

Transmitter Conducted Output Power

Test result

Band	Channel	PCL	Freq (MHz)	Conducted Power(dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GSM 850	251	5	848.8	32.20	25.95	38.45	PASS
GSM 850	190	5	836.6	32.11	25.86	38.45	PASS
GSM 850	128	5	824.2	31.87	25.62	38.45	PASS
PCS 1900	810	0	1909.8	24.39	21.99	33	PASS
PCS 1900	661	0	1880.0	24.81	22.41	33	PASS
PCS 1900	512	0	1850.2	24.32	21.92	33	PASS

Note:

The ERP is for below 1GHz, EIRP is for above 1GHz

$EIRP = \text{Conducted Power(dBm)} - L_c(\text{dB}) + G_T(\text{dBi})$

$ERP = \text{Conducted Power(dBm)} - L_c(\text{dB}) + G_T(\text{dBd})$

$G_T(\text{dBd}) = G_T(\text{dBi}) - 2.15$

Transmitter Conducted Output Power GPRS

Test result

Band	Channel	Gamma	Freq (MHz)	Modulation	Slots	Conducted Power(dBm)	ERP/EIRP (dBm)	limit (dBm)	Verdict
GSM 850	251	3	848.8	GMSK	1 Tx	32.20	25.95	38.45	PASS
GSM 850	190	3	836.6	GMSK	1 Tx	32.13	25.88	38.45	PASS
GSM 850	128	3	824.2	GMSK	1 Tx	31.88	25.63	38.45	PASS
GSM 850	251	3	848.8	GMSK	2 Tx	31.13	24.88	38.45	PASS
GSM 850	190	3	836.6	GMSK	2 Tx	31.09	24.84	38.45	PASS
GSM 850	128	3	824.2	GMSK	2 Tx	30.93	24.68	38.45	PASS
GSM 850	251	3	848.8	GMSK	3 Tx	29.54	23.29	38.45	PASS
GSM 850	190	3	836.6	GMSK	3 Tx	29.47	23.22	38.45	PASS
GSM 850	128	3	824.2	GMSK	3 Tx	29.29	23.04	38.45	PASS
GSM 850	251	3	848.8	GMSK	4 Tx	28.28	22.03	38.45	PASS
GSM 850	190	3	836.6	GMSK	4 Tx	28.21	21.96	38.45	PASS
GSM 850	128	3	824.2	GMSK	4 Tx	28.18	21.93	38.45	PASS
PCS 1900	810	3	1909.8	GMSK	1 Tx	24.28	21.88	33	PASS
PCS 1900	661	3	1880.0	GMSK	1 Tx	24.17	21.77	33	PASS
PCS 1900	512	3	1850.2	GMSK	1 Tx	24.36	21.96	33	PASS
PCS 1900	810	3	1909.8	GMSK	2 Tx	23.55	21.15	33	PASS
PCS 1900	661	3	1880.0	GMSK	2 Tx	23.48	21.08	33	PASS
PCS 1900	512	3	1850.2	GMSK	2 Tx	23.25	20.85	33	PASS
PCS 1900	810	3	1909.8	GMSK	3 Tx	22.18	19.78	33	PASS
PCS 1900	661	3	1880.0	GMSK	3 Tx	22.17	19.77	33	PASS
PCS 1900	512	3	1850.2	GMSK	3 Tx	22.15	19.75	33	PASS
PCS 1900	810	3	1909.8	GMSK	4 Tx	21.71	19.31	33	PASS
PCS 1900	661	3	1880.0	GMSK	4 Tx	21.82	19.42	33	PASS
PCS 1900	512	3	1850.2	GMSK	4 Tx	21.77	19.37	33	PASS
Note: The ERP is for below 1GHz, EIRP is for above 1GHz $EIRP = \text{Conducted Power(dBm)} - L_c(\text{dB}) + G_T(\text{dBi})$ $ERP = \text{Conducted Power(dBm)} - L_c(\text{dB}) + G_T(\text{dBd})$ $G_T(\text{dBd}) = G_T(\text{dBi}) - 2.15$									

Peak to Average Ratio

Test result

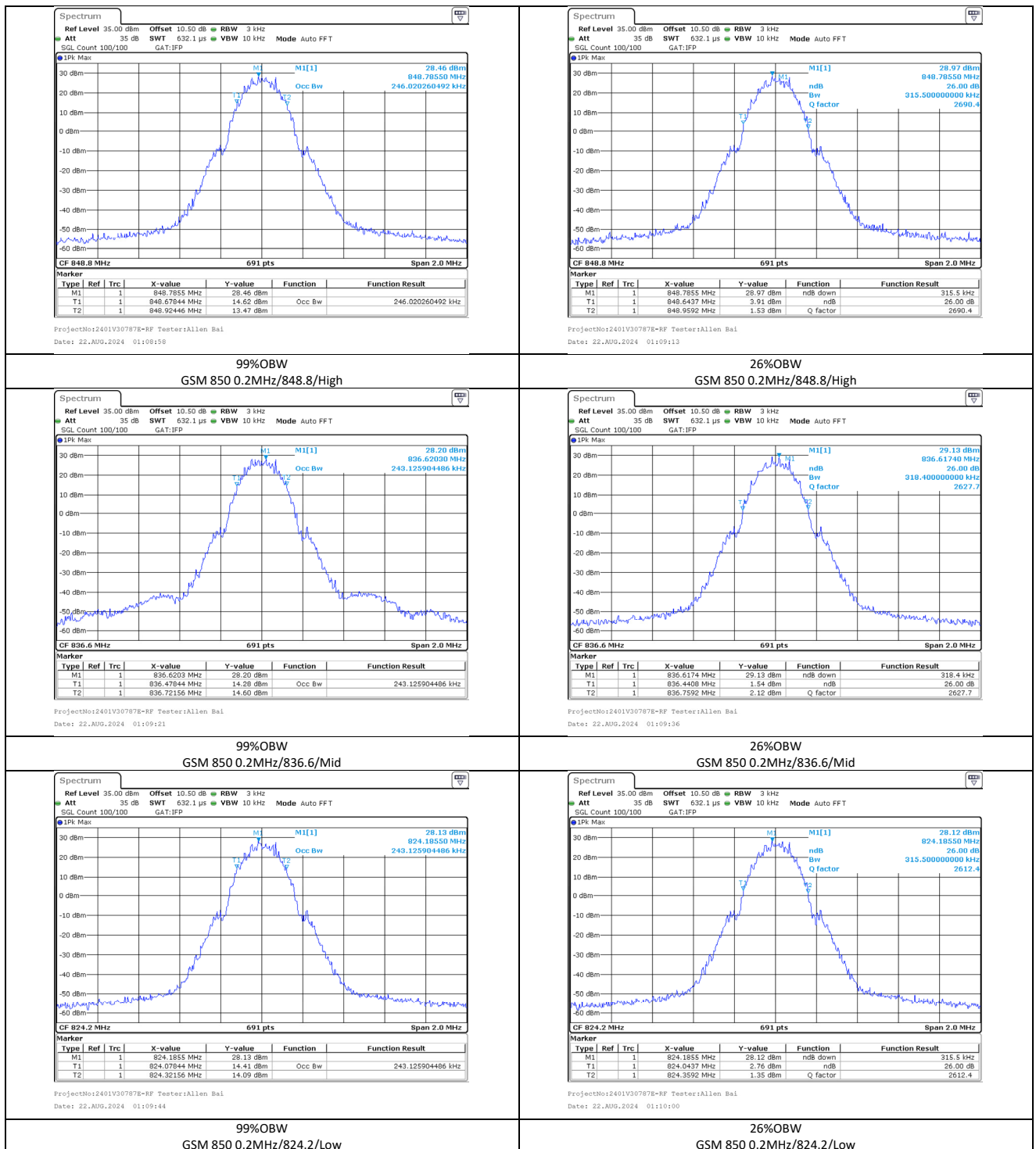
Band	Channel	Freq (MHz)	Result (dB)	Limit (dB)	Verdict
GSM 850	251	848.8	9.65	13	PASS
GSM 850	190	836.6	9.54	13	PASS
GSM 850	128	824.2	10.64	13	PASS
PCS 1900	810	1909.8	9.59	13	PASS
PCS 1900	661	1880.0	10.52	13	PASS
PCS 1900	512	1850.2	9.36	13	PASS

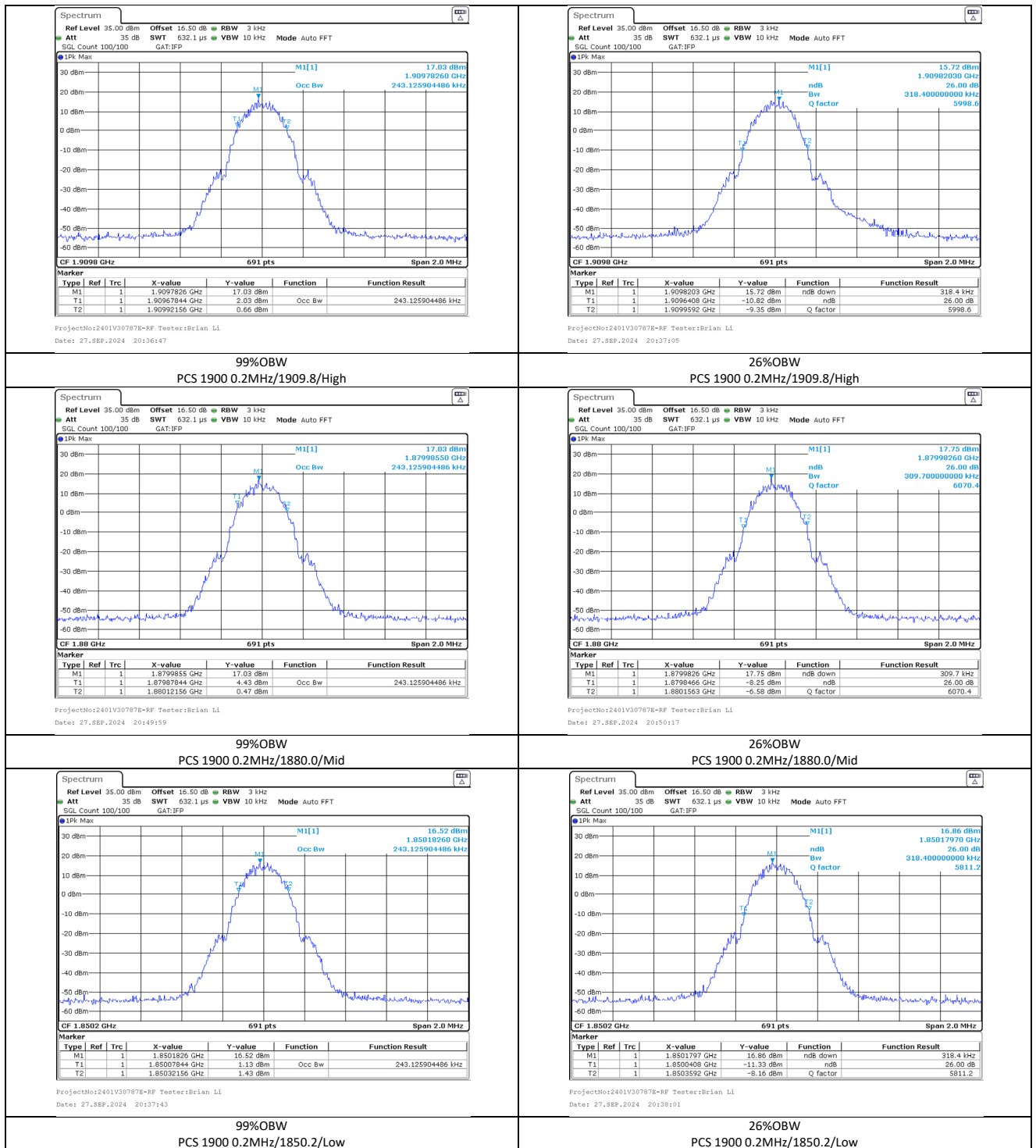
Occupied Bandwidth

Test result

Band	Channel	Freq (MHz)	OBW (MHz)	26dB BW (MHz)	Verdict
GSM 850	251	848.8	0.24602	0.3155	PASS
GSM 850	190	836.6	0.24313	0.3184	PASS
GSM 850	128	824.2	0.24313	0.3155	PASS
PCS 1900	810	1909.8	0.24313	0.3184	PASS
PCS 1900	661	1880.0	0.24313	0.3097	PASS
PCS 1900	512	1850.2	0.24313	0.3184	PASS

Test graph



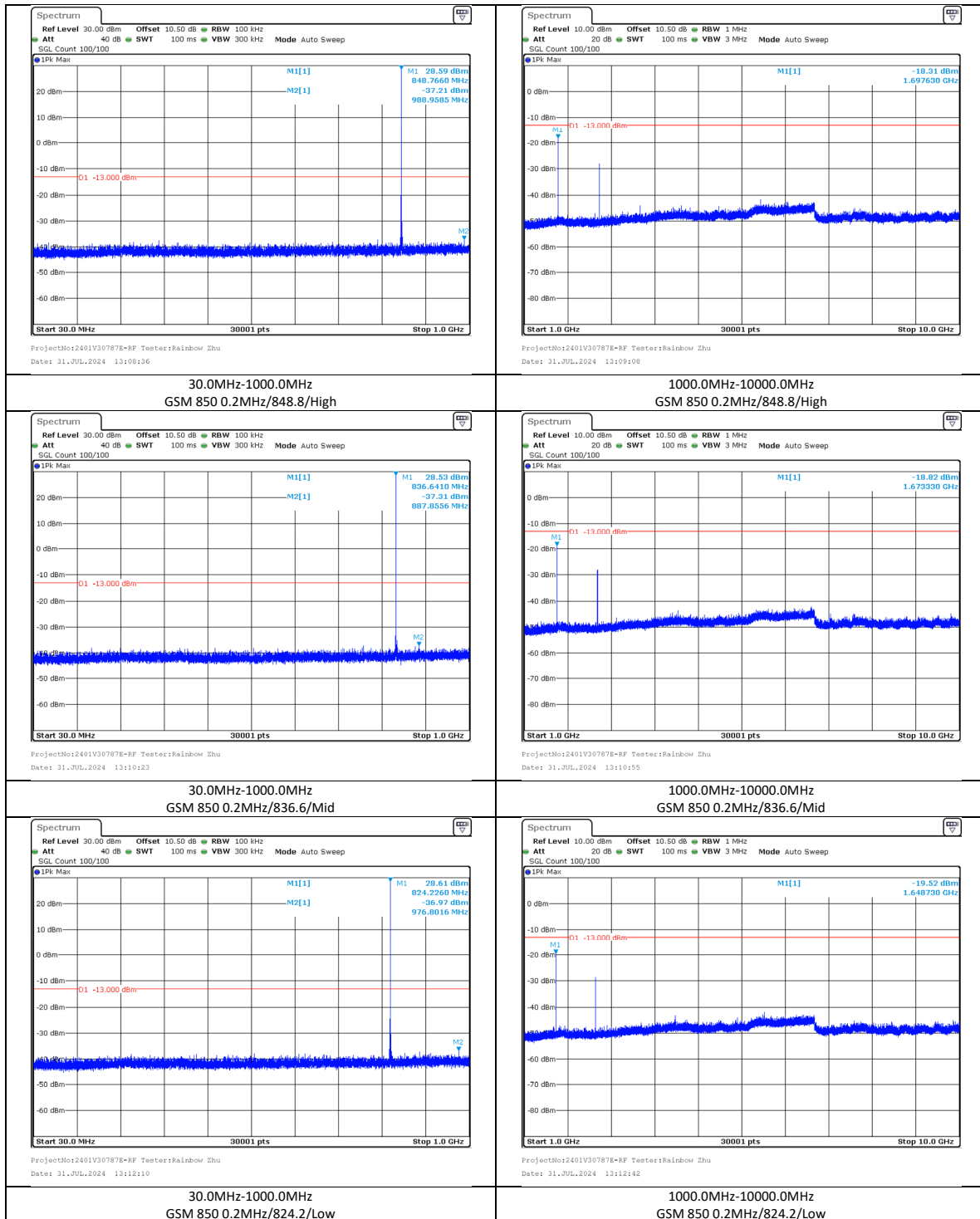


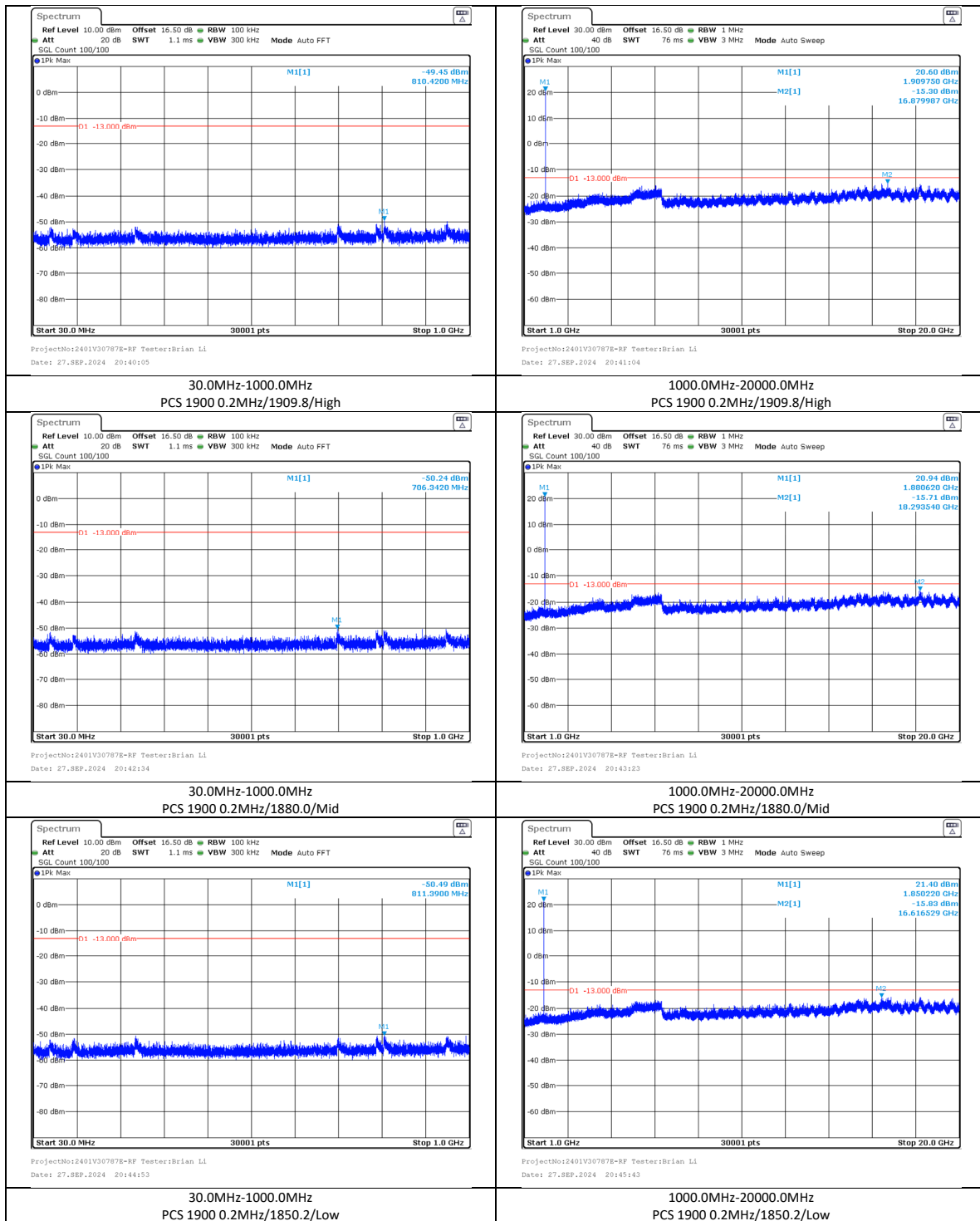
Conducted Spurious Emissions

Test result

Band	Channel	Freq (MHz)	Start Freq (MHz)	Stop Freq (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM 850	251	848.8	30.0	1000.0	-37.21	-13	PASS
GSM 850	251	848.8	1000.0	10000.0	-18.31	-13	PASS
GSM 850	190	836.6	30.0	1000.0	-37.31	-13	PASS
GSM 850	190	836.6	1000.0	10000.0	-18.82	-13	PASS
GSM 850	128	824.2	30.0	1000.0	-36.97	-13	PASS
GSM 850	128	824.2	1000.0	10000.0	-19.52	-13	PASS
PCS 1900	810	1909.8	30.0	1000.0	-49.45	-13	PASS
PCS 1900	810	1909.8	1000.0	20000.0	-15.30	-13	PASS
PCS 1900	661	1880.0	30.0	1000.0	-50.24	-13	PASS
PCS 1900	661	1880.0	1000.0	20000.0	-15.71	-13	PASS
PCS 1900	512	1850.2	30.0	1000.0	-50.49	-13	PASS
PCS 1900	512	1850.2	1000.0	20000.0	-15.83	-13	PASS

Test graph



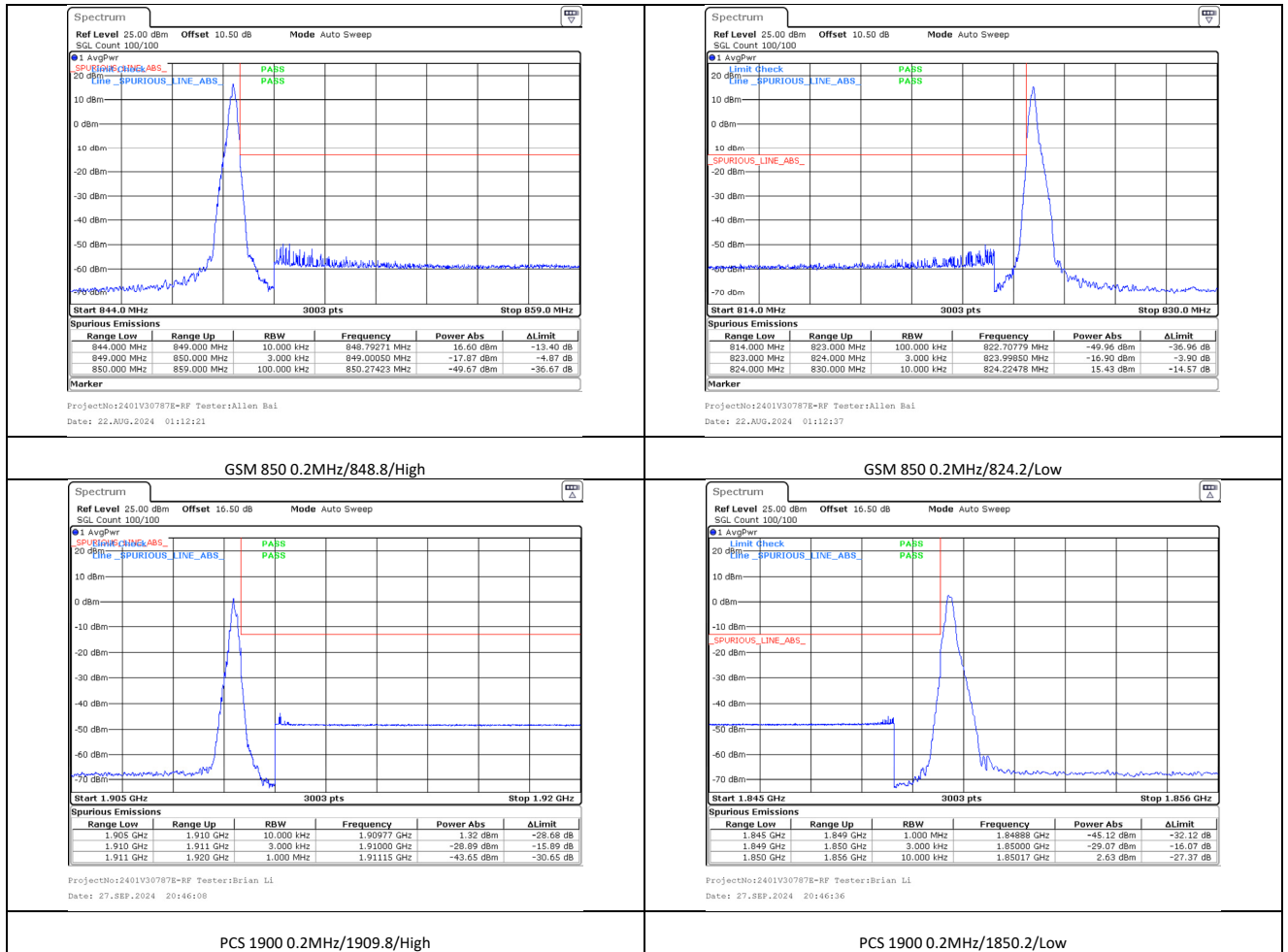


Conducted Band Edge

Test result

Band	Channel	Freq (MHz)	Result	Verdict
GSM 850	251	848.8	see graph	PASS
GSM 850	128	824.2	see graph	PASS
PCS 1900	810	1909.8	see graph	PASS
PCS 1900	512	1850.2	see graph	PASS

Test graph



Frequency Stability

Test result

GSM850

Test Modulation:	GMSK		Test Channel:	836.6	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.80	8.25	0.0099	2.5
	-20	3.80	8.13	0.0097	2.5
	-10	3.80	8.09	0.0097	2.5
	0	3.80	7.95	0.0095	2.5
	10	3.80	7.65	0.0091	2.5
	20	3.80	7.68	0.0092	2.5
	30	3.80	7.78	0.0093	2.5
	40	3.80	7.98	0.0095	2.5
	50	3.80	8.23	0.0098	2.5
Frequency Stability vs. Voltage	20	3.42	8.35	0.0100	2.5
	20	4.35	8.21	0.0098	2.5
				Result:	Pass

PCS1900

Test Mode:	GMSK	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.80	1850.0828	1850.000	1909.9186	1910.000
	-20	3.80	1850.0831	1850.000	1909.9263	1910.000
	-10	3.80	1850.0805	1850.000	1909.9237	1910.000
	0	3.80	1850.0810	1850.000	1909.9255	1910.000
	10	3.80	1850.0763	1850.000	1909.9234	1910.000
	20	3.80	1850.0763	1850.000	1909.9220	1910.000
	30	3.80	1850.0810	1850.000	1909.9236	1910.000
	40	3.80	1850.0804	1850.000	1909.9232	1910.000
	50	3.80	1850.0832	1850.000	1909.9201	1910.000
Frequency Stability vs. Voltage	20	3.42	1850.0799	1850.000	1909.9209	1910.000
	20	4.35	1850.0815	1850.000	1909.9257	1910.000
					Result:	Pass

Transmitter Conducted Output Power EGPRS

Test result

Band	Channel	Gamma	Freq (MHz)	Modulation	Slots	Conducted Power(dBm)	ERP/EIRP (dBm)	limit (dBm)	Verdict
GSM 850	251	6	848.8	8PSK	1 Tx	26.82	20.57	38.45	PASS
GSM 850	190	6	836.6	8PSK	1 Tx	27.02	20.77	38.45	PASS
GSM 850	128	6	824.2	8PSK	1 Tx	27.84	21.59	38.45	PASS
GSM 850	251	6	848.8	8PSK	2 Tx	25.24	18.99	38.45	PASS
GSM 850	190	6	836.6	8PSK	2 Tx	25.00	18.75	38.45	PASS
GSM 850	128	6	824.2	8PSK	2 Tx	25.12	18.87	38.45	PASS
GSM 850	251	6	848.8	8PSK	3 Tx	22.94	16.69	38.45	PASS
GSM 850	190	6	836.6	8PSK	3 Tx	23.07	16.82	38.45	PASS
GSM 850	128	6	824.2	8PSK	3 Tx	22.67	16.42	38.45	PASS
GSM 850	251	6	848.8	8PSK	4 Tx	21.81	15.56	38.45	PASS
GSM 850	190	6	836.6	8PSK	4 Tx	22.27	16.02	38.45	PASS
GSM 850	128	6	824.2	8PSK	4 Tx	21.61	15.36	38.45	PASS
PCS 1900	810	5	1909.8	8PSK	1 Tx	23.33	20.93	33	PASS
PCS 1900	661	5	1880.0	8PSK	1 Tx	23.50	21.10	33	PASS
PCS 1900	512	5	1850.2	8PSK	1 Tx	23.86	21.46	33	PASS
PCS 1900	810	5	1909.8	8PSK	2 Tx	22.22	19.82	33	PASS
PCS 1900	661	5	1880.0	8PSK	2 Tx	22.12	19.72	33	PASS
PCS 1900	512	5	1850.2	8PSK	2 Tx	22.15	19.75	33	PASS
PCS 1900	810	5	1909.8	8PSK	3 Tx	21.83	19.43	33	PASS
PCS 1900	661	5	1880.0	8PSK	3 Tx	21.63	19.23	33	PASS
PCS 1900	512	5	1850.2	8PSK	3 Tx	21.90	19.5	33	PASS
PCS 1900	810	5	1909.8	8PSK	4 Tx	20.79	18.39	33	PASS
PCS 1900	661	5	1880.0	8PSK	4 Tx	20.51	18.11	33	PASS
PCS 1900	512	5	1850.2	8PSK	4 Tx	20.74	18.34	33	PASS
Note: The ERP is for below 1GHz, EIRP is for above 1GHz $EIRP = \text{Conducted Power(dBm)} - L_c(\text{dB}) + G_r(\text{dBi})$ $ERP = \text{Conducted Power(dBm)} - L_c(\text{dB}) + G_r(\text{dBd})$ $G_r(\text{dBd}) = G_r(\text{dBi}) - 2.15$									

Peak to Average Ratio EGPRS*Test result*

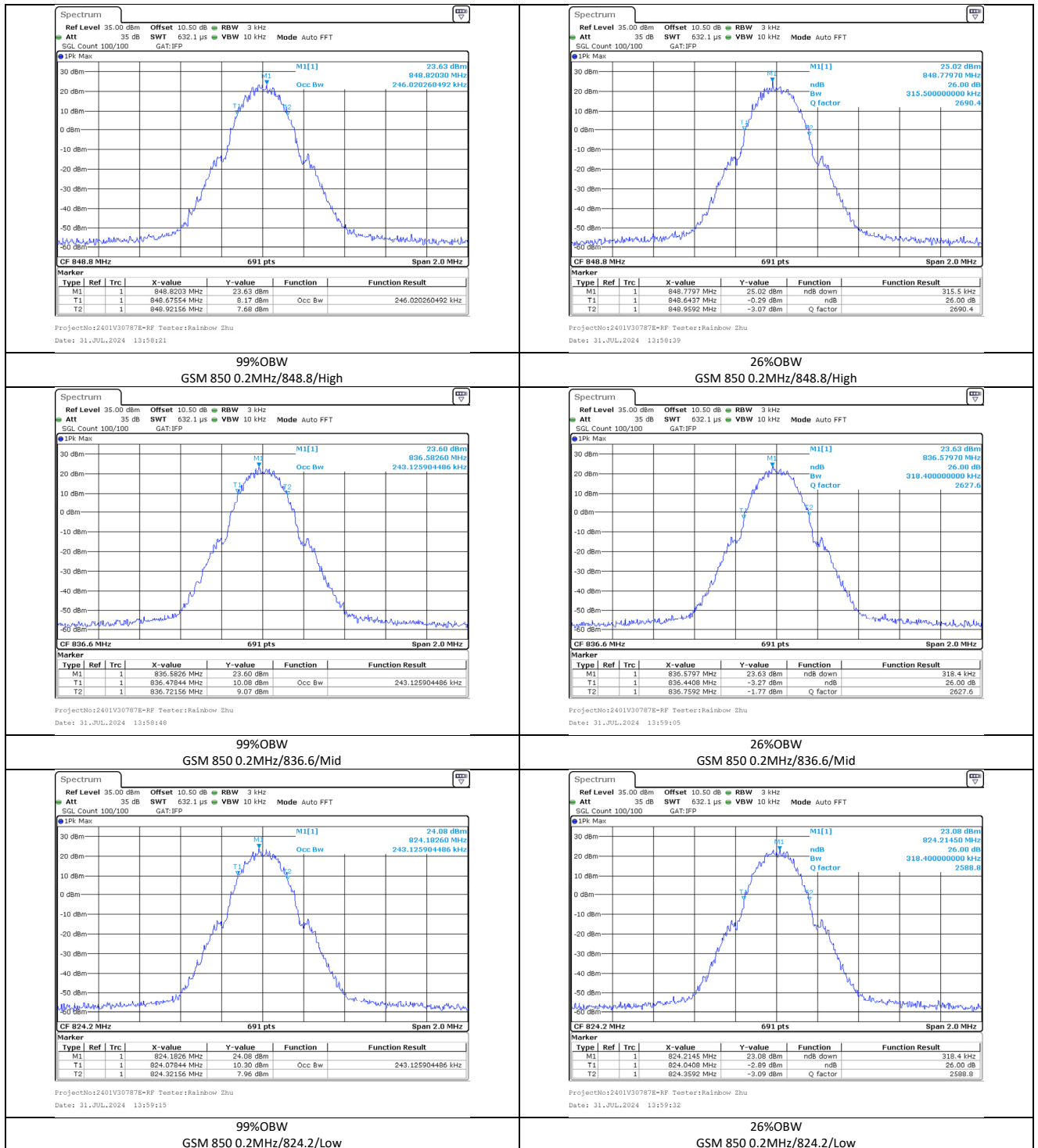
Band	Channel	Freq (MHz)	Slots	Result (dB)	Limit (dB)	Verdict
GSM 850	251	848.8	1 Tx	12.96	13	PASS
GSM 850	190	836.6	1 Tx	12.96	13	PASS
GSM 850	128	824.2	1 Tx	12.17	13	PASS
PCS 1900	810	1909.8	1 Tx	12.23	13	PASS
PCS 1900	661	1880.0	1 Tx	12.29	13	PASS
PCS 1900	512	1850.2	1 Tx	12.41	13	PASS

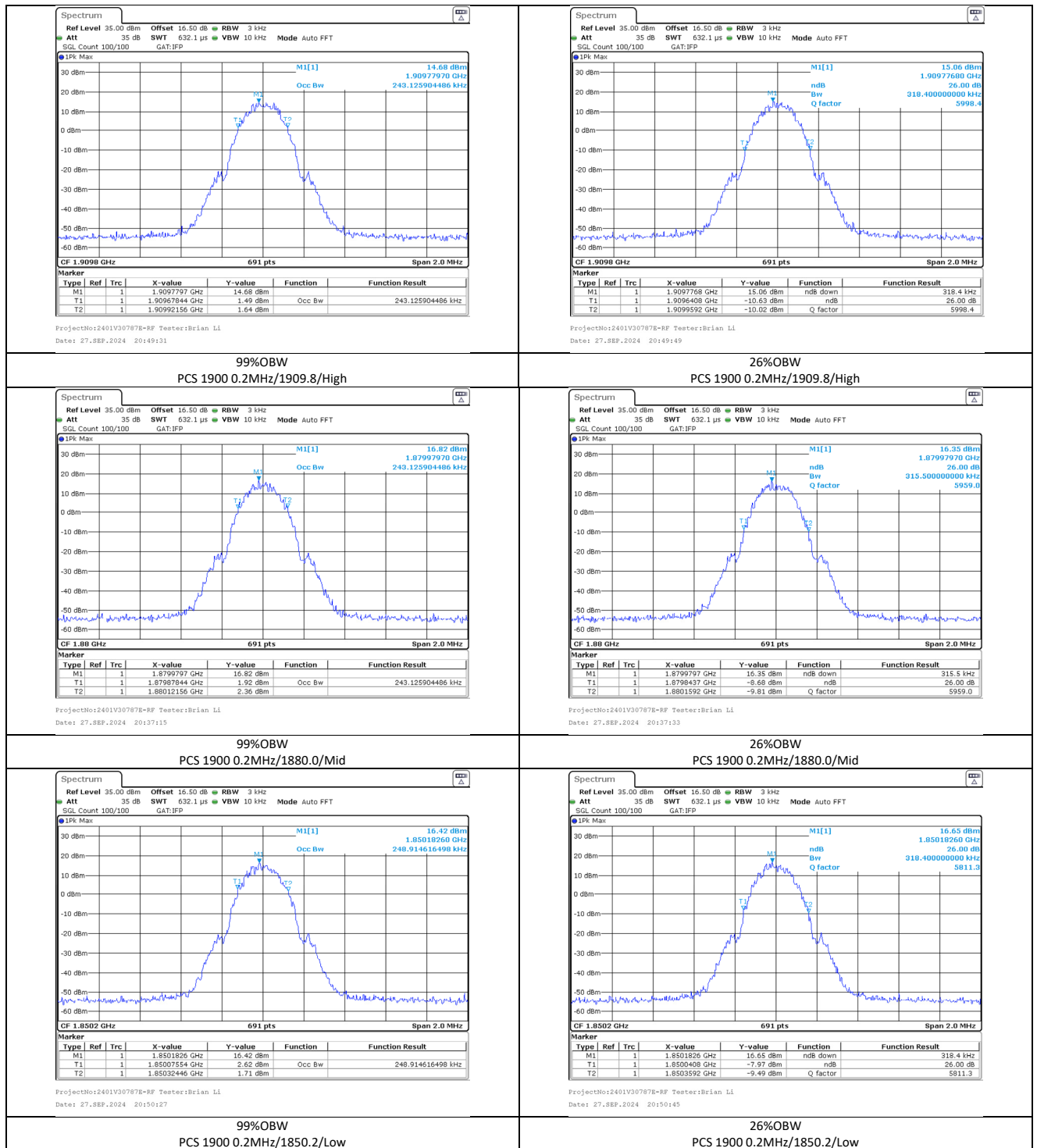
Occupied Bandwidth EGPRS

Test result

Band	Channel	Freq (MHz)	Slots	OBW (MHz)	26dB BW (MHz)	Verdict
GSM 850	251	848.8	1 Tx	0.24602	0.3155	PASS
GSM 850	190	836.6	1 Tx	0.24313	0.3184	PASS
GSM 850	128	824.2	1 Tx	0.24313	0.3184	PASS
PCS 1900	810	1909.8	1 Tx	0.24313	0.3184	PASS
PCS 1900	661	1880.0	1 Tx	0.24313	0.3155	PASS
PCS 1900	512	1850.2	1 Tx	0.24891	0.3184	PASS

Test graph



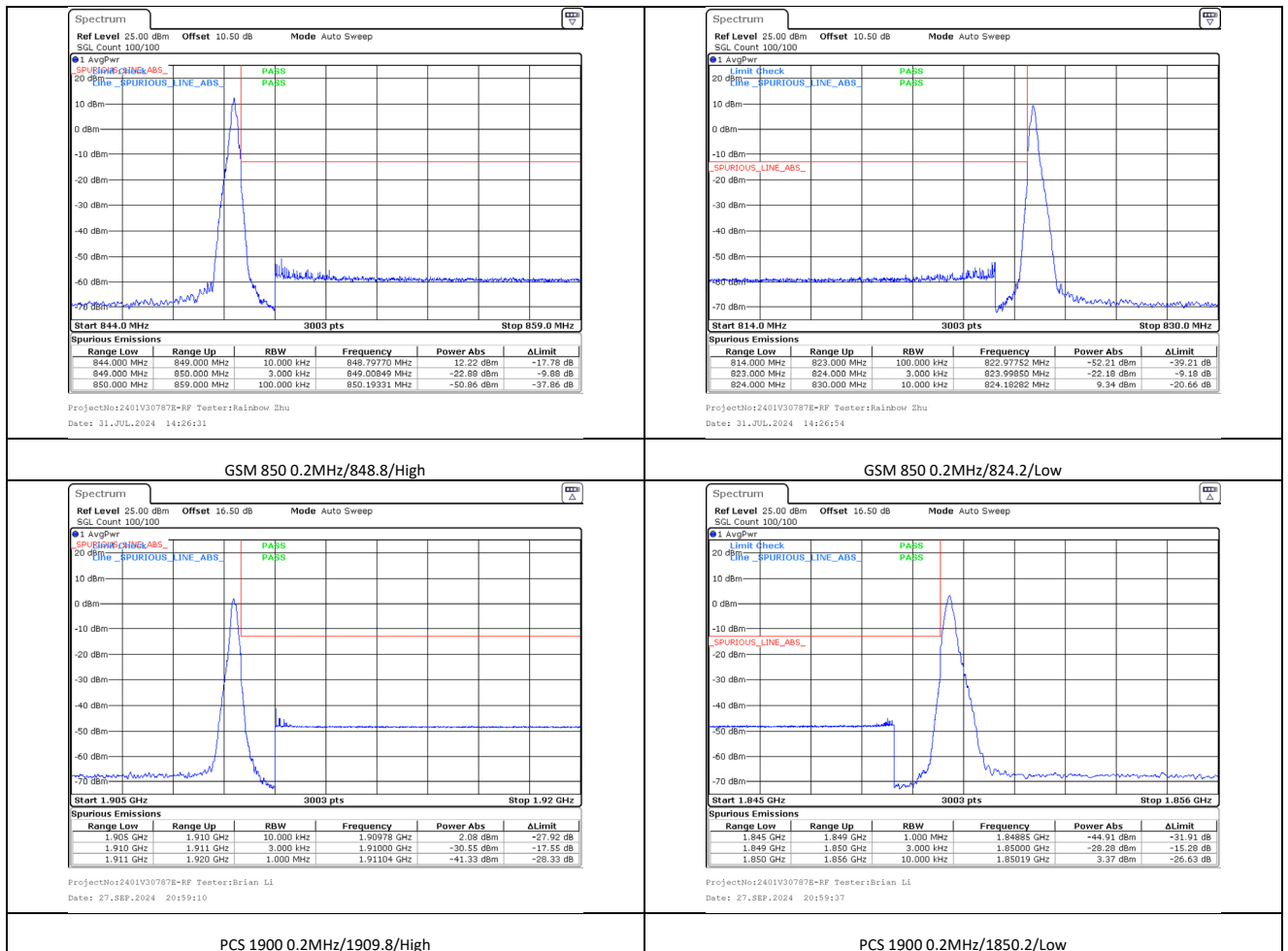


Conducted Band Edge EGPRS

Test result

Band	Channel	Freq (MHz)	Slots	Result	Verdict
GSM 850	251	848.8	1 Tx	see graph	PASS
GSM 850	128	824.2	1 Tx	see graph	PASS
PCS 1900	810	1909.8	1 Tx	see graph	PASS
PCS 1900	512	1850.2	1 Tx	see graph	PASS

Test graph



Frequency Stability EGPRS

Test result

GSM850

Test Modulation:	8PSK		Test Channel:	836.6	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.80	7.24	0.0087	2.5
	-20	3.80	6.22	0.0074	2.5
	-10	3.80	8.37	0.0100	2.5
	0	3.80	8.14	0.0097	2.5
	10	3.80	6.33	0.0076	2.5
	20	3.80	5.24	0.0063	2.5
	30	3.80	6.38	0.0076	2.5
	40	3.80	5.24	0.0063	2.5
	50	3.80	4.33	0.0052	2.5
Frequency Stability vs. Voltage	20	3.42	5.89	0.0070	2.5
	20	4.35	4.62	0.0055	2.5
				Result:	Pass

PCS1900

Test Mode:	GMSK	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.80	1850.0761	1850.000	1909.9197	1910.000
	-20	3.80	1850.0796	1850.000	1909.9202	1910.000
	-10	3.80	1850.0801	1850.000	1909.9221	1910.000
	0	3.80	1850.0756	1850.000	1909.9204	1910.000
	10	3.80	1850.0761	1850.000	1909.9239	1910.000
	20	3.80	1850.0796	1850.000	1909.9245	1910.000
	30	3.80	1850.0811	1850.000	1909.9202	1910.000
	40	3.80	1850.0830	1850.000	1909.9243	1910.000
	50	3.80	1850.0771	1850.000	1909.9187	1910.000
Frequency Stability vs. Voltage	20	3.42	1850.0796	1850.000	1909.9227	1910.000
	20	4.35	1850.0789	1850.000	1909.9187	1910.000
					Result:	Pass