

# 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	-3.2	25.8	<=38.45	Pass		
			836.6	31.29	-3.2	25.94	<=38.45	Pass		
			848.8	31.45	-3.2	26.1	<=38.45	Pass		
	GPRS	1 TX Slot	824.2	31.17	-3.2	25.82	<=38.45	Pass		
			2 TX Slots	824.2	29.29	-3.2	23.94	<=38.45	Pass	
			3 TX Slots	824.2	27.36	-3.2	22.01	<=38.45	Pass	
			4 TX Slots	824.2	25.18	-3.2	19.83	<=38.45	Pass	
		2 TX Slots	836.6	31.23	-3.2	25.88	<=38.45	Pass		
			2 TX Slots	836.6	29.21	-3.2	23.86	<=38.45	Pass	
			3 TX Slots	836.6	27.30	-3.2	21.95	<=38.45	Pass	
			4 TX Slots	836.6	25.13	-3.2	19.78	<=38.45	Pass	
		3 TX Slots	848.8	31.42	-3.2	26.07	<=38.45	Pass		
			2 TX Slots	848.8	29.20	-3.2	23.85	<=38.45	Pass	
			3 TX Slots	848.8	27.25	-3.2	21.9	<=38.45	Pass	
			4 TX Slots	848.8	25.06	-3.2	19.71	<=38.45	Pass	
		EGPRS	1 TX Slot	824.2	25.01	-3.2	19.66	<=38.45	Pass	
				2 TX Slots	824.2	23.95	-3.2	18.6	<=38.45	Pass
				3 TX Slots	824.2	21.96	-3.2	16.61	<=38.45	Pass
				4 TX Slots	824.2	19.29	-3.2	13.94	<=38.45	Pass
	2 TX Slots		836.6	24.66	-3.2	19.31	<=38.45	Pass		
			2 TX Slots	836.6	23.65	-3.2	18.3	<=38.45	Pass	
			3 TX Slots	836.6	23.08	-3.2	17.73	<=38.45	Pass	
			4 TX Slots	836.6	19.14	-3.2	13.79	<=38.45	Pass	
	3 TX Slots		848.8	24.39	-3.2	19.04	<=38.45	Pass		
			2 TX Slots	848.8	23.67	-3.2	18.32	<=38.45	Pass	
			3 TX Slots	848.8	21.52	-3.2	16.17	<=38.45	Pass	
			4 TX Slots	848.8	19.09	-3.2	13.74	<=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	3.939	0.0048	-2.5 to 2.5	Pass
			3.85	0.065	0.0001	-2.5 to 2.5	Pass
			4.43	0.323	0.0004	-2.5 to 2.5	Pass
		-30	3.85	-1.582	-0.0019	-2.5 to 2.5	Pass
		-20	3.85	1.905	0.0023	-2.5 to 2.5	Pass
		-10	3.85	3.713	0.0045	-2.5 to 2.5	Pass
		0	3.85	0.678	0.0008	-2.5 to 2.5	Pass
		10	3.85	-2.777	-0.0034	-2.5 to 2.5	Pass
		30	3.85	-3.551	-0.0043	-2.5 to 2.5	Pass
		40	3.85	-4.423	-0.0054	-2.5 to 2.5	Pass
	50	3.85	0.097	0.0001	-2.5 to 2.5	Pass	
	836.6	20	3.27	7.264	0.0087	-2.5 to 2.5	Pass
			3.85	-9.686	-0.0116	-2.5 to 2.5	Pass
			4.43	0.452	0.0005	-2.5 to 2.5	Pass
		-30	3.85	-0.678	-0.0008	-2.5 to 2.5	Pass
		-20	3.85	0.517	0.0006	-2.5 to 2.5	Pass
		-10	3.85	-2.647	-0.0032	-2.5 to 2.5	Pass
		0	3.85	0.194	0.0002	-2.5 to 2.5	Pass
		10	3.85	3.842	0.0046	-2.5 to 2.5	Pass
		30	3.85	-3.067	-0.0037	-2.5 to 2.5	Pass
		40	3.85	-3.681	-0.0044	-2.5 to 2.5	Pass
	50	3.85	0.936	0.0011	-2.5 to 2.5	Pass	
	848.8	20	3.27	1.098	0.0013	-2.5 to 2.5	Pass
			3.85	1.065	0.0013	-2.5 to 2.5	Pass
			4.43	4.552	0.0054	-2.5 to 2.5	Pass
		-30	3.85	-2.551	-0.0030	-2.5 to 2.5	Pass
		-20	3.85	-1.033	-0.0012	-2.5 to 2.5	Pass
		-10	3.85	2.583	0.0030	-2.5 to 2.5	Pass
		0	3.85	0.517	0.0006	-2.5 to 2.5	Pass
		10	3.85	3.681	0.0043	-2.5 to 2.5	Pass
30		3.85	8.297	0.0098	-2.5 to 2.5	Pass	
40		3.85	2.292	0.0027	-2.5 to 2.5	Pass	
50	3.85	2.647	0.0031	-2.5 to 2.5	Pass		
GPRS	824.2	20	3.27	8.071	0.0098	-2.5 to 2.5	Pass
			3.85	3.035	0.0037	-2.5 to 2.5	Pass
			4.43	4.165	0.0051	-2.5 to 2.5	Pass
		-30	3.85	-0.097	-0.0001	-2.5 to 2.5	Pass
		-20	3.85	3.325	0.0040	-2.5 to 2.5	Pass
		-10	3.85	4.681	0.0057	-2.5 to 2.5	Pass
		0	3.85	8.717	0.0106	-2.5 to 2.5	Pass
		10	3.85	8.265	0.0100	-2.5 to 2.5	Pass
		30	3.85	10.816	0.0131	-2.5 to 2.5	Pass
		40	3.85	5.521	0.0067	-2.5 to 2.5	Pass
	50	3.85	9.234	0.0112	-2.5 to 2.5	Pass	
	836.6	20	3.27	10.590	0.0127	-2.5 to 2.5	Pass
			3.85	9.040	0.0108	-2.5 to 2.5	Pass
			4.43	3.422	0.0041	-2.5 to 2.5	Pass

		-30	3.85	11.494	0.0137	-2.5 to 2.5	Pass
		-20	3.85	9.815	0.0117	-2.5 to 2.5	Pass
		-10	3.85	7.329	0.0088	-2.5 to 2.5	Pass
		0	3.85	8.136	0.0097	-2.5 to 2.5	Pass
		10	3.85	9.201	0.0110	-2.5 to 2.5	Pass
		30	3.85	14.981	0.0179	-2.5 to 2.5	Pass
		40	3.85	15.045	0.0180	-2.5 to 2.5	Pass
	50	3.85	12.688	0.0152	-2.5 to 2.5	Pass	
	848.8	20	3.27	-1.259	-0.0015	-2.5 to 2.5	Pass
			3.85	-1.776	-0.0021	-2.5 to 2.5	Pass
			4.43	3.261	0.0038	-2.5 to 2.5	Pass
		-30	3.85	2.163	0.0025	-2.5 to 2.5	Pass
		-20	3.85	2.195	0.0026	-2.5 to 2.5	Pass
		-10	3.85	1.065	0.0013	-2.5 to 2.5	Pass
0		3.85	0.936	0.0011	-2.5 to 2.5	Pass	
10		3.85	0.032	0.0000	-2.5 to 2.5	Pass	
30		3.85	1.259	0.0015	-2.5 to 2.5	Pass	
40		3.85	1.937	0.0023	-2.5 to 2.5	Pass	
50	3.85	-3.261	-0.0038	-2.5 to 2.5	Pass		
EGPRS	824.2	20	3.27	9.266	0.0112	-2.5 to 2.5	Pass
			3.85	7.910	0.0096	-2.5 to 2.5	Pass
			4.43	11.042	0.0134	-2.5 to 2.5	Pass
		-30	3.85	3.099	0.0038	-2.5 to 2.5	Pass
		-20	3.85	11.203	0.0136	-2.5 to 2.5	Pass
		-10	3.85	8.071	0.0098	-2.5 to 2.5	Pass
		0	3.85	8.136	0.0099	-2.5 to 2.5	Pass
		10	3.85	13.076	0.0159	-2.5 to 2.5	Pass
		30	3.85	8.007	0.0097	-2.5 to 2.5	Pass
		40	3.85	13.657	0.0166	-2.5 to 2.5	Pass
	50	3.85	9.137	0.0111	-2.5 to 2.5	Pass	
	836.6	20	3.27	14.173	0.0169	-2.5 to 2.5	Pass
			3.85	19.210	0.0230	-2.5 to 2.5	Pass
			4.43	16.627	0.0199	-2.5 to 2.5	Pass
		-30	3.85	17.467	0.0209	-2.5 to 2.5	Pass
		-20	3.85	17.886	0.0214	-2.5 to 2.5	Pass
		-10	3.85	9.201	0.0110	-2.5 to 2.5	Pass
		0	3.85	10.525	0.0126	-2.5 to 2.5	Pass
		10	3.85	14.399	0.0172	-2.5 to 2.5	Pass
		30	3.85	6.748	0.0081	-2.5 to 2.5	Pass
		40	3.85	8.201	0.0098	-2.5 to 2.5	Pass
	50	3.85	5.844	0.0070	-2.5 to 2.5	Pass	
	848.8	20	3.27	4.746	0.0056	-2.5 to 2.5	Pass
			3.85	6.522	0.0077	-2.5 to 2.5	Pass
			4.43	6.877	0.0081	-2.5 to 2.5	Pass
		-30	3.85	3.229	0.0038	-2.5 to 2.5	Pass
		-20	3.85	10.687	0.0126	-2.5 to 2.5	Pass
		-10	3.85	10.073	0.0119	-2.5 to 2.5	Pass
0		3.85	9.783	0.0115	-2.5 to 2.5	Pass	
10		3.85	8.911	0.0105	-2.5 to 2.5	Pass	
30		3.85	13.173	0.0155	-2.5 to 2.5	Pass	
40		3.85	8.007	0.0094	-2.5 to 2.5	Pass	
50	3.85	9.557	0.0113	-2.5 to 2.5	Pass		

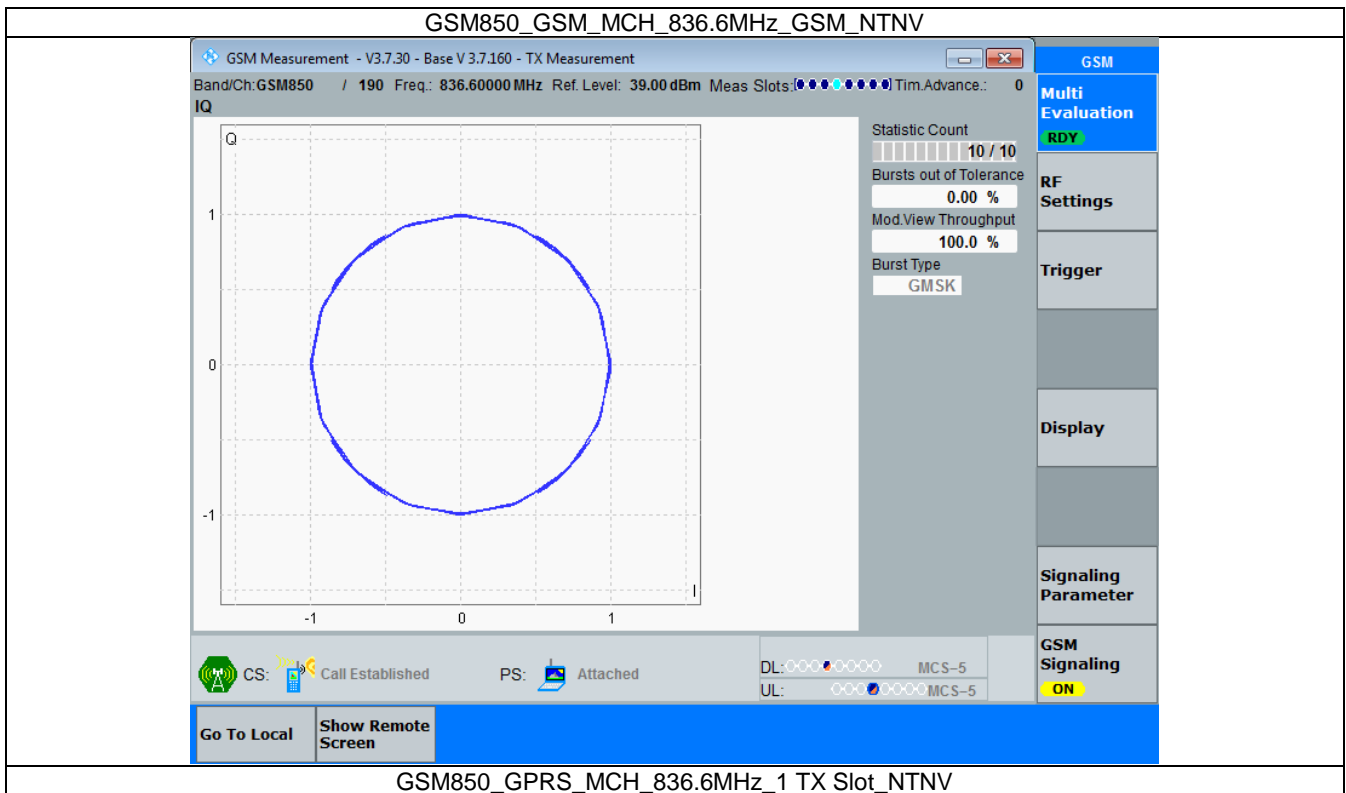
### 3. Modulation Characteristics

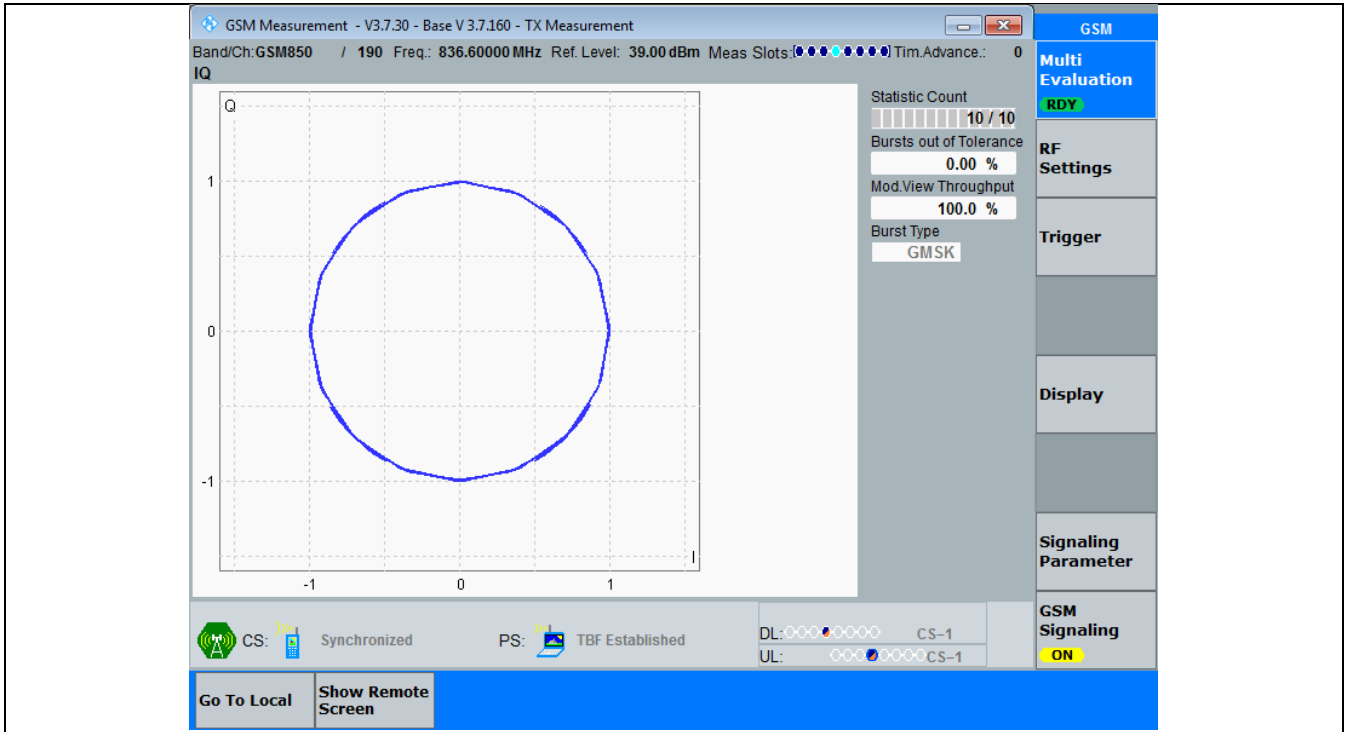
#### 3.1 GSM850

### 3.1.1 Test Result

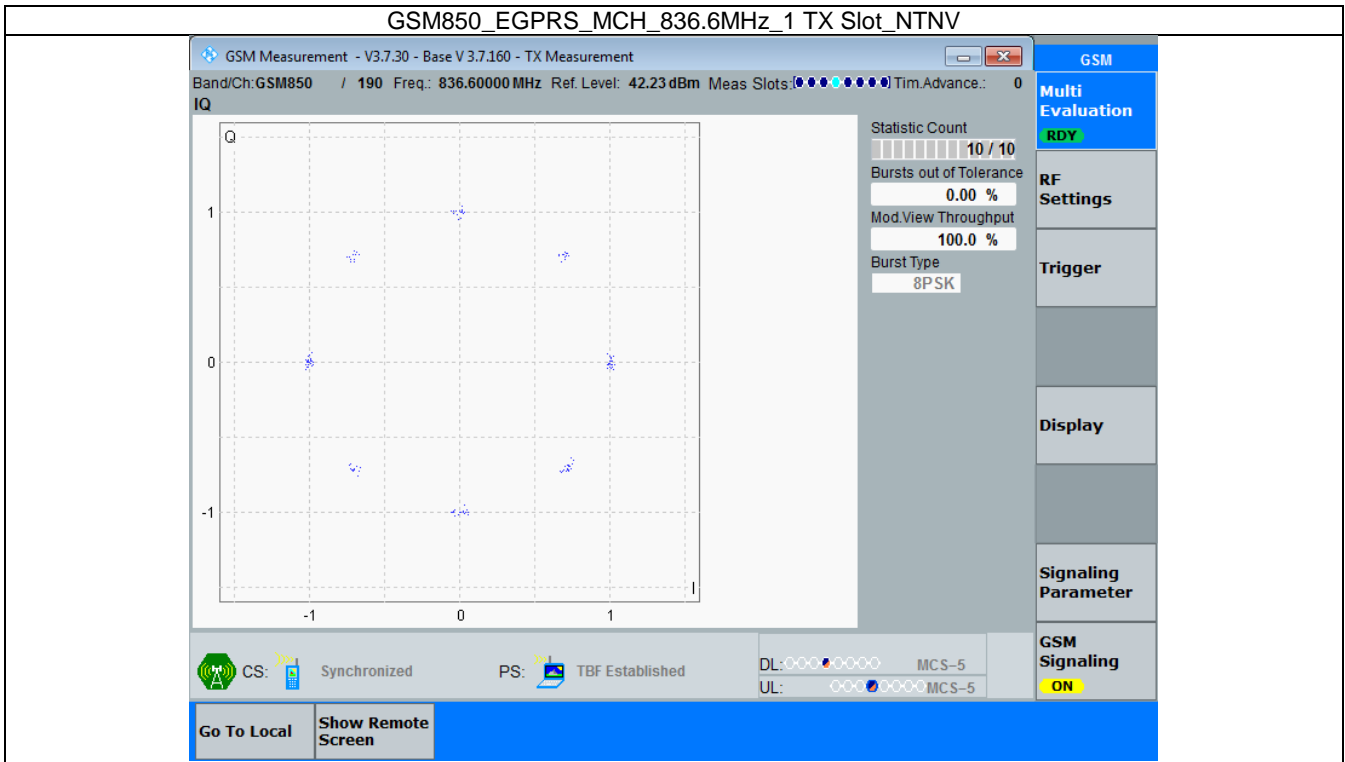
Band: GSM850						
ENV	Mode		Frequency (MHz)	Modulation Characteristics		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	836.6	Refer To Test Graph		Pass
	GPRS	1 TX Slot	836.6	Refer To Test Graph		Pass
	EGPRS	1 TX Slot	836.6	Refer To Test Graph		Pass

### 3.1.2 Test Graph





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



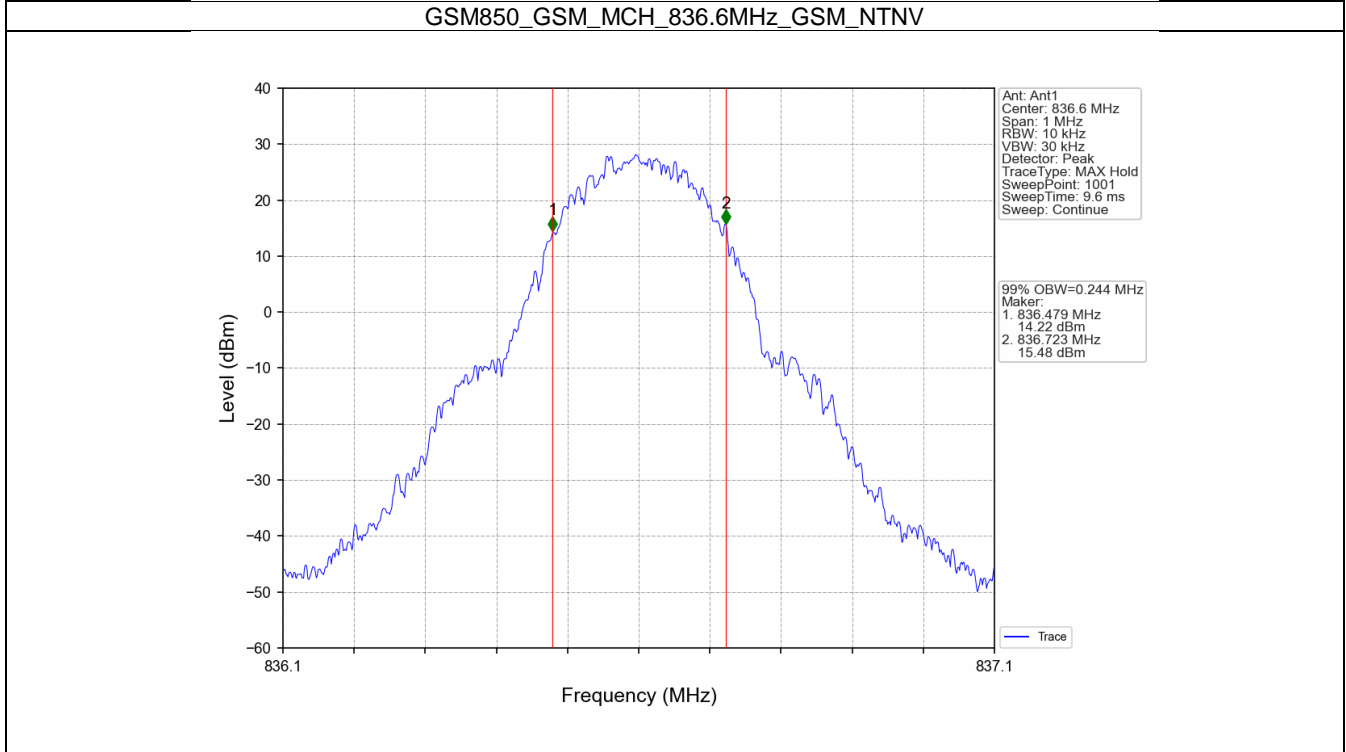
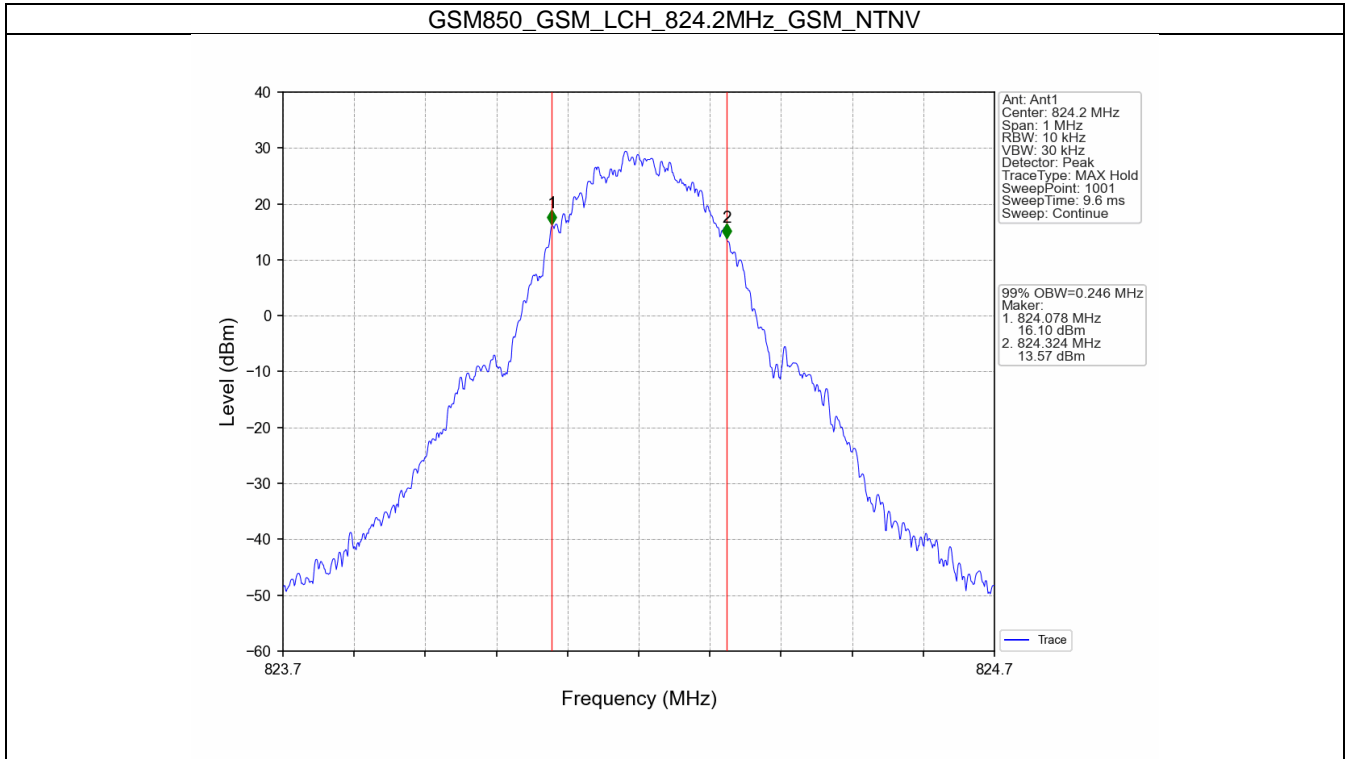
## 4. 99% & 26dB Bandwidth

### 4.1 GSM850\_OBW

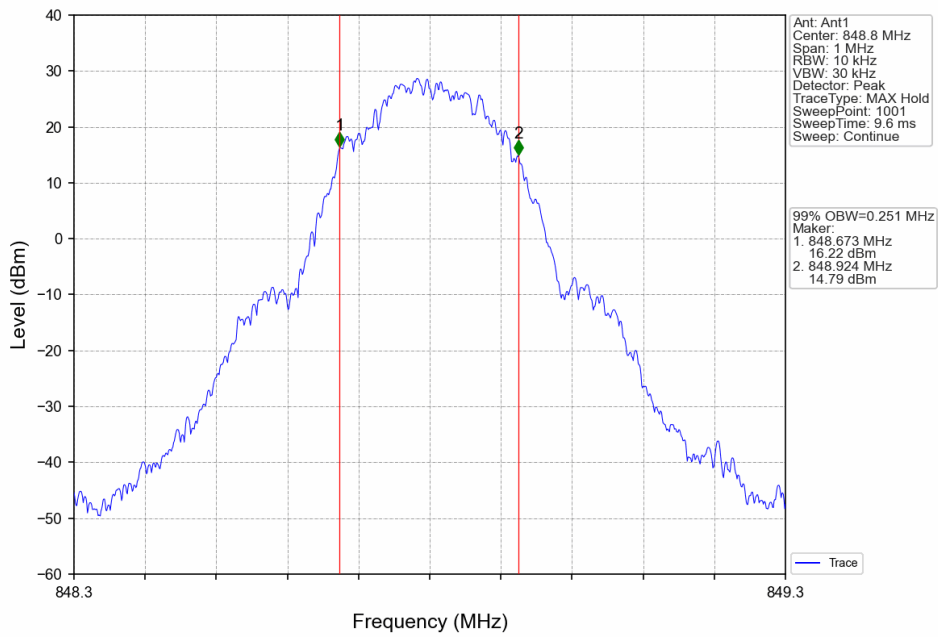
#### 4.1.1 Test Result

Band: GSM850					
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)	Verdict
	Network	Subset		Result	
NTNV	GSM	GSM	824.2	0.246	Pass
			836.6	0.244	Pass
			848.8	0.251	Pass
	GPRS	1 TX Slot	824.2	0.250	Pass
			836.6	0.244	Pass
			848.8	0.246	Pass
	EGPRS	1 TX Slot	824.2	0.247	Pass
			836.6	0.233	Pass
			848.8	0.242	Pass

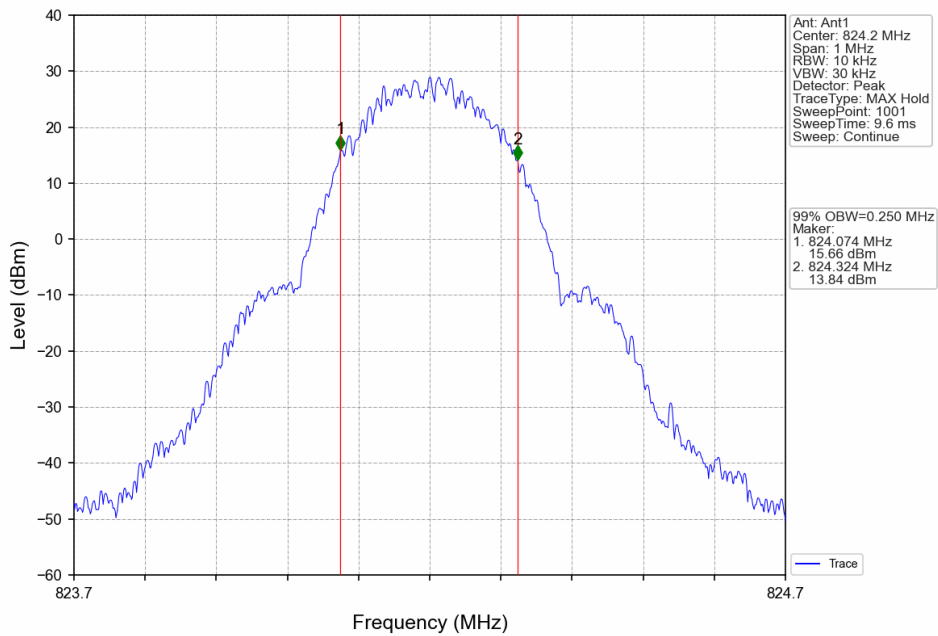
### 4.1.2 Test Graph



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

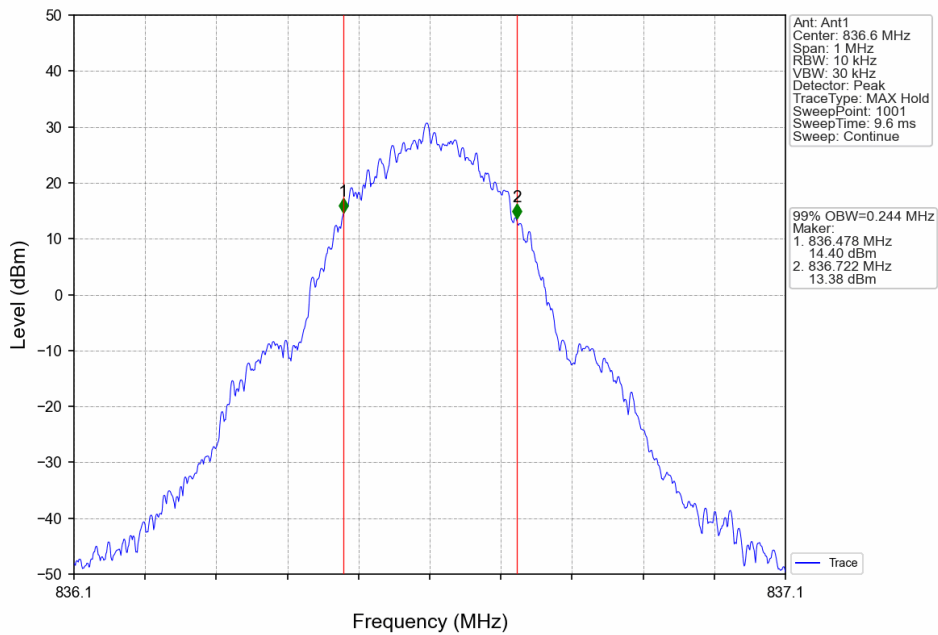


GSM850\_GPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV

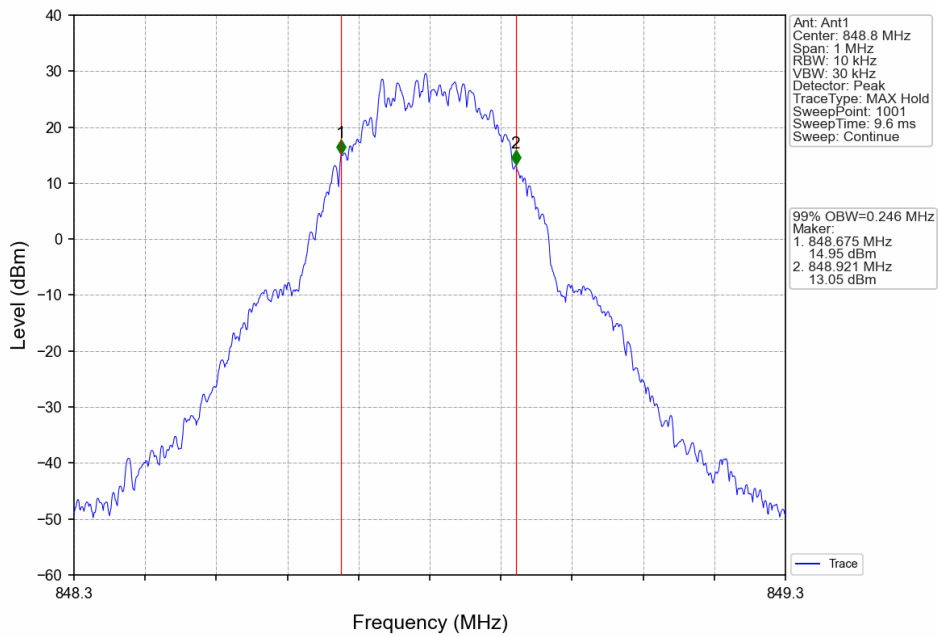




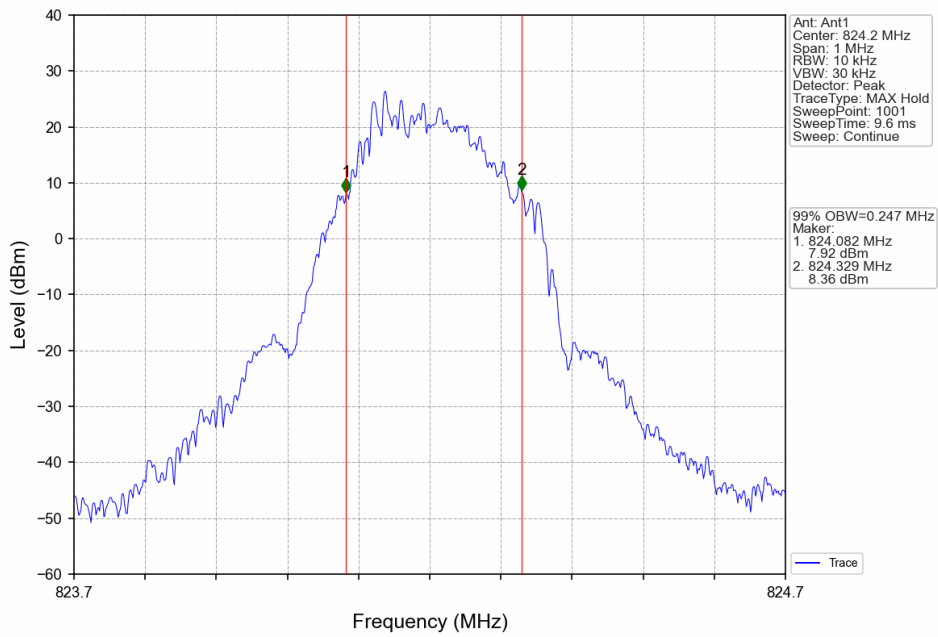
GSM850\_GPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



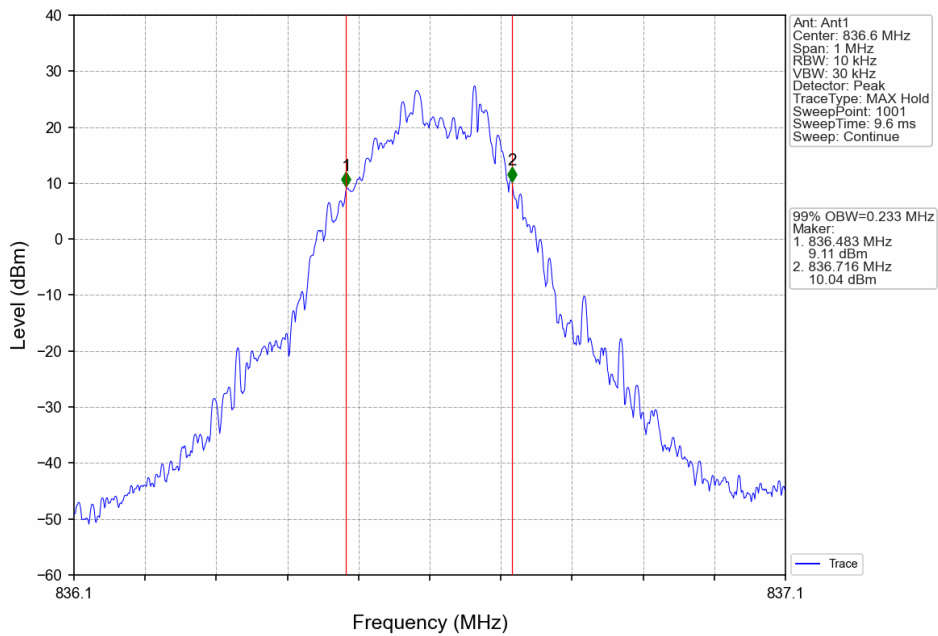
GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



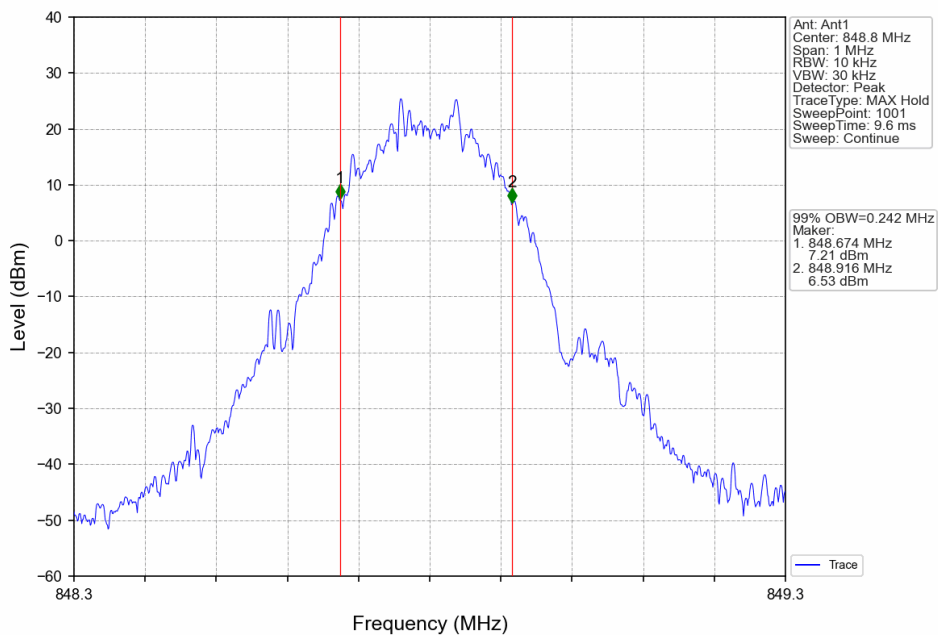
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



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



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

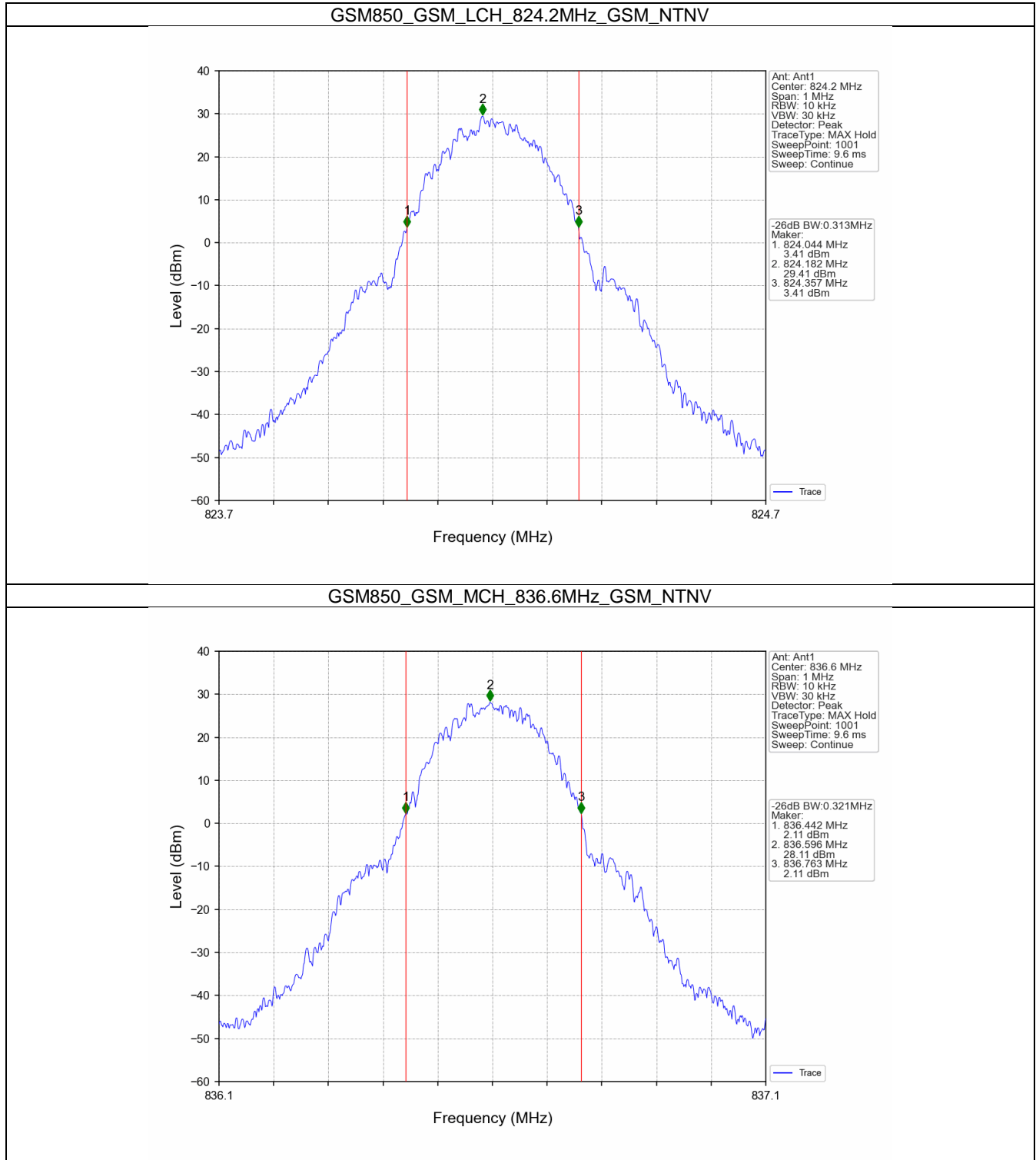


## 4.2 GSM850\_XDB

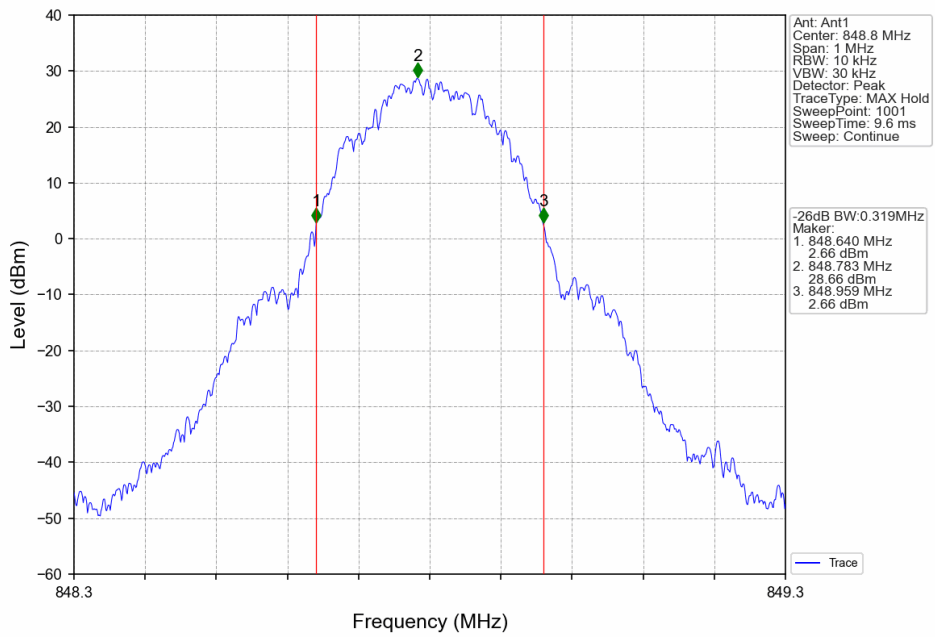
### 4.2.1 Test Result

Band: GSM850					
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)	Verdict
	Network	Subset		Result	
NTNV	GSM	GSM	824.2	0.313	Pass
			836.6	0.321	Pass
			848.8	0.319	Pass
	GPRS	1 TX Slot	824.2	0.317	Pass
			836.6	0.300	Pass
			848.8	0.319	Pass
	EGPRS	1 TX Slot	824.2	0.312	Pass
			836.6	0.307	Pass
			848.8	0.299	Pass

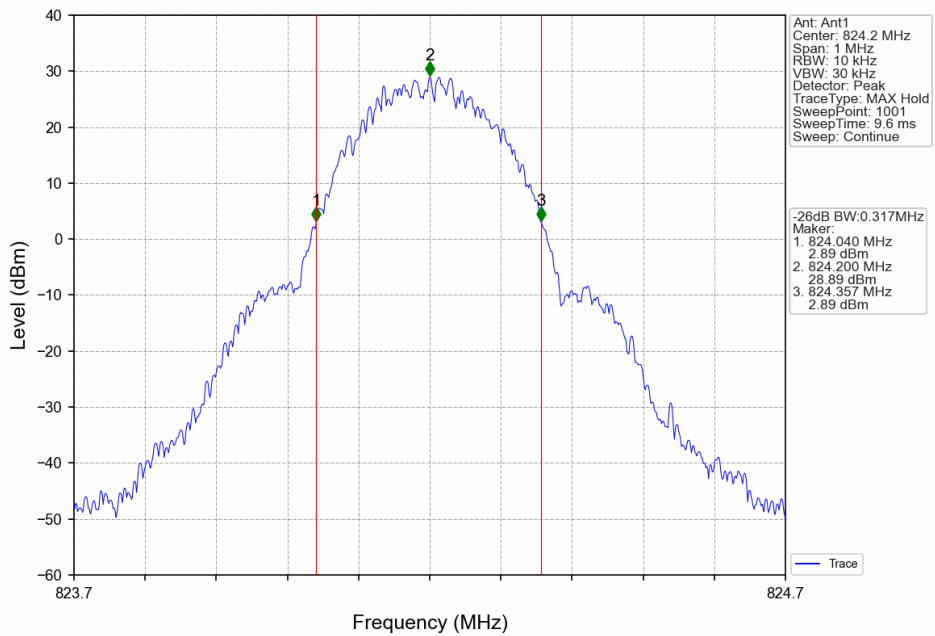
## 4.2.2 Test Graph



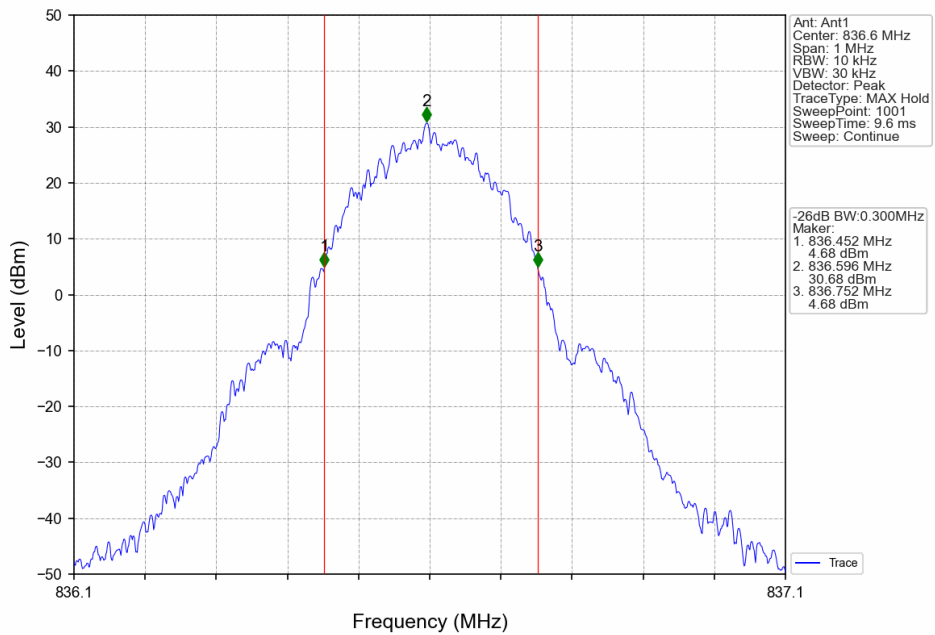
GSM850\_GSM\_HCH\_848.8MHz\_GSM\_NTNV



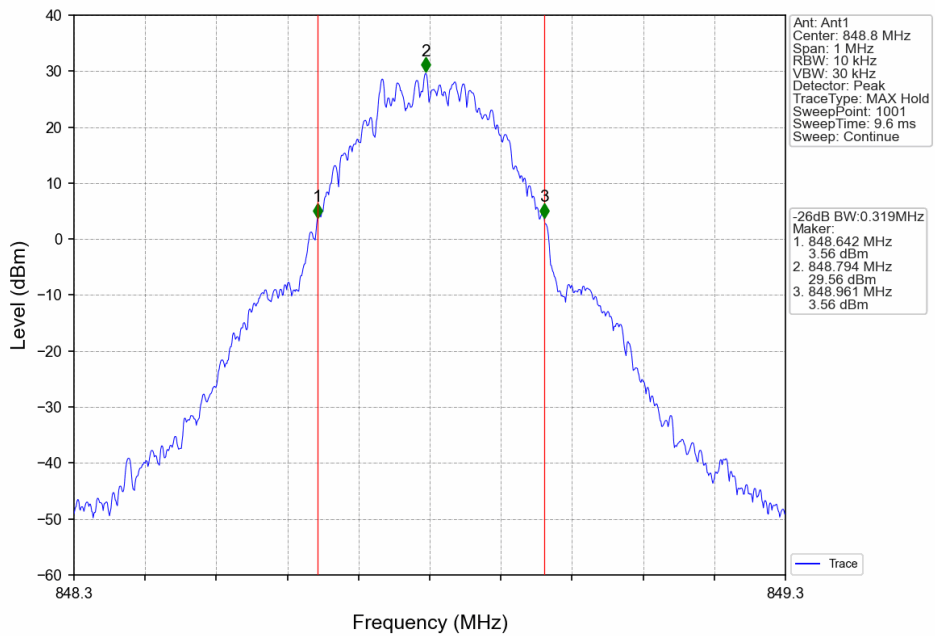
GSM850\_GPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



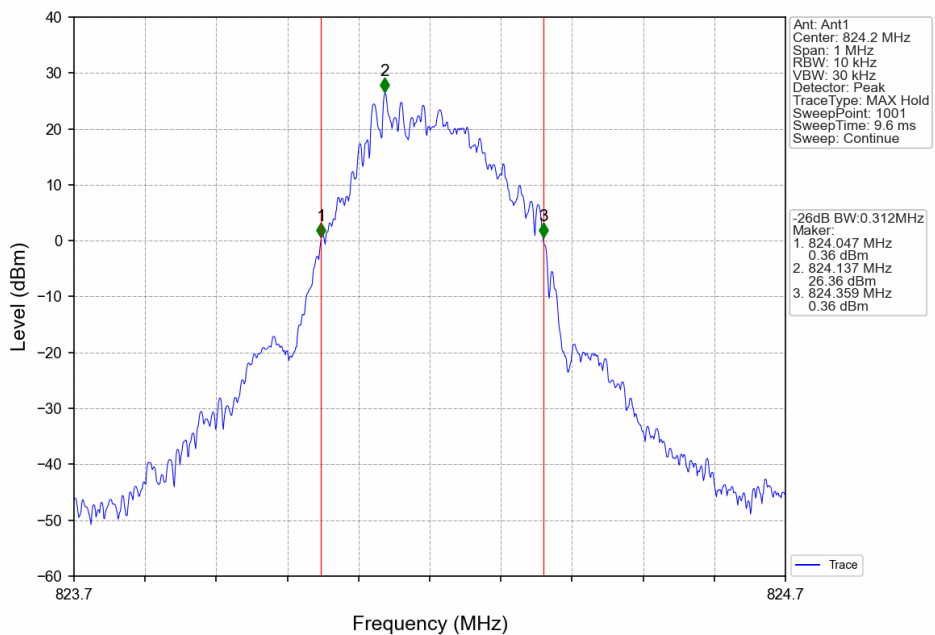
GSM850\_GPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



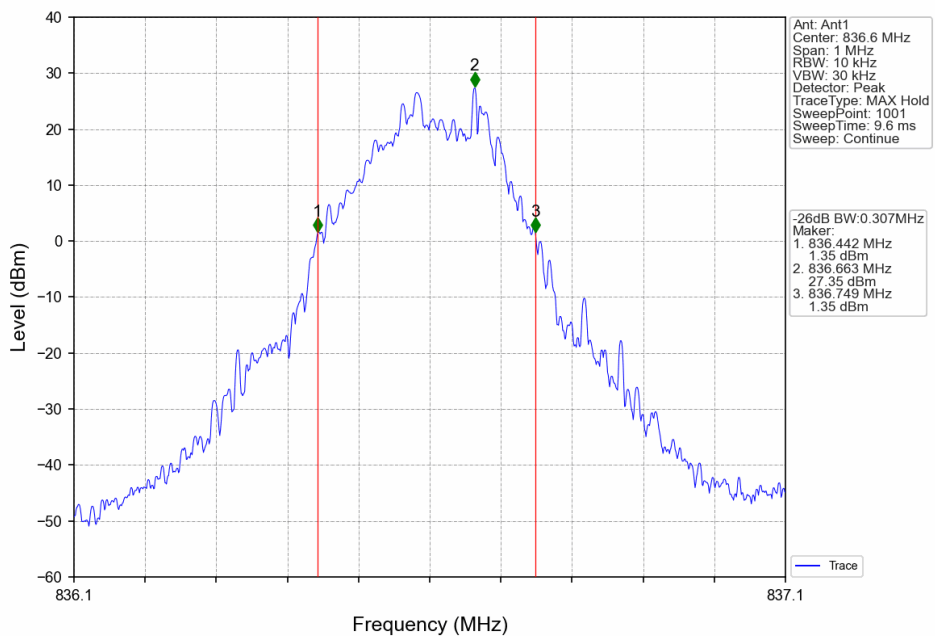
GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



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

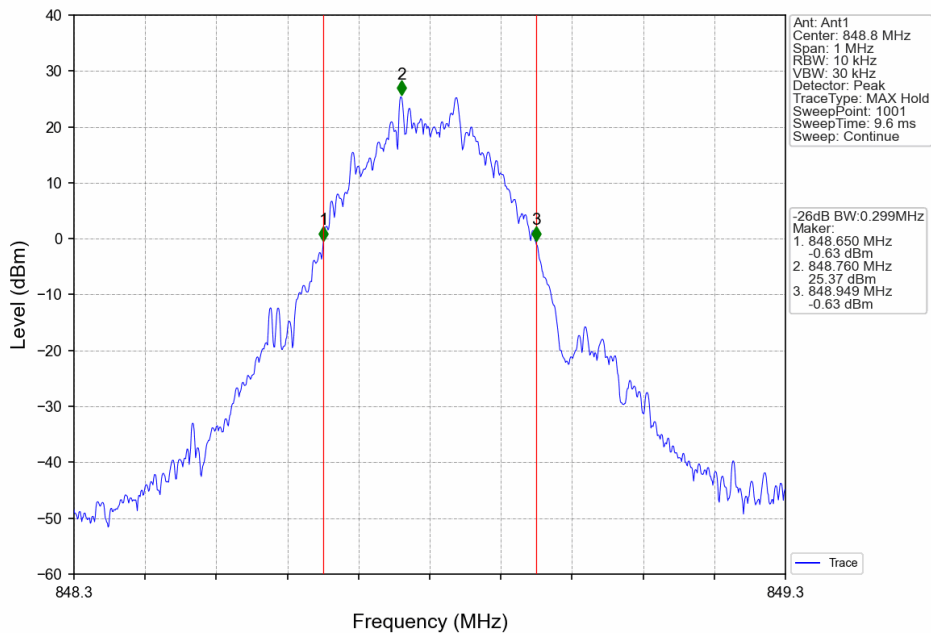


GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV





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



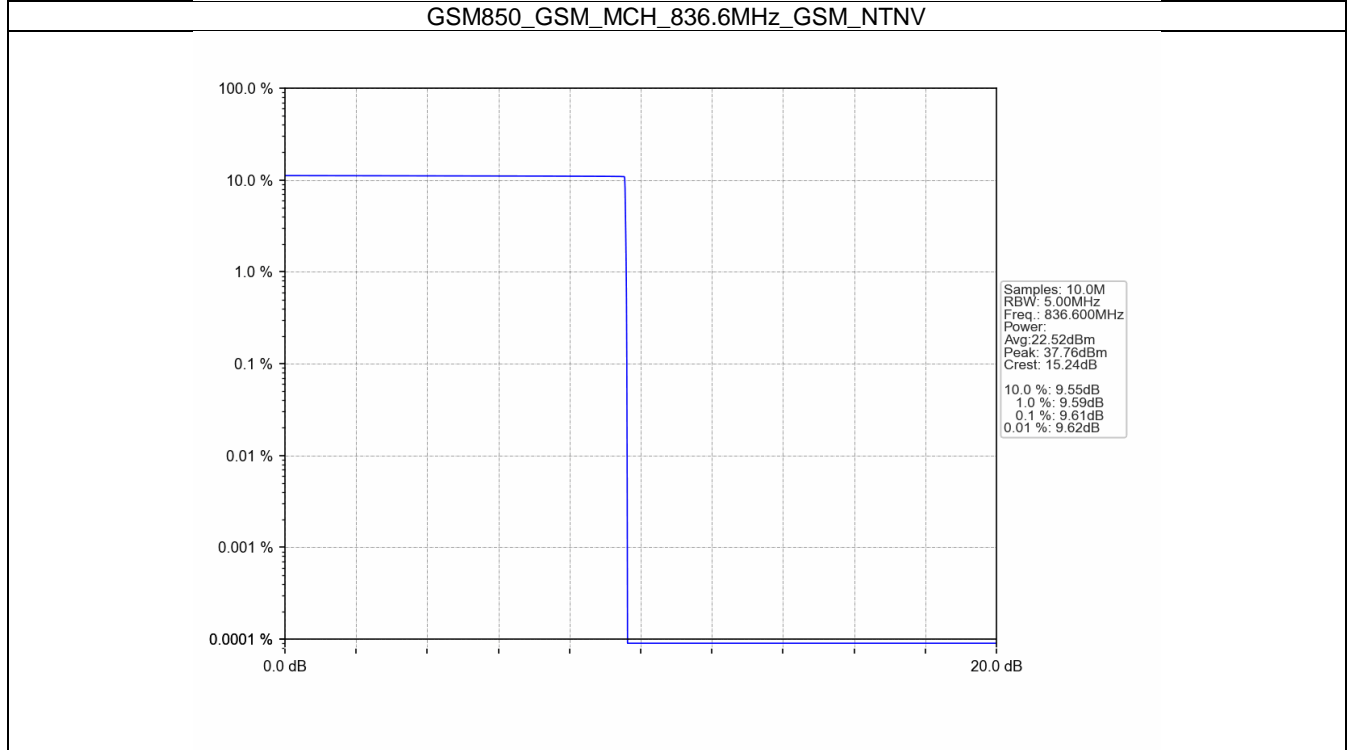
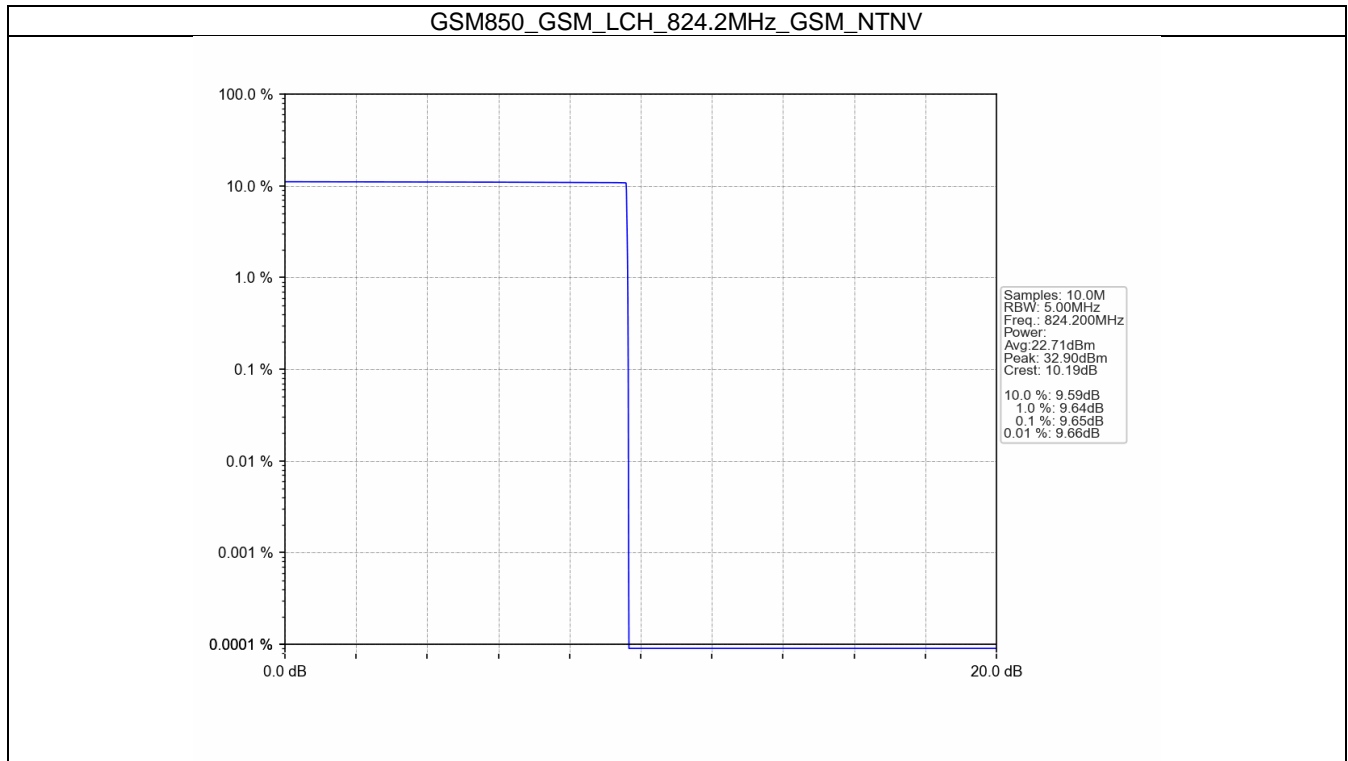
## 5. Peak-Average Ratio

### 5.1 GSM850

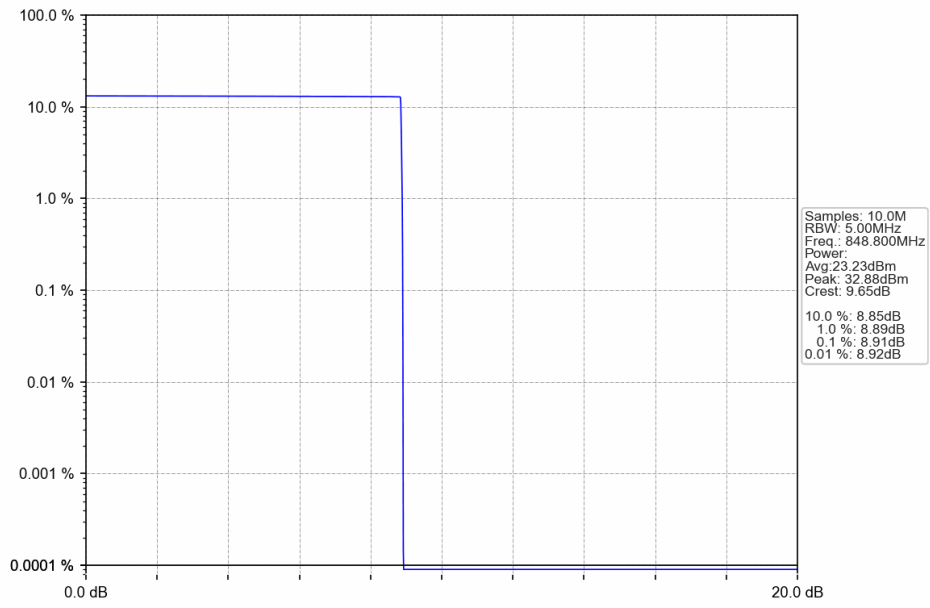
#### 5.1.1 Test Result

Band: GSM850						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	824.2	9.65	<=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

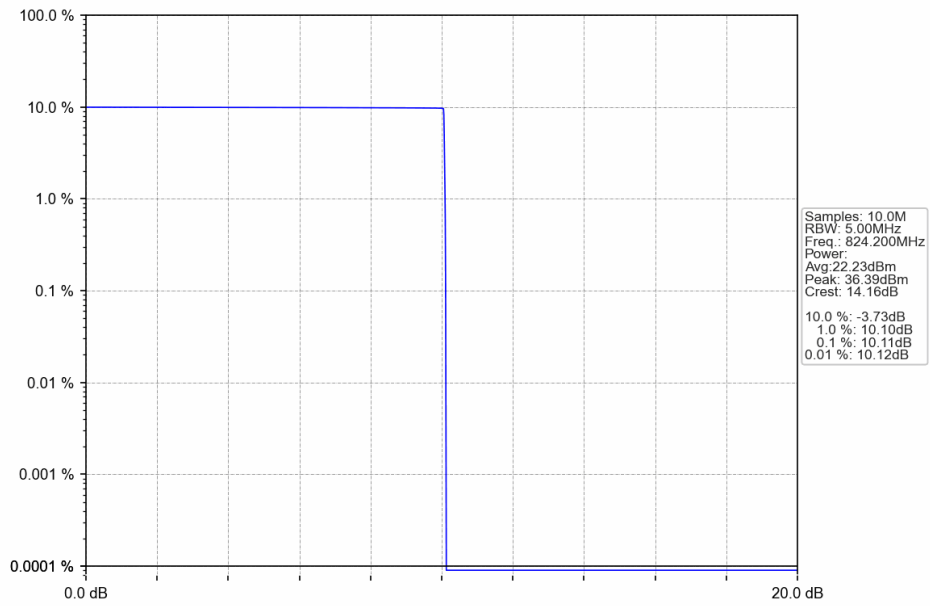
### 5.1.2 Test Graph



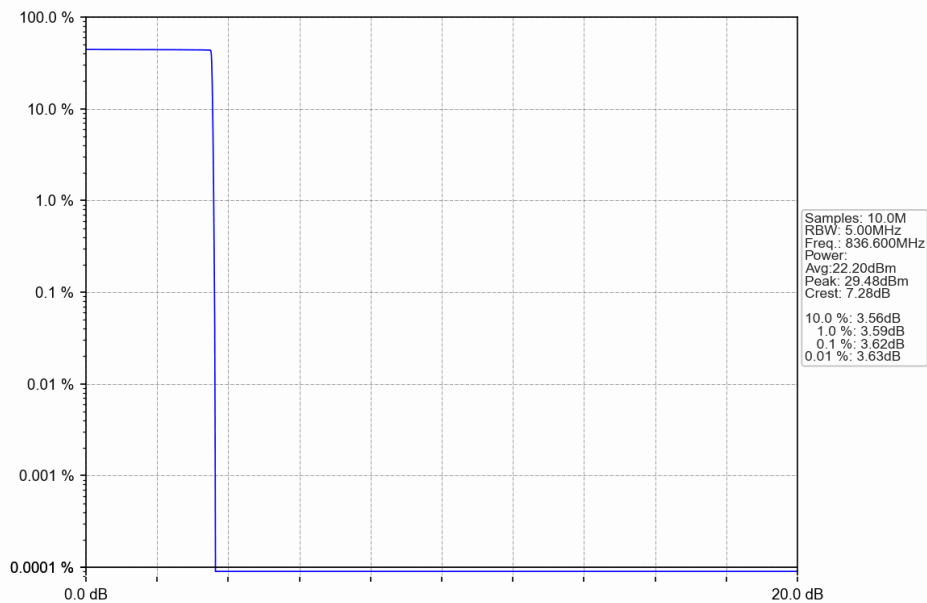
GSM850\_GSM\_HCH\_848.8MHz\_GSM\_NTNV



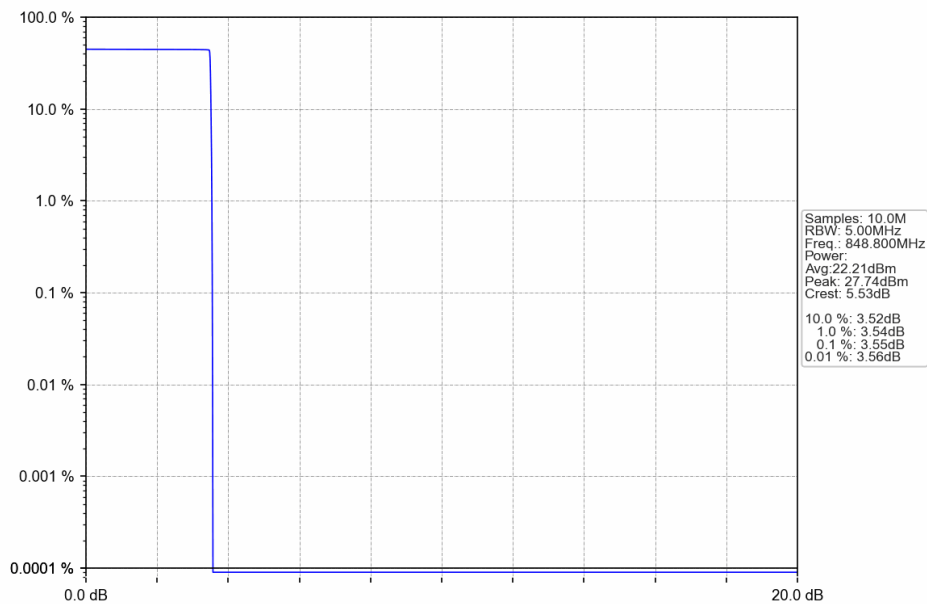
GSM850\_GPRS\_LCH\_824.2MHz\_4 TX Slots\_NTNV



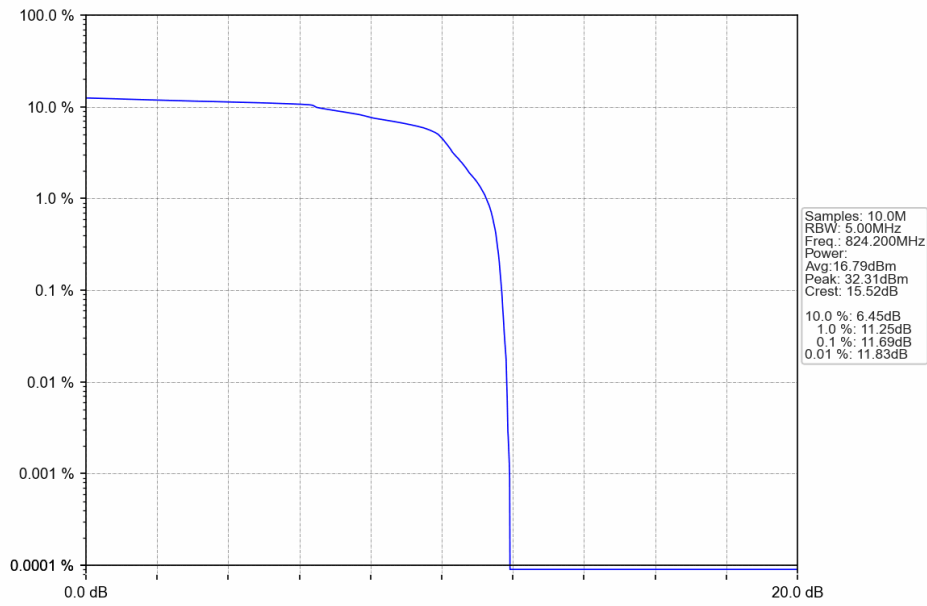
GSM850\_GPRS\_MCH\_836.6MHz\_4 TX Slots\_NTNV



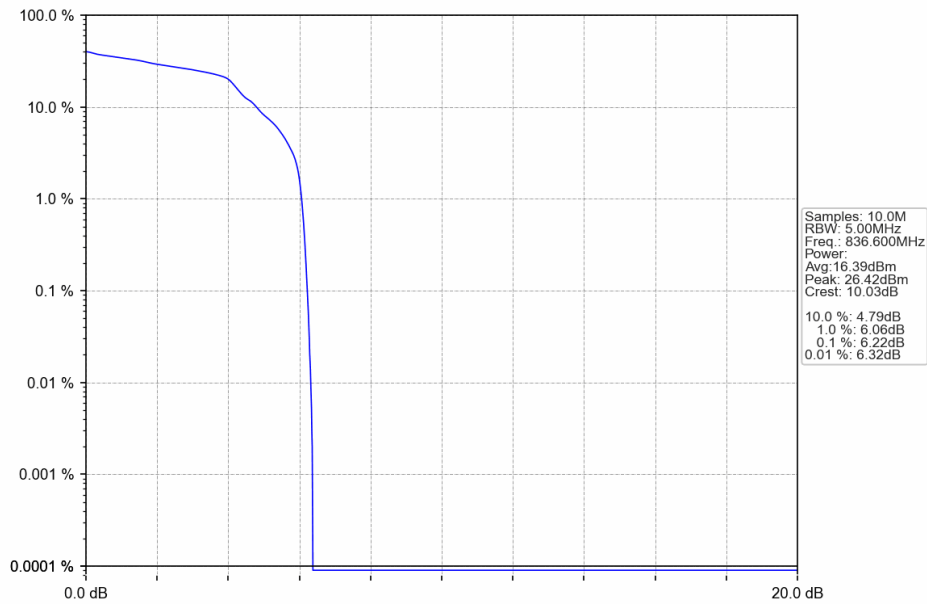
GSM850\_GPRS\_HCH\_848.8MHz\_4 TX Slots\_NTNV



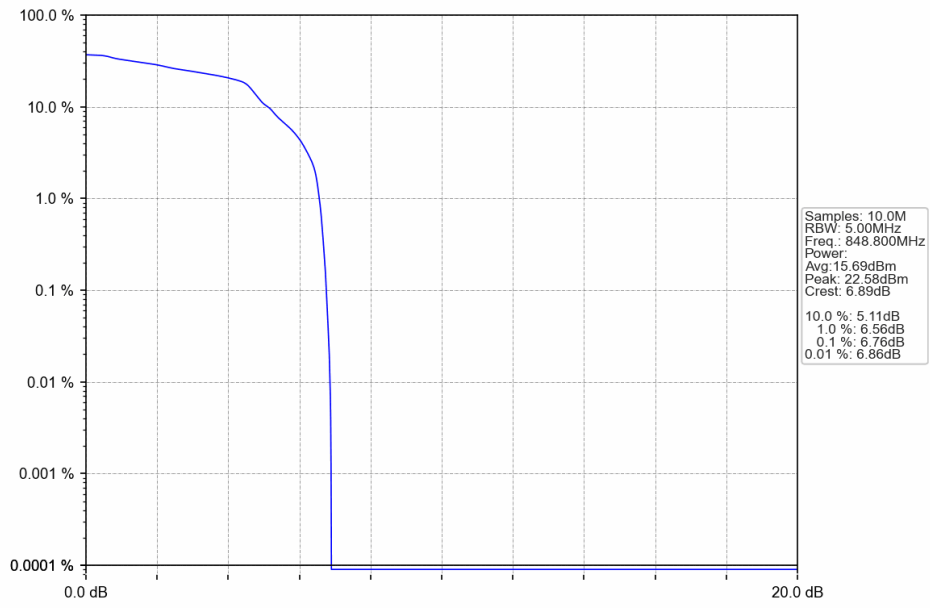
GSM850\_EGPRS\_LCH\_824.2MHz\_4 TX Slots\_NTNV



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



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



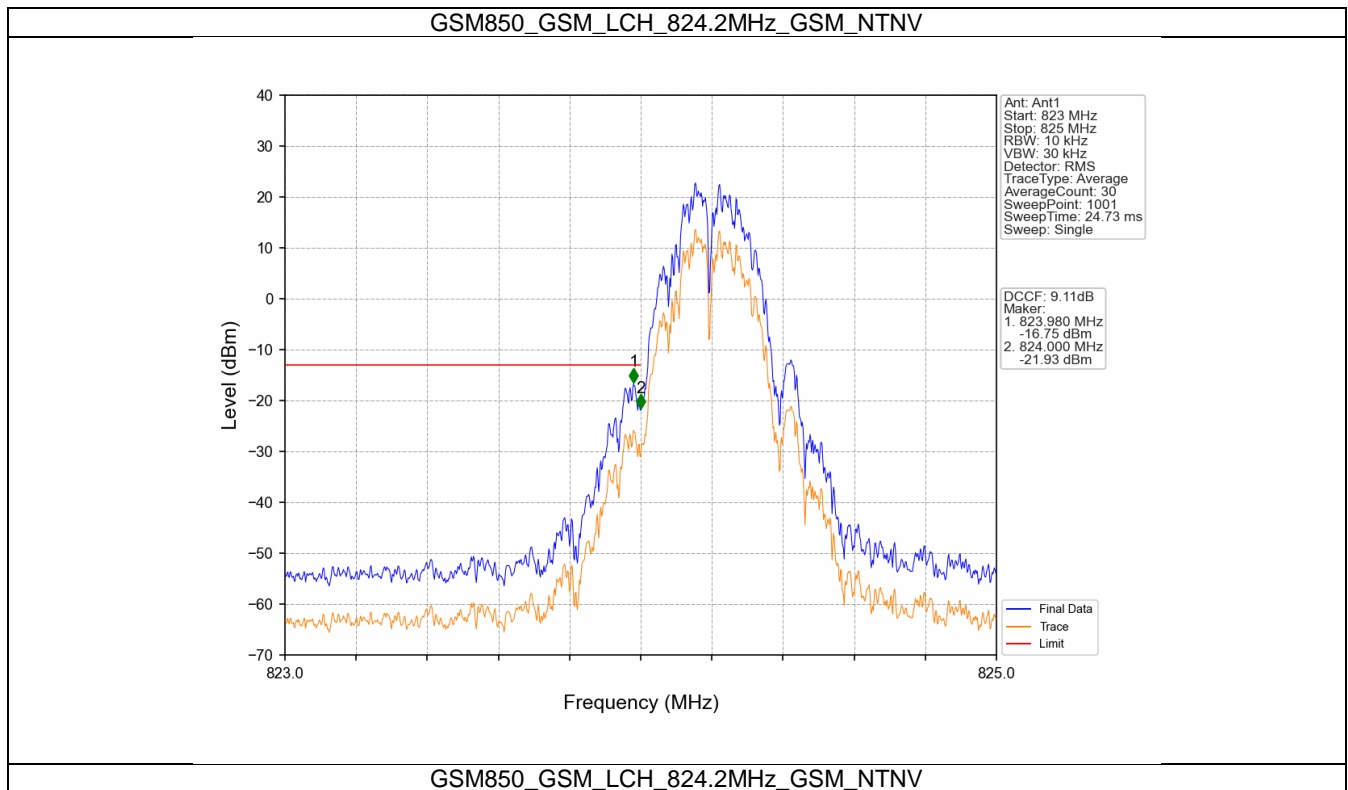
## 6. Spurious Emission

### 6.1 GSM850

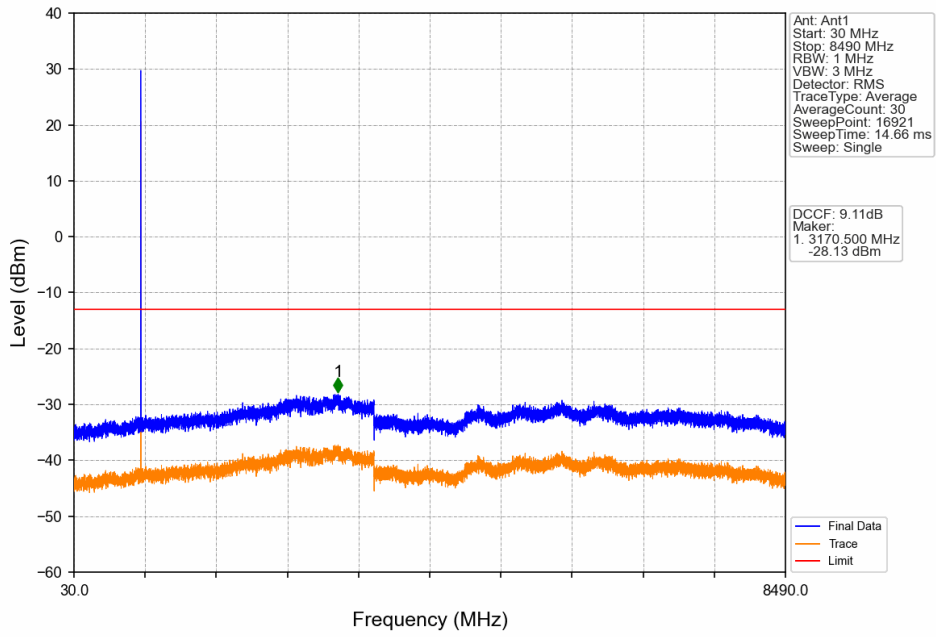
#### 6.1.1 Test Result

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

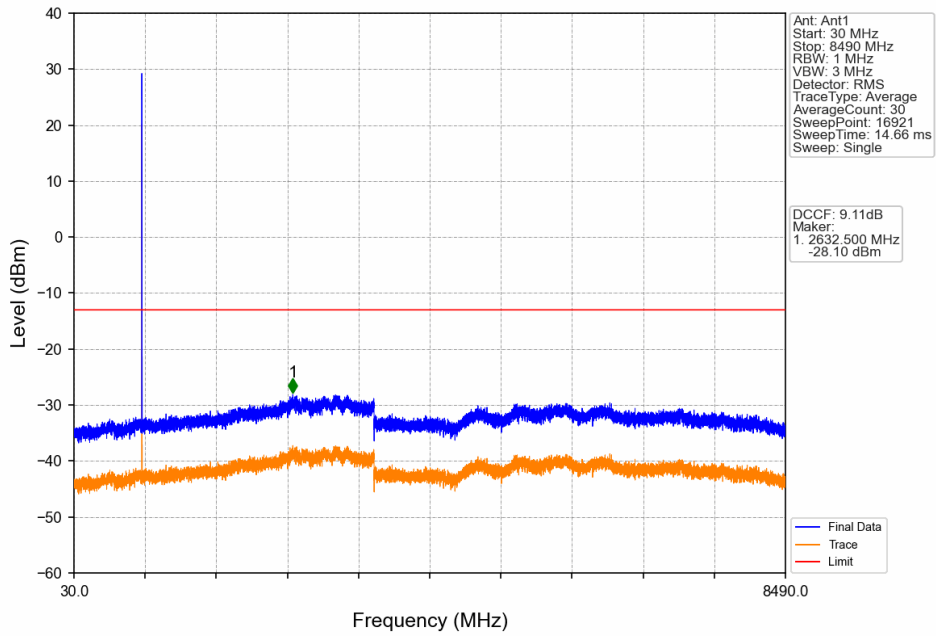
#### 6.1.2 Test Graph



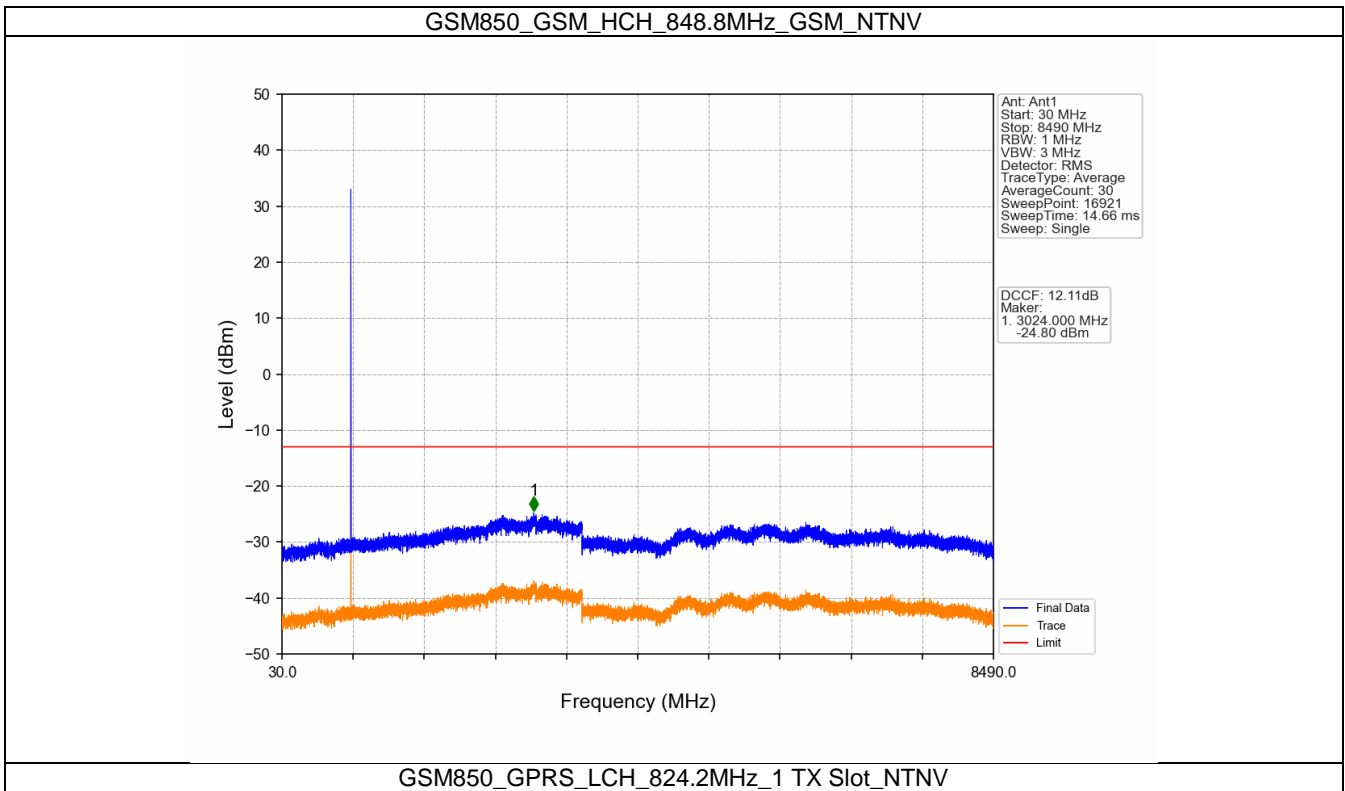
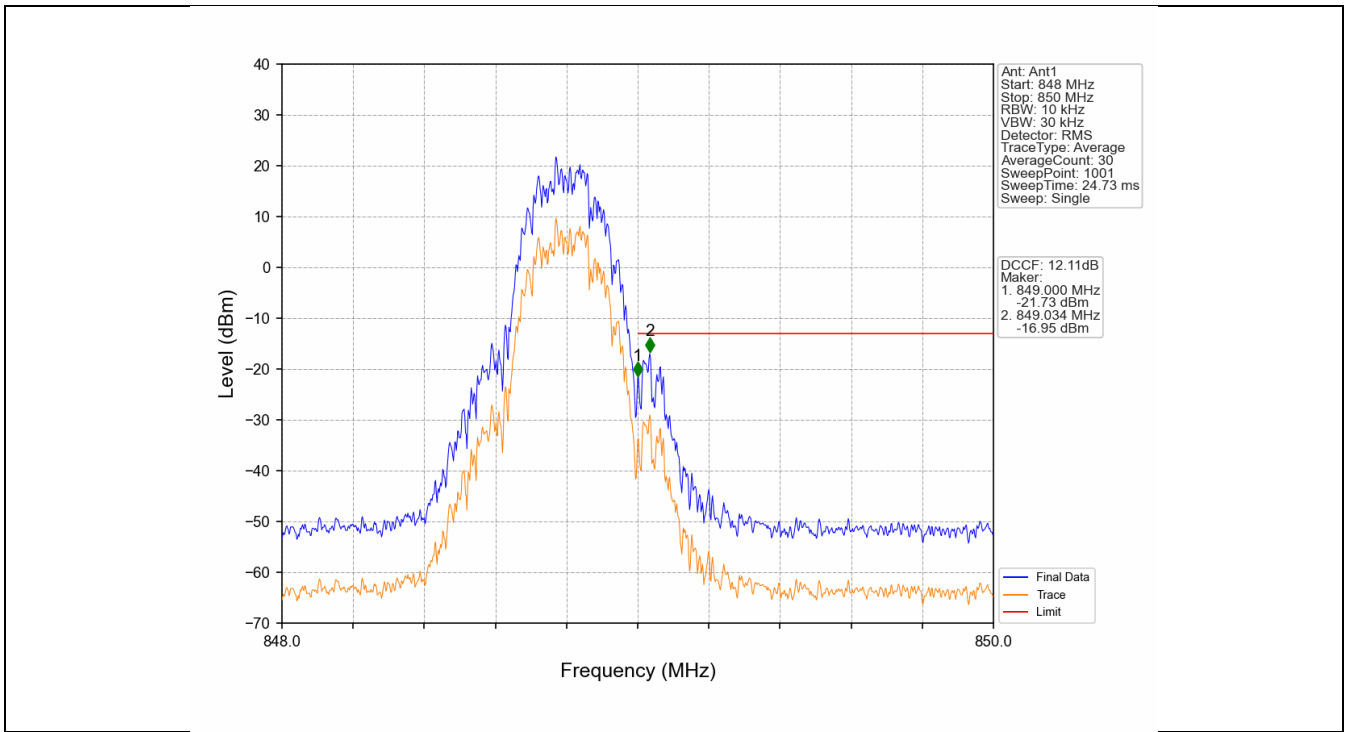


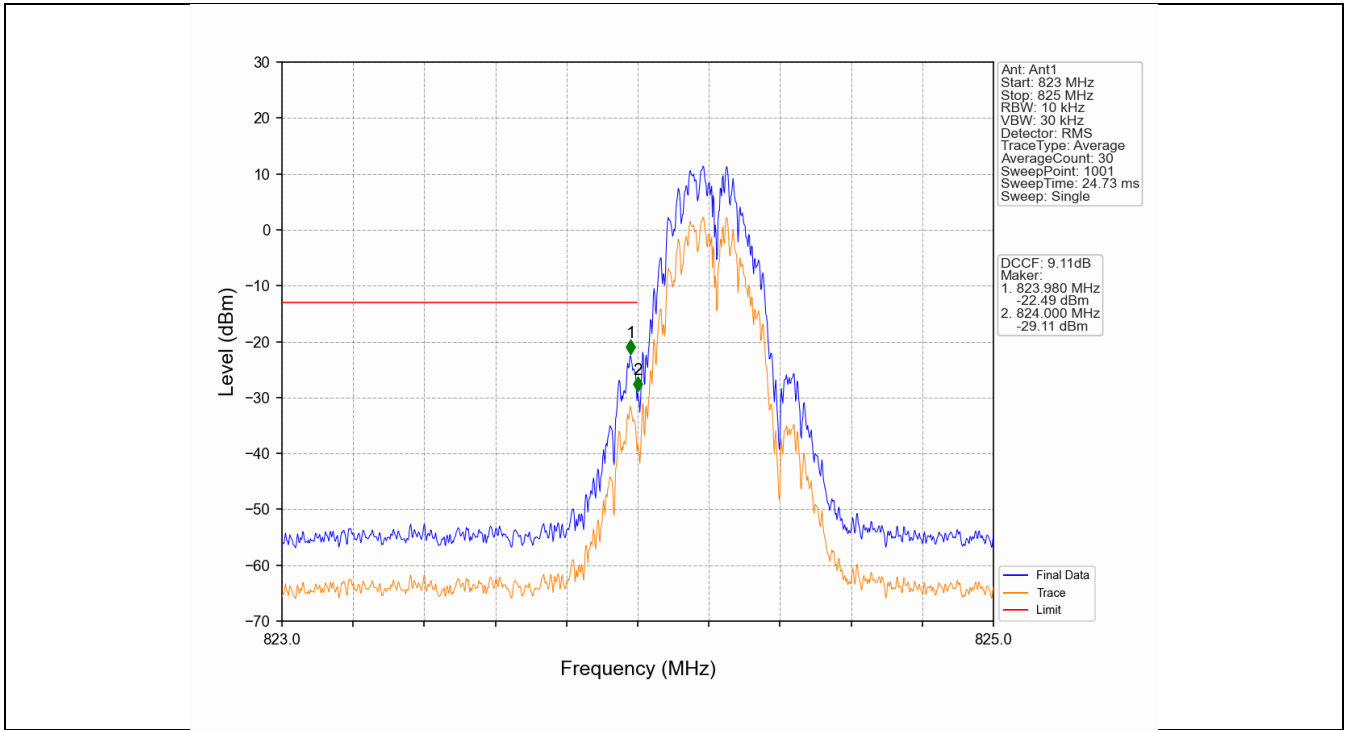


GSM850\_GSM\_MCH\_836.6MHz\_GSM\_NTNV

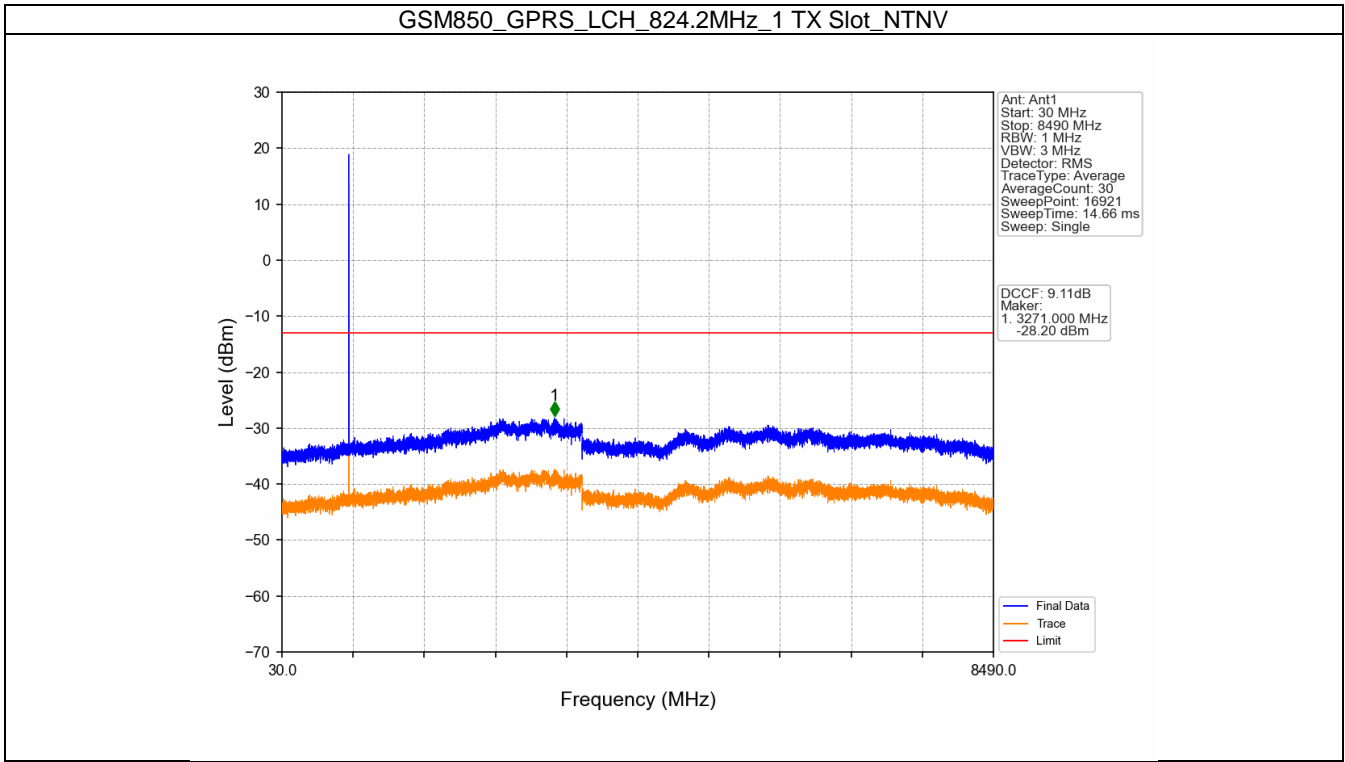


GSM850\_GSM\_HCH\_848.8MHz\_GSM\_NTNV

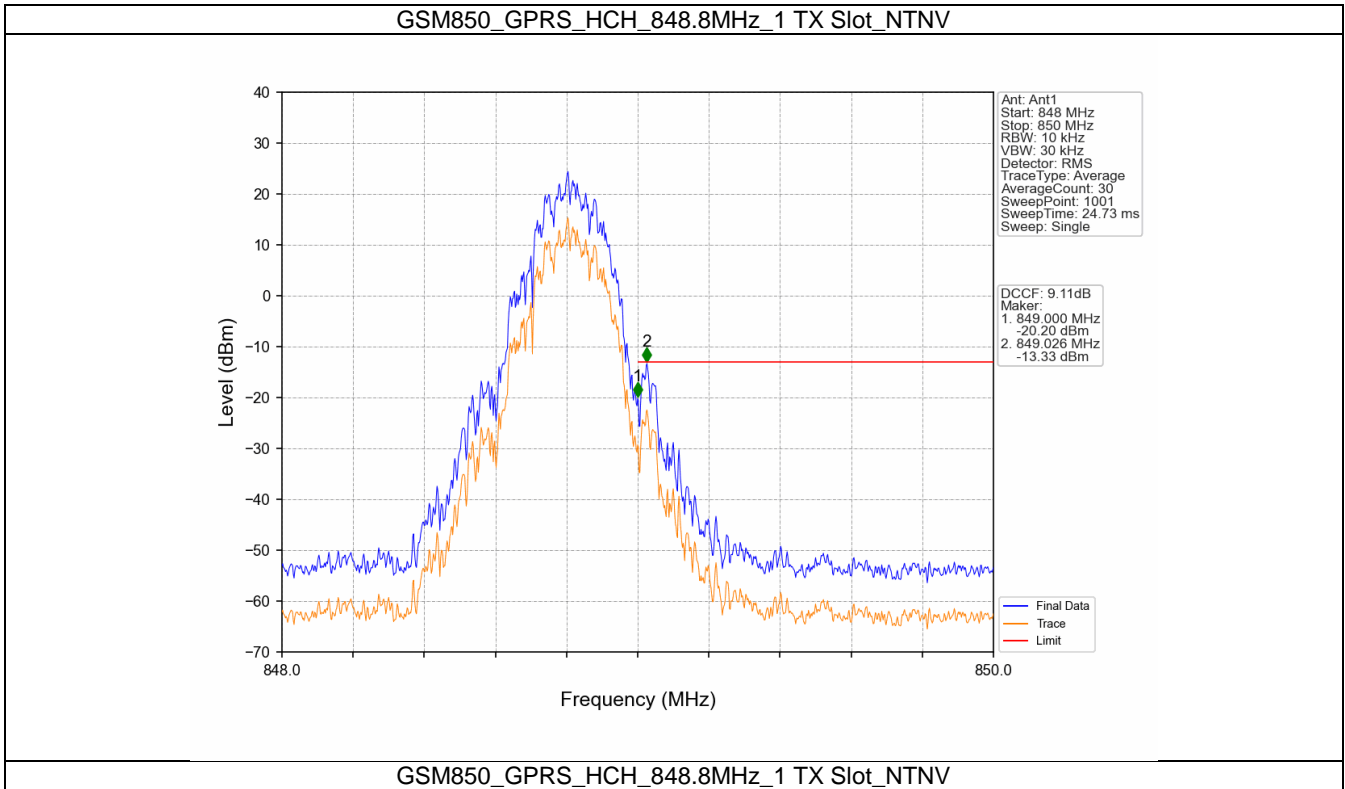
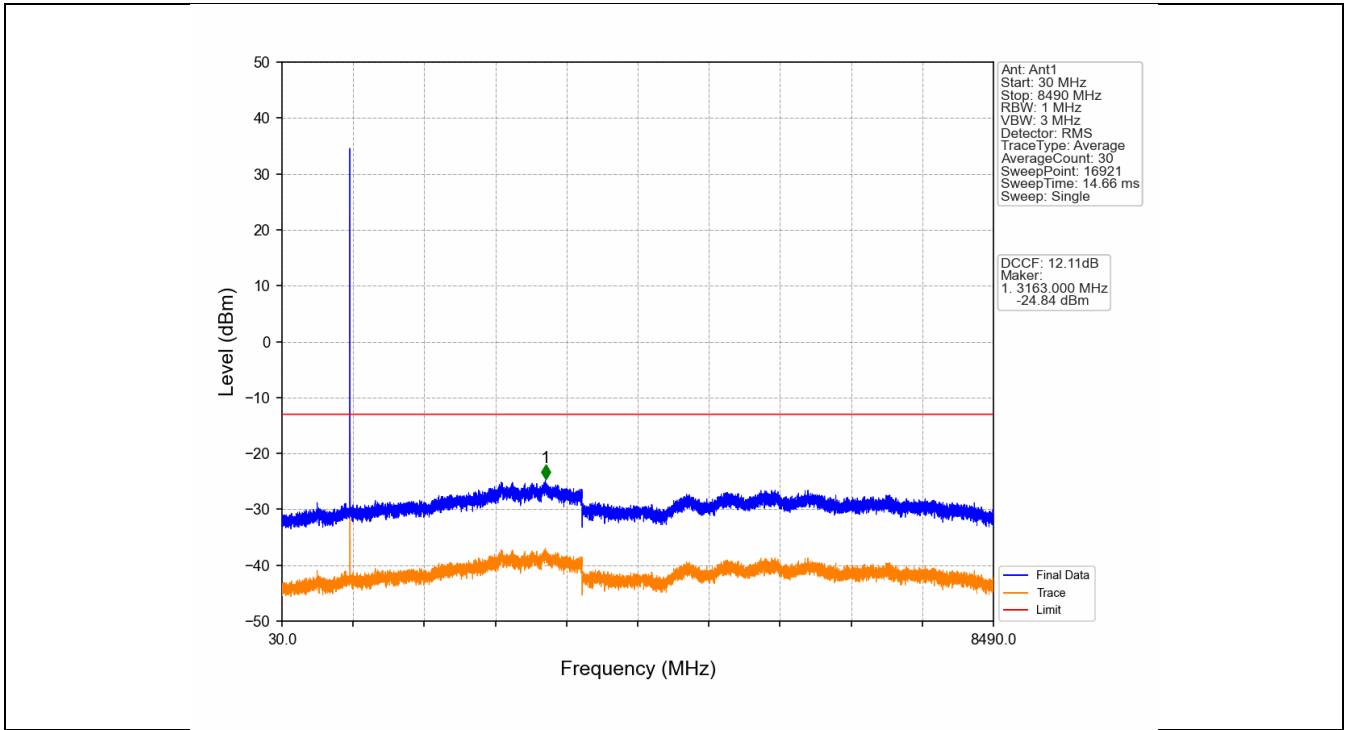


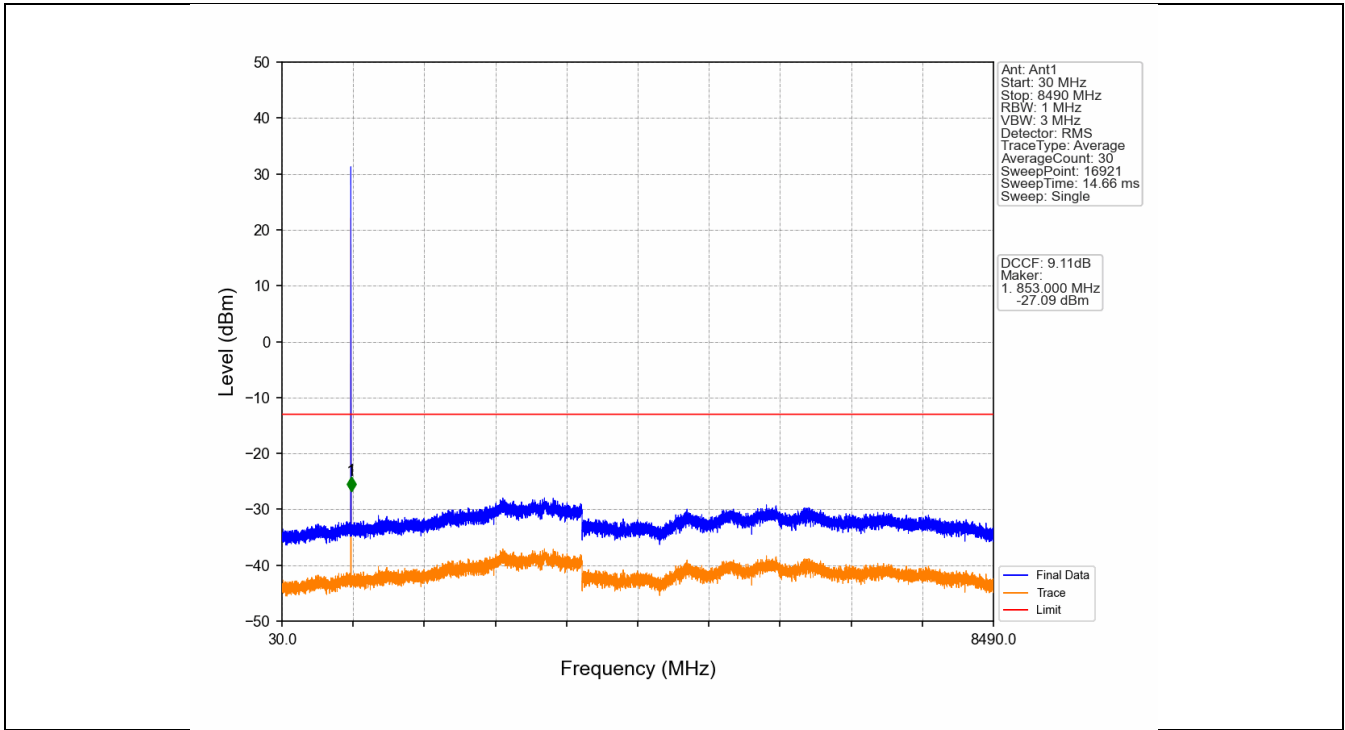


GSM850\_GPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV

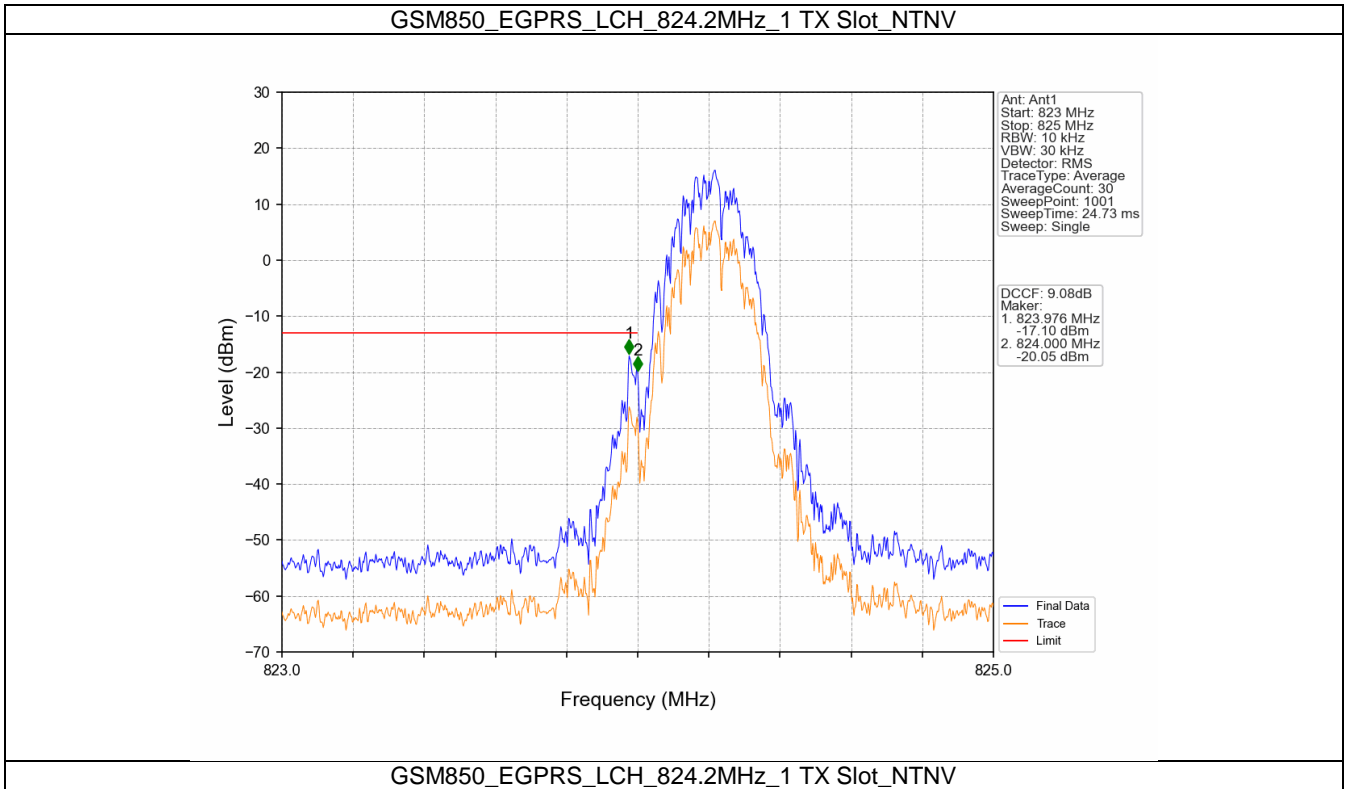


GSM850\_GPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV

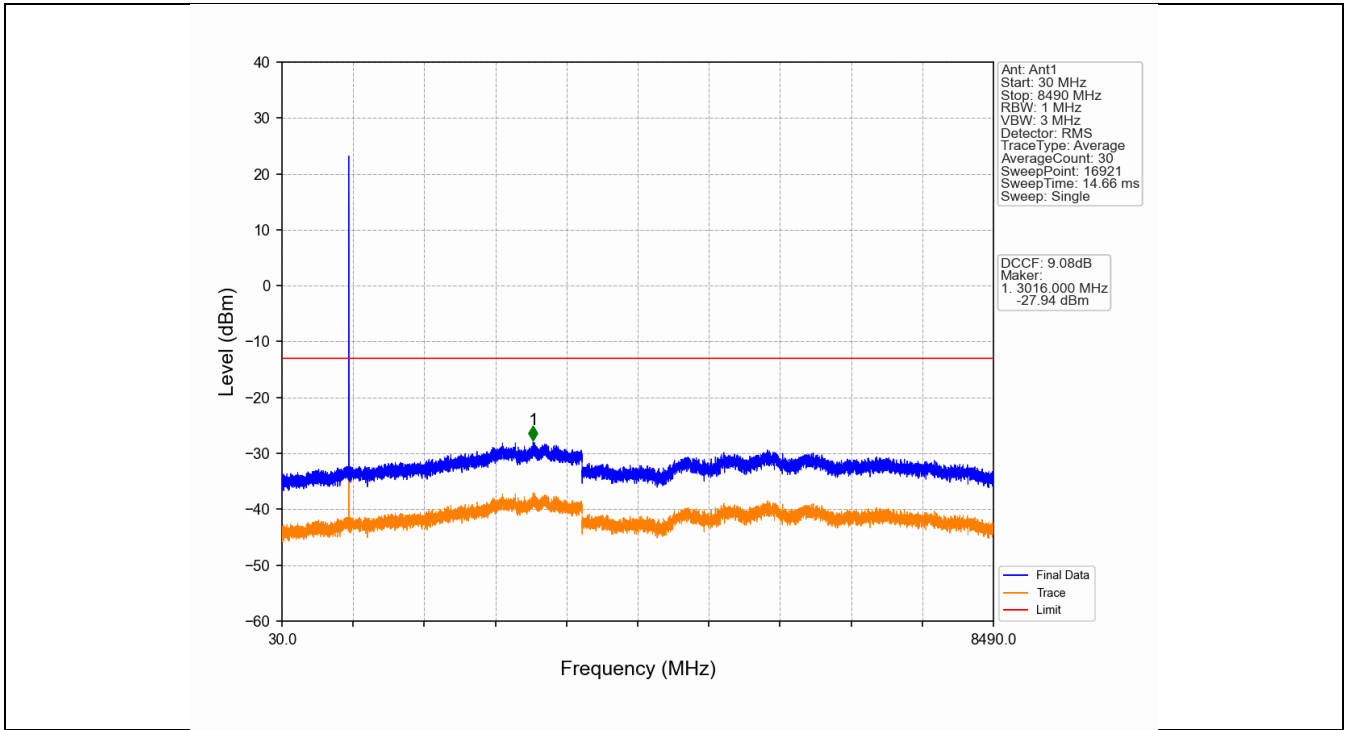




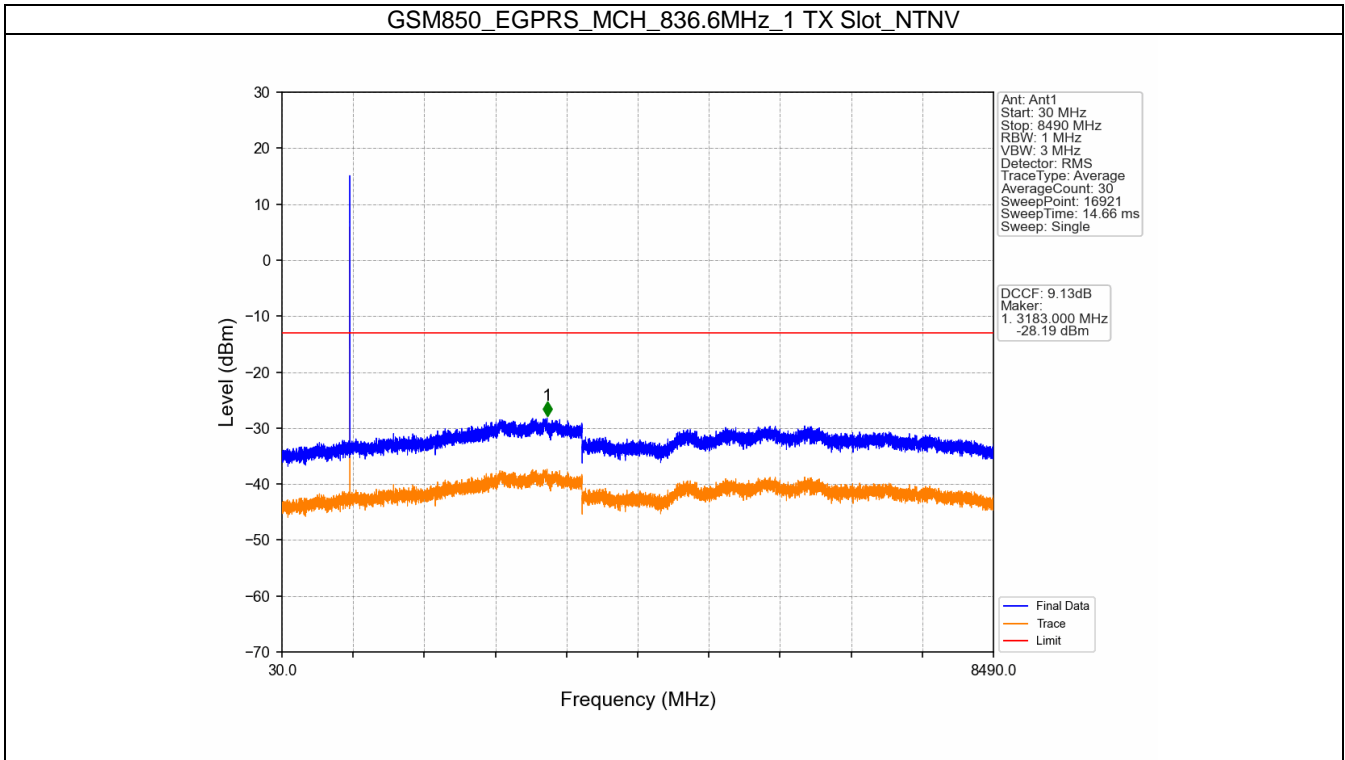
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



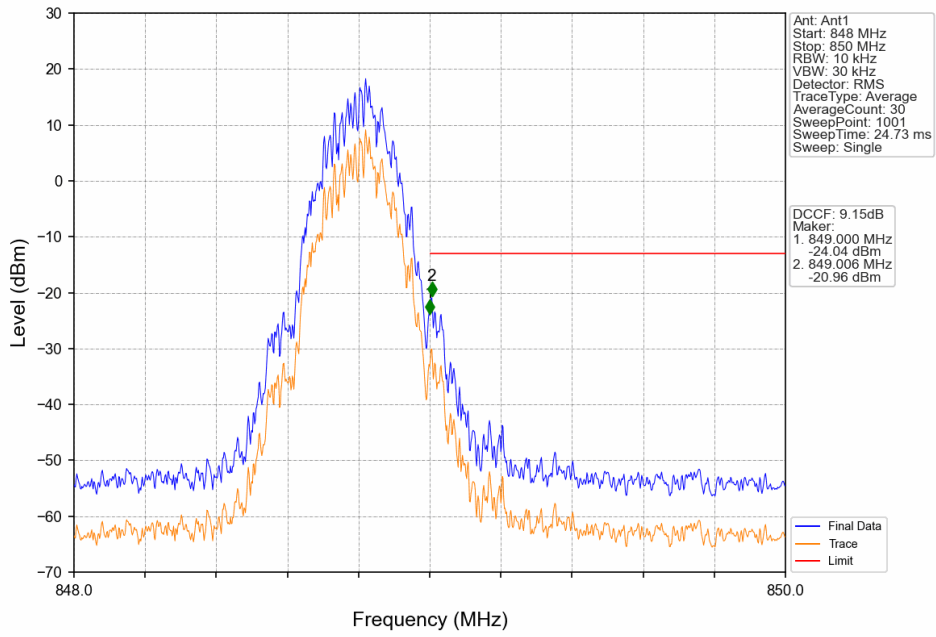
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



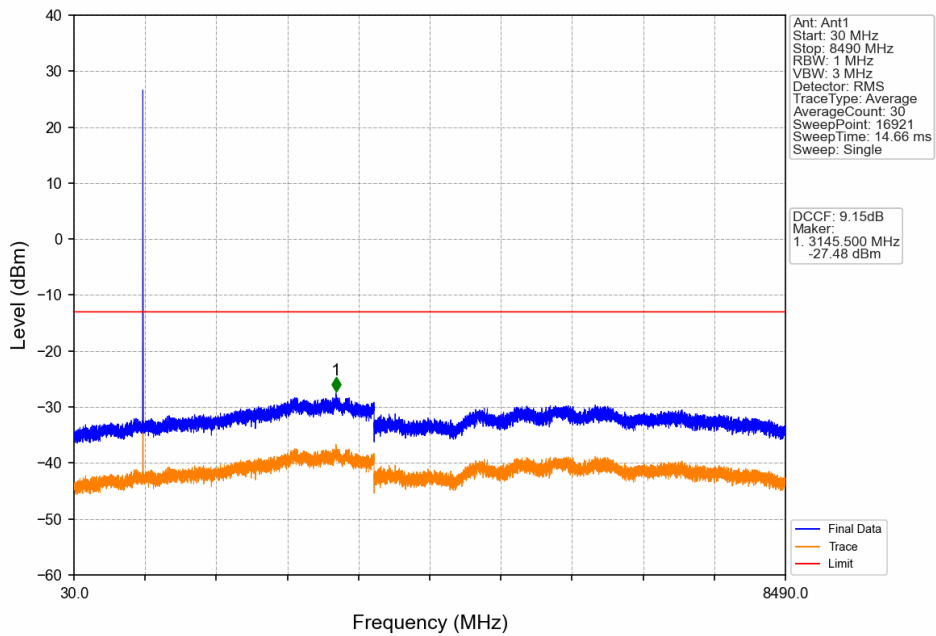
GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



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	1.5922	0.0180	ppm	251KGXW	22H	31.45
GSM850	0.2	824.2	848.8	0.3170	0.0230	ppm	247KG7W	22H	25.01

### 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	0.4073	0.0180	ppm	251KGXW	22H	26.1
GSM850	0.2	824.2	848.8	0.0924	0.0230	ppm	247KG7W	22H	19.66