

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	24.17	3.00	25.02	<=34.77	Pass
			13	24.22	3.00	25.07	<=34.77	Pass
			24	24.24	3.00	25.09	<=34.77	Pass
		12	0	23.15	3.00	24.00	<=34.77	Pass
			6	23.25	3.00	24.10	<=34.77	Pass
			13	23.29	3.00	24.14	<=34.77	Pass
		25	0	23.23	3.00	24.08	<=34.77	Pass
	710	1	0	24.19	3.00	25.04	<=34.77	Pass
			13	24.26	3.00	25.11	<=34.77	Pass
			24	24.22	3.00	25.07	<=34.77	Pass
		12	0	23.24	3.00	24.09	<=34.77	Pass
			6	23.23	3.00	24.08	<=34.77	Pass
			13	23.22	3.00	24.07	<=34.77	Pass
		25	0	23.26	3.00	24.11	<=34.77	Pass
	713.5	1	0	24.11	3.00	24.96	<=34.77	Pass
			13	24.22	3.00	25.07	<=34.77	Pass
			24	24.00	3.00	24.85	<=34.77	Pass
		12	0	23.34	3.00	24.19	<=34.77	Pass
			6	23.26	3.00	24.11	<=34.77	Pass
			13	23.20	3.00	24.05	<=34.77	Pass
		25	0	23.30	3.00	24.15	<=34.77	Pass
16QAM	706.5	1	0	23.30	3.00	24.15	<=34.77	Pass
			13	23.42	3.00	24.27	<=34.77	Pass
			24	23.23	3.00	24.08	<=34.77	Pass
		12	0	22.24	3.00	23.09	<=34.77	Pass
			6	22.23	3.00	23.08	<=34.77	Pass
			13	22.22	3.00	23.07	<=34.77	Pass
		25	0	22.13	3.00	22.98	<=34.77	Pass
	710	1	0	23.54	3.00	24.39	<=34.77	Pass
			13	23.55	3.00	24.40	<=34.77	Pass
			24	23.34	3.00	24.19	<=34.77	Pass
		12	0	22.22	3.00	23.07	<=34.77	Pass
			6	22.20	3.00	23.05	<=34.77	Pass
			13	22.28	3.00	23.13	<=34.77	Pass
		25	0	22.22	3.00	23.07	<=34.77	Pass
	713.5	1	0	23.70	3.00	24.55	<=34.77	Pass
			13	23.47	3.00	24.32	<=34.77	Pass
			24	23.29	3.00	24.14	<=34.77	Pass
		12	0	22.33	3.00	23.18	<=34.77	Pass
			6	22.19	3.00	23.04	<=34.77	Pass
			13	22.12	3.00	22.97	<=34.77	Pass
		25	0	22.27	3.00	23.12	<=34.77	Pass
64QAM	706.5	1	0	23.09	3.00	23.94	<=34.77	Pass
			13	23.09	3.00	23.94	<=34.77	Pass
			24	23.12	3.00	23.97	<=34.77	Pass
		12	0	22.12	3.00	22.97	<=34.77	Pass
			6	22.24	3.00	23.09	<=34.77	Pass

			13	22.30	3.00	23.15	<=34.77	Pass
		25	0	22.21	3.00	23.06	<=34.77	Pass
	710	1	0	22.96	3.00	23.81	<=34.77	Pass
			13	22.96	3.00	23.81	<=34.77	Pass
			24	23.36	3.00	24.21	<=34.77	Pass
		12	0	22.25	3.00	23.10	<=34.77	Pass
			6	22.23	3.00	23.08	<=34.77	Pass
			13	22.10	3.00	22.95	<=34.77	Pass
		25	0	22.16	3.00	23.01	<=34.77	Pass
		713.5	1	0	23.35	3.00	24.20	<=34.77
	13			22.95	3.00	23.80	<=34.77	Pass
	24			22.94	3.00	23.79	<=34.77	Pass
	12		0	22.27	3.00	23.12	<=34.77	Pass
			6	22.26	3.00	23.11	<=34.77	Pass
			13	22.09	3.00	22.94	<=34.77	Pass
	25		0	22.25	3.00	23.10	<=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	24.23	3.00	25.08	<=34.77	Pass
			25	24.20	3.00	25.05	<=34.77	Pass
			49	24.15	3.00	25.00	<=34.77	Pass
		25	0	23.23	3.00	24.08	<=34.77	Pass
			13	23.39	3.00	24.24	<=34.77	Pass
			25	23.29	3.00	24.14	<=34.77	Pass
		50	0	23.26	3.00	24.11	<=34.77	Pass
	710	1	0	24.04	3.00	24.89	<=34.77	Pass
			25	24.33	3.00	25.18	<=34.77	Pass
			49	24.22	3.00	25.07	<=34.77	Pass
		25	0	23.31	3.00	24.16	<=34.77	Pass
			13	23.25	3.00	24.10	<=34.77	Pass
			25	23.18	3.00	24.03	<=34.77	Pass
		50	0	23.34	3.00	24.19	<=34.77	Pass
	711	1	0	24.15	3.00	25.00	<=34.77	Pass
			25	24.25	3.00	25.10	<=34.77	Pass
			49	24.09	3.00	24.94	<=34.77	Pass
		25	0	23.25	3.00	24.10	<=34.77	Pass
			13	23.28	3.00	24.13	<=34.77	Pass
			25	23.23	3.00	24.08	<=34.77	Pass
		50	0	23.23	3.00	24.08	<=34.77	Pass
16QAM	709	1	0	22.70	3.00	23.55	<=34.77	Pass
			25	23.41	3.00	24.26	<=34.77	Pass
			49	23.29	3.00	24.14	<=34.77	Pass
		25	0	22.11	3.00	22.96	<=34.77	Pass
			13	22.26	3.00	23.11	<=34.77	Pass
			25	22.36	3.00	23.21	<=34.77	Pass
		50	0	22.30	3.00	23.15	<=34.77	Pass
	710	1	0	23.46	3.00	24.31	<=34.77	Pass
			25	23.46	3.00	24.31	<=34.77	Pass
			49	23.26	3.00	24.11	<=34.77	Pass
		25	0	22.21	3.00	23.06	<=34.77	Pass
			13	22.20	3.00	23.05	<=34.77	Pass
			25	21.80	3.00	22.65	<=34.77	Pass

64QAM	711	50	0	22.31	3.00	23.16	<=34.77	Pass	
		1	0	23.18	3.00	24.03	<=34.77	Pass	
			25	23.21	3.00	24.06	<=34.77	Pass	
			49	23.61	3.00	24.46	<=34.77	Pass	
			0	22.10	3.00	22.95	<=34.77	Pass	
		25	13	22.27	3.00	23.12	<=34.77	Pass	
			25	22.31	3.00	23.16	<=34.77	Pass	
			50	0	22.12	3.00	22.97	<=34.77	Pass
	709	1	0	23.07	3.00	23.92	<=34.77	Pass	
			25	22.71	3.00	23.56	<=34.77	Pass	
			49	23.09	3.00	23.94	<=34.77	Pass	
		25	0	22.29	3.00	23.14	<=34.77	Pass	
			13	22.35	3.00	23.20	<=34.77	Pass	
			25	22.32	3.00	23.17	<=34.77	Pass	
		50	0	22.17	3.00	23.02	<=34.77	Pass	
		710	1	0	23.05	3.00	23.90	<=34.77	Pass
				25	22.45	3.00	23.30	<=34.77	Pass
				49	23.12	3.00	23.97	<=34.77	Pass
	25		0	22.14	3.00	22.99	<=34.77	Pass	
			13	22.31	3.00	23.16	<=34.77	Pass	
			25	22.15	3.00	23.00	<=34.77	Pass	
50	0		22.32	3.00	23.17	<=34.77	Pass		
711	1	0	23.38	3.00	24.23	<=34.77	Pass		
		25	23.13	3.00	23.98	<=34.77	Pass		
		49	23.15	3.00	24.00	<=34.77	Pass		
	25	0	22.21	3.00	23.06	<=34.77	Pass		
		13	22.35	3.00	23.20	<=34.77	Pass		
		25	22.20	3.00	23.05	<=34.77	Pass		
	50	0	22.22	3.00	23.07	<=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	LV	-2.100	-0.0030	-2.5 to 2.5	Pass
					HV	-1.800	-0.0025	-2.5 to 2.5	Pass
					NV	-2.000	-0.0028	-2.5 to 2.5	Pass
				-30	NV	-1.300	-0.0018	-2.5 to 2.5	Pass
				-20	NV	-2.600	-0.0037	-2.5 to 2.5	Pass
				-10	NV	-1.000	-0.0014	-2.5 to 2.5	Pass
				0	NV	-2.000	-0.0028	-2.5 to 2.5	Pass
				10	NV	-3.200	-0.0045	-2.5 to 2.5	Pass
				30	NV	-4.000	-0.0056	-2.5 to 2.5	Pass
				40	NV	-3.100	-0.0044	-2.5 to 2.5	Pass
50	NV	-2.500	-0.0035	-2.5 to 2.5	Pass				

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band17_OBW

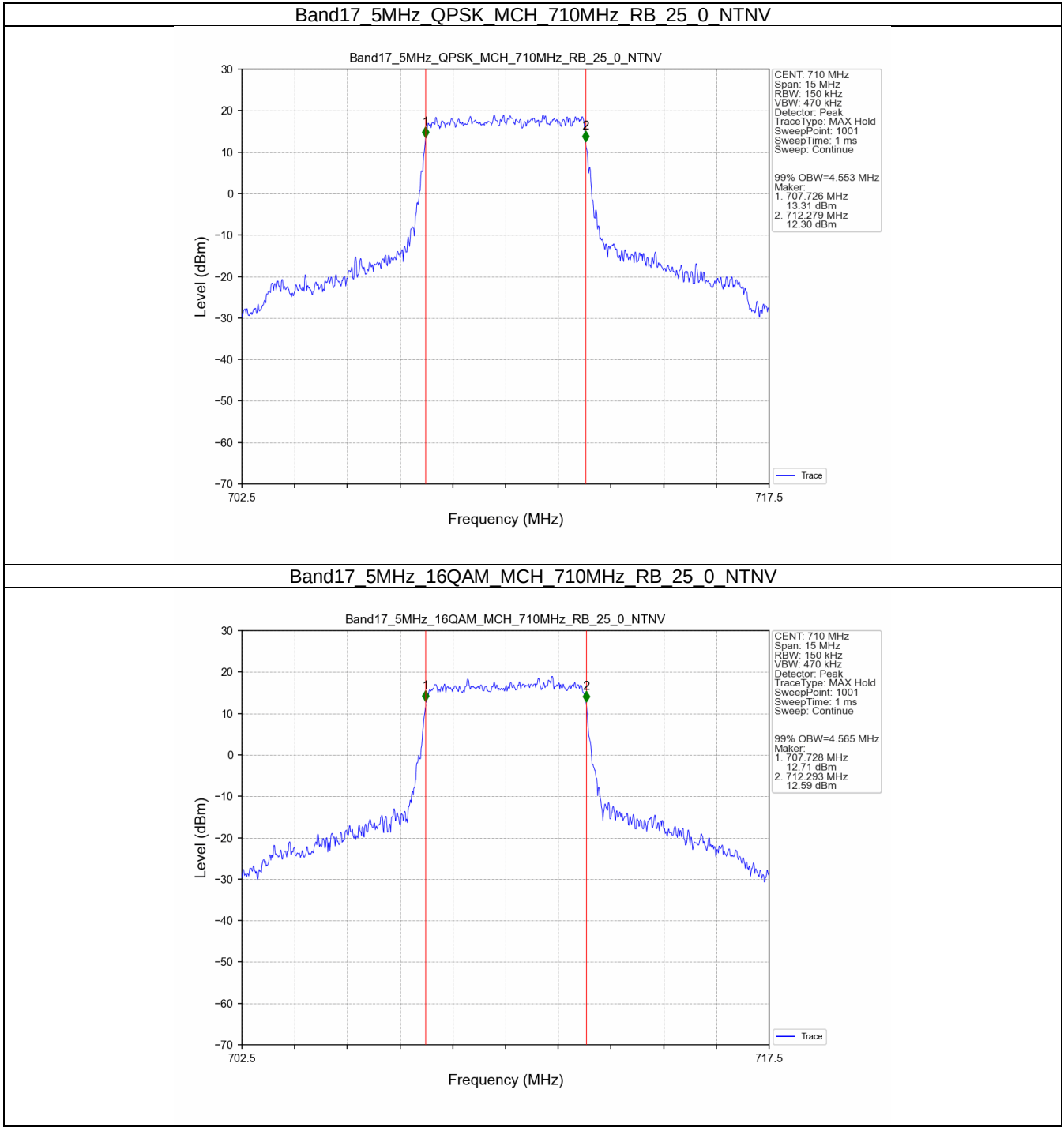
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	4.553	/	Pass
	16QAM	710	25	0	4.565	/	Pass
10	QPSK	710	50	0	9.047	/	Pass
	16QAM	710	50	0	9.049	/	Pass

3.1.2 Band17_XDB

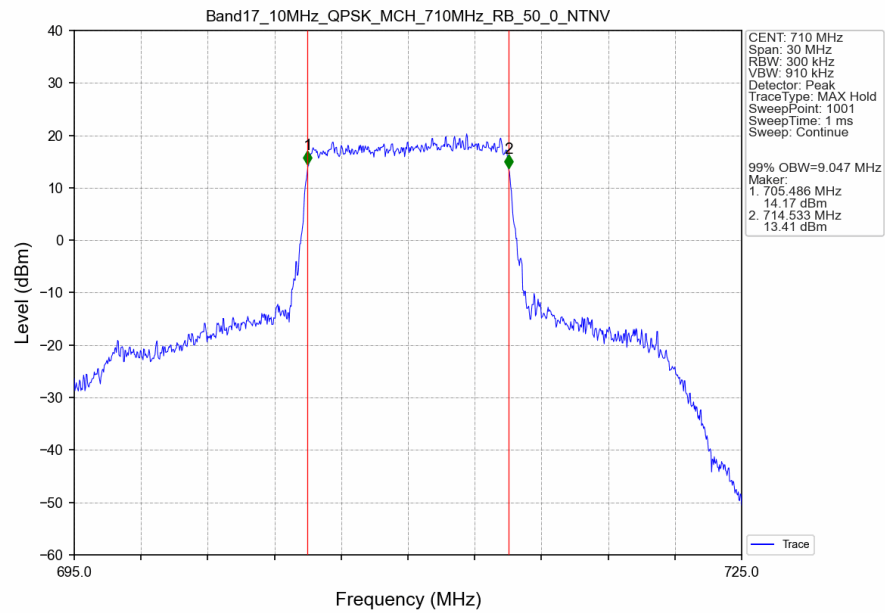
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	5.182	/	Pass
	16QAM	710	25	0	5.183	/	Pass
10	QPSK	710	50	0	10.197	/	Pass
	16QAM	710	50	0	10.213	/	Pass

3.2 Test Graph

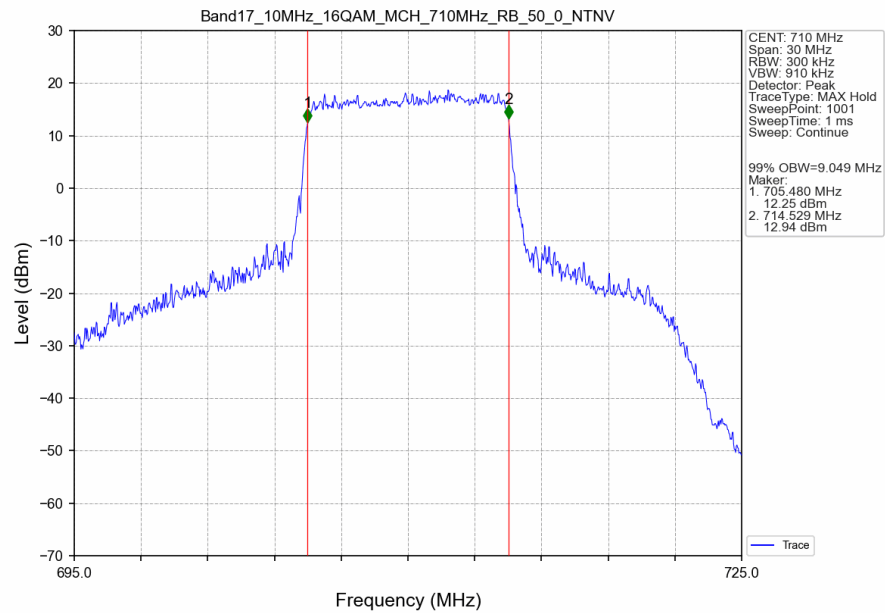
3.2.1 Band17_OBW



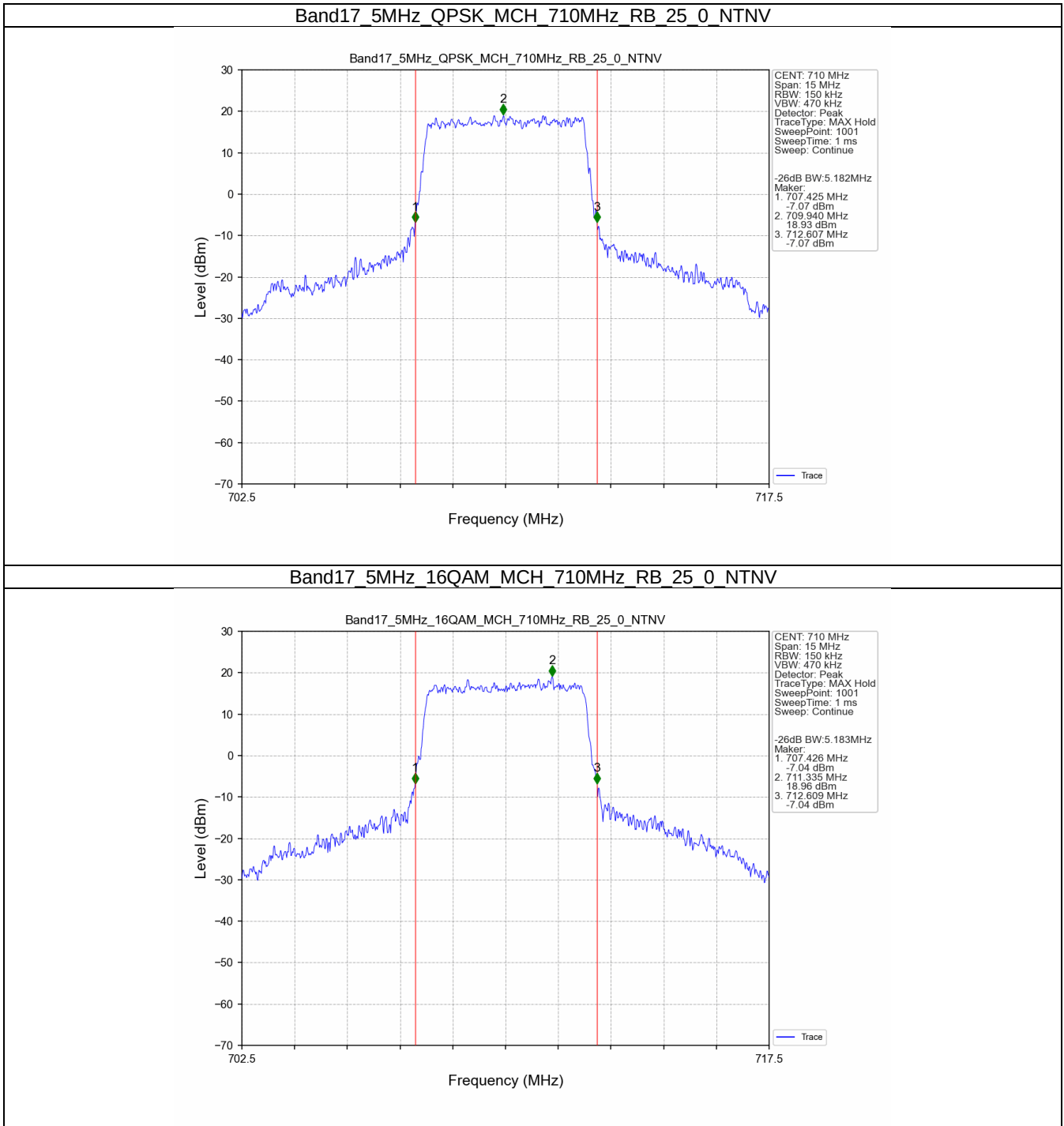
Band17 10MHz QPSK MCH 710MHz RB 50 0 NTV



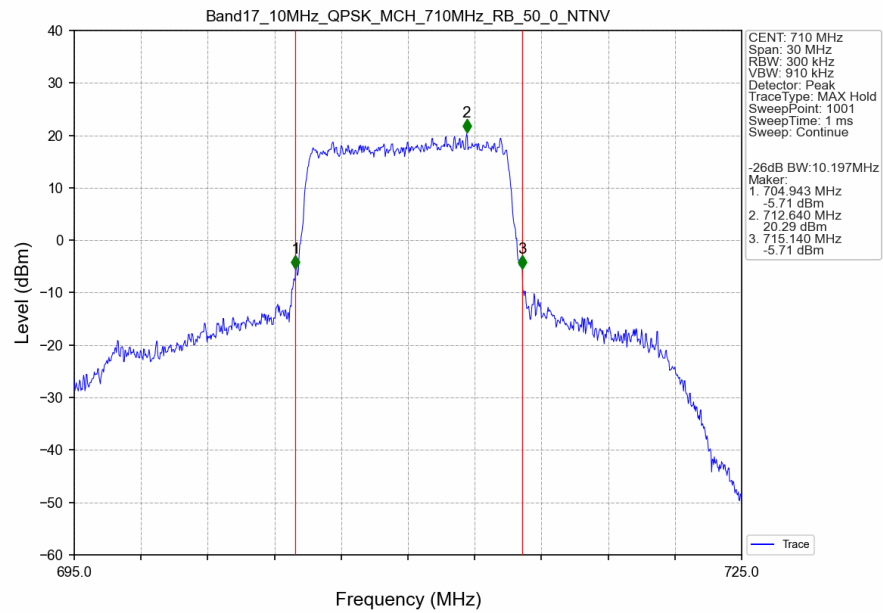
Band17 10MHz 16QAM MCH 710MHz RB 50 0 NTV



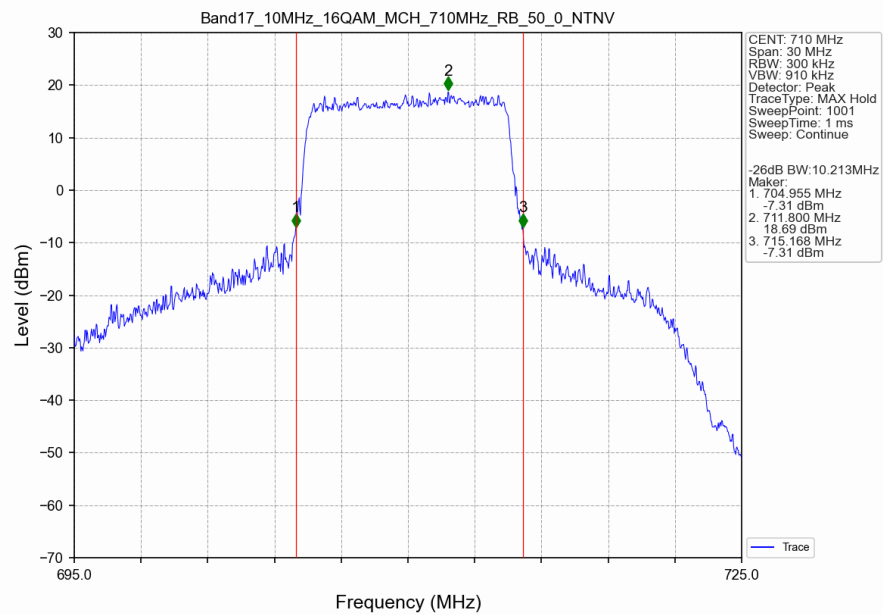
3.2.2 Band17_XDB



Band17 10MHz QPSK MCH 710MHz RB 50 0 NTV



Band17 10MHz 16QAM MCH 710MHz RB 50 0 NTV



4. Peak-Average Ratio

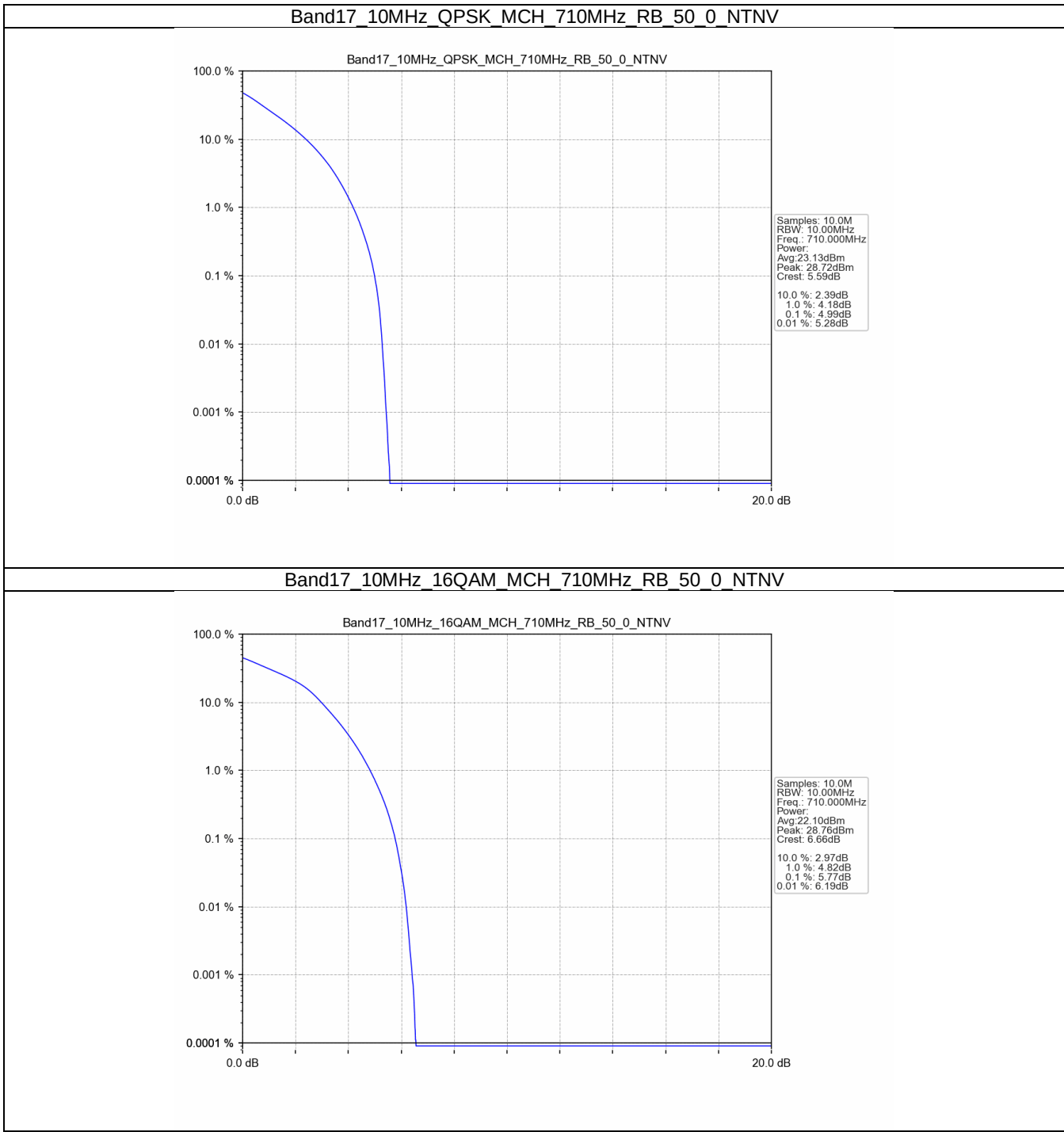
4.1 Test Result

4.1.1 B17_10MHz

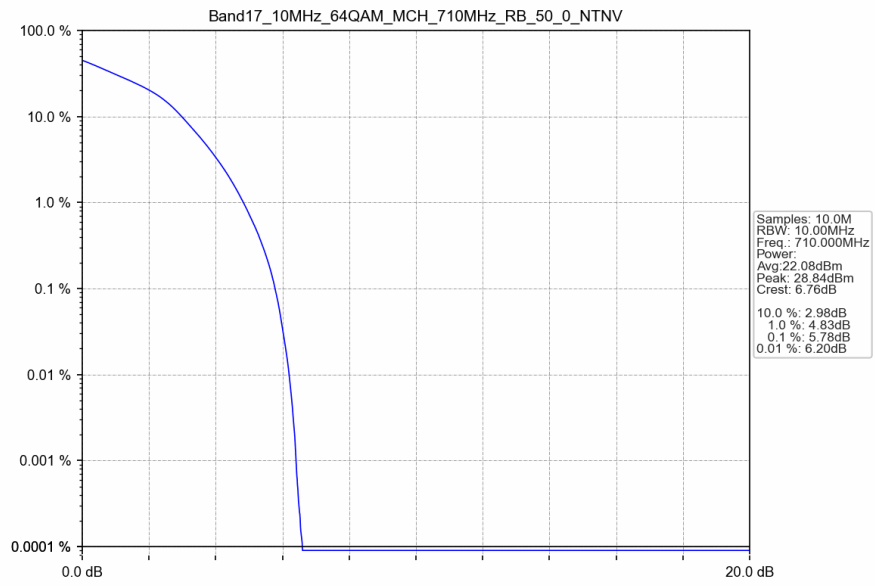
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	710	50	0	4.99	<=13	Pass
16QAM	710	50	0	5.77	<=13	Pass
64QAM	710	50	0	5.78	<=13	Pass

4.2 Test Graph

4.2.1 B17_10MHz



Band17 10MHz 64QAM MCH 710MHz RB 50 0 NTV



5. Spurious Emission

5.1 Test Result

5.1.1 B17_5MHz

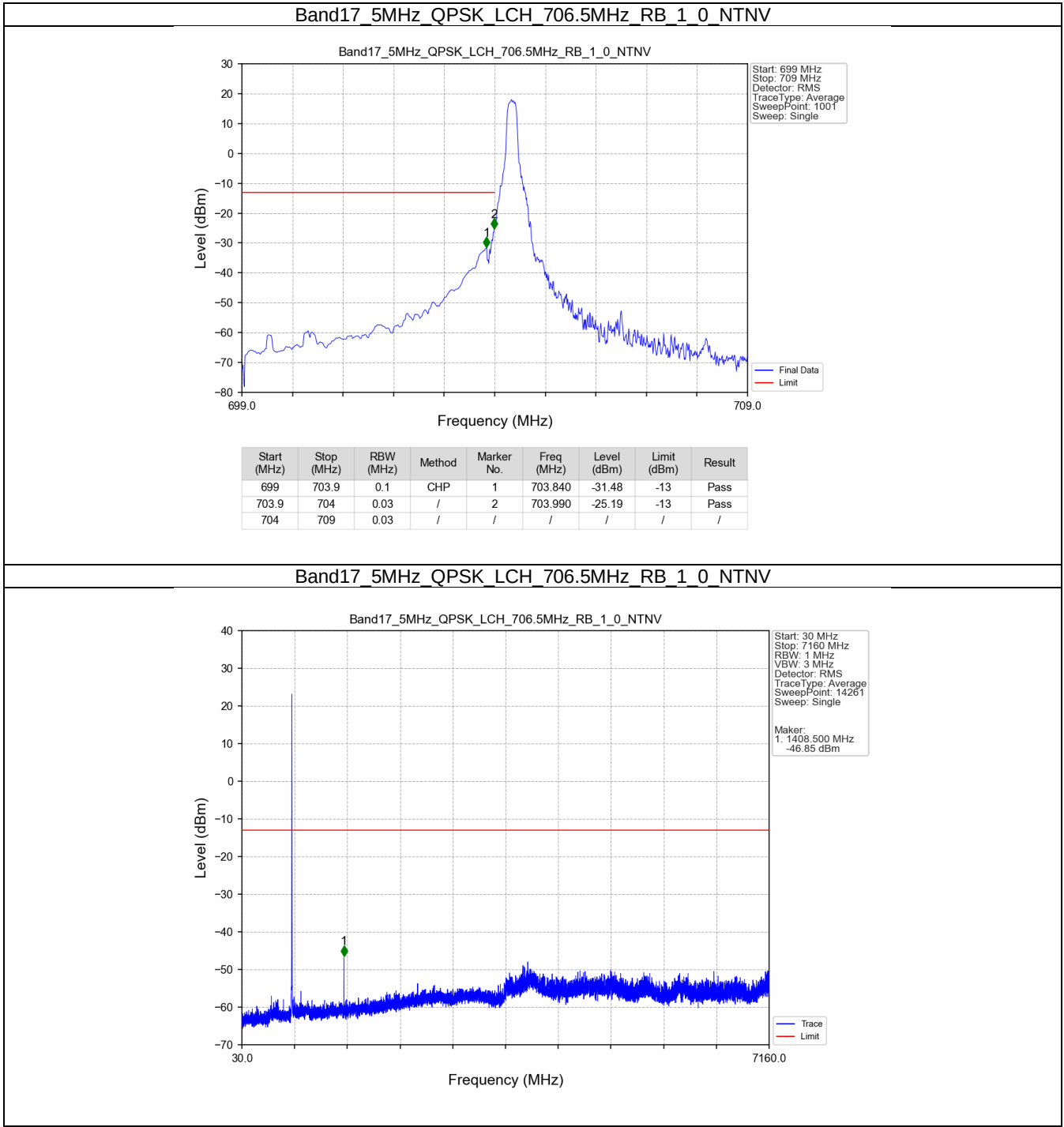
Band: 17 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	706.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	713.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B17_10MHz

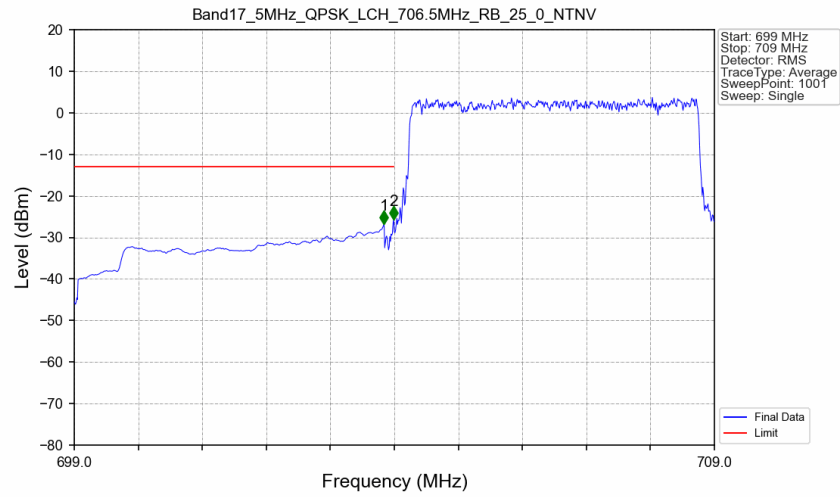
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	709	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	711	1	0	Refer To Test Graph		Pass
			49	Refer To Test Graph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

5.2 Test Graph

5.2.1 B17_5MHz

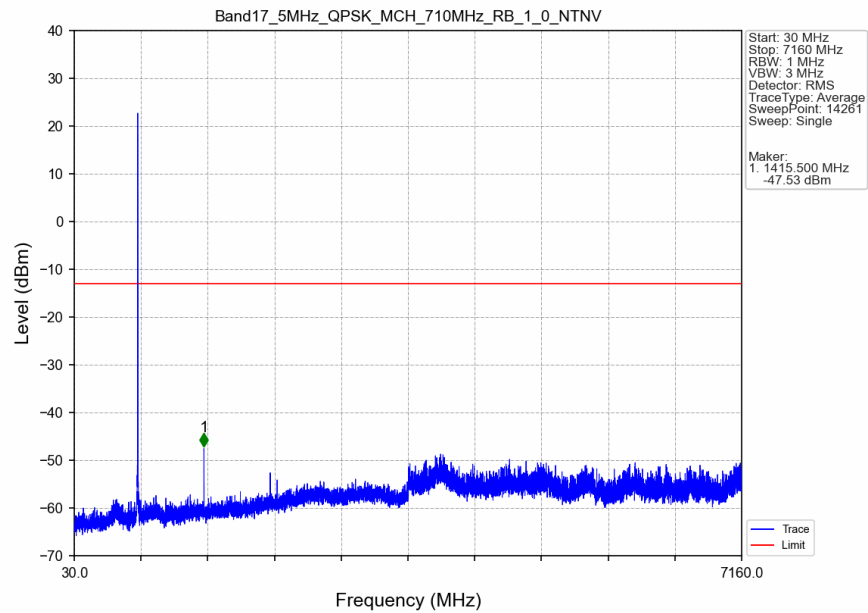


Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV

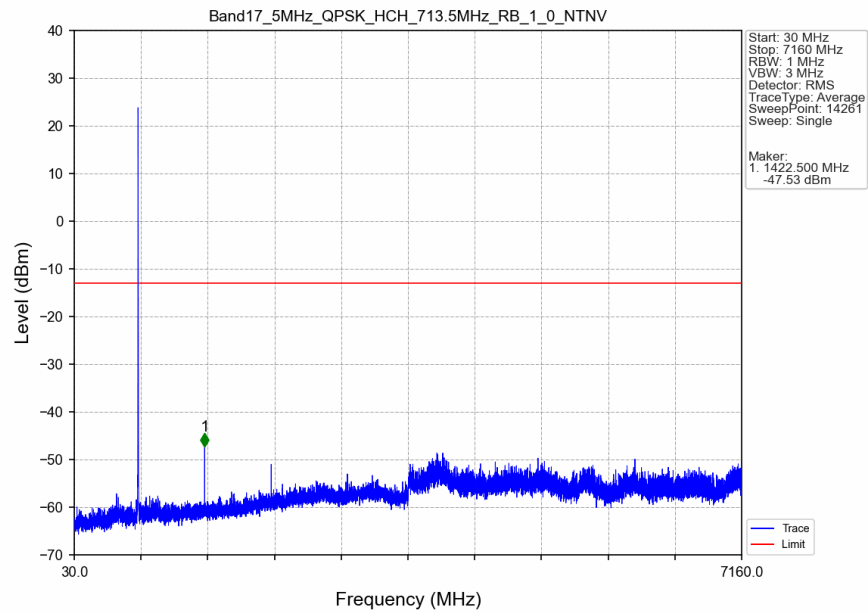


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-26.78	-13	Pass
703.9	704	0.03	/	2	703.990	-25.58	-13	Pass
704	709	0.03	/	/	/	/	/	/

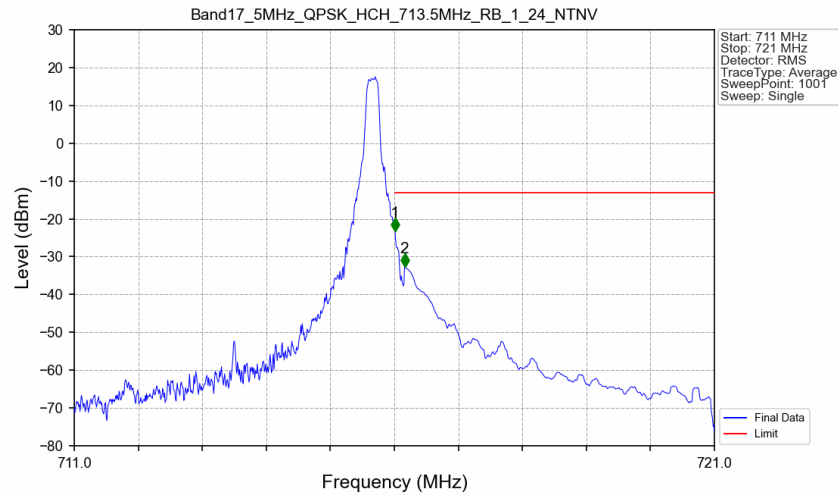
Band17_5MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17 5MHz QPSK HCH 713.5MHz RB 1 0 NTNV

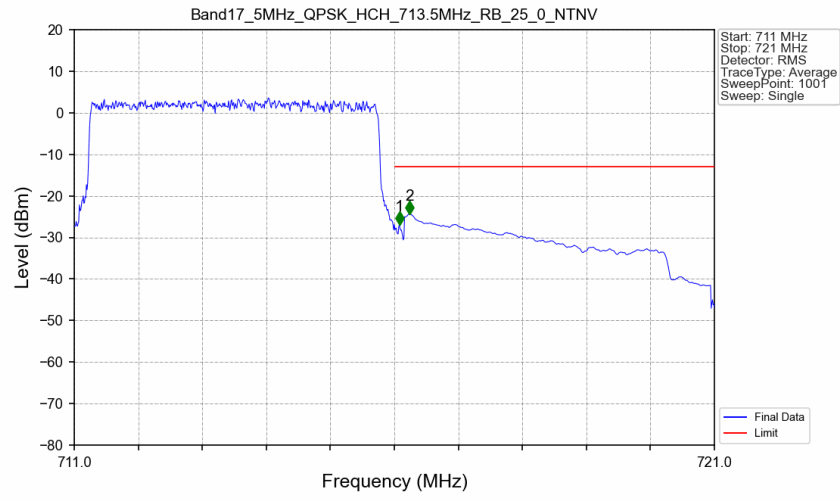


Band17 5MHz QPSK HCH 713.5MHz RB 1 24 NTNV



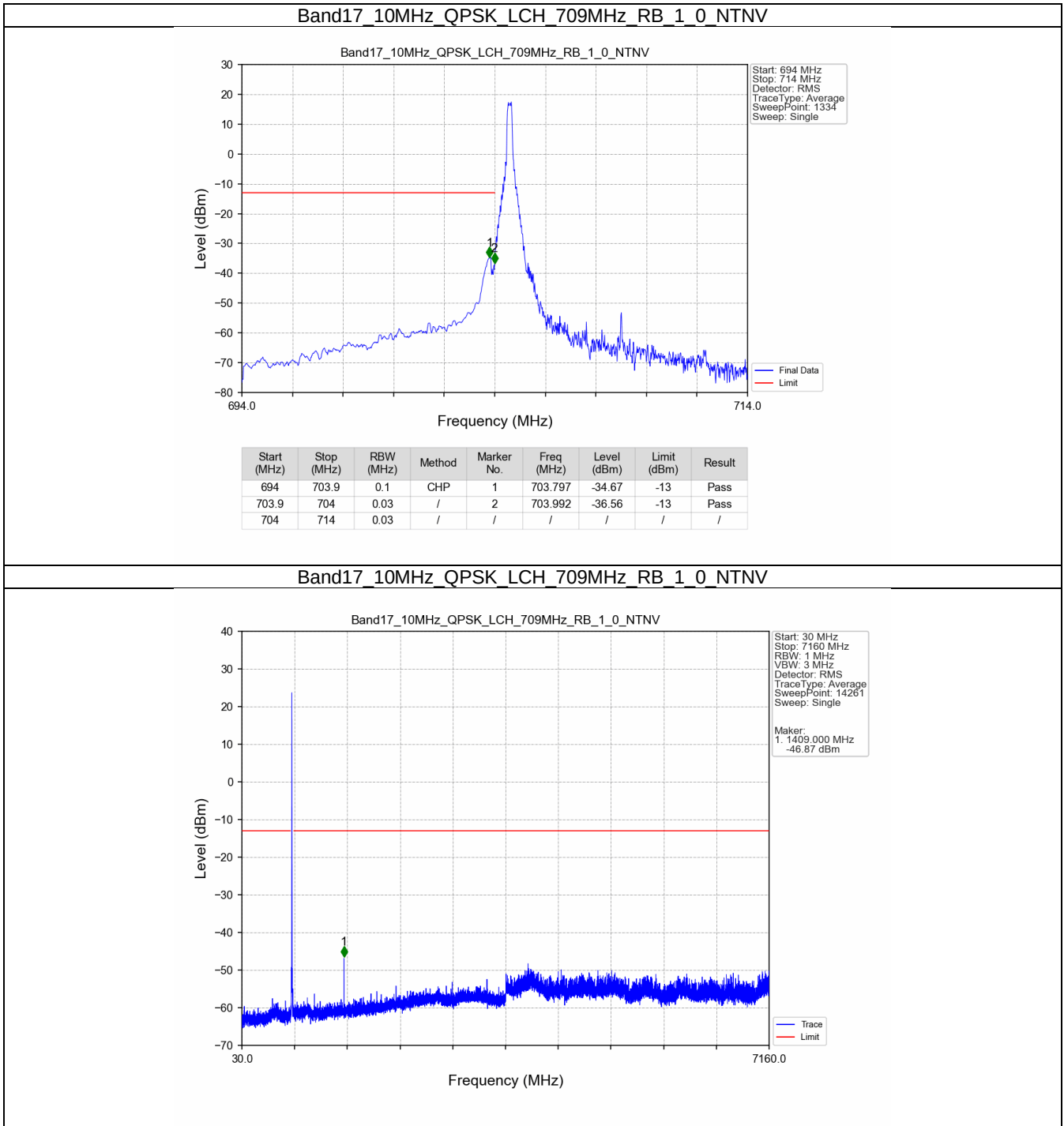
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.010	-23.16	-13	Pass
716.1	721	0.1	CHP	2	716.160	-32.71	-13	Pass

Band17 5MHz QPSK HCH 713.5MHz RB 25 0 NTN

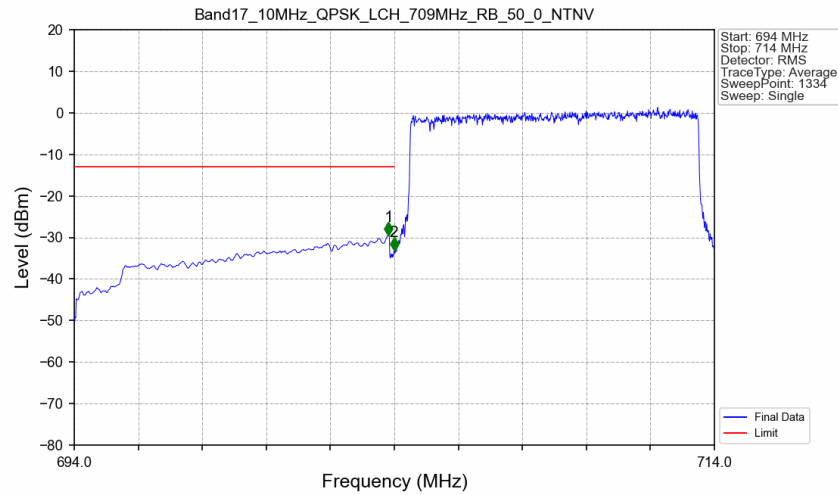


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.080	-27.03	-13	Pass
716.1	721	0.1	CHP	2	716.240	-24.34	-13	Pass

5.2.2 B17_10MHz

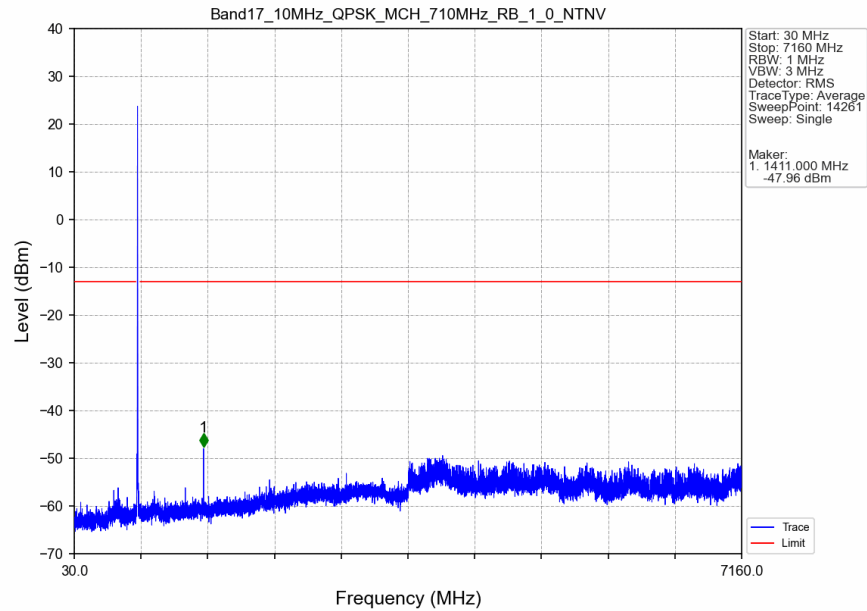


Band17 10MHz QPSK LCH 709MHz RB 50 0 NTN

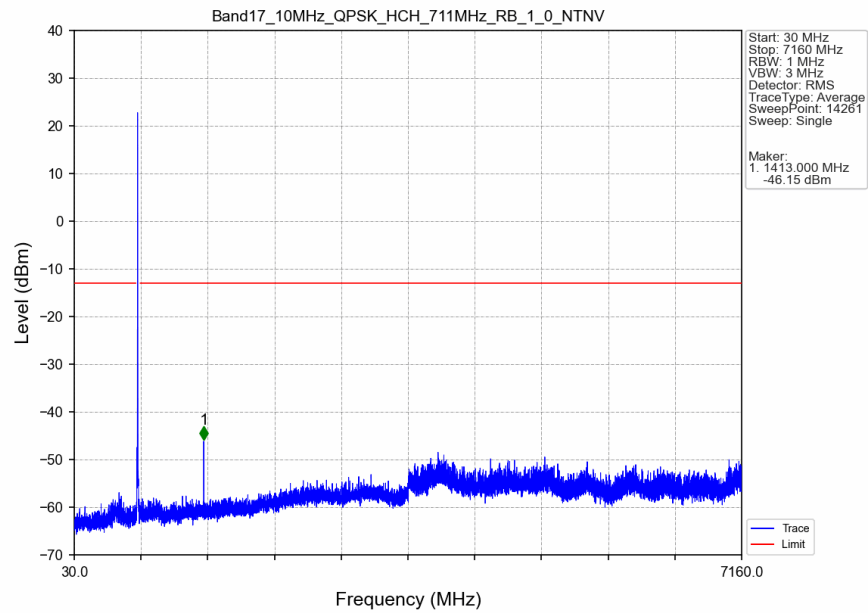


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.812	-29.42	-13	Pass
703.9	704	0.03	/	2	703.992	-33.08	-13	Pass
704	714	0.03	/	/	/	/	/	/

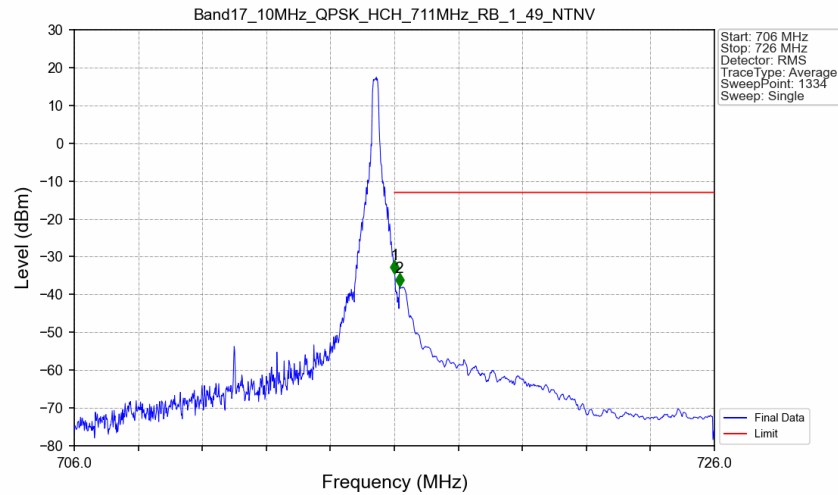
Band17 10MHz QPSK MCH 710MHz RB 1 0 NTN



Band17 10MHz QPSK HCH 711MHz RB 1 0 NTN

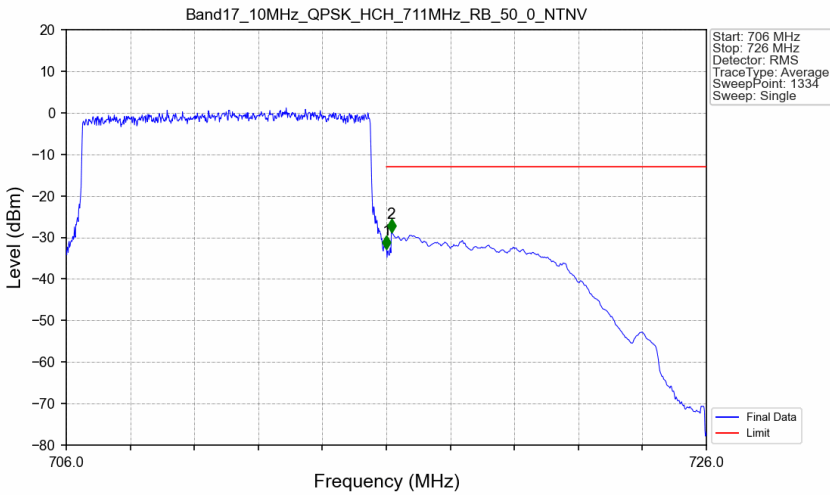


Band17_10MHz_QPSK_HCH_711MHz_RB_1_49 NTN



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	-34.39	-13	Pass
716.1	726	0.1	CHP	2	716.158	-37.90	-13	Pass

Band17 10MHz QPSK HCH 711MHz RB 50 0 NTN



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	-32.85	-13	Pass
716.1	726	0.1	CHP	2	716.158	-28.80	-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	-57.69	-13	-44.69	-60.51	2.48	5.3	Horizontal	Pass
2113.5	-69.79	-13	-56.79	-71.88	2.8	4.89	Horizontal	Pass
2818.0	-63.92	-13	-50.92	-67.32	3.12	6.52	Horizontal	Pass
1409.0	-56.8	-13	-43.8	-59.62	2.48	5.3	Vertical	Pass
2113.5	-69.5	-13	-56.5	-71.59	2.8	4.89	Vertical	Pass
2818.0	-64.51	-13	-51.51	-67.91	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	-58.43	-13	-45.43	-61.26	2.49	5.32	Horizontal	Pass
2116.5	-66.64	-13	-53.64	-68.74	2.8	4.9	Horizontal	Pass
2822.0	-65.49	-13	-52.49	-68.89	3.13	6.53	Horizontal	Pass
1411.0	-55.3	-13	-42.3	-58.13	2.49	5.32	Vertical	Pass
2116.5	-68.85	-13	-55.85	-70.95	2.8	4.9	Vertical	Pass
2822.0	-64.65	-13	-51.65	-68.05	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	-57.2	-13	-44.2	-60.04	2.49	5.33	Horizontal	Pass
2119.5	-69.83	-13	-56.83	-71.93	2.81	4.91	Horizontal	Pass
2826.0	-65.46	-13	-52.46	-68.87	3.13	6.54	Horizontal	Pass
1413.0	-54.02	-13	-41.02	-56.86	2.49	5.33	Vertical	Pass
2119.5	-70.17	-13	-57.17	-72.27	2.81	4.91	Vertical	Pass
2826.0	-65.78	-13	-52.78	-69.19	3.13	6.54	Vertical	Pass