

APPENDIX REPORT

8.1 Appendix A: Conducted Output Power

Test Result

Band	Channel	PCL	Power(dBm)	Limit(dBm)	Verdict
GSM850	128	5	33.20	38.5	PASS
GSM850	190	5	33.32	38.5	PASS
GSM850	251	5	33.50	38.5	PASS
GSM1900	512	0	30.11	33	PASS
GSM1900	661	0	30.03	33	PASS
GSM1900	810	0	29.71	33	PASS

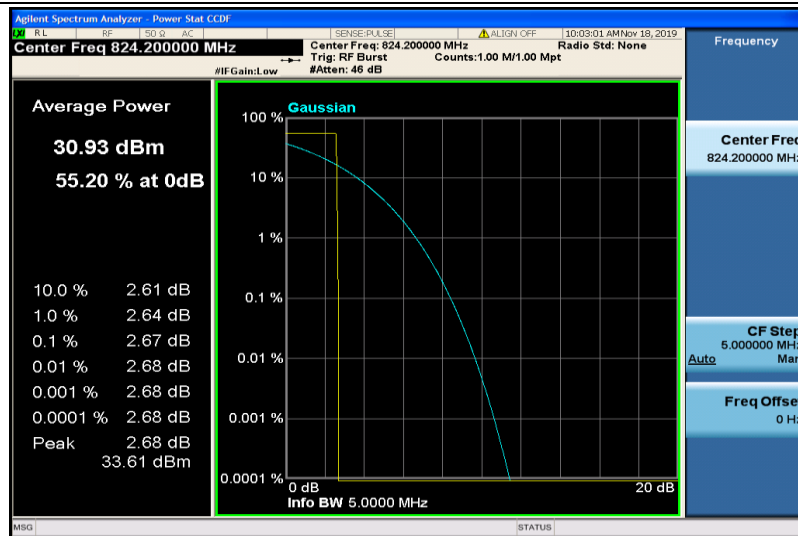
Band	Channel	PCL	Slot	Power(dBm)	Limit(dBm)	Verdict
GPRS850	128	5	1	32.97	38.5	PASS
GPRS850	128	5	2	32.34	38.5	PASS
GPRS850	128	5	3	30.64	38.5	PASS
GPRS850	128	5	4	29.56	38.5	PASS
GPRS850	190	5	1	33.01	38.5	PASS
GPRS850	190	5	2	32.39	38.5	PASS
GPRS850	190	5	3	30.67	38.5	PASS
GPRS850	190	5	4	29.63	38.5	PASS
GPRS850	251	5	1	33.17	38.5	PASS
GPRS850	251	5	2	32.60	38.5	PASS
GPRS850	251	5	3	30.94	38.5	PASS
GPRS850	251	5	4	29.90	38.5	PASS
GPRS1900	512	0	1	30.05	33	PASS
GPRS1900	512	0	2	29.73	33	PASS
GPRS1900	512	0	3	28.01	33	PASS
GPRS1900	512	0	4	26.65	33	PASS
GPRS1900	661	0	1	29.92	33	PASS
GPRS1900	661	0	2	29.63	33	PASS
GPRS1900	661	0	3	27.97	33	PASS
GPRS1900	661	0	4	26.68	33	PASS
GPRS1900	810	0	1	29.59	33	PASS
GPRS1900	810	0	2	29.32	33	PASS
GPRS1900	810	0	3	27.75	33	PASS
GPRS1900	810	0	4	26.50	33	PASS

8.2 Appendix B: Peak-to-Average Ratio

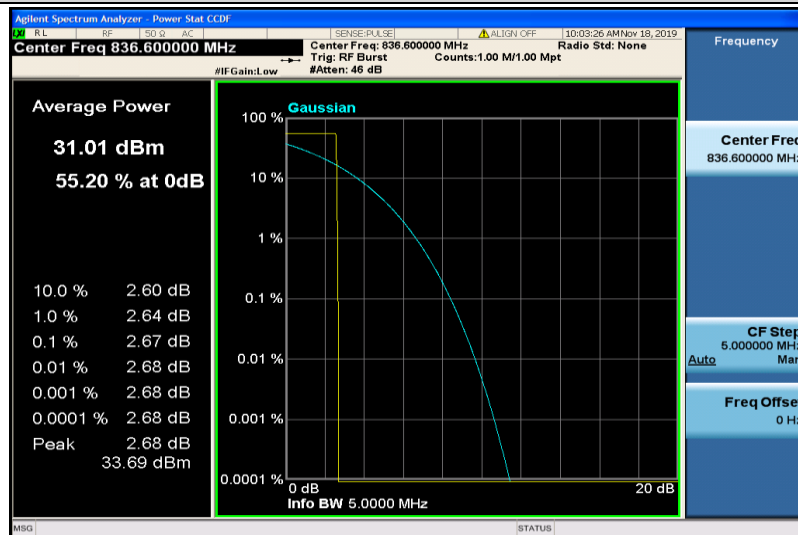
Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
GSM850	128	2.67	13	PASS
GSM850	190	2.67	13	PASS
GSM850	251	2.67	13	PASS
GPRS850	128	2.67	13	PASS
GPRS850	190	2.67	13	PASS
GPRS850	251	2.68	13	PASS
GSM1900	512	2.66	13	PASS
GSM1900	661	2.66	13	PASS
GSM1900	810	2.66	13	PASS
GPRS1900	512	2.66	13	PASS
GPRS1900	661	2.65	13	PASS
GPRS1900	810	2.65	13	PASS

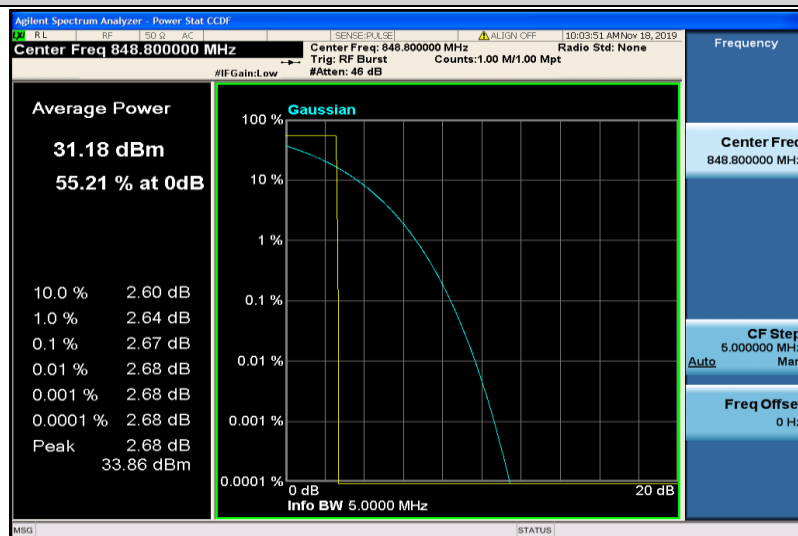
Test Graphs



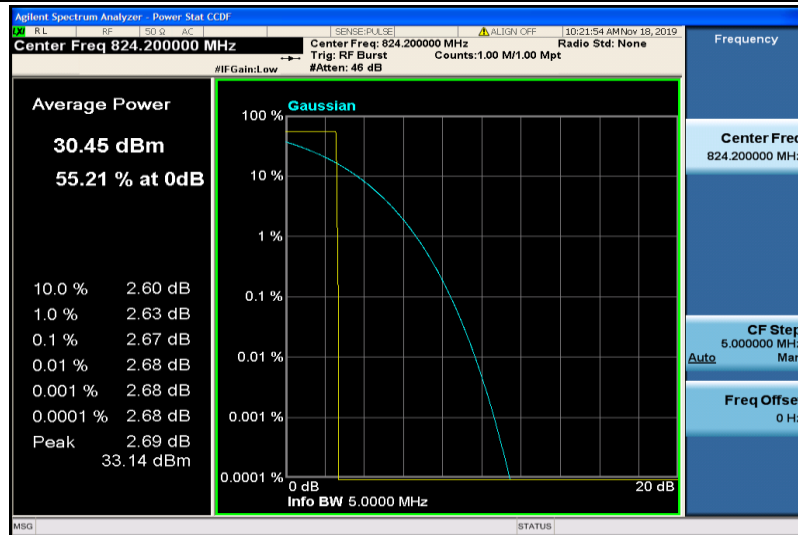
GSM850-128



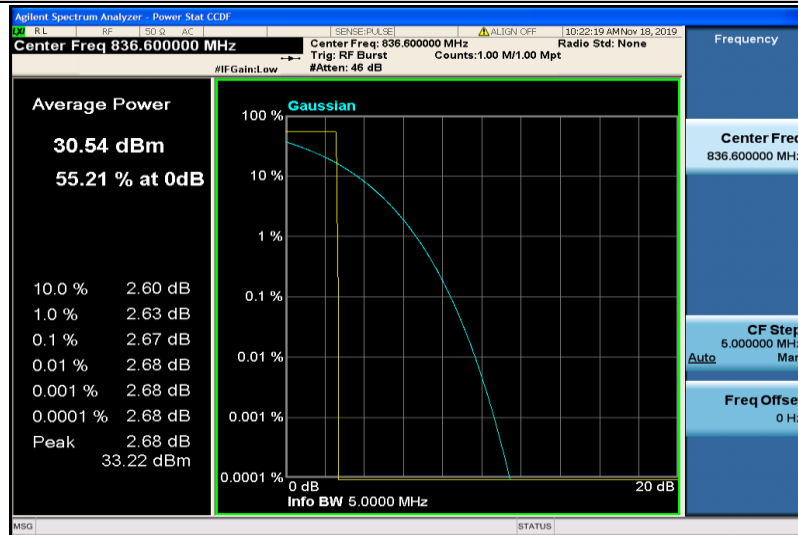
GSM850-190



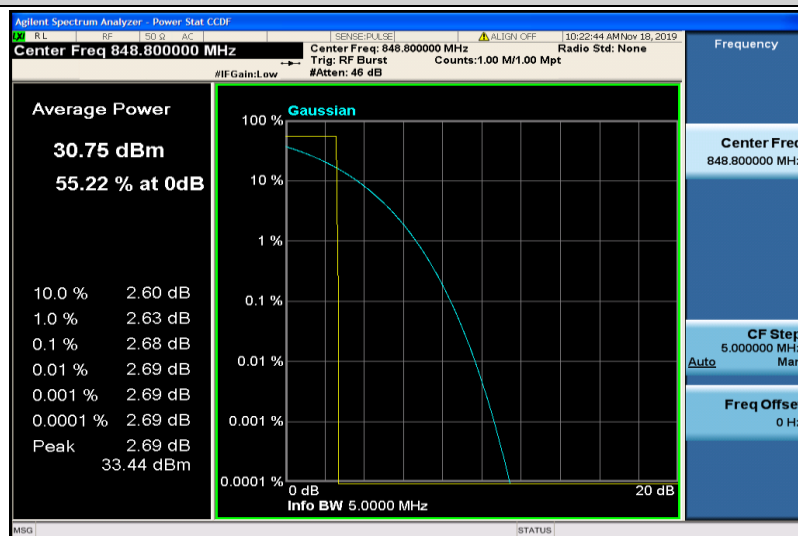
GSM850-251



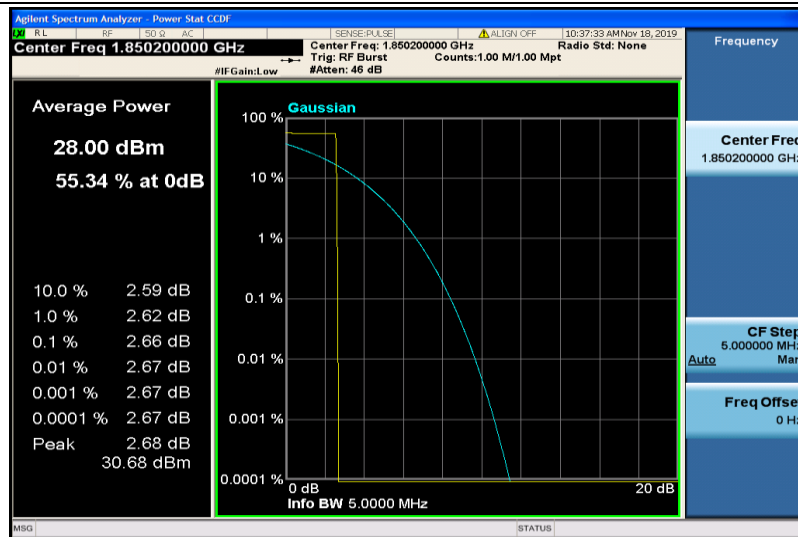
GPRS850-128



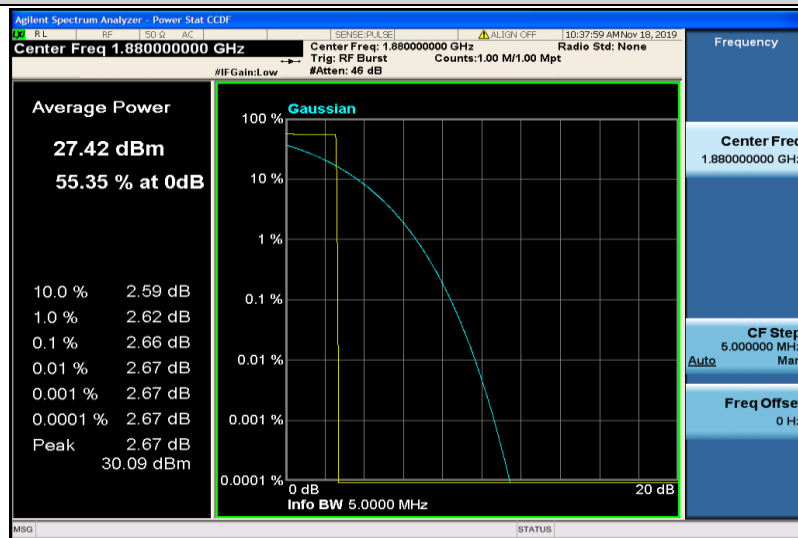
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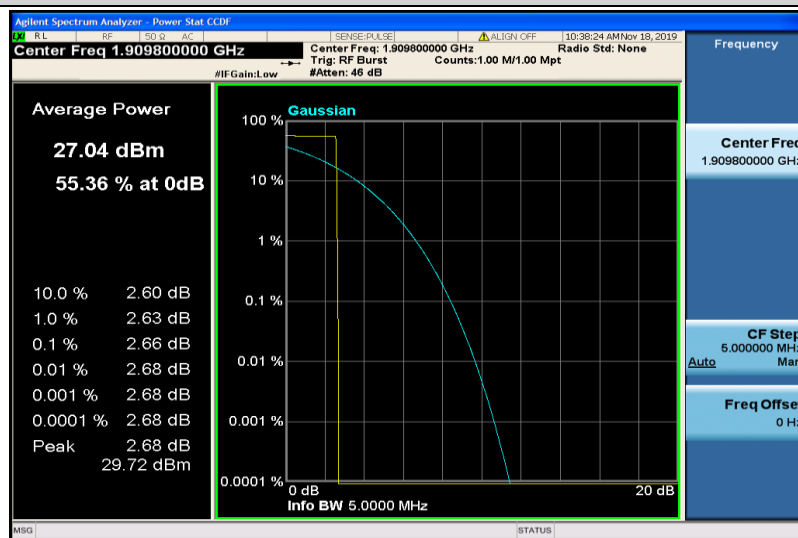
GPRS850-251



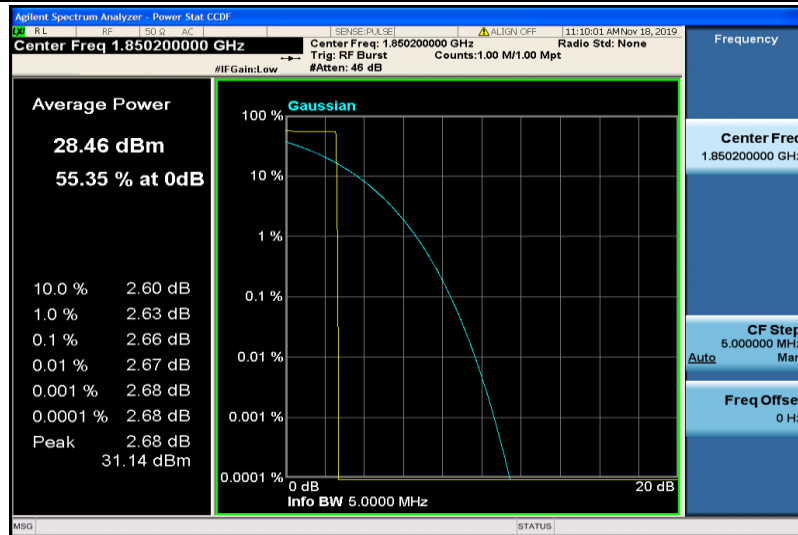
GSM1900-512



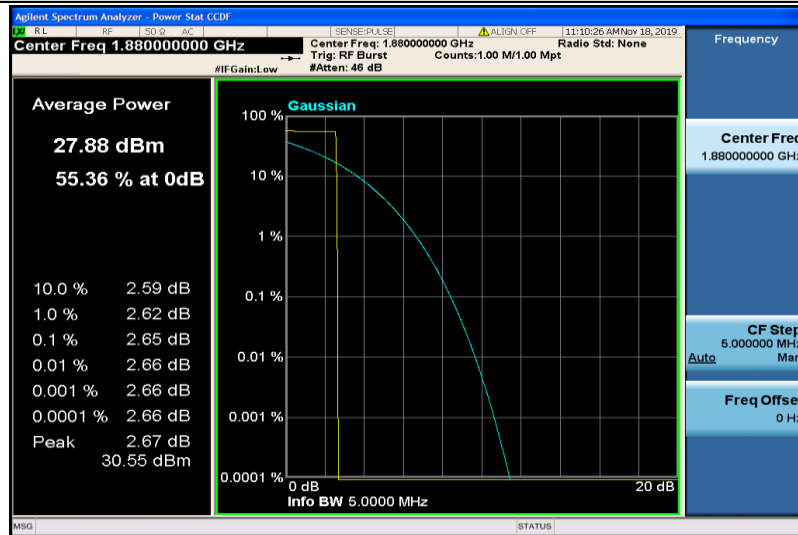
GSM1900-661



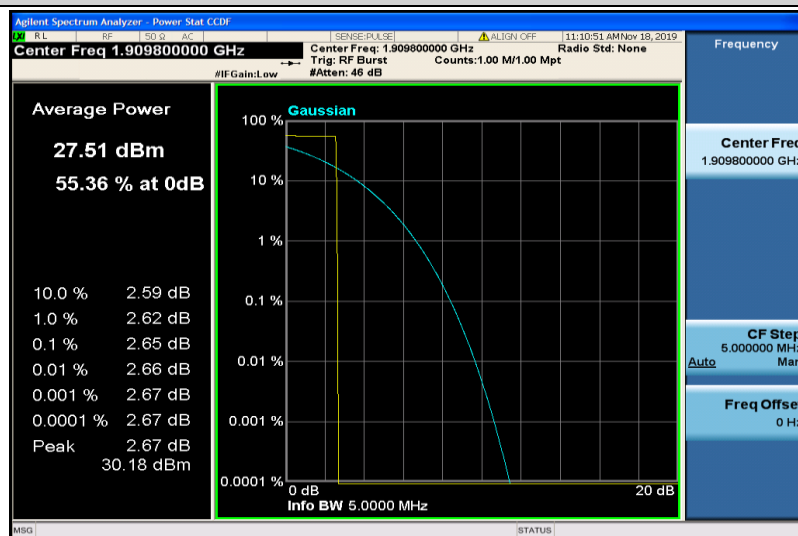
GSM1900-810



GPRS1900-512



GPRS1900-661



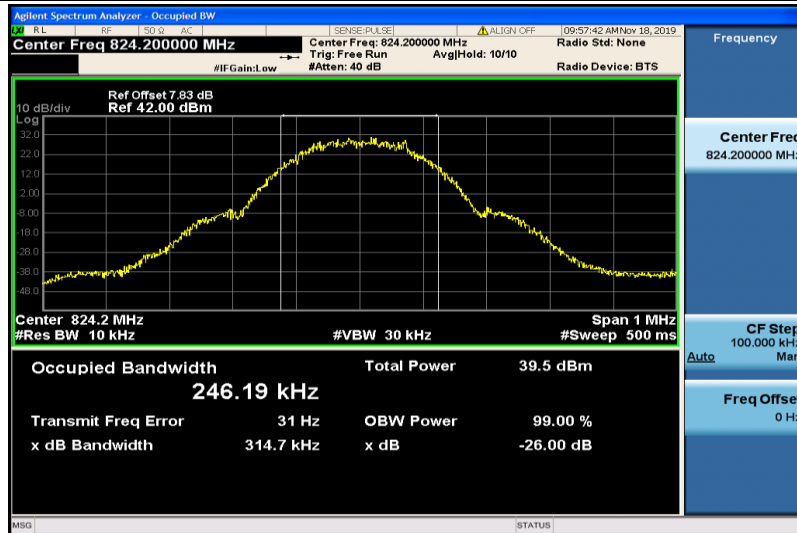
GPRS1900-810

8.3 Appendix C: 26dB Bandwidth and Occupied Bandwidth

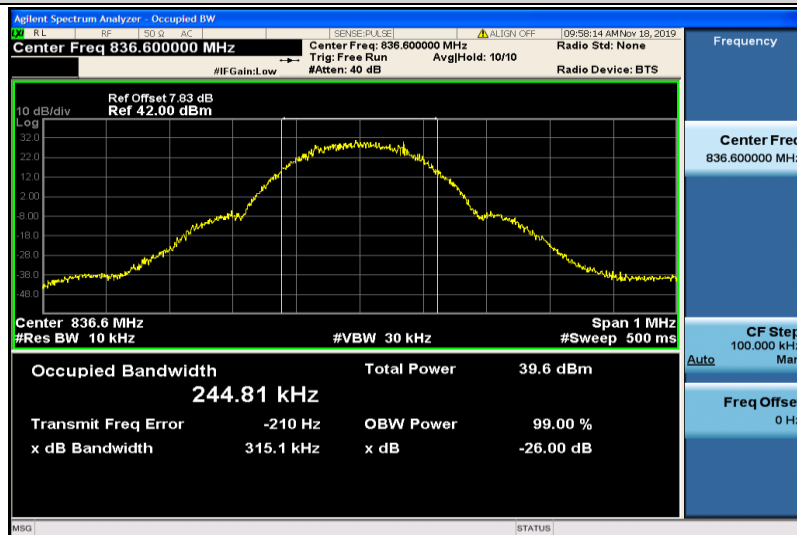
Test Result

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
GSM850	128	246.19	314.7	---	PASS
GSM850	190	244.81	315.1	---	PASS
GSM850	251	246.59	317.4	---	PASS
GPRS850	128	247.14	315.3	---	PASS
GPRS850	190	245.76	316.9	---	PASS
GPRS850	251	245.10	316.2	---	PASS
GSM1900	512	247.72	312.0	---	PASS
GSM1900	661	247.05	320.0	---	PASS
GSM1900	810	245.88	315.8	---	PASS
GPRS1900	512	247.91	317.4	---	PASS
GPRS1900	661	247.78	318.0	---	PASS
GPRS1900	810	243.19	314.9	---	PASS

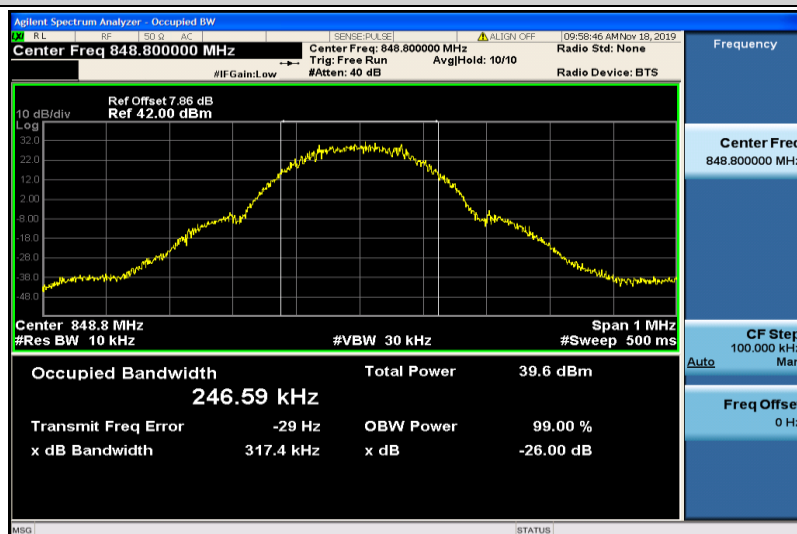
Test Graphs



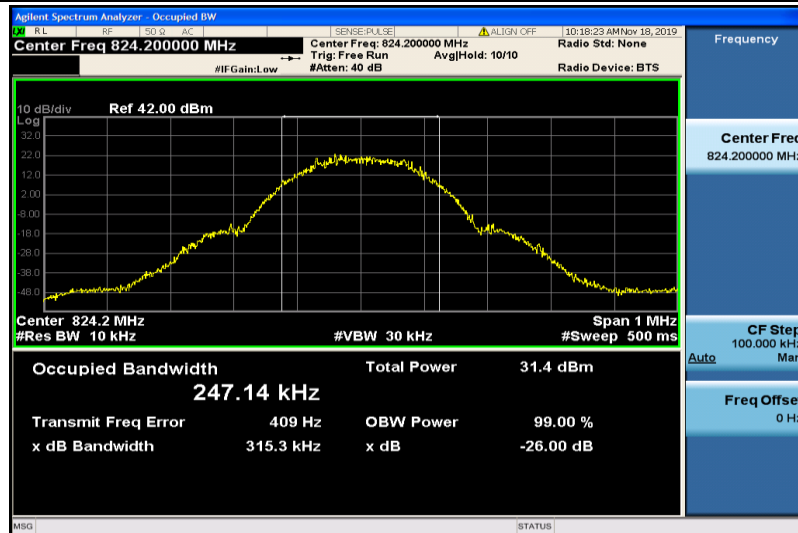
GSM850-128



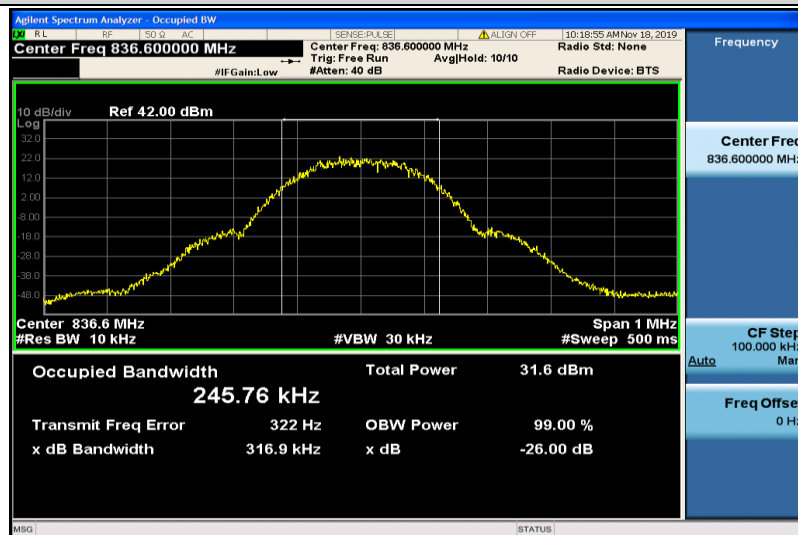
GSM850-190



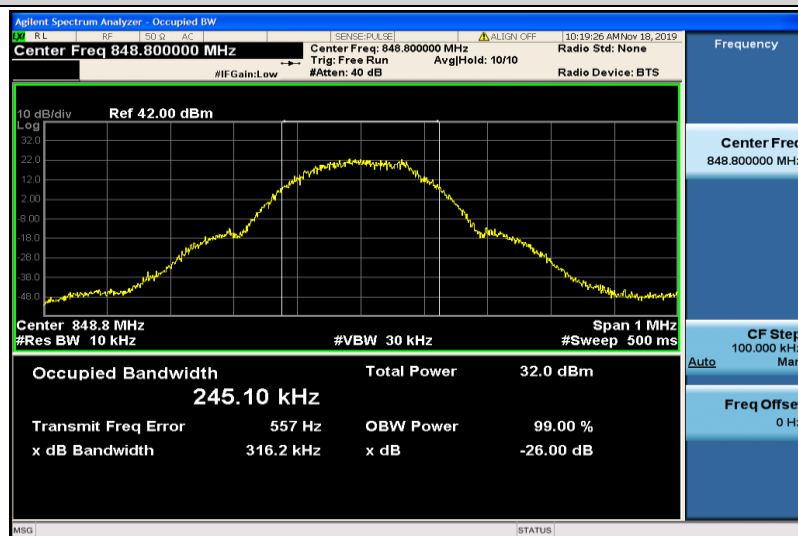
GSM850-251



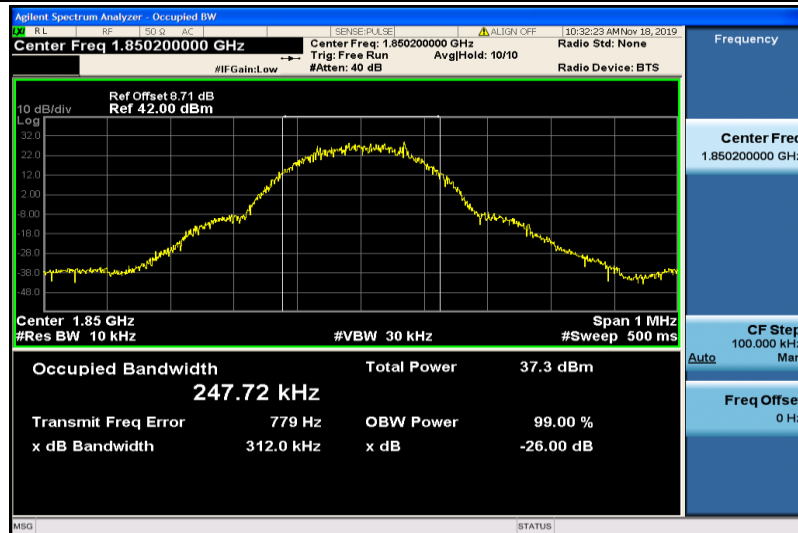
GPRS850-128



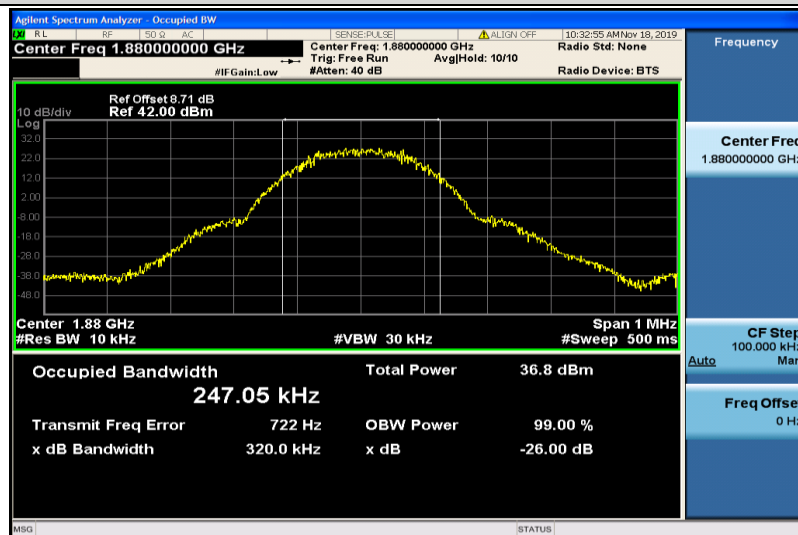
GPRS850-190



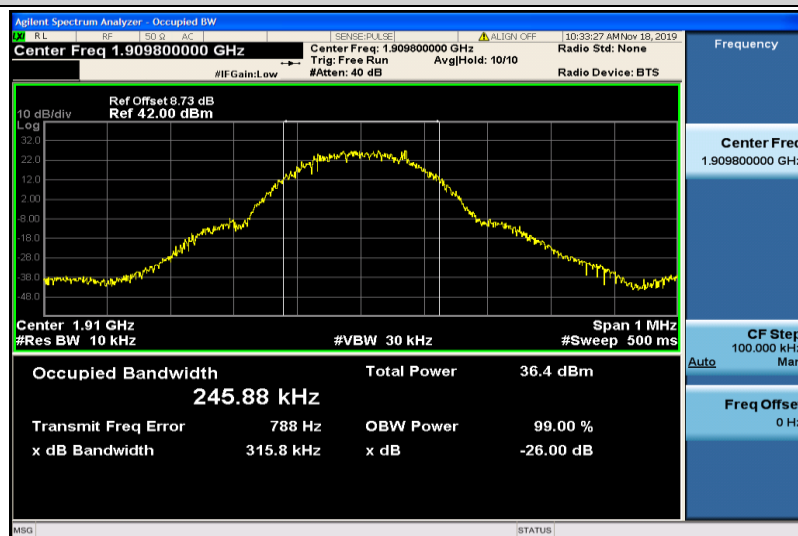
GPRS850-251



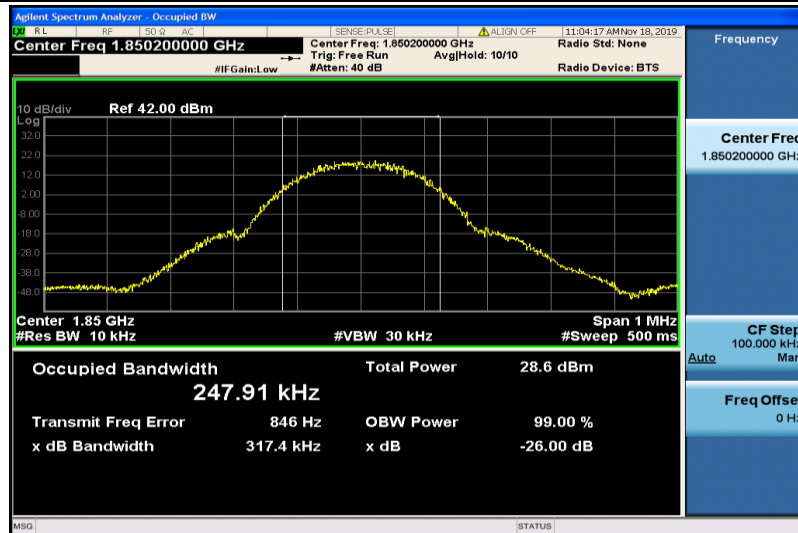
GSM1900-512



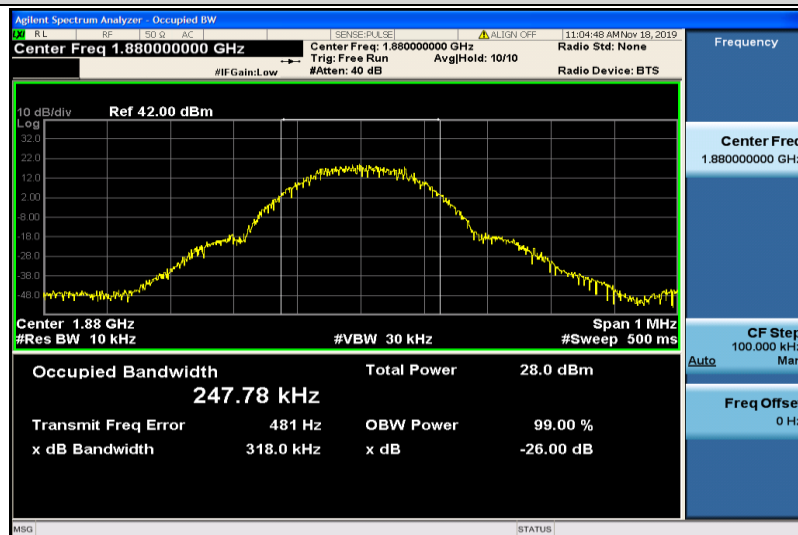
GSM1900-661



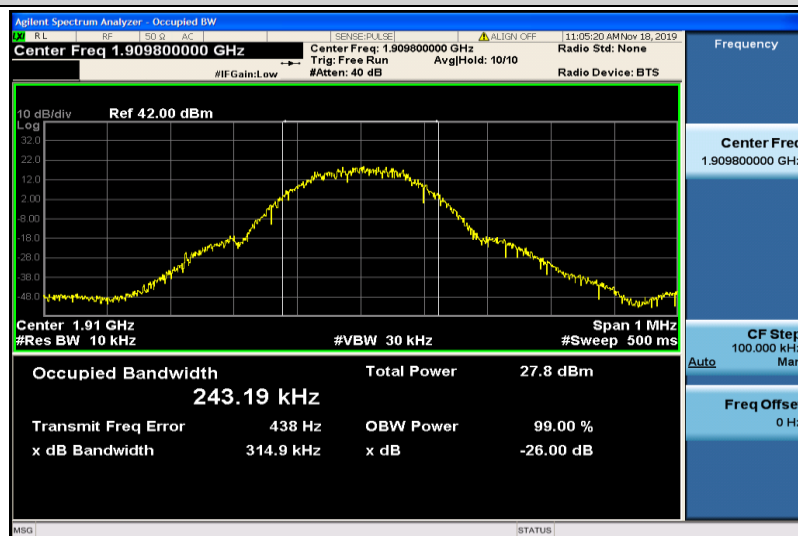
GSM1900-810



GPRS1900-512



GPRS1900-661



GPRS1900-810

8.4 Appendix D: Band Edge

Test Result

Band	Channel	Value(dBm)	Limit(dBm)	Verdict
GSM850	128	-26.17	-13	PASS
GSM850	251	-25.96	-13	PASS
GPRS850	128	-26.96	-13	PASS
GPRS850	251	-24.67	-13	PASS
GSM1900	512	-28.09	-13	PASS
GSM1900	810	-28.29	-13	PASS
GPRS1900	512	-29.24	-13	PASS
GPRS1900	810	-28.02	-13	PASS

Agilent Spectrum Analyzer - Swept SA

Center Freq 824.000000 MHz

Ref Offset 7.83 dB
Ref 30.00 dBm

Mkr1 823.997 MHz
-26.17 dBm

10 dB/div
Log

Center 824.0000 MHz
#Res BW 3.0 kHz
#VBW 10 kHz
#Sweep 100.0 ms (1001 pts)

Span 1.000 MHz

STATUS Meas Uncal

Frequency

Auto Tune

Center Freq
824.000000 MHz

Start Freq
823.500000 MHz

Stop Freq
824.500000 MHz

CF Step
100.000 kHz
Man

Freq Offset
0 Hz

GSM850-128

Agilent Spectrum Analyzer - Swept SA

Center Freq 849.000000 MHz

Ref Offset 7.86 dB
Ref 30.00 dBm

Mkr1 849.021 MHz
-25.96 dBm

10 dB/div
Log

Center 849.0000 MHz
#Res BW 3.0 kHz
#VBW 10 kHz
#Sweep 100.0 ms (1001 pts)

Span 1.000 MHz

STATUS Meas Uncal

Frequency

Auto Tune

Center Freq
849.000000 MHz

Start Freq
848.500000 MHz

Stop Freq
849.500000 MHz

CF Step
100.000 kHz
Man

Freq Offset
0 Hz

GSM850-251

Agilent Spectrum Analyzer - Swept SA

Center Freq 824.000000 MHz

Ref Offset 7.83 dB
Ref 30.00 dBm

Mkr1 823.993 MHz
-26.96 dBm

10 dB/div
Log

Center 824.0000 MHz
#Res BW 3.0 kHz
#VBW 10 kHz
#Sweep 100.0 ms (1001 pts)

Span 1.000 MHz

STATUS Meas Uncal

Frequency

Auto Tune

Center Freq
824.000000 MHz

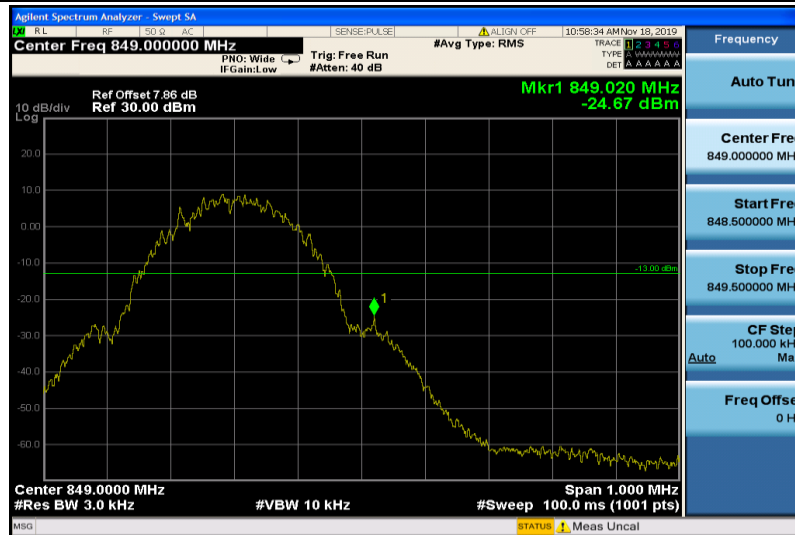
Start Freq
823.500000 MHz

Stop Freq
824.500000 MHz

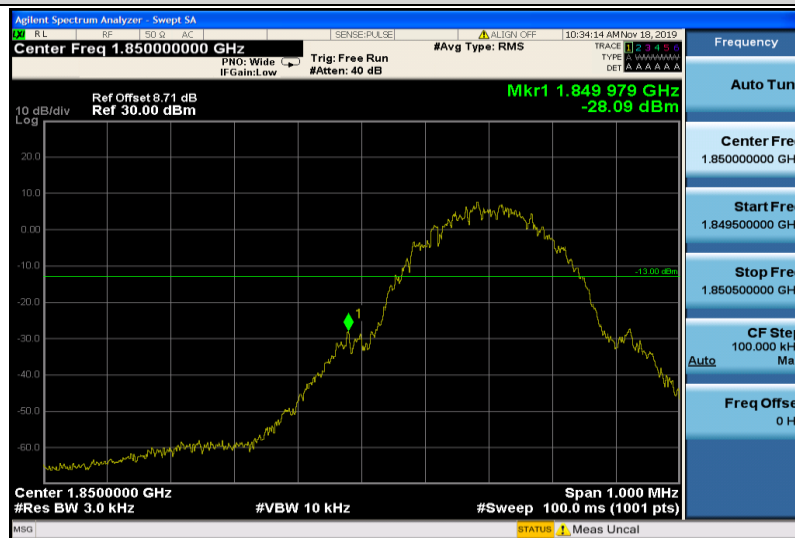
CF Step
100.000 kHz
Man

Freq Offset
0 Hz

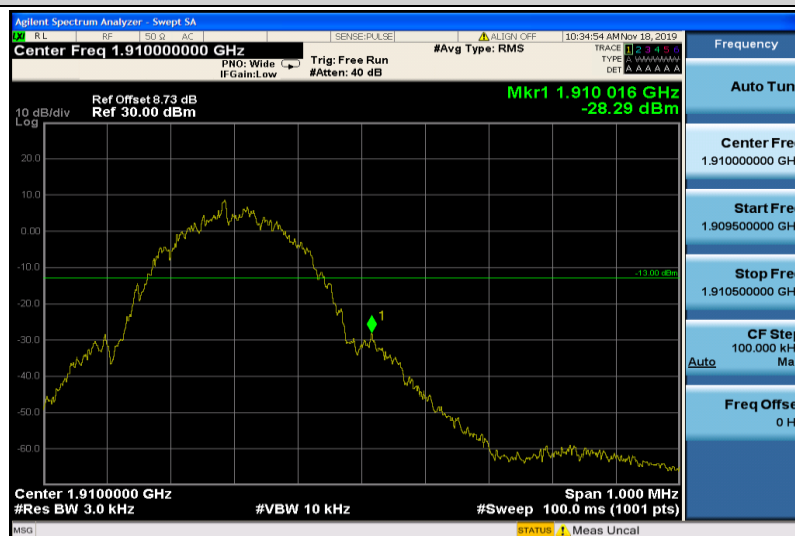
GPRS850-128



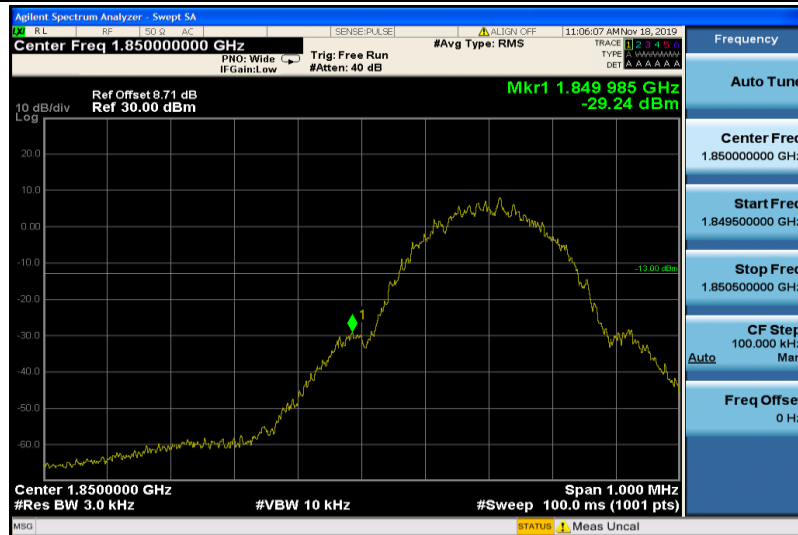
GPRS850-251



GSM1900-512



GSM1900-810



GPRS1900-512



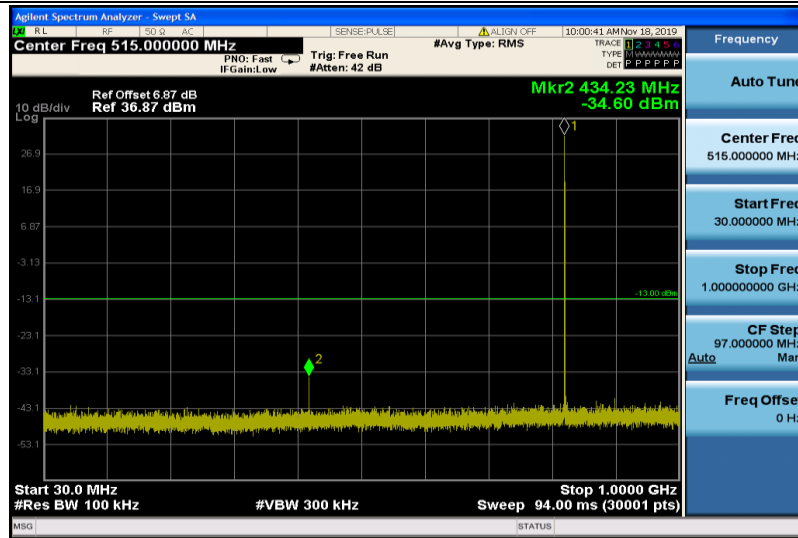
GPRS1900-810

8.5 Appendix E: Conducted Spurious Emission

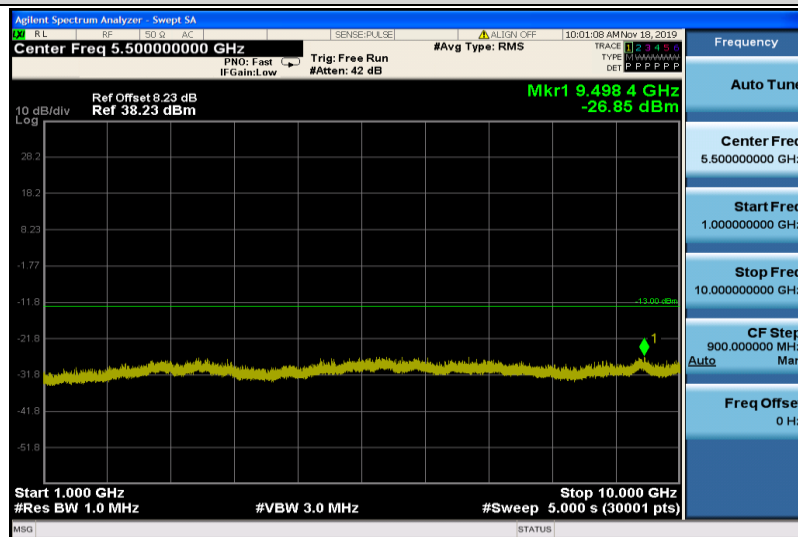
Test Result

Band	Channel	Frequency Range(Mhz)	Value(dBm)	Limit(dBm)	Verdict
GSM850	128	30~1000	-34.60	-13	PASS
GSM850	128	1000~10000	-26.85	-13	PASS
GSM850	190	30~1000	-34.95	-13	PASS
GSM850	190	1000~10000	-26.12	-13	PASS
GSM850	251	30~1000	-33.64	-13	PASS
GSM850	251	1000~10000	-26.27	-13	PASS
GPRS850	128	30~1000	-37.83	-13	PASS
GPRS850	128	1000~10000	-26.42	-13	PASS
GPRS850	190	30~1000	-40.36	-13	PASS
GPRS850	190	1000~10000	-26.19	-13	PASS
GPRS850	251	30~1000	-40.24	-13	PASS
GPRS850	251	1000~10000	-26.47	-13	PASS
GSM1900	512	30~1000	-41.80	-13	PASS
GSM1900	512	1000~20000	-19.81	-13	PASS
GSM1900	661	30~1000	-41.60	-13	PASS
GSM1900	661	1000~20000	-20.06	-13	PASS
GSM1900	810	30~1000	-41.35	-13	PASS
GSM1900	810	1000~20000	-19.34	-13	PASS
GPRS1900	512	30~1000	-36.17	-13	PASS
GPRS1900	512	1000~20000	-19.85	-13	PASS
GPRS1900	661	30~1000	-40.92	-13	PASS
GPRS1900	661	1000~20000	-19.86	-13	PASS
GPRS1900	810	30~1000	-40.70	-13	PASS
GPRS1900	810	1000~20000	-20.38	-13	PASS

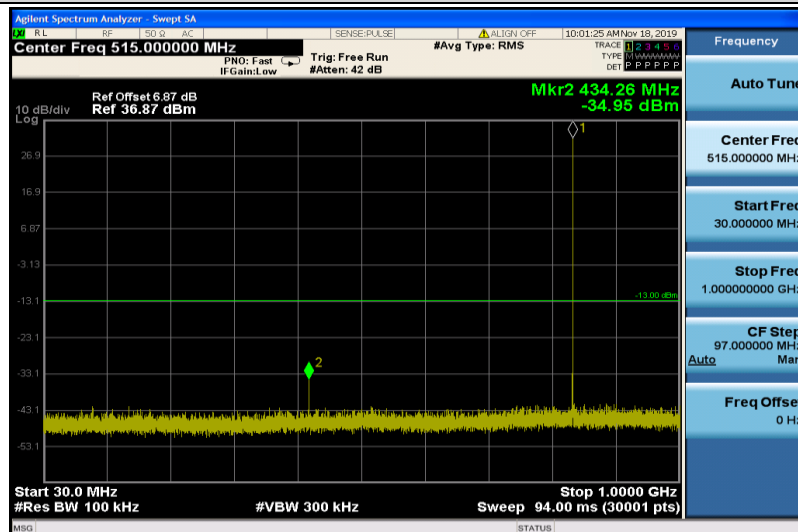
Test Graphs



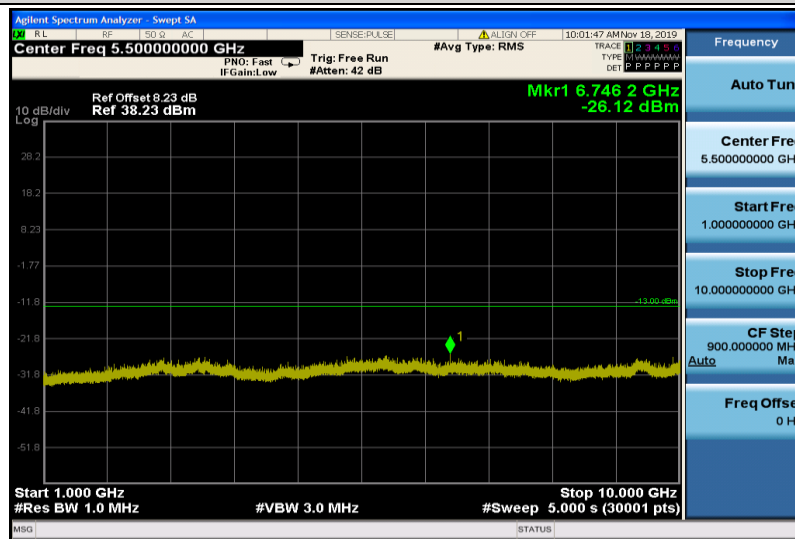
GSM850-128-30~1000



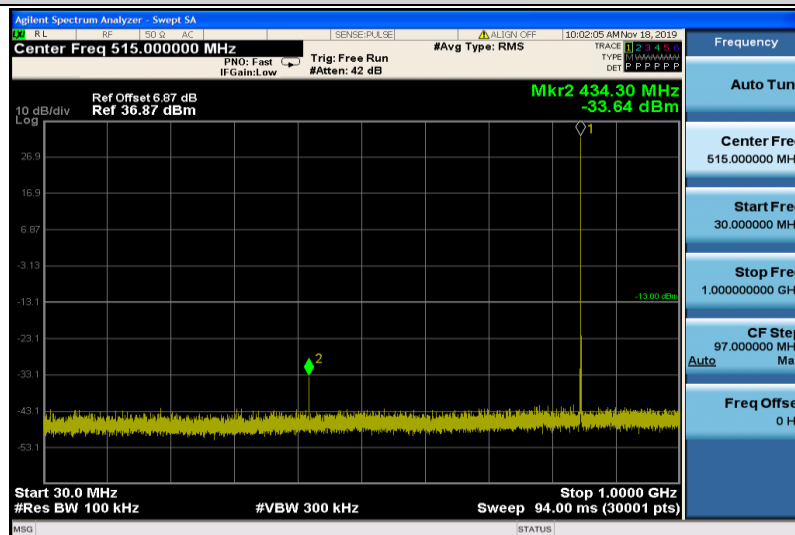
GSM850-128-1000~10000



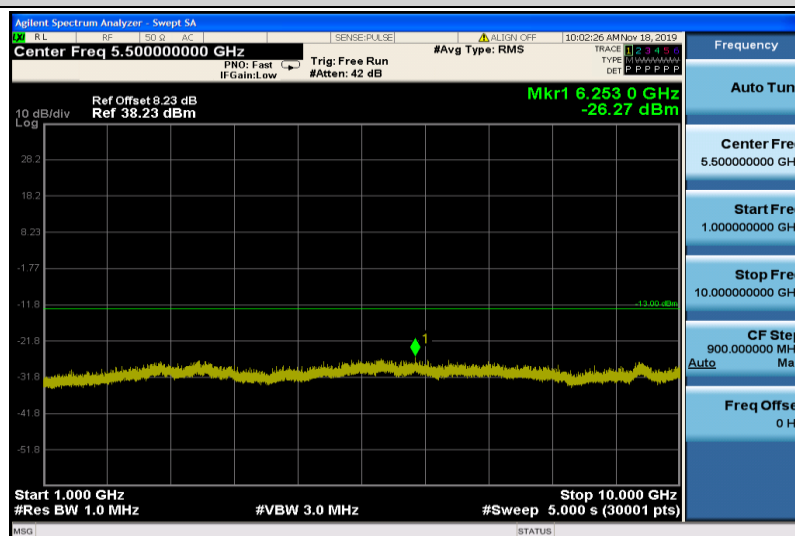
GSM850-190-30~1000



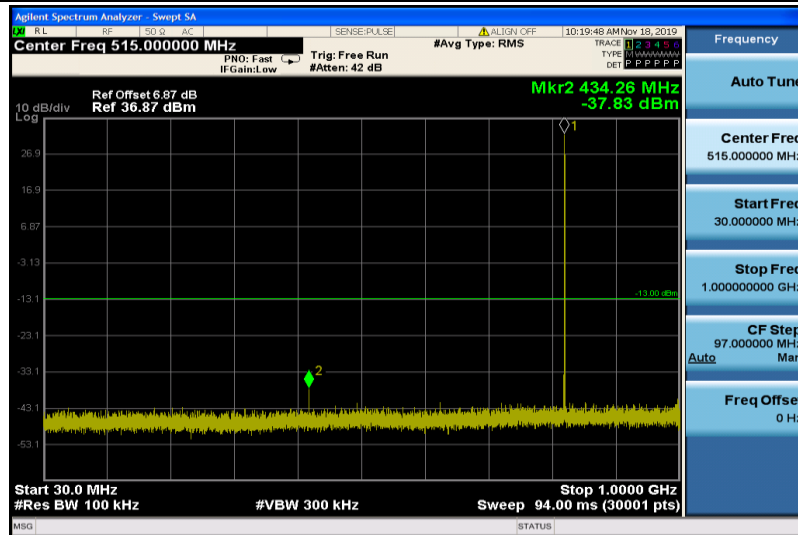
GSM850-190-1000~10000



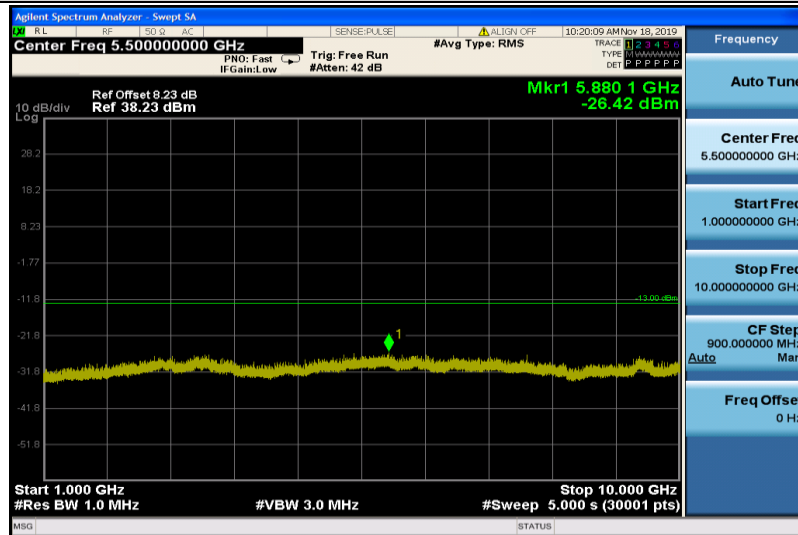
GSM850-251-30~1000



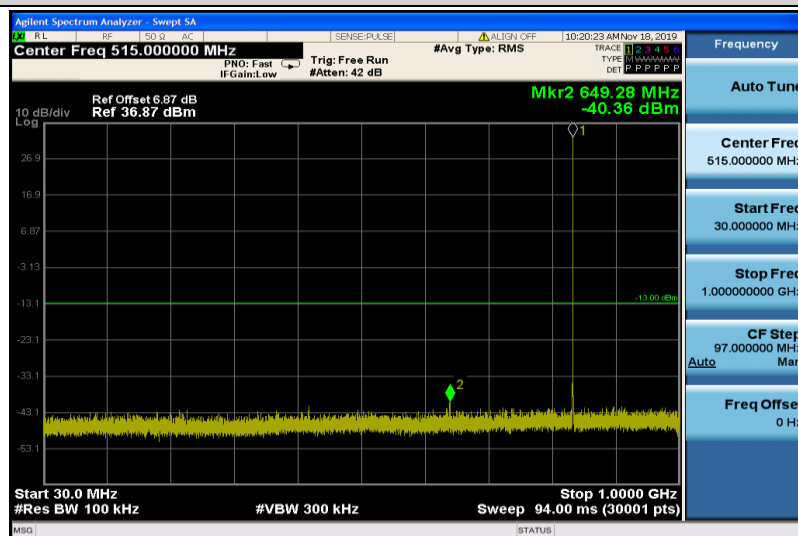
GSM850-251-1000~10000



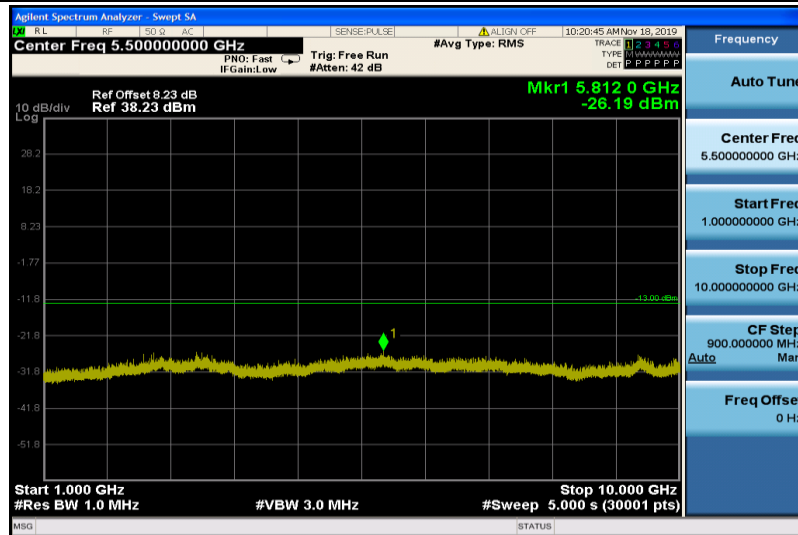
GPRS850-128-30~1000



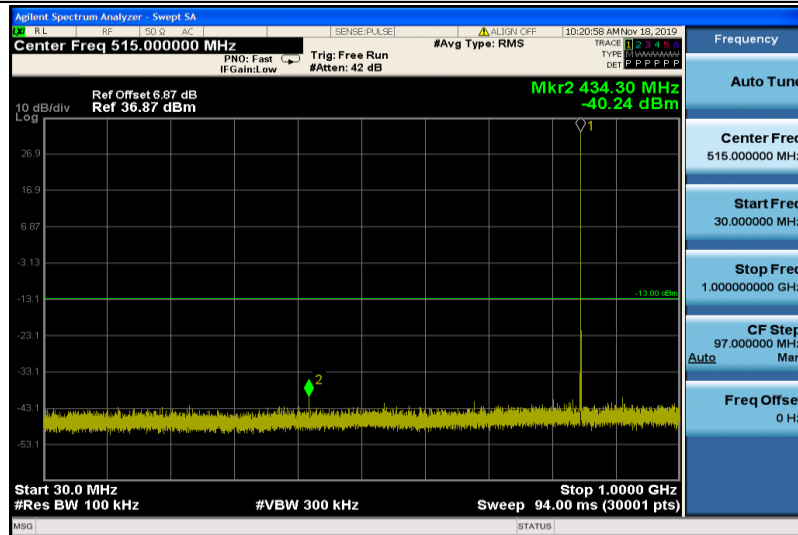
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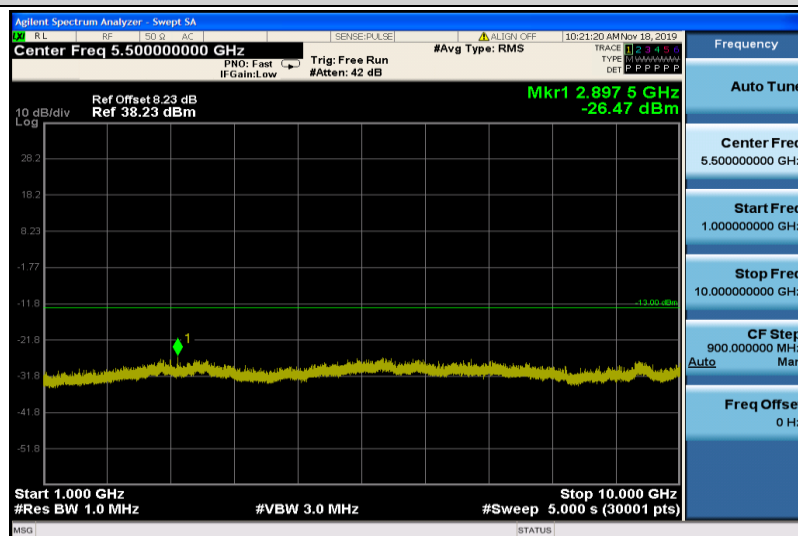
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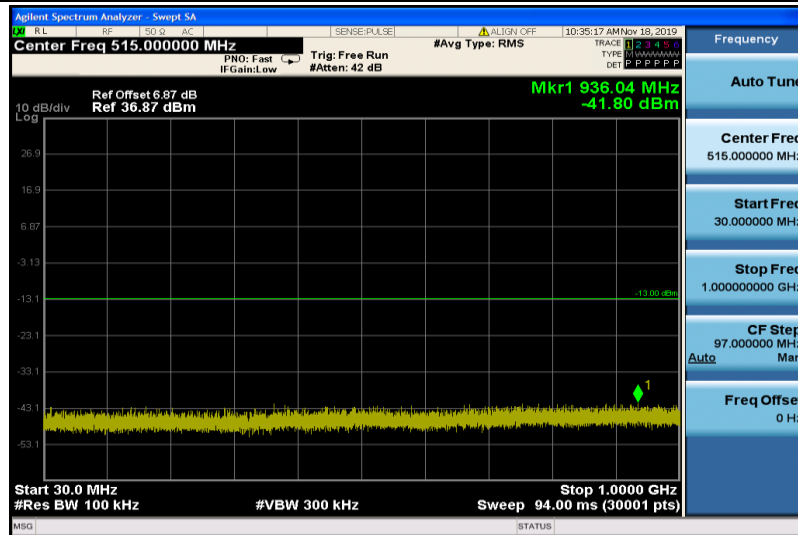
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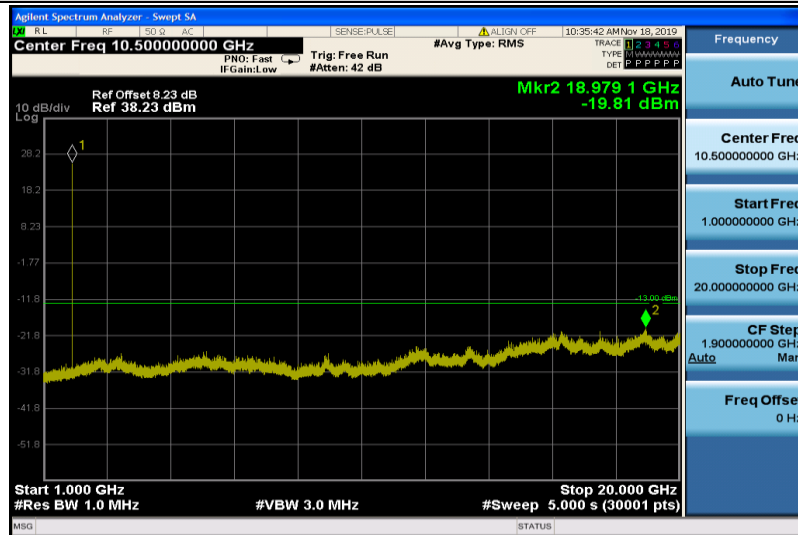
GPRS850-251-30~1000



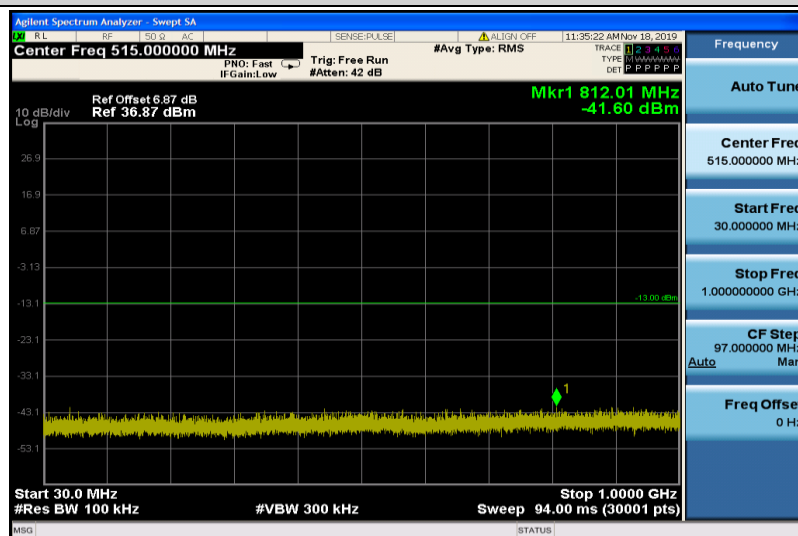
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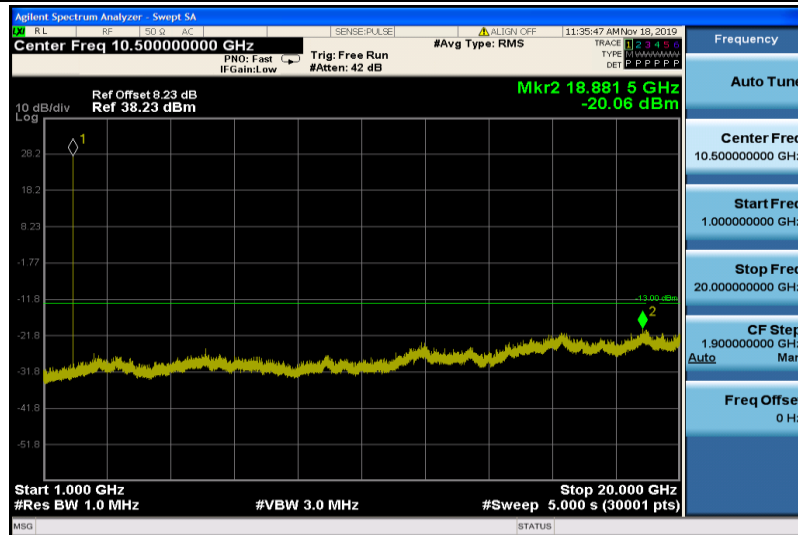
GSM1900-512-30~1000



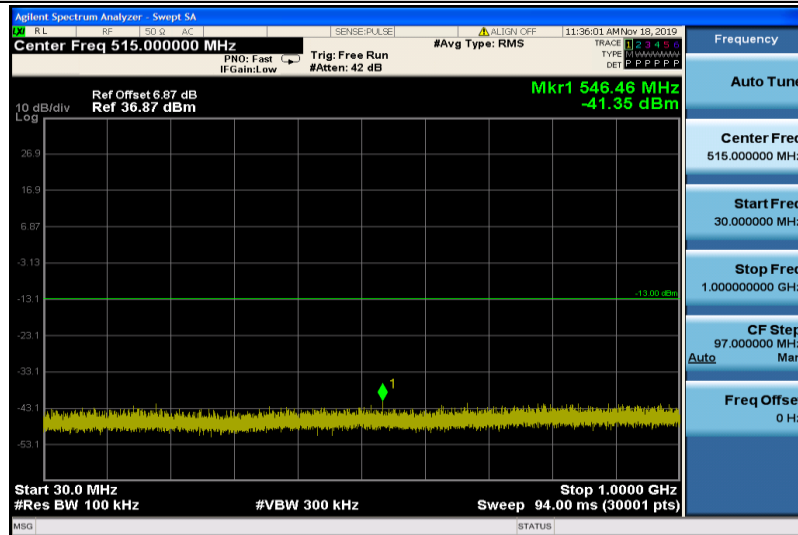
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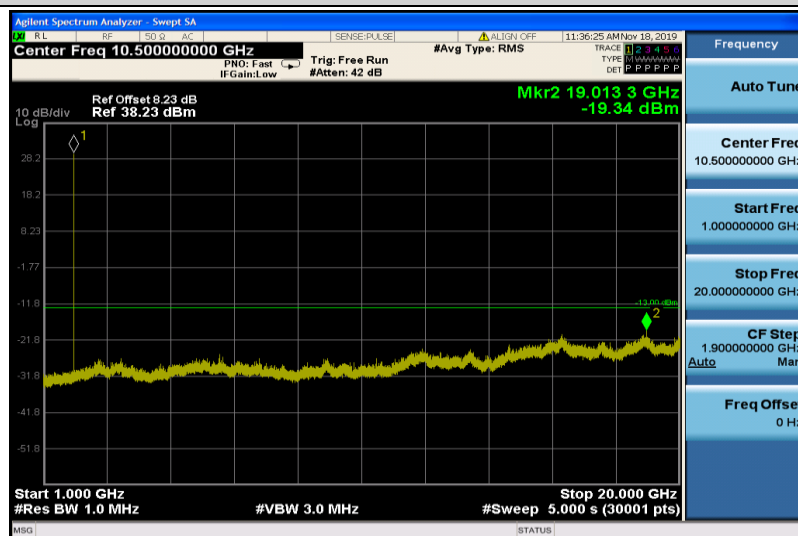
GSM1900-661-30~1000



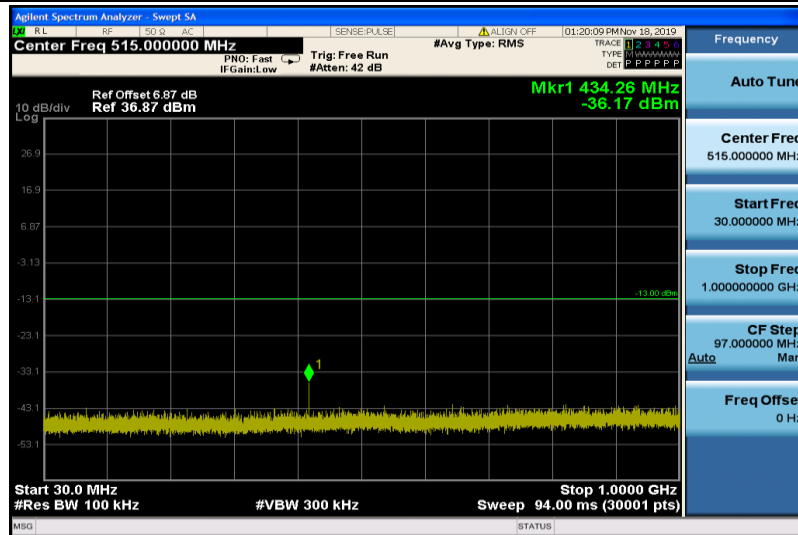
GSM1900-661-1000~20000



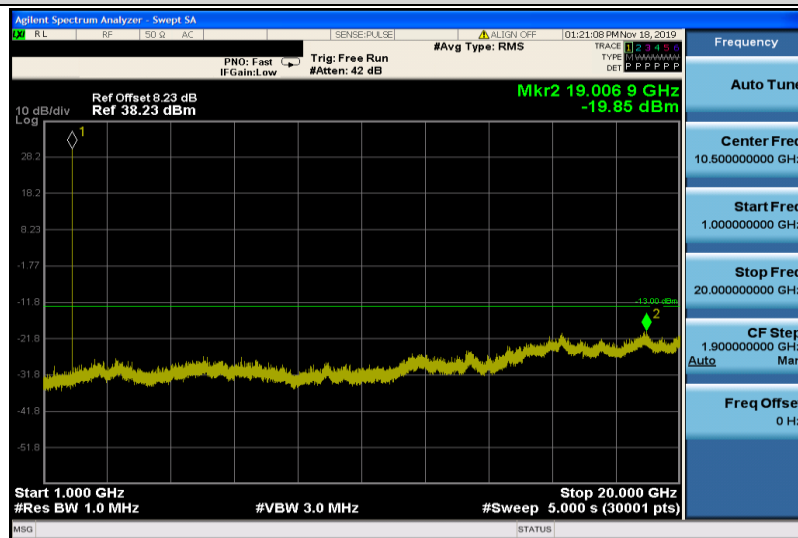
GSM1900-810-30~1000



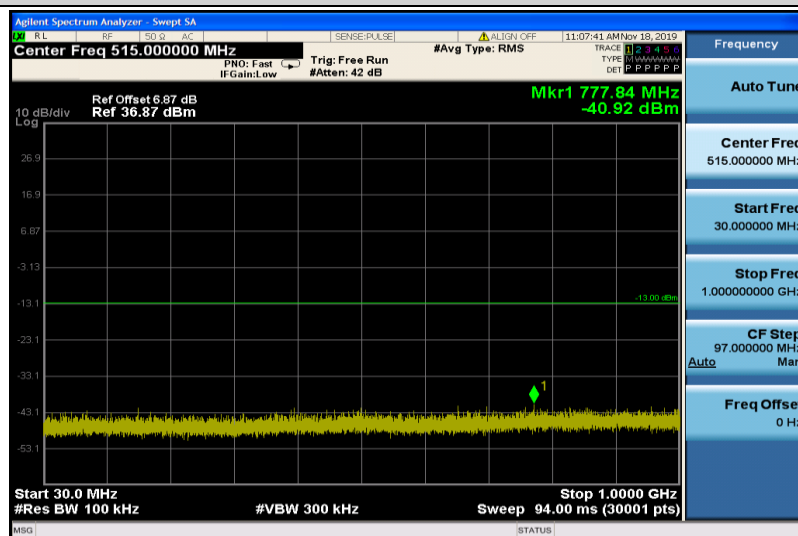
GSM1900-810-1000~20000



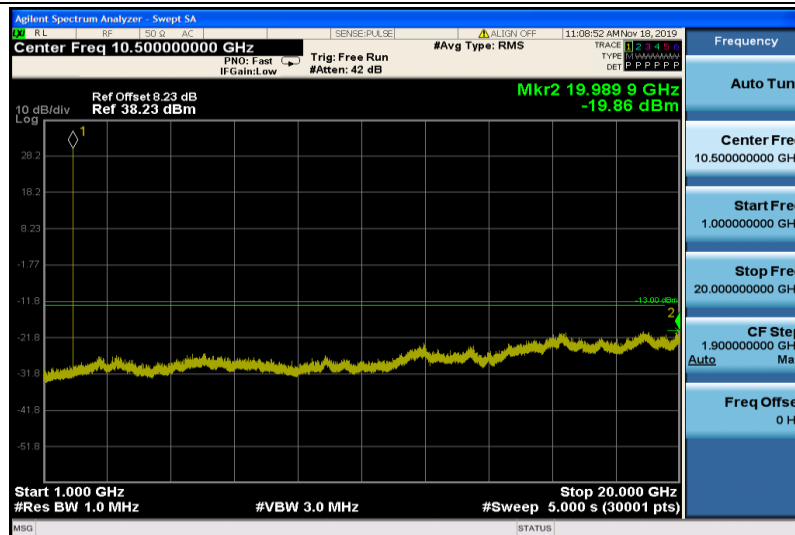
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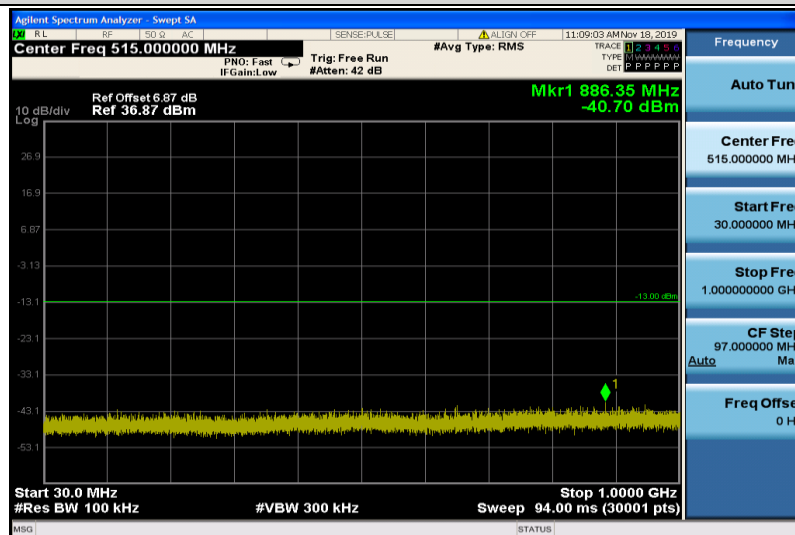
GPRS1900-512-1000~20000



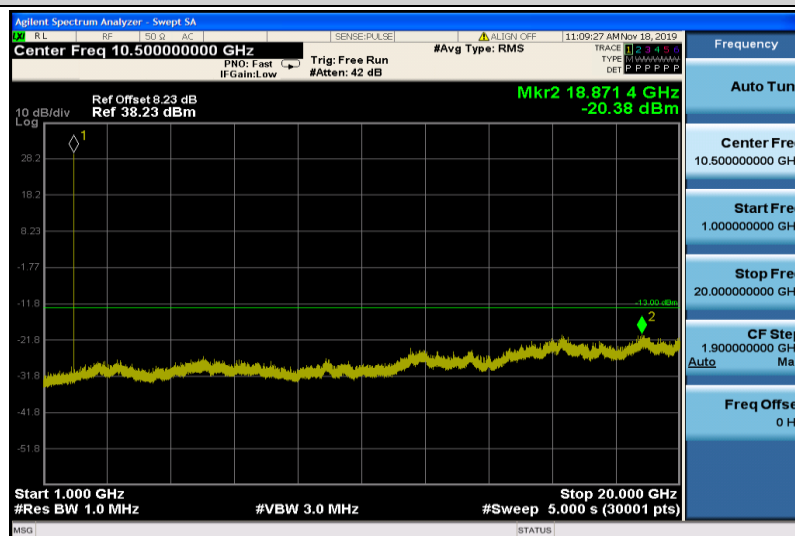
GPRS1900-661-30~1000



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	-10.72	-0.013005	2.5	PASS
GSM850	128	VN	TN	-8.81	-0.010694	2.5	PASS
GSM850	128	VH	TN	-7.43	-0.009010	2.5	PASS
GSM850	190	VL	TN	-2.23	-0.002663	2.5	PASS
GSM850	190	VN	TN	-5.46	-0.006522	2.5	PASS
GSM850	190	VH	TN	-5.81	-0.006947	2.5	PASS
GSM850	251	VL	TN	0.48	0.000571	2.5	PASS
GSM850	251	VN	TN	2.81	0.003309	2.5	PASS
GSM850	251	VH	TN	-2.07	-0.002434	2.5	PASS
GPRS850	128	VL	TN	10.59	0.012849	2.5	PASS
GPRS850	128	VN	TN	19.60	0.023778	2.5	PASS
GPRS850	128	VH	TN	33.00	0.040034	2.5	PASS
GPRS850	190	VL	TN	15.40	0.018408	2.5	PASS
GPRS850	190	VN	TN	21.44	0.025625	2.5	PASS
GPRS850	190	VH	TN	18.85	0.022538	2.5	PASS
GPRS850	251	VL	TN	18.50	0.021795	2.5	PASS
GPRS850	251	VN	TN	15.85	0.018676	2.5	PASS
GPRS850	251	VH	TN	13.17	0.015519	2.5	PASS
GSM1900	512	VL	TN	-13.37	-0.007224	2.5	PASS
GSM1900	512	VN	TN	-8.17	-0.004415	2.5	PASS
GSM1900	512	VH	TN	-9.36	-0.005060	2.5	PASS
GSM1900	661	VL	TN	2.23	0.001185	2.5	PASS
GSM1900	661	VN	TN	3.94	0.002095	2.5	PASS
GSM1900	661	VH	TN	3.36	0.001786	2.5	PASS
GSM1900	810	VL	TN	8.33	0.004362	2.5	PASS
GSM1900	810	VN	TN	16.85	0.008825	2.5	PASS
GSM1900	810	VH	TN	6.26	0.003280	2.5	PASS
GPRS1900	512	VL	TN	9.85	0.005322	2.5	PASS
GPRS1900	512	VN	TN	40.10	0.021673	2.5	PASS
GPRS1900	512	VH	TN	56.79	0.030694	2.5	PASS
GPRS1900	661	VL	TN	19.89	0.010579	2.5	PASS
GPRS1900	661	VN	TN	33.35	0.017740	2.5	PASS
GPRS1900	661	VH	TN	33.19	0.017654	2.5	PASS
GPRS1900	810	VL	TN	41.87	0.021926	2.5	PASS
GPRS1900	810	VN	TN	26.99	0.014133	2.5	PASS

GPRS1900	810	VH	TN	30.15	0.015790	2.5	PASS
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Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VN	-30	-4.71	-0.005719	2.5	PASS
GSM850	128	VN	-20	-7.36	-0.008931	2.5	PASS
GSM850	128	VN	-10	-7.78	-0.009441	2.5	PASS
GSM850	128	VN	0	-3.62	-0.004387	2.5	PASS
GSM850	128	VN	10	-2.94	-0.003565	2.5	PASS
GSM850	128	VN	20	-8.56	-0.010381	2.5	PASS
GSM850	128	VN	30	-6.72	-0.008148	2.5	PASS
GSM850	128	VN	40	-2.84	-0.003447	2.5	PASS
GSM850	128	VN	50	-7.36	-0.008931	2.5	PASS
GSM850	190	VN	-30	-0.90	-0.001081	2.5	PASS
GSM850	190	VN	-20	-2.13	-0.002547	2.5	PASS
GSM850	190	VN	-10	-1.29	-0.001544	2.5	PASS
GSM850	190	VN	0	-2.78	-0.003319	2.5	PASS
GSM850	190	VN	10	-1.87	-0.002238	2.5	PASS
GSM850	190	VN	20	-1.90	-0.002277	2.5	PASS
GSM850	190	VN	30	-0.03	-0.000039	2.5	PASS
GSM850	190	VN	40	-1.03	-0.001235	2.5	PASS
GSM850	190	VN	50	-0.29	-0.000347	2.5	PASS
GSM850	251	VN	-30	-0.39	-0.000456	2.5	PASS
GSM850	251	VN	-20	1.71	0.002016	2.5	PASS
GSM850	251	VN	-10	-3.07	-0.003614	2.5	PASS
GSM850	251	VN	0	-0.23	-0.000266	2.5	PASS
GSM850	251	VN	10	-5.65	-0.006656	2.5	PASS
GSM850	251	VN	20	-3.23	-0.003804	2.5	PASS
GSM850	251	VN	30	0.00	0.000000	2.5	PASS
GSM850	251	VN	40	-3.97	-0.004679	2.5	PASS
GSM850	251	VN	50	-0.06	-0.000076	2.5	PASS
GPRS850	128	VN	-30	26.31	0.031925	2.5	PASS
GPRS850	128	VN	-20	19.34	0.023464	2.5	PASS
GPRS850	128	VN	-10	30.54	0.037057	2.5	PASS
GPRS850	128	VN	0	28.61	0.034707	2.5	PASS
GPRS850	128	VN	10	28.35	0.034393	2.5	PASS
GPRS850	128	VN	20	23.99	0.029105	2.5	PASS
GPRS850	128	VN	30	21.28	0.025815	2.5	PASS
GPRS850	128	VN	40	25.12	0.030476	2.5	PASS
GPRS850	128	VN	50	25.93	0.031455	2.5	PASS
GPRS850	190	VN	-30	18.14	0.021689	2.5	PASS
GPRS850	190	VN	-20	15.11	0.018061	2.5	PASS

GPRS850	190	VN	-10	19.53	0.023348	2.5	PASS
GPRS850	190	VN	0	15.63	0.018678	2.5	PASS
GPRS850	190	VN	10	15.37	0.018370	2.5	PASS
GPRS850	190	VN	20	17.56	0.020994	2.5	PASS
GPRS850	190	VN	30	15.88	0.018987	2.5	PASS
GPRS850	190	VN	40	16.66	0.019913	2.5	PASS
GPRS850	190	VN	50	14.75	0.017636	2.5	PASS
GPRS850	251	VN	-30	8.07	0.009509	2.5	PASS
GPRS850	251	VN	-20	12.46	0.014682	2.5	PASS
GPRS850	251	VN	-10	10.85	0.012780	2.5	PASS
GPRS850	251	VN	0	13.75	0.016204	2.5	PASS
GPRS850	251	VN	10	8.46	0.009966	2.5	PASS
GPRS850	251	VN	20	11.49	0.013541	2.5	PASS
GPRS850	251	VN	30	14.21	0.016736	2.5	PASS
GPRS850	251	VN	40	11.75	0.013845	2.5	PASS
GPRS850	251	VN	50	14.85	0.017497	2.5	PASS
GSM1900	512	VN	-30	-8.17	-0.004415	2.5	PASS
GSM1900	512	VN	-20	-5.81	-0.003141	2.5	PASS
GSM1900	512	VN	-10	-8.52	-0.004607	2.5	PASS
GSM1900	512	VN	0	-4.88	-0.002635	2.5	PASS
GSM1900	512	VN	10	-6.55	-0.003542	2.5	PASS
GSM1900	512	VN	20	3.03	0.001640	2.5	PASS
GSM1900	512	VN	30	-3.52	-0.001902	2.5	PASS
GSM1900	512	VN	40	4.84	0.002617	2.5	PASS
GSM1900	512	VN	50	-0.68	-0.000366	2.5	PASS
GSM1900	661	VN	-30	5.46	0.002902	2.5	PASS
GSM1900	661	VN	-20	8.56	0.004551	2.5	PASS
GSM1900	661	VN	-10	13.33	0.007093	2.5	PASS
GSM1900	661	VN	0	15.27	0.008123	2.5	PASS
GSM1900	661	VN	10	6.13	0.003263	2.5	PASS
GSM1900	661	VN	20	9.94	0.005289	2.5	PASS
GSM1900	661	VN	30	13.20	0.007024	2.5	PASS
GSM1900	661	VN	40	4.84	0.002576	2.5	PASS
GSM1900	661	VN	50	11.62	0.006182	2.5	PASS
GSM1900	810	VN	-30	13.79	0.007219	2.5	PASS
GSM1900	810	VN	-20	2.00	0.001048	2.5	PASS
GSM1900	810	VN	-10	11.30	0.005917	2.5	PASS
GSM1900	810	VN	0	17.14	0.008977	2.5	PASS
GSM1900	810	VN	10	8.94	0.004683	2.5	PASS
GSM1900	810	VN	20	18.18	0.009518	2.5	PASS
GSM1900	810	VN	30	9.62	0.005038	2.5	PASS
GSM1900	810	VN	40	16.27	0.008520	2.5	PASS

GSM1900	810	VN	50	7.88	0.004125	2.5	PASS
GPRS1900	512	VN	-30	57.86	0.031270	2.5	PASS
GPRS1900	512	VN	-20	42.04	0.022720	2.5	PASS
GPRS1900	512	VN	-10	50.37	0.027222	2.5	PASS
GPRS1900	512	VN	0	48.33	0.026123	2.5	PASS
GPRS1900	512	VN	10	42.42	0.022929	2.5	PASS
GPRS1900	512	VN	20	43.97	0.023767	2.5	PASS
GPRS1900	512	VN	30	42.97	0.023226	2.5	PASS
GPRS1900	512	VN	40	33.67	0.018200	2.5	PASS
GPRS1900	512	VN	50	38.87	0.021010	2.5	PASS
GPRS1900	661	VN	-30	26.89	0.014305	2.5	PASS
GPRS1900	661	VN	-20	24.89	0.013241	2.5	PASS
GPRS1900	661	VN	-10	31.74	0.016881	2.5	PASS
GPRS1900	661	VN	0	22.05	0.011729	2.5	PASS
GPRS1900	661	VN	10	30.09	0.016006	2.5	PASS
GPRS1900	661	VN	20	21.50	0.011437	2.5	PASS
GPRS1900	661	VN	30	26.12	0.013893	2.5	PASS
GPRS1900	661	VN	40	32.67	0.017379	2.5	PASS
GPRS1900	661	VN	50	16.89	0.008982	2.5	PASS
GPRS1900	810	VN	-30	19.40	0.010160	2.5	PASS
GPRS1900	810	VN	-20	21.21	0.011107	2.5	PASS
GPRS1900	810	VN	-10	22.92	0.012003	2.5	PASS
GPRS1900	810	VN	0	25.99	0.013609	2.5	PASS
GPRS1900	810	VN	10	27.44	0.014370	2.5	PASS
GPRS1900	810	VN	20	28.38	0.014860	2.5	PASS
GPRS1900	810	VN	30	7.26	0.003804	2.5	PASS
GPRS1900	810	VN	40	11.30	0.005917	2.5	PASS
GPRS1900	810	VN	50	33.77	0.017683	2.5	PASS

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