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	24.12	-4.50	17.47	<=34.77	Pass
			13	24.10	-4.50	17.45	<=34.77	Pass
			24	24.16	-4.50	17.51	<=34.77	Pass
		12	0	23.00	-4.50	16.35	<=34.77	Pass
			6	22.98	-4.50	16.33	<=34.77	Pass
			13	23.00	-4.50	16.35	<=34.77	Pass
		25	0	23.07	-4.50	16.42	<=34.77	Pass
	710	1	0	24.01	-4.50	17.36	<=34.77	Pass
			13	24.05	-4.50	17.40	<=34.77	Pass
			24	24.09	-4.50	17.44	<=34.77	Pass
		12	0	23.00	-4.50	16.35	<=34.77	Pass
			6	23.01	-4.50	16.36	<=34.77	Pass
			13	23.02	-4.50	16.37	<=34.77	Pass
		25	0	23.05	-4.50	16.40	<=34.77	Pass
	713.5	1	0	24.08	-4.50	17.43	<=34.77	Pass
			13	24.07	-4.50	17.42	<=34.77	Pass
			24	24.07	-4.50	17.42	<=34.77	Pass
		12	0	23.02	-4.50	16.37	<=34.77	Pass
			6	22.99	-4.50	16.34	<=34.77	Pass
			13	22.97	-4.50	16.32	<=34.77	Pass
		25	0	23.05	-4.50	16.40	<=34.77	Pass
16QAM	706.5	1	0	23.19	-4.50	16.54	<=34.77	Pass
			13	23.19	-4.50	16.54	<=34.77	Pass
			24	23.26	-4.50	16.61	<=34.77	Pass
		12	0	22.07	-4.50	15.42	<=34.77	Pass
			6	22.04	-4.50	15.39	<=34.77	Pass
			13	22.06	-4.50	15.41	<=34.77	Pass
		25	0	22.05	-4.50	15.40	<=34.77	Pass
	710	1	0	23.19	-4.50	16.54	<=34.77	Pass
			13	23.23	-4.50	16.58	<=34.77	Pass
			24	23.26	-4.50	16.61	<=34.77	Pass
		12	0	21.99	-4.50	15.34	<=34.77	Pass
			6	21.99	-4.50	15.34	<=34.77	Pass
			13	22.01	-4.50	15.36	<=34.77	Pass
		25	0	22.03	-4.50	15.38	<=34.77	Pass
	713.5	1	0	23.33	-4.50	16.68	<=34.77	Pass
			13	23.31	-4.50	16.66	<=34.77	Pass
			24	23.29	-4.50	16.64	<=34.77	Pass
		12	0	22.00	-4.50	15.35	<=34.77	Pass
			6	21.97	-4.50	15.32	<=34.77	Pass
			13	21.95	-4.50	15.30	<=34.77	Pass
		25	0	22.02	-4.50	15.37	<=34.77	Pass
64QAM	706.5	1	0	22.25	-4.50	15.60	<=34.77	Pass
			13	22.21	-4.50	15.56	<=34.77	Pass
			24	22.28	-4.50	15.63	<=34.77	Pass
		12	0	21.06	-4.50	14.41	<=34.77	Pass
			6	21.03	-4.50	14.38	<=34.77	Pass
			13	21.05	-4.50	14.40	<=34.77	Pass
		25	0	21.04	-4.50	14.39	<=34.77	Pass

	710	1	0	22.17	-4.50	15.52	<=34.77	Pass
			13	22.20	-4.50	15.55	<=34.77	Pass
			24	22.24	-4.50	15.59	<=34.77	Pass
		12	0	21.08	-4.50	14.43	<=34.77	Pass
			6	21.10	-4.50	14.45	<=34.77	Pass
			13	21.10	-4.50	14.45	<=34.77	Pass
		25	0	21.04	-4.50	14.39	<=34.77	Pass
	713.5	1	0	22.13	-4.50	15.48	<=34.77	Pass
			13	22.12	-4.50	15.47	<=34.77	Pass
			24	22.11	-4.50	15.46	<=34.77	Pass
		12	0	21.03	-4.50	14.38	<=34.77	Pass
			6	21.00	-4.50	14.35	<=34.77	Pass
			13	20.98	-4.50	14.33	<=34.77	Pass
		25	0	20.98	-4.50	14.33	<=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	24.03	-4.50	17.38	<=34.77	Pass
			25	24.01	-4.50	17.36	<=34.77	Pass
			49	24.02	-4.50	17.37	<=34.77	Pass
		25	0	22.99	-4.50	16.34	<=34.77	Pass
			13	22.96	-4.50	16.31	<=34.77	Pass
			25	22.99	-4.50	16.34	<=34.77	Pass
		50	0	22.97	-4.50	16.32	<=34.77	Pass
	710	1	0	24.02	-4.50	17.37	<=34.77	Pass
			25	24.02	-4.50	17.37	<=34.77	Pass
			49	24.05	-4.50	17.40	<=34.77	Pass
		25	0	22.98	-4.50	16.33	<=34.77	Pass
			13	22.98	-4.50	16.33	<=34.77	Pass
			25	22.96	-4.50	16.31	<=34.77	Pass
		50	0	22.95	-4.50	16.30	<=34.77	Pass
	711	1	0	23.97	-4.50	17.32	<=34.77	Pass
			25	23.94	-4.50	17.29	<=34.77	Pass
			49	23.96	-4.50	17.31	<=34.77	Pass
		25	0	22.99	-4.50	16.34	<=34.77	Pass
			13	23.01	-4.50	16.36	<=34.77	Pass
			25	22.97	-4.50	16.32	<=34.77	Pass
		50	0	23.01	-4.50	16.36	<=34.77	Pass
16QAM	709	1	0	23.13	-4.50	16.48	<=34.77	Pass
			25	23.12	-4.50	16.47	<=34.77	Pass
			49	23.18	-4.50	16.53	<=34.77	Pass
		25	0	22.02	-4.50	15.37	<=34.77	Pass
			13	21.99	-4.50	15.34	<=34.77	Pass
			25	22.01	-4.50	15.36	<=34.77	Pass
		50	0	21.96	-4.50	15.31	<=34.77	Pass
	710	1	0	23.06	-4.50	16.41	<=34.77	Pass
			25	23.06	-4.50	16.41	<=34.77	Pass
			49	23.08	-4.50	16.43	<=34.77	Pass
		25	0	22.01	-4.50	15.36	<=34.77	Pass
			13	21.99	-4.50	15.34	<=34.77	Pass
			25	21.99	-4.50	15.34	<=34.77	Pass
		50	0	21.95	-4.50	15.30	<=34.77	Pass
	711	1	0	23.23	-4.50	16.58	<=34.77	Pass

			25	23.20	-4.50	16.55	<=34.77	Pass
			49	23.24	-4.50	16.59	<=34.77	Pass
		25	0	21.99	-4.50	15.34	<=34.77	Pass
			13	21.99	-4.50	15.34	<=34.77	Pass
			25	21.96	-4.50	15.31	<=34.77	Pass
		50	0	21.95	-4.50	15.30	<=34.77	Pass
64QAM	709	1	0	22.22	-4.50	15.57	<=34.77	Pass
			25	22.20	-4.50	15.55	<=34.77	Pass
			49	22.26	-4.50	15.61	<=34.77	Pass
		25	0	20.94	-4.50	14.29	<=34.77	Pass
			13	20.92	-4.50	14.27	<=34.77	Pass
			25	20.95	-4.50	14.30	<=34.77	Pass
		50	0	20.96	-4.50	14.31	<=34.77	Pass
	710	1	0	22.30	-4.50	15.65	<=34.77	Pass
			25	22.31	-4.50	15.66	<=34.77	Pass
			49	22.38	-4.50	15.73	<=34.77	Pass
		25	0	20.98	-4.50	14.33	<=34.77	Pass
			13	21.00	-4.50	14.35	<=34.77	Pass
			25	20.98	-4.50	14.33	<=34.77	Pass
		50	0	20.94	-4.50	14.29	<=34.77	Pass
	711	1	0	22.10	-4.50	15.45	<=34.77	Pass
			25	22.12	-4.50	15.47	<=34.77	Pass
			49	22.12	-4.50	15.47	<=34.77	Pass
		25	0	20.96	-4.50	14.31	<=34.77	Pass
			13	20.97	-4.50	14.32	<=34.77	Pass
			25	20.94	-4.50	14.29	<=34.77	Pass
		50	0	20.96	-4.50	14.31	<=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	3.6	0.443	0.0006	-2.5 to 2.5	Pass
					3.85	-3.233	-0.0046	-2.5 to 2.5	Pass
					4.3	-2.561	-0.0036	-2.5 to 2.5	Pass
				-30	3.85	-3.591	-0.0051	-2.5 to 2.5	Pass
				-20	3.85	-1.917	-0.0027	-2.5 to 2.5	Pass
				-10	3.85	-2.232	-0.0031	-2.5 to 2.5	Pass
				0	3.85	-3.405	-0.0048	-2.5 to 2.5	Pass
				10	3.85	-2.089	-0.0029	-2.5 to 2.5	Pass
				30	3.85	-2.818	-0.0040	-2.5 to 2.5	Pass
				40	3.85	-4.206	-0.0059	-2.5 to 2.5	Pass
				50	3.85	-2.747	-0.0039	-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	4.560	/	Pass
	16QAM	710	25	0	4.537	/	Pass
10	QPSK	710	50	0	9.060	/	Pass
	16QAM	710	50	0	9.047	/	Pass

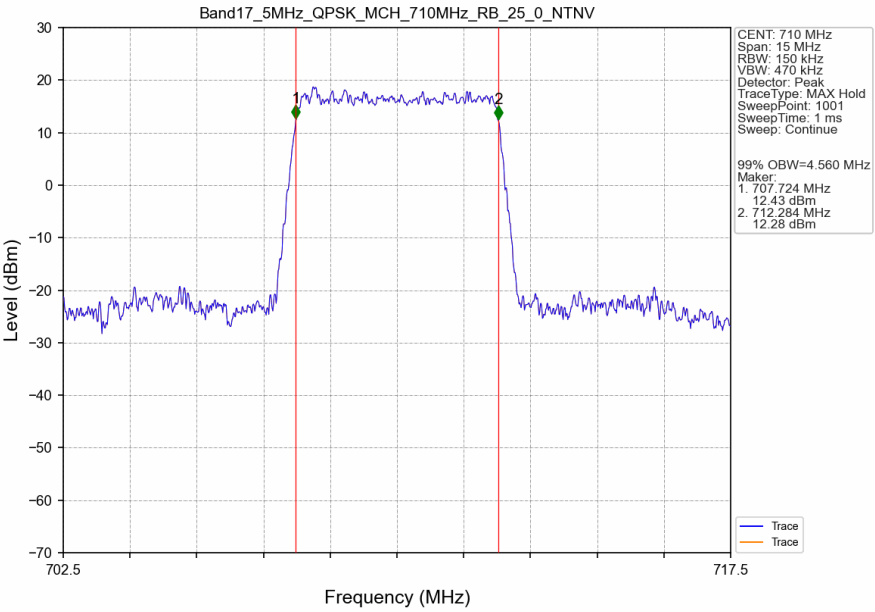
3.1.2 Band17_XDB

Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	5.064	/	Pass
	16QAM	710	25	0	5.052	/	Pass
10	QPSK	710	50	0	10.041	/	Pass
	16QAM	710	50	0	9.945	/	Pass

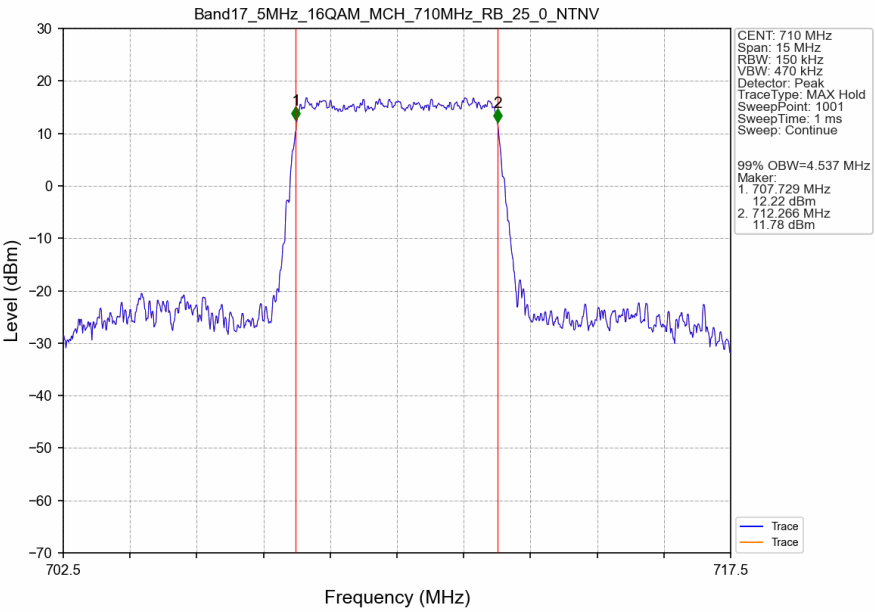
3.2 Test Graph

3.2.1 Band17_OBW

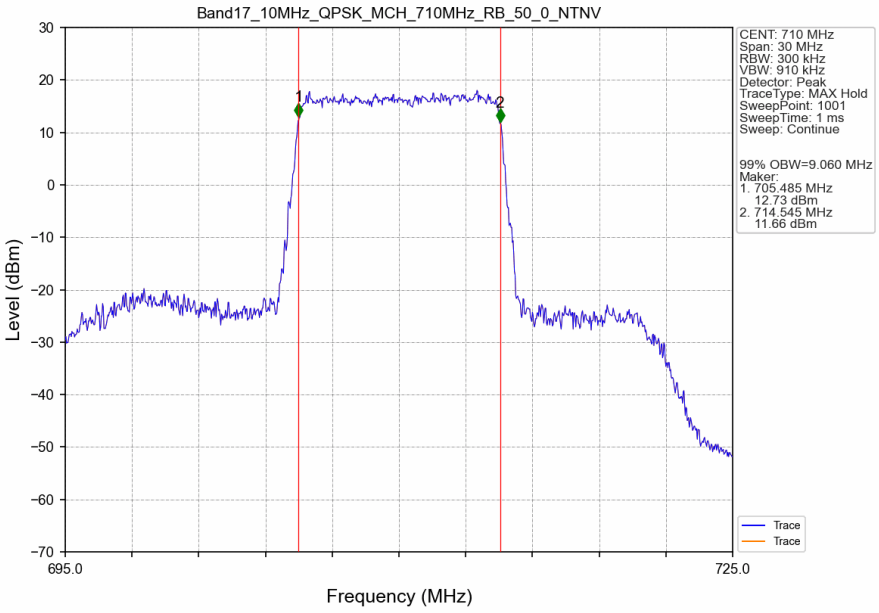
Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV



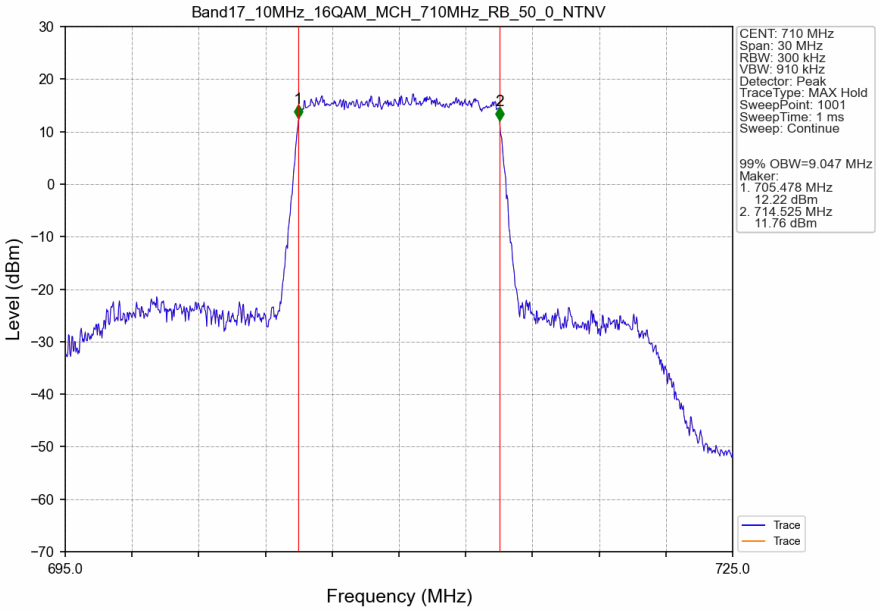
Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV



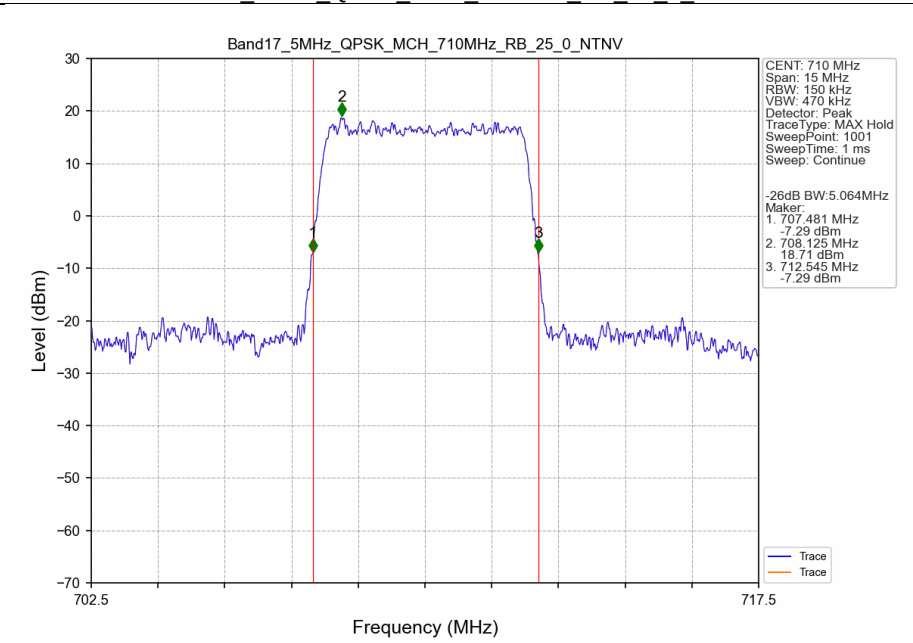
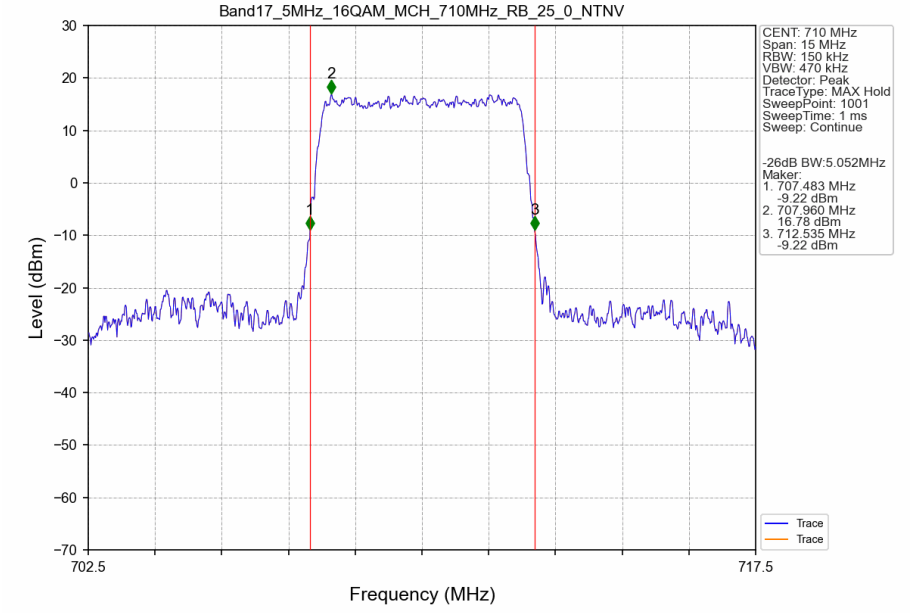
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



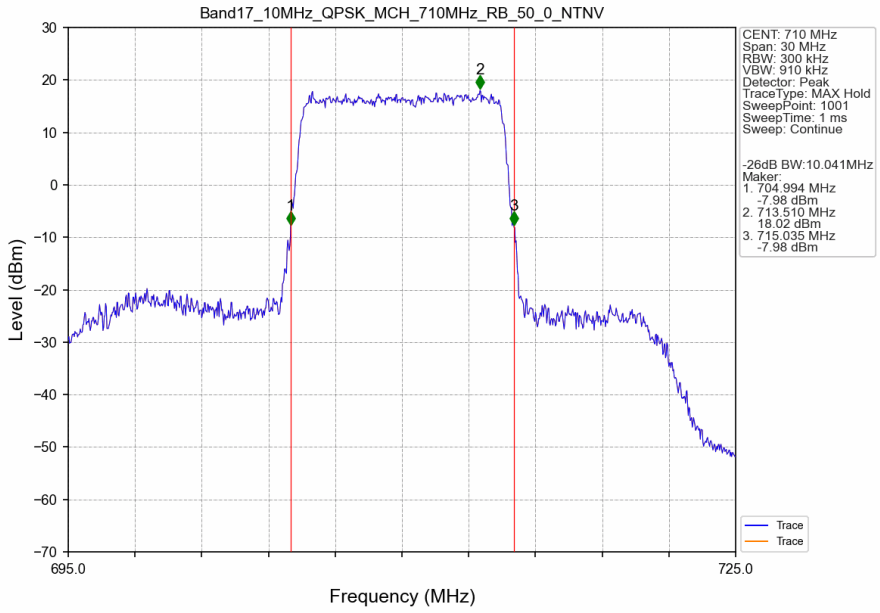
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



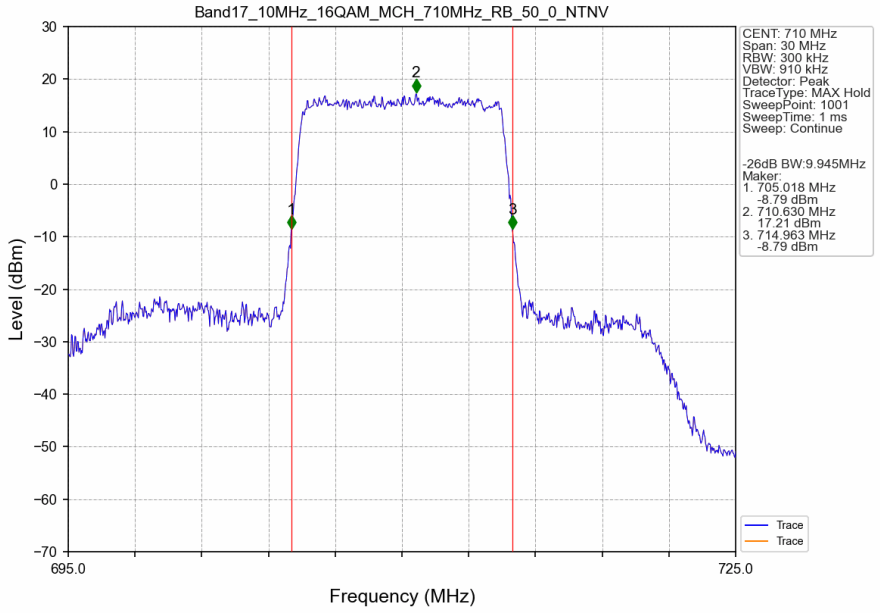
3.2.2 Band17_XDB

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

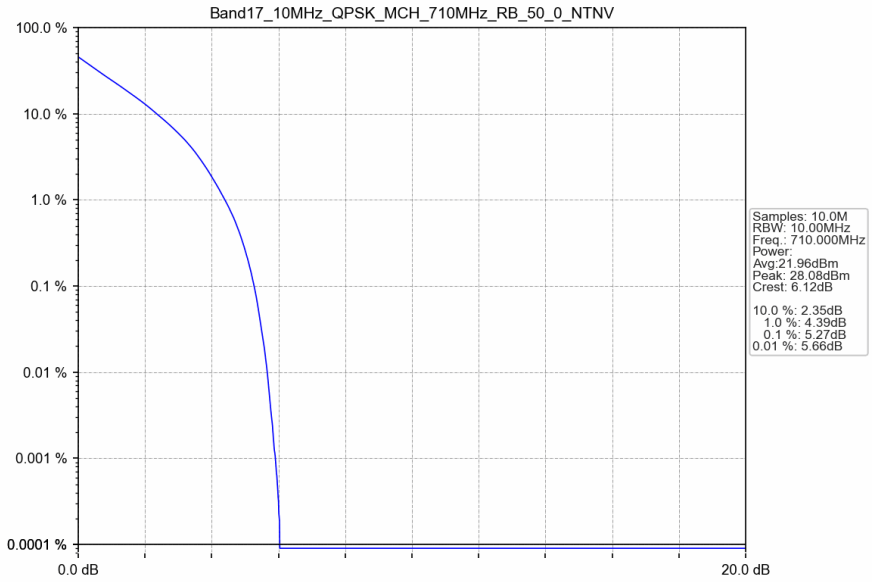
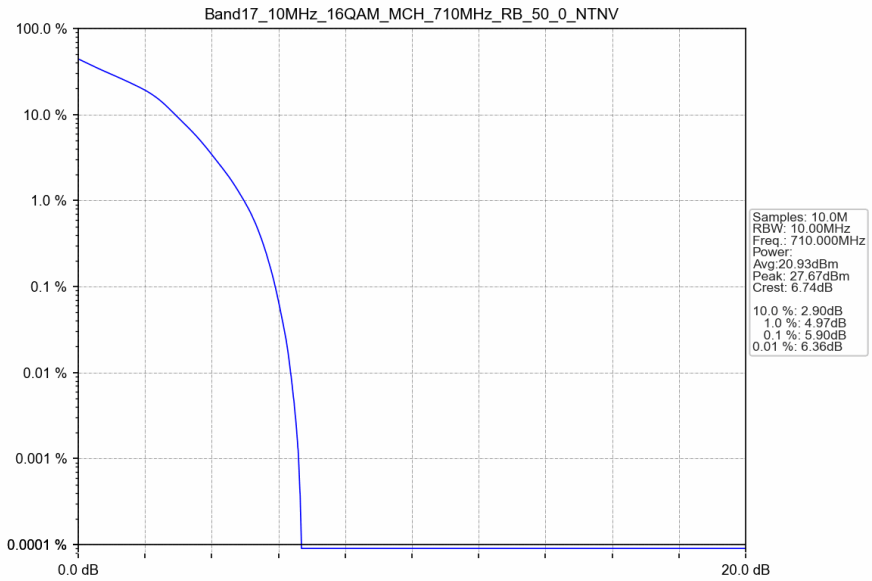
4.1 Test Result

4.1.1 B17_10MHz

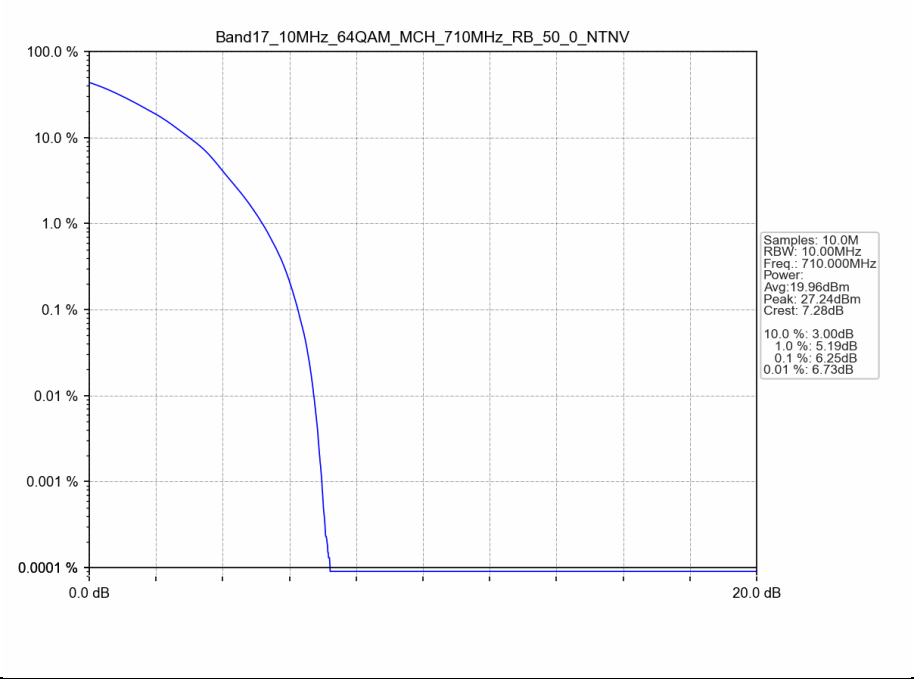
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	710	50	0	5.27	<=13	Pass
16QAM	710	50	0	5.90	<=13	Pass
64QAM	710	50	0	6.25	<=13	Pass

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



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

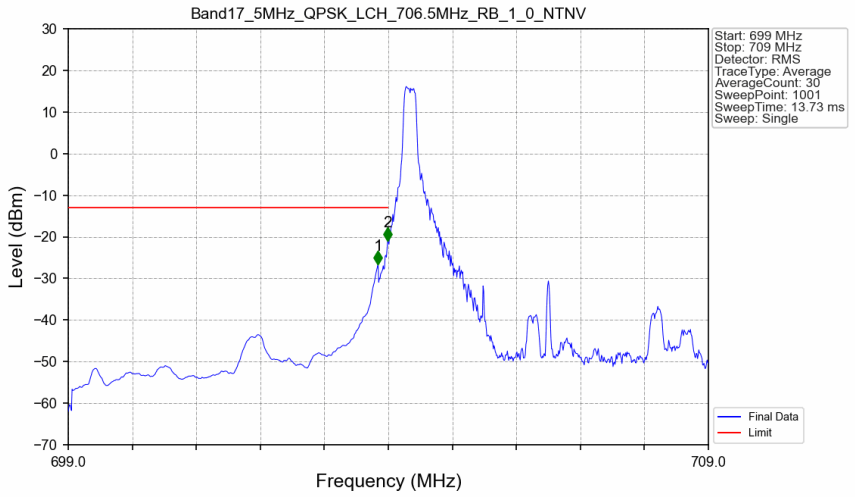
5.1.2 B17_10MHz

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

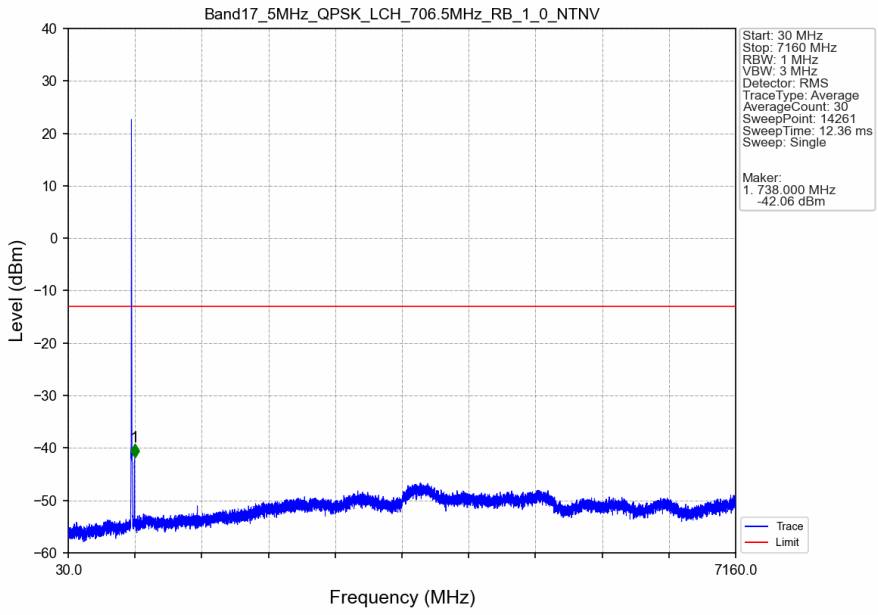
5.2.1 B17_5MHz

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

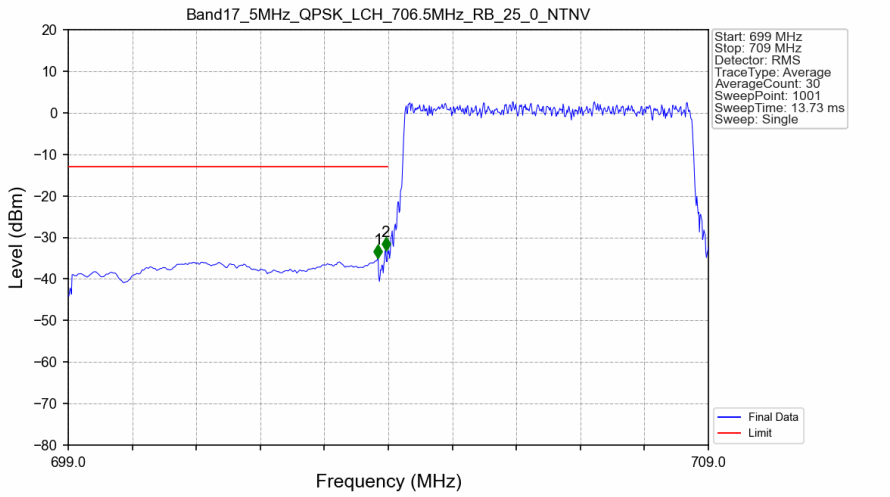


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-26.52	-13	Pass
703.9	704	0.03	/	2	703.990	-20.88	-13	Pass
704	709	0.03	/	/	/	/	/	/

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

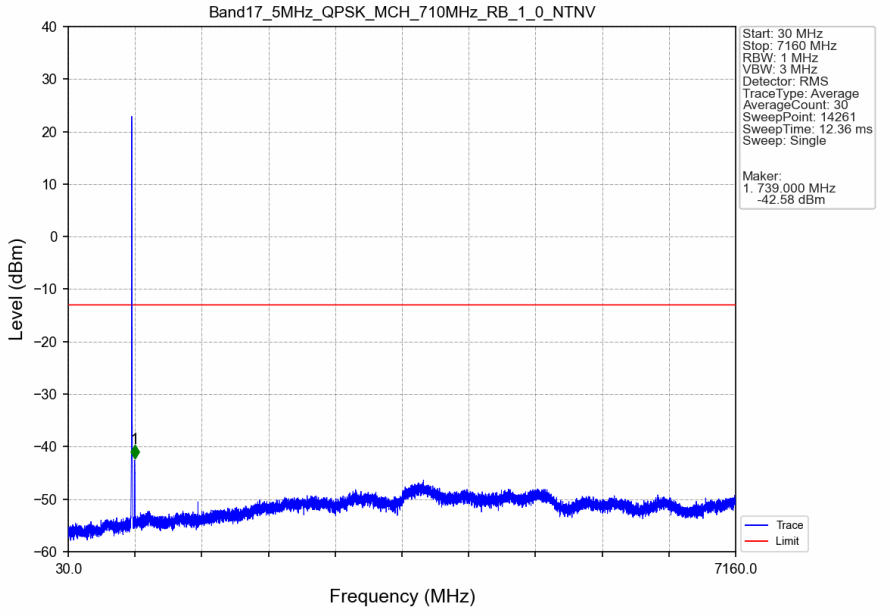


Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV

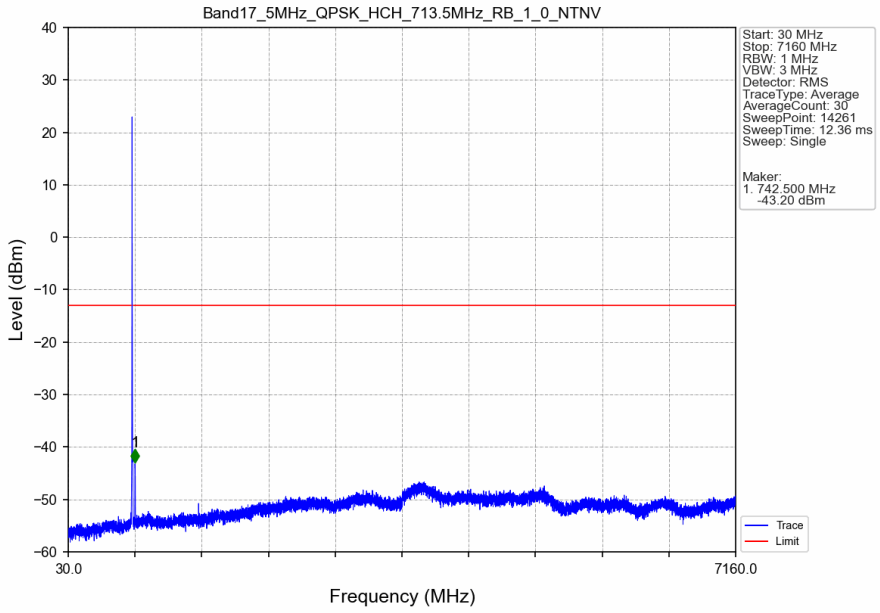


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-34.89	-13	Pass
703.9	704	0.03	/	2	703.960	-33.07	-13	Pass
704	709	0.03	/	/	/	/	/	/

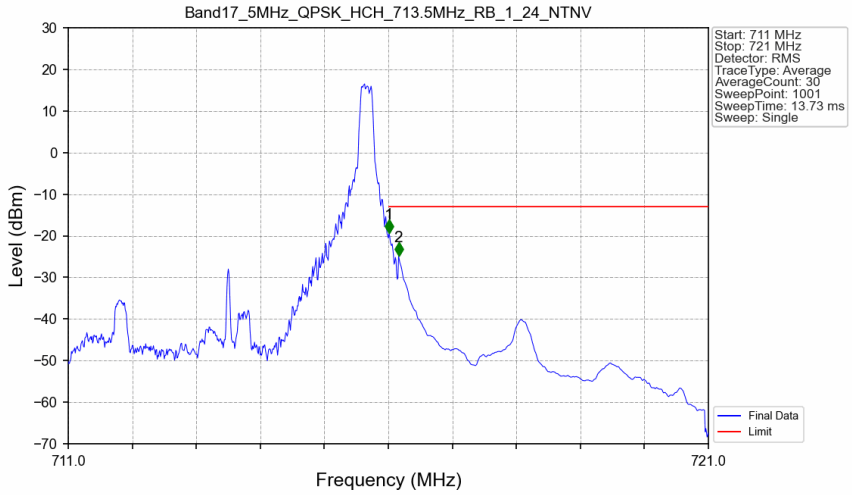
Band17_5MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_0_NTNV

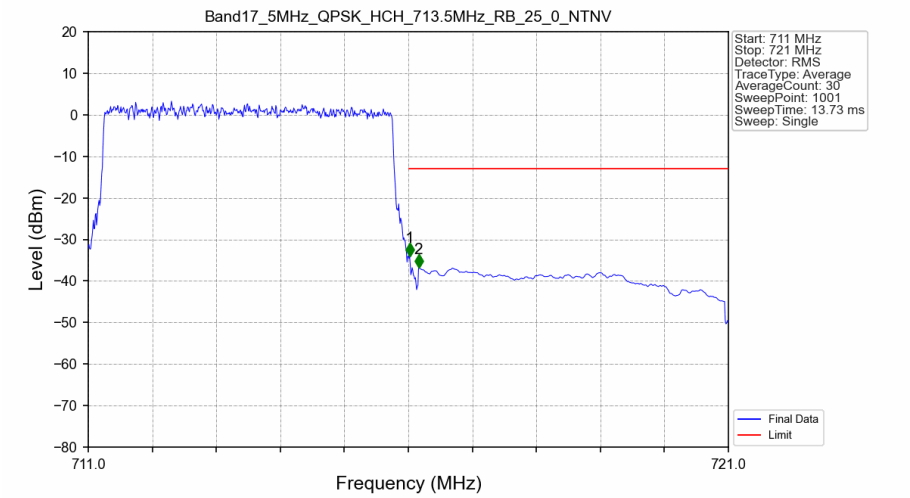


Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_24_NTNV



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	-19.26	-13	Pass
716.1	721	0.1	CHP	2	716.160	-24.80	-13	Pass

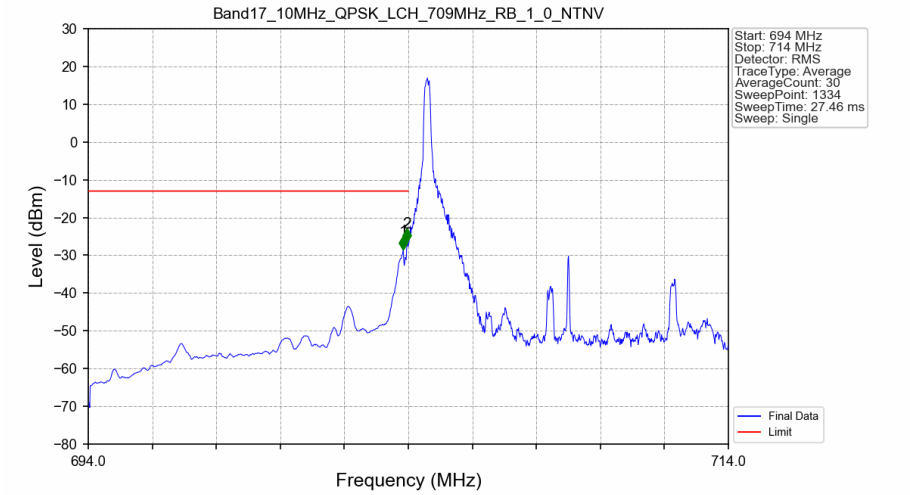
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



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	716.020	-34.08	-13	Pass
716.1	721	0.1	CHP	2	716.160	-36.76	-13	Pass

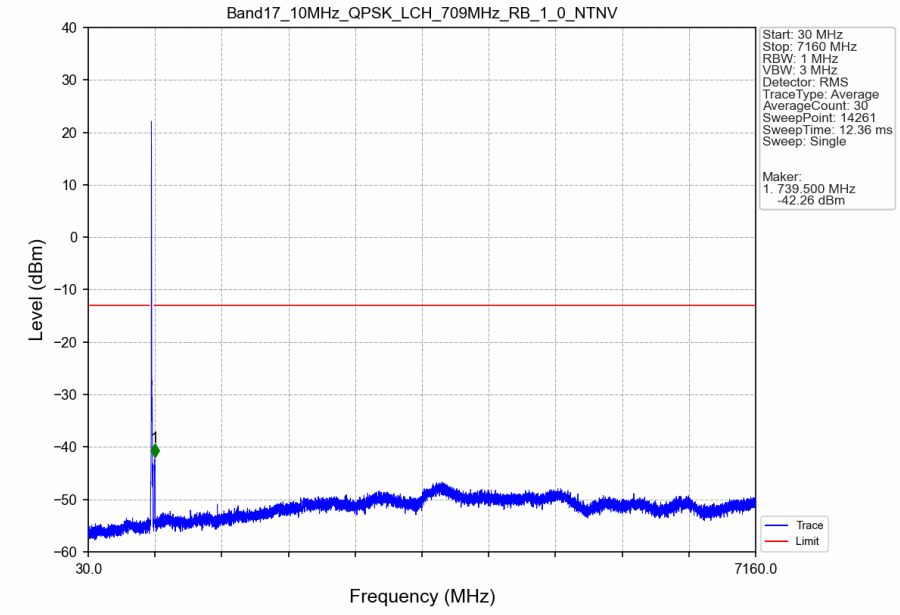
5.2.2 B17_10MHz

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

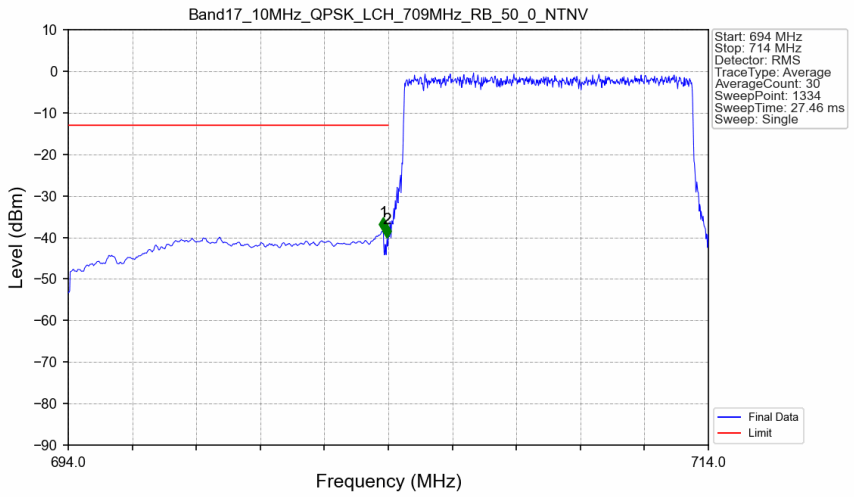


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.842	-28.38	-13	Pass
703.9	704	0.03	/	2	703.962	-26.40	-13	Pass
704	714	0.03	/	/	/	/	/	/

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

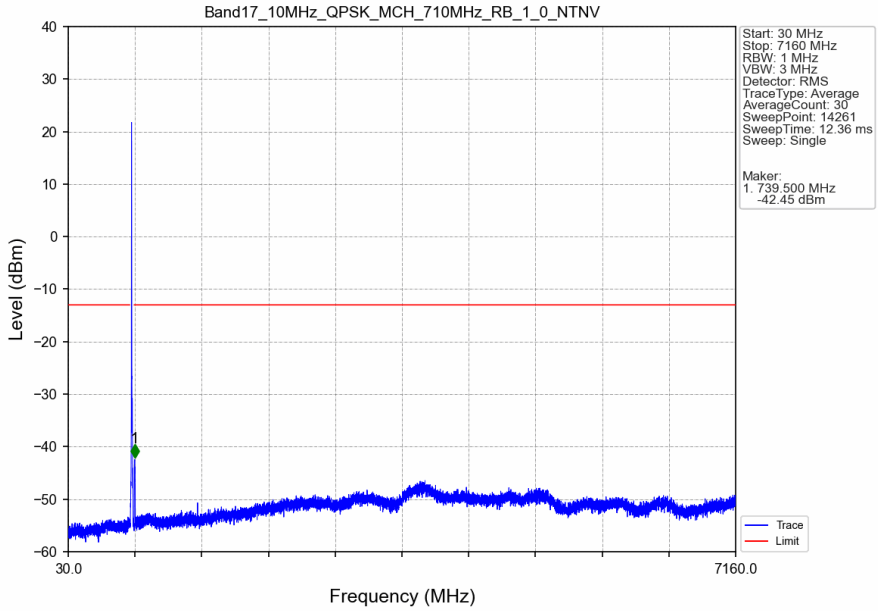


Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV

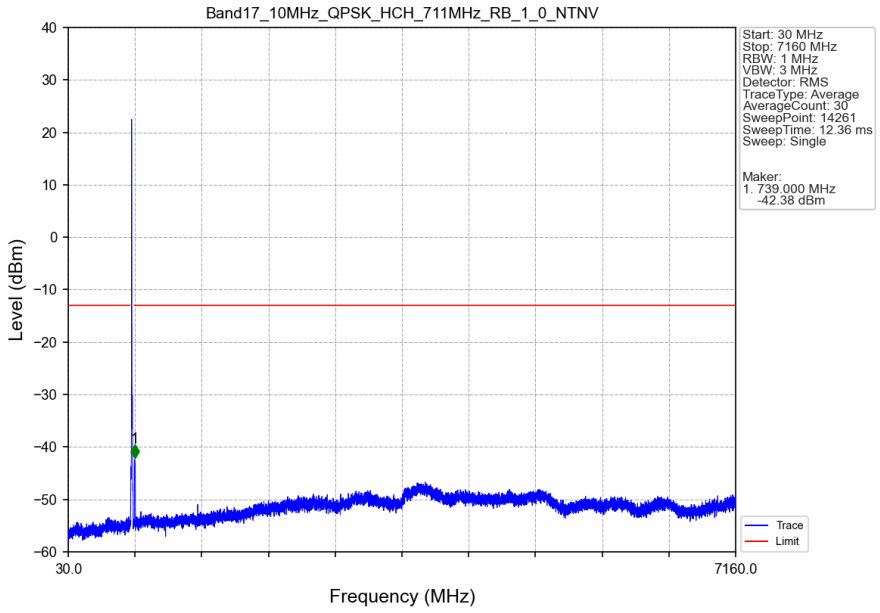


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.842	-38.36	-13	Pass
703.9	704	0.03	/	2	703.962	-40.07	-13	Pass
704	714	0.03	/	/	/	/	/	/

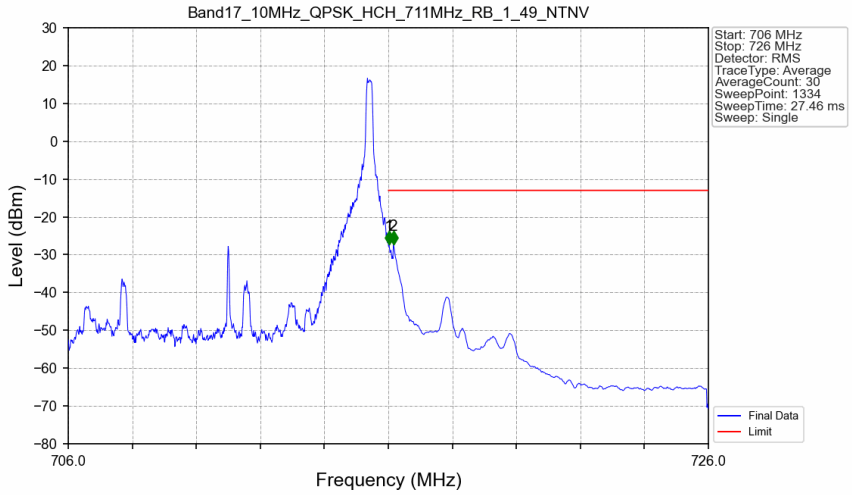
Band17_10MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_10MHz_QPSK_HCH_711MHz_RB_1_0_NTNV

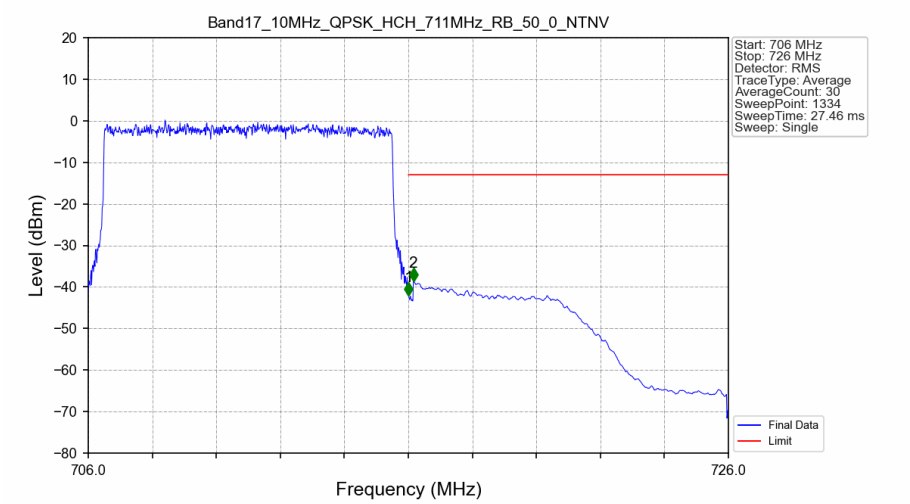


Band17_10MHz_QPSK_HCH_711MHz_RB_1_49_NTNV



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	-27.29	-13	Pass
716.1	726	0.1	CHP	2	716.158	-27.34	-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	-42.10	-13	Pass
716.1	726	0.1	CHP	2	716.158	-38.68	-13	Pass

6. Field Strength of Spurious Radiation

LTE Band 17 ANT31-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	-68.6	-13	-55.6	-71.42	2.48	5.3	Horizontal	Pass
2113.5	-69.26	-13	-56.26	-71.35	2.8	4.89	Horizontal	Pass
2818.0	-68.6	-13	-55.6	-72.0	3.12	6.52	Horizontal	Pass
1409.0	-69.04	-13	-56.04	-71.86	2.48	5.3	Vertical	Pass
2113.5	-69.21	-13	-56.21	-71.3	2.8	4.89	Vertical	Pass
2818.0	-68.4	-13	-55.4	-71.8	3.12	6.52	Vertical	Pass

LTE Band 17 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**
1411.0	-68.75	-13	-55.75	-71.58	2.49	5.32	Horizontal	Pass
2116.5	-69.27	-13	-56.27	-71.37	2.8	4.9	Horizontal	Pass
2822.0	-68.75	-13	-55.75	-72.15	3.13	6.53	Horizontal	Pass
1411.0	-68.78	-13	-55.78	-71.61	2.49	5.32	Vertical	Pass
2116.5	-69.17	-13	-56.17	-71.27	2.8	4.9	Vertical	Pass
2822.0	-68.34	-13	-55.34	-71.74	3.13	6.53	Vertical	Pass

LTE Band 17 ANT31-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	-69.15	-13	-56.15	-71.99	2.49	5.33	Horizontal	Pass
2119.5	-69.09	-13	-56.09	-71.19	2.81	4.91	Horizontal	Pass
2826.0	-67.99	-13	-54.99	-71.4	3.13	6.54	Horizontal	Pass
1413.0	-68.89	-13	-55.89	-71.73	2.49	5.33	Vertical	Pass
2119.5	-69.05	-13	-56.05	-71.15	2.81	4.91	Vertical	Pass
2826.0	-68.13	-13	-55.13	-71.54	3.13	6.54	Vertical	Pass