

1. Effective (Isotropic) Radiated Power Output Data

1.1 GSM850_ERP

1.1.1 Test Result

Band: GSM850										
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict		
	Network	Subset				Result	Limit			
NTNV	GSM	GSM	824.2	31.10	-2.18	26.77	<=38.45	Pass		
			836.6	31.09	-2.18	26.76	<=38.45	Pass		
			848.8	30.71	-2.18	26.38	<=38.45	Pass		
	GPRS	1 TX Slot	824.2	31.15	-2.18	26.82	<=38.45	Pass		
			2 TX Slots	824.2	29.12	-2.18	24.79	<=38.45	Pass	
			3 TX Slots	824.2	27.26	-2.18	22.93	<=38.45	Pass	
			4 TX Slots	824.2	25.25	-2.18	20.92	<=38.45	Pass	
		2 TX Slots	836.6	31.02	-2.18	26.69	<=38.45	Pass		
			836.6	28.87	-2.18	24.54	<=38.45	Pass		
			836.6	26.98	-2.18	22.65	<=38.45	Pass		
			836.6	24.93	-2.18	20.60	<=38.45	Pass		
		3 TX Slots	848.8	30.71	-2.18	26.38	<=38.45	Pass		
			848.8	28.38	-2.18	24.05	<=38.45	Pass		
			848.8	26.46	-2.18	22.13	<=38.45	Pass		
			848.8	24.40	-2.18	20.07	<=38.45	Pass		
		EGPRS	1 TX Slot	824.2	24.38	-2.18	20.05	<=38.45	Pass	
				2 TX Slots	824.2	22.98	-2.18	18.65	<=38.45	Pass
				3 TX Slots	824.2	20.72	-2.18	16.39	<=38.45	Pass
				4 TX Slots	824.2	19.80	-2.18	15.47	<=38.45	Pass
	2 TX Slots		836.6	24.33	-2.18	20.00	<=38.45	Pass		
			836.6	23.24	-2.18	18.91	<=38.45	Pass		
			836.6	20.74	-2.18	16.41	<=38.45	Pass		
			836.6	18.68	-2.18	14.35	<=38.45	Pass		
	3 TX Slots		848.8	24.12	-2.18	19.79	<=38.45	Pass		
			848.8	22.75	-2.18	18.42	<=38.45	Pass		
			848.8	20.57	-2.18	16.24	<=38.45	Pass		
			848.8	18.41	-2.18	14.08	<=38.45	Pass		

Note1: ERP=Conducted Power+Antenna Gain-2.15

2. Frequency Stability

2.1 GSM850

2.1.1 Test Result

Band: GSM850							
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
					Result	Limit	
GSM	824.2	20	3.27	11.139	0.0135	-2.5 to 2.5	Pass
			3.85	6.102	0.0074	-2.5 to 2.5	Pass
			4.43	-0.517	-0.0006	-2.5 to 2.5	Pass
		-30	3.85	6.812	0.0083	-2.5 to 2.5	Pass
		-20	3.85	4.229	0.0051	-2.5 to 2.5	Pass

	836.6	-10	3.85	3.003	0.0036	-2.5 to 2.5	Pass
		0	3.85	-2.099	-0.0025	-2.5 to 2.5	Pass
		10	3.85	1.517	0.0018	-2.5 to 2.5	Pass
		30	3.85	6.134	0.0074	-2.5 to 2.5	Pass
		40	3.85	0.743	0.0009	-2.5 to 2.5	Pass
		50	3.85	-0.969	-0.0012	-2.5 to 2.5	Pass
		20	3.27	6.586	0.0079	-2.5 to 2.5	Pass
			3.85	9.621	0.0115	-2.5 to 2.5	Pass
			4.43	7.684	0.0092	-2.5 to 2.5	Pass
		-30	3.85	5.908	0.0071	-2.5 to 2.5	Pass
	-20	3.85	2.938	0.0035	-2.5 to 2.5	Pass	
	-10	3.85	2.970	0.0036	-2.5 to 2.5	Pass	
	0	3.85	8.362	0.0100	-2.5 to 2.5	Pass	
	10	3.85	0.097	0.0001	-2.5 to 2.5	Pass	
	30	3.85	-0.129	-0.0002	-2.5 to 2.5	Pass	
	40	3.85	9.331	0.0112	-2.5 to 2.5	Pass	
	50	3.85	5.327	0.0064	-2.5 to 2.5	Pass	
	848.8	20	3.27	10.202	0.0120	-2.5 to 2.5	Pass
			3.85	0.904	0.0011	-2.5 to 2.5	Pass
			4.43	9.492	0.0112	-2.5 to 2.5	Pass
		-30	3.85	8.104	0.0095	-2.5 to 2.5	Pass
		-20	3.85	10.525	0.0124	-2.5 to 2.5	Pass
		-10	3.85	7.393	0.0087	-2.5 to 2.5	Pass
		0	3.85	11.655	0.0137	-2.5 to 2.5	Pass
		10	3.85	4.875	0.0057	-2.5 to 2.5	Pass
		30	3.85	7.167	0.0084	-2.5 to 2.5	Pass
		40	3.85	10.719	0.0126	-2.5 to 2.5	Pass
	50	3.85	4.423	0.0052	-2.5 to 2.5	Pass	
	824.2	20	3.27	8.071	0.0098	-2.5 to 2.5	Pass
			3.85	5.004	0.0061	-2.5 to 2.5	Pass
4.43			2.260	0.0027	-2.5 to 2.5	Pass	
-30		3.85	5.359	0.0065	-2.5 to 2.5	Pass	
-20		3.85	3.907	0.0047	-2.5 to 2.5	Pass	
-10		3.85	2.873	0.0035	-2.5 to 2.5	Pass	
0		3.85	6.715	0.0081	-2.5 to 2.5	Pass	
10		3.85	2.873	0.0035	-2.5 to 2.5	Pass	
30		3.85	5.618	0.0068	-2.5 to 2.5	Pass	
40		3.85	3.874	0.0047	-2.5 to 2.5	Pass	
50	3.85	9.621	0.0117	-2.5 to 2.5	Pass		
836.6	20	3.27	8.523	0.0102	-2.5 to 2.5	Pass	
		3.85	11.946	0.0143	-2.5 to 2.5	Pass	
		4.43	14.464	0.0173	-2.5 to 2.5	Pass	
	-30	3.85	14.012	0.0167	-2.5 to 2.5	Pass	
	-20	3.85	13.237	0.0158	-2.5 to 2.5	Pass	
	-10	3.85	16.918	0.0202	-2.5 to 2.5	Pass	
	0	3.85	13.980	0.0167	-2.5 to 2.5	Pass	
	10	3.85	12.430	0.0149	-2.5 to 2.5	Pass	
	30	3.85	17.176	0.0205	-2.5 to 2.5	Pass	
	40	3.85	12.785	0.0153	-2.5 to 2.5	Pass	
50	3.85	15.465	0.0185	-2.5 to 2.5	Pass		
848.8	20	3.27	13.108	0.0154	-2.5 to 2.5	Pass	
		3.85	16.078	0.0189	-2.5 to 2.5	Pass	
		4.43	14.884	0.0175	-2.5 to 2.5	Pass	
	-30	3.85	14.173	0.0167	-2.5 to 2.5	Pass	
	-20	3.85	13.269	0.0156	-2.5 to 2.5	Pass	
	-10	3.85	10.654	0.0126	-2.5 to 2.5	Pass	
0	3.85	13.302	0.0157	-2.5 to 2.5	Pass		

		10	3.85	15.659	0.0184	-2.5 to 2.5	Pass
		30	3.85	15.207	0.0179	-2.5 to 2.5	Pass
		40	3.85	9.008	0.0106	-2.5 to 2.5	Pass
		50	3.85	11.461	0.0135	-2.5 to 2.5	Pass
EGPRS	824.2	20	3.27	11.429	0.0139	-2.5 to 2.5	Pass
			3.85	5.521	0.0067	-2.5 to 2.5	Pass
			4.43	3.035	0.0037	-2.5 to 2.5	Pass
		-30	3.85	6.070	0.0074	-2.5 to 2.5	Pass
		-20	3.85	8.717	0.0106	-2.5 to 2.5	Pass
		-10	3.85	5.424	0.0066	-2.5 to 2.5	Pass
		0	3.85	8.975	0.0109	-2.5 to 2.5	Pass
		10	3.85	10.170	0.0123	-2.5 to 2.5	Pass
		30	3.85	6.425	0.0078	-2.5 to 2.5	Pass
		40	3.85	0.517	0.0006	-2.5 to 2.5	Pass
		50	3.85	8.104	0.0098	-2.5 to 2.5	Pass
		836.6	20	3.27	12.495	0.0149	-2.5 to 2.5
	3.85			15.013	0.0179	-2.5 to 2.5	Pass
	4.43			10.041	0.0120	-2.5 to 2.5	Pass
	-30		3.85	10.202	0.0122	-2.5 to 2.5	Pass
	-20		3.85	11.752	0.0140	-2.5 to 2.5	Pass
	-10		3.85	11.784	0.0141	-2.5 to 2.5	Pass
	0		3.85	13.883	0.0166	-2.5 to 2.5	Pass
	10		3.85	15.949	0.0191	-2.5 to 2.5	Pass
	30		3.85	15.497	0.0185	-2.5 to 2.5	Pass
	40		3.85	6.037	0.0072	-2.5 to 2.5	Pass
	50		3.85	12.236	0.0146	-2.5 to 2.5	Pass
	848.8		20	3.27	7.619	0.0090	-2.5 to 2.5
		3.85		10.622	0.0125	-2.5 to 2.5	Pass
		4.43		12.010	0.0141	-2.5 to 2.5	Pass
		-30	3.85	14.012	0.0165	-2.5 to 2.5	Pass
		-20	3.85	10.525	0.0124	-2.5 to 2.5	Pass
		-10	3.85	12.624	0.0149	-2.5 to 2.5	Pass
		0	3.85	6.296	0.0074	-2.5 to 2.5	Pass
		10	3.85	6.941	0.0082	-2.5 to 2.5	Pass
30		3.85	12.462	0.0147	-2.5 to 2.5	Pass	
40		3.85	8.362	0.0099	-2.5 to 2.5	Pass	
50		3.85	10.687	0.0126	-2.5 to 2.5	Pass	

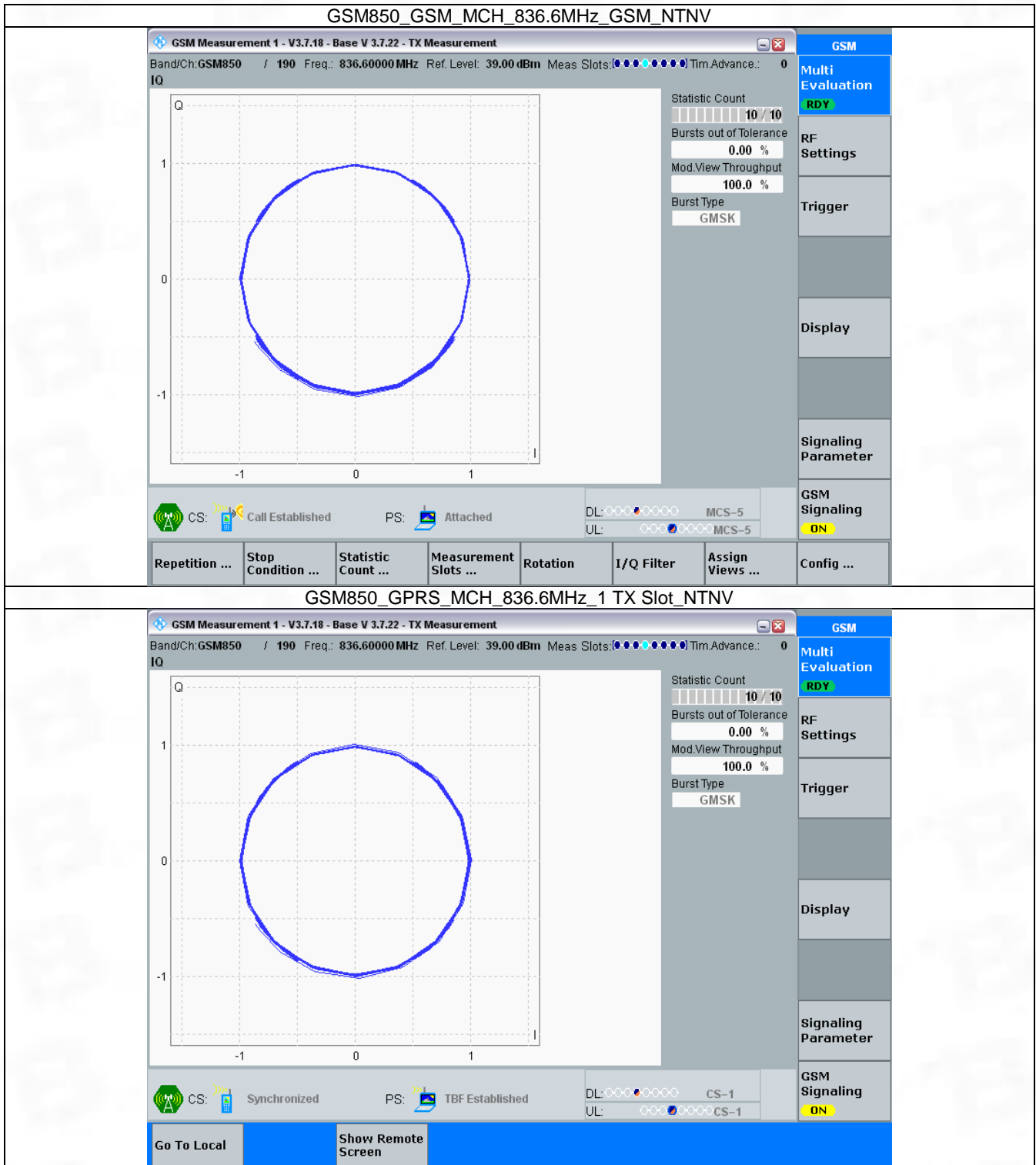
3. Modulation Characteristics

3.1 GSM850

3.1.1 Test Result

Band: GSM850						
ENV	Mode		Frequency (MHz)	Modulation Characteristics		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	836.6	Refer To Test Graph		Pass
	GPRS	1 TX Slot	836.6	Refer To Test Graph		Pass
	EGPRS	1 TX Slot	836.6	Refer To Test Graph		Pass

3.1.2 Test Graph

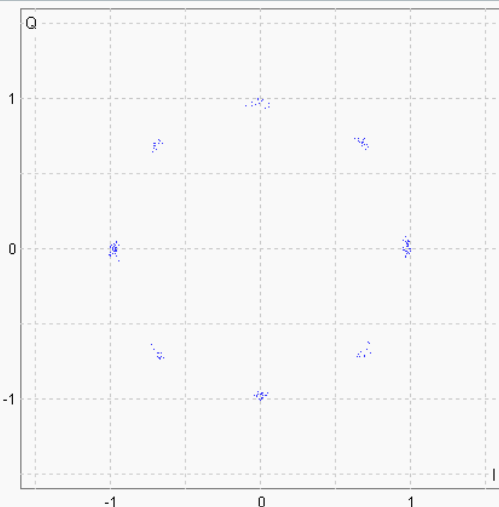


GSM850 EGPRS MCH_836.6MHz 1 TX Slot_NTNV

GSM Measurement 1 - V3.7.18 - Base V 3.7.22 - TX Measurement

Band/Ch: GSM850 / 190 Freq.: 836.60000 MHz Ref. Level: 42.23 dBm Meas Slots: [●●●●●●●●] Tim. Advance: 0

IQ



Statistic Count: 10 / 10
Bursts out of Tolerance: 0.00 %
Mod. View Throughput: 100.0 %
Burst Type: 8PSK

CS: Synchronized PS: TBF Established DL: ○○○○●○○○ MCS-5 UL: ○○○○●○○○ MCS-5

Go To Local Show Remote Screen

GSM
Multi Evaluation **RDY**
RF Settings
Trigger
Display
Signaling Parameter
GSM Signaling **ON**

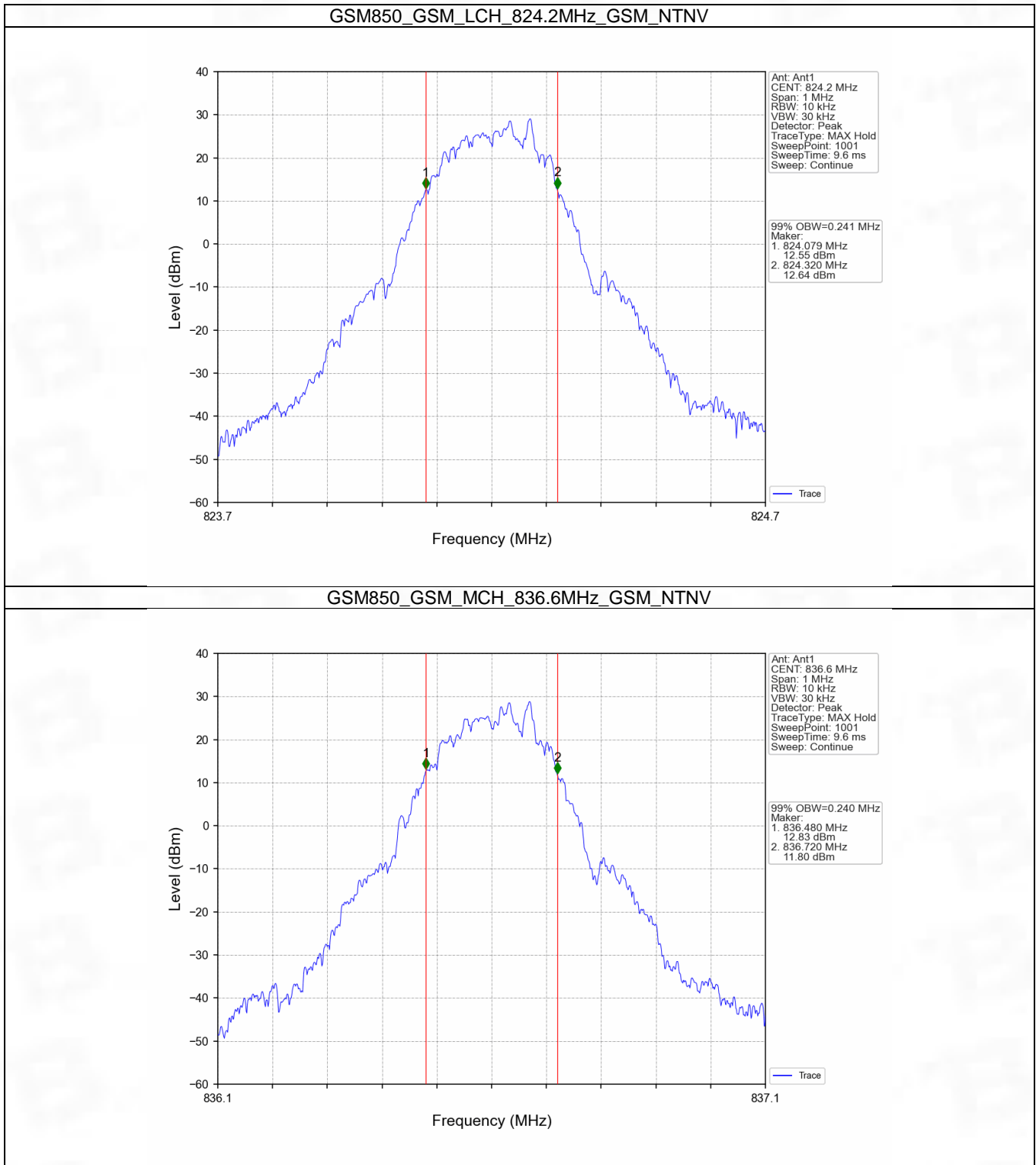
4. 99% & 26dB Bandwidth

4.1 GSM850_OBW

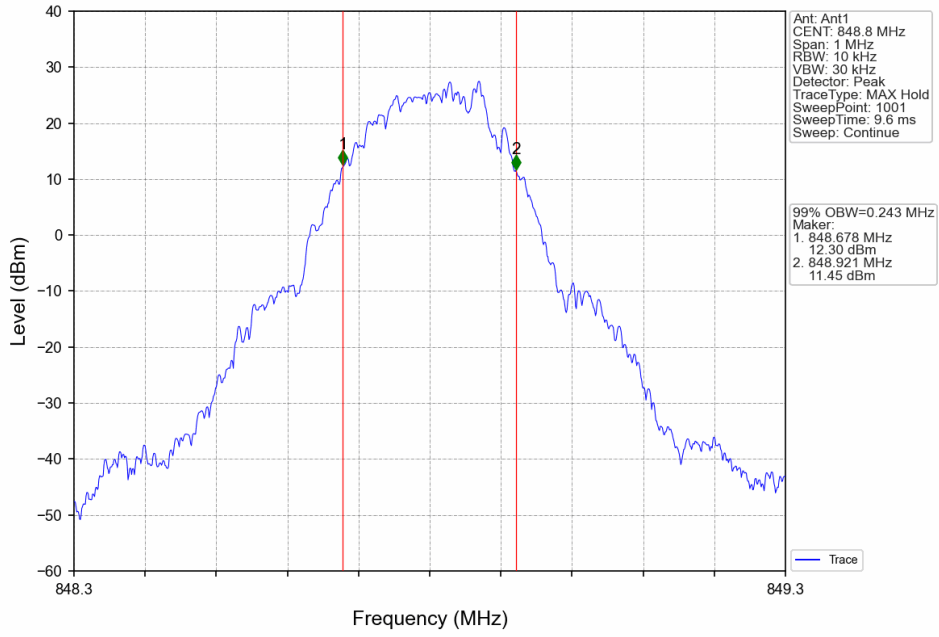
4.1.1 Test Result

Band: GSM850						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	0.241	/	Pass
			836.6	0.240	/	Pass
			848.8	0.243	/	Pass
	GPRS	1 TX Slot	824.2	0.244	/	Pass
			836.6	0.244	/	Pass
			848.8	0.245	/	Pass
	EGPRS	1 TX Slot	824.2	0.243	/	Pass
			836.6	0.249	/	Pass
			848.8	0.229	/	Pass

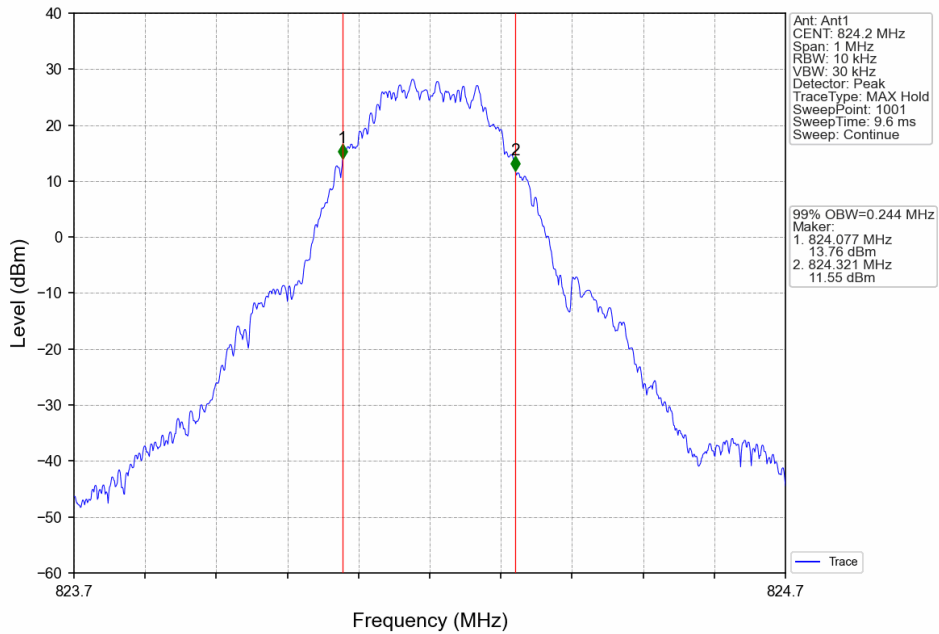
4.1.2 Test Graph



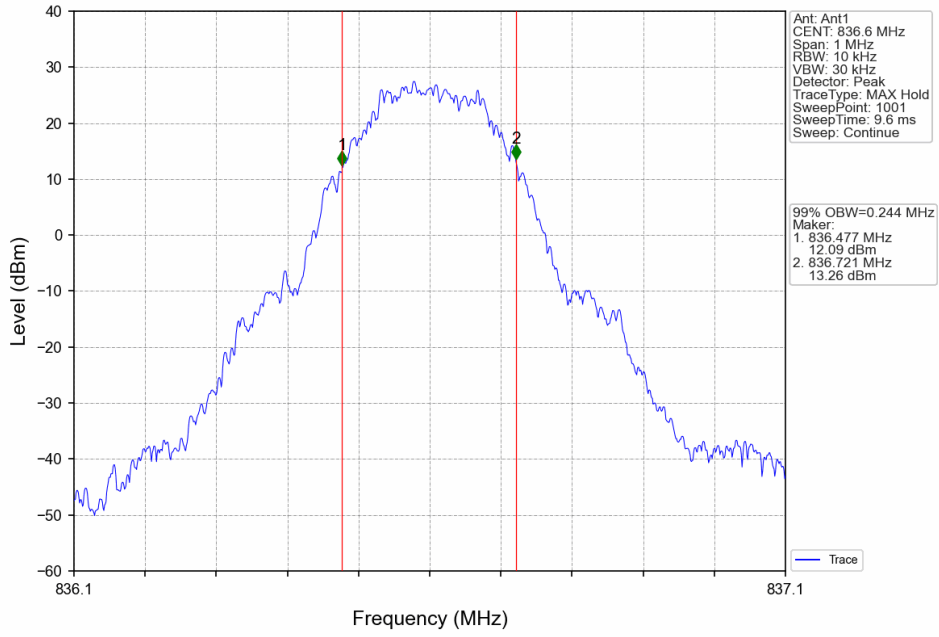
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



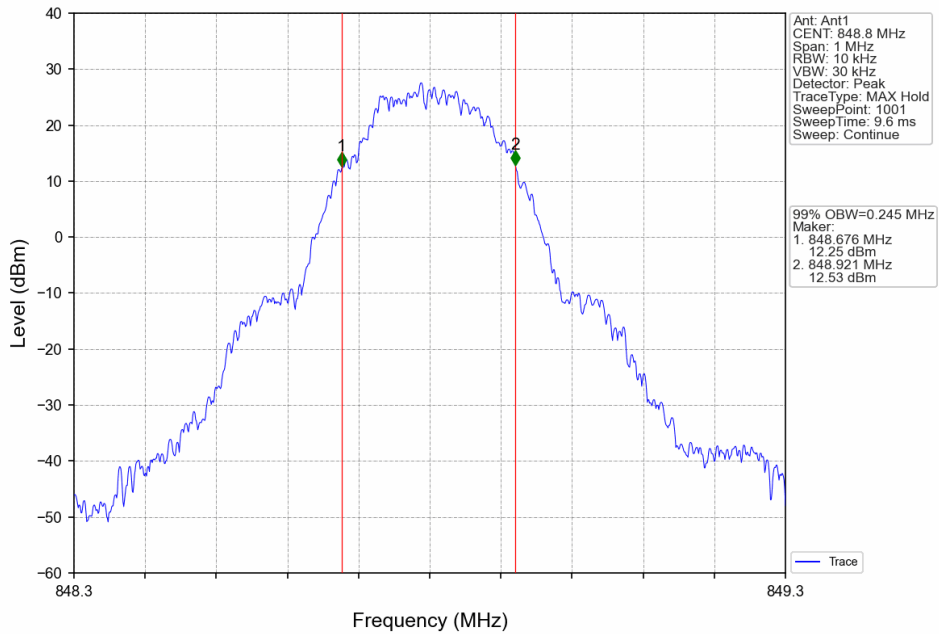
GSM850_GPRS_LCH_824.2MHz_1 TX Slot_NTNV



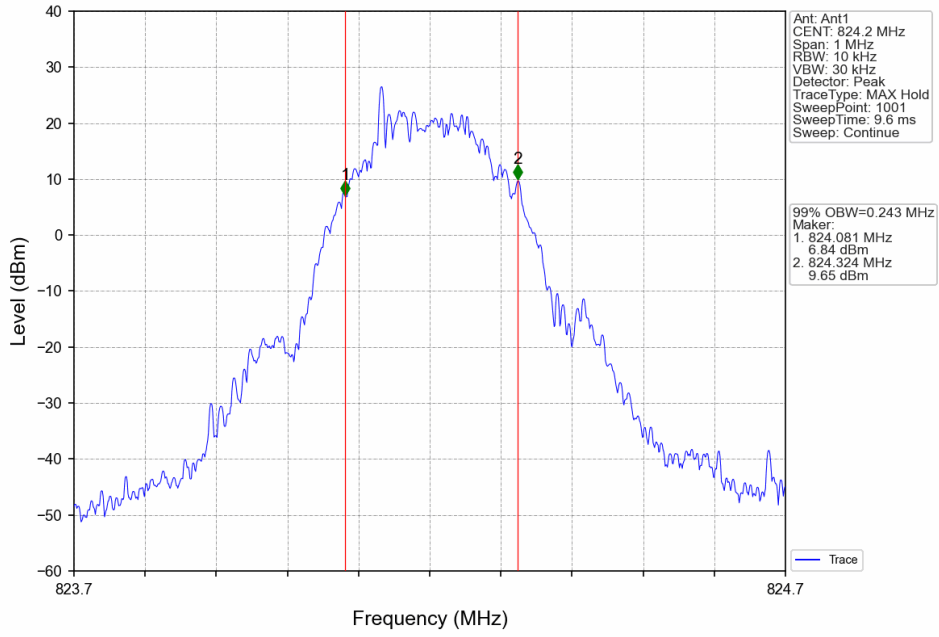
GSM850_GPRS_MCH_836.6MHz_1 TX Slot_NTNV



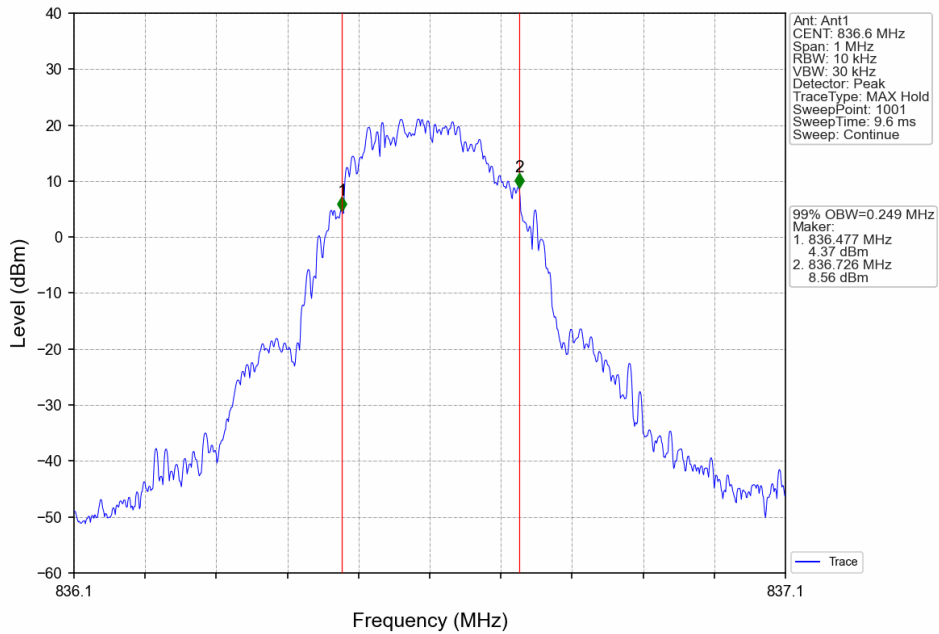
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



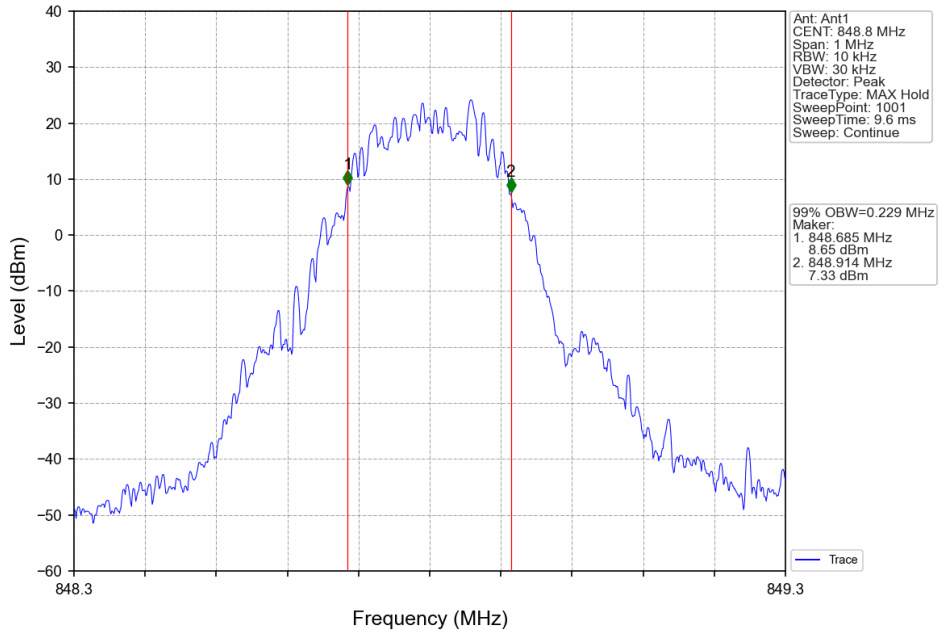
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



GSM850_EGPRS_MCH_836.6MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1 TX Slot_NTNV

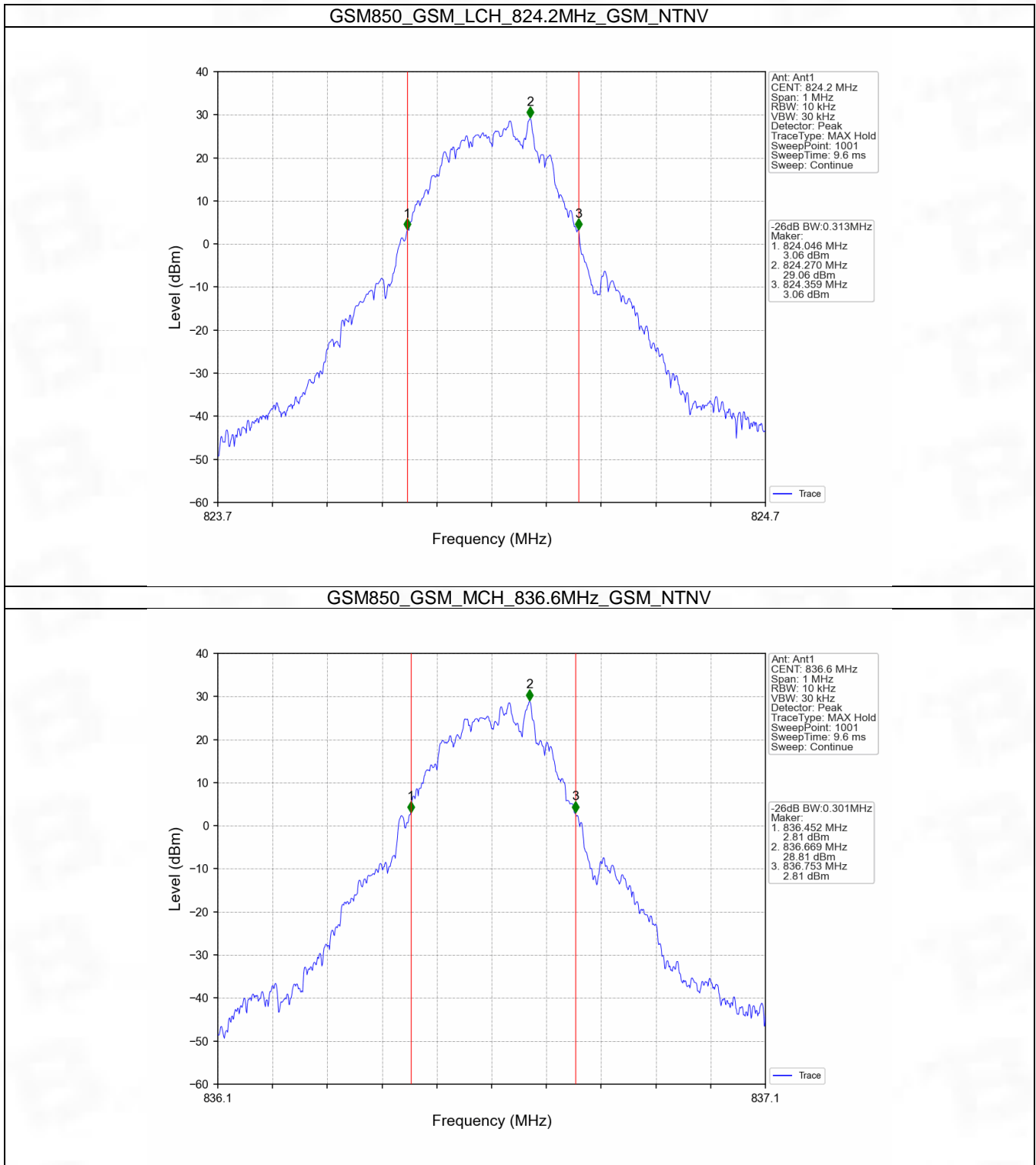


4.2 GSM850_XDB

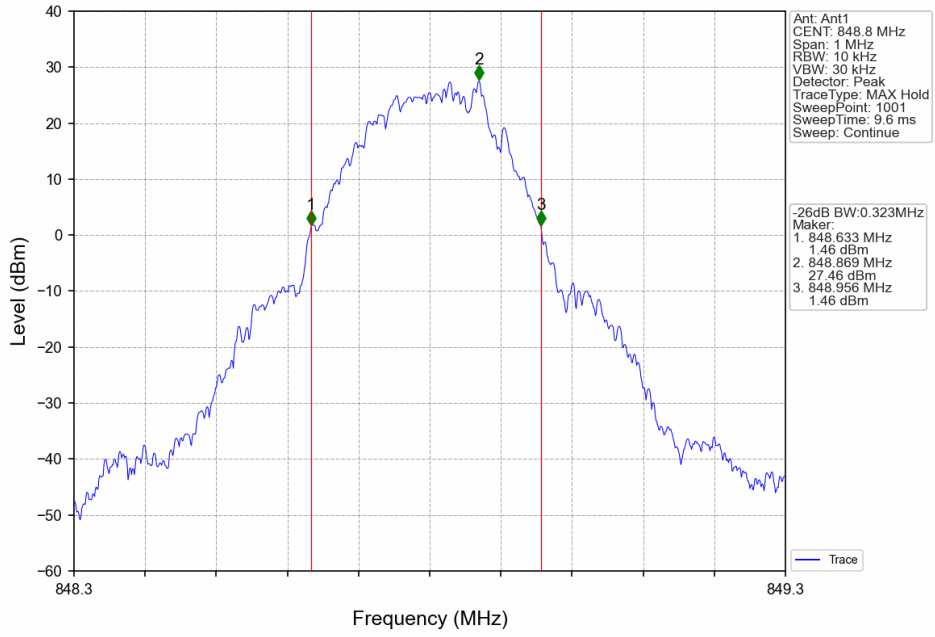
4.2.1 Test Result

Band: GSM850						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	0.313	/	Pass
			836.6	0.301	/	Pass
			848.8	0.323	/	Pass
	GPRS	1 TX Slot	824.2	0.318	/	Pass
			836.6	0.314	/	Pass
			848.8	0.312	/	Pass
	EGPRS	1 TX Slot	824.2	0.292	/	Pass
			836.6	0.322	/	Pass
			848.8	0.305	/	Pass

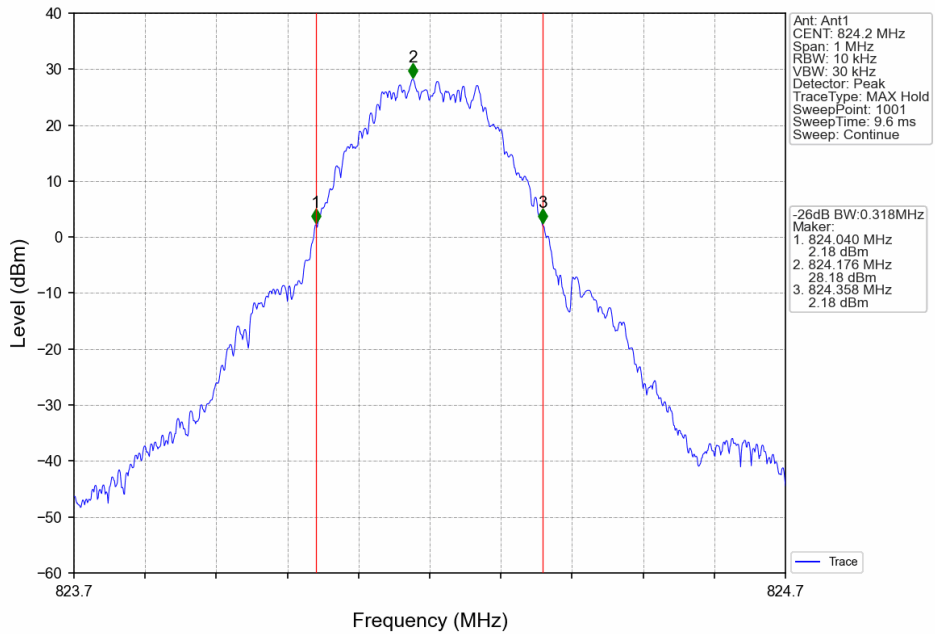
4.2.2 Test Graph



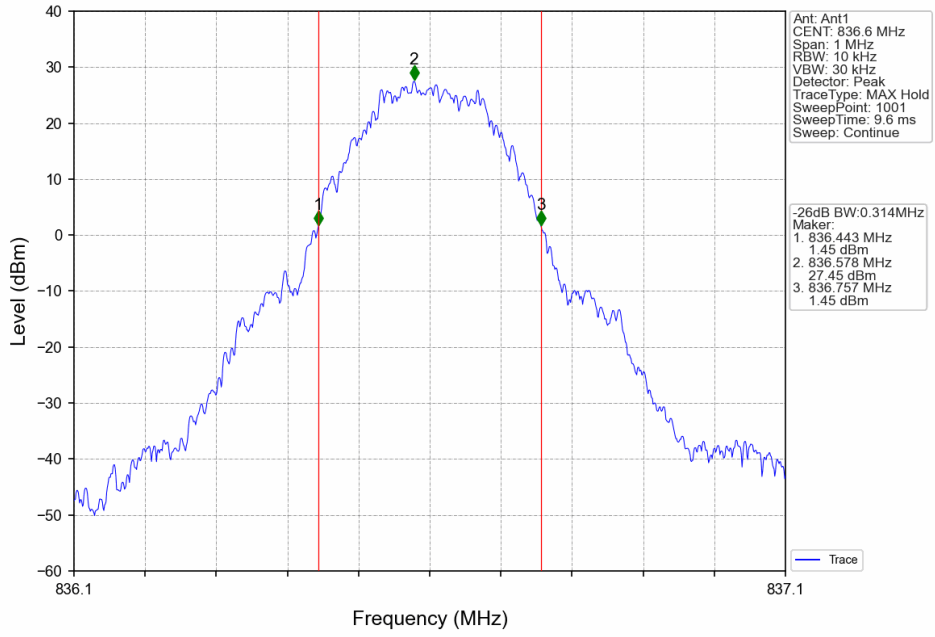
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



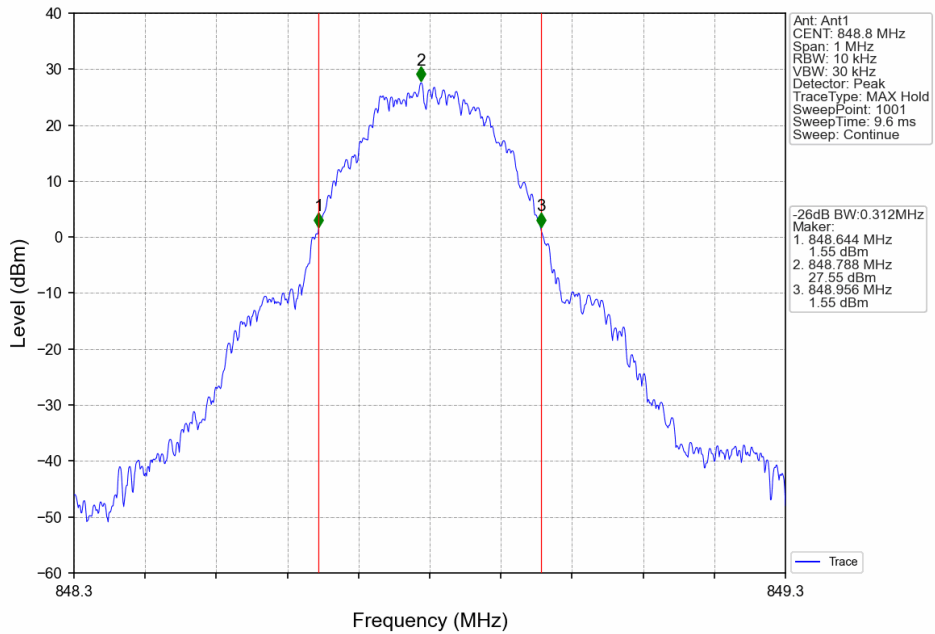
GSM850_GPRS_LCH_824.2MHz_1 TX Slot_NTNV



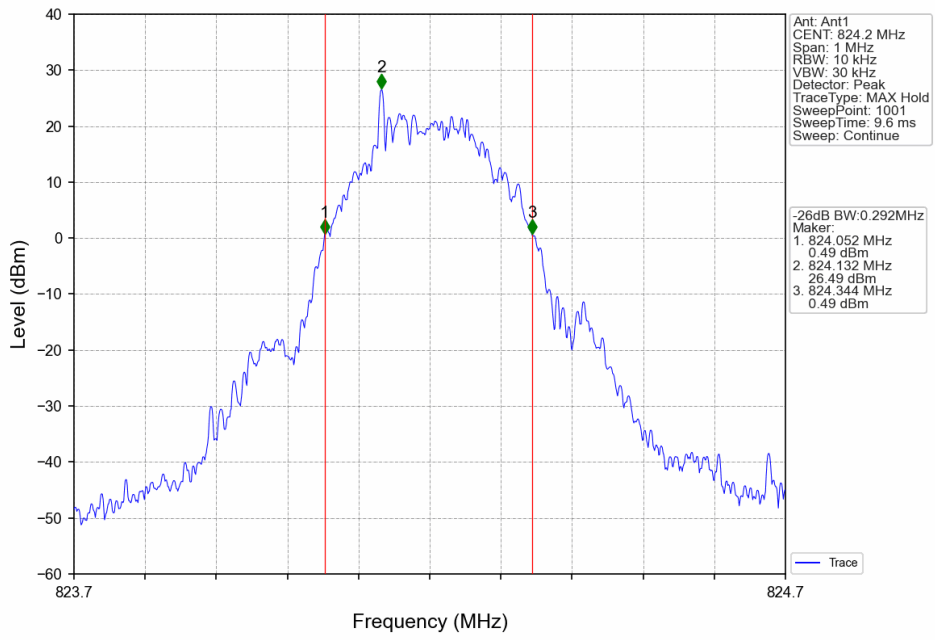
GSM850_GPRS_MCH_836.6MHz_1 TX Slot_NTNV



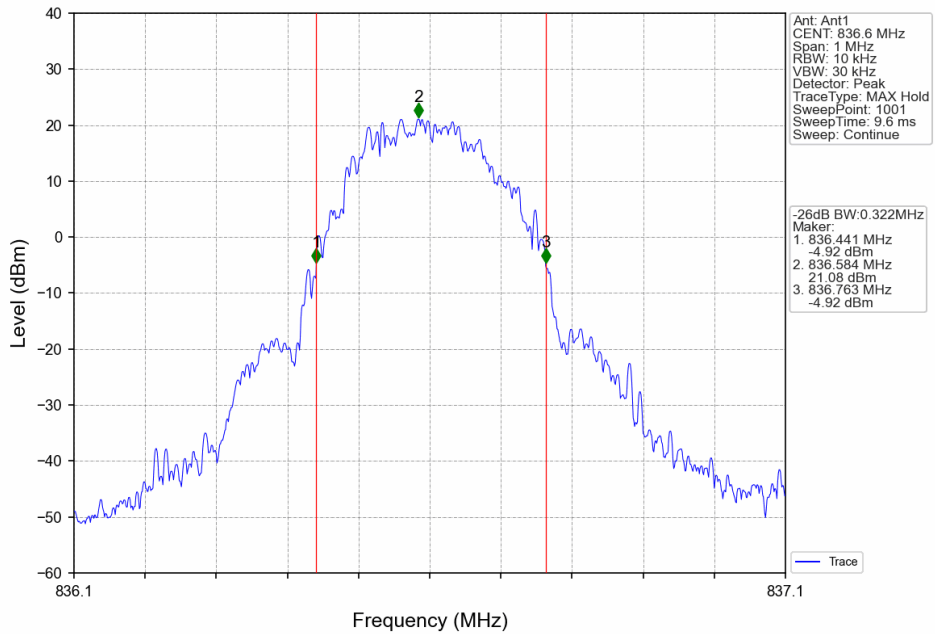
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



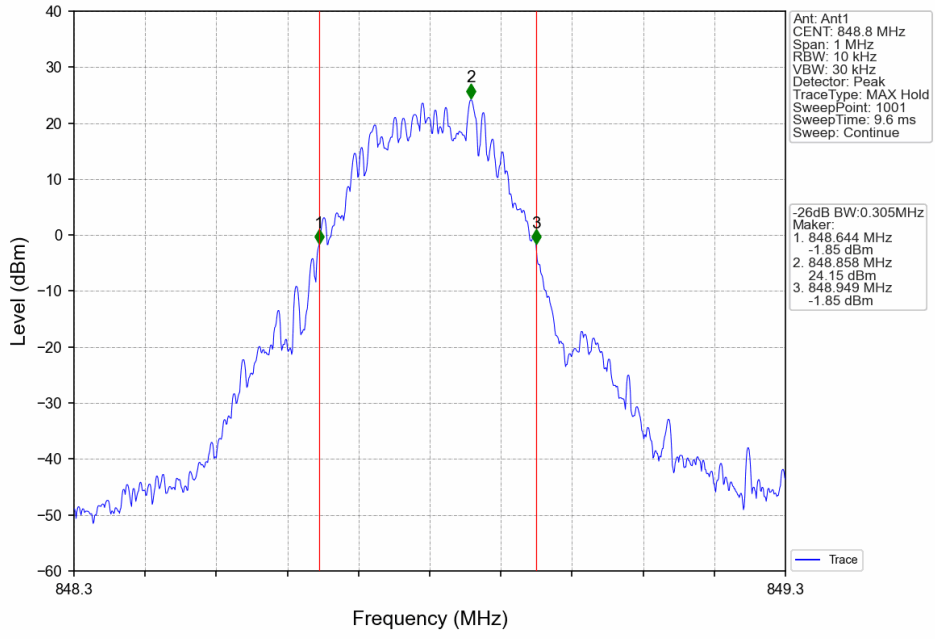
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



GSM850_EGPRS_MCH_836.6MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1_TX_Slot_NTNV



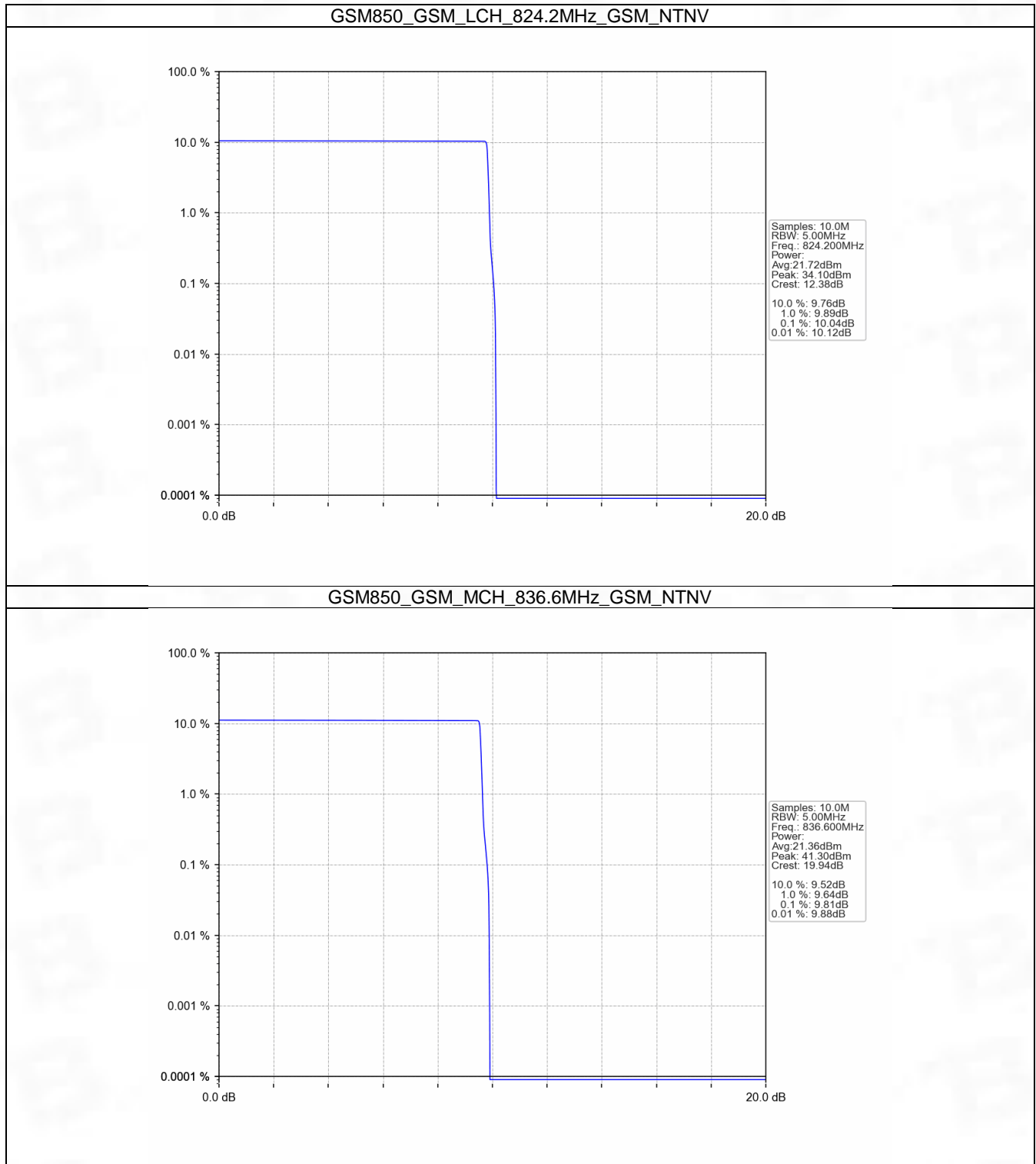
5. Peak-Average Ratio

5.1 GSM850

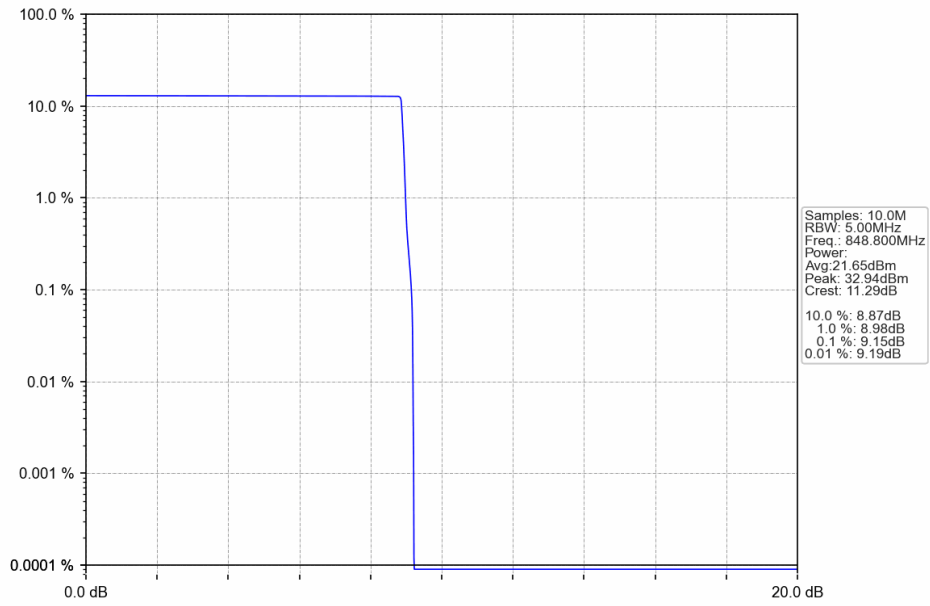
5.1.1 Test Result

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	9.81	<=13	Pass
			848.8	9.15	<=13	Pass
	GPRS	4 TX Slots	824.2	3.44	<=13	Pass
			836.6	3.67	<=13	Pass
			848.8	3.78	<=13	Pass
	EGPRS	4 TX Slots	824.2	10.05	<=13	Pass
			836.6	9.66	<=13	Pass
			848.8	9.77	<=13	Pass

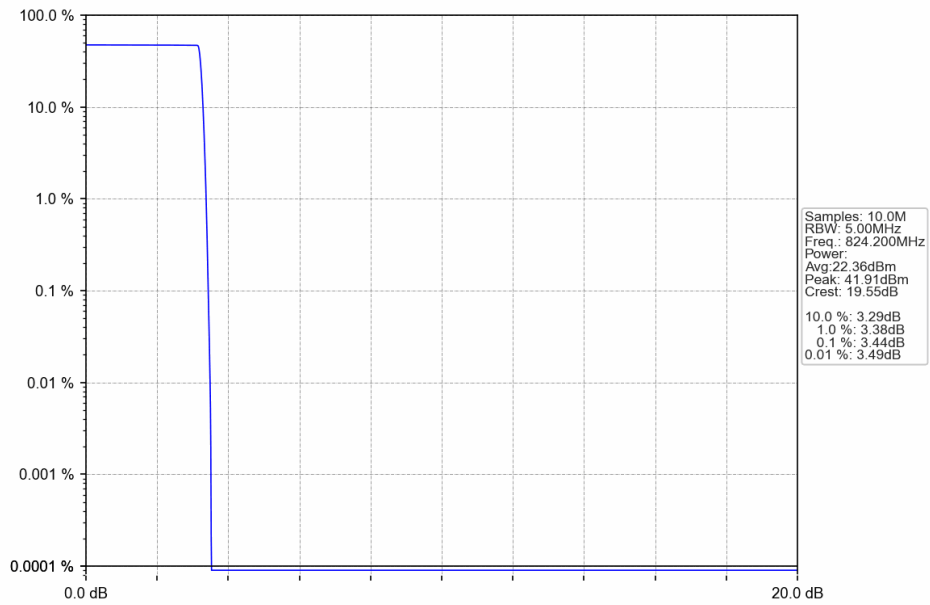
5.1.2 Test Graph



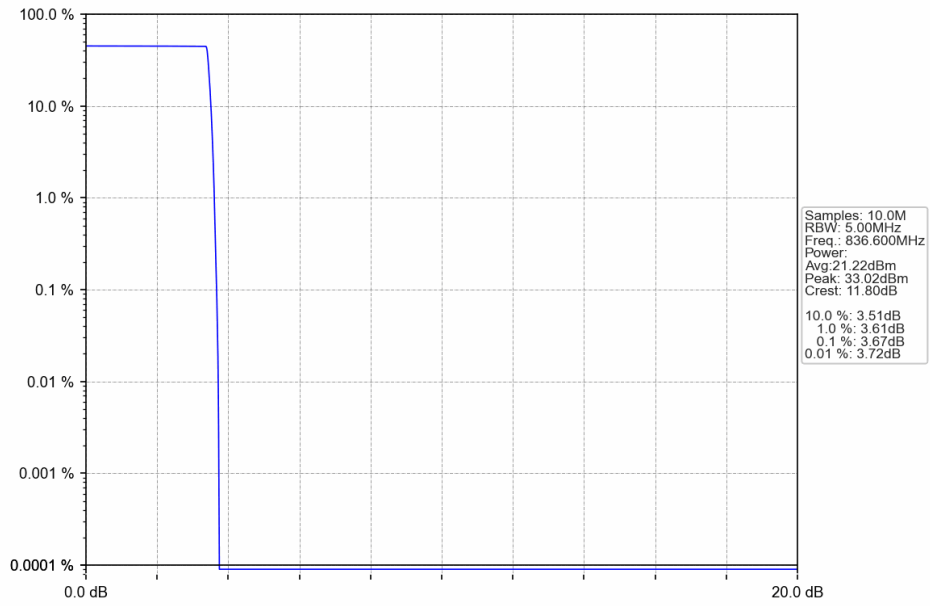
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



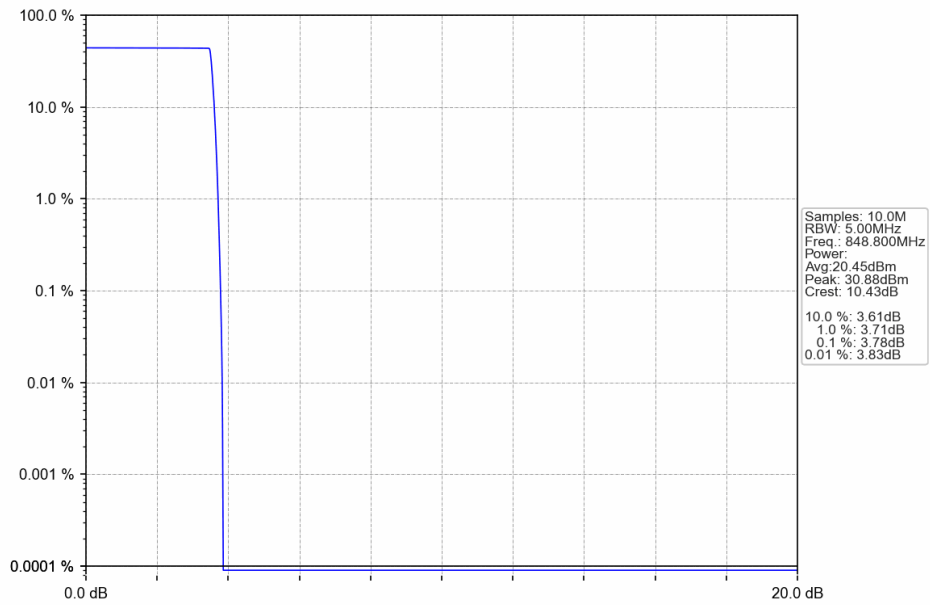
GSM850_GPRS_LCH_824.2MHz_4 TX Slots_NTNV



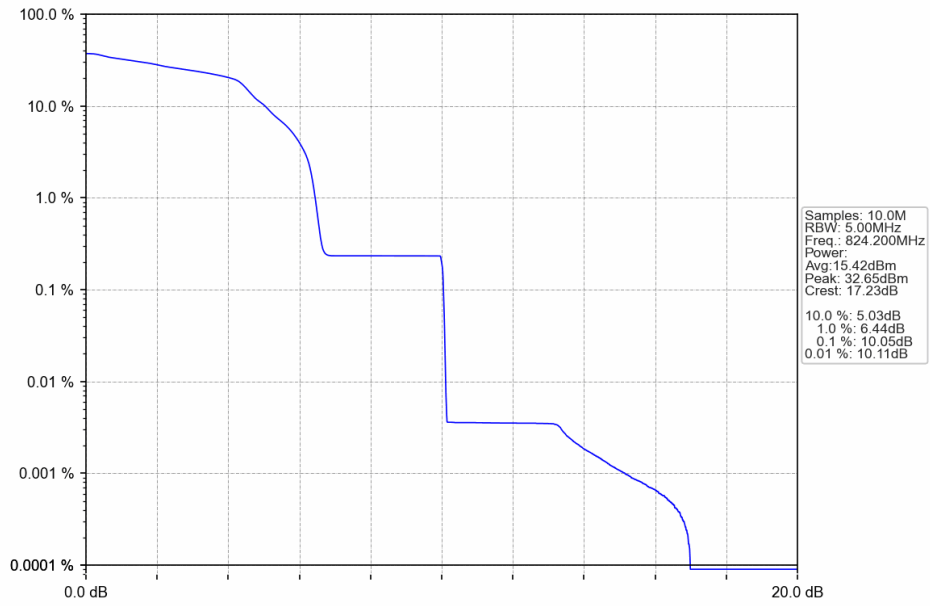
GSM850_GPRS_MCH_836.6MHz_4 TX Slots_NTNV



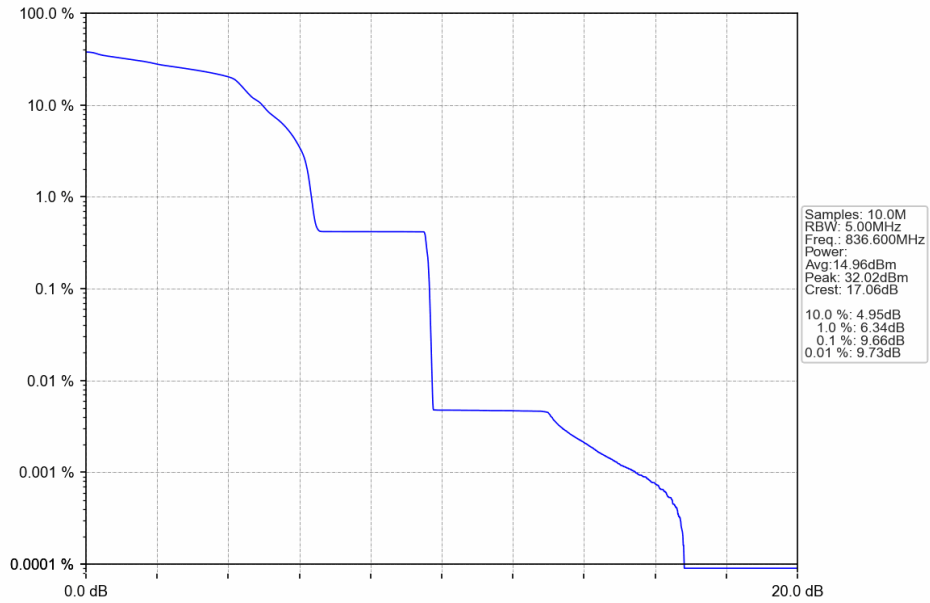
GSM850_GPRS_HCH_848.8MHz_4 TX Slots_NTNV



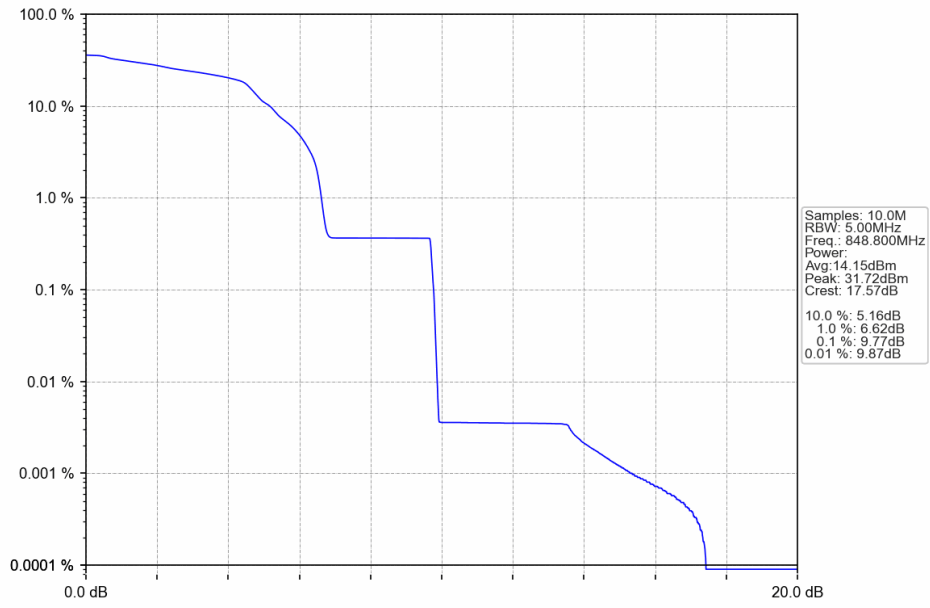
GSM850_EGPRS_LCH_824.2MHz_4 TX Slots_NTNV



GSM850_EGPRS_MCH_836.6MHz_4 TX Slots_NTNV



GSM850_EGPRS_HCH_848.8MHz_4 TX Slots_NTNV



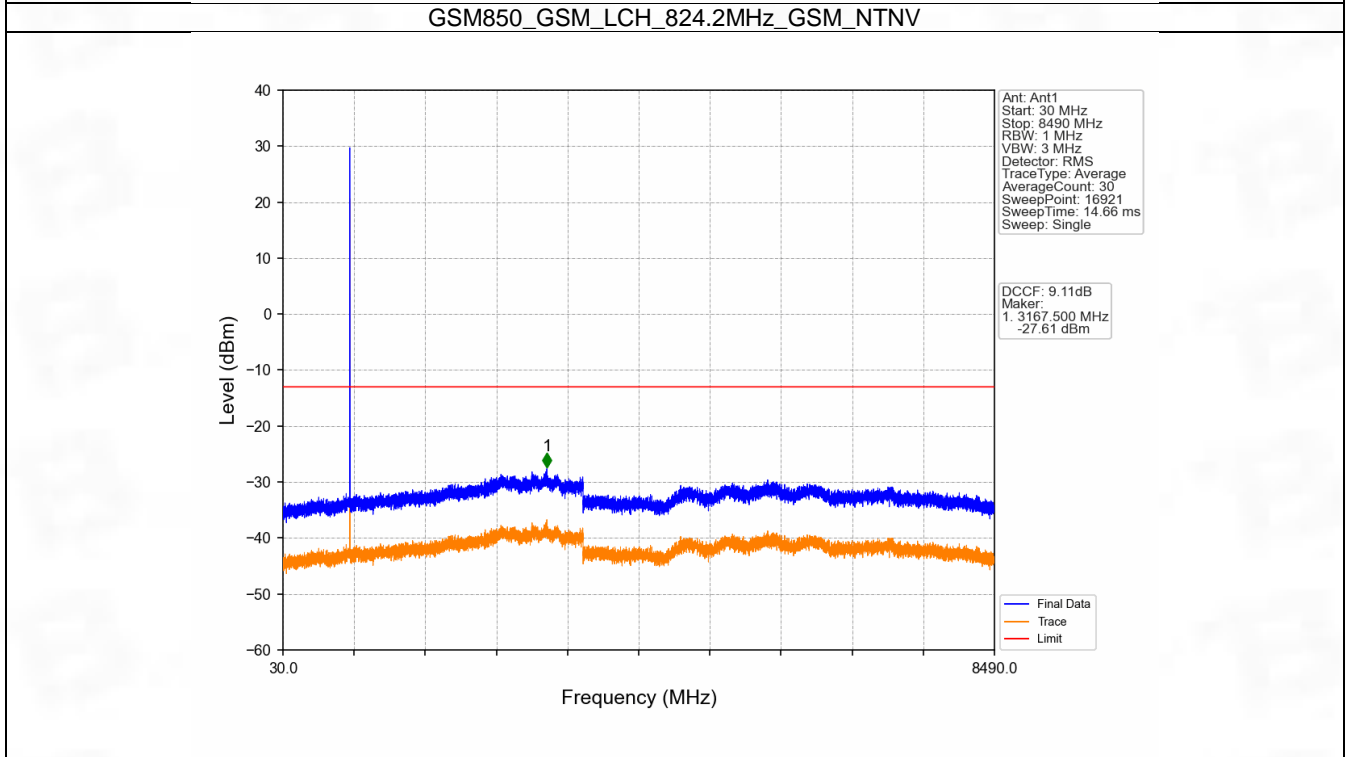
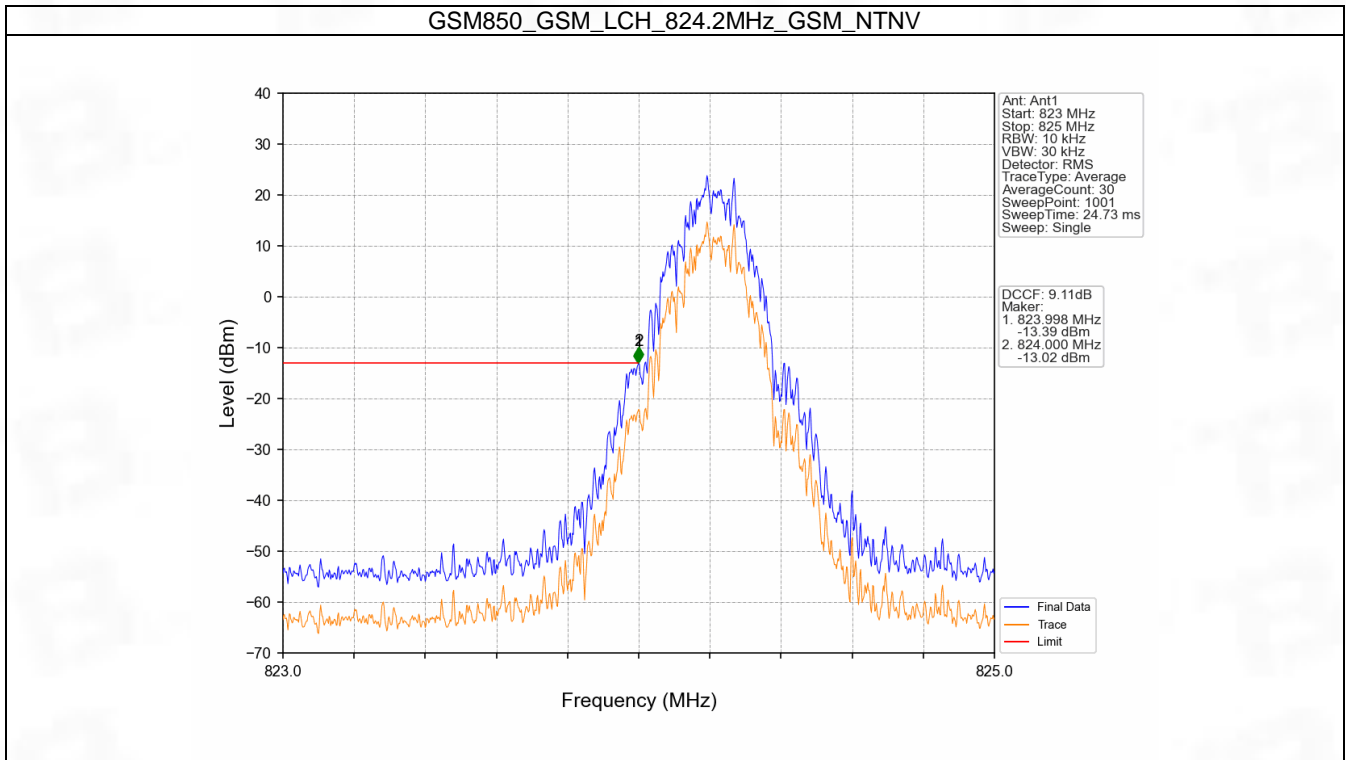
6. Spurious Emission

6.1 GSM850

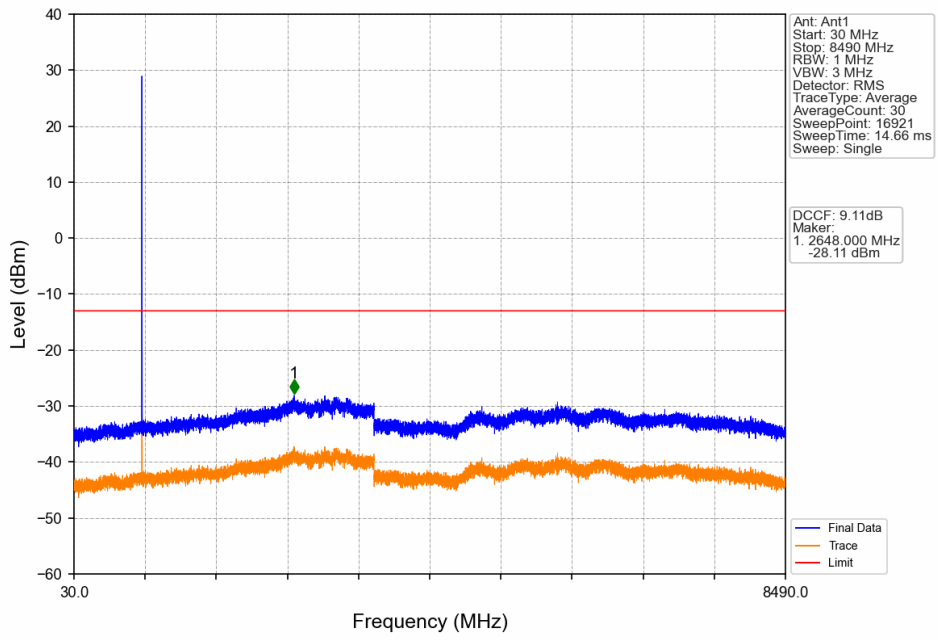
6.1.1 Test Result

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
	GPRS	1 TX Slot	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

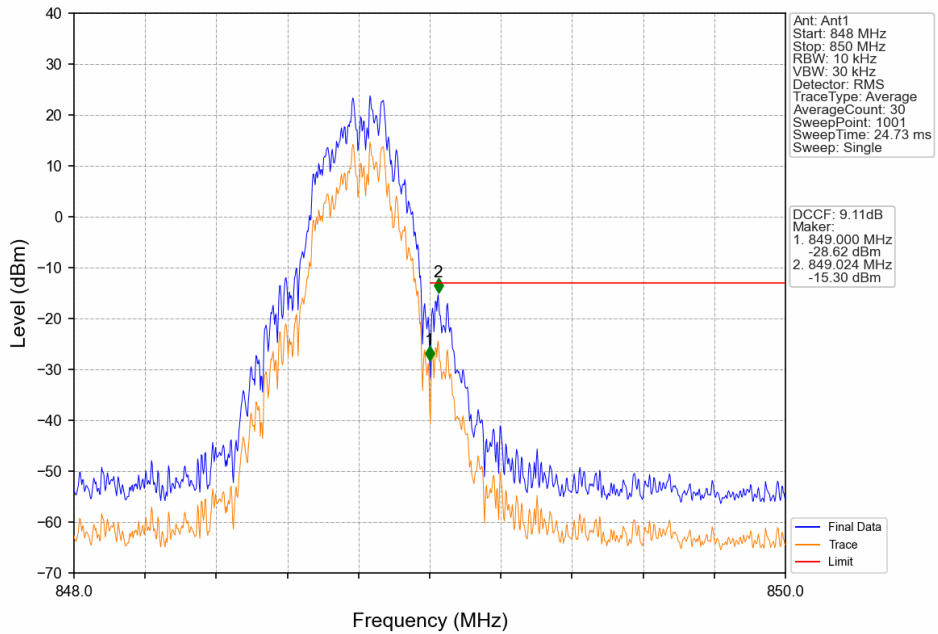
6.1.2 Test Graph



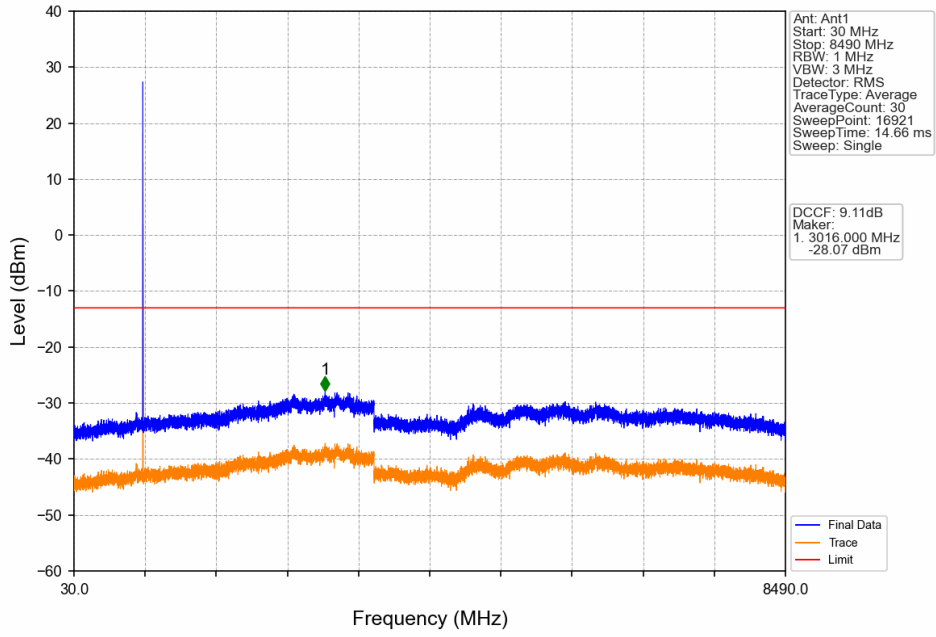
GSM850_GSM_MCH_836.6MHz_GSM_NTNV



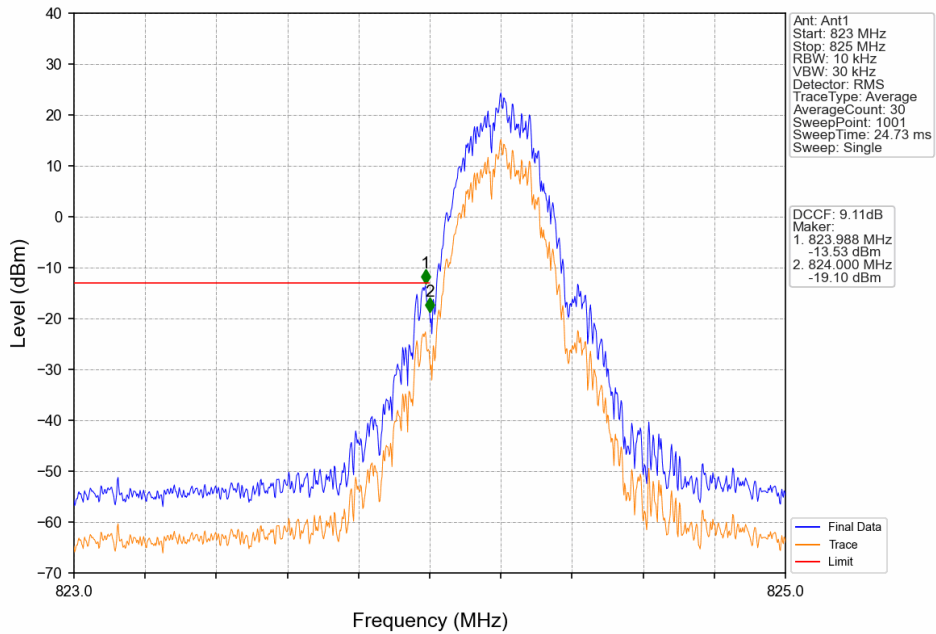
GSM850_GSM_HCH_848.8MHz_GSM_NTNV



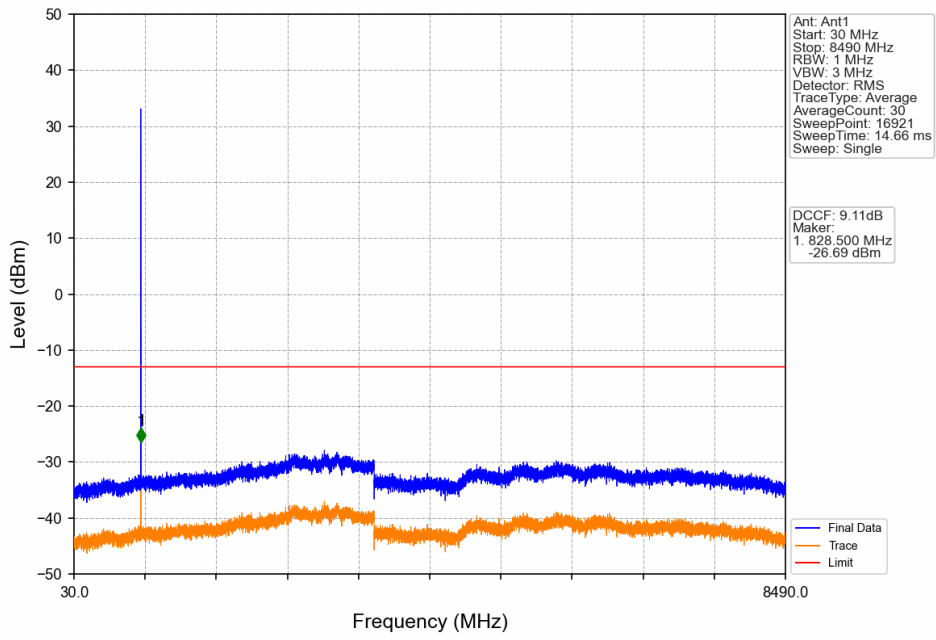
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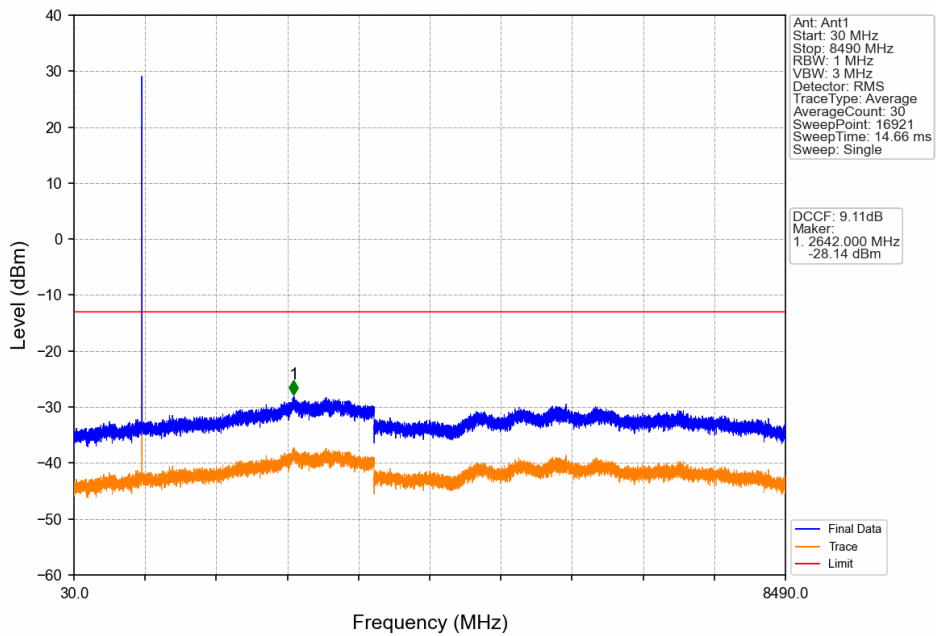
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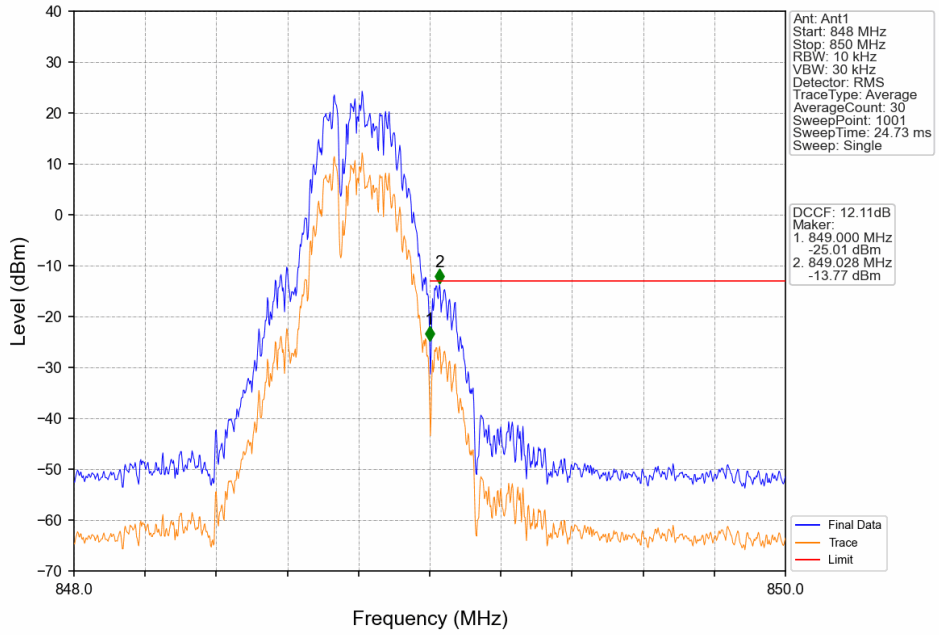
GSM850_GPRS_LCH_824.2MHz_1 TX Slot_NTNV



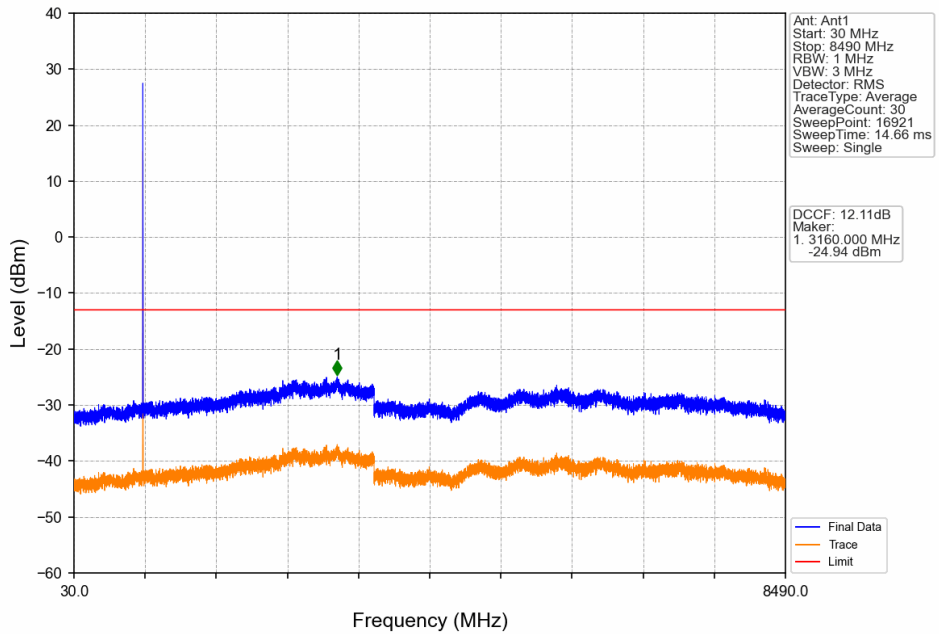
GSM850_GPRS_MCH_836.6MHz_1 TX Slot_NTNV



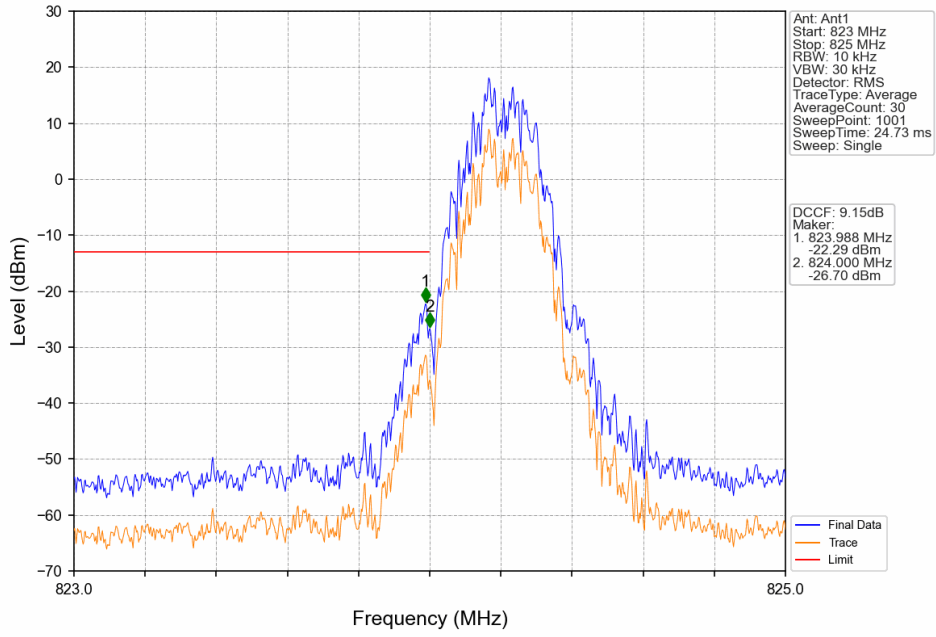
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



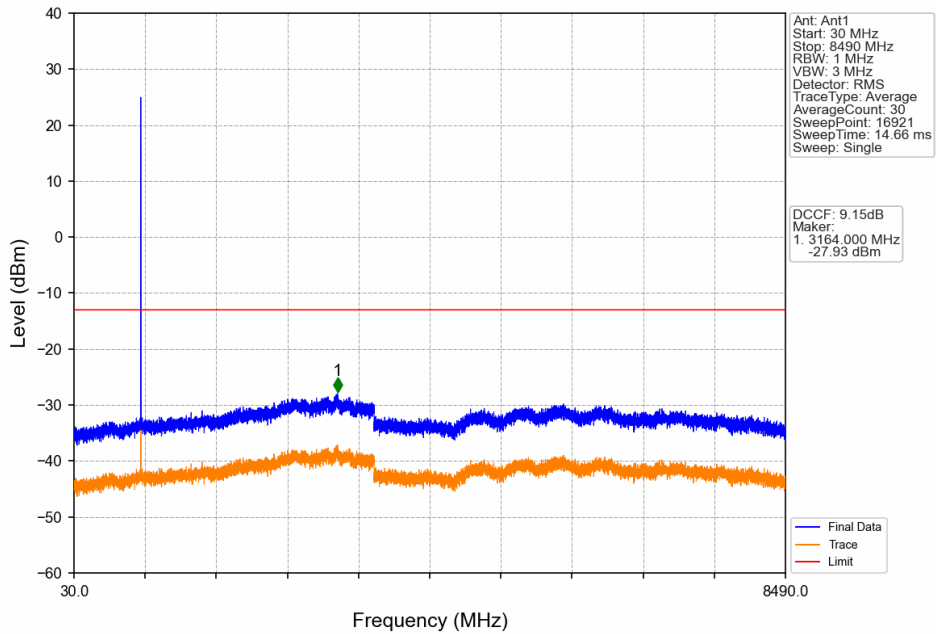
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



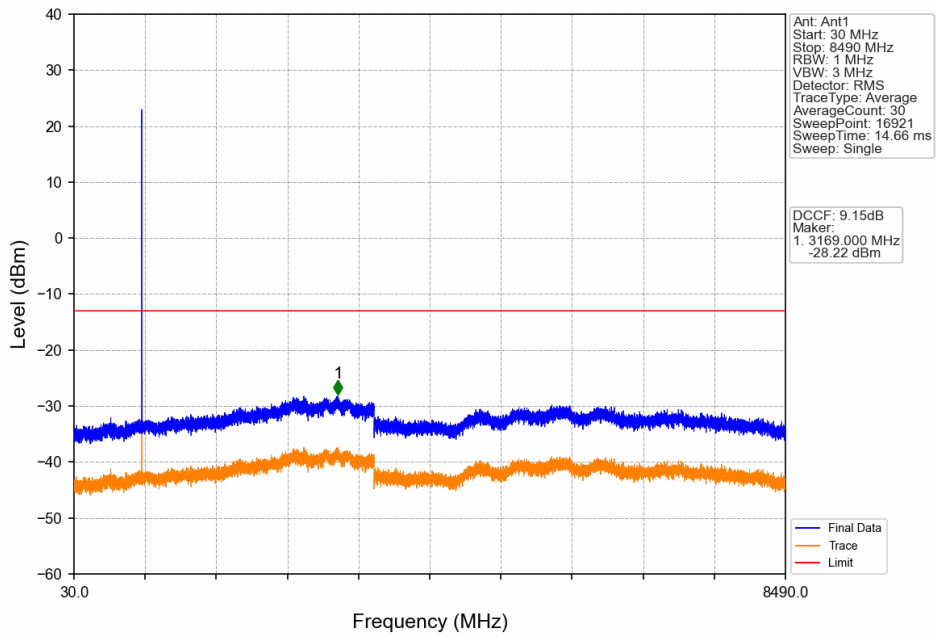
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



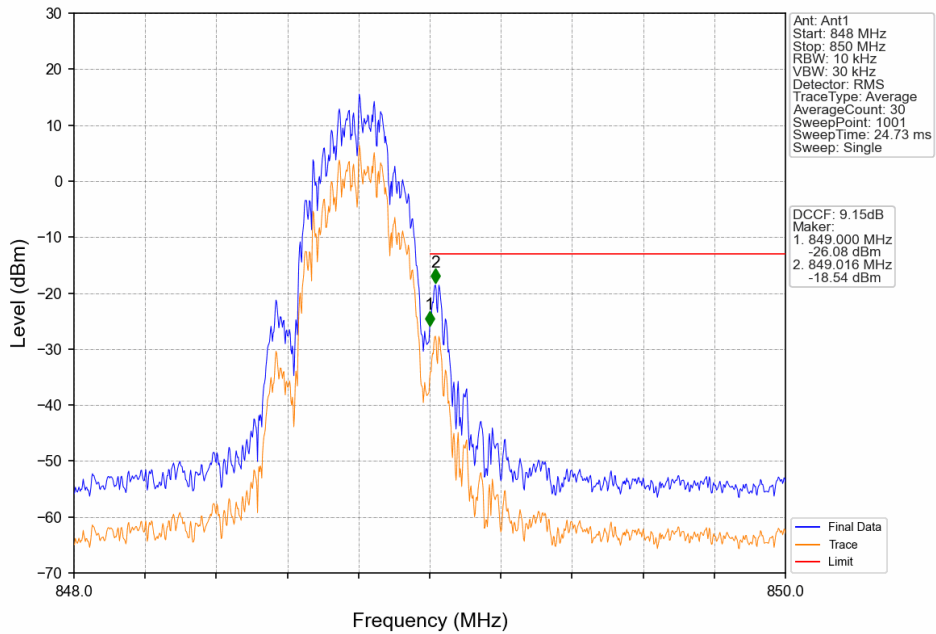
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



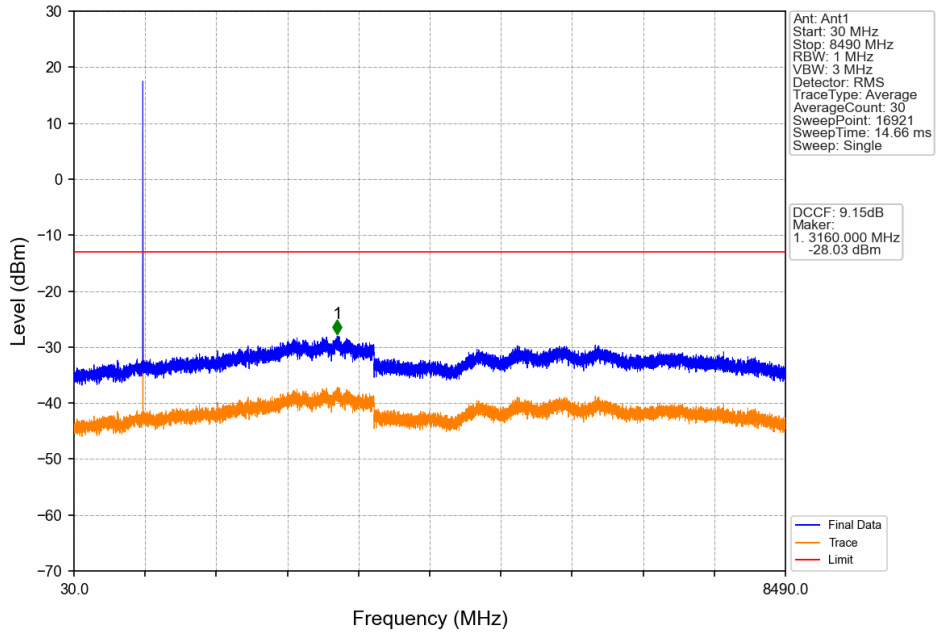
GSM850_EGPRS_MCH_836.6MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1 TX Slot_NTNV



7. Form731

7.1 Form731_Power

7.1.1 Test Result

Band	BW	Lower Freq	High Freq	MAX Power (W)	Value	Hz/ppm	Emission Designator	Rule Parts	MAX Power (dBm)
GSM850	0.2	824.2	848.8	1.3032	0.0205	ppm	245KGXW	22H	31.15
GSM850	0.2	824.2	848.8	0.2742	0.0191	ppm	249KG7W	22H	24.38

7.2 Form731_ERP

7.2.1 Test Result

Band	BW	Lower Freq	High Freq	MAX Power (W)	Value	Hz/ppm	Emission Designator	Rule Parts	MAX Power (dBm)
GSM850	0.2	824.2	848.8	0.4808	0.0205	ppm	245KGXW	22H	26.82
GSM850	0.2	824.2	848.8	0.1012	0.0191	ppm	249KG7W	22H	20.05