

RF Power Output and Effective Radiated Power

GSM 1900		Conducted Power (dBm)		
		Channel 512	Channel 661	Channel 810
		1850.2 (MHz)	1880 (MHz)	1909.8 (MHz)
GSM(GMSK)	Results	29.53	29.37	29.04
GPRS (GMSK)	1TXslot	29.42	29.33	29.30
	2TXslots	28.26	28.91	28.57
	3TXslots	27.35	27.47	27.18
	4TXslots	26.30	27.25	27.01
EGPRS (8PSK)	1TXslot	25.75	25.86	25.79
	2TXslots	24.69	24.95	24.72
	3TXslots	23.02	23.16	22.98
	4TXslots	22.41	22.65	22.46

LTE Band 2	Channel/ Frequency(MHz)	Index	RB# RBstart QPSK	RB# RBstart 16QAM	Conducted Power (dBm)	
					QPSK	16QAM
1.4MHz	18607/1850.7	0	1#0	1#0	23.05	22.25
		0	6#0	5#0	21.13	21.11
	18900/1880	0	1#0	1#0	23.09	22.00
		0	6#0	5#0	20.96	21.02
	19193/1909.3	0	1#5	1#5	23.50	23.58
		0	6#0	5#0	21.57	21.72
3MHz	18615/1851.5	0	1#0	1#0	23.44	22.05
		0	6#0	5#0	21.12	21.33
	18900/1880	0	1#0	1#0	23.32	22.01
		0	6#0	5#0	20.96	21.26
	19185/1908.5	1	1#5	1#5	23.01	21.99
		1	6#0	5#0	20.91	20.88
5MHz	18625/1852.5	3	1#0	1#0	23.14	23.31
		0	6#0	5#0	22.07	21.11
	18900/1880	0	1#0	1#0	23.00	23.14
		0	6#0	5#0	21.93	21.03
	19175/1907.5	0	1#5	1#5	23.37	23.35
		3	6#0	5#0	22.54	21.55
10MHz	18650/1855	3	1#0	1#0	23.03	23.24
		0	4#0	4#0	23.08	21.81
	18900/1880	0	1#0	1#0	23.07	23.23
		0	4#0	4#0	23.05	21.89
	19150/1905	4	1#5	1#5	23.30	23.64
		7	4#2	4#2	23.45	22.51
15MHz	18675/1857.5	3	1#0	1#0	23.08	23.22
		0	6#0	5#0	23.14	23.24
	18900/1880	0	1#0	1#0	23.09	23.17
		0	6#0	5#0	23.03	23.06
	19125/1902.5	8	1#5	1#5	23.01	22.96
		11	6#0	5#0	23.01	23.15
20MHz	18700/1860	3	1#0	1#0	23.11	23.25
		0	6#0	5#0	23.11	23.17
	18900/1880	0	1#0	1#0	23.10	23.24
		0	6#0	5#0	23.00	23.08
	19100/1900	12	1#5	1#5	23.01	22.61
		15	6#0	5#0	22.96	23.07

LTE Band 25	Channel/ Frequency(MHz)	Index	RB# RBstart QPSK	RB# RBstart 16QAM	Conducted Power (dBm)	
					QPSK	16QAM
1.4MHz	26047/1850.7	0	1#0	1#0	23.29	22.15
		0	6#0	5#0	20.91	20.94
	26365/1882.5	0	1#0	1#0	22.84	21.67
		0	6#0	5#0	20.63	20.60
	26683/1914.3	0	1#5	1#5	22.83	21.74
		0	6#0	5#0	20.79	20.81
3MHz	26055/1851.5	0	1#0	1#0	23.10	21.98
		0	6#0	5#0	20.88	20.90
	26365/1882.5	0	1#0	1#0	22.93	21.83
		0	6#0	5#0	20.64	20.63
	26675/1913.5	1	1#5	1#5	22.84	21.81
		1	6#0	5#0	20.78	20.76
5MHz	26065/1852.5	3	1#0	1#0	23.04	22.67
		0	6#0	5#0	21.90	22.18
	26365/1882.5	0	1#0	1#0	22.85	23.33
		0	6#0	5#0	21.64	21.72
	26665/1912.5	0	1#5	1#5	22.53	22.32
		3	6#0	5#0	21.72	21.92
10MHz	26090/1855	3	1#0	1#0	22.94	22.84
		0	4#0	4#0	22.93	22.44
	26365/1882.5	0	1#0	1#0	22.93	23.24
		0	4#0	4#0	22.67	22.65
	26640/1910	4	1#5	1#5	22.65	22.29
		7	4#2	4#2	22.73	22.26
15MHz	26115/1857.5	3	1#0	1#0	23.07	22.60
		0	6#0	5#0	22.87	23.21
	26365/1882.5	0	1#0	1#0	22.89	23.25
		0	6#0	5#0	22.78	22.76
	26615/1907.5	8	1#5	1#5	22.52	22.39
		11	6#0	5#0	22.76	22.95
20MHz	26140/1860	3	1#0	1#0	22.91	22.72
		0	6#0	5#0	22.88	23.22
	26365/1882.5	0	1#0	1#0	22.88	23.11
		0	6#0	5#0	22.68	22.73
	26590/1905	12	1#5	1#5	22.67	22.26
		15	6#0	5#0	22.79	22.93

Occupied Bandwidth

Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
GSM 1900 (GMSK)	512	1850.2	0.2389	0.2973
	661	1880.0	0.2403	0.2972
	810	1909.8	0.2421	0.2987
GPRS 1900 (GMSK)	512	1850.2	0.2454	0.3035
	661	1880.0	0.2437	0.3102
	810	1909.8	0.2449	0.3167
EGPRS 1900 (8PSK)	512	1850.2	0.2443	0.3056
	661	1880.0	0.2420	0.3170
	810	1909.8	0.24302	0.3019

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	RB	Bandwidth(MHz)	
					99% Power	-26dBc
LTE Band 2	10MHz	QPSK	18900/1880	6#0	1.1153	1.348
		16QAM	18900/1880	6#0	0.9563	1.176

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	RB	Bandwidth(MHz)	
					99% Power	-26dBc
LTE Band 25	5MHz	QPSK	26365/1882.5	6#0	1.1116	1.324
		16QAM	26365/1882.5	6#0	0.9520	1.198

GSM1900 GSM CH-Low



GSM1900 GPRS CH-Low



GSM 1900 GSM CH-Middle



GSM 1900 GPRS CH-Middle



GSM 1900 GSM CH-High



GSM 1900 GPRS CH-High



GSM1900 EGPRS CH-Low



GSM 1900 EGPRS CH-Middle



GSM 1900 EGPRS CH-High



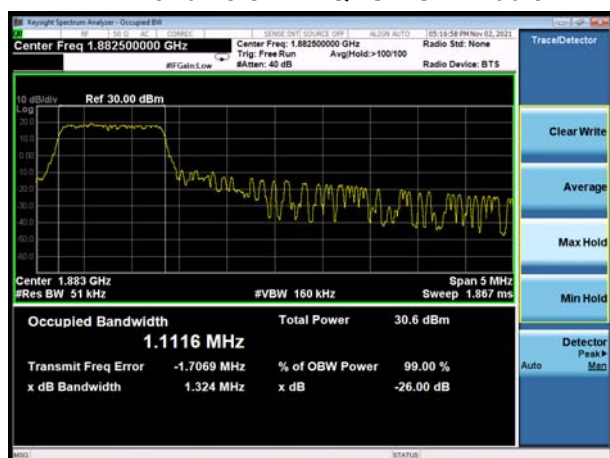
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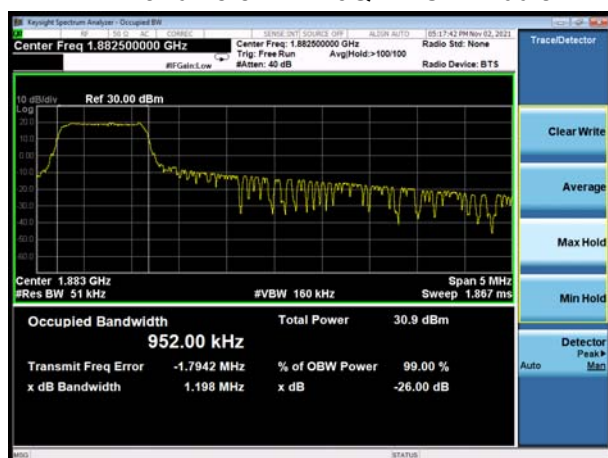
LTE Band 2 10MHz 16QAM CH-Middle



LTE Band 25 5MHz QPSK CH-Middle



LTE Band 25 5MHz 16QAM CH-Middle

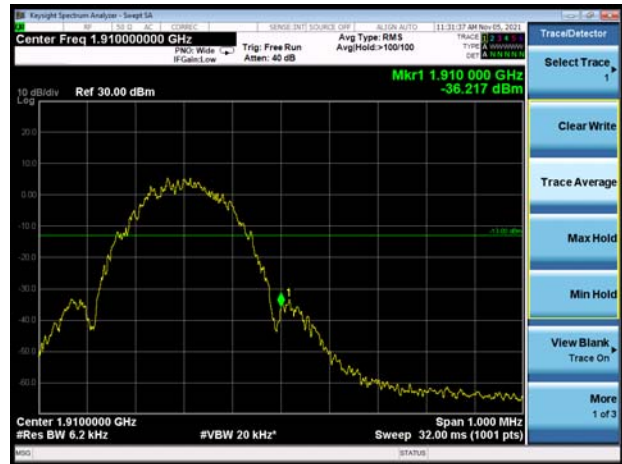


Band Edge Compliance

GSM1900 GSM CH-Low



GSM 1900 GSM CH-High



GSM1900 GPRS CH-Low



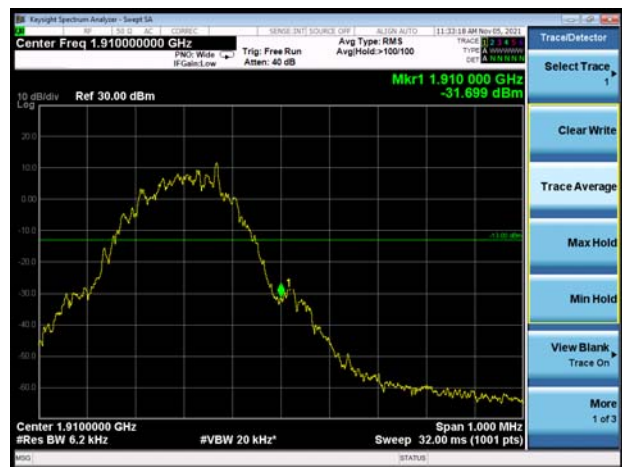
GSM 1900 GPRS CH-High



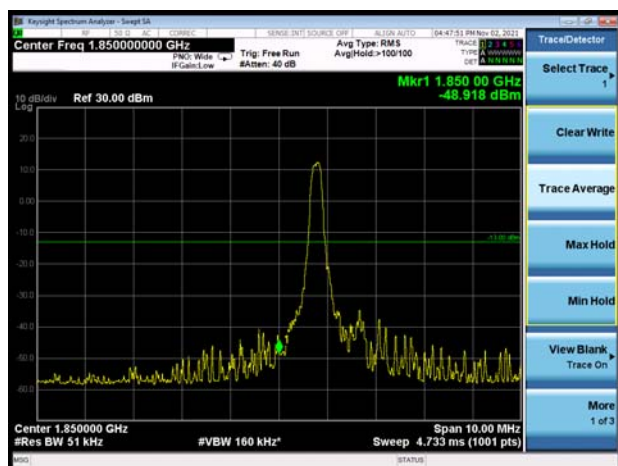
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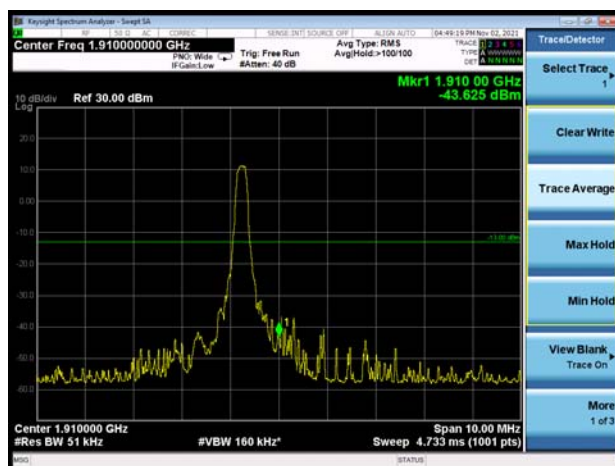
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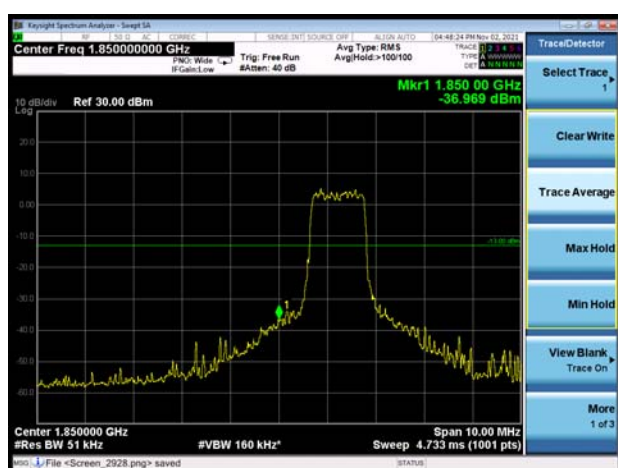
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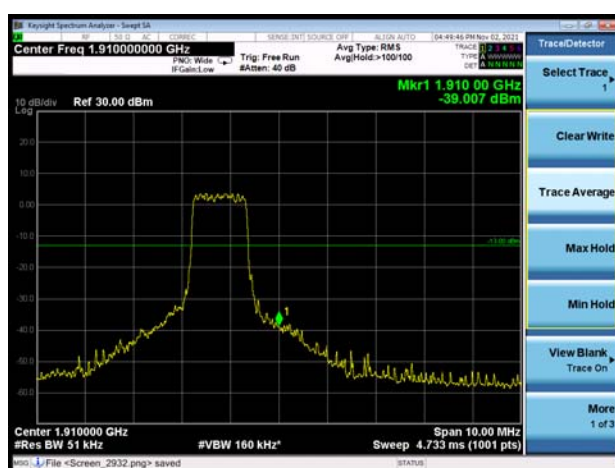
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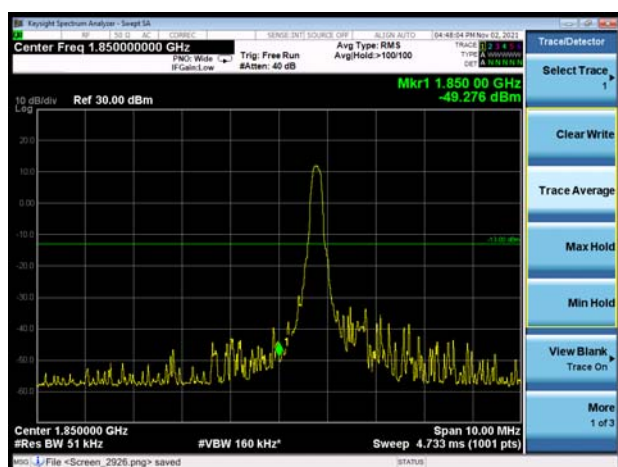
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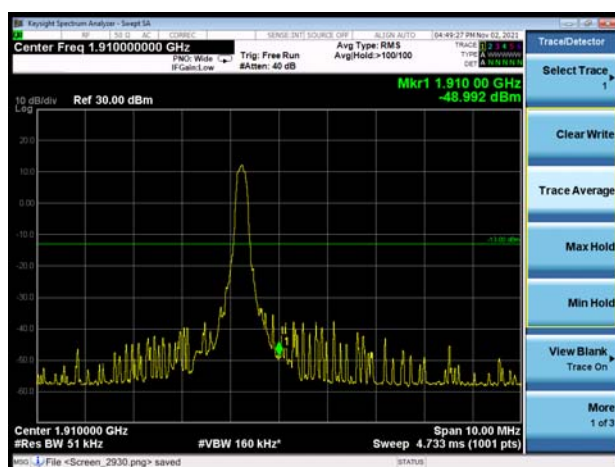
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LTE Band 2 10MHz 16QAM 1RB CH-Low

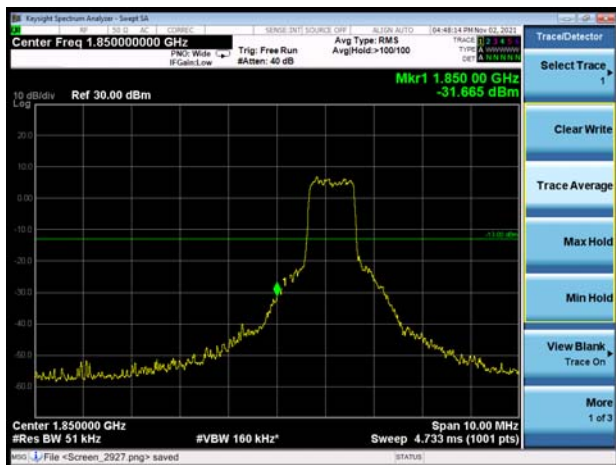


LTE Band 2 10MHz 16QAM 1RB CH-High

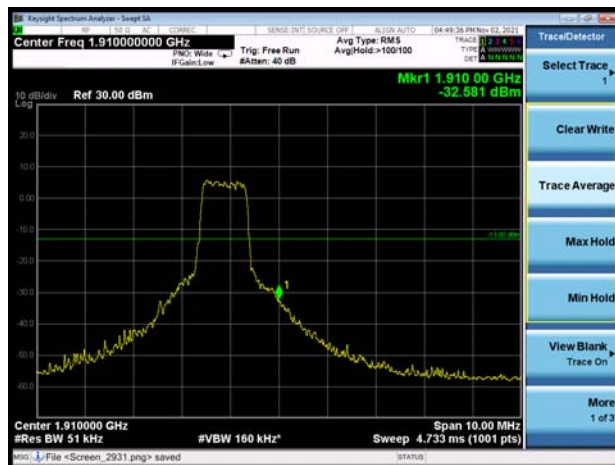




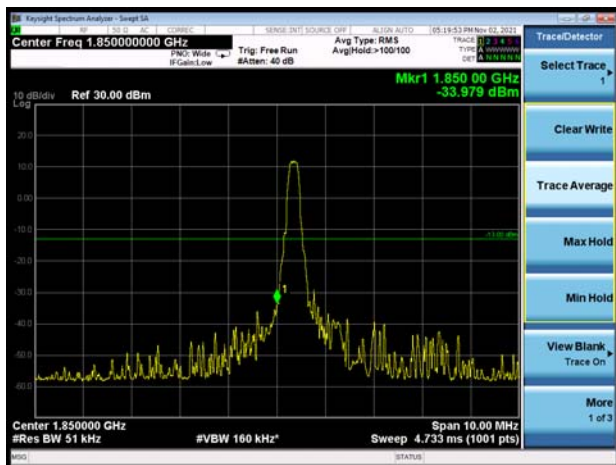
LTE Band 2 10MHz 16QAM 100%RB CH-Low



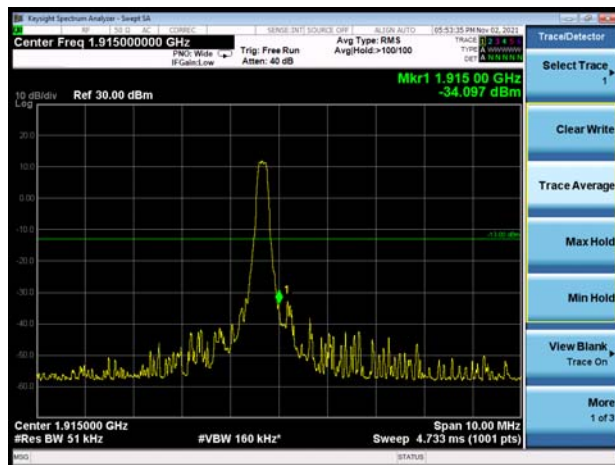
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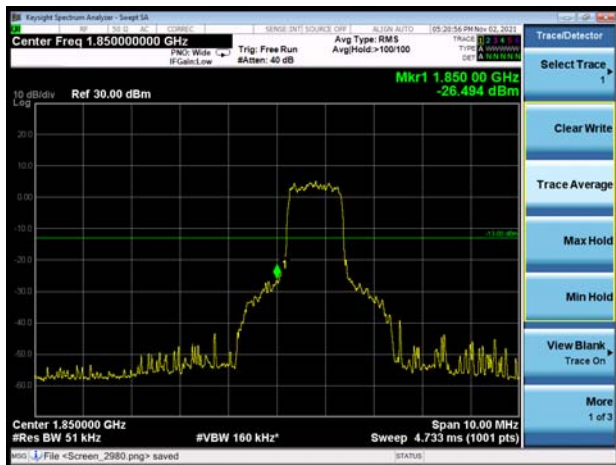
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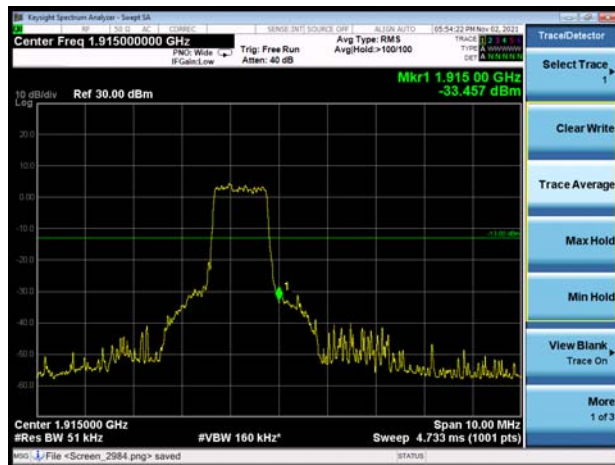
LTE Band 25 5MHz QPSK 1RB CH-High



LTE Band 25 5MHz QPSK 100%RB CH-Low

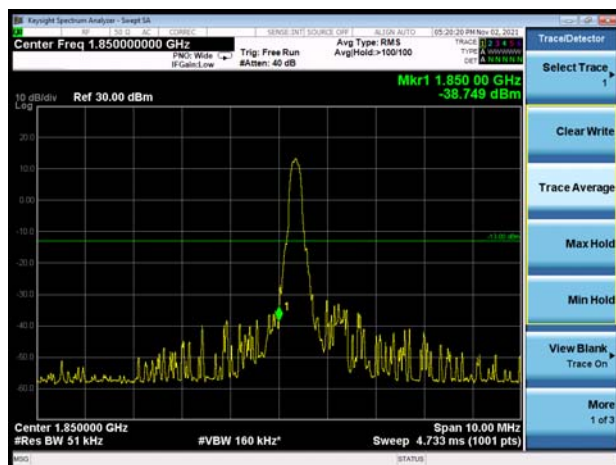


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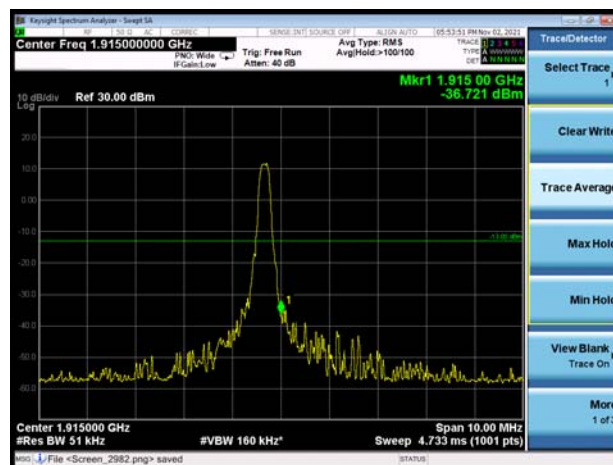




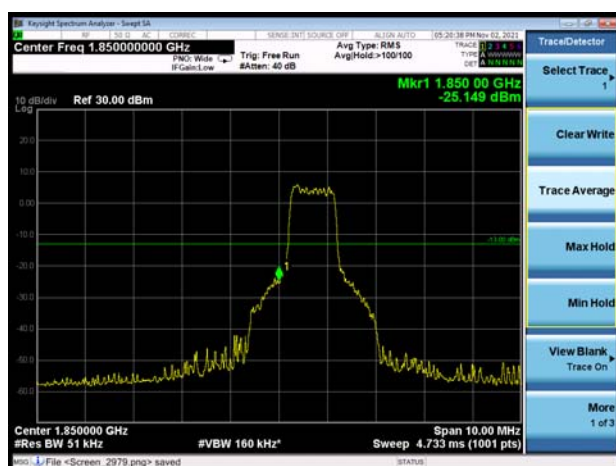
LTE Band 25 5MHz 16QAM 1RB CH-Low



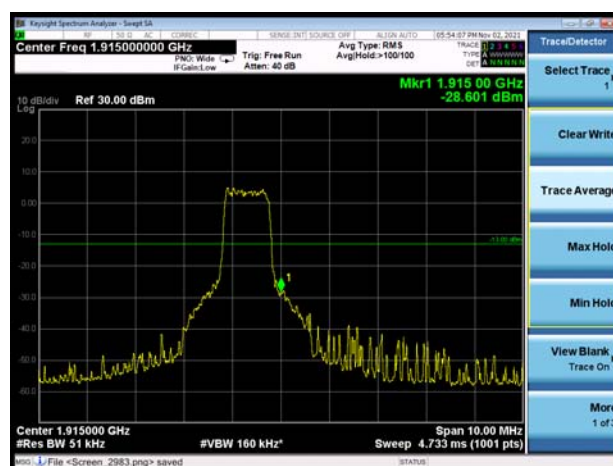
LTE Band 25 5MHz 16QAM 1RB CH-High



LTE Band 25 5MHz 16QAM 100%RB CH-Low



LTE Band 25 5MHz 16QAM 100%RB CH-High



Peak-to-Average Power Ratio (PAPR)

Mode	Channel	Frequency (MHz)	Peak(dBm)	Avg(dBm)	PAPR(dB)	Limit(dB)	Conclusion
GSM 1900 (GMSK)	512	1850.2	30.38	27.48	2.90	≤13	PASS
	661	1880	30.09	27.19	2.90	≤13	PASS
	810	1909.8	30.00	27.06	2.94	≤13	PASS
GPRS 1900 (GMSK)	512	1850.2	30.39	27.49	2.90	≤13	PASS
	661	1880	30.10	27.20	2.90	≤13	PASS
	810	1909.8	30.02	27.07	2.95	≤13	PASS
EGPRS 1900 (8PSK)	512	1850.2	29.30	23.54	5.76	≤13	PASS
	661	1880	29.07	23.30	5.77	≤13	PASS
	810	1909.8	29.06	23.20	5.86	≤13	PASS

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)			Limit(dB)	Conclusion
				Peak(dBm)	Avg(dBm)	PAPR(dB)		
LTE Band 2	1.4MHz	QPSK	18900/1880	25.64	16.03	9.61	≤13	PASS
		16QAM	18900/1880	26.22	15.38	10.84	≤13	PASS
	3MHz	QPSK	18900/1880	25.68	15.87	9.81	≤13	PASS
		16QAM	18900/1880	26.28	15.81	10.47	≤13	PASS
	5MHz	QPSK	18900/1880	26.31	16.92	9.39	≤13	PASS
		16QAM	18900/1880	26.88	16.12	10.76	≤13	PASS
	10MHz	QPSK	18900/1880	26.30	15.35	10.95	≤13	PASS
		16QAM	18900/1880	27.53	18.63	8.90	≤13	PASS
	15MHz	QPSK	18900/1880	26.96	17.87	9.09	≤13	PASS
		16QAM	18900/1880	27.45	17.76	9.69	≤13	PASS
	20MHz	QPSK	18900/1880	26.98	18.19	8.79	≤13	PASS
		16QAM	18900/1880	27.44	16.95	10.49	≤13	PASS

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)			Limit(dB)	Conclusion
				Peak(dBm)	Avg(dBm)	PAPR(dB)		
LTE Band 25	1.4MHz	QPSK	26365/1882.5	25.30	16.16	9.14	≤13	PASS
		16QAM	26365/1882.5	25.92	15.73	10.19	≤13	PASS
	3MHz	QPSK	26365/1882.5	25.22	15.54	9.68	≤13	PASS
		16QAM	26365/1882.5	25.91	15.65	10.26	≤13	PASS
	5MHz	QPSK	26365/1882.5	26.00	16.42	9.58	≤13	PASS
		16QAM	26365/1882.5	26.71	16.81	9.90	≤13	PASS
	10MHz	QPSK	26365/1882.5	26.06	16.43	9.63	≤13	PASS
		16QAM	26365/1882.5	27.37	17.71	9.66	≤13	PASS
	15MHz	QPSK	26365/1882.5	26.83	17.87	8.96	≤13	PASS
		16QAM	26365/1882.5	27.41	17.76	9.65	≤13	PASS
	20MHz	QPSK	26365/1882.5	26.84	18.00	8.84	≤13	PASS
		16QAM	26365/1882.5	27.44	18.47	8.97	≤13	PASS

Frequency Stability

GSM1900						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	GMSK	8PSK	GMSK	8PSK	
Normal (25℃)	Normal	4.57	16.04	0.00243	0.00853	PASS
Extreme (85℃)		13.39	4.87	0.00712	0.00259	PASS
Extreme (80℃)		17.46	11.30	0.00929	0.00601	PASS
Extreme (70℃)		6.88	5.76	0.00366	0.00306	PASS
Extreme (60℃)		7.63	12.96	0.00406	0.00689	PASS
Extreme (50℃)		13.50	3.70	0.00718	0.00197	PASS
Extreme (40℃)		7.98	6.03	0.00425	0.00321	PASS
Extreme (30℃)		5.57	17.44	0.00296	0.00928	PASS
Extreme (20℃)		2.14	10.61	0.00114	0.00564	PASS
Extreme (10℃)		2.10	11.17	0.00112	0.00594	PASS
Extreme (0℃)		1.85	8.92	0.00099	0.00474	PASS
Extreme (-10℃)		8.76	2.38	0.00466	0.00127	PASS
Extreme (-20℃)		3.84	3.11	0.00204	0.00165	PASS
Extreme (-30℃)		8.62	12.12	0.00459	0.00645	PASS
Extreme (-40℃)		13.52	5.63	0.00719	0.00299	PASS
25℃	LV	16.44	9.31	0.00875	0.00495	PASS
	HV	2.77	1.28	0.00147	0.00068	PASS

LTE Band 2						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	1.4MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	2.20	12.10	0.00117	0.00644	PASS
Extreme (85℃)		14.48	12.30	0.00770	0.00654	PASS
Extreme (80℃)		1.21	12.56	0.00065	0.00668	PASS
Extreme (70℃)		9.26	5.03	0.00493	0.00268	PASS
Extreme (60℃)		1.41	9.99	0.00075	0.00531	PASS
Extreme (50℃)		5.02	3.32	0.00267	0.00177	PASS
Extreme (40℃)		16.68	1.48	0.00887	0.00079	PASS
Extreme (30℃)		13.15	6.31	0.00699	0.00335	PASS
Extreme (20℃)		13.59	5.69	0.00723	0.00303	PASS
Extreme (10℃)		3.76	15.82	0.00200	0.00841	PASS
Extreme (0℃)		13.26	8.89	0.00705	0.00473	PASS
Extreme (-10℃)		1.02	4.32	0.00054	0.00230	PASS
Extreme (-20℃)		6.19	11.64	0.00329	0.00619	PASS
Extreme (-30℃)		9.05	13.21	0.00481	0.00703	PASS
Extreme (-40℃)		10.32	3.74	0.00549	0.00199	PASS
25℃	LV	1.20	5.41	0.00064	0.00288	PASS
	HV	7.69	5.35	0.00409	0.00284	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	3MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	6.12	16.41	0.00325	0.00873	PASS
Extreme (85℃)		5.27	16.18	0.00280	0.00861	PASS
Extreme (80℃)		16.93	5.74	0.00901	0.00305	PASS
Extreme (70℃)		16.76	17.62	0.00892	0.00937	PASS
Extreme (60℃)		8.32	11.08	0.00443	0.00589	PASS
Extreme (50℃)		5.08	15.75	0.00270	0.00838	PASS
Extreme (40℃)		3.34	4.64	0.00178	0.00247	PASS
Extreme (30℃)		1.16	4.06	0.00062	0.00216	PASS
Extreme (20℃)		3.11	13.89	0.00165	0.00739	PASS
Extreme (10℃)		1.34	16.00	0.00071	0.00851	PASS
Extreme (0℃)		12.50	14.44	0.00665	0.00768	PASS
Extreme (-10℃)		2.63	17.18	0.00140	0.00914	PASS
Extreme (-20℃)		10.90	11.54	0.00580	0.00614	PASS
Extreme (-30℃)		4.80	5.48	0.00255	0.00291	PASS
Extreme (-40℃)		5.36	9.43	0.00285	0.00502	PASS
25℃	LV	11.14	5.11	0.00592	0.00272	PASS



	HV	3.27	2.93	0.00174	0.00156	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	5.39	7.47	0.00287	0.00397	PASS
Extreme (85℃)		8.46	8.04	0.00450	0.00428	PASS
Extreme (80℃)		7.99	9.74	0.00425	0.00518	PASS
Extreme (70℃)		6.65	12.46	0.00354	0.00663	PASS
Extreme (60℃)		8.58	5.51	0.00456	0.00293	PASS
Extreme (50℃)		4.90	5.70	0.00261	0.00303	PASS
Extreme (40℃)		12.31	7.90	0.00655	0.00420	PASS
Extreme (30℃)		15.22	13.38	0.00810	0.00712	PASS
Extreme (20℃)		1.86	8.24	0.00099	0.00438	PASS
Extreme (10℃)		7.81	16.88	0.00415	0.00898	PASS
Extreme (0℃)		16.89	2.90	0.00898	0.00154	PASS
Extreme (-10℃)		8.95	2.75	0.00476	0.00146	PASS
Extreme (-20℃)		10.59	9.57	0.00563	0.00509	PASS
Extreme (-30℃)		2.86	13.89	0.00152	0.00739	PASS
Extreme (-40℃)		17.89	13.03	0.00952	0.00693	PASS
25℃	LV	14.96	9.39	0.00796	0.00499	PASS
	HV	16.47	15.39	0.00876	0.00819	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	1.34	12.25	0.00071	0.00651	PASS
Extreme (85℃)		5.17	8.84	0.00275	0.00470	PASS
Extreme (80℃)		4.45	15.02	0.00237	0.00799	PASS
Extreme (70℃)		4.87	10.80	0.00259	0.00574	PASS
Extreme (60℃)		12.17	12.51	0.00647	0.00666	PASS
Extreme (50℃)		16.41	12.87	0.00873	0.00684	PASS
Extreme (40℃)		12.42	14.22	0.00661	0.00756	PASS
Extreme (30℃)		3.73	9.05	0.00198	0.00481	PASS
Extreme (20℃)		5.56	4.21	0.00296	0.00224	PASS
Extreme (10℃)		1.69	13.50	0.00090	0.00718	PASS
Extreme (0℃)		15.82	15.88	0.00842	0.00845	PASS
Extreme (-10℃)		3.28	1.16	0.00175	0.00062	PASS
Extreme (-20℃)		7.08	12.19	0.00376	0.00648	PASS
Extreme (-30℃)		15.78	11.26	0.00839	0.00599	PASS
Extreme (-40℃)		8.91	1.77	0.00474	0.00094	PASS
25℃	LV	16.41	4.16	0.00873	0.00221	PASS



	HV	10.29	1.61	0.00547	0.00086	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	15MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	4.74	13.25	0.00252	0.00705	PASS
Extreme (85℃)		14.15	6.67	0.00753	0.00355	PASS
Extreme (80℃)		6.43	4.52	0.00342	0.00240	PASS
Extreme (70℃)		1.21	17.31	0.00064	0.00921	PASS
Extreme (60℃)		2.36	2.40	0.00126	0.00128	PASS
Extreme (50℃)		13.51	2.86	0.00718	0.00152	PASS
Extreme (40℃)		15.86	12.17	0.00844	0.00647	PASS
Extreme (30℃)		9.28	14.51	0.00494	0.00772	PASS
Extreme (20℃)		9.65	6.08	0.00513	0.00324	PASS
Extreme (10℃)		15.75	15.42	0.00838	0.00820	PASS
Extreme (0℃)		7.77	16.25	0.00413	0.00864	PASS
Extreme (-10℃)		7.93	5.53	0.00422	0.00294	PASS
Extreme (-20℃)		4.54	8.79	0.00241	0.00467	PASS
Extreme (-30℃)		7.86	1.36	0.00418	0.00072	PASS
Extreme (-40℃)		15.71	9.28	0.00836	0.00494	PASS
25℃	LV	11.38	9.59	0.00606	0.00510	PASS
	HV	13.56	1.13	0.00721	0.00060	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	12.41	7.97	0.00660	0.00424	PASS
Extreme (85℃)		6.58	11.23	0.00350	0.00597	PASS
Extreme (80℃)		10.14	9.15	0.00539	0.00487	PASS
Extreme (70℃)		9.48	9.71	0.00504	0.00517	PASS
Extreme (60℃)		1.61	3.09	0.00086	0.00164	PASS
Extreme (50℃)		3.12	8.00	0.00166	0.00425	PASS
Extreme (40℃)		14.76	13.37	0.00785	0.00711	PASS
Extreme (30℃)		16.70	4.19	0.00888	0.00223	PASS
Extreme (20℃)		15.24	12.62	0.00811	0.00671	PASS
Extreme (10℃)		7.29	9.03	0.00388	0.00481	PASS
Extreme (0℃)		11.82	4.80	0.00629	0.00255	PASS
Extreme (-10℃)		1.17	10.37	0.00062	0.00552	PASS
Extreme (-20℃)		16.07	5.00	0.00855	0.00266	PASS
Extreme (-30℃)		3.59	15.21	0.00191	0.00809	PASS
Extreme (-40℃)		7.56	1.81	0.00402	0.00096	PASS
25℃	LV	8.51	7.89	0.00453	0.00420	PASS



	HV	14.63	15.46	0.00778	0.00822	PASS
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LTE Band 25						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	1.4MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	9.64	3.23	0.00512	0.00172	PASS
Extreme (85℃)		7.97	16.63	0.00423	0.00883	PASS
Extreme (80℃)		16.89	15.55	0.00897	0.00826	PASS
Extreme (70℃)		9.45	13.57	0.00502	0.00721	PASS
Extreme (60℃)		1.85	2.66	0.00098	0.00141	PASS
Extreme (50℃)		1.12	10.51	0.00060	0.00558	PASS
Extreme (40℃)		3.75	8.76	0.00199	0.00466	PASS
Extreme (30℃)		16.22	10.48	0.00861	0.00557	PASS
Extreme (20℃)		2.48	16.67	0.00132	0.00886	PASS
Extreme (10℃)		9.19	3.37	0.00488	0.00179	PASS
Extreme (0℃)		6.46	3.86	0.00343	0.00205	PASS
Extreme (-10℃)		2.77	8.11	0.00147	0.00431	PASS
Extreme (-20℃)		8.19	11.20	0.00435	0.00595	PASS
Extreme (-30℃)		3.29	14.02	0.00175	0.00745	PASS
Extreme (-40℃)		11.27	1.16	0.00599	0.00062	PASS
25℃	LV	8.48	5.64	0.00450	0.00299	PASS
	HV	6.19	4.72	0.00329	0.00251	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	3MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	5.38	14.60	0.00286	0.00776	PASS
Extreme (85℃)		17.51	2.59	0.00930	0.00137	PASS
Extreme (80℃)		15.72	4.86	0.00835	0.00258	PASS
Extreme (70℃)		9.87	17.92	0.00524	0.00952	PASS
Extreme (60℃)		13.14	11.90	0.00698	0.00632	PASS
Extreme (50℃)		8.72	14.87	0.00463	0.00790	PASS
Extreme (40℃)		16.21	6.49	0.00861	0.00344	PASS
Extreme (30℃)		12.15	3.68	0.00645	0.00196	PASS
Extreme (20℃)		16.45	11.04	0.00874	0.00587	PASS
Extreme (10℃)		3.21	7.71	0.00171	0.00409	PASS
Extreme (0℃)		8.34	5.48	0.00443	0.00291	PASS
Extreme (-10℃)		8.17	14.27	0.00434	0.00758	PASS



Extreme (-20℃)		5.79	16.24	0.00308	0.00863	PASS
Extreme (-30℃)		3.92	14.93	0.00208	0.00793	PASS
Extreme (-40℃)		1.55	15.60	0.00082	0.00829	PASS
25℃	LV	5.30	8.78	0.00282	0.00466	PASS
	HV	10.67	4.62	0.00567	0.00246	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	15.73	7.31	0.00835	0.00388	PASS
Extreme (85℃)		8.36	7.69	0.00444	0.00408	PASS
Extreme (80℃)		12.95	1.25	0.00688	0.00066	PASS
Extreme (70℃)		6.97	6.86	0.00370	0.00364	PASS
Extreme (60℃)		6.07	2.14	0.00322	0.00114	PASS
Extreme (50℃)		7.50	17.54	0.00398	0.00932	PASS
Extreme (40℃)		5.00	5.13	0.00265	0.00273	PASS
Extreme (30℃)		15.95	11.79	0.00847	0.00626	PASS
Extreme (20℃)		6.63	10.32	0.00352	0.00548	PASS
Extreme (10℃)		2.62	6.33	0.00139	0.00336	PASS
Extreme (0℃)		16.61	5.96	0.00882	0.00317	PASS
Extreme (-10℃)		16.95	2.86	0.00901	0.00152	PASS
Extreme (-20℃)		5.18	8.89	0.00275	0.00472	PASS
Extreme (-30℃)		16.75	15.18	0.00890	0.00807	PASS
Extreme (-40℃)		1.91	11.91	0.00102	0.00633	PASS
25℃	LV	10.00	3.18	0.00531	0.00169	PASS
	HV	12.67	15.33	0.00673	0.00814	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	13.88	17.04	0.00737	0.00905	PASS
Extreme (85℃)		6.67	13.02	0.00355	0.00692	PASS
Extreme (80℃)		8.24	13.68	0.00438	0.00727	PASS
Extreme (70℃)		9.31	5.33	0.00495	0.00283	PASS
Extreme (60℃)		5.76	14.79	0.00306	0.00786	PASS
Extreme (50℃)		16.56	5.69	0.00880	0.00302	PASS
Extreme (40℃)		14.89	9.15	0.00791	0.00486	PASS
Extreme (30℃)		12.11	6.77	0.00643	0.00359	PASS
Extreme (20℃)		17.16	6.46	0.00911	0.00343	PASS
Extreme (10℃)		11.82	10.89	0.00628	0.00578	PASS
Extreme (0℃)		1.19	11.80	0.00063	0.00627	PASS



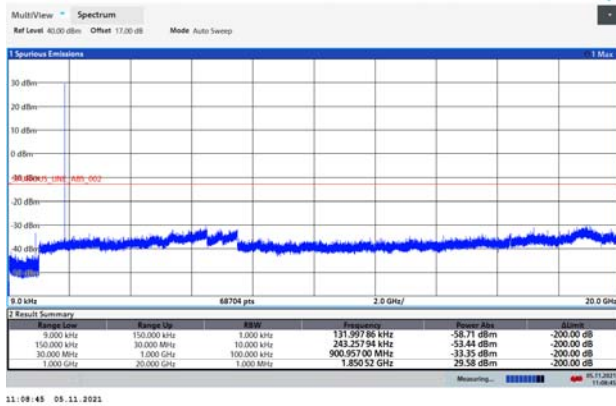
Extreme (-10℃)		7.18	13.63	0.00382	0.00724	PASS
Extreme (-20℃)		9.85	15.18	0.00523	0.00806	PASS
Extreme (-30℃)		4.69	15.19	0.00249	0.00807	PASS
Extreme (-40℃)		12.80	5.52	0.00680	0.00293	PASS
25℃	LV	6.65	10.92	0.00353	0.00580	PASS
	HV	10.85	10.14	0.00576	0.00539	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	15MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	8.90	7.14	0.00473	0.00379	PASS
Extreme (85℃)		6.20	12.22	0.00329	0.00649	PASS
Extreme (80℃)		7.74	13.82	0.00411	0.00734	PASS
Extreme (70℃)		17.49	14.45	0.00929	0.00768	PASS
Extreme (60℃)		11.41	6.66	0.00606	0.00354	PASS
Extreme (50℃)		12.77	14.94	0.00678	0.00793	PASS
Extreme (40℃)		9.91	17.80	0.00526	0.00946	PASS
Extreme (30℃)		12.79	4.75	0.00679	0.00252	PASS
Extreme (20℃)		9.12	5.24	0.00484	0.00278	PASS
Extreme (10℃)		1.89	7.45	0.00100	0.00396	PASS
Extreme (0℃)		17.55	7.41	0.00932	0.00393	PASS
Extreme (-10℃)		7.25	8.20	0.00385	0.00435	PASS
Extreme (-20℃)		5.66	9.70	0.00300	0.00515	PASS
Extreme (-30℃)		17.98	7.86	0.00955	0.00418	PASS
Extreme (-40℃)		2.96	7.60	0.00157	0.00404	PASS
25℃	LV	16.98	15.78	0.00902	0.00838	PASS
	HV	6.19	1.69	0.00329	0.00090	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)	Normal	3.78	10.22	0.00201	0.00543	PASS
Extreme (85℃)		1.36	15.57	0.00072	0.00827	PASS
Extreme (80℃)		15.01	11.24	0.00797	0.00597	PASS
Extreme (70℃)		16.82	15.78	0.00893	0.00838	PASS
Extreme (60℃)		8.07	14.47	0.00429	0.00769	PASS
Extreme (50℃)		2.88	9.19	0.00153	0.00488	PASS
Extreme (40℃)		16.47	11.59	0.00875	0.00616	PASS
Extreme (30℃)		3.46	10.98	0.00184	0.00583	PASS
Extreme (20℃)		3.12	9.46	0.00166	0.00503	PASS
Extreme (10℃)		11.88	11.32	0.00631	0.00601	PASS



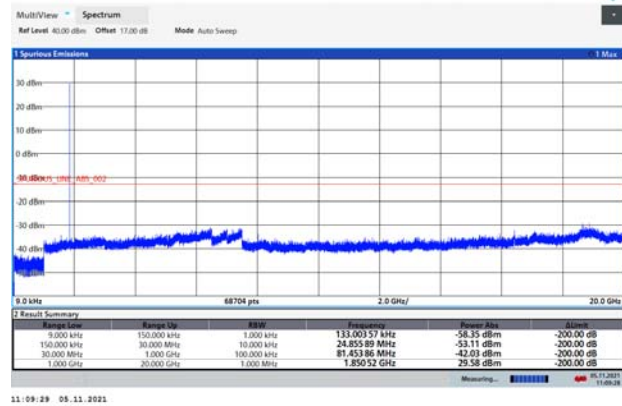
Extreme (0℃)		9.55	3.05	0.00507	0.00162	PASS
Extreme (-10℃)		12.77	10.53	0.00678	0.00559	PASS
Extreme (-20℃)		11.24	10.72	0.00597	0.00570	PASS
Extreme (-30℃)		1.10	8.27	0.00058	0.00439	PASS
Extreme (-40℃)		2.36	13.83	0.00125	0.00735	PASS
25℃	LV	12.05	14.97	0.00640	0.00795	PASS
	HV	9.83	10.08	0.00522	0.00536	PASS

Spurious Emissions at Antenna Terminals

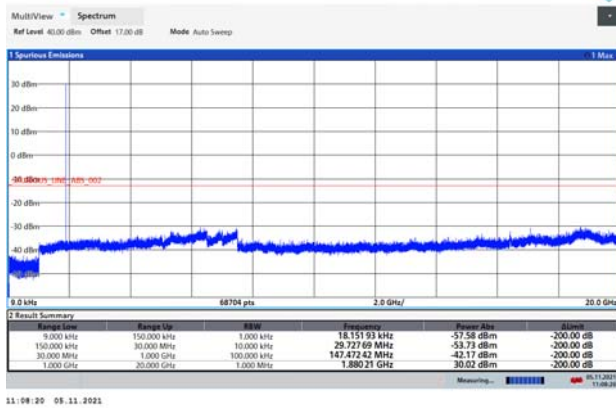
GSM 1900 CH-Low 9kHz ~ 20GHz



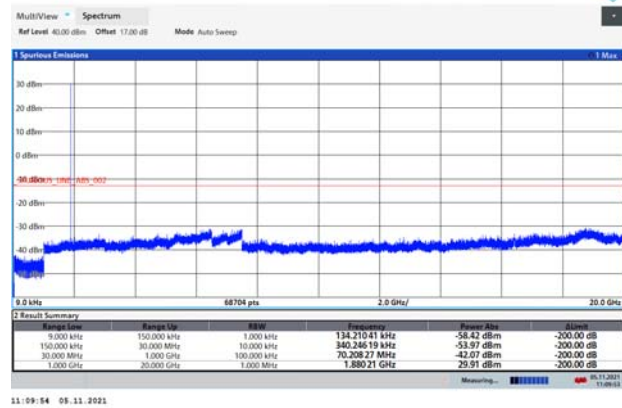
GPRS 1900 CH-Low 9kHz ~ 20GHz



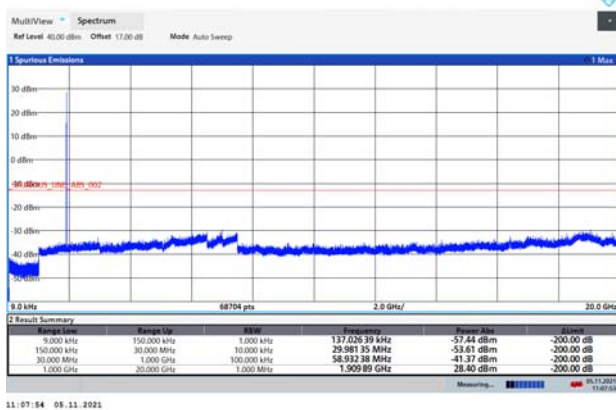
GSM 1900 CH- Middle 9kHz ~ 20GHz



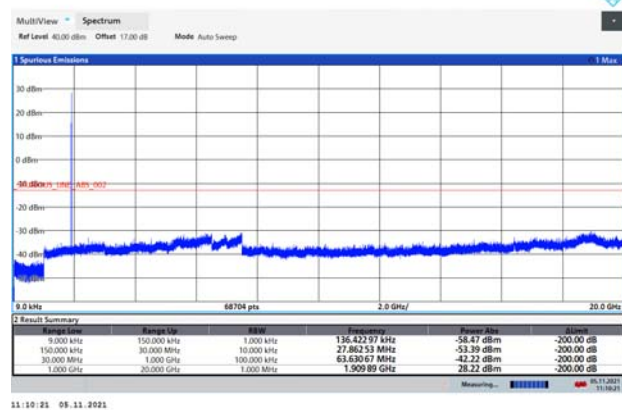
GPRS 1900 CH- Middle 9kHz ~ 20GHz



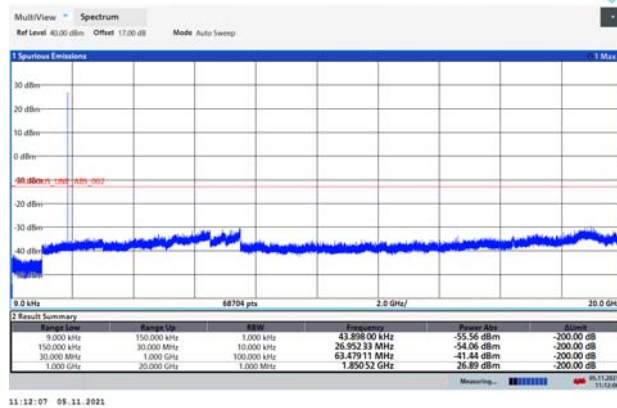
GSM 1900 CH-High 9kHz ~ 20GHz



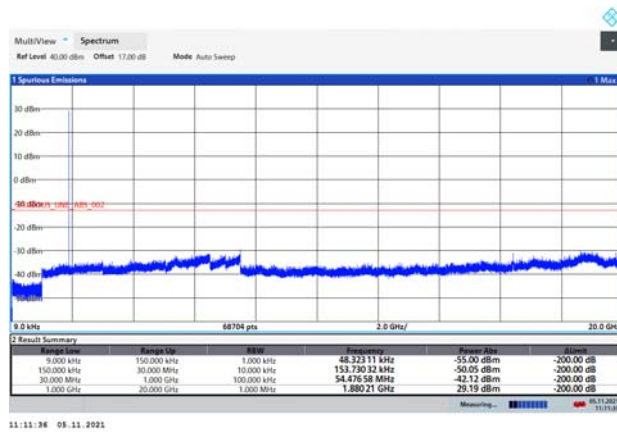
GPRS 1900 CH-High 9kHz ~ 20GHz



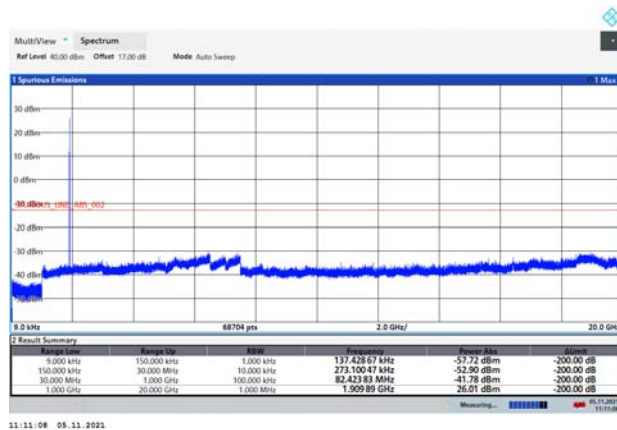
EGPRS 1900 CH-Low 9kHz ~ 20GHz



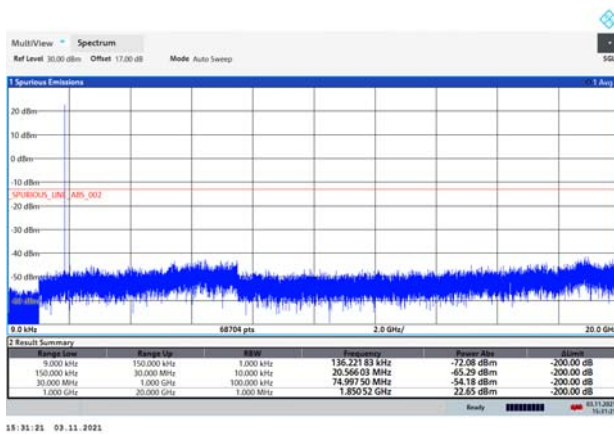
EGPRS 1900 CH- Middle 9kHz ~ 20GHz



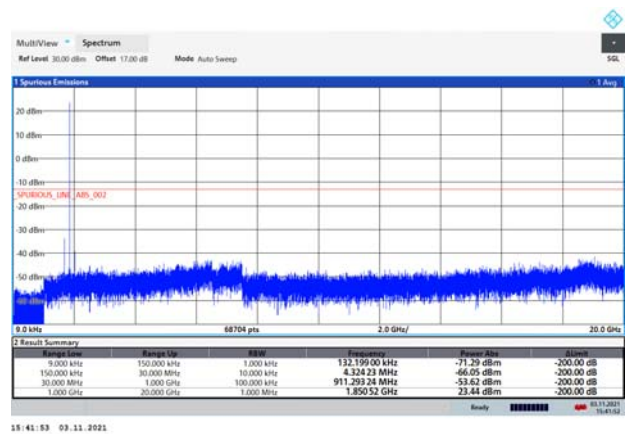
EGPRS 1900 CH-High 9kHz ~ 20GHz



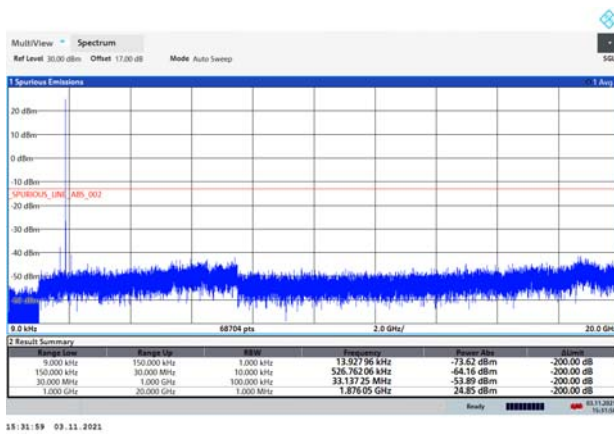
LTE Band 2 10MHz CH-Low 9kHz~20GHz



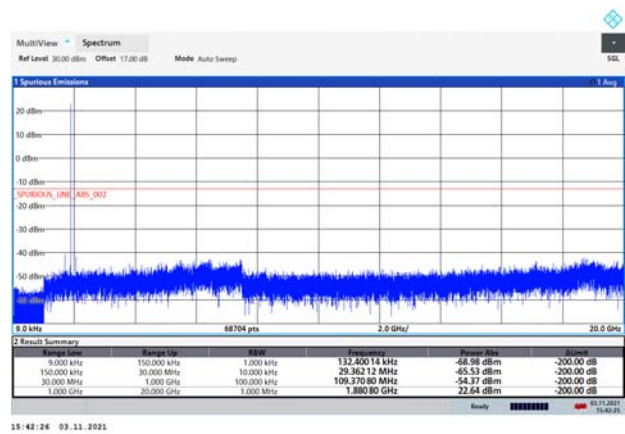
LTE Band 25 5MHz CH-Low 9kHz~20GHz



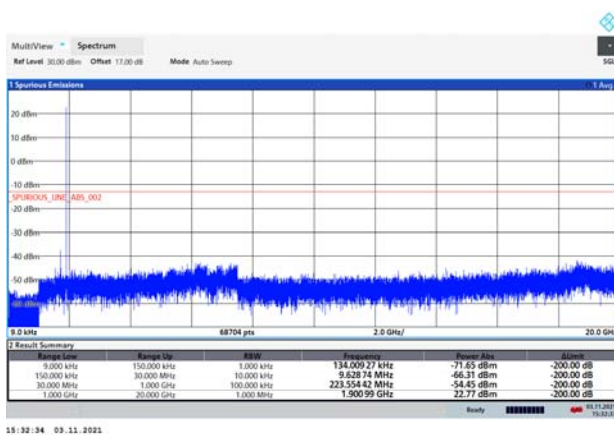
LTE Band 2 10MHz CH-Middle 9kHz~20GHz



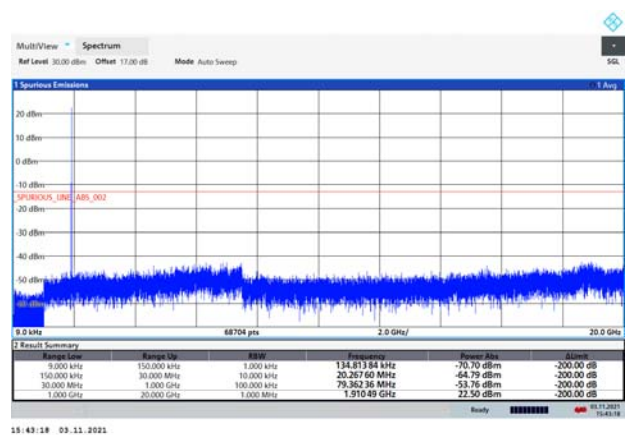
LTE Band 25 5MHz CH-Middle 9kHz~20GHz



LTE Band 2 10MHz CH-High 9kHz~20GHz



LTE Band 25 5MHz CH-High 9kHz~20GHz



Radiates Spurious Emission

GSM 1900 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-64.79	5.10	11.05	Horizontal	-58.84	-13.0	45.84	0
3	5640.0	-64.03	5.42	12.65	Horizontal	-56.80	-13.0	43.80	45
4	7520.0	-55.49	6.70	13.85	Horizontal	-48.34	-13.0	35.34	135
5	9400.0	-58.59	7.01	14.75	Horizontal	-50.85	-13.0	37.85	225
6	11280.0	-51.97	7.48	15.95	Horizontal	-43.50	-13.0	30.50	45
7	13160.0	-55.71	7.51	16.55	Horizontal	-46.67	-13.0	33.67	90
8	15040.0	-53.02	8.24	15.35	Horizontal	-45.91	-13.0	32.91	45
9	16920.0	-51.38	8.41	14.95	Horizontal	-44.84	-13.0	31.84	225
10	18800.0	--	--	--	--	--	--	--	--

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 2 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3759.0	-54.02	5.10	11.05	Horizontal	-48.07	-13.0	35.07	225
3	5638.9	-55.26	5.42	12.65	Horizontal	-48.03	-13.0	35.03	90
4	7520.0	-51.76	6.70	13.85	Horizontal	-44.61	-13.0	31.61	0
5	9400.0	-54.18	7.01	14.75	Horizontal	-46.44	-13.0	33.44	315
6	11280.0	-52.72	7.48	15.95	Horizontal	-44.25	-13.0	31.25	90
7	13160.0	-54.73	7.51	16.55	Horizontal	-45.69	-13.0	32.69	0
8	15040.0	-53.38	8.24	15.35	Horizontal	-46.27	-13.0	33.27	0
9	16920.0	-49.38	8.41	14.95	Horizontal	-42.84	-13.0	29.84	270
10	18800.0	--	--	--	--	--	--	--	--

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 25 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.0	-56.32	5.10	11.05	Horizontal	-50.37	-13.0	37.37	45
3	5647.5	-59.49	5.42	12.65	Horizontal	-52.26	-13.0	39.26	135
4	7530.0	-54.41	6.70	13.85	Horizontal	-47.26	-13.0	34.26	225
5	9412.5	-54.86	7.01	14.75	Horizontal	-47.12	-13.0	34.12	90
6	11295.0	-54.47	7.48	15.95	Horizontal	-46.00	-13.0	33.00	90
7	13177.5	-56.12	7.51	16.55	Horizontal	-47.08	-13.0	34.08	45
8	15060.0	-49.99	8.24	15.35	Horizontal	-42.88	-13.0	29.88	135
9	16942.5	-52.59	8.41	14.95	Horizontal	-46.05	-13.0	33.05	225
10	18825.0	--	--	--	--	--	--	--	--

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.

Main Test Instruments

Date of Testing (variant): August 31, 2021 ~ November 5, 2021

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113824	2021-05-15	2022-05-14
Climate Chamber	Weiss	VT4002	58226119450010	2021-05-15	2022-05-14
Spectrum Analyzer	Key sight	N9020	MY52330084	2021-05-15	2022-05-14
Signal Analyzer	R&S	FSV3030	101411	2020-12-13	2021-12-12
Signal Analyzer	R&S	FSV30	100815	2020-12-13	2021-12-12
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	01111	2019--9-12	2022-09-11
Horn Antenna	Schwarzbeck	BBHA 9120D	1594	2020-12-17	2021-12-16