1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 B17_5MHz_ERP

Band: 17 / Bandwidth: 5MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	706.5	1	0	23.99	1.40	23.24	<=34.77	Pass
			13	23.90	1.40	23.15	<=34.77	Pass
			24	23.77	1.40	23.02	<=34.77	Pass
		12	0	23.00	1.40	22.25	<=34.77	Pass
			6	23.01	1.40	22.26	<=34.77	Pass
			13	23.00	1.40	22.25	<=34.77	Pass
		25	0	23.01	1.40	22.26	<=34.77	Pass
	710	1	0	23.97	1.40	23.22	<=34.77	Pass
			13	23.86	1.40	23.11	<=34.77	Pass
			24	23.92	1.40	23.17	<=34.77	Pass
		12	0	23.02	1.40	22.27	<=34.77	Pass
			6	22.98	1.40	22.23	<=34.77	Pass
			13	22.95	1.40	22.20	<=34.77	Pass
		25	0	23.05	1.40	22.30	<=34.77	Pass
	713.5	1	0	23.92	1.40	23.17	<=34.77	Pass
			13	23.96	1.40	23.21	<=34.77	Pass
			24	23.96	1.40	23.21	<=34.77	Pass
		12	0	23.05	1.40	22.30	<=34.77	Pass
			6	23.02	1.40	22.27	<=34.77	Pass
			13	22.97	1.40	22.22	<=34.77	Pass
		25	0	23.01	1.40	22.26	<=34.77	Pass
16QAM	706.5	1	0	22.94	1.40	22.19	<=34.77	Pass
			13	22.98	1.40	22.23	<=34.77	Pass
			24	22.98	1.40	22.23	<=34.77	Pass
		12	0	22.05	1.40	21.30	<=34.77	Pass
			6	22.07	1.40	21.32	<=34.77	Pass
			13	22.04	1.40	21.29	<=34.77	Pass
		25	0	22.06	1.40	21.31	<=34.77	Pass
	710	1	0	23.03	1.40	22.28	<=34.77	Pass
			13	23.18	1.40	22.43	<=34.77	Pass
			24	23.03	1.40	22.28	<=34.77	Pass
		12	0	22.08	1.40	21.33	<=34.77	Pass
			6	22.02	1.40	21.27	<=34.77	Pass
			13	21.99	1.40	21.24	<=34.77	Pass
		25	0	22.04	1.40	21.29	<=34.77	Pass
	713.5	1	0	23.00	1.40	22.25	<=34.77	Pass
			13	23.26	1.40	22.51	<=34.77	Pass
			24	22.84	1.40	22.09	<=34.77	Pass
		12	0	22.09	1.40	21.34	<=34.77	Pass
			6	22.07	1.40	21.32	<=34.77	Pass
			13	22.02	1.40	21.27	<=34.77	Pass
		25	0	22.06	1.40	21.31	<=34.77	Pass
64QAM	706.5	1	0	22.09	1.40	21.34	<=34.77	Pass
			13	21.70	1.40	20.95	<=34.77	Pass
			24	21.53	1.40	20.78	<=34.77	Pass
		12	0	21.05	1.40	20.30	<=34.77	Pass
			6	21.05	1.40	20.30	<=34.77	Pass
			13	21.05	1.40	20.30	<=34.77	Pass
		25	0	21.02	1.40	20.27	<=34.77	Pass

	710	1	0	22.28	1.40	21.53	<=34.77	Pass
			13	21.56	1.40	20.81	<=34.77	Pass
			24	21.96	1.40	21.21	<=34.77	Pass
		12	0	21.09	1.40	20.34	<=34.77	Pass
			6	21.06	1.40	20.31	<=34.77	Pass
			13	21.00	1.40	20.25	<=34.77	Pass
		25	0	21.04	1.40	20.29	<=34.77	Pass
	713.5	1	0	21.85	1.40	21.10	<=34.77	Pass
			13	21.62	1.40	20.87	<=34.77	Pass
			24	22.07	1.40	21.32	<=34.77	Pass
		12	0	21.08	1.40	20.33	<=34.77	Pass
			6	21.05	1.40	20.30	<=34.77	Pass
			13	21.01	1.40	20.26	<=34.77	Pass
		25	0	21.03	1.40	20.28	<=34.77	Pass
256QAM	706.5	1	0	18.89	1.40	18.14	<=34.77	Pass
			13	19.04	1.40	18.29	<=34.77	Pass
			24	19.13	1.40	18.38	<=34.77	Pass
		12	0	19.03	1.40	18.28	<=34.77	Pass
			6	19.00	1.40	18.25	<=34.77	Pass
			13	19.05	1.40	18.30	<=34.77	Pass
		25	0	19.01	1.40	18.26	<=34.77	Pass
	710	1	0	19.07	1.40	18.32	<=34.77	Pass
			13	18.88	1.40	18.13	<=34.77	Pass
			24	19.08	1.40	18.33	<=34.77	Pass
		12	0	19.04	1.40	18.29	<=34.77	Pass
			6	19.01	1.40	18.26	<=34.77	Pass
			13	18.97	1.40	18.22	<=34.77	Pass
		25	0	19.02	1.40	18.27	<=34.77	Pass
	713.5	1	0	18.89	1.40	18.14	<=34.77	Pass
			13	18.91	1.40	18.16	<=34.77	Pass
			24	18.98	1.40	18.23	<=34.77	Pass
		12	0	19.03	1.40	18.28	<=34.77	Pass
			6	18.99	1.40	18.24	<=34.77	Pass
			13	18.94	1.40	18.19	<=34.77	Pass
		25	0	19.00	1.40	18.25	<=34.77	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

1.1.2 B17_10MHz_ERP

Band: 17 / Bandwidth: 10MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	709	1	0	24.04	1.40	23.29	<=34.77	Pass
			25	23.75	1.40	23.00	<=34.77	Pass
			49	23.97	1.40	23.22	<=34.77	Pass
		25	0	23.05	1.40	22.30	<=34.77	Pass
			13	22.99	1.40	22.24	<=34.77	Pass
			25	22.95	1.40	22.20	<=34.77	Pass
		50	0	22.97	1.40	22.22	<=34.77	Pass
	710	1	0	24.00	1.40	23.25	<=34.77	Pass
			25	24.04	1.40	23.29	<=34.77	Pass
			49	23.94	1.40	23.19	<=34.77	Pass
		25	0	23.03	1.40	22.28	<=34.77	Pass
			13	23.00	1.40	22.25	<=34.77	Pass
			25	22.98	1.40	22.23	<=34.77	Pass
		50	0	23.01	1.40	22.26	<=34.77	Pass
	711	1	0	23.97	1.40	23.22	<=34.77	Pass

			25	23.89	1.40	23.14	<=34.77	Pass
			49	24.04	1.40	23.29	<=34.77	Pass
		25	0	23.03	1.40	22.28	<=34.77	Pass
			13	23.01	1.40	22.26	<=34.77	Pass
			25	22.96	1.40	22.21	<=34.77	Pass
		50	0	23.00	1.40	22.25	<=34.77	Pass
16QAM	709	1	0	23.01	1.40	22.26	<=34.77	Pass
			25	23.15	1.40	22.40	<=34.77	Pass
			49	23.22	1.40	22.47	<=34.77	Pass
		25	0	22.07	1.40	21.32	<=34.77	Pass
			13	22.02	1.40	21.27	<=34.77	Pass
			25	21.97	1.40	21.22	<=34.77	Pass
		50	0	22.02	1.40	21.27	<=34.77	Pass
	710	1	0	23.34	1.40	22.59	<=34.77	Pass
			25	23.15	1.40	22.40	<=34.77	Pass
			49	22.96	1.40	22.21	<=34.77	Pass
		25	0	22.03	1.40	21.28	<=34.77	Pass
			13	22.03	1.40	21.28	<=34.77	Pass
			25	21.98	1.40	21.23	<=34.77	Pass
		50	0	22.01	1.40	21.26	<=34.77	Pass
	711	1	0	23.11	1.40	22.36	<=34.77	Pass
			25	23.00	1.40	22.25	<=34.77	Pass
			49	23.08	1.40	22.33	<=34.77	Pass
		25	0	22.02	1.40	21.27	<=34.77	Pass
			13	22.02	1.40	21.27	<=34.77	Pass
			25	21.98	1.40	21.23	<=34.77	Pass
		50	0	22.03	1.40	21.28	<=34.77	Pass
64QAM	709	1	0	21.96	1.40	21.21	<=34.77	Pass
			25	22.16	1.40	21.41	<=34.77	Pass
			49	22.06	1.40	21.31	<=34.77	Pass
		25	0	21.06	1.40	20.31	<=34.77	Pass
			13	21.02	1.40	20.27	<=34.77	Pass
			25	20.99	1.40	20.24	<=34.77	Pass
		50	0	21.01	1.40	20.26	<=34.77	Pass
	710	1	0	22.10	1.40	21.35	<=34.77	Pass
			25	22.07	1.40	21.32	<=34.77	Pass
			49	21.96	1.40	21.21	<=34.77	Pass
		25	0	21.03	1.40	20.28	<=34.77	Pass
			13	20.93	1.40	20.18	<=34.77	Pass
			25	20.94	1.40	20.19	<=34.77	Pass
		50	0	20.98	1.40	20.23	<=34.77	Pass
	711	1	0	22.19	1.40	21.44	<=34.77	Pass
			25	22.09	1.40	21.34	<=34.77	Pass
			49	21.97	1.40	21.22	<=34.77	Pass
		25	0	21.06	1.40	20.31	<=34.77	Pass
			13	21.04	1.40	20.29	<=34.77	Pass
			25	20.96	1.40	20.21	<=34.77	Pass
		50	0	21.00	1.40	20.25	<=34.77	Pass
256QAM	709	1	0	19.11	1.40	18.36	<=34.77	Pass
			25	18.96	1.40	18.21	<=34.77	Pass
			49	19.05	1.40	18.30	<=34.77	Pass
		25	0	19.04	1.40	18.29	<=34.77	Pass
			13	19.00	1.40	18.25	<=34.77	Pass
			25	18.96	1.40	18.21	<=34.77	Pass
		50	0	18.95	1.40	18.20	<=34.77	Pass
	710	1	0	18.98	1.40	18.23	<=34.77	Pass
			25	19.08	1.40	18.33	<=34.77	Pass
			49	19.05	1.40	18.30	<=34.77	Pass
		25	0	19.03	1.40	18.28	<=34.77	Pass

			13	18.90	1.40	18.15	<=34.77	Pass
			25	18.91	1.40	18.16	<=34.77	Pass
		50	0	18.95	1.40	18.20	<=34.77	Pass
	711	1	0	19.15	1.40	18.40	<=34.77	Pass
			25	19.02	1.40	18.27	<=34.77	Pass
			49	19.01	1.40	18.26	<=34.77	Pass
		25	0	18.99	1.40	18.24	<=34.77	Pass
			13	18.95	1.40	18.20	<=34.77	Pass
			25	18.88	1.40	18.13	<=34.77	Pass
		50	0	18.94	1.40	18.19	<=34.77	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

2. Frequency Stability

2.1 Test Result

2.1.1 B17_10MHz

Band: 17 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	710	50	0	20	3.8	-1.100	-0.0015	-2.5 to 2.5	Pass
					4	0.400	0.0006	-2.5 to 2.5	Pass
					4.2	0.700	0.0010	-2.5 to 2.5	Pass
				-30	4	0.000	0.0000	-2.5 to 2.5	Pass
				-20	4	-0.800	-0.0011	-2.5 to 2.5	Pass
				-10	4	-3.300	-0.0046	-2.5 to 2.5	Pass
				0	4	0.000	0.0000	-2.5 to 2.5	Pass
				10	4	-0.200	-0.0003	-2.5 to 2.5	Pass
				30	4	-0.200	-0.0003	-2.5 to 2.5	Pass
				40	4	-0.800	-0.0011	-2.5 to 2.5	Pass
				50	4	-3.700	-0.0052	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band17_OBW

Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	4.527	/	Pass
	16QAM	710	25	0	4.526	/	Pass
10	QPSK	710	50	0	9.076	/	Pass
	16QAM	710	50	0	9.015	/	Pass

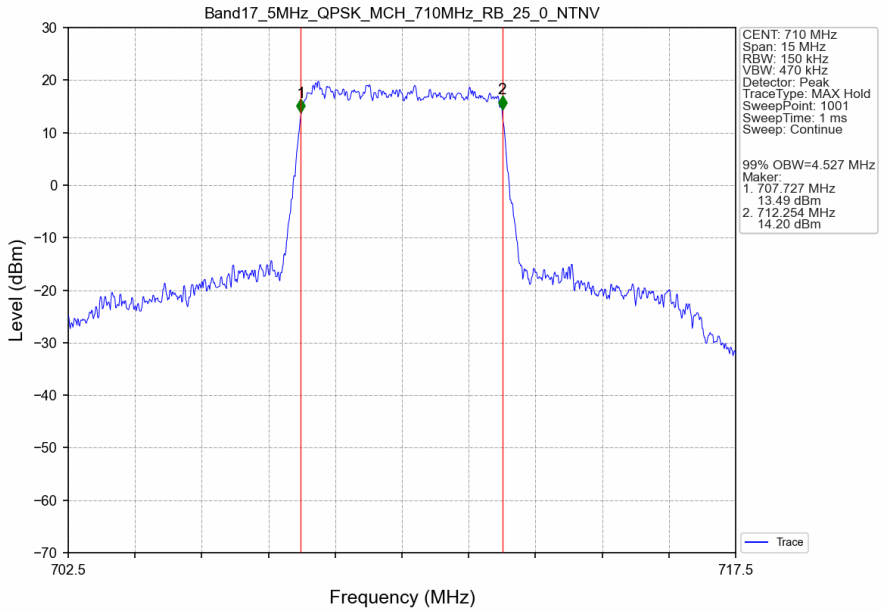
3.1.2 Band17_XDB

Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	5.047	/	Pass
	16QAM	710	25	0	5.037	/	Pass
10	QPSK	710	50	0	9.943	/	Pass
	16QAM	710	50	0	9.914	/	Pass

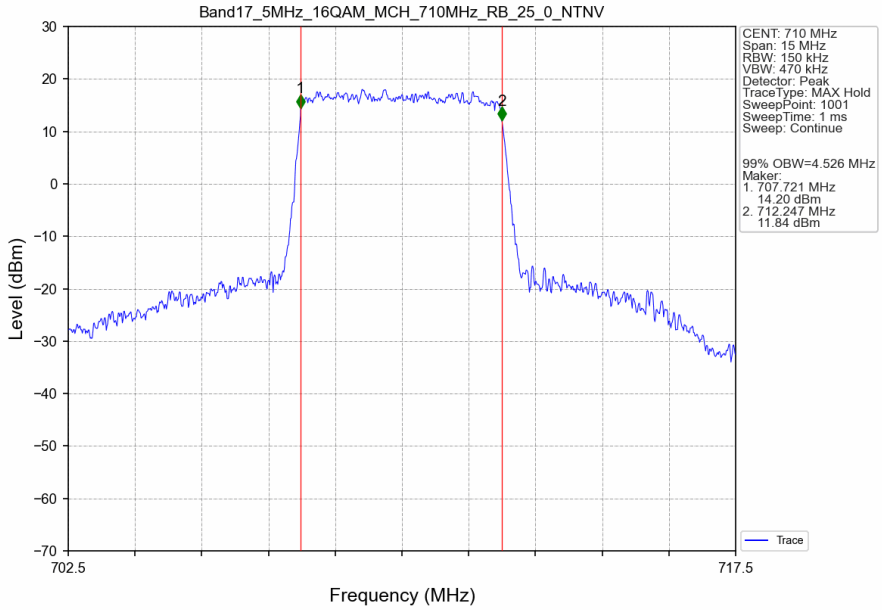
3.2 Test Graph

3.2.1 Band17_OBW

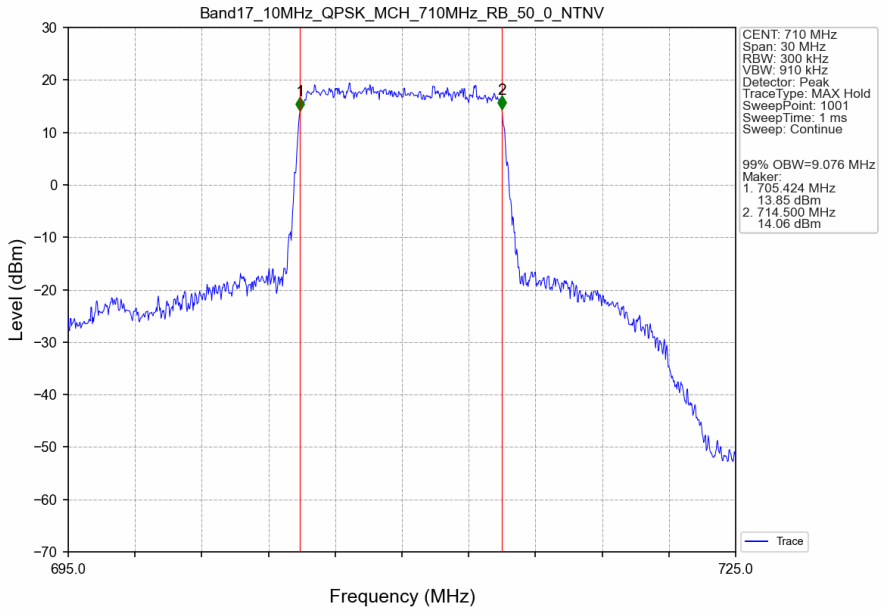
Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV



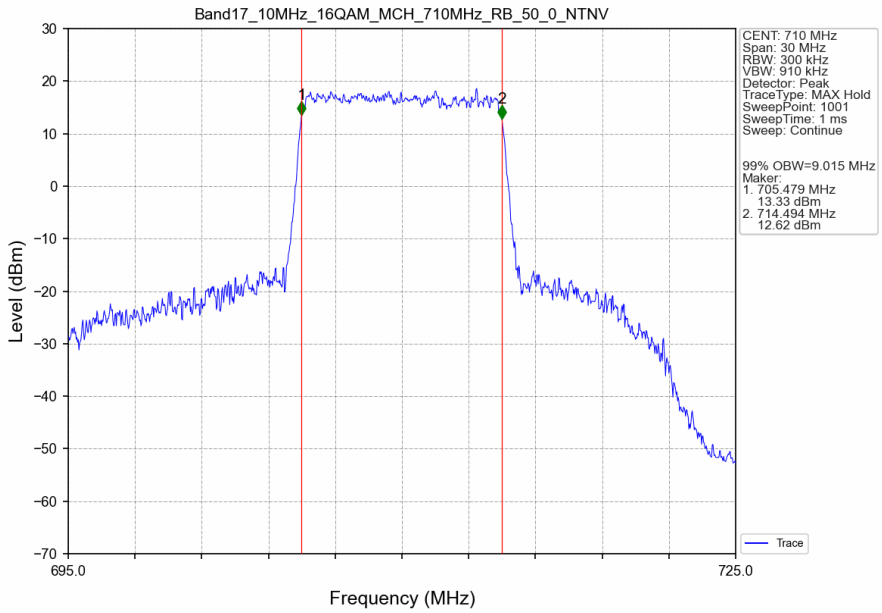
Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV



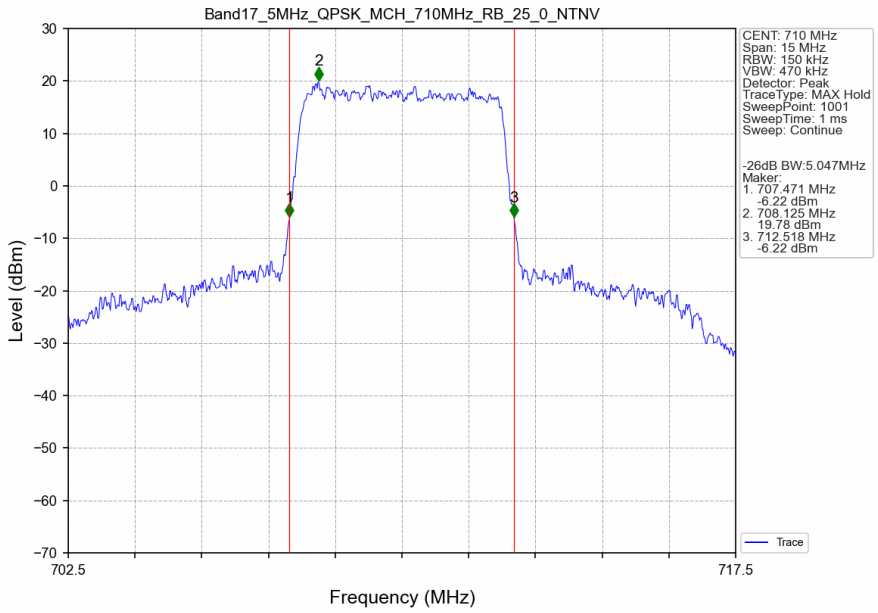
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV

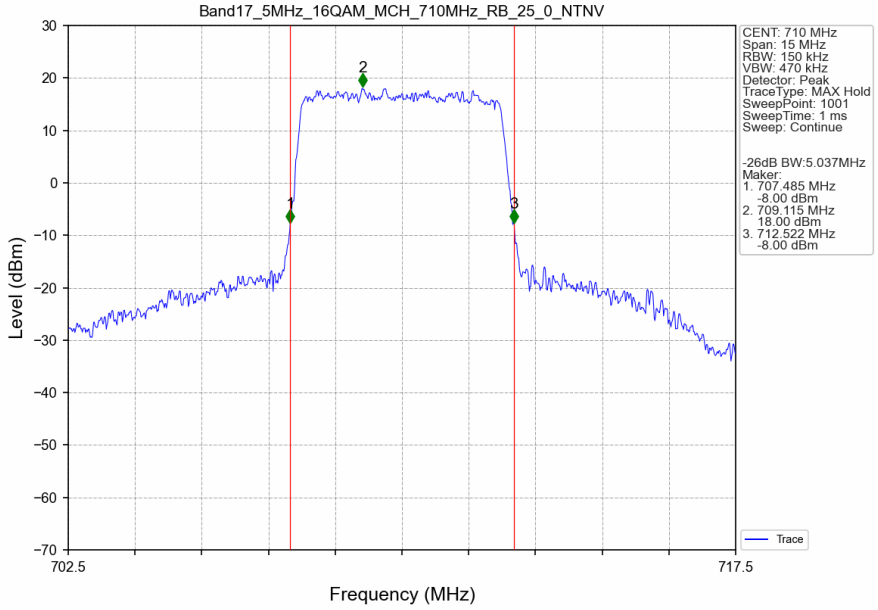


Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV

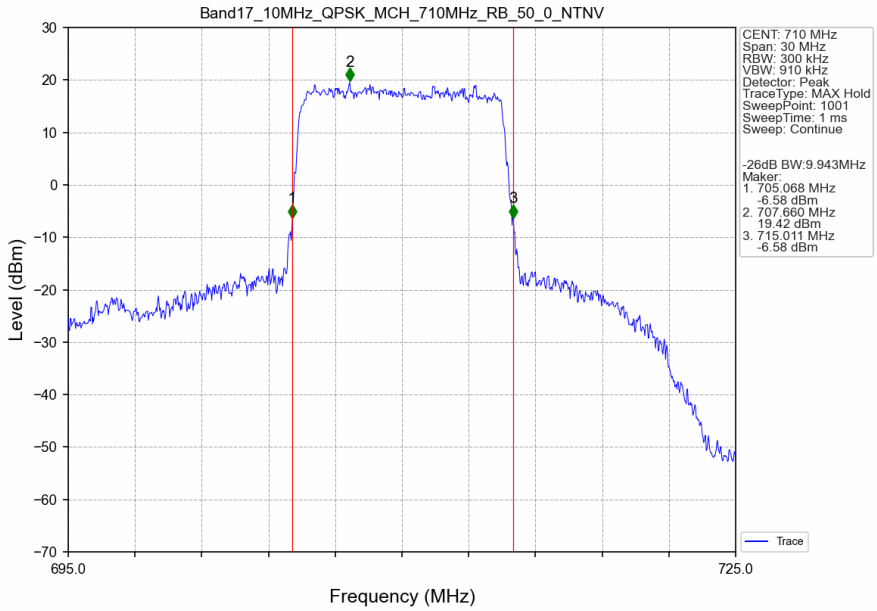


3.2.2 Band17_XDB

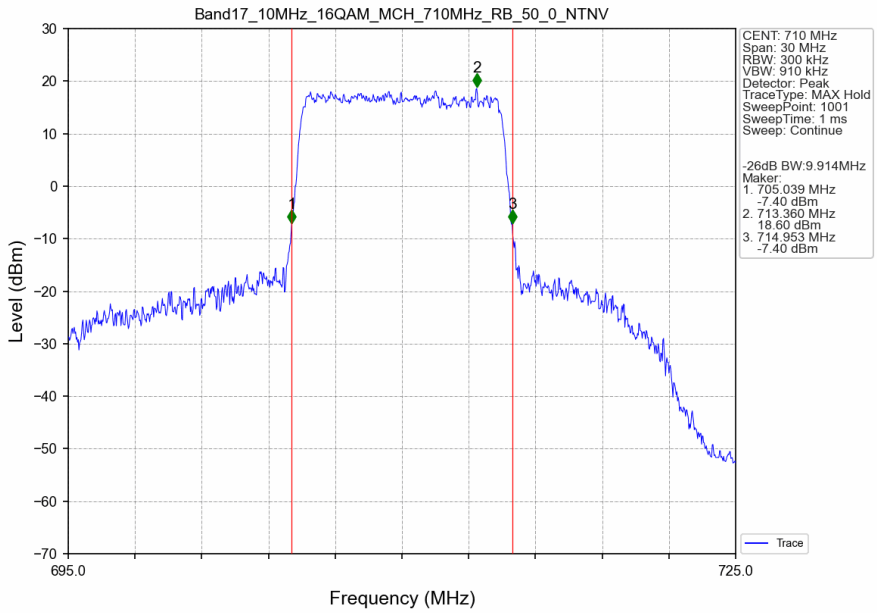
Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV


Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV


Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



4. Peak-Average Ratio

4.1 Test Result

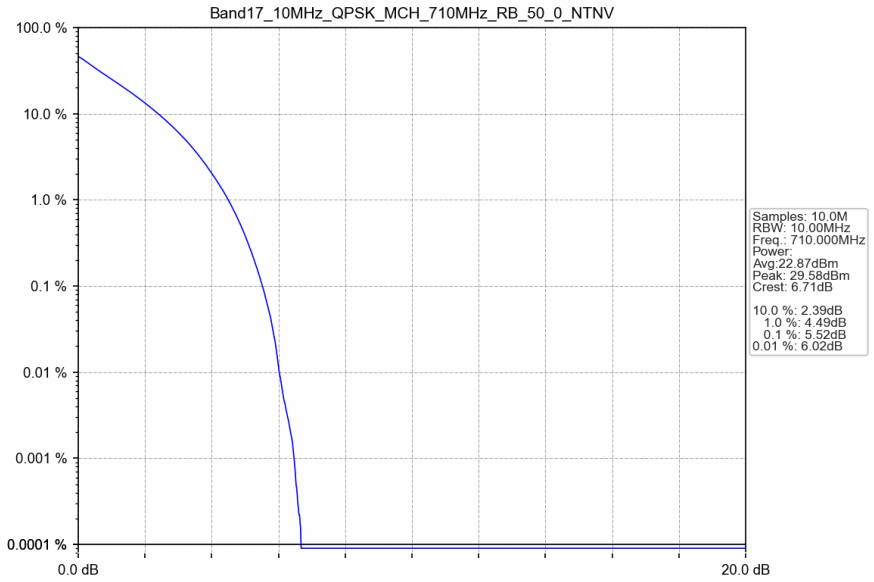
4.1.1 B17_10MHz

Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	710	50	0	5.52	<=13	Pass
16QAM	710	50	0	6.17	<=13	Pass
64QAM	710	50	0	6.39	<=13	Pass
256QAM	710	50	0	6.51	<=13	Pass

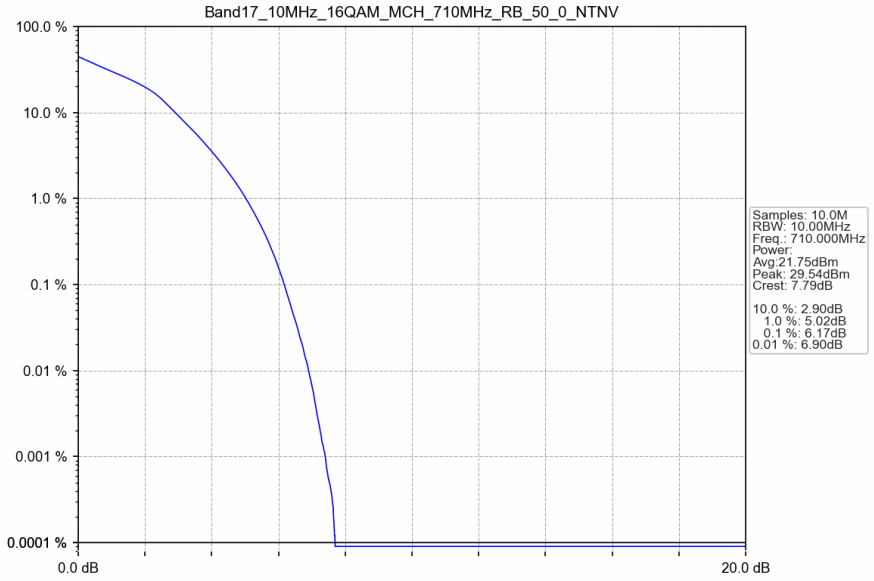
4.2 Test Graph

4.2.1 B17_10MHz

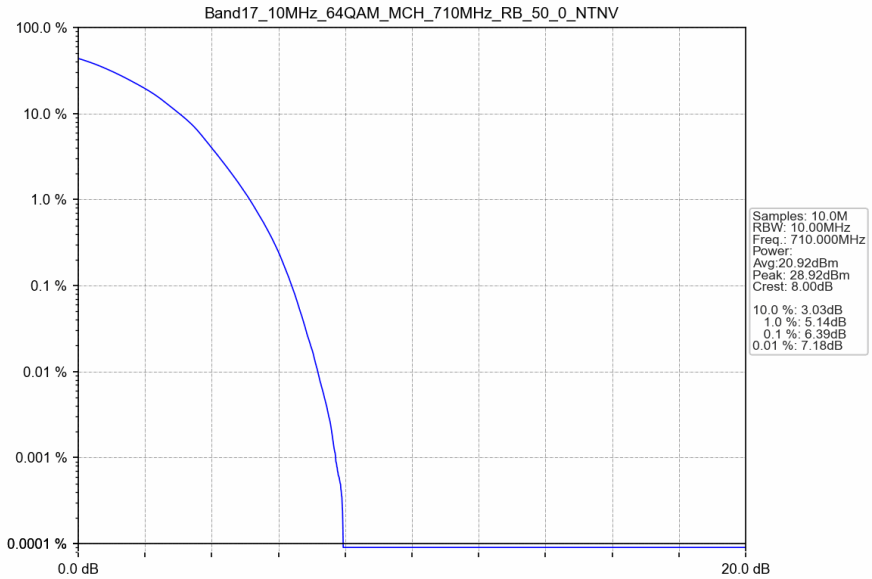
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



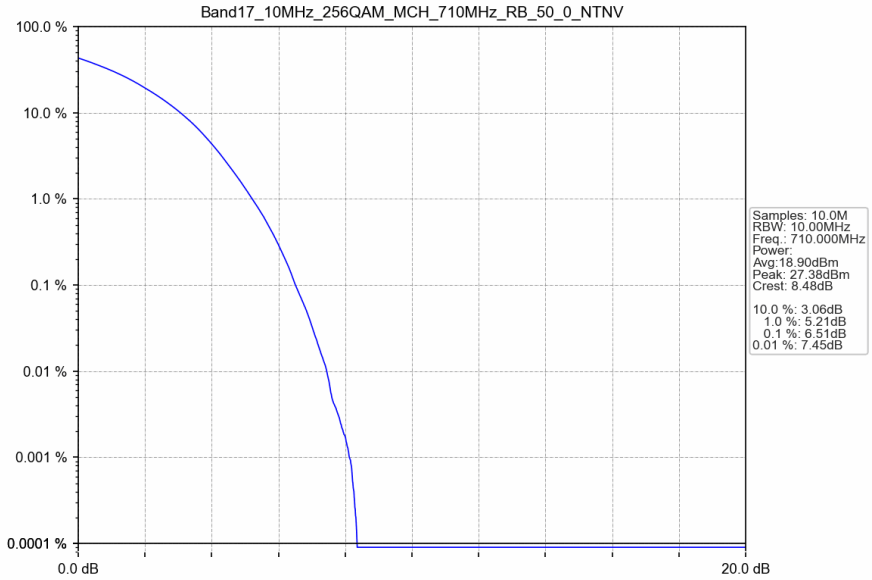
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_64QAM_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_256QAM_MCH_710MHz_RB_50_0_NTNV



5. Spurious Emission

5.1 Test Result

5.1.1 B17_5MHz

Band: 17 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	706.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	713.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass

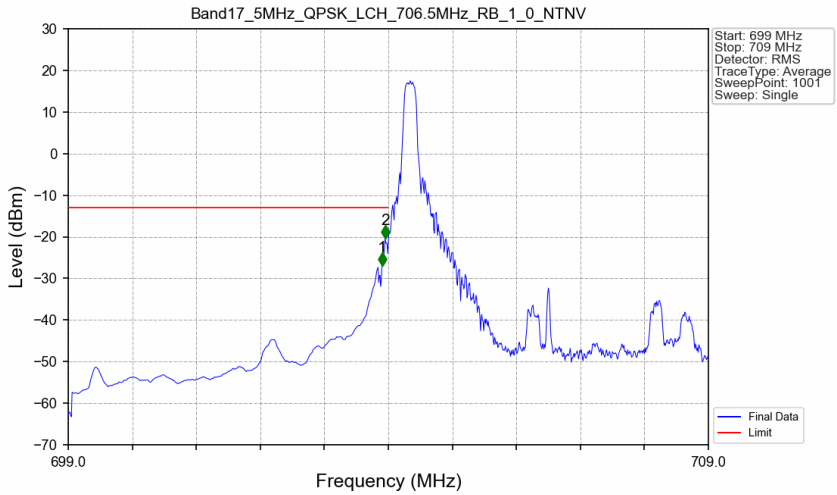
5.1.2 B17_10MHz

Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	709	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	711	1	0	Refer To Test Graph		Pass
			49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

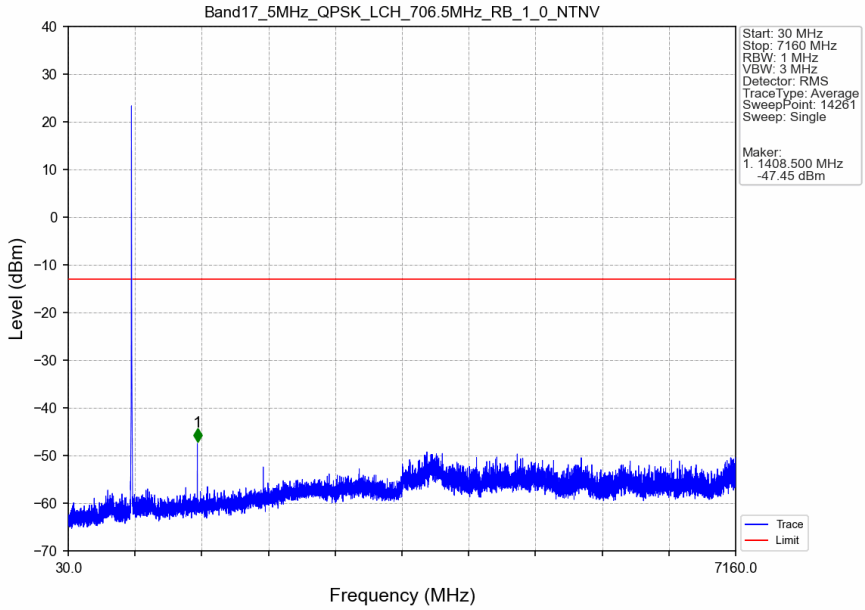
5.2.1 B17_5MHz

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

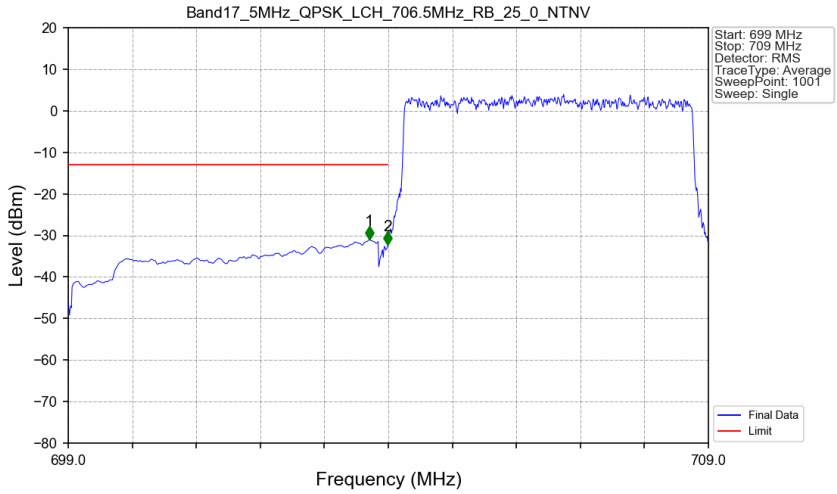


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.900	-26.89	-13	Pass
703.9	704	0.03	/	2	703.950	-20.32	-13	Pass
704	709	0.03	/	/	/	/	/	/

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

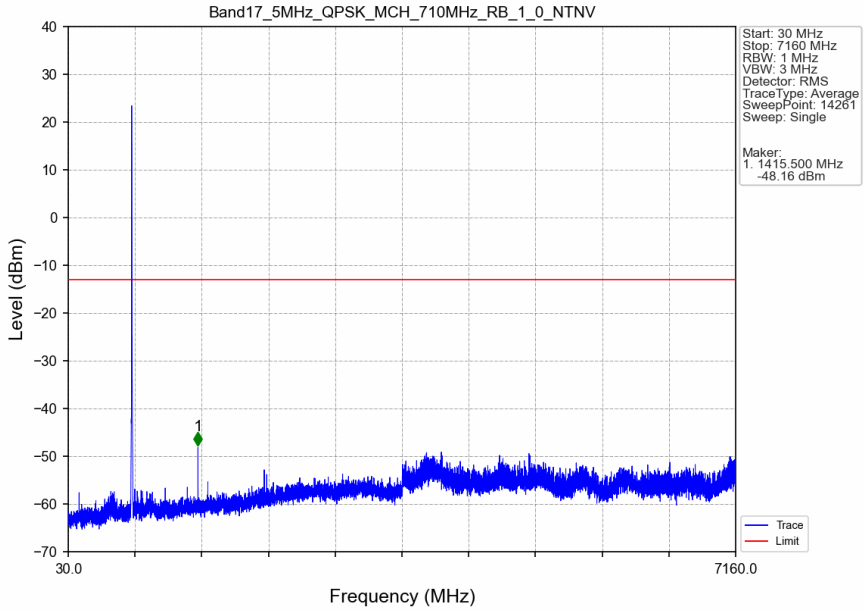


Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV

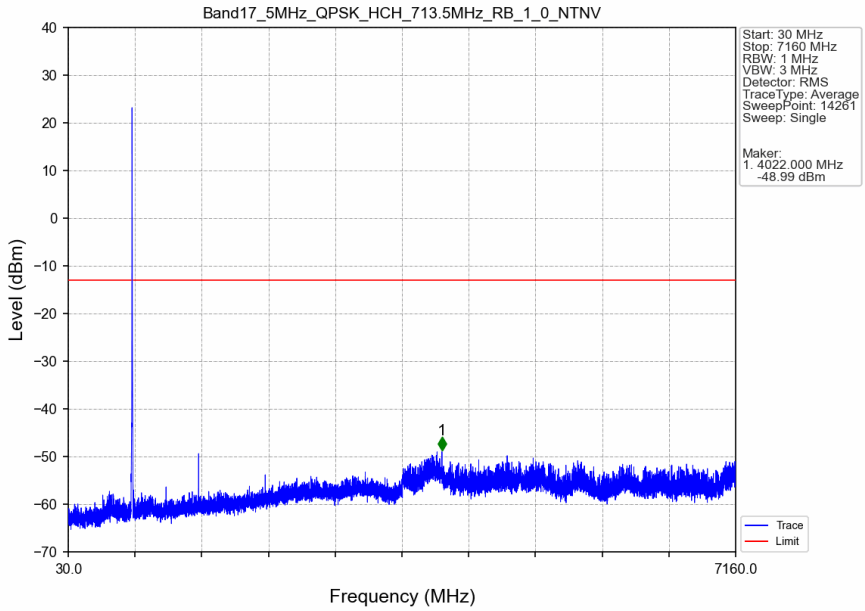


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.700	-31.03	-13	Pass
703.9	704	0.03	/	2	703.990	-32.16	-13	Pass
704	709	0.03	/	/	/	/	/	/

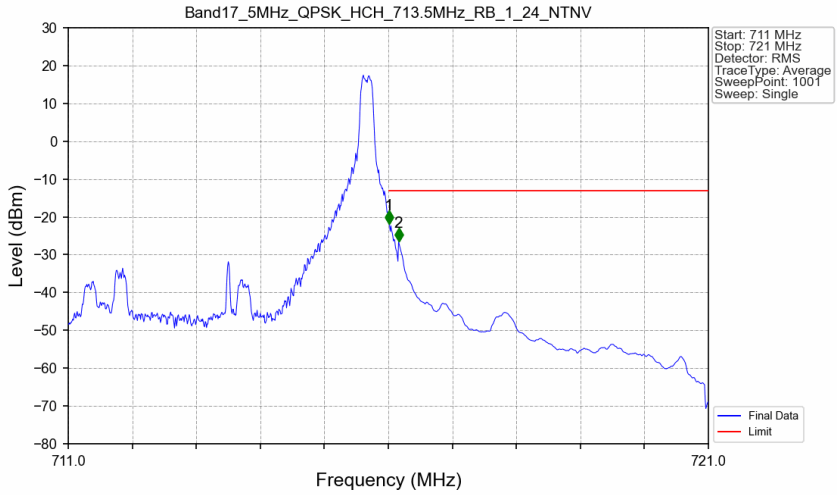
Band17_5MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_0_NTNV

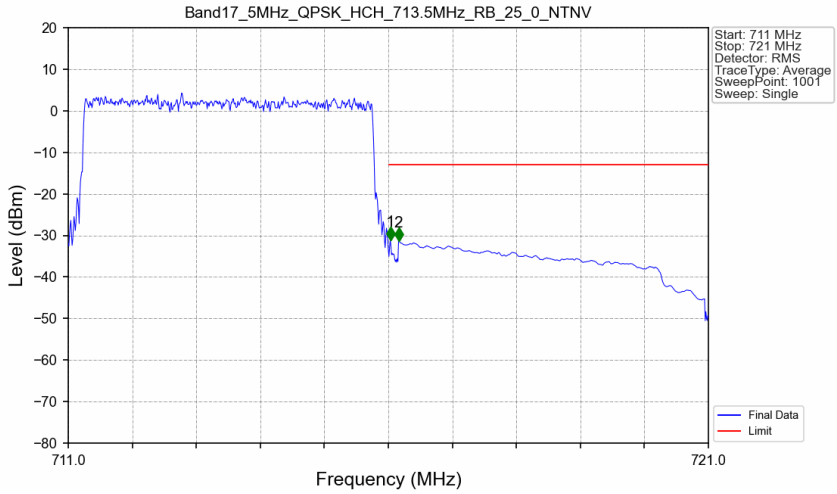


Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_24_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.010	-21.86	-13	Pass
716.1	721	0.1	CHP	2	716.160	-26.47	-13	Pass

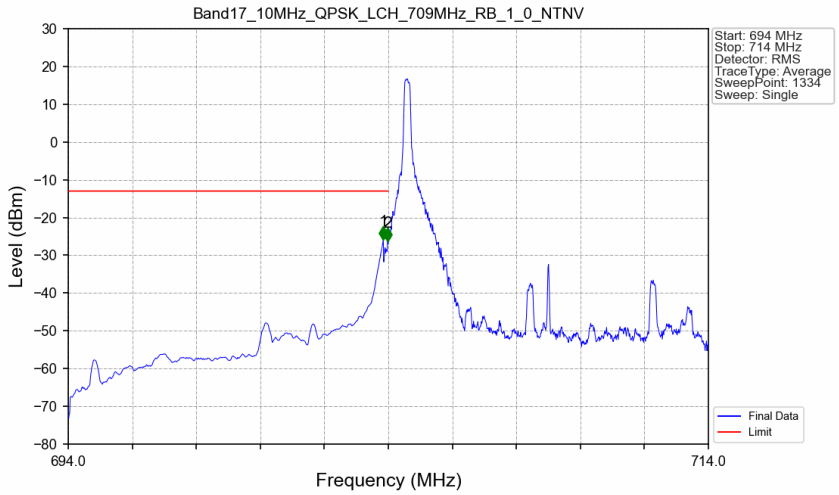
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.030	-31.16	-13	Pass
716.1	721	0.1	CHP	2	716.160	-31.37	-13	Pass

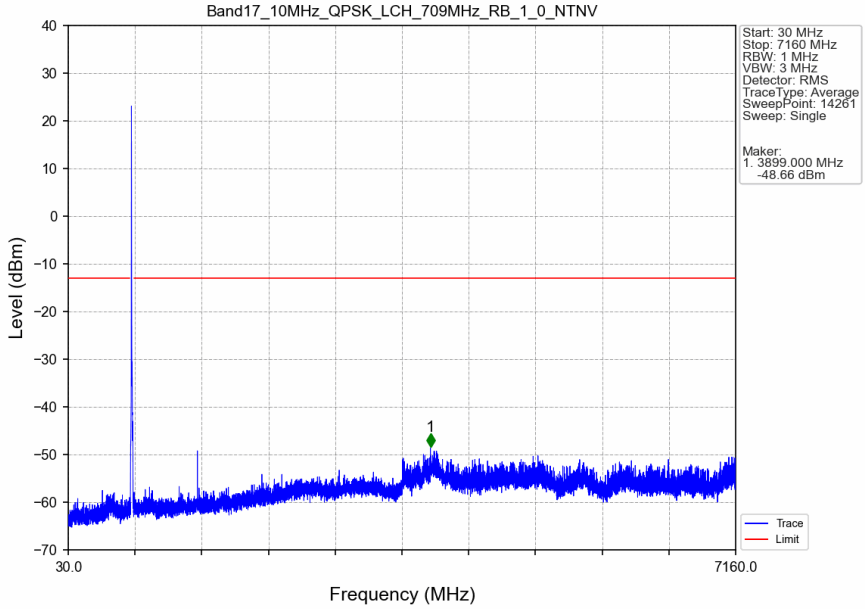
5.2.2 B17_10MHz

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

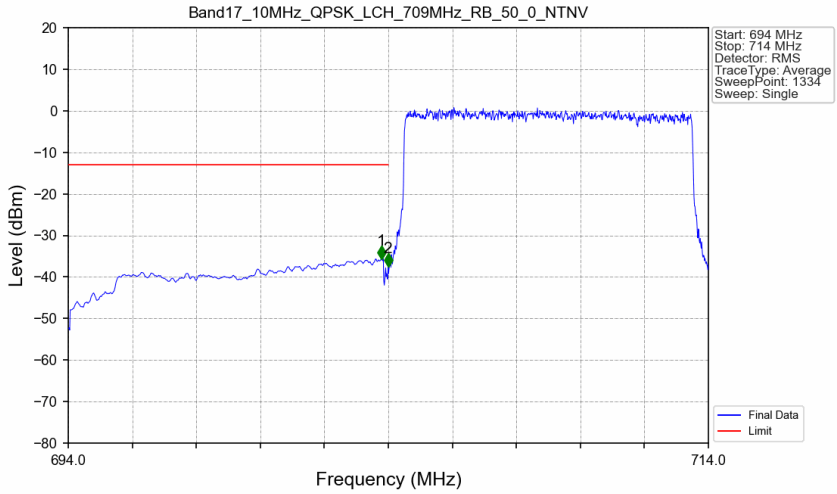


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.842	-25.80	-13	Pass
703.9	704	0.03	/	2	703.977	-26.15	-13	Pass
704	714	0.03	/	/	/	/	/	/

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

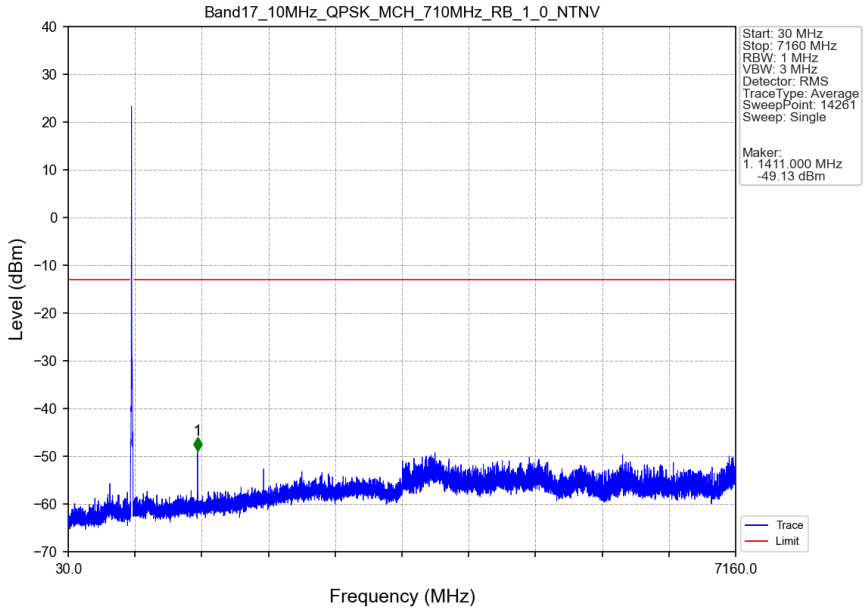


Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV

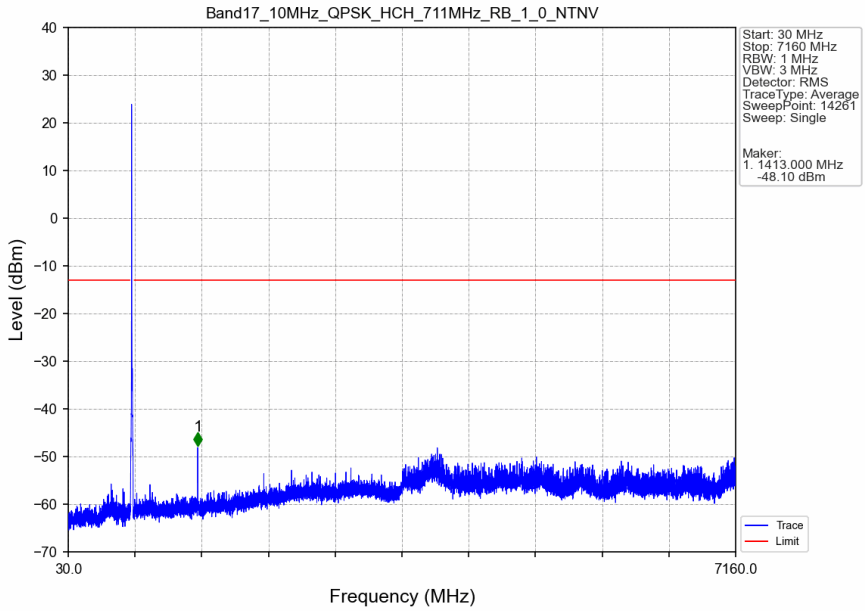


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.782	-35.62	-13	Pass
703.9	704	0.03	/	2	703.992	-37.51	-13	Pass
704	714	0.03	/	/	/	/	/	/

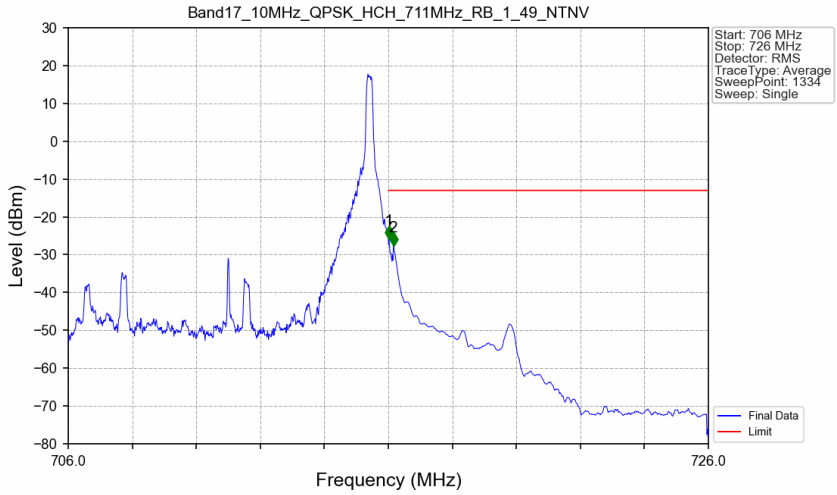
Band17_10MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_10MHz_QPSK_HCH_711MHz_RB_1_0_NTNV

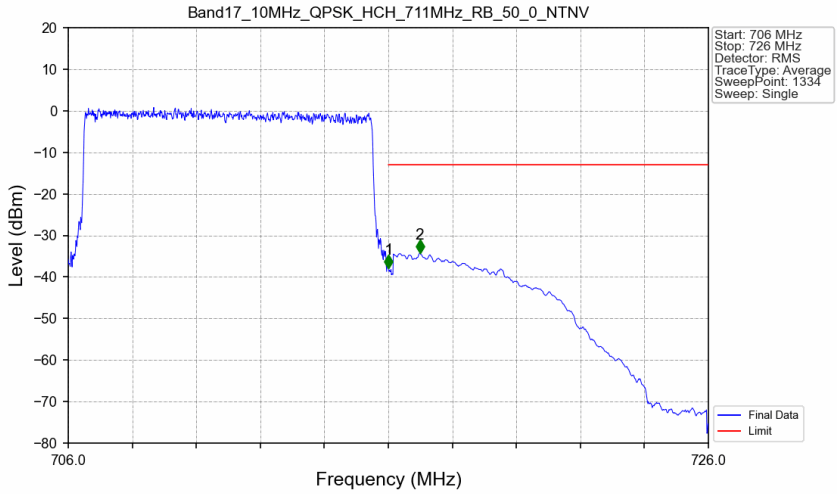


Band17_10MHz_QPSK_HCH_711MHz_RB_1_49_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
706	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.023	-25.92	-13	Pass
716.1	726	0.1	CHP	2	716.158	-27.68	-13	Pass

Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
706	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.008	-37.80	-13	Pass
716.1	726	0.1	CHP	2	716.983	-34.30	-13	Pass

6. Field Strength of Spurious Radiation

LTE Band 17-Low 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**
1409.0	-66.65	-13	-53.65	-69.47	2.48	5.3	Horizontal	Pass
2113.5	-69.23	-13	-56.23	-71.32	2.8	4.89	Horizontal	Pass
2818.0	-68.7	-13	-55.7	-72.1	3.12	6.52	Horizontal	Pass
1409.0	-70.07	-13	-57.07	-72.89	2.48	5.3	Vertical	Pass
2113.5	-70.2	-13	-57.2	-72.29	2.8	4.89	Vertical	Pass
2818.0	-68.48	-13	-55.48	-71.88	3.12	6.52	Vertical	Pass

LTE Band 17-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**
1411.0	-67.43	-13	-54.43	-70.26	2.49	5.32	Horizontal	Pass
2116.5	-68.27	-13	-55.27	-70.37	2.8	4.9	Horizontal	Pass
2822.0	-68.71	-13	-55.71	-72.11	3.13	6.53	Horizontal	Pass
1411.0	-69.08	-13	-56.08	-71.91	2.49	5.32	Vertical	Pass
2116.5	-70.4	-13	-57.4	-72.5	2.8	4.9	Vertical	Pass
2822.0	-68.69	-13	-55.69	-72.09	3.13	6.53	Vertical	Pass

LTE Band 17-High 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**
1413.0	-67.19	-13	-54.19	-70.03	2.49	5.33	Horizontal	Pass
2119.5	-68.38	-13	-55.38	-70.48	2.81	4.91	Horizontal	Pass
2826.0	-68.16	-13	-55.16	-71.57	3.13	6.54	Horizontal	Pass
1413.0	-69.96	-13	-56.96	-72.8	2.49	5.33	Vertical	Pass
2119.5	-65.21	-13	-52.21	-67.31	2.81	4.91	Vertical	Pass
2826.0	-68.62	-13	-55.62	-72.03	3.13	6.54	Vertical	Pass