

Appendix-A GSM

Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Channel	Up Slot Num	Power(dBm)	ERP(dBm)	Limit(dBm)	Verdict
GSM850	128	--	32.34	32.69	38.45	PASS
GSM850	190	--	32.45	32.8	38.45	PASS
GSM850	251	--	32.54	32.89	38.45	PASS
GPRS850	128	1	32.43	32.78	38.45	PASS
GPRS850	128	2	32.07	32.42	38.45	PASS
GPRS850	128	3	30.3	30.65	38.45	PASS
GPRS850	128	4	27.79	28.14	38.45	PASS
GPRS850	190	1	32.32	32.67	38.45	PASS
GPRS850	190	2	32.07	32.42	38.45	PASS
GPRS850	190	3	30.31	30.66	38.45	PASS
GPRS850	190	4	27.79	28.14	38.45	PASS
GPRS850	251	1	32.38	32.73	38.45	PASS
GPRS850	251	2	32	32.35	38.45	PASS
GPRS850	251	3	30.17	30.52	38.45	PASS
GPRS850	251	4	27.66	28.01	38.45	PASS
EGPRS850	128	1	26.75	27.1	38.45	PASS
EGPRS850	128	2	25.65	26	38.45	PASS
EGPRS850	128	3	24.07	24.42	38.45	PASS
EGPRS850	128	4	22.5	22.85	38.45	PASS
EGPRS850	190	1	26.67	27.02	38.45	PASS
EGPRS850	190	2	25.58	25.93	38.45	PASS
EGPRS850	190	3	24.06	24.41	38.45	PASS
EGPRS850	190	4	22.5	22.85	38.45	PASS
EGPRS850	251	1	26.56	26.91	38.45	PASS
EGPRS850	251	2	25.49	25.84	38.45	PASS
EGPRS850	251	3	23.94	24.29	38.45	PASS
EGPRS850	251	4	22.38	22.73	38.45	PASS

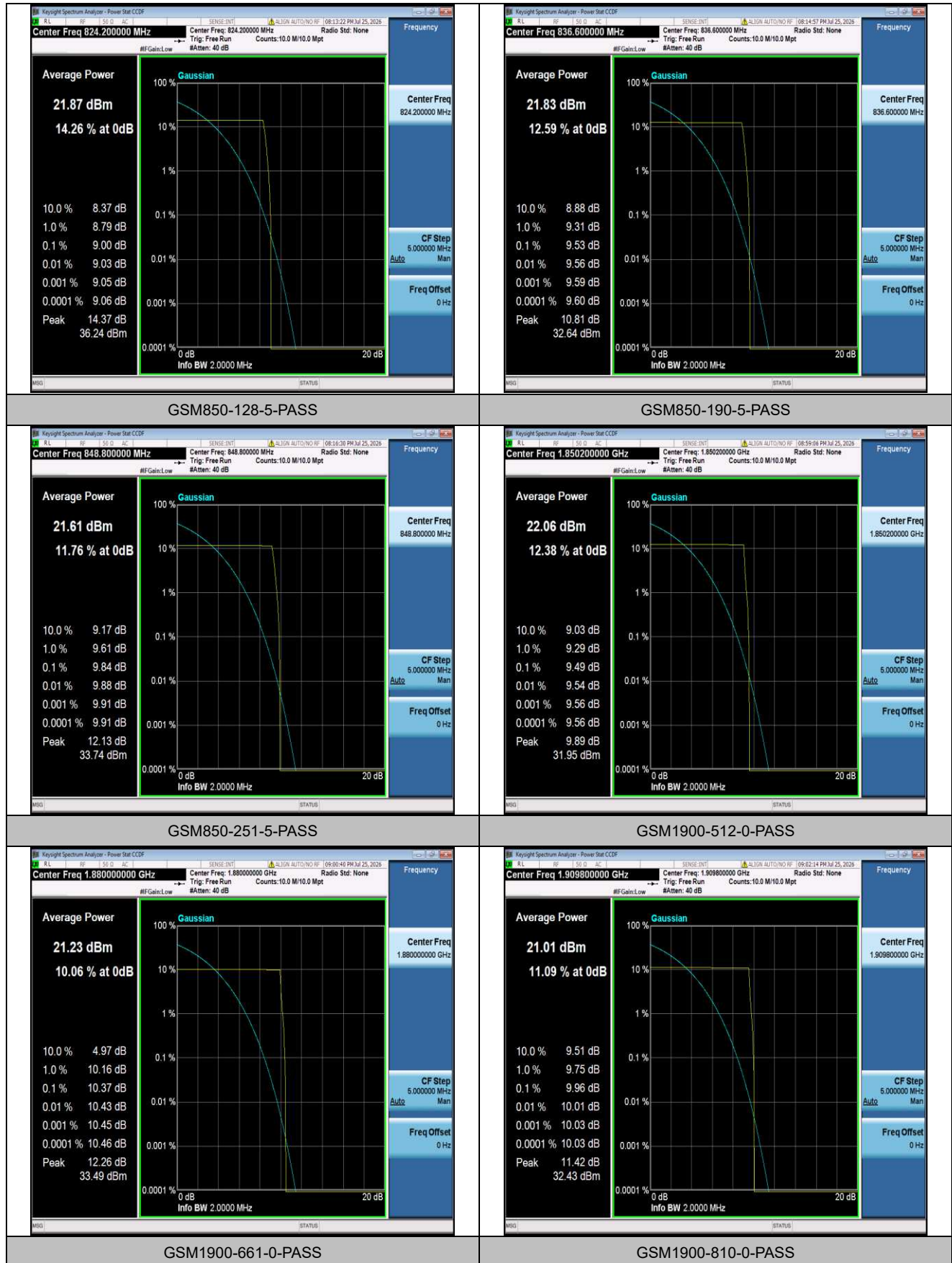
Band	Channel	Up Slot Num	Power(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
GSM1900	512	--	30.73	31.71	33.00	PASS
GSM1900	661	--	30.77	31.75	33.00	PASS
GSM1900	810	--	30.63	31.61	33.00	PASS
GPRS1900	512	1	30.81	31.79	33.00	PASS
GPRS1900	512	2	30.41	31.39	33.00	PASS
GPRS1900	512	3	29.41	30.39	33.00	PASS
GPRS1900	512	4	27.82	28.8	33.00	PASS
GPRS1900	661	1	30.75	31.73	33.00	PASS
GPRS1900	661	2	29.81	30.79	33.00	PASS
GPRS1900	661	3	28.69	29.67	33.00	PASS
GPRS1900	661	4	27.11	28.09	33.00	PASS
GPRS1900	810	1	30.6	31.58	33.00	PASS
GPRS1900	810	2	29.75	30.73	33.00	PASS
GPRS1900	810	3	28.73	29.71	33.00	PASS
GPRS1900	810	4	27.18	28.16	33.00	PASS
EGPRS1900	512	1	27.18	28.16	33.00	PASS
EGPRS1900	512	2	26.08	27.06	33.00	PASS
EGPRS1900	512	3	25.03	26.01	33.00	PASS
EGPRS1900	512	4	23.48	24.46	33.00	PASS
EGPRS1900	661	1	26.59	27.57	33.00	PASS
EGPRS1900	661	2	25.55	26.53	33.00	PASS
EGPRS1900	661	3	24.46	25.44	33.00	PASS
EGPRS1900	661	4	22.94	23.92	33.00	PASS
EGPRS1900	810	1	26.54	27.52	33.00	PASS
EGPRS1900	810	2	25.52	26.5	33.00	PASS
EGPRS1900	810	3	24.41	25.39	33.00	PASS
EGPRS1900	810	4	22.87	23.85	33.00	PASS

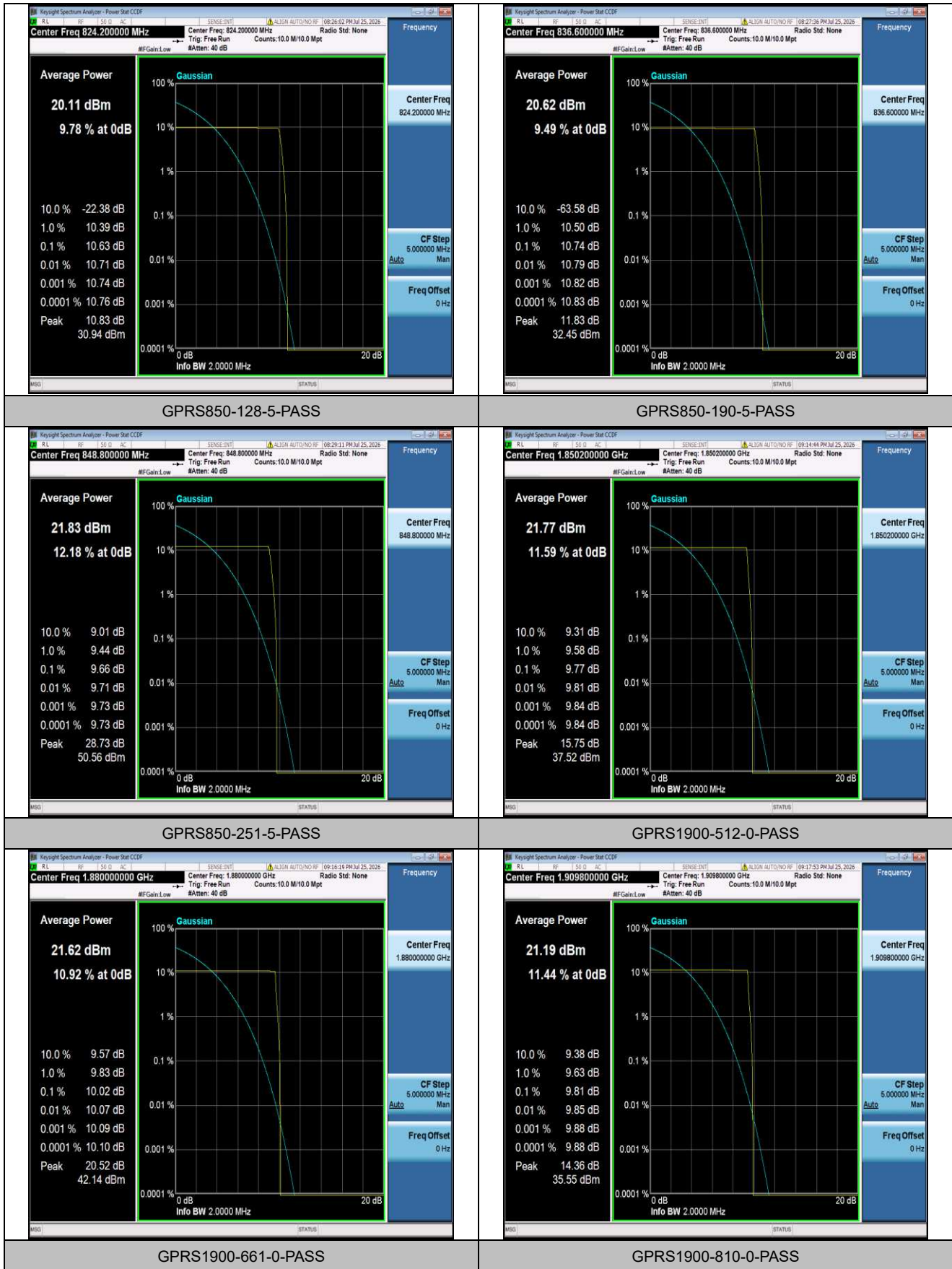
Peak-to-Average Ratio(CCDF)

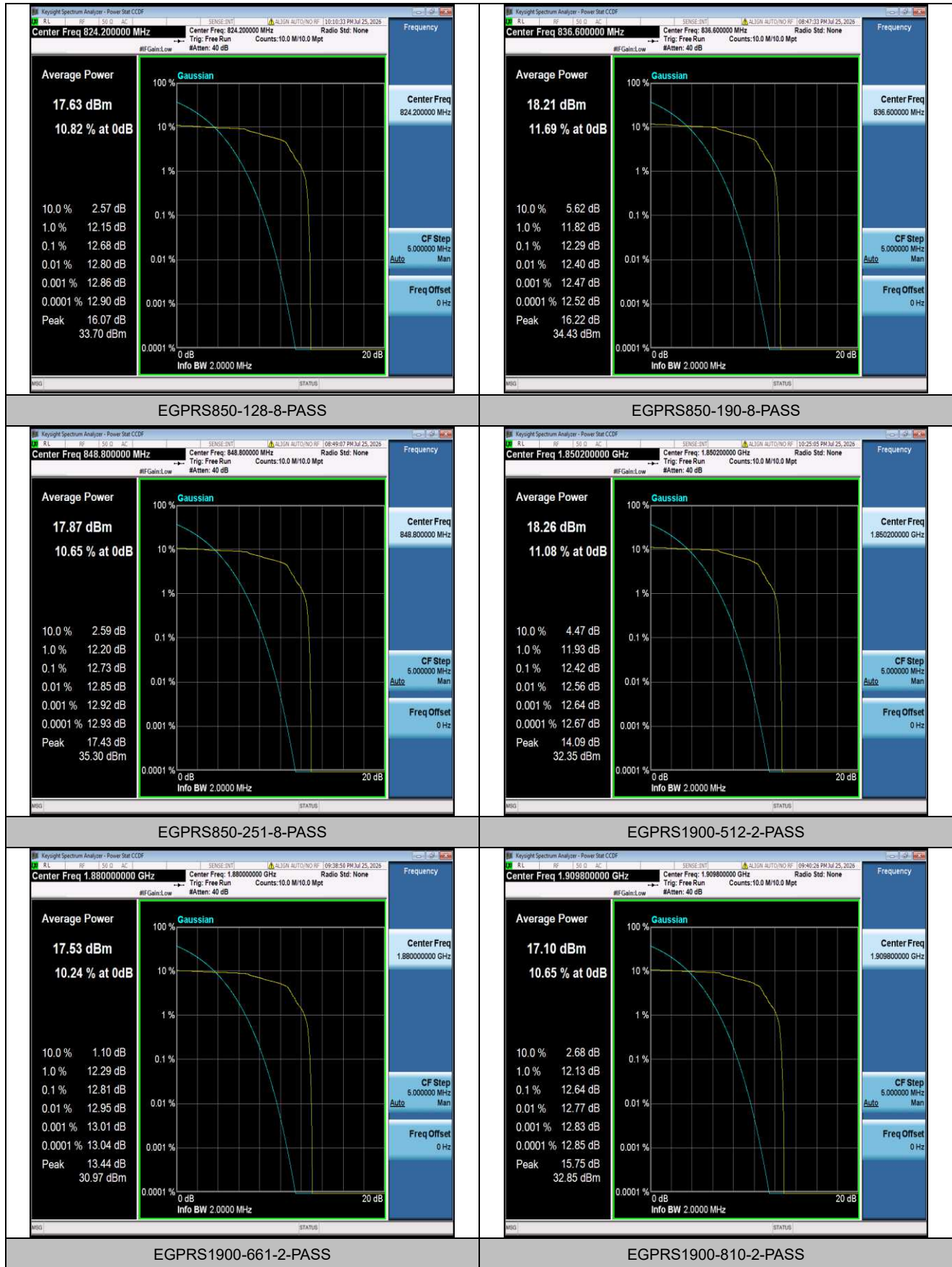
Test Result

Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM850	128	9.00	13	PASS
GSM850	190	9.53	13	PASS
GSM850	251	9.84	13	PASS
GSM1900	512	9.49	13	PASS
GSM1900	661	10.37	13	PASS
GSM1900	810	9.96	13	PASS
GPRS850	128	10.63	13	PASS
GPRS850	190	10.74	13	PASS
GPRS850	251	9.66	13	PASS
GPRS1900	512	9.77	13	PASS
GPRS1900	661	10.02	13	PASS
GPRS1900	810	9.81	13	PASS
EGPRS850	128	12.68	13	PASS
EGPRS850	190	12.29	13	PASS
EGPRS850	251	12.73	13	PASS
EGPRS1900	512	12.42	13	PASS
EGPRS1900	661	12.81	13	PASS
EGPRS1900	810	12.64	13	PASS

Test Graphs





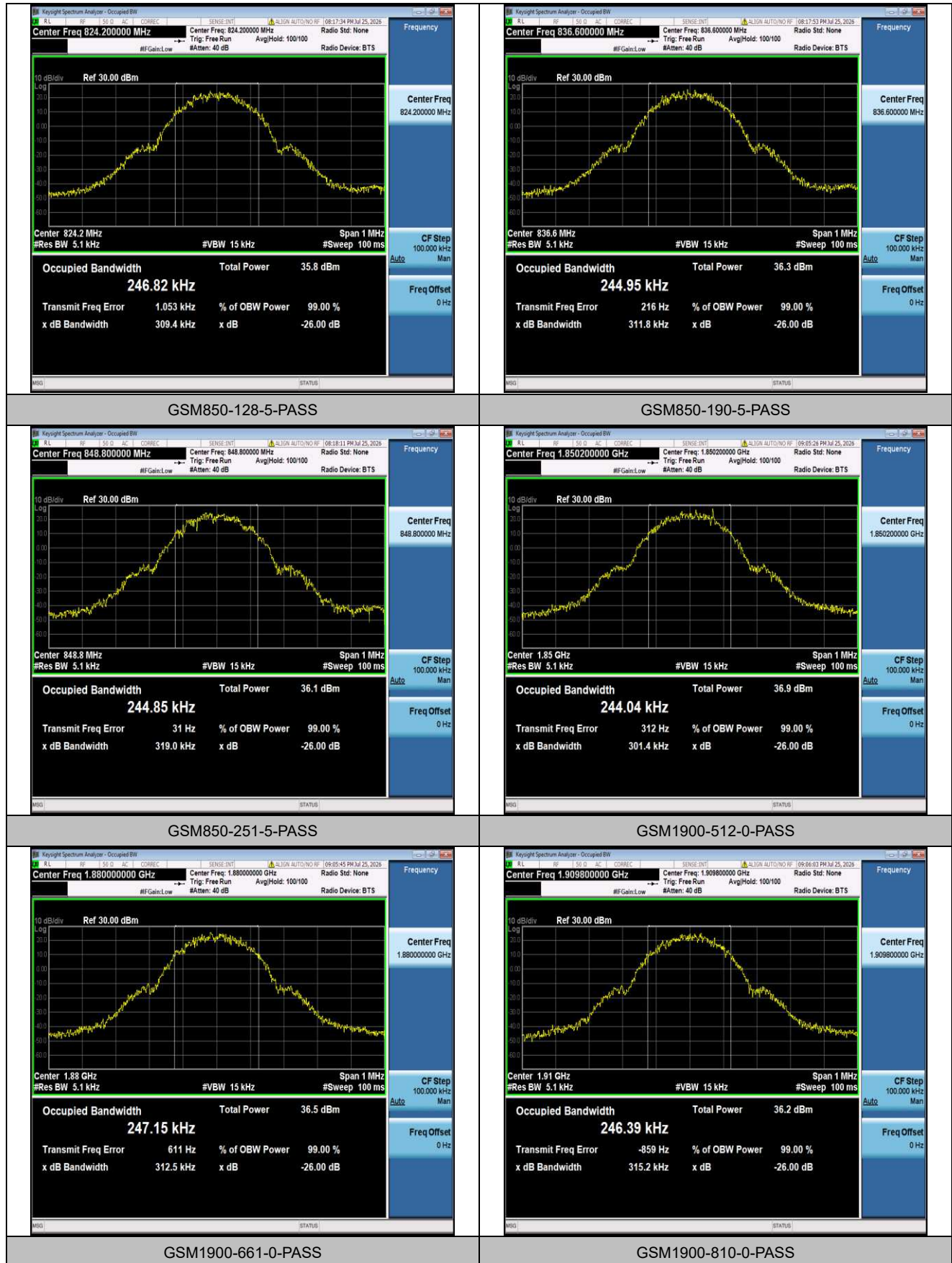


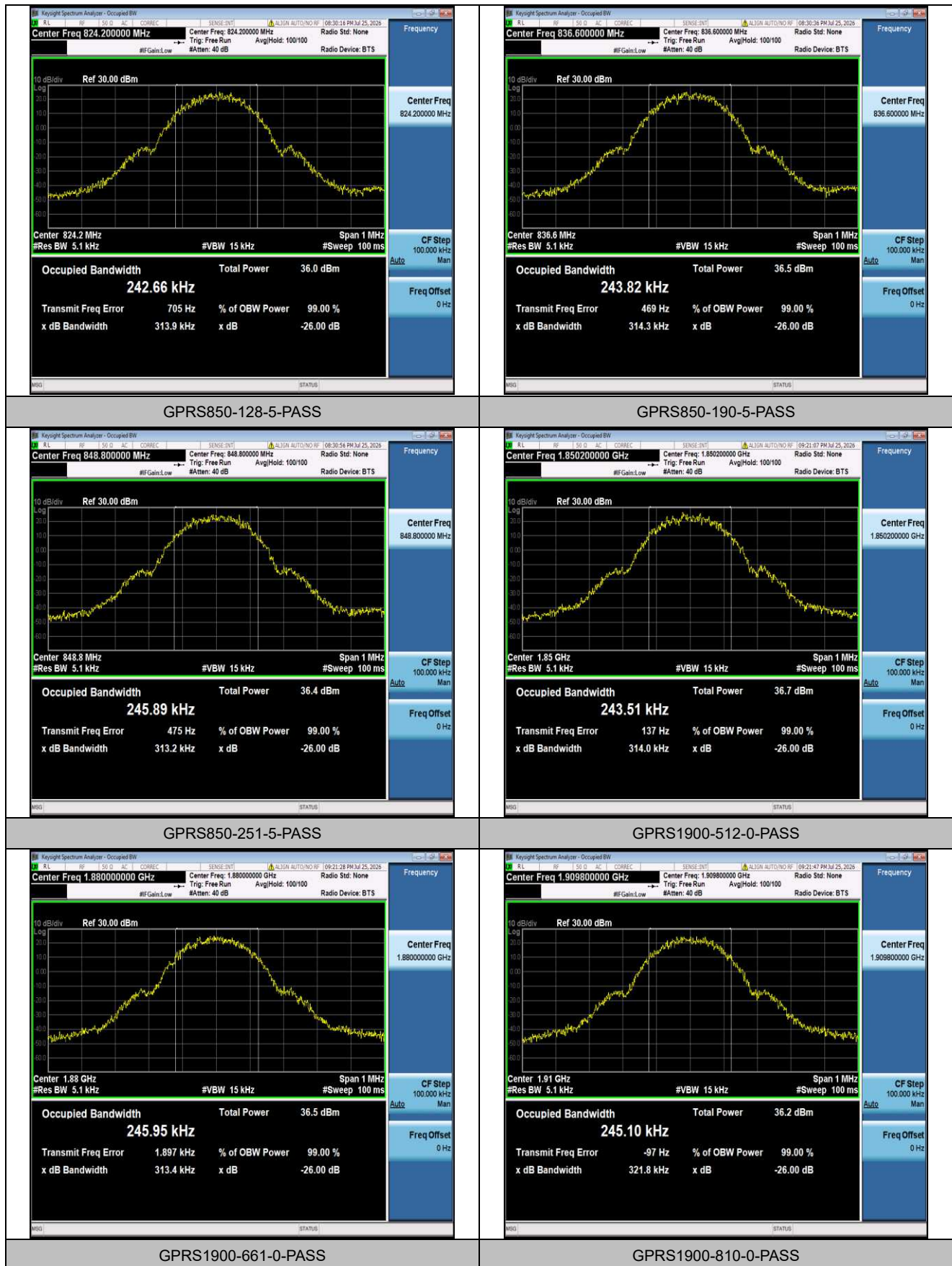
26dB Bandwidth and Occupied Bandwidth

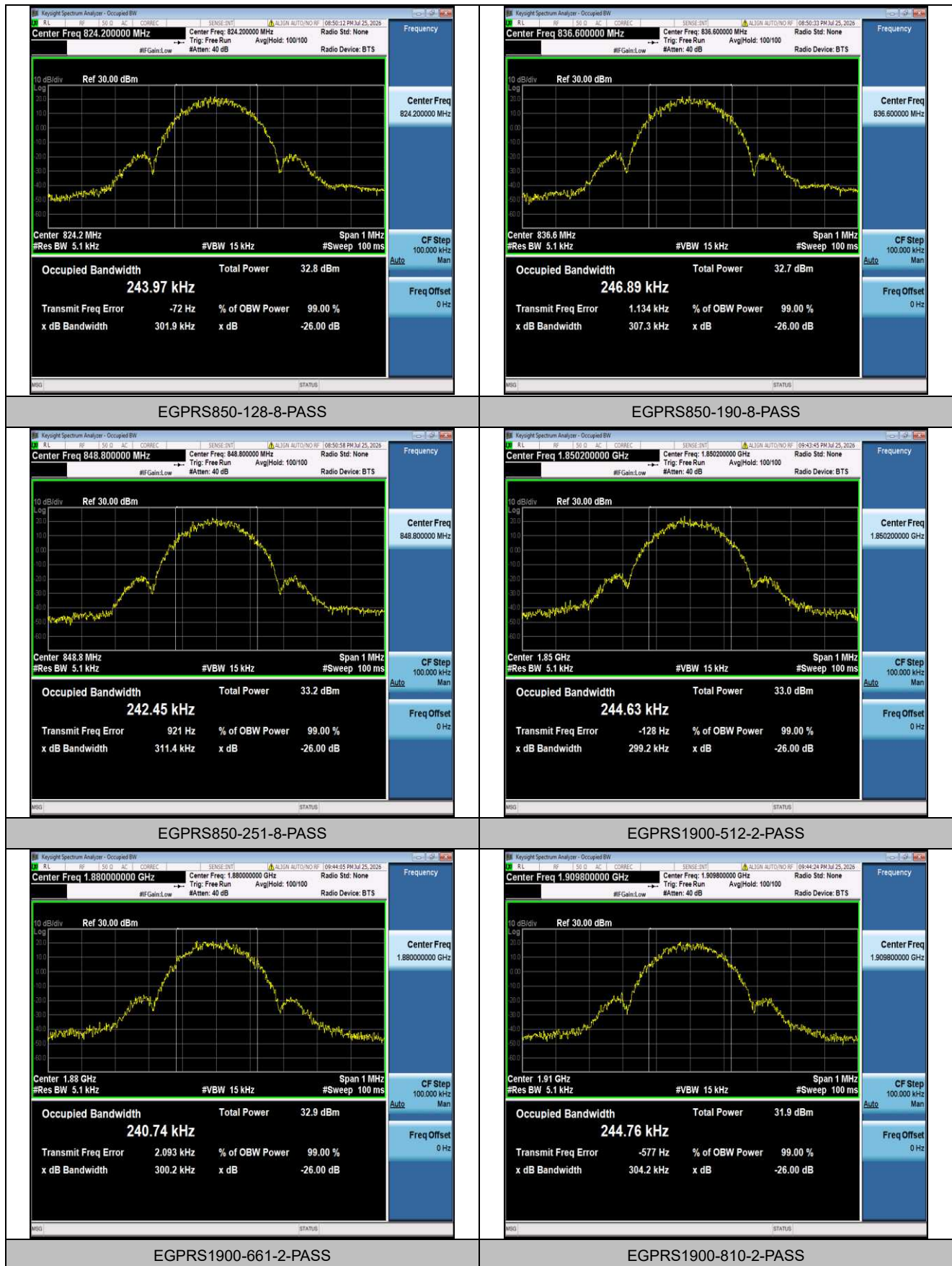
Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	0.24682	0.3094	---	PASS
GSM850	190	0.24495	0.3118	---	PASS
GSM850	251	0.24485	0.3190	---	PASS
GSM1900	512	0.24404	0.3014	---	PASS
GSM1900	661	0.24715	0.3125	---	PASS
GSM1900	810	0.24639	0.3152	---	PASS
GPRS850	128	0.24266	0.3139	---	PASS
GPRS850	190	0.24382	0.3143	---	PASS
GPRS850	251	0.24589	0.3132	---	PASS
GPRS1900	512	0.24351	0.3140	---	PASS
GPRS1900	661	0.24595	0.3134	---	PASS
GPRS1900	810	0.24510	0.3218	---	PASS
EGPRS850	128	0.24397	0.3019	---	PASS
EGPRS850	190	0.24689	0.3073	---	PASS
EGPRS850	251	0.24245	0.3114	---	PASS
EGPRS1900	512	0.24463	0.2992	---	PASS
EGPRS1900	661	0.24074	0.3002	---	PASS
EGPRS1900	810	0.24476	0.3042	---	PASS

Test Graphs

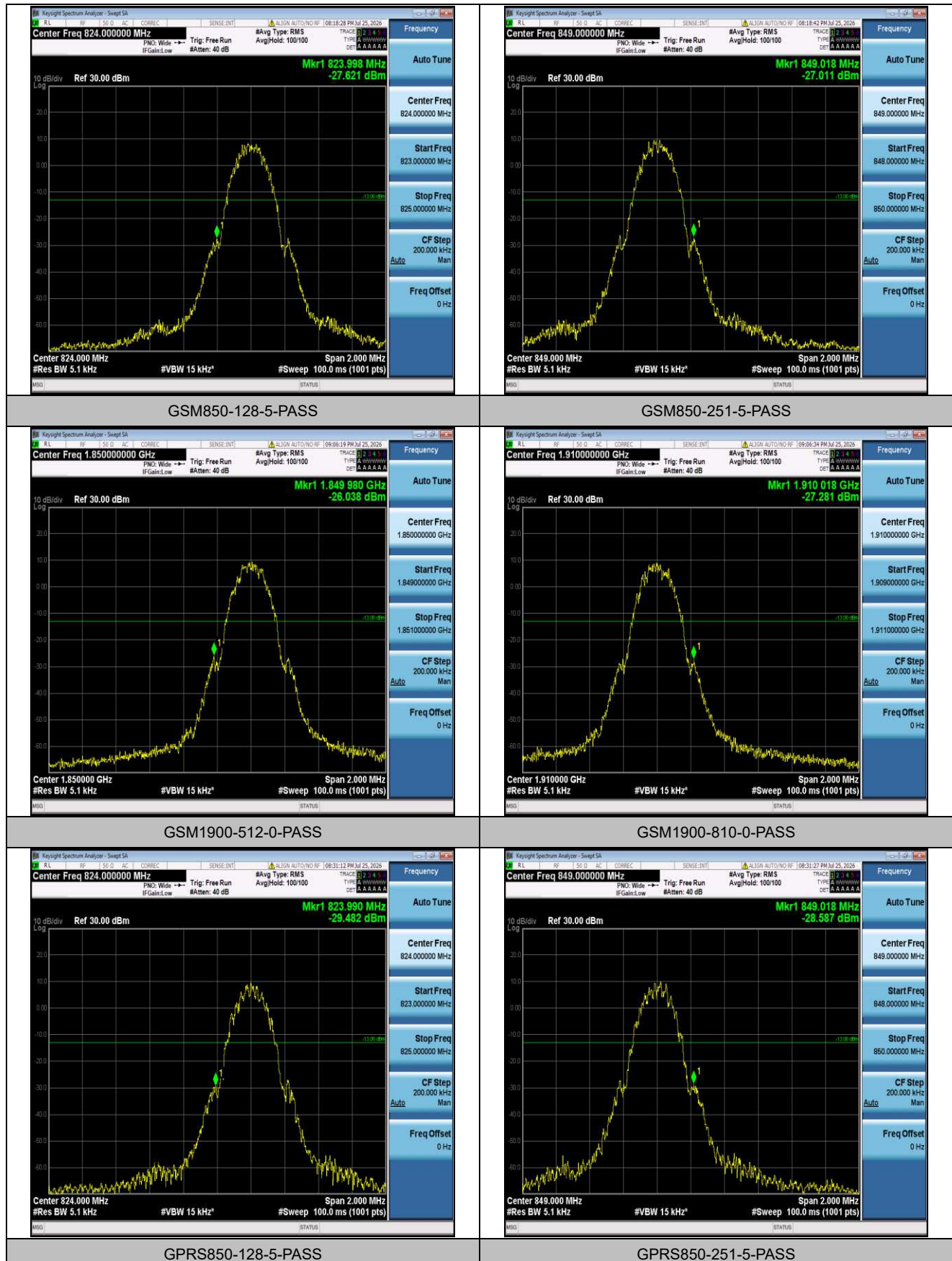


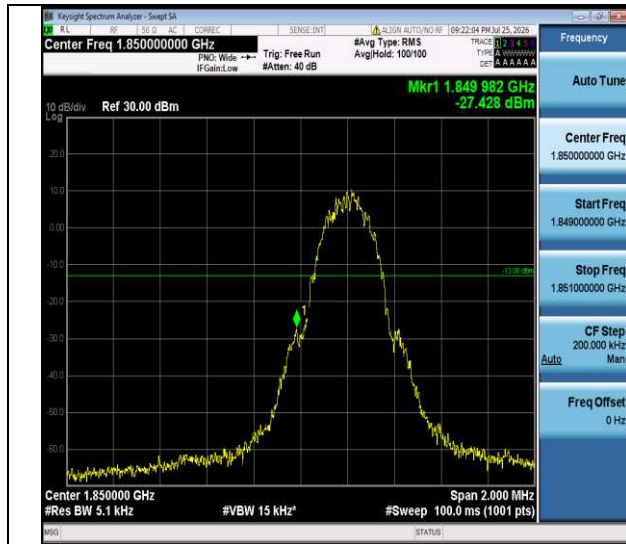




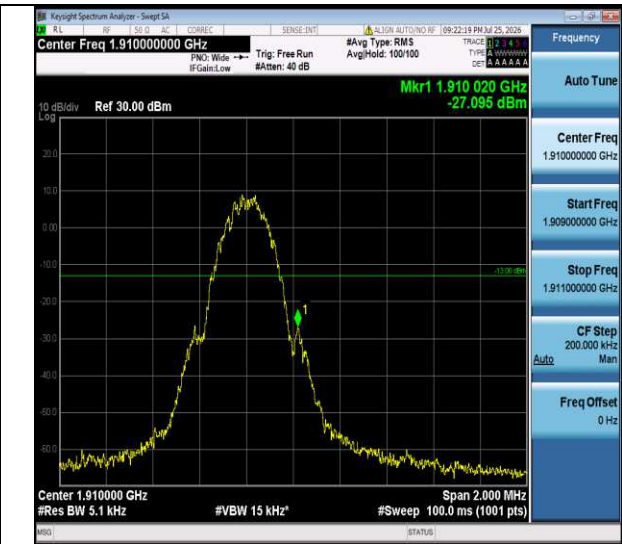
Band Edge

Test Graphs





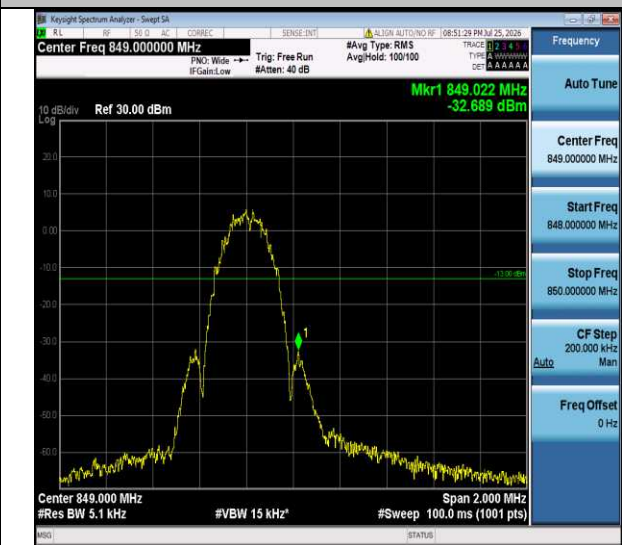
GPRS1900-512-0-PASS



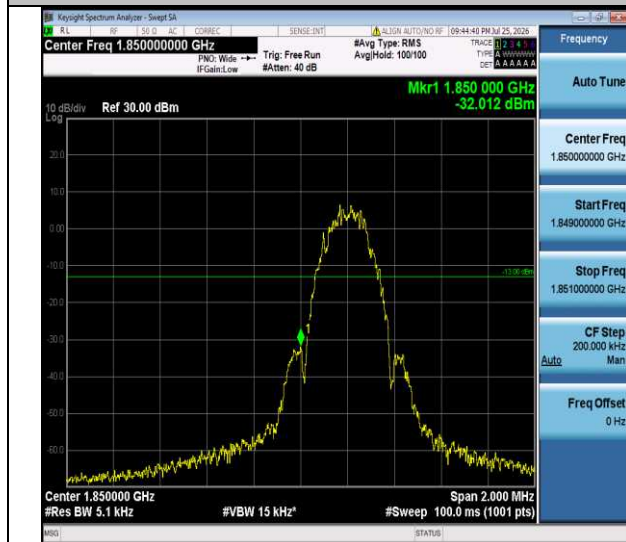
GPRS1900-810-0-PASS



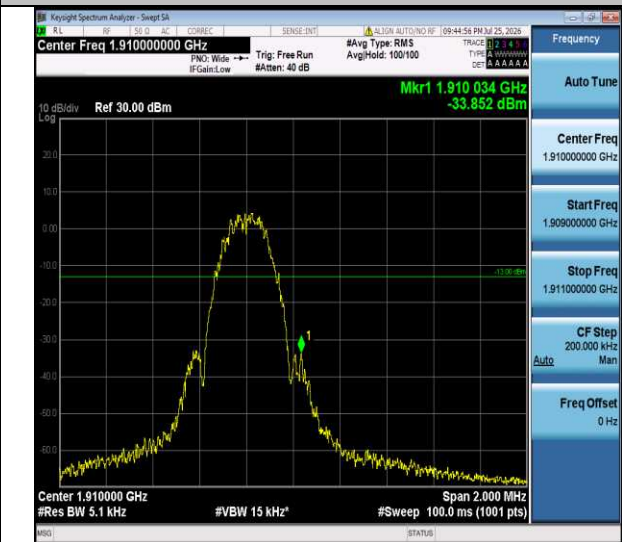
EGPRS850-128-8-PASS



EGPRS850-251-8-PASS



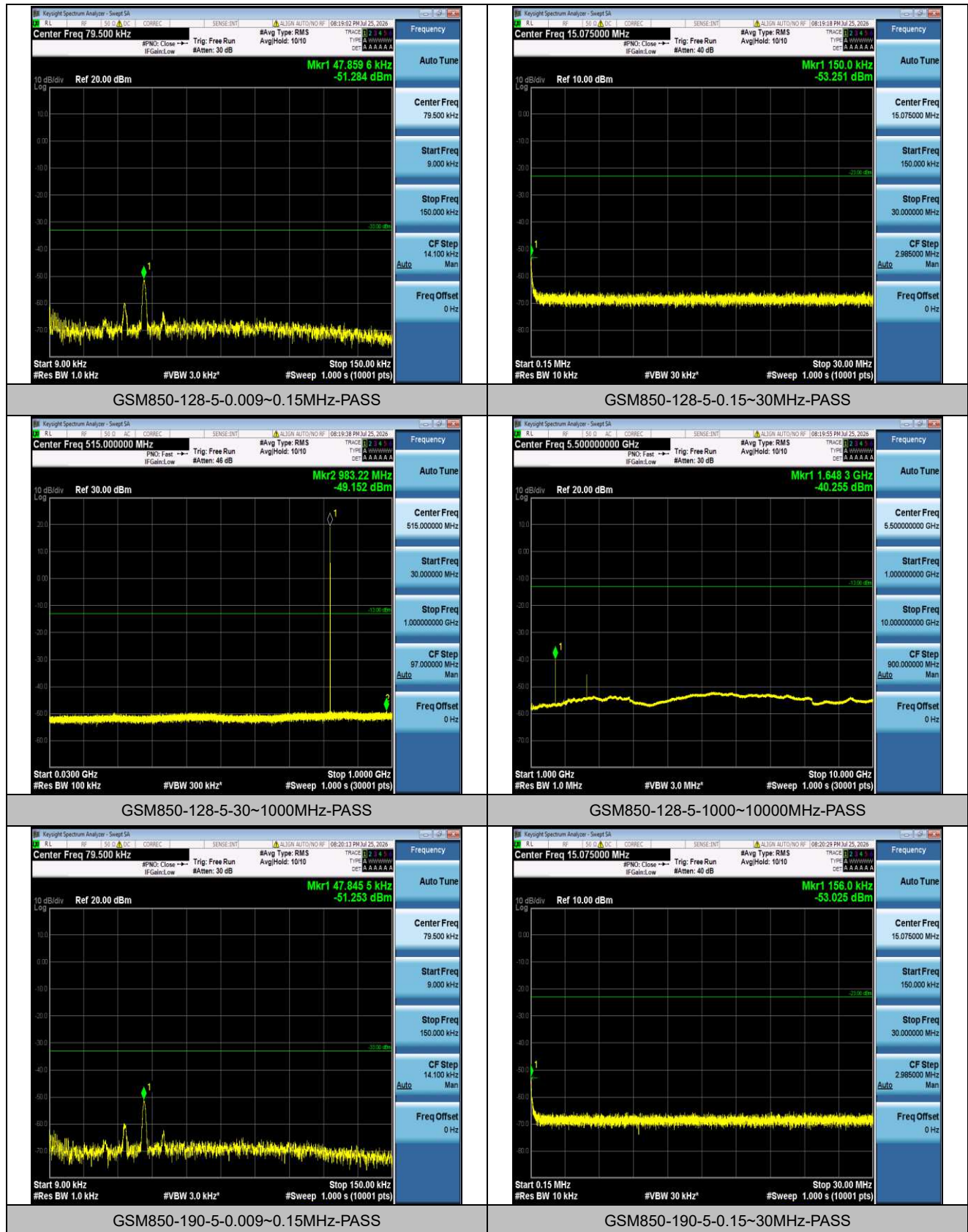
EGPRS1900-512-2-PASS

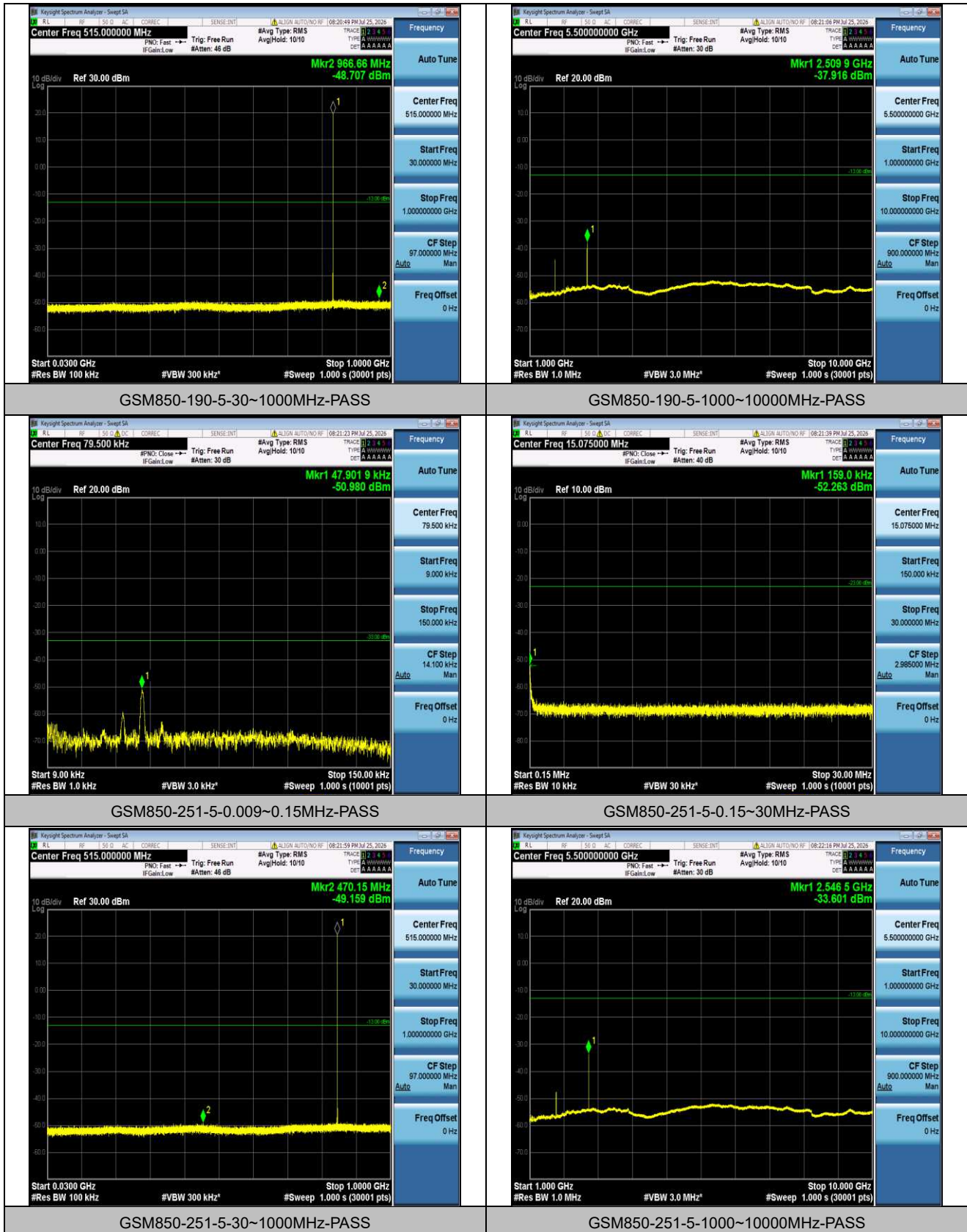


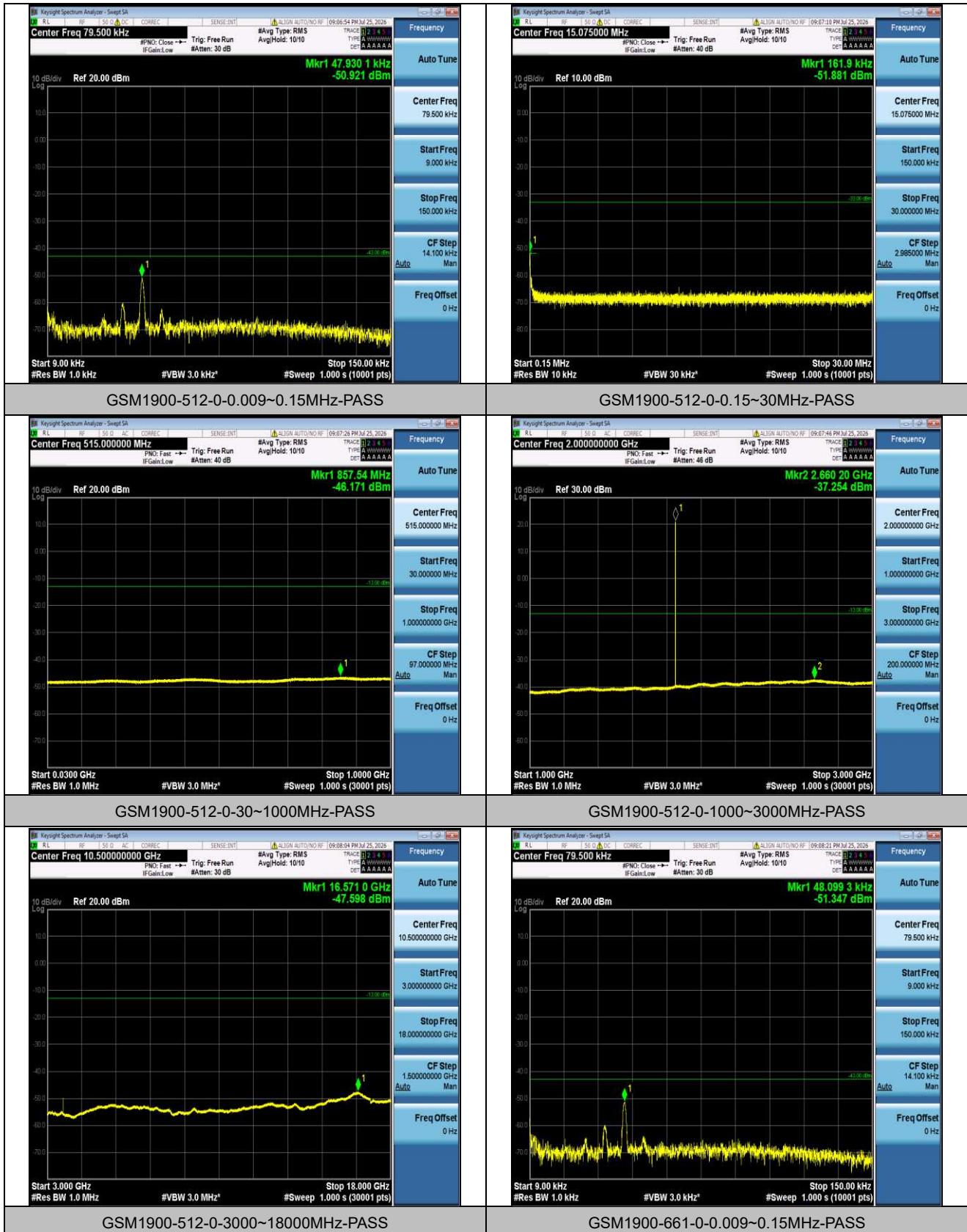
EGPRS1900-810-2-PASS

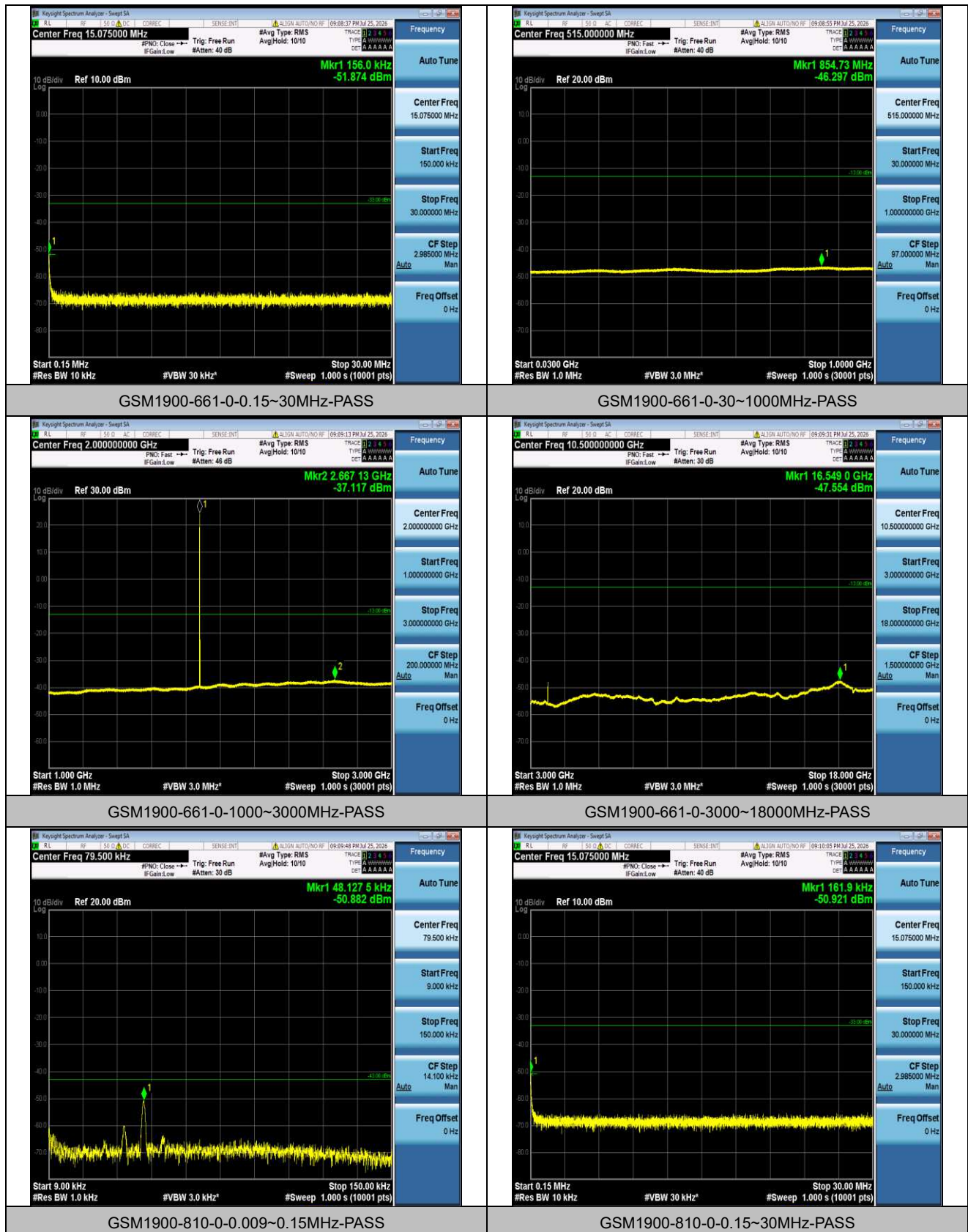
Conducted Spurious Emission

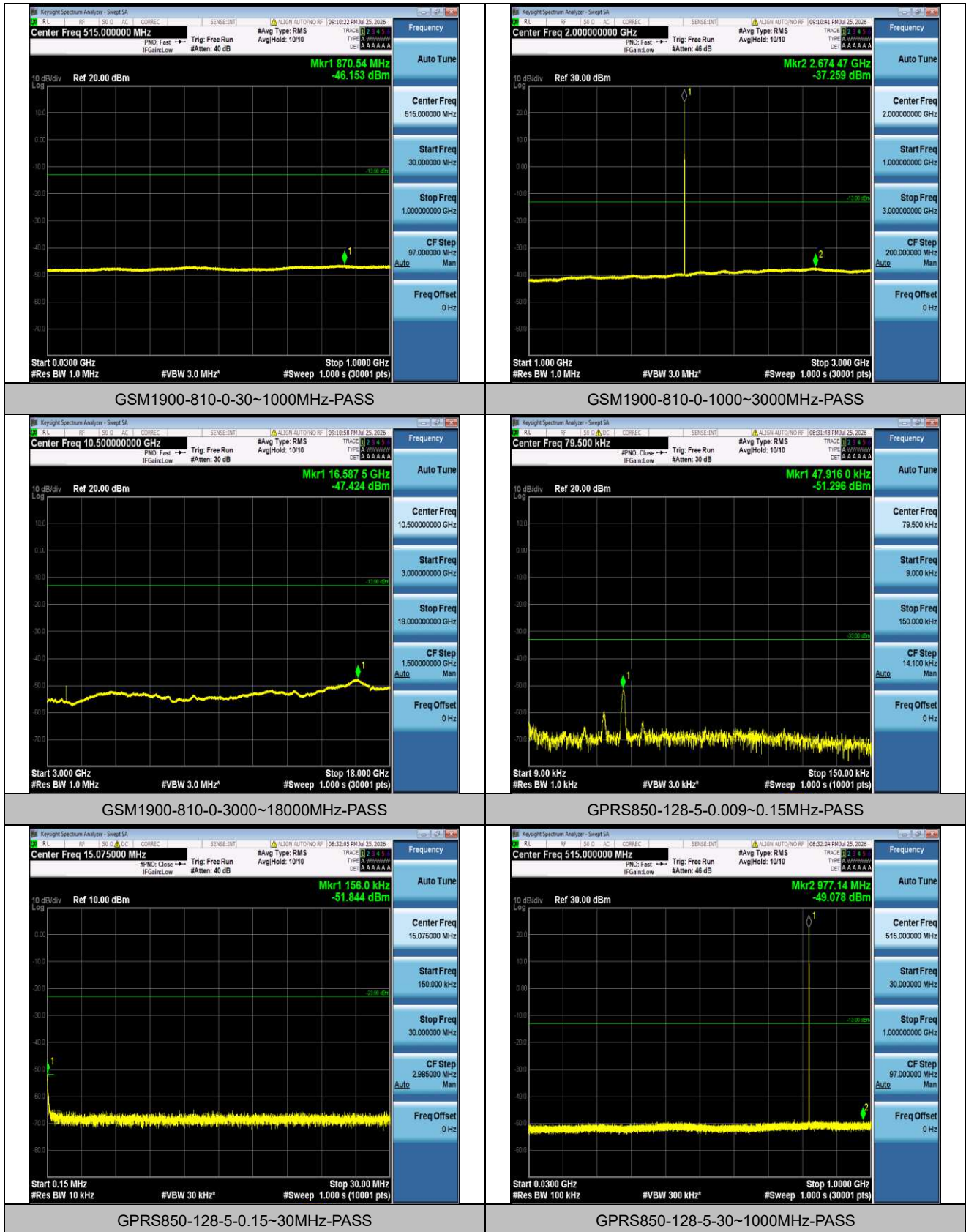
Test Graphs

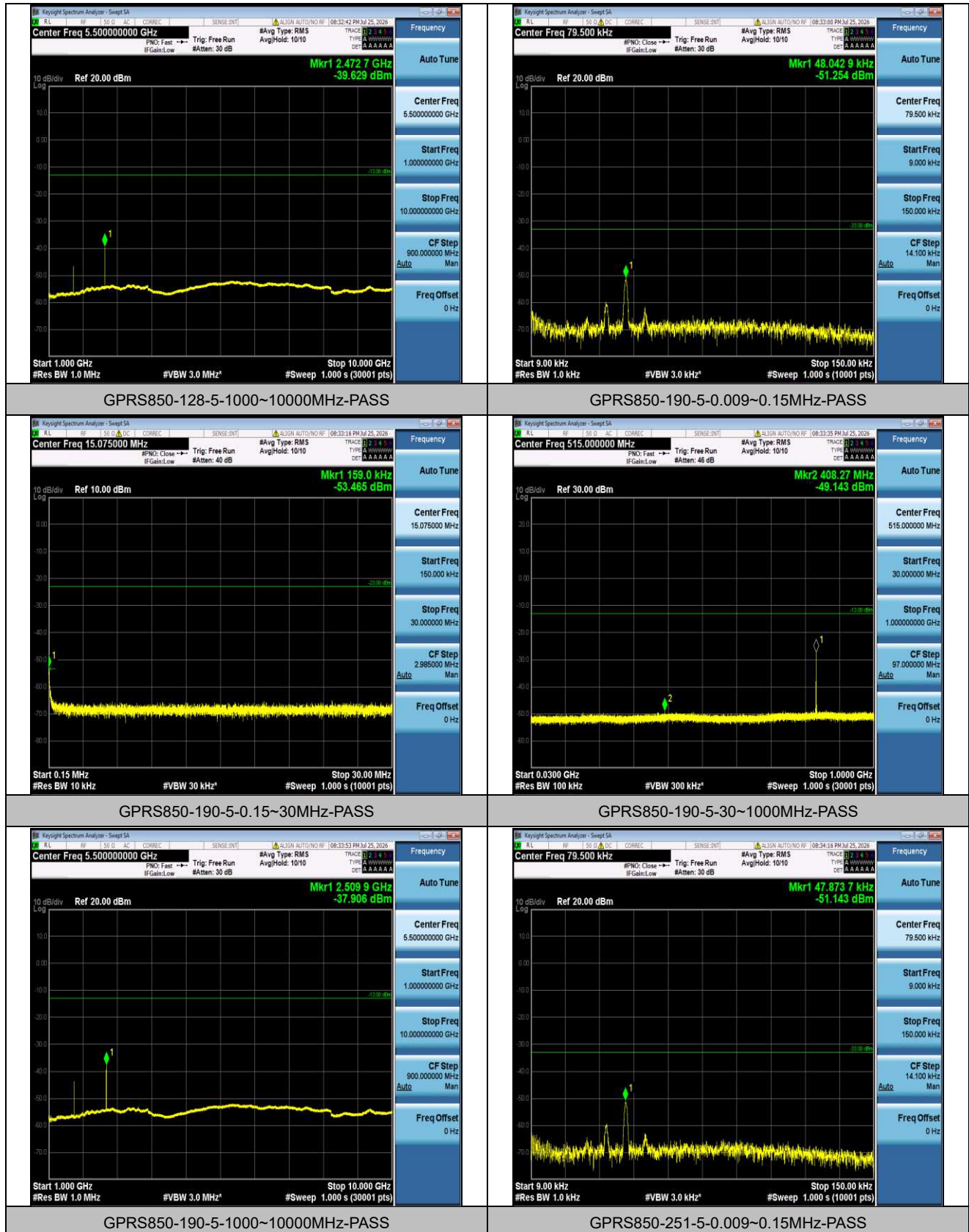


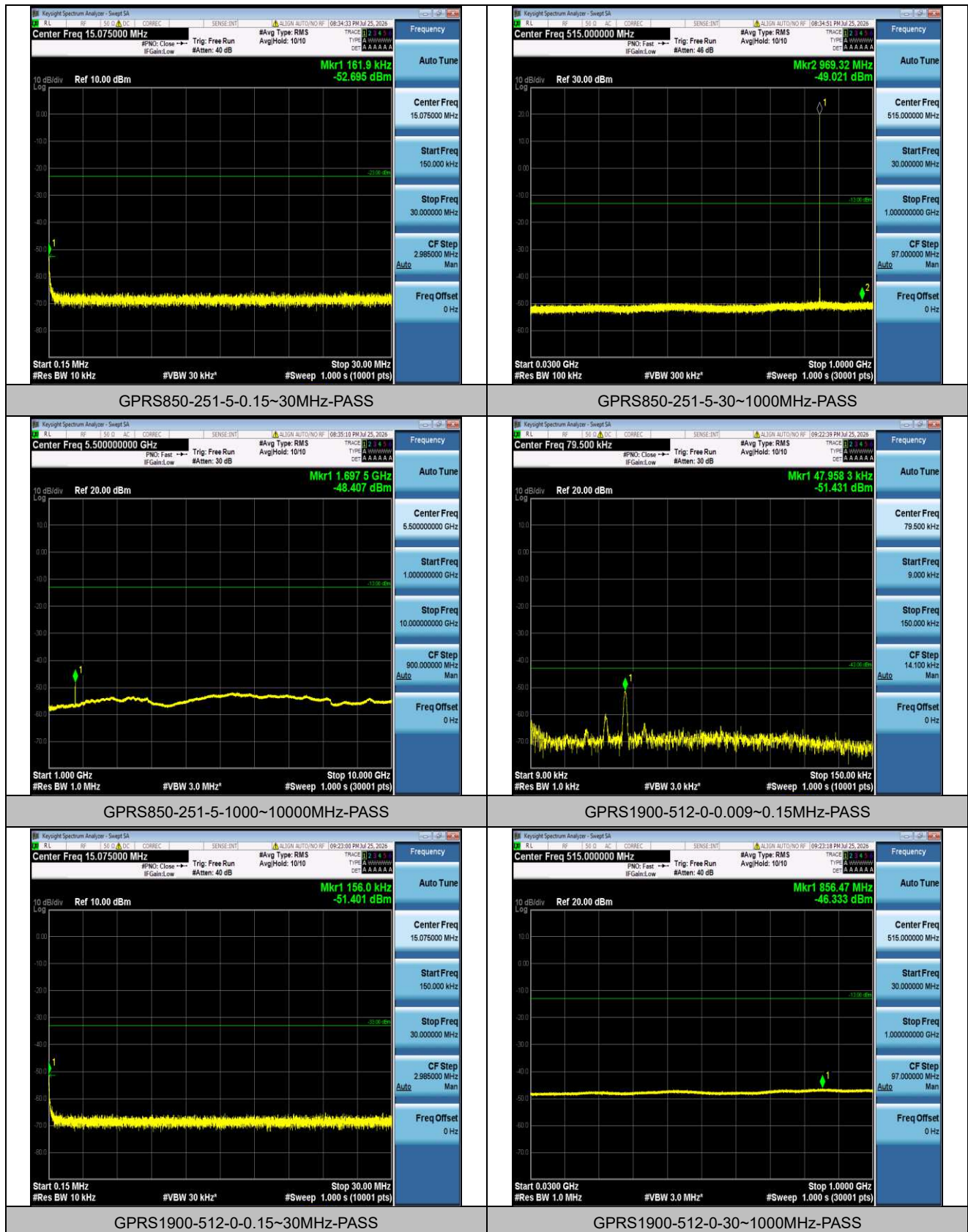


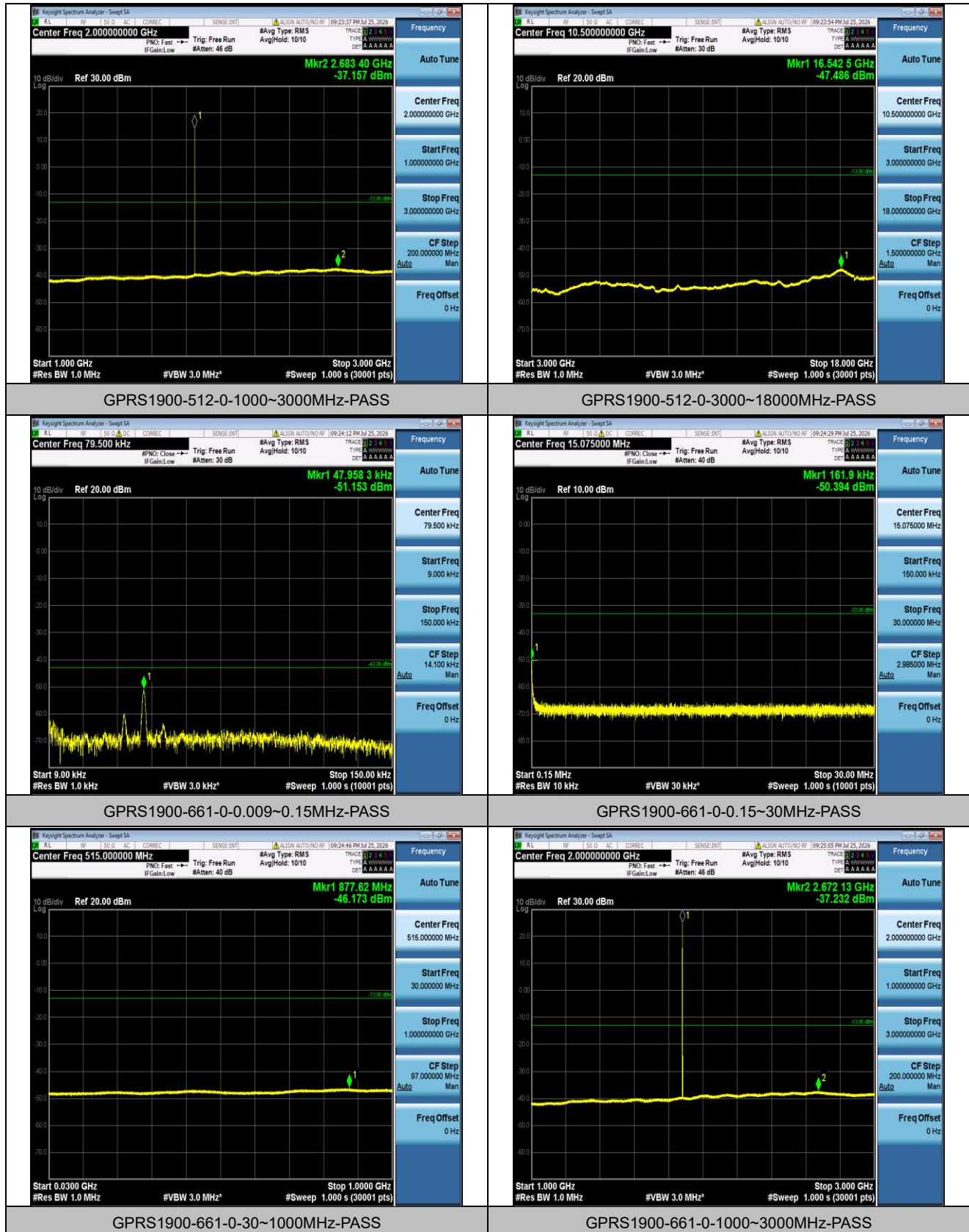


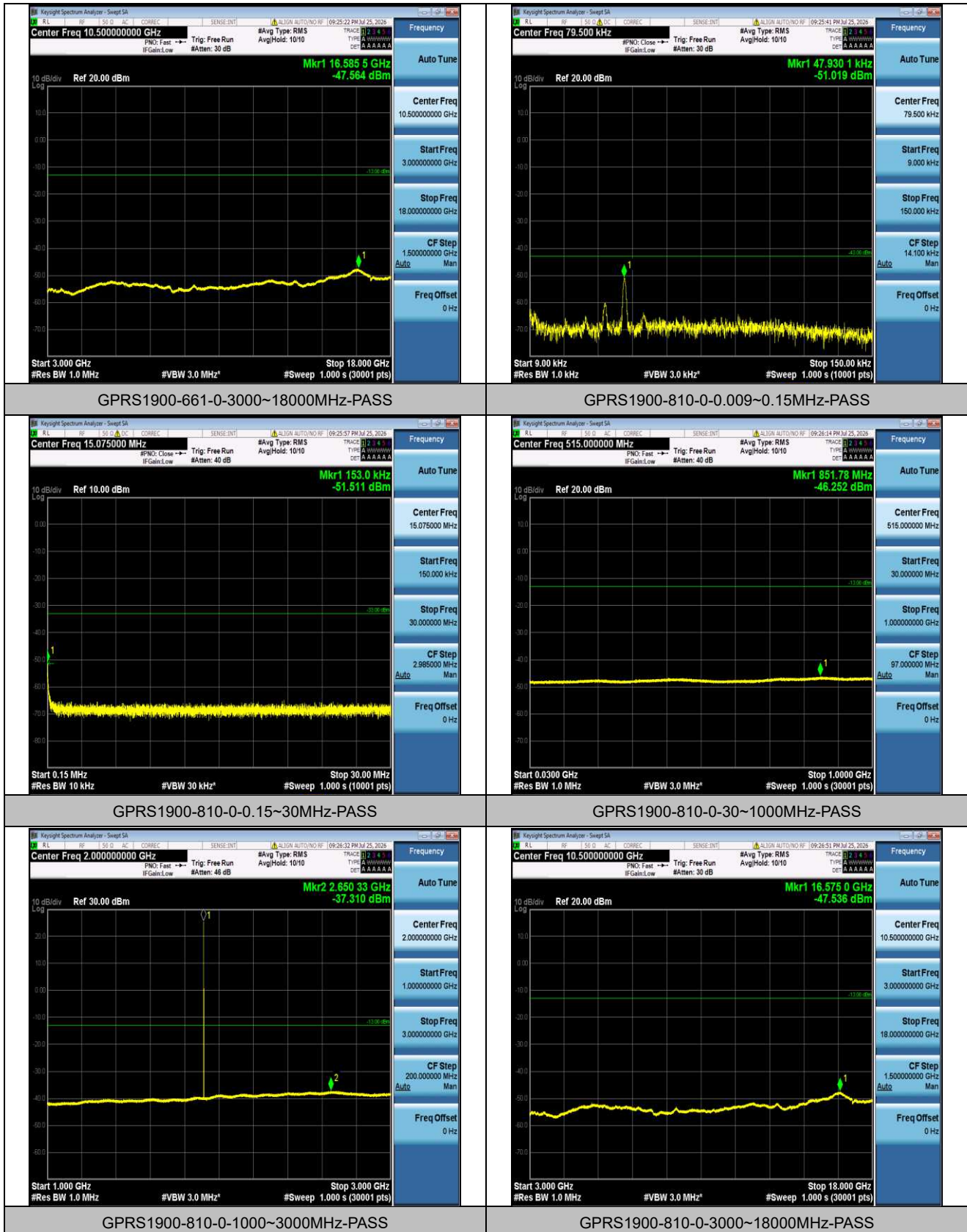


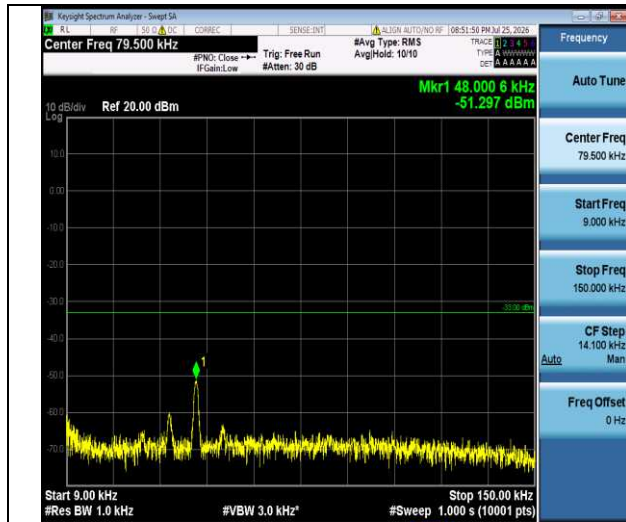












EGPRS850-128-8-0.009~0.15MHz-PASS



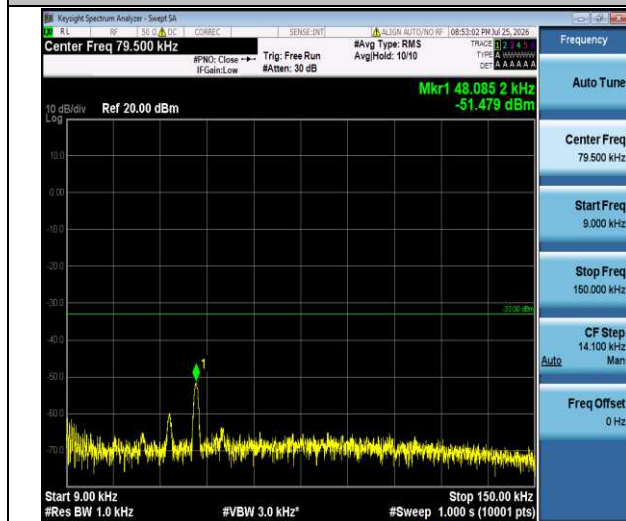
EGPRS850-128-8-0.15~30MHz-PASS



EGPRS850-128-8-30~1000MHz-PASS



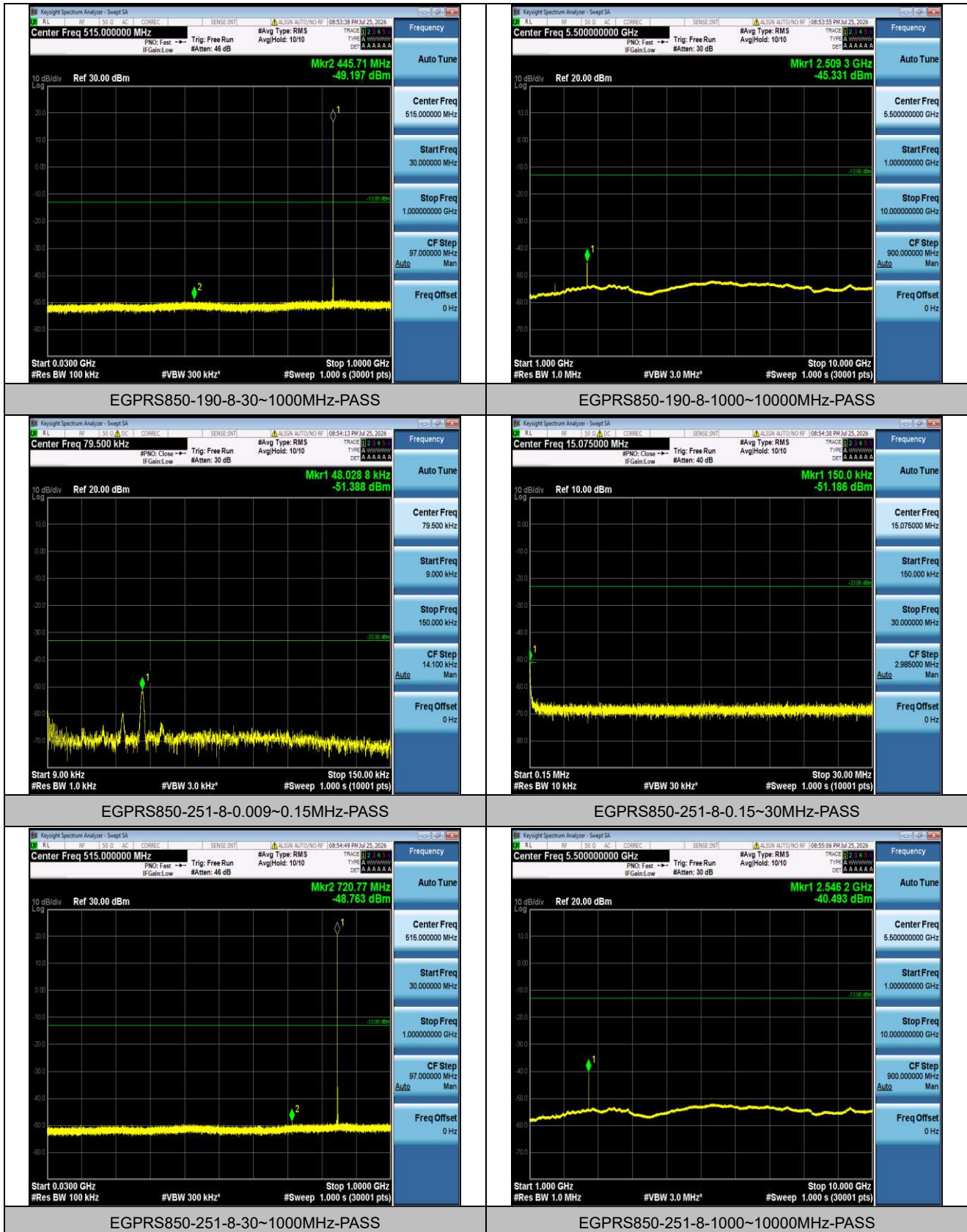
EGPRS850-128-8-1000~10000MHz-PASS

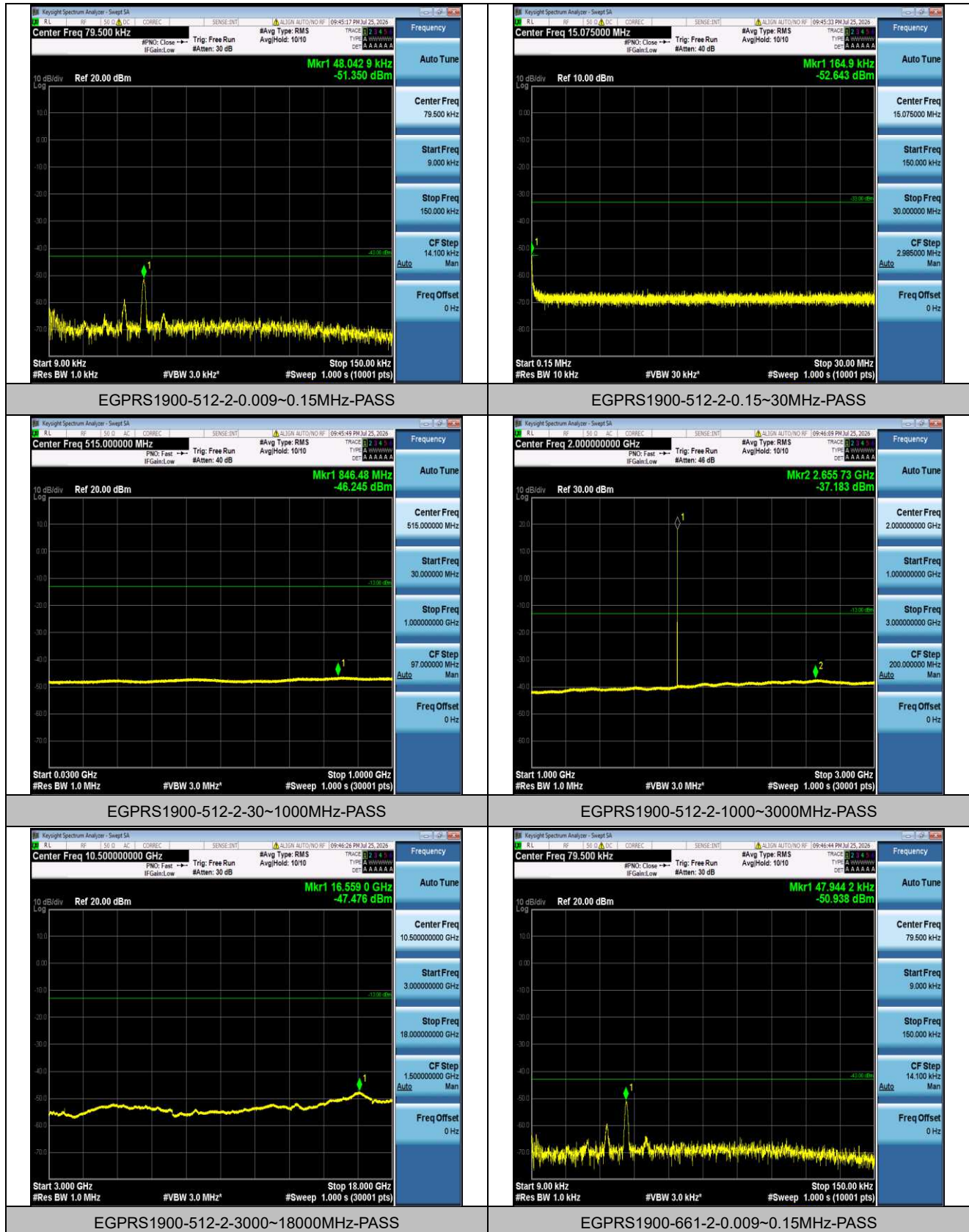


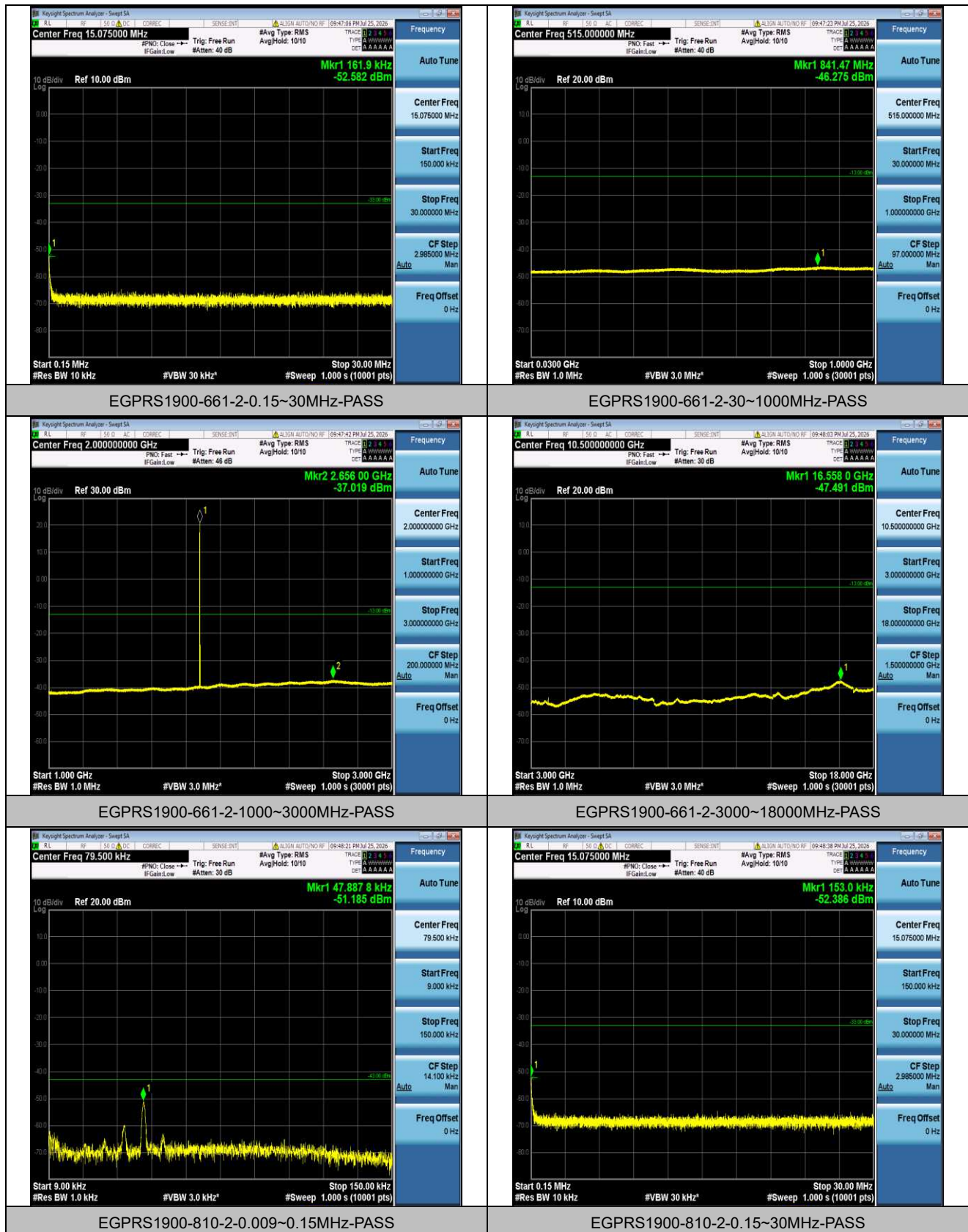
EGPRS850-190-8-0.009~0.15MHz-PASS

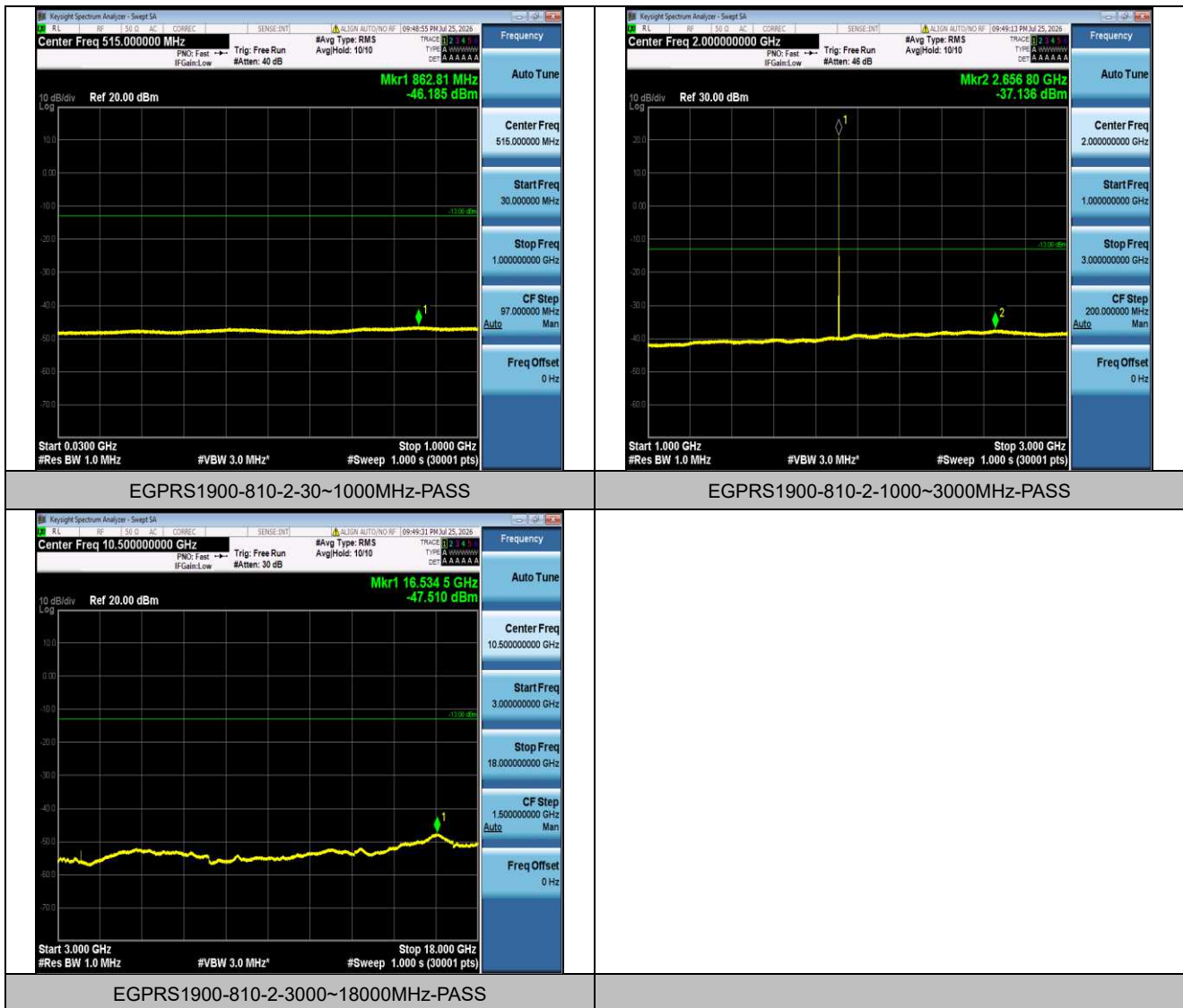


EGPRS850-190-8-0.15~30MHz-PASS









Frequency Stability

Test Result

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	190	VH	NT	19.76	0.023619	±2.5	PASS
GPRS850	190	VN	NT	32.29	0.038597	±2.5	PASS
GPRS850	190	VL	NT	31.26	0.037366	±2.5	PASS
GPRS850	190	VH	NT	29.94	0.035788	±2.5	PASS
GSM850	190	VN	NT	19.32	0.023093	±2.5	PASS
GSM850	190	VL	NT	18.91	0.022603	±2.5	PASS
EGPRS850	190	VN	NT	31.84	0.038059	±2.5	PASS
EGPRS850	190	VL	NT	30.67	0.036660	±2.5	PASS
EGPRS850	190	VH	NT	30.83	0.036852	±2.5	PASS
GSM1900	661	VN	NT	12.64	0.006723	--	PASS
GSM1900	661	VL	NT	12.18	0.006479	--	PASS
GSM1900	661	VH	NT	10.28	0.005468	--	PASS
GPRS1900	661	VN	NT	18.30	0.009734	--	PASS
GPRS1900	661	VL	NT	22.15	0.011782	--	PASS
GPRS1900	661	VH	NT	22.85	0.012154	--	PASS
EGPRS1900	661	VN	NT	-1070.00	-0.569149	--	PASS
EGPRS1900	661	VL	NT	110.00	0.058511	--	PASS
EGPRS1900	661	VH	NT	-650.00	-0.345745	--	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	190	NV	-30	16.19	0.019352	±2.5	PASS
GSM850	190	NV	-20	14.32	0.017117	±2.5	PASS
GSM850	190	NV	-10	16.47	0.019687	±2.5	PASS
GSM850	190	NV	0	17.21	0.020571	±2.5	PASS
GSM850	190	NV	10	16.45	0.019663	±2.5	PASS
GSM850	190	NV	20	16.87	0.020165	±2.5	PASS
GSM850	190	NV	30	19.39	0.023177	±2.5	PASS
GSM850	190	NV	40	16.64	0.019890	±2.5	PASS
GSM850	190	NV	50	19.03	0.022747	±2.5	PASS
GPRS850	190	NV	-30	31.45	0.037593	±2.5	PASS
GPRS850	190	NV	-20	30.68	0.036672	±2.5	PASS
GPRS850	190	NV	-10	32.91	0.039338	±2.5	PASS
GPRS850	190	NV	0	29.68	0.035477	±2.5	PASS
GPRS850	190	NV	10	30.92	0.036959	±2.5	PASS
GPRS850	190	NV	20	30.98	0.037031	±2.5	PASS
GPRS850	190	NV	30	31.79	0.037999	±2.5	PASS

GPRS850	190	NV	40	30.15	0.036039	±2.5	PASS
GPRS850	190	NV	50	29.27	0.034987	±2.5	PASS
EGPRS850	190	NV	-30	29.70	0.035501	±2.5	PASS
EGPRS850	190	NV	-20	29.74	0.035549	±2.5	PASS
EGPRS850	190	NV	-10	30.75	0.036756	±2.5	PASS
EGPRS850	190	NV	0	30.50	0.036457	±2.5	PASS
EGPRS850	190	NV	10	28.59	0.034174	±2.5	PASS
EGPRS850	190	NV	20	31.43	0.037569	±2.5	PASS
EGPRS850	190	NV	30	30.86	0.036887	±2.5	PASS
EGPRS850	190	NV	40	30.69	0.036684	±2.5	PASS
EGPRS850	190	NV	50	31.41	0.037545	±2.5	PASS
GSM1900	661	NV	-30	15.66	0.008330	--	PASS
GSM1900	661	NV	-20	11.02	0.005862	--	PASS
GSM1900	661	NV	-10	13.33	0.007090	--	PASS
GSM1900	661	NV	0	14.39	0.007654	--	PASS
GSM1900	661	NV	10	14.27	0.007590	--	PASS
GSM1900	661	NV	20	11.42	0.006074	--	PASS
GSM1900	661	NV	30	10.24	0.005447	--	PASS
GSM1900	661	NV	40	10.15	0.005399	--	PASS
GSM1900	661	NV	50	15.18	0.008074	--	PASS
GPRS1900	661	NV	-30	21.40	0.011383	--	PASS
GPRS1900	661	NV	-20	20.80	0.011064	--	PASS
GPRS1900	661	NV	-10	21.04	0.011191	--	PASS
GPRS1900	661	NV	0	23.10	0.012287	--	PASS
GPRS1900	661	NV	10	16.98	0.009032	--	PASS
GPRS1900	661	NV	20	19.51	0.010378	--	PASS
GPRS1900	661	NV	30	18.09	0.009622	--	PASS
GPRS1900	661	NV	40	21.96	0.011681	--	PASS
GPRS1900	661	NV	50	23.21	0.012346	--	PASS
EGPRS1900	661	NV	-30	-20.00	-0.010638	--	PASS
EGPRS1900	661	NV	-20	0.00	0.000000	--	PASS
EGPRS1900	661	NV	-10	120.00	0.063830	--	PASS
EGPRS1900	661	NV	0	-930.00	-0.494681	--	PASS
EGPRS1900	661	NV	10	700.00	0.372340	--	PASS
EGPRS1900	661	NV	20	470.00	0.250000	--	PASS
EGPRS1900	661	NV	30	50.00	0.026596	--	PASS
EGPRS1900	661	NV	40	680.00	0.361702	--	PASS
EGPRS1900	661	NV	50	-790.00	-0.420213	--	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	190	NV	-35	12.09	0.014453	±2.5	PASS
GSM850	190	NV	60	23.56	0.028164	±2.5	PASS
GSM850	190	NV	70	-19.58	-0.023407	±2.5	PASS
GSM850	190	NV	75	-4.02	-0.004810	±2.5	PASS
GPRS850	190	NV	-35	-43.82	-0.052382	±2.5	PASS
GPRS850	190	NV	60	16.86	0.020151	±2.5	PASS
GPRS850	190	NV	70	32.48	0.038823	±2.5	PASS
GPRS850	190	NV	75	47.85	0.057196	±2.5	PASS
EGPRS850	190	NV	-35	-6.50	-0.007766	±2.5	PASS
EGPRS850	190	NV	60	-44.38	-0.053054	±2.5	PASS
EGPRS850	190	NV	70	10.41	0.012449	±2.5	PASS
EGPRS850	190	NV	75	17.04	0.009064	±2.5	PASS
GSM1900	661	NV	-35	-0.98	-0.000523	--	PASS
GSM1900	661	NV	60	1.36	0.000723	--	PASS
GSM1900	661	NV	70	-2.89	-0.001537	--	PASS
GSM1900	661	NV	75	39.80	0.021172	--	PASS
GPRS1900	661	NV	-35	37.99	0.020210	--	PASS
GPRS1900	661	NV	60	0.35	0.000188	--	PASS
GPRS1900	661	NV	70	-37.62	-0.020010	--	PASS
GPRS1900	661	NV	75	34.60	0.018404	--	PASS
EGPRS1900	661	NV	-35	43.38	0.023076	--	PASS
EGPRS1900	661	NV	60	7.00	0.003726	--	PASS
EGPRS1900	661	NV	70	-31.31	-0.016657	--	PASS
EGPRS1900	661	NV	75	-0.80	-0.000426	--	PASS
Remark: Test the data at temperatures exceeding the standard limit as required by the manufacturer.							

~The End~