

8.6. Appendix F: Frequency Stability

8.6.1. Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	1.4MHz	QPSK	18900	6RB#0	VL	NT	19.98	0.010628	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	VN	NT	22.86	0.012160	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	VH	NT	18.14	0.009649	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	VL	NT	15.34	0.008160	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	VN	NT	17.51	0.009314	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	VH	NT	20.50	0.010904	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	VL	NT	-4.12	-0.002191	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	VN	NT	5.14	0.002734	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	VH	NT	10.94	0.005819	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	VL	NT	18.54	0.009862	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	VN	NT	13.02	0.006926	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	VH	NT	23.23	0.012356	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	VL	NT	22.65	0.012048	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	VN	NT	18.54	0.009862	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	VH	NT	31.91	0.016973	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	VL	NT	14.79	0.007867	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	VN	NT	16.01	0.008516	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	VH	NT	21.97	0.011686	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	VL	NT	-4.12	-0.002378	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	VN	NT	18.51	0.010684	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	VH	NT	-13.15	-0.007590	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	VL	NT	16.94	0.009778	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	VN	NT	16.64	0.009605	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	VH	NT	22.03	0.012716	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	VL	NT	29.63	0.017102	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	VN	NT	27.09	0.015636	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	VH	NT	29.23	0.016872	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	VL	NT	19.70	0.011371	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	VN	NT	35.18	0.020306	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	VH	NT	12.96	0.007481	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	VL	NT	34.00	0.019625	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	VN	NT	35.55	0.020519	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	VH	NT	33.00	0.019048	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	VL	NT	21.56	0.012444	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	VN	NT	19.43	0.011215	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	VH	NT	21.41	0.012358	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	VL	NT	-33.85	-0.040466	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	VN	NT	-32.27	-0.038577	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	VH	NT	-37.09	-0.044340	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	VL	NT	25.69	0.030711	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	VN	NT	22.90	0.027376	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	VH	NT	27.27	0.032600	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	VL	NT	11.83	0.014142	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	VN	NT	7.35	0.008787	±2.5	PASS

Band5	5MHz	QPSK	20525	25RB#0	VH	NT	9.91	0.011847	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VL	NT	25.45	0.030424	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VN	NT	26.08	0.031178	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VH	NT	25.58	0.030580	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	VL	NT	-42.53	-0.060113	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	VN	NT	-40.56	-0.057329	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	VH	NT	-44.37	-0.062714	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	VL	NT	7.14	0.010092	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	VN	NT	7.07	0.009993	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	VH	NT	9.77	0.013809	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	VL	NT	-12.26	-0.017329	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	VN	NT	-38.05	-0.053781	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	VH	NT	-39.41	-0.055703	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VL	NT	19.47	0.027519	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VN	NT	18.77	0.026530	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VH	NT	21.00	0.029682	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	VL	NT	34.55	0.044182	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	VN	NT	27.79	0.035537	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	VH	NT	40.87	0.052263	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	VL	NT	12.89	0.016483	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	VN	NT	4.76	0.006087	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	VH	NT	16.19	0.020703	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	VL	NT	15.88	0.022366	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	VN	NT	9.93	0.013986	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	VH	NT	19.71	0.027761	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	VL	NT	9.94	0.014000	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	VN	NT	10.74	0.015127	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	VH	NT	10.51	0.014803	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	1.4MHz	QPSK	18900	6RB#0	NV	-30	16.69	0.008878	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	-20	21.62	0.011500	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	-10	20.44	0.010872	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	0	21.00	0.011170	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	10	18.50	0.009840	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	20	20.03	0.010654	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	30	17.62	0.009372	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	40	18.73	0.009963	±2.5	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	NV	50	19.38	0.010309	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	-30	18.84	0.010021	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	-20	18.41	0.009793	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	-10	16.64	0.008851	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	0	18.93	0.010069	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	10	21.50	0.011436	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	20	23.15	0.012314	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	30	26.81	0.014261	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	40	23.30	0.012394	±2.5	PASS
Band2	3MHz	QPSK	18900	15RB#0	NV	50	21.53	0.011452	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	-30	7.84	0.004170	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	-20	10.37	0.005516	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	-10	12.04	0.006404	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	0	11.07	0.005888	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	10	11.03	0.005867	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	20	11.62	0.006181	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	30	12.55	0.006676	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	40	17.77	0.009452	±2.5	PASS
Band2	5MHz	QPSK	18900	25RB#0	NV	50	19.58	0.010415	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	-30	25.63	0.013633	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	-20	26.36	0.014021	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	-10	25.21	0.013410	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	0	30.88	0.016426	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	10	32.86	0.017479	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	20	30.54	0.016245	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	30	33.83	0.017995	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	40	34.32	0.018255	±2.5	PASS
Band2	10MHz	QPSK	18900	50RB#0	NV	50	34.46	0.018330	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	-30	40.41	0.021495	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	-20	34.90	0.018564	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	-10	35.86	0.019074	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	0	40.15	0.021356	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	10	41.81	0.022239	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	20	45.20	0.024043	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	30	45.96	0.024447	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	40	48.15	0.025612	±2.5	PASS
Band2	15MHz	QPSK	18900	75RB#0	NV	50	44.13	0.023473	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	-30	24.49	0.013027	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	-20	21.40	0.011383	±2.5	PASS

Band2	20MHz	QPSK	18900	100RB#0	NV	-10	23.99	0.012761	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	0	26.85	0.014282	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	10	28.45	0.015133	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	20	33.02	0.017564	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	30	29.45	0.015665	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	40	30.93	0.016452	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	50	29.83	0.015867	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	-30	-18.75	-0.010823	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	-20	-20.14	-0.011625	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	-10	-23.42	-0.013518	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	0	-25.86	-0.014926	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	10	-26.54	-0.015319	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	20	-29.08	-0.016785	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	30	-33.07	-0.019088	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	40	-31.70	-0.018297	±2.5	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	NV	50	-37.22	-0.021483	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	-30	18.14	0.010470	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	-20	23.19	0.013385	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	-10	22.30	0.012872	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	0	23.82	0.013749	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	10	23.45	0.013535	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	20	26.32	0.015192	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	30	21.94	0.012664	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	40	21.96	0.012675	±2.5	PASS
Band4	3MHz	QPSK	20175	15RB#0	NV	50	18.78	0.010840	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	-30	31.64	0.018263	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	-20	28.45	0.016421	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	-10	30.48	0.017593	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	0	30.68	0.017709	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	10	29.73	0.017160	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	20	26.99	0.015579	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	30	29.41	0.016975	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	40	27.21	0.015706	±2.5	PASS
Band4	5MHz	QPSK	20175	25RB#0	NV	50	25.53	0.014736	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	-30	7.91	0.004566	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	-20	4.19	0.002418	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	-10	-4.33	-0.002499	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	0	-5.48	-0.003163	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	10	-9.10	-0.005253	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	20	-7.95	-0.004589	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	30	-6.98	-0.004029	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	40	-7.47	-0.004312	±2.5	PASS
Band4	10MHz	QPSK	20175	50RB#0	NV	50	-11.83	-0.006828	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	-30	31.74	0.018320	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	-20	34.52	0.019925	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	-10	30.73	0.017737	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	0	27.67	0.015971	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	10	30.53	0.017622	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	20	27.61	0.015937	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	30	31.63	0.018257	±2.5	PASS

Band4	15MHz	QPSK	20175	75RB#0	NV	40	29.44	0.016993	±2.5	PASS
Band4	15MHz	QPSK	20175	75RB#0	NV	50	28.35	0.016364	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-30	23.79	0.013732	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-20	21.37	0.012335	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-10	20.43	0.011792	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	0	20.18	0.011648	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	10	22.73	0.013120	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	20	19.87	0.011469	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	30	20.44	0.011798	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	40	19.88	0.011475	±2.5	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	50	22.96	0.013253	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	-30	-36.95	-0.044172	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	-20	-38.04	-0.045475	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	-10	-41.07	-0.049097	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	0	-40.61	-0.048548	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	10	-42.26	-0.050520	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	20	-41.67	-0.049815	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	30	-42.40	-0.050687	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	40	-42.00	-0.050209	±2.5	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	NV	50	-43.62	-0.052146	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	-30	25.78	0.030819	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	-20	25.84	0.030891	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	-10	26.44	0.031608	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	0	27.72	0.033138	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	10	25.92	0.030986	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	20	28.68	0.034286	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	30	27.41	0.032767	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	40	28.78	0.034405	±2.5	PASS
Band5	3MHz	QPSK	20525	15RB#0	NV	50	30.03	0.035900	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	-30	11.86	0.014178	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	-20	7.94	0.009492	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	-10	11.01	0.013162	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	0	9.10	0.010879	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	10	11.72	0.014011	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	20	12.12	0.014489	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	30	11.92	0.014250	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	40	11.67	0.013951	±2.5	PASS
Band5	5MHz	QPSK	20525	25RB#0	NV	50	11.87	0.014190	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	-30	24.13	0.028846	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	-20	24.60	0.029408	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	-10	25.19	0.030114	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	0	27.24	0.032564	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	10	27.09	0.032385	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	20	27.01	0.032289	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	30	29.17	0.034871	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	40	28.07	0.033556	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	50	27.31	0.032648	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	-30	-44.29	-0.062601	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	-20	-43.22	-0.061088	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	-10	-45.06	-0.063689	±2.5	PASS

Band12	1.4MHz	QPSK	23095	6RB#0	NV	0	-46.33	-0.065484	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	10	-47.16	-0.066657	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	20	-46.65	-0.065936	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	30	3.62	0.005117	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	40	5.61	0.007929	±2.5	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	NV	50	4.76	0.006728	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	-30	10.16	0.014360	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	-20	9.46	0.013371	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	-10	10.79	0.015251	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	0	11.63	0.016438	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	10	13.28	0.018770	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	20	13.75	0.019435	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	30	14.25	0.020141	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	40	14.89	0.021046	±2.5	PASS
Band12	3MHz	QPSK	23095	15RB#0	NV	50	15.54	0.021965	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	-30	-16.59	-0.023449	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	-20	-42.27	-0.059746	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	-10	-14.38	-0.020325	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	0	-37.94	-0.053625	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	10	-16.87	-0.023845	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	20	-41.67	-0.058898	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	30	-18.01	-0.025456	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	40	-39.45	-0.055760	±2.5	PASS
Band12	5MHz	QPSK	23095	25RB#0	NV	50	-9.30	-0.013145	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-30	21.49	0.030375	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-20	20.61	0.029131	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-10	19.15	0.027067	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	0	18.61	0.026304	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	10	17.31	0.024466	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	20	16.41	0.023194	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	30	15.88	0.022445	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	40	16.57	0.023420	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	50	15.82	0.022360	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	-30	22.44	0.031606	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	-20	23.15	0.032606	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	-10	26.45	0.037254	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	0	25.84	0.036394	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	10	26.31	0.037056	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	20	28.01	0.039451	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	30	29.83	0.042014	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	40	31.50	0.044366	±2.5	PASS
Band17	5MHz	QPSK	23790	25RB#0	NV	50	31.59	0.044493	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	-30	10.37	0.014606	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	-20	7.21	0.010155	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	-10	6.25	0.008803	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	0	6.69	0.009423	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	10	6.71	0.009451	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	20	6.75	0.009507	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	30	7.41	0.010437	±2.5	PASS
Band17	10MHz	QPSK	23790	50RB#0	NV	40	5.24	0.007380	±2.5	PASS

Band17	10MHz	QPSK	23790	50RB#0	NV	50	6.77	0.009535	±2.5	PASS
--------	-------	------	-------	--------	----	----	------	----------	------	------

Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

All test modes and test channels have been tested, only the worst data record in the report.

9. RADIATED SPURIOUS EMISSIONS

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53
RSS-130, RSS-132, RSS-133, RSS-139

LIMIT

Part §22.917(a), §24.238(a), §27.53(h)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

RSS-132 section 5.5

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS-133 section 6.5.1

Equipment shall comply with the limits in (i) and (ii) below.

(i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

RSS-139 section 6.6

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,² which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.

(ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.

For Band 13, 1559-1610 MHz shall be limited to -70 dBW/MHz EIRP for wideband signals and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

TEST PROCEDURE

KDB 971168 D01 Section 7

Below 1GHz test procedure as below:

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Calculate power in dBm by the following formula:
$$\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$$

Where:

P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to P_g [dBm] – cable loss [dB]. The calculated P_d levels are then compared to the absolute spurious emission limit of -13 dBm which is equivalent to the required minimum attenuation of $43 + 10\log_{10}(\text{Power [Watts]})$.

Above 1GHz test procedure as below:

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Calculate power in dBm by the following formula:

$$\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$$
$$\text{EIRP} = \text{ERP} + 2.15\text{dB}$$

Where: P_g is the generator output power into the substitution antenna.

11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P (Watts)

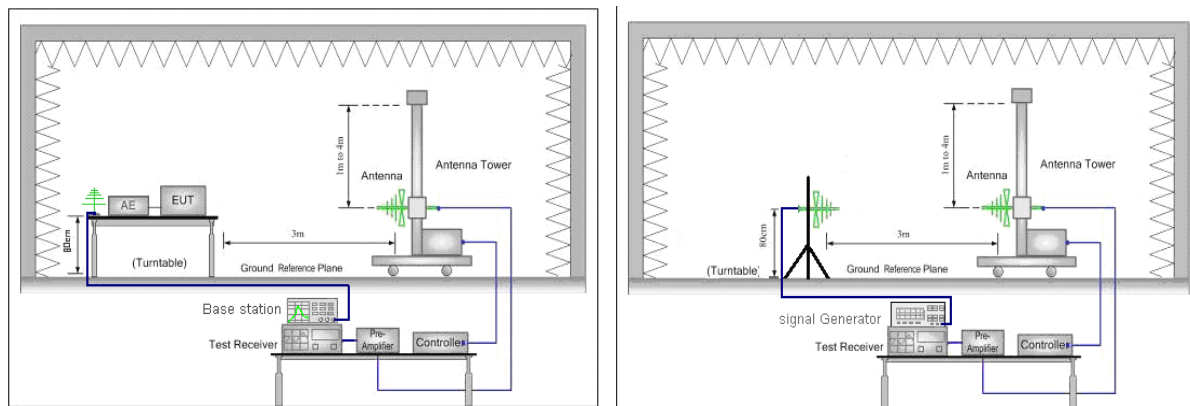
$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$
$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$
$$= -13\text{dBm.}$$

NOTE 1: Radiated spurious emissions were investigated below 30 MHz, 30 MHz – 1 GHz and above 1 GHz. There were no emissions found on below 30 MHz and 30 MHz – 1 GHz. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 414788.

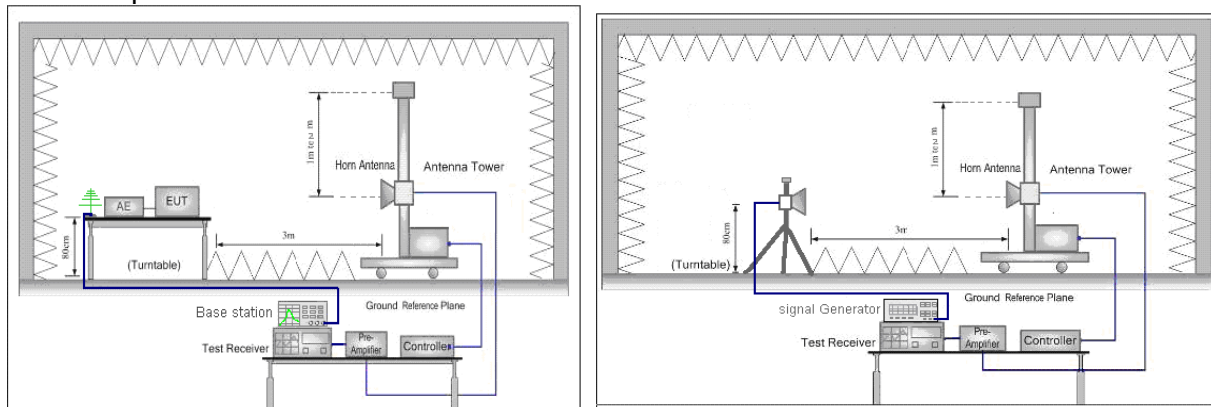
NOTE 2: Please refer to section 5 for bandwidth and RB setting about LTE bands.

TEST SETUP

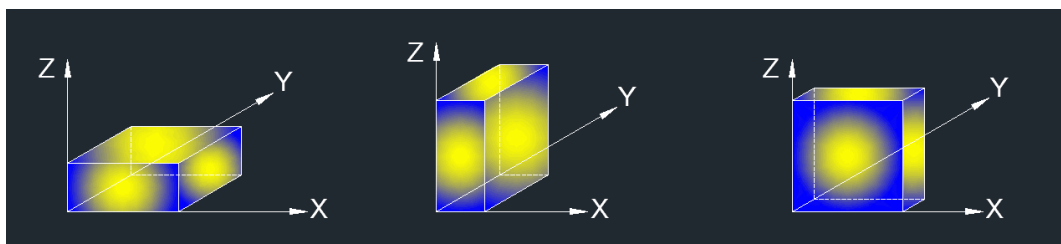
Test Setup for Below 1 GHz



Test Setup for Above 1 GHz



X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	68.3%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

RESULTS
LTE Band 2
QPSK-20 MHz-Low Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
3690.000	46.72	-4.52	42.20	82.25	-40.05	peak
9135.000	35.94	10.55	46.49	82.25	-35.76	peak
11685.000	34.98	17.10	52.08	82.25	-30.17	peak
12255.000	34.86	17.78	52.64	82.25	-29.61	peak
13920.000	33.27	21.79	55.06	82.25	-27.19	peak
17955.000	28.32	25.42	53.74	82.25	-28.51	peak

QPSK-20 MHz-Low Channel-Vertical

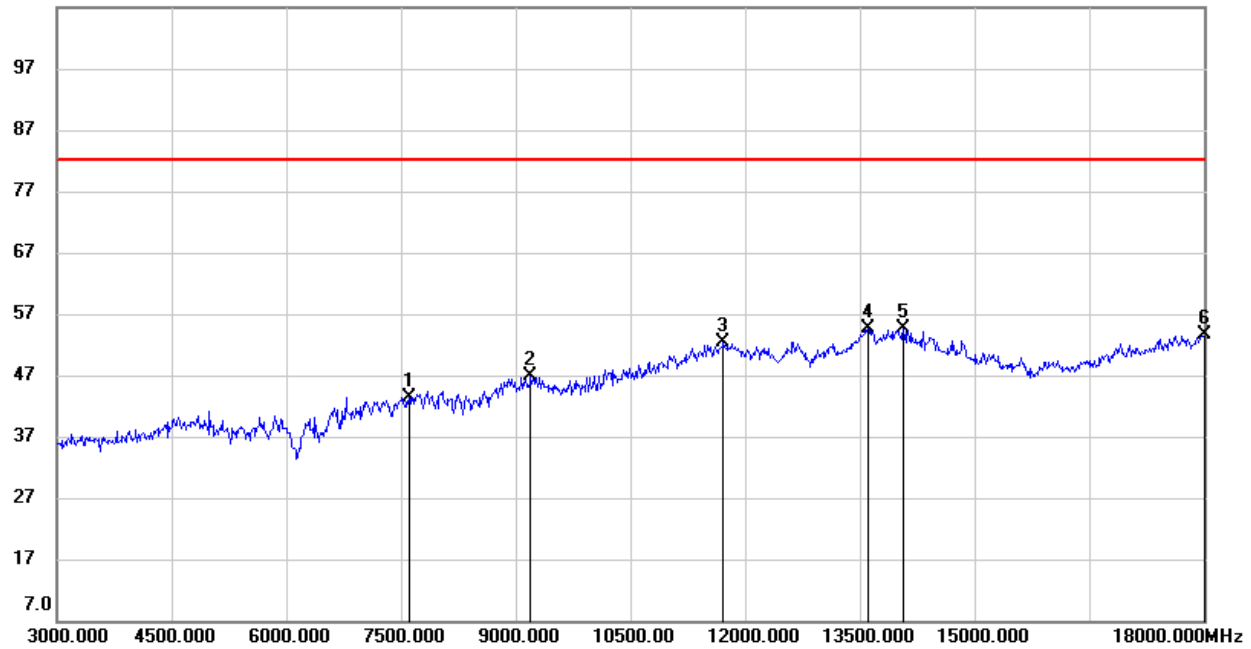
Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
3690.000	46.83	-4.52	42.31	82.25	-39.94	peak
7740.000	37.74	6.32	44.06	82.25	-38.19	peak
9420.000	36.39	10.65	47.04	82.25	-35.21	peak
11745.000	35.37	17.27	52.64	82.25	-29.61	peak
13605.000	33.56	21.12	54.68	82.25	-27.57	peak
17940.000	28.33	25.34	53.67	82.25	-28.58	peak

QPSK-20 MHz-Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
3750.000	47.13	-4.38	42.75	82.25	-39.50	peak
7770.000	37.55	6.31	43.86	82.25	-38.39	peak
8970.000	36.66	10.26	46.92	82.25	-35.33	peak
11730.000	35.00	17.22	52.22	82.25	-30.03	peak
13875.000	33.03	21.70	54.73	82.25	-27.52	peak
17940.000	29.24	25.34	54.58	82.25	-27.67	peak

QPSK-20 MHz- Mid Channel-Vertical (Worst Cast)

107.0 dBuV/m



Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
3750.000	46.26	-4.38	41.88	82.25	-40.37	peak
7935.000	38.31	6.32	44.63	82.25	-37.62	peak
9255.000	37.20	10.59	47.79	82.25	-34.46	peak
11835.000	34.63	17.51	52.14	82.25	-30.11	peak
13995.000	34.14	21.95	56.09	82.25	-26.16	peak
18000.000	28.52	25.69	54.21	82.25	-28.04	peak

QPSK-20 MHz-High Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
3810.000	50.76	-4.24	46.52	82.25	-35.73	peak
9135.000	36.49	10.55	47.04	82.25	-35.21	peak
11730.000	35.35	17.22	52.57	82.25	-29.68	peak
13620.000	33.27	21.15	54.42	82.25	-27.83	peak
13980.000	33.16	21.92	55.08	82.25	-27.17	peak
17940.000	29.04	25.34	54.38	82.25	-27.87	peak

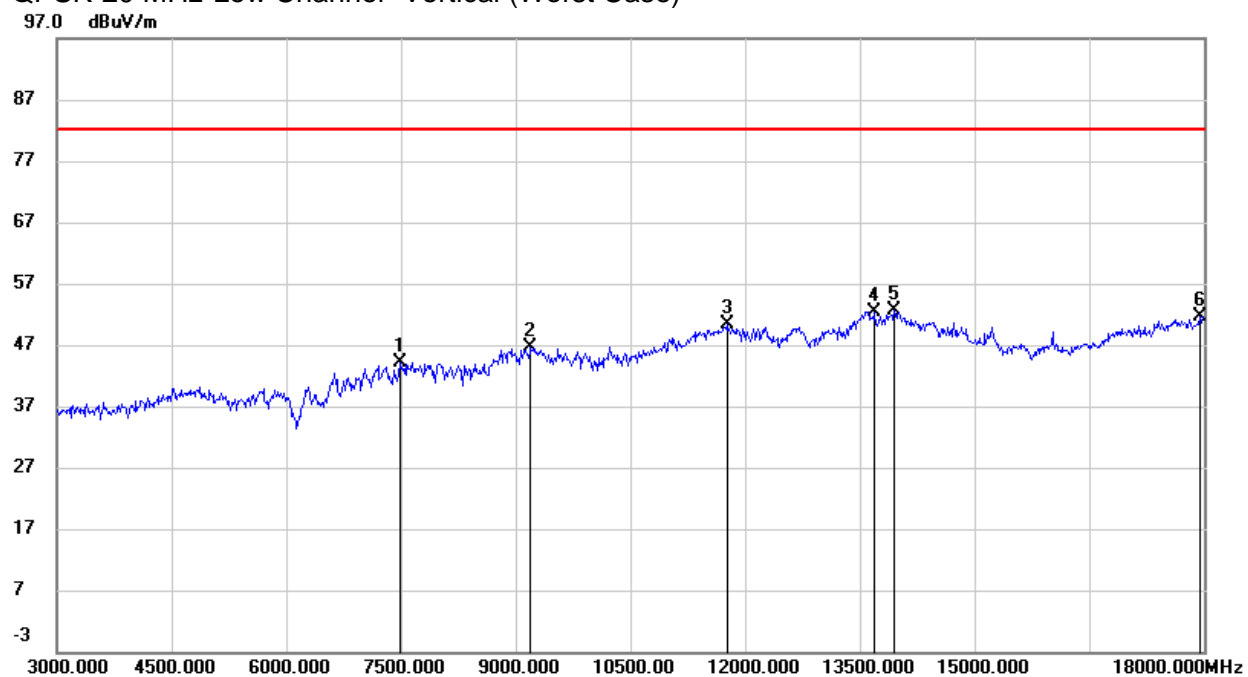
QPSK-20 MHz- High Channel-Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
3810.000	47.53	-4.24	43.29	82.25	-38.96	peak
8910.000	36.74	9.82	46.56	82.25	-35.69	peak
11730.000	35.02	17.22	52.24	82.25	-30.01	peak
13605.000	33.26	21.12	54.38	82.25	-27.87	peak
13920.000	33.09	21.79	54.88	82.25	-27.37	peak
17970.000	28.35	25.51	53.86	82.25	-28.39	peak

Note: Limit= -13dBm+95.25=82.25 dBuV/m

LTE Band 4
QPSK-20 MHz-Low Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
7710.000	39.42	6.33	45.75	82.25	-36.50	peak
9255.000	37.53	10.59	48.12	82.25	-34.13	peak
11010.000	38.09	14.81	52.90	82.25	-29.35	peak
13485.000	33.64	20.84	54.48	82.25	-27.77	peak
13965.000	32.91	21.89	54.80	82.25	-27.45	peak
17940.000	28.77	25.34	54.11	82.25	-28.14	peak

QPSK-20 MHz-Low Channel- Vertical (Worst Case)


Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
7710.000	39.42	6.33	45.75	82.25	-36.50	peak
9255.000	37.53	10.59	48.12	82.25	-34.13	peak
11010.000	38.09	14.81	52.90	82.25	-29.35	peak
13485.000	33.64	20.84	54.48	82.25	-27.77	peak
13965.000	32.91	21.89	54.80	82.25	-27.45	peak
17940.000	28.77	25.34	54.11	82.25	-28.14	peak

QPSK-20 MHz-Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
7755.000	38.39	6.31	44.70	82.25	-37.55	peak
8985.000	36.59	10.37	46.96	82.25	-35.29	peak
11880.000	34.95	17.63	52.58	82.25	-29.67	peak
13665.000	33.51	21.25	54.76	82.25	-27.49	peak
14190.000	33.22	21.17	54.39	82.25	-27.86	peak
17940.000	28.61	25.34	53.95	82.25	-28.30	peak

QPSK-20 MHz-Mid Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
7485.000	37.68	6.34	44.02	82.25	-38.23	peak
9195.000	36.11	10.56	46.67	82.25	-35.58	peak
11760.000	33.07	17.31	50.38	82.25	-31.87	peak
13695.000	31.13	21.31	52.44	82.25	-29.81	peak
13950.000	30.65	21.86	52.51	82.25	-29.74	peak
17940.000	26.25	25.34	51.59	82.25	-30.66	peak

QPSK-20 MHz-High Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
8025.000	38.16	6.34	44.50	82.25	-37.75	peak
9300.000	35.95	10.61	46.56	82.25	-35.69	peak
11685.000	36.19	17.10	53.29	82.25	-28.96	peak
13695.000	32.88	21.31	54.19	82.25	-28.06	peak
14070.000	32.54	21.67	54.21	82.25	-28.04	peak
17805.000	29.50	24.54	54.04	82.25	-28.21	peak

QPSK-20 MHz-High Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
7710.000	38.60	6.33	44.93	82.25	-37.32	peak
9135.000	36.10	10.55	46.65	82.25	-35.60	peak
11880.000	35.43	17.63	53.06	82.25	-29.19	peak
13545.000	33.03	20.99	54.02	82.25	-28.23	peak
13785.000	33.31	21.51	54.82	82.25	-27.43	peak
17985.000	28.62	25.60	54.22	82.25	-28.03	peak

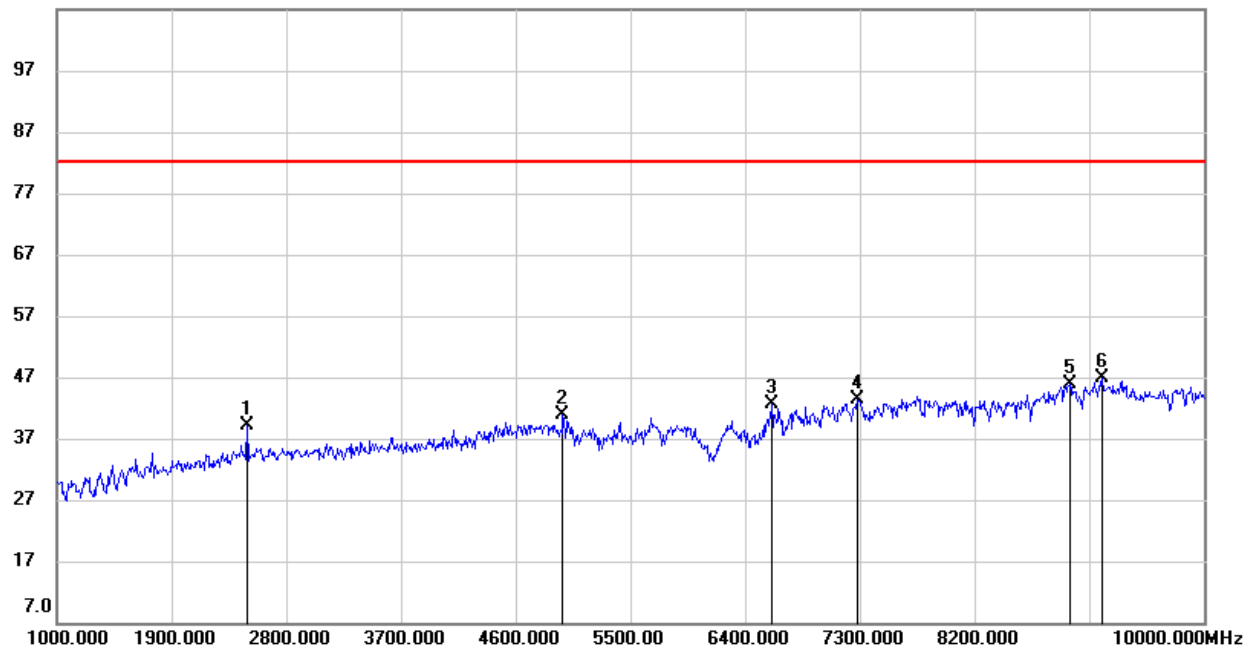
Note: Limit= -13dBm+95.25=82.25dBuV/m

LTE Band 5
QPSK-10 MHz-Low Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	44.85	-8.52	36.33	82.25	-45.92	peak
4708.000	41.08	-1.31	39.77	82.25	-42.48	peak
5662.000	39.07	0.89	39.96	82.25	-42.29	peak
7192.000	36.96	6.00	42.96	82.25	-39.29	peak
8938.000	36.62	9.31	45.93	82.25	-36.32	peak
9235.000	36.35	9.84	46.19	82.25	-36.06	peak

QPSK-20 MHz-Low Channel- Vertical (Worst Case)

107.0 dBuV/m



Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	47.71	-8.52	39.19	82.25	-43.06	peak
4969.000	41.16	-0.27	40.89	82.25	-41.36	peak
6607.000	38.44	4.24	42.68	82.25	-39.57	peak
7282.000	37.35	5.91	43.26	82.25	-38.99	peak
8947.000	36.44	9.37	45.81	82.25	-36.44	peak
9199.000	37.02	9.82	46.84	82.25	-35.41	peak

QPSK-10 MHz-Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	45.45	-8.52	36.93	82.25	-45.32	peak
5023.000	42.29	-0.12	42.17	82.25	-40.08	peak
6661.000	37.54	4.52	42.06	82.25	-40.19	peak
7318.000	37.47	5.88	43.35	82.25	-38.90	peak
8938.000	37.00	9.31	46.31	82.25	-35.94	peak
9262.000	37.70	9.84	47.54	82.25	-34.71	peak

QPSK-10 MHz-Mid Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	47.01	-8.52	38.49	82.25	-43.76	peak
5023.000	42.79	-0.12	42.67	82.25	-39.58	peak
7021.000	36.36	6.19	42.55	82.25	-39.70	peak
7858.000	37.95	5.65	43.60	82.25	-38.65	peak
9145.000	36.69	9.80	46.49	82.25	-35.76	peak
9784.000	35.16	10.62	45.78	82.25	-36.47	peak

QPSK-10 MHz-High Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	45.49	-8.52	36.97	82.25	-45.28	peak
4447.000	42.29	-2.40	39.89	82.25	-42.36	peak
5068.000	40.04	-0.07	39.97	82.25	-42.28	peak
7300.000	37.14	5.89	43.03	82.25	-39.22	peak
9082.000	37.03	9.77	46.80	82.25	-35.45	peak
9388.000	36.32	9.90	46.22	82.25	-36.03	peak

QPSK-10 MHz-High Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	47.50	-8.52	38.98	82.25	-43.27	peak
4996.000	42.14	-0.17	41.97	82.25	-40.28	peak
5059.000	41.95	-0.08	41.87	82.25	-40.38	peak
6670.000	37.89	4.57	42.46	82.25	-39.79	peak
7489.000	37.86	5.70	43.56	82.25	-38.69	peak
8965.000	36.23	9.49	45.72	82.25	-36.53	peak

Note: Limit= -13dBm+95.25=82.25dBuV/m

LTE Band 12
QPSK-10 MHz-Low Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	47.04	-12.74	34.30	82.25	-47.95	peak
3556.000	42.60	-5.70	36.90	82.25	-45.35	peak
4996.000	40.17	-0.17	40.00	82.25	-42.25	peak
7183.000	37.32	6.01	43.33	82.25	-38.92	peak
7750.000	38.77	5.67	44.44	82.25	-37.81	peak
9064.000	36.61	9.76	46.37	82.25	-35.88	peak

QPSK-10 MHz-Low Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	48.96	-12.74	36.22	82.25	-46.03	peak
2494.000	47.43	-8.52	38.91	82.25	-43.34	peak
4996.000	40.52	-0.17	40.35	82.25	-41.90	peak
6787.000	36.95	5.14	42.09	82.25	-40.16	peak
7660.000	38.30	5.68	43.98	82.25	-38.27	peak
9073.000	36.33	9.77	46.10	82.25	-36.15	peak

QPSK-10 MHz-Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	47.19	-12.74	34.45	82.25	-47.80	peak
2494.000	45.54	-8.52	37.02	82.25	-45.23	peak
4672.000	41.35	-1.46	39.89	82.25	-42.36	peak
6787.000	37.56	5.14	42.70	82.25	-39.55	peak
7183.000	37.73	6.01	43.74	82.25	-38.51	peak
9145.000	36.74	9.80	46.54	82.25	-35.71	peak

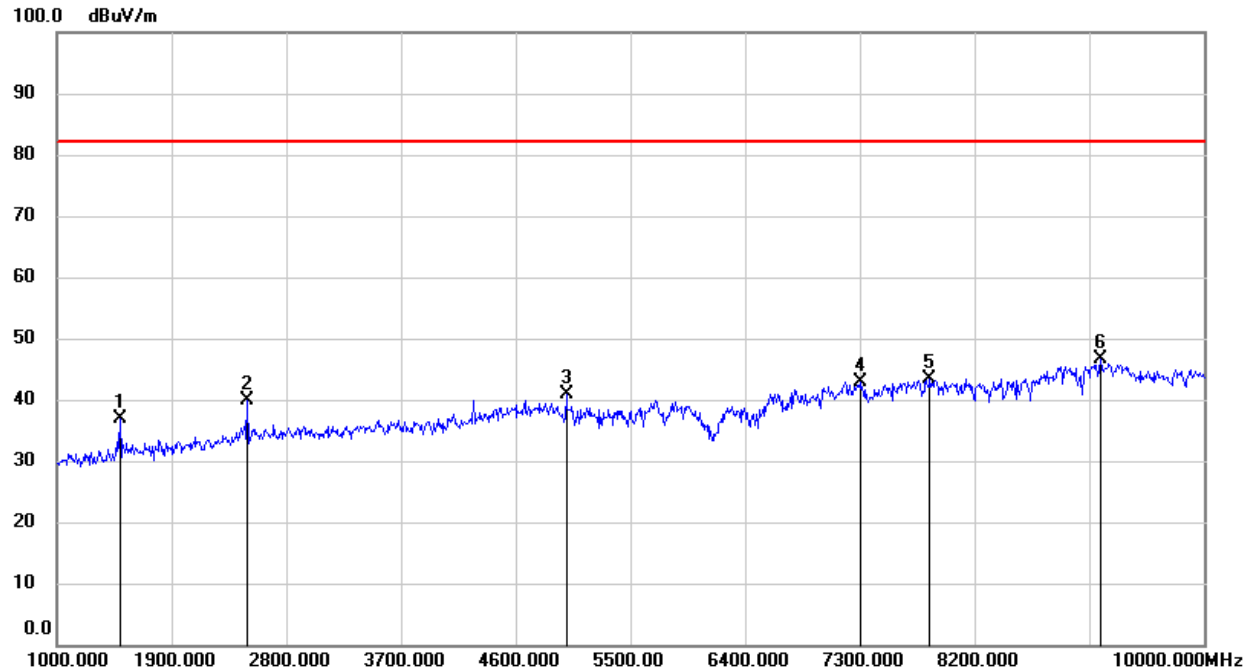
QPSK-10 MHz-Mid Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	49.45	-12.74	36.71	82.25	-45.54	peak
2494.000	47.22	-8.52	38.70	82.25	-43.55	peak
4240.000	42.63	-3.35	39.28	82.25	-42.97	peak
6787.000	36.73	5.14	41.87	82.25	-40.38	peak
8938.000	35.95	9.31	45.26	82.25	-36.99	peak
9226.000	36.22	9.83	46.05	82.25	-36.20	peak

QPSK-10 MHz-High Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	45.40	-8.52	36.88	82.25	-45.37	peak
4933.000	40.59	-0.42	40.17	82.25	-42.08	peak
6787.000	37.95	5.14	43.09	82.25	-39.16	peak
7021.000	38.01	6.19	44.20	82.25	-38.05	peak
8920.000	36.43	9.17	45.60	82.25	-36.65	peak
9352.000	36.24	9.88	46.12	82.25	-36.13	peak

QPSK-10 MHz-High Channel- Vertical (Worst Cast)



Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	49.54	-12.74	36.80	82.25	-45.45	peak
2494.000	48.36	-8.52	39.84	82.25	-42.41	peak
4996.000	41.15	-0.17	40.98	82.25	-41.27	peak
7300.000	37.01	5.89	42.90	82.25	-39.35	peak
7849.000	37.74	5.67	43.41	82.25	-38.84	peak
9190.000	36.87	9.81	46.68	82.25	-35.57	peak

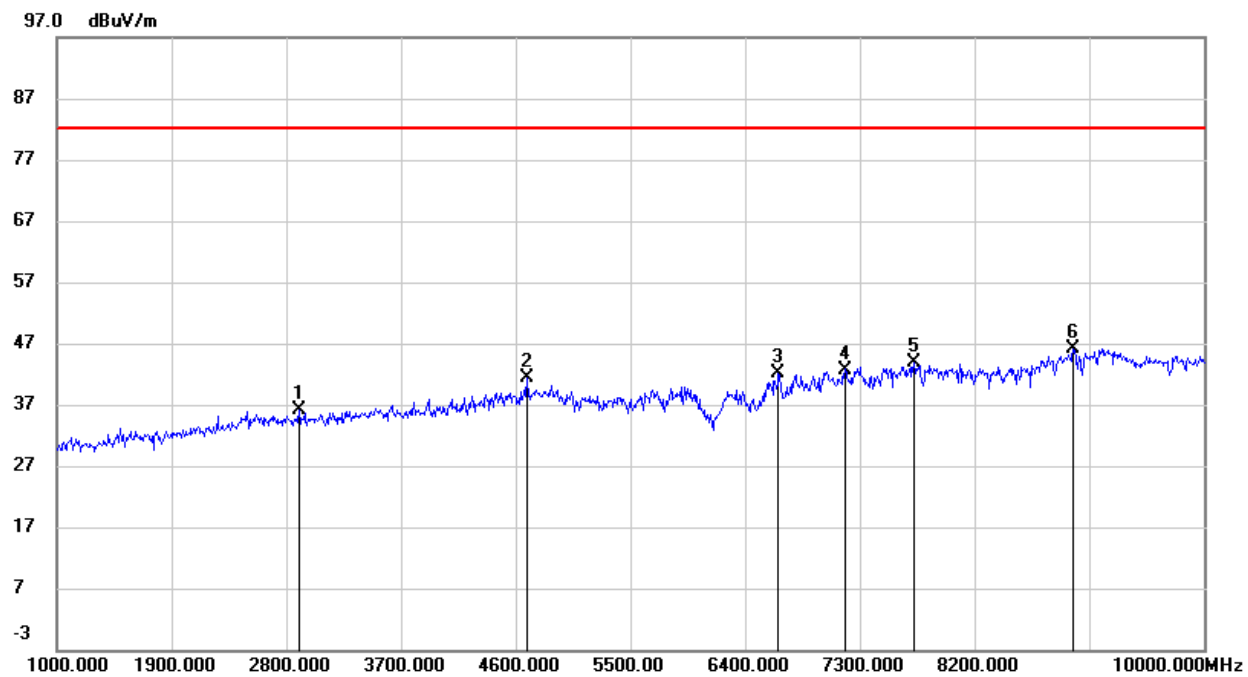
Note: Limit= -13dBm+95.25=82.25dBuV/m

LTE Band 13

In the 1559-1610 MHz frequency, the limit is -80 dBW EIRP for narrowband and all modulation are tested and met requirements.

QPSK-10 MHz- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2899.000	43.39	-7.28	36.11	82.25	-46.14	peak
4690.000	42.72	-1.38	41.34	82.25	-40.91	peak
6661.000	37.64	4.52	42.16	82.25	-40.09	peak
7183.000	36.74	6.01	42.75	82.25	-39.50	peak
7723.000	38.14	5.67	43.81	82.25	-38.44	peak
8974.000	36.46	9.56	46.02	82.25	-36.23	peak

QPSK-10 MHz- Vertical (Worst Cast)


Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	48.84	-12.74	36.10	82.25	-46.15	peak
2494.000	47.65	-8.52	39.13	82.25	-43.12	peak
4690.000	44.95	-1.38	43.57	82.25	-38.68	peak
7012.000	36.61	6.18	42.79	82.25	-39.46	peak
8020.000	37.96	5.67	43.63	82.25	-38.62	peak
9217.000	36.33	9.83	46.16	82.25	-36.09	peak

Note: Limit= -13dBm+95.25=82.25dBuV/m

LTE Band 17
QPSK-10 MHz-Low Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	44.63	-8.52	36.11	82.25	-46.14	peak
4249.000	42.72	-3.32	39.40	82.25	-42.85	peak
4672.000	41.16	-1.46	39.70	82.25	-42.55	peak
7183.000	36.70	6.01	42.71	82.25	-39.54	peak
7849.000	37.84	5.67	43.51	82.25	-38.74	peak
9253.000	36.23	9.83	46.06	82.25	-36.19	peak

QPSK-10 MHz-Low Channel- Vertical

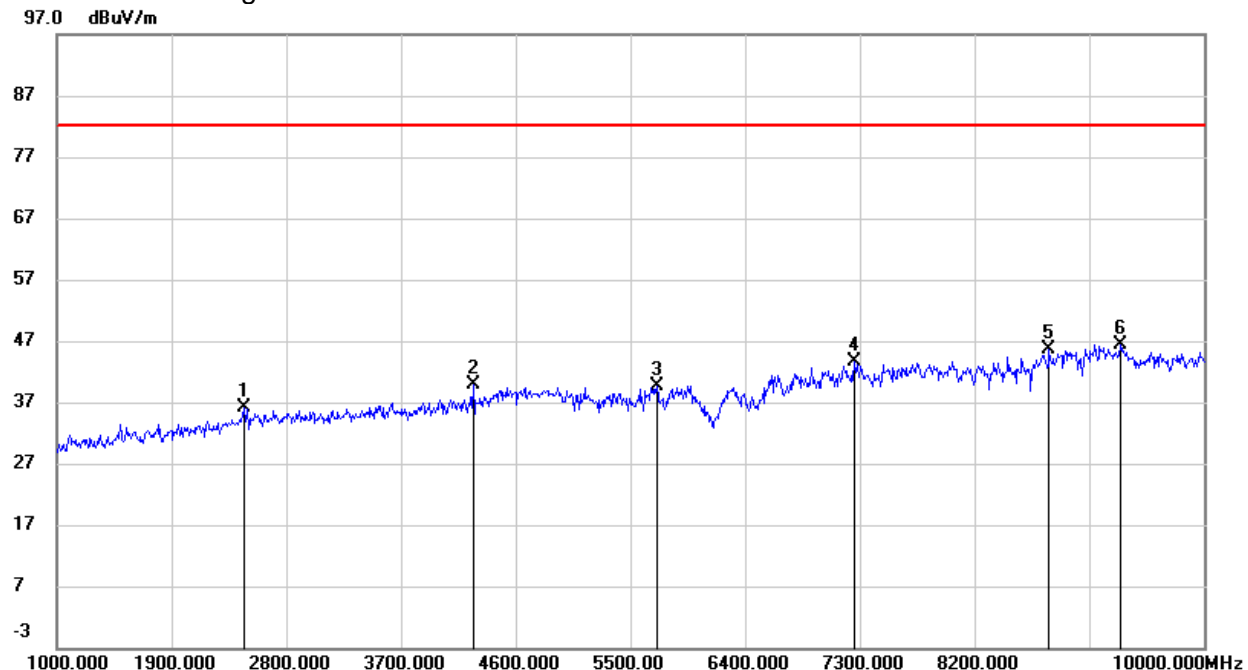
Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	48.92	-12.74	36.18	82.25	-46.07	peak
2494.000	47.68	-8.52	39.16	82.25	-43.09	peak
4249.000	43.37	-3.32	40.05	82.25	-42.20	peak
4996.000	40.96	-0.17	40.79	82.25	-41.46	peak
7300.000	37.82	5.89	43.71	82.25	-38.54	peak
9226.000	36.53	9.83	46.36	82.25	-35.89	peak

QPSK-10 MHz-Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2467.000	43.79	-8.66	35.13	82.25	-47.12	peak
3628.000	43.02	-5.50	37.52	82.25	-44.73	peak
5698.000	39.23	0.99	40.22	82.25	-42.03	peak
6661.000	37.63	4.52	42.15	82.25	-40.10	peak
7894.000	37.76	5.66	43.42	82.25	-38.83	peak
9253.000	36.11	9.83	45.94	82.25	-36.31	peak

QPSK-10 MHz-Mid Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1495.000	49.91	-12.74	37.17	82.25	-45.08	peak
2494.000	48.29	-8.52	39.77	82.25	-42.48	peak
4645.000	40.84	-1.57	39.27	82.25	-42.98	peak
7021.000	36.75	6.19	42.94	82.25	-39.31	peak
8920.000	36.50	9.17	45.67	82.25	-36.58	peak
9307.000	36.06	9.86	45.92	82.25	-36.33	peak

QPSK-10 MHz-High Channel- Horizontal


Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2467.000	44.82	-8.66	36.16	82.25	-46.09	peak
4267.000	43.18	-3.23	39.95	82.25	-42.30	peak
5707.000	38.66	1.01	39.67	82.25	-42.58	peak
7255.000	37.69	5.94	43.63	82.25	-38.62	peak
8785.000	37.32	8.23	45.55	82.25	-36.70	peak
9343.000	36.62	9.88	46.50	82.25	-35.75	peak

QPSK-10 MHz-High Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2494.000	48.98	-8.52	40.46	82.25	-41.79	peak
4789.000	40.55	-1.00	39.55	82.25	-42.70	peak
6787.000	37.28	5.14	42.42	82.25	-39.83	peak
7714.000	38.72	5.68	44.40	82.25	-37.85	peak
9091.000	36.38	9.78	46.16	82.25	-36.09	peak
9361.000	36.36	9.89	46.25	82.25	-36.00	peak

Note: Limit= -13dBm+95.25=82.25dBuV/m

END OF REPORT