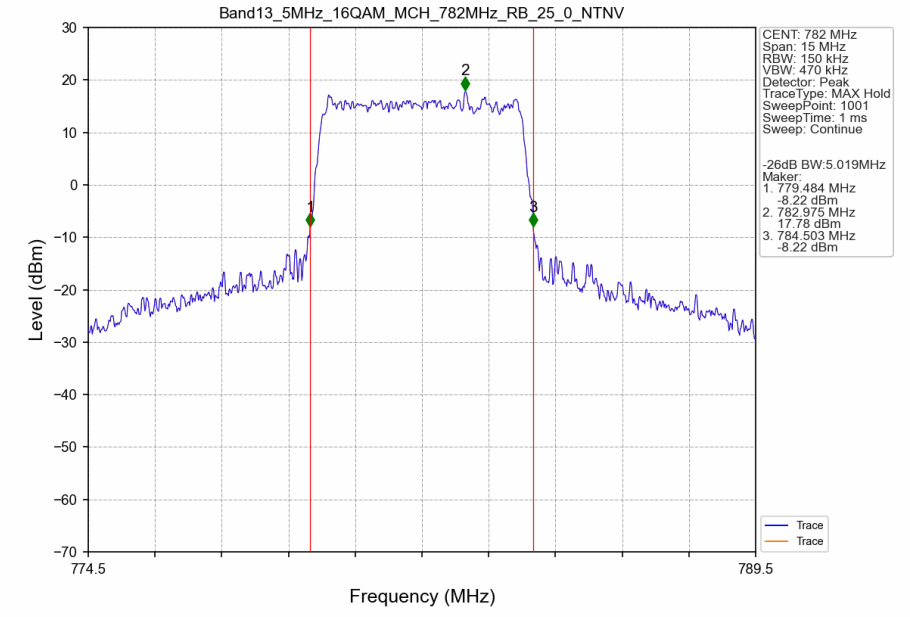


Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV

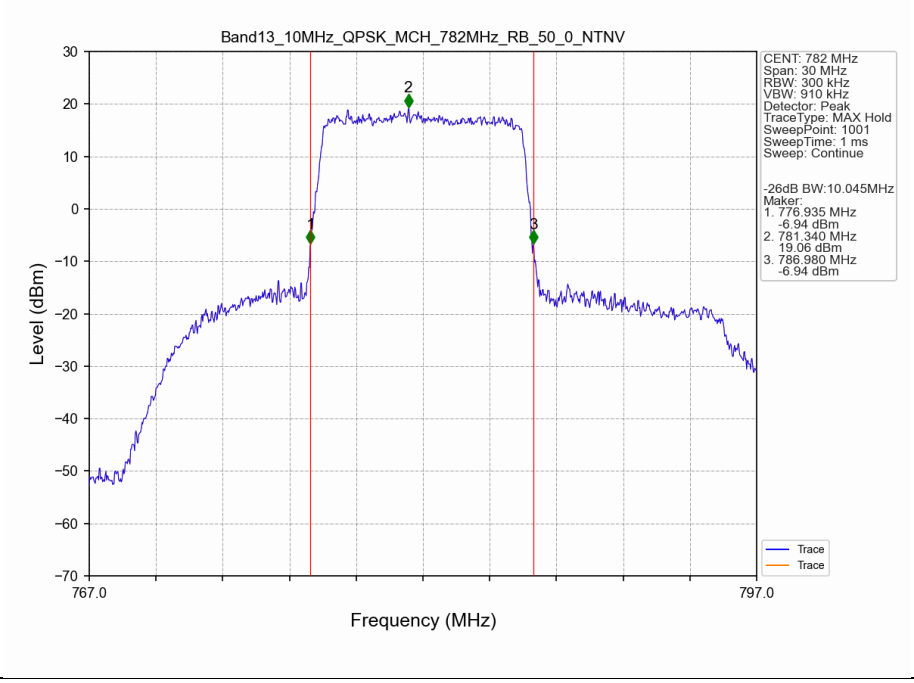


3.2.2 Band13_XDB

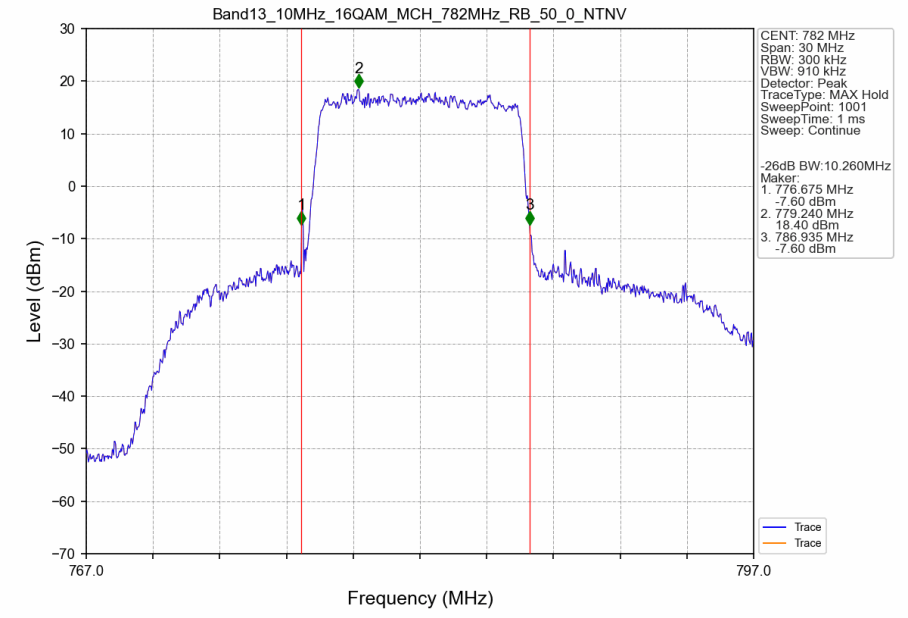
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV


Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV


Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



4. Peak-Average Ratio

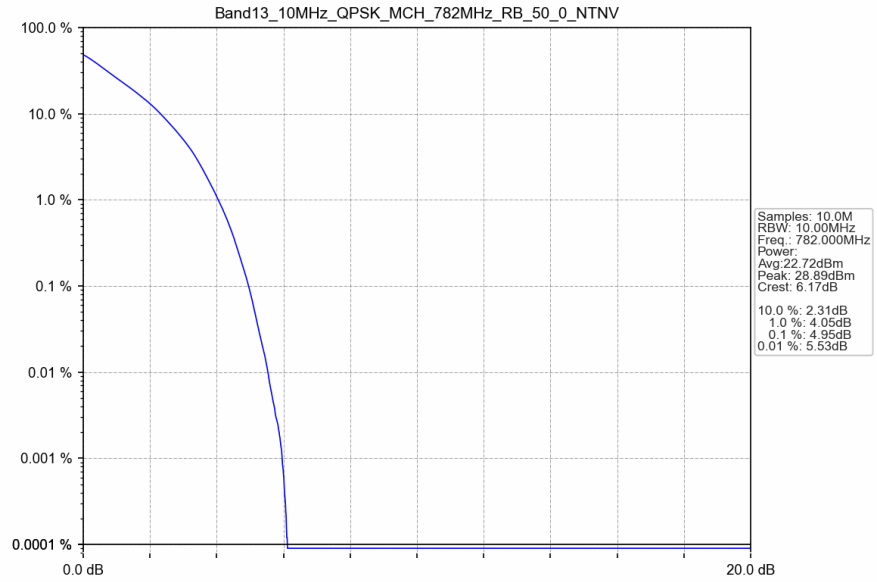
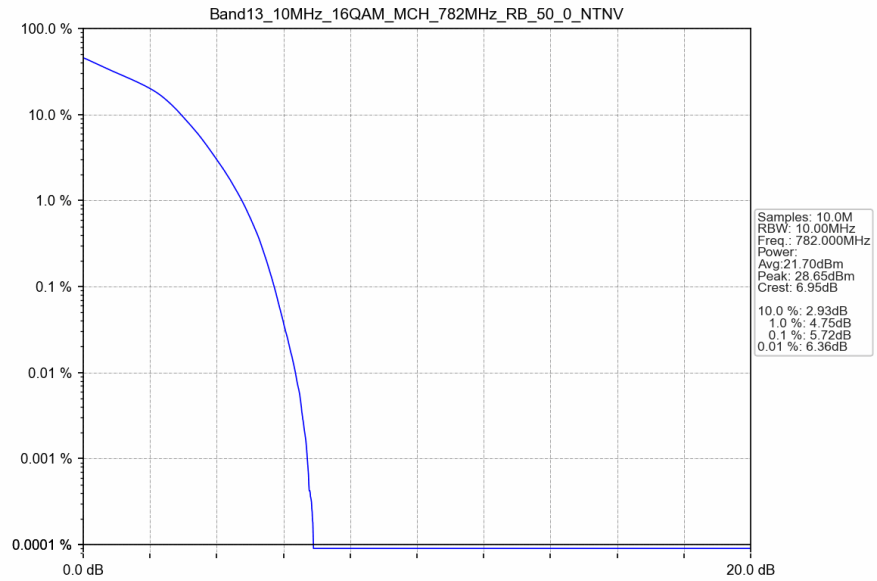
4.1 Test Result

4.1.1 B13_10MHz

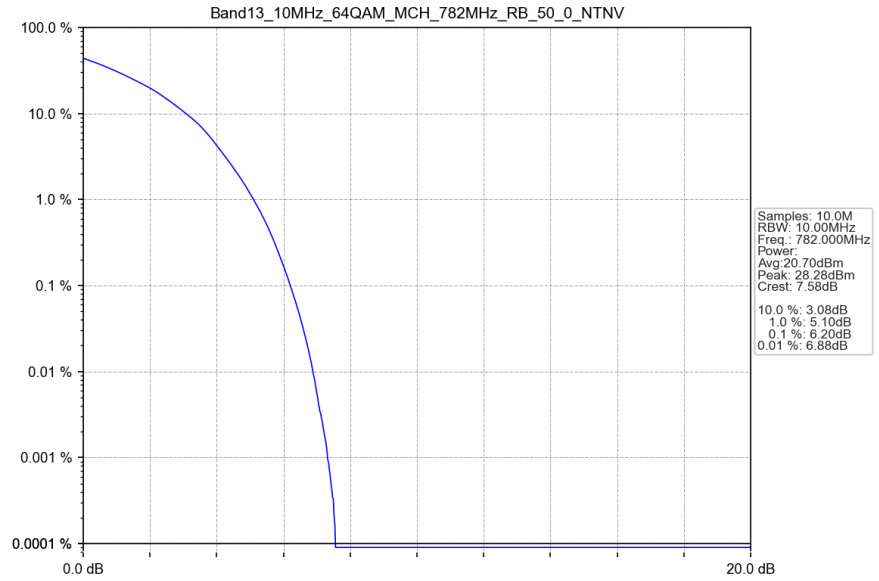
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	4.95	<=13	Pass
16QAM	782	50	0	5.72	<=13	Pass
64QAM	782	50	0	6.20	<=13	Pass
256QAM	782	50	0	6.79	<=13	Pass

4.2 Test Graph

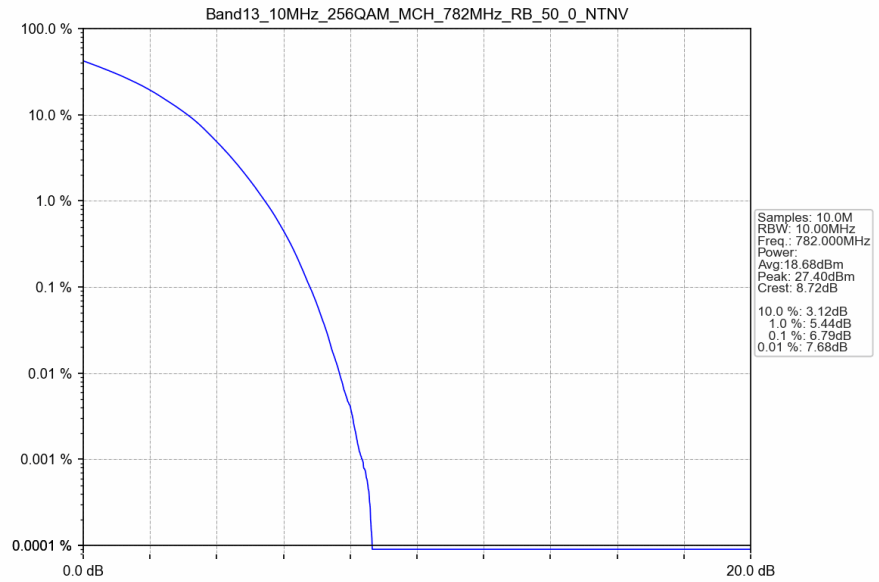
4.2.1 B13_10MHz

Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV

Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV


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

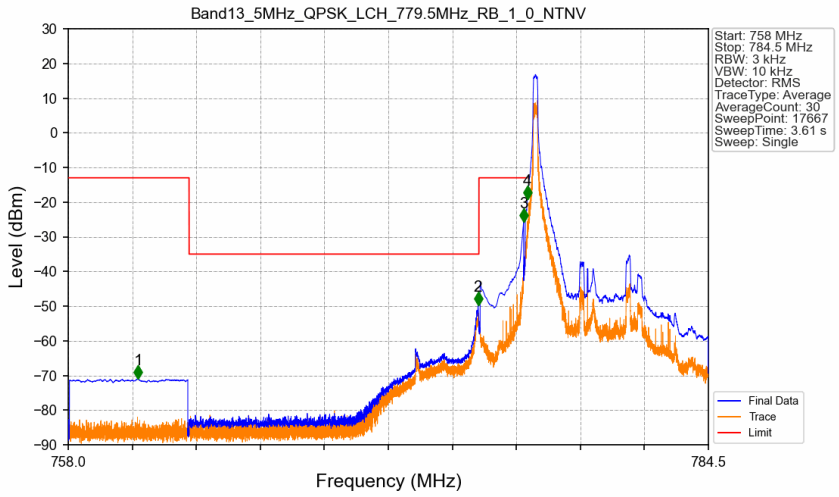
5.1.2 B13_10MHz

Band: 13 / Bandwidth: 10MHz / 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

5.2 Test Graph

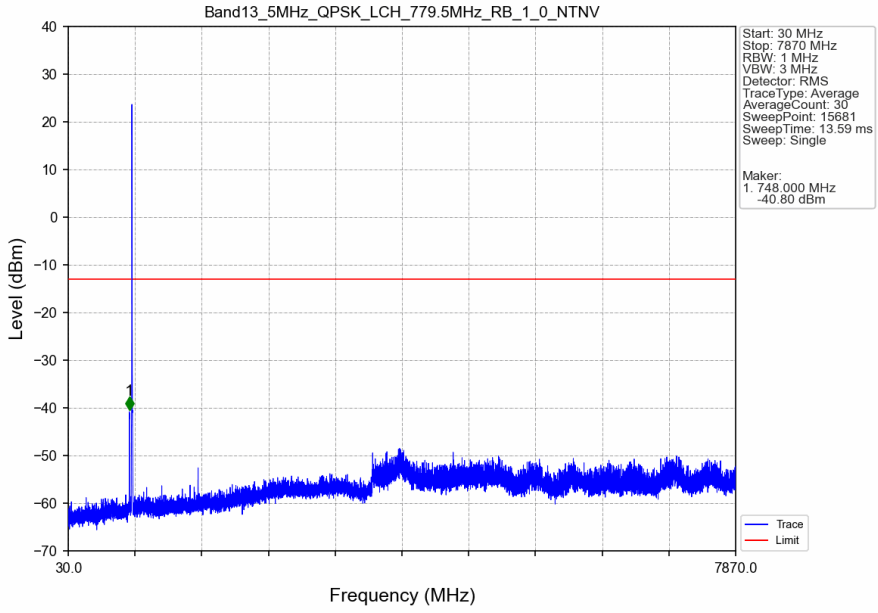
5.2.1 B13_5MHz

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

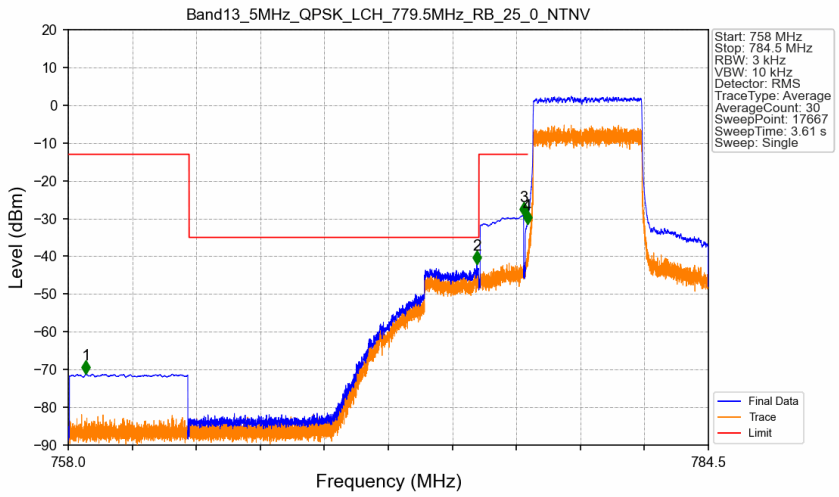


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.895	-70.95	-13	Pass
763	775	0.00625	CHP	2	774.966	-49.80	-35	Pass
775	776.9	0.1	CHP	3	776.850	-25.68	-13	Pass
776.9	777	0.03	CHP	4	777.000	-19.11	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

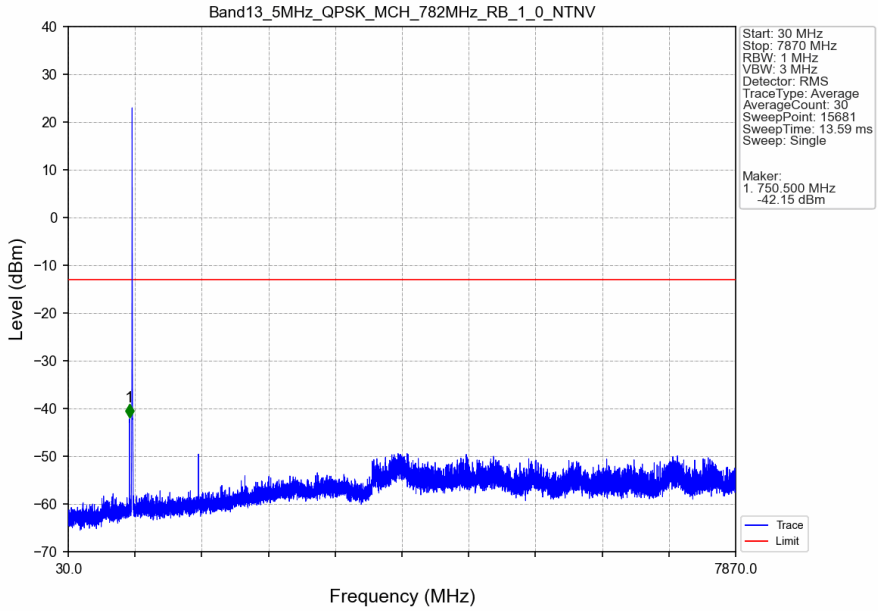


Band13_5MHz_QPSK_LCH_779.5MHz_RB_25_0_NTNV

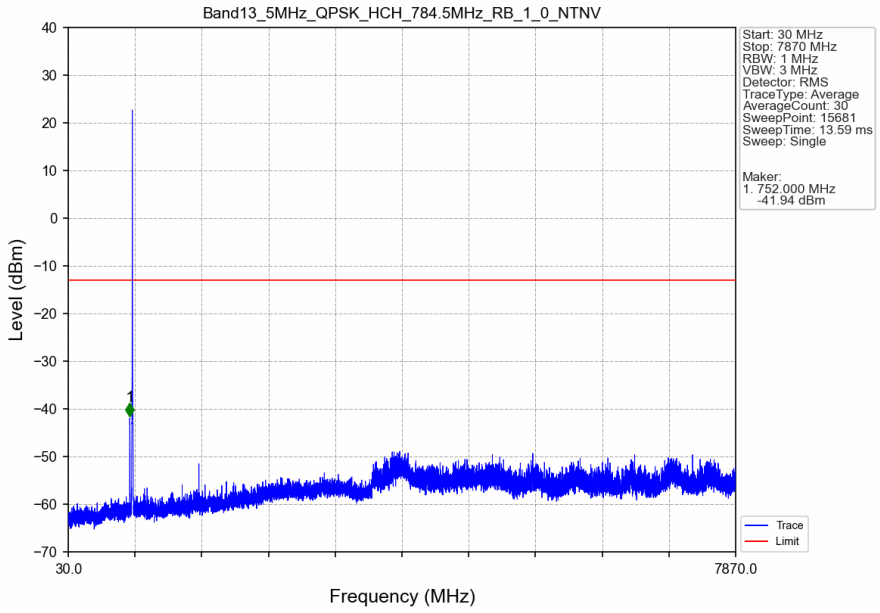


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	758.726	-71.18	-13	Pass
763	775	0.00625	CHP	2	774.916	-42.09	-35	Pass
775	776.9	0.1	CHP	3	776.850	-29.18	-13	Pass
776.9	777	0.03	CHP	4	777.000	-31.37	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

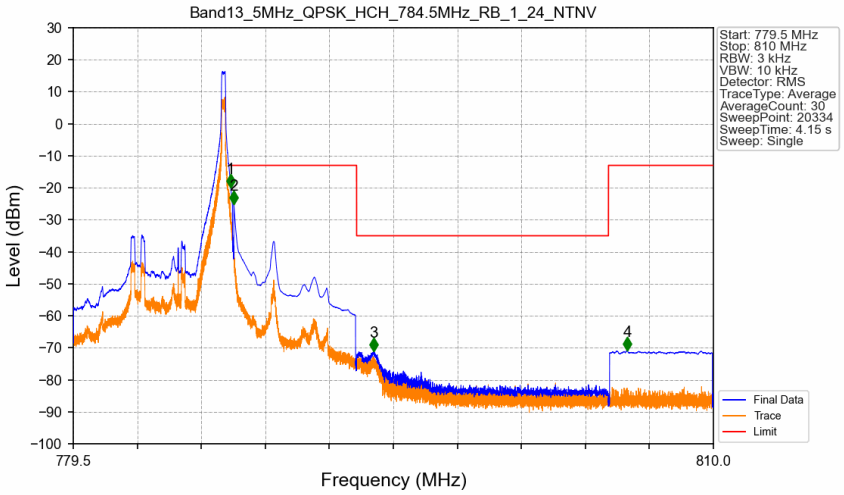
Band13_5MHz_QPSK_MCH_782MHz_RB_1_0_NTNV



Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_0_NTNV

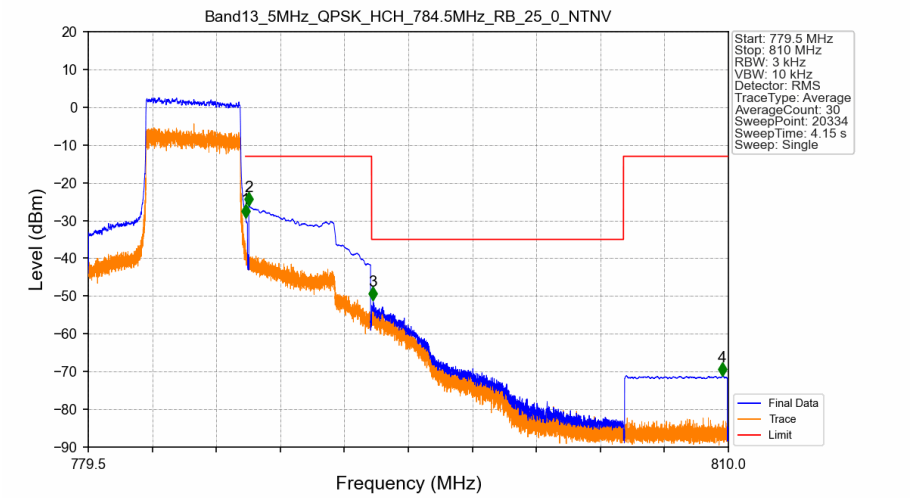


Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_24_NTNV



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	-19.84	-13	Pass
787.1	793	0.1	CHP	2	787.150	-25.19	-13	Pass
793	805	0.00625	CHP	3	793.797	-71.14	-35	Pass
805	810	0.1	CHP	4	805.905	-70.84	-13	Pass

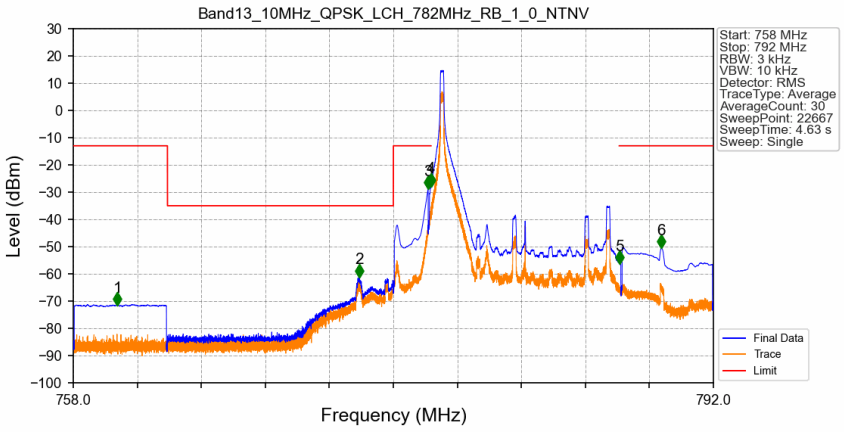
Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



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	787.000	-29.21	-13	Pass
787.1	793	0.1	CHP	2	787.150	-26.11	-13	Pass
793	805	0.00625	CHP	3	793.072	-51.16	-35	Pass
805	810	0.1	CHP	4	809.710	-71.08	-13	Pass

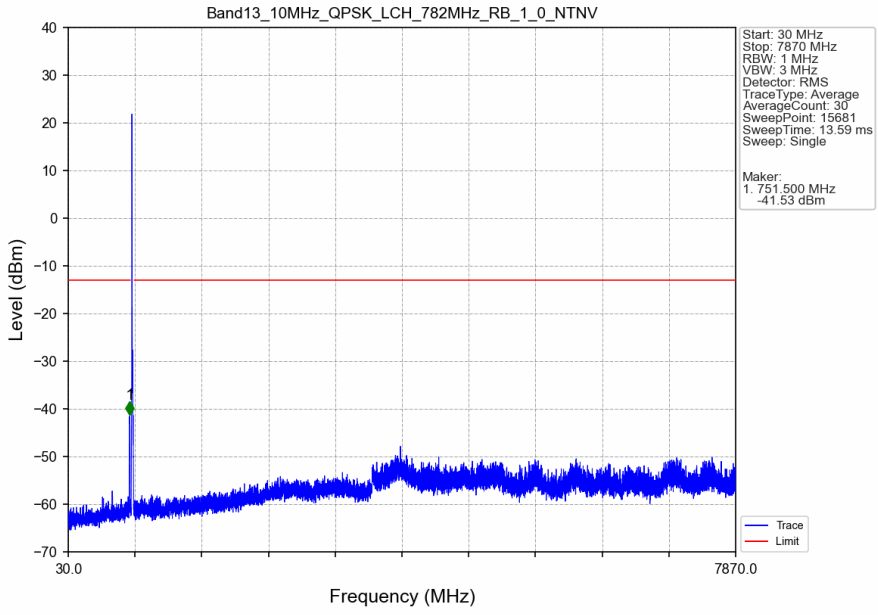
5.2.2 B13_10MHz

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

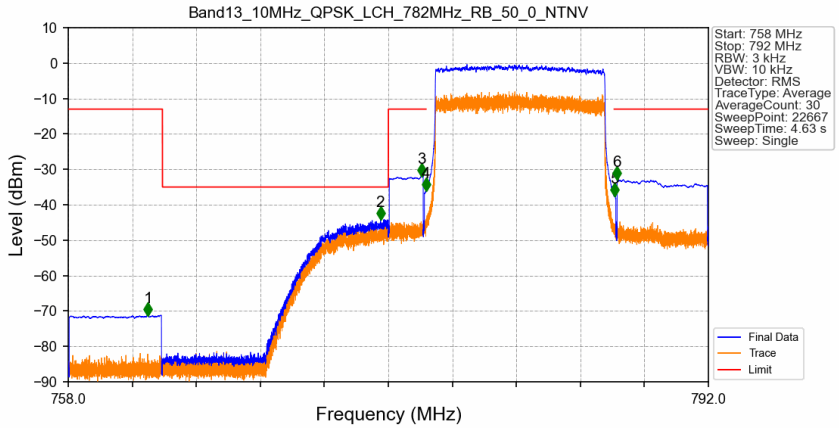


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.339	-71.27	-13	Pass
763	775	0.00625	CHP	2	773.183	-60.82	-35	Pass
775	776.9	0.1	CHP	3	776.850	-28.48	-13	Pass
776.9	777	0.03	CHP	4	777.000	-27.54	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.015	-56.00	-13	Pass
787.1	792	0.1	CHP	6	789.234	-50.19	-13	Pass

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

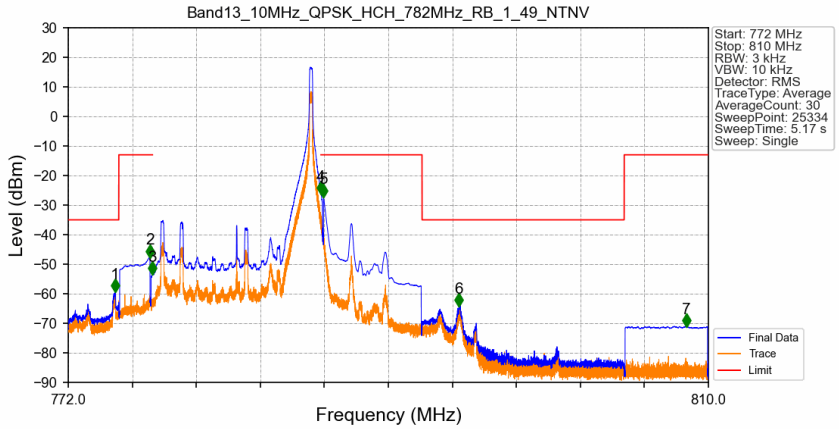


Band13_10MHz_QPSK_LCH_782MHz_RB_50_0_NTNV



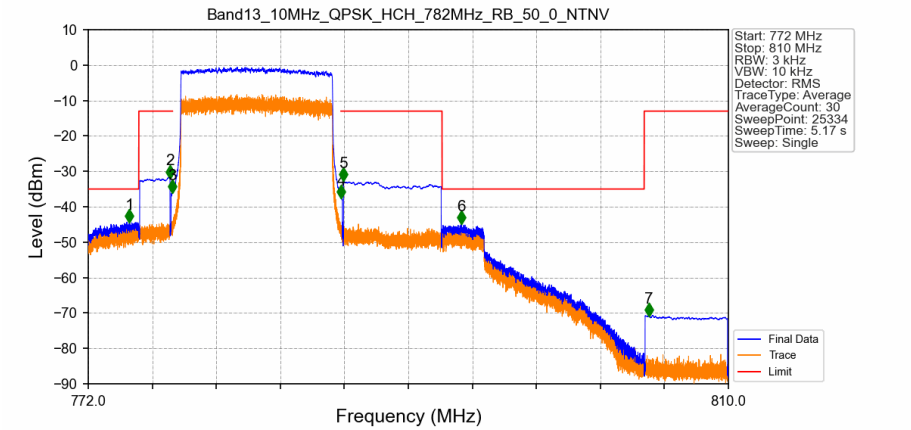
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.223	-71.12	-13	Pass
763	775	0.00625	CHP	2	774.584	-44.03	-35	Pass
775	776.9	0.1	CHP	3	776.776	-31.84	-13	Pass
776.9	777	0.03	CHP	4	776.998	-35.89	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.017	-37.41	-13	Pass
787.1	792	0.1	CHP	6	787.153	-32.60	-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	774.777	-59.17	-35	Pass
775	776.9	0.1	CHP	2	776.847	-47.45	-13	Pass
776.9	777	0.03	CHP	3	776.985	-53.25	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-26.09	-13	Pass
787.1	793	0.1	CHP	5	787.150	-26.97	-13	Pass
793	805	0.00625	CHP	6	795.192	-63.90	-35	Pass
805	810	0.1	CHP	7	808.699	-70.91	-13	Pass

Band13_10MHz_QPSK_HCH_782MHz_RB_50_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	CHP	1	774.444	-44.22	-35	Pass
775	776.9	0.1	CHP	2	776.847	-31.68	-13	Pass
776.9	777	0.03	CHP	3	776.989	-35.87	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.017	-37.31	-13	Pass
787.1	793	0.1	CHP	5	787.152	-32.49	-13	Pass
793	805	0.00625	CHP	6	794.140	-44.61	-35	Pass
805	810	0.1	CHP	7	805.276	-70.72	-13	Pass

6. Field Strength of Spurious Radiation

LTE Band 13 ANT31-Middle channel, Modulation: QPSK, Bandwidth:10MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1555.0	-65.65	-13	-52.65	-68.79	2.6	5.74	Horizontal	Pass
2332.5	-64.95	-13	-51.95	-67.41	2.96	5.42	Horizontal	Pass
3110.0	-62.54	-13	-49.54	-66.54	3.2	7.2	Horizontal	Pass
1555.0	-65.57	-13	-52.57	-68.71	2.6	5.74	Vertical	Pass
2332.5	-64.83	-13	-51.83	-67.29	2.96	5.42	Vertical	Pass
3110.0	-62.96	-13	-49.96	-66.96	3.2	7.2	Vertical	Pass

LTE Band 13 ANT31-Low channel, Modulation: QPSK, Bandwidth:5MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1554.5	-66.41	-13	-53.41	-69.55	2.6	5.74	Horizontal	Pass
2331.75	-65.43	-13	-52.43	-67.89	2.96	5.42	Horizontal	Pass
3109.0	-62.58	-13	-49.58	-66.57	3.2	7.19	Horizontal	Pass
1554.5	-65.13	-13	-52.13	-68.27	2.6	5.74	Vertical	Pass
2331.75	-65.14	-13	-52.14	-67.6	2.96	5.42	Vertical	Pass
3109.0	-62.05	-13	-49.05	-66.04	3.2	7.19	Vertical	Pass

LTE Band 13 ANT31-Middle channel, Modulation: QPSK, Bandwidth:5MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1559.5	-65.18	-40	-25.18	-68.31	2.6	5.73	Horizontal	Pass
2339.25	-64.82	-13	-51.82	-67.29	2.96	5.43	Horizontal	Pass
3119.0	-62.71	-13	-49.71	-66.72	3.21	7.22	Horizontal	Pass
1559.5	-65.92	-40	-25.92	-69.05	2.6	5.73	Vertical	Pass
2339.25	-65.65	-13	-52.65	-68.12	2.96	5.43	Vertical	Pass
3119.0	-62.29	-13	-49.29	-66.3	3.21	7.22	Vertical	Pass

LTE Band 13 ANT31-High channel, Modulation: QPSK, Bandwidth:5MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1564.5	-66.13	-40	-26.13	-69.25	2.6	5.72	Horizontal	Pass
2346.75	-64.87	-13	-51.87	-67.35	2.97	5.45	Horizontal	Pass
3129.0	-62.06	-13	-49.06	-66.09	3.21	7.24	Horizontal	Pass
1564.5	-66.1	-40	-26.1	-69.22	2.6	5.72	Vertical	Pass
2346.75	-64.41	-13	-51.41	-66.89	2.97	5.45	Vertical	Pass
3129.0	-61.09	-13	-48.09	-65.12	3.21	7.24	Vertical	Pass