

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 GSM850_ERP

Band: GSM850								
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
	Network	Subset				Result	Limit	
NTNV	GSM	GSM	824.2	32.86	-2.89	27.82	<=38.45	Pass
			836.6	33.00	-2.89	27.96	<=38.45	Pass
			848.8	33.13	-2.89	28.09	<=38.45	Pass
	EGPRS	1 TX Slot	824.2	25.75	-2.89	20.71	<=38.45	Pass
		2 TX Slots	824.2	22.58	-2.89	17.54	<=38.45	Pass
		3 TX Slots	824.2	20.50	-2.89	15.46	<=38.45	Pass
		4 TX Slots	824.2	18.92	-2.89	13.88	<=38.45	Pass
		1 TX Slot	836.6	28.24	-2.89	23.20	<=38.45	Pass
		2 TX Slots	836.6	22.37	-2.89	17.33	<=38.45	Pass
		3 TX Slots	836.6	20.26	-2.89	15.22	<=38.45	Pass
		4 TX Slots	836.6	18.75	-2.89	13.71	<=38.45	Pass
		1 TX Slot	848.8	25.67	-2.89	20.63	<=38.45	Pass
		2 TX Slots	848.8	22.46	-2.89	17.42	<=38.45	Pass
		3 TX Slots	848.8	23.10	-2.89	18.06	<=38.45	Pass
		4 TX Slots	848.8	18.89	-2.89	13.85	<=38.45	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

2. Frequency Stability

2.1 Test Result

2.1.1 GSM850

Band: GSM850							
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
					Result	Limit	
GSM	824.2	20	3.5	20.141	0.0244	-2.5 to 2.5	Pass
			3.87	14.339	0.0174	-2.5 to 2.5	Pass
			4.4	9.557	0.0116	-2.5 to 2.5	Pass
		-30	3.87	15.795	0.0192	-2.5 to 2.5	Pass
		-20	3.87	13.264	0.0161	-2.5 to 2.5	Pass
		-10	3.87	11.982	0.0145	-2.5 to 2.5	Pass
		0	3.87	12.722	0.0154	-2.5 to 2.5	Pass
		10	3.87	13.264	0.0161	-2.5 to 2.5	Pass
		30	3.87	14.479	0.0176	-2.5 to 2.5	Pass
		40	3.87	11.649	0.0141	-2.5 to 2.5	Pass
		50	3.87	13.225	0.0160	-2.5 to 2.5	Pass
	836.6	20	3.5	20.391	0.0244	-2.5 to 2.5	Pass
			3.87	12.928	0.0155	-2.5 to 2.5	Pass
			4.4	16.389	0.0196	-2.5 to 2.5	Pass
		-30	3.87	15.573	0.0186	-2.5 to 2.5	Pass
		-20	3.87	16.021	0.0192	-2.5 to 2.5	Pass
		-10	3.87	16.268	0.0194	-2.5 to 2.5	Pass
		0	3.87	15.583	0.0186	-2.5 to 2.5	Pass
		10	3.87	15.862	0.0190	-2.5 to 2.5	Pass
		30	3.87	16.648	0.0199	-2.5 to 2.5	Pass
		40	3.87	14.988	0.0179	-2.5 to 2.5	Pass

		50	3.87	15.279	0.0183	-2.5 to 2.5	Pass
	848.8	20	3.5	16.087	0.0190	-2.5 to 2.5	Pass
			3.87	16.121	0.0190	-2.5 to 2.5	Pass
			4.4	12.324	0.0145	-2.5 to 2.5	Pass
			-30	3.87	13.343	0.0157	-2.5 to 2.5
		-20	3.87	18.047	0.0213	-2.5 to 2.5	Pass
		-10	3.87	10.780	0.0127	-2.5 to 2.5	Pass
		0	3.87	15.577	0.0184	-2.5 to 2.5	Pass
		10	3.87	13.807	0.0163	-2.5 to 2.5	Pass
		30	3.87	16.688	0.0197	-2.5 to 2.5	Pass
		40	3.87	14.230	0.0168	-2.5 to 2.5	Pass
		50	3.87	15.231	0.0179	-2.5 to 2.5	Pass
EGPRS	824.2	20	3.5	34.683	0.0421	-2.5 to 2.5	Pass
			3.87	31.625	0.0384	-2.5 to 2.5	Pass
			4.4	33.102	0.0402	-2.5 to 2.5	Pass
		-30	3.87	32.113	0.0390	-2.5 to 2.5	Pass
		-20	3.87	34.556	0.0419	-2.5 to 2.5	Pass
		-10	3.87	33.888	0.0411	-2.5 to 2.5	Pass
		0	3.87	32.480	0.0394	-2.5 to 2.5	Pass
		10	3.87	33.504	0.0407	-2.5 to 2.5	Pass
		30	3.87	30.266	0.0367	-2.5 to 2.5	Pass
		40	3.87	31.861	0.0387	-2.5 to 2.5	Pass
		50	3.87	31.852	0.0386	-2.5 to 2.5	Pass
	836.6	20	3.5	31.879	0.0381	-2.5 to 2.5	Pass
			3.87	32.071	0.0383	-2.5 to 2.5	Pass
			4.4	29.399	0.0351	-2.5 to 2.5	Pass
			-30	3.87	28.814	0.0344	-2.5 to 2.5
		-20	3.87	32.095	0.0384	-2.5 to 2.5	Pass
		-10	3.87	30.390	0.0363	-2.5 to 2.5	Pass
		0	3.87	29.595	0.0354	-2.5 to 2.5	Pass
		10	3.87	32.167	0.0384	-2.5 to 2.5	Pass
		30	3.87	30.885	0.0369	-2.5 to 2.5	Pass
		40	3.87	29.612	0.0354	-2.5 to 2.5	Pass
		50	3.87	29.904	0.0357	-2.5 to 2.5	Pass
	848.8	20	3.5	31.143	0.0367	-2.5 to 2.5	Pass
			3.87	30.259	0.0356	-2.5 to 2.5	Pass
			4.4	27.252	0.0321	-2.5 to 2.5	Pass
			-30	3.87	30.595	0.0360	-2.5 to 2.5
		-20	3.87	27.914	0.0329	-2.5 to 2.5	Pass
		-10	3.87	28.425	0.0335	-2.5 to 2.5	Pass
		0	3.87	31.389	0.0370	-2.5 to 2.5	Pass
		10	3.87	28.542	0.0336	-2.5 to 2.5	Pass
		30	3.87	29.720	0.0350	-2.5 to 2.5	Pass
		40	3.87	29.400	0.0346	-2.5 to 2.5	Pass
		50	3.87	28.724	0.0338	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 GSM850_OBW

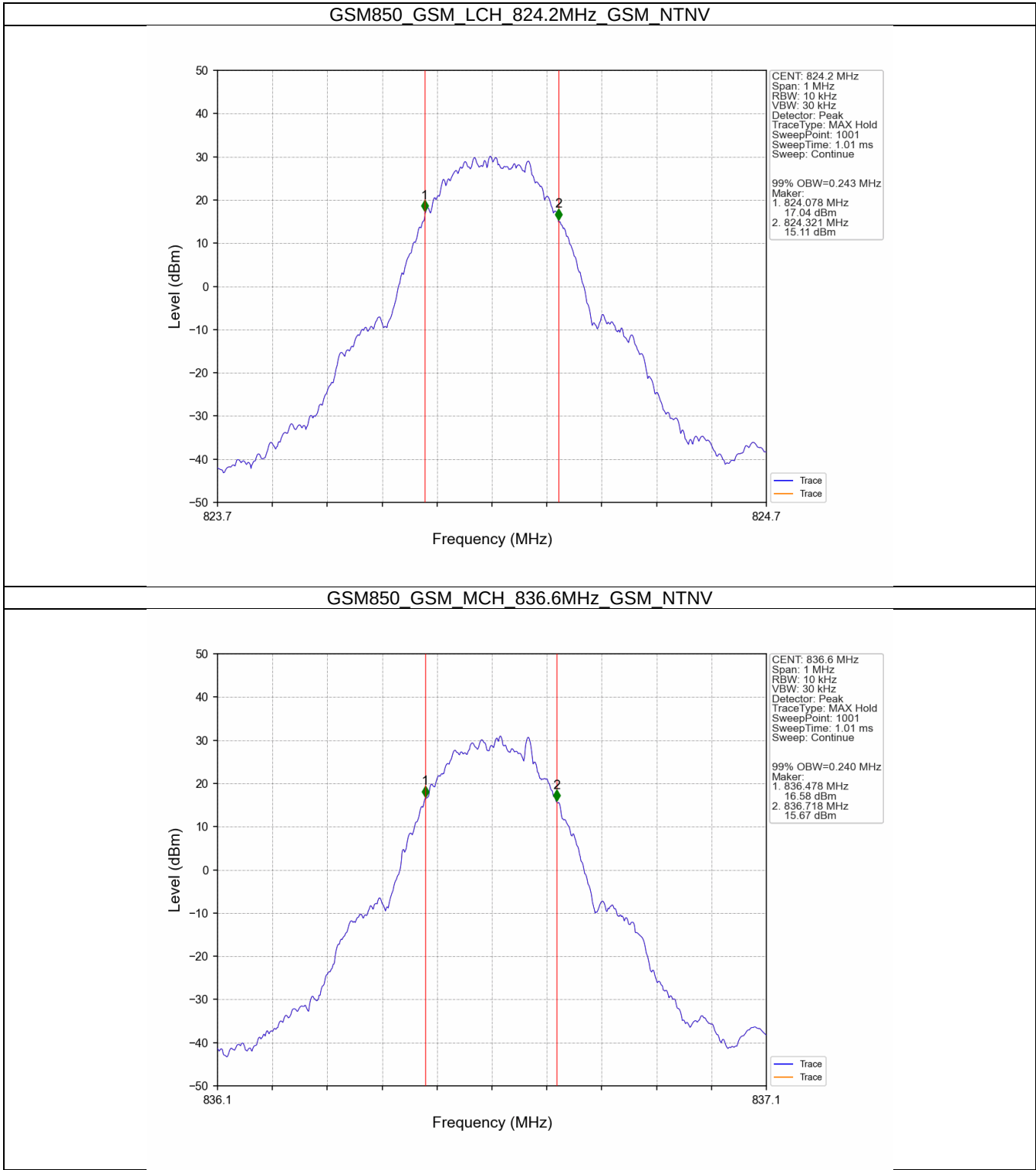
Band: GSM850						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	0.243	/	Pass
			836.6	0.240	/	Pass
			848.8	0.247	/	Pass
	EGPRS	1 TX Slot	824.2	0.250	/	Pass
			836.6	0.241	/	Pass
			848.8	0.237	/	Pass

3.1.2 GSM850_XDB

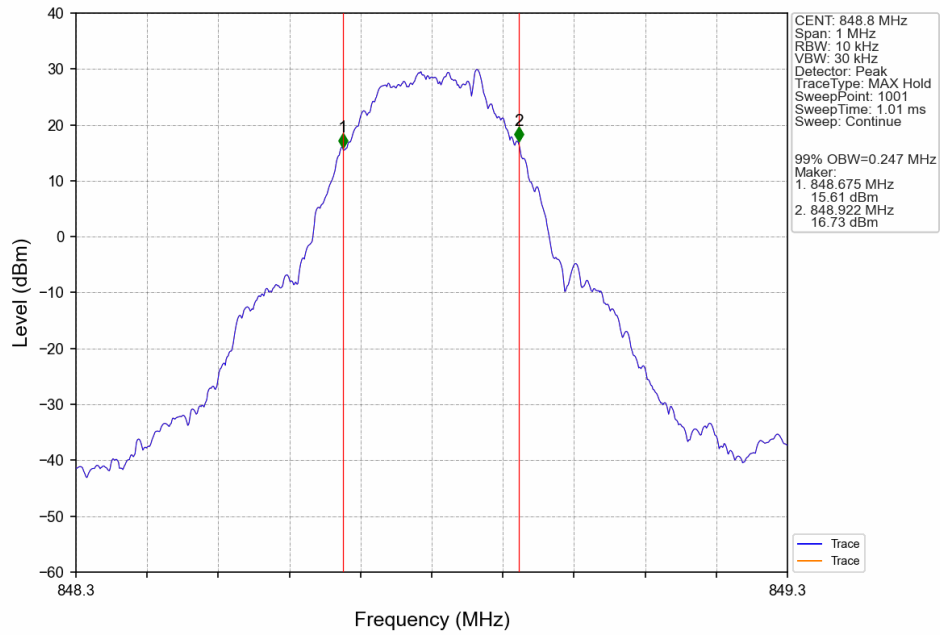
Band: GSM850						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	0.316	/	Pass
			836.6	0.314	/	Pass
			848.8	0.323	/	Pass
	EGPRS	1 TX Slot	824.2	0.316	/	Pass
			836.6	0.318	/	Pass
			848.8	0.314	/	Pass

3.2 Test Graph

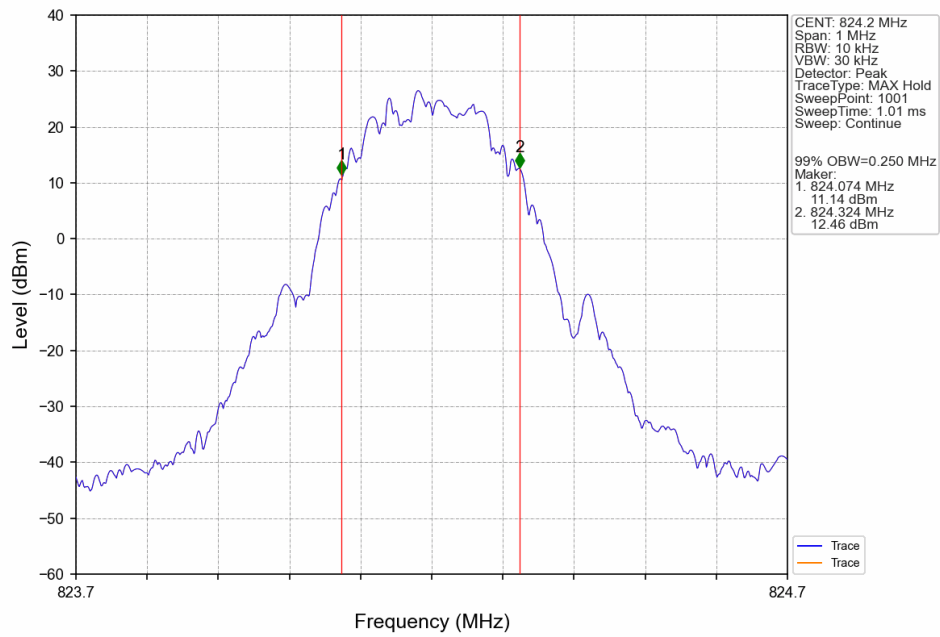
3.2.1 GSM850_OBW



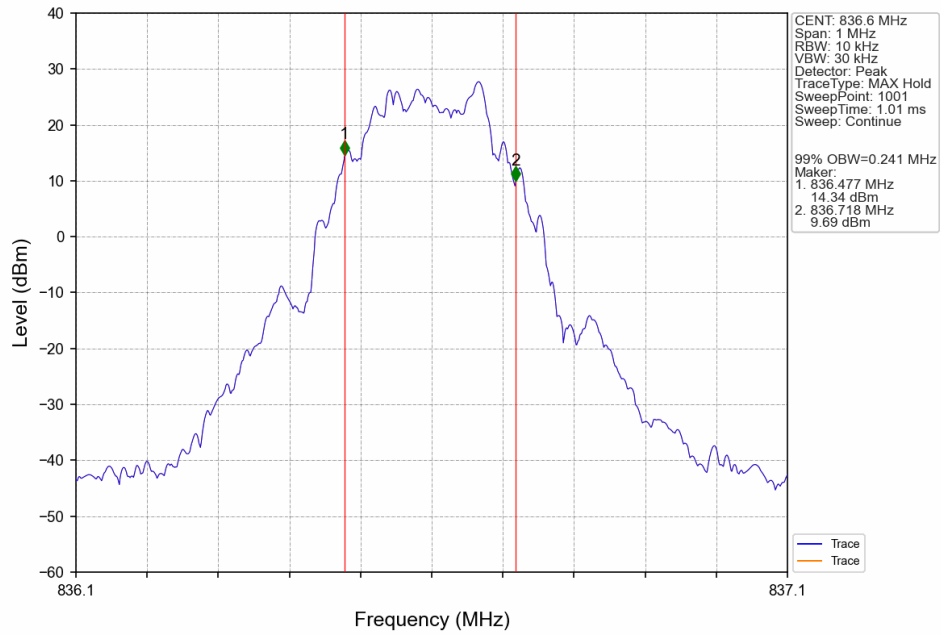
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



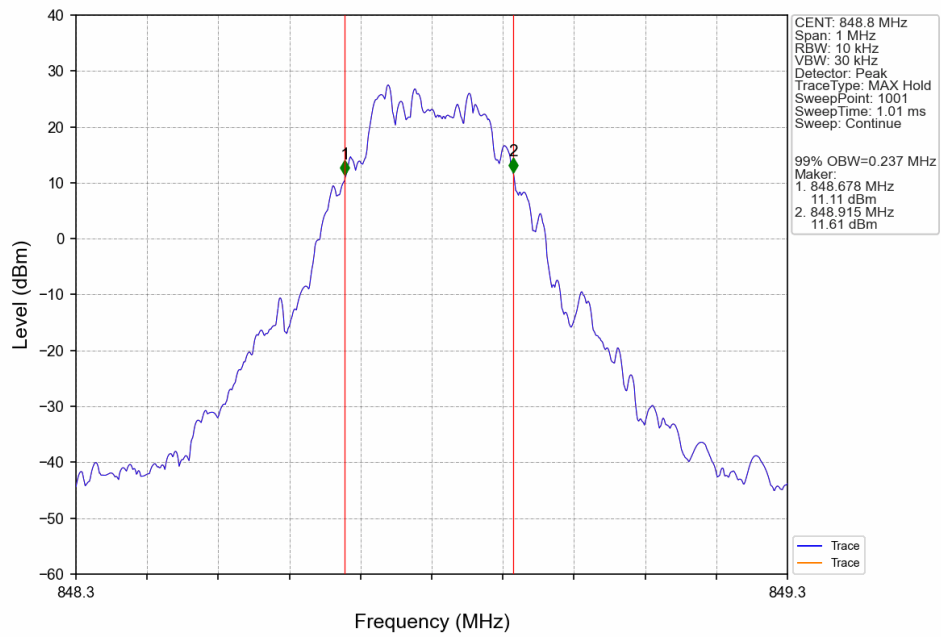
GSM850 EGPRS LCH 824.2MHz 1 TX Slot NTNV



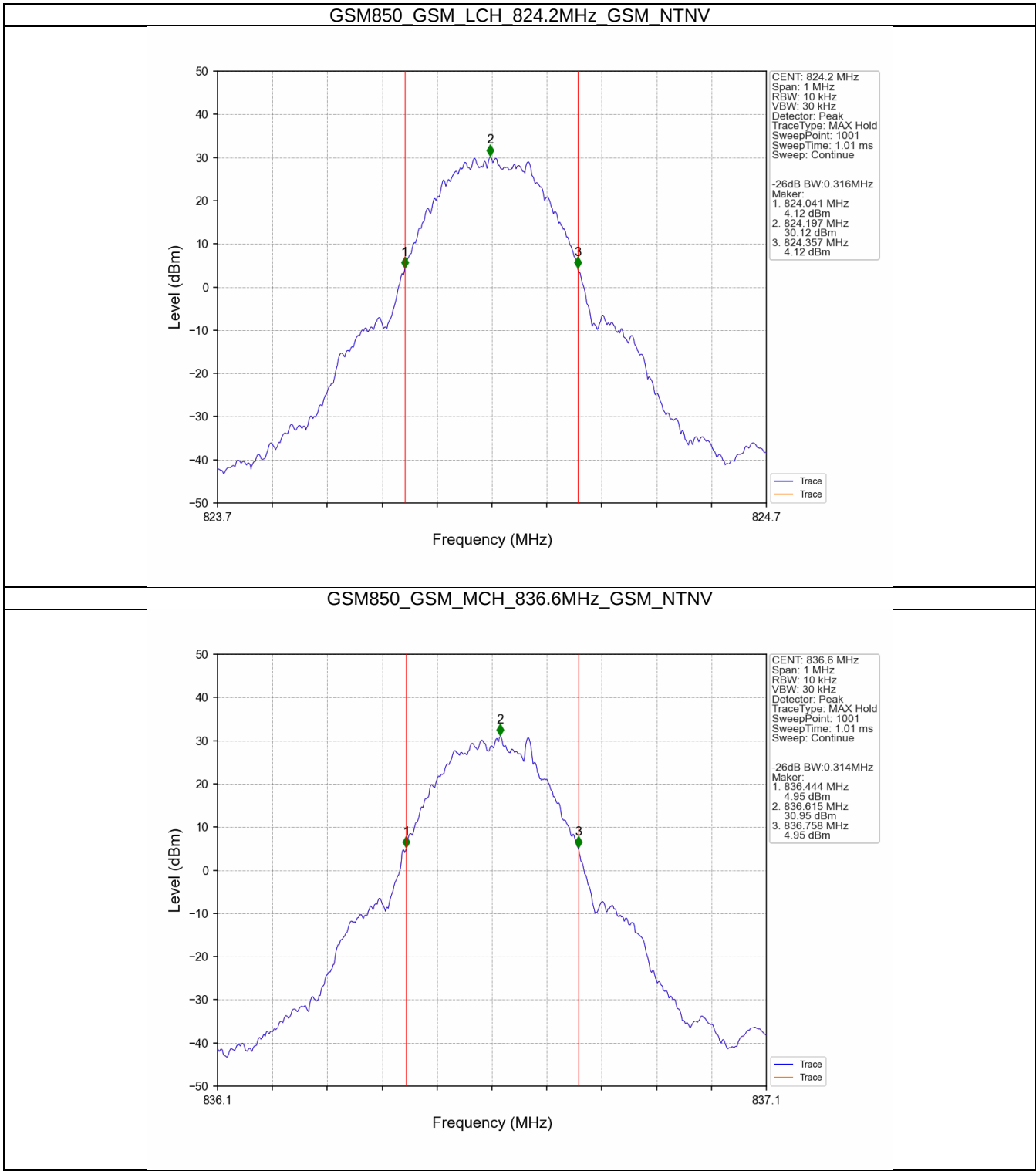
GSM850 EGPRS MCH 836.6MHz 1 TX Slot NTNV



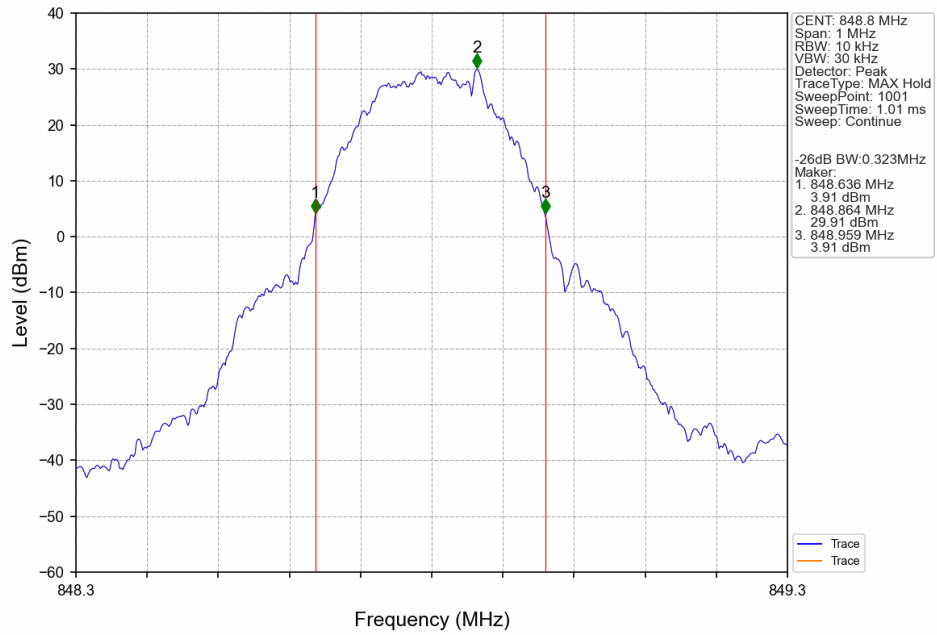
GSM850 EGPRS HCH 848.8MHz 1 TX Slot NTNV



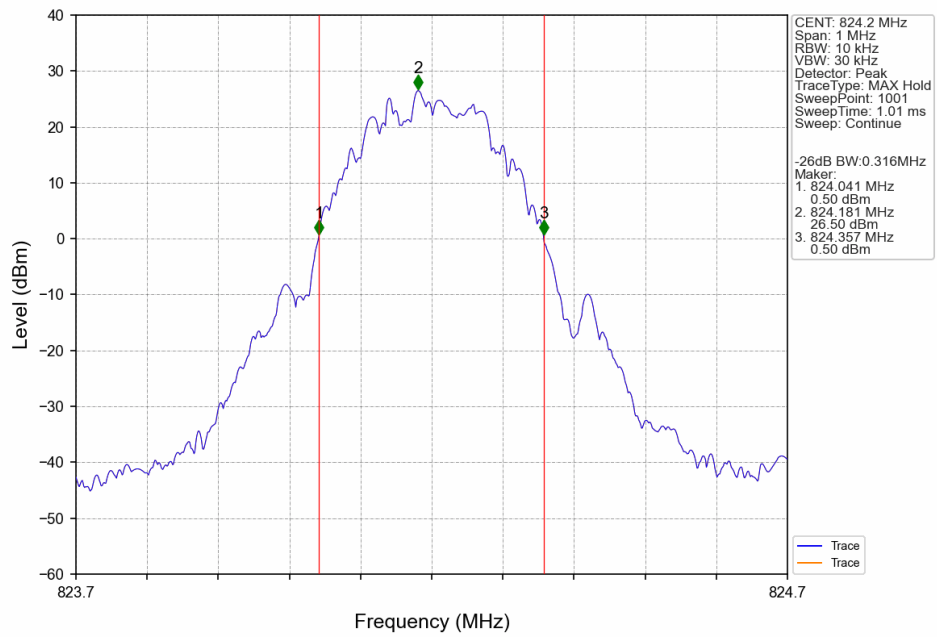
3.2.2 GSM850_XDB



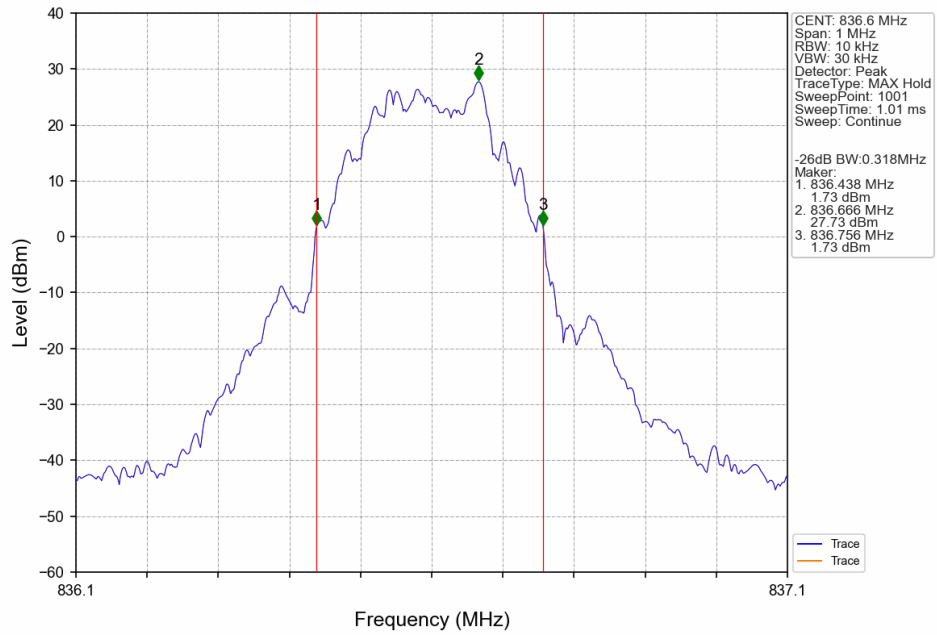
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



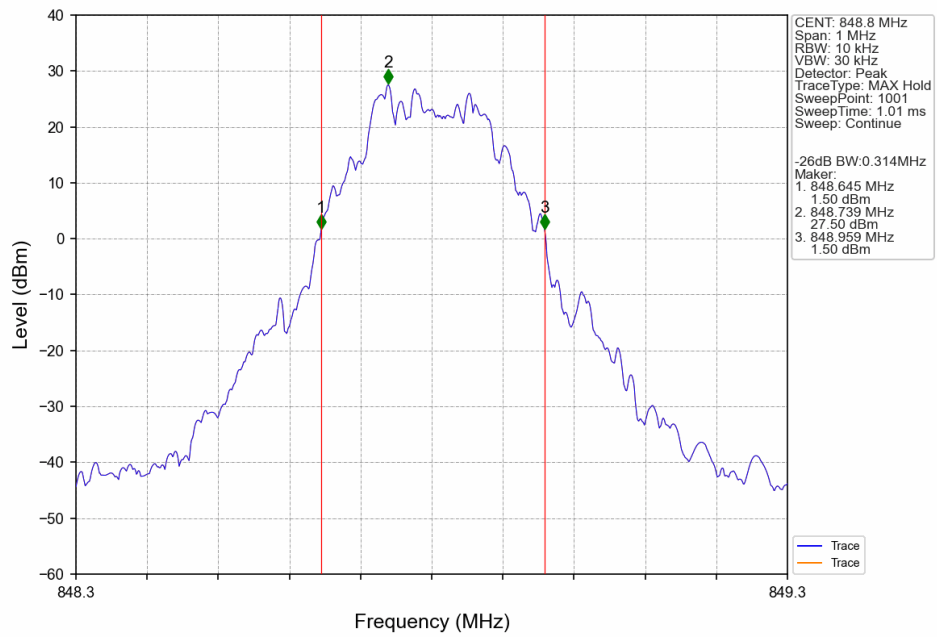
GSM850 EGPRS LCH 824.2MHz 1 TX Slot NTNV



GSM850 EGPRS MCH 836.6MHz 1 TX Slot NTNV



GSM850 EGPRS HCH 848.8MHz 1 TX Slot NTNV



4. Peak-Average Ratio

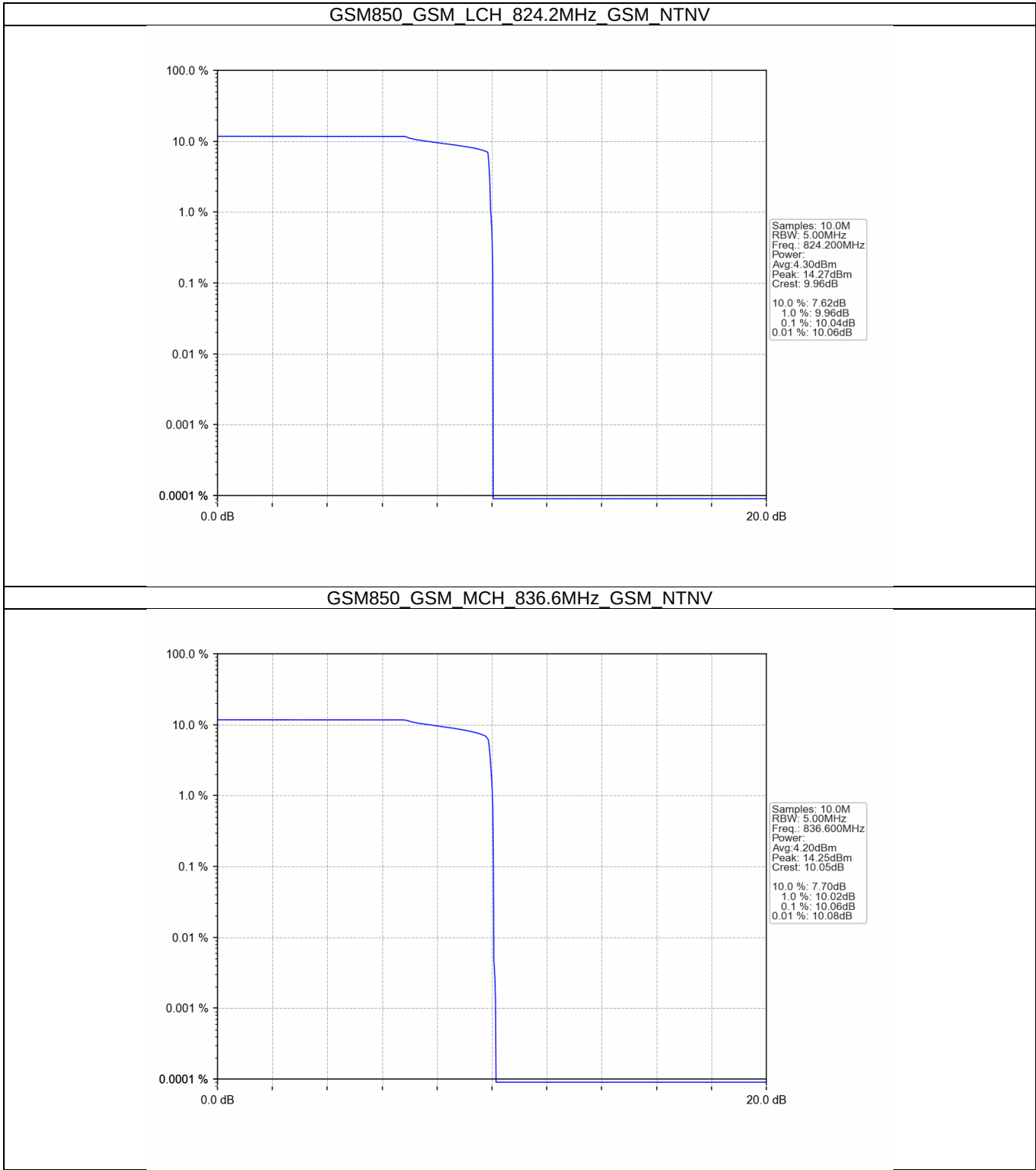
4.1 Test Result

4.1.1 GSM850

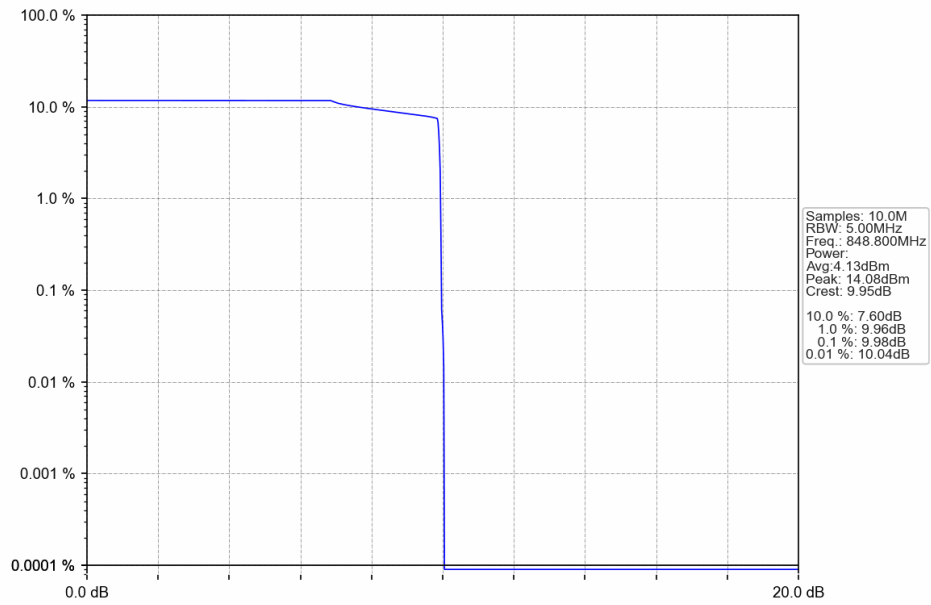
Band: GSM850						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	10.04	<=13	Pass
			836.6	10.06	<=13	Pass
			848.8	9.98	<=13	Pass
	EGPRS	4 TX Slots	824.2	5.08	<=13	Pass
			836.6	5.00	<=13	Pass
			848.8	4.84	<=13	Pass

4.2 Test Graph

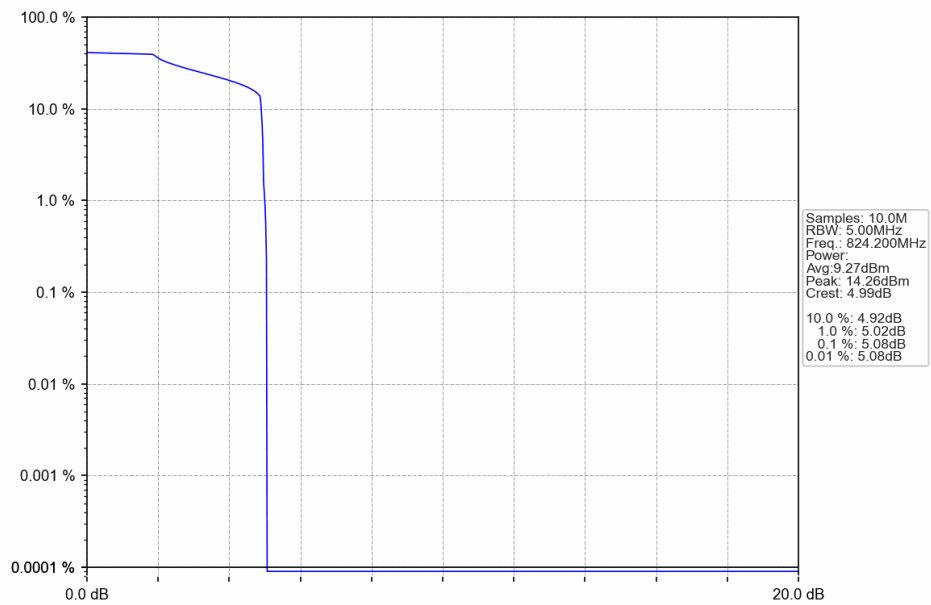
4.2.1 GSM850



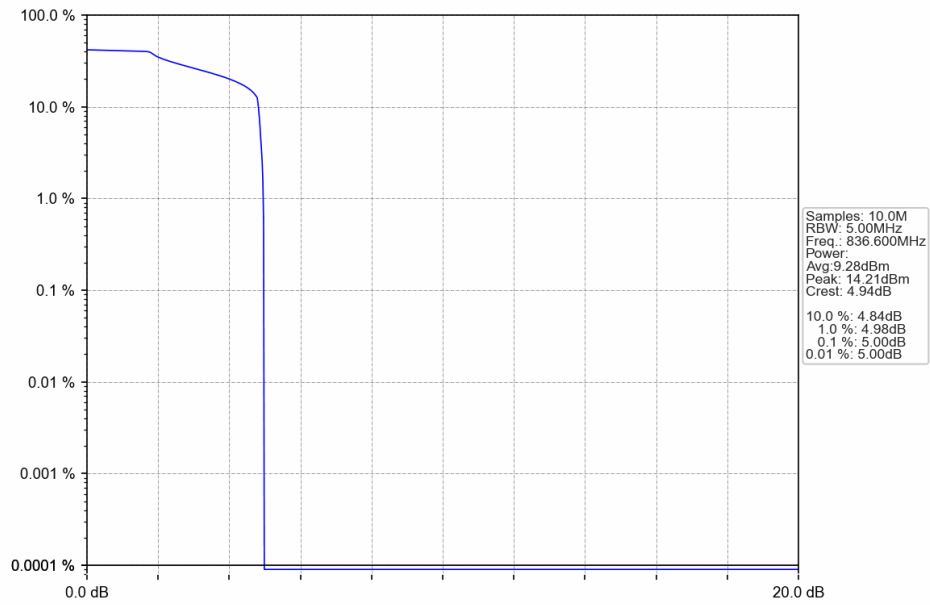
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



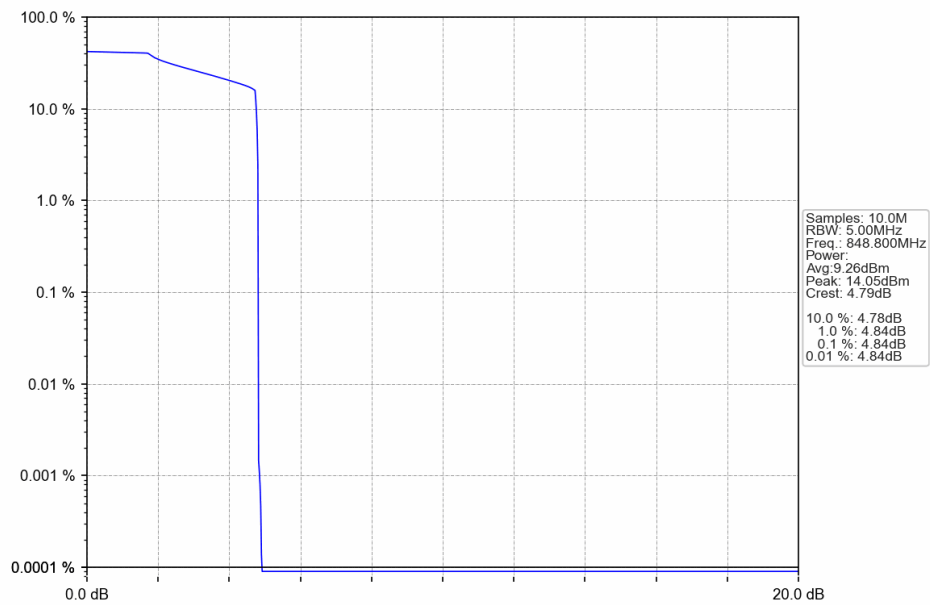
GSM850 EGPRS LCH 824.2MHz 4 TX Slots NTN



GSM850_EGPRS_MCH_836.6MHz_4 TX Slots_NTNV



GSM850_EGPRS_HCH_848.8MHz_4 TX Slots_NTNV



5. Spurious Emission

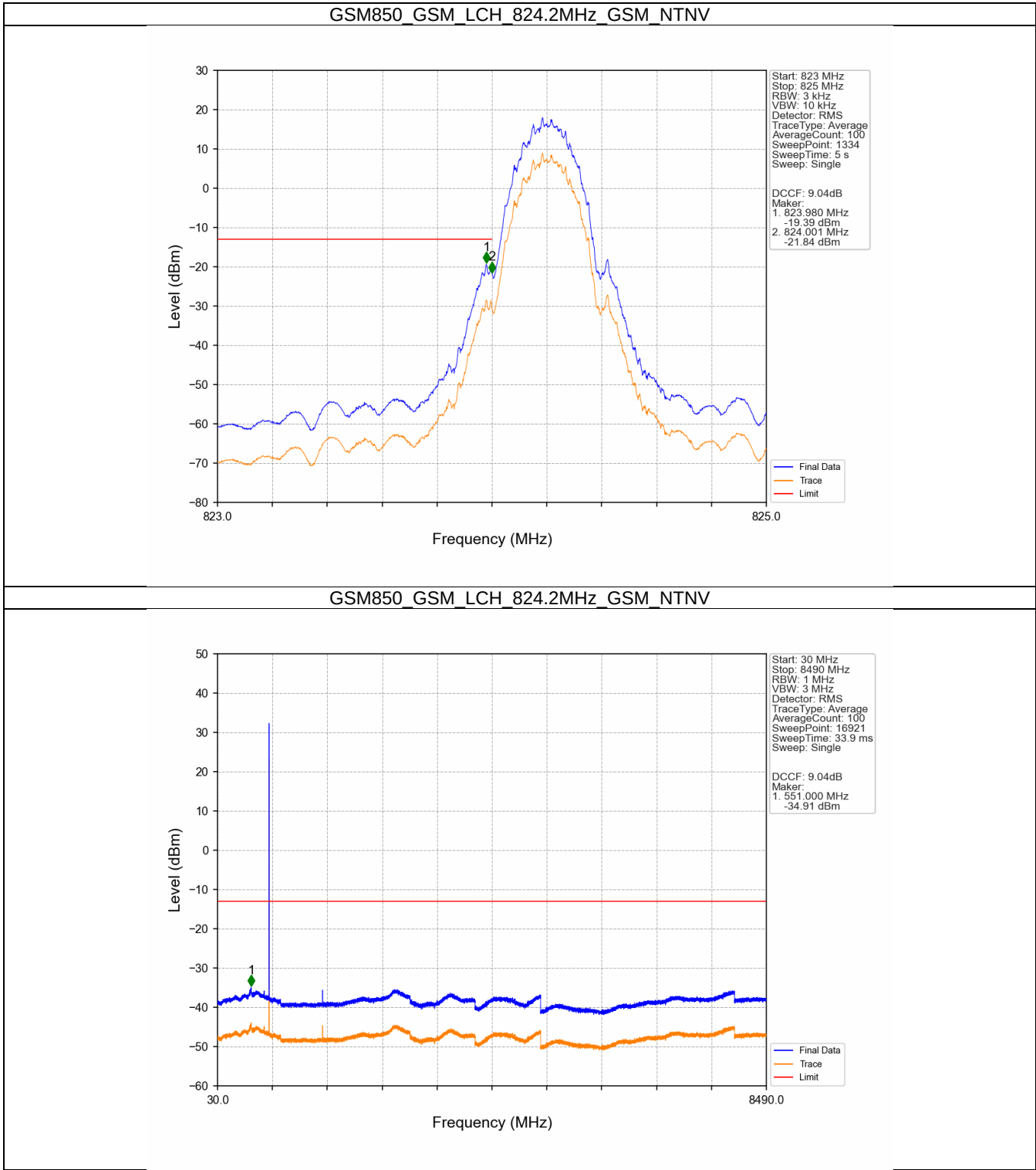
5.1 Test Result

5.1.1 GSM850

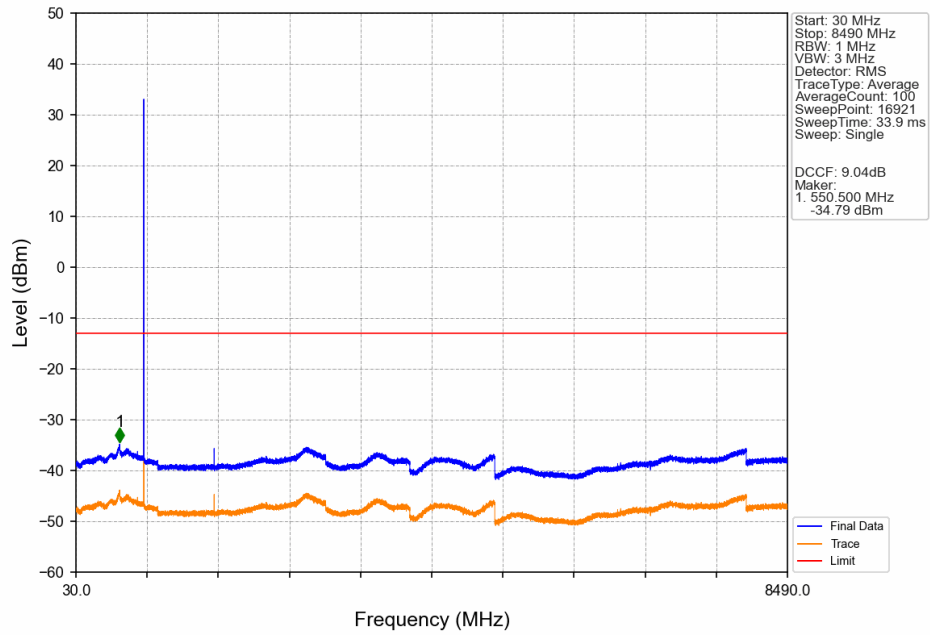
Band: GSM850						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			848.8	Refer To Test Graph		Pass
	EGPRS	1 TX Slot	824.2	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			848.8	Refer To Test Graph		Pass

5.2 Test Graph

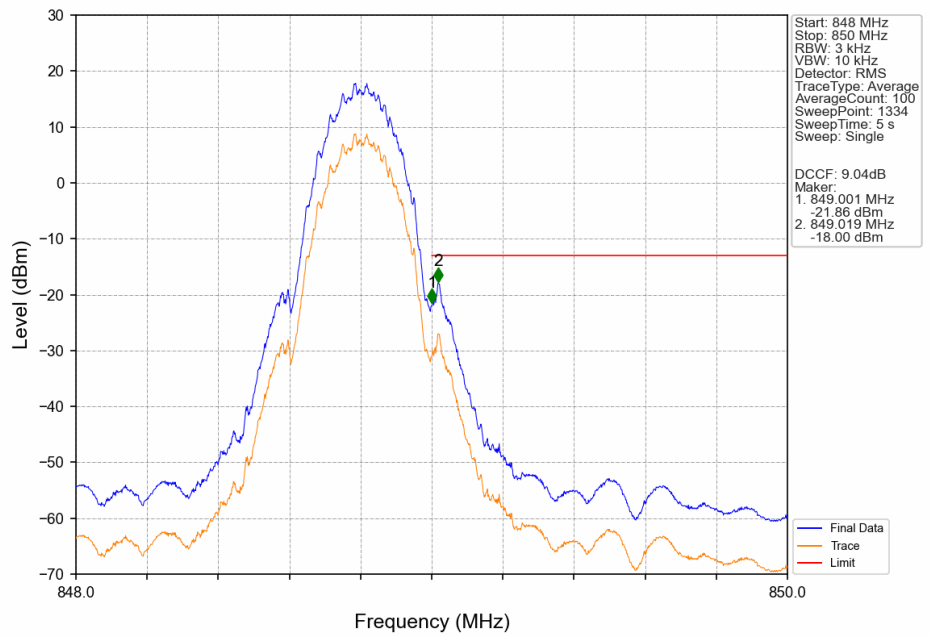
5.2.1 GSM850



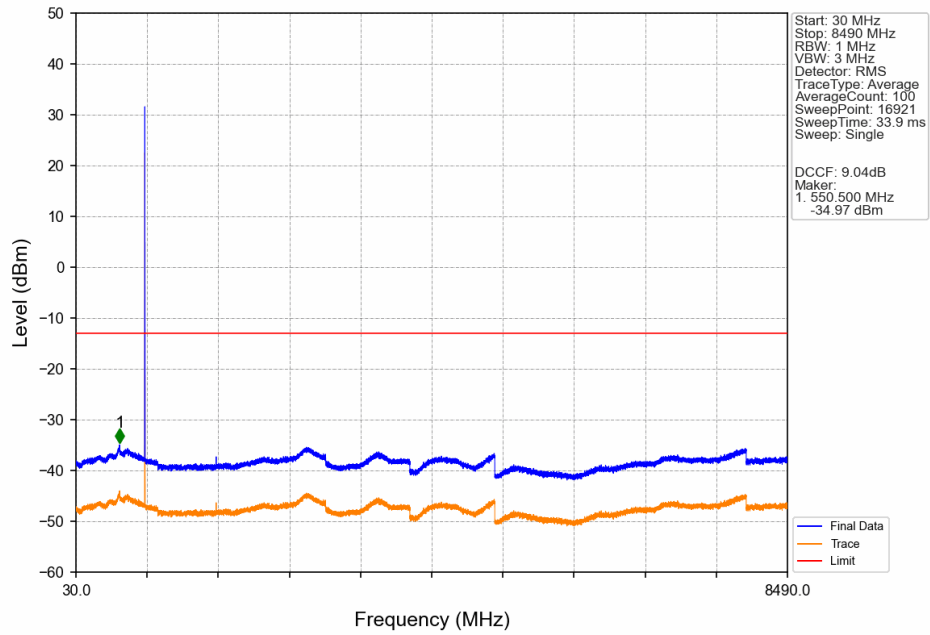
GSM850 GSM MCH 836.6MHz GSM NTNV



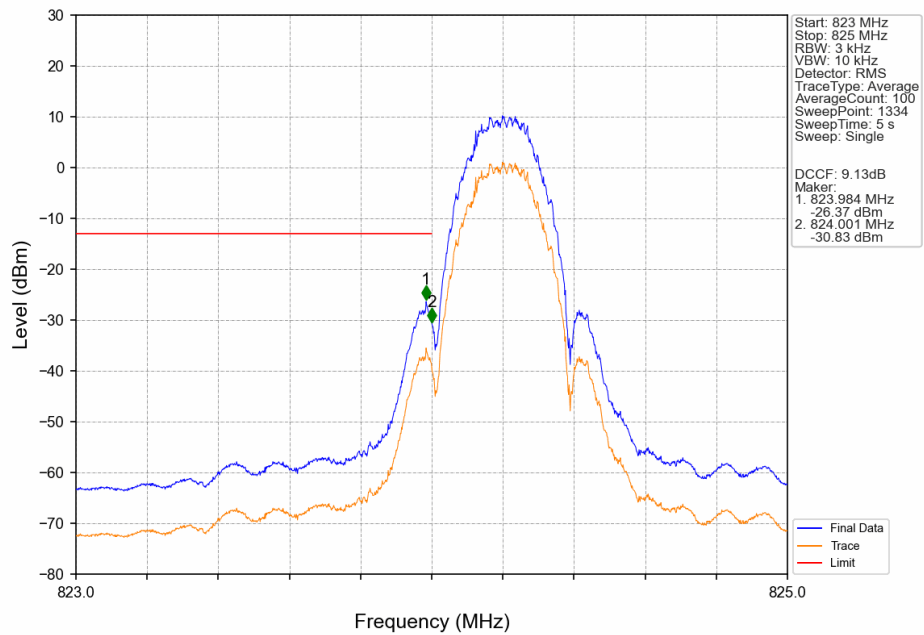
GSM850 GSM HCH 848.8MHz GSM NTNV



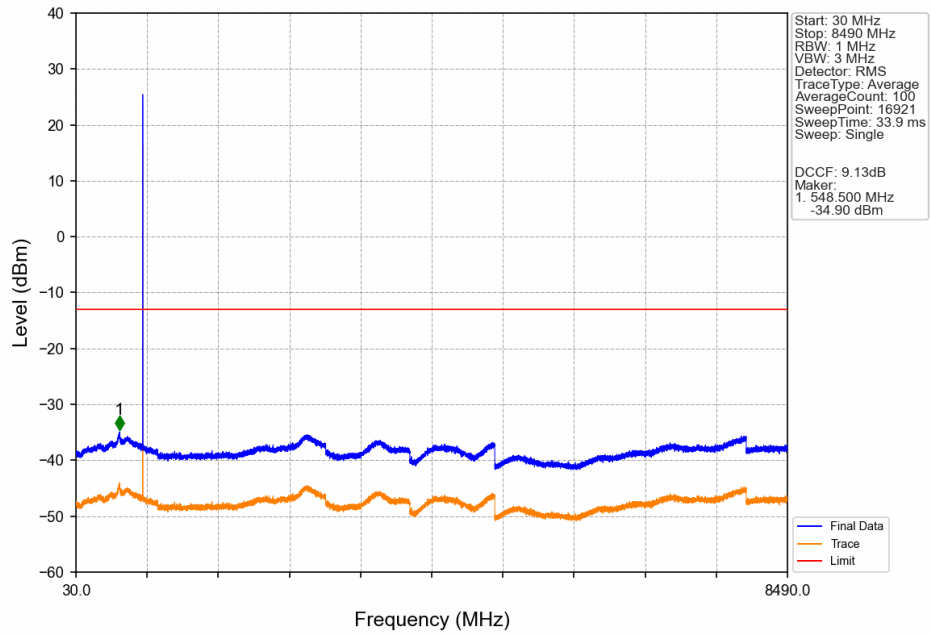
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



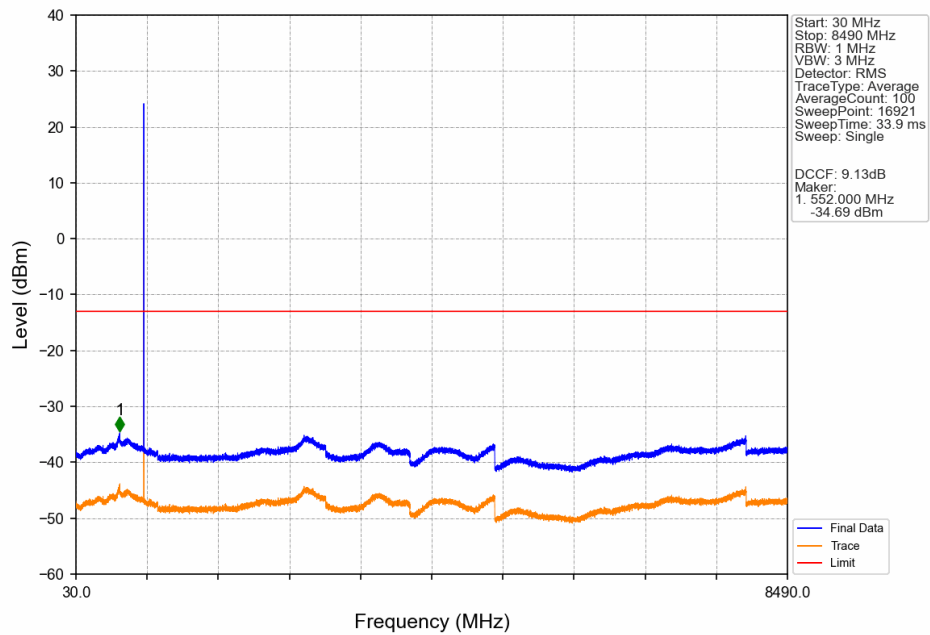
GSM850 EGPRS LCH 824.2MHz 1 TX Slot NTNV



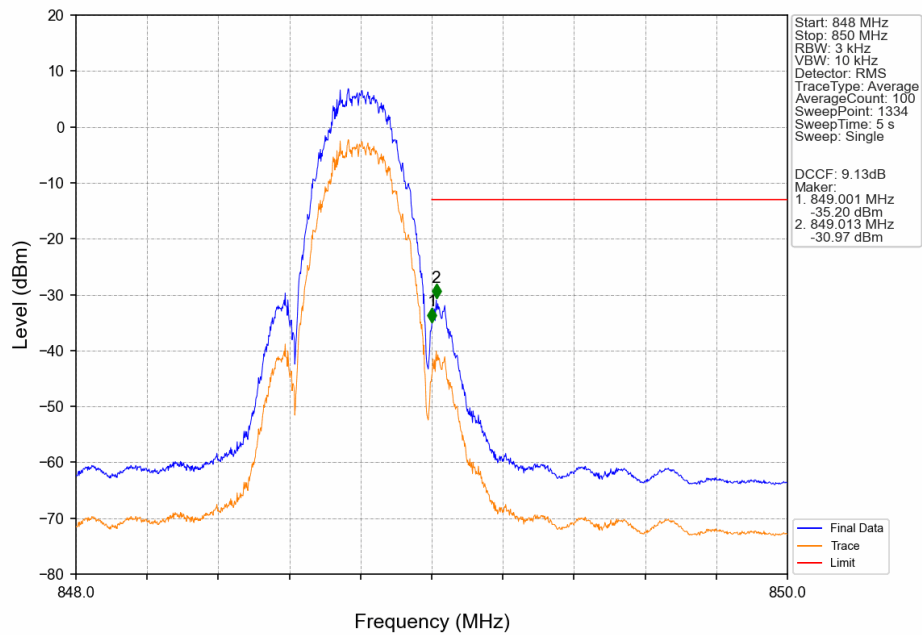
GSM850 EGPRS LCH 824.2MHz 1 TX Slot NTNV



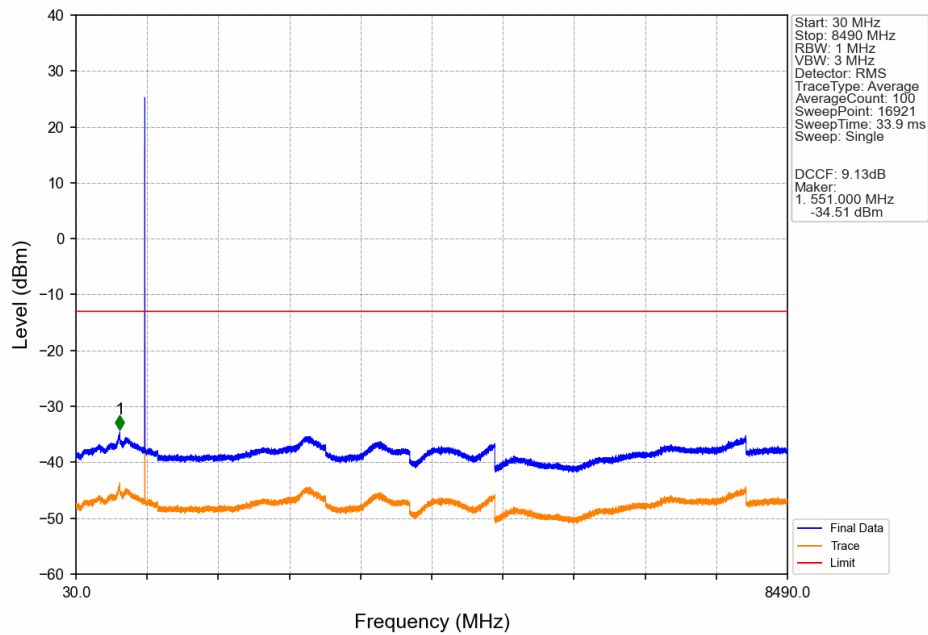
GSM850 EGPRS MCH 836.6MHz 1 TX Slot NTNV



GSM850 EGPRS HCH 848.8MHz 1 TX Slot NTN



GSM850 EGPRS HCH 848.8MHz 1 TX Slot NTN



6. Field Strength of Spurious Radiation

Test Band = GSM 850

Test Channel = Low Channel

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	1648.4	80.91	-49.83	25.57	-38.61	-13.00	25.61	Horizontal
2	2472.6	70.58	-49.06	27.15	-46.59	-13.00	33.59	Horizontal
3	3296.8	51.21	-48.63	28.34	-64.34	-13.00	51.34	Horizontal
4	4121	48.65	-48.28	29.49	-65.40	-13.00	52.40	Horizontal
5	4945.2	49.28	-48.07	31.08	-62.98	-13.00	49.98	Horizontal
6	5769.4	50.33	-47.65	32.71	-59.88	-13.00	46.88	Horizontal

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	4120.8889	53.63	-48.28	29.49	-60.42	-13.00	47.42	Vertical
2	1648.4	70.25	-49.83	25.57	-49.27	-13.00	36.27	Vertical
3	2472.6	77.17	-49.06	27.15	-40.00	-13.00	27.00	Vertical
4	3296.8	50.18	-48.63	28.34	-65.37	-13.00	52.37	Vertical
5	4945.2	49.25	-48.07	31.08	-63.01	-13.00	50.01	Vertical
6	5769.4	50.41	-47.65	32.71	-59.80	-13.00	46.80	Vertical

Test Band = GSM 850_
Test Channel = Mid Channel

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	1672.8	79.22	-49.78	25.61	-40.21	-13.00	27.21	Horizontal
2	2509.2	72.27	-48.93	27.22	-44.70	-13.00	31.70	Horizontal
3	3345.6	49.61	-48.66	28.38	-65.93	-13.00	52.93	Horizontal
4	4182	49.30	-48.34	29.59	-64.71	-13.00	51.71	Horizontal
5	5018.4	50.42	-47.95	31.25	-61.54	-13.00	48.54	Horizontal
6	5854.8	50.37	-47.33	32.74	-59.48	-13.00	46.48	Horizontal

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	1672.8	68.83	-49.78	25.61	-50.60	-13.00	37.60	Vertical
2	2509.2	69.77	-48.93	27.22	-47.20	-13.00	34.20	Vertical
3	3345.6	49.05	-48.66	28.38	-66.49	-13.00	53.49	Vertical
4	4182	49.33	-48.34	29.59	-64.68	-13.00	51.68	Vertical
5	5018.4	49.99	-47.95	31.25	-61.97	-13.00	48.97	Vertical
6	5854.8	49.98	-47.33	32.74	-59.87	-13.00	46.87	Vertical

Test Band = GSM 850_
Test Channel = High Channel

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	1697.6	83.81	-49.72	25.65	-35.53	-13.00	22.53	Horizontal
2	2546.4	67.39	-49.03	27.28	-49.61	-13.00	36.61	Horizontal
3	3395.2	49.83	-48.69	28.42	-65.70	-13.00	52.70	Horizontal
4	4244	49.01	-48.21	29.69	-64.77	-13.00	51.77	Horizontal
5	5092.8	50.76	-47.92	31.46	-60.96	-13.00	47.96	Horizontal
6	5941.6	50.22	-47.26	32.78	-59.53	-13.00	46.53	Horizontal

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	1697.7778	74.42	-49.72	25.65	-44.92	-13.00	31.92	Vertical
2	2546.4	56.74	-49.03	27.28	-60.26	-13.00	47.26	Vertical
3	3395.2	49.43	-48.69	28.42	-66.10	-13.00	53.10	Vertical
4	4244	48.57	-48.21	29.69	-65.21	-13.00	52.21	Vertical
5	5092.8	50.06	-47.92	31.46	-61.66	-13.00	48.66	Vertical
6	5941.6	51.15	-47.26	32.78	-58.60	-13.00	45.60	Vertical