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	23.13	-0.94	20.04	<=34.77	Pass
			24	23.17	-0.94	20.08	<=34.77	Pass
		25	0	22.23	-0.94	19.14	<=34.77	Pass
	710	1	0	23.34	-0.94	20.25	<=34.77	Pass
			24	23.11	-0.94	20.02	<=34.77	Pass
		25	0	22.22	-0.94	19.13	<=34.77	Pass
	713.5	1	0	23.27	-0.94	20.18	<=34.77	Pass
			24	23.05	-0.94	19.96	<=34.77	Pass
		25	0	22.17	-0.94	19.08	<=34.77	Pass
16QAM	706.5	1	0	22.66	-0.94	19.57	<=34.77	Pass
			24	22.43	-0.94	19.34	<=34.77	Pass
		25	0	21.22	-0.94	18.13	<=34.77	Pass
	710	1	0	22.68	-0.94	19.59	<=34.77	Pass
			24	22.27	-0.94	19.18	<=34.77	Pass
		25	0	21.14	-0.94	18.05	<=34.77	Pass
	713.5	1	0	22.50	-0.94	19.41	<=34.77	Pass
			24	22.47	-0.94	19.38	<=34.77	Pass
		25	0	21.18	-0.94	18.09	<=34.77	Pass
64QAM	706.5	1	0	22.17	-0.94	19.08	<=34.77	Pass
			24	22.23	-0.94	19.14	<=34.77	Pass
		25	0	21.24	-0.94	18.15	<=34.77	Pass
	710	1	0	22.26	-0.94	19.17	<=34.77	Pass
			24	22.26	-0.94	19.17	<=34.77	Pass
		25	0	21.21	-0.94	18.12	<=34.77	Pass
	713.5	1	0	22.45	-0.94	19.36	<=34.77	Pass
			24	22.32	-0.94	19.23	<=34.77	Pass
		25	0	21.05	-0.94	17.96	<=34.77	Pass
256QAM	706.5	1	0	18.24	-0.94	15.15	<=34.77	Pass
			24	18.35	-0.94	15.26	<=34.77	Pass
		25	0	18.20	-0.94	15.11	<=34.77	Pass
	710	1	0	18.20	-0.94	15.11	<=34.77	Pass
			24	18.31	-0.94	15.22	<=34.77	Pass
		25	0	18.11	-0.94	15.02	<=34.77	Pass
	713.5	1	0	18.28	-0.94	15.19	<=34.77	Pass
			24	18.24	-0.94	15.15	<=34.77	Pass
		25	0	18.14	-0.94	15.05	<=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	23.16	-0.94	20.07	<=34.77	Pass
			49	23.15	-0.94	20.06	<=34.77	Pass
		50	0	22.14	-0.94	19.05	<=34.77	Pass
	710	1	0	23.24	-0.94	20.15	<=34.77	Pass

			49	23.08	-0.94	19.99	<=34.77	Pass
		50	0	22.24	-0.94	19.15	<=34.77	Pass
	711	1	0	23.45	-0.94	20.36	<=34.77	Pass
			49	23.11	-0.94	20.02	<=34.77	Pass
		50	0	22.19	-0.94	19.10	<=34.77	Pass
16QAM	709	1	0	22.70	-0.94	19.61	<=34.77	Pass
			49	22.48	-0.94	19.39	<=34.77	Pass
		50	0	21.22	-0.94	18.13	<=34.77	Pass
	710	1	0	22.57	-0.94	19.48	<=34.77	Pass
			49	22.62	-0.94	19.53	<=34.77	Pass
		50	0	21.13	-0.94	18.04	<=34.77	Pass
	711	1	0	22.77	-0.94	19.68	<=34.77	Pass
			49	22.64	-0.94	19.55	<=34.77	Pass
		50	0	21.12	-0.94	18.03	<=34.77	Pass
64QAM	709	1	0	22.65	-0.94	19.56	<=34.77	Pass
			49	22.27	-0.94	19.18	<=34.77	Pass
		50	0	21.11	-0.94	18.02	<=34.77	Pass
	710	1	0	22.44	-0.94	19.35	<=34.77	Pass
			49	22.27	-0.94	19.18	<=34.77	Pass
		50	0	21.11	-0.94	18.02	<=34.77	Pass
	711	1	0	22.23	-0.94	19.14	<=34.77	Pass
			49	22.07	-0.94	18.98	<=34.77	Pass
		50	0	21.20	-0.94	18.11	<=34.77	Pass
256QAM	709	1	0	18.43	-0.94	15.34	<=34.77	Pass
			49	18.27	-0.94	15.18	<=34.77	Pass
		50	0	18.19	-0.94	15.10	<=34.77	Pass
	710	1	0	18.21	-0.94	15.12	<=34.77	Pass
			49	18.20	-0.94	15.11	<=34.77	Pass
		50	0	18.22	-0.94	15.13	<=34.77	Pass
	711	1	0	18.29	-0.94	15.20	<=34.77	Pass
			49	18.30	-0.94	15.21	<=34.77	Pass
		50	0	18.18	-0.94	15.09	<=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	1.300	0.0018	-2.5 to 2.5	Pass
					3.84	0.600	0.0008	-2.5 to 2.5	Pass
					4.3	0.500	0.0007	-2.5 to 2.5	Pass
				-30	3.84	0.200	0.0003	-2.5 to 2.5	Pass
				-20	3.84	0.100	0.0001	-2.5 to 2.5	Pass
				-10	3.84	0.100	0.0001	-2.5 to 2.5	Pass
				0	3.84	0.500	0.0007	-2.5 to 2.5	Pass
				10	3.84	-1.100	-0.0015	-2.5 to 2.5	Pass
				30	3.84	0.200	0.0003	-2.5 to 2.5	Pass
				40	3.84	1.300	0.0018	-2.5 to 2.5	Pass
				50	3.84	0.300	0.0004	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band17_OBW

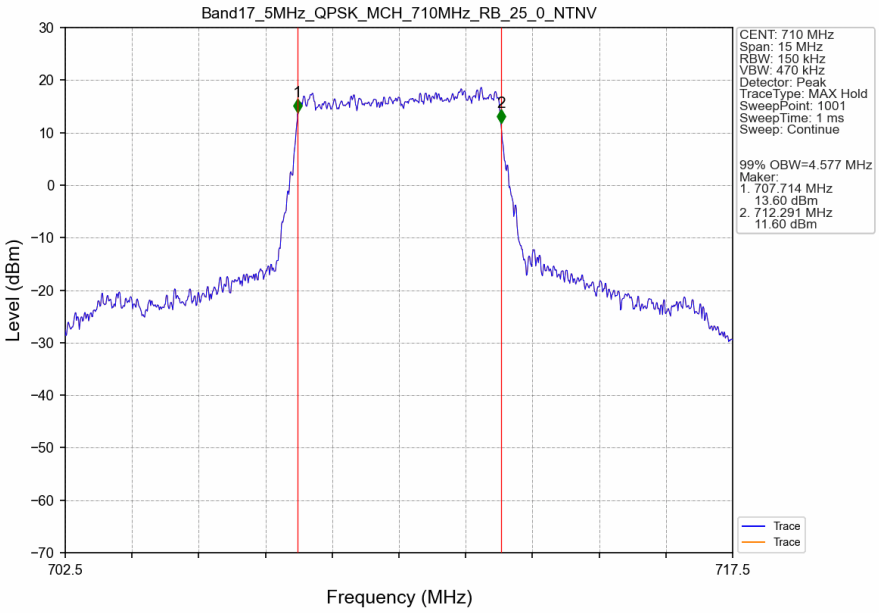
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	4.577	/	Pass
	16QAM	710	25	0	4.591	/	Pass
10	QPSK	710	50	0	9.113	/	Pass
	16QAM	710	50	0	9.096	/	Pass

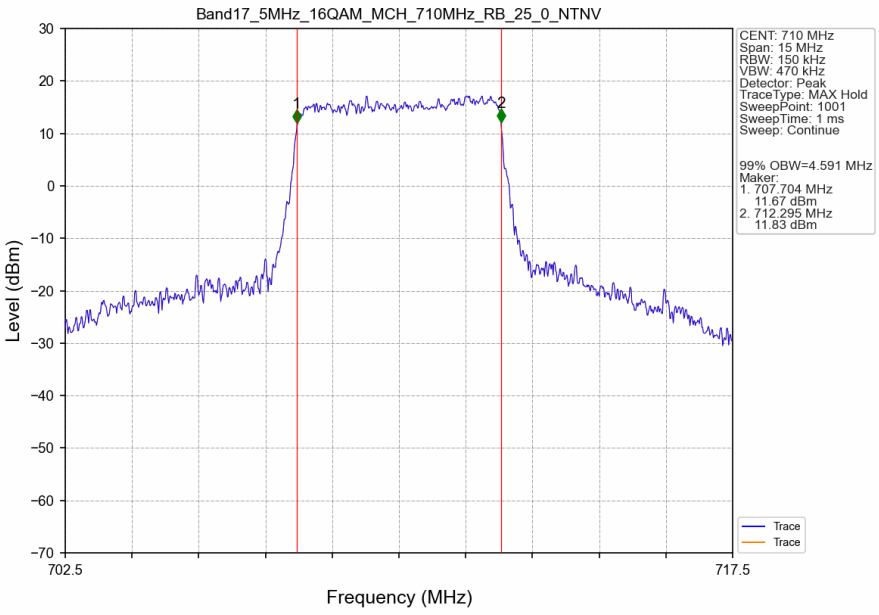
3.1.2 Band17_XDB

Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	5.290	/	Pass
	16QAM	710	25	0	5.250	/	Pass
10	QPSK	710	50	0	10.088	/	Pass
	16QAM	710	50	0	10.219	/	Pass

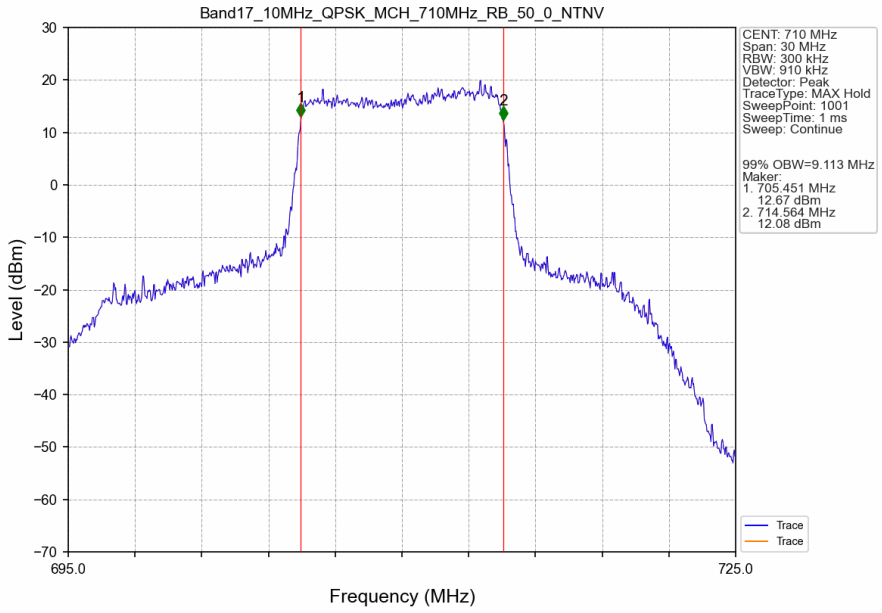
3.2 Test Graph

3.2.1 Band17_OBW

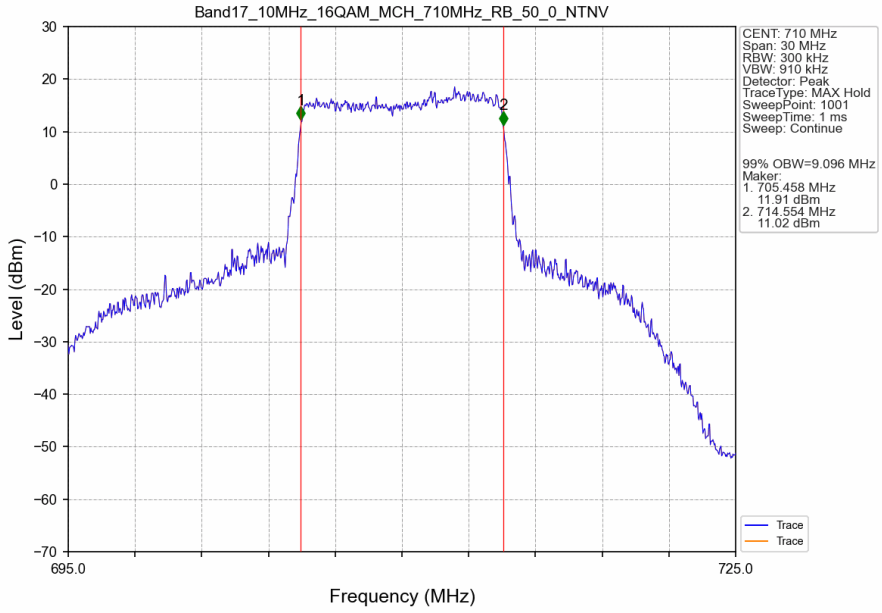
Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV


Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV


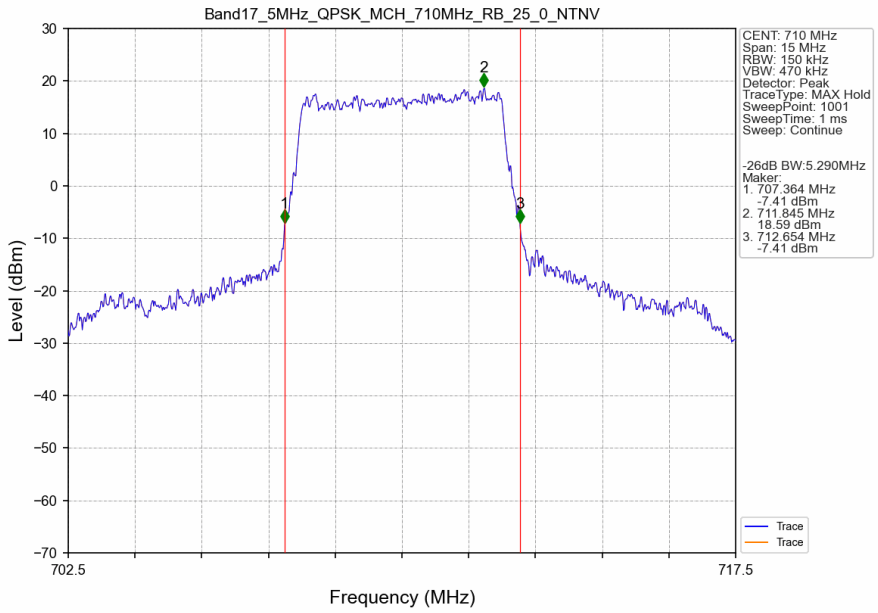
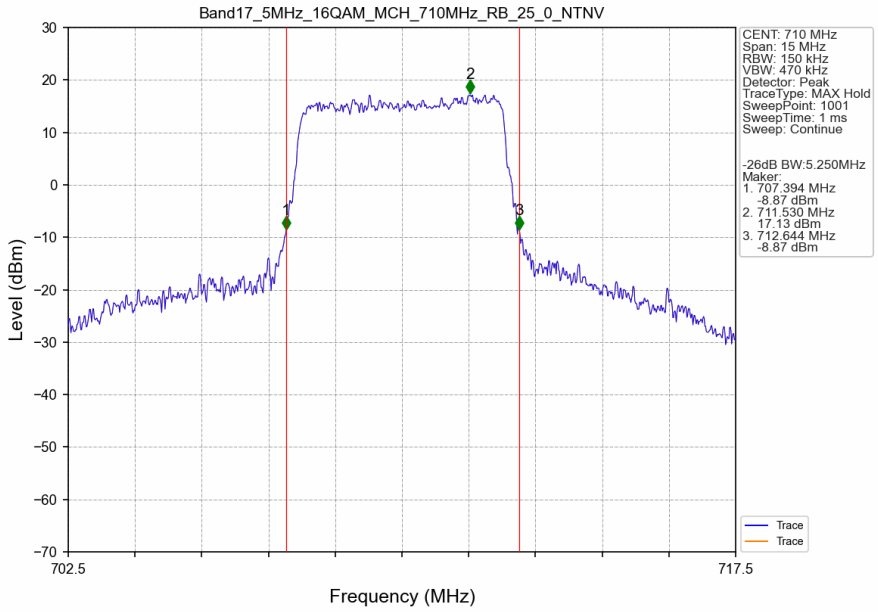
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



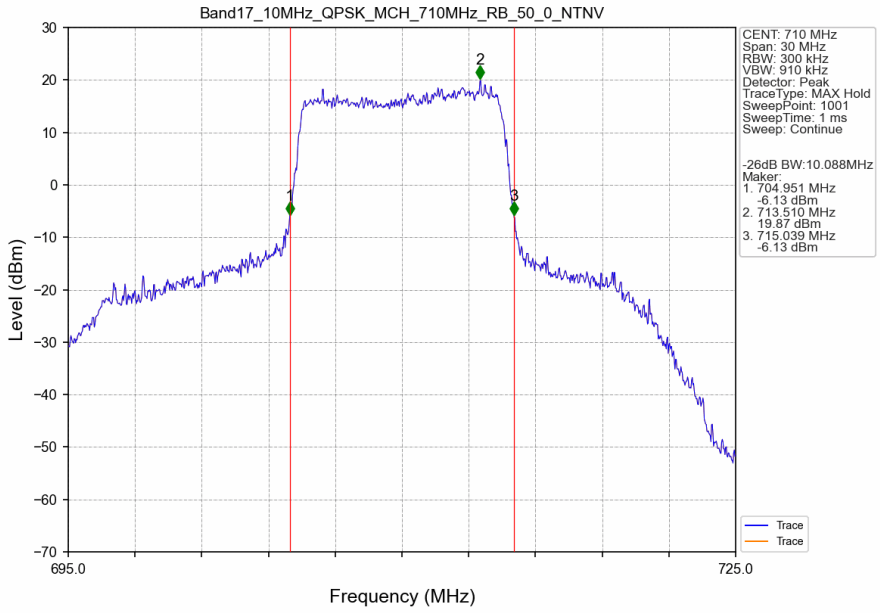
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



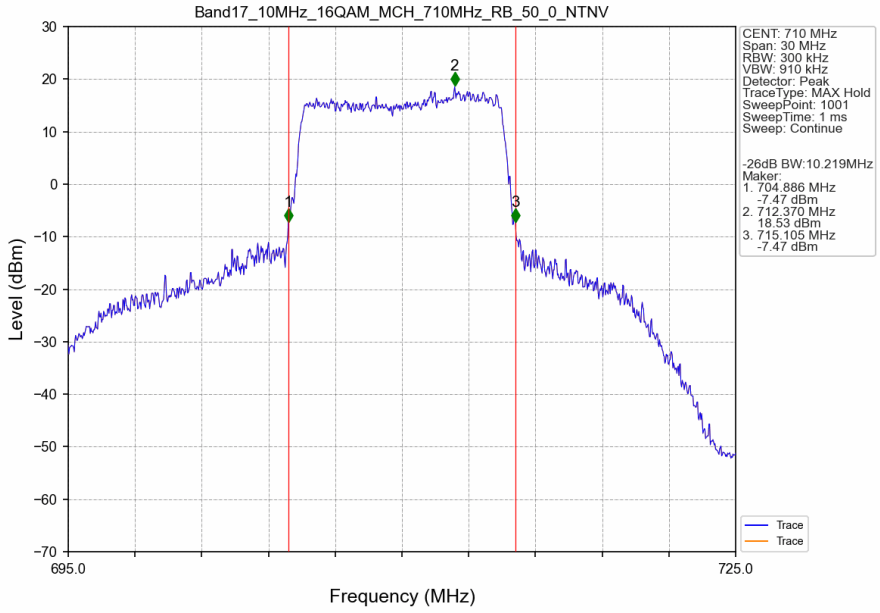
3.2.2 Band17_XDB

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

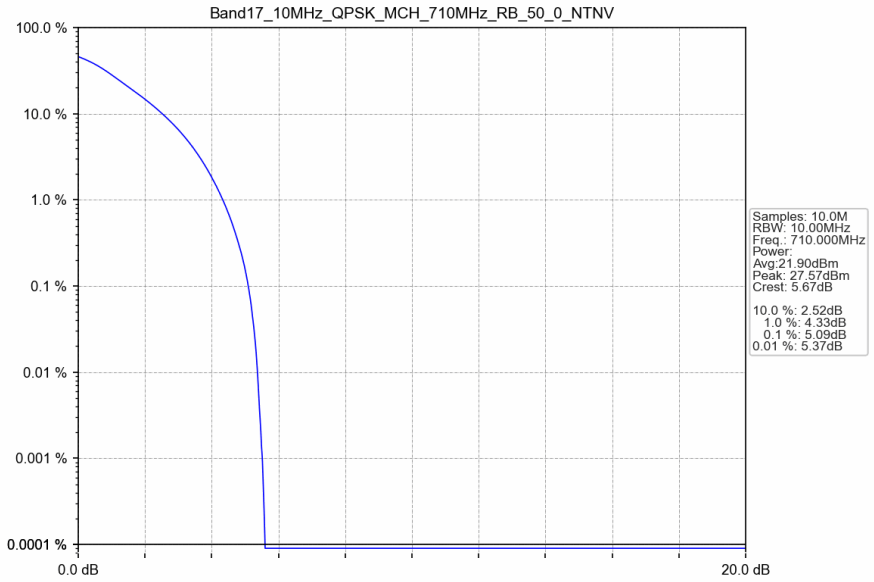
4.1 Test Result

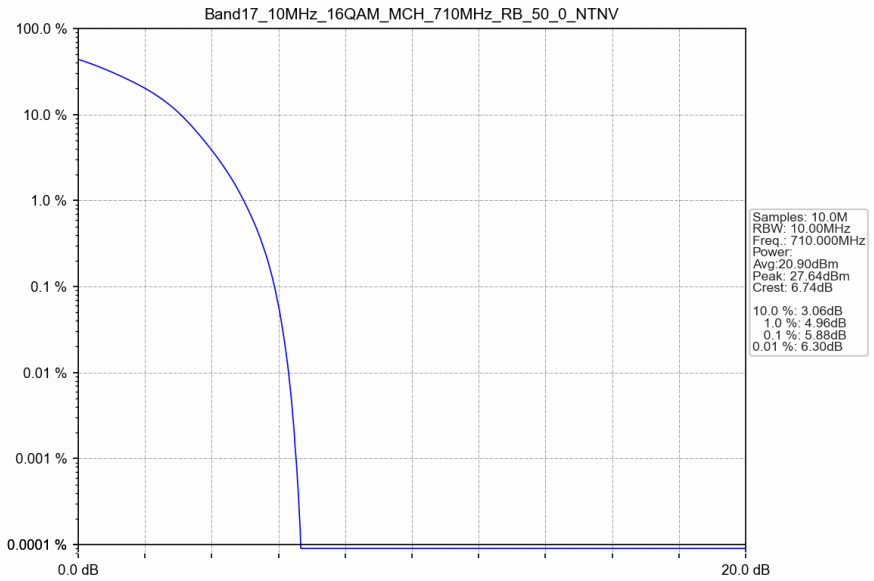
4.1.1 B17_10MHz

Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	710	50	0	5.09	<=13	Pass
16QAM	710	50	0	5.88	<=13	Pass
64QAM	710	50	0	5.88	<=13	Pass
256QAM	710	50	0	6.87	<=13	Pass

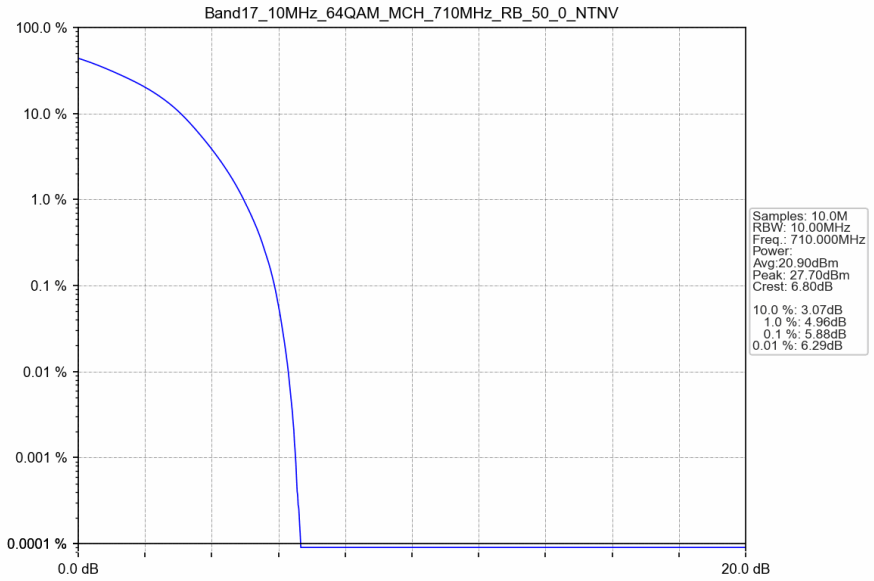
4.2 Test Graph

4.2.1 B17_10MHz

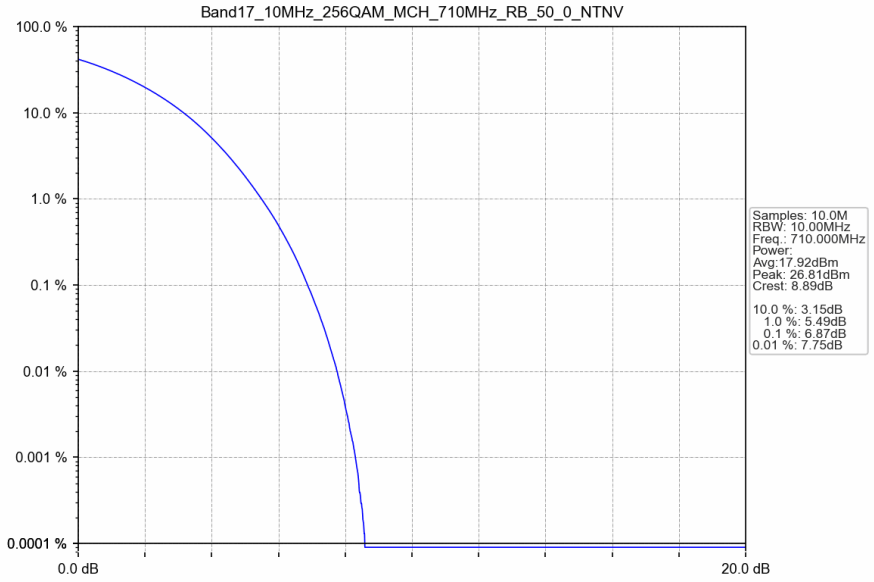
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV


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

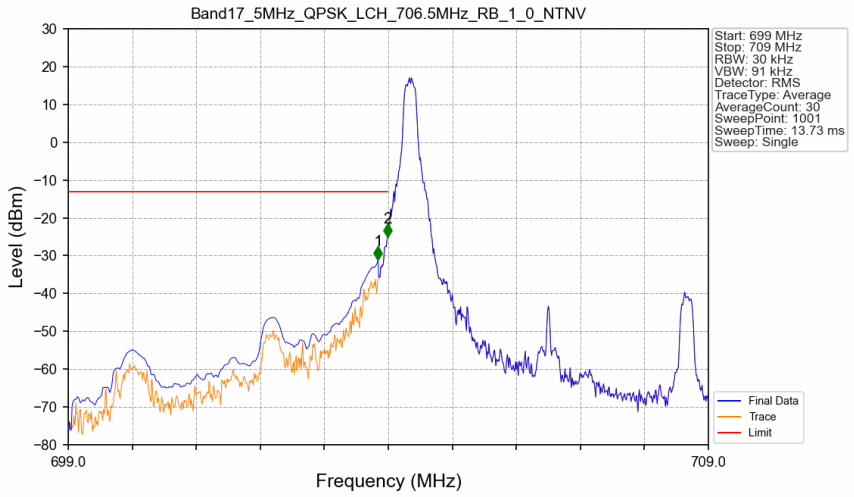
5.1.2 B17_10MHz

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

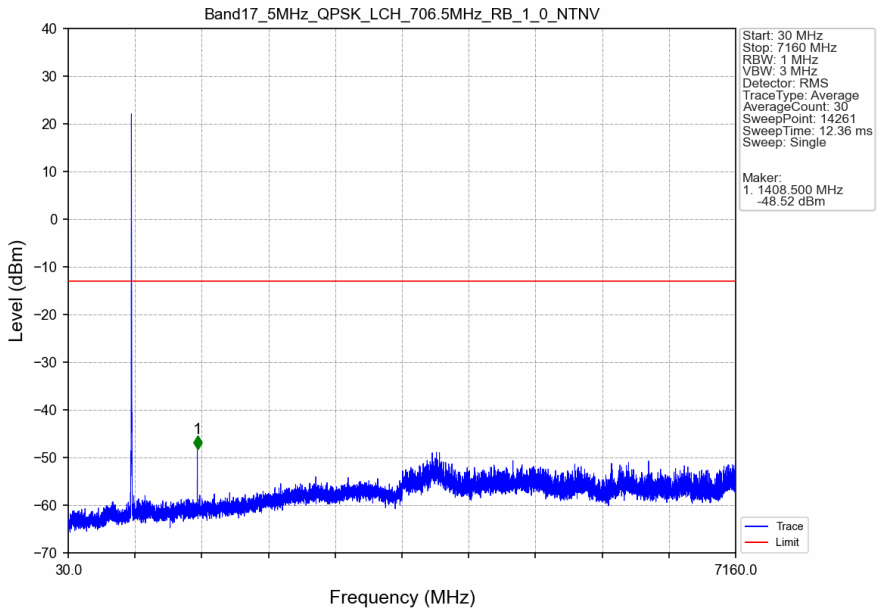
5.2.1 B17_5MHz

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

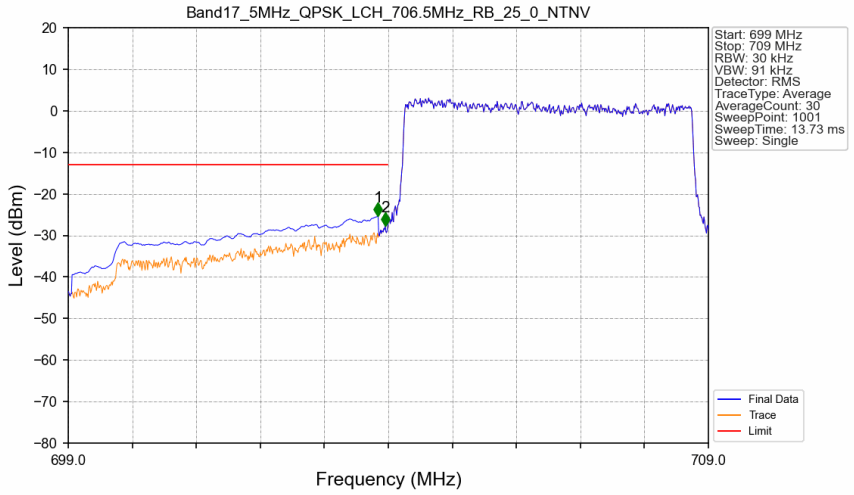


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-31.11	-13	Pass
703.9	704	0.03	/	2	703.990	-25.05	-13	Pass
704	709	0.03	/	/	/	/	/	/

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

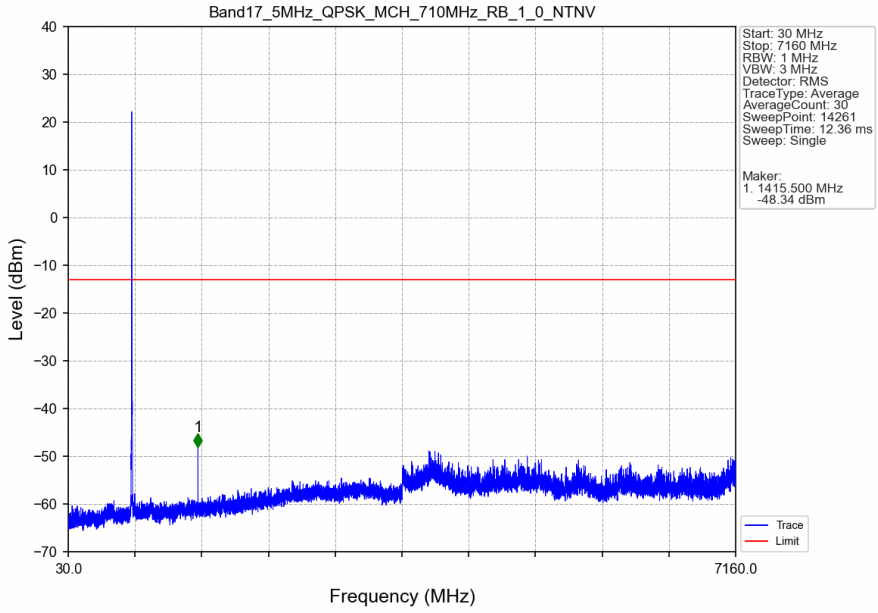


Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV

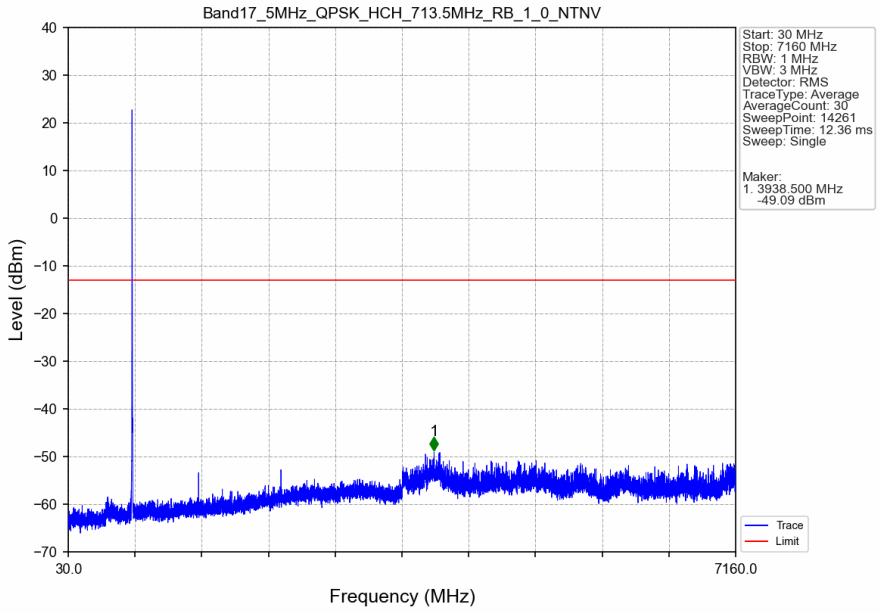


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-25.37	-13	Pass
703.9	704	0.03	/	2	703.950	-27.65	-13	Pass
704	709	0.03	/	/	/	/	/	/

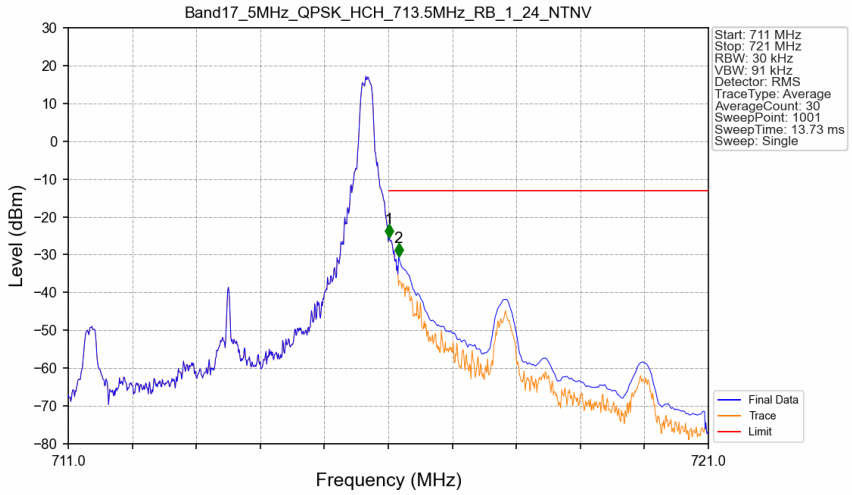
Band17_5MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_0_NTNV

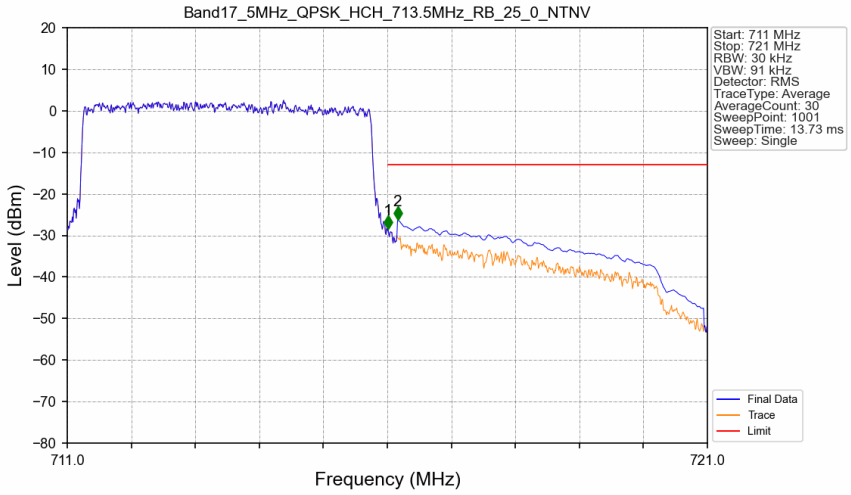


Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_24_NTNV



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	-25.37	-13	Pass
716.1	721	0.1	CHP	2	716.160	-30.42	-13	Pass

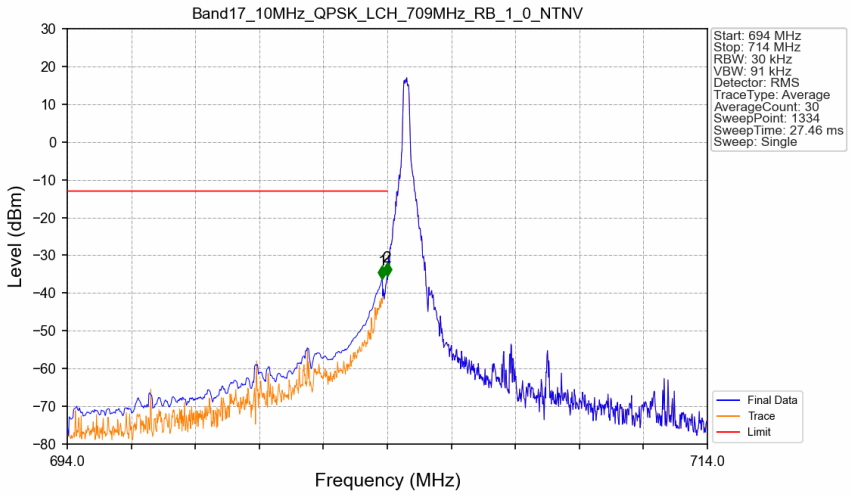
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



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	716.010	-28.46	-13	Pass
716.1	721	0.1	CHP	2	716.160	-26.23	-13	Pass

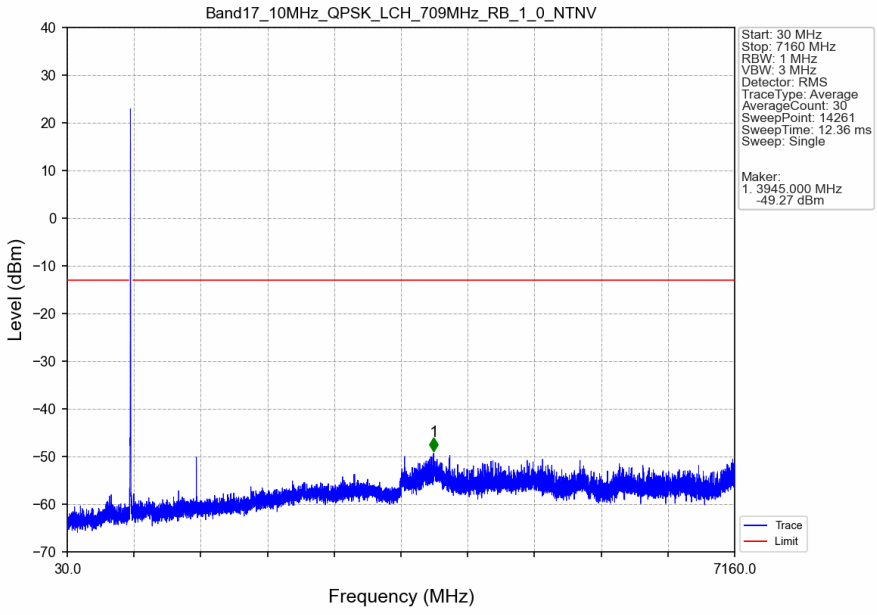
5.2.2 B17_10MHz

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

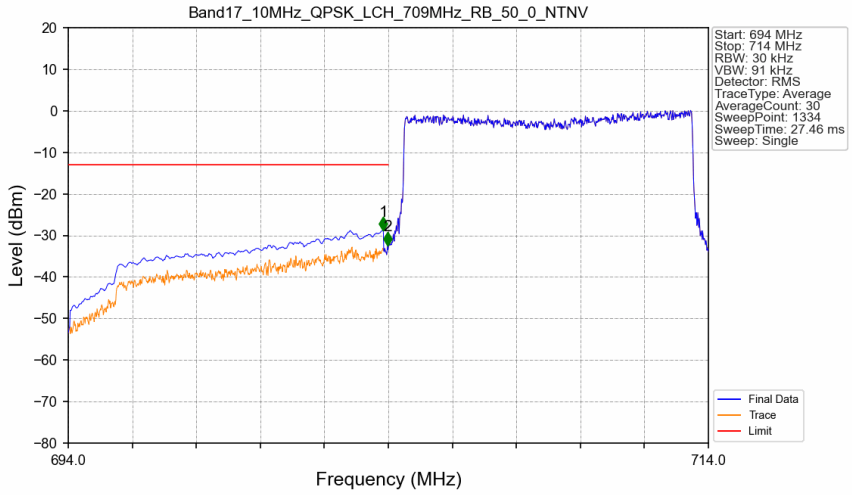


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.842	-36.28	-13	Pass
703.9	704	0.03	/	2	703.992	-35.54	-13	Pass
704	714	0.03	/	/	/	/	/	/

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

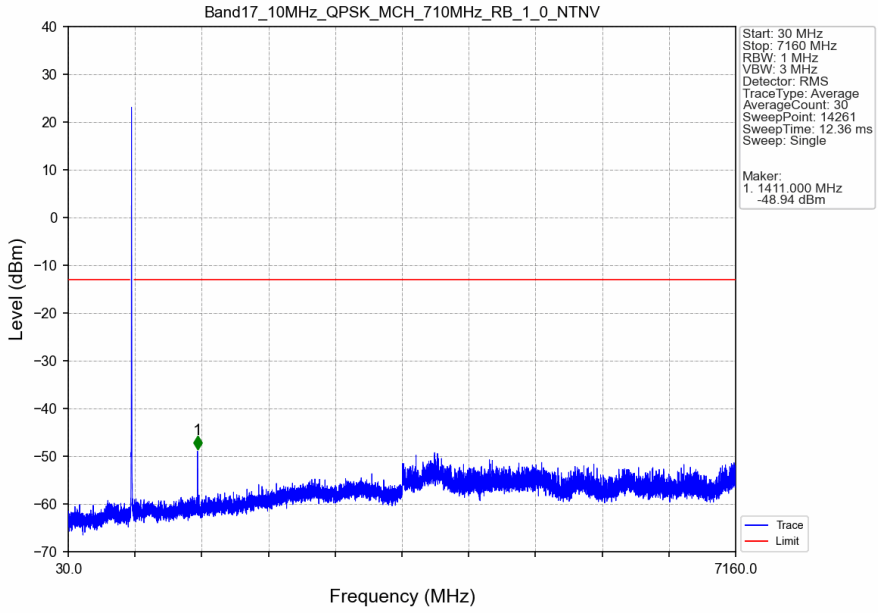


Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV

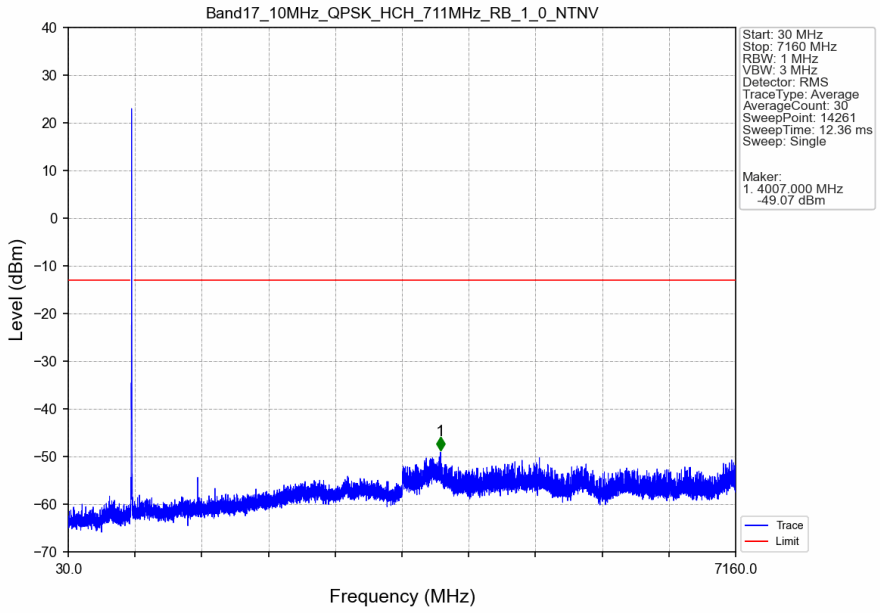


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.842	-28.71	-13	Pass
703.9	704	0.03	/	2	703.977	-32.32	-13	Pass
704	714	0.03	/	/	/	/	/	/

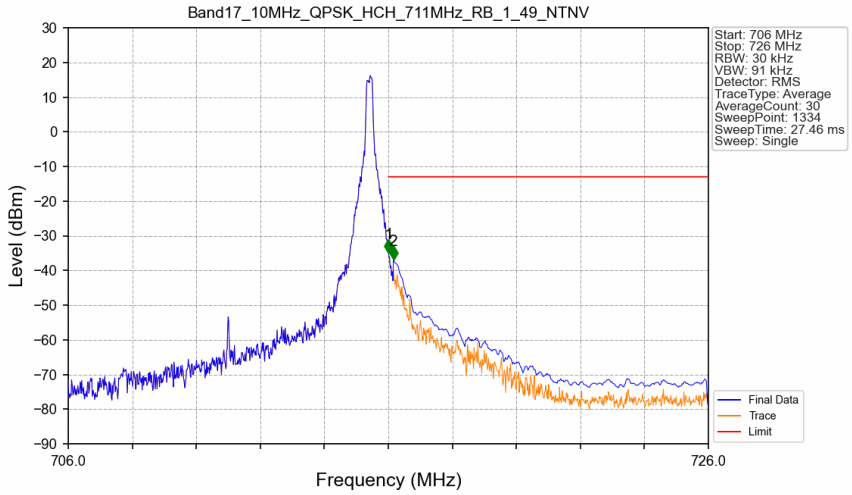
Band17_10MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_10MHz_QPSK_HCH_711MHz_RB_1_0_NTNV

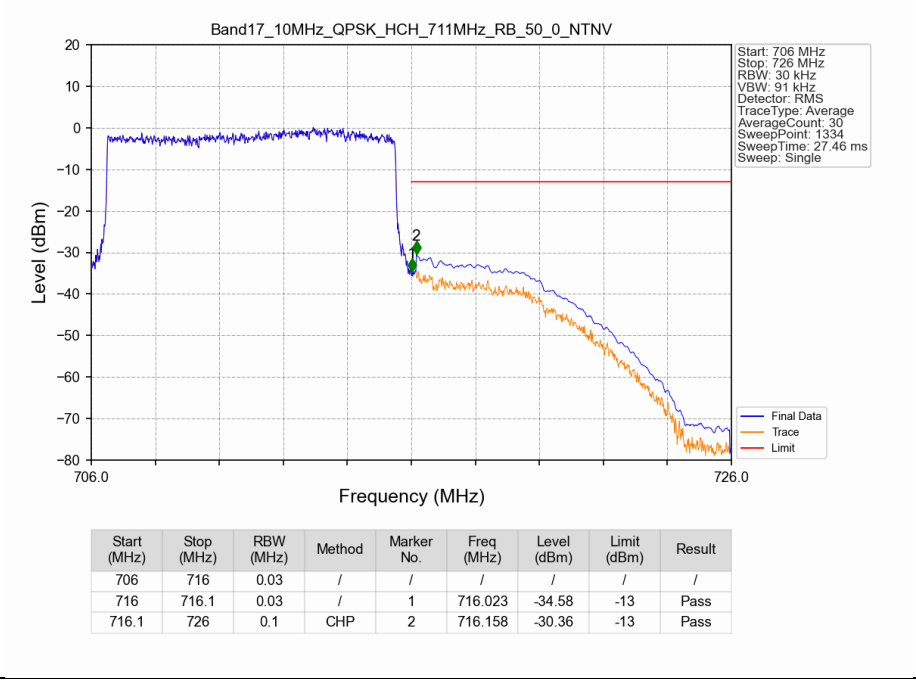


Band17_10MHz_QPSK_HCH_711MHz_RB_1_49_NTNV



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	716.008	-34.89	-13	Pass
716.1	726	0.1	CHP	2	716.158	-36.85	-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	716.023	-34.58	-13	Pass
716.1	726	0.1	CHP	2	716.158	-30.36	-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	-56.87	-13	-43.87	-59.69	2.48	5.3	Horizontal	Pass
2113.5	-69.83	-13	-56.83	-71.92	2.8	4.89	Horizontal	Pass
2818.0	-69.0	-13	-56.0	-72.4	3.12	6.52	Horizontal	Pass
1409.0	-54.98	-13	-41.98	-57.8	2.48	5.3	Vertical	Pass
2113.5	-69.79	-13	-56.79	-71.88	2.8	4.89	Vertical	Pass
2818.0	-68.87	-13	-55.87	-72.27	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	-58.24	-13	-45.24	-61.07	2.49	5.32	Horizontal	Pass
2116.5	-69.72	-13	-56.72	-71.82	2.8	4.9	Horizontal	Pass
2822.0	-68.68	-13	-55.68	-72.08	3.13	6.53	Horizontal	Pass
1411.0	-54.86	-13	-41.86	-57.69	2.49	5.32	Vertical	Pass
2116.5	-70.18	-13	-57.18	-72.28	2.8	4.9	Vertical	Pass
2822.0	-68.85	-13	-55.85	-72.25	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	-58.14	-13	-45.14	-60.98	2.49	5.33	Horizontal	Pass
2119.5	-70.66	-13	-57.66	-72.76	2.81	4.91	Horizontal	Pass
2826.0	-68.78	-13	-55.78	-72.19	3.13	6.54	Horizontal	Pass
1413.0	-67.37	-13	-54.37	-70.21	2.49	5.33	Vertical	Pass
2119.5	-70.04	-13	-57.04	-72.14	2.81	4.91	Vertical	Pass
2826.0	-69.11	-13	-56.11	-72.52	3.13	6.54	Vertical	Pass