

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	21.63	-2.43	17.05	<=34.77	Pass
			13	21.53	-2.43	16.95	<=34.77	Pass
			24	21.59	-2.43	17.01	<=34.77	Pass
		12	0	20.65	-2.43	16.07	<=34.77	Pass
			6	20.61	-2.43	16.03	<=34.77	Pass
			13	20.63	-2.43	16.05	<=34.77	Pass
		25	0	20.66	-2.43	16.08	<=34.77	Pass
	710	1	0	21.64	-2.43	17.06	<=34.77	Pass
			13	21.71	-2.43	17.13	<=34.77	Pass
			24	21.62	-2.43	17.04	<=34.77	Pass
		12	0	20.66	-2.43	16.08	<=34.77	Pass
			6	20.67	-2.43	16.09	<=34.77	Pass
			13	20.69	-2.43	16.11	<=34.77	Pass
		25	0	20.71	-2.43	16.13	<=34.77	Pass
	713.5	1	0	21.62	-2.43	17.04	<=34.77	Pass
			13	21.67	-2.43	17.09	<=34.77	Pass
			24	21.45	-2.43	16.87	<=34.77	Pass
		12	0	20.66	-2.43	16.08	<=34.77	Pass
			6	20.65	-2.43	16.07	<=34.77	Pass
			13	20.58	-2.43	16.00	<=34.77	Pass
		25	0	20.68	-2.43	16.10	<=34.77	Pass
16QAM	706.5	1	0	20.84	-2.43	16.26	<=34.77	Pass
			13	20.77	-2.43	16.19	<=34.77	Pass
			24	20.88	-2.43	16.30	<=34.77	Pass
		12	0	19.65	-2.43	15.07	<=34.77	Pass
			6	19.61	-2.43	15.03	<=34.77	Pass
			13	19.64	-2.43	15.06	<=34.77	Pass
		25	0	19.63	-2.43	15.05	<=34.77	Pass
	710	1	0	20.83	-2.43	16.25	<=34.77	Pass
			13	20.90	-2.43	16.32	<=34.77	Pass
			24	20.43	-2.43	15.85	<=34.77	Pass
		12	0	19.67	-2.43	15.09	<=34.77	Pass
			6	19.74	-2.43	15.16	<=34.77	Pass
			13	19.65	-2.43	15.07	<=34.77	Pass
		25	0	19.72	-2.43	15.14	<=34.77	Pass
	713.5	1	0	20.62	-2.43	16.04	<=34.77	Pass
			13	20.75	-2.43	16.17	<=34.77	Pass
			24	20.83	-2.43	16.25	<=34.77	Pass
		12	0	19.67	-2.43	15.09	<=34.77	Pass
			6	19.70	-2.43	15.12	<=34.77	Pass
			13	19.65	-2.43	15.07	<=34.77	Pass
		25	0	19.45	-2.43	14.87	<=34.77	Pass
64QAM	706.5	1	0	19.78	-2.43	15.20	<=34.77	Pass
			13	19.59	-2.43	15.01	<=34.77	Pass
			24	19.71	-2.43	15.13	<=34.77	Pass
		12	0	18.67	-2.43	14.09	<=34.77	Pass
			6	18.67	-2.43	14.09	<=34.77	Pass
			13	18.69	-2.43	14.11	<=34.77	Pass
		25	0	18.63	-2.43	14.05	<=34.77	Pass

	710	1	0	19.67	-2.43	15.09	<=34.77	Pass
			13	19.72	-2.43	15.14	<=34.77	Pass
			24	19.49	-2.43	14.91	<=34.77	Pass
		12	0	18.67	-2.43	14.09	<=34.77	Pass
			6	18.70	-2.43	14.12	<=34.77	Pass
			13	18.71	-2.43	14.13	<=34.77	Pass
		25	0	18.67	-2.43	14.09	<=34.77	Pass
	713.5	1	0	19.57	-2.43	14.99	<=34.77	Pass
			13	19.65	-2.43	15.07	<=34.77	Pass
			24	19.66	-2.43	15.08	<=34.77	Pass
		12	0	18.70	-2.43	14.12	<=34.77	Pass
			6	18.69	-2.43	14.11	<=34.77	Pass
			13	18.63	-2.43	14.05	<=34.77	Pass
		25	0	18.65	-2.43	14.07	<=34.77	Pass
256QAM	706.5	1	0	16.59	-2.43	12.01	<=34.77	Pass
			13	16.64	-2.43	12.06	<=34.77	Pass
			24	16.71	-2.43	12.13	<=34.77	Pass
		12	0	16.59	-2.43	12.01	<=34.77	Pass
			6	16.60	-2.43	12.02	<=34.77	Pass
			13	16.61	-2.43	12.03	<=34.77	Pass
		25	0	16.60	-2.43	12.02	<=34.77	Pass
	710	1	0	16.64	-2.43	12.06	<=34.77	Pass
			13	16.67	-2.43	12.09	<=34.77	Pass
			24	16.66	-2.43	12.08	<=34.77	Pass
		12	0	16.60	-2.43	12.02	<=34.77	Pass
			6	16.64	-2.43	12.06	<=34.77	Pass
			13	16.64	-2.43	12.06	<=34.77	Pass
		25	0	16.64	-2.43	12.06	<=34.77	Pass
	713.5	1	0	16.69	-2.43	12.11	<=34.77	Pass
			13	16.77	-2.43	12.19	<=34.77	Pass
			24	16.70	-2.43	12.12	<=34.77	Pass
		12	0	16.60	-2.43	12.02	<=34.77	Pass
			6	16.59	-2.43	12.01	<=34.77	Pass
			13	16.57	-2.43	11.99	<=34.77	Pass
		25	0	16.64	-2.43	12.06	<=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	21.46	-2.43	16.88	<=34.77	Pass
			25	21.63	-2.43	17.05	<=34.77	Pass
			49	21.60	-2.43	17.02	<=34.77	Pass
		25	0	20.50	-2.43	15.92	<=34.77	Pass
			13	20.66	-2.43	16.08	<=34.77	Pass
			25	20.66	-2.43	16.08	<=34.77	Pass
		50	0	20.66	-2.43	16.08	<=34.77	Pass
	710	1	0	21.60	-2.43	17.02	<=34.77	Pass
			25	21.76	-2.43	17.18	<=34.77	Pass
			49	21.62	-2.43	17.04	<=34.77	Pass
		25	0	20.63	-2.43	16.05	<=34.77	Pass
			13	20.68	-2.43	16.10	<=34.77	Pass
			25	20.68	-2.43	16.10	<=34.77	Pass
		50	0	20.65	-2.43	16.07	<=34.77	Pass
	711	1	0	21.51	-2.43	16.93	<=34.77	Pass

			25	21.62	-2.43	17.04	<=34.77	Pass
			49	21.52	-2.43	16.94	<=34.77	Pass
			0	20.59	-2.43	16.01	<=34.77	Pass
		25	13	20.67	-2.43	16.09	<=34.77	Pass
			25	20.64	-2.43	16.06	<=34.77	Pass
			0	20.64	-2.43	16.06	<=34.77	Pass
		50	0	20.64	-2.43	16.06	<=34.77	Pass
16QAM	709	1	0	20.99	-2.43	16.41	<=34.77	Pass
			25	20.90	-2.43	16.32	<=34.77	Pass
			49	20.90	-2.43	16.32	<=34.77	Pass
		25	0	19.55	-2.43	14.97	<=34.77	Pass
			13	19.60	-2.43	15.02	<=34.77	Pass
			25	19.62	-2.43	15.04	<=34.77	Pass
		50	0	19.65	-2.43	15.07	<=34.77	Pass
	710	1	0	20.76	-2.43	16.18	<=34.77	Pass
			25	20.91	-2.43	16.33	<=34.77	Pass
			49	20.83	-2.43	16.25	<=34.77	Pass
		25	0	19.58	-2.43	15.00	<=34.77	Pass
			13	19.64	-2.43	15.06	<=34.77	Pass
			25	19.63	-2.43	15.05	<=34.77	Pass
		50	0	19.62	-2.43	15.04	<=34.77	Pass
	711	1	0	20.87	-2.43	16.29	<=34.77	Pass
			25	20.81	-2.43	16.23	<=34.77	Pass
			49	20.87	-2.43	16.29	<=34.77	Pass
		25	0	19.64	-2.43	15.06	<=34.77	Pass
			13	19.68	-2.43	15.10	<=34.77	Pass
			25	19.55	-2.43	14.97	<=34.77	Pass
		50	0	19.62	-2.43	15.04	<=34.77	Pass
64QAM	709	1	0	19.74	-2.43	15.16	<=34.77	Pass
			25	19.83	-2.43	15.25	<=34.77	Pass
			49	19.81	-2.43	15.23	<=34.77	Pass
		25	0	18.59	-2.43	14.01	<=34.77	Pass
			13	18.63	-2.43	14.05	<=34.77	Pass
			25	18.61	-2.43	14.03	<=34.77	Pass
		50	0	18.65	-2.43	14.07	<=34.77	Pass
	710	1	0	19.74	-2.43	15.16	<=34.77	Pass
			25	19.51	-2.43	14.93	<=34.77	Pass
			49	19.65	-2.43	15.07	<=34.77	Pass
		25	0	18.56	-2.43	13.98	<=34.77	Pass
			13	18.61	-2.43	14.03	<=34.77	Pass
			25	18.63	-2.43	14.05	<=34.77	Pass
		50	0	18.63	-2.43	14.05	<=34.77	Pass
	711	1	0	19.29	-2.43	14.71	<=34.77	Pass
			25	19.85	-2.43	15.27	<=34.77	Pass
			49	19.69	-2.43	15.11	<=34.77	Pass
		25	0	18.57	-2.43	13.99	<=34.77	Pass
			13	18.63	-2.43	14.05	<=34.77	Pass
			25	18.58	-2.43	14.00	<=34.77	Pass
		50	0	18.58	-2.43	14.00	<=34.77	Pass
256QAM	709	1	0	16.71	-2.43	12.13	<=34.77	Pass
			25	16.65	-2.43	12.07	<=34.77	Pass
			49	16.65	-2.43	12.07	<=34.77	Pass
		25	0	16.56	-2.43	11.98	<=34.77	Pass
			13	16.62	-2.43	12.04	<=34.77	Pass
			25	16.61	-2.43	12.03	<=34.77	Pass
		50	0	16.63	-2.43	12.05	<=34.77	Pass
	710	1	0	16.56	-2.43	11.98	<=34.77	Pass
			25	16.77	-2.43	12.19	<=34.77	Pass
			49	16.67	-2.43	12.09	<=34.77	Pass
		25	0	16.59	-2.43	12.01	<=34.77	Pass

			13	16.63	-2.43	12.05	<=34.77	Pass
			25	16.61	-2.43	12.03	<=34.77	Pass
		50	0	16.62	-2.43	12.04	<=34.77	Pass
	711	1	0	16.63	-2.43	12.05	<=34.77	Pass
			25	16.72	-2.43	12.14	<=34.77	Pass
			49	16.67	-2.43	12.09	<=34.77	Pass
		25	0	16.59	-2.43	12.01	<=34.77	Pass
			13	16.65	-2.43	12.07	<=34.77	Pass
			25	16.57	-2.43	11.99	<=34.77	Pass
		50	0	16.59	-2.43	12.01	<=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	3.4	-2.500	-0.0035	-2.5 to 2.5	Pass
					3.8	-1.300	-0.0018	-2.5 to 2.5	Pass
					4.45	-0.900	-0.0013	-2.5 to 2.5	Pass
				-30	3.8	-2.400	-0.0034	-2.5 to 2.5	Pass
				-20	3.8	-4.300	-0.0061	-2.5 to 2.5	Pass
				-10	3.8	0.100	0.0001	-2.5 to 2.5	Pass
				0	3.8	-3.500	-0.0049	-2.5 to 2.5	Pass
				10	3.8	-1.900	-0.0027	-2.5 to 2.5	Pass
				30	3.8	0.200	0.0003	-2.5 to 2.5	Pass
				40	3.8	-1.100	-0.0015	-2.5 to 2.5	Pass
				50	3.8	-0.500	-0.0007	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band17_OBW

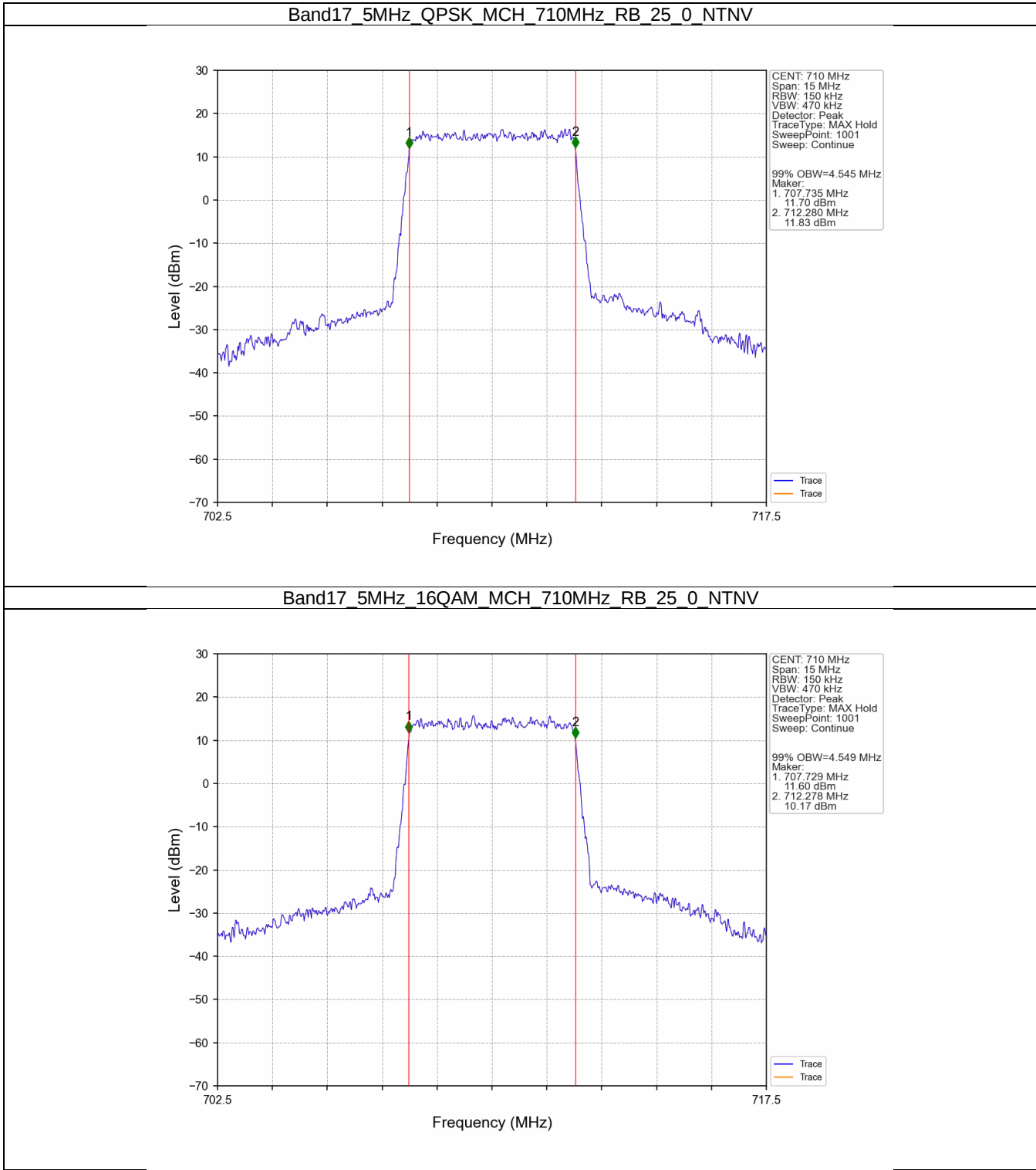
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	4.545	/	Pass
	16QAM	710	25	0	4.549	/	Pass
10	QPSK	710	50	0	9.072	/	Pass
	16QAM	710	50	0	9.018	/	Pass

3.1.2 Band17_XDB

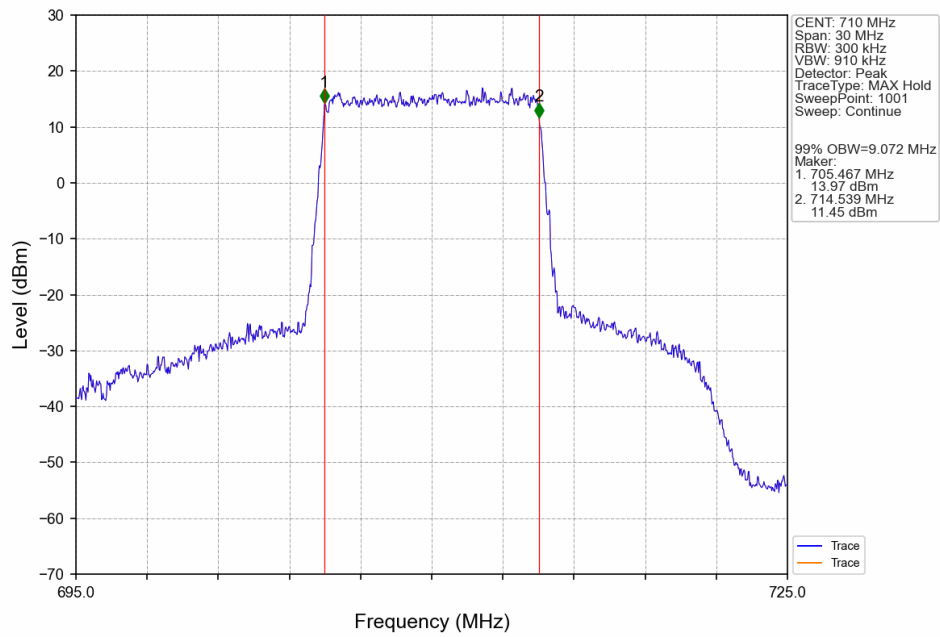
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	5.094	/	Pass
	16QAM	710	25	0	5.045	/	Pass
10	QPSK	710	50	0	9.952	/	Pass
	16QAM	710	50	0	9.897	/	Pass

3.2 Test Graph

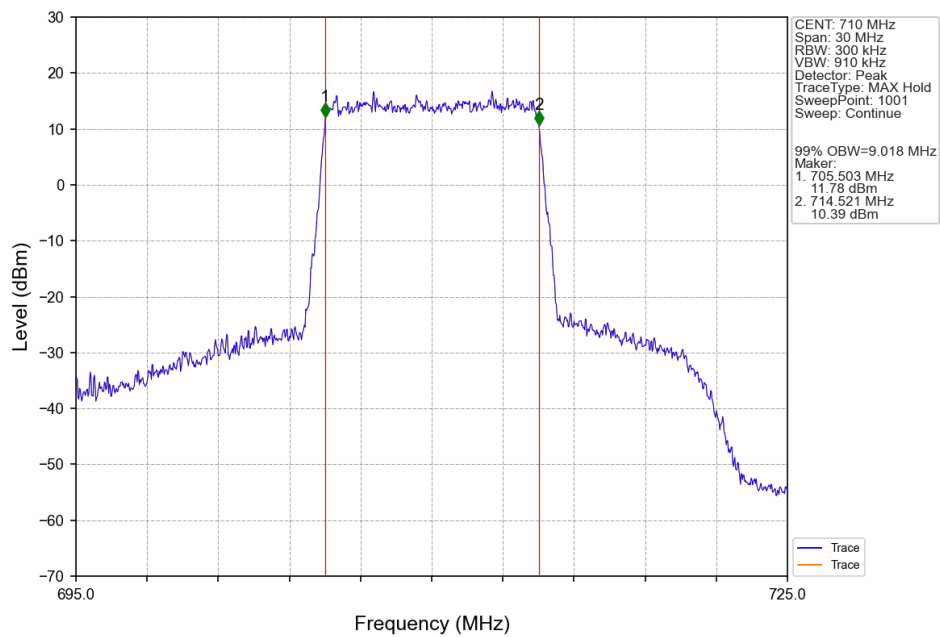
3.2.1 Band17_OBW



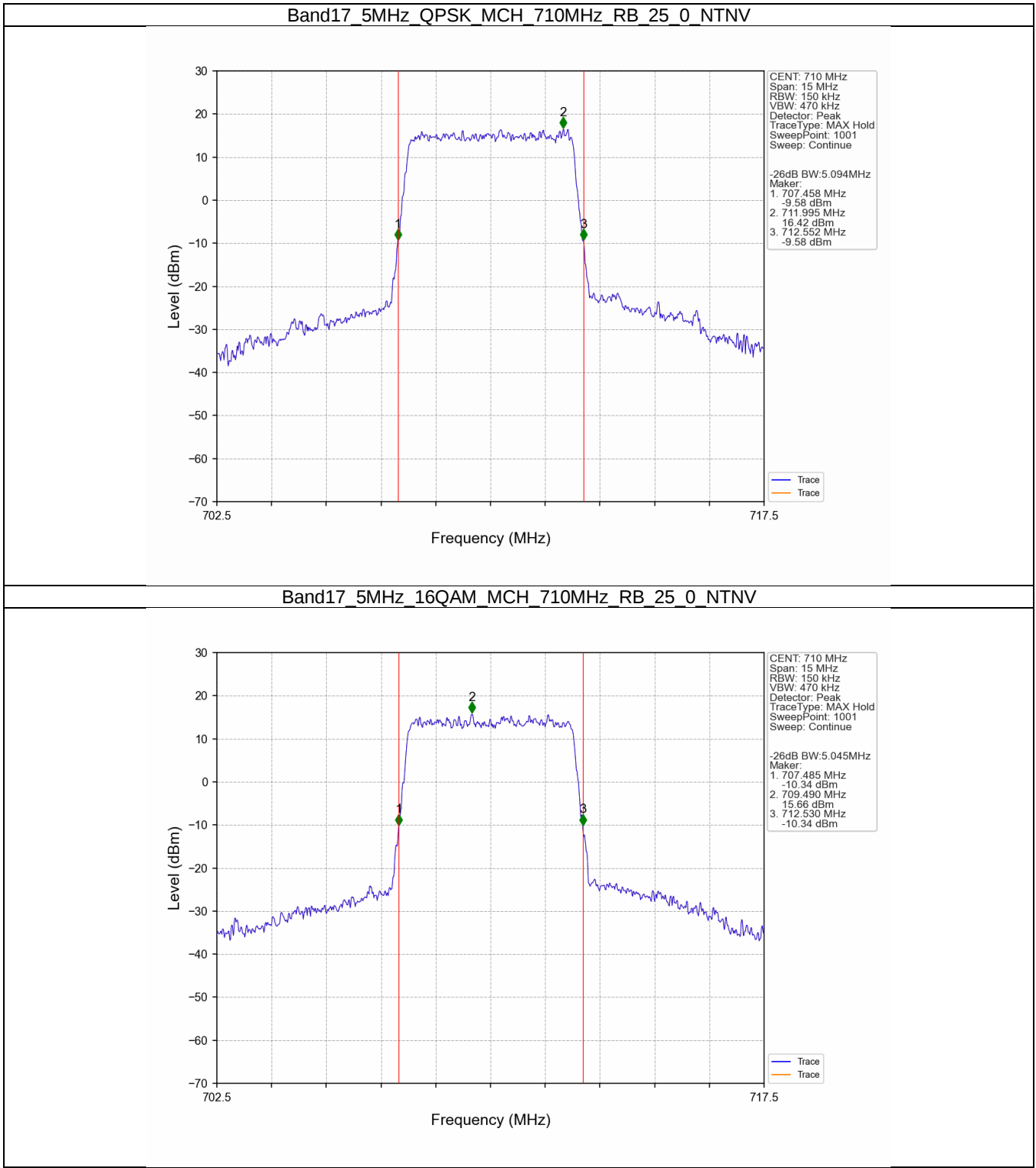
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



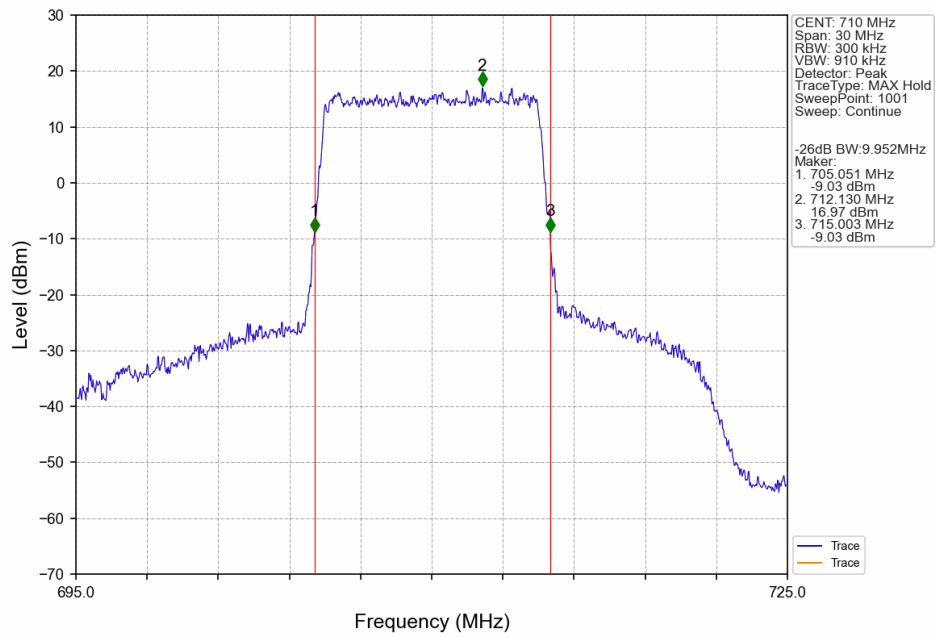
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



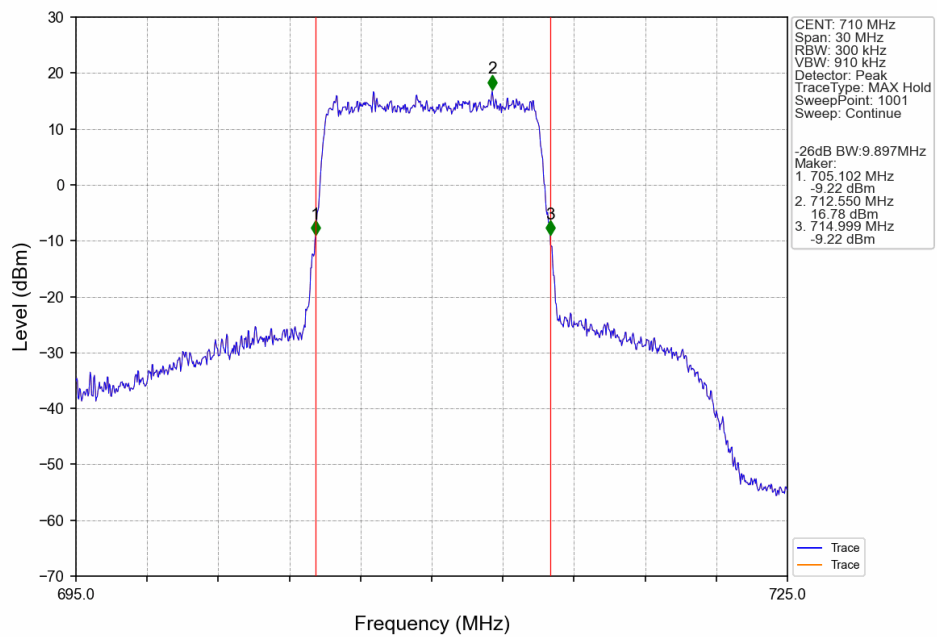
3.2.2 Band17_XDB



Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



4. Peak-Average Ratio

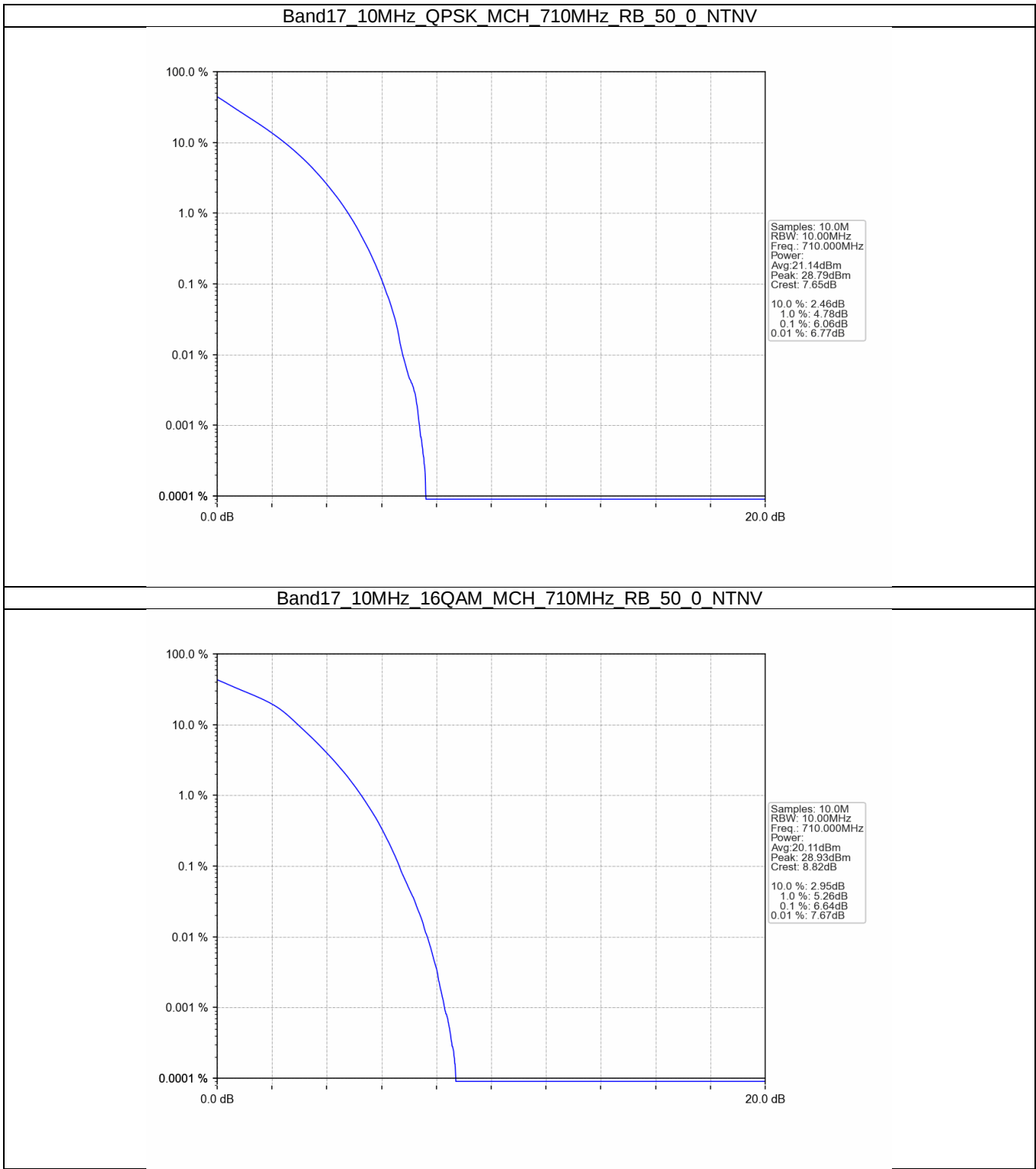
4.1 Test Result

4.1.1 B17_10MHz

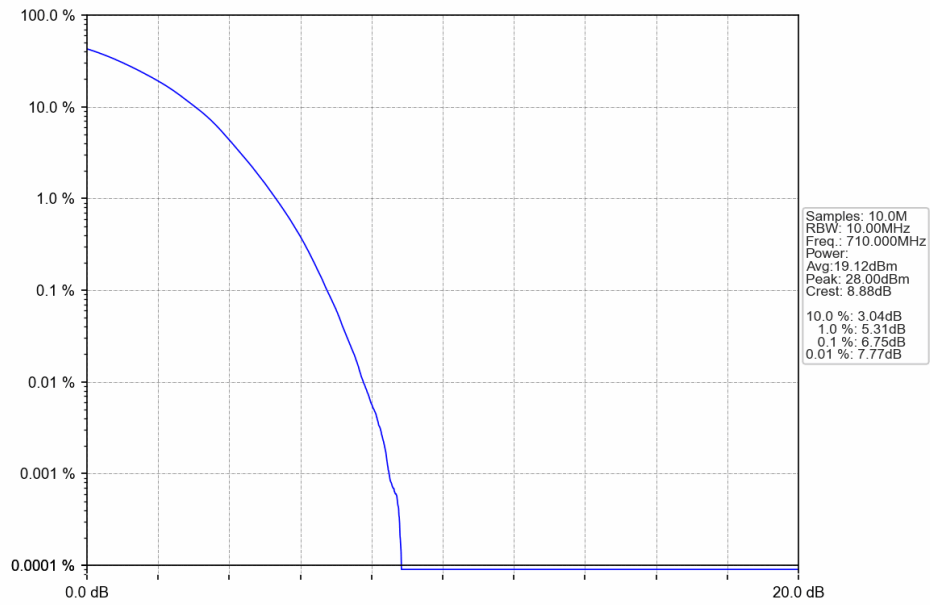
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	710	50	0	6.06	<=13	Pass
16QAM	710	50	0	6.64	<=13	Pass
64QAM	710	50	0	6.75	<=13	Pass
256QAM	710	50	0	6.66	<=13	Pass

4.2 Test Graph

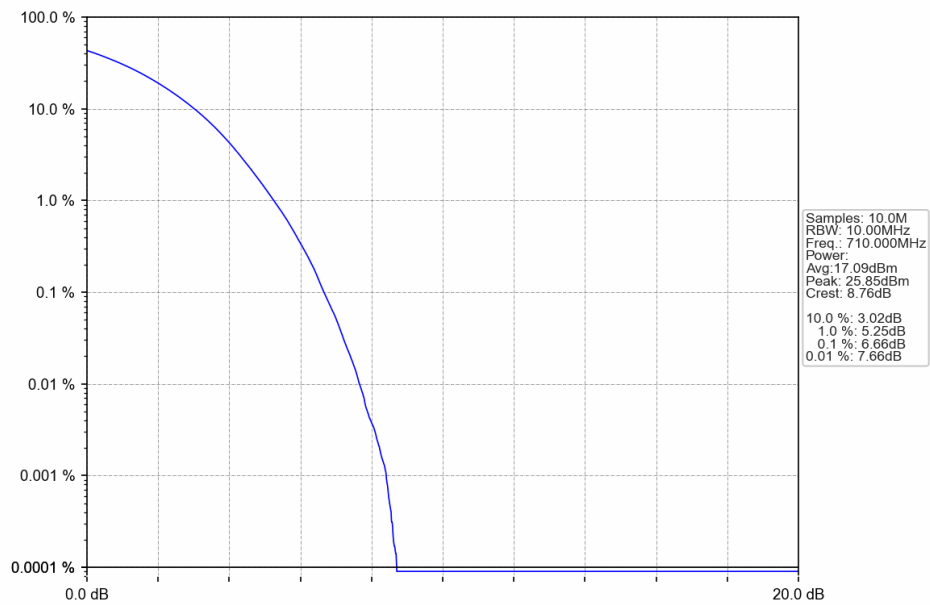
4.2.1 B17_10MHz



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

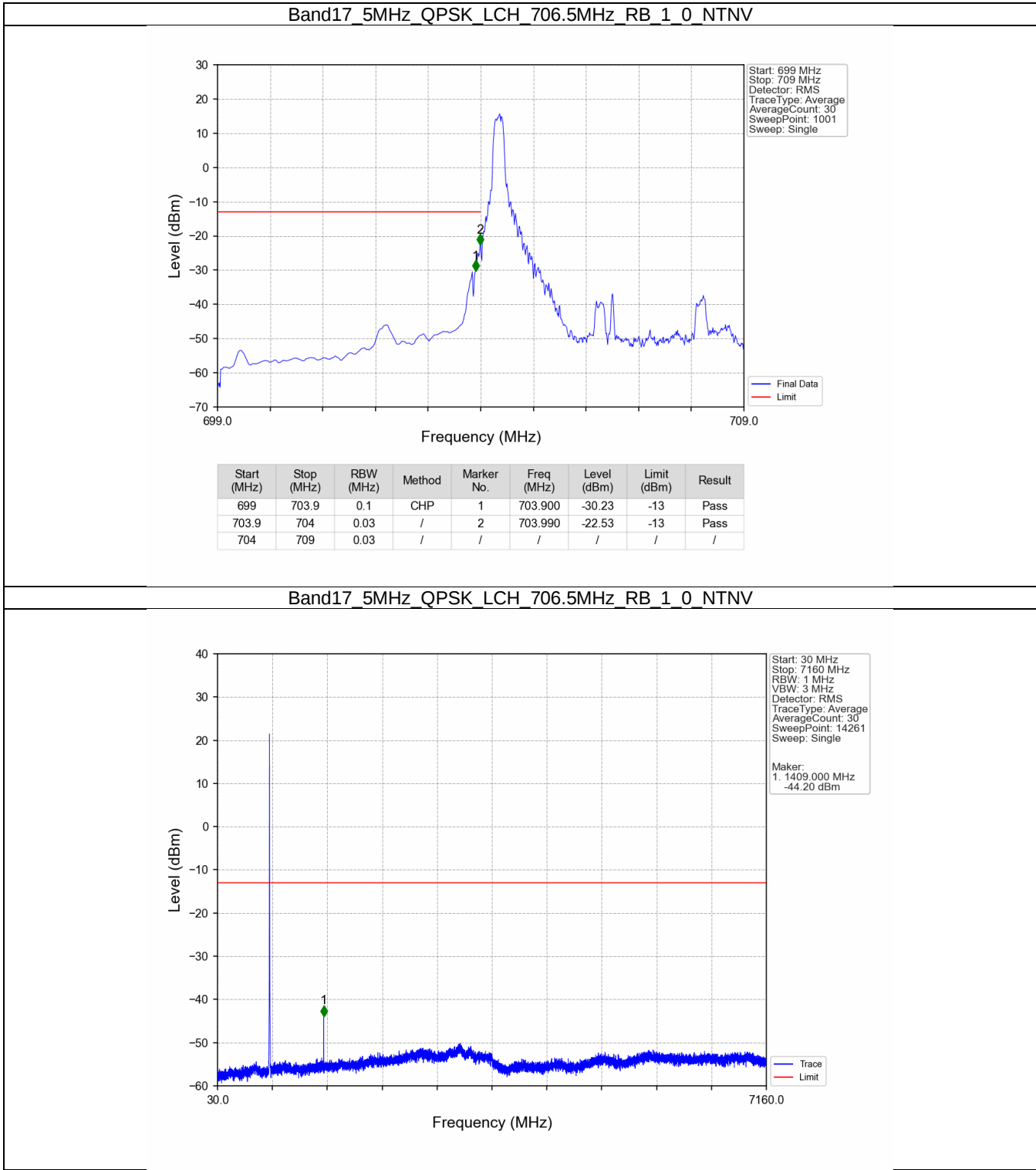
Band: 17 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	706.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	713.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B17_10MHz

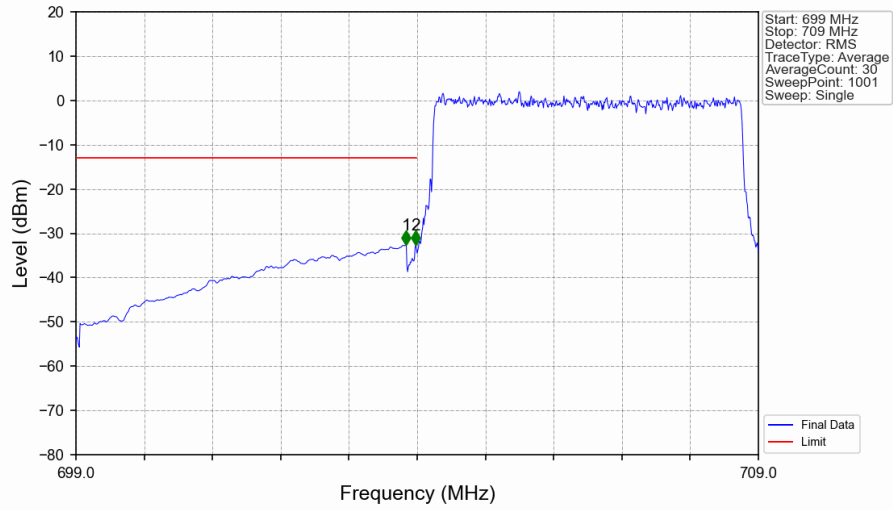
Band: 17 / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	709	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	711	1	0	Refer To Test Graph		Pass
			49	Refer To Test Graph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

5.2 Test Graph

5.2.1 B17_5MHz

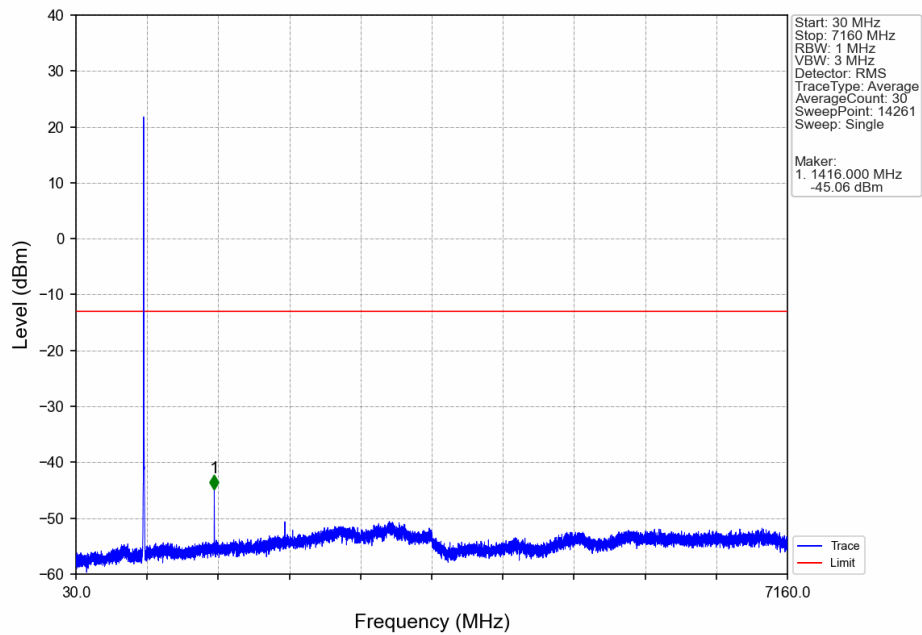


Band17 5MHz QPSK LCH 706.5MHz RB 25 0 NTNV

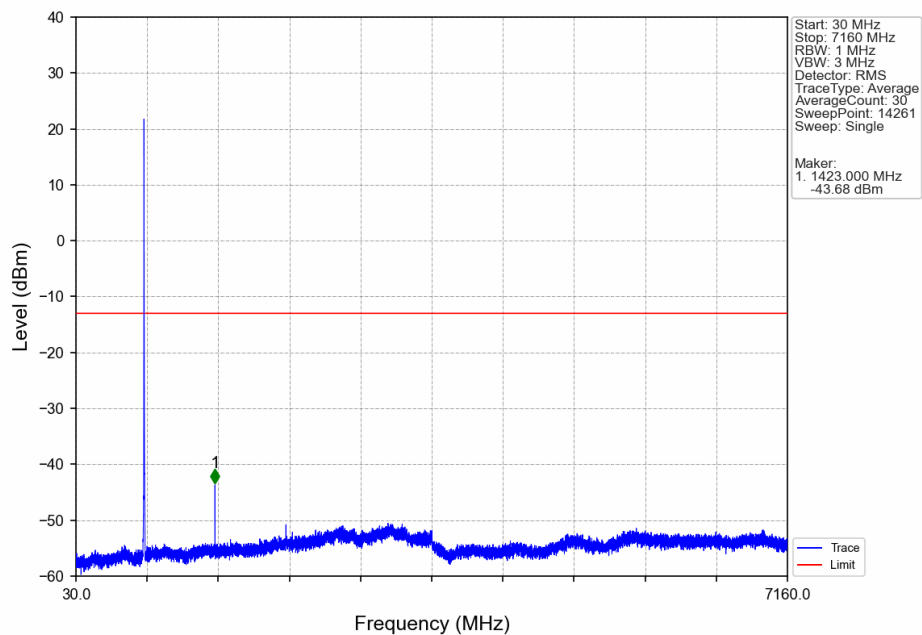


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-32.62	-13	Pass
703.9	704	0.03	/	2	703.980	-32.52	-13	Pass
704	709	0.03	/	/	/	/	/	/

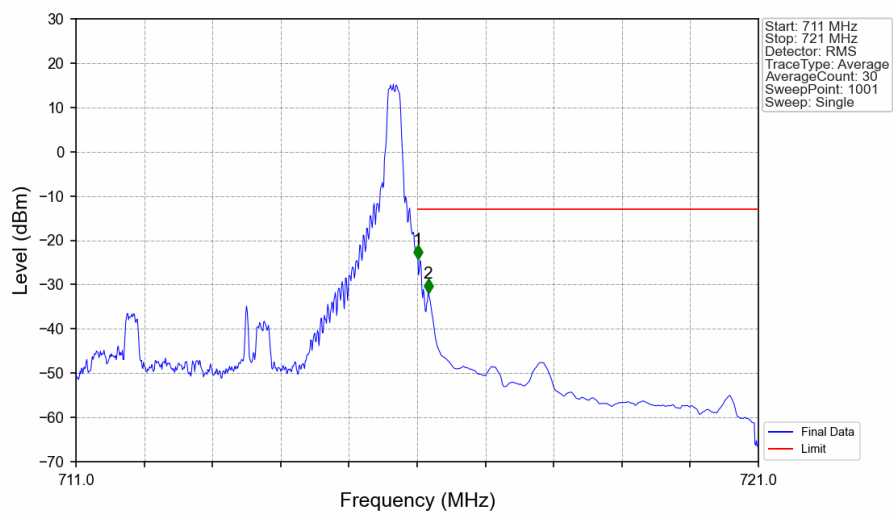
Band17 5MHz QPSK MCH 710MHz RB 1 0 NTNV



Band17 5MHz QPSK HCH 713.5MHz RB 1 0 NTN

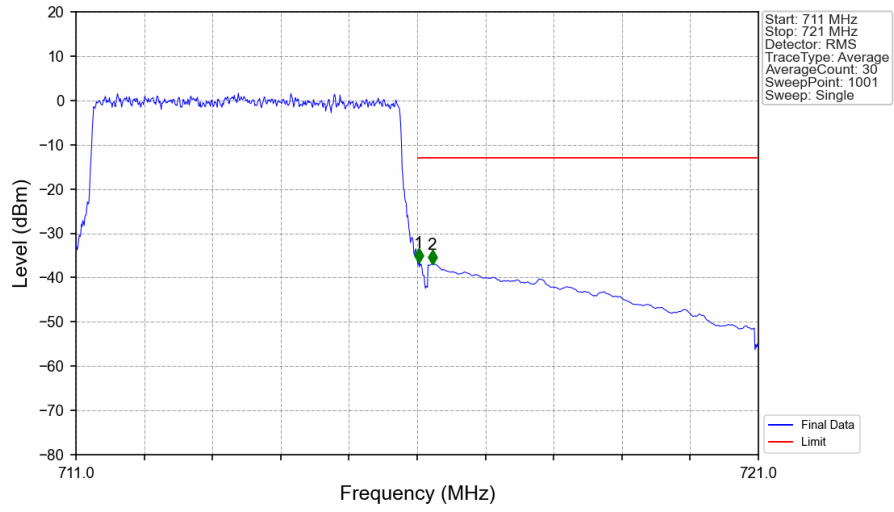


Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_24_NTN



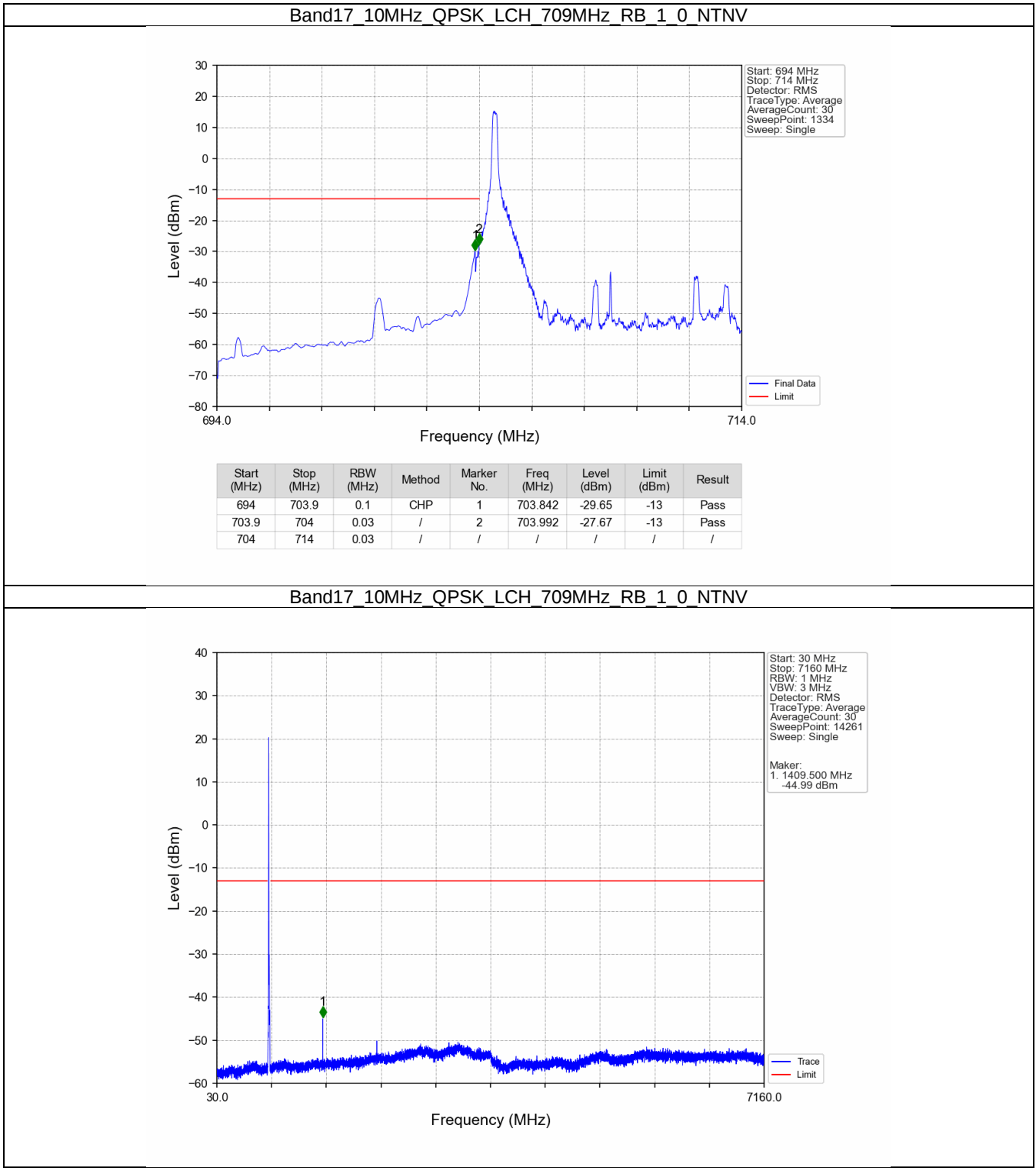
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.010	-24.19	-13	Pass
716.1	721	0.1	CHP	2	716.160	-31.83	-13	Pass

Band17 5MHz QPSK HCH 713.5MHz RB 25 0 NTV

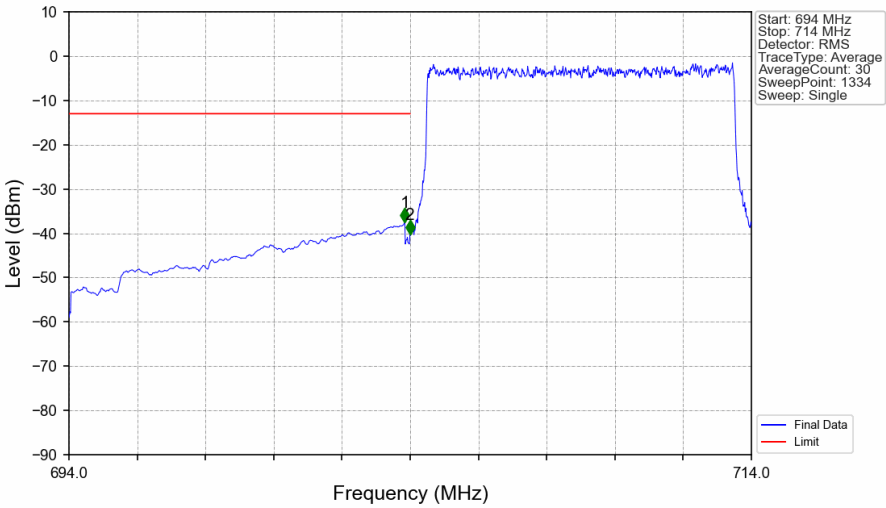


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.020	-36.65	-13	Pass
716.1	721	0.1	CHP	2	716.220	-36.94	-13	Pass

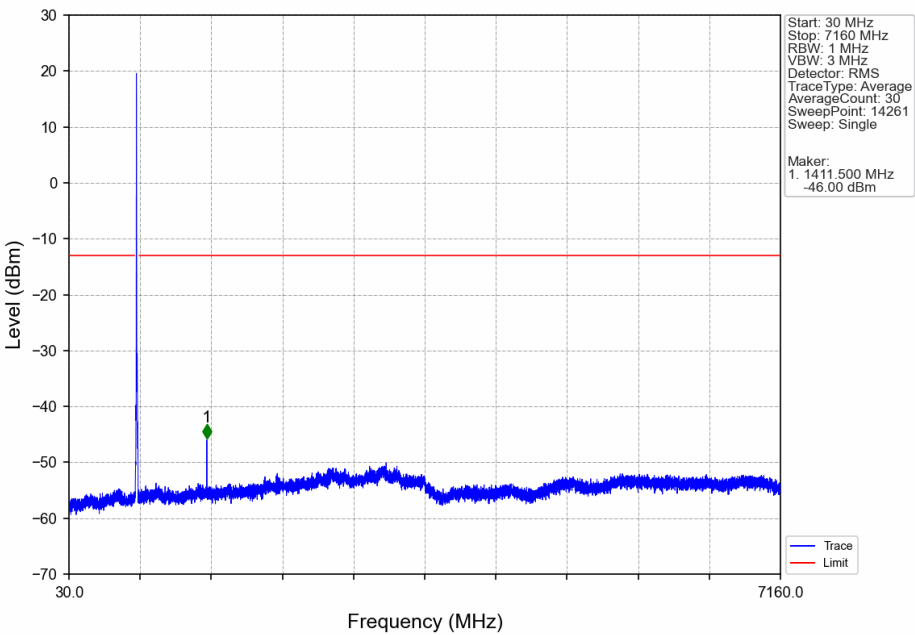
5.2.2 B17_10MHz



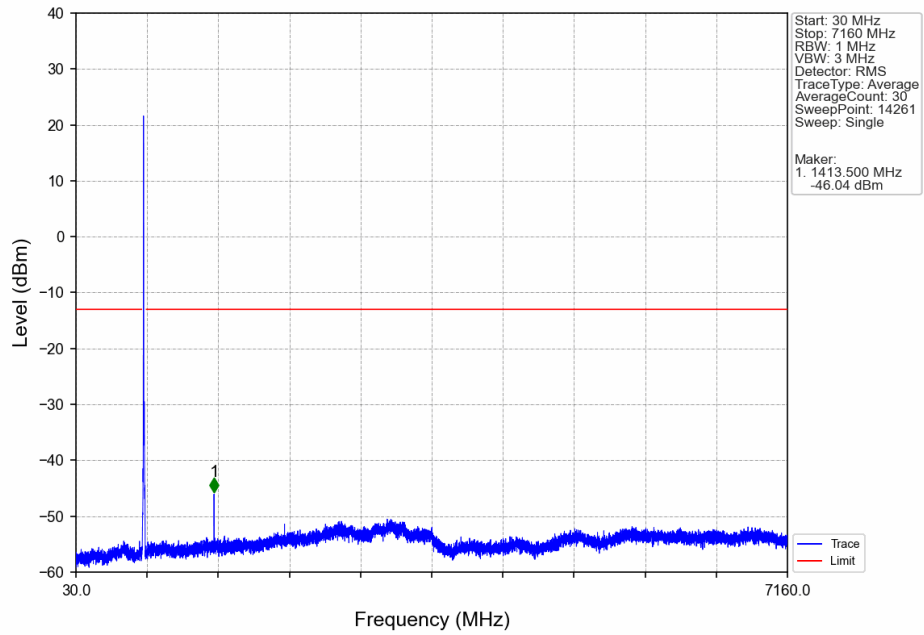
Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV



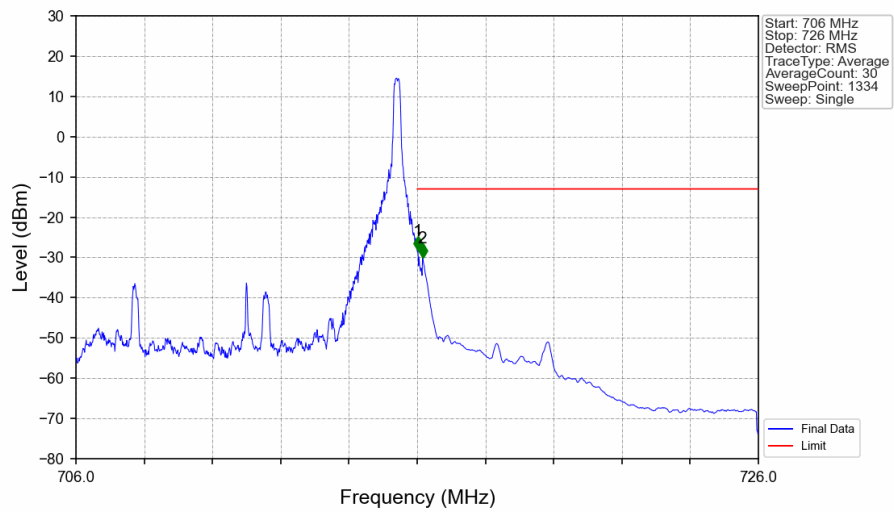
Band17_10MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17 10MHz QPSK HCH 711MHz RB 1 0 NTNV

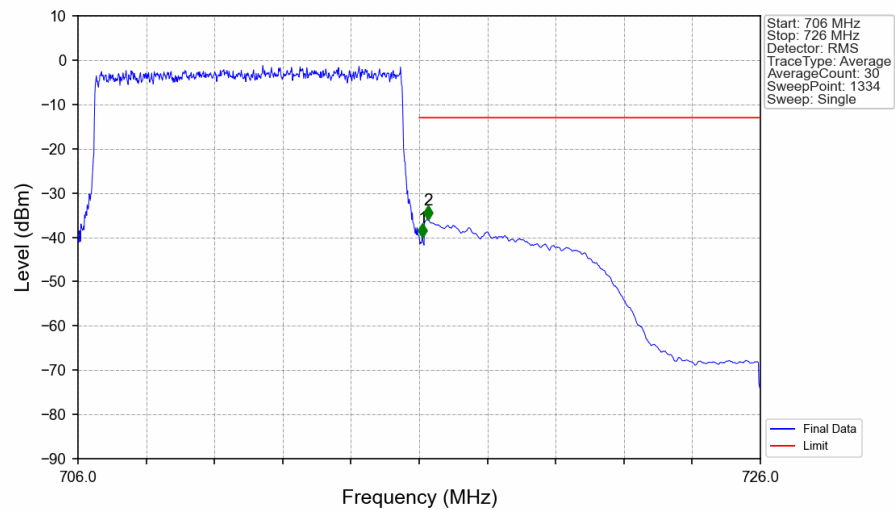


Band17_10MHz_QPSK_HCH_711MHz_RB_1_49_NTNV



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	-28.21	-13	Pass
716.1	726	0.1	CHP	2	716.158	-29.99	-13	Pass

Band17 10MHz QPSK HCH 711MHz RB 50 0 NTV



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	716.098	-40.04	-13	Pass
716.1	726	0.1	CHP	2	716.263	-36.00	-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	-70.24	-13	-57.24	-73.06	2.48	5.3	Horizontal	Pass
2113.5	-70.17	-13	-57.17	-72.26	2.8	4.89	Horizontal	Pass
2818.0	-68.9	-13	-55.9	-72.3	3.12	6.52	Horizontal	Pass
1409.0	-70.21	-13	-57.21	-73.03	2.48	5.3	Vertical	Pass
2113.5	-70.39	-13	-57.39	-72.48	2.8	4.89	Vertical	Pass
2818.0	-68.49	-13	-55.49	-71.89	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	-70.36	-13	-57.36	-73.19	2.49	5.32	Horizontal	Pass
2116.5	-69.98	-13	-56.98	-72.08	2.8	4.9	Horizontal	Pass
2822.0	-68.83	-13	-55.83	-72.23	3.13	6.53	Horizontal	Pass
1411.0	-70.54	-13	-57.54	-73.37	2.49	5.32	Vertical	Pass
2116.5	-70.16	-13	-57.16	-72.26	2.8	4.9	Vertical	Pass
2822.0	-68.77	-13	-55.77	-72.17	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	-70.4	-13	-57.4	-73.24	2.49	5.33	Horizontal	Pass
2119.5	-70.07	-13	-57.07	-72.17	2.81	4.91	Horizontal	Pass
2826.0	-68.86	-13	-55.86	-72.27	3.13	6.54	Horizontal	Pass
1413.0	-70.27	-13	-57.27	-73.11	2.49	5.33	Vertical	Pass
2119.5	-69.87	-13	-56.87	-71.97	2.81	4.91	Vertical	Pass
2826.0	-68.52	-13	-55.52	-71.93	3.13	6.54	Vertical	Pass