

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 B30_5MHz_EIRP/10MHz

Band: 30 / Bandwidth: 5MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm/5MHz)	Gain (dBi)	EIRP/10MHz (dBm/5MHz)		Verdict
		Size	Offset			Result	Limit	
QPSK	2307.5	1	0	22.09	1.00	23.09	<=23.98	Pass
			13	22.05	1.00	23.05	<=23.98	Pass
			24	22.18	1.00	23.18	<=23.98	Pass
		12	0	21.29	1.00	22.29	<=23.98	Pass
			6	21.23	1.00	22.23	<=23.98	Pass
			13	21.31	1.00	22.31	<=23.98	Pass
		25	0	21.27	1.00	22.27	<=23.98	Pass
	2310	1	0	22.27	1.00	23.27	<=23.98	Pass
			13	22.43	1.00	23.43	<=23.98	Pass
			24	22.27	1.00	23.27	<=23.98	Pass
		12	0	21.33	1.00	22.33	<=23.98	Pass
			6	21.31	1.00	22.31	<=23.98	Pass
			13	21.34	1.00	22.34	<=23.98	Pass
		25	0	21.21	1.00	22.21	<=23.98	Pass
	2312.5	1	0	22.27	1.00	23.27	<=23.98	Pass
			13	22.35	1.00	23.35	<=23.98	Pass
			24	22.32	1.00	23.32	<=23.98	Pass
		12	0	21.34	1.00	22.34	<=23.98	Pass
			6	21.27	1.00	22.27	<=23.98	Pass
			13	21.39	1.00	22.39	<=23.98	Pass
		25	0	21.34	1.00	22.34	<=23.98	Pass
16QAM	2307.5	1	0	21.43	1.00	22.43	<=23.98	Pass
			13	21.45	1.00	22.45	<=23.98	Pass
			24	21.33	1.00	22.33	<=23.98	Pass
		12	0	20.36	1.00	21.36	<=23.98	Pass
			6	20.15	1.00	21.15	<=23.98	Pass
			13	20.22	1.00	21.22	<=23.98	Pass
		25	0	20.34	1.00	21.34	<=23.98	Pass
	2310	1	0	21.29	1.00	22.29	<=23.98	Pass
			13	21.09	1.00	22.09	<=23.98	Pass
			24	21.55	1.00	22.55	<=23.98	Pass
		12	0	20.29	1.00	21.29	<=23.98	Pass
			6	20.25	1.00	21.25	<=23.98	Pass
			13	20.10	1.00	21.10	<=23.98	Pass
		25	0	20.26	1.00	21.26	<=23.98	Pass
	2312.5	1	0	21.25	1.00	22.25	<=23.98	Pass
			13	21.65	1.00	22.65	<=23.98	Pass
			24	21.48	1.00	22.48	<=23.98	Pass
		12	0	20.40	1.00	21.40	<=23.98	Pass
			6	20.26	1.00	21.26	<=23.98	Pass
			13	20.28	1.00	21.28	<=23.98	Pass
		25	0	20.30	1.00	21.30	<=23.98	Pass
64QAM	2307.5	1	0	21.35	1.00	22.35	<=23.98	Pass
			13	20.92	1.00	21.92	<=23.98	Pass
			24	21.03	1.00	22.03	<=23.98	Pass
		12	0	20.29	1.00	21.29	<=23.98	Pass
			6	20.29	1.00	21.29	<=23.98	Pass

			13	20.17	1.00	21.17	<=23.98	Pass
		25	0	20.24	1.00	21.24	<=23.98	Pass
	2310	1	0	21.32	1.00	22.32	<=23.98	Pass
			13	21.26	1.00	22.26	<=23.98	Pass
			24	20.80	1.00	21.80	<=23.98	Pass
		12	0	20.28	1.00	21.28	<=23.98	Pass
			6	20.34	1.00	21.34	<=23.98	Pass
			13	20.29	1.00	21.29	<=23.98	Pass
		25	0	20.19	1.00	21.19	<=23.98	Pass
	2312.5	1	0	20.70	1.00	21.70	<=23.98	Pass
			13	21.73	1.00	22.73	<=23.98	Pass
			24	21.17	1.00	22.17	<=23.98	Pass
		12	0	20.30	1.00	21.30	<=23.98	Pass
			6	20.31	1.00	21.31	<=23.98	Pass
			13	20.34	1.00	21.34	<=23.98	Pass
		25	0	20.31	1.00	21.31	<=23.98	Pass

Note1: EIRP/10MHz=Conducted Power+Antenna Gain

1.1.2 B30_10MHz_EIRP/10MHz

Band: 30 / Bandwidth: 10MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm/5MHz)	Gain (dBi)	EIRP/10MHz (dBm/5MHz)		Verdict
		Size	Offset			Result	Limit	
QPSK	2310	1	0	22.33	1.00	23.33	<=23.98	Pass
			25	22.28	1.00	23.28	<=23.98	Pass
			49	22.18	1.00	23.18	<=23.98	Pass
		25	0	21.27	1.00	22.27	<=23.98	Pass
			13	21.29	1.00	22.29	<=23.98	Pass
			25	21.27	1.00	22.27	<=23.98	Pass
		50	0	21.58	1.00	22.58	<=23.98	Pass
16QAM	2310	1	0	21.41	1.00	22.41	<=23.98	Pass
			25	21.55	1.00	22.55	<=23.98	Pass
			49	21.30	1.00	22.30	<=23.98	Pass
		25	0	20.21	1.00	21.21	<=23.98	Pass
			13	20.27	1.00	21.27	<=23.98	Pass
			25	20.60	1.00	21.60	<=23.98	Pass
		50	0	20.57	1.00	21.57	<=23.98	Pass
64QAM	2310	1	0	21.26	1.00	22.26	<=23.98	Pass
			25	21.33	1.00	22.33	<=23.98	Pass
			49	21.14	1.00	22.14	<=23.98	Pass
		25	0	20.31	1.00	21.31	<=23.98	Pass
			13	20.32	1.00	21.32	<=23.98	Pass
			25	20.22	1.00	21.22	<=23.98	Pass
		50	0	20.56	1.00	21.56	<=23.98	Pass

Note1: EIRP/10MHz=Conducted Power+Antenna Gain

2. Frequency Stability

2.1 Test Result

2.1.1 B30_10MHz

Band: 30 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	2310	50	0	20	LV	0.500	0.0002	-2.5 to 2.5	Pass
					HV	-1.200	-0.0005	-2.5 to 2.5	Pass
					NV	-0.700	-0.0003	-2.5 to 2.5	Pass
				-30	NV	-0.700	-0.0003	-2.5 to 2.5	Pass
				-20	NV	-0.700	-0.0003	-2.5 to 2.5	Pass
				-10	NV	-1.800	-0.0008	-2.5 to 2.5	Pass
				0	NV	-1.000	-0.0004	-2.5 to 2.5	Pass
				10	NV	-2.400	-0.0010	-2.5 to 2.5	Pass
				30	NV	0.200	0.0001	-2.5 to 2.5	Pass
				40	NV	-1.700	-0.0007	-2.5 to 2.5	Pass
				50	NV	-3.500	-0.0015	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band30_OBW

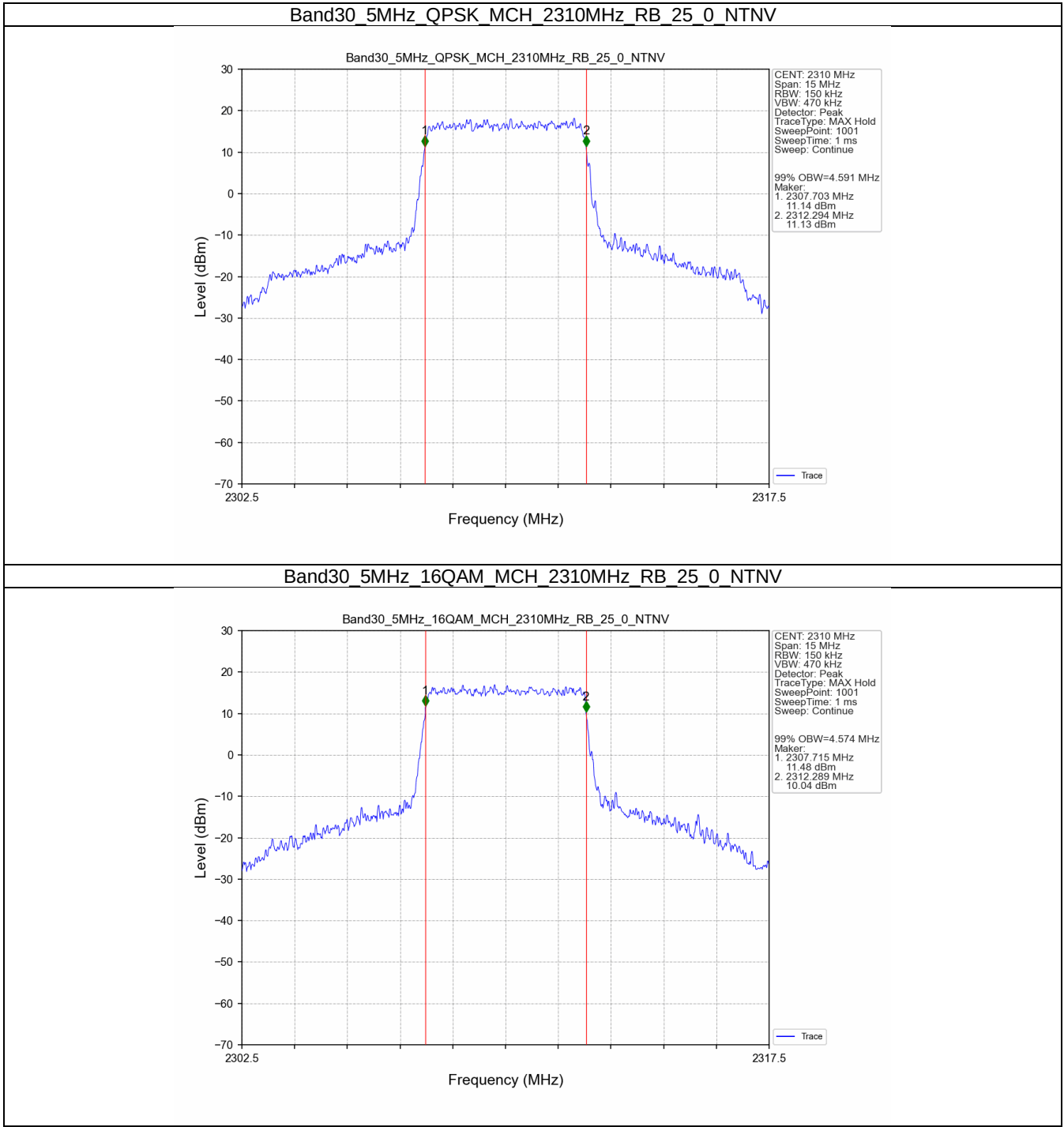
Band: 30 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	2310	25	0	4.591	/	Pass
	16QAM	2310	25	0	4.574	/	Pass
10	QPSK	2310	50	0	9.091	/	Pass
	16QAM	2310	50	0	9.072	/	Pass

3.1.2 Band30_XDB

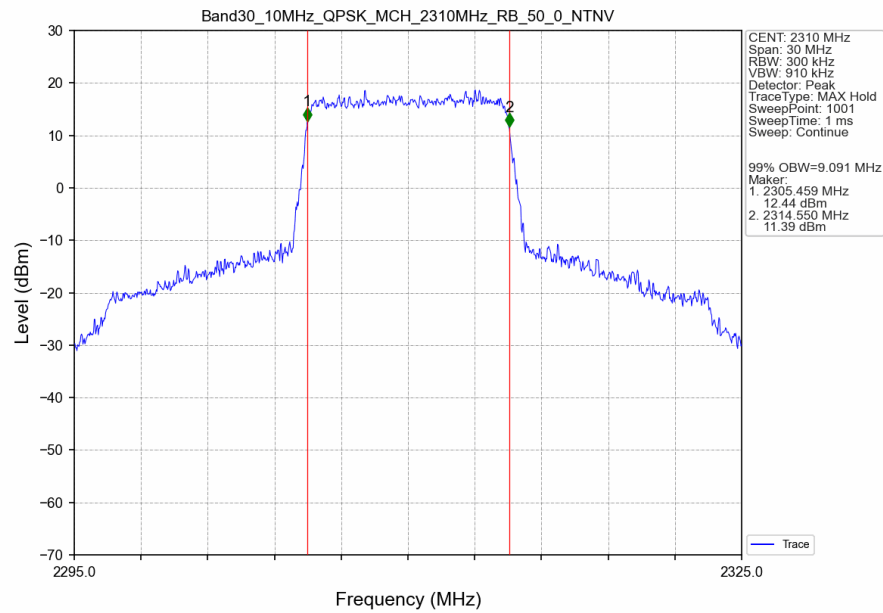
Band: 30 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	2310	25	0	5.224	/	Pass
	16QAM	2310	25	0	5.701	/	Pass
10	QPSK	2310	50	0	10.288	/	Pass
	16QAM	2310	50	0	10.310	/	Pass

3.2 Test Graph

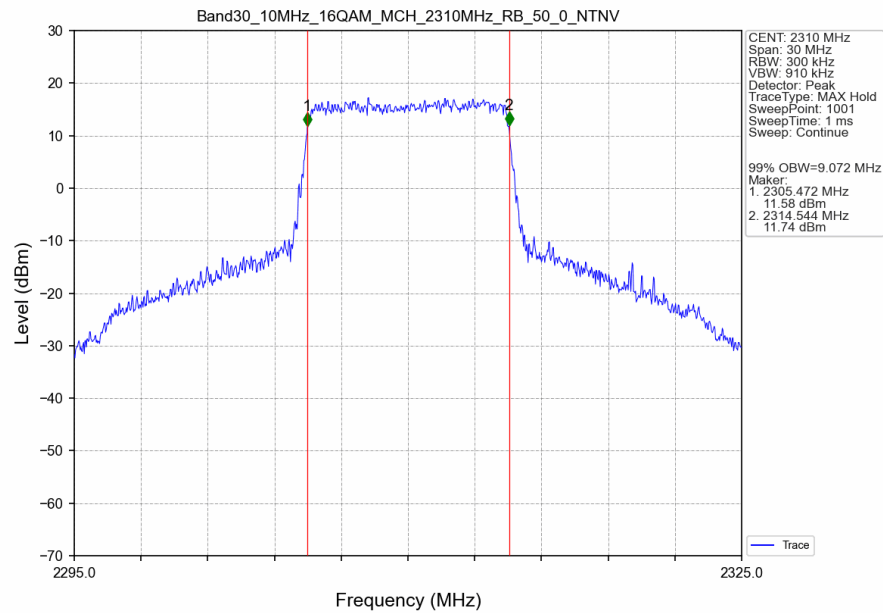
3.2.1 Band30_OBW



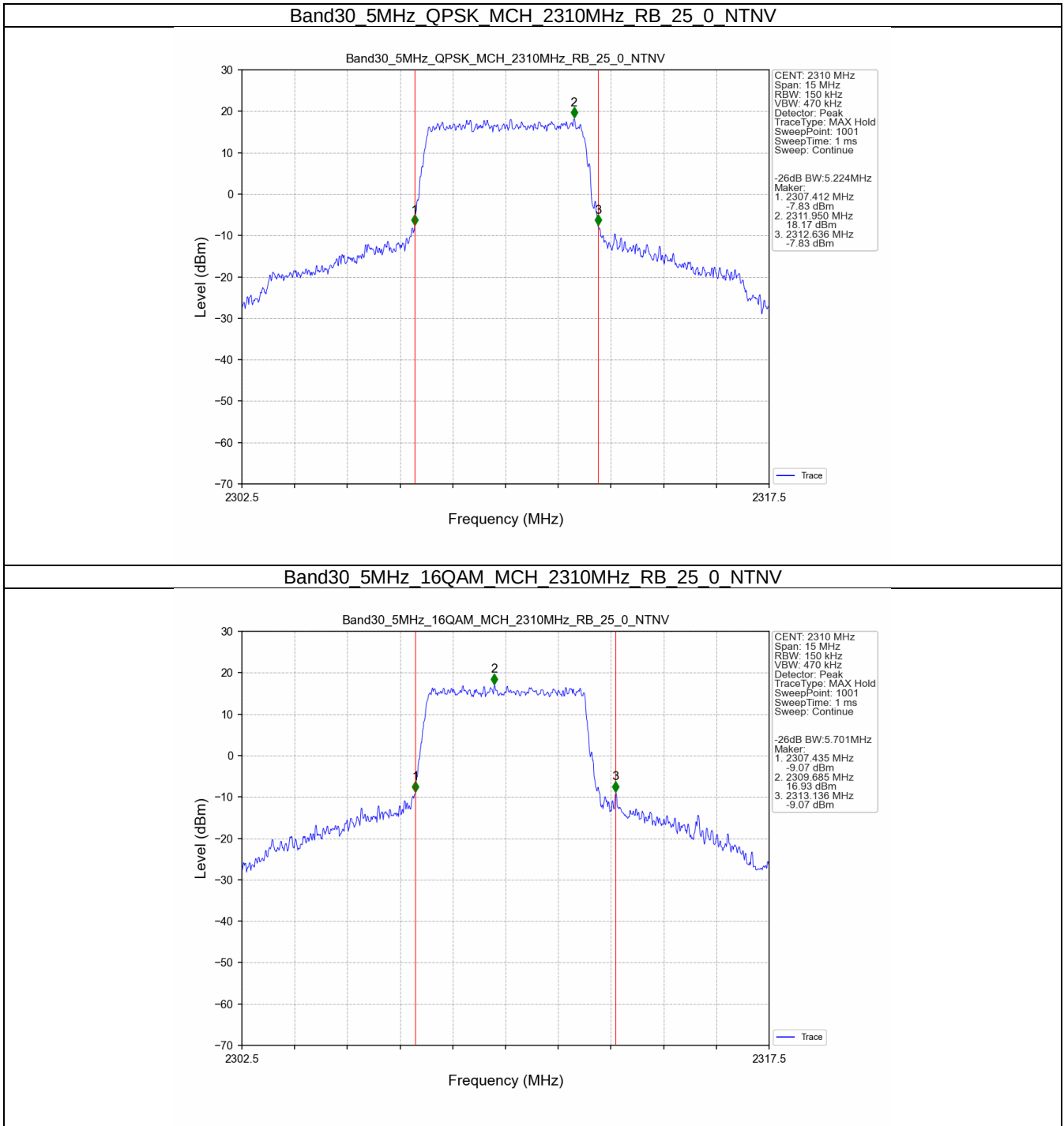
Band30 10MHz QPSK MCH 2310MHz RB 50 0 NTV



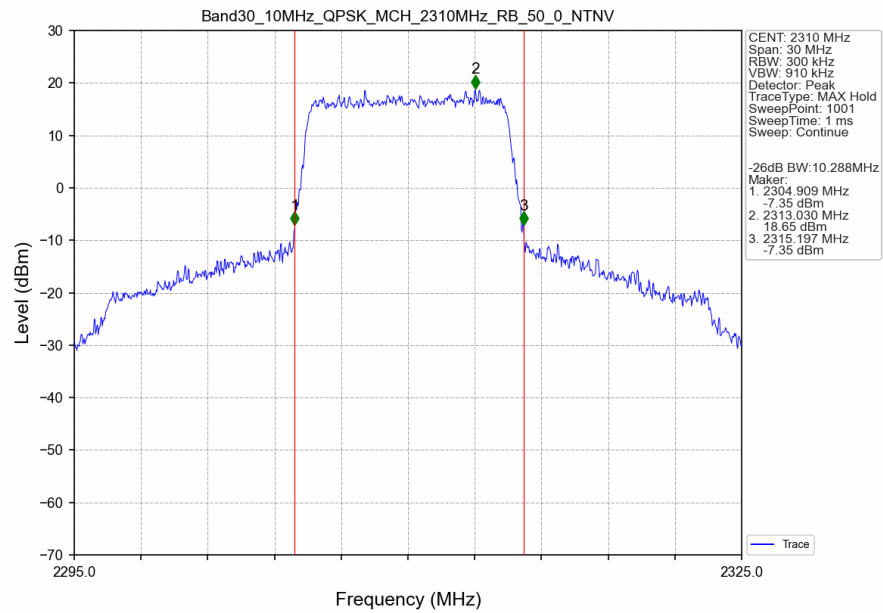
Band30 10MHz 16QAM MCH 2310MHz RB 50 0 NTV



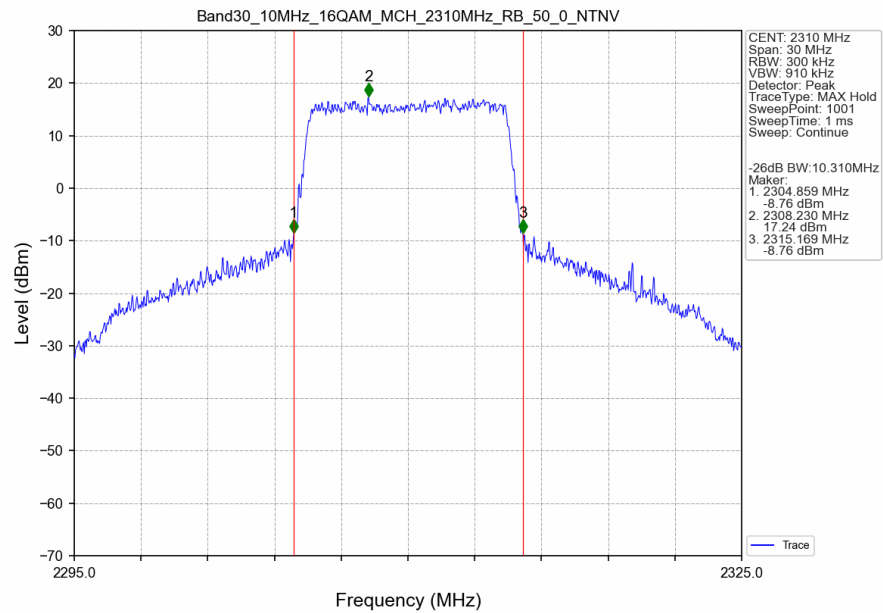
3.2.2 Band30_XDB



Band30_10MHz_QPSK_MCH_2310MHz_RB_50_0_NTNV



Band30_10MHz_16QAM_MCH_2310MHz_RB_50_0_NTNV



4. Peak-Average Ratio

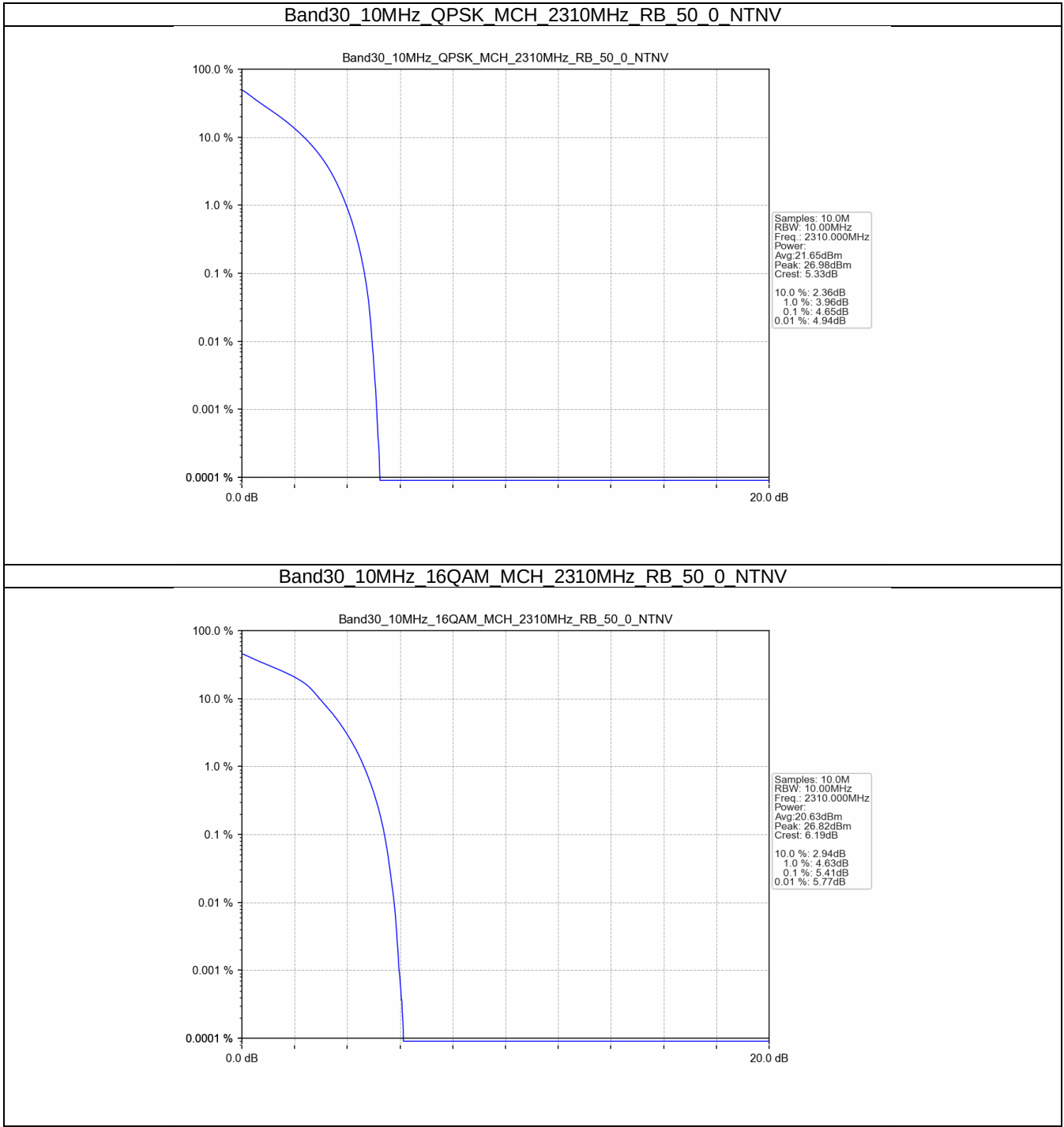
4.1 Test Result

4.1.1 B30_10MHz

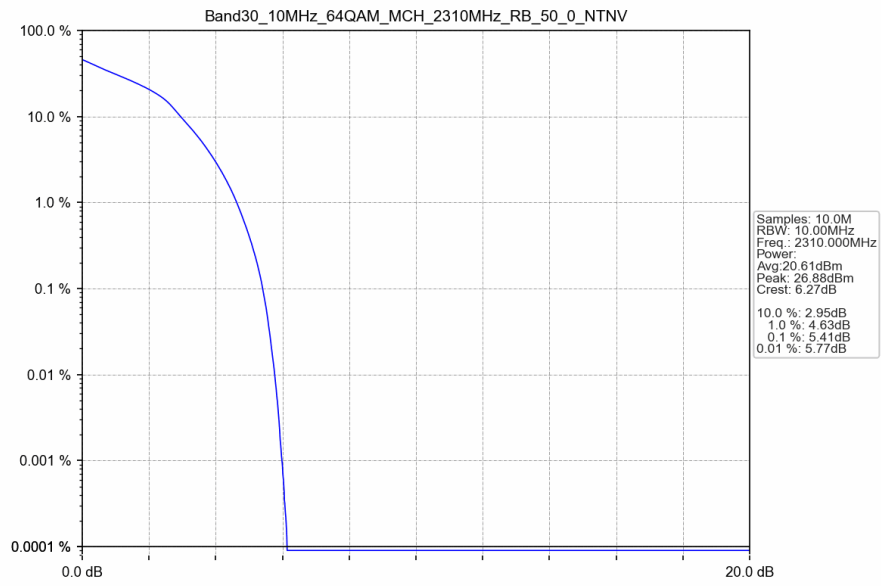
Band: 30 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	2310	50	0	4.65	<=13	Pass
16QAM	2310	50	0	5.41	<=13	Pass
64QAM	2310	50	0	5.41	<=13	Pass

4.2 Test Graph

4.2.1 B30_10MHz



Band30 10MHz 64QAM MCH 2310MHz RB 50 0 NTNV



5. Spurious Emission

5.1 Test Result

5.1.1 B30_5MHz

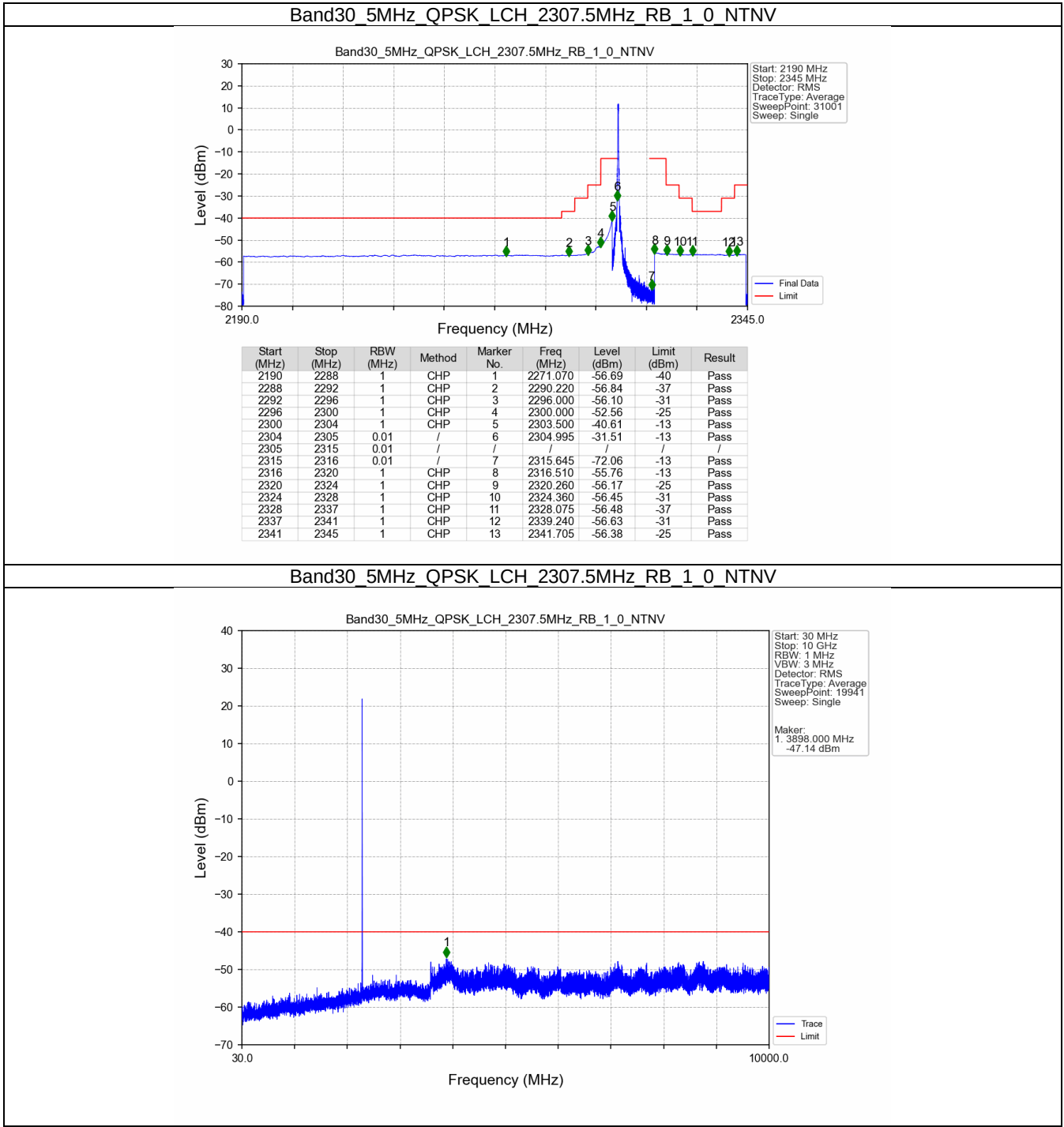
Band: 30 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	2307.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	2310	1	0	Refer To Test Graph		Pass
	2312.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass

5.1.2 B30_10MHz

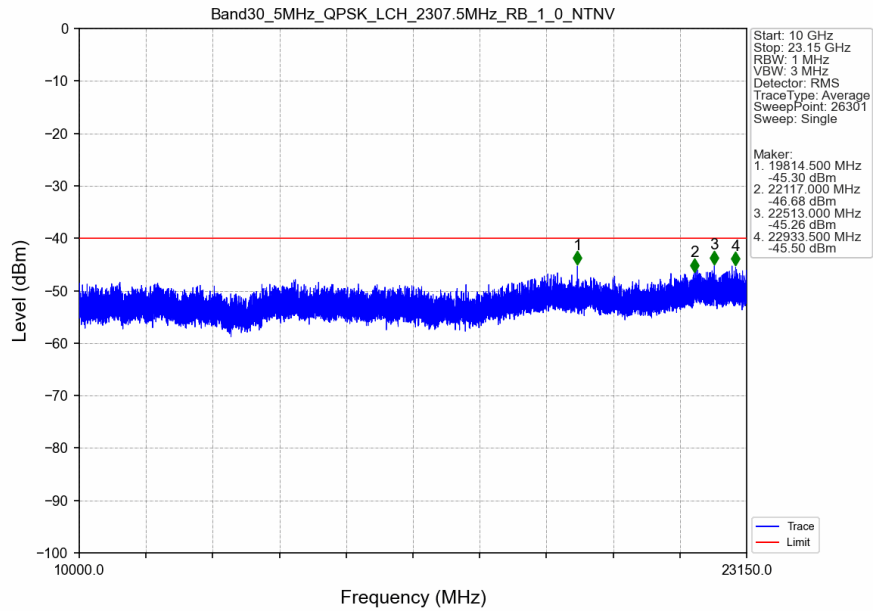
Band: 30 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	2310	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	2310	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

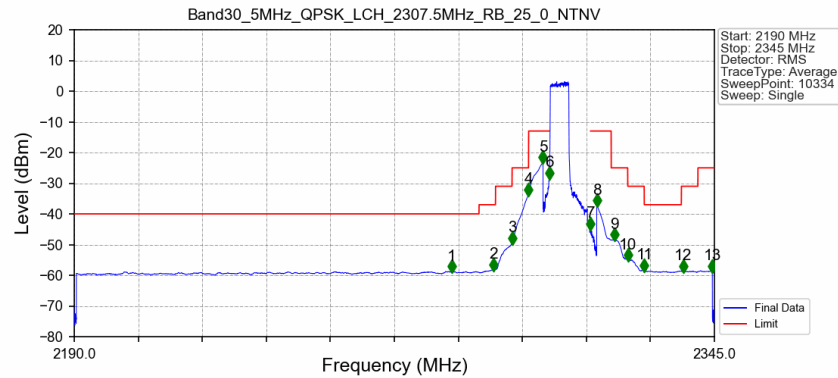
5.2.1 B30_5MHz



Band30 5MHz QPSK LCH 2307.5MHz RB 1 0 NTV

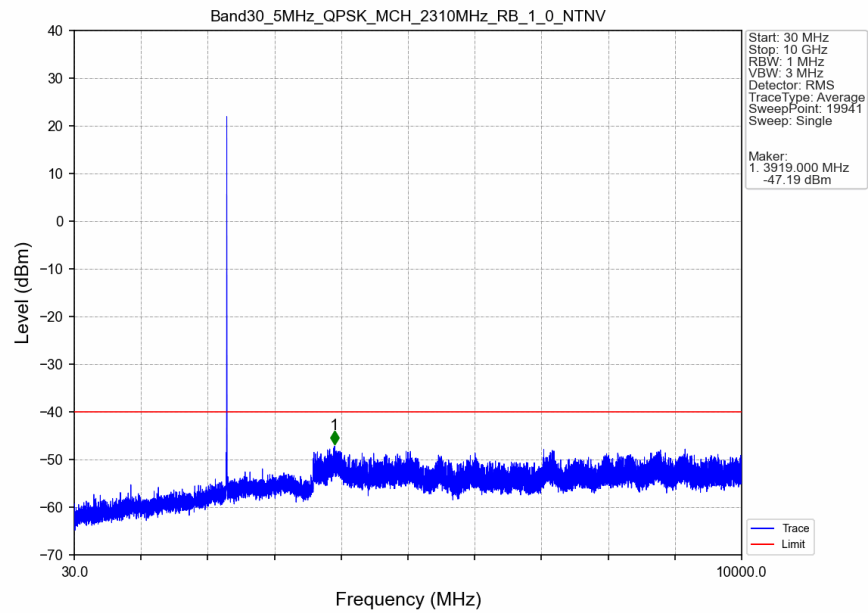


Band30_5MHz_QPSK_LCH_2307.5MHz_RB_25_0_NTV

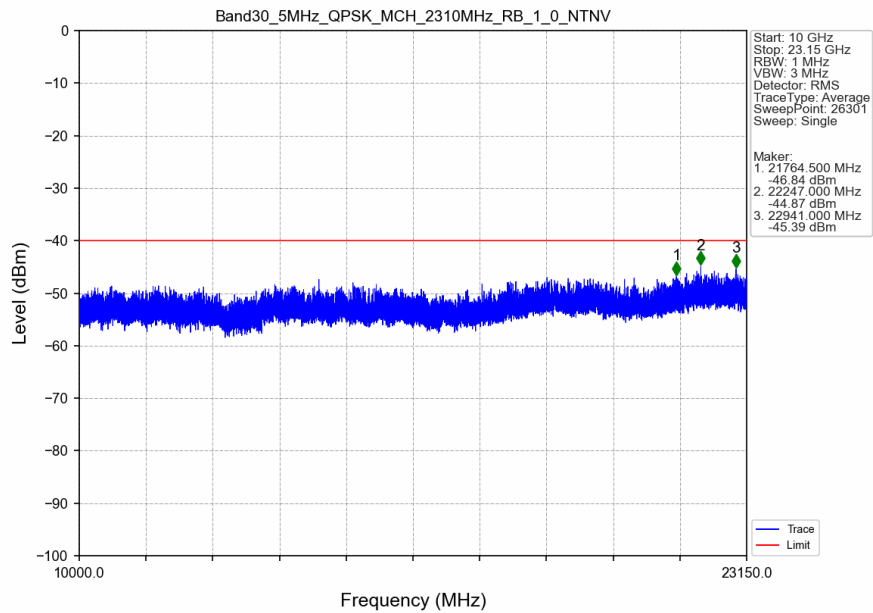


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
2190	2288	1	CHP	1	2281.353	-58.69	-40	Pass
2288	2292	1	CHP	2	2291.448	-58.15	-37	Pass
2292	2296	1	CHP	3	2295.993	-49.41	-31	Pass
2296	2300	1	CHP	4	2299.999	-33.59	-25	Pass
2300	2304	1	CHP	5	2303.494	-23.15	-13	Pass
2304	2305	0.052	CHP	6	2304.994	-28.16	-13	Pass
2305	2315	0.052	CHP	/	/	/	/	/
2315	2316	0.052	CHP	7	2315.029	-44.71	-13	Pass
2316	2320	1	CHP	8	2316.514	-37.21	-13	Pass
2320	2324	1	CHP	9	2320.819	-48.34	-25	Pass
2324	2328	1	CHP	10	2324.089	-54.97	-31	Pass
2328	2337	1	CHP	11	2328.004	-58.39	-37	Pass
2337	2341	1	CHP	12	2337.440	-58.62	-31	Pass
2341	2345	1	CHP	13	2344.460	-58.53	-25	Pass

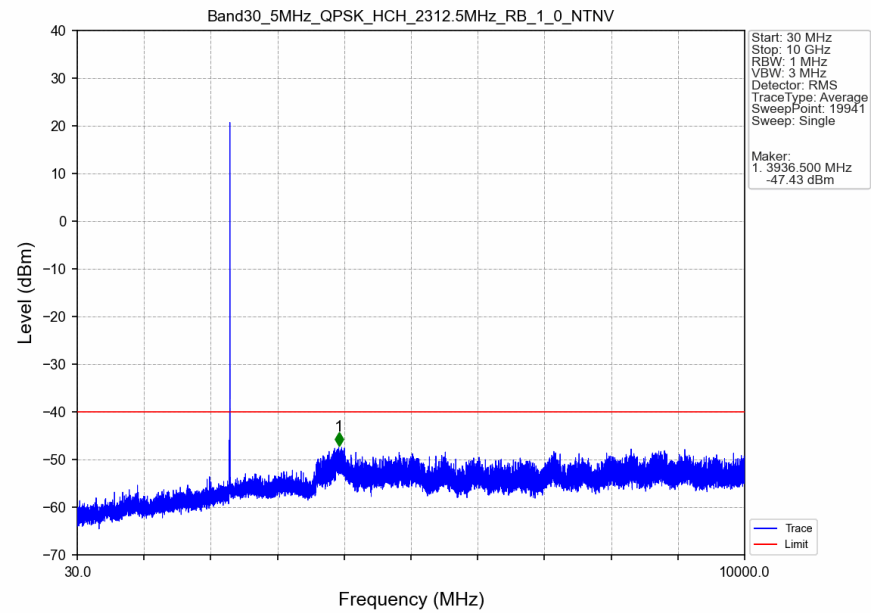
Band30 5MHz QPSK MCH 2310MHz RB 1 0 NTN



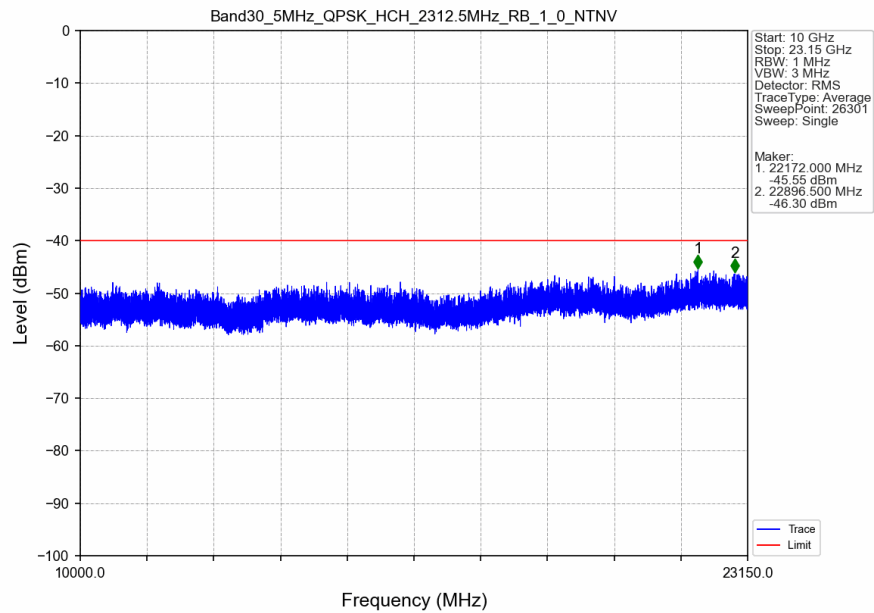
Band30 5MHz QPSK MCH 2310MHz RB 1 0 NTN



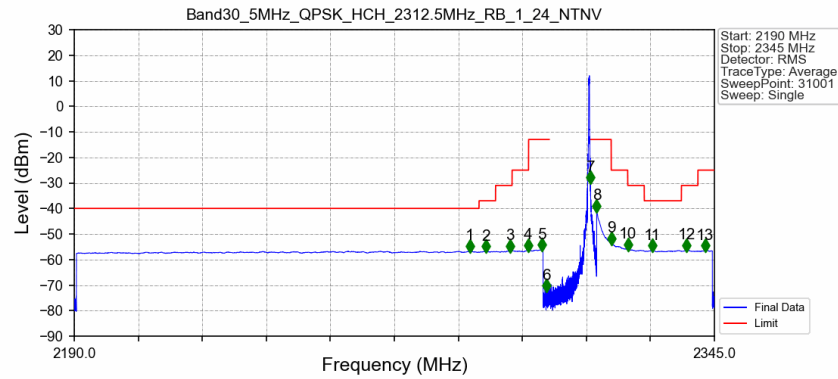
Band30_5MHz_QPSK_HCH_2312.5MHz_RB_1_0_NTNV



Band30_5MHz_QPSK_HCH_2312.5MHz_RB_1_0_NTNV

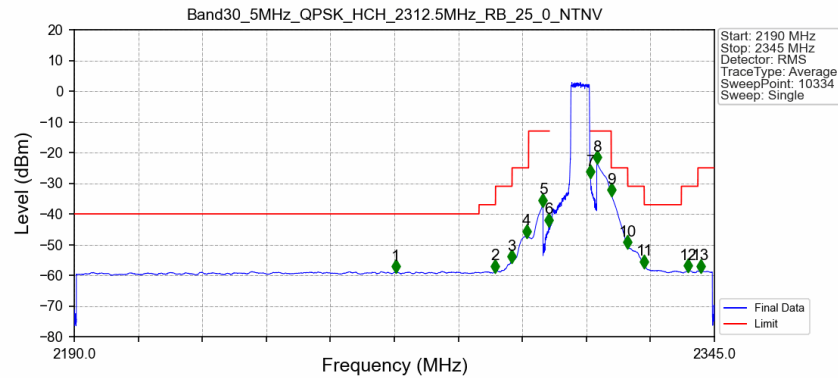


Band30 5MHz QPSK HCH 2312.5MHz RB 1 24 NTNV



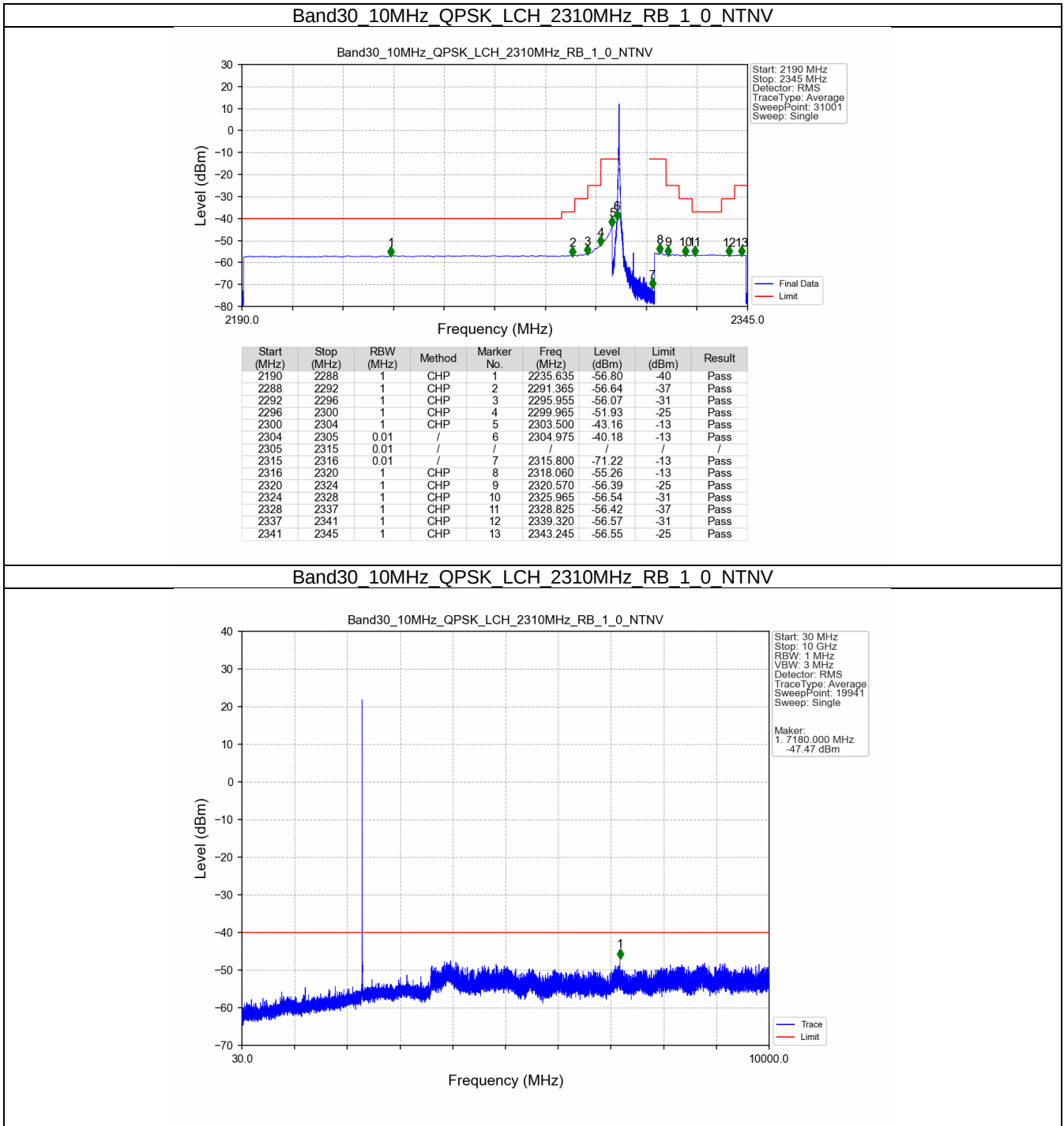
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
2190	2288	1	CHP	1	2285.780	-56.69	-40	Pass
2288	2292	1	CHP	2	2289.695	-56.77	-37	Pass
2292	2296	1	CHP	3	2295.495	-56.59	-31	Pass
2296	2300	1	CHP	4	2299.895	-56.32	-25	Pass
2300	2304	1	CHP	5	2303.285	-56.13	-13	Pass
2304	2305	0.01	/	6	2304.290	-72.15	-13	Pass
2305	2315	0.01	/	/	/	/	/	/
2315	2316	0.01	/	7	2315.010	-29.77	-13	Pass
2316	2320	1	CHP	8	2316.500	-40.92	-13	Pass
2320	2324	1	CHP	9	2320.030	-53.59	-25	Pass
2324	2328	1	CHP	10	2324.080	-56.09	-31	Pass
2328	2337	1	CHP	11	2329.995	-56.45	-37	Pass
2337	2341	1	CHP	12	2338.210	-56.40	-31	Pass
2341	2345	1	CHP	13	2342.760	-56.42	-25	Pass

Band30 5MHz QPSK HCH 2312.5MHz RB 25 0 NTNV

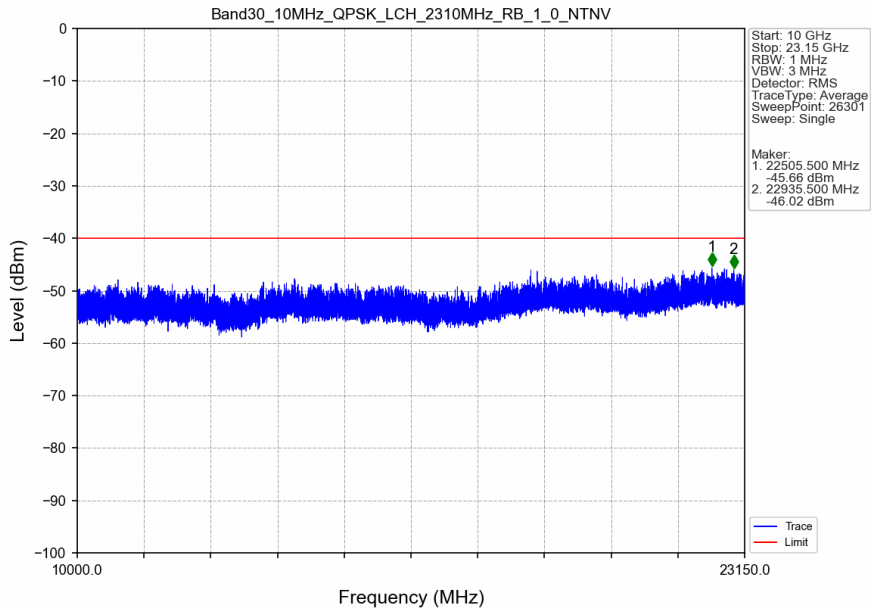


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
2190	2288	1	CHP	1	2267.808	-58.74	-40	Pass
2288	2292	1	CHP	2	2291.838	-58.62	-37	Pass
2292	2296	1	CHP	3	2295.978	-55.48	-31	Pass
2296	2300	1	CHP	4	2299.534	-47.26	-25	Pass
2300	2304	1	CHP	5	2303.494	-37.03	-13	Pass
2304	2305	0.052	CHP	6	2304.904	-43.53	-13	Pass
2305	2315	0.052	CHP	/	/	/	/	/
2315	2316	0.052	CHP	7	2315.014	-27.83	-13	Pass
2316	2320	1	CHP	8	2316.514	-23.18	-13	Pass
2320	2324	1	CHP	9	2320.009	-33.74	-25	Pass
2324	2328	1	CHP	10	2324.014	-50.81	-31	Pass
2328	2337	1	CHP	11	2328.004	-57.05	-37	Pass
2337	2341	1	CHP	12	2338.625	-58.47	-31	Pass
2341	2345	1	CHP	13	2341.670	-58.55	-25	Pass

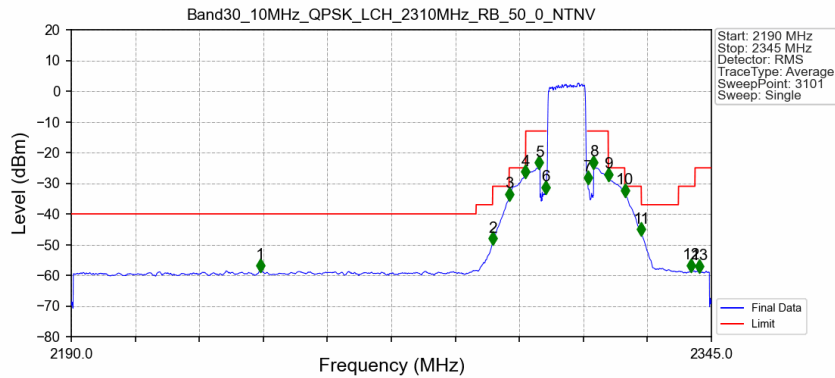
5.2.2 B30_10MHz



Band30 10MHz QPSK LCH 2310MHz RB 1 0 NTNV

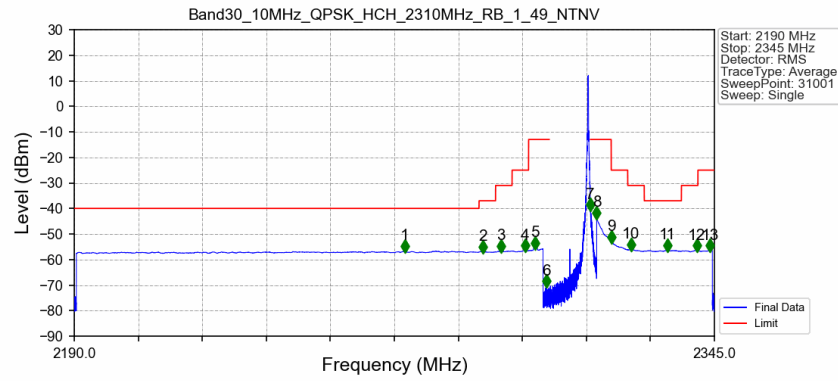


Band30 10MHz QPSK LCH 2310MHz RB 50 0 NTNV



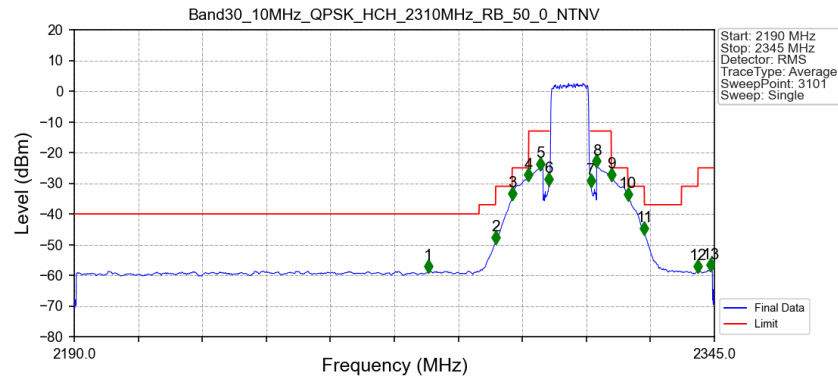
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
2190	2288	1	CHP	1	2235.800	-58.28	-40	Pass
2288	2292	1	CHP	2	2292.000	-49.54	-37	Pass
2292	2296	1	CHP	3	2296.000	-35.12	-31	Pass
2296	2300	1	CHP	4	2299.950	-27.86	-25	Pass
2300	2304	1	CHP	5	2303.300	-24.85	-13	Pass
2304	2305	0.103	CHP	6	2304.950	-32.86	-13	Pass
2305	2315	0.103	CHP	/	/	/	/	/
2315	2316	0.103	CHP	7	2315.050	-29.63	-13	Pass
2316	2320	1	CHP	8	2316.500	-24.78	-13	Pass
2320	2324	1	CHP	9	2320.050	-28.72	-25	Pass
2324	2328	1	CHP	10	2324.050	-33.98	-31	Pass
2328	2337	1	CHP	11	2328.050	-46.62	-37	Pass
2337	2341	1	CHP	12	2340.050	-58.42	-31	Pass
2341	2345	1	CHP	13	2342.050	-58.65	-25	Pass

Band30 10MHz QPSK HCH 2310MHz RB 1 49 NTV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
2190	2288	1	CHP	1	2270.020	-56.65	-40	Pass
2288	2292	1	CHP	2	2288.900	-56.83	-37	Pass
2292	2296	1	CHP	3	2293.350	-56.62	-31	Pass
2296	2300	1	CHP	4	2299.130	-56.48	-25	Pass
2300	2304	1	CHP	5	2301.590	-55.31	-13	Pass
2304	2305	0.01	/	6	2304.320	-70.39	-13	Pass
2305	2315	0.01	/	/	/	/	/	/
2315	2316	0.01	/	7	2315.005	-40.47	-13	Pass
2316	2320	1	CHP	8	2316.500	-43.63	-13	Pass
2320	2324	1	CHP	9	2320.005	-53.00	-25	Pass
2324	2328	1	CHP	10	2324.800	-56.06	-31	Pass
2328	2337	1	CHP	11	2333.620	-56.32	-37	Pass
2337	2341	1	CHP	12	2340.760	-56.42	-31	Pass
2341	2345	1	CHP	13	2343.960	-56.42	-25	Pass

Band30 10MHz QPSK HCH 2310MHz RB 50 0 NTV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
2190	2288	1	CHP	1	2275.750	-58.55	-40	Pass
2288	2292	1	CHP	2	2292.000	-49.20	-37	Pass
2292	2296	1	CHP	3	2296.000	-34.94	-31	Pass
2296	2300	1	CHP	4	2300.000	-28.84	-25	Pass
2300	2304	1	CHP	5	2302.800	-25.17	-13	Pass
2304	2305	0.103	CHP	6	2304.950	-30.24	-13	Pass
2305	2315	0.103	CHP	/	/	/	/	/
2315	2316	0.103	CHP	7	2315.050	-30.63	-13	Pass
2316	2320	1	CHP	8	2316.500	-24.38	-13	Pass
2320	2324	1	CHP	9	2320.050	-28.66	-25	Pass
2324	2328	1	CHP	10	2324.050	-35.07	-31	Pass
2328	2337	1	CHP	11	2328.050	-46.27	-37	Pass
2337	2341	1	CHP	12	2341.000	-58.58	-31	Pass
2341	2345	1	CHP	13	2344.150	-58.20	-25	Pass

6. Field Strength of Spurious Radiation

LTE Band 30-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
4611.0	-65.01	-40	-25.01	-70.17	4.4	9.56	Horizontal	Pass
6916.5	-61.27	-40	-21.27	-67.38	4.91	11.02	Horizontal	Pass
9222.0	-57.73	-40	-17.73	-65.71	5.24	13.22	Horizontal	Pass
4611.0	-64.81	-40	-24.81	-69.97	4.4	9.56	Vertical	Pass
6916.5	-61.2	-40	-21.2	-67.31	4.91	11.02	Vertical	Pass
9222.0	-57.09	-40	-17.09	-65.07	5.24	13.22	Vertical	Pass

LTE Band 30-Low channel, Modulation: QPSK, Bandwidth:5MHz, 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
4610.5	-64.63	-40	-24.63	-69.79	4.4	9.56	Horizontal	Pass
6915.75	-61.14	-40	-21.14	-67.25	4.91	11.02	Horizontal	Pass
9221.0	-57.55	-40	-17.55	-65.53	5.24	13.22	Horizontal	Pass
4610.5	-64.72	-40	-24.72	-69.88	4.4	9.56	Vertical	Pass
6915.75	-61.04	-40	-21.04	-67.15	4.91	11.02	Vertical	Pass
9221.0	-57.2	-40	-17.2	-65.18	5.24	13.22	Vertical	Pass

LTE Band 30-Middle channel, Modulation: QPSK, Bandwidth:5MHz, 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
4615.5	-64.87	-40	-24.87	-70.04	4.4	9.57	Horizontal	Pass
6923.25	-61.27	-40	-21.27	-67.39	4.91	11.03	Horizontal	Pass
9231.0	-57.48	-40	-17.48	-65.46	5.24	13.22	Horizontal	Pass
4615.5	-64.65	-40	-24.65	-69.82	4.4	9.57	Vertical	Pass
6923.25	-60.87	-40	-20.87	-66.99	4.91	11.03	Vertical	Pass
9231.0	-57.22	-40	-17.22	-65.2	5.24	13.22	Vertical	Pass

LTE Band 30-High channel, Modulation: QPSK, Bandwidth:5MHz, 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
4620.5	-64.85	-40	-24.85	-70.03	4.4	9.58	Horizontal	Pass
6930.75	-60.83	-40	-20.83	-66.96	4.91	11.04	Horizontal	Pass
9241.0	-57.17	-40	-17.17	-65.14	5.25	13.22	Horizontal	Pass
4620.5	-64.88	-40	-24.88	-70.06	4.4	9.58	Vertical	Pass
6930.75	-61.57	-40	-21.57	-67.7	4.91	11.04	Vertical	Pass
9241.0	-57.08	-40	-17.08	-65.05	5.25	13.22	Vertical	Pass