

APPENDIX REPORT

Project No.	SHT2011088101EW	Radio Specification	GSM
Test sample No.	YPHT20110881006	Model No.	S241
Start test date	2020/12/8	Finish date	2020/12/8
Temperature	23.5°C	Humidity	47%
Test Engineer	Caspar Chen	Auditor	Xiaodong Zhu

Appendix clause	Test item	Result
A	Conducted Output Power	PASS
B	Peak-to-Average Ratio	PASS
C	26 dB Bandwidth and Occupied Bandwidth	PASS
D	Band edge	PASS
E	Conducted Spurious Emission	PASS
F	Frequency Stability	PASS

8.1 Appendix A: Conducted Output Power

Test Result

Band	Channel	PCL	Power(dBm)	Limit(dBm)	Verdict
GSM850	128	5	33.87	38.5	PASS
GSM850	190	5	33.89	38.5	PASS
GSM850	251	5	33.93	38.5	PASS
GSM1900	512	0	30.25	33	PASS
GSM1900	661	0	30.01	33	PASS
GSM1900	810	0	29.67	33	PASS

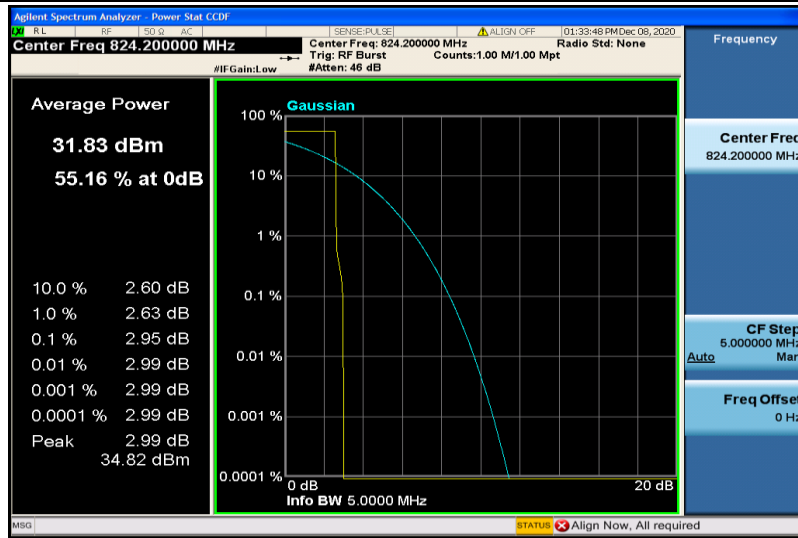
Band	Channel	PCL	Slot	Power(dBm)	Limit(dBm)	Verdict
GPRS850	128	5	1	33.87	38.5	PASS
GPRS850	128	5	2	32.31	38.5	PASS
GPRS850	128	5	3	30.40	38.5	PASS
GPRS850	128	5	4	28.43	38.5	PASS
GPRS850	190	5	1	34.15	38.5	PASS
GPRS850	190	5	2	32.28	38.5	PASS
GPRS850	190	5	3	30.45	38.5	PASS
GPRS850	190	5	4	28.49	38.5	PASS
GPRS850	251	5	1	34.04	38.5	PASS
GPRS850	251	5	2	32.35	38.5	PASS
GPRS850	251	5	3	30.55	38.5	PASS
GPRS850	251	5	4	28.63	38.5	PASS
GPRS1900	512	0	1	30.16	33	PASS
GPRS1900	512	0	2	29.02	33	PASS
GPRS1900	512	0	3	27.76	33	PASS
GPRS1900	512	0	4	25.74	33	PASS
GPRS1900	661	0	1	30.03	33	PASS
GPRS1900	661	0	2	28.63	33	PASS
GPRS1900	661	0	3	27.28	33	PASS
GPRS1900	661	0	4	25.23	33	PASS
GPRS1900	810	0	1	29.76	33	PASS
GPRS1900	810	0	2	28.19	33	PASS
GPRS1900	810	0	3	26.57	33	PASS
GPRS1900	810	0	4	24.45	33	PASS

8.2 Appendix B: Peak-to-Average Ratio

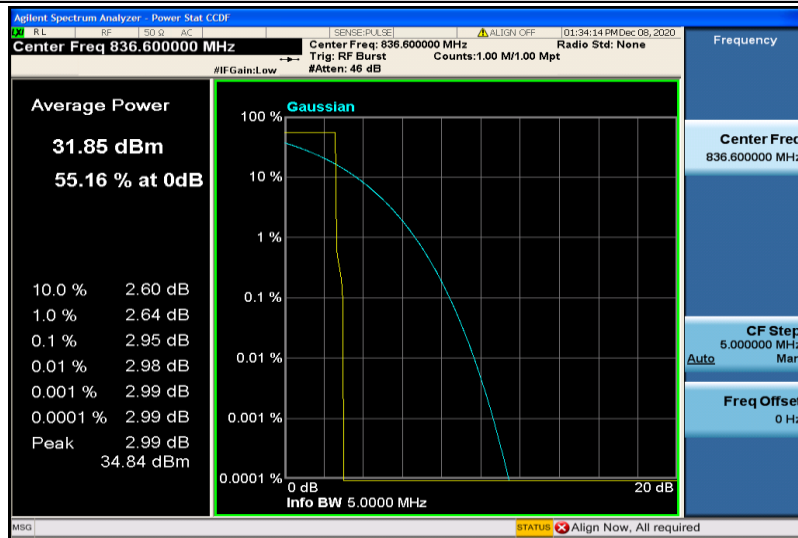
Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
GSM850	128	2.95	13	PASS
GSM850	190	2.95	13	PASS
GSM850	251	2.98	13	PASS
GPRS850	128	2.96	13	PASS
GPRS850	190	2.95	13	PASS
GPRS850	251	2.97	13	PASS
GSM1900	512	2.77	13	PASS
GSM1900	661	2.85	13	PASS
GSM1900	810	2.85	13	PASS
GPRS1900	512	2.78	13	PASS
GPRS1900	661	2.84	13	PASS
GPRS1900	810	2.86	13	PASS

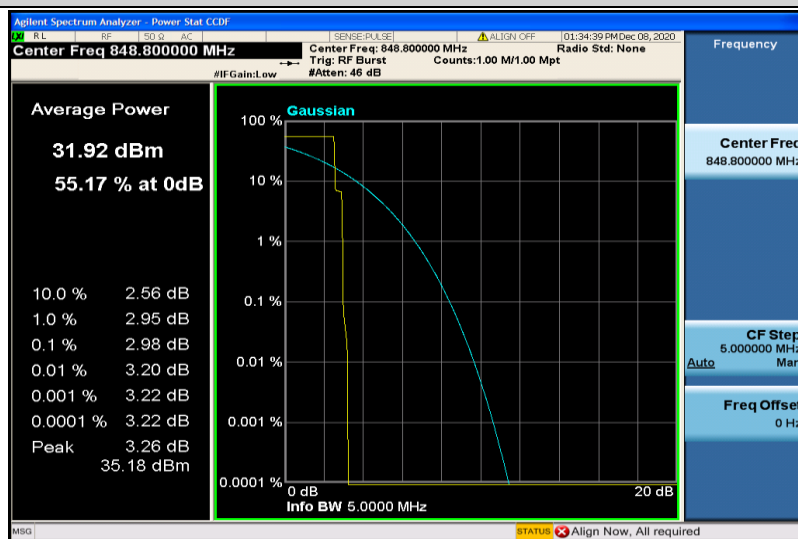
Test Graphs



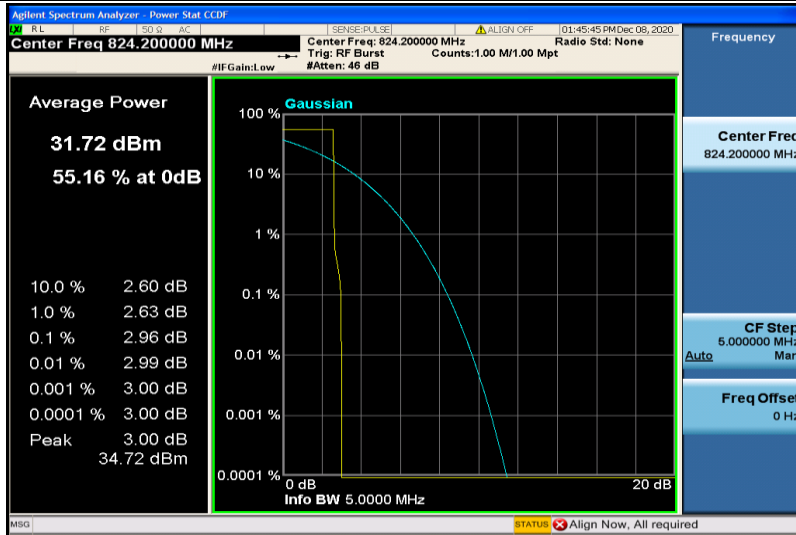
GSM850-128



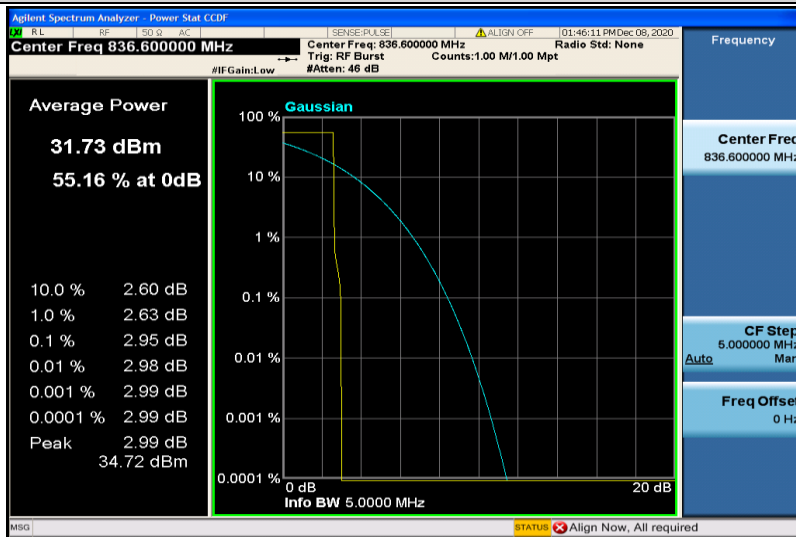
GSM850-190



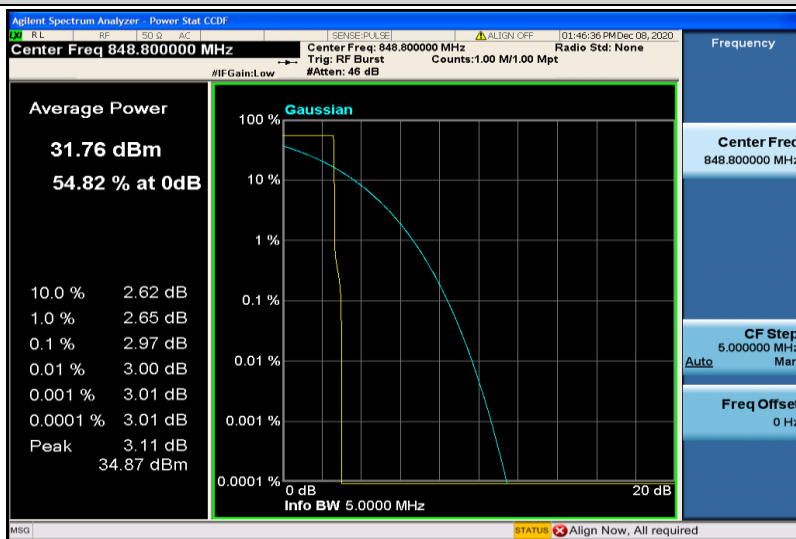
GSM850-251



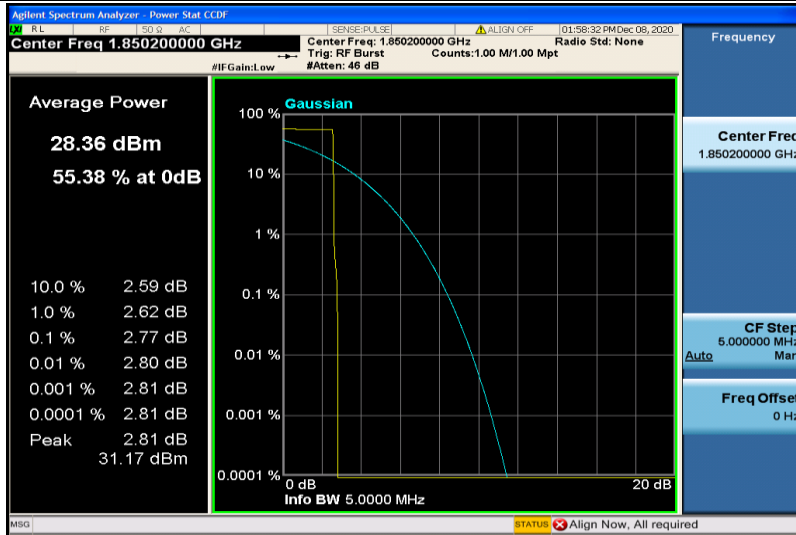
GPRS850-128



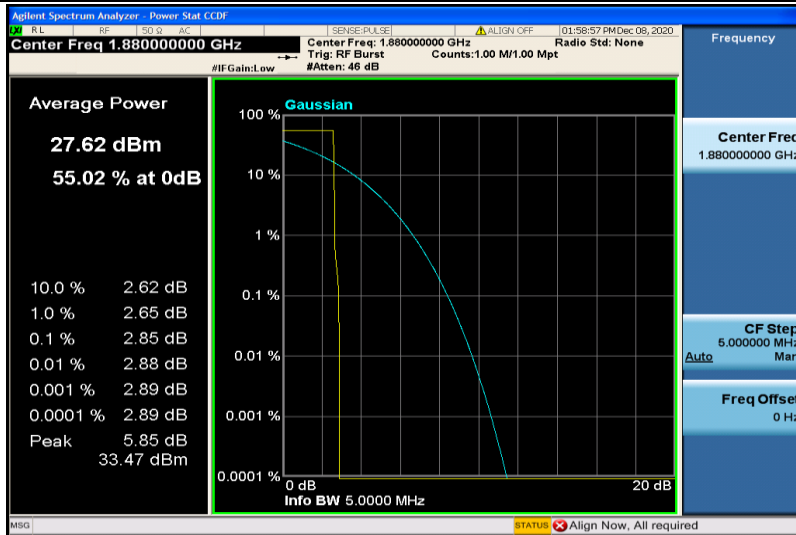
GPRS850-190



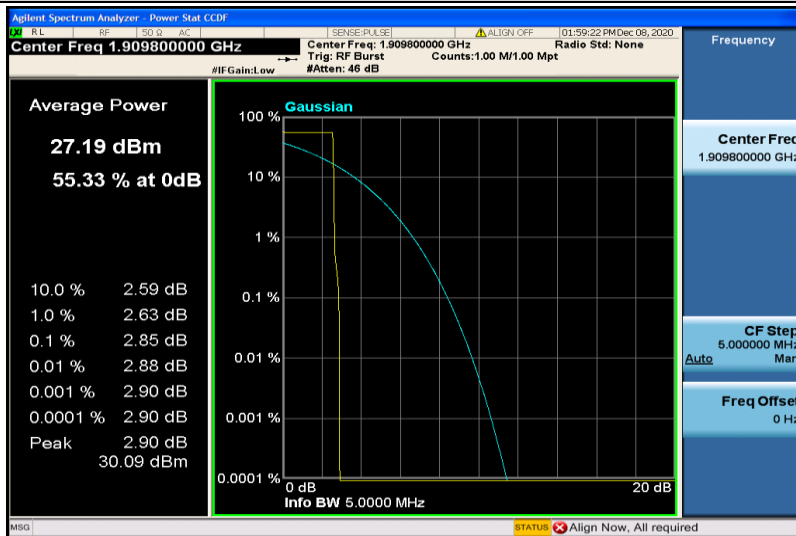
GPRS850-251



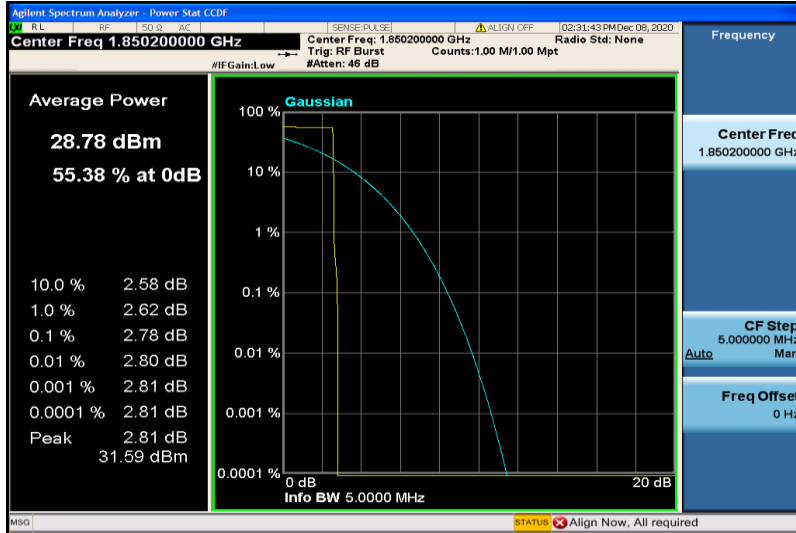
GSM1900-512



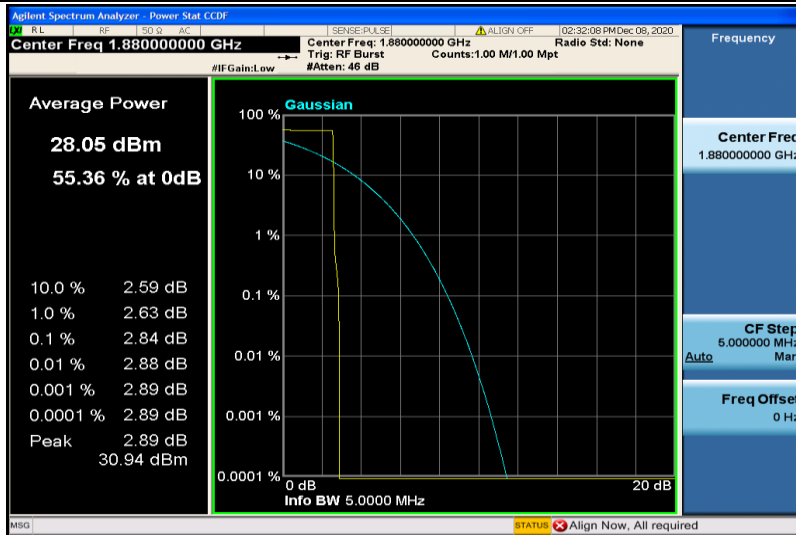
GSM1900-661



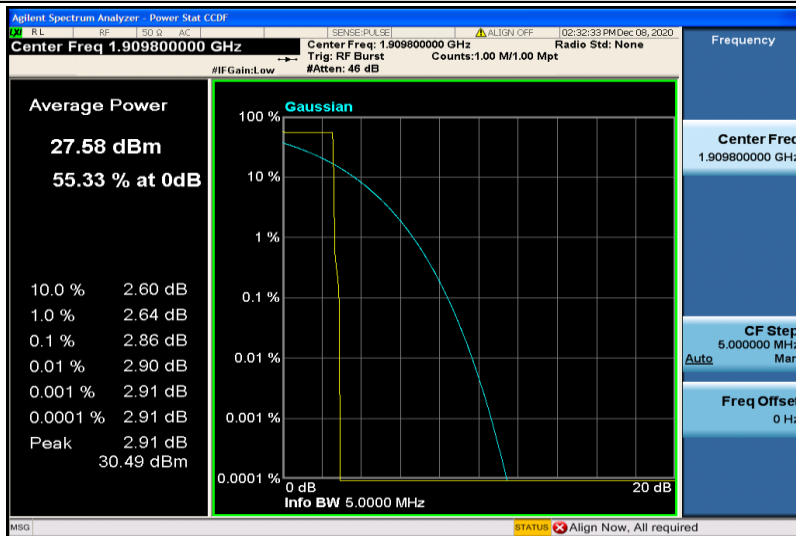
GSM1900-810



GPRS1900-512



GPRS1900-661



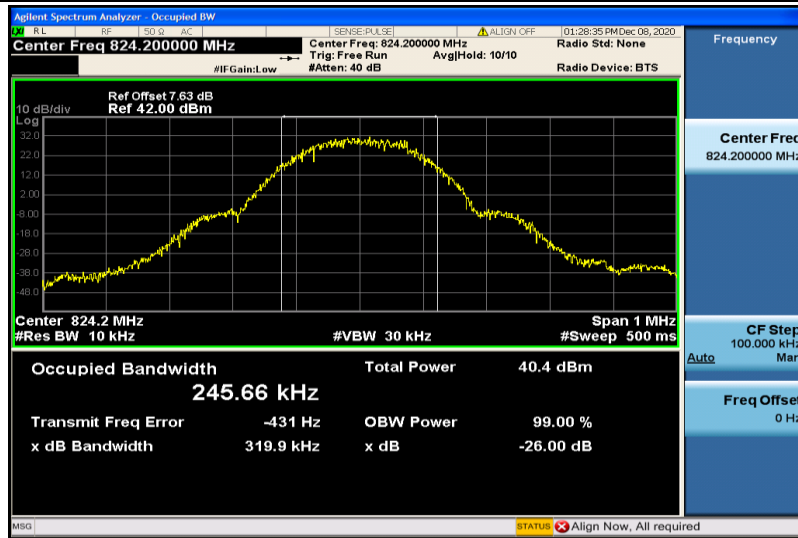
GPRS1900-810

8.3 Appendix C: 26dB Bandwidth and Occupied Bandwidth

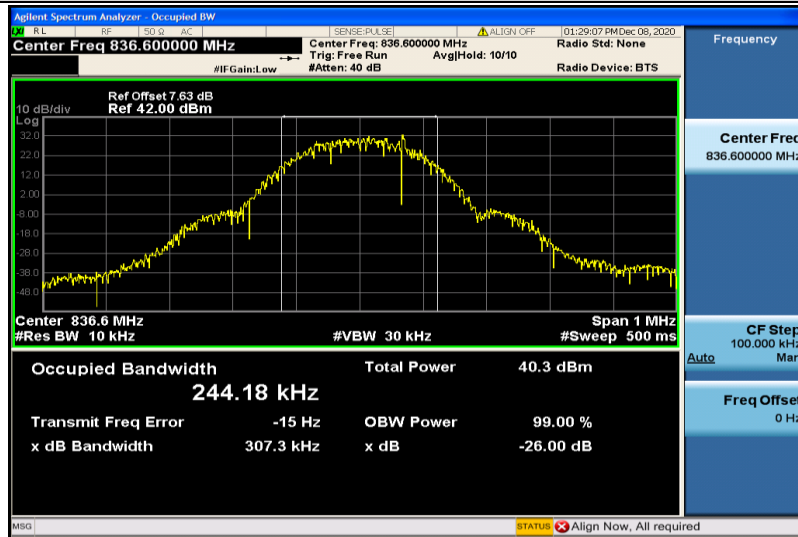
Test Result

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
GSM850	128	245.66	319.9	---	PASS
GSM850	190	244.18	307.3	---	PASS
GSM850	251	244.63	315.6	---	PASS
GPRS850	128	243.58	313.5	---	PASS
GPRS850	190	245.68	316.9	---	PASS
GPRS850	251	243.59	316.6	---	PASS
GSM1900	512	245.05	315.1	---	PASS
GSM1900	661	247.06	313.7	---	PASS
GSM1900	810	245.45	317.3	---	PASS
GPRS1900	512	243.74	312.0	---	PASS
GPRS1900	661	244.91	319.6	---	PASS
GPRS1900	810	244.83	318.2	---	PASS

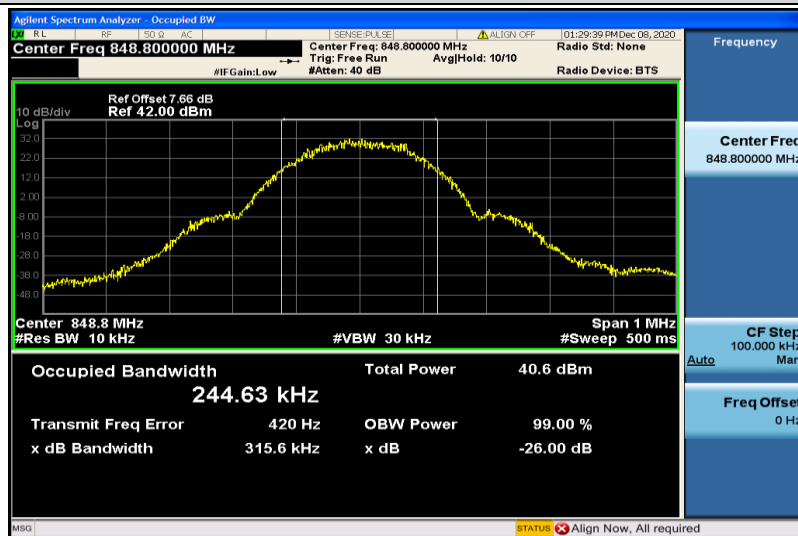
Test Graphs



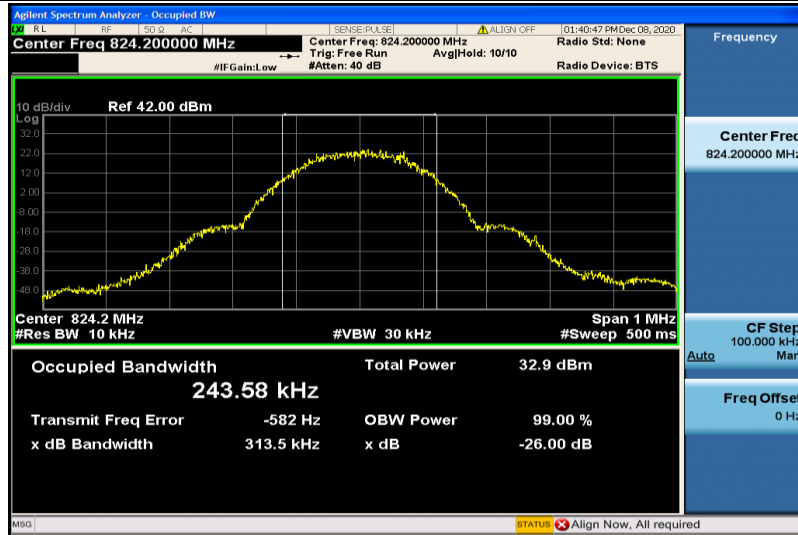
GSM850-128



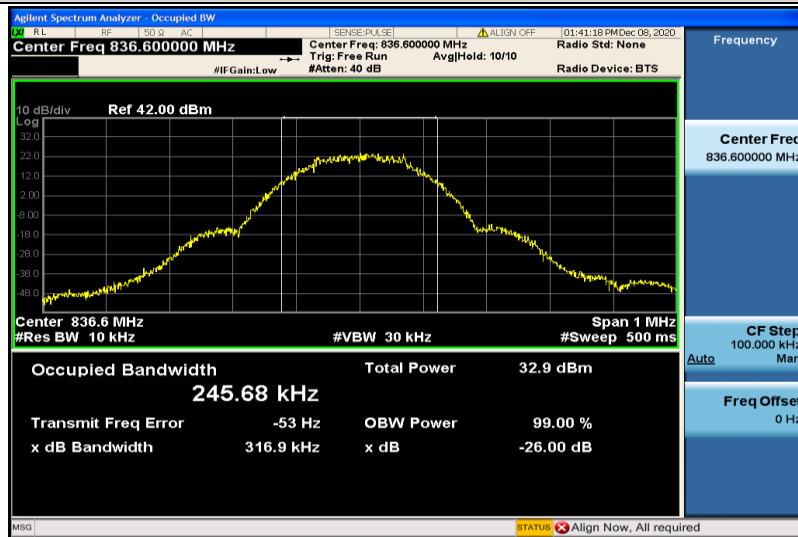
GSM850-190



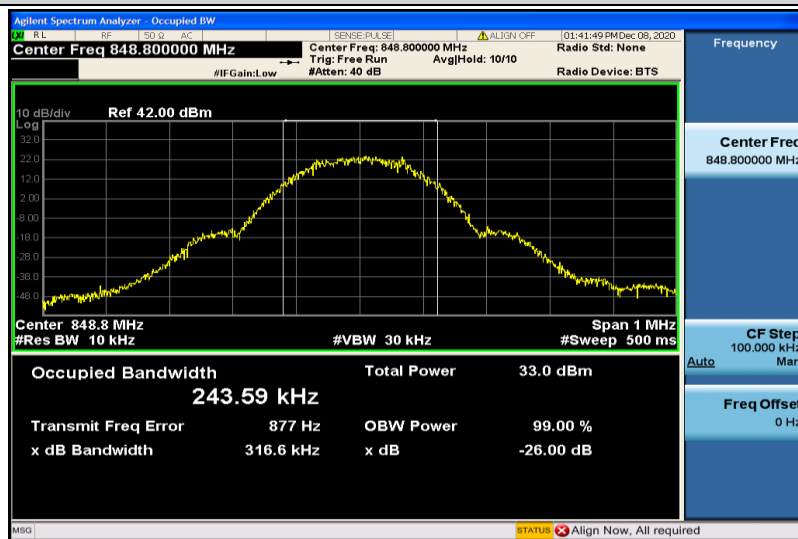
GSM850-251



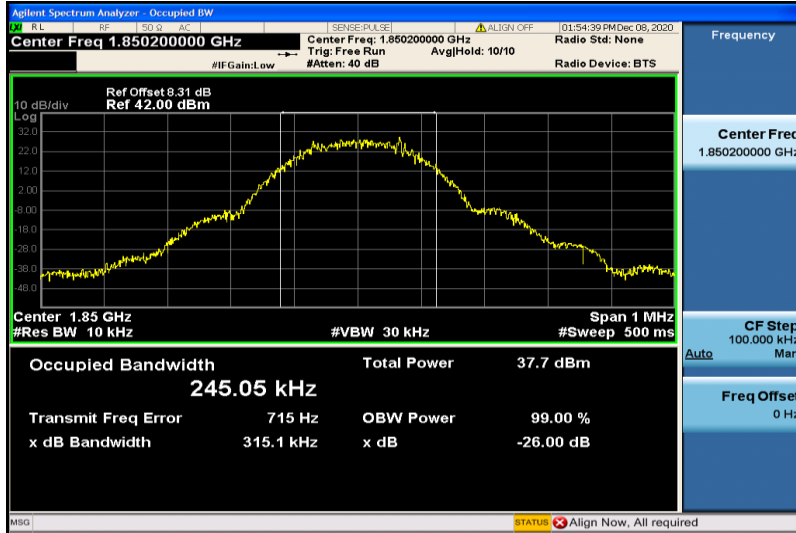
GPRS850-128



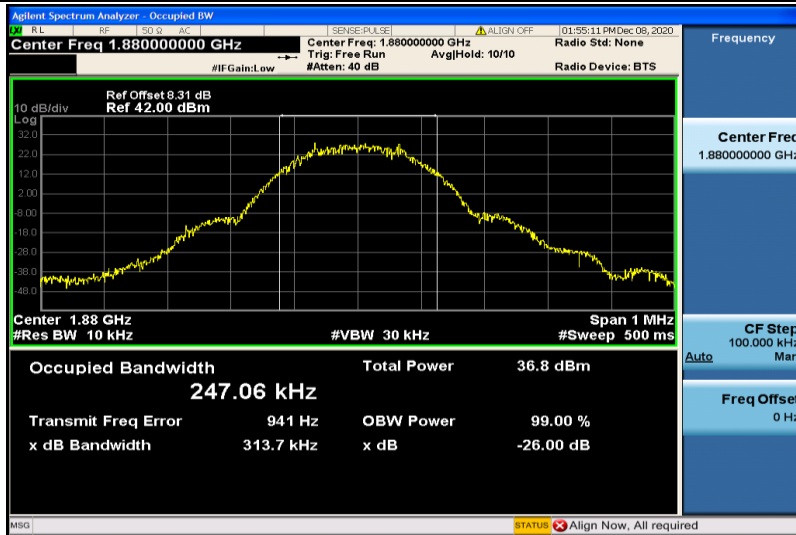
GPRS850-190



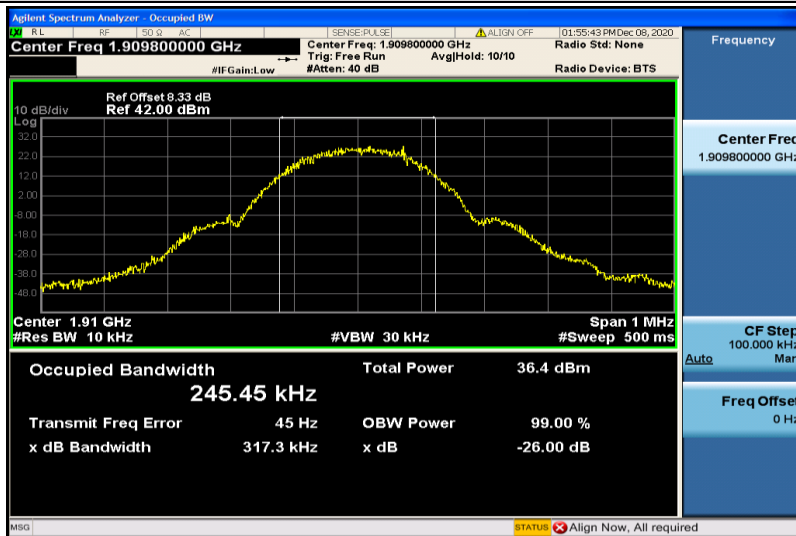
GPRS850-251



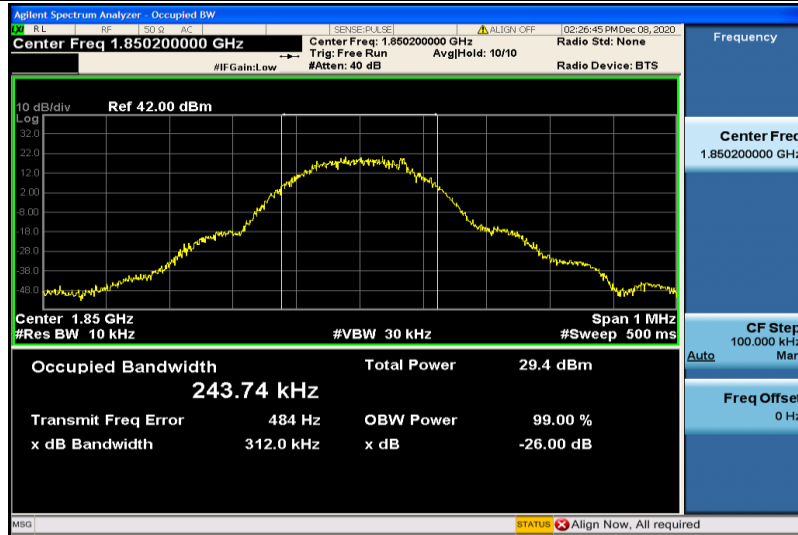
GSM1900-512



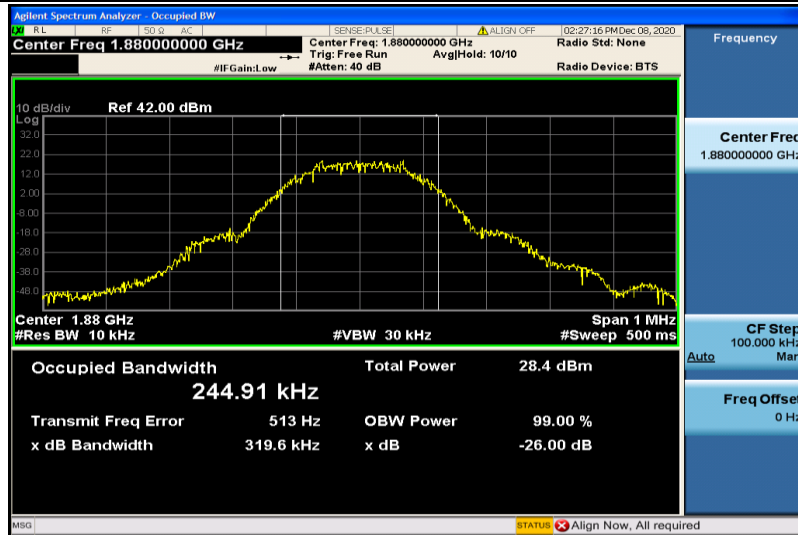
GSM1900-661



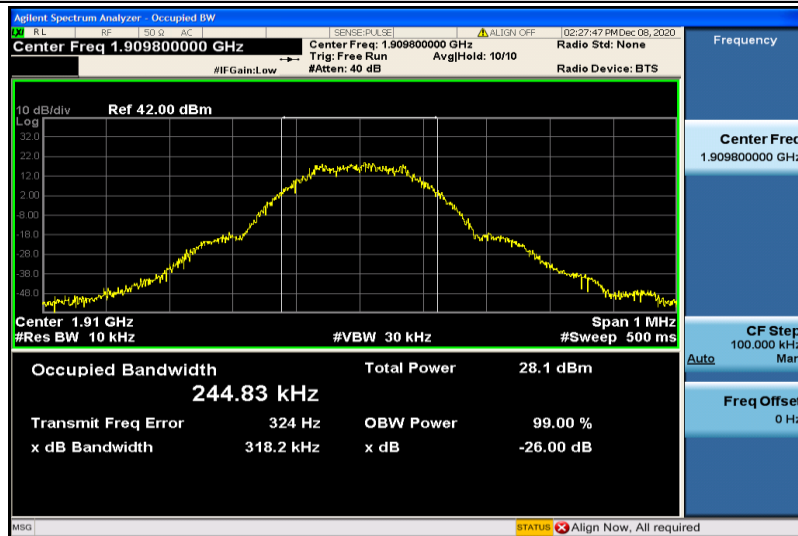
GSM1900-810



GPRS1900-512



GPRS1900-661



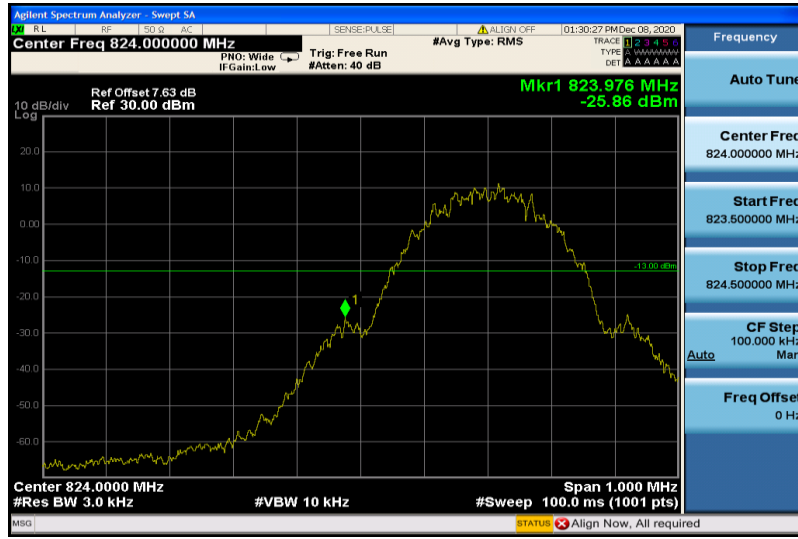
GPRS1900-810

8.4 Appendix D: Band Edge

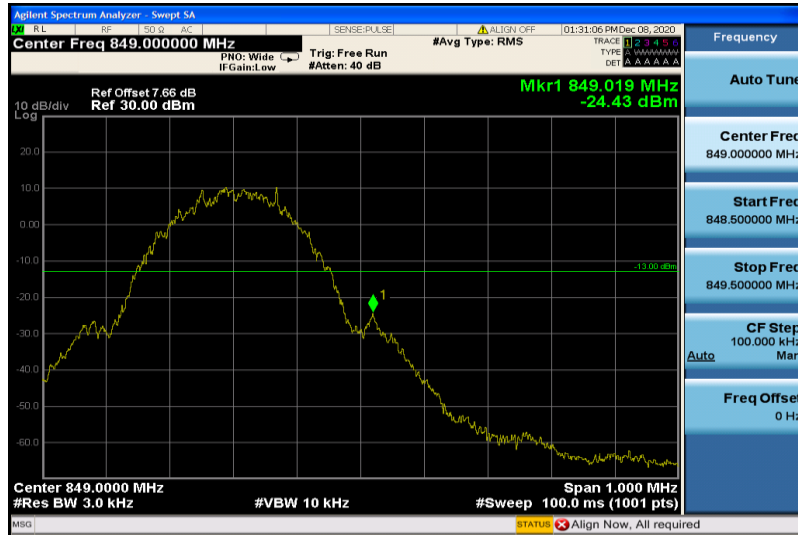
Test Result

Band	Channel	Value(dBm)	Limit(dBm)	Verdict
GSM850	128	-25.86	-13	PASS
GSM850	251	-24.43	-13	PASS
GPRS850	128	-25.69	-13	PASS
GPRS850	251	-24.67	-13	PASS
GSM1900	512	-29.67	-13	PASS
GSM1900	810	-29.18	-13	PASS
GPRS1900	512	-28.29	-13	PASS
GPRS1900	810	-28.73	-13	PASS

Test Graphs



GSM850-128



GSM850-251



GPRS850-128



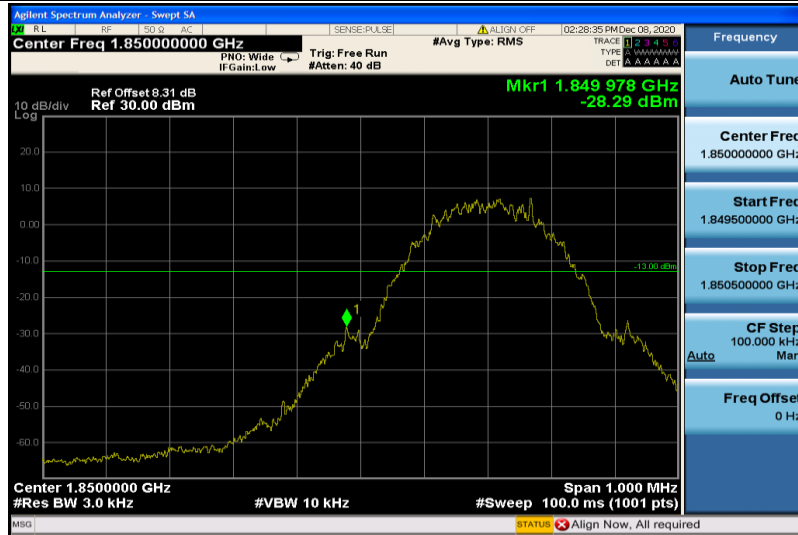
GPRS850-251



GSM1900-512



GSM1900-810



GPRS1900-512



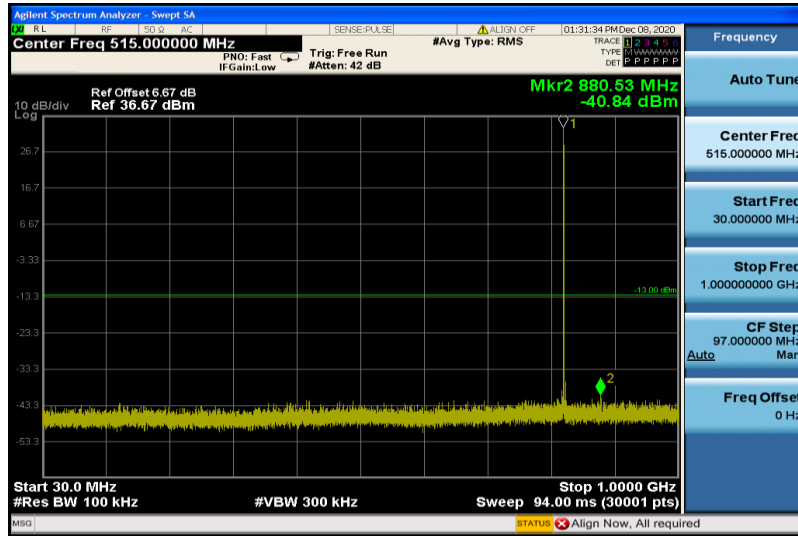
GPRS1900-810

8.5 Appendix E: Conducted Spurious Emission

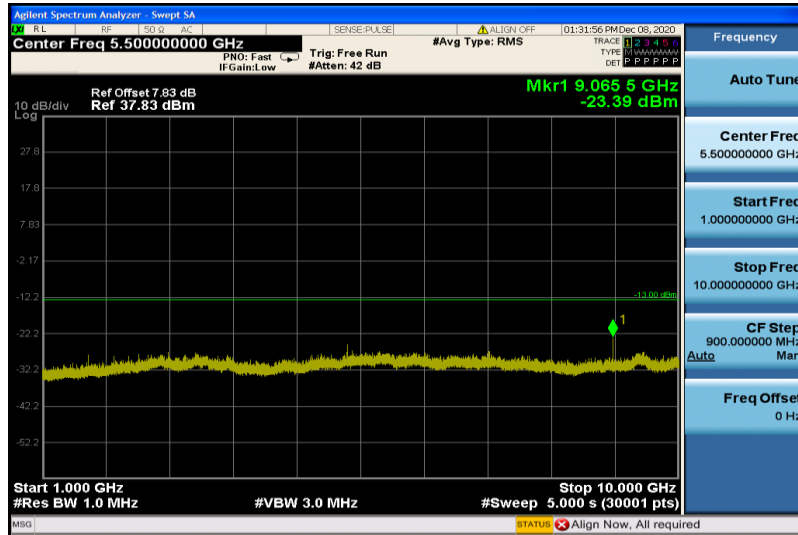
Test Result

Band	Channel	Frequency Range(Mhz)	Value(dBm)	Limit(dBm)	Verdict
GSM850	128	30~1000	-40.84	-13	PASS
GSM850	128	1000~10000	-23.39	-13	PASS
GSM850	190	30~1000	-40.52	-13	PASS
GSM850	190	1000~10000	-25.37	-13	PASS
GSM850	251	30~1000	-36.70	-13	PASS
GSM850	251	1000~10000	-26.25	-13	PASS
GPRS850	128	30~1000	-41.16	-13	PASS
GPRS850	128	1000~10000	-25.18	-13	PASS
GPRS850	190	30~1000	-37.15	-13	PASS
GPRS850	190	1000~10000	-26.04	-13	PASS
GPRS850	251	30~1000	-40.25	-13	PASS
GPRS850	251	1000~10000	-26.68	-13	PASS
GSM1900	512	30~1000	-41.26	-13	PASS
GSM1900	512	1000~20000	-19.64	-13	PASS
GSM1900	661	30~1000	-40.55	-13	PASS
GSM1900	661	1000~20000	-19.28	-13	PASS
GSM1900	810	30~1000	-41.07	-13	PASS
GSM1900	810	1000~20000	-20.09	-13	PASS
GPRS1900	512	30~1000	-41.57	-13	PASS
GPRS1900	512	1000~20000	-19.96	-13	PASS
GPRS1900	661	30~1000	-38.81	-13	PASS
GPRS1900	661	1000~20000	-19.89	-13	PASS
GPRS1900	810	30~1000	-39.18	-13	PASS
GPRS1900	810	1000~20000	-19.45	-13	PASS

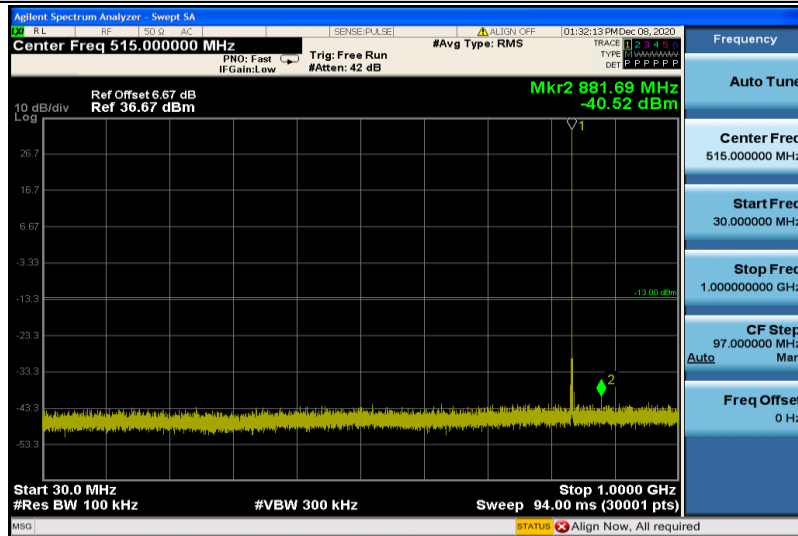
Test Graphs



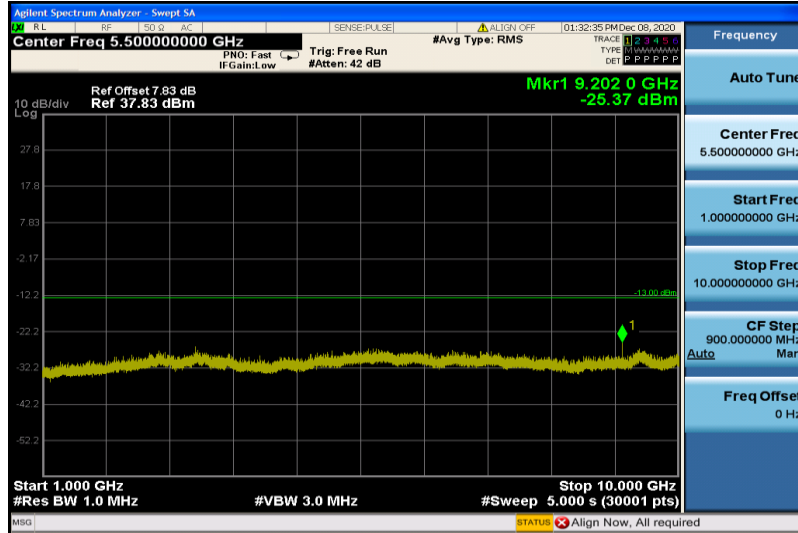
GSM850-128-30~1000



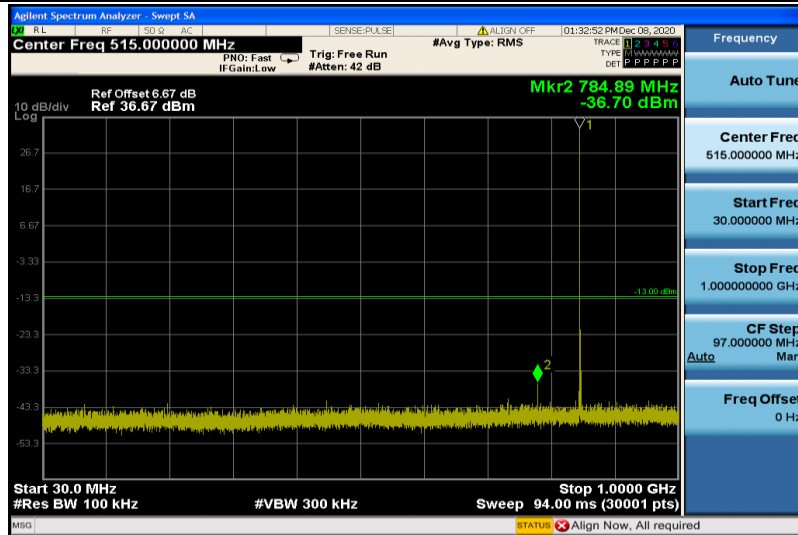
GSM850-128-1000~10000



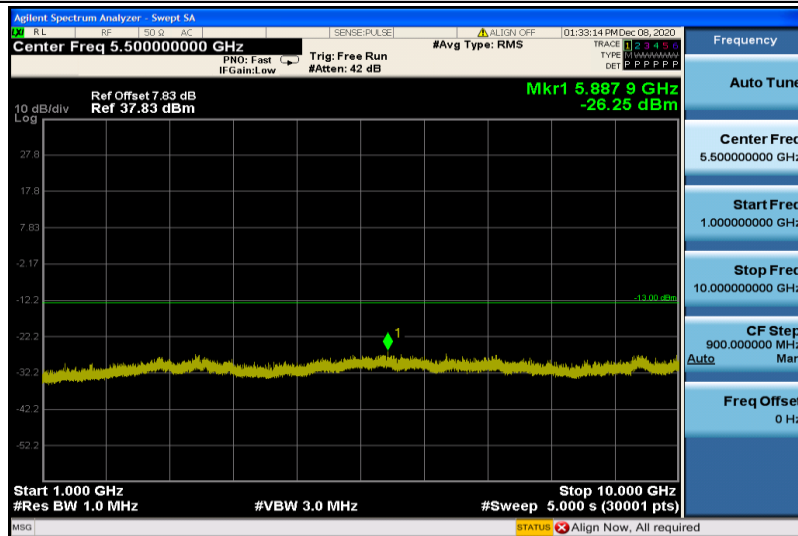
GSM850-190-30~1000



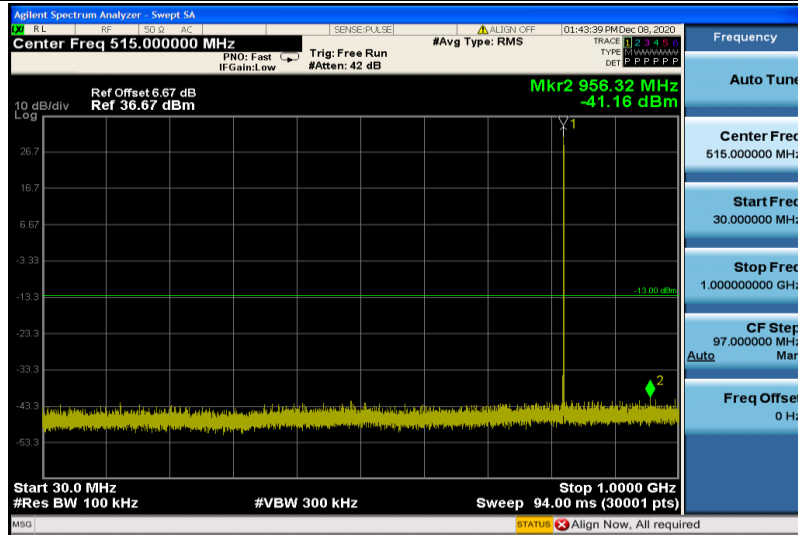
GSM850-190-1000~1000



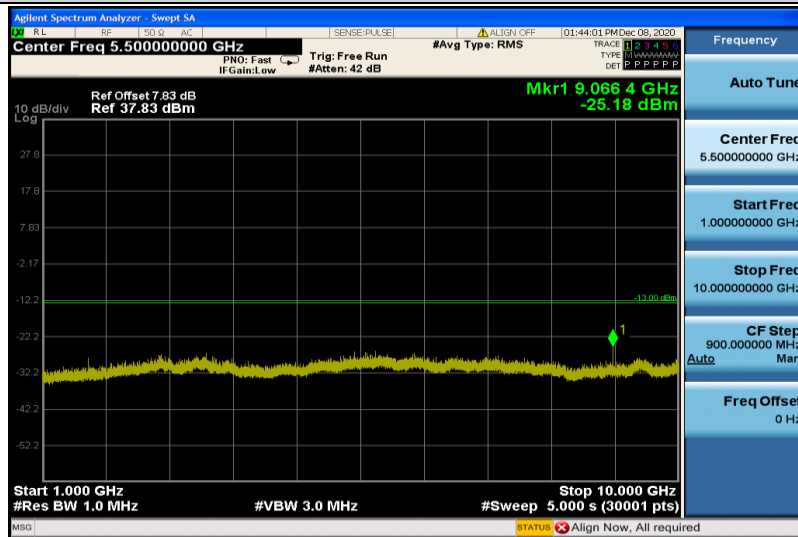
GSM850-251-30~1000



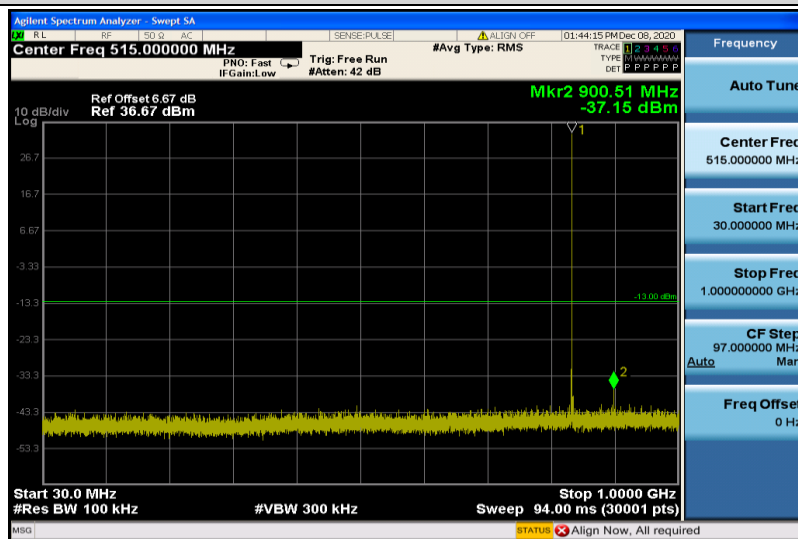
GSM850-251-1000~1000



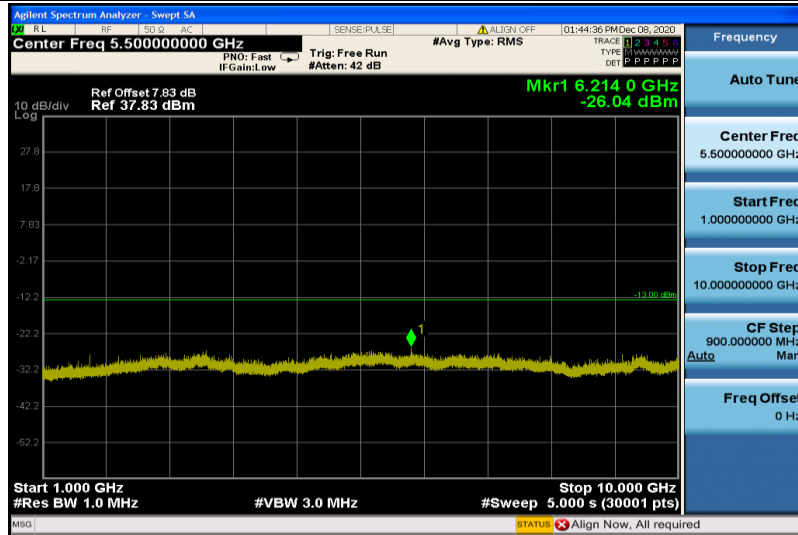
GPRS850-128-30~1000



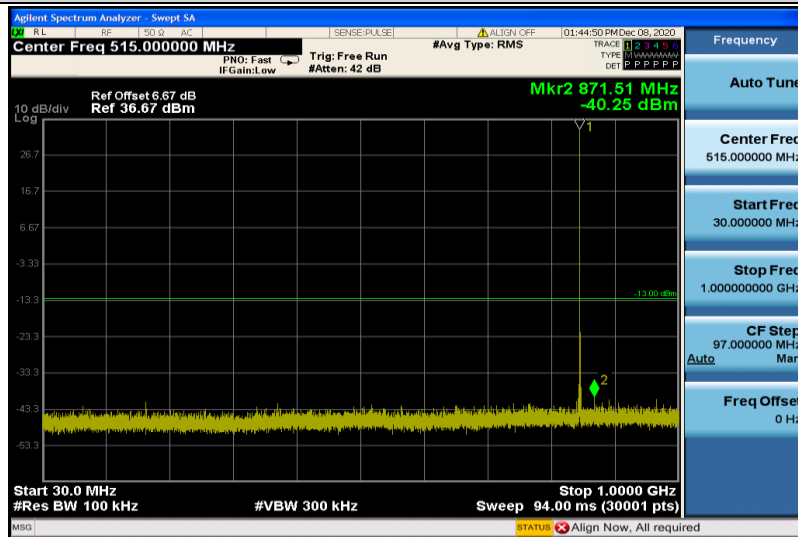
GPRS850-128-1000~10000



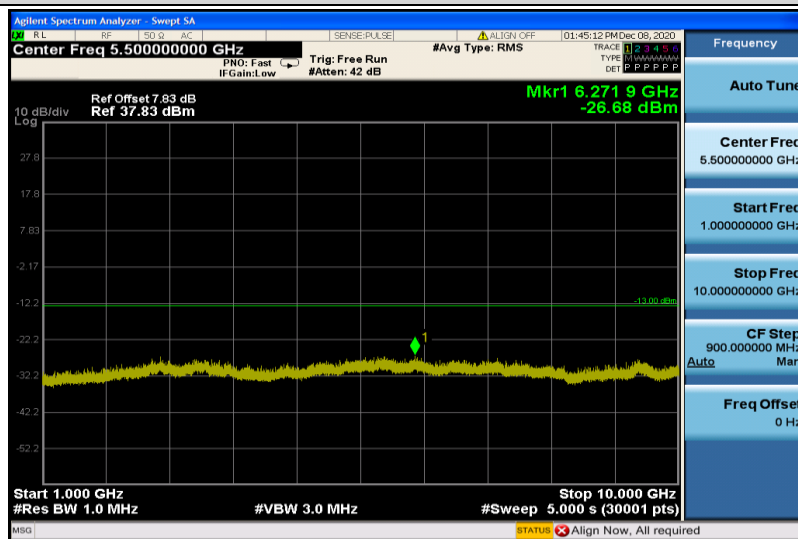
GPRS850-190-30~1000



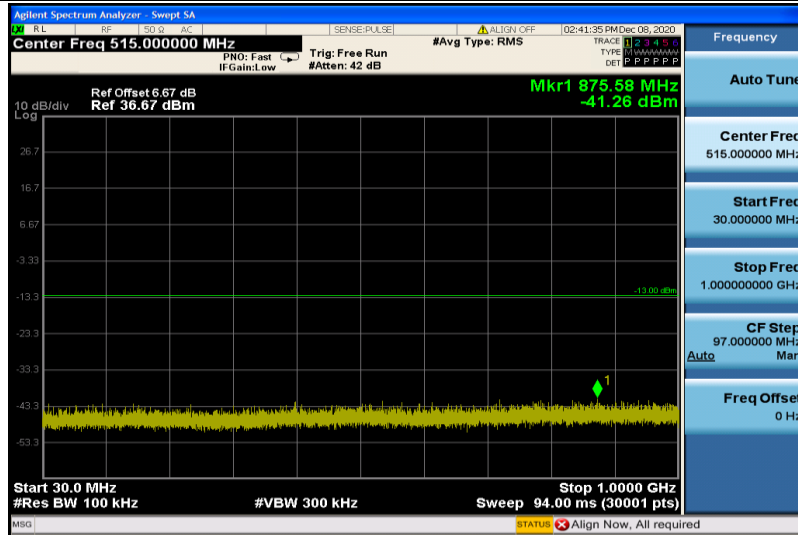
GPRS850-190-1000~10000



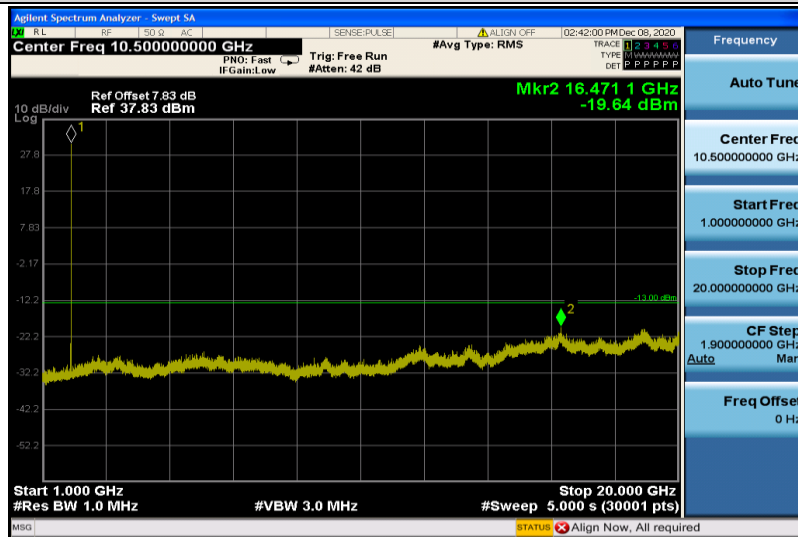
GPRS850-251-30~1000



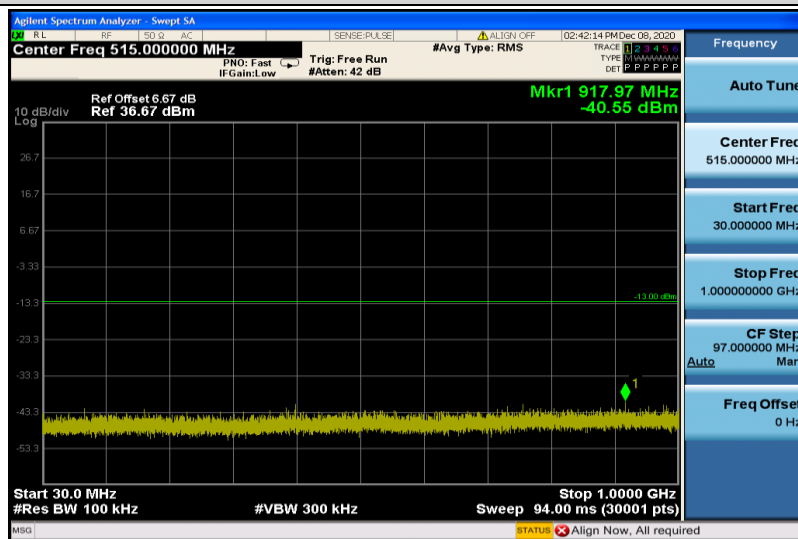
GPRS850-251-1000~10000



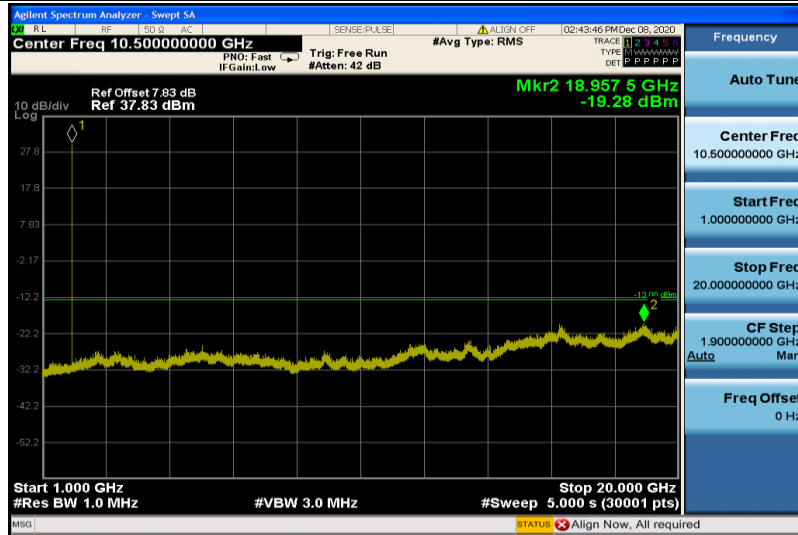
GSM1900-512-30~1000



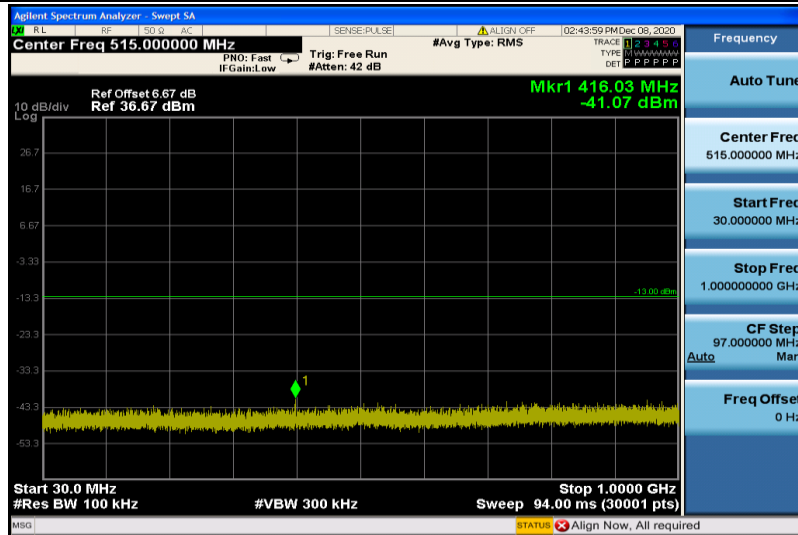
GSM1900-512-1000~20000



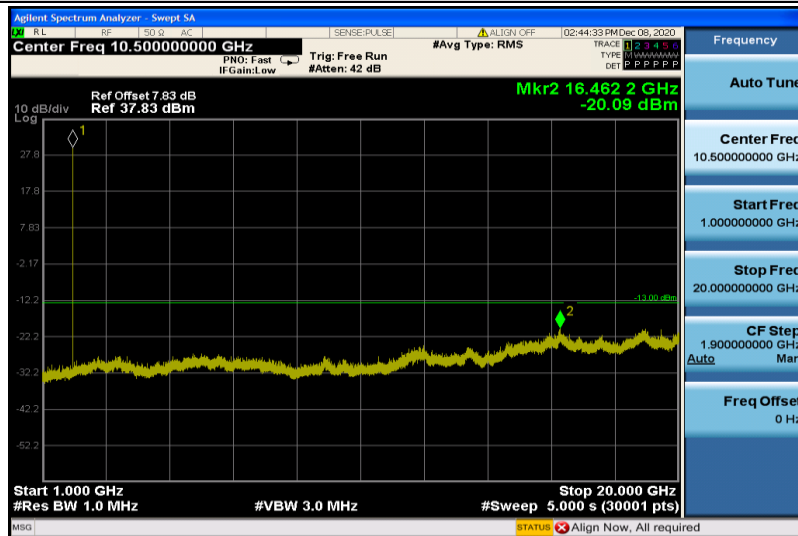
GSM1900-661-30~1000



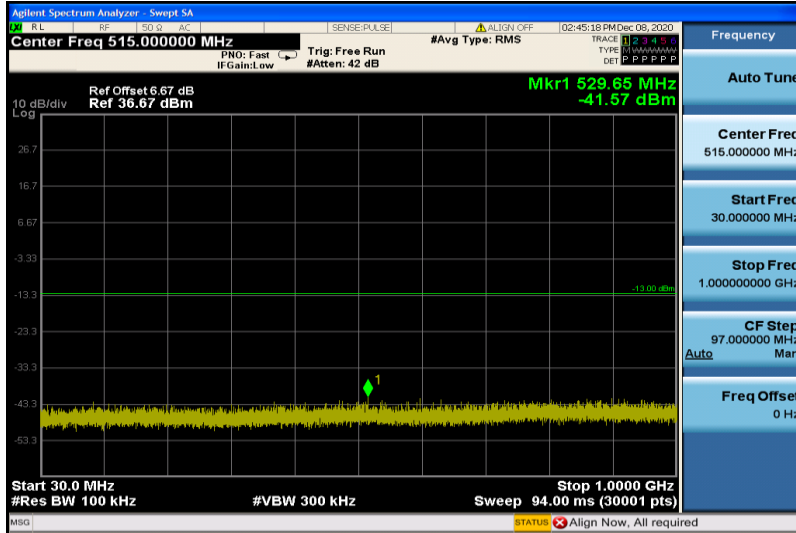
GSM1900-661-1000~20000



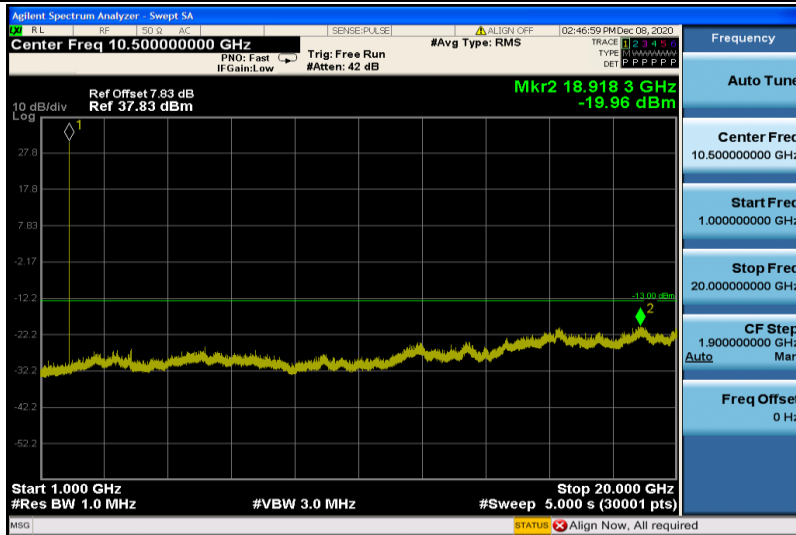
GSM1900-810-30~1000



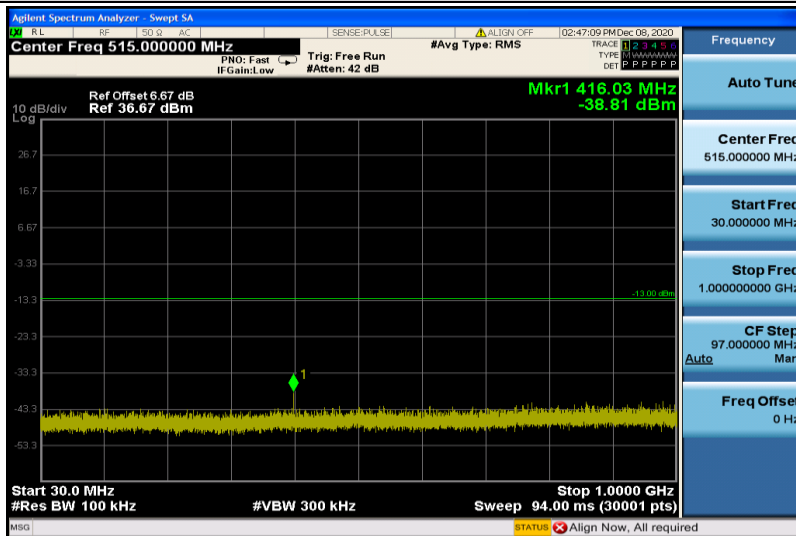
GSM1900-810-1000~20000



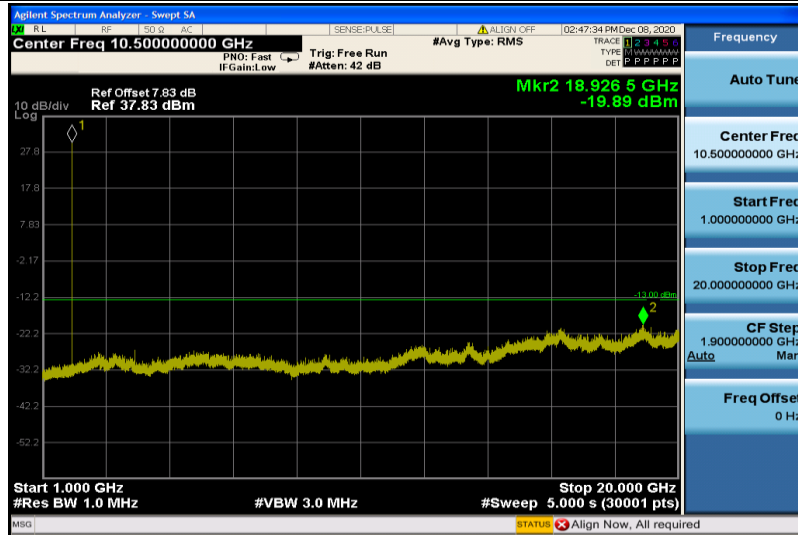
GPRS1900-512-30~1000



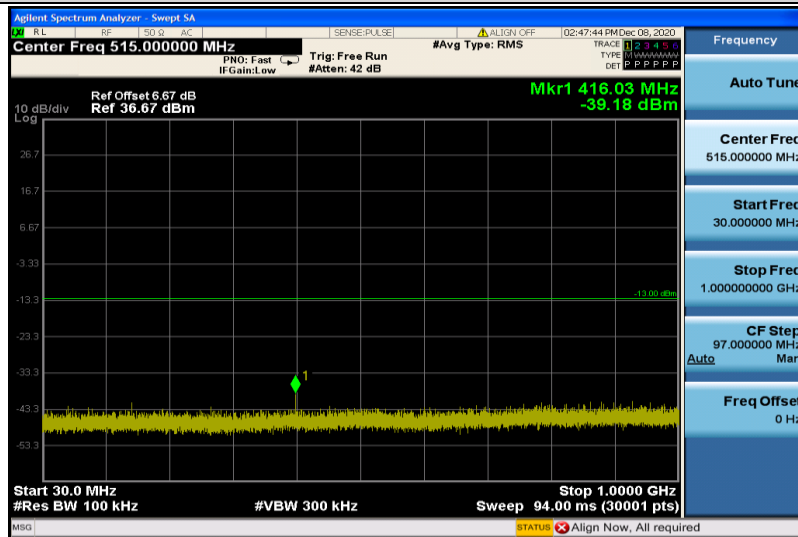
GPRS1900-512-1000~20000



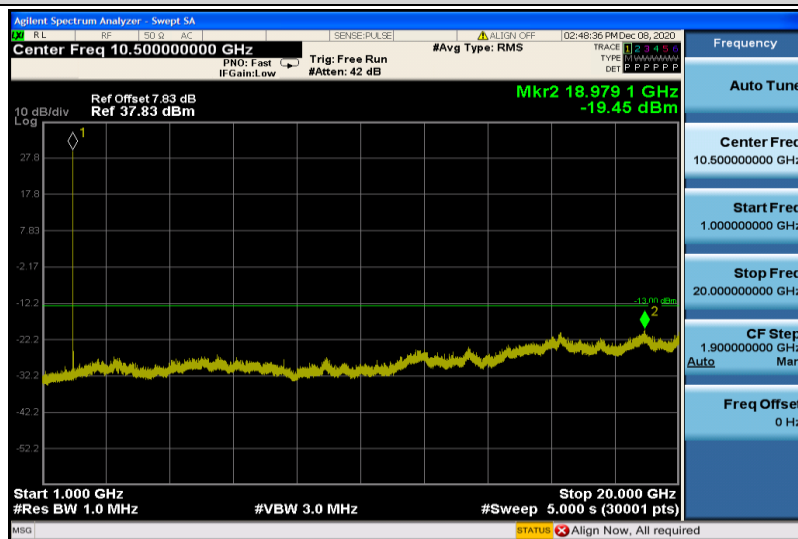
GPRS1900-661-30~1000



GPRS1900-661-1000~20000



GPRS1900-810-30~1000



GPRS1900-810-1000~20000

8.6 Appendix F: Frequency Stability

Test Result

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VL	TN	6.84	0.008299	2.5	PASS
GSM850	128	VN	TN	0.81	0.000983	2.5	PASS
GSM850	128	VH	TN	7.59	0.009209	2.5	PASS
GSM850	190	VL	TN	19.73	0.023584	2.5	PASS
GSM850	190	VN	TN	14.72	0.017595	2.5	PASS
GSM850	190	VH	TN	20.34	0.024313	2.5	PASS
GSM850	251	VL	TN	6.20	0.007304	2.5	PASS
GSM850	251	VN	TN	9.78	0.011522	2.5	PASS
GSM850	251	VH	TN	-1.26	-0.001484	2.5	PASS
GPRS850	128	VL	TN	19.89	0.024132	2.5	PASS
GPRS850	128	VN	TN	22.18	0.026911	2.5	PASS
GPRS850	128	VH	TN	27.93	0.033887	2.5	PASS
GPRS850	190	VL	TN	16.92	0.020225	2.5	PASS
GPRS850	190	VN	TN	-3.36	-0.004016	2.5	PASS
GPRS850	190	VH	TN	-2.36	-0.002821	2.5	PASS
GPRS850	251	VL	TN	5.71	0.006727	2.5	PASS
GPRS850	251	VN	TN	36.39	0.042872	2.5	PASS
GPRS850	251	VH	TN	26.86	0.031645	2.5	PASS
GSM1900	512	VL	TN	39.42	0.021306	2.5	PASS
GSM1900	512	VN	TN	49.53	0.026770	2.5	PASS
GSM1900	512	VH	TN	42.20	0.022808	2.5	PASS
GSM1900	661	VL	TN	48.04	0.025553	2.5	PASS
GSM1900	661	VN	TN	41.91	0.022293	2.5	PASS
GSM1900	661	VH	TN	43.17	0.022963	2.5	PASS
GSM1900	810	VL	TN	29.77	0.015588	2.5	PASS
GSM1900	810	VN	TN	33.29	0.017431	2.5	PASS
GSM1900	810	VH	TN	22.12	0.011582	2.5	PASS
GPRS1900	512	VL	TN	48.91	0.026435	2.5	PASS
GPRS1900	512	VN	TN	77.94	0.042125	2.5	PASS
GPRS1900	512	VH	TN	62.05	0.033537	2.5	PASS
GPRS1900	661	VL	TN	50.27	0.026739	2.5	PASS
GPRS1900	661	VN	TN	42.97	0.022856	2.5	PASS
GPRS1900	661	VH	TN	48.85	0.025984	2.5	PASS
GPRS1900	810	VL	TN	24.99	0.013085	2.5	PASS
GPRS1900	810	VN	TN	21.95	0.011493	2.5	PASS
GPRS1900	810	VH	TN	19.34	0.010127	2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VN	-30	-6.94	-0.008420	2.5	PASS
GSM850	128	VN	-20	1.65	0.002002	2.5	PASS
GSM850	128	VN	-10	5.52	0.006697	2.5	PASS
GSM850	128	VN	0	10.75	0.013043	2.5	PASS
GSM850	128	VN	10	9.88	0.011987	2.5	PASS
GSM850	128	VN	20	-3.78	-0.004586	2.5	PASS
GSM850	128	VN	30	11.91	0.014450	2.5	PASS
GSM850	128	VN	40	15.40	0.018685	2.5	PASS
GSM850	128	VN	50	14.53	0.017629	2.5	PASS
GSM850	190	VN	-30	5.20	0.006216	2.5	PASS
GSM850	190	VN	-20	7.46	0.008917	2.5	PASS
GSM850	190	VN	-10	18.76	0.022424	2.5	PASS
GSM850	190	VN	0	10.33	0.012348	2.5	PASS
GSM850	190	VN	10	10.62	0.012694	2.5	PASS
GSM850	190	VN	20	3.97	0.004745	2.5	PASS
GSM850	190	VN	30	15.05	0.017989	2.5	PASS
GSM850	190	VN	40	11.36	0.013579	2.5	PASS
GSM850	190	VN	50	22.12	0.026440	2.5	PASS
GSM850	251	VN	-30	12.69	0.014951	2.5	PASS
GSM850	251	VN	-20	8.01	0.009437	2.5	PASS
GSM850	251	VN	-10	0.81	0.000954	2.5	PASS
GSM850	251	VN	0	9.91	0.011675	2.5	PASS
GSM850	251	VN	10	8.52	0.010038	2.5	PASS
GSM850	251	VN	20	12.62	0.014868	2.5	PASS
GSM850	251	VN	30	9.72	0.011451	2.5	PASS
GSM850	251	VN	40	8.75	0.010309	2.5	PASS
GSM850	251	VN	50	1.74	0.002050	2.5	PASS
GPRS850	128	VN	-30	15.46	0.018758	2.5	PASS
GPRS850	128	VN	-20	4.94	0.005994	2.5	PASS
GPRS850	128	VN	-10	6.49	0.007874	2.5	PASS
GPRS850	128	VN	0	11.53	0.013989	2.5	PASS
GPRS850	128	VN	10	8.49	0.010301	2.5	PASS
GPRS850	128	VN	20	15.05	0.018260	2.5	PASS
GPRS850	128	VN	30	7.49	0.009088	2.5	PASS
GPRS850	128	VN	40	14.88	0.018054	2.5	PASS
GPRS850	128	VN	50	29.22	0.035453	2.5	PASS
GPRS850	190	VN	-30	2.78	0.003323	2.5	PASS
GPRS850	190	VN	-20	8.10	0.009682	2.5	PASS
GPRS850	190	VN	-10	7.17	0.008570	2.5	PASS

GPRS850	190	VN	0	6.26	0.007483	2.5	PASS
GPRS850	190	VN	10	2.68	0.003203	2.5	PASS
GPRS850	190	VN	20	2.39	0.002857	2.5	PASS
GPRS850	190	VN	30	6.72	0.008033	2.5	PASS
GPRS850	190	VN	40	9.14	0.010925	2.5	PASS
GPRS850	190	VN	50	3.20	0.003825	2.5	PASS
GPRS850	251	VN	-30	27.73	0.032670	2.5	PASS
GPRS850	251	VN	-20	22.99	0.027085	2.5	PASS
GPRS850	251	VN	-10	5.07	0.005973	2.5	PASS
GPRS850	251	VN	0	-1.45	-0.001708	2.5	PASS
GPRS850	251	VN	10	2.68	0.003157	2.5	PASS
GPRS850	251	VN	20	5.00	0.005891	2.5	PASS
GPRS850	251	VN	30	5.65	0.006656	2.5	PASS
GPRS850	251	VN	40	-0.71	-0.000836	2.5	PASS
GPRS850	251	VN	50	-3.58	-0.004218	2.5	PASS
GSM1900	512	VN	-30	59.05	0.031915	2.5	PASS
GSM1900	512	VN	-20	48.75	0.026349	2.5	PASS
GSM1900	512	VN	-10	40.45	0.021863	2.5	PASS
GSM1900	512	VN	0	57.34	0.030991	2.5	PASS
GSM1900	512	VN	10	49.62	0.026819	2.5	PASS
GSM1900	512	VN	20	39.84	0.021533	2.5	PASS
GSM1900	512	VN	30	41.65	0.022511	2.5	PASS
GSM1900	512	VN	40	44.07	0.023819	2.5	PASS
GSM1900	512	VN	50	51.79	0.027992	2.5	PASS
GSM1900	661	VN	-30	37.61	0.020005	2.5	PASS
GSM1900	661	VN	-20	33.80	0.017979	2.5	PASS
GSM1900	661	VN	-10	30.93	0.016452	2.5	PASS
GSM1900	661	VN	0	39.49	0.021005	2.5	PASS
GSM1900	661	VN	10	38.58	0.020521	2.5	PASS
GSM1900	661	VN	20	34.55	0.018378	2.5	PASS
GSM1900	661	VN	30	46.91	0.024952	2.5	PASS
GSM1900	661	VN	40	30.28	0.016106	2.5	PASS
GSM1900	661	VN	50	36.58	0.019457	2.5	PASS
GSM1900	810	VN	-30	29.77	0.015588	2.5	PASS
GSM1900	810	VN	-20	28.61	0.014981	2.5	PASS
GSM1900	810	VN	-10	40.97	0.021453	2.5	PASS
GSM1900	810	VN	0	46.81	0.024510	2.5	PASS
GSM1900	810	VN	10	39.39	0.020625	2.5	PASS
GSM1900	810	VN	20	38.03	0.019913	2.5	PASS
GSM1900	810	VN	30	27.96	0.014640	2.5	PASS
GSM1900	810	VN	40	11.36	0.005948	2.5	PASS
GSM1900	810	VN	50	45.07	0.023599	2.5	PASS

GPRS1900	512	VN	-30	47.40	0.025619	2.5	PASS
GPRS1900	512	VN	-20	52.72	0.028494	2.5	PASS
GPRS1900	512	VN	-10	50.88	0.027500	2.5	PASS
GPRS1900	512	VN	0	47.46	0.025651	2.5	PASS
GPRS1900	512	VN	10	57.69	0.031180	2.5	PASS
GPRS1900	512	VN	20	60.12	0.032494	2.5	PASS
GPRS1900	512	VN	30	42.13	0.022771	2.5	PASS
GPRS1900	512	VN	40	43.46	0.023489	2.5	PASS
GPRS1900	512	VN	50	48.11	0.026003	2.5	PASS
GPRS1900	661	VN	-30	42.62	0.022670	2.5	PASS
GPRS1900	661	VN	-20	34.84	0.018532	2.5	PASS
GPRS1900	661	VN	-10	28.67	0.015250	2.5	PASS
GPRS1900	661	VN	0	45.91	0.024420	2.5	PASS
GPRS1900	661	VN	10	21.99	0.011697	2.5	PASS
GPRS1900	661	VN	20	32.48	0.017277	2.5	PASS
GPRS1900	661	VN	30	30.15	0.016037	2.5	PASS
GPRS1900	661	VN	40	24.15	0.012846	2.5	PASS
GPRS1900	661	VN	50	23.18	0.012330	2.5	PASS
GPRS1900	810	VN	-30	8.65	0.004529	2.5	PASS
GPRS1900	810	VN	-20	56.63	0.029652	2.5	PASS
GPRS1900	810	VN	-10	42.39	0.022196	2.5	PASS
GPRS1900	810	VN	0	62.21	0.032574	2.5	PASS
GPRS1900	810	VN	10	58.28	0.030516	2.5	PASS
GPRS1900	810	VN	20	54.92	0.028757	2.5	PASS
GPRS1900	810	VN	30	33.35	0.017463	2.5	PASS
GPRS1900	810	VN	40	42.94	0.022484	2.5	PASS
GPRS1900	810	VN	50	29.48	0.015436	2.5	PASS

-----End of the Report -----