



Test Result

WCDMA Band IV						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	QPSK	BPSK	QPSK	BPSK	
Normal (25℃)	Normal	15.48	4.70	0.00823	0.00250	PASS
Extreme (50℃)		5.05	14.68	0.00268	0.00781	PASS
Extreme (40℃)		10.07	10.16	0.00535	0.00541	PASS
Extreme (30℃)		14.39	8.17	0.00765	0.00435	PASS
Extreme (20℃)		14.06	16.09	0.00748	0.00856	PASS
Extreme (10℃)		17.19	10.72	0.00914	0.00570	PASS
Extreme (0℃)		14.66	12.85	0.00780	0.00683	PASS
Extreme (-10℃)		17.69	16.09	0.00941	0.00856	PASS
Extreme (-20℃)		10.69	9.07	0.00569	0.00483	PASS
Extreme (-30℃)		7.86	10.11	0.00418	0.00538	PASS
25℃	LV	16.24	12.69	0.00864	0.00675	PASS
	HV	7.52	14.31	0.00400	0.00761	PASS

LTE Band 4								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	1.4MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	16.48	17.74	5.42	0.00877	0.00943	0.00288	PASS
Extreme (50℃)		6.39	11.72	2.56	0.00340	0.00623	0.00136	PASS
Extreme (40℃)		17.80	14.36	6.25	0.00947	0.00764	0.00332	PASS
Extreme (30℃)		9.32	1.67	2.88	0.00496	0.00089	0.00153	PASS
Extreme (20℃)		8.61	11.69	8.49	0.00458	0.00622	0.00451	PASS
Extreme (10℃)		14.34	5.12	7.24	0.00763	0.00273	0.00385	PASS
Extreme (0℃)		12.69	16.36	7.60	0.00675	0.00870	0.00404	PASS
Extreme (-10℃)		4.06	5.13	3.40	0.00216	0.00273	0.00181	PASS
Extreme (-20℃)		9.13	12.11	4.81	0.00486	0.00644	0.00256	PASS
Extreme (-30℃)		12.09	6.83	16.63	0.00643	0.00363	0.00884	PASS
25℃	LV	11.87	8.24	16.24	0.00631	0.00438	0.00864	PASS
	HV	1.91	8.78	1.76	0.00102	0.00467	0.00094	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	3MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	



Normal (25℃)	Normal	5.06	8.23	13.90	0.00269	0.00438	0.00739	PASS
Extreme (50℃)		10.18	7.84	13.79	0.00541	0.00417	0.00734	PASS
Extreme (40℃)		15.48	6.67	2.01	0.00824	0.00355	0.00107	PASS
Extreme (30℃)		10.97	14.24	8.49	0.00583	0.00757	0.00451	PASS
Extreme (20℃)		4.36	16.63	11.27	0.00232	0.00885	0.00599	PASS
Extreme (10℃)		7.92	4.15	12.16	0.00421	0.00221	0.00647	PASS
Extreme (0℃)		7.79	17.89	11.99	0.00415	0.00951	0.00638	PASS
Extreme (-10℃)		3.98	11.66	2.82	0.00212	0.00620	0.00150	PASS
Extreme (-20℃)		4.10	1.59	17.11	0.00218	0.00085	0.00910	PASS
Extreme (-30℃)		7.35	10.87	9.01	0.00391	0.00578	0.00479	PASS
25℃	LV	8.58	10.52	17.56	0.00456	0.00560	0.00934	PASS
	HV	15.35	3.23	5.14	0.00817	0.00172	0.00273	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	3.80	17.75	7.17	0.00202	0.00944	0.00382	PASS
Extreme (50℃)		3.14	11.13	3.12	0.00167	0.00592	0.00166	PASS
Extreme (40℃)		12.14	12.93	15.49	0.00646	0.00688	0.00824	PASS
Extreme (30℃)		3.43	14.31	4.83	0.00183	0.00761	0.00257	PASS
Extreme (20℃)		2.71	1.92	9.41	0.00144	0.00102	0.00501	PASS
Extreme (10℃)		6.05	11.08	1.47	0.00322	0.00589	0.00078	PASS
Extreme (0℃)		8.03	12.25	4.01	0.00427	0.00652	0.00213	PASS
Extreme (-10℃)		7.43	17.66	6.32	0.00395	0.00939	0.00336	PASS
Extreme (-20℃)		15.60	17.69	13.74	0.00830	0.00941	0.00731	PASS
Extreme (-30℃)		16.04	11.09	3.04	0.00853	0.00590	0.00162	PASS
25℃	LV	9.20	16.33	13.42	0.00489	0.00869	0.00714	PASS
	HV	2.57	7.01	10.29	0.00136	0.00373	0.00547	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	8.08	13.55	14.62	0.00430	0.00721	0.00778	PASS
Extreme (50℃)		14.63	5.45	2.01	0.00778	0.00290	0.00107	PASS
Extreme (40℃)		16.03	4.13	16.51	0.00853	0.00220	0.00878	PASS
Extreme (30℃)		6.99	14.48	15.44	0.00372	0.00770	0.00821	PASS
Extreme (20℃)		2.05	17.20	7.73	0.00109	0.00915	0.00411	PASS
Extreme (10℃)		6.03	15.84	3.21	0.00321	0.00843	0.00171	PASS
Extreme (0℃)		9.86	9.22	15.98	0.00525	0.00491	0.00850	PASS
Extreme (-10℃)		6.04	15.50	5.95	0.00321	0.00825	0.00317	PASS
Extreme (-20℃)		16.32	1.71	16.33	0.00868	0.00091	0.00869	PASS



Extreme (-30℃)		11.34	4.54	3.48	0.00603	0.00241	0.00185	PASS
25℃	LV	14.90	2.15	2.51	0.00793	0.00114	0.00133	PASS
	HV	1.86	8.68	1.12	0.00099	0.00461	0.00060	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	5.80	11.59	11.95	0.00308	0.00616	0.00636	PASS
Extreme (50℃)		6.11	5.73	1.11	0.00325	0.00305	0.00059	PASS
Extreme (40℃)		16.37	3.89	1.30	0.00871	0.00207	0.00069	PASS
Extreme (30℃)		6.43	11.33	4.53	0.00342	0.00602	0.00241	PASS
Extreme (20℃)		13.37	16.28	4.21	0.00711	0.00866	0.00224	PASS
Extreme (10℃)		16.04	5.31	17.81	0.00853	0.00283	0.00947	PASS
Extreme (0℃)		13.92	12.97	5.75	0.00741	0.00690	0.00306	PASS
Extreme (-10℃)		5.78	12.00	9.69	0.00307	0.00638	0.00515	PASS
Extreme (-20℃)		4.20	11.10	3.54	0.00223	0.00590	0.00188	PASS
Extreme (-30℃)		17.42	9.03	3.59	0.00927	0.00480	0.00191	PASS
25℃	LV	14.46	4.17	1.88	0.00769	0.00222	0.00100	PASS
	HV	16.52	14.24	9.23	0.00879	0.00757	0.00491	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	15.91	16.62	2.15	0.00846	0.00884	0.00114	PASS
Extreme (50℃)		16.36	9.66	10.99	0.00870	0.00514	0.00584	PASS
Extreme (40℃)		14.84	11.54	16.76	0.00789	0.00614	0.00891	PASS
Extreme (30℃)		11.55	16.30	6.00	0.00614	0.00867	0.00319	PASS
Extreme (20℃)		14.00	14.03	8.64	0.00745	0.00746	0.00459	PASS
Extreme (10℃)		2.11	17.51	5.48	0.00112	0.00931	0.00291	PASS
Extreme (0℃)		12.95	5.37	2.87	0.00689	0.00285	0.00153	PASS
Extreme (-10℃)		15.23	6.68	4.48	0.00810	0.00355	0.00239	PASS
Extreme (-20℃)		9.36	5.46	3.72	0.00498	0.00290	0.00198	PASS
Extreme (-30℃)		16.36	7.76	15.11	0.00870	0.00413	0.00804	PASS
25℃	LV	12.56	11.84	15.49	0.00668	0.00630	0.00824	PASS
	HV	15.38	17.70	5.06	0.00818	0.00941	0.00269	PASS

LTE Band 7								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz							



Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	6.70	2.48	6.69	0.00356	0.00132	0.00356	PASS
Extreme (50℃)		2.28	3.47	4.09	0.00121	0.00185	0.00218	PASS
Extreme (40℃)		16.11	14.46	9.67	0.00857	0.00769	0.00514	PASS
Extreme (30℃)		10.31	17.38	3.98	0.00549	0.00925	0.00212	PASS
Extreme (20℃)		16.34	11.49	2.77	0.00869	0.00611	0.00147	PASS
Extreme (10℃)		16.09	16.73	9.47	0.00856	0.00890	0.00503	PASS
Extreme (0℃)		13.85	4.12	10.84	0.00736	0.00219	0.00577	PASS
Extreme (-10℃)		15.36	13.36	13.92	0.00817	0.00711	0.00740	PASS
Extreme (-20℃)		14.96	1.34	14.55	0.00796	0.00071	0.00774	PASS
Extreme (-30℃)		15.42	4.07	1.02	0.00820	0.00217	0.00054	PASS
25℃	LV	4.37	3.32	10.28	0.00232	0.00176	0.00547	PASS
	HV	6.34	3.83	3.38	0.00337	0.00204	0.00180	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	6.31	2.46	11.69	0.00336	0.00131	0.00622	PASS
Extreme (50℃)		8.87	11.12	16.56	0.00472	0.00591	0.00881	PASS
Extreme (40℃)		6.47	8.11	12.48	0.00344	0.00431	0.00664	PASS
Extreme (30℃)		8.85	3.52	7.30	0.00471	0.00187	0.00388	PASS
Extreme (20℃)		9.44	17.15	4.42	0.00502	0.00912	0.00235	PASS
Extreme (10℃)		2.39	2.76	12.89	0.00127	0.00147	0.00686	PASS
Extreme (0℃)		2.04	14.17	8.77	0.00109	0.00754	0.00467	PASS
Extreme (-10℃)		6.34	14.87	5.79	0.00337	0.00791	0.00308	PASS
Extreme (-20℃)		5.35	12.89	6.59	0.00285	0.00685	0.00351	PASS
Extreme (-30℃)		7.89	10.34	14.81	0.00420	0.00550	0.00788	PASS
25℃	LV	5.69	5.78	9.18	0.00303	0.00308	0.00488	PASS
	HV	14.08	3.63	5.42	0.00749	0.00193	0.00288	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	13.90	16.26	8.80	0.00739	0.00865	0.00468	PASS
Extreme (50℃)		1.88	16.08	7.12	0.00100	0.00855	0.00379	PASS
Extreme (40℃)		16.65	3.83	13.33	0.00886	0.00204	0.00709	PASS
Extreme (30℃)		12.99	9.51	14.02	0.00691	0.00506	0.00746	PASS
Extreme (20℃)		17.52	5.08	15.64	0.00932	0.00270	0.00832	PASS
Extreme (10℃)		10.38	17.74	16.12	0.00552	0.00943	0.00857	PASS
Extreme (0℃)		9.73	14.20	16.98	0.00518	0.00755	0.00903	PASS
Extreme (-10℃)		5.61	1.26	15.63	0.00299	0.00067	0.00831	PASS



Extreme (-20℃)		5.13	14.56	16.25	0.00273	0.00774	0.00864	PASS
Extreme (-30℃)		6.83	1.17	2.30	0.00363	0.00062	0.00122	PASS
25℃	LV	16.41	1.79	1.13	0.00873	0.00095	0.00060	PASS
	HV	1.92	16.99	11.93	0.00102	0.00903	0.00634	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	2.40	6.25	5.19	0.00128	0.00332	0.00276	PASS
Extreme (50℃)		7.71	4.47	12.63	0.00410	0.00238	0.00672	PASS
Extreme (40℃)		10.21	8.23	13.80	0.00543	0.00438	0.00734	PASS
Extreme (30℃)		14.88	5.03	8.27	0.00792	0.00267	0.00440	PASS
Extreme (20℃)		5.82	6.90	14.00	0.00309	0.00367	0.00745	PASS
Extreme (10℃)		5.04	15.38	8.38	0.00268	0.00818	0.00446	PASS
Extreme (0℃)		1.44	1.76	10.22	0.00077	0.00093	0.00544	PASS
Extreme (-10℃)		15.39	13.67	11.15	0.00819	0.00727	0.00593	PASS
Extreme (-20℃)		5.57	14.70	13.92	0.00296	0.00782	0.00740	PASS
Extreme (-30℃)		11.16	4.72	6.60	0.00594	0.00251	0.00351	PASS
25℃	LV	14.37	5.96	12.13	0.00764	0.00317	0.00645	PASS
	HV	3.43	6.49	15.44	0.00182	0.00345	0.00821	PASS

LTE Band 38								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	5.73	11.21	11.34	0.00305	0.00596	0.00603	PASS
Extreme (50℃)		4.65	1.92	1.40	0.00247	0.00102	0.00075	PASS
Extreme (40℃)		1.57	3.12	17.56	0.00083	0.00166	0.00934	PASS
Extreme (30℃)		16.37	10.54	8.67	0.00871	0.00560	0.00461	PASS
Extreme (20℃)		2.13	9.79	2.39	0.00113	0.00521	0.00127	PASS
Extreme (10℃)		5.30	17.35	5.90	0.00282	0.00923	0.00314	PASS
Extreme (0℃)		5.29	1.63	3.17	0.00282	0.00087	0.00168	PASS
Extreme (-10℃)		4.66	3.71	11.93	0.00248	0.00197	0.00635	PASS
Extreme (-20℃)		17.23	4.34	3.75	0.00917	0.00231	0.00200	PASS
Extreme (-30℃)		13.99	11.92	2.11	0.00744	0.00634	0.00112	PASS
25℃	LV	12.73	9.58	16.70	0.00677	0.00509	0.00888	PASS
	HV	8.87	16.83	3.16	0.00472	0.00895	0.00168	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability	Frequency Stability	Frequency Stability	Verdict



BANDWIDTH	10MHz				(ppm)	(ppm)	(ppm)	
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	6.03	15.04	9.42	0.00321	0.00800	0.00501	PASS
Extreme (50℃)		11.01	3.52	12.93	0.00586	0.00187	0.00688	PASS
Extreme (40℃)		12.79	2.02	12.68	0.00681	0.00108	0.00675	PASS
Extreme (30℃)		13.25	11.28	7.42	0.00705	0.00600	0.00394	PASS
Extreme (20℃)		3.59	16.27	15.23	0.00191	0.00865	0.00810	PASS
Extreme (10℃)		3.56	1.13	13.29	0.00189	0.00060	0.00707	PASS
Extreme (0℃)		13.56	2.66	4.03	0.00721	0.00142	0.00214	PASS
Extreme (-10℃)		10.11	6.47	5.67	0.00538	0.00344	0.00302	PASS
Extreme (-20℃)		2.24	1.34	10.97	0.00119	0.00071	0.00584	PASS
Extreme (-30℃)		6.10	5.30	17.54	0.00324	0.00282	0.00933	PASS
25℃	LV	11.78	4.78	17.41	0.00627	0.00254	0.00926	PASS
	HV	13.74	10.41	16.99	0.00731	0.00554	0.00904	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	1.70	17.61	4.72	0.00090	0.00937	0.00251	PASS
Extreme (50℃)		13.74	13.44	3.94	0.00731	0.00715	0.00210	PASS
Extreme (40℃)		13.65	7.89	7.35	0.00726	0.00419	0.00391	PASS
Extreme (30℃)		6.91	9.47	1.24	0.00368	0.00504	0.00066	PASS
Extreme (20℃)		1.41	10.84	11.43	0.00075	0.00577	0.00608	PASS
Extreme (10℃)		3.77	6.67	9.71	0.00200	0.00355	0.00516	PASS
Extreme (0℃)		6.25	5.26	7.67	0.00332	0.00280	0.00408	PASS
Extreme (-10℃)		13.56	1.72	4.44	0.00721	0.00091	0.00236	PASS
Extreme (-20℃)		7.61	8.40	15.75	0.00405	0.00447	0.00838	PASS
Extreme (-30℃)		13.21	4.25	9.30	0.00703	0.00226	0.00495	PASS
25℃	LV	14.03	5.95	14.40	0.00746	0.00316	0.00766	PASS
	HV	4.28	14.01	14.73	0.00228	0.00745	0.00784	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	5.15	7.46	15.65	0.00274	0.00397	0.00833	PASS
Extreme (50℃)		3.49	1.88	3.42	0.00186	0.00100	0.00182	PASS
Extreme (40℃)		13.45	7.20	15.09	0.00716	0.00383	0.00803	PASS
Extreme (30℃)		7.72	4.84	9.17	0.00411	0.00257	0.00488	PASS
Extreme (20℃)		7.45	5.23	17.19	0.00396	0.00278	0.00914	PASS
Extreme (10℃)		7.16	5.24	5.62	0.00381	0.00279	0.00299	PASS
Extreme (0℃)		9.55	9.83	6.70	0.00508	0.00523	0.00357	PASS



Extreme (-10℃)		3.13	3.91	9.46	0.00166	0.00208	0.00503	PASS
Extreme (-20℃)		11.31	16.47	7.03	0.00601	0.00876	0.00374	PASS
Extreme (-30℃)		6.17	5.67	16.49	0.00328	0.00301	0.00877	PASS
25℃	LV	15.23	9.46	10.21	0.00810	0.00503	0.00543	PASS
	HV	7.82	3.65	10.18	0.00416	0.00194	0.00541	PASS

LTE Band 41								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	14.24	10.40	7.26	0.00758	0.00553	0.00386	PASS
Extreme (50℃)		7.09	14.11	7.75	0.00377	0.00751	0.00412	PASS
Extreme (40℃)		16.49	11.93	6.94	0.00877	0.00635	0.00369	PASS
Extreme (30℃)		14.49	4.24	6.22	0.00771	0.00226	0.00331	PASS
Extreme (20℃)		6.72	14.60	16.66	0.00357	0.00776	0.00886	PASS
Extreme (10℃)		7.93	4.25	2.12	0.00422	0.00226	0.00113	PASS
Extreme (0℃)		5.25	10.37	2.26	0.00279	0.00552	0.00120	PASS
Extreme (-10℃)		5.71	12.06	1.96	0.00304	0.00641	0.00104	PASS
Extreme (-20℃)		5.57	11.41	11.83	0.00296	0.00607	0.00629	PASS
Extreme (-30℃)		13.28	7.51	15.57	0.00706	0.00399	0.00828	PASS
25℃	LV	6.19	14.74	11.60	0.00329	0.00784	0.00617	PASS
	HV	16.28	13.01	6.60	0.00866	0.00692	0.00351	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	4.07	3.69	9.15	0.00216	0.00196	0.00487	PASS
Extreme (50℃)		12.47	10.21	8.45	0.00663	0.00543	0.00450	PASS
Extreme (40℃)		12.70	15.91	10.87	0.00675	0.00846	0.00578	PASS
Extreme (30℃)		1.22	2.03	16.83	0.00065	0.00108	0.00895	PASS
Extreme (20℃)		1.53	14.24	15.73	0.00081	0.00758	0.00837	PASS
Extreme (10℃)		12.67	3.77	10.45	0.00674	0.00200	0.00556	PASS
Extreme (0℃)		10.61	9.98	1.21	0.00564	0.00531	0.00065	PASS
Extreme (-10℃)		16.69	16.81	7.26	0.00888	0.00894	0.00386	PASS
Extreme (-20℃)		7.41	13.14	9.62	0.00394	0.00699	0.00512	PASS
Extreme (-30℃)		2.48	7.69	1.37	0.00132	0.00409	0.00073	PASS
25℃	LV	2.14	13.03	3.20	0.00114	0.00693	0.00170	PASS
	HV	7.60	1.79	9.67	0.00404	0.00095	0.00515	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability	Frequency Stability	Frequency Stability	Verdict



BANDWIDTH	15MHz				(ppm)	(ppm)	(ppm)	
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	10.66	2.77	2.62	0.00567	0.00147	0.00139	PASS
Extreme (50℃)		8.05	17.12	9.49	0.00428	0.00911	0.00505	PASS
Extreme (40℃)		13.92	3.25	10.83	0.00740	0.00173	0.00576	PASS
Extreme (30℃)		14.37	6.28	3.50	0.00764	0.00334	0.00186	PASS
Extreme (20℃)		7.56	1.14	6.22	0.00402	0.00061	0.00331	PASS
Extreme (10℃)		17.75	16.74	17.12	0.00944	0.00890	0.00911	PASS
Extreme (0℃)		14.58	10.04	9.74	0.00776	0.00534	0.00518	PASS
Extreme (-10℃)		12.07	4.27	14.94	0.00642	0.00227	0.00794	PASS
Extreme (-20℃)		3.77	8.97	9.07	0.00200	0.00477	0.00482	PASS
Extreme (-30℃)		12.32	4.26	12.50	0.00656	0.00226	0.00665	PASS
25℃	LV	11.49	16.09	8.18	0.00611	0.00856	0.00435	PASS
	HV	13.13	11.12	10.75	0.00698	0.00592	0.00572	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	12.11	7.84	11.58	0.00644	0.00417	0.00616	PASS
Extreme (50℃)		12.62	11.33	8.51	0.00671	0.00603	0.00453	PASS
Extreme (40℃)		5.79	1.57	12.04	0.00308	0.00083	0.00640	PASS
Extreme (30℃)		11.71	7.14	10.35	0.00623	0.00380	0.00550	PASS
Extreme (20℃)		8.75	6.65	17.53	0.00465	0.00353	0.00932	PASS
Extreme (10℃)		12.18	8.65	7.95	0.00648	0.00460	0.00423	PASS
Extreme (0℃)		12.72	4.46	13.96	0.00676	0.00237	0.00742	PASS
Extreme (-10℃)		17.84	2.02	4.82	0.00949	0.00108	0.00256	PASS
Extreme (-20℃)		6.12	5.26	2.21	0.00325	0.00280	0.00117	PASS
Extreme (-30℃)		4.36	5.94	8.09	0.00232	0.00316	0.00430	PASS
25℃	LV	7.37	6.37	15.73	0.00392	0.00339	0.00837	PASS
	HV	15.15	2.78	10.12	0.00806	0.00148	0.00538	PASS

CA_7C_QPSK		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Extreme（55℃）	Normal	2.34	0.00125	14.42	0.00767	PASS
Extreme（50℃）		16.05	0.00854	5.88	0.00313	PASS
Extreme（40℃）		14.30	0.00761	5.72	0.00304	PASS
Extreme（30℃）		12.56	0.00668	13.05	0.00694	PASS
Extreme（20℃）		13.81	0.00734	16.19	0.00861	PASS



Test Report		Report Ref: R000				
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CA_38C_QPSK		15MHz+15MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	5.57	0.00296	10.14	0.00539	PASS
Extreme (50℃)		12.94	0.00688	8.50	0.00452	PASS
Extreme (40℃)		14.91	0.00793	3.08	0.00164	PASS
Extreme (30℃)		12.63	0.00672	15.15	0.00806	PASS
Extreme (20℃)		1.10	0.00058	2.83	0.00151	PASS
Extreme (10℃)		14.28	0.00760	8.63	0.00459	PASS
Extreme (0℃)		2.37	0.00126	6.60	0.00351	PASS
Extreme (-10℃)		2.83	0.00150	9.14	0.00486	PASS
Extreme (-20℃)		16.13	0.00858	15.19	0.00808	PASS
Extreme (-30℃)		8.03	0.00427	16.38	0.00871	PASS
25℃	LV	5.53	0.00294	15.08	0.00802	PASS
	HV	10.90	0.00580	11.98	0.00637	PASS
CA_38C_16QAM		15MHz+15MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	8.95	0.00476	16.85	0.00896	PASS
Extreme (50℃)		7.45	0.00396	15.11	0.00804	PASS
Extreme (40℃)		8.77	0.00467	16.87	0.00897	PASS
Extreme (30℃)		6.54	0.00348	3.34	0.00178	PASS
Extreme (20℃)		14.05	0.00747	13.53	0.00720	PASS
Extreme (10℃)		14.14	0.00752	13.15	0.00700	PASS
Extreme (0℃)		4.64	0.00247	1.86	0.00099	PASS
Extreme (-10℃)		7.18	0.00382	3.78	0.00201	PASS
Extreme (-20℃)		9.14	0.00486	15.80	0.00841	PASS
Extreme (-30℃)		12.60	0.00670	8.14	0.00433	PASS
25℃	LV	3.26	0.00173	3.04	0.00162	PASS
	HV	12.41	0.00660	12.26	0.00652	PASS
CA_38C_64QAM		15MHz+15MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	5.89	0.00313	4.78	0.00254	PASS
Extreme (50℃)		4.18	0.00222	5.08	0.00270	PASS
Extreme (40℃)		9.16	0.00487	15.90	0.00846	PASS
Extreme (30℃)		1.56	0.00083	1.23	0.00066	PASS



Extreme (20℃)		6.99	0.00372	2.27	0.00121	PASS
Extreme (10℃)		16.79	0.00893	2.45	0.00130	PASS
Extreme (0℃)		8.59	0.00457	8.71	0.00464	PASS
Extreme (-10℃)		2.38	0.00127	3.88	0.00207	PASS
Extreme (-20℃)		11.78	0.00627	16.26	0.00865	PASS
Extreme (-30℃)		1.70	0.00090	10.56	0.00562	PASS
25℃	LV	3.96	0.00211	10.87	0.00578	PASS
	HV	6.23	0.00332	2.12	0.00113	PASS

5.6 Spurious Emissions at Antenna Terminals

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

RBW is set to 100 kHz (30MHz~1000 MHz)

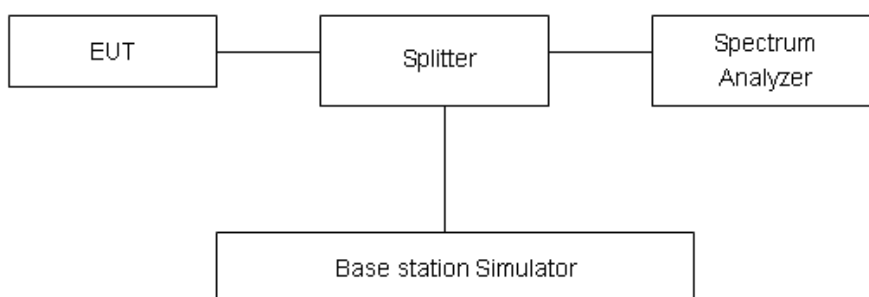
RBW is set to 1000 kHz (above 1000MHz)

Sweep is set to ATUO.

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB..”

Rule Part 27.53(m) $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.

Part 27.53 (h) Limit	-13 dBm
Part 27.53(m) Limit	-25 dBm



Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-27GHz	1.407 dB

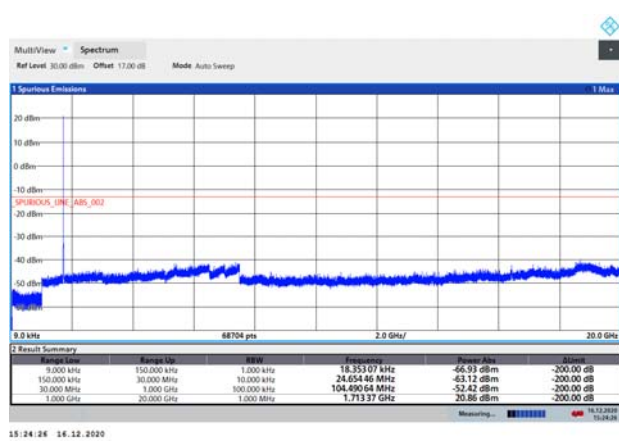


Test Result

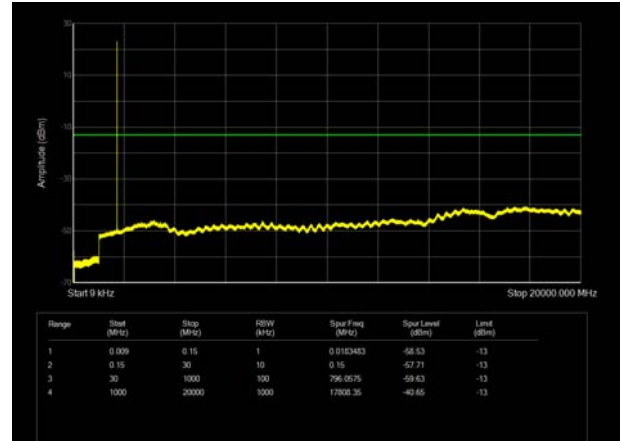
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

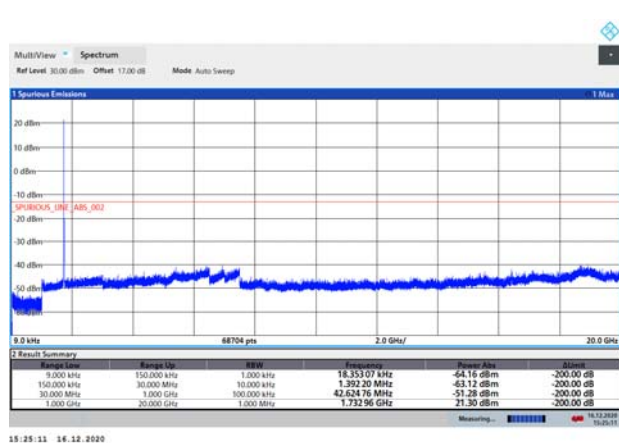
WCDMA Band IV CH-Low 9kHz~20GHz



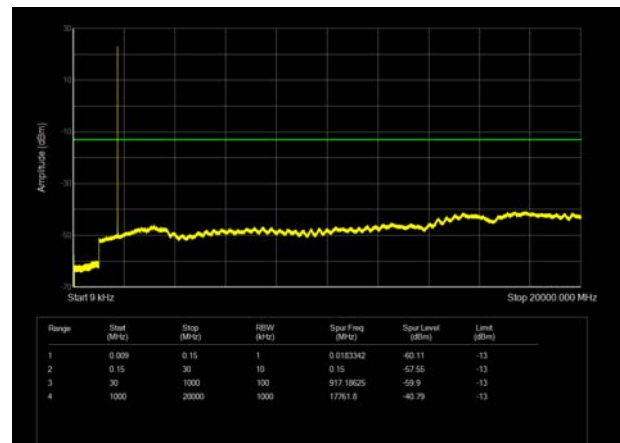
LTE Band 4 1.4MHz CH-Low 9kHz~20GHz



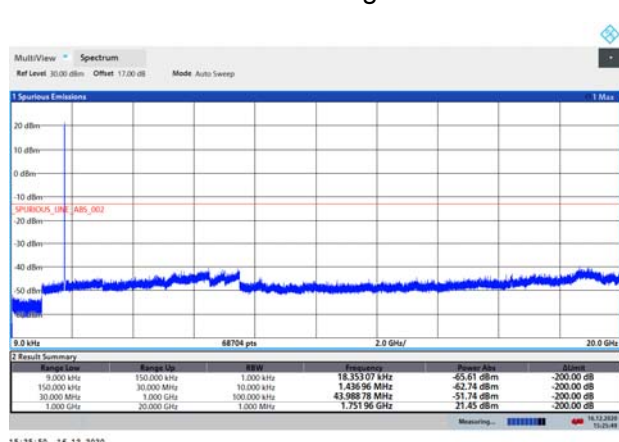
WCDMA Band IV CH- Middle 9kHz~20GHz



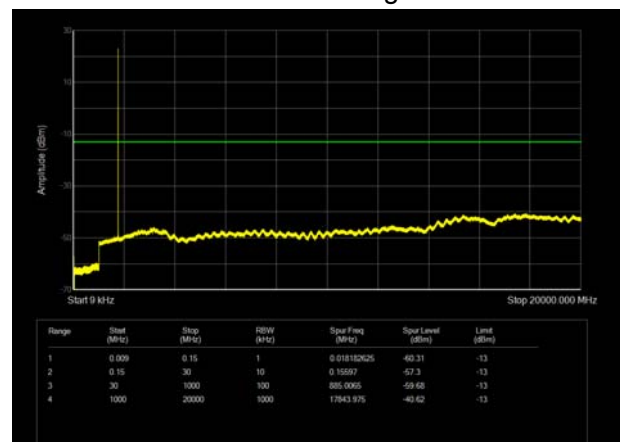
LTE Band 4 1.4MHz CH- Middle 9kHz~20GHz



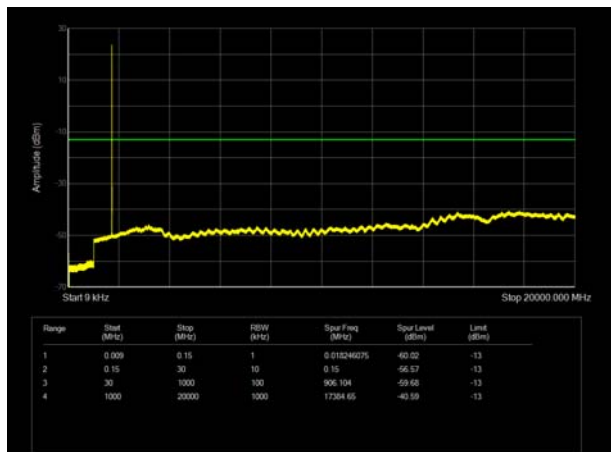
WCDMA Band IV CH- High 9kHz~20GHz



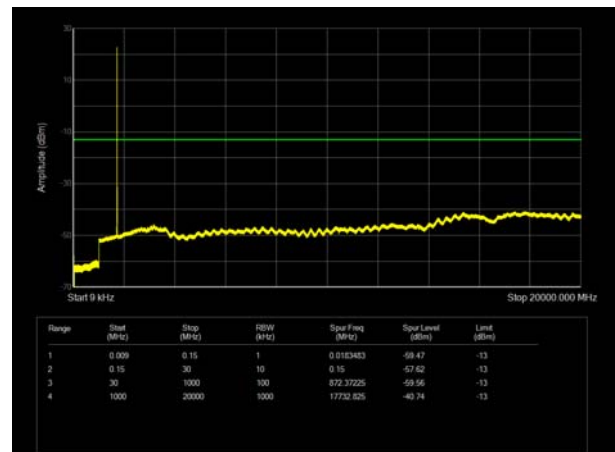
LTE Band 4 1.4MHz CH- High 9kHz~20GHz



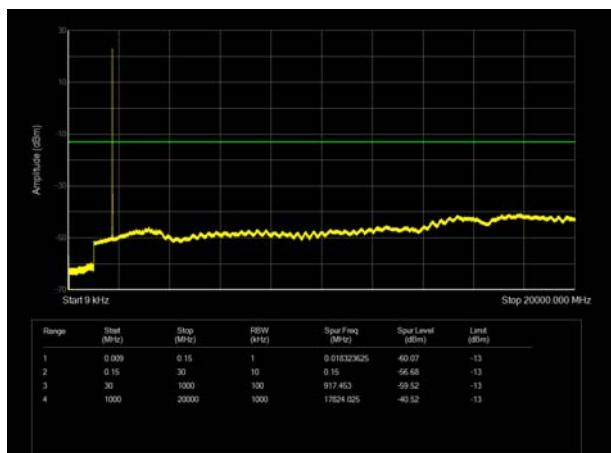
LTE Band 4 3MHz CH-Low 9kHz~20GHz



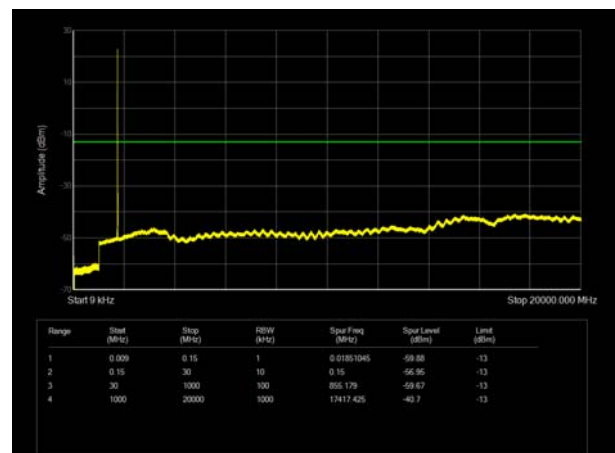
LTE Band 4 5MHz CH- Low 9kHz~20GHz



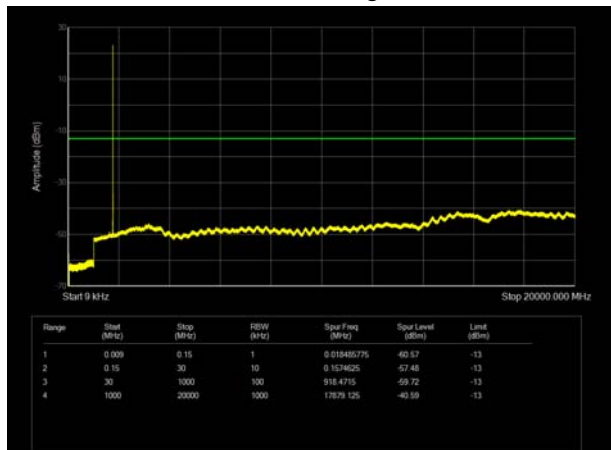
LTE Band 4 3MHz CH- Middle 9kHz~20GHz



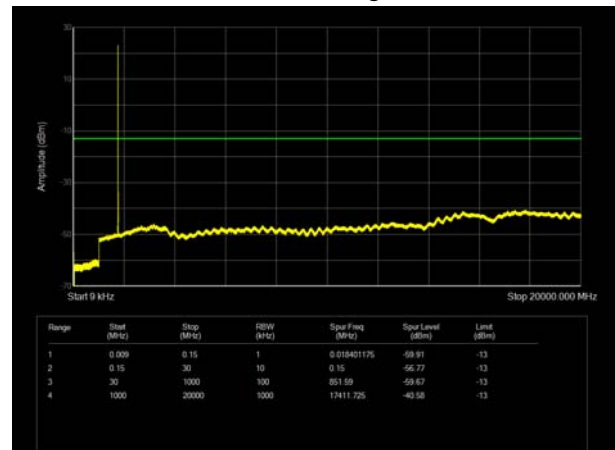
LTE Band 4 5MHz CH- Middle 9kHz~20GHz



LTE Band 4 3MHz CH- High 9kHz~20GHz

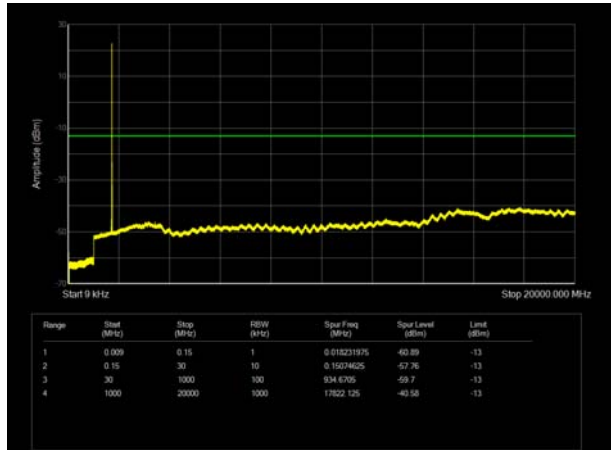


LTE Band 4 5MHz CH-High 9kHz~20GHz

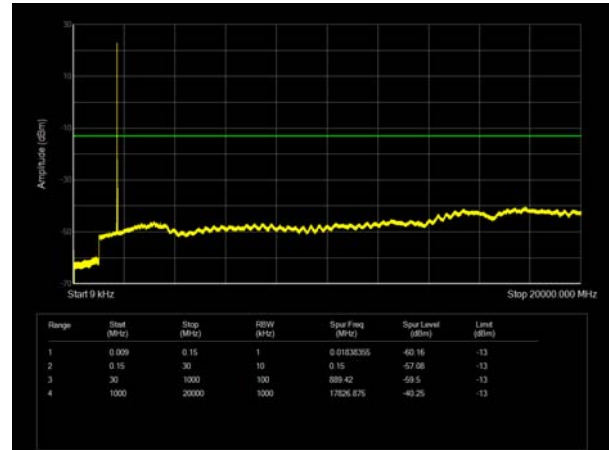




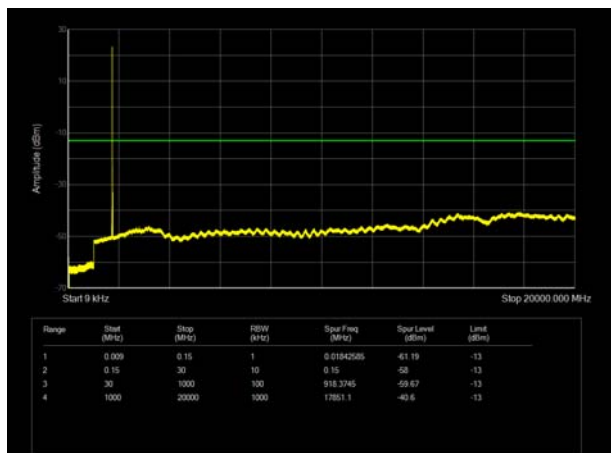
LTE Band 4 10MHz CH- Low 9kHz~20GHz



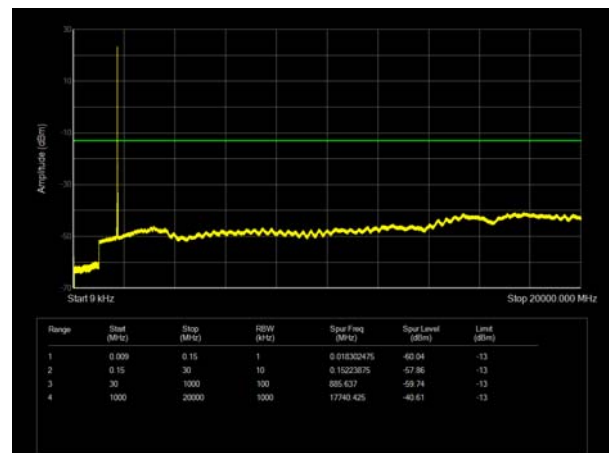
LTE Band 4 15MHz CH- Low 9kHz~20GHz



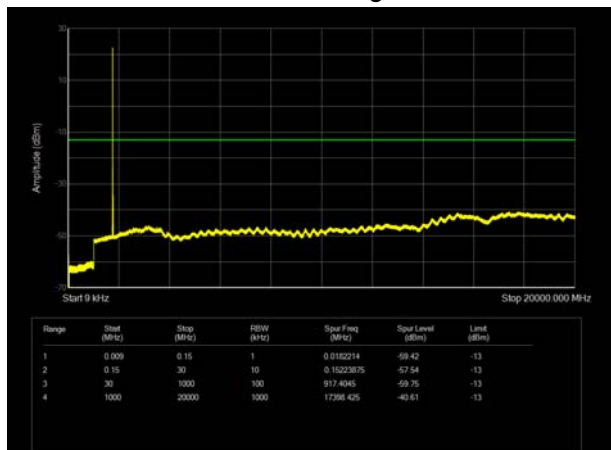
LTE Band 4 10MHz CH- Middle 9kHz~20GHz



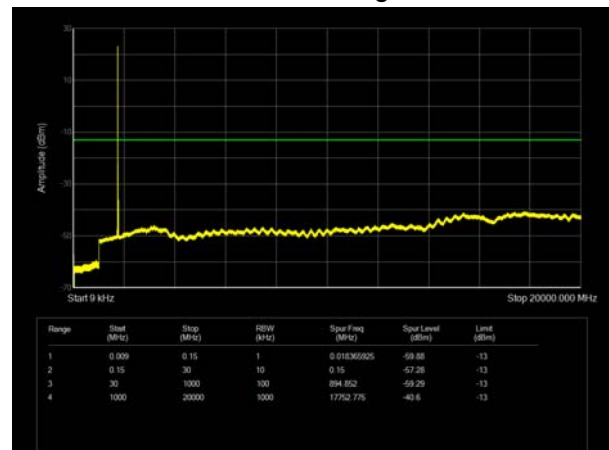
LTE Band 4 15MHz CH- Middle 9kHz~20GHz



LTE Band 4 10MHz CH-High 9kHz~20GHz

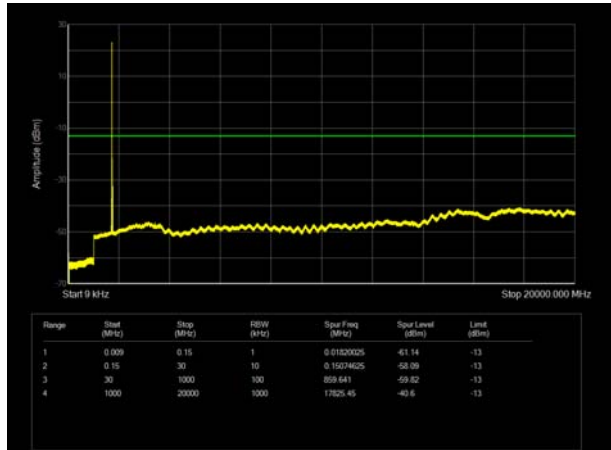


LTE Band 4 15MHz CH-High 9kHz~20GHz

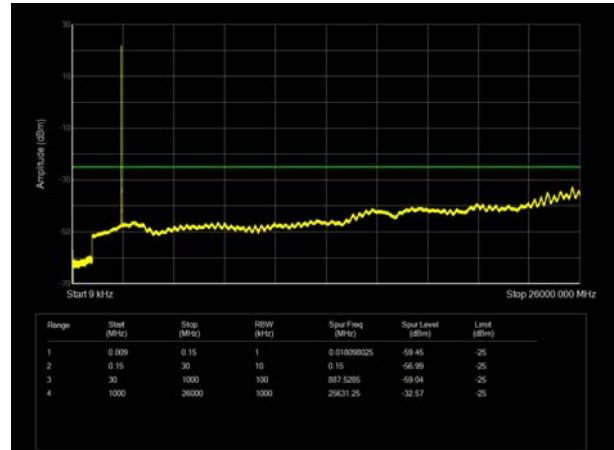




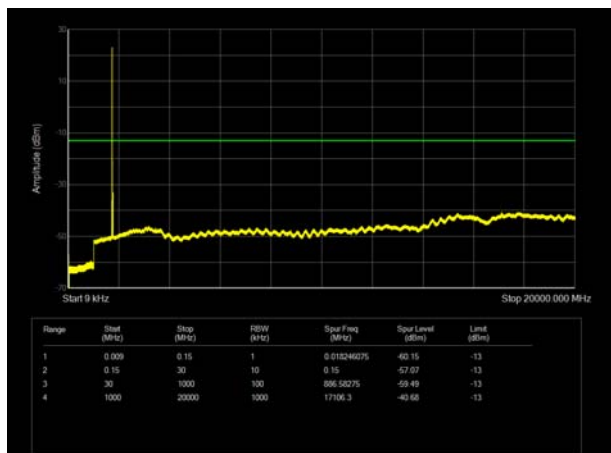
LTE Band 4 20MHz CH-Low 9kHz~20GHz



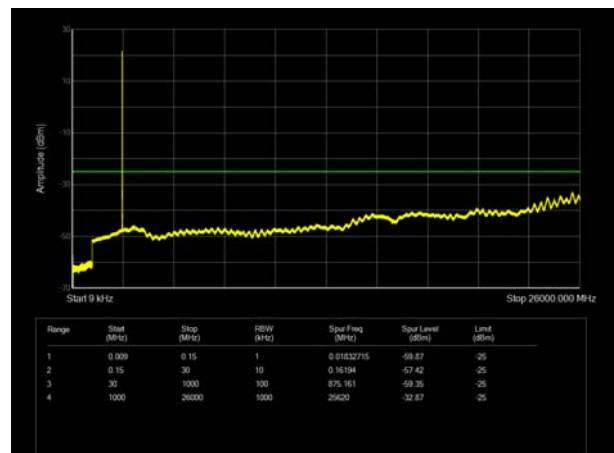
LTE Band 7 5MHz CH- Low 9kHz~26GHz



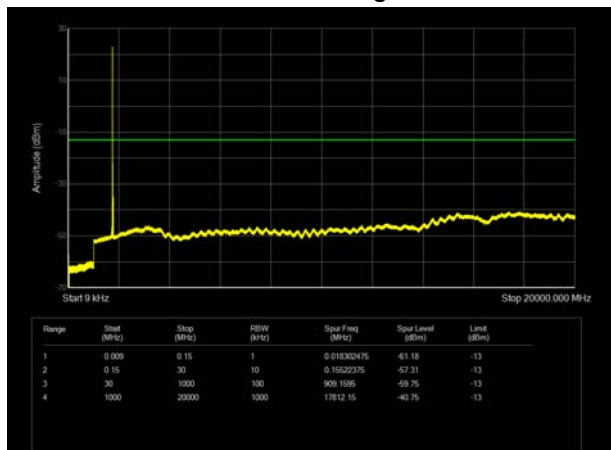
LTE Band 4 20MHz CH- Middle 9kHz~20GHz



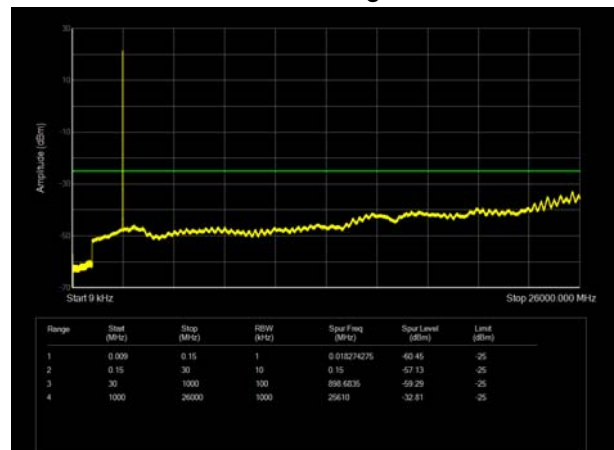
LTE Band 7 5MHz CH- Middle 9kHz~26GHz



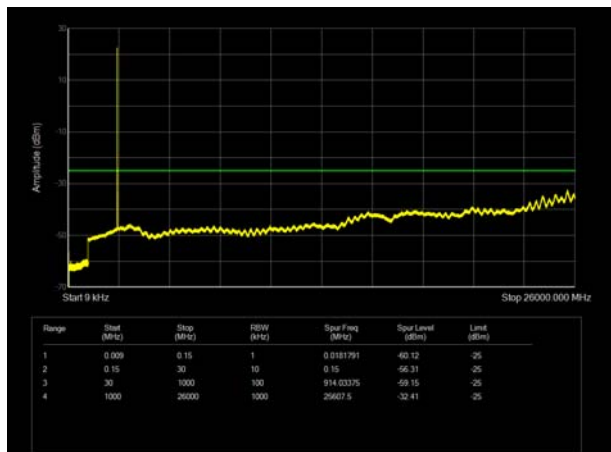
LTE Band 4 20MHz CH- High 9kHz~20GHz



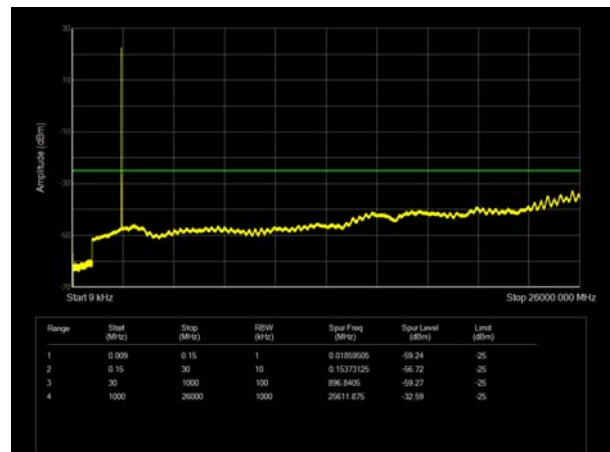
LTE Band 7 5MHz CH-High 9kHz~26GHz



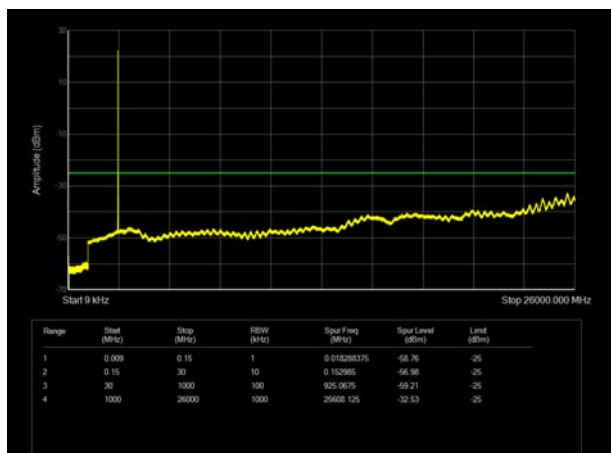
LTE Band 7 10MHz CH- Low 9kHz~26GHz



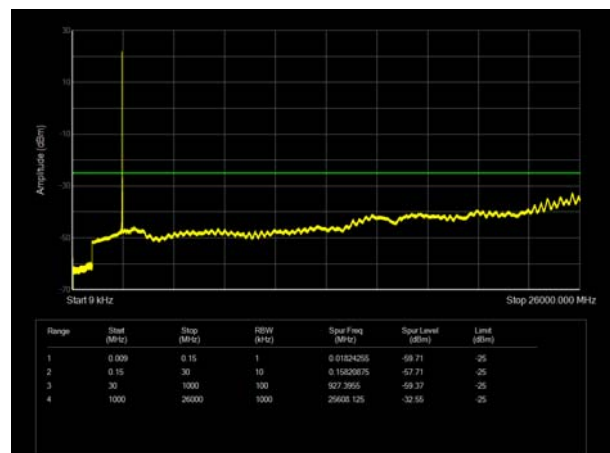
LTE Band 7 15MHz CH- Low 9kHz~26GHz



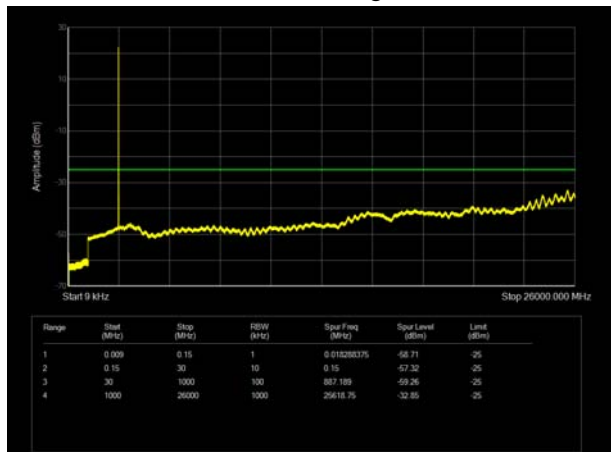
LTE Band 7 10MHz CH- Middle 9kHz~26GHz



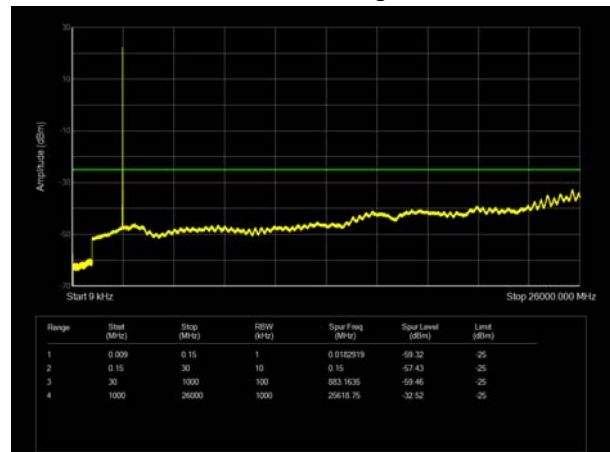
LTE Band 7 15MHz CH- Middle 9kHz~26GHz



LTE Band 7 10MHz CH-High 9kHz~26GHz

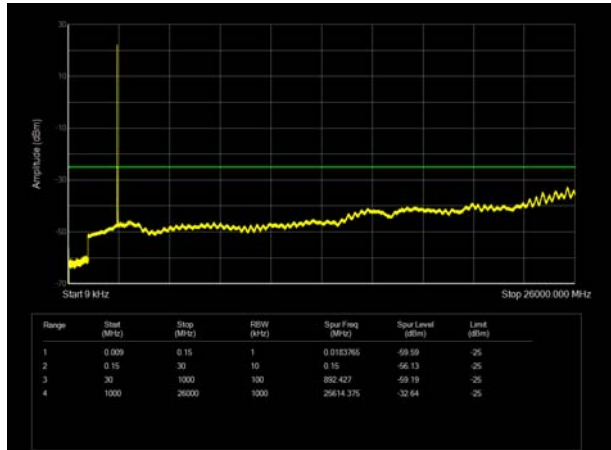


LTE Band 7 15MHz CH-High 9kHz~26GHz

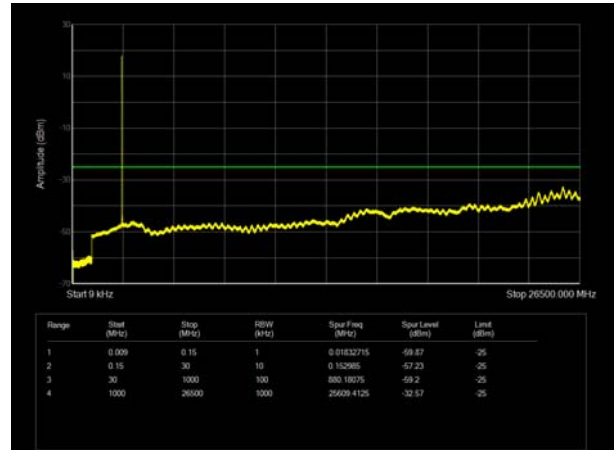




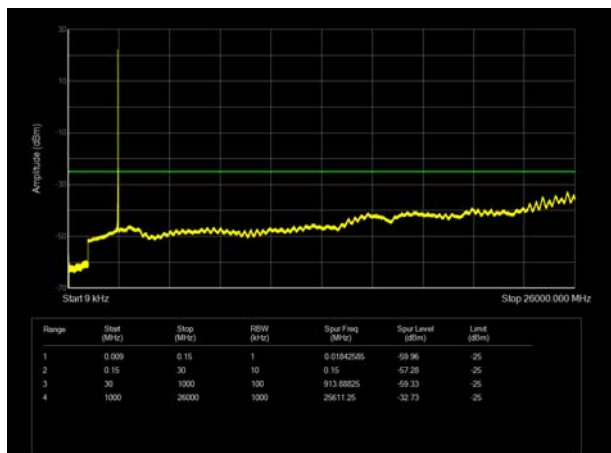
LTE Band 7 20MHz CH-Low 9kHz~26GHz



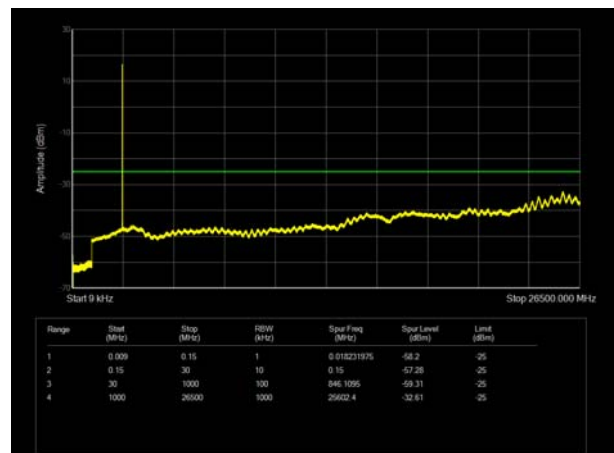
LTE Band 38 5MHz CH- Low 9kHz~26.5GHz



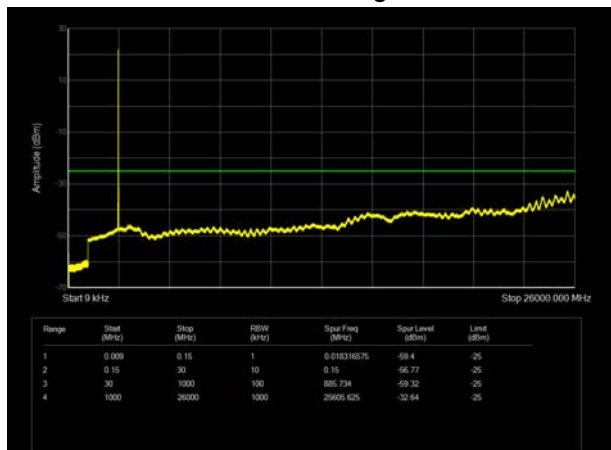
LTE Band 7 20MHz CH- Middle 9kHz~26GHz



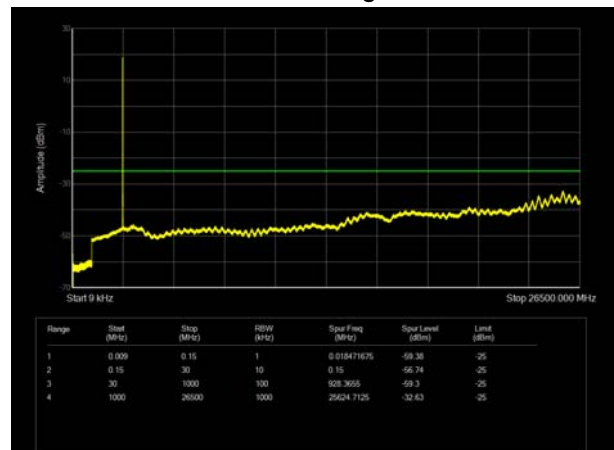
LTE Band 38 5MHz CH- Middle 9kHz~26.5GHz



LTE Band 7 20MHz CH- High 9kHz~26GHz

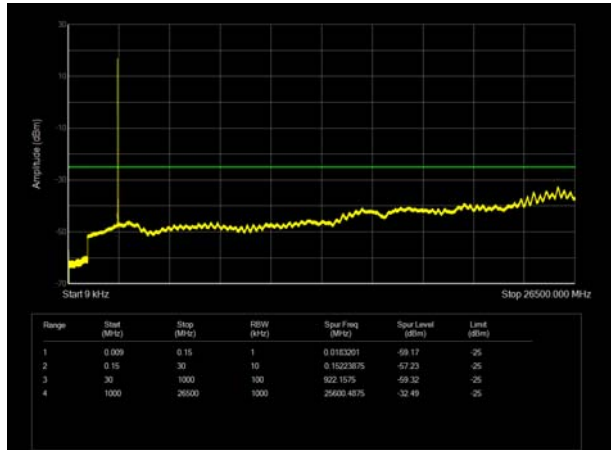


LTE Band 38 5MHz CH-High 9kHz~26.5GHz

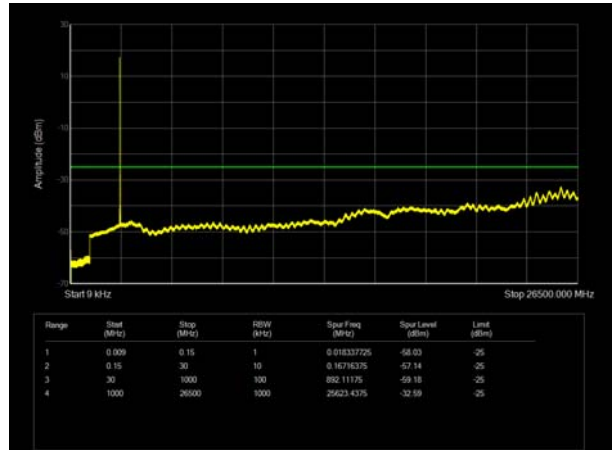




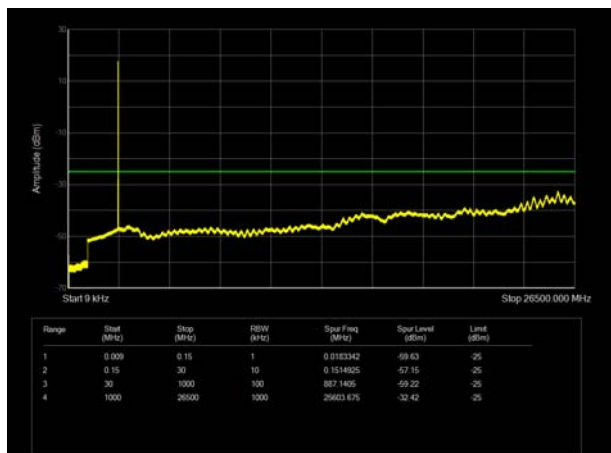
LTE Band 38 10MHz CH- Low 9kHz~26.5GHz



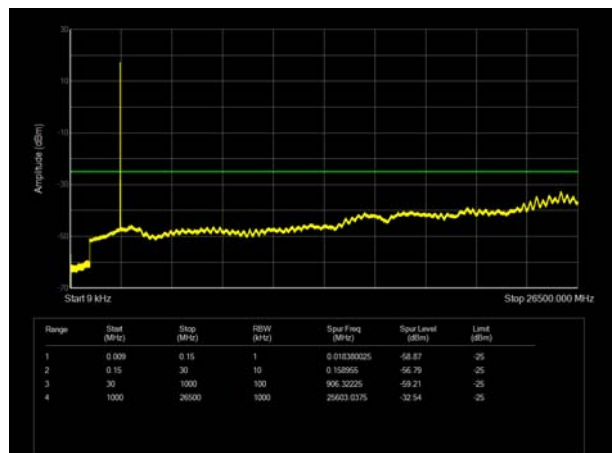
LTE Band 38 15MHz CH- Low 9kHz~26.5GHz



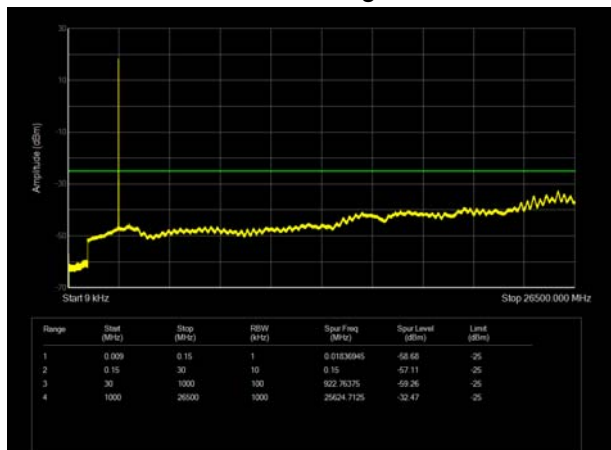
LTE Band 38 10MHz CH- Middle 9kHz~26.5GHz



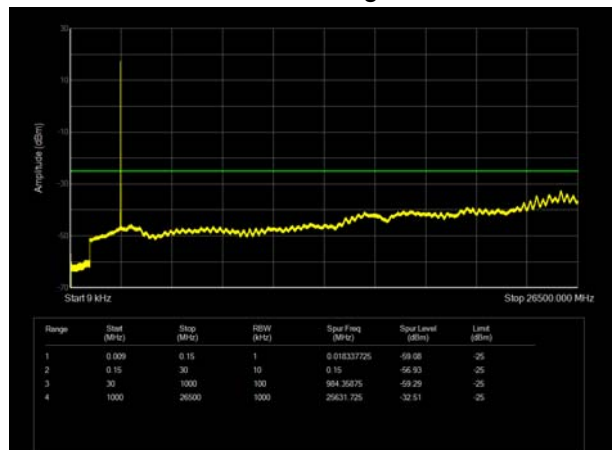
LTE Band 38 15MHz CH- Middle 9kHz~26.5GHz



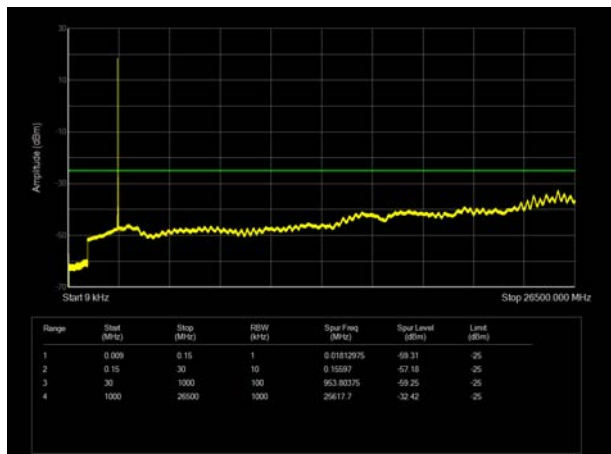
LTE Band 38 10MHz CH-High 9kHz~26.5GHz



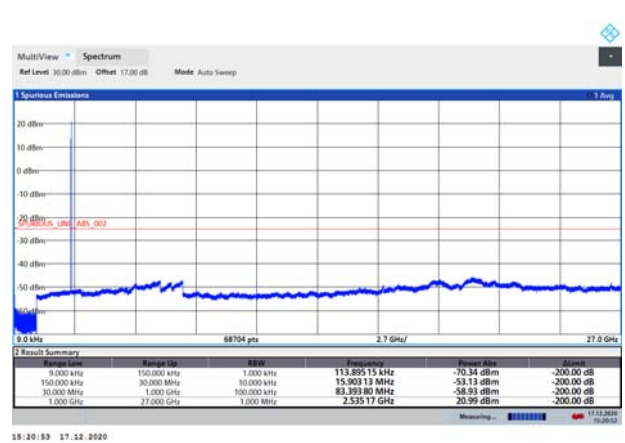
LTE Band 38 15MHz CH-High 9kHz~26.5GHz



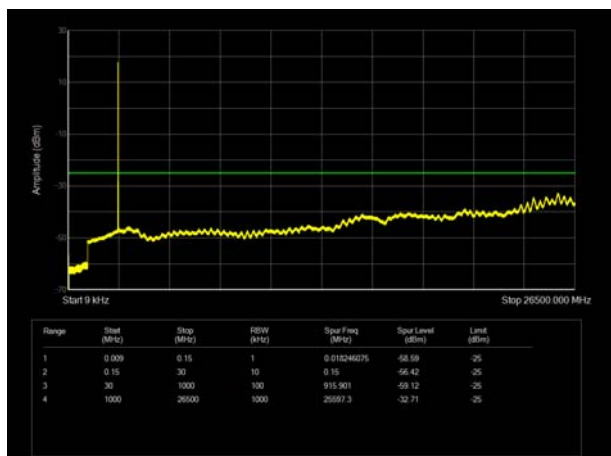
LTE Band 38 20MHz CH-Low 9kHz~26.5GHz



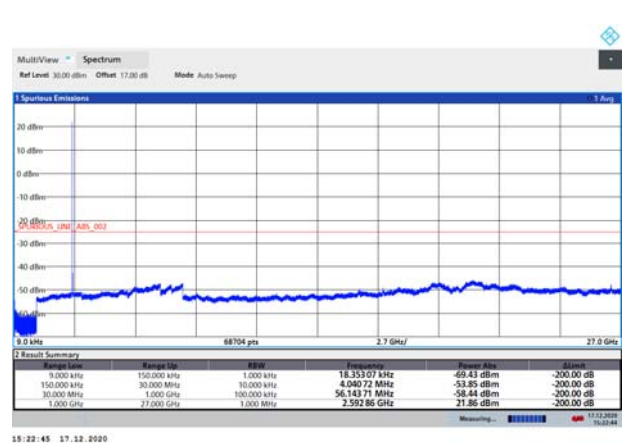
LTE Band 41 5MHz CH-Low 9kHz~27GHz



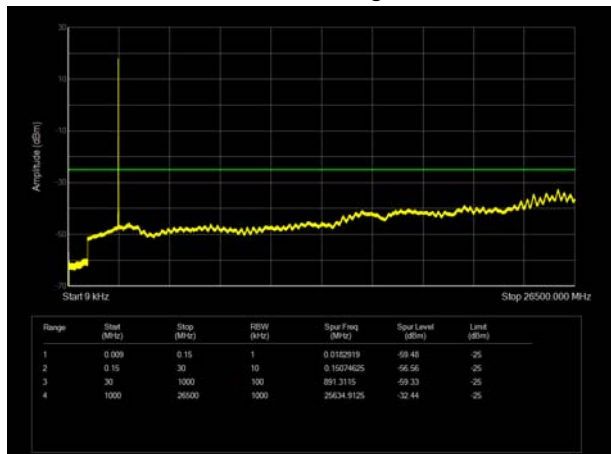
LTE Band 38 20MHz CH- Middle 9kHz~26.5GHz



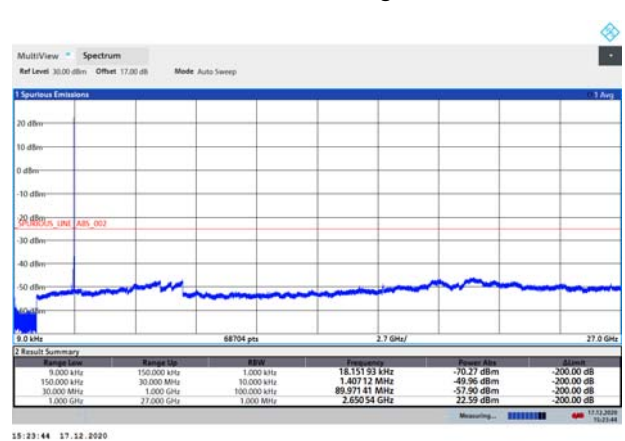
LTE Band 41 5MHz CH- Middle 9kHz~27GHz



LTE Band 38 20MHz CH- High 9kHz~26.5GHz

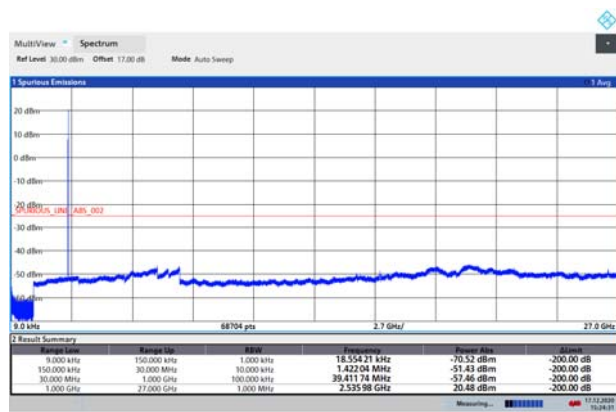


LTE Band 41 5MHz CH- High 9kHz~27GHz



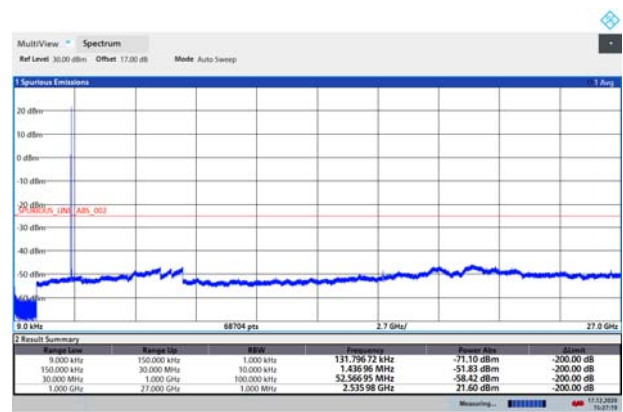


LTE Band 41 10MHz CH-Low 9kHz~27GHz



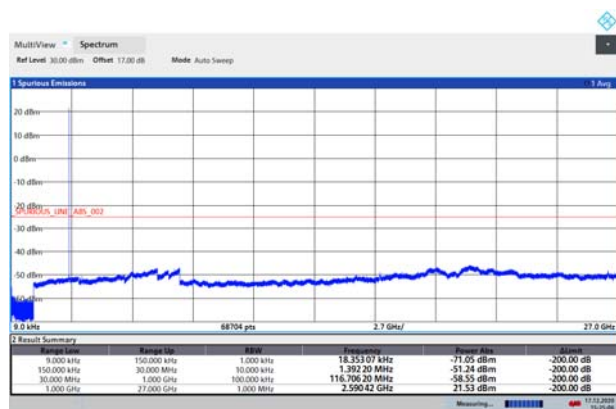
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LTE Band 41 15MHz CH-Low 9kHz~27GHz



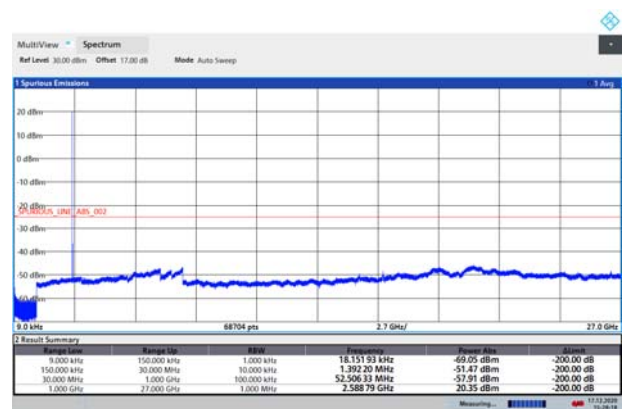
15:27:20 17.12.2020

LTE Band 41 10MHz CH- Middle 9kHz~27GHz



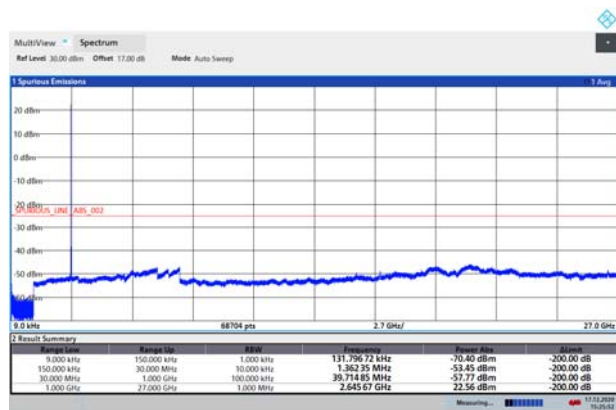
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LTE Band 41 15MHz CH- Middle 9kHz~27GHz



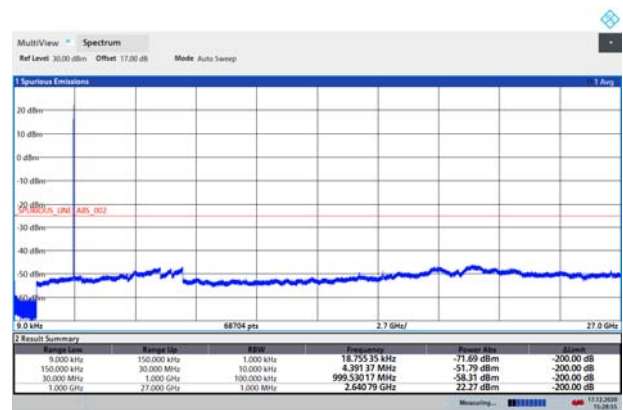
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LTE Band 41 10MHz CH- High 9kHz~27GHz



15:25:52 17.12.2020

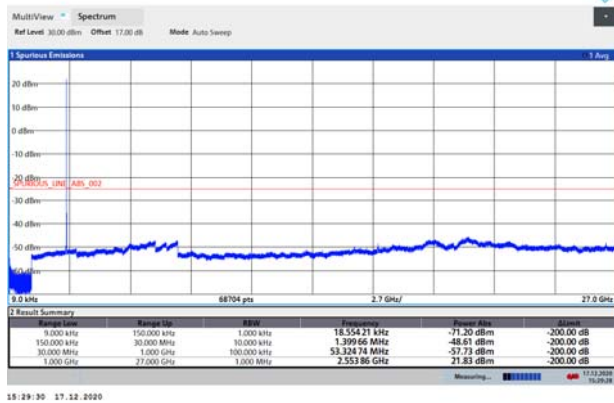
LTE Band 41 15MHz CH- High 9kHz~27GHz



15:28:56 17.12.2020

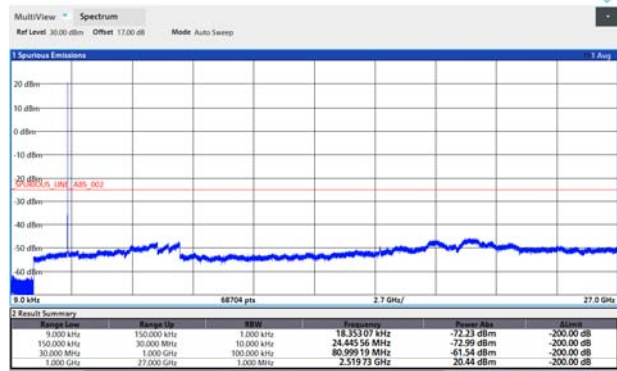


LTE Band 41 20MHz CH-Low 9kHz~27GHz



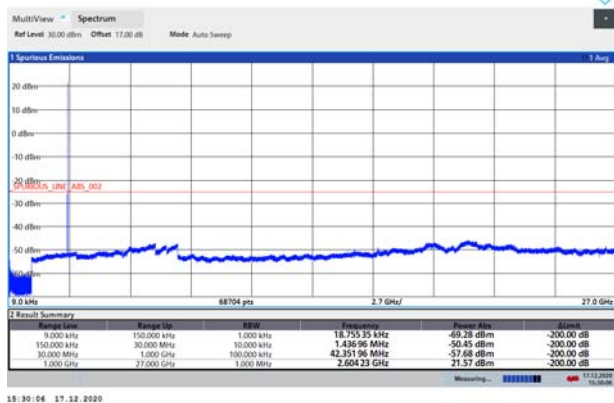
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CA-7C 20MHz+10MHz QPSK CH-Low 9kHz~27GHz



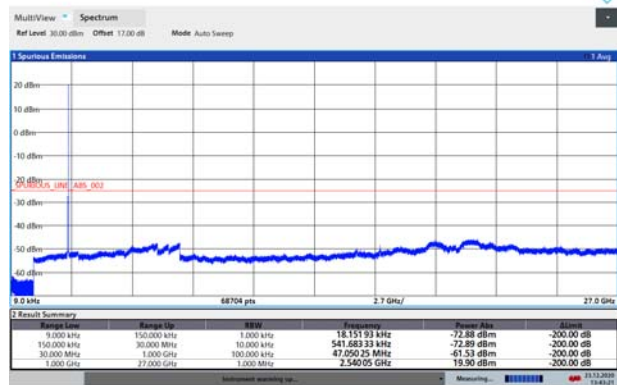
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LTE Band 41 20MHz CH- Middle 9kHz~27GHz



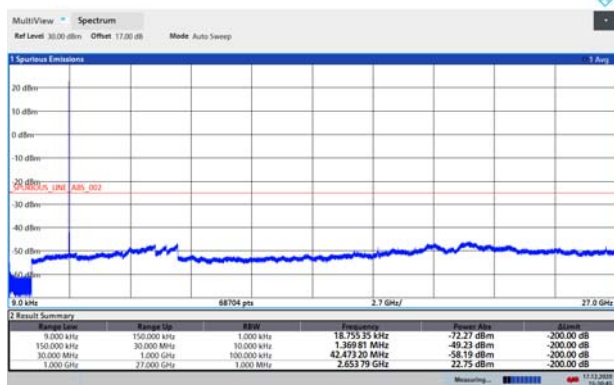
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CA-7C 20MHz+10MHz QPSK CH- Middle 9kHz~27GHz



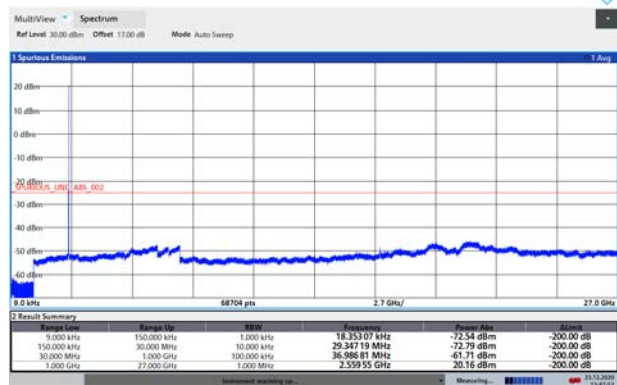
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LTE Band 41 20MHz CH- High 9kHz~27GHz

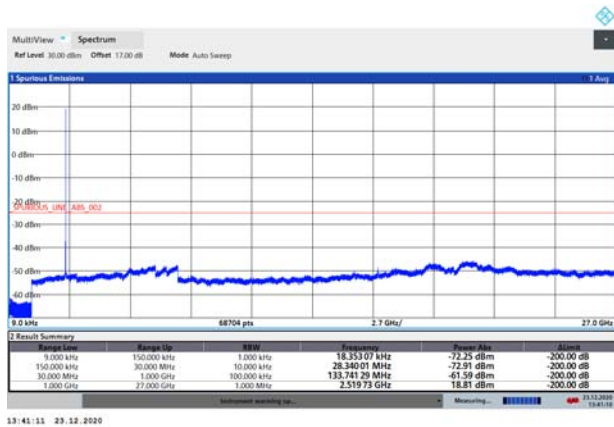


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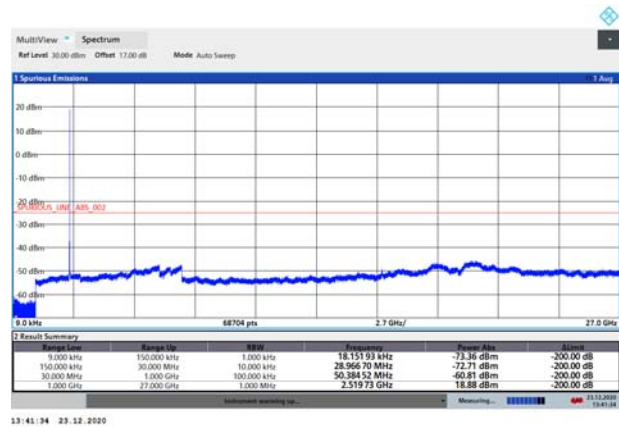
CA-7C 20MHz+10MHz QPSK CH- High 9kHz~27GHz



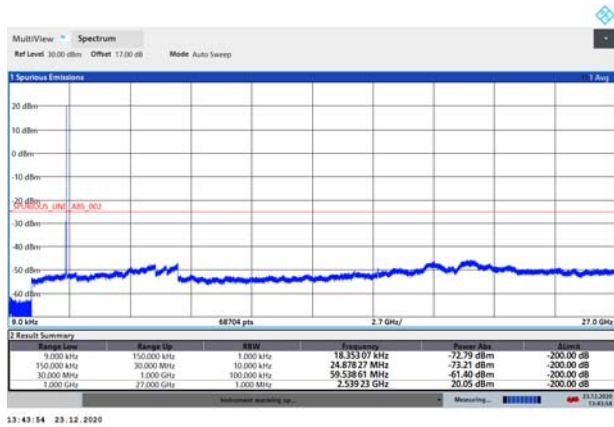
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CA-7C 20MHz+10MHz 16QAM CH-Low
9kHz~27GHz

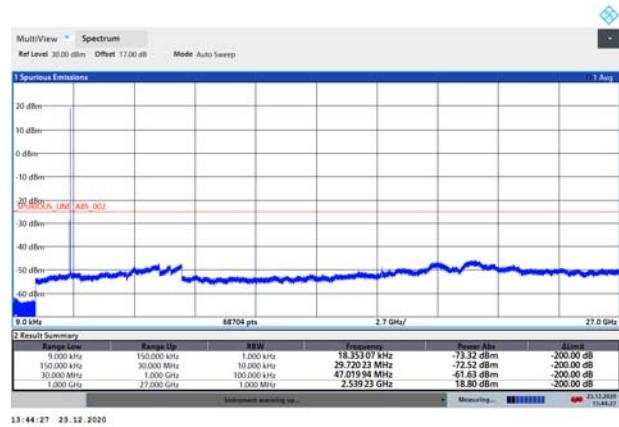
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CA-7C 20MHz+10MHz 64QAM CH-Low
9kHz~27GHz

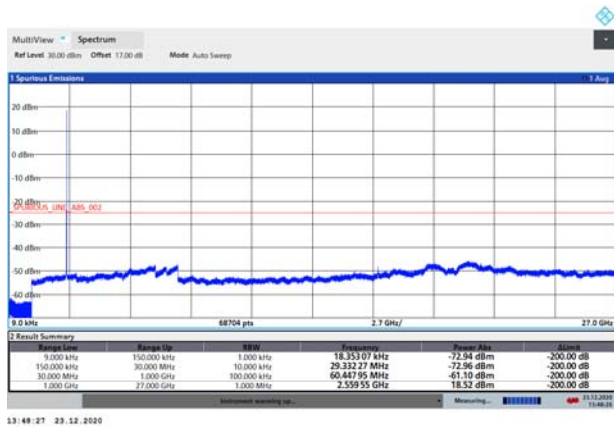
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9kHz~27GHz

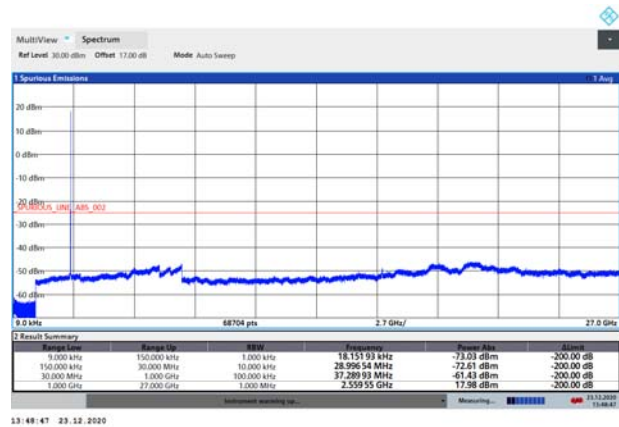
13:43:54 23.12.2020

CA-7C 20MHz+10MHz 64QAM CH- Middle
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13:44:27 23.12.2020

CA-7C 20MHz+10MHz 16QAM CH- High
9kHz~27GHz

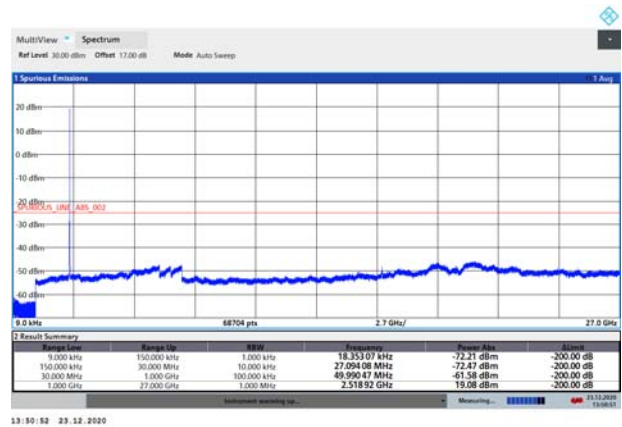
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CA-7C 20MHz+10MHz 64QAM CH- High
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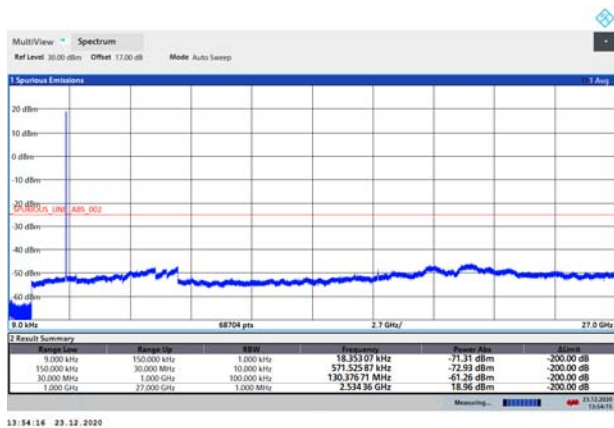
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CA-7C 20MHz+20MHz QPSK CH-Low
9kHz~27GHz

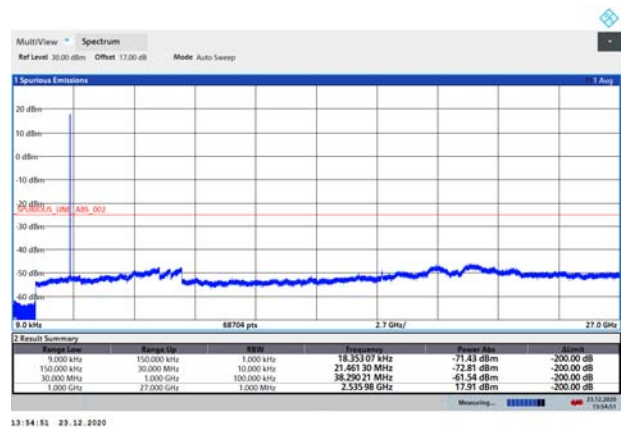
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CA-7C 20MHz+20MHz 16QAM CH-Low
9kHz~27GHz

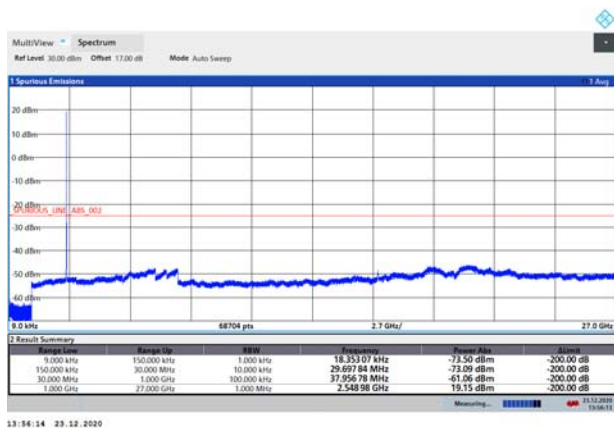
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CA-7C 20MHz+20MHz QPSK CH- Middle
9kHz~27GHz

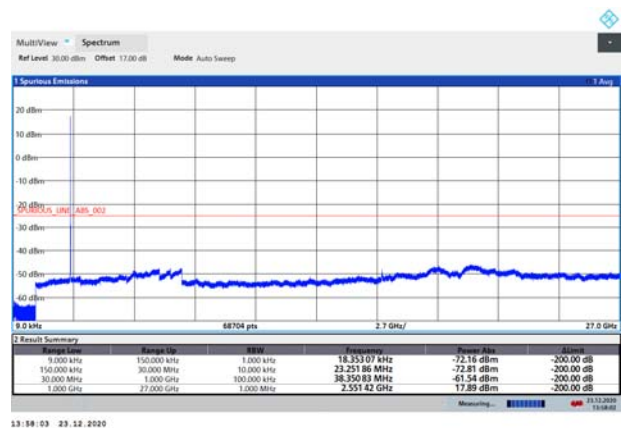
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CA-7C 20MHz+20MHz 16QAM CH- Middle
9kHz~27GHz

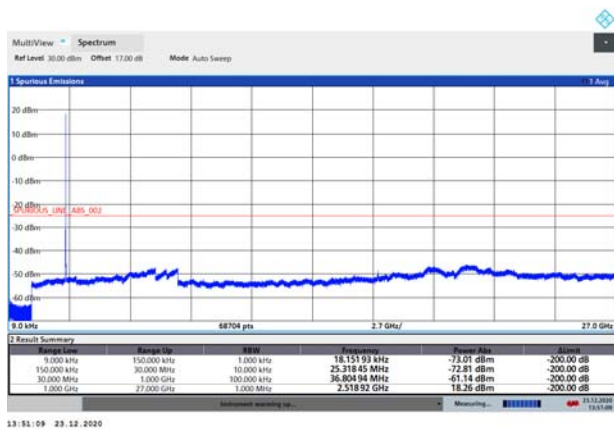
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CA-7C 20MHz+20MHz QPSK CH- High
9kHz~27GHz

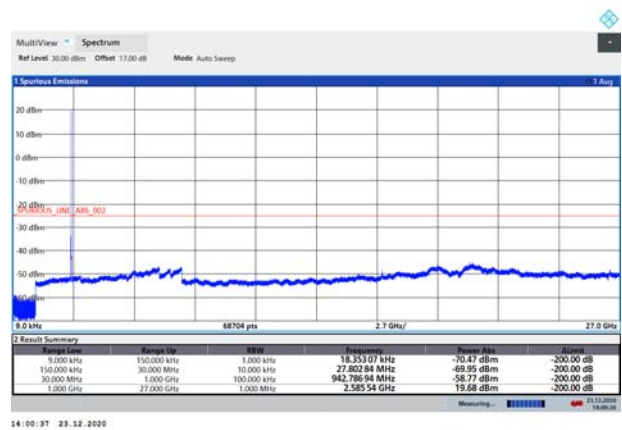
13:54:14 23.12.2020

CA-7C 20MHz+20MHz 16QAM CH- High
9kHz~27GHz

13:58:03 23.12.2020

CA-7C 20MHz+20MHz 64QAM CH-Low
9kHz~27GHz

13:51:09 23.12.2020

CA-38C 15MHz+15MHz QPSK CH-Low
9kHz~27GHz

14:00:37 23.12.2020

CA-7C 20MHz+20MHz 64QAM CH- Middle
9kHz~27GHz

13:55:10 23.12.2020

CA-38C 15MHz+15MHz QPSK CH- Middle
9kHz~27GHz

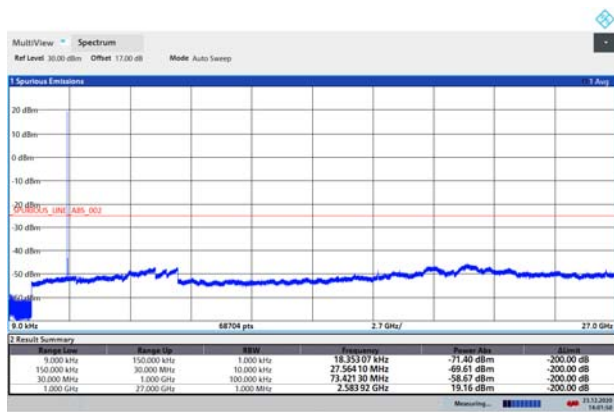
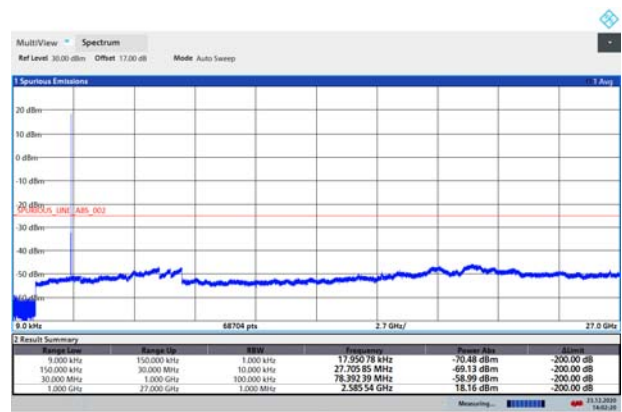
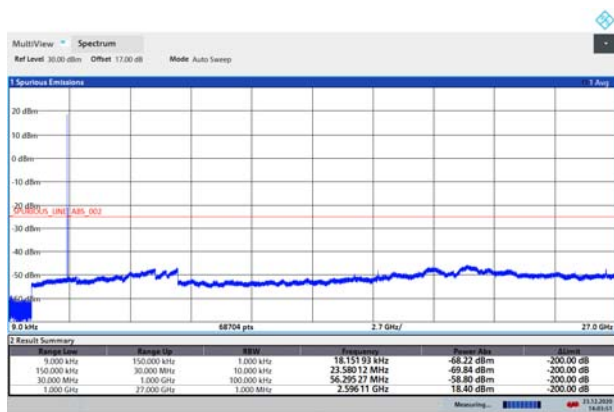
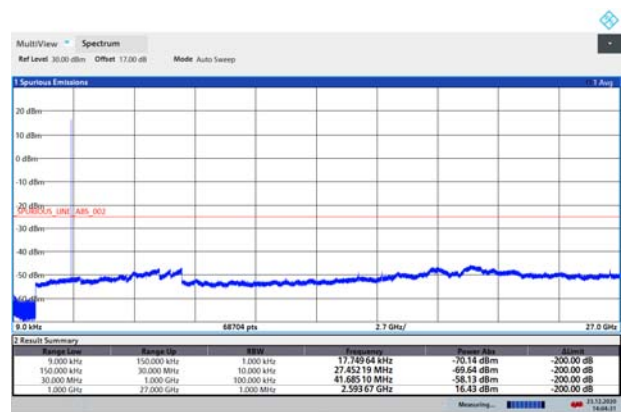
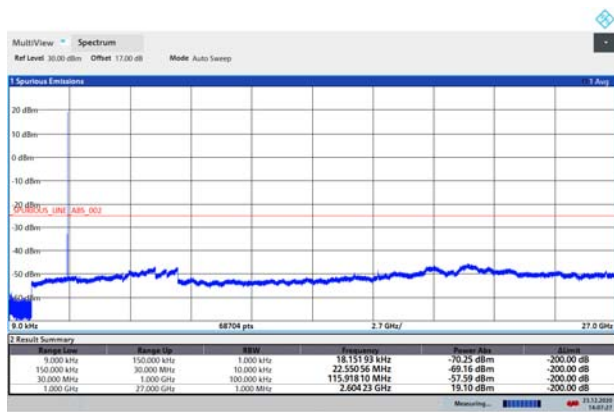
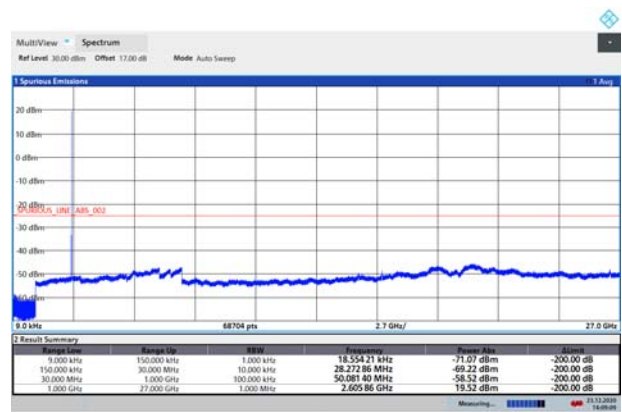
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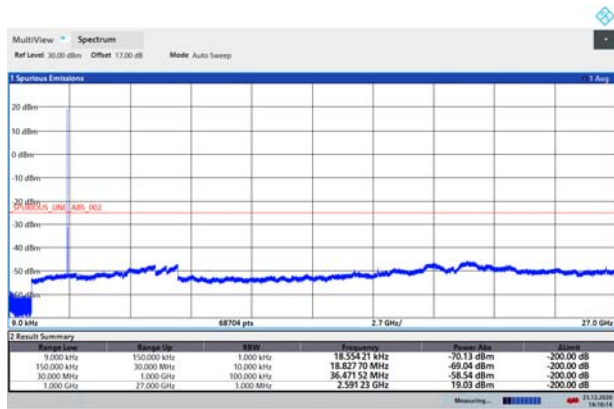
CA-7C 20MHz+20MHz 64QAM CH- High
9kHz~27GHz

13:58:23 23.12.2020

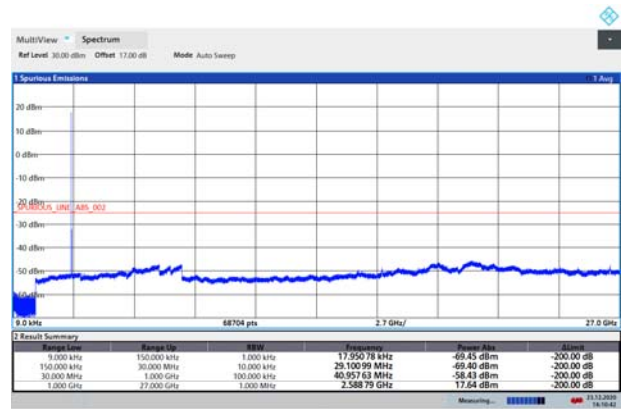
CA-38C 15MHz+15MHz QPSK CH- High
9kHz~27GHz

14:04:13 23.12.2020

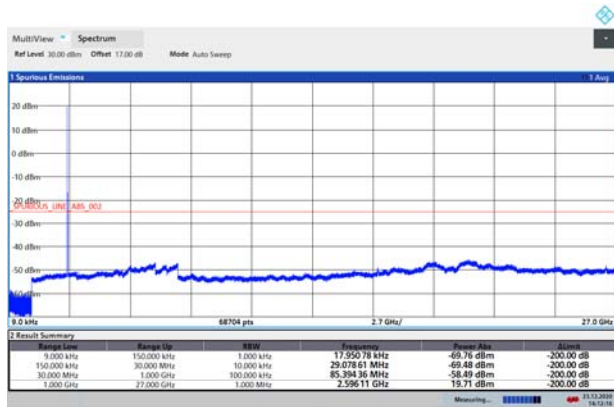
CA-38C 15MHz+15MHz 16QAM CH-Low
9kHz~27GHzCA-38C 15MHz+15MHz 64QAM CH-Low
9kHz~27GHzCA-38C 15MHz+15MHz 16QAM CH- Middle
9kHz~27GHzCA-38C 15MHz+15MHz 64QAM CH- Middle
9kHz~27GHzCA-38C 15MHz+15MHz 16QAM CH- High
9kHz~27GHzCA-38C 15MHz+15MHz 64QAM CH- High
9kHz~27GHz

CA-38C 20MHz+20MHz QPSK CH-Low
9kHz~27GHz

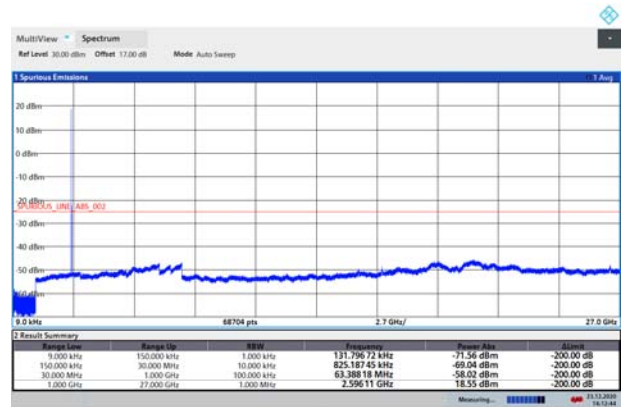
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CA-38C 20MHz+20MHz 16QAM CH-Low
9kHz~27GHz

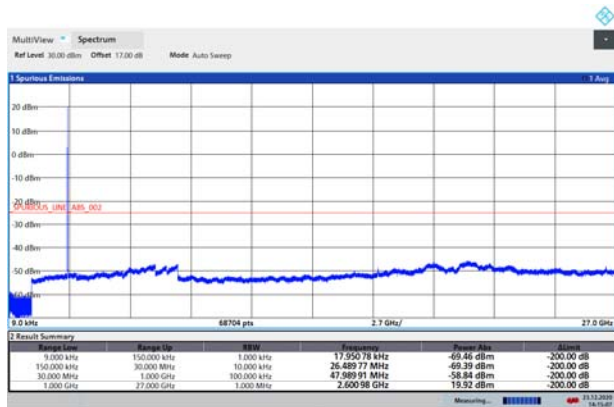
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CA-38C 20MHz+20MHz QPSK CH- Middle
9kHz~27GHz

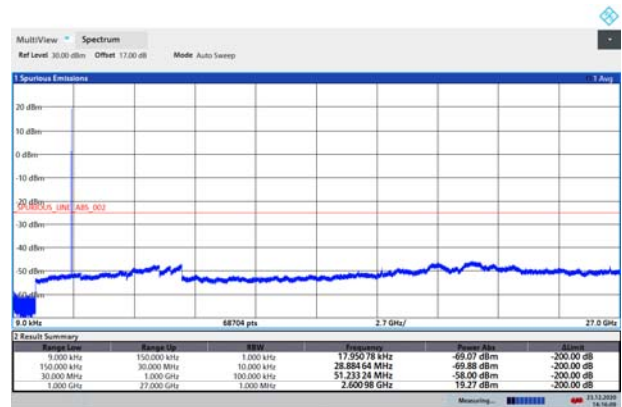
14:12:14 23.12.2020

CA-38C 20MHz+20MHz 16QAM CH- Middle
9kHz~27GHz

14:12:45 23.12.2020

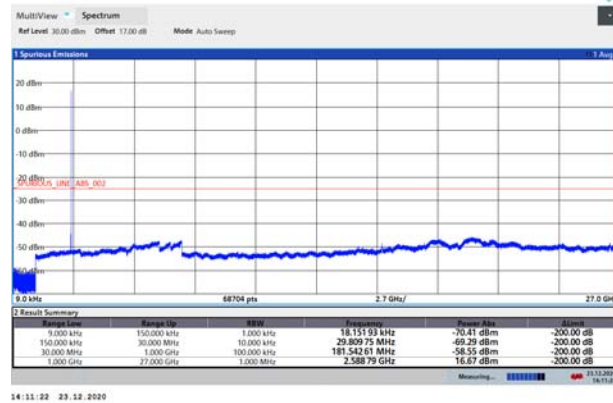
CA-38C 20MHz+20MHz QPSK CH- High
9kHz~27GHz

14:15:09 23.12.2020

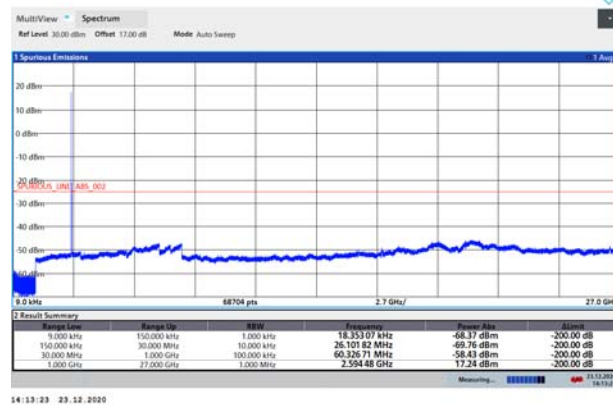
CA-38C 20MHz+20MHz 16QAM CH- High
9kHz~27GHz

14:16:09 23.12.2020

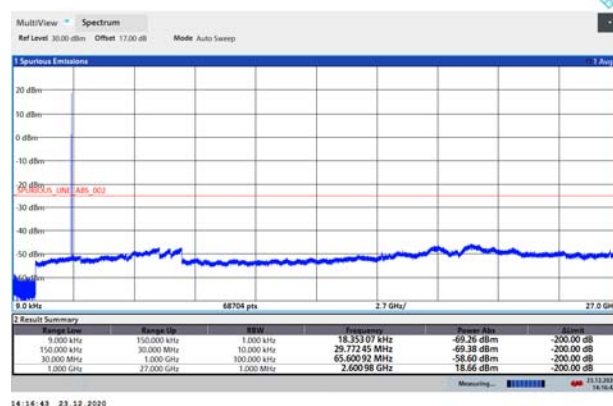
CA-38C 20MHz+20MHz 64QAM CH-Low 9kHz~27GHz



CA-38C 20MHz+20MHz 64QAM CH- Middle 9kHz~27GHz



CA-38C 20MHz+20MHz 64QAM CH- High 9kHz~27GHz



5.7 Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI C63.26 (2015).
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=200Hz,VBW=600Hz for 9kHz-150kHz , RBW=10kHz, VBW=30kHz 150kHz-30MHz ,RBW=100kHz,VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

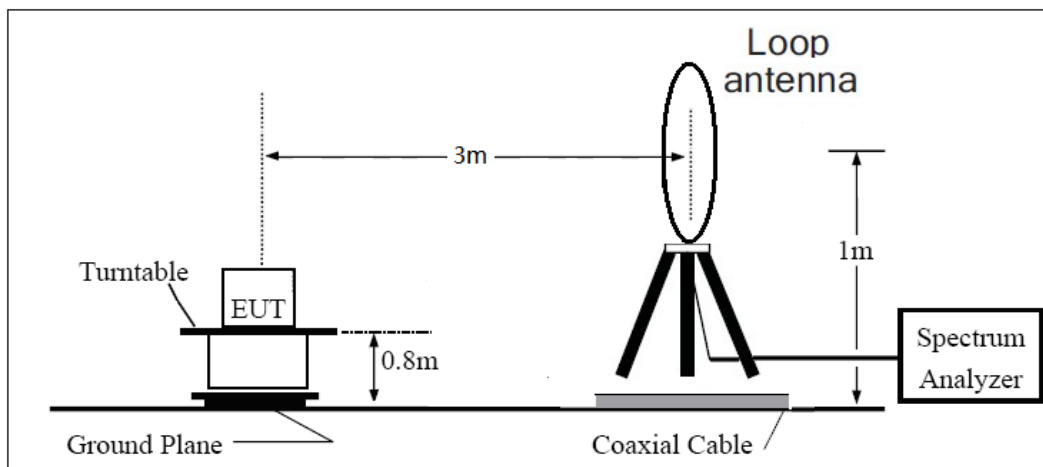
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP

= EIRP-2.15dBi.

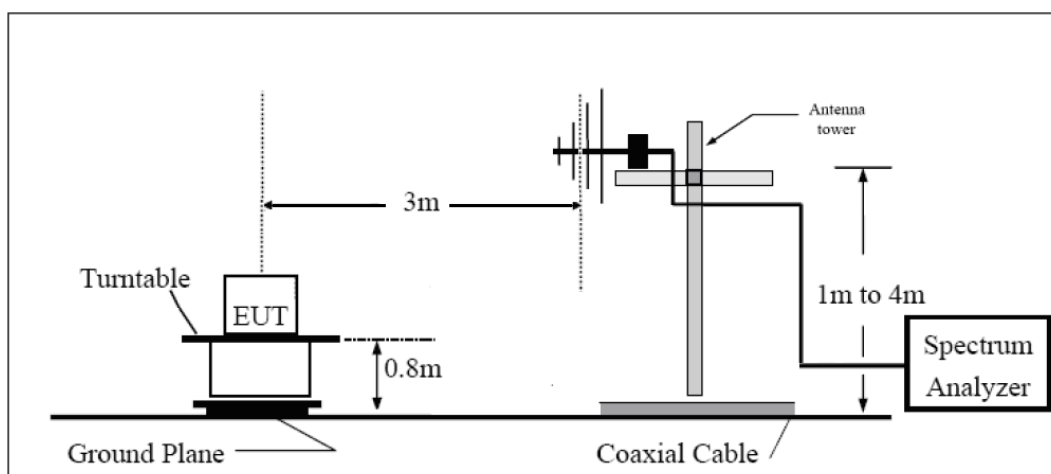
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

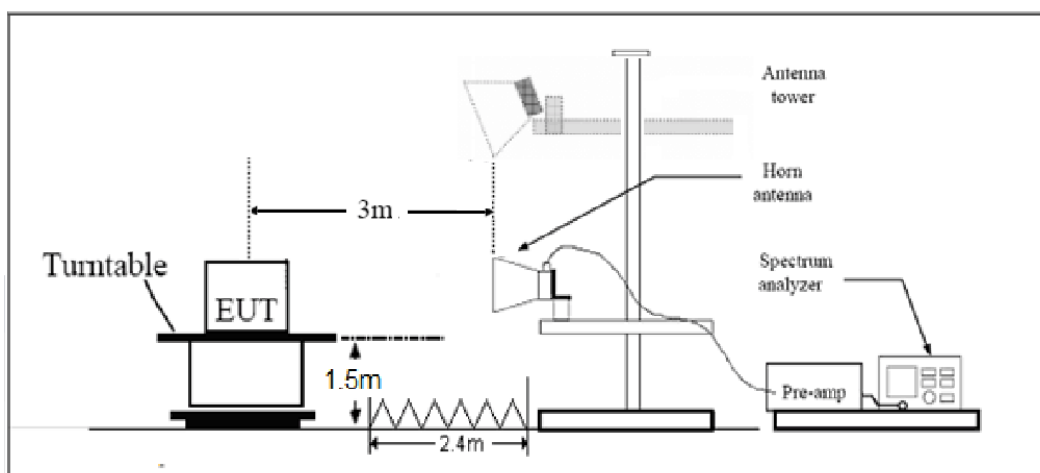
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.”

Rule Part 27.53(m) $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.

Part 27.53 (h) Limit	-13 dBm
Part 27.53(m) Limit	-25 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = \pm 1.96$, $U = \pm 3.55$ dB.

**Test Result**

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

Main Antenna:

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.20	-67.96	2.6	10.75	Horizontal	-59.81	-13.00	46.81	135
3	2509.80	-67.47	2.4	11.05	Horizontal	-58.82	-13.00	45.82	225
4	3346.40	-63.52	4.5	11.15	Horizontal	-56.87	-13.00	43.87	90
5	4183.00	-61.04	5.1	11.35	Horizontal	-54.79	-13.00	41.79	45
6	5019.60	-58.31	5.3	11.95	Horizontal	-51.66	-13.00	38.66	315
7	5856.20	-59.15	5.5	13.55	Horizontal	-51.10	-13.00	38.10	90
8	6692.80	-59.82	6.3	13.75	Horizontal	-52.37	-13.00	39.37	180
9	7529.40	-56.14	6.7	13.85	Horizontal	-48.99	-13.00	35.99	315
10	8366.00	-55.89	6.8	14.25	Horizontal	-48.44	-13.00	35.44	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3464.25	-64.00	2.6	10.75	Horizontal	-55.85	-13.00	42.85	315
3	5197.50	-61.03	2.4	11.05	Horizontal	-52.38	-13.00	39.38	225
4	6930.00	-60.42	4.5	11.15	Horizontal	-53.77	-13.00	40.77	90
5	8662.50	-54.42	5.1	11.35	Horizontal	-48.17	-13.00	35.17	135
6	10395.00	-49.38	5.3	11.95	Horizontal	-42.73	-13.00	29.73	45
7	12127.50	-52.03	5.5	13.55	Horizontal	-43.98	-13.00	30.98	0
8	13860.00	-50.20	6.3	13.75	Horizontal	-42.75	-13.00	29.75	180
9	15592.50	-51.25	6.7	13.85	Horizontal	-44.10	-13.00	31.10	45
10	17325.00	-46.35	6.8	14.25	Horizontal	-38.90	-13.00	25.90	270
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3460.50	-64.57	2.6	10.75	Horizontal	-56.42	-13.00	43.42	45
3	5191.50	-60.06	2.4	11.05	Horizontal	-51.41	-13.00	38.41	225
4	6930.00	-60.22	4.5	11.15	Horizontal	-53.57	-13.00	40.57	0
5	8662.50	-54.49	5.1	11.35	Horizontal	-48.24	-13.00	35.24	90
6	10395.00	-49.50	5.3	11.95	Horizontal	-42.85	-13.00	29.85	135
7	12127.50	-51.99	5.5	13.55	Horizontal	-43.94	-13.00	30.94	270
8	13860.00	-50.03	6.3	13.75	Horizontal	-42.58	-13.00	29.58	225
9	15592.50	-51.20	6.7	13.85	Horizontal	-44.05	-13.00	31.05	315
10	17325.00	-46.06	6.8	14.25	Horizontal	-38.61	-13.00	25.61	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.00	-65.51	2.6	10.75	Horizontal	-57.36	-13.00	44.36	180
3	5170.88	-60.49	2.4	11.05	Horizontal	-51.84	-13.00	38.84	45
4	6930.00	-66.01	4.5	11.15	Horizontal	-59.36	-13.00	46.36	270
5	8662.50	-54.85	5.1	11.35	Horizontal	-48.60	-13.00	35.60	45
6	10395.00	-49.30	5.3	11.95	Horizontal	-42.65	-13.00	29.65	225
7	12127.50	-51.47	5.5	13.55	Horizontal	-43.42	-13.00	30.42	0
8	13860.00	-50.18	6.3	13.75	Horizontal	-42.73	-13.00	29.73	90
9	15592.50	-51.49	6.7	13.85	Horizontal	-44.34	-13.00	31.34	135
10	17325.00	-46.64	6.8	14.25	Horizontal	-39.19	-13.00	26.19	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.80	-57.14	2.00	9.15	Horizontal	-49.99	-25.00	24.99	225
3	7598.60	-57.55	2.50	11.35	Horizontal	-48.70	-25.00	23.70	135
4	10130.63	-51.14	4.20	12.05	Horizontal	-43.29	-25.00	18.29	90
5	12675.00	-52.34	5.20	12.85	Horizontal	-44.69	-25.00	19.69	180
6	15210.00	-51.06	5.50	14.23	Horizontal	-42.33	-25.00	17.33	45
7	17745.00	-49.00	5.70	14.15	Horizontal	-40.55	-25.00	15.55	315
8	20280.00	--	--	--	--	--	--	--	--
9	22815.00	--	--	--	--	--	--	--	--
10	25350.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.38	-59.17	2.00	10.15	Horizontal	-51.02	-25.00	26.02	45
3	7605.00	-58.34	2.50	11.35	Horizontal	-49.49	-25.00	24.49	270
4	10140.00	-50.88	4.20	12.05	Horizontal	-43.03	-25.00	18.03	180
5	12675.00	-52.73	5.20	14.85	Horizontal	-43.08	-25.00	18.08	315
6	15210.00	-51.38	5.50	13.23	Horizontal	-43.65	-25.00	18.65	90
7	17745.00	-46.33	5.70	12.15	Horizontal	-39.88	-25.00	14.88	0
8	20280.00	--	--	--	--	--	--	--	--
9	22815.00	--	--	--	--	--	--	--	--
10	25350.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									



LTE Band 38 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5190.00	-57.39	2.00	9.15	Horizontal	-50.24	-25.00	25.24	90
3	7785.00	-56.60	2.50	11.35	Horizontal	-47.75	-25.00	22.75	315
4	10380.00	-50.28	4.20	12.05	Horizontal	-42.43	-25.00	17.43	45
5	12975.00	-51.37	5.20	12.85	Horizontal	-43.72	-25.00	18.72	135
6	15570.00	-53.34	5.50	14.23	Horizontal	-44.61	-25.00	19.61	270
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE Band 38 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5190.00	-58.28	2.00	10.15	Horizontal	-50.13	-25.00	25.13	315
3	7785.00	-58.11	2.50	11.35	Horizontal	-49.26	-25.00	24.26	135
4	10380.00	-50.73	4.20	12.05	Horizontal	-42.88	-25.00	17.88	225
5	12975.00	-53.16	5.20	14.85	Horizontal	-43.51	-25.00	18.51	180
6	15570.00	-52.49	5.50	13.23	Horizontal	-44.76	-25.00	19.76	45
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



LTE Band 41 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	4997.00	-59.08	2.00	9.15	Horizontal	-51.93	-25.00	26.93	180
3	7495.50	-56.87	2.50	11.35	Horizontal	-48.02	-25.00	23.02	225
4	9994.00	-52.69	4.20	12.05	Horizontal	-44.84	-25.00	19.84	90
5	12492.50	-51.02	5.20	12.85	Horizontal	-43.37	-25.00	18.37	315
6	14991.00	-51.84	5.50	14.23	Horizontal	-43.11	-25.00	18.11	45
7	17489.50	-48.42	5.70	14.15	Horizontal	-39.97	-25.00	14.97	135
8	19988.00	--	--	--	--	--	--	--	--
9	22486.50	--	--	--	--	--	--	--	--
10	24985.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 41 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5186.00	-58.97	2.00	10.15	Horizontal	-50.82	-25.00	25.82	90
3	7779.00	-57.96	2.50	11.35	Horizontal	-49.11	-25.00	24.11	135
4	10372.00	-50.67	4.20	12.05	Horizontal	-42.82	-25.00	17.82	225
5	12965.00	-52.96	5.20	14.85	Horizontal	-43.31	-25.00	18.31	270
6	15558.00	-52.73	5.50	13.23	Horizontal	-45.00	-25.00	20.00	45
7	18151.00	--	--	--	--	--	--	--	--
8	20744.00	--	--	--	--	--	--	--	--
9	23337.00	--	--	--	--	--	--	--	--
10	25930.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									



LTE CA Band 7C QPSK 10MHz +20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5042.00	-52.19	2.00	9.15	Horizontal	-45.04	-25.0	20.04	315
3	7563.00	-44.88	2.50	11.35	Horizontal	-36.03	-25.0	11.03	135
4	10084.00	-51.36	4.20	12.05	Horizontal	-43.51	-25.0	18.51	180
5	12605.00	-49.12	5.20	12.85	Horizontal	-41.47	-25.0	16.47	225
6	15126.00	-54.10	5.50	14.23	Horizontal	-45.37	-25.0	20.37	135
7	17647.00	-50.61	5.70	14.15	Horizontal	-42.16	-25.0	17.16	90
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE CA Band 7C QPSK 20MHz +10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5055.00	-59.09	2.00	10.15	Horizontal	-50.94	-25.0	25.94	90
3	7582.50	-51.39	2.50	11.35	Horizontal	-42.54	-25.0	17.54	45
4	10110.00	-51.54	4.20	12.05	Horizontal	-43.69	-25.0	18.69	135
5	12637.50	-50.23	5.20	14.85	Horizontal	-40.58	-25.0	15.58	225
6	15165.00	-54.45	5.50	13.23	Horizontal	-46.72	-25.0	21.72	90
7	17692.50	-49.21	5.70	12.15	Horizontal	-42.76	-25.0	17.76	135
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



LTE CA Band 7C QPSK 15MHz +15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5041.50	-55.25	2.00	10.15	Horizontal	-47.10	-25.0	22.10	90
3	7562.25	-44.50	2.50	11.35	Horizontal	-35.65	-25.0	10.65	45
4	10083.00	-51.41	4.20	12.05	Horizontal	-43.56	-25.0	18.56	135
5	12603.75	-51.69	5.20	14.85	Horizontal	-42.04	-25.0	17.04	225
6	15124.50	-54.26	5.50	13.23	Horizontal	-46.53	-25.0	21.53	180
7	17645.25	-49.39	5.70	12.15	Horizontal	-42.94	-25.0	17.94	225
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE CA Band 7C QPSK 20MHz +20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5032.00	-58.23	2.00	10.15	Horizontal	-50.08	-25.0	25.08	45
3	7548.00	-58.34	2.50	11.35	Horizontal	-49.49	-25.0	24.49	135
4	10064.00	-50.68	4.20	12.05	Horizontal	-42.83	-25.0	17.83	225
5	12580.00	-53.46	5.20	14.85	Horizontal	-43.81	-25.0	18.81	90
6	15096.00	-51.46	5.50	13.23	Horizontal	-43.73	-25.0	18.73	90
7	17612.00	-45.83	5.70	12.15	Horizontal	-39.38	-25.0	14.38	45
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



LTE CA Band 38C QPSK 15MHz +15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5175.00	-58.63	2.00	9.15	Horizontal	-51.48	-25.0	26.48	90
3	7762.50	-57.30	2.50	11.35	Horizontal	-48.45	-25.0	23.45	135
4	10350.00	-47.61	4.20	12.05	Horizontal	-39.76	-25.0	14.76	45
5	12937.50	-48.82	5.20	12.85	Horizontal	-41.17	-25.0	16.17	225
6	15525.00	-55.70	5.50	14.23	Horizontal	-46.97	-25.0	21.97	90
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE CA Band 38C QPSK 20MHz +20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5170.20	-60.10	2.00	10.15	Horizontal	-51.95	-25.0	26.95	135
3	7755.30	-57.67	2.50	11.35	Horizontal	-48.82	-25.0	23.82	225
4	10340.40	-50.29	4.20	12.05	Horizontal	-42.44	-25.0	17.44	315
5	12925.50	-52.06	5.20	14.85	Horizontal	-42.41	-25.0	17.41	270
6	15510.60	-55.25	5.50	13.23	Horizontal	-47.52	-25.0	22.52	45
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

Diversity Antenna:

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.20	-65.39	2.6	10.75	Horizontal	-57.24	-13.00	44.24	270
3	5197.80	-59.97	2.4	11.05	Horizontal	-51.32	-13.00	38.32	90
4	6930.40	-60.40	4.5	11.15	Horizontal	-53.75	-13.00	40.75	45
5	8663.00	-56.44	5.1	11.35	Horizontal	-50.19	-13.00	37.19	0
6	10395.60	-49.64	5.3	11.95	Horizontal	-42.99	-13.00	29.99	180
7	12128.20	-52.71	5.5	13.55	Horizontal	-44.66	-13.00	31.66	90
8	13860.80	-50.61	6.3	13.75	Horizontal	-43.16	-13.00	30.16	315
9	15593.40	-53.29	6.7	13.85	Horizontal	-46.14	-13.00	33.14	315
10	17326.00	-46.36	6.8	14.25	Horizontal	-38.91	-13.00	25.91	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE Band 4 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3464.25	-65.23	2.6	10.75	Horizontal	-57.08	-13.00	44.08	315
3	5197.50	-51.41	2.4	11.05	Horizontal	-42.76	-13.00	29.76	225
4	6930.00	-60.57	4.5	11.15	Horizontal	-53.92	-13.00	40.92	90
5	8662.50	-54.77	5.1	11.35	Horizontal	-48.52	-13.00	35.52	315
6	10395.00	-50.14	5.3	11.95	Horizontal	-43.49	-13.00	30.49	45
7	12127.50	-52.31	5.5	13.55	Horizontal	-44.26	-13.00	31.26	135
8	13860.00	-51.00	6.3	13.75	Horizontal	-43.55	-13.00	30.55	270
9	15592.50	-51.49	6.7	13.85	Horizontal	-44.34	-13.00	31.34	45
10	17325.00	-46.79	6.8	14.25	Horizontal	-39.34	-13.00	26.34	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



LTE Band 4 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3460.50	-62.61	2.6	10.75	Horizontal	-54.46	-13.00	41.46	180
3	5191.50	-51.90	2.4	11.05	Horizontal	-43.25	-13.00	30.25	225
4	6930.00	-59.96	4.5	11.15	Horizontal	-53.31	-13.00	40.31	90
5	8662.50	-54.57	5.1	11.35	Horizontal	-48.32	-13.00	35.32	315
6	10395.00	-50.14	5.3	11.95	Horizontal	-43.49	-13.00	30.49	45
7	12127.50	-51.58	5.5	13.55	Horizontal	-43.53	-13.00	30.53	135
8	13860.00	-50.61	6.3	13.75	Horizontal	-43.16	-13.00	30.16	225
9	15592.50	-51.96	6.7	13.85	Horizontal	-44.81	-13.00	31.81	315
10	17325.00	-46.17	6.8	14.25	Horizontal	-38.72	-13.00	25.72	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.00	-64.49	2.6	10.75	Horizontal	-56.34	-13.00	43.34	180
3	5170.88	-51.49	2.4	11.05	Horizontal	-42.84	-13.00	29.84	45
4	6930.00	-59.88	4.5	11.15	Horizontal	-53.23	-13.00	40.23	270
5	8662.50	-54.97	5.1	11.35	Horizontal	-48.72	-13.00	35.72	45
6	10395.00	-48.97	5.3	11.95	Horizontal	-42.32	-13.00	29.32	225
7	12127.50	-51.67	5.5	13.55	Horizontal	-43.62	-13.00	30.62	0
8	13860.00	-50.73	6.3	13.75	Horizontal	-43.28	-13.00	30.28	90
9	15592.50	-52.02	6.7	13.85	Horizontal	-44.87	-13.00	31.87	135
10	17325.00	-47.31	6.8	14.25	Horizontal	-39.86	-13.00	26.86	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									



LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.80	-54.08	2.00	9.15	Horizontal	-46.93	-25.00	21.93	225
3	7598.60	-41.37	2.50	11.35	Horizontal	-32.52	-25.00	7.52	135
4	10130.63	-50.67	4.20	12.05	Horizontal	-42.82	-25.00	17.82	90
5	12675.00	-50.95	5.20	12.85	Horizontal	-43.30	-25.00	18.30	180
6	15210.00	-53.63	5.50	14.23	Horizontal	-44.90	-25.00	19.90	45
7	17745.00	-48.72	5.70	14.15	Horizontal	-40.27	-25.00	15.27	315
8	20280.00	--	--	--	--	--	--	--	--
9	22815.00	--	--	--	--	--	--	--	--
10	25350.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.38	-55.47	2.00	10.15	Horizontal	-47.32	-25.00	22.32	90
3	7578.00	-40.26	2.50	11.35	Horizontal	-31.41	-25.00	6.41	315
4	10140.00	-50.42	4.20	12.05	Horizontal	-42.57	-25.00	17.57	45
5	12675.00	-52.03	5.20	14.85	Horizontal	-42.38	-25.00	17.38	135
6	15210.00	-52.67	5.50	13.23	Horizontal	-44.94	-25.00	19.94	270
7	17745.00	-47.39	5.70	12.15	Horizontal	-40.94	-25.00	15.94	0
8	20280.00	--	--	--	--	--	--	--	--
9	22815.00	--	--	--	--	--	--	--	--
10	25350.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									



LTE Band 38 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5190.00	-57.95	2.00	9.15	Horizontal	-50.80	-25.00	25.80	90
3	7778.25	-45.96	2.50	11.35	Horizontal	-37.11	-25.00	12.11	315
4	10380.00	-50.70	4.20	12.05	Horizontal	-42.85	-25.00	17.85	135
5	12975.00	-50.35	5.20	12.85	Horizontal	-42.70	-25.00	17.70	225
6	15570.00	-53.30	5.50	14.23	Horizontal	-44.57	-25.00	19.57	180
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE Band 38 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5190.00	-59.72	2.00	10.15	Horizontal	-51.57	-25.00	26.57	45
3	7758.00	-44.37	2.50	11.35	Horizontal	-35.52	-25.00	10.52	225
4	10380.00	-50.78	4.20	12.05	Horizontal	-42.93	-25.00	17.93	0
5	12975.00	-52.34	5.20	14.85	Horizontal	-42.69	-25.00	17.69	90
6	15570.00	-52.37	5.50	13.23	Horizontal	-44.64	-25.00	19.64	45
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



LTE Band 41 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	4997.00	-59.36	2.00	9.15	Horizontal	-52.21	-25.00	27.21	180
3	7772.00	-43.31	2.50	11.35	Horizontal	-34.46	-25.00	9.46	225
4	9994.00	-52.69	4.20	12.05	Horizontal	-44.84	-25.00	19.84	90
5	12492.50	-52.47	5.20	12.85	Horizontal	-44.82	-25.00	19.82	315
6	14991.00	-51.93	5.50	14.23	Horizontal	-43.20	-25.00	18.20	45
7	17489.50	-48.30	5.70	14.15	Horizontal	-39.85	-25.00	14.85	135
8	19988.00	--	--	--	--	--	--	--	--
9	22486.50	--	--	--	--	--	--	--	--
10	24985.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 41 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5186.00	-57.03	2.00	10.15	Horizontal	-48.88	-25.00	23.88	90
3	7779.00	-44.17	2.50	11.35	Horizontal	-35.32	-25.00	10.32	135
4	10372.00	-50.73	4.20	12.05	Horizontal	-42.88	-25.00	17.88	225
5	12965.00	-53.17	5.20	14.85	Horizontal	-43.52	-25.00	18.52	270
6	15558.00	-51.73	5.50	13.23	Horizontal	-44.00	-25.00	19.00	45
7	18151.00	--	--	--	--	--	--	--	--
8	20744.00	--	--	--	--	--	--	--	--
9	23337.00	--	--	--	--	--	--	--	--
10	25930.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									



LTE CA Band 7C QPSK 10MHz +20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5042.00	-58.01	2.00	9.15	Horizontal	-50.86	-25.0	25.86	45
3	7563.00	-57.40	2.50	11.35	Horizontal	-48.55	-25.0	23.55	180
4	10084.00	-51.73	4.20	12.05	Horizontal	-43.88	-25.0	18.88	270
5	12605.00	-48.85	5.20	12.85	Horizontal	-41.20	-25.0	16.20	135
6	15126.00	-55.39	5.50	14.23	Horizontal	-46.66	-25.0	21.66	135
7	17647.00	-52.26	5.70	14.15	Horizontal	-43.81	-25.0	18.81	90
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE CA Band 7C QPSK 20MHz +10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5055.00	-58.22	2.00	10.15	Horizontal	-50.07	-25.0	25.07	270
3	7582.50	-57.15	2.50	11.35	Horizontal	-48.30	-25.0	23.30	90
4	10110.00	-51.02	4.20	12.05	Horizontal	-43.17	-25.0	18.17	180
5	12637.50	-50.79	5.20	14.85	Horizontal	-41.14	-25.0	16.14	45
6	15165.00	-54.33	5.50	13.23	Horizontal	-46.60	-25.0	21.60	45
7	17692.50	-49.17	5.70	12.15	Horizontal	-42.72	-25.0	17.72	135
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



LTE CA Band 7C QPSK 15MHz +15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5041.50	-59.79	2.00	10.15	Horizontal	-51.64	-25.0	26.64	180
3	7562.25	-57.53	2.50	11.35	Horizontal	-48.68	-25.0	23.68	135
4	10083.00	-50.66	4.20	12.05	Horizontal	-42.81	-25.0	17.81	315
5	12603.75	-50.67	5.20	14.85	Horizontal	-41.02	-25.0	16.02	45
6	15124.50	-55.33	5.50	13.23	Horizontal	-47.60	-25.0	22.60	0
7	17645.25	-50.94	5.70	12.15	Horizontal	-44.49	-25.0	19.49	90
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE CA Band 7C QPSK 20MHz +20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5032.00	-59.82	2.00	10.15	Horizontal	-51.67	-25.0	26.67	90
3	7548.00	-57.88	2.50	11.35	Horizontal	-49.03	-25.0	24.03	45
4	10064.00	-51.58	4.20	12.05	Horizontal	-43.73	-25.0	18.73	180
5	12580.00	-51.61	5.20	14.85	Horizontal	-41.96	-25.0	16.96	315
6	15096.00	-54.69	5.50	13.23	Horizontal	-46.96	-25.0	21.96	270
7	17612.00	-50.73	5.70	12.15	Horizontal	-44.28	-25.0	19.28	180
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



LTE CA Band 38C QPSK 15MHz +15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5175.00	-58.33	2.00	9.15	Horizontal	-51.18	-25.0	26.18	90
3	7762.50	-56.70	2.50	11.35	Horizontal	-47.85	-25.0	22.85	180
4	10350.00	-51.10	4.20	12.05	Horizontal	-43.25	-25.0	18.25	135
5	12937.50	-49.15	5.20	12.85	Horizontal	-41.50	-25.0	16.50	270
6	15525.00	-56.51	5.50	14.23	Horizontal	-47.78	-25.0	22.78	45
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE CA Band 38C QPSK 20MHz +20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5170.20	-59.20	2.00	10.15	Horizontal	-51.05	-25.0	26.05	90
3	7755.30	-57.25	2.50	11.35	Horizontal	-48.40	-25.0	23.40	180
4	10340.40	-49.57	4.20	12.05	Horizontal	-41.72	-25.0	16.72	270
5	12925.50	-50.69	5.20	14.85	Horizontal	-41.04	-25.0	16.04	315
6	15510.60	-56.05	5.50	13.23	Horizontal	-48.32	-25.0	23.32	135
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
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10	--	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.



6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113824	2020-05-18	2021-05-17
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2020-05-18	2021-05-17
Signal Analyzer	R&S	FSV30	100815	2020-12-13	2021-12-12
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2021-12-15
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2021-06-19
Horn Antenna	STEATITE	QSH-SL-26-40-K-15	16779	2017-07-20	2021-07-19
Signal generator	R&S	SMB 100A	102594	2020-05-18	2021-05-17
Climatic Chamber	ESPEC	SU-242	93000506	2020-12-13	2021-12-12
Preamplifier	R&S	SCU18	102327	2020-05-18	2021-05-17
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2020-05-18	2021-05-17
RF Cable	Agilent	SMA 15cm	0001	2020-12-10	2021-06-09
Software	R&S	EMC32	9.26.0	/	/

*****END OF REPORT *****



ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.



ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.