

# 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	31.71	0.62	30.18	<=38.45	Pass		
			836.6	31.95	0.62	30.42	<=38.45	Pass		
			848.8	31.92	0.62	30.39	<=38.45	Pass		
	GPRS	1 TX Slot	824.2	31.85	0.62	30.32	<=38.45	Pass		
			2 TX Slots	824.2	31.13	0.62	29.60	<=38.45	Pass	
			3 TX Slots	824.2	29.29	0.62	27.76	<=38.45	Pass	
			4 TX Slots	824.2	28.09	0.62	26.56	<=38.45	Pass	
		1 TX Slot	836.6	31.96	0.62	30.43	<=38.45	Pass		
			2 TX Slots	836.6	31.29	0.62	29.76	<=38.45	Pass	
			3 TX Slots	836.6	29.38	0.62	27.85	<=38.45	Pass	
			4 TX Slots	836.6	28.21	0.62	26.68	<=38.45	Pass	
		1 TX Slot	848.8	31.80	0.62	30.27	<=38.45	Pass		
			2 TX Slots	848.8	31.09	0.62	29.56	<=38.45	Pass	
			3 TX Slots	848.8	29.28	0.62	27.75	<=38.45	Pass	
			4 TX Slots	848.8	28.03	0.62	26.50	<=38.45	Pass	
		EGPRS	1 TX Slot	824.2	31.39	0.62	29.86	<=38.45	Pass	
				2 TX Slots	824.2	31.30	0.62	29.77	<=38.45	Pass
				3 TX Slots	824.2	30.83	0.62	29.30	<=38.45	Pass
				4 TX Slots	824.2	34.17	0.62	32.64	<=38.45	Pass
	1 TX Slot		836.6	34.20	0.62	32.67	<=38.45	Pass		
			2 TX Slots	836.6	34.22	0.62	32.69	<=38.45	Pass	
			3 TX Slots	836.6	33.34	0.62	31.81	<=38.45	Pass	
			4 TX Slots	836.6	32.35	0.62	30.82	<=38.45	Pass	
	1 TX Slot		848.8	34.12	0.62	32.59	<=38.45	Pass		
			2 TX Slots	848.8	33.56	0.62	32.03	<=38.45	Pass	
			3 TX Slots	848.8	33.07	0.62	31.54	<=38.45	Pass	
			4 TX Slots	848.8	31.83	0.62	30.30	<=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	2.454	0.0030	-2.5 to 2.5	Pass
			3.85	1.969	0.0024	-2.5 to 2.5	Pass
			4.43	0.807	0.0010	-2.5 to 2.5	Pass
		-30	3.85	0.646	0.0008	-2.5 to 2.5	Pass
		-20	3.85	2.357	0.0029	-2.5 to 2.5	Pass
		-10	3.85	3.551	0.0043	-2.5 to 2.5	Pass
		0	3.85	2.228	0.0027	-2.5 to 2.5	Pass
		10	3.85	1.647	0.0020	-2.5 to 2.5	Pass
		30	3.85	1.227	0.0015	-2.5 to 2.5	Pass
	40	3.85	1.517	0.0018	-2.5 to 2.5	Pass	
	50	3.85	4.294	0.0052	-2.5 to 2.5	Pass	
	836.6	20	3.27	6.296	0.0075	-2.5 to 2.5	Pass
			3.85	10.009	0.0120	-2.5 to 2.5	Pass
			4.43	5.941	0.0071	-2.5 to 2.5	Pass
		-30	3.85	9.879	0.0118	-2.5 to 2.5	Pass
		-20	3.85	8.136	0.0097	-2.5 to 2.5	Pass
		-10	3.85	5.585	0.0067	-2.5 to 2.5	Pass
		0	3.85	2.809	0.0034	-2.5 to 2.5	Pass
		10	3.85	7.426	0.0089	-2.5 to 2.5	Pass
		30	3.85	8.330	0.0100	-2.5 to 2.5	Pass
	40	3.85	2.357	0.0028	-2.5 to 2.5	Pass	
	50	3.85	0.613	0.0007	-2.5 to 2.5	Pass	
	848.8	20	3.27	5.618	0.0066	-2.5 to 2.5	Pass
			3.85	11.881	0.0140	-2.5 to 2.5	Pass
			4.43	7.038	0.0083	-2.5 to 2.5	Pass
		-30	3.85	3.455	0.0041	-2.5 to 2.5	Pass
		-20	3.85	8.330	0.0098	-2.5 to 2.5	Pass
		-10	3.85	6.070	0.0072	-2.5 to 2.5	Pass
		0	3.85	5.392	0.0064	-2.5 to 2.5	Pass
		10	3.85	4.423	0.0052	-2.5 to 2.5	Pass
30		3.85	5.618	0.0066	-2.5 to 2.5	Pass	
40	3.85	6.457	0.0076	-2.5 to 2.5	Pass		
50	3.85	6.651	0.0078	-2.5 to 2.5	Pass		
GPRS	824.2	20	3.27	8.168	0.0099	-2.5 to 2.5	Pass
			3.85	3.261	0.0040	-2.5 to 2.5	Pass
			4.43	2.421	0.0029	-2.5 to 2.5	Pass
		-30	3.85	3.584	0.0043	-2.5 to 2.5	Pass
		-20	3.85	4.811	0.0058	-2.5 to 2.5	Pass
		-10	3.85	4.940	0.0060	-2.5 to 2.5	Pass
		0	3.85	-0.646	-0.0008	-2.5 to 2.5	Pass
		10	3.85	3.971	0.0048	-2.5 to 2.5	Pass
		30	3.85	1.808	0.0022	-2.5 to 2.5	Pass
	40	3.85	3.325	0.0040	-2.5 to 2.5	Pass	
	50	3.85	0.743	0.0009	-2.5 to 2.5	Pass	
	836.6	20	3.27	0.775	0.0009	-2.5 to 2.5	Pass
			3.85	4.714	0.0056	-2.5 to 2.5	Pass
			4.43	3.003	0.0036	-2.5 to 2.5	Pass
		-30	3.85	2.131	0.0025	-2.5 to 2.5	Pass
-20		3.85	1.614	0.0019	-2.5 to 2.5	Pass	

		-10	3.85	1.485	0.0018	-2.5 to 2.5	Pass
		0	3.85	4.003	0.0048	-2.5 to 2.5	Pass
		10	3.85	2.195	0.0026	-2.5 to 2.5	Pass
		30	3.85	1.873	0.0022	-2.5 to 2.5	Pass
		40	3.85	0.872	0.0010	-2.5 to 2.5	Pass
	50	3.85	3.713	0.0044	-2.5 to 2.5	Pass	
	848.8	20	3.27	2.938	0.0035	-2.5 to 2.5	Pass
			3.85	2.357	0.0028	-2.5 to 2.5	Pass
			4.43	5.811	0.0068	-2.5 to 2.5	Pass
		-30	3.85	5.327	0.0063	-2.5 to 2.5	Pass
		-20	3.85	3.293	0.0039	-2.5 to 2.5	Pass
		-10	3.85	3.164	0.0037	-2.5 to 2.5	Pass
		0	3.85	5.456	0.0064	-2.5 to 2.5	Pass
		10	3.85	1.582	0.0019	-2.5 to 2.5	Pass
		30	3.85	4.359	0.0051	-2.5 to 2.5	Pass
40		3.85	5.585	0.0066	-2.5 to 2.5	Pass	
50	3.85	6.554	0.0077	-2.5 to 2.5	Pass		
EGPRS	824.2	20	3.27	398.117	0.4830	-2.5 to 2.5	Pass
			3.85	620.663	0.7530	-2.5 to 2.5	Pass
			4.43	-88.560	-0.1074	-2.5 to 2.5	Pass
		-30	3.85	-564.744	-0.6852	-2.5 to 2.5	Pass
		-20	3.85	-255.026	-0.3094	-2.5 to 2.5	Pass
		-10	3.85	-214.669	-0.2605	-2.5 to 2.5	Pass
		0	3.85	-376.162	-0.4564	-2.5 to 2.5	Pass
		10	3.85	90.013	0.1092	-2.5 to 2.5	Pass
		30	3.85	738.151	0.8956	-2.5 to 2.5	Pass
		40	3.85	89.496	0.1086	-2.5 to 2.5	Pass
	50	3.85	-105.704	-0.1283	-2.5 to 2.5	Pass	
	836.6	20	3.27	113.711	0.1359	-2.5 to 2.5	Pass
			3.85	-250.345	-0.2992	-2.5 to 2.5	Pass
			4.43	522.676	0.6248	-2.5 to 2.5	Pass
		-30	3.85	-7.749	-0.0093	-2.5 to 2.5	Pass
		-20	3.85	-5.489	-0.0066	-2.5 to 2.5	Pass
		-10	3.85	-6.877	-0.0082	-2.5 to 2.5	Pass
		0	3.85	-5.779	-0.0069	-2.5 to 2.5	Pass
		10	3.85	-7.813	-0.0093	-2.5 to 2.5	Pass
		30	3.85	-5.230	-0.0063	-2.5 to 2.5	Pass
		40	3.85	-6.554	-0.0078	-2.5 to 2.5	Pass
	50	3.85	-5.424	-0.0065	-2.5 to 2.5	Pass	
	848.8	20	3.27	-8.136	-0.0096	-2.5 to 2.5	Pass
			3.85	-4.391	-0.0052	-2.5 to 2.5	Pass
			4.43	-7.781	-0.0092	-2.5 to 2.5	Pass
		-30	3.85	-8.265	-0.0097	-2.5 to 2.5	Pass
		-20	3.85	-1.905	-0.0022	-2.5 to 2.5	Pass
		-10	3.85	-6.780	-0.0080	-2.5 to 2.5	Pass
		0	3.85	-5.263	-0.0062	-2.5 to 2.5	Pass
		10	3.85	-3.777	-0.0044	-2.5 to 2.5	Pass
30		3.85	-9.395	-0.0111	-2.5 to 2.5	Pass	
40		3.85	-8.071	-0.0095	-2.5 to 2.5	Pass	
50	3.85	-5.844	-0.0069	-2.5 to 2.5	Pass		

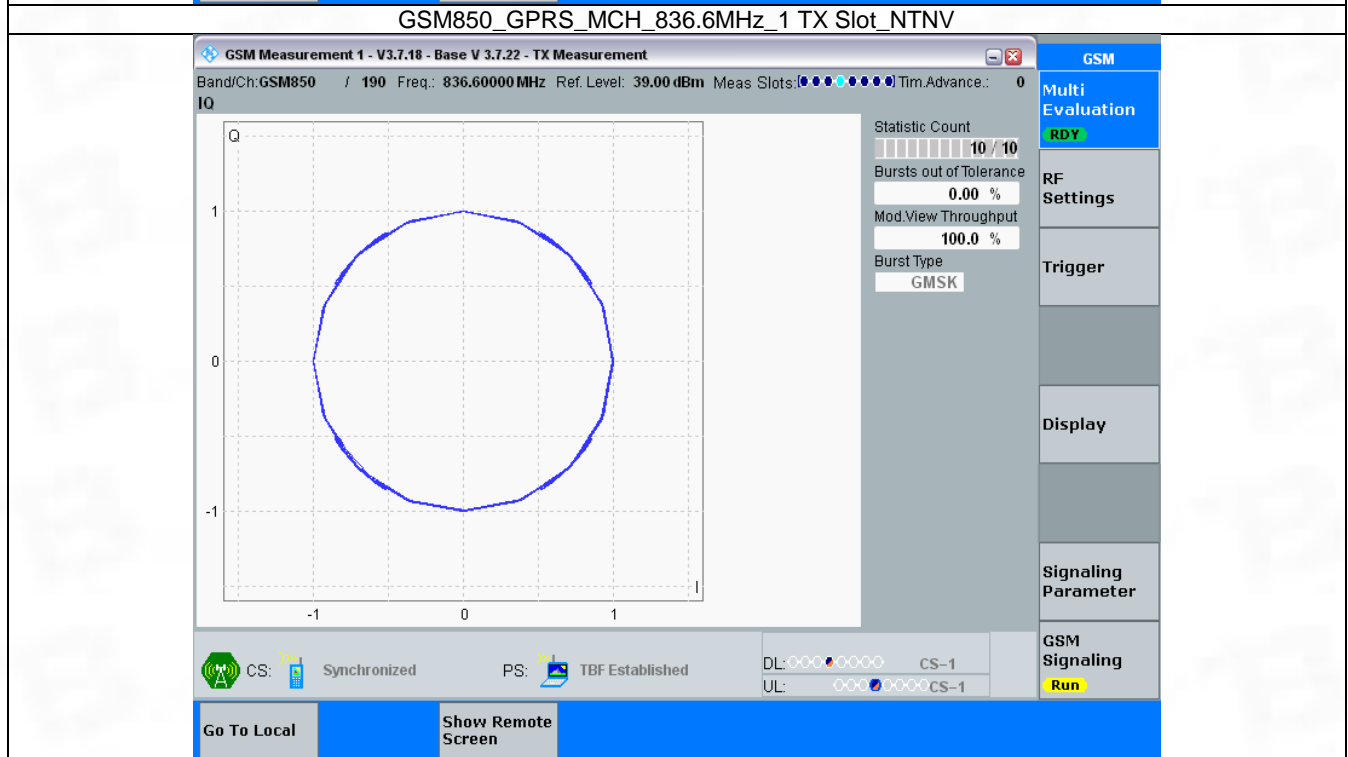
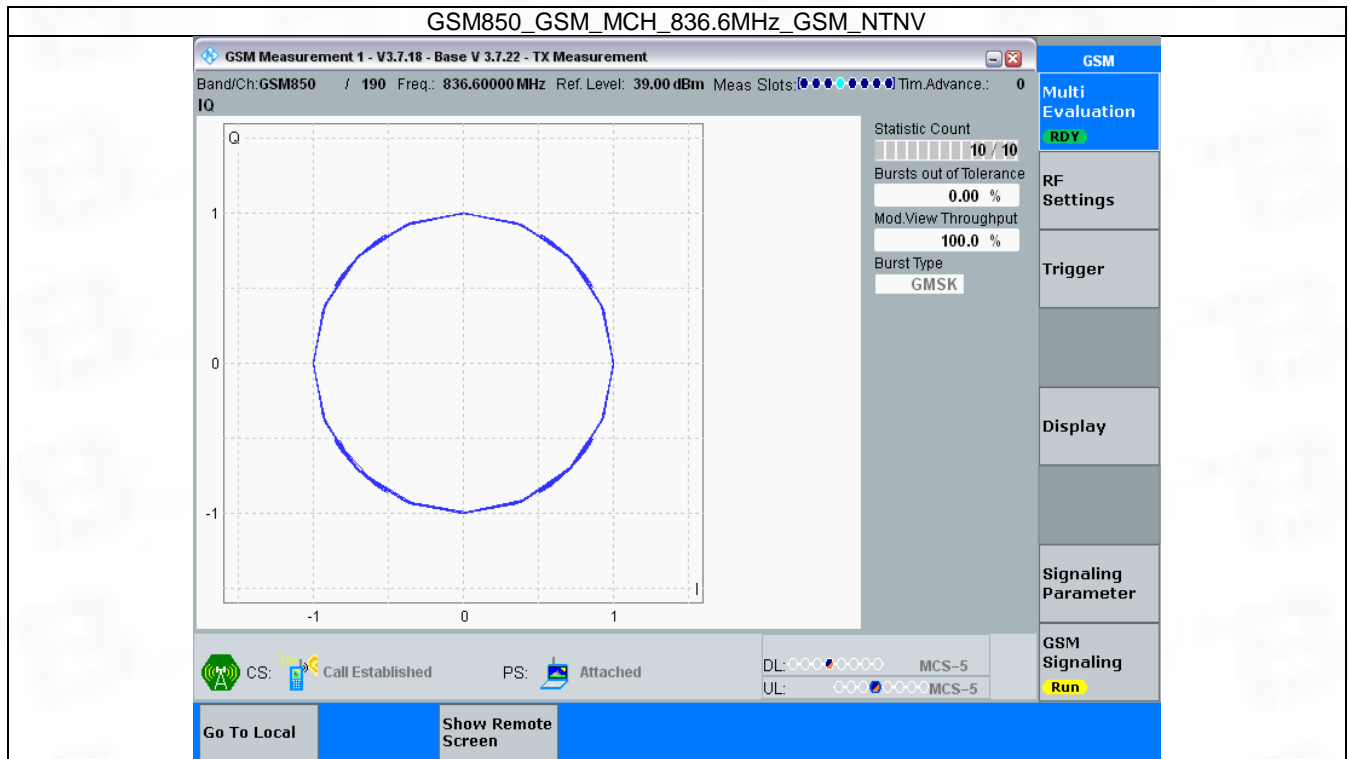
### 3. Modulation Characteristics

#### 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: [Progress Bar] Tim. Advance.: 0

**IQ**

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

**Multi Evaluation** RDY

**RF Settings**

**Trigger**

**Display**

**Signaling Parameter**

**GSM Signaling** Run

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

Go To Local Show Remote Screen

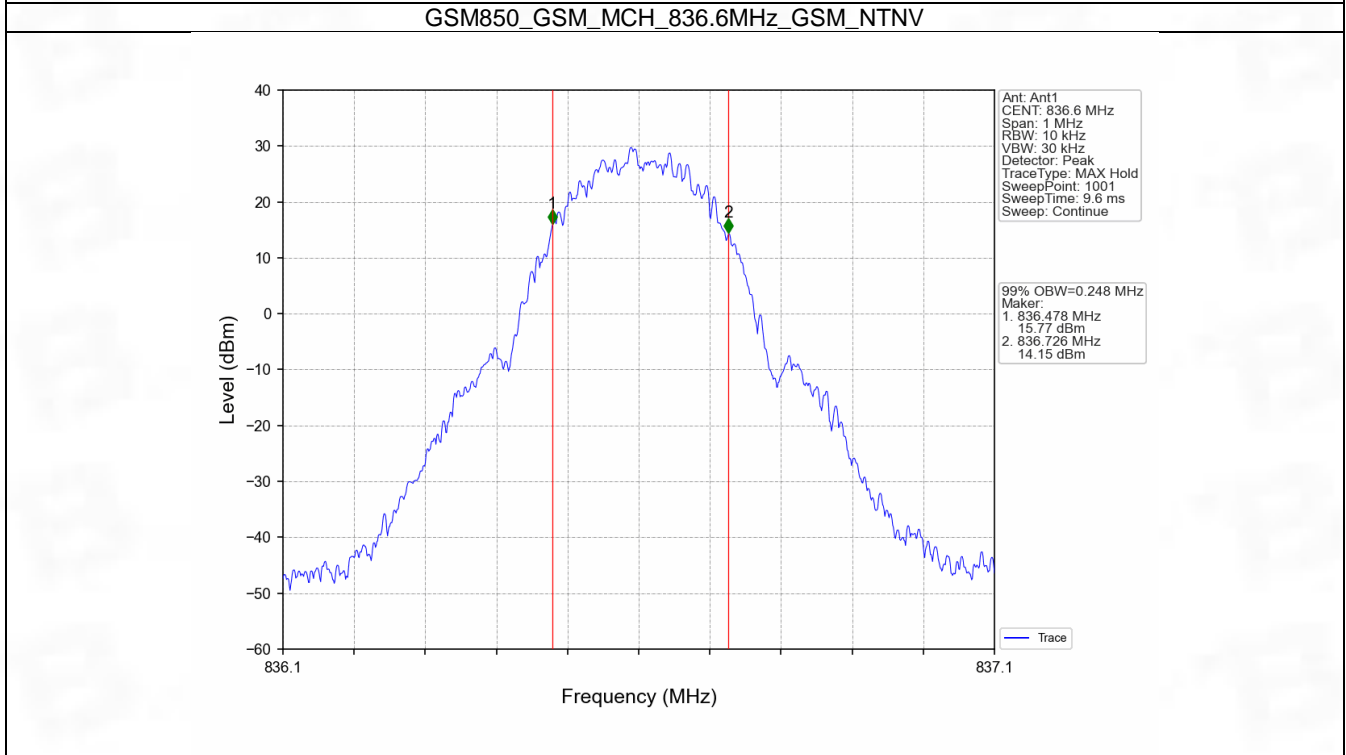
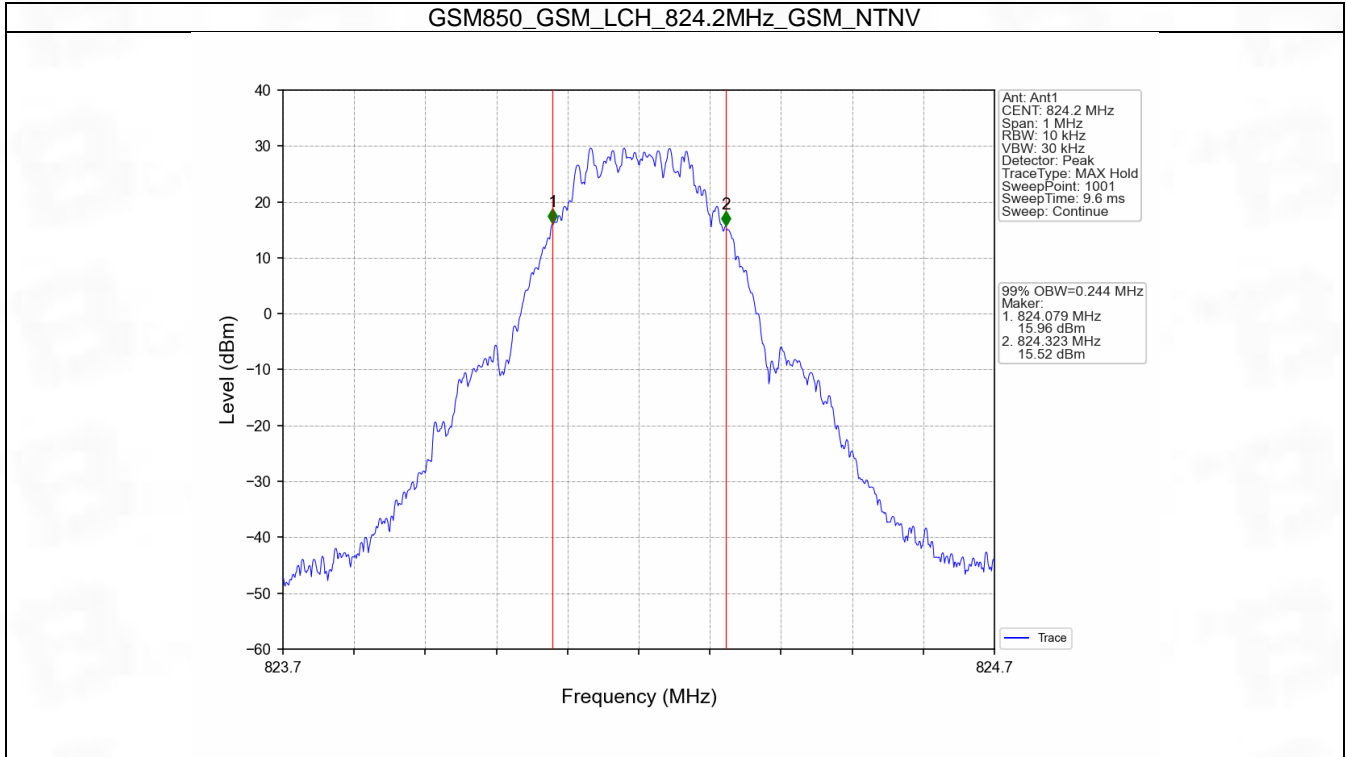
## 4. 99% & 26dB Bandwidth

### 4.1 GSM850\_OBW

#### 4.1.1 Test Result

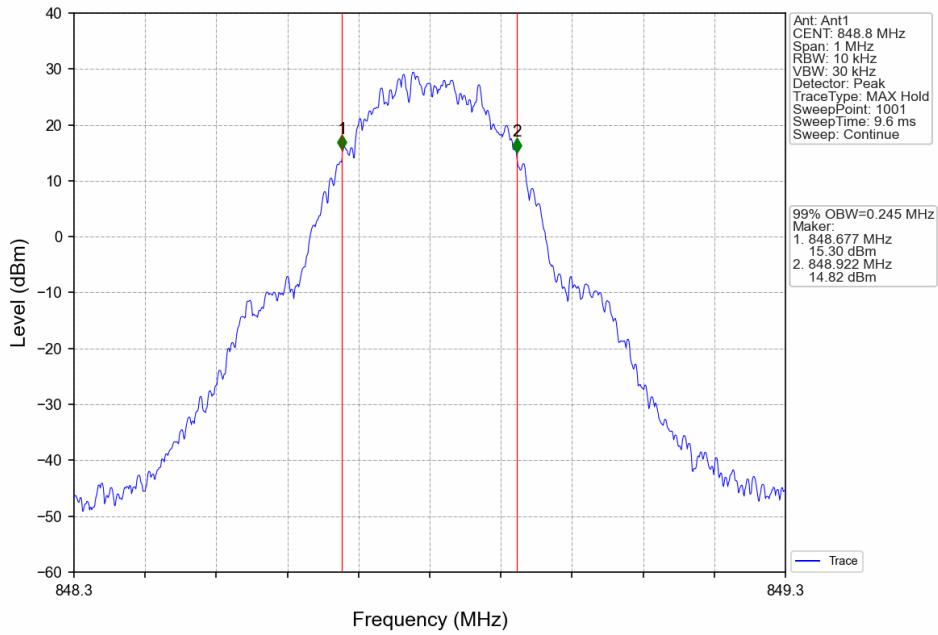
Band: GSM850					
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)	Verdict
	Network	Subset		Result	
NTNV	GSM	GSM	824.2	0.244	Pass
			836.6	0.248	Pass
			848.8	0.245	Pass
	GPRS	1 TX Slot	824.2	0.247	Pass
			836.6	0.244	Pass
			848.8	0.247	Pass
	EGPRS	1 TX Slot	824.2	0.255	Pass
			836.6	0.246	Pass
			848.8	0.245	Pass

### 4.1.2 Test Graph

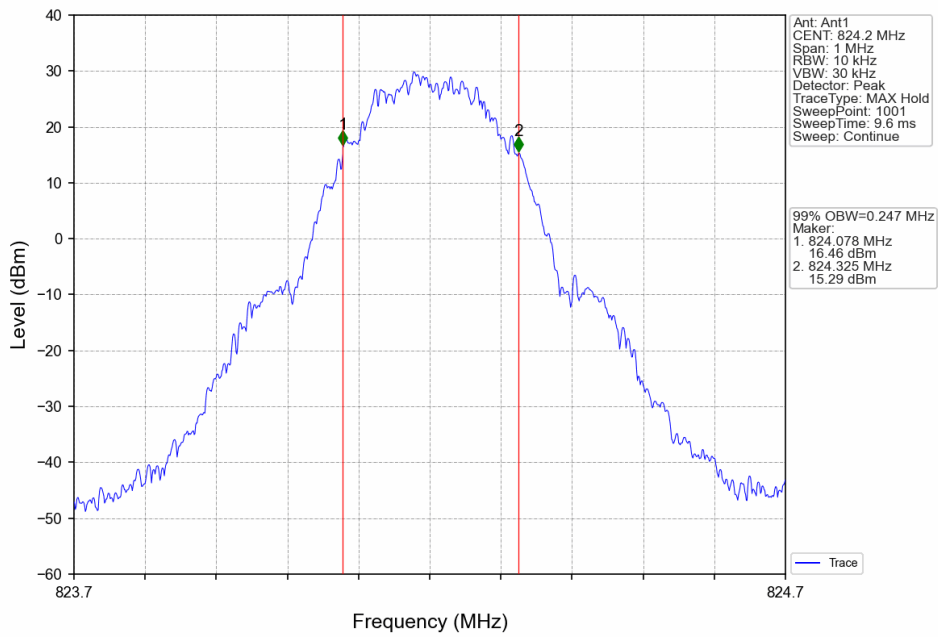




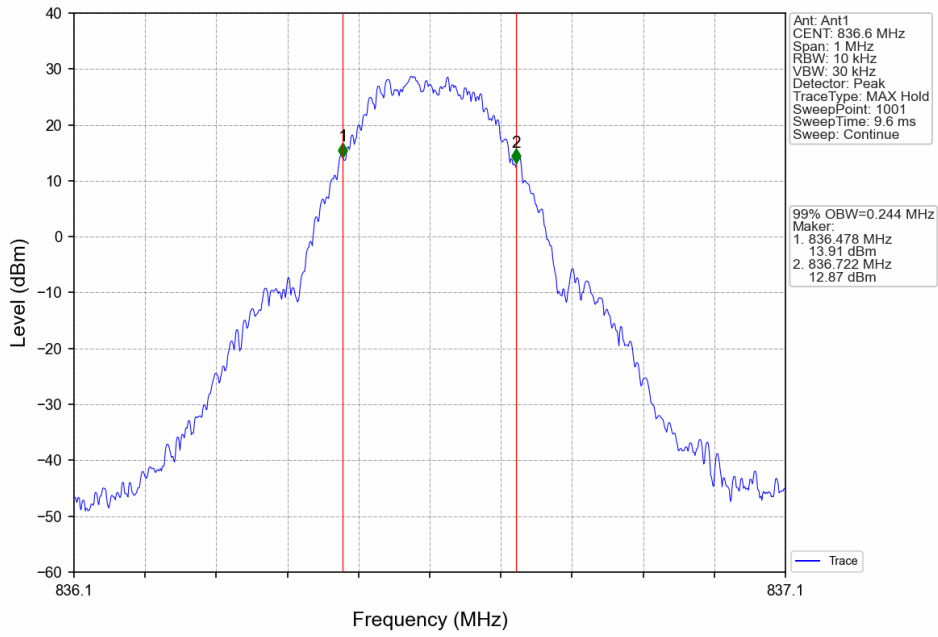
GSM850\_GSM\_HCH\_848.8MHz\_GSM\_NTNV



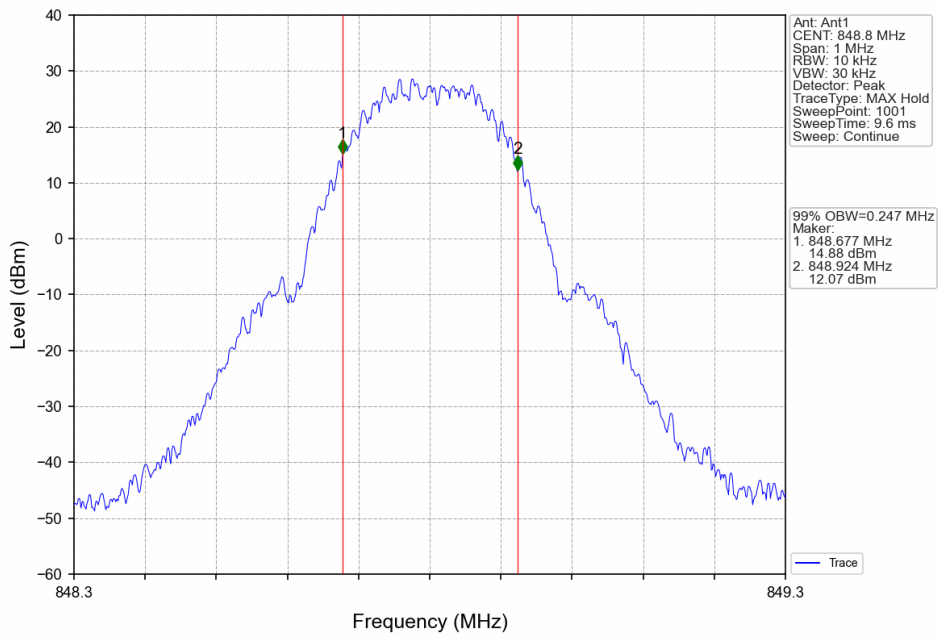
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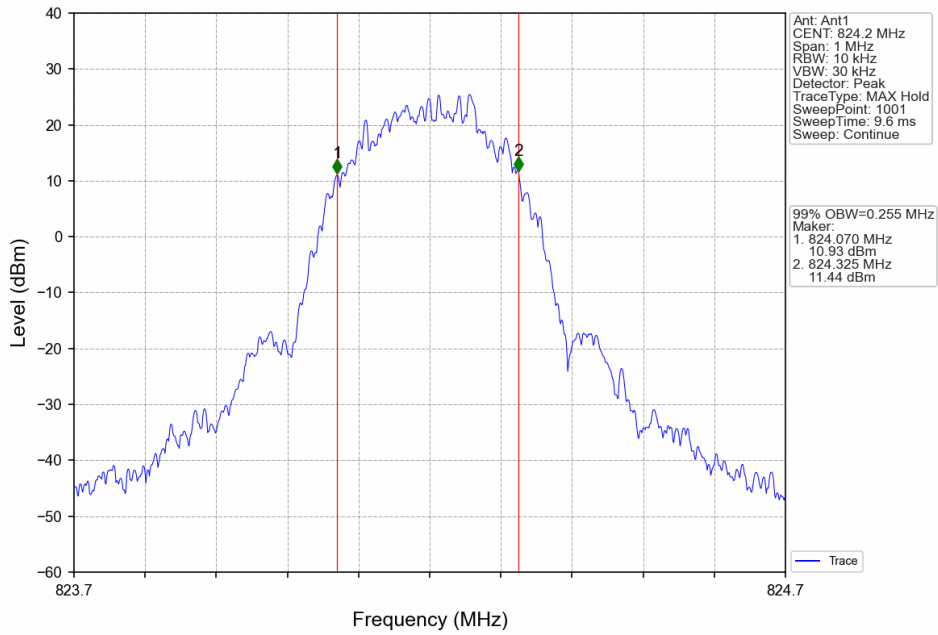
GSM850\_GPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



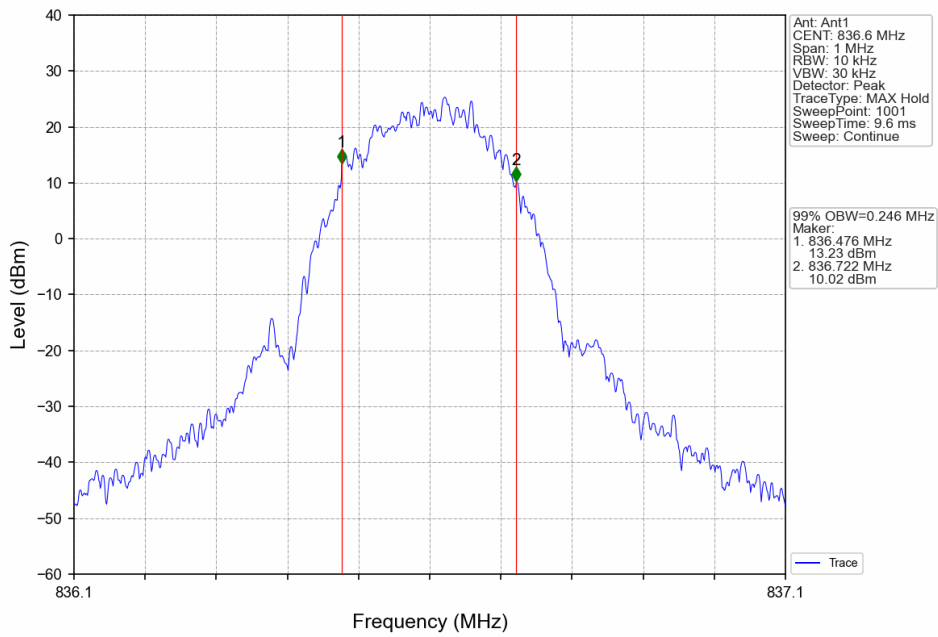
GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



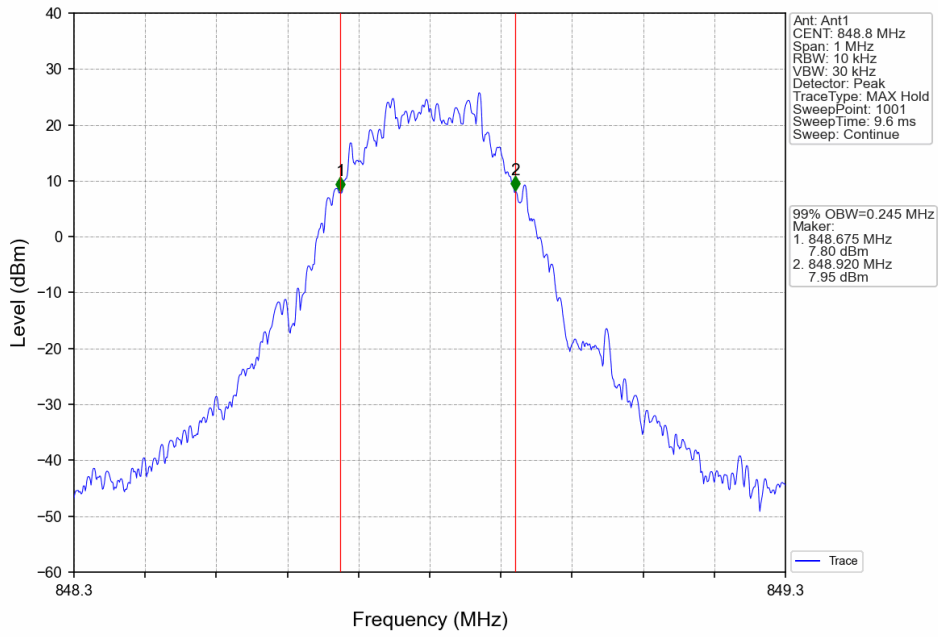
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



GSM850\_EGPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV

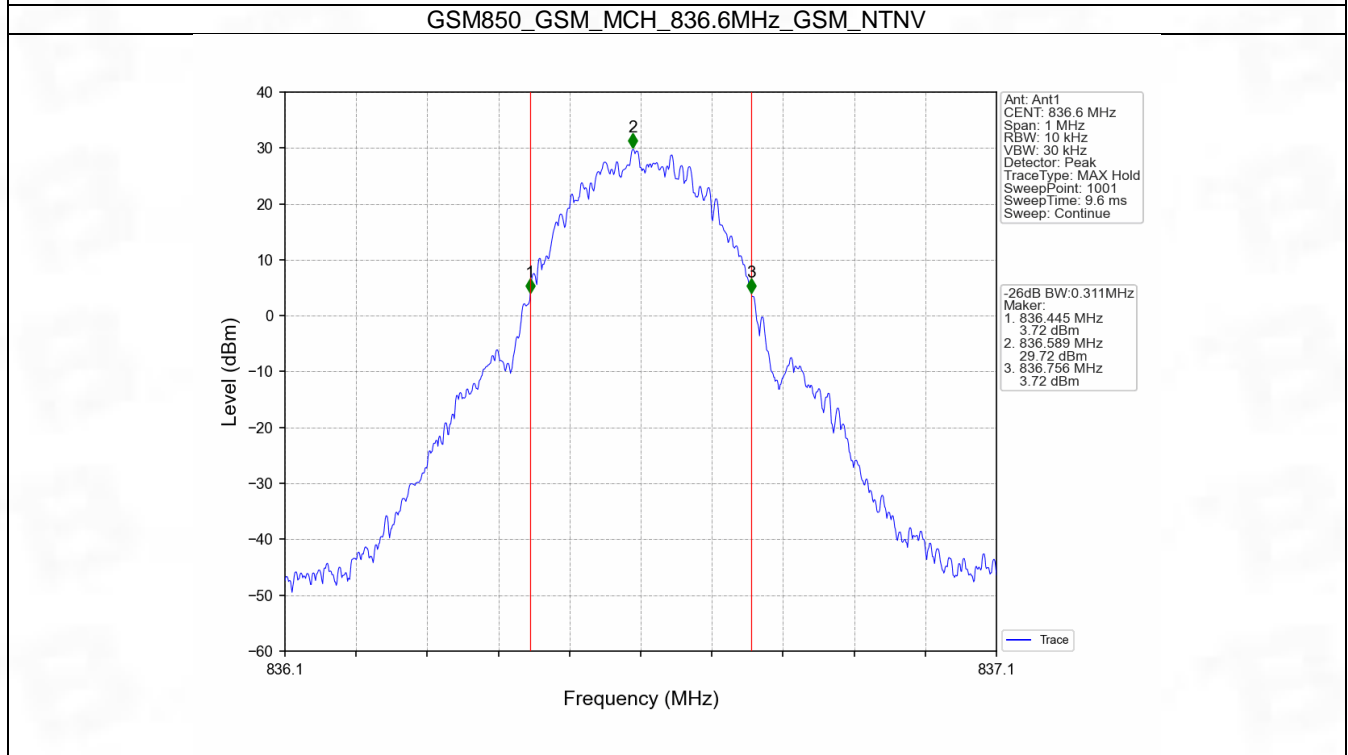
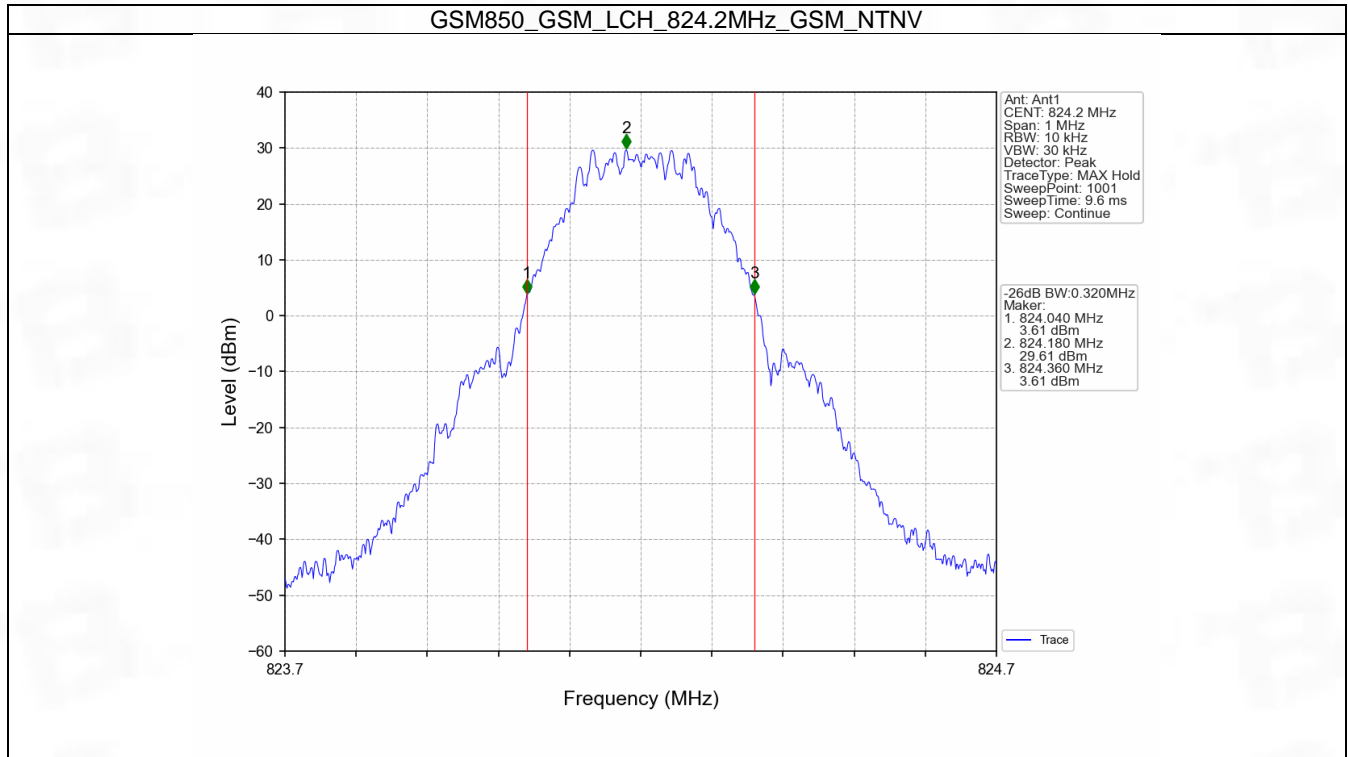


## 4.2 GSM850\_XDB

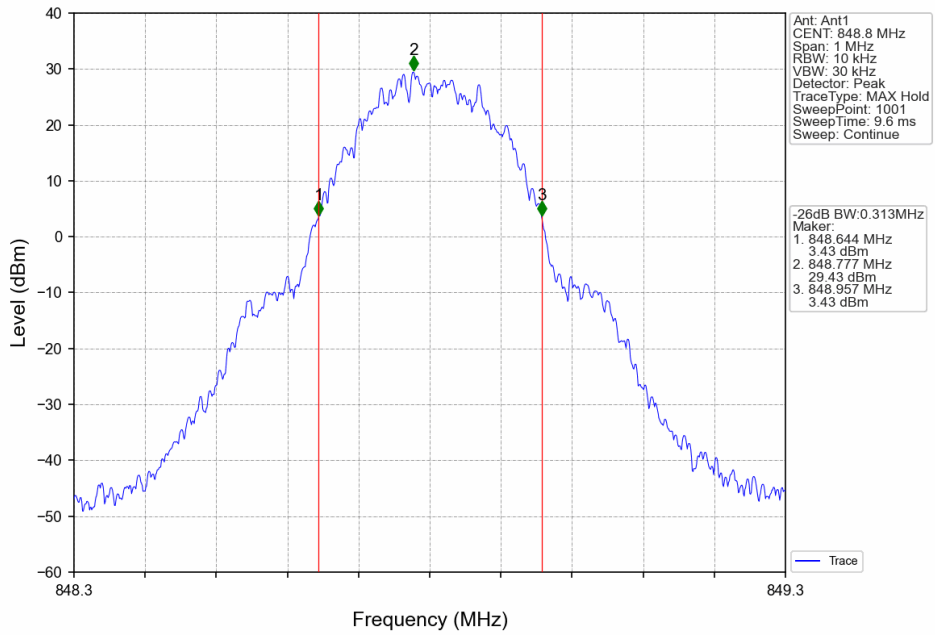
### 4.2.1 Test Result

Band: GSM850					
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)	Verdict
	Network	Subset		Result	
NTNV	GSM	GSM	824.2	0.320	Pass
			836.6	0.311	Pass
			848.8	0.313	Pass
	GPRS	1 TX Slot	824.2	0.315	Pass
			836.6	0.323	Pass
			848.8	0.322	Pass
	EGPRS	1 TX Slot	824.2	0.317	Pass
			836.6	0.320	Pass
			848.8	0.314	Pass

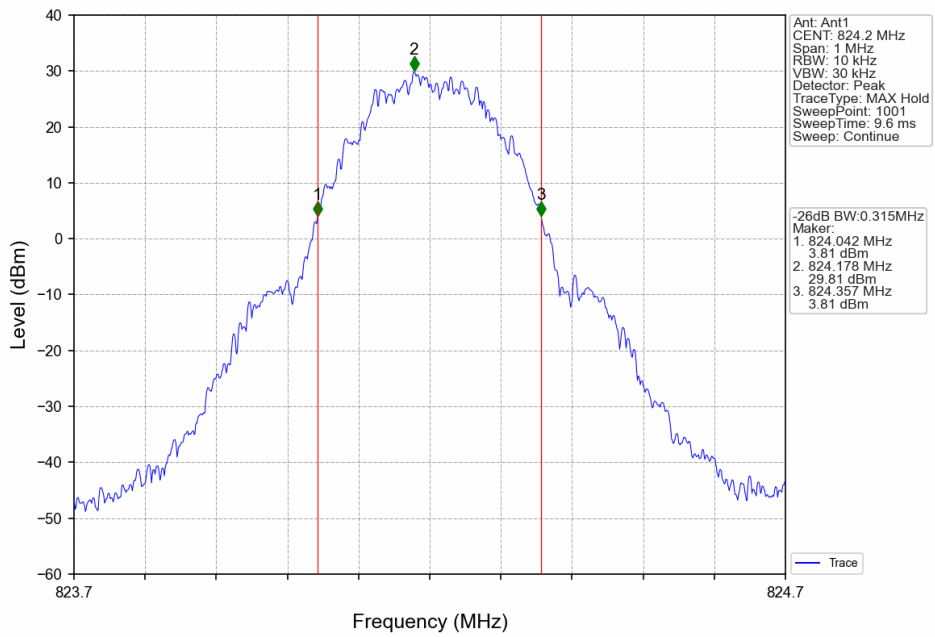
## 4.2.2 Test Graph



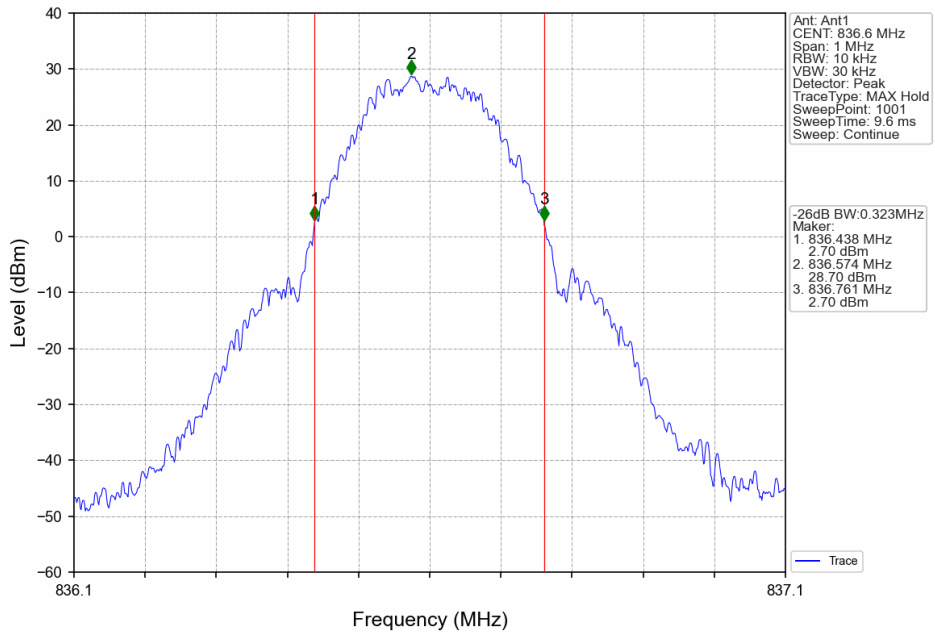
GSM850\_GSM\_HCH\_848.8MHz\_GSM\_NTNV



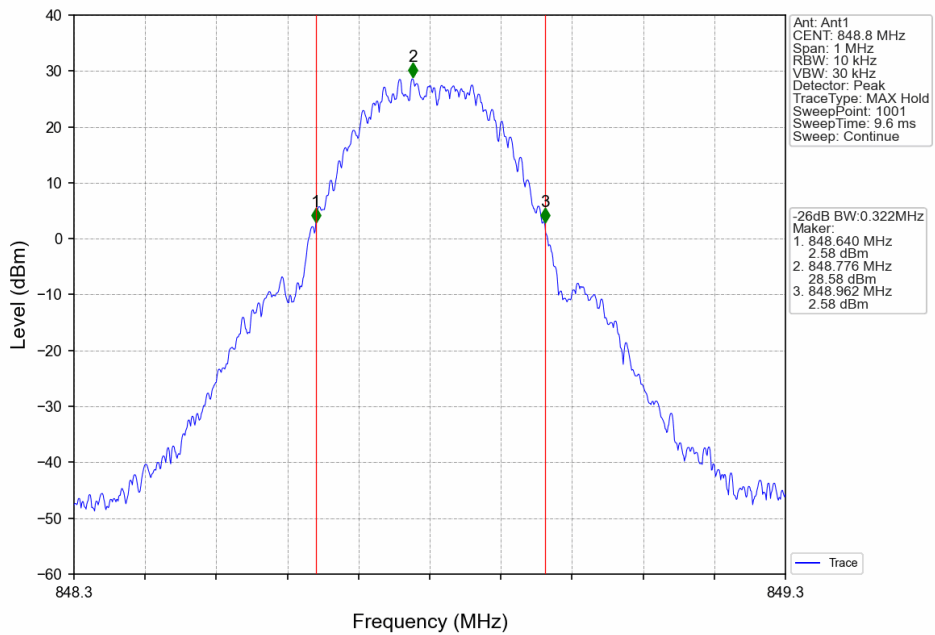
GSM850\_GPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



GSM850\_GPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV

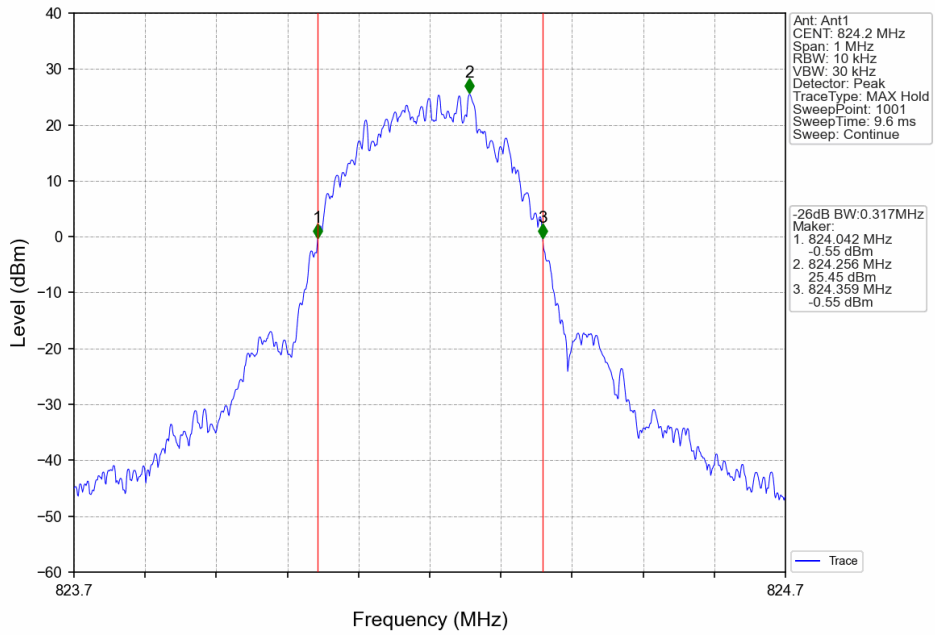


GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV

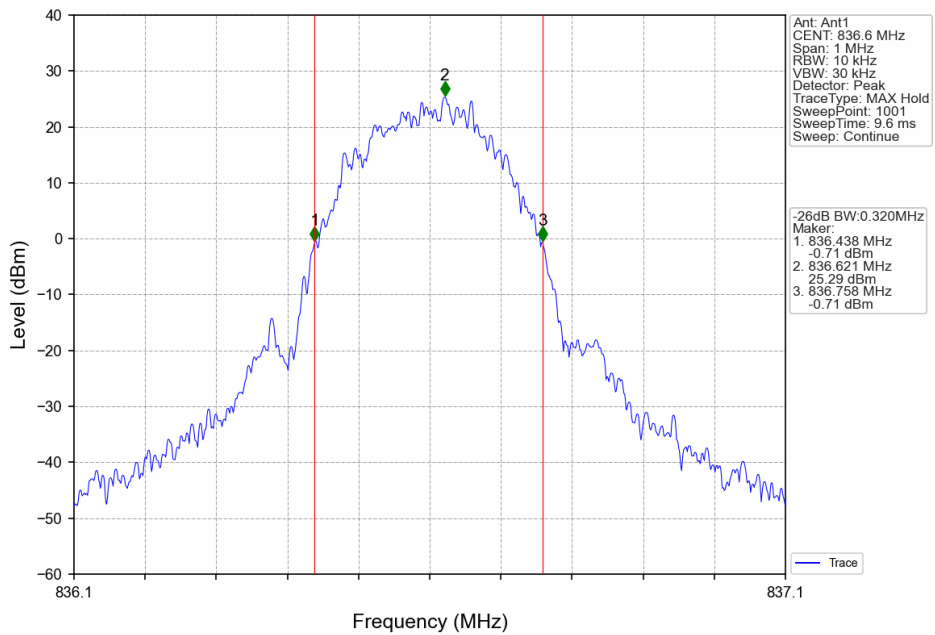




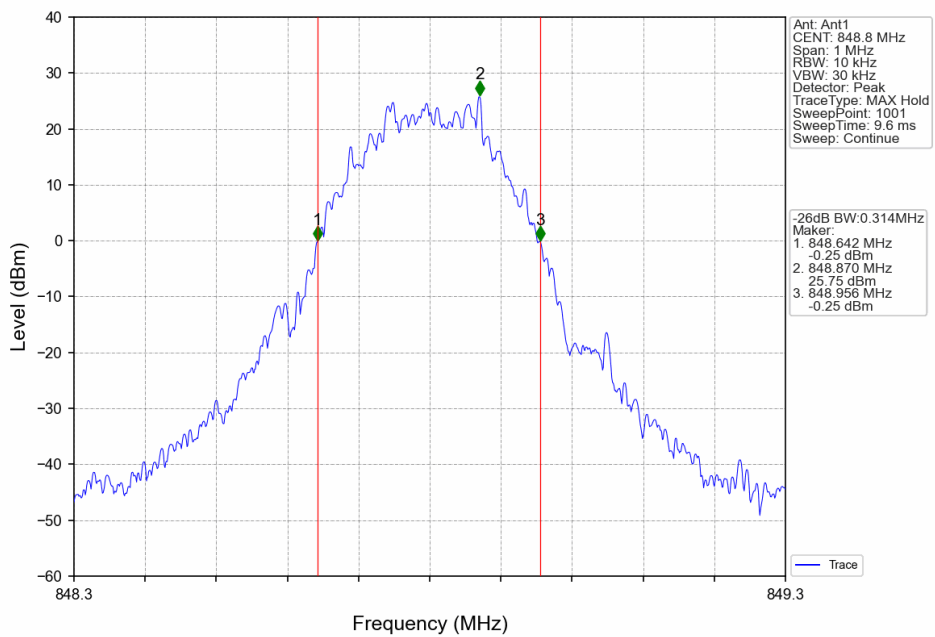
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



GSM850\_EGPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



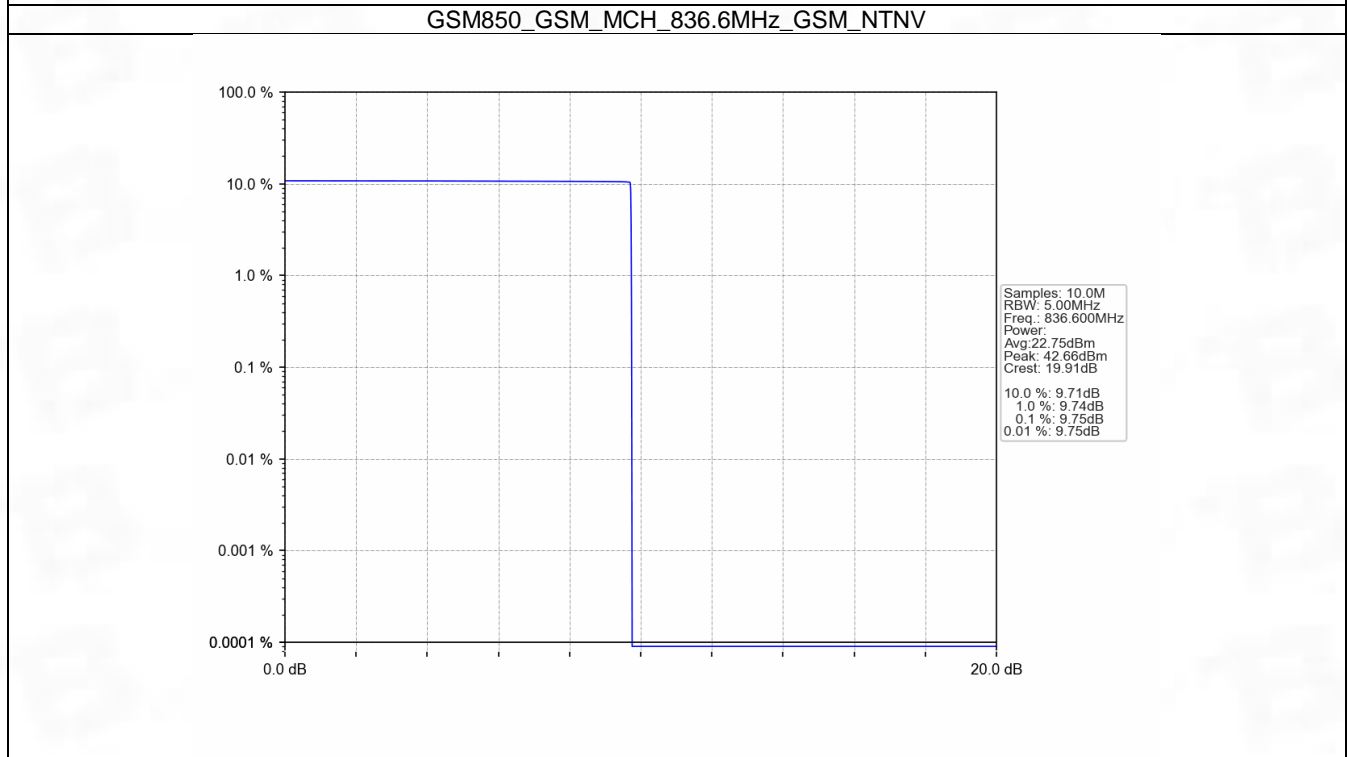
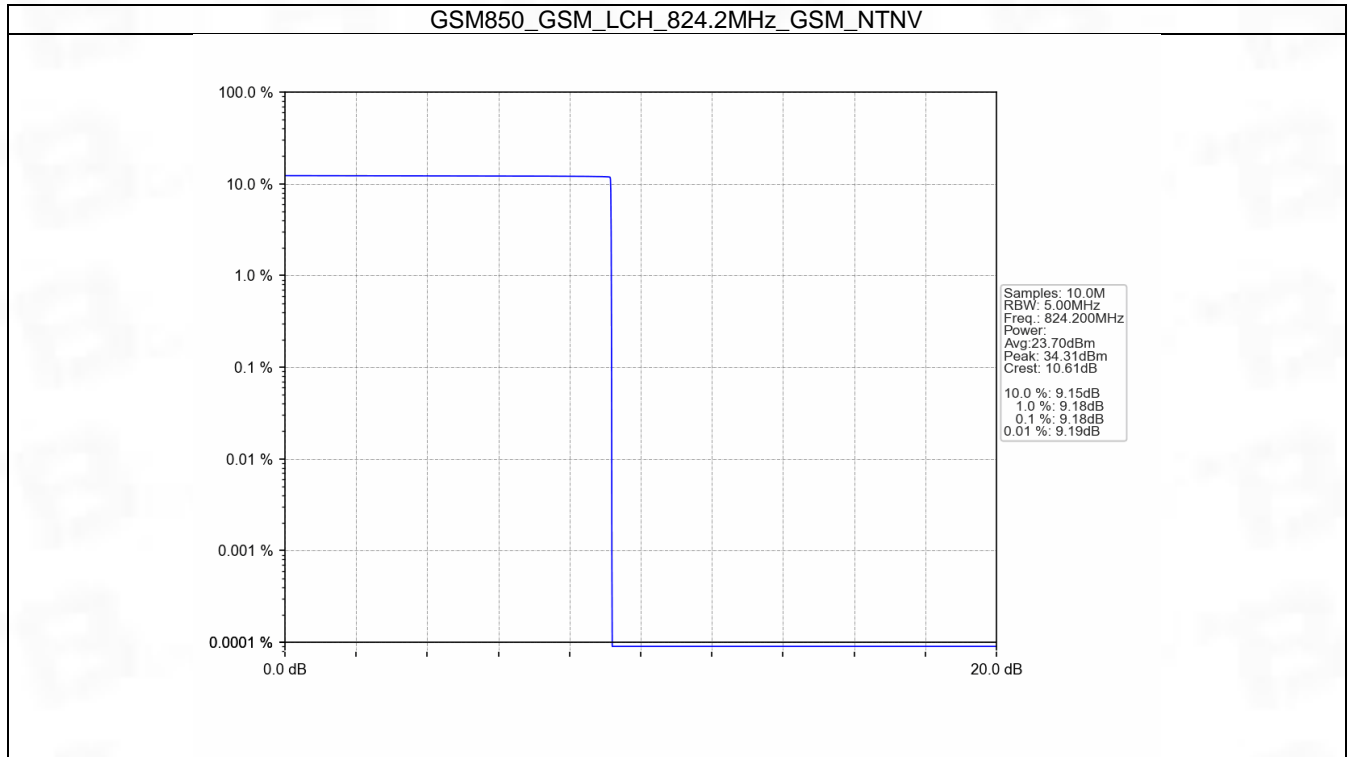
## 5. Peak-Average Ratio

### 5.1 GSM850

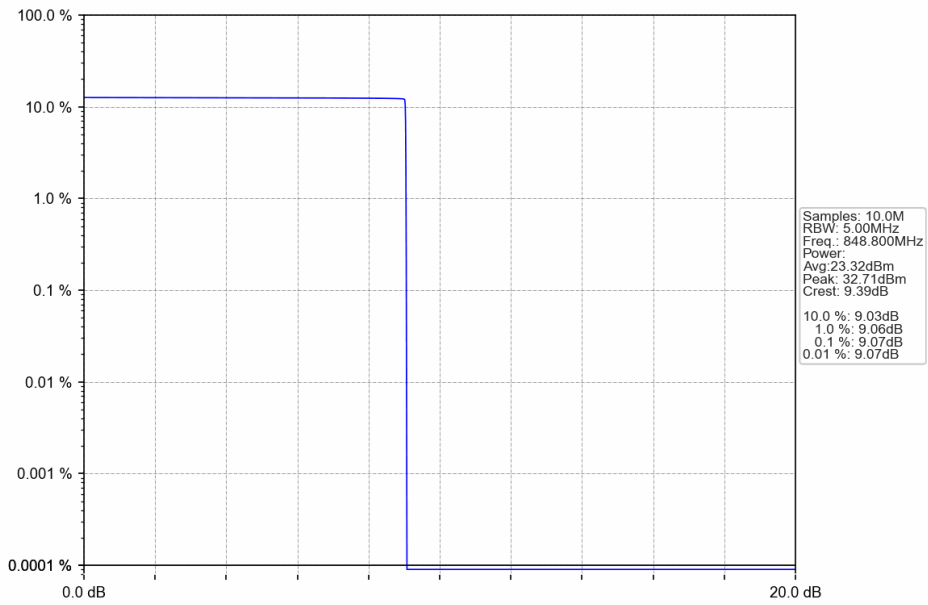
#### 5.1.1 Test Result

Band: GSM850						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	9.18	<=13	Pass
			836.6	9.75	<=13	Pass
			848.8	9.07	<=13	Pass
	GPRS	4 TX Slots	824.2	3.47	<=13	Pass
			836.6	3.50	<=13	Pass
			848.8	3.64	<=13	Pass
	EGPRS	4 TX Slots	824.2	9.75	<=13	Pass
			836.6	9.75	<=13	Pass
			848.8	9.83	<=13	Pass

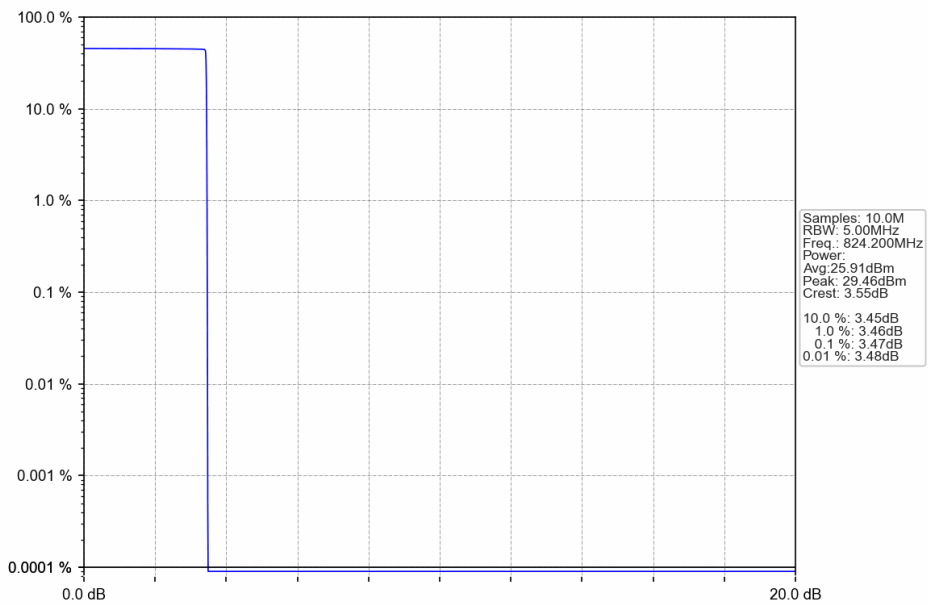
## 5.1.2 Test Graph



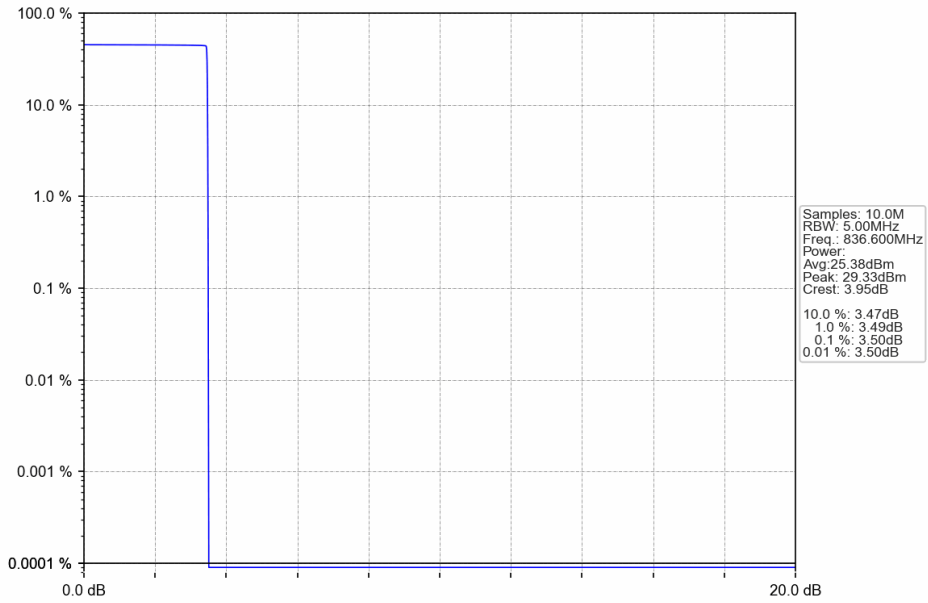
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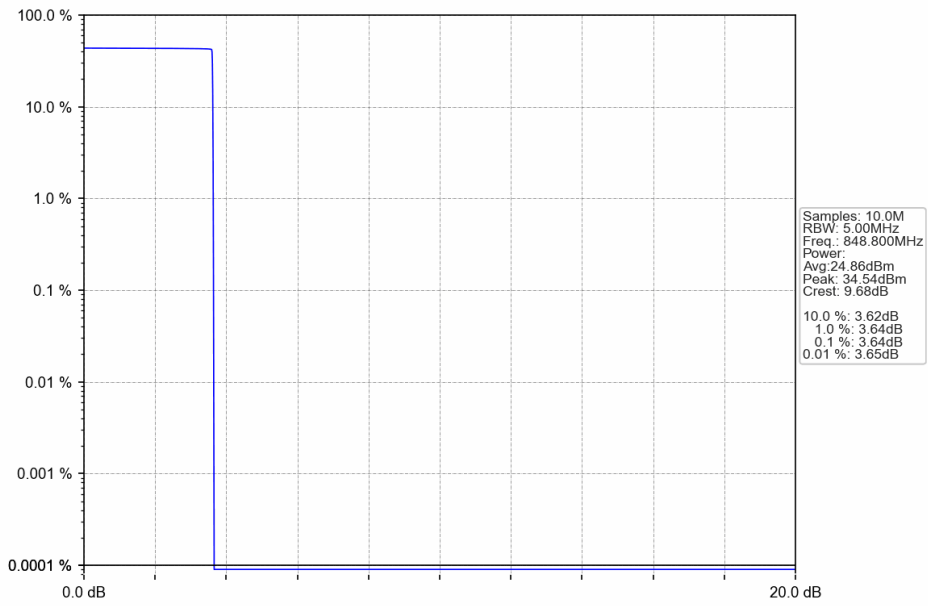
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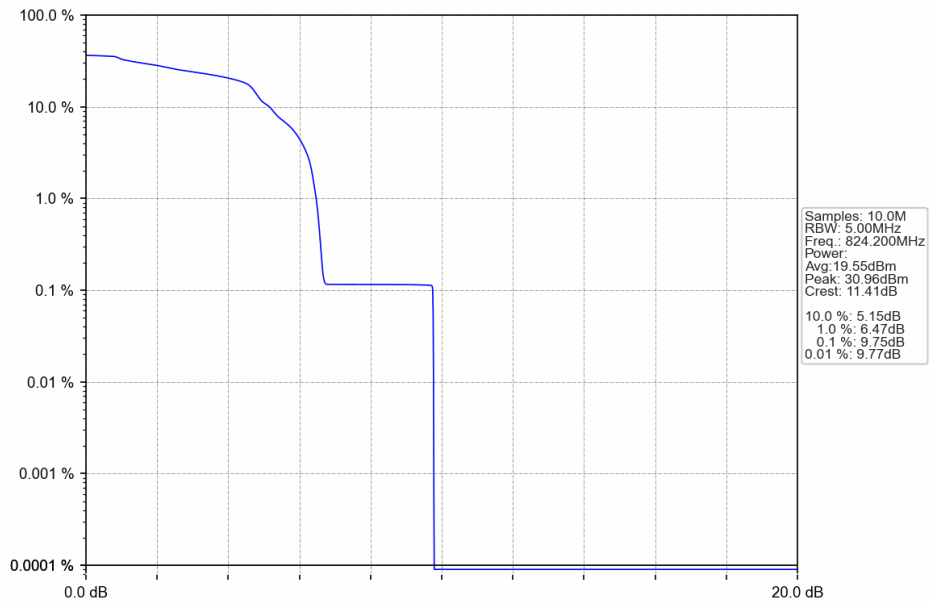
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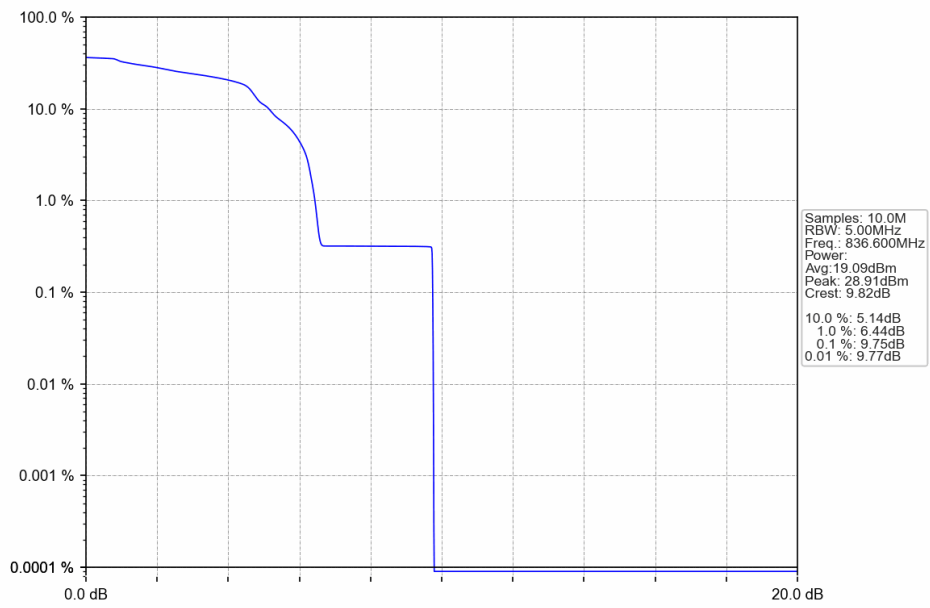
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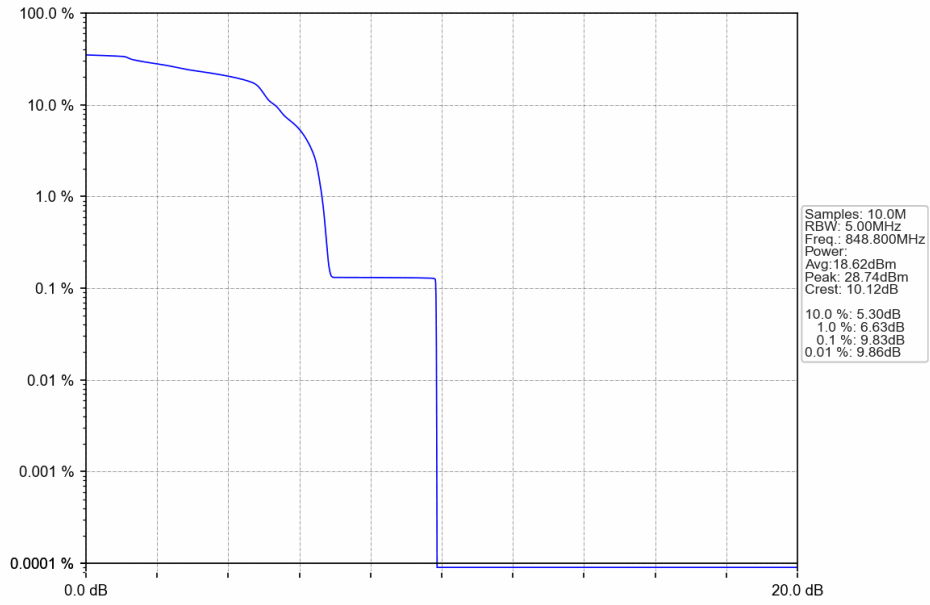
GSM850\_EGPRS\_LCH\_824.2MHz\_4 TX Slots\_NTNV



GSM850\_EGPRS\_MCH\_836.6MHz\_4 TX Slots\_NTNV



GSM850\_EGPRS\_HCH\_848.8MHz\_4 TX Slots\_NTNV





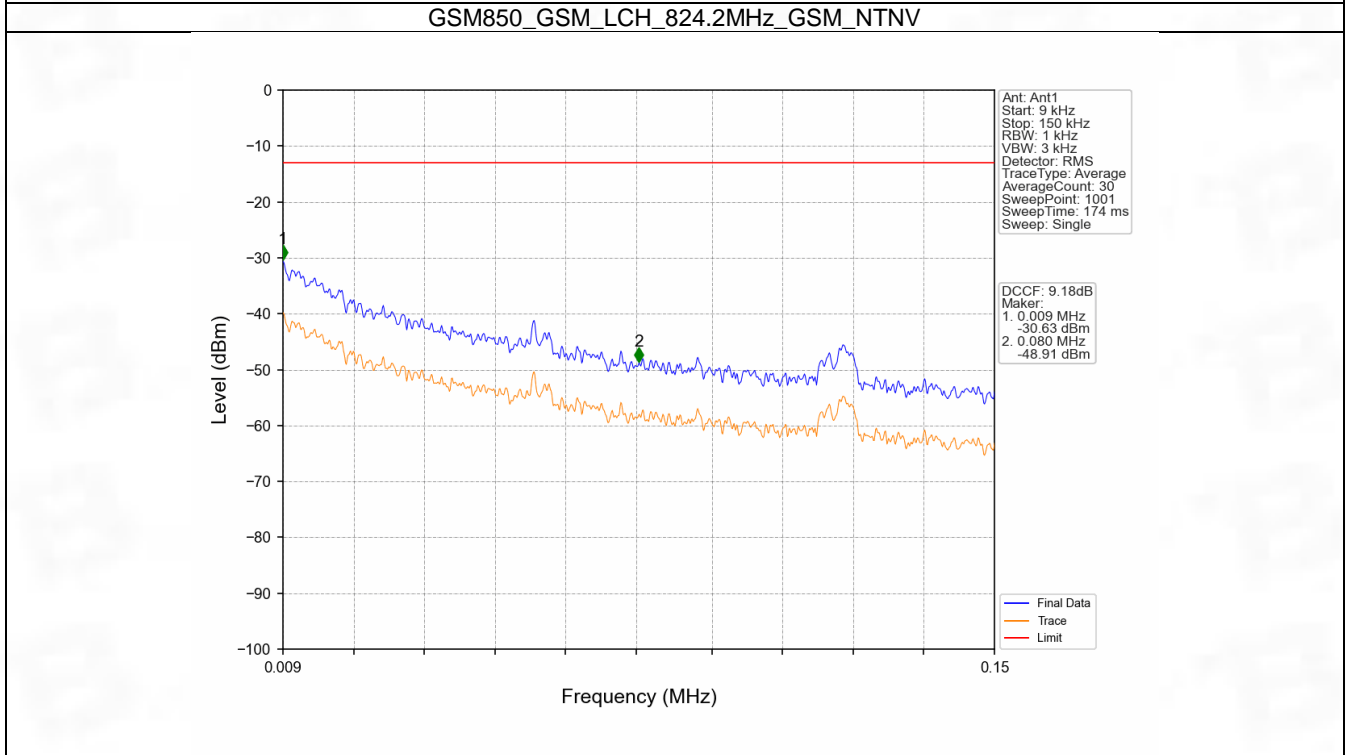
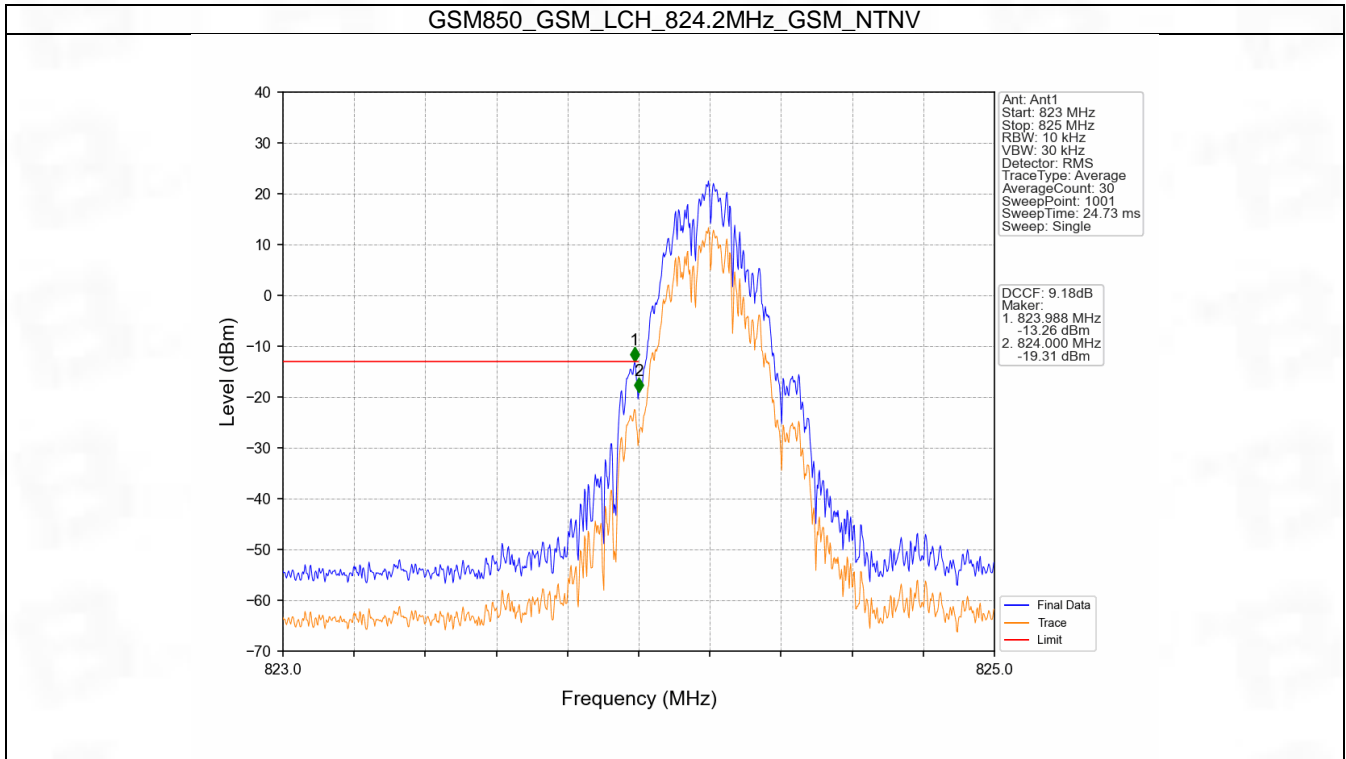
## 6. Spurious Emission

### 6.1 GSM850

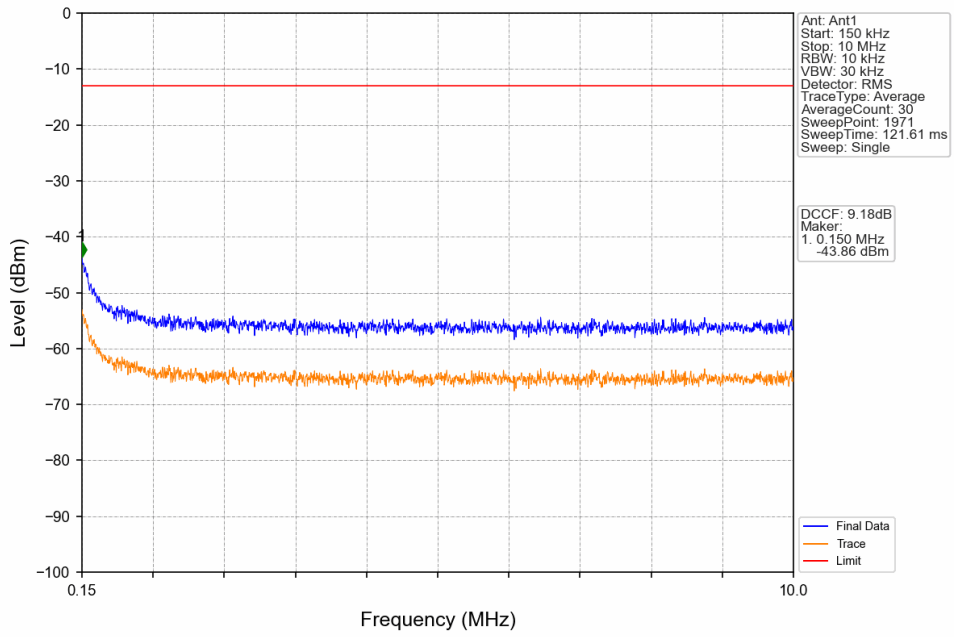
#### 6.1.1 Test Result

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

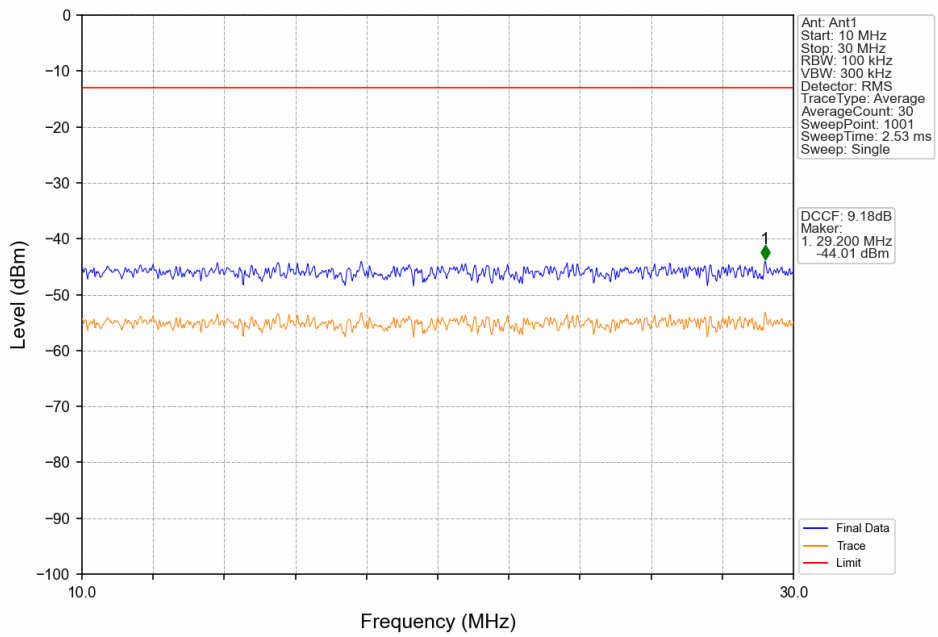
### 6.1.2 Test Graph



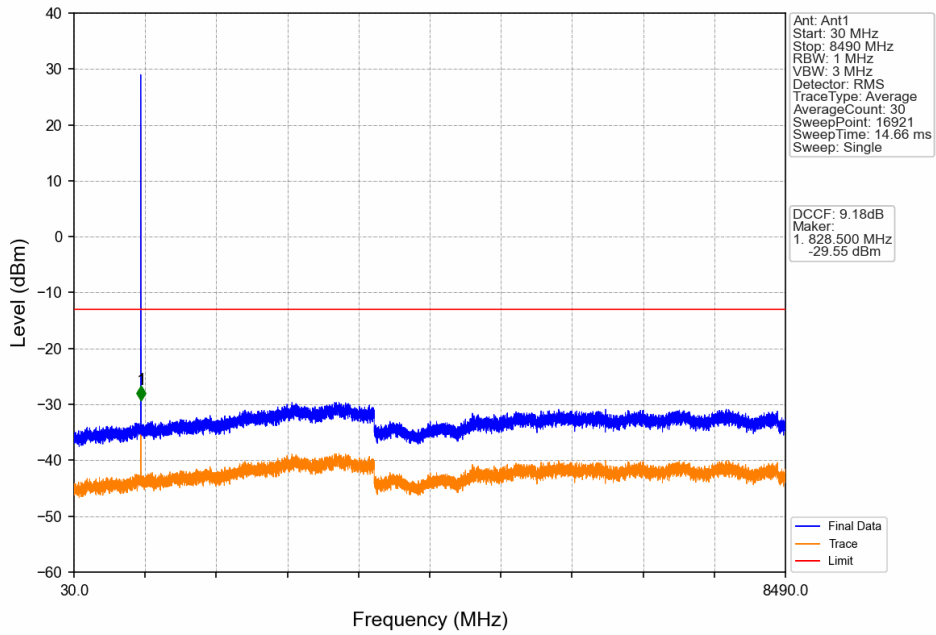
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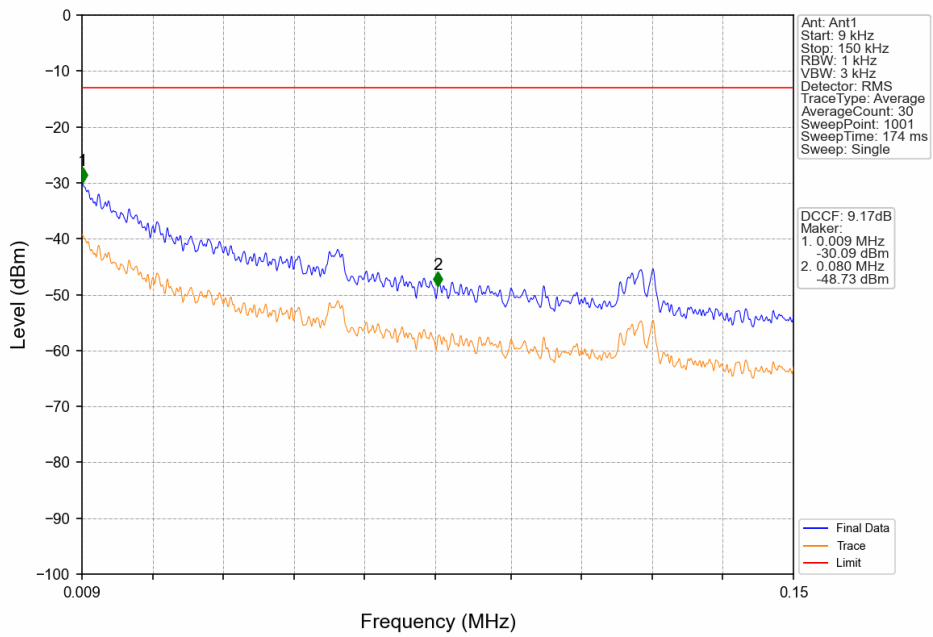
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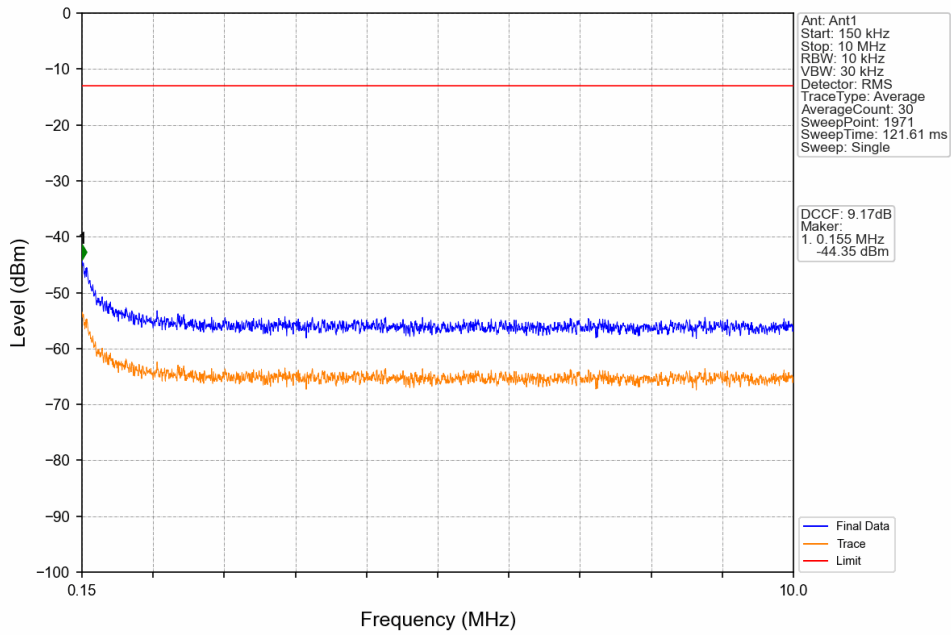
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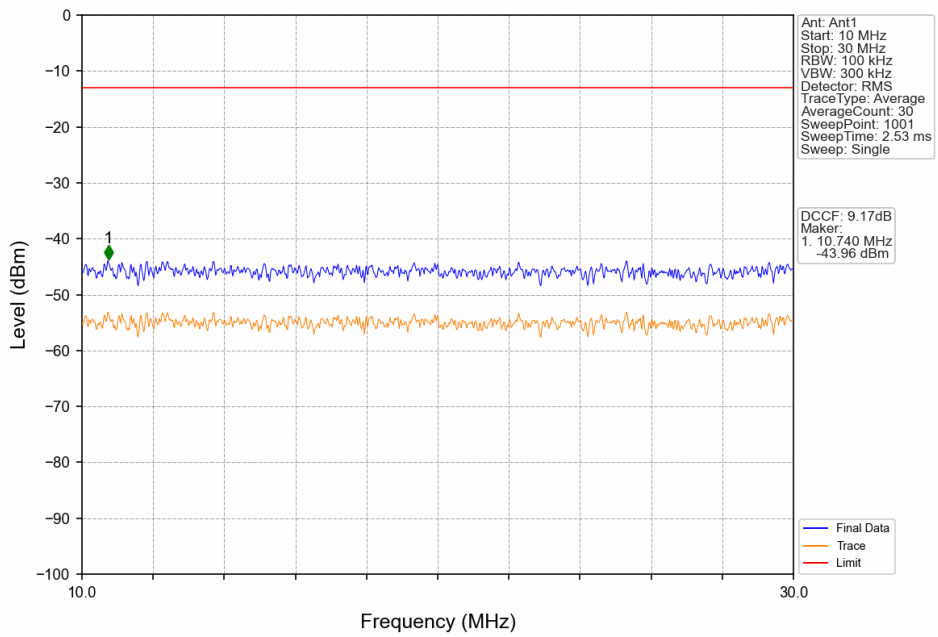
GSM850\_GSM\_MCH\_836.6MHz\_GSM\_NTNV



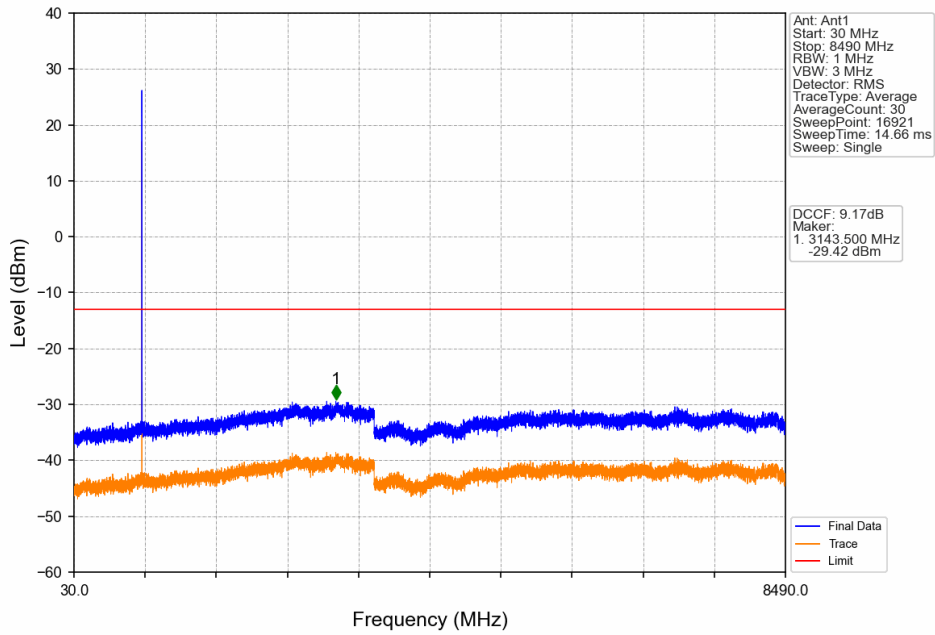
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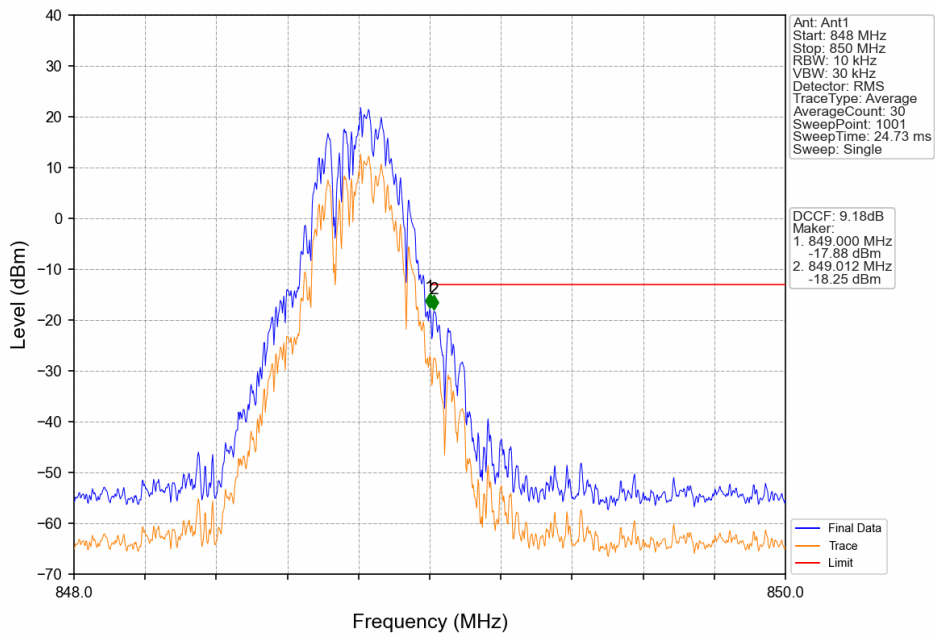
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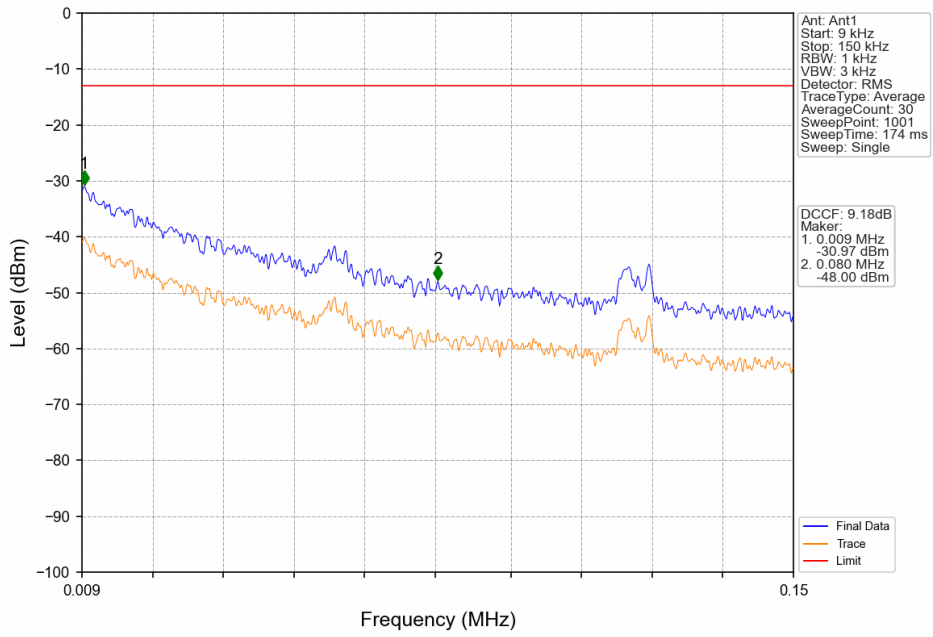
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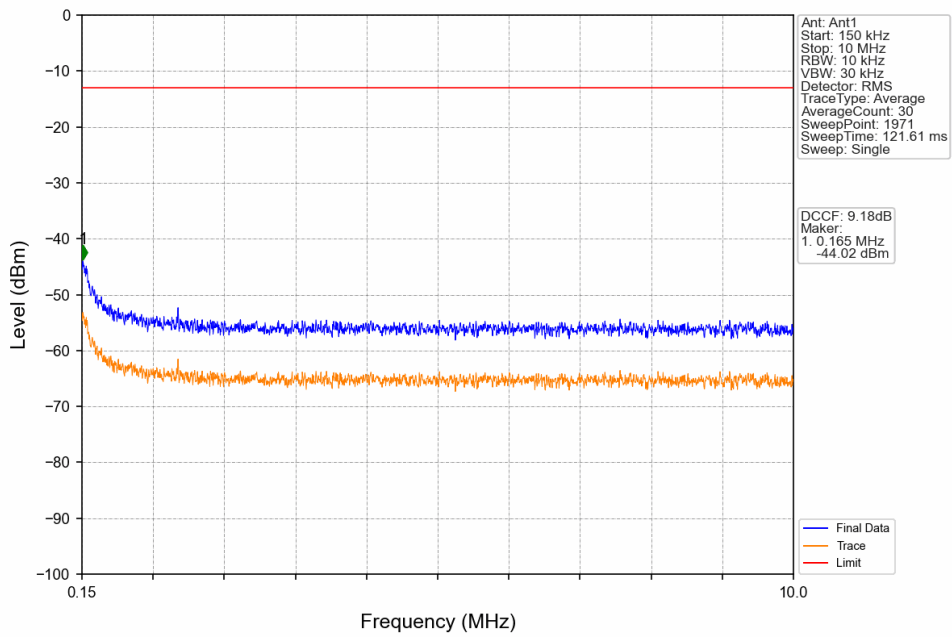
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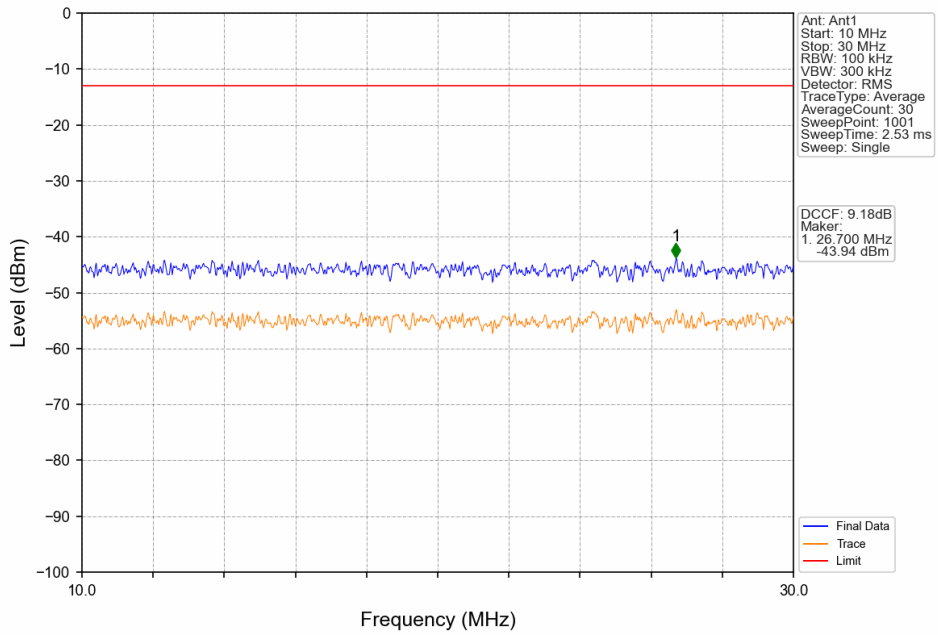
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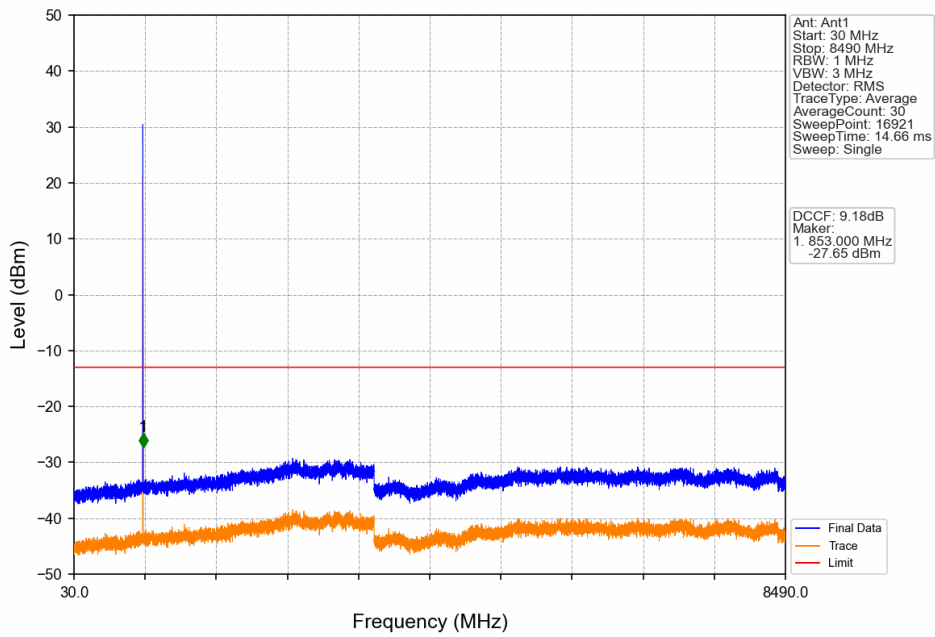
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GSM850\_GSM\_HCH\_848.8MHz\_GSM\_NTNV

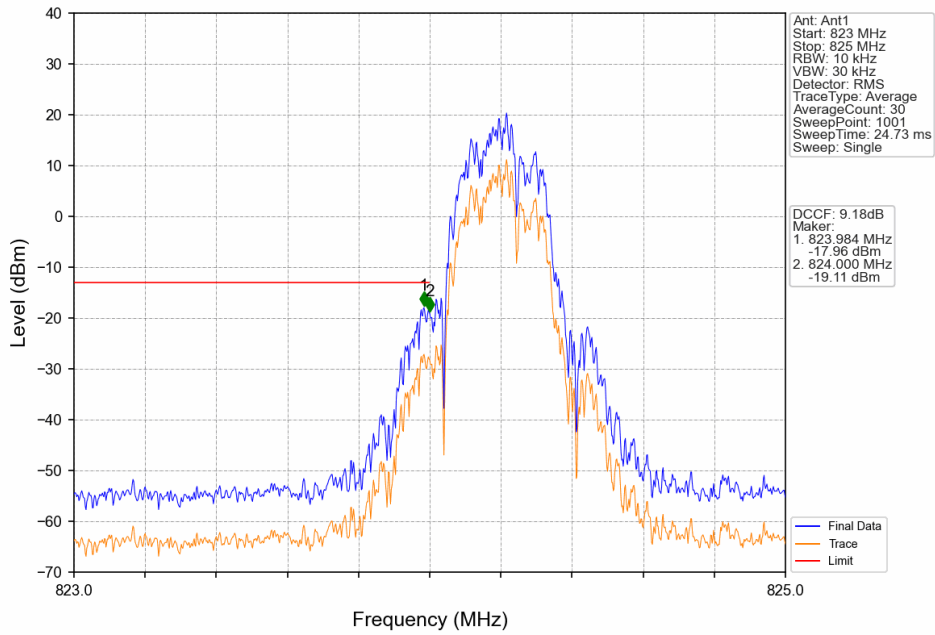


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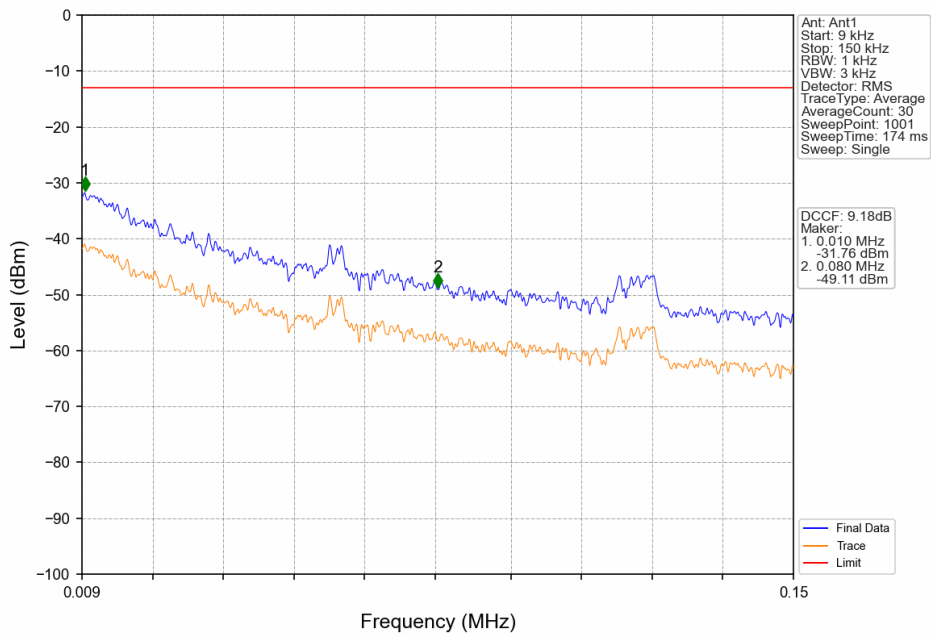




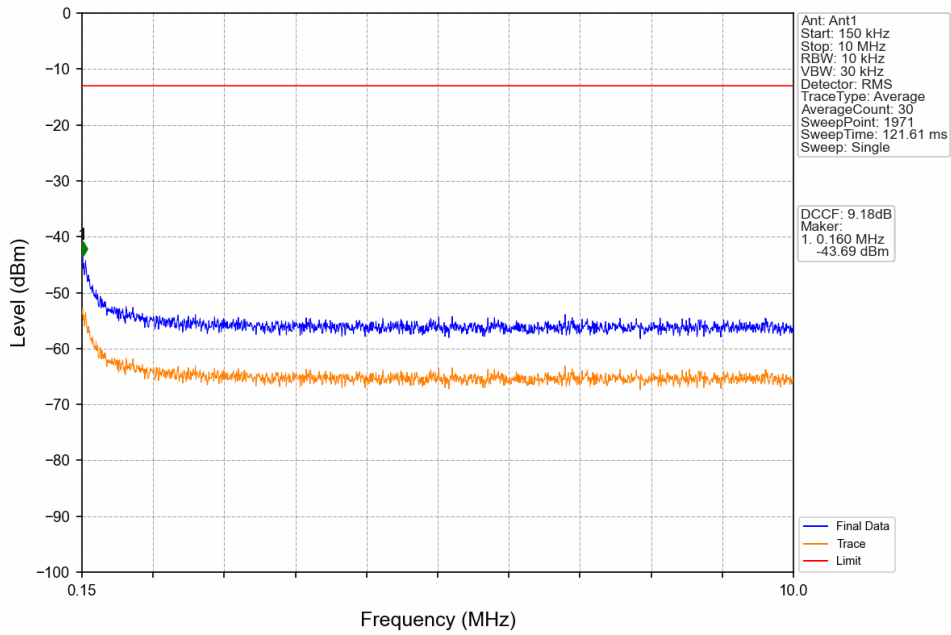
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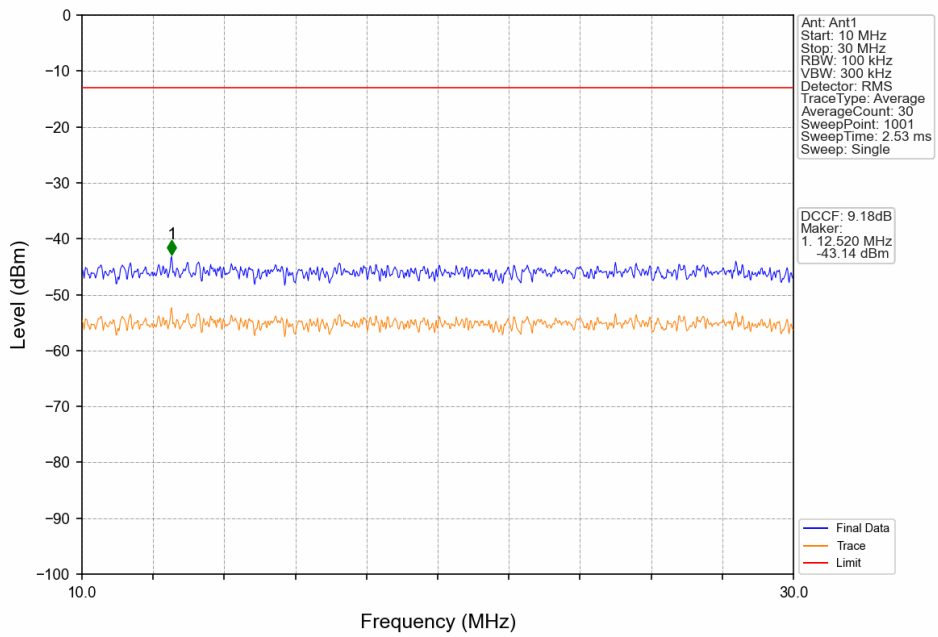
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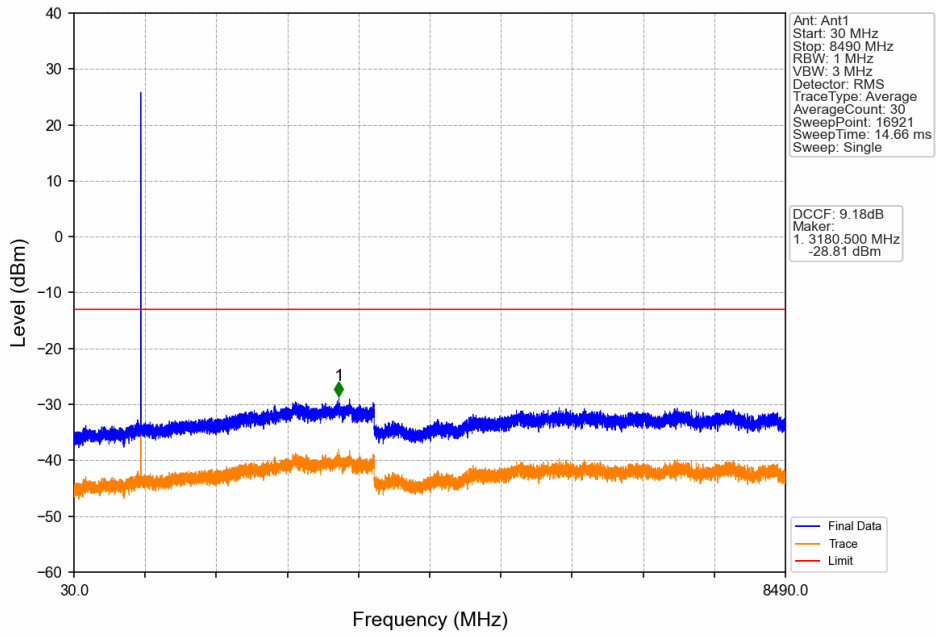
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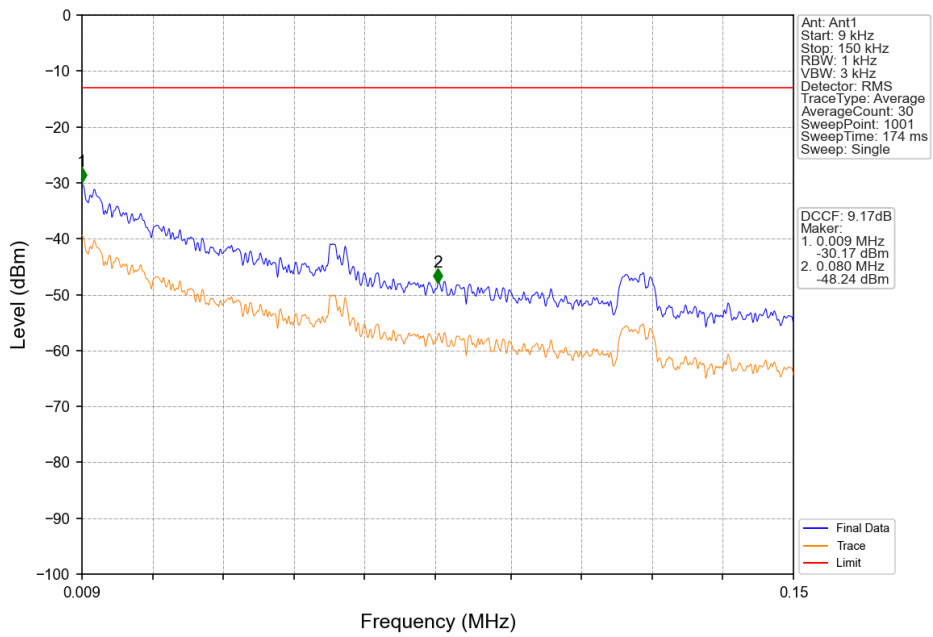
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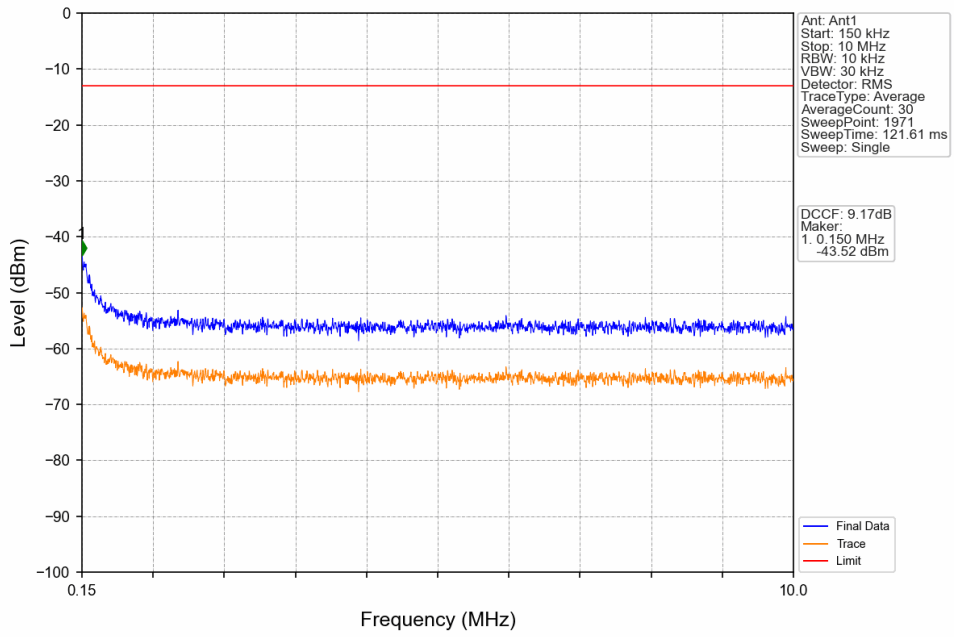
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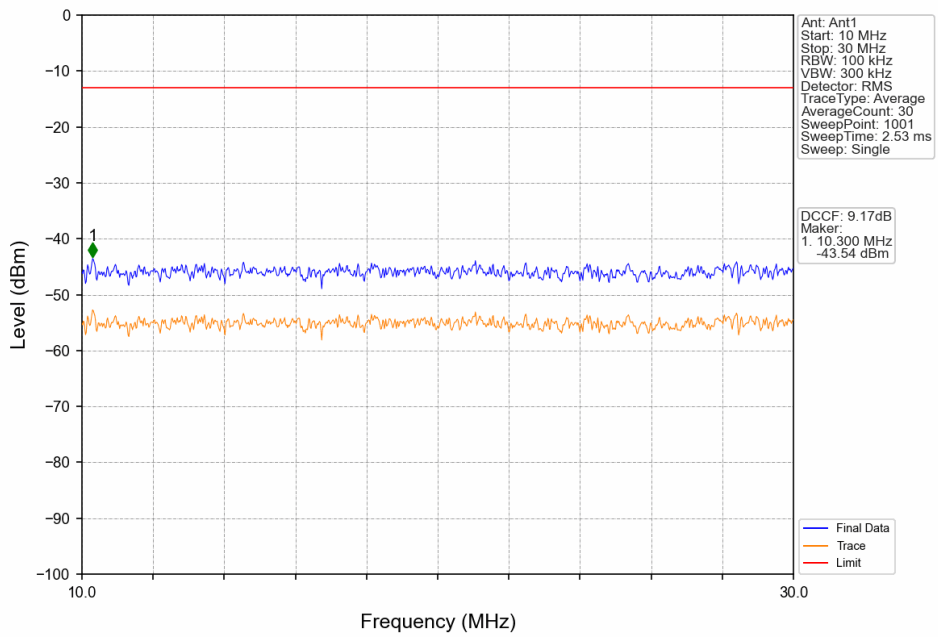
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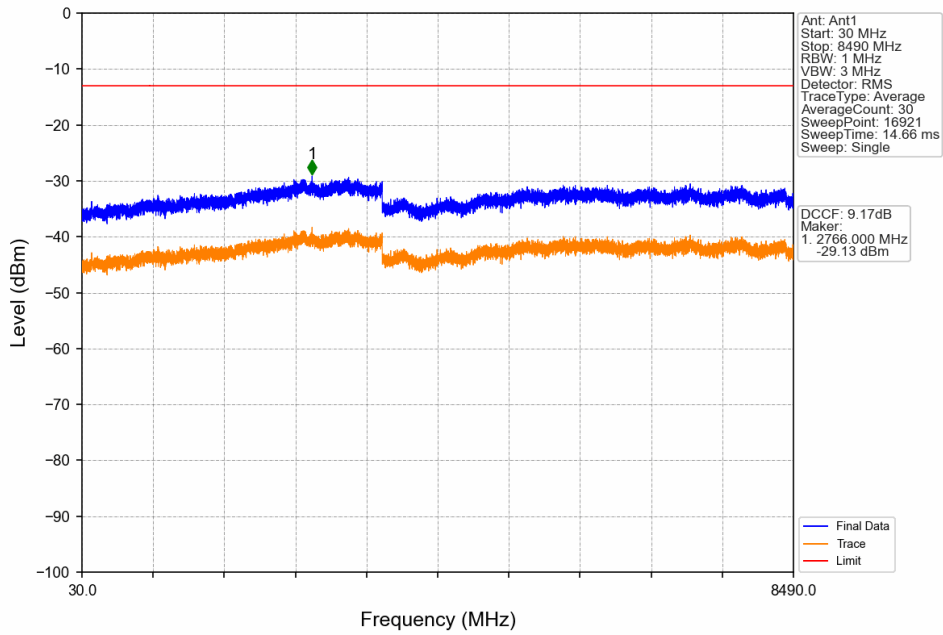
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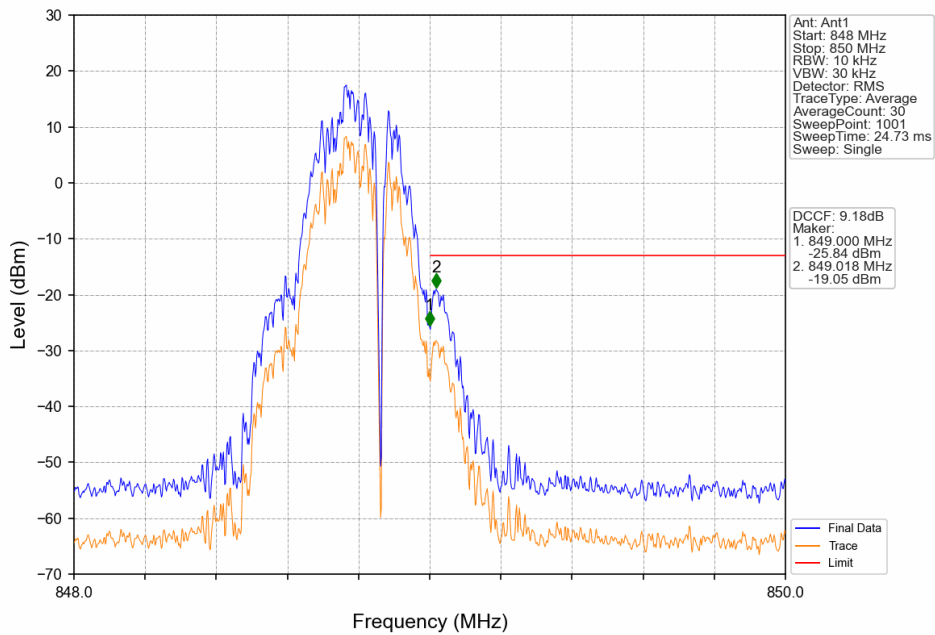
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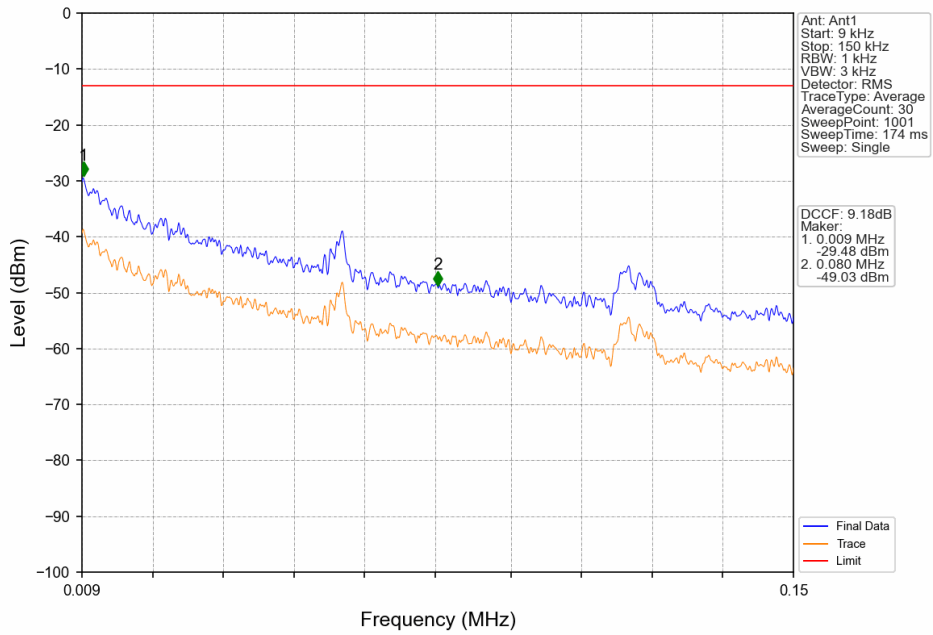
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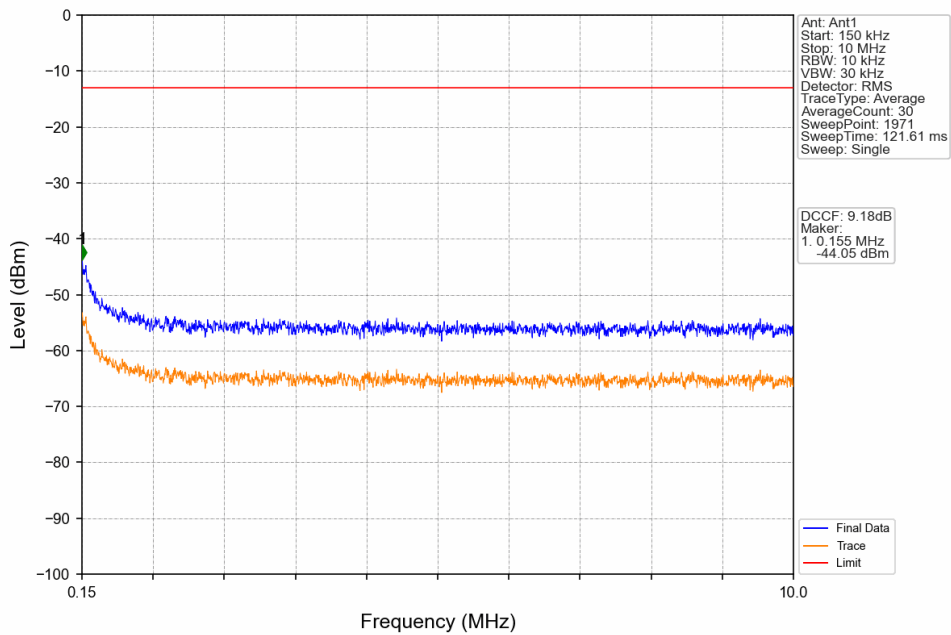
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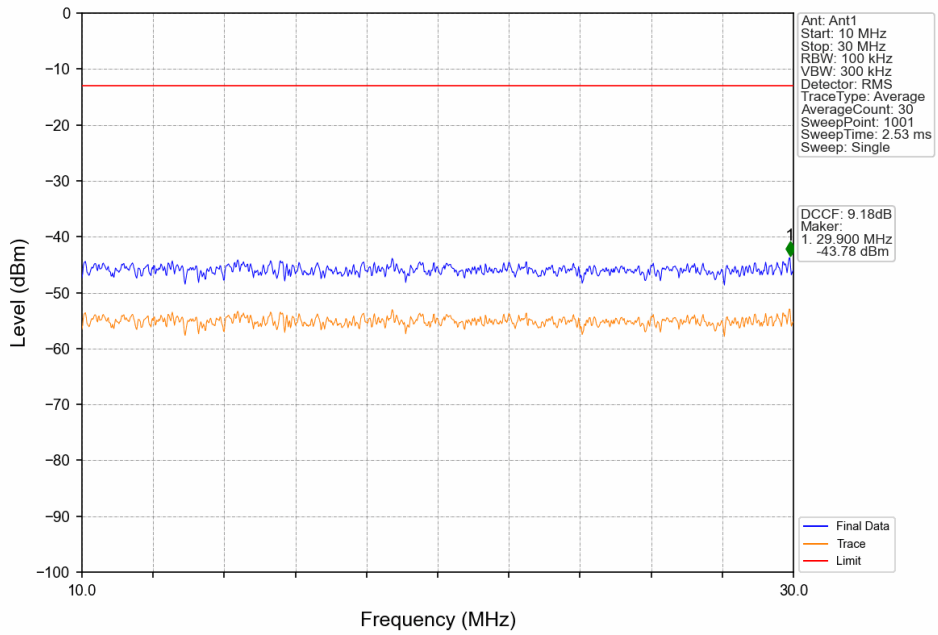
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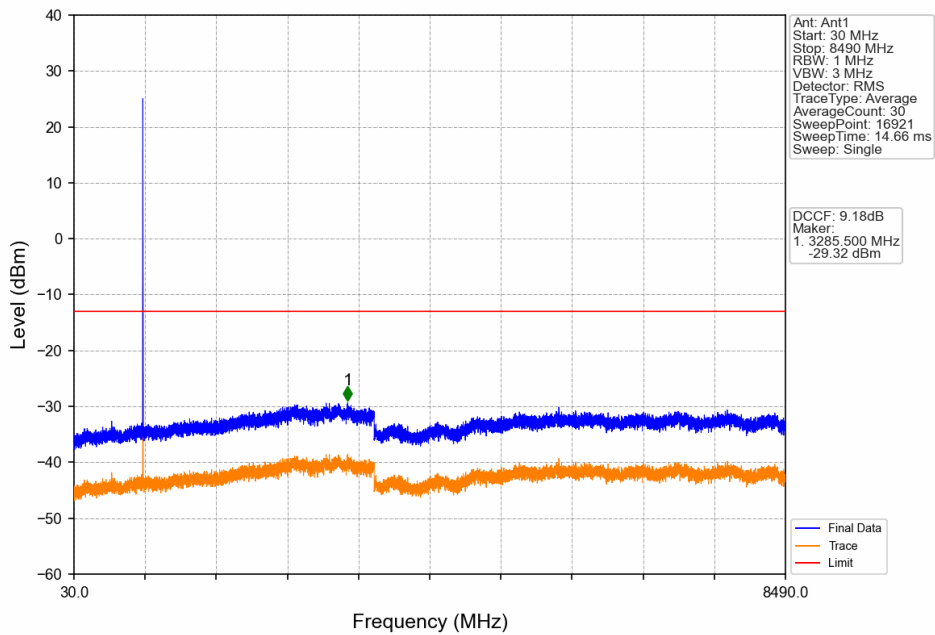
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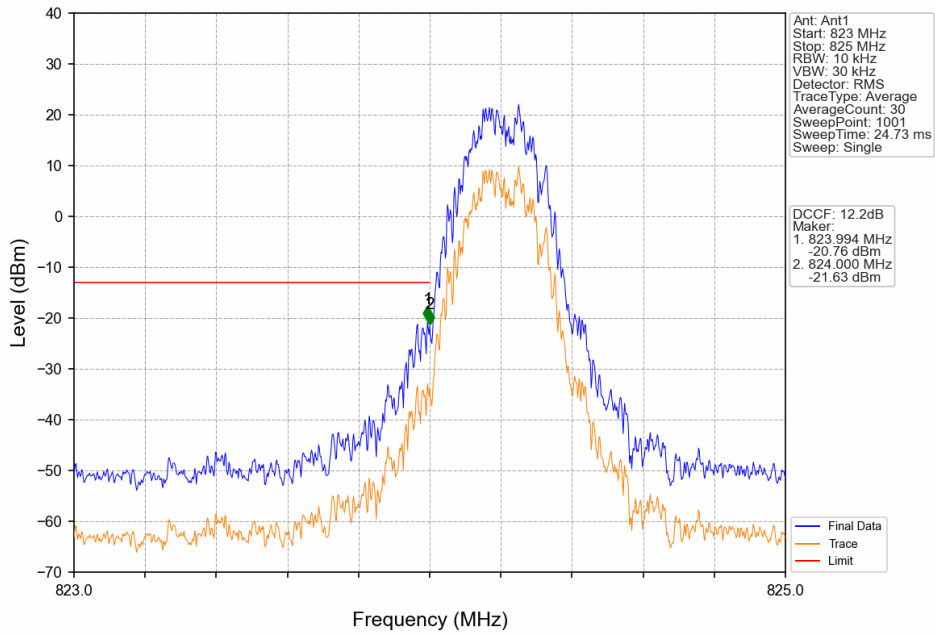
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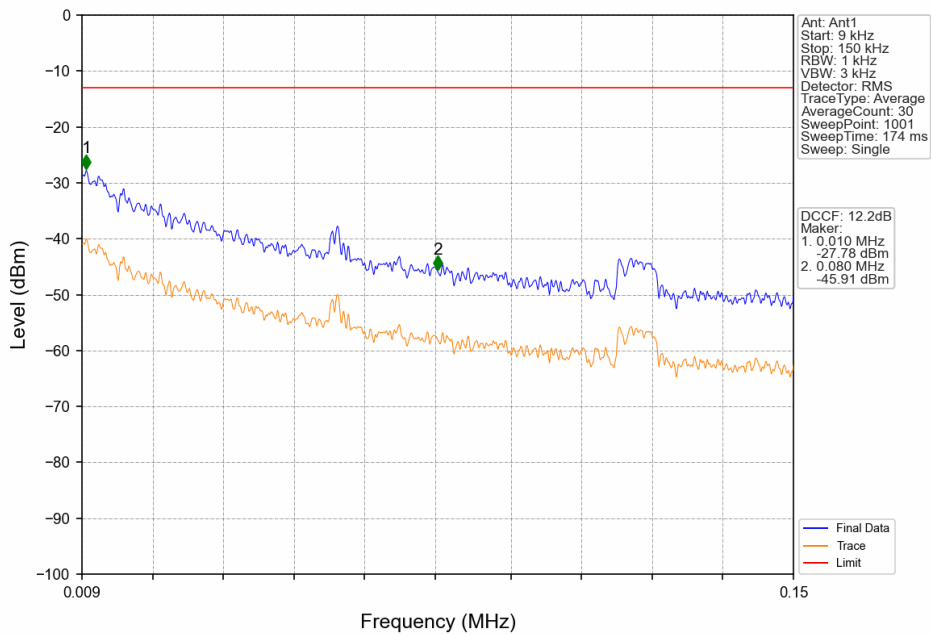
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GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV

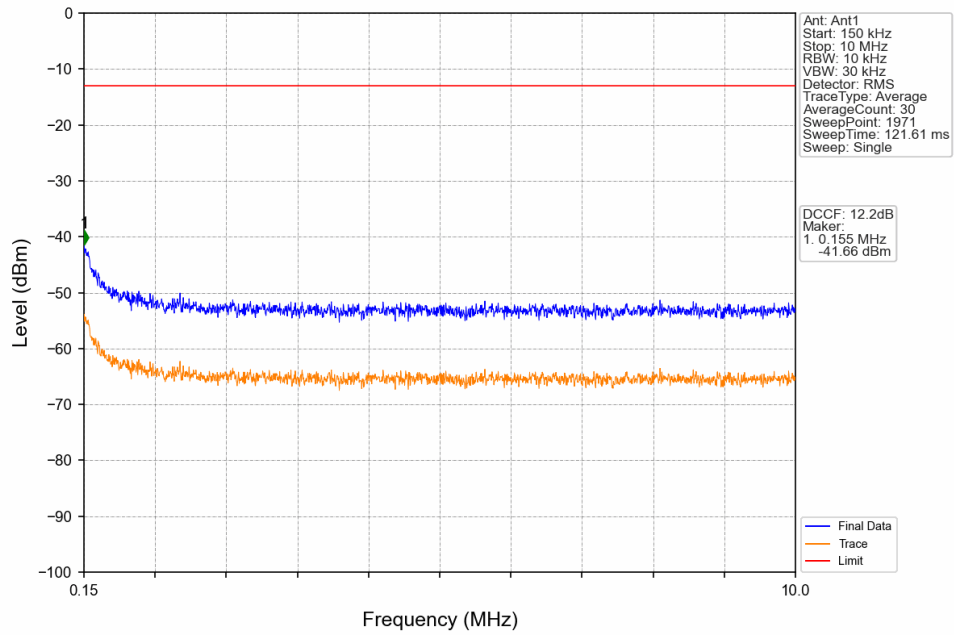


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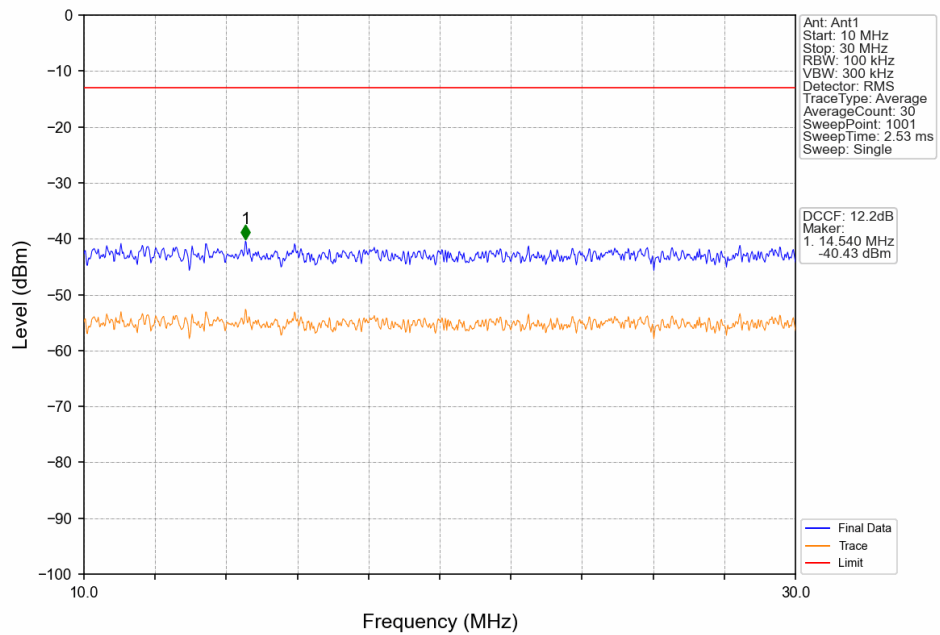




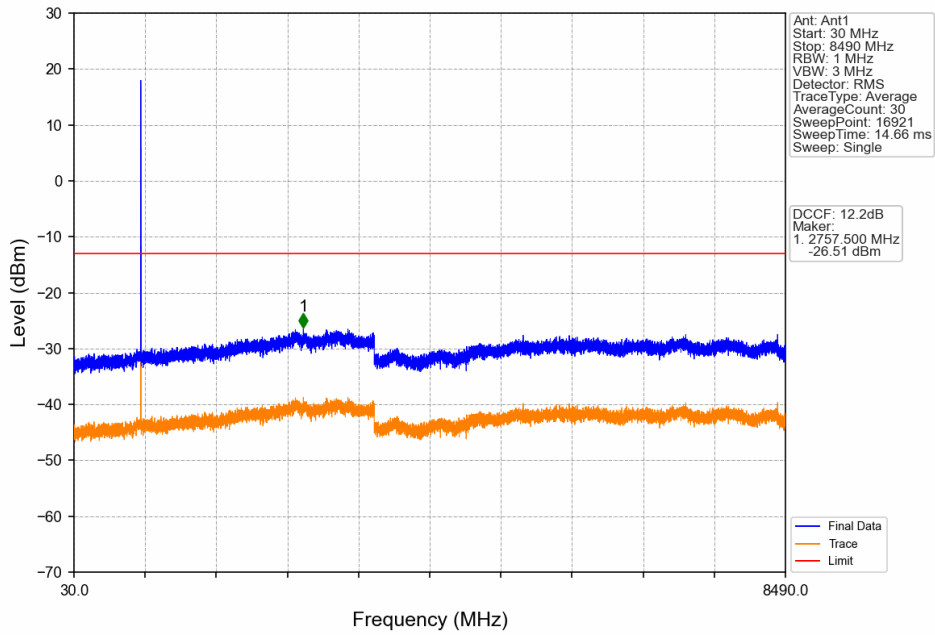
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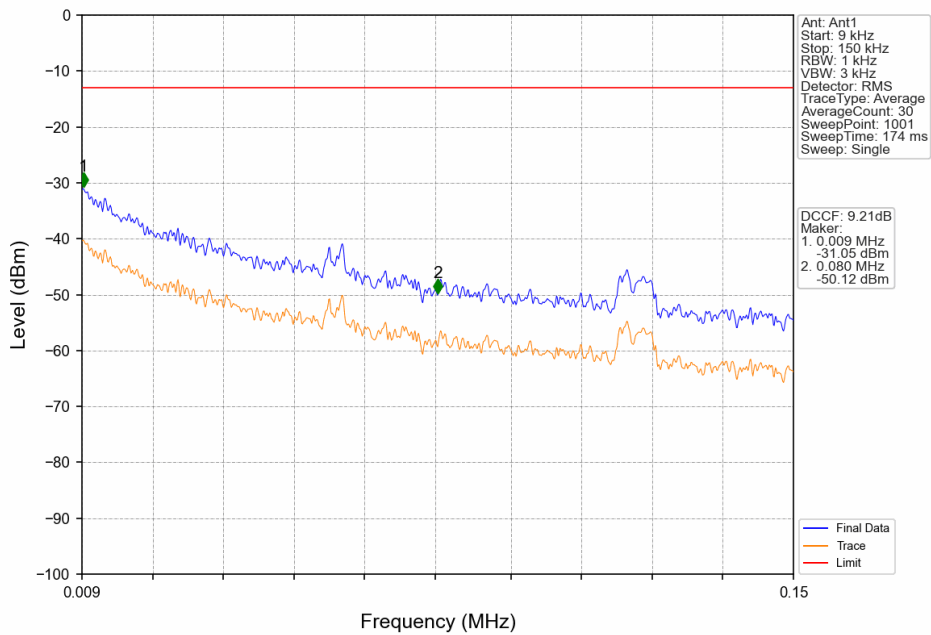
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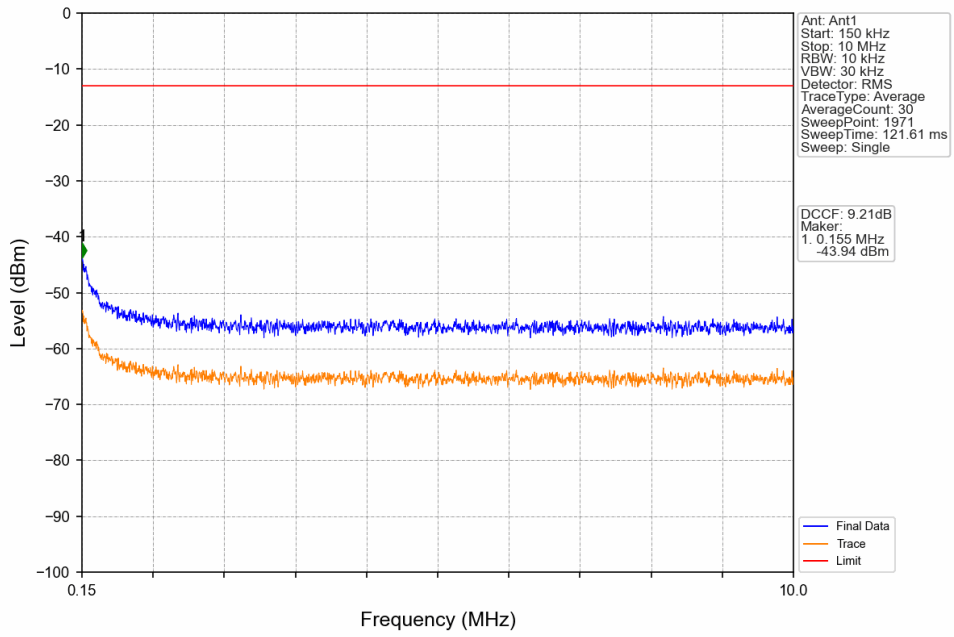
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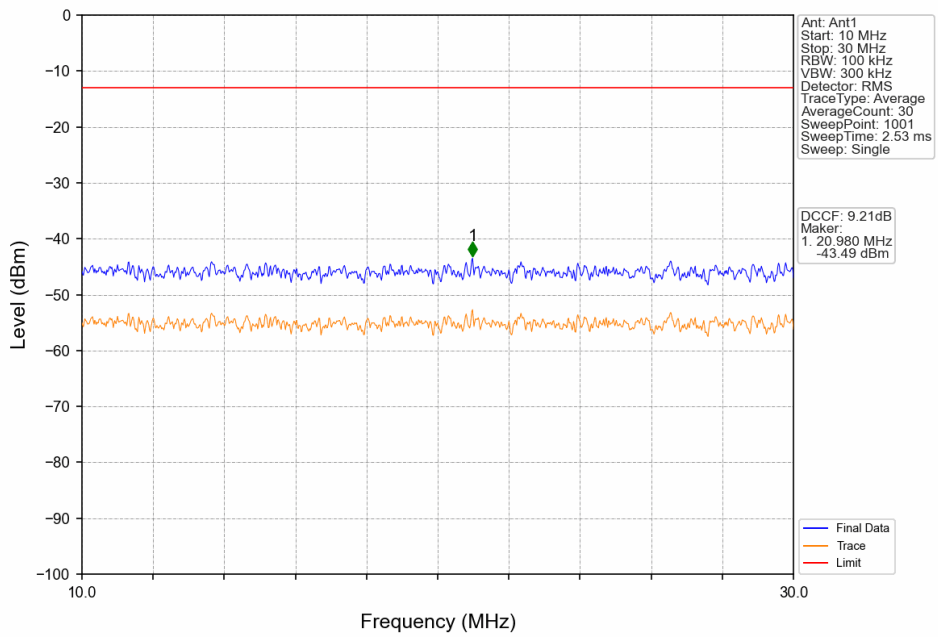
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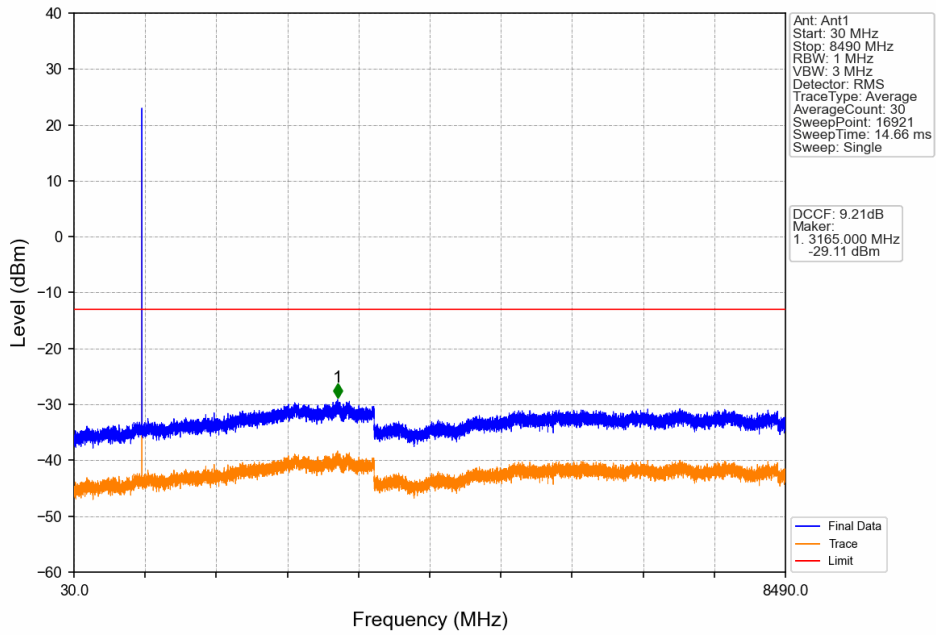
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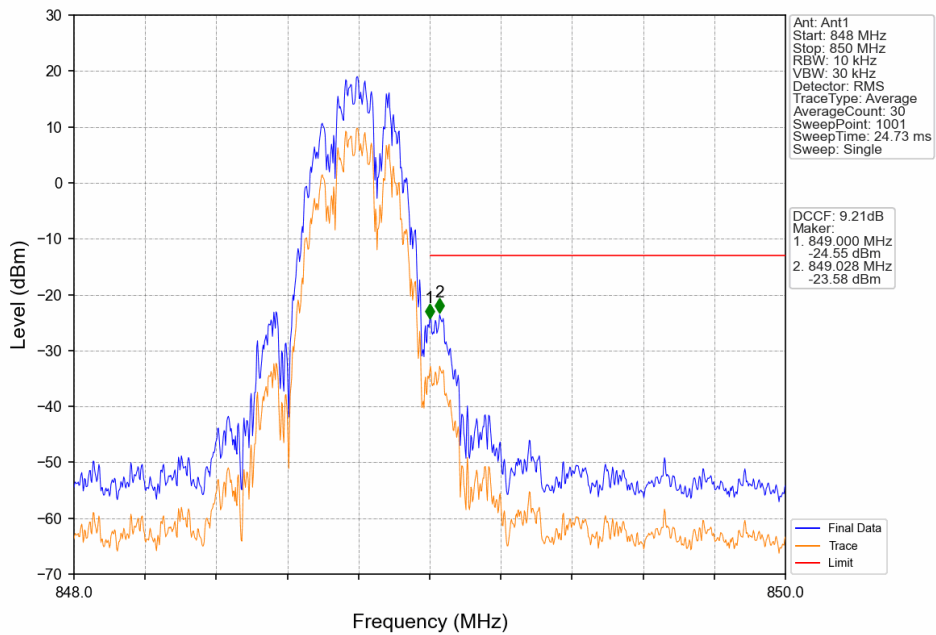
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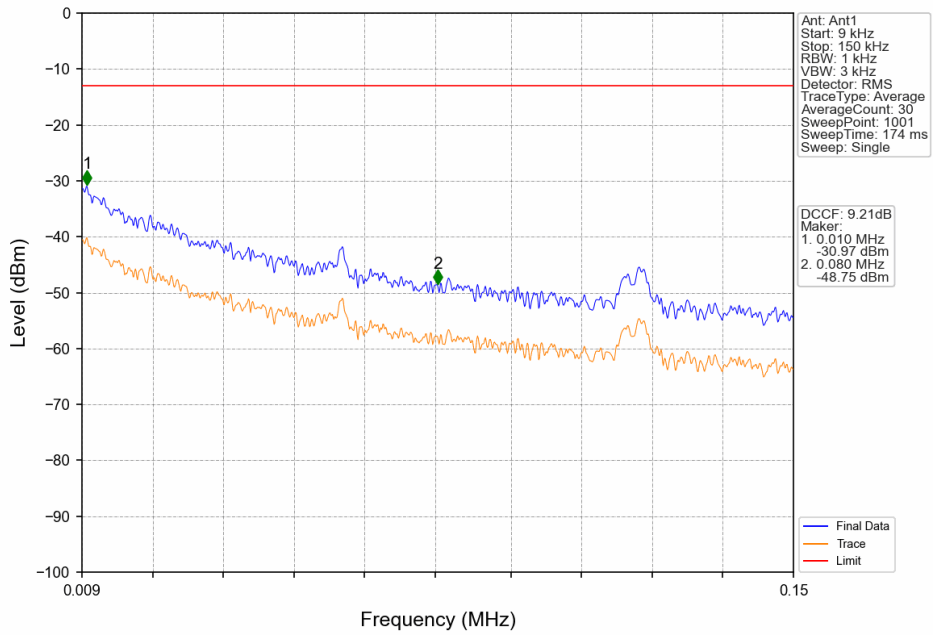
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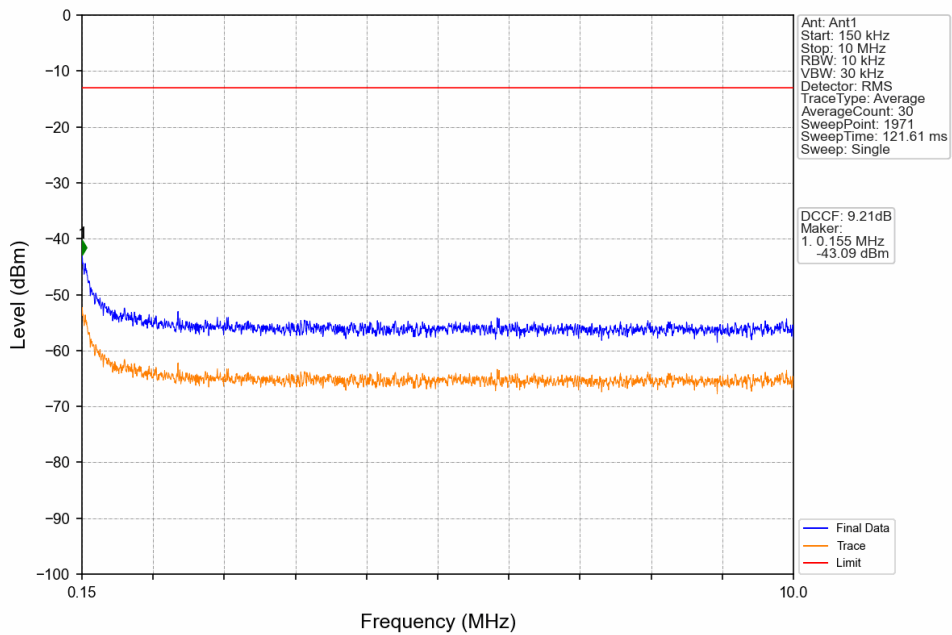
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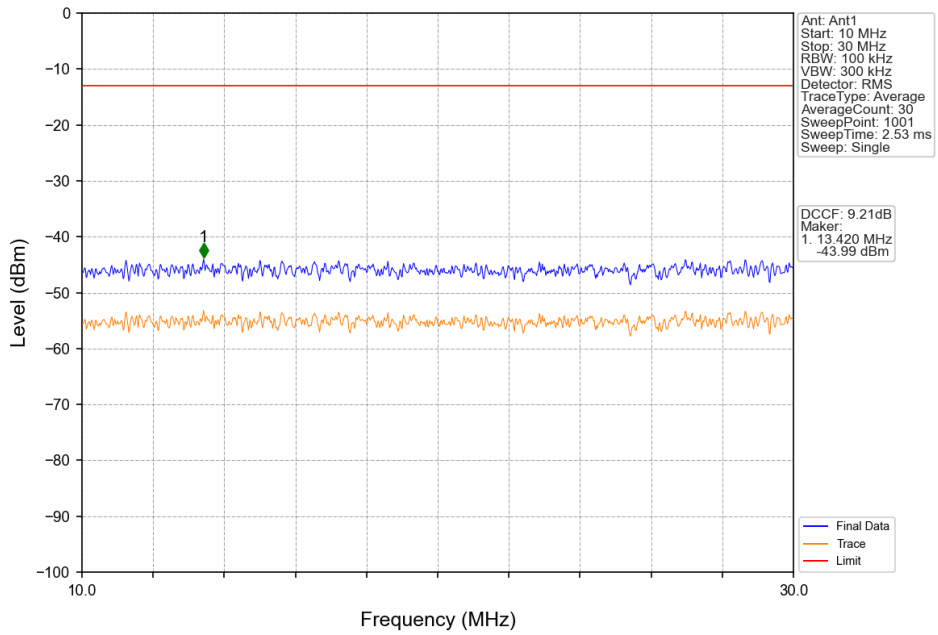
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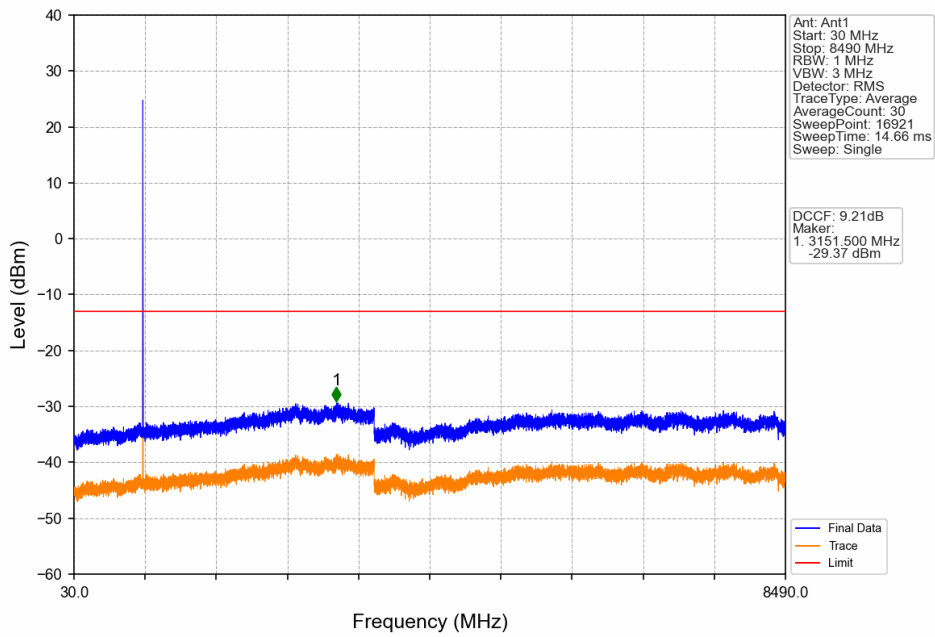
GSM850\_EGPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



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	1.5704	0.0140	ppm	248KGXW	22H	31.96
GSM850	0.2	824.2	848.8	2.6424	0.8956	ppm	255KG7W	22H	34.22

### 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	1.1041	0.0140	ppm	248KGXW	22H	30.43
GSM850	0.2	824.2	848.8	1.8578	0.8956	ppm	255KG7W	22H	32.69