

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 B17_5MHz_ERP

Band: 17 / Bandwidth: 5MHz / NTV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	706.5	1	0	22.85	3.26	23.96	<=34.77	Pass
			13	22.84	3.26	23.95	<=34.77	Pass
			24	22.97	3.26	24.08	<=34.77	Pass
		12	0	22.03	3.26	23.14	<=34.77	Pass
			6	22.06	3.26	23.17	<=34.77	Pass
			13	22.06	3.26	23.17	<=34.77	Pass
		25	0	22.02	3.26	23.13	<=34.77	Pass
	710	1	0	22.92	3.26	24.03	<=34.77	Pass
			13	22.83	3.26	23.94	<=34.77	Pass
			24	22.92	3.26	24.03	<=34.77	Pass
		12	0	22.13	3.26	23.24	<=34.77	Pass
			6	22.17	3.26	23.28	<=34.77	Pass
			13	22.11	3.26	23.22	<=34.77	Pass
	25	0	22.08	3.26	23.19	<=34.77	Pass	
	713.5	1	0	22.81	3.26	23.92	<=34.77	Pass
			13	23.16	3.26	24.27	<=34.77	Pass
			24	22.84	3.26	23.95	<=34.77	Pass
		12	0	22.02	3.26	23.13	<=34.77	Pass
			6	22.08	3.26	23.19	<=34.77	Pass
			13	22.16	3.26	23.27	<=34.77	Pass
		25	0	22.11	3.26	23.22	<=34.77	Pass
16QAM	706.5	1	0	21.27	3.26	22.38	<=34.77	Pass
			13	21.43	3.26	22.54	<=34.77	Pass
			24	21.18	3.26	22.29	<=34.77	Pass
		12	0	21.17	3.26	22.28	<=34.77	Pass
			6	21.13	3.26	22.24	<=34.77	Pass
			13	21.13	3.26	22.24	<=34.77	Pass
		25	0	21.20	3.26	22.31	<=34.77	Pass
	710	1	0	22.51	3.26	23.62	<=34.77	Pass
			13	22.64	3.26	23.75	<=34.77	Pass
			24	22.56	3.26	23.67	<=34.77	Pass
		12	0	21.03	3.26	22.14	<=34.77	Pass
			6	21.11	3.26	22.22	<=34.77	Pass
			13	21.20	3.26	22.31	<=34.77	Pass
	25	0	21.17	3.26	22.28	<=34.77	Pass	
	713.5	1	0	21.94	3.26	23.05	<=34.77	Pass
			13	22.40	3.26	23.51	<=34.77	Pass
			24	21.97	3.26	23.08	<=34.77	Pass
		12	0	21.18	3.26	22.29	<=34.77	Pass
			6	21.17	3.26	22.28	<=34.77	Pass
			13	21.02	3.26	22.13	<=34.77	Pass
		25	0	21.07	3.26	22.18	<=34.77	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

1.1.2 B17_10MHz_ERP

Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency	RB Allocation	Conducted Power	Gain	ERP (dBm)	Verdict

	(MHz)	Size	Offset	(dBm)	(dBi)	Result	Limit			
QPSK	709	1	0	23.06	3.26	24.17	<=34.77	Pass		
			25	23.25	3.26	24.36	<=34.77	Pass		
			49	23.12	3.26	24.23	<=34.77	Pass		
		25	0	22.28	3.26	23.39	<=34.77	Pass		
			13	22.23	3.26	23.34	<=34.77	Pass		
			25	22.19	3.26	23.30	<=34.77	Pass		
		50	0	22.23	3.26	23.34	<=34.77	Pass		
		710	1	0	23.05	3.26	24.16	<=34.77	Pass	
				25	23.36	3.26	24.47	<=34.77	Pass	
	49			22.92	3.26	24.03	<=34.77	Pass		
	25		0	22.09	3.26	23.20	<=34.77	Pass		
			13	22.09	3.26	23.20	<=34.77	Pass		
			25	22.16	3.26	23.27	<=34.77	Pass		
	50		0	22.19	3.26	23.30	<=34.77	Pass		
	711		1	0	23.29	3.26	24.40	<=34.77	Pass	
				25	23.57	3.26	24.68	<=34.77	Pass	
		49		23.11	3.26	24.22	<=34.77	Pass		
		25	0	22.18	3.26	23.29	<=34.77	Pass		
			13	22.20	3.26	23.31	<=34.77	Pass		
			25	22.18	3.26	23.29	<=34.77	Pass		
		50	0	22.16	3.26	23.27	<=34.77	Pass		
		16QAM	709	1	0	22.87	3.26	23.98	<=34.77	Pass
					25	22.62	3.26	23.73	<=34.77	Pass
	49				22.53	3.26	23.64	<=34.77	Pass	
25	0			21.34	3.26	22.45	<=34.77	Pass		
	13			21.40	3.26	22.51	<=34.77	Pass		
	25			21.37	3.26	22.48	<=34.77	Pass		
50	0			21.10	3.26	22.21	<=34.77	Pass		
710	1			0	22.69	3.26	23.80	<=34.77	Pass	
				25	22.76	3.26	23.87	<=34.77	Pass	
			49	22.85	3.26	23.96	<=34.77	Pass		
	25		0	20.97	3.26	22.08	<=34.77	Pass		
			13	21.35	3.26	22.46	<=34.77	Pass		
			25	21.30	3.26	22.41	<=34.77	Pass		
	50		0	21.15	3.26	22.26	<=34.77	Pass		
	711		1	0	22.03	3.26	23.14	<=34.77	Pass	
				25	22.12	3.26	23.23	<=34.77	Pass	
49				21.93	3.26	23.04	<=34.77	Pass		
25			0	21.30	3.26	22.41	<=34.77	Pass		
			13	21.53	3.26	22.64	<=34.77	Pass		
			25	21.29	3.26	22.40	<=34.77	Pass		
50			0	21.22	3.26	22.33	<=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	709	50	0	20	3.55	0.572	0.0008	/	Pass
					4	0.200	0.0003	/	Pass
					4.4	-0.215	-0.0003	/	Pass
				-30	4	0.129	0.0002	/	Pass
				-20	4	0.672	0.0009	/	Pass
				-10	4	-0.100	-0.0001	/	Pass
				0	4	-0.100	-0.0001	/	Pass
				10	4	0.486	0.0007	/	Pass
				30	4	0.286	0.0004	/	Pass
				40	4	-0.300	-0.0004	/	Pass
				50	4	-0.257	-0.0004	/	Pass
	710	50	0	20	3.55	1.159	0.0016	/	Pass
					4	1.202	0.0017	/	Pass
					4.4	1.659	0.0023	/	Pass
				-30	4	0.343	0.0005	/	Pass
				-20	4	0.772	0.0011	/	Pass
				-10	4	1.302	0.0018	/	Pass
				0	4	0.443	0.0006	/	Pass
				10	4	1.030	0.0015	/	Pass
				30	4	0.787	0.0011	/	Pass
				40	4	0.401	0.0006	/	Pass
				50	4	0.701	0.0010	/	Pass
	711	50	0	20	3.55	-1.373	-0.0019	/	Pass
					4	-0.658	-0.0009	/	Pass
					4.4	-1.187	-0.0017	/	Pass
				-30	4	0.057	0.0001	/	Pass
				-20	4	-0.200	-0.0003	/	Pass
				-10	4	-1.187	-0.0017	/	Pass
				0	4	-1.159	-0.0016	/	Pass
				10	4	-0.730	-0.0010	/	Pass
				30	4	-0.243	-0.0003	/	Pass
				40	4	-1.531	-0.0022	/	Pass
				50	4	-0.386	-0.0005	/	Pass
16QAM	709	50	0	20	3.55	0.529	0.0007	/	Pass
					4	-0.343	-0.0005	/	Pass
					4.4	-0.129	-0.0002	/	Pass
				-30	4	-0.701	-0.0010	/	Pass
				-20	4	0.129	0.0002	/	Pass
				-10	4	-0.014	0.0000	/	Pass
				0	4	-1.345	-0.0019	/	Pass
				10	4	-1.345	-0.0019	/	Pass
				30	4	-0.744	-0.0010	/	Pass
				40	4	-0.014	0.0000	/	Pass
				50	4	0.257	0.0004	/	Pass
	710	50	0	20	3.55	0.844	0.0012	/	Pass
					4	-0.443	-0.0006	/	Pass
					4.4	0.372	0.0005	/	Pass
				-30	4	-0.229	-0.0003	/	Pass
				-20	4	-0.315	-0.0004	/	Pass

				-10	4	0.315	0.0004	/	Pass
				0	4	0.401	0.0006	/	Pass
				10	4	-0.200	-0.0003	/	Pass
				30	4	-0.772	-0.0011	/	Pass
				40	4	-0.730	-0.0010	/	Pass
				50	4	0.300	0.0004	/	Pass
	711	50	0	20	3.55	-0.558	-0.0008	/	Pass
					4	-1.202	-0.0017	/	Pass
					4.4	-0.300	-0.0004	/	Pass
				-30	4	-0.973	-0.0014	/	Pass
				-20	4	-0.744	-0.0010	/	Pass
				-10	4	-0.515	-0.0007	/	Pass
				0	4	-0.587	-0.0008	/	Pass
				10	4	-0.386	-0.0005	/	Pass
				30	4	-1.445	-0.0020	/	Pass
				40	4	-0.815	-0.0011	/	Pass
				50	4	-0.672	-0.0009	/	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band17_OBW

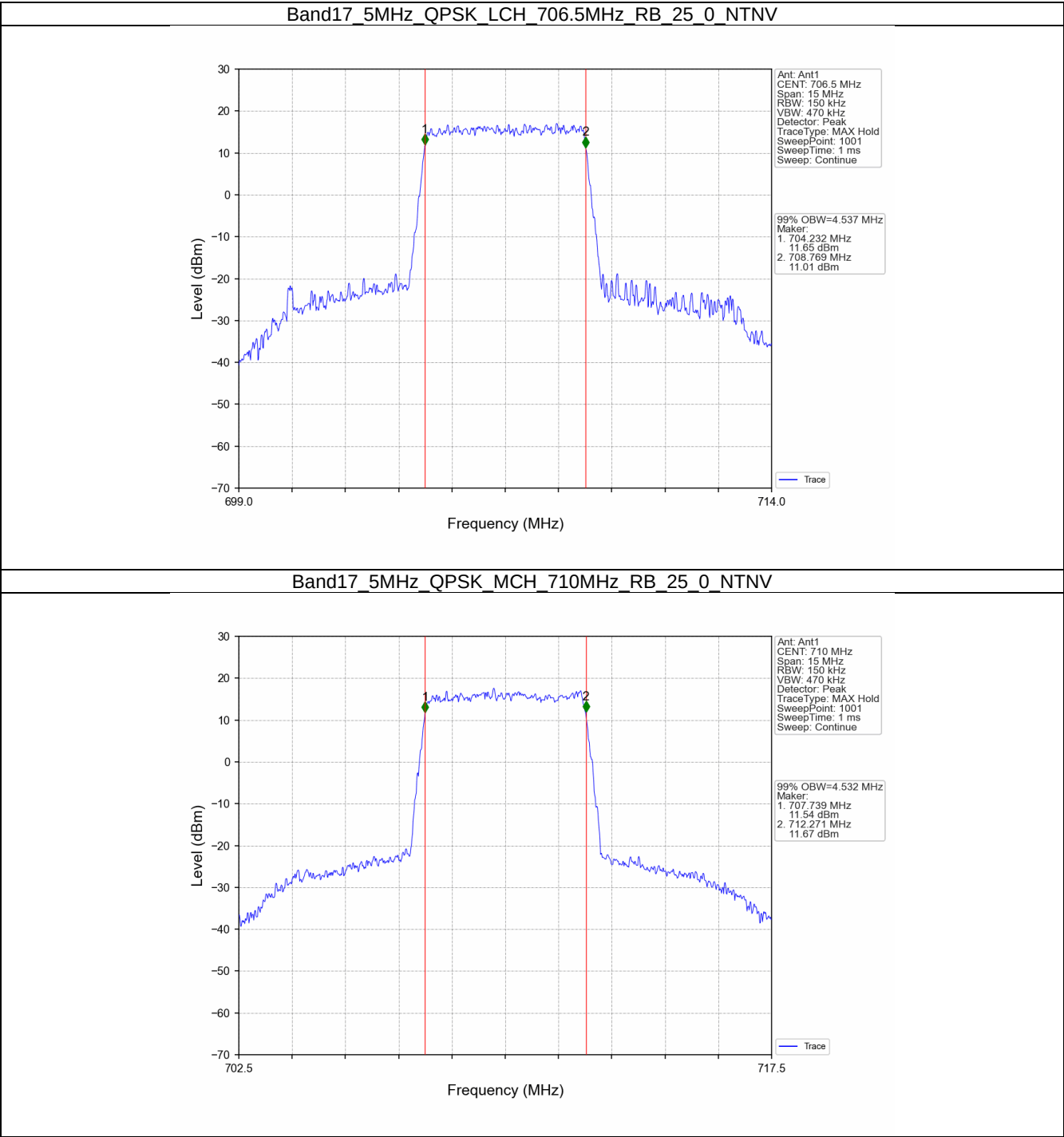
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	706.5	25	0	4.537	/	Pass
		710	25	0	4.532	/	Pass
		713.5	25	0	4.536	/	Pass
	16QAM	706.5	25	0	4.551	/	Pass
		710	25	0	4.525	/	Pass
		713.5	25	0	4.513	/	Pass
10	QPSK	709	50	0	9.056	/	Pass
		710	50	0	9.023	/	Pass
		711	50	0	9.018	/	Pass
	16QAM	709	50	0	9.033	/	Pass
		710	50	0	9.036	/	Pass
		711	50	0	9.033	/	Pass

3.1.2 Band17_XDB

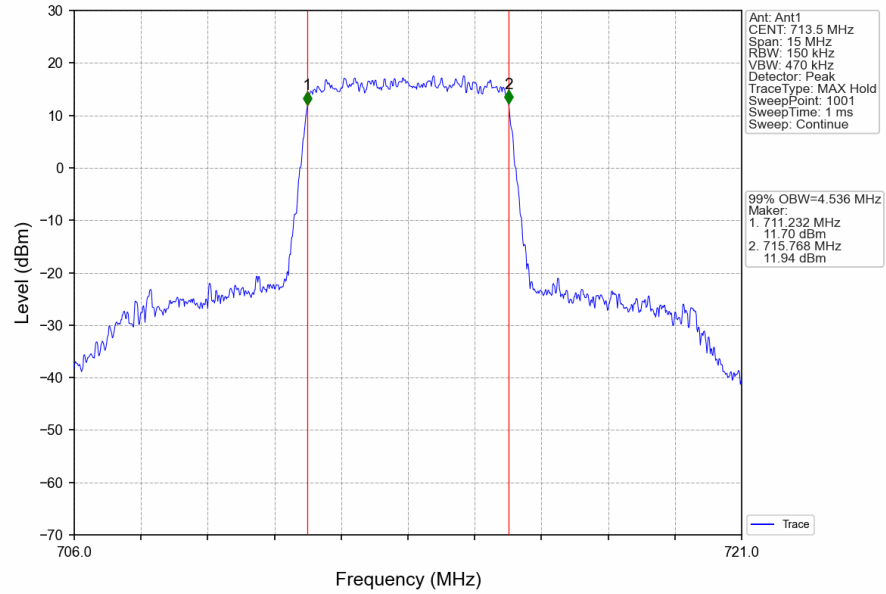
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	706.5	25	0	5.097	/	Pass
		710	25	0	5.059	/	Pass
		713.5	25	0	5.022	/	Pass
	16QAM	706.5	25	0	5.101	/	Pass
		710	25	0	5.101	/	Pass
		713.5	25	0	5.021	/	Pass
10	QPSK	709	50	0	10.064	/	Pass
		710	50	0	10.051	/	Pass
		711	50	0	10.006	/	Pass
	16QAM	709	50	0	10.041	/	Pass
		710	50	0	10.034	/	Pass
		711	50	0	9.995	/	Pass

3.2 Test Graph

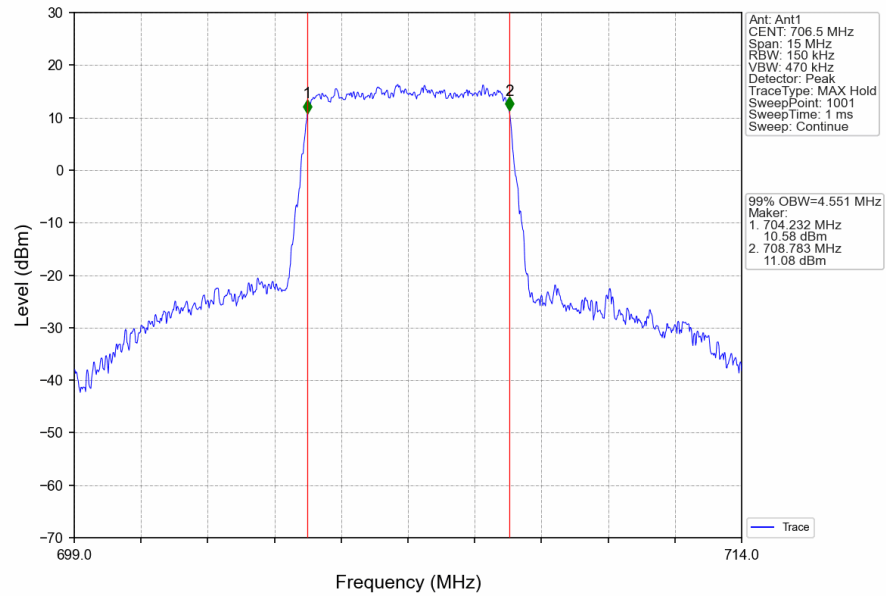
3.2.1 Band17_OBW



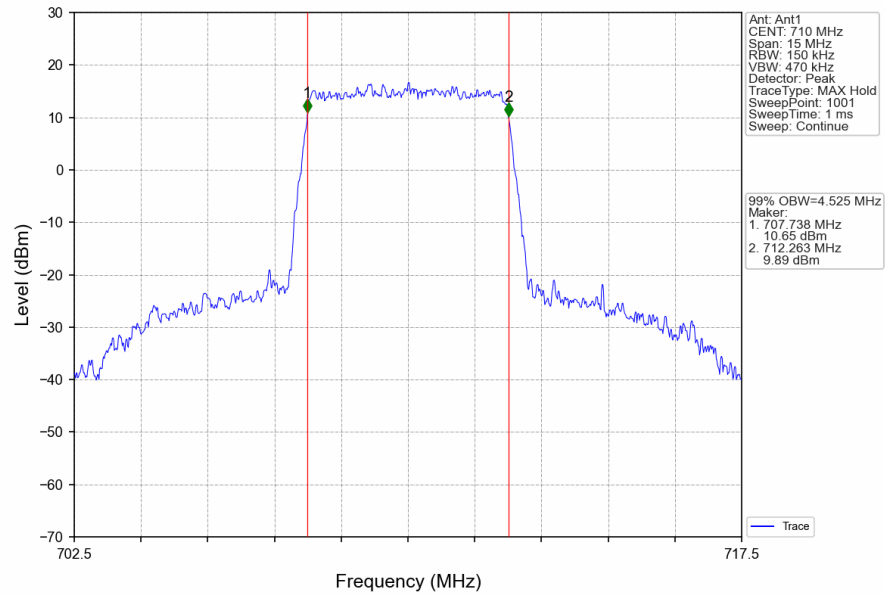
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



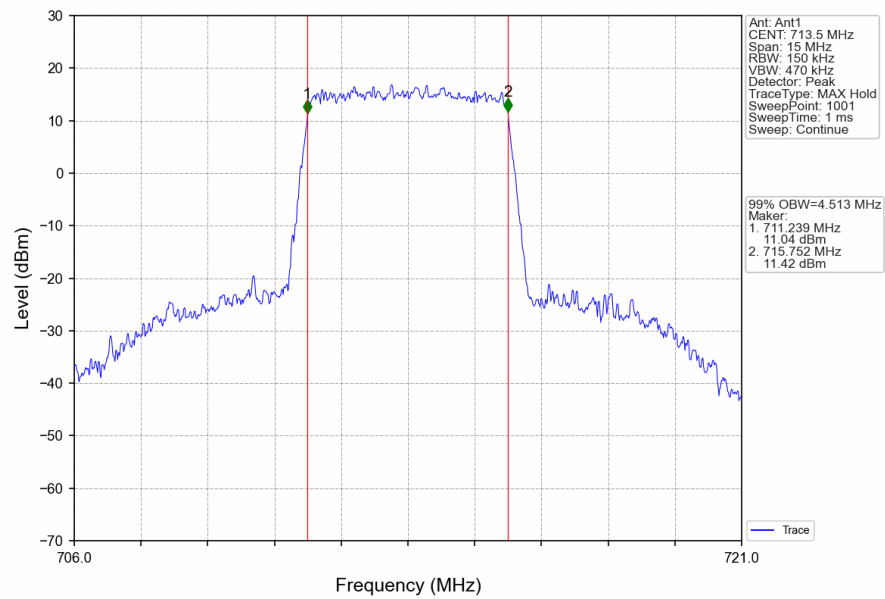
Band17_5MHz_16QAM_LCH_706.5MHz_RB_25_0_NTNV



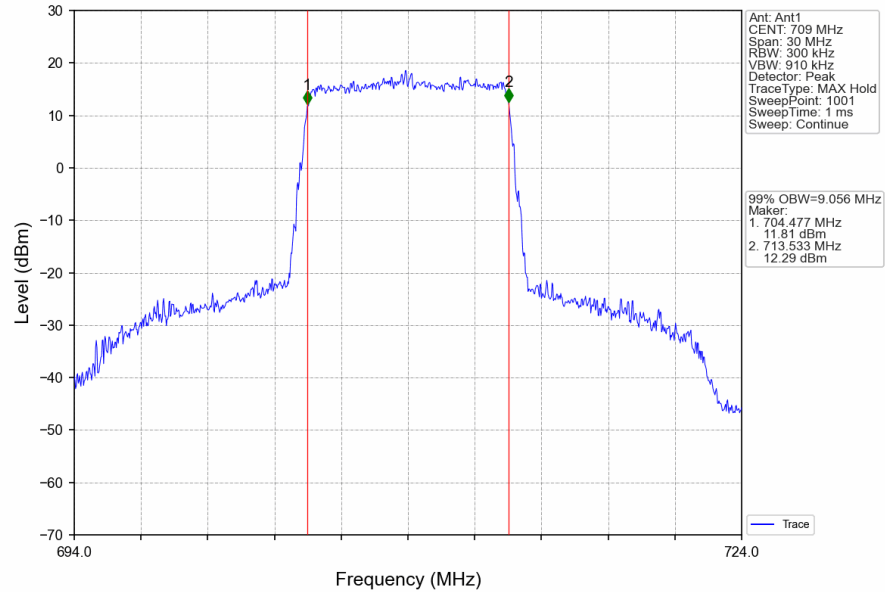
Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV



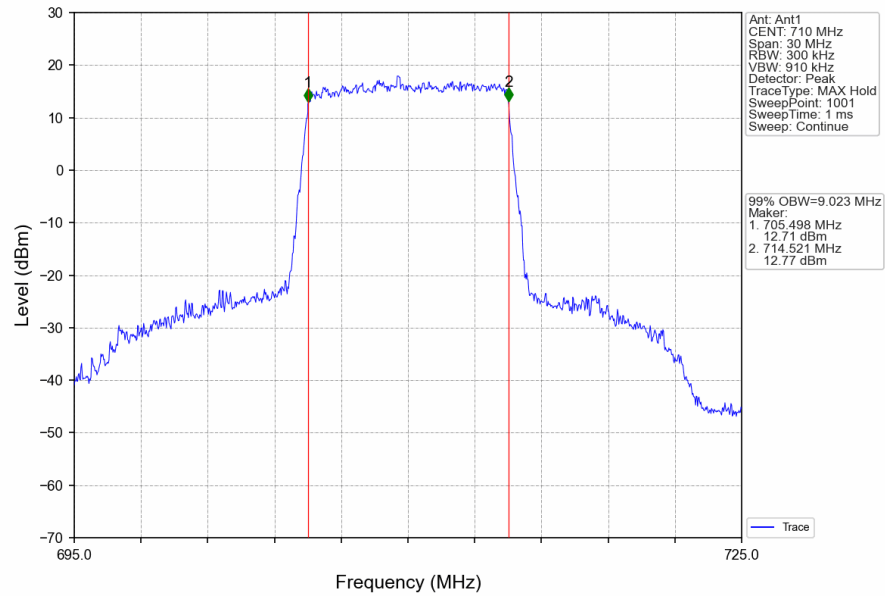
Band17_5MHz_16QAM_HCH_713.5MHz_RB_25_0_NTNV



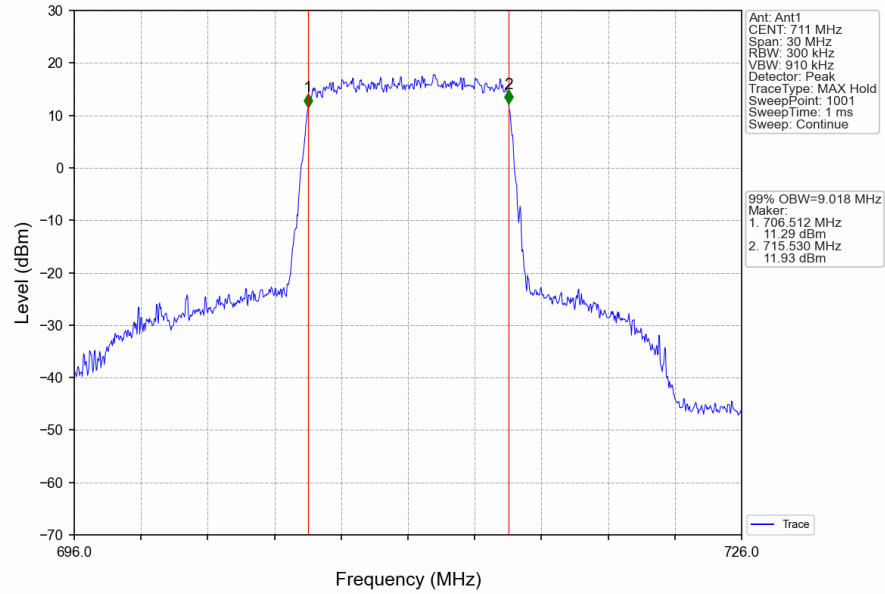
Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV



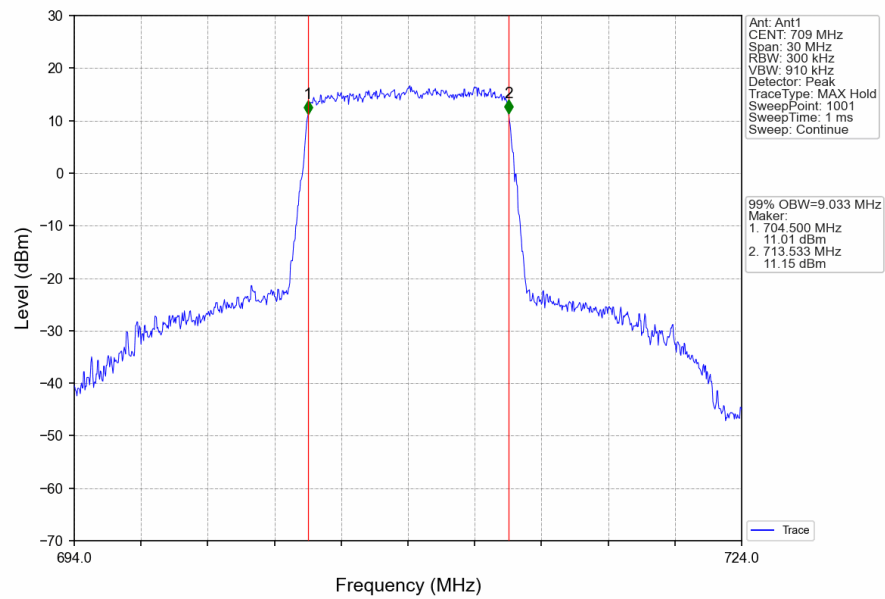
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



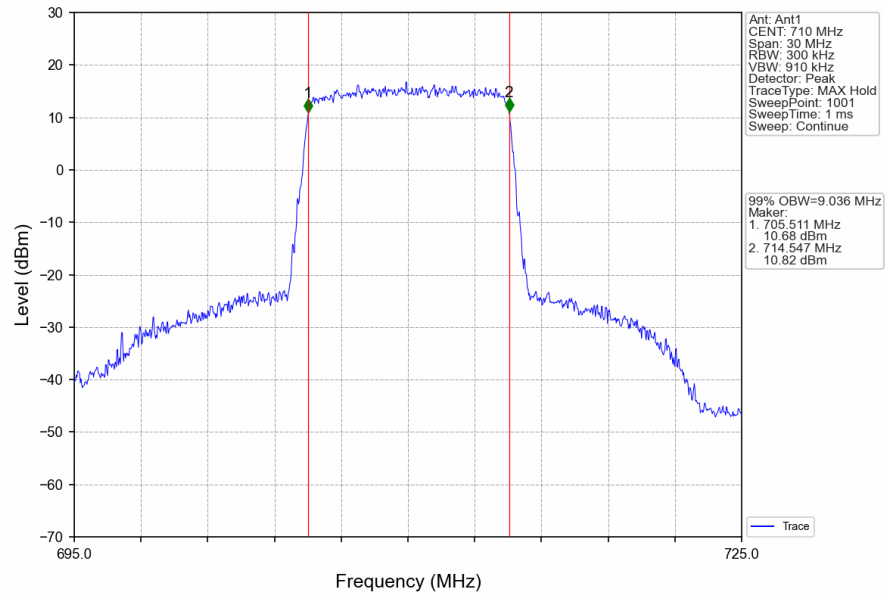
Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



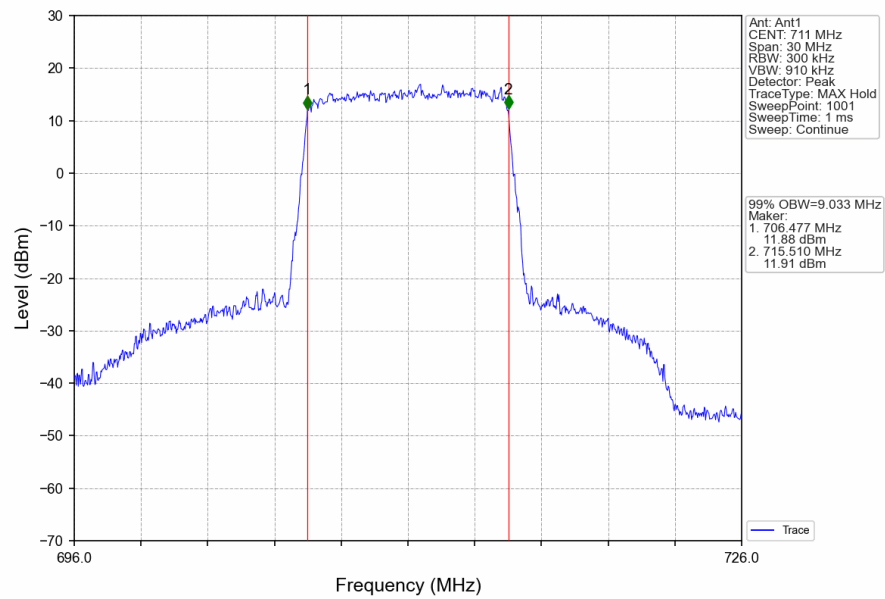
Band17_10MHz_16QAM_LCH_709MHz_RB_50_0_NTNV



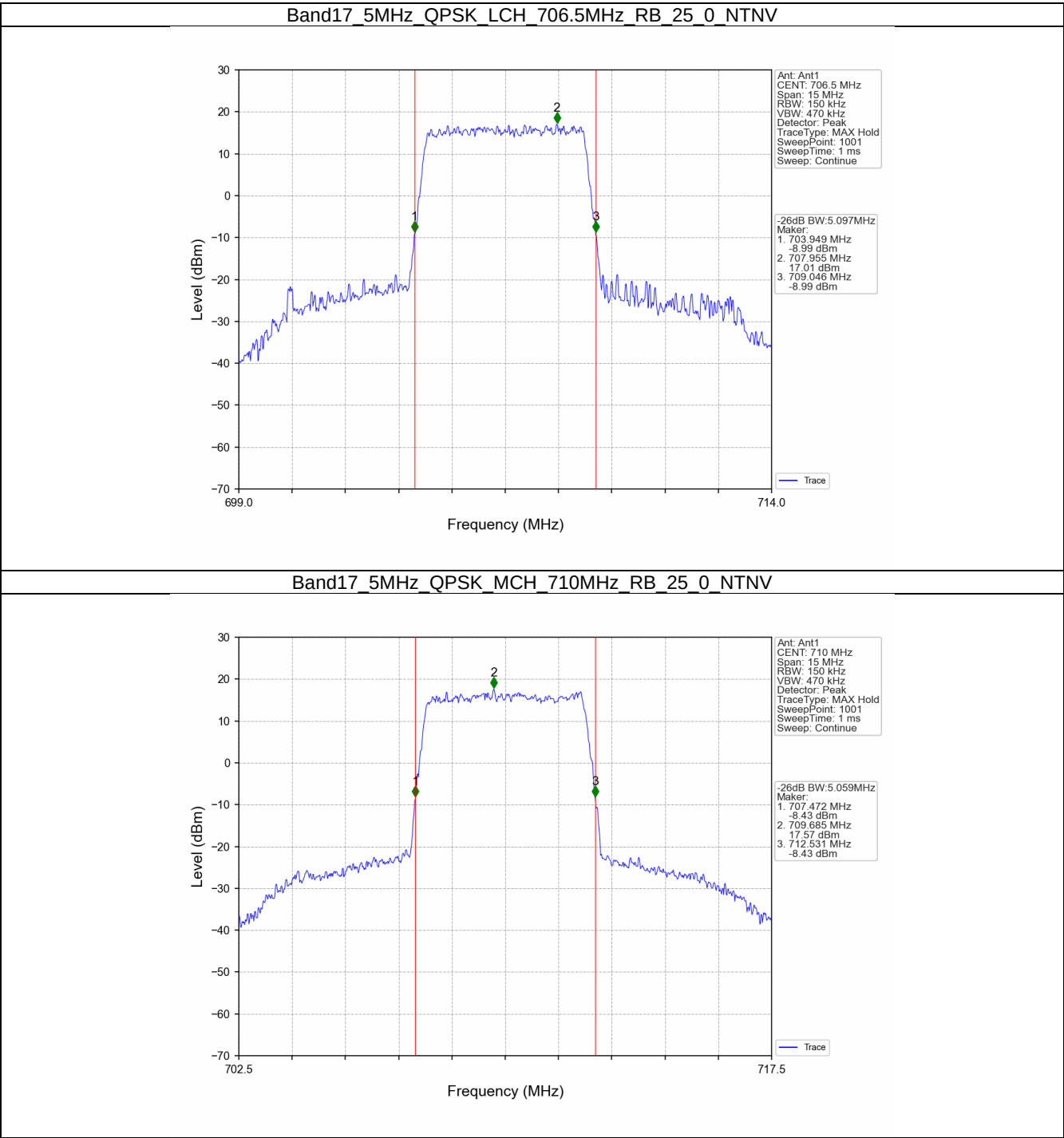
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



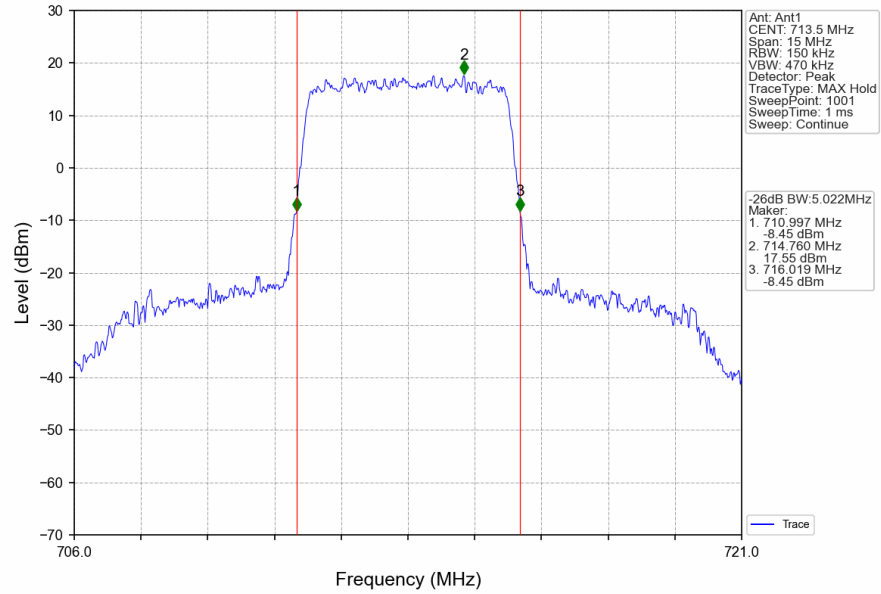
Band17_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV



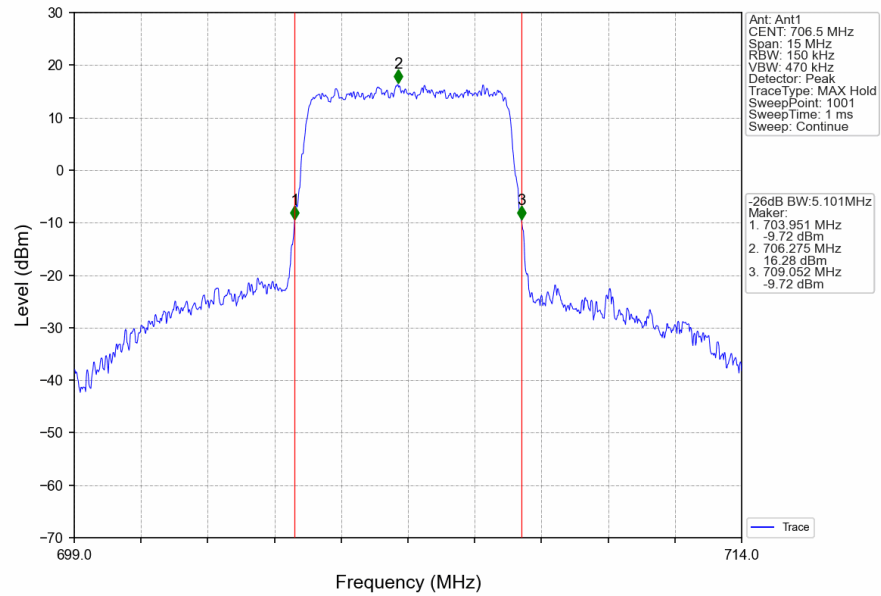
4.2.2 Band17_XDB



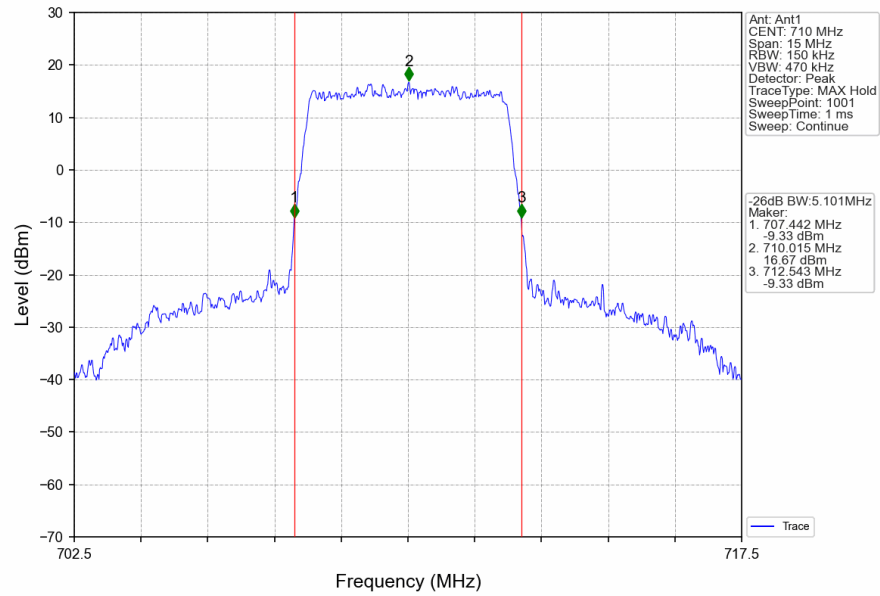
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



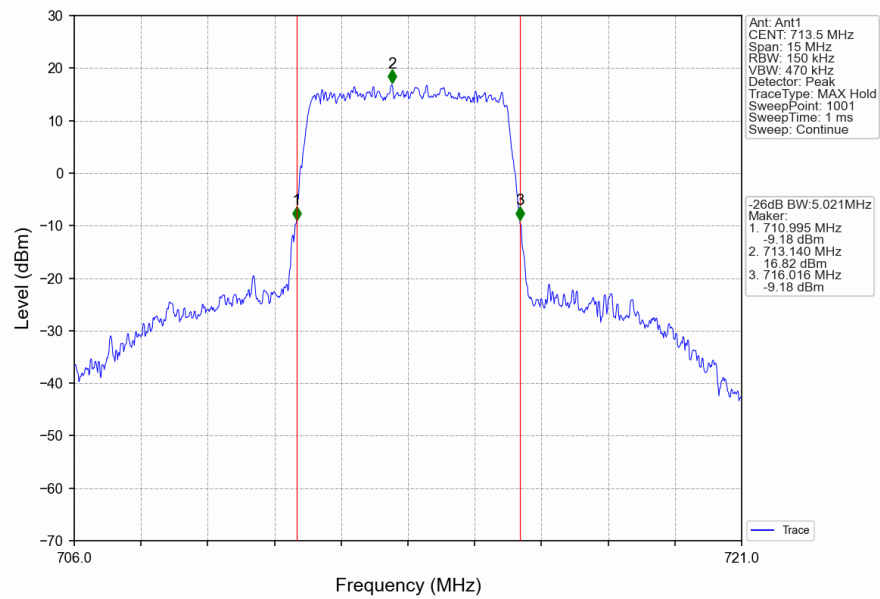
Band17_5MHz_16QAM_LCH_706.5MHz_RB_25_0_NTNV



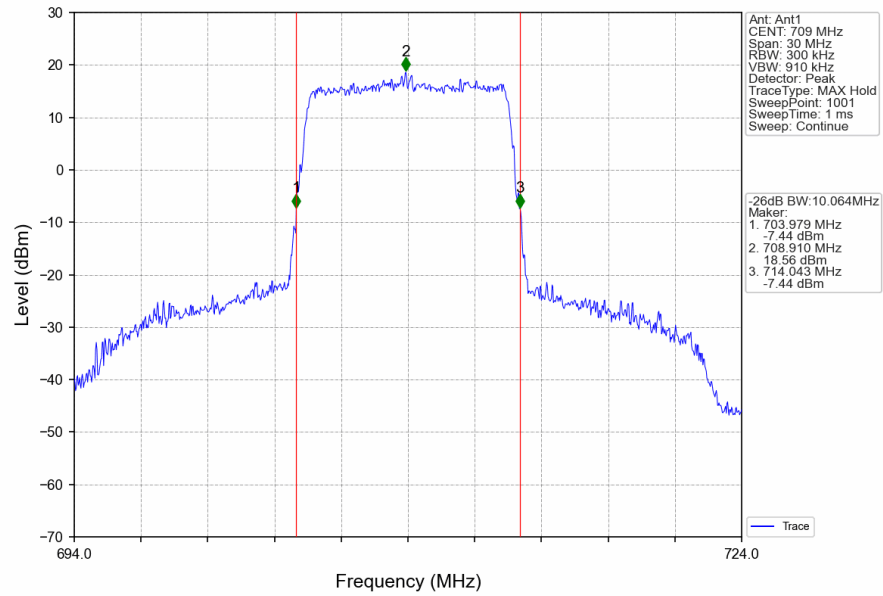
Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV



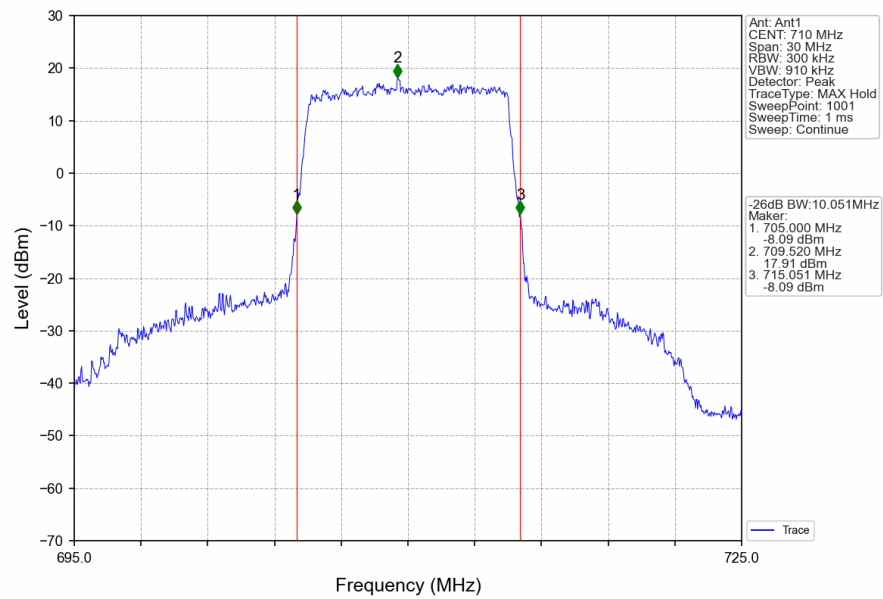
Band17_5MHz_16QAM_HCH_713.5MHz_RB_25_0_NTNV



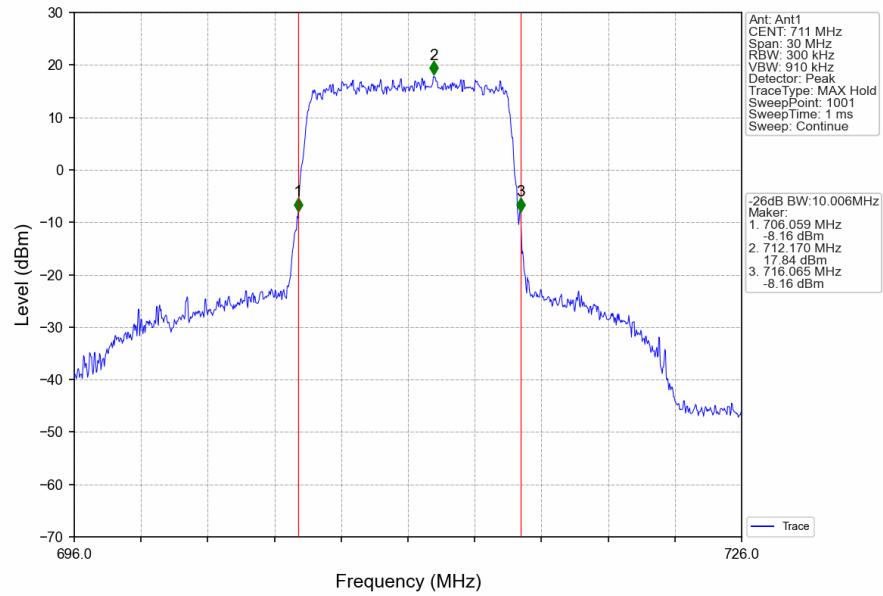
Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV



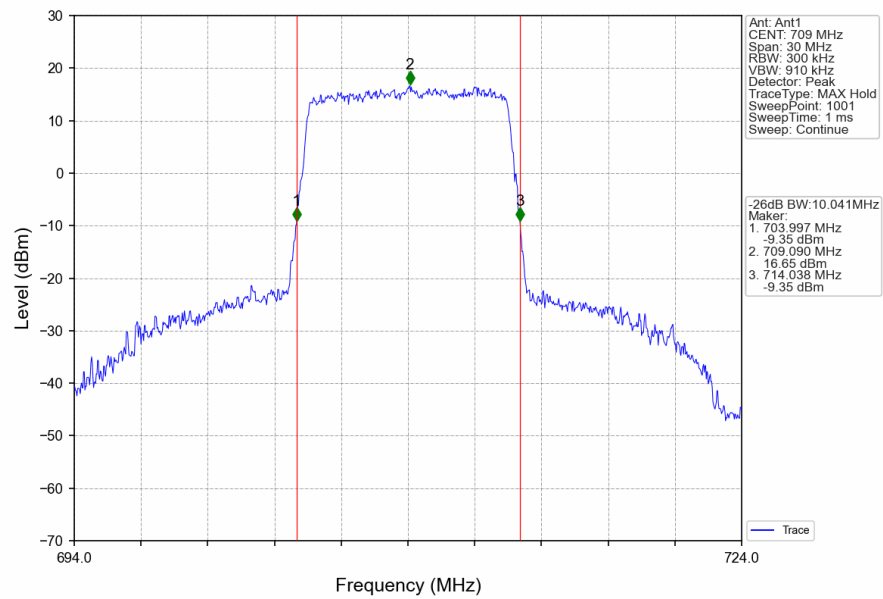
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



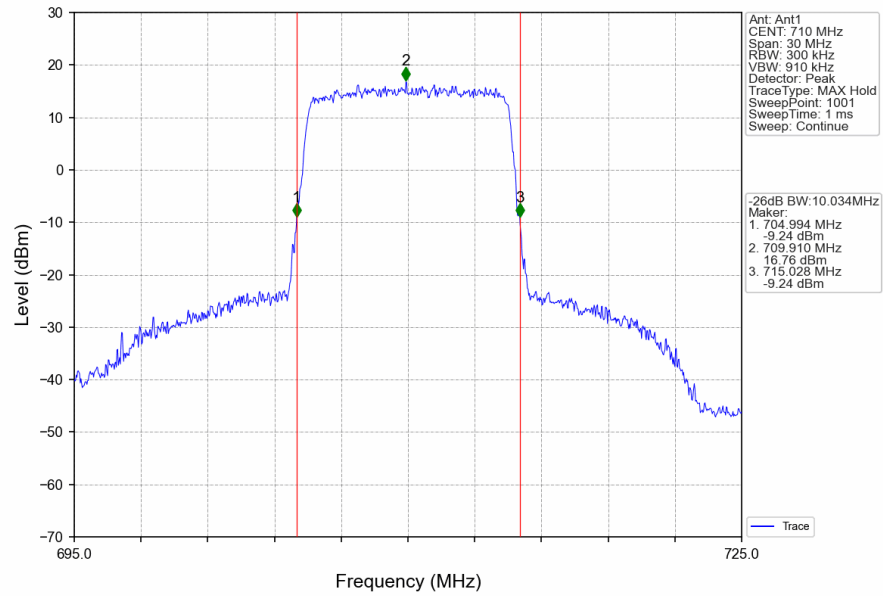
Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



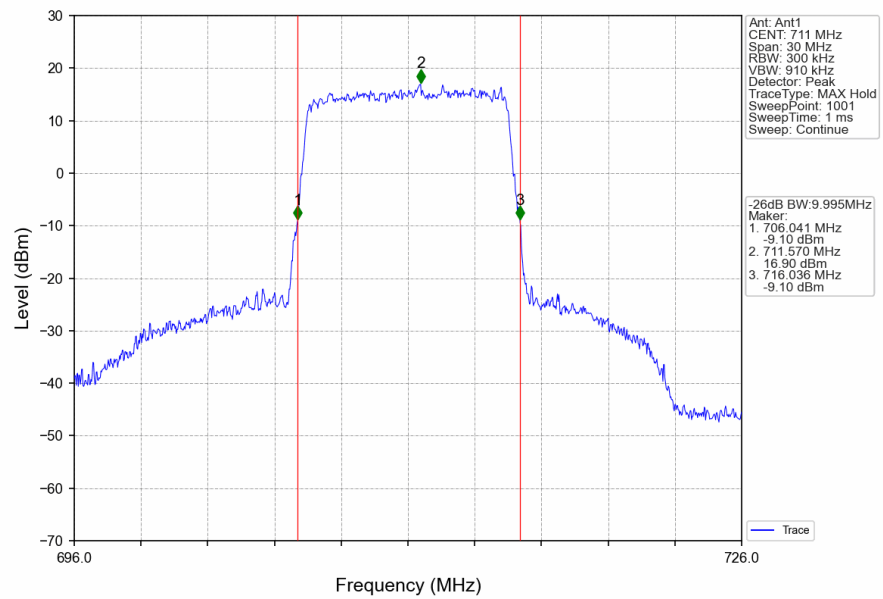
Band17_10MHz_16QAM_LCH_709MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV



4. Peak-Average Ratio

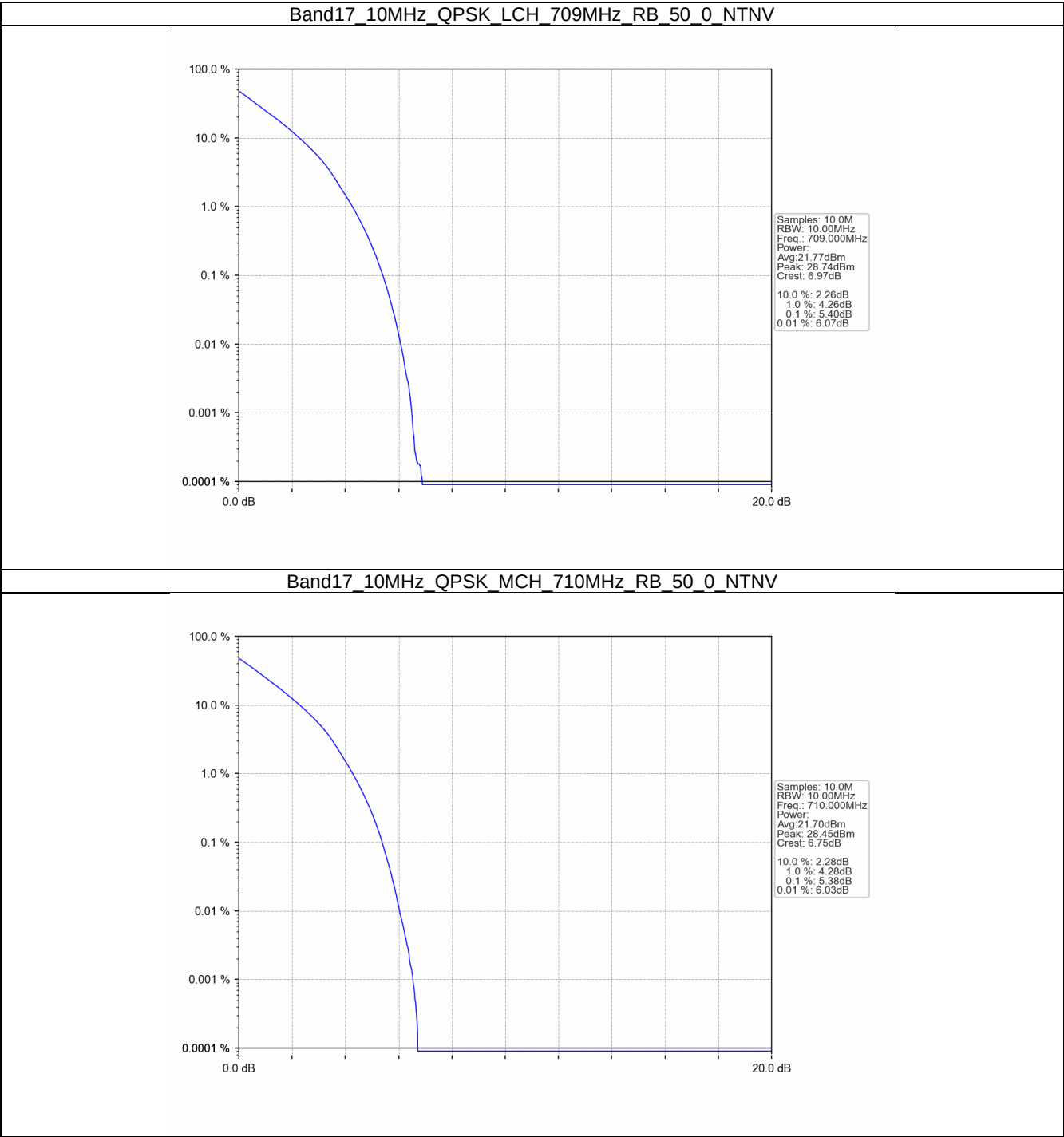
4.1 Test Result

4.1.1 B17_10MHz

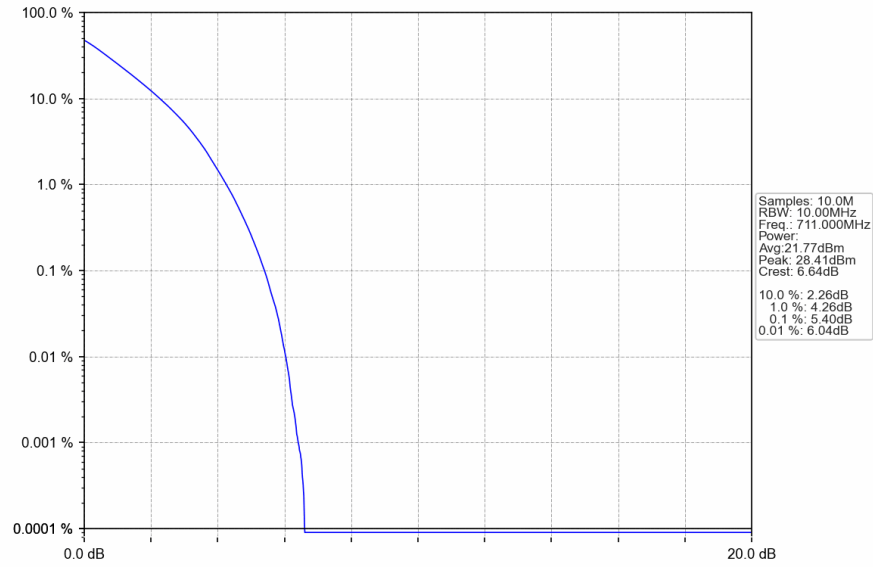
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	709	50	0	5.40	<=13	Pass
	710	50	0	5.38	<=13	Pass
	711	50	0	5.40	<=13	Pass
16QAM	709	50	0	6.14	<=13	Pass
	710	50	0	6.17	<=13	Pass
	711	50	0	6.13	<=13	Pass

4.2 Test Graph

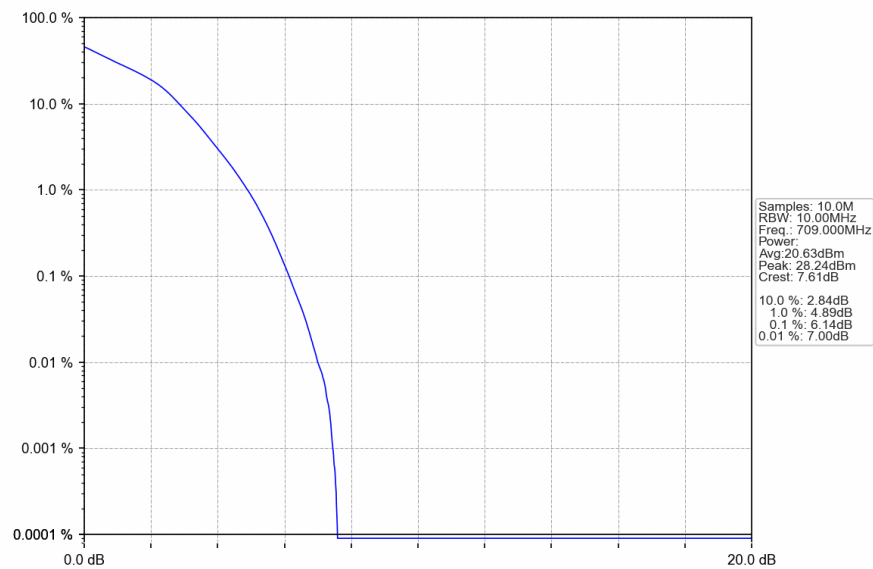
4.2.1 B17_10MHz



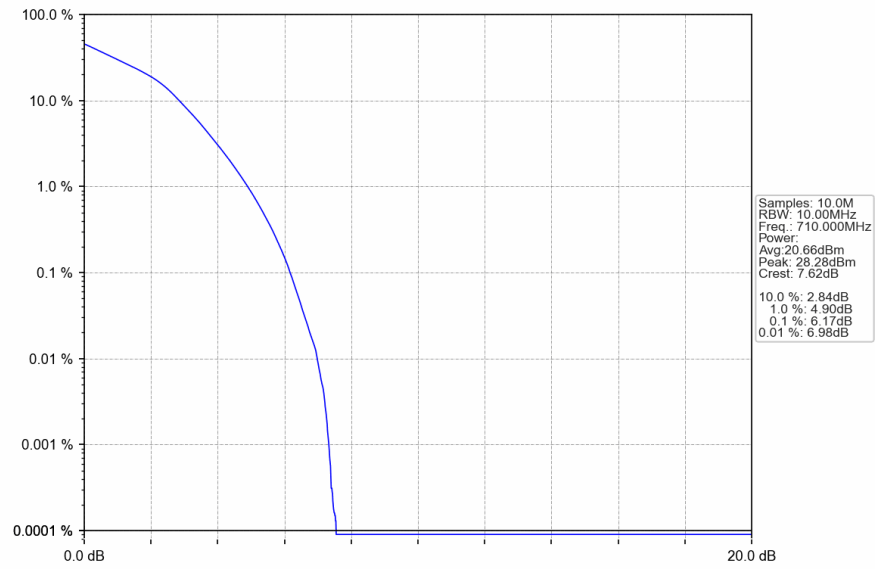
Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



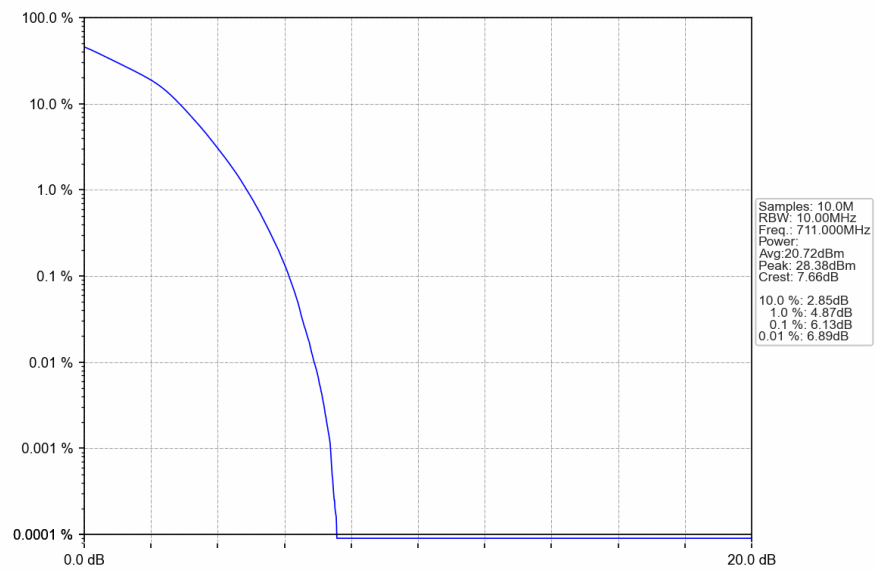
Band17_10MHz_16QAM_LCH_709MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV



5. Spurious Emission & Band Edges

5.1 Test Result

5.1.1 B17_5MHz

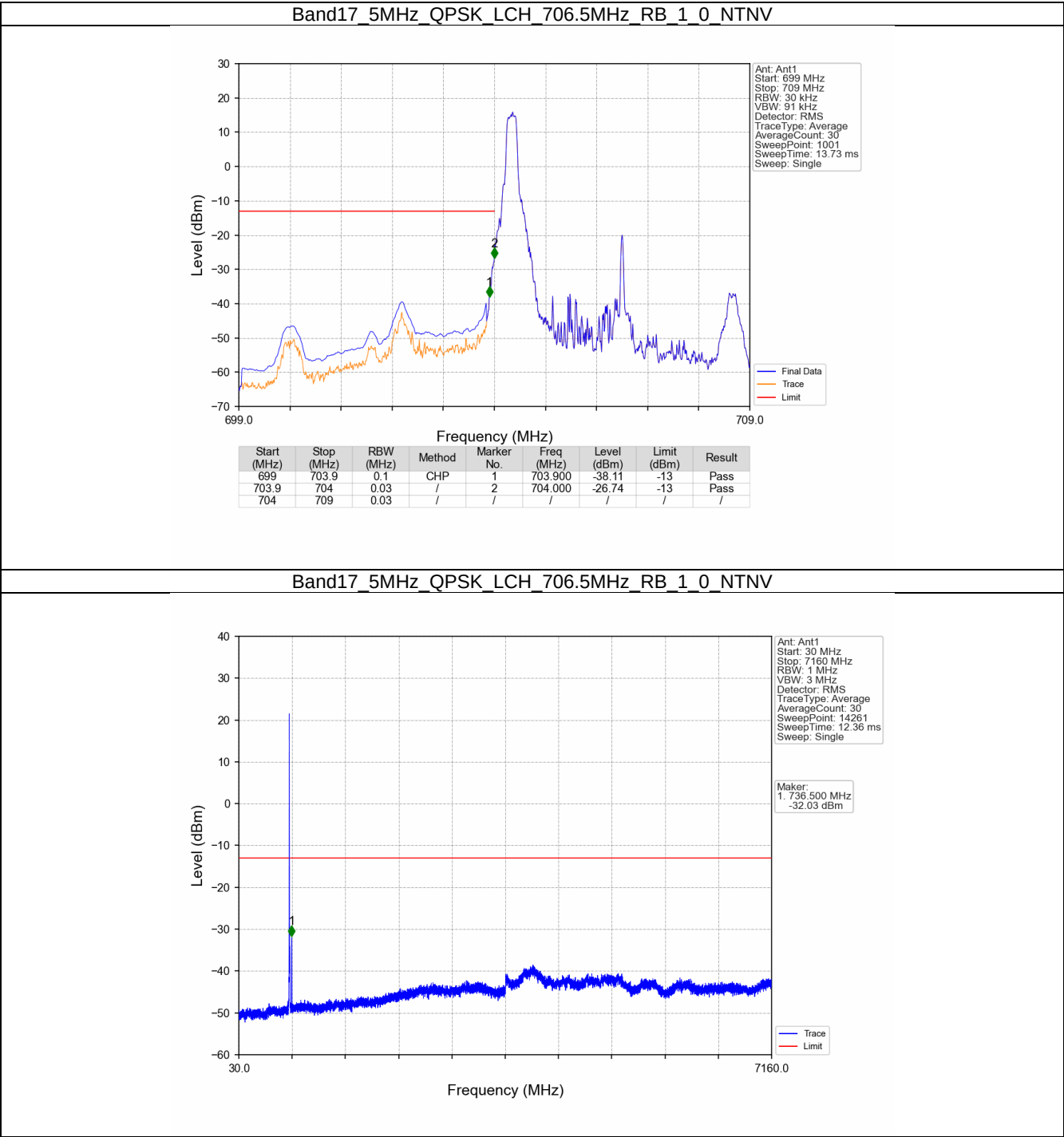
Band: 17 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	706.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	713.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B17_10MHz

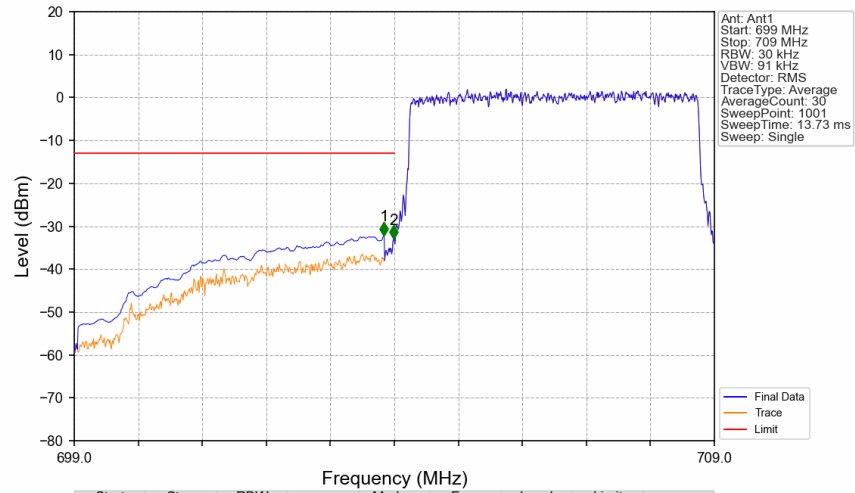
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	709	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	711	1	0	Refer To Test Graph		Pass
			49	Refer To Test Graph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

5.2 Test Graph

5.2.1 B17_5MHz

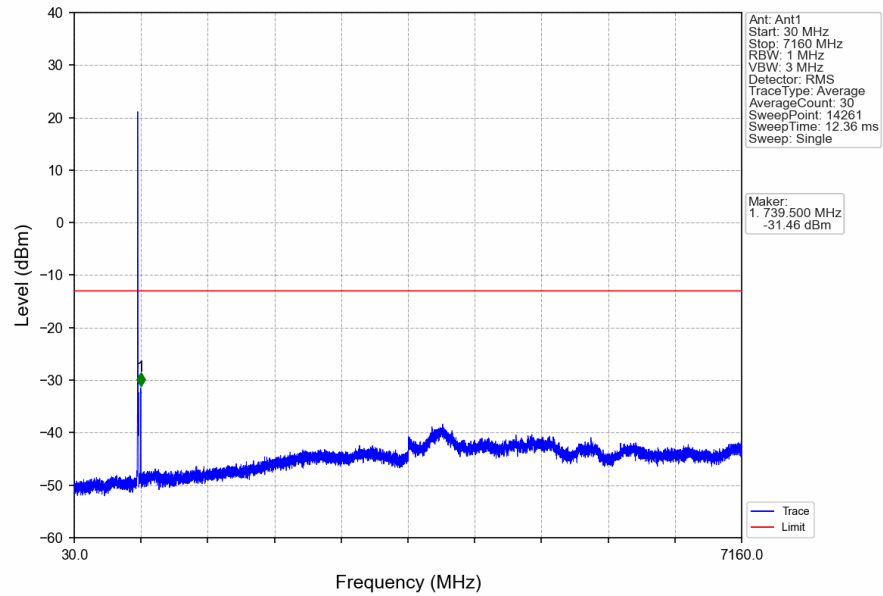


Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV

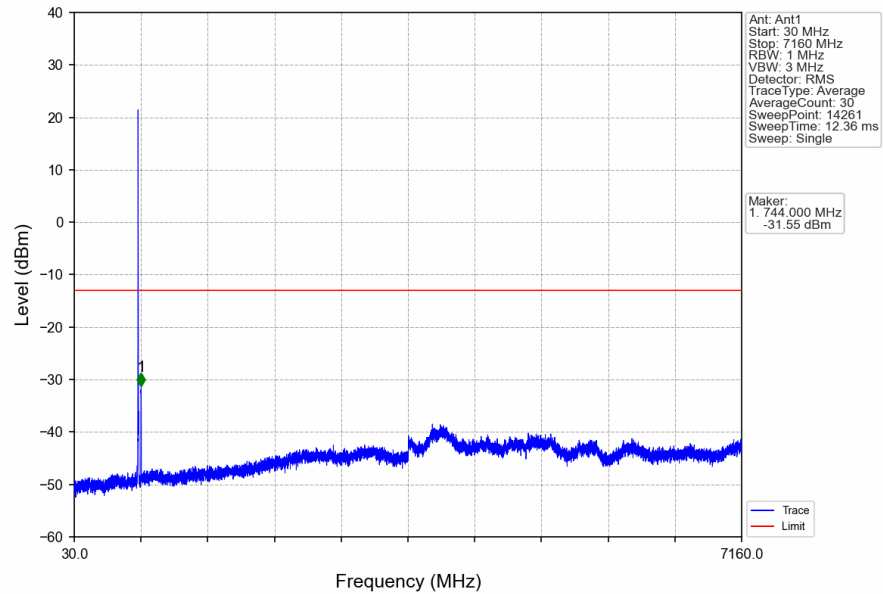


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-32.14	-13	Pass
703.9	704	0.03	/	2	703.990	-32.96	-13	Pass
704	709	0.03	/	/	/	/	/	/

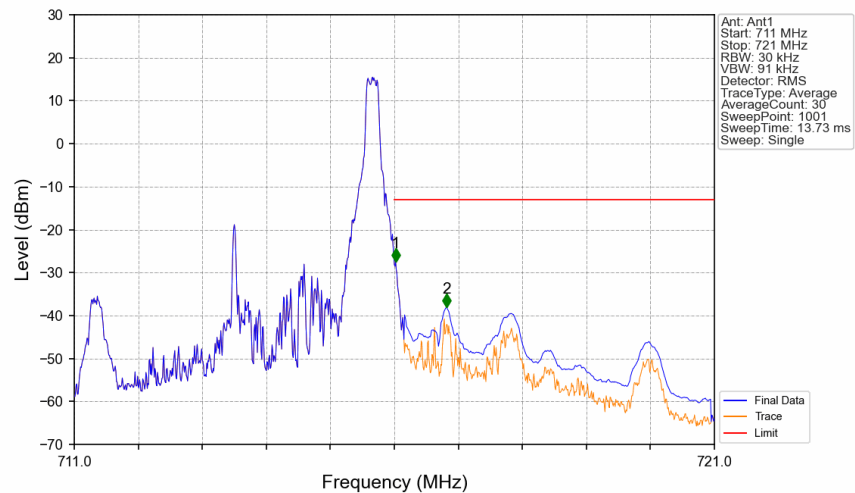
Band17_5MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_0_NTNV

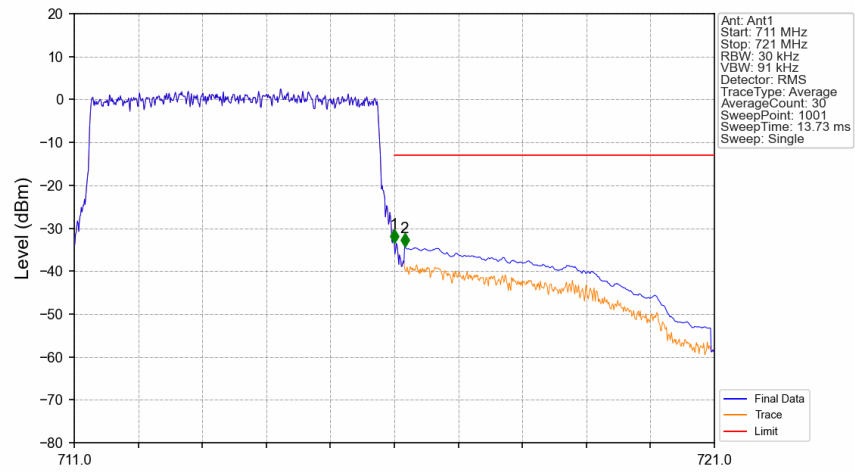


Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_24_NTNV



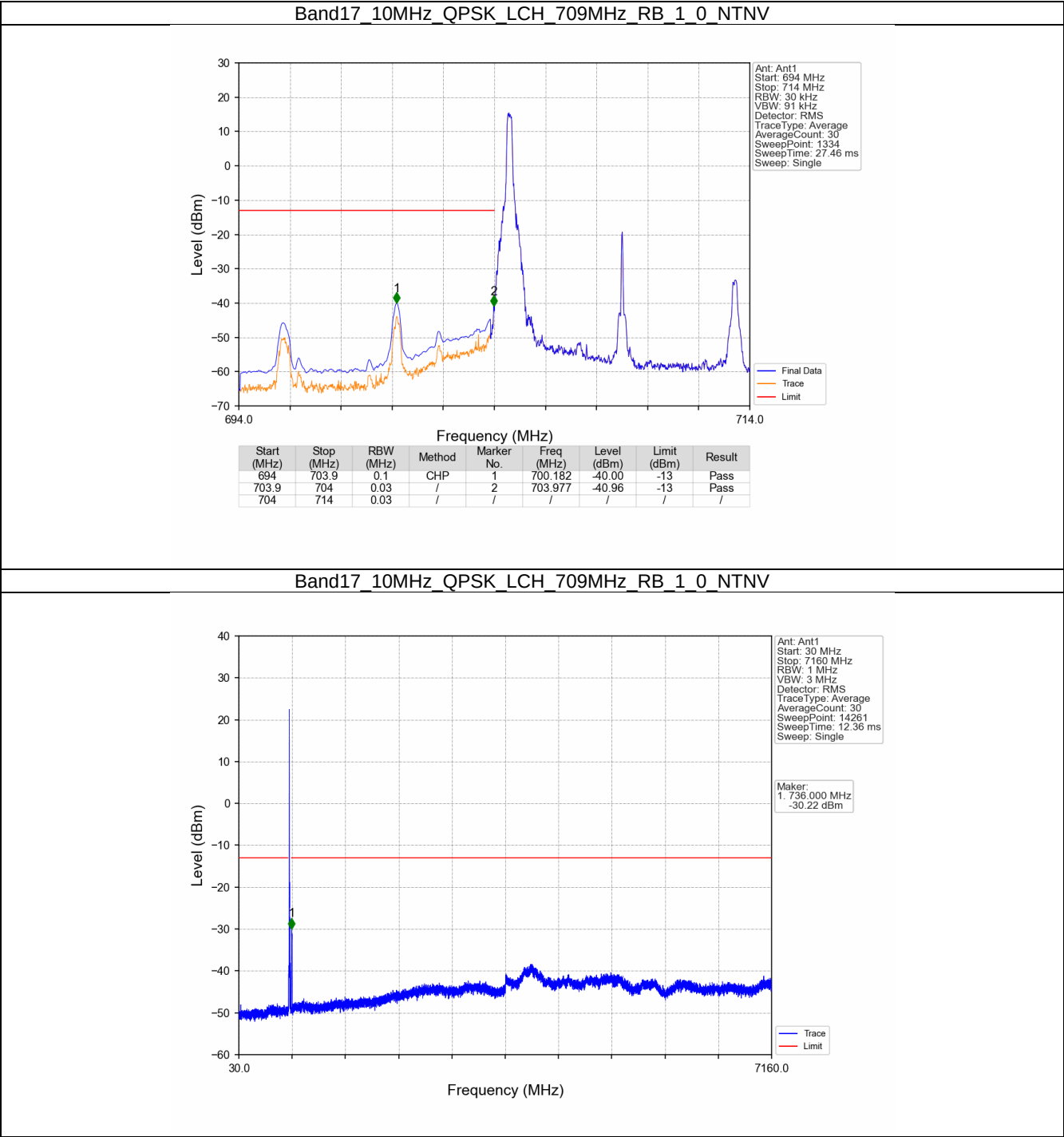
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.020	-27.47	-13	Pass
716.1	721	0.1	CHP	2	716.820	-38.09	-13	Pass

Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV

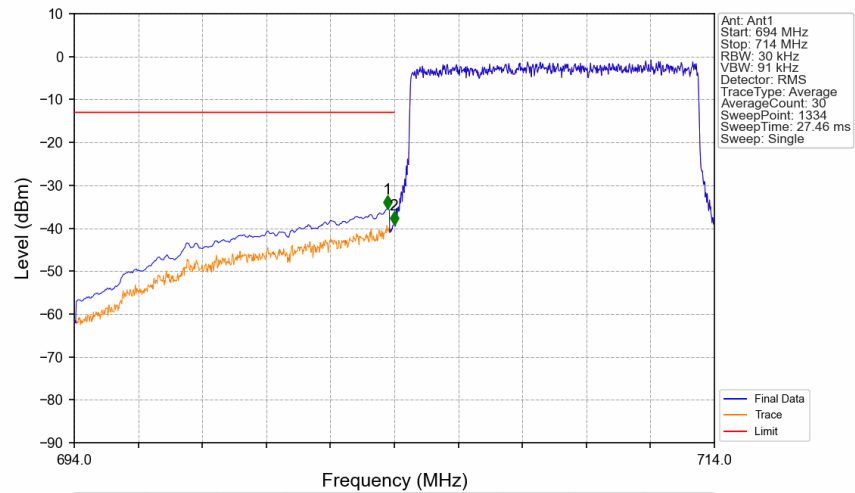


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	1	716.000	-33.46	-13	Pass
716	721	0.1	CHP	2	716.160	-34.31	-13	Pass

6.2.2 B17_10MHz

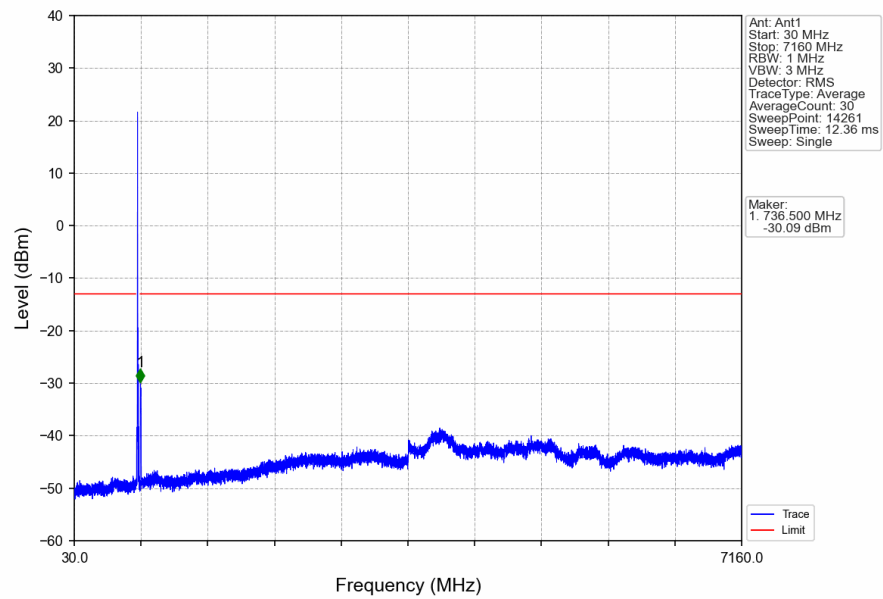


Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV

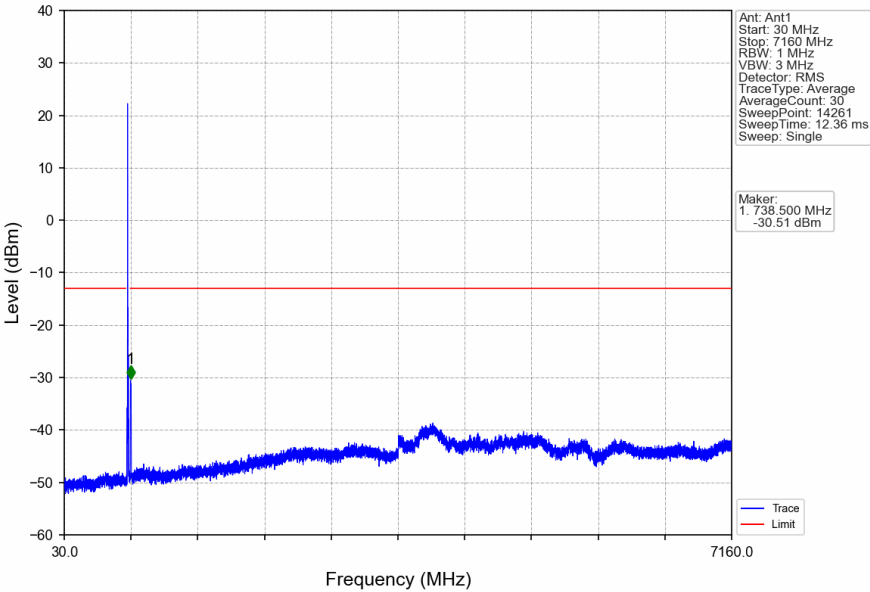


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.782	-35.44	-13	Pass
703.9	704	0.03	/	2	703.992	-39.12	-13	Pass
704	714	0.03	/	/	/	/	/	/

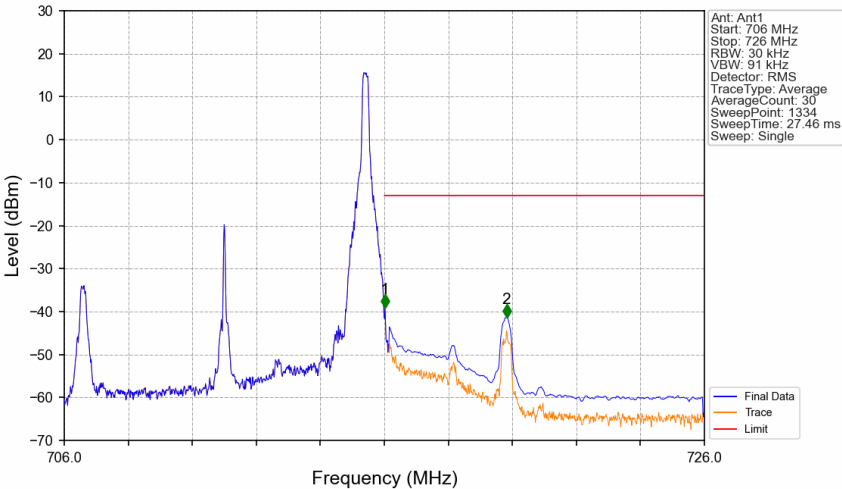
Band17_10MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_10MHz_QPSK_HCH_711MHz_RB_1_0_NTNV

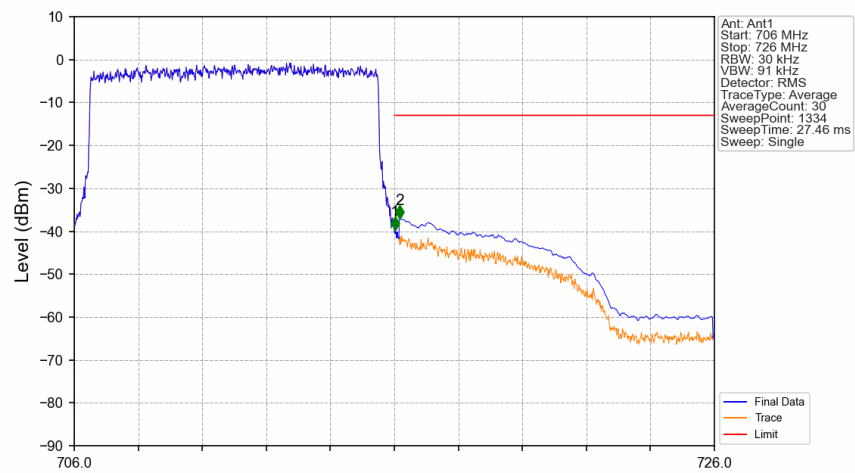


Band17_10MHz_QPSK_HCH_711MHz_RB_1_49_NTNV



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	-39.10	-13	Pass
716.1	726	0.1	CHP	2	719.818	-41.39	-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	-39.72	-13	Pass
716.1	726	0.1	CHP	2	716.173	-37.12	-13	Pass

6. Field Strength of Spurious Radiation

LTE Band 17-Low channel								
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	-53.49	-13	-40.49	-56.31	2.48	5.3	Horizontal	Pass
2113.5	-65.13	-13	-52.13	-67.22	2.8	4.89	Horizontal	Pass
2818.0	-65.98	-13	-52.98	-69.38	3.12	6.52	Horizontal	Pass
1409.0	-62.94	-13	-49.94	-65.76	2.48	5.3	Vertical	Pass
2113.5	-70.55	-13	-57.55	-72.64	2.8	4.89	Vertical	Pass
2818.0	-69.02	-13	-56.02	-72.42	3.12	6.52	Vertical	Pass

LTE Band 17-Middle channel								
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	-53.58	-13	-40.58	-56.41	2.49	5.32	Horizontal	Pass
2116.5	-65.8	-13	-52.8	-67.9	2.8	4.9	Horizontal	Pass
2822.0	-68.8	-13	-55.8	-72.2	3.13	6.53	Horizontal	Pass
1411.0	-63.35	-13	-50.35	-66.18	2.49	5.32	Vertical	Pass
2116.5	-70.61	-13	-57.61	-72.71	2.8	4.9	Vertical	Pass
2822.0	-68.57	-13	-55.57	-71.97	3.13	6.53	Vertical	Pass

LTE Band 17-High channel								
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	-57.41	-13	-44.41	-60.25	2.49	5.33	Horizontal	Pass
2119.5	-65.84	-13	-52.84	-67.94	2.81	4.91	Horizontal	Pass
2826.0	-66.84	-13	-53.84	-70.25	3.13	6.54	Horizontal	Pass
1413.0	-63.86	-13	-50.86	-66.7	2.49	5.33	Vertical	Pass
2119.5	-70.78	-13	-57.78	-72.88	2.81	4.91	Vertical	Pass
2826.0	-68.7	-13	-55.7	-72.11	3.13	6.54	Vertical	Pass

---End of Attachment---