

# 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	31.15	0.44	29.44	<=38.45	Pass		
			836.6	31.29	0.44	29.58	<=38.45	Pass		
			848.8	31.45	0.44	29.74	<=38.45	Pass		
	GPRS	1 TX Slot	824.2	31.17	0.44	29.46	<=38.45	Pass		
			824.2	29.29	0.44	27.58	<=38.45	Pass		
			824.2	27.36	0.44	25.65	<=38.45	Pass		
			824.2	25.18	0.44	23.47	<=38.45	Pass		
			836.6	31.23	0.44	29.52	<=38.45	Pass		
			836.6	29.21	0.44	27.5	<=38.45	Pass		
			836.6	27.30	0.44	25.59	<=38.45	Pass		
			836.6	25.13	0.44	23.42	<=38.45	Pass		
			848.8	31.42	0.44	29.71	<=38.45	Pass		
			848.8	29.20	0.44	27.49	<=38.45	Pass		
			848.8	27.25	0.44	25.54	<=38.45	Pass		
			848.8	25.06	0.44	23.35	<=38.45	Pass		
			EGPRS	1 TX Slot	824.2	25.01	0.44	23.3	<=38.45	Pass
					824.2	23.95	0.44	22.24	<=38.45	Pass
					824.2	21.96	0.44	20.25	<=38.45	Pass
					824.2	19.29	0.44	17.58	<=38.45	Pass
	836.6	24.66			0.44	22.95	<=38.45	Pass		
	836.6	23.65			0.44	21.94	<=38.45	Pass		
	836.6	23.08			0.44	21.37	<=38.45	Pass		
	836.6	19.14			0.44	17.43	<=38.45	Pass		
	848.8	24.39			0.44	22.68	<=38.45	Pass		
	848.8	23.67			0.44	21.96	<=38.45	Pass		
	848.8	21.52			0.44	19.81	<=38.45	Pass		
	848.8	19.09			0.44	17.38	<=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	3.23	3.939	0.0048	-2.5 to 2.5	Pass
			3.8	0.065	0.0001	-2.5 to 2.5	Pass

			4.37	0.323	0.0004	-2.5 to 2.5	Pass		
		-30	3.8	-1.582	-0.0019	-2.5 to 2.5	Pass		
		-20	3.8	1.905	0.0023	-2.5 to 2.5	Pass		
		-10	3.8	3.713	0.0045	-2.5 to 2.5	Pass		
		0	3.8	0.678	0.0008	-2.5 to 2.5	Pass		
		10	3.8	-2.777	-0.0034	-2.5 to 2.5	Pass		
		30	3.8	-3.551	-0.0043	-2.5 to 2.5	Pass		
		40	3.8	-4.423	-0.0054	-2.5 to 2.5	Pass		
		50	3.8	0.097	0.0001	-2.5 to 2.5	Pass		
	836.6	20		3.23	7.264	0.0087	-2.5 to 2.5	Pass	
				3.8	-9.686	-0.0116	-2.5 to 2.5	Pass	
				4.37	0.452	0.0005	-2.5 to 2.5	Pass	
		-30	3.8	-0.678	-0.0008	-2.5 to 2.5	Pass		
		-20	3.8	0.517	0.0006	-2.5 to 2.5	Pass		
		-10	3.8	-2.647	-0.0032	-2.5 to 2.5	Pass		
		0	3.8	0.194	0.0002	-2.5 to 2.5	Pass		
		10	3.8	3.842	0.0046	-2.5 to 2.5	Pass		
		30	3.8	-3.067	-0.0037	-2.5 to 2.5	Pass		
	40	3.8	-3.681	-0.0044	-2.5 to 2.5	Pass			
	50	3.8	0.936	0.0011	-2.5 to 2.5	Pass			
	848.8	20		3.23	1.098	0.0013	-2.5 to 2.5	Pass	
				3.8	1.065	0.0013	-2.5 to 2.5	Pass	
				4.37	4.552	0.0054	-2.5 to 2.5	Pass	
		-30	3.8	-2.551	-0.0030	-2.5 to 2.5	Pass		
		-20	3.8	-1.033	-0.0012	-2.5 to 2.5	Pass		
		-10	3.8	2.583	0.0030	-2.5 to 2.5	Pass		
		0	3.8	0.517	0.0006	-2.5 to 2.5	Pass		
		10	3.8	3.681	0.0043	-2.5 to 2.5	Pass		
		30	3.8	8.297	0.0098	-2.5 to 2.5	Pass		
	40	3.8	2.292	0.0027	-2.5 to 2.5	Pass			
	50	3.8	2.647	0.0031	-2.5 to 2.5	Pass			
	GPRS	824.2	20		3.23	4.585	0.0056	-2.5 to 2.5	Pass
					3.8	-1.937	-0.0024	-2.5 to 2.5	Pass
				4.37	3.390	0.0041	-2.5 to 2.5	Pass	
-30			3.8	-0.549	-0.0007	-2.5 to 2.5	Pass		
-20			3.8	-0.420	-0.0005	-2.5 to 2.5	Pass		
-10			3.8	-3.777	-0.0046	-2.5 to 2.5	Pass		
0			3.8	3.455	0.0042	-2.5 to 2.5	Pass		
10			3.8	0.000	0.0000	-2.5 to 2.5	Pass		
30			3.8	-0.807	-0.0010	-2.5 to 2.5	Pass		
40		3.8	2.486	0.0030	-2.5 to 2.5	Pass			
50		3.8	-2.099	-0.0025	-2.5 to 2.5	Pass			
836.6		20		3.23	6.877	0.0082	-2.5 to 2.5	Pass	
				3.8	8.523	0.0102	-2.5 to 2.5	Pass	
				4.37	9.105	0.0109	-2.5 to 2.5	Pass	
		-30	3.8	10.945	0.0131	-2.5 to 2.5	Pass		
		-20	3.8	4.585	0.0055	-2.5 to 2.5	Pass		
		-10	3.8	4.746	0.0057	-2.5 to 2.5	Pass		
		0	3.8	4.100	0.0049	-2.5 to 2.5	Pass		
		10	3.8	2.228	0.0027	-2.5 to 2.5	Pass		
		30	3.8	5.585	0.0067	-2.5 to 2.5	Pass		
40		3.8	1.324	0.0016	-2.5 to 2.5	Pass			
50		3.8	4.488	0.0054	-2.5 to 2.5	Pass			
848.8		20		3.23	3.422	0.0040	-2.5 to 2.5	Pass	
				3.8	5.779	0.0068	-2.5 to 2.5	Pass	

			4.37	2.938	0.0035	-2.5 to 2.5	Pass
		-30	3.8	7.490	0.0088	-2.5 to 2.5	Pass
		-20	3.8	2.228	0.0026	-2.5 to 2.5	Pass
		-10	3.8	3.810	0.0045	-2.5 to 2.5	Pass
		0	3.8	6.812	0.0080	-2.5 to 2.5	Pass
		10	3.8	4.811	0.0057	-2.5 to 2.5	Pass
		30	3.8	3.487	0.0041	-2.5 to 2.5	Pass
		40	3.8	5.392	0.0064	-2.5 to 2.5	Pass
		50	3.8	3.713	0.0044	-2.5 to 2.5	Pass
EGPRS	824.2	20	3.23	4.133	0.0050	-2.5 to 2.5	Pass
			3.8	-0.581	-0.0007	-2.5 to 2.5	Pass
			4.37	3.325	0.0040	-2.5 to 2.5	Pass
		-30	3.8	0.194	0.0002	-2.5 to 2.5	Pass
		-20	3.8	3.455	0.0042	-2.5 to 2.5	Pass
		-10	3.8	3.648	0.0044	-2.5 to 2.5	Pass
		0	3.8	2.841	0.0034	-2.5 to 2.5	Pass
		10	3.8	1.356	0.0016	-2.5 to 2.5	Pass
		30	3.8	1.743	0.0021	-2.5 to 2.5	Pass
		40	3.8	1.453	0.0018	-2.5 to 2.5	Pass
	50	3.8	3.229	0.0039	-2.5 to 2.5	Pass	
	836.6	20	3.23	2.163	0.0026	-2.5 to 2.5	Pass
			3.8	-1.776	-0.0021	-2.5 to 2.5	Pass
			4.37	2.712	0.0032	-2.5 to 2.5	Pass
		-30	3.8	-2.357	-0.0028	-2.5 to 2.5	Pass
		-20	3.8	-0.484	-0.0006	-2.5 to 2.5	Pass
		-10	3.8	3.035	0.0036	-2.5 to 2.5	Pass
		0	3.8	5.650	0.0068	-2.5 to 2.5	Pass
		10	3.8	1.421	0.0017	-2.5 to 2.5	Pass
		30	3.8	3.229	0.0039	-2.5 to 2.5	Pass
		40	3.8	2.841	0.0034	-2.5 to 2.5	Pass
	50	3.8	1.195	0.0014	-2.5 to 2.5	Pass	
	848.8	20	3.23	0.807	0.0010	-2.5 to 2.5	Pass
			3.8	2.841	0.0033	-2.5 to 2.5	Pass
			4.37	10.977	0.0129	-2.5 to 2.5	Pass
		-30	3.8	-0.291	-0.0003	-2.5 to 2.5	Pass
		-20	3.8	7.716	0.0091	-2.5 to 2.5	Pass
		-10	3.8	5.424	0.0064	-2.5 to 2.5	Pass
		0	3.8	4.391	0.0052	-2.5 to 2.5	Pass
		10	3.8	1.453	0.0017	-2.5 to 2.5	Pass
30		3.8	6.102	0.0072	-2.5 to 2.5	Pass	
40		3.8	1.743	0.0021	-2.5 to 2.5	Pass	
50	3.8	6.522	0.0077	-2.5 to 2.5	Pass		

### 3. Modulation Characteristics

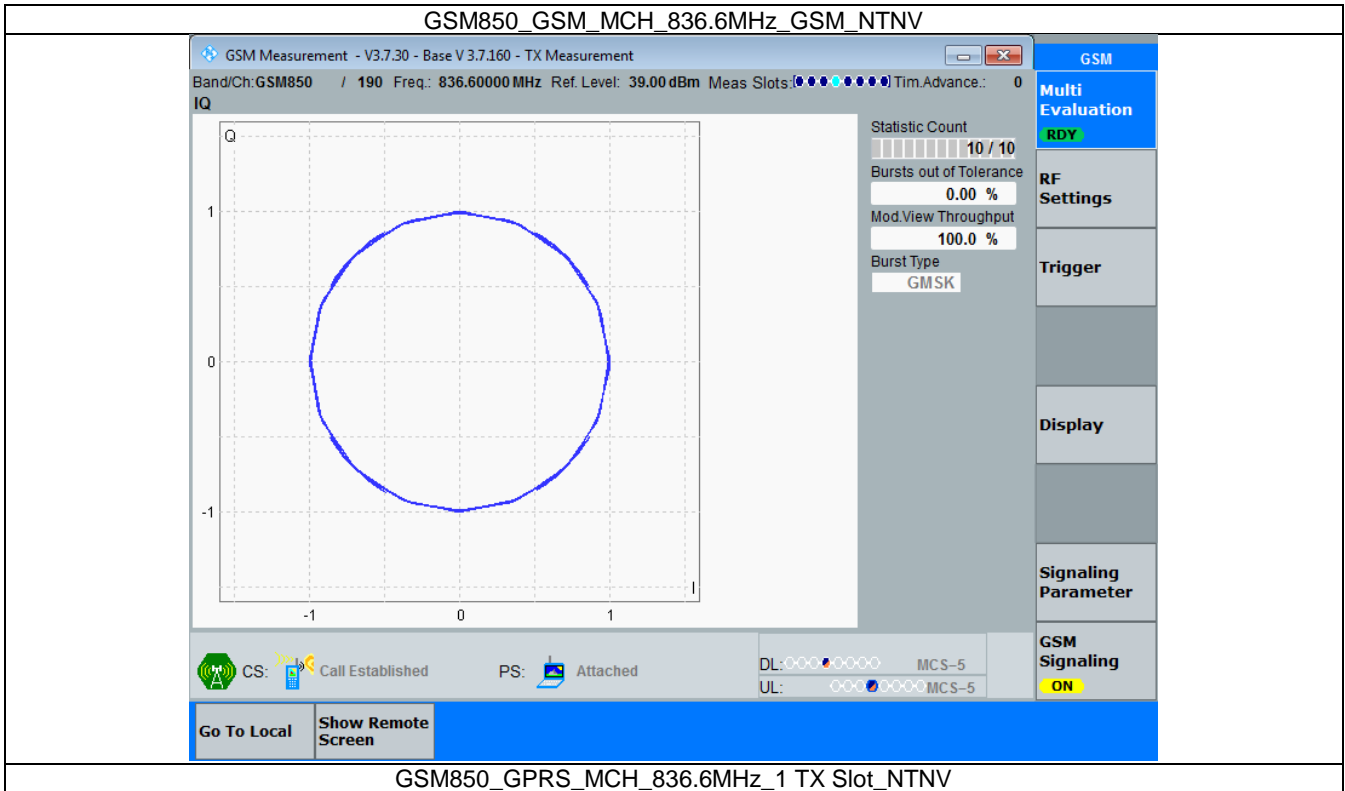
#### 3.1 GSM850

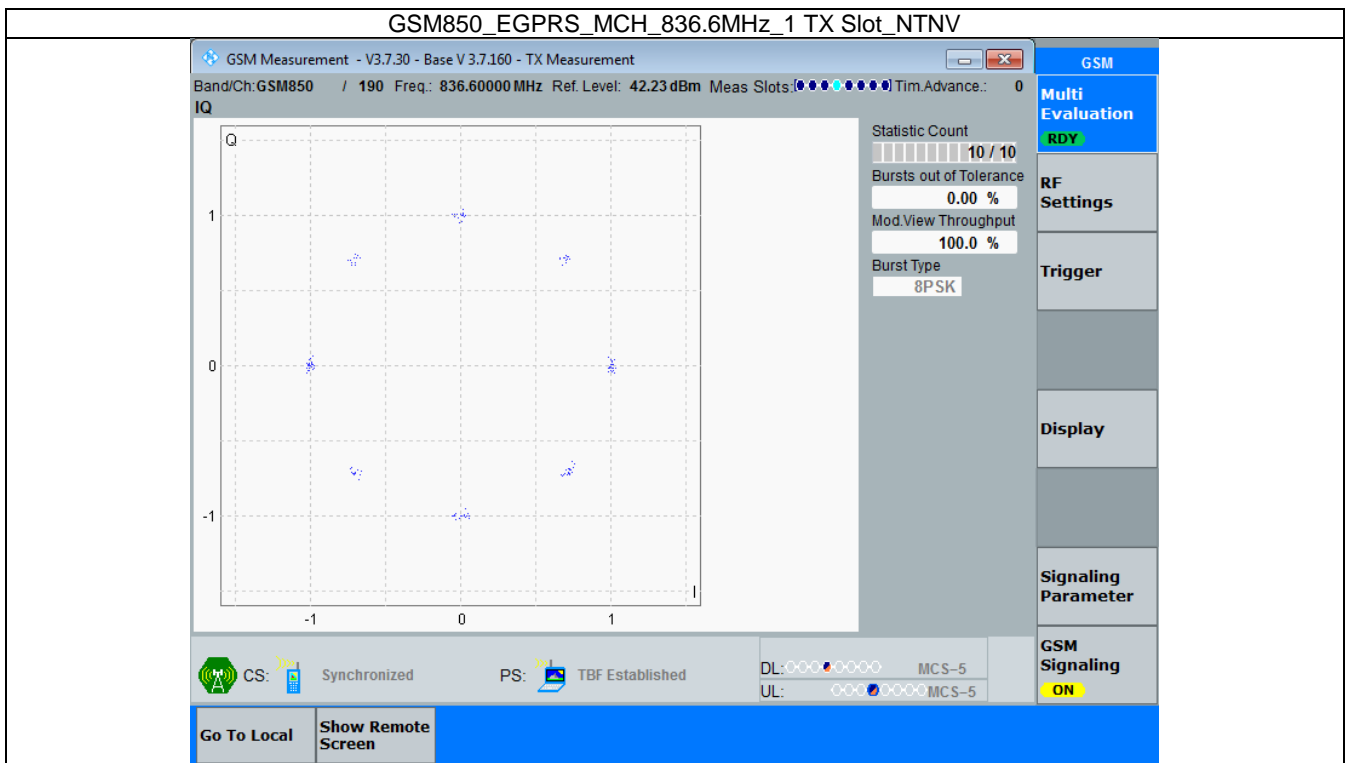
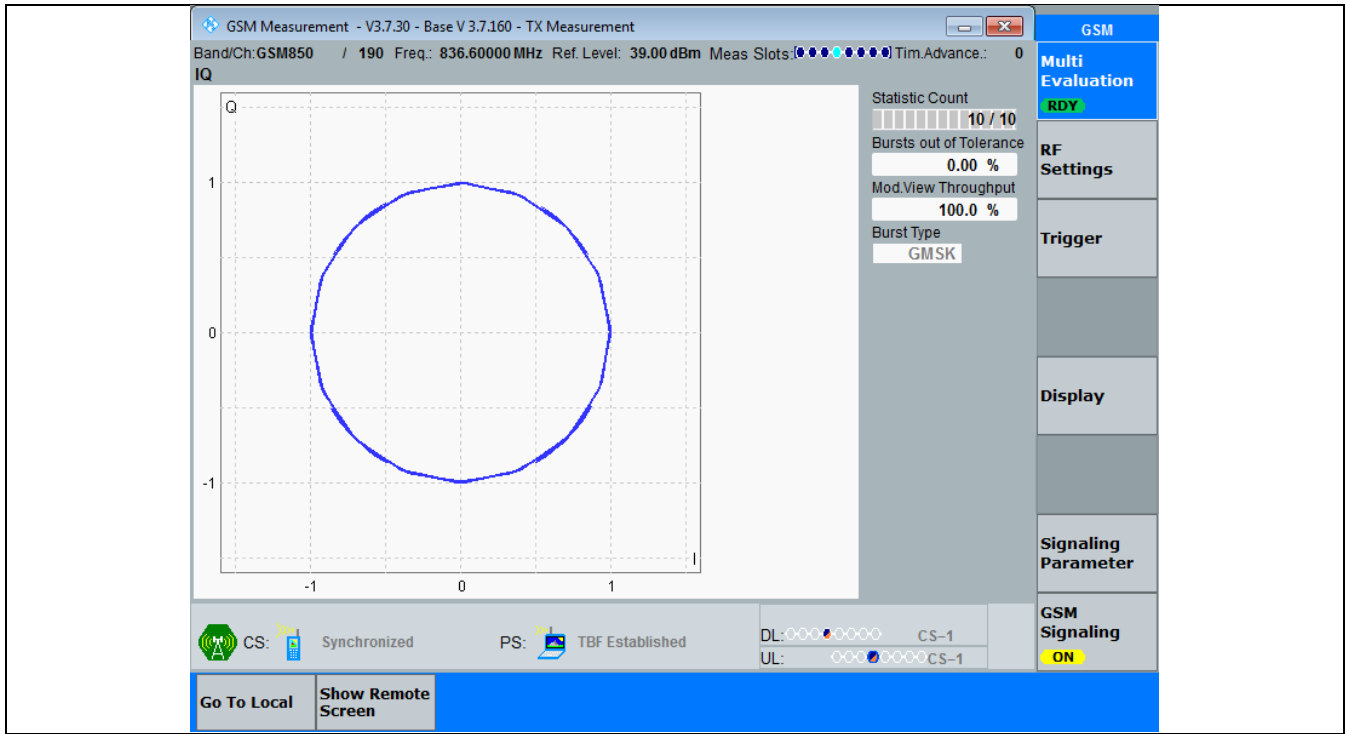
##### 3.1.1 Test Result

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





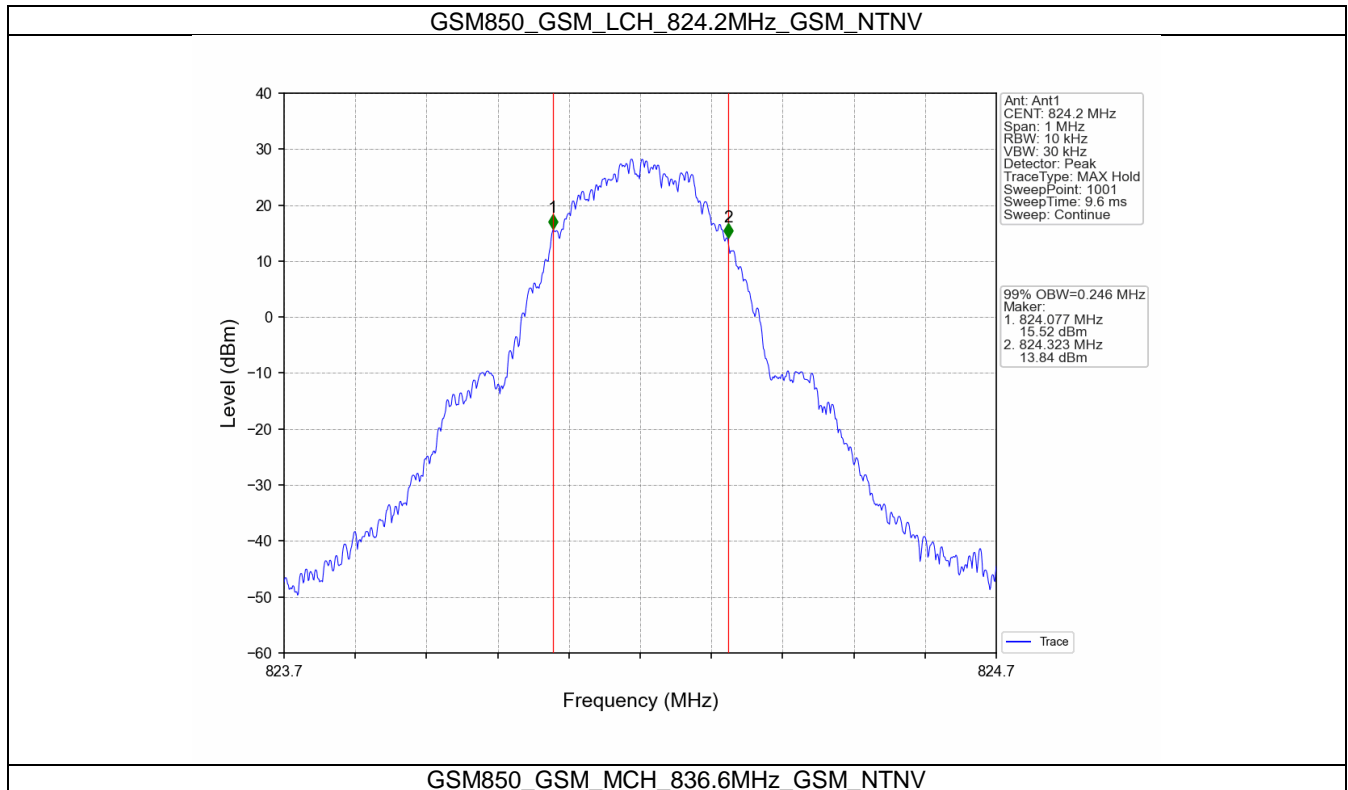
## 4. 99% & 26dB Bandwidth

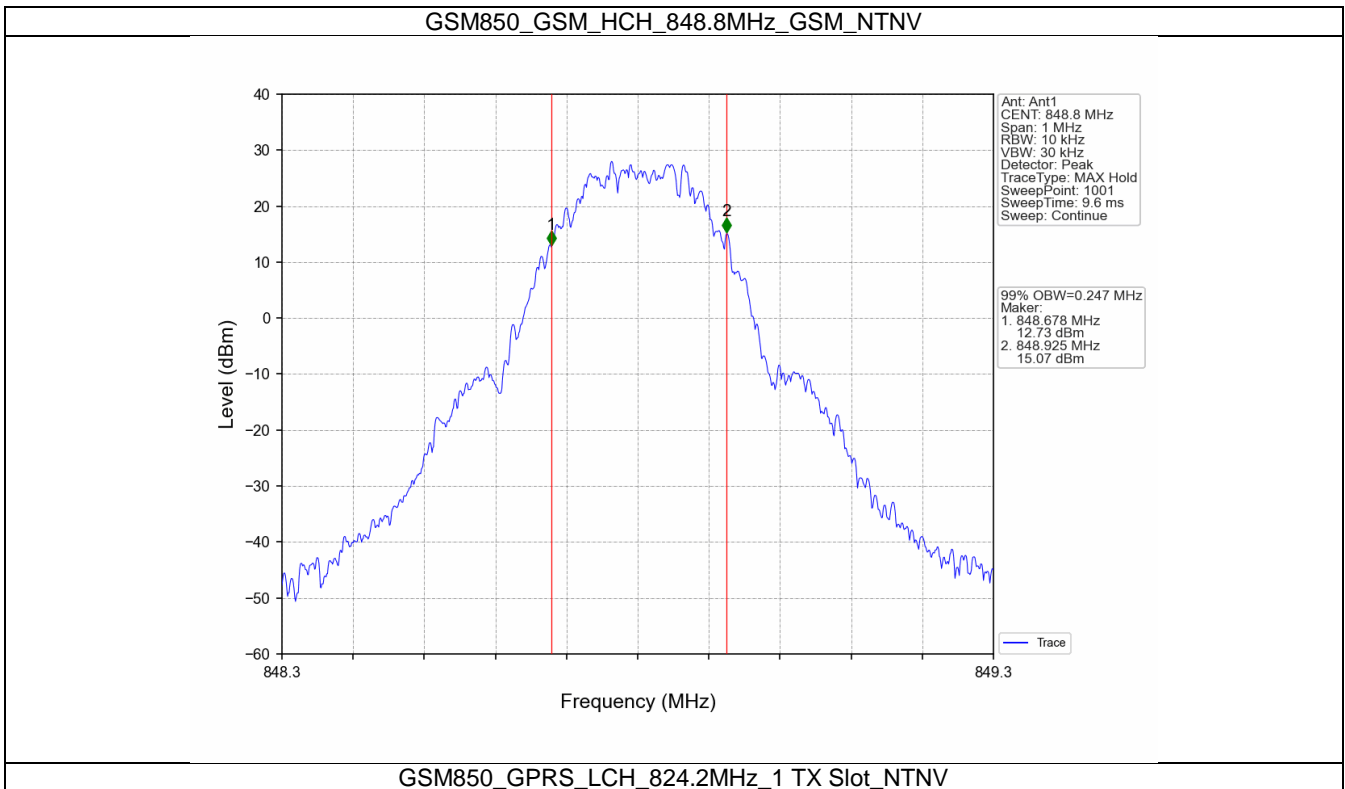
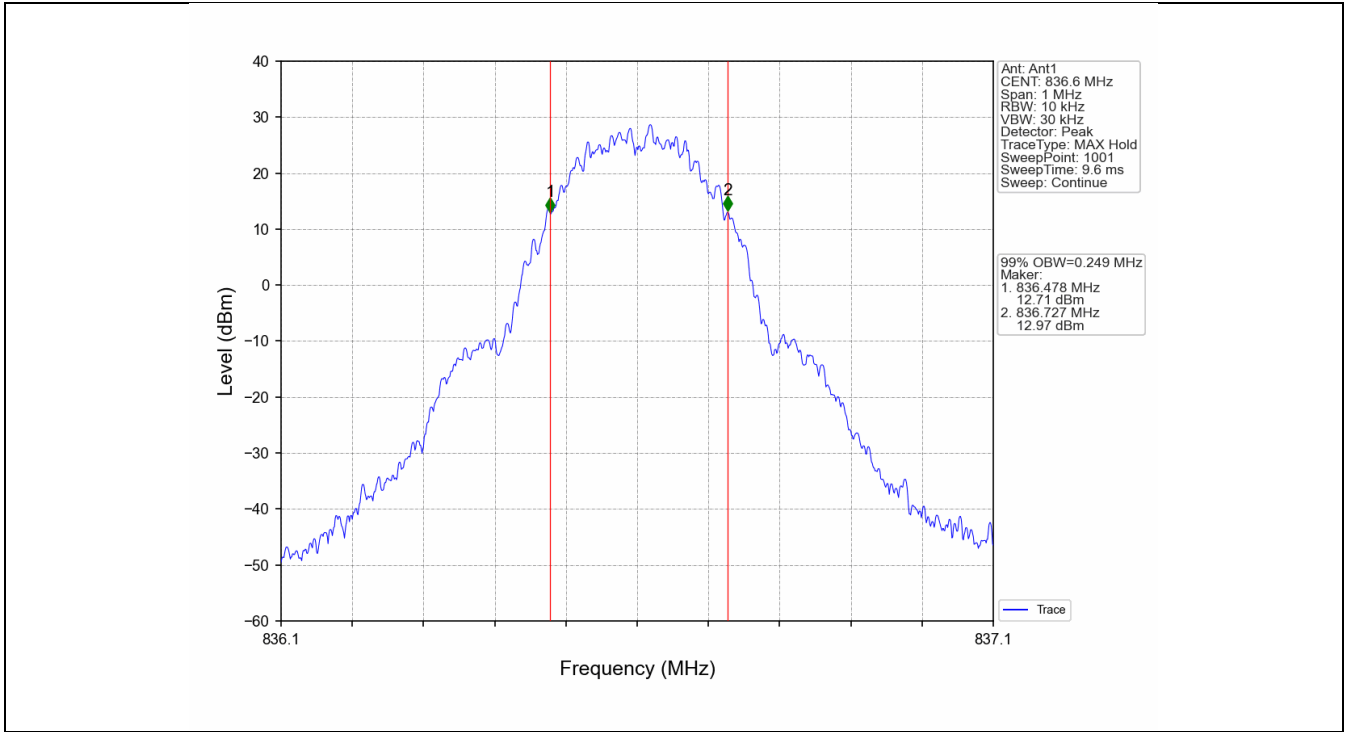
### 4.1 GSM850\_OBW

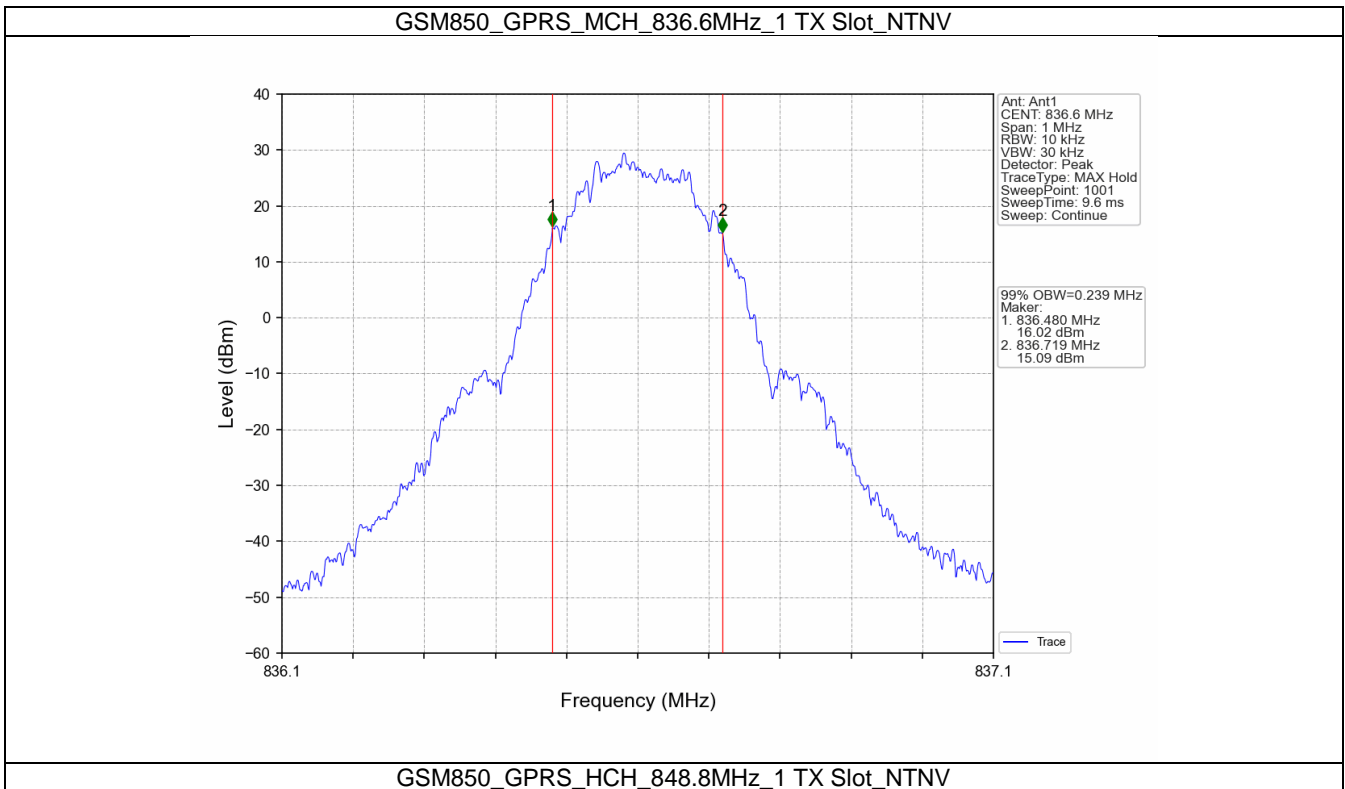
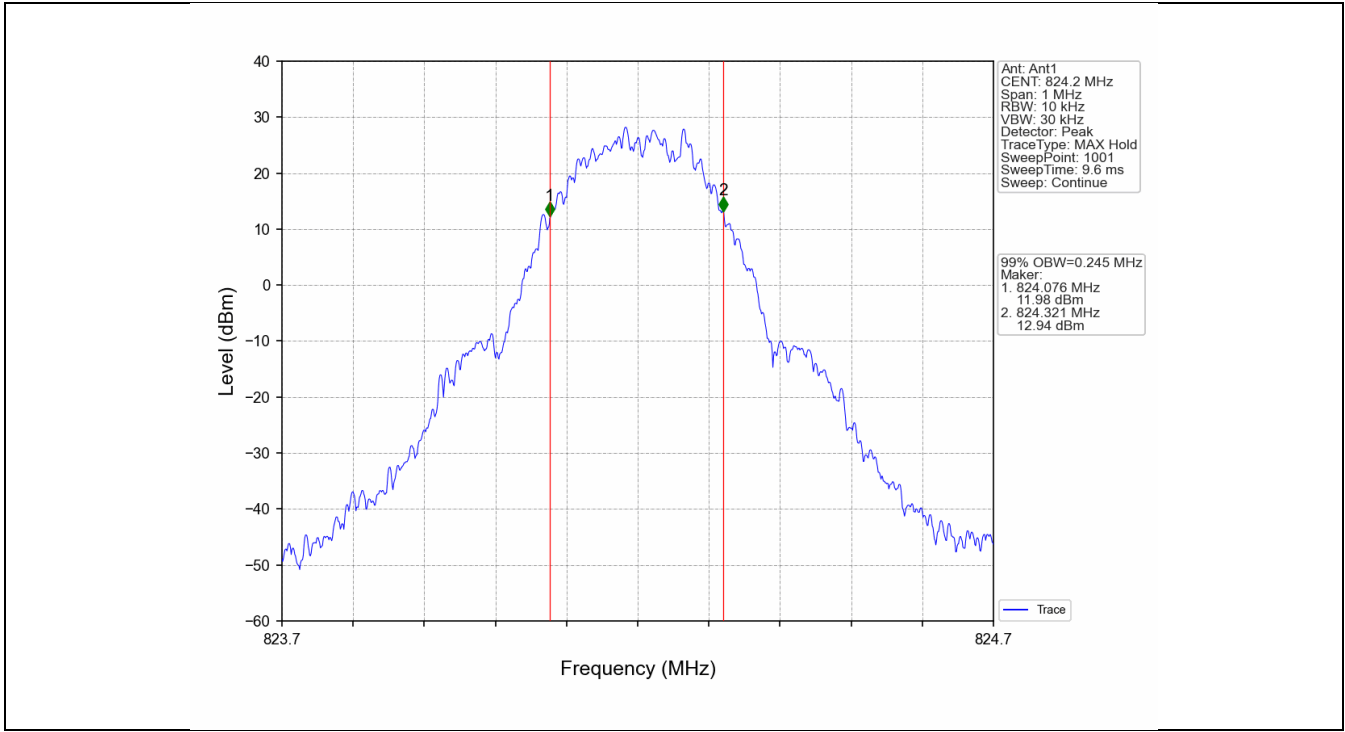
#### 4.1.1 Test Result

Band: GSM850					
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)	Verdict
	Network	Subset		Result	
NTNV	GSM	GSM	824.2	0.246	Pass
			836.6	0.249	Pass
			848.8	0.247	Pass
	GPRS	1 TX Slot	824.2	0.245	Pass
			836.6	0.239	Pass
			848.8	0.242	Pass
	EGPRS	1 TX Slot	824.2	0.239	Pass
			836.6	0.245	Pass
			848.8	0.236	Pass

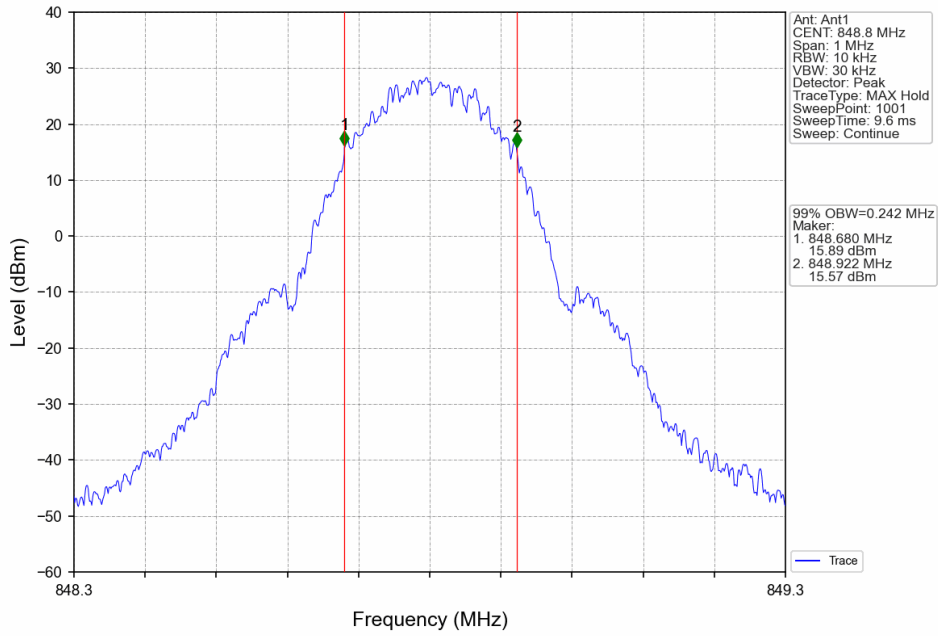
#### 4.1.2 Test Graph



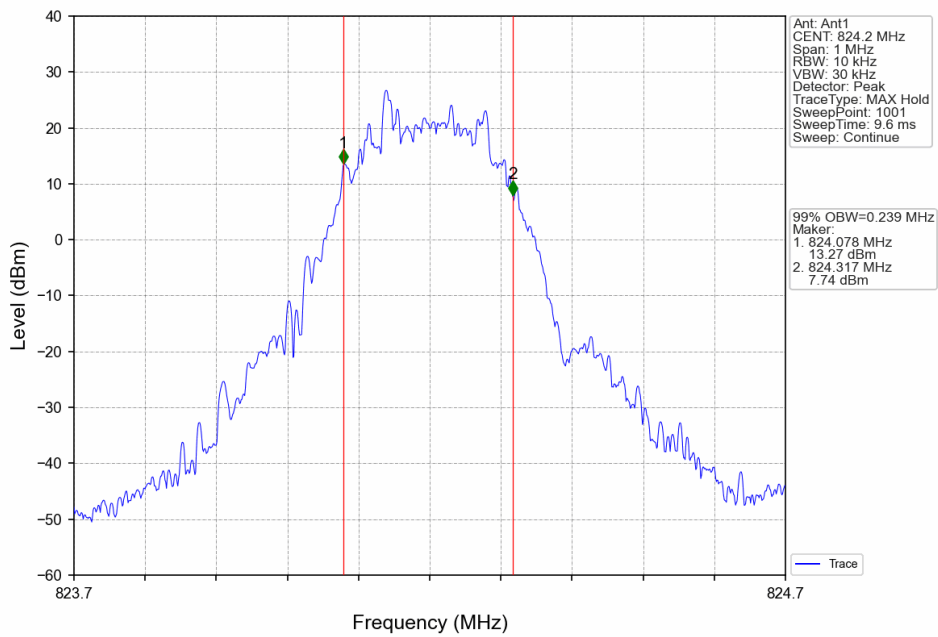




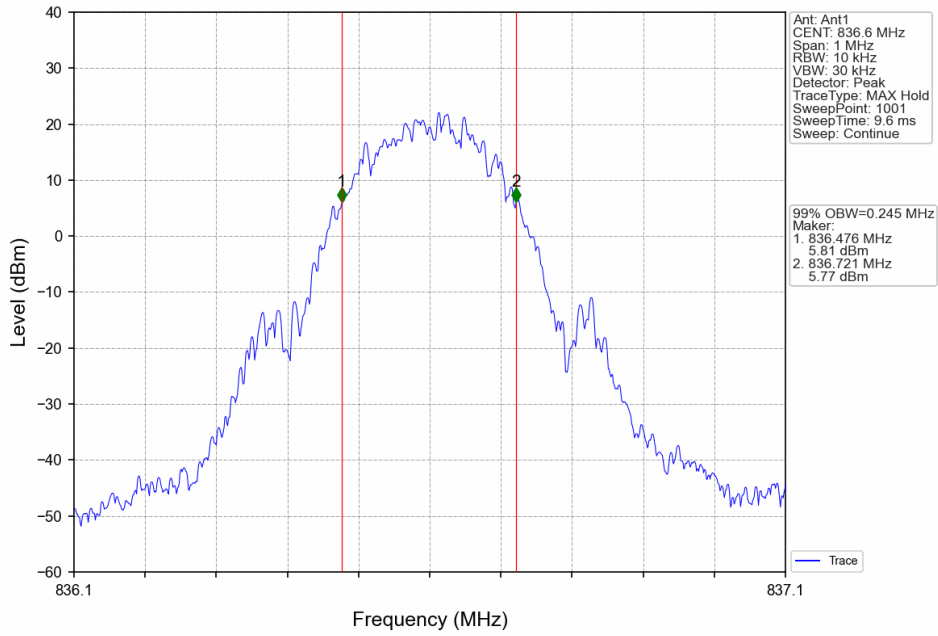




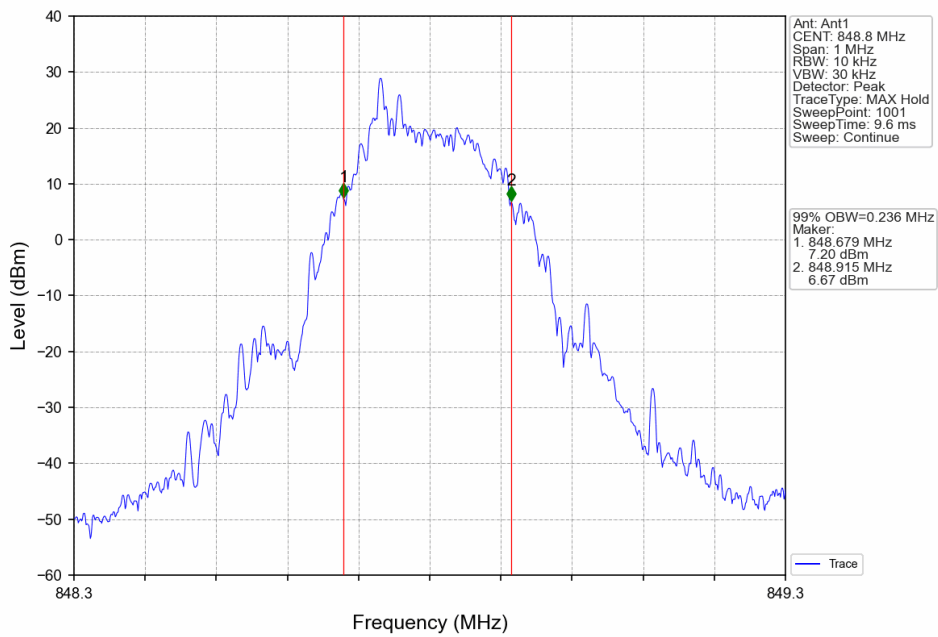
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



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



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

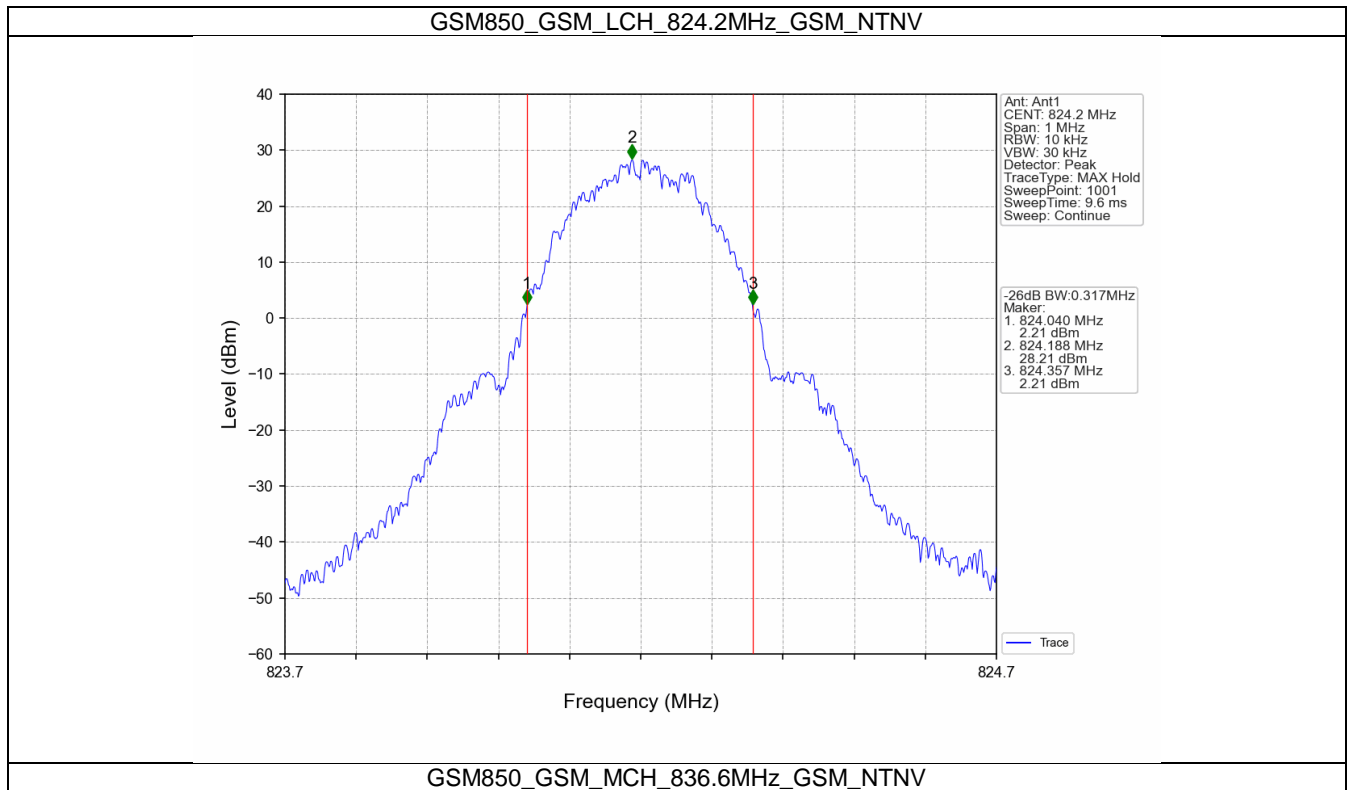


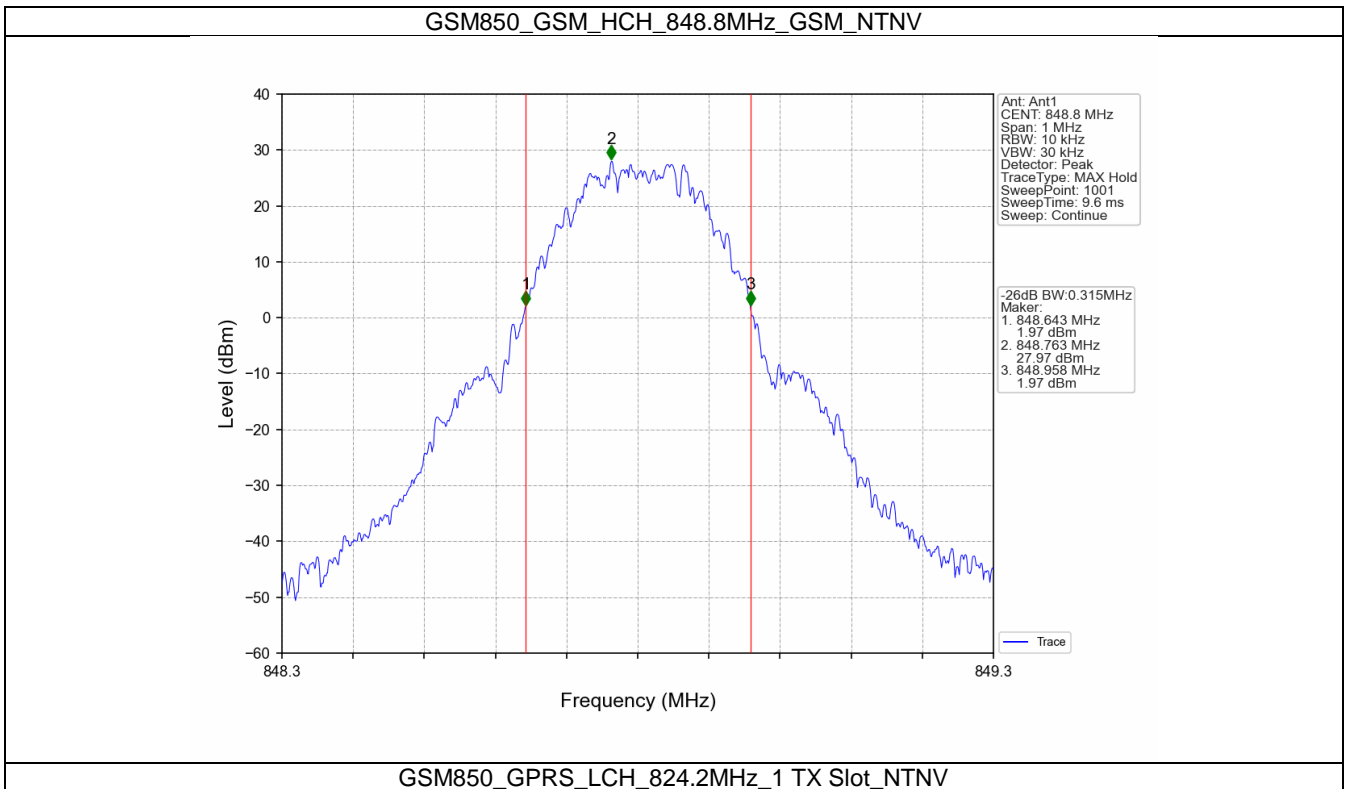
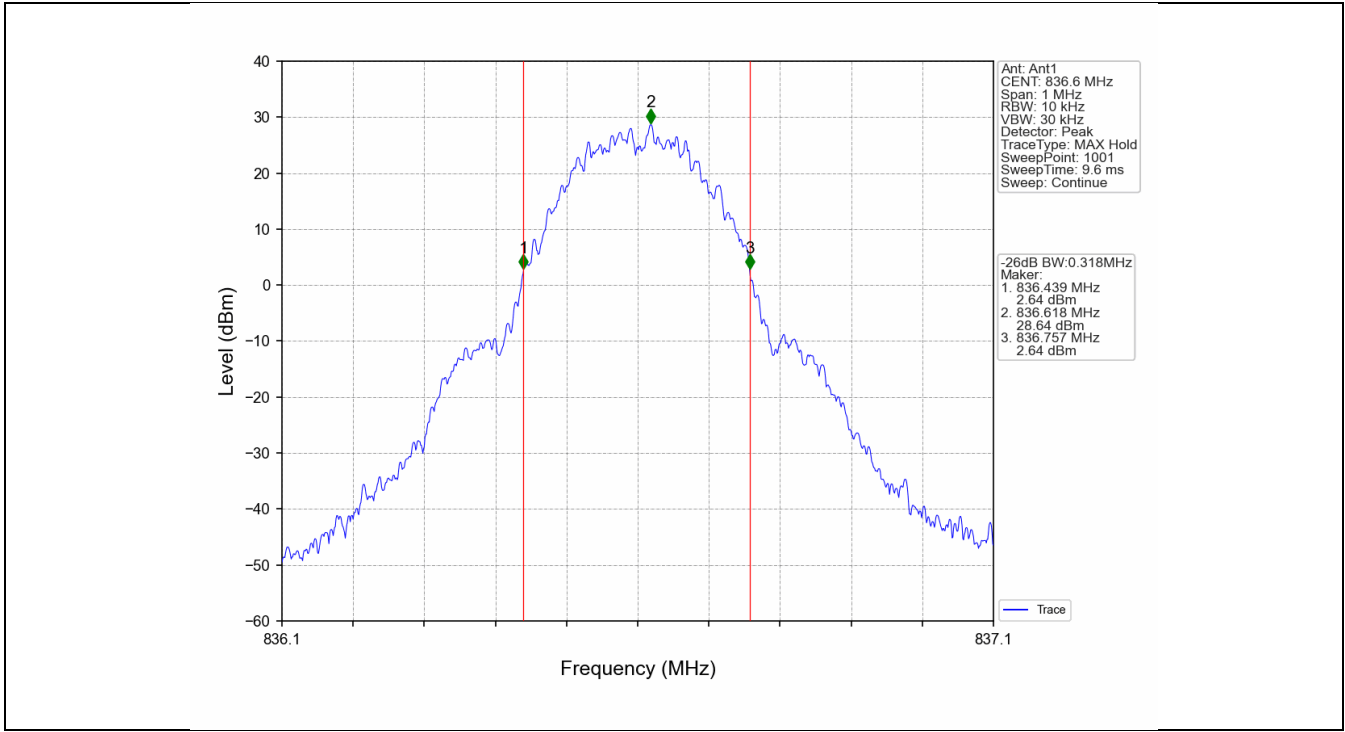
## 4.2 GSM850\_XDB

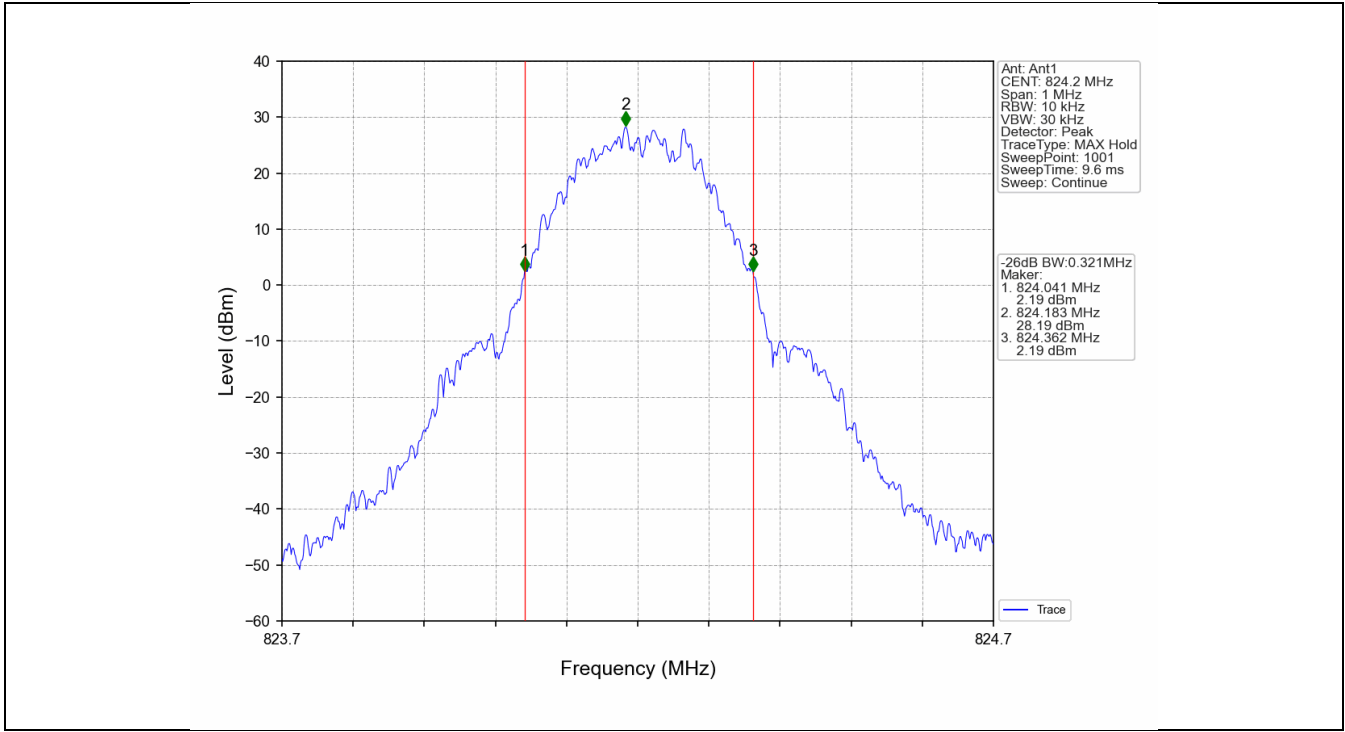
### 4.2.1 Test Result

Band: GSM850					
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)	Verdict
	Network	Subset		Result	
NTNV	GSM	GSM	824.2	0.317	Pass
			836.6	0.318	Pass
			848.8	0.315	Pass
	GPRS	1 TX Slot	824.2	0.321	Pass
			836.6	0.306	Pass
			848.8	0.318	Pass
	EGPRS	1 TX Slot	824.2	0.290	Pass
			836.6	0.311	Pass
			848.8	0.286	Pass

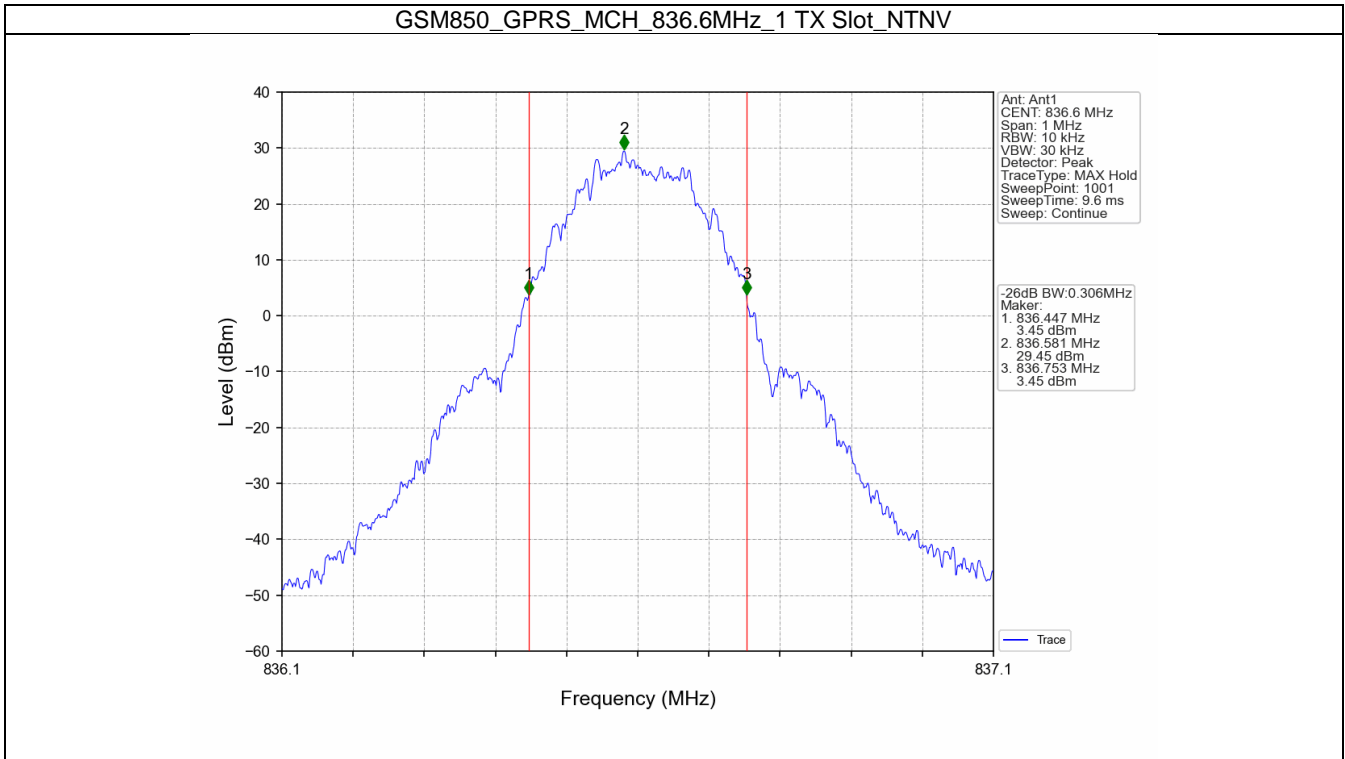
### 4.2.2 Test Graph



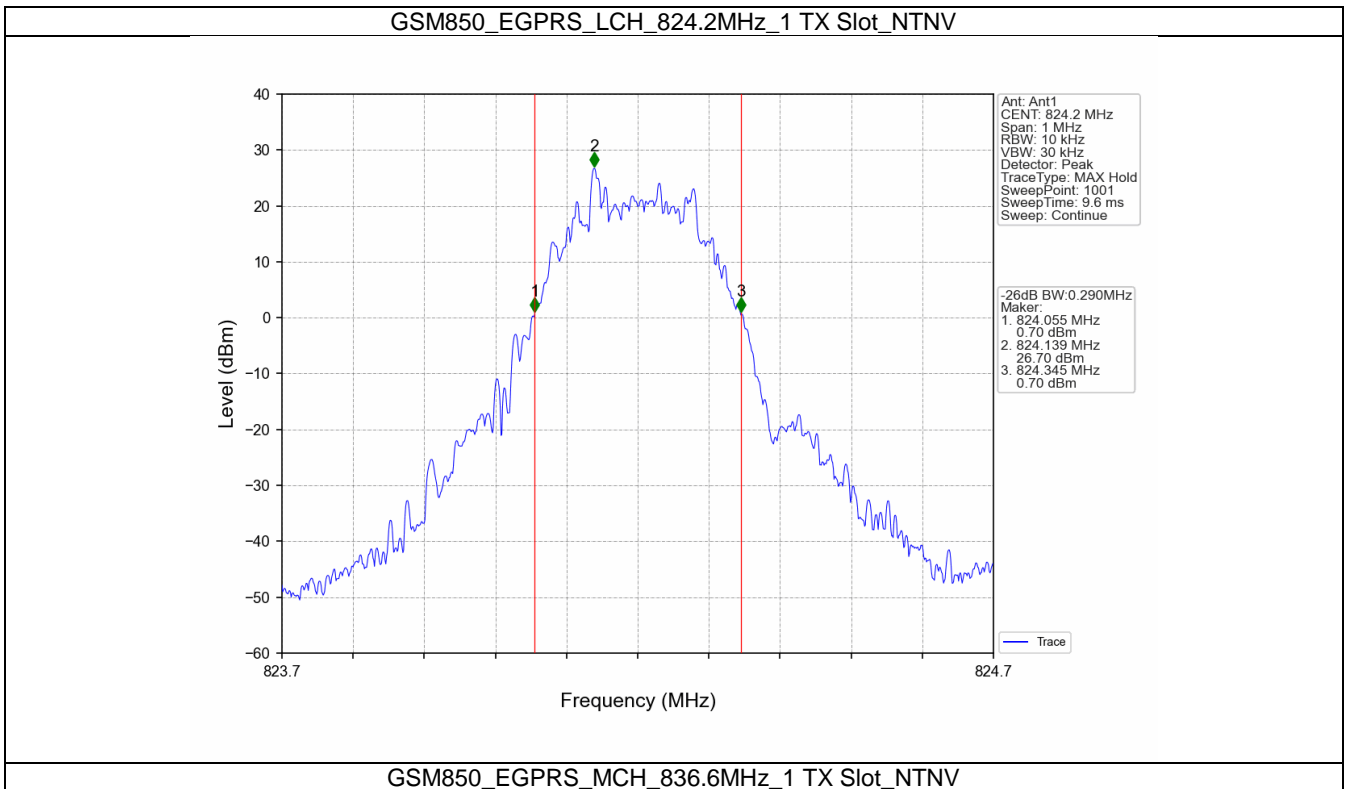
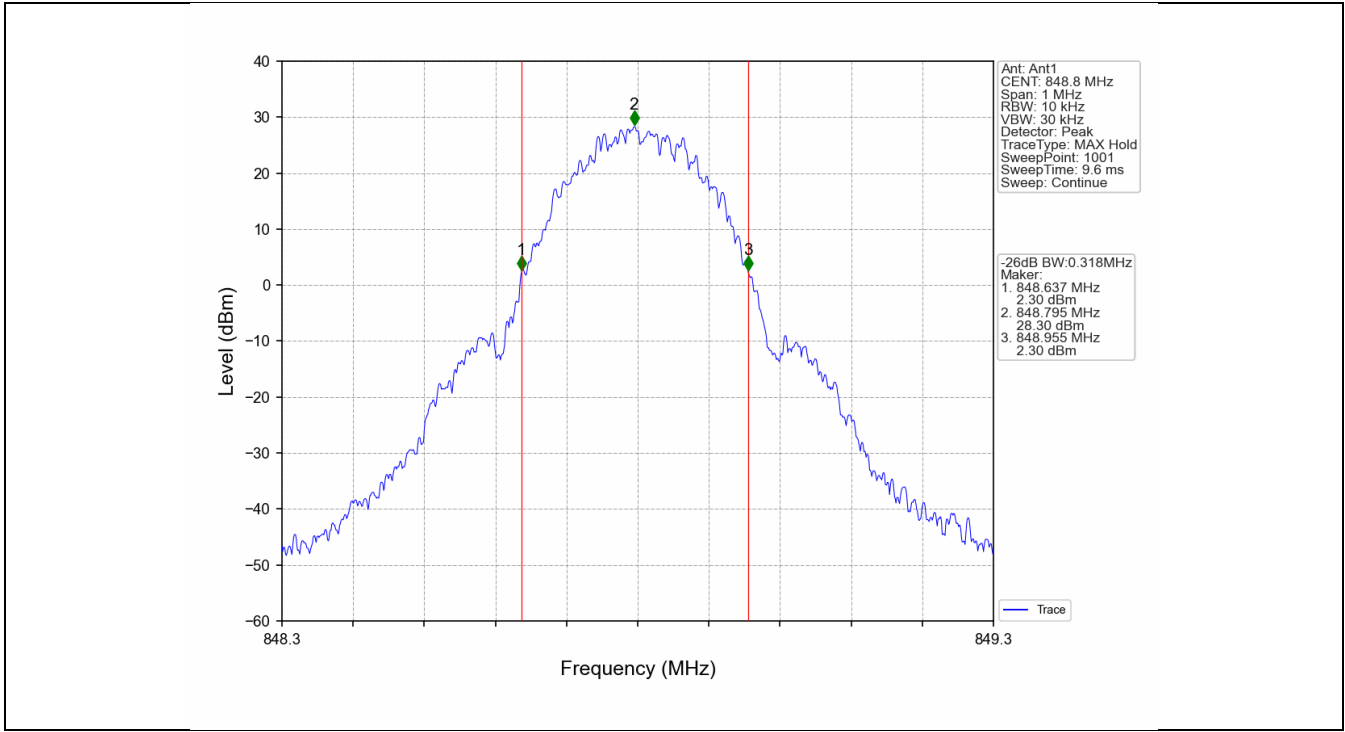


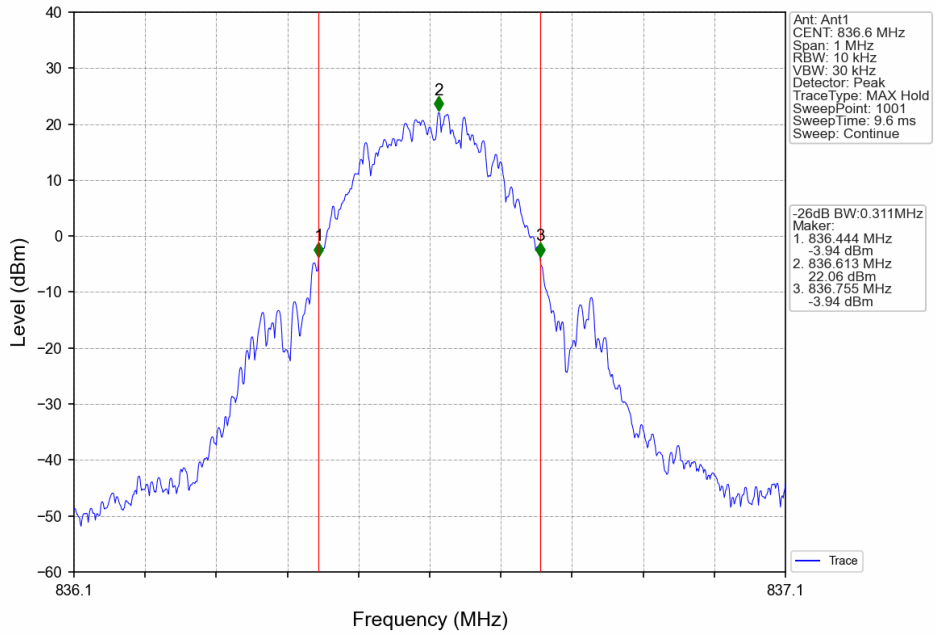


GSM850\_GPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV

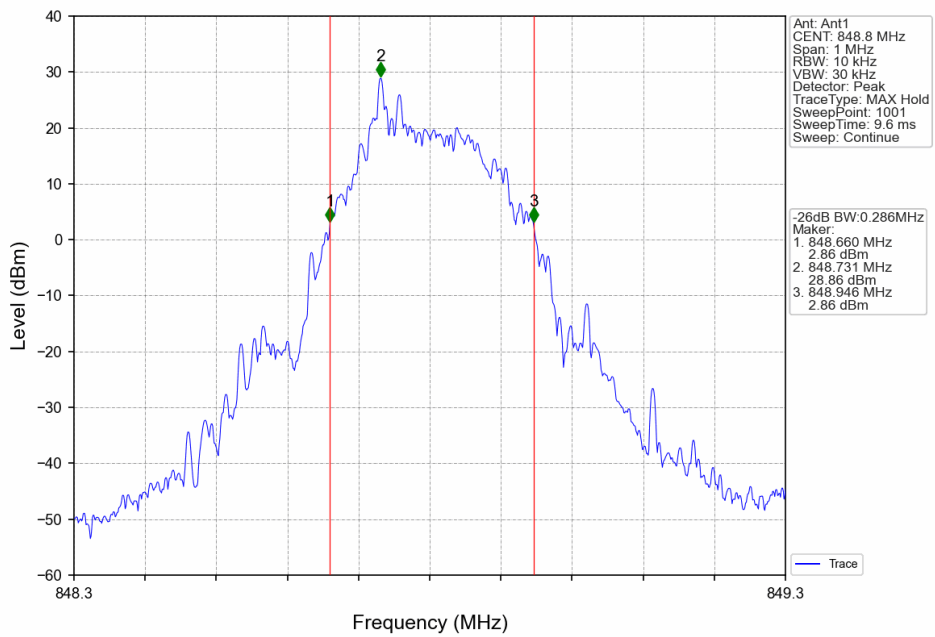


GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV





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



## 5. Peak-Average Ratio

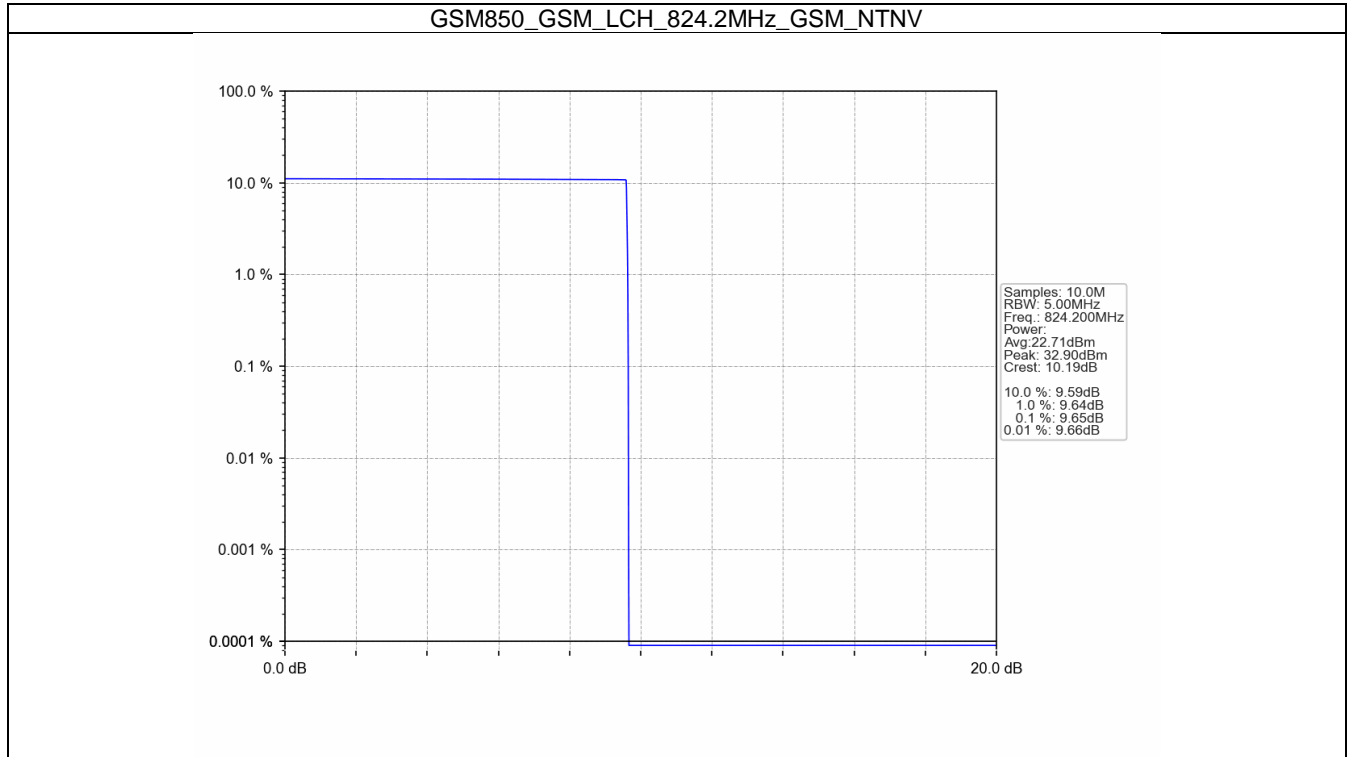
### 5.1 GSM850

#### 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	9.65	<=13	Pass
			836.6	9.61	<=13	Pass
			848.8	8.91	<=13	Pass
	GPRS	4 TX Slots	824.2	10.11	<=13	Pass
			836.6	3.62	<=13	Pass
			848.8	3.55	<=13	Pass
	EGPRS	4 TX Slots	824.2	11.69	<=13	Pass
			836.6	6.22	<=13	Pass
			848.8	6.76	<=13	Pass

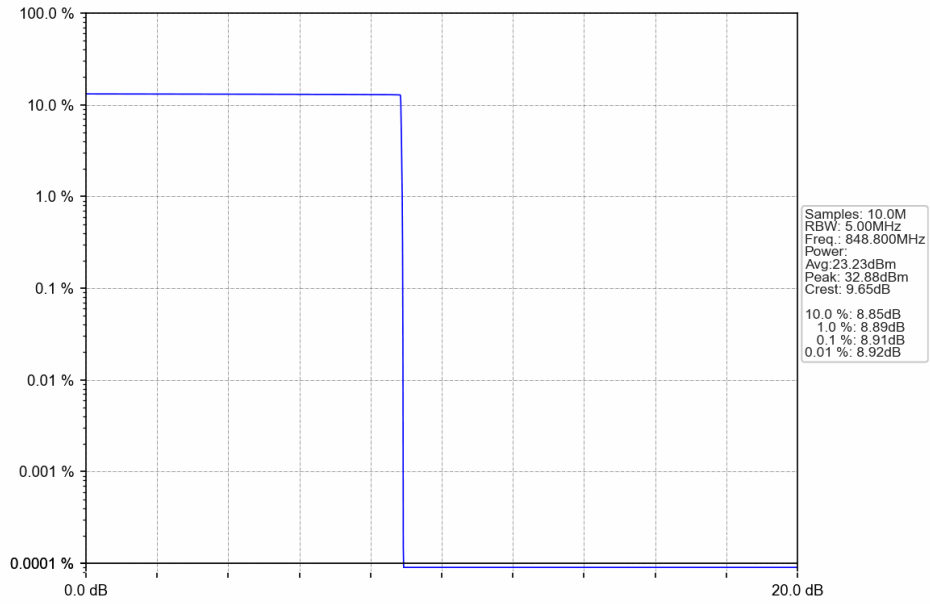


### 5.1.2 Test Graph

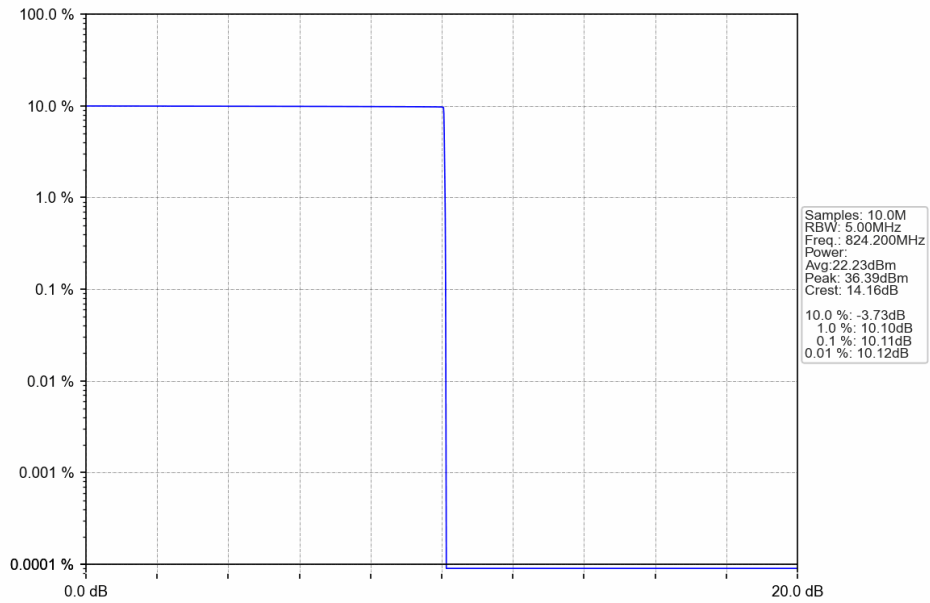




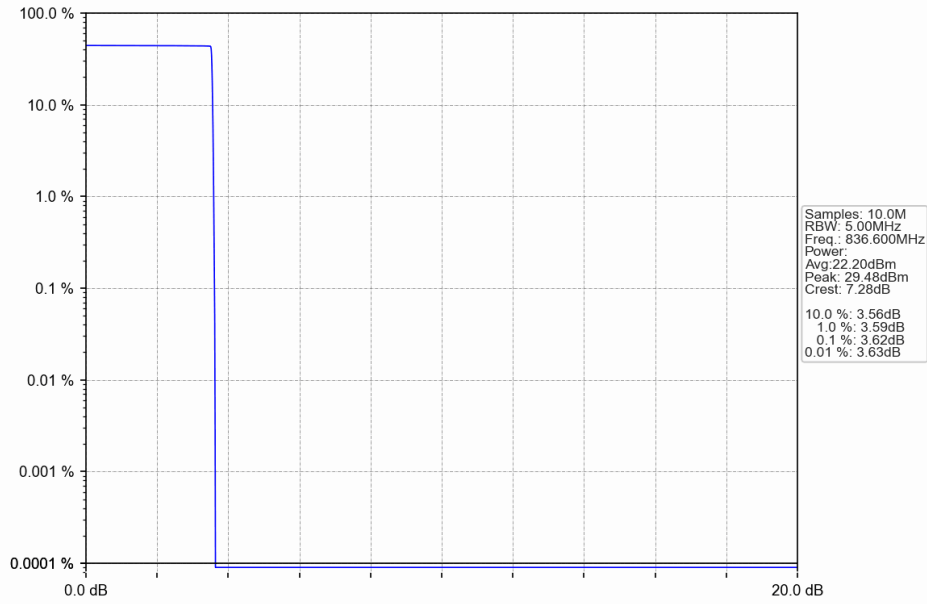
GSM850\_GSM\_HCH\_848.8MHz\_GSM\_NTNV



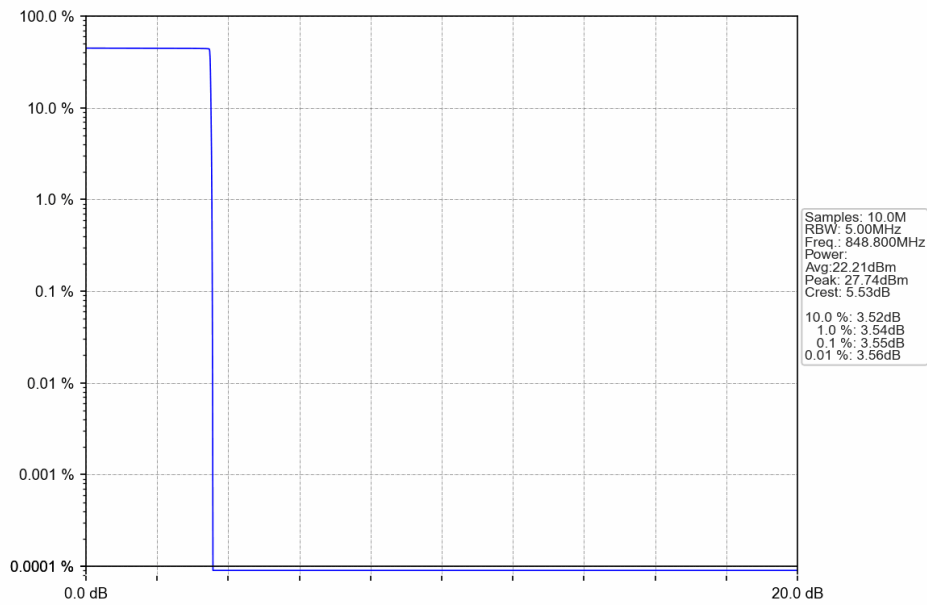
GSM850\_GPRS\_LCH\_824.2MHz\_4 TX Slots\_NTNV



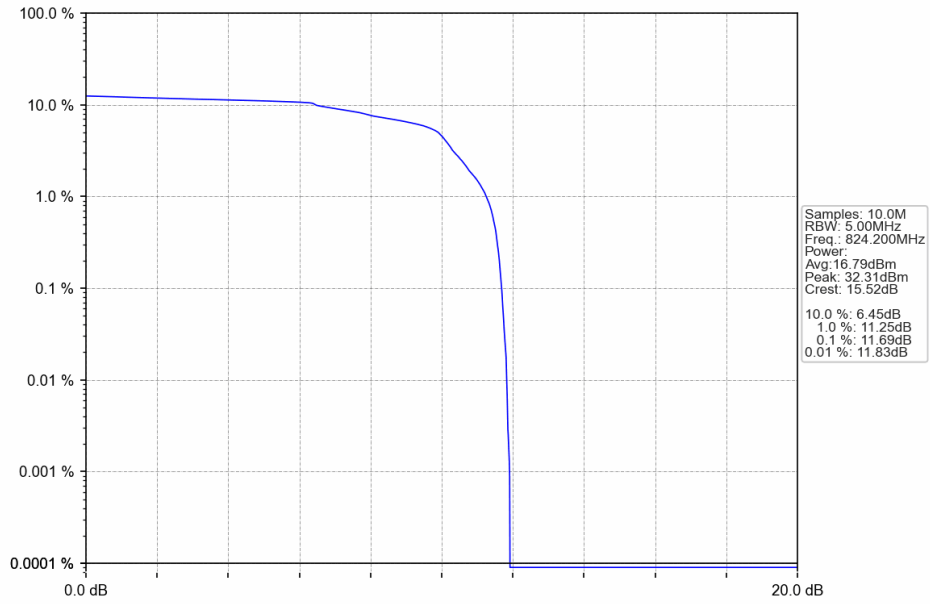
GSM850\_GPRS\_MCH\_836.6MHz\_4 TX Slots\_NTNV



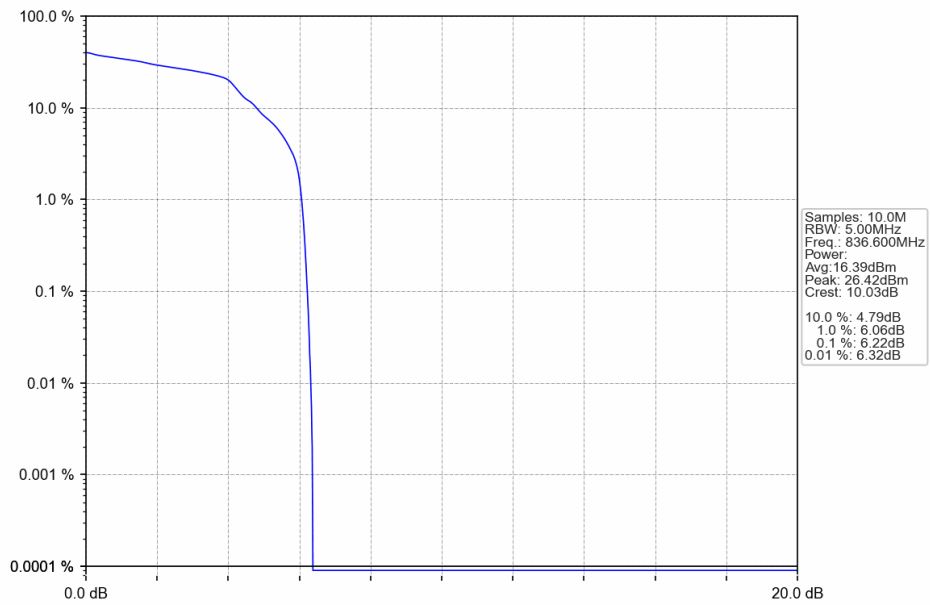
GSM850\_GPRS\_HCH\_848.8MHz\_4 TX Slots\_NTNV

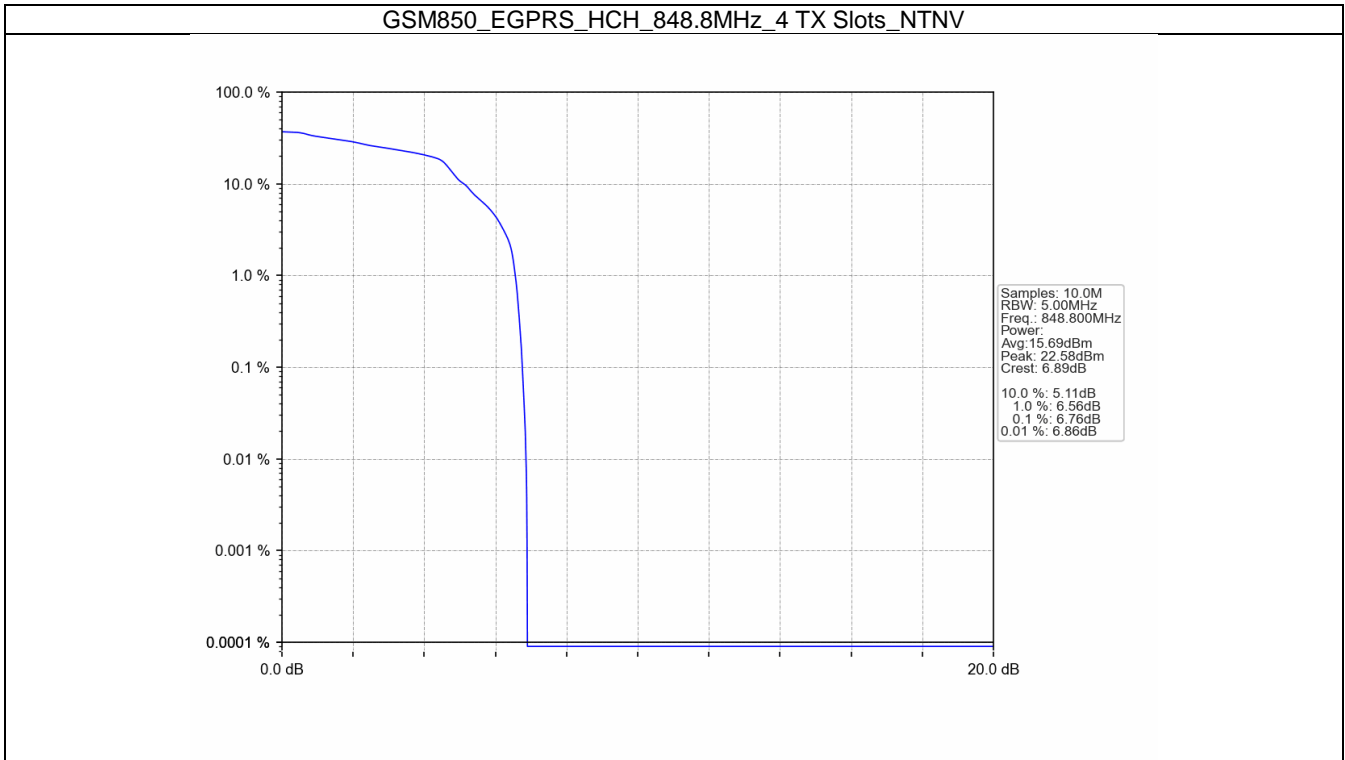


GSM850\_EGPRS\_LCH\_824.2MHz\_4 TX Slots\_NTNV



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





## 6. Spurious Emission

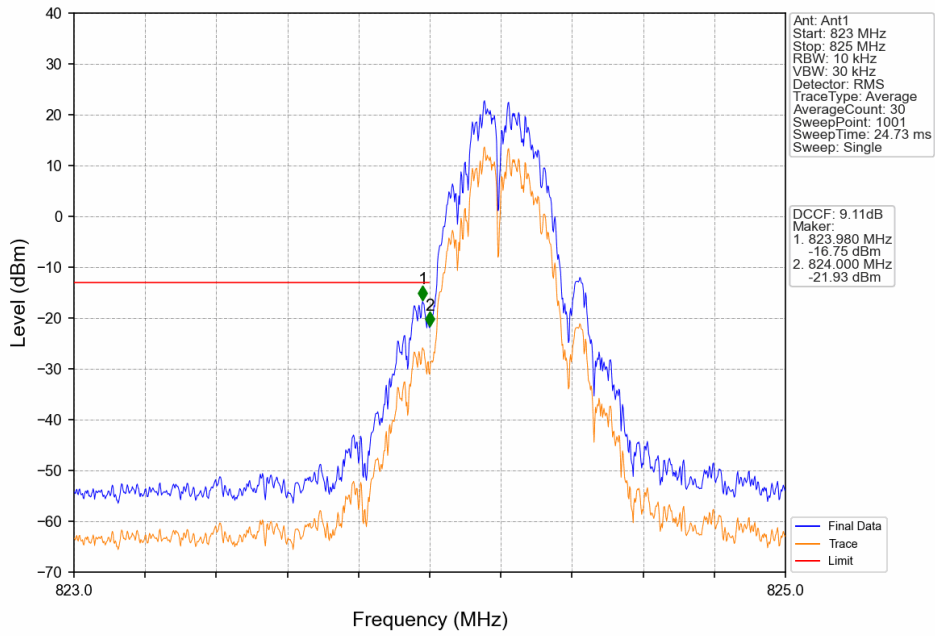
### 6.1 GSM850

#### 6.1.1 Test Result

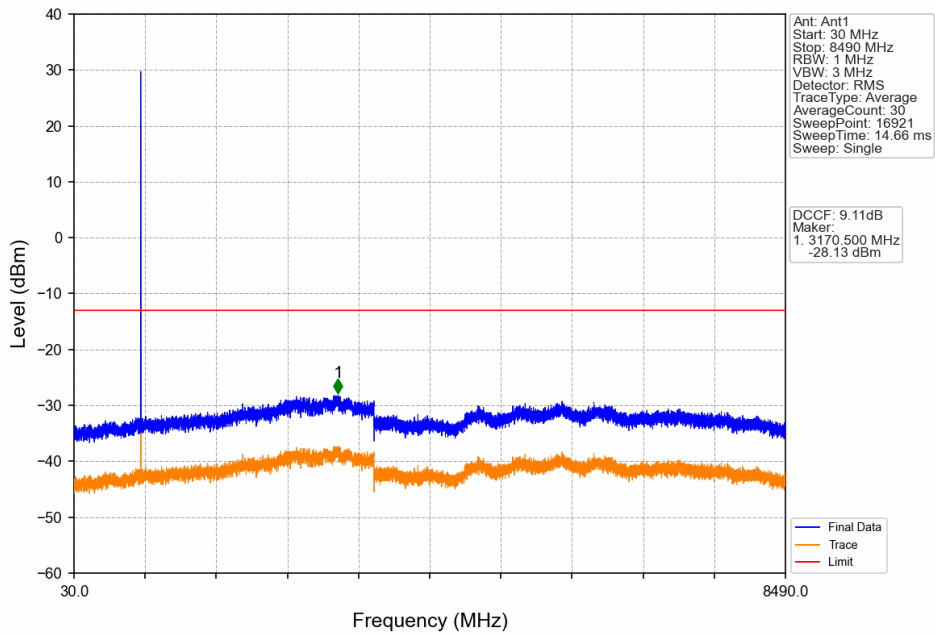
Band: GSM850						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			848.8	Refer To Test Graph		Pass
	GPRS	1 TX Slot	824.2	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass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

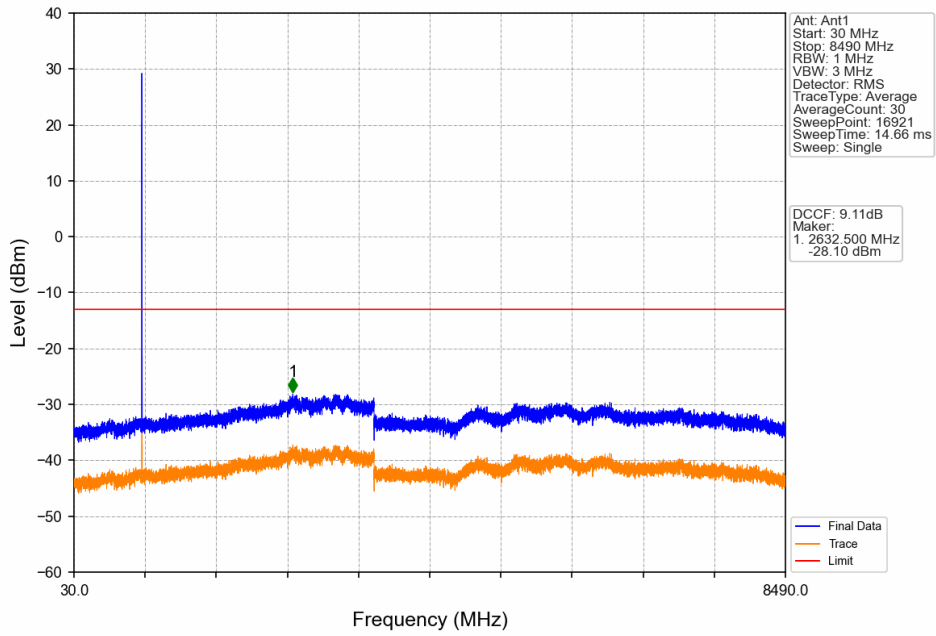
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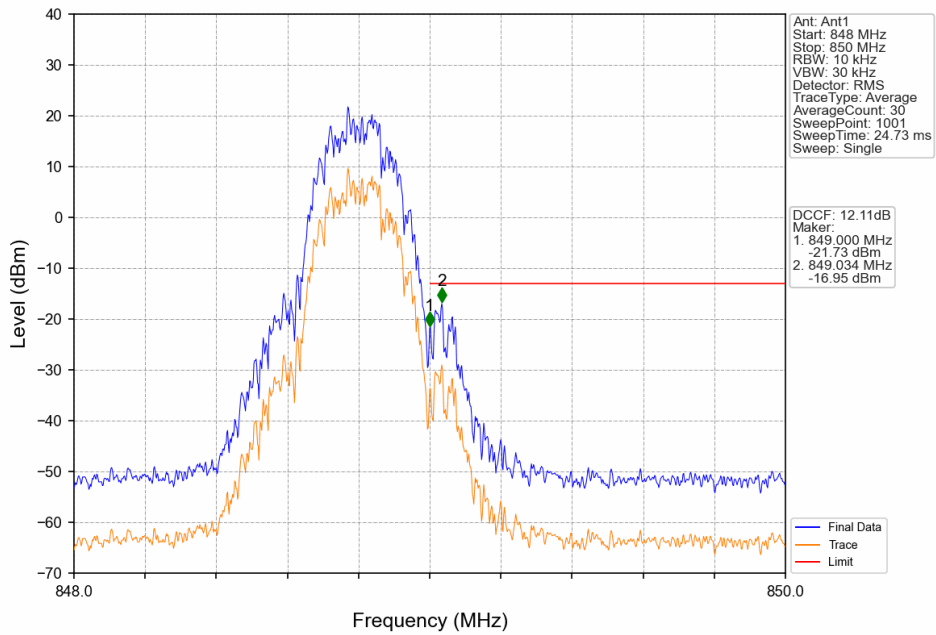
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GSM850\_GSM\_MCH\_836.6MHz\_GSM\_NTNV

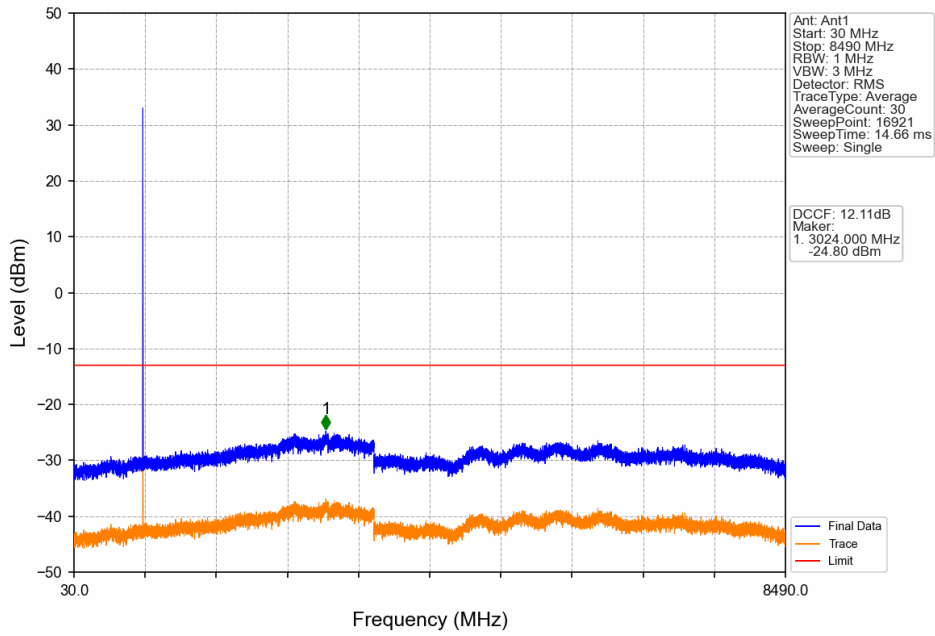


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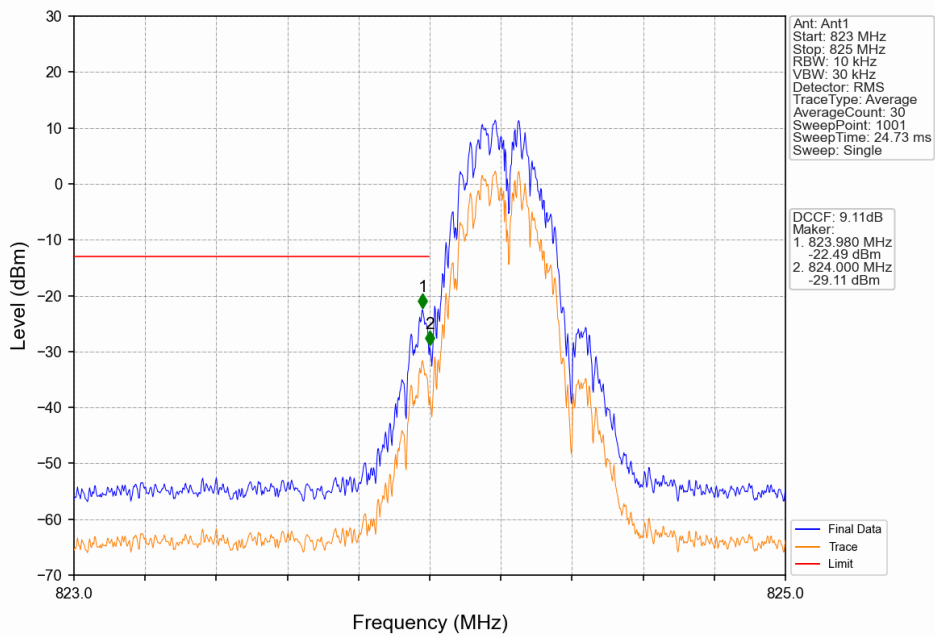




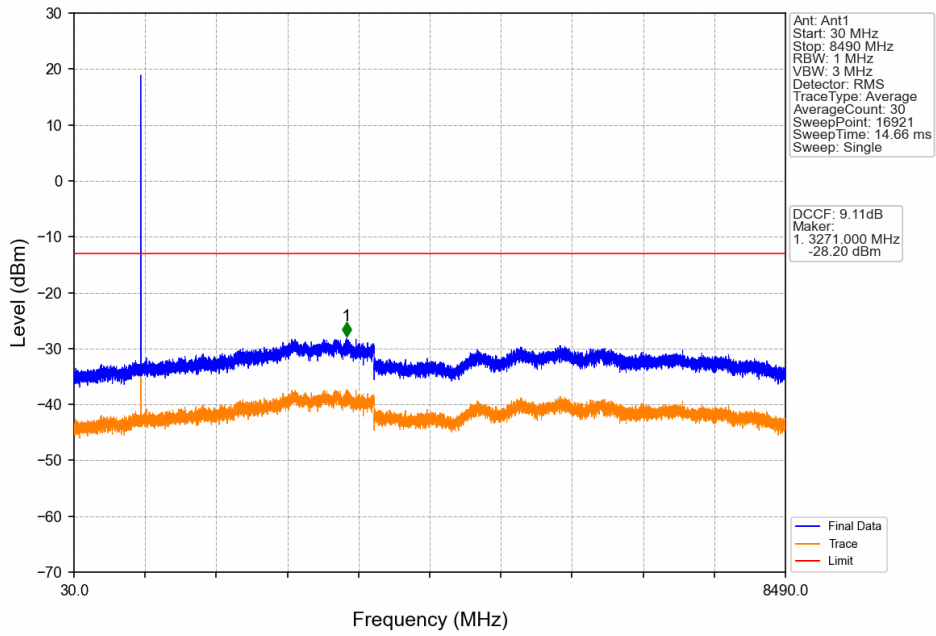
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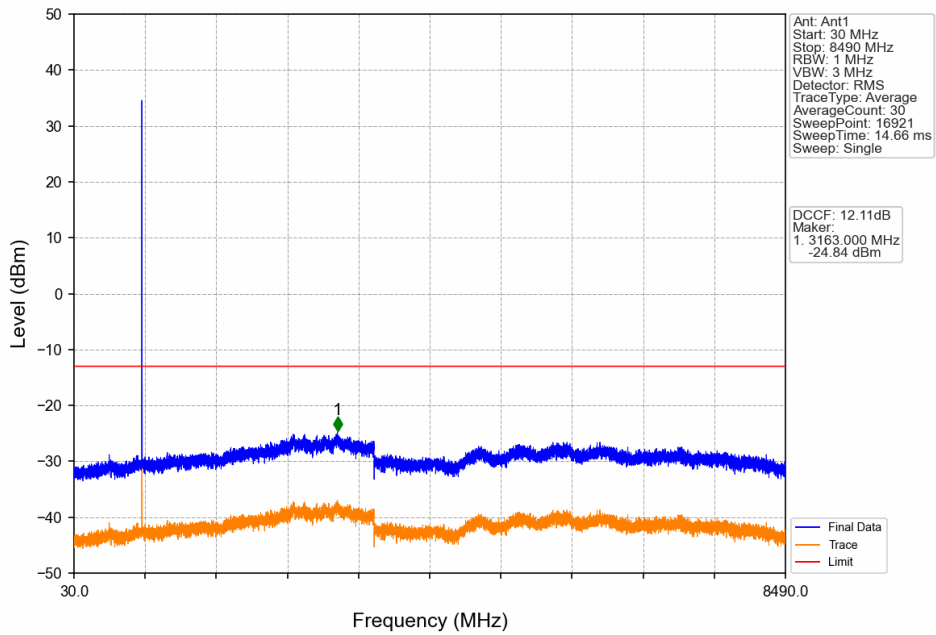
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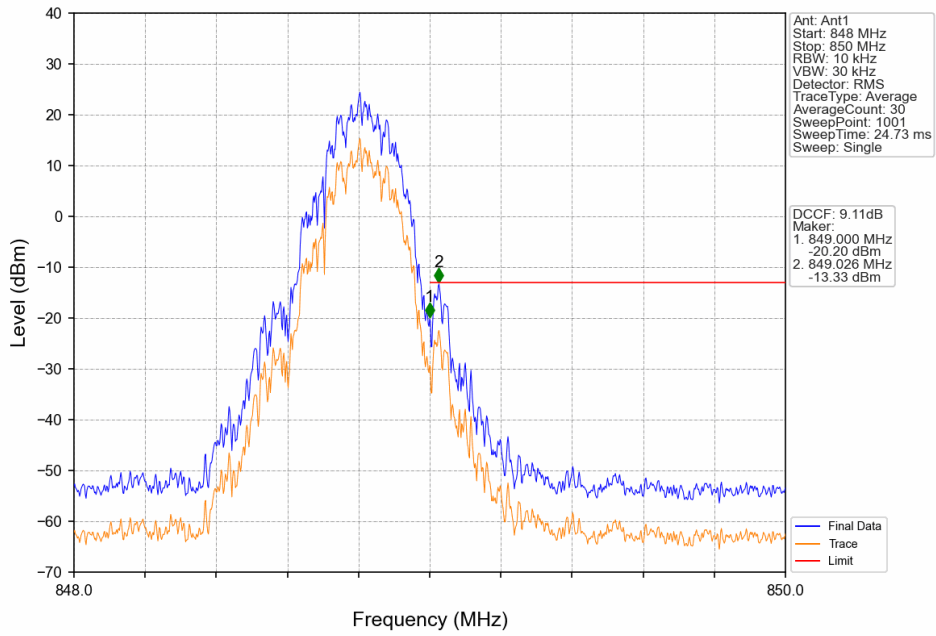
GSM850\_GPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



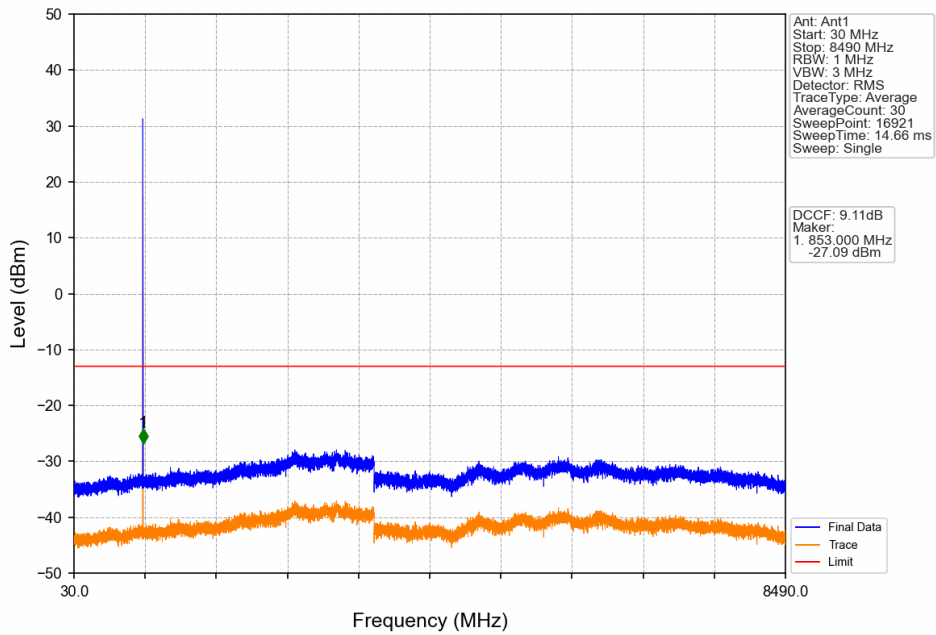
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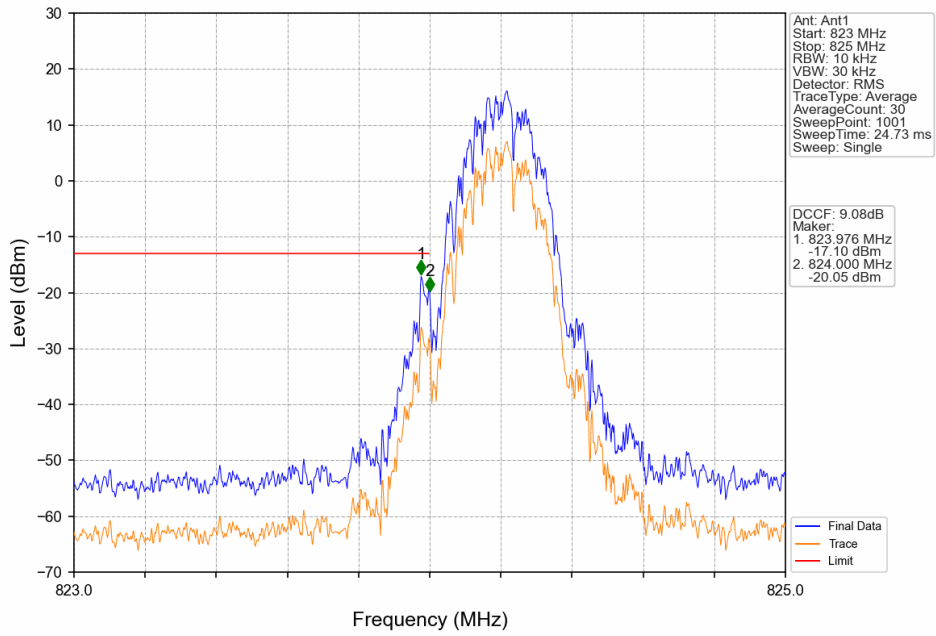
GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



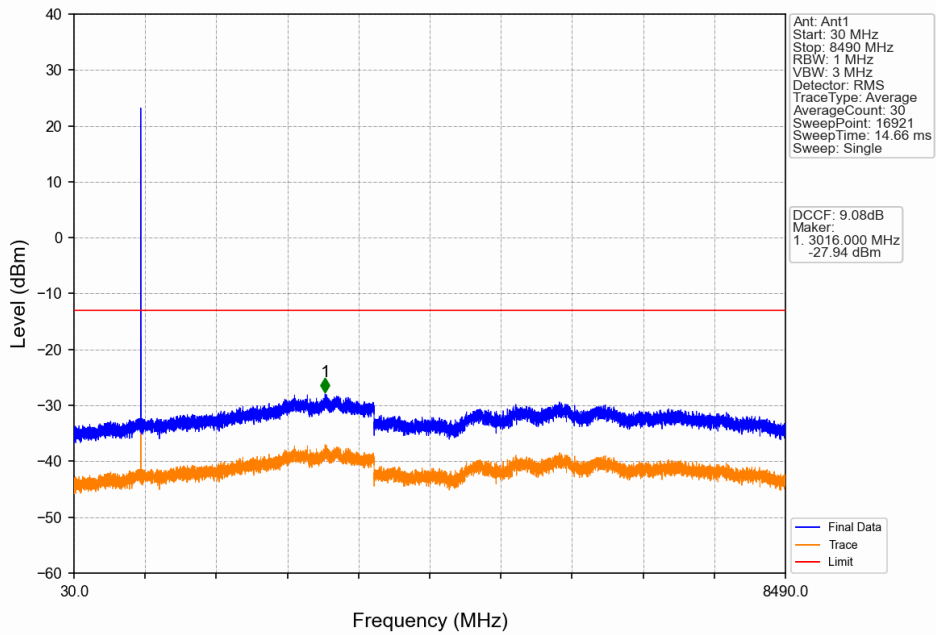
GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



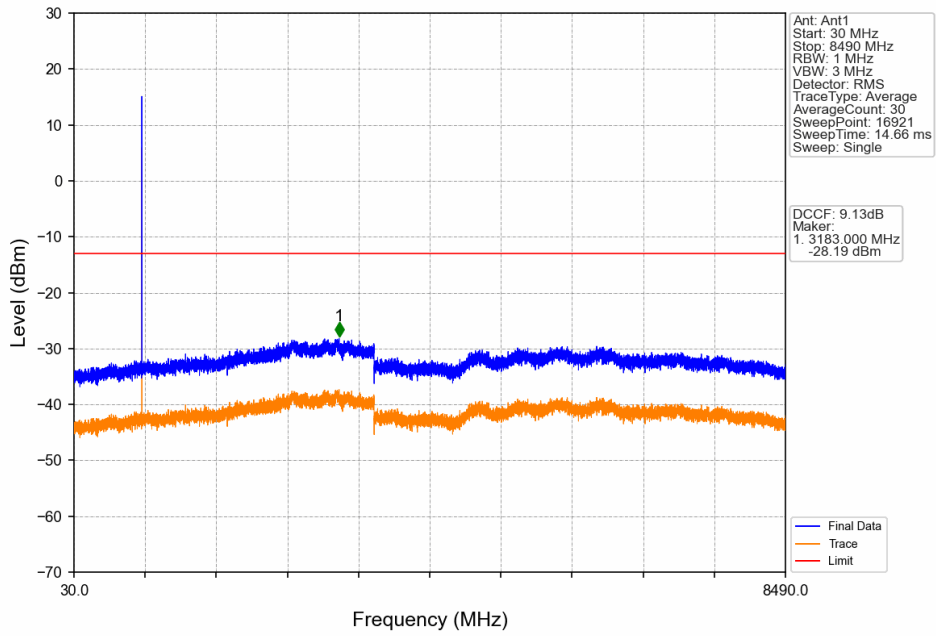
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



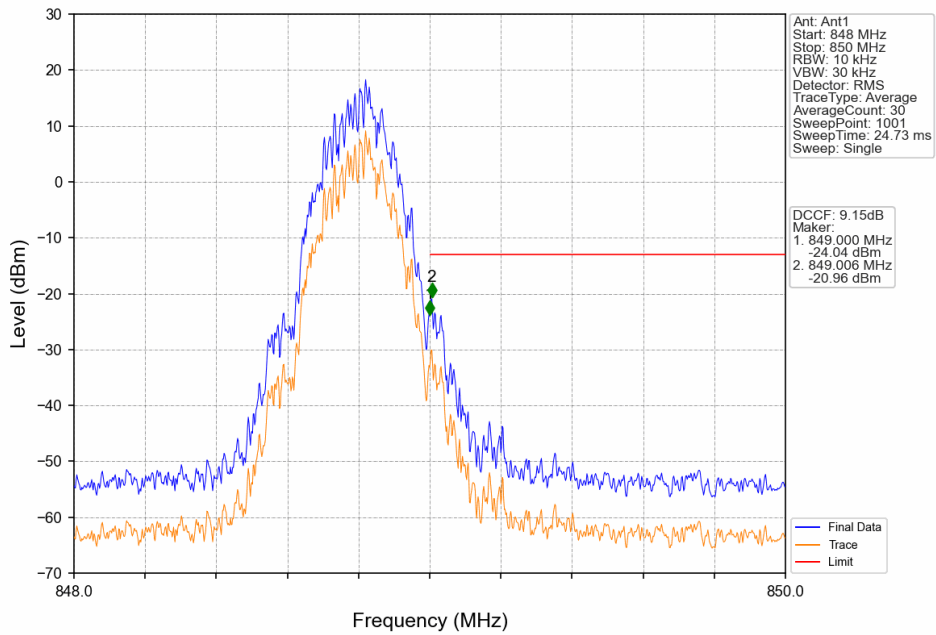
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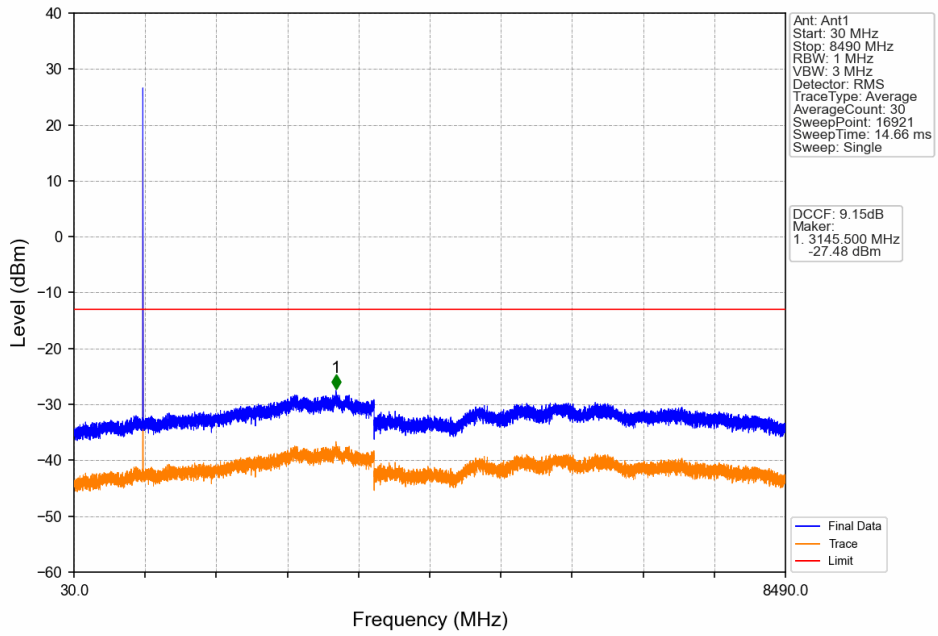
GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



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	1.3964	0.0223	ppm	249KGXW	22H	31.45
GSM850	0.2	824.2	848.8	1.3867	0.0129	ppm	245KG7W	22H	31.42

### 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	0.9418	0.0223	ppm	249KGXW	22H	29.74
GSM850	0.2	824.2	848.8	0.9354	0.0129	ppm	245KG7W	22H	29.71