

# 1. Effective (Isotropic) Radiated Power Output Data

## 1.1 PCS1900\_EIRP

### 1.1.1 Test Result

Band: PCS1900									
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict	
	Network	Subset				Result	Limit		
NTNV	GSM	GSM	1850.2	27.44	0.63	28.07	<=33.01	Pass	
			1880	27.74	0.63	28.37	<=33.01	Pass	
			1909.8	27.87	0.63	28.50	<=33.01	Pass	
	GPRS	1 TX Slot	1850.2	27.51	0.63	28.14	<=33.01	Pass	
		2 TX Slots	1850.2	26.39	0.63	27.02	<=33.01	Pass	
		3 TX Slots	1850.2	23.75	0.63	24.38	<=33.01	Pass	
		4 TX Slots	1850.2	22.57	0.63	23.20	<=33.01	Pass	
		1 TX Slot	1880	27.61	0.63	28.24	<=33.01	Pass	
		2 TX Slots	1880	26.79	0.63	27.42	<=33.01	Pass	
		3 TX Slots	1880	24.24	0.63	24.87	<=33.01	Pass	
		4 TX Slots	1880	23.10	0.63	23.73	<=33.01	Pass	
		1 TX Slot	1909.8	27.71	0.63	28.34	<=33.01	Pass	
		2 TX Slots	1909.8	27.04	0.63	27.67	<=33.01	Pass	
		3 TX Slots	1909.8	24.64	0.63	25.27	<=33.01	Pass	
		4 TX Slots	1909.8	23.49	0.63	24.12	<=33.01	Pass	
		EGPRS	1 TX Slot	1850.2	27.73	0.63	28.36	<=33.01	Pass
			2 TX Slots	1850.2	27.46	0.63	28.09	<=33.01	Pass
			3 TX Slots	1850.2	26.60	0.63	27.23	<=33.01	Pass
			4 TX Slots	1850.2	26.71	0.63	27.34	<=33.01	Pass
	1 TX Slot		1880	27.83	0.63	28.46	<=33.01	Pass	
	2 TX Slots		1880	27.60	0.63	28.23	<=33.01	Pass	
	3 TX Slots		1880	27.39	0.63	28.02	<=33.01	Pass	
	4 TX Slots		1880	26.92	0.63	27.55	<=33.01	Pass	
	1 TX Slot		1909.8	27.91	0.63	28.54	<=33.01	Pass	
	2 TX Slots		1909.8	27.87	0.63	28.50	<=33.01	Pass	
	3 TX Slots		1909.8	27.53	0.63	28.16	<=33.01	Pass	
	4 TX Slots		1909.8	27.18	0.63	27.81	<=33.01	Pass	

Note1: EIRP=Conducted Power+Antenna Gain

# 2. Frequency Stability

## 2.1 PCS1900

### 2.1.1 Test Result

Band: PCS1900							
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
					Result	Limit	
GSM	1850.2	20	3.27	108.900	0.0589	-2.5 to 2.5	Pass
			3.85	115.002	0.0622	-2.5 to 2.5	Pass
			4.43	115.067	0.0622	-2.5 to 2.5	Pass
		-30	3.85	116.746	0.0631	-2.5 to 2.5	Pass
		-20	3.85	118.231	0.0639	-2.5 to 2.5	Pass

		-10	3.85	118.521	0.0641	-2.5 to 2.5	Pass	
		0	3.85	120.749	0.0653	-2.5 to 2.5	Pass	
		10	3.85	117.521	0.0635	-2.5 to 2.5	Pass	
		30	3.85	118.392	0.0640	-2.5 to 2.5	Pass	
		40	3.85	116.487	0.0630	-2.5 to 2.5	Pass	
		50	3.85	122.170	0.0660	-2.5 to 2.5	Pass	
	1880	20	3.27	106.446	0.0566	-2.5 to 2.5	Pass	
			3.85	111.903	0.0595	-2.5 to 2.5	Pass	
			4.43	114.938	0.0611	-2.5 to 2.5	Pass	
		-30	3.85	108.739	0.0578	-2.5 to 2.5	Pass	
		-20	3.85	109.417	0.0582	-2.5 to 2.5	Pass	
		-10	3.85	107.318	0.0571	-2.5 to 2.5	Pass	
		0	3.85	108.351	0.0576	-2.5 to 2.5	Pass	
		10	3.85	108.481	0.0577	-2.5 to 2.5	Pass	
		30	3.85	111.225	0.0592	-2.5 to 2.5	Pass	
		40	3.85	106.866	0.0568	-2.5 to 2.5	Pass	
		50	3.85	109.578	0.0583	-2.5 to 2.5	Pass	
		1909.8	20	3.27	117.069	0.0613	-2.5 to 2.5	Pass
	3.85			110.676	0.0580	-2.5 to 2.5	Pass	
	4.43			112.000	0.0586	-2.5 to 2.5	Pass	
	-30		3.85	109.352	0.0573	-2.5 to 2.5	Pass	
	-20		3.85	111.063	0.0582	-2.5 to 2.5	Pass	
	-10		3.85	103.638	0.0543	-2.5 to 2.5	Pass	
	0		3.85	106.027	0.0555	-2.5 to 2.5	Pass	
	10		3.85	112.807	0.0591	-2.5 to 2.5	Pass	
	30		3.85	102.508	0.0537	-2.5 to 2.5	Pass	
	40		3.85	111.160	0.0582	-2.5 to 2.5	Pass	
	50		3.85	113.582	0.0595	-2.5 to 2.5	Pass	
	GPRS		1850.2	20	3.27	115.196	0.0623	-2.5 to 2.5
		3.85			114.679	0.0620	-2.5 to 2.5	Pass
4.43		113.194			0.0612	-2.5 to 2.5	Pass	
-30		3.85		111.096	0.0600	-2.5 to 2.5	Pass	
-20		3.85		112.129	0.0606	-2.5 to 2.5	Pass	
-10		3.85		120.007	0.0649	-2.5 to 2.5	Pass	
0		3.85		113.517	0.0614	-2.5 to 2.5	Pass	
10		3.85		113.033	0.0611	-2.5 to 2.5	Pass	
30		3.85		110.999	0.0600	-2.5 to 2.5	Pass	
40		3.85		117.876	0.0637	-2.5 to 2.5	Pass	
50		3.85		110.870	0.0599	-2.5 to 2.5	Pass	
1880		20		3.27	113.194	0.0602	-2.5 to 2.5	Pass
			3.85	110.708	0.0589	-2.5 to 2.5	Pass	
			4.43	116.487	0.0620	-2.5 to 2.5	Pass	
		-30	3.85	115.357	0.0614	-2.5 to 2.5	Pass	
		-20	3.85	116.132	0.0618	-2.5 to 2.5	Pass	
		-10	3.85	114.905	0.0611	-2.5 to 2.5	Pass	
		0	3.85	108.674	0.0578	-2.5 to 2.5	Pass	
		10	3.85	110.095	0.0586	-2.5 to 2.5	Pass	
		30	3.85	113.905	0.0606	-2.5 to 2.5	Pass	
		40	3.85	111.967	0.0596	-2.5 to 2.5	Pass	
		50	3.85	115.906	0.0617	-2.5 to 2.5	Pass	
		1909.8	20	3.27	112.258	0.0588	-2.5 to 2.5	Pass
3.85				112.581	0.0589	-2.5 to 2.5	Pass	
4.43				110.127	0.0577	-2.5 to 2.5	Pass	
-30			3.85	109.417	0.0573	-2.5 to 2.5	Pass	
-20			3.85	110.385	0.0578	-2.5 to 2.5	Pass	
-10			3.85	115.228	0.0603	-2.5 to 2.5	Pass	
0		3.85	114.615	0.0600	-2.5 to 2.5	Pass		

		10	3.85	110.030	0.0576	-2.5 to 2.5	Pass
		30	3.85	113.517	0.0594	-2.5 to 2.5	Pass
		40	3.85	110.095	0.0576	-2.5 to 2.5	Pass
		50	3.85	111.031	0.0581	-2.5 to 2.5	Pass
EGPRS	1850.2	20	3.27	-3132.083	-1.6928	-2.5 to 2.5	Pass
			3.85	-3326.088	-1.7977	-2.5 to 2.5	Pass
			4.43	-1714.282	-0.9265	-2.5 to 2.5	Pass
		-30	3.85	-1570.771	-0.8490	-2.5 to 2.5	Pass
		-20	3.85	-1553.240	-0.8395	-2.5 to 2.5	Pass
		-10	3.85	-1630.791	-0.8814	-2.5 to 2.5	Pass
		0	3.85	-1594.340	-0.8617	-2.5 to 2.5	Pass
		10	3.85	104.186	0.0563	-2.5 to 2.5	Pass
		30	3.85	-1580.683	-0.8543	-2.5 to 2.5	Pass
		40	3.85	106.479	0.0575	-2.5 to 2.5	Pass
		50	3.85	112.871	0.0610	-2.5 to 2.5	Pass
		1880	20	3.27	121.653	0.0647	-2.5 to 2.5
	3.85			115.939	0.0617	-2.5 to 2.5	Pass
	4.43			110.289	0.0587	-2.5 to 2.5	Pass
	-30		3.85	113.323	0.0603	-2.5 to 2.5	Pass
	-20		3.85	94.113	0.0501	-2.5 to 2.5	Pass
	-10		3.85	-1603.186	-0.8528	-2.5 to 2.5	Pass
	0		3.85	103.928	0.0553	-2.5 to 2.5	Pass
	10		3.85	99.214	0.0528	-2.5 to 2.5	Pass
	30		3.85	109.385	0.0582	-2.5 to 2.5	Pass
	40		3.85	117.262	0.0624	-2.5 to 2.5	Pass
	50		3.85	97.697	0.0520	-2.5 to 2.5	Pass
	1909.8		20	3.27	94.307	0.0494	-2.5 to 2.5
		3.85		-1446.341	-0.7573	-2.5 to 2.5	Pass
		4.43		110.934	0.0581	-2.5 to 2.5	Pass
		-30	3.85	-1579.165	-0.8269	-2.5 to 2.5	Pass
		-20	3.85	-1470.879	-0.7702	-2.5 to 2.5	Pass
		-10	3.85	104.122	0.0545	-2.5 to 2.5	Pass
		0	3.85	103.638	0.0543	-2.5 to 2.5	Pass
		10	3.85	120.136	0.0629	-2.5 to 2.5	Pass
		30	3.85	-3524.162	-1.8453	-2.5 to 2.5	Pass
		40	3.85	104.186	0.0546	-2.5 to 2.5	Pass
50		3.85	102.378	0.0536	-2.5 to 2.5	Pass	

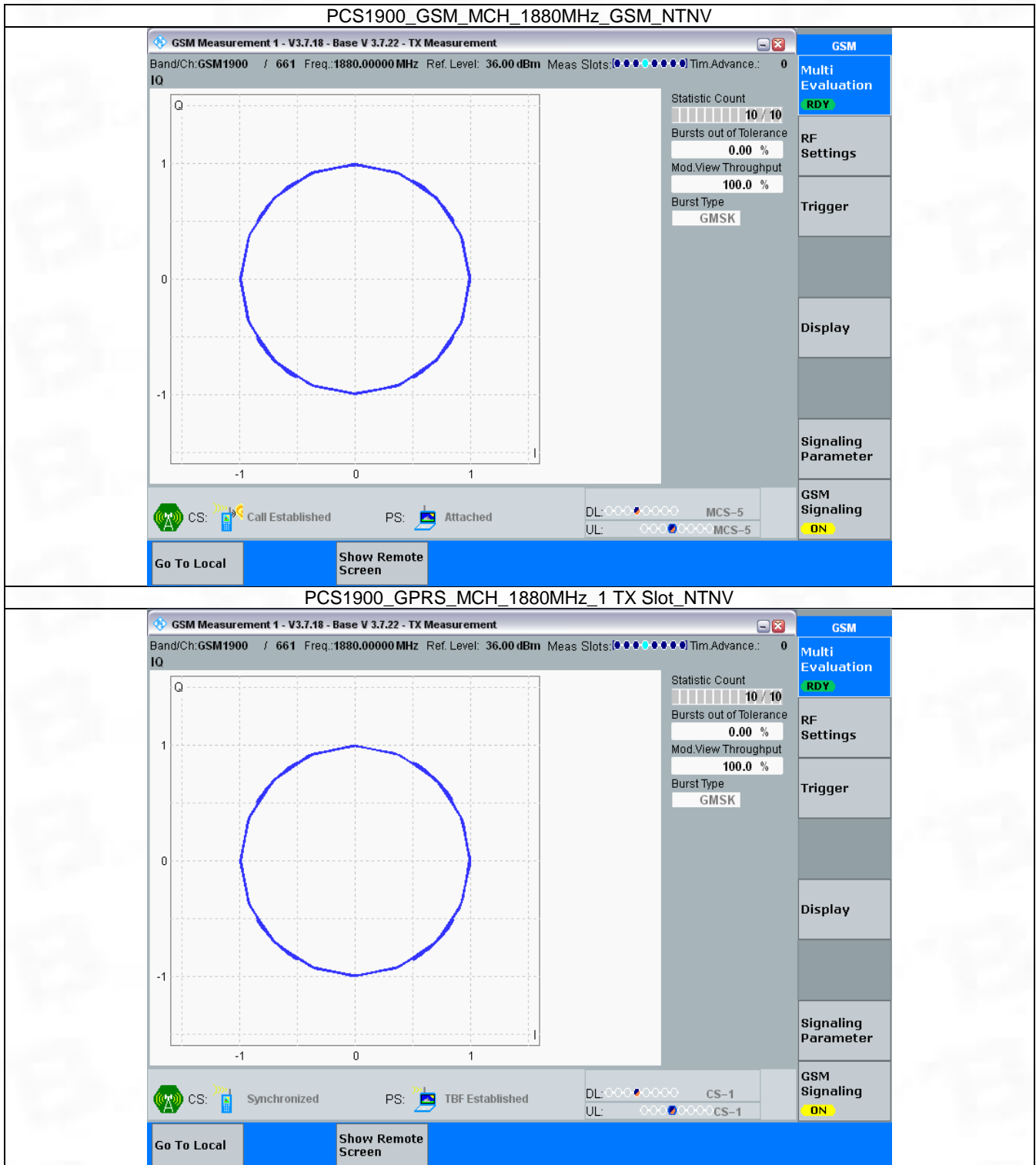
### 3. Modulation Characteristics

#### 3.1 PCS1900

##### 3.1.1 Test Result

Band: PCS1900						
ENV	Mode		Frequency (MHz)	Modulation Characteristics		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1880	Refer To Test Graph		Pass
	GPRS	1 TX Slot	1880	Refer To Test Graph		Pass
	EGPRS	1 TX Slot	1880	Refer To Test Graph		Pass

### 3.1.2 Test Graph

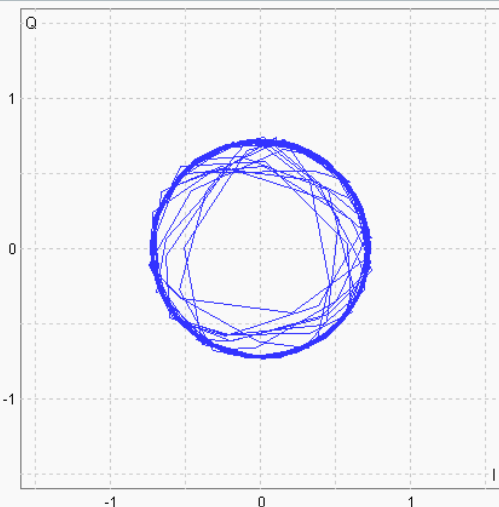


PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV

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

Band/Ch: GSM1900 / 661 Freq.: 1880.00000 MHz Ref. Level: 39.23 dBm Meas Slots: [●●●●●●●●] Tim. Advance.: 0

**IQ**



Statistic Count: 10 / 10  
Bursts out of Tolerance: 30.00 %  
Mod. View Throughput: 100.0 %  
Burst Type: GMSK

**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

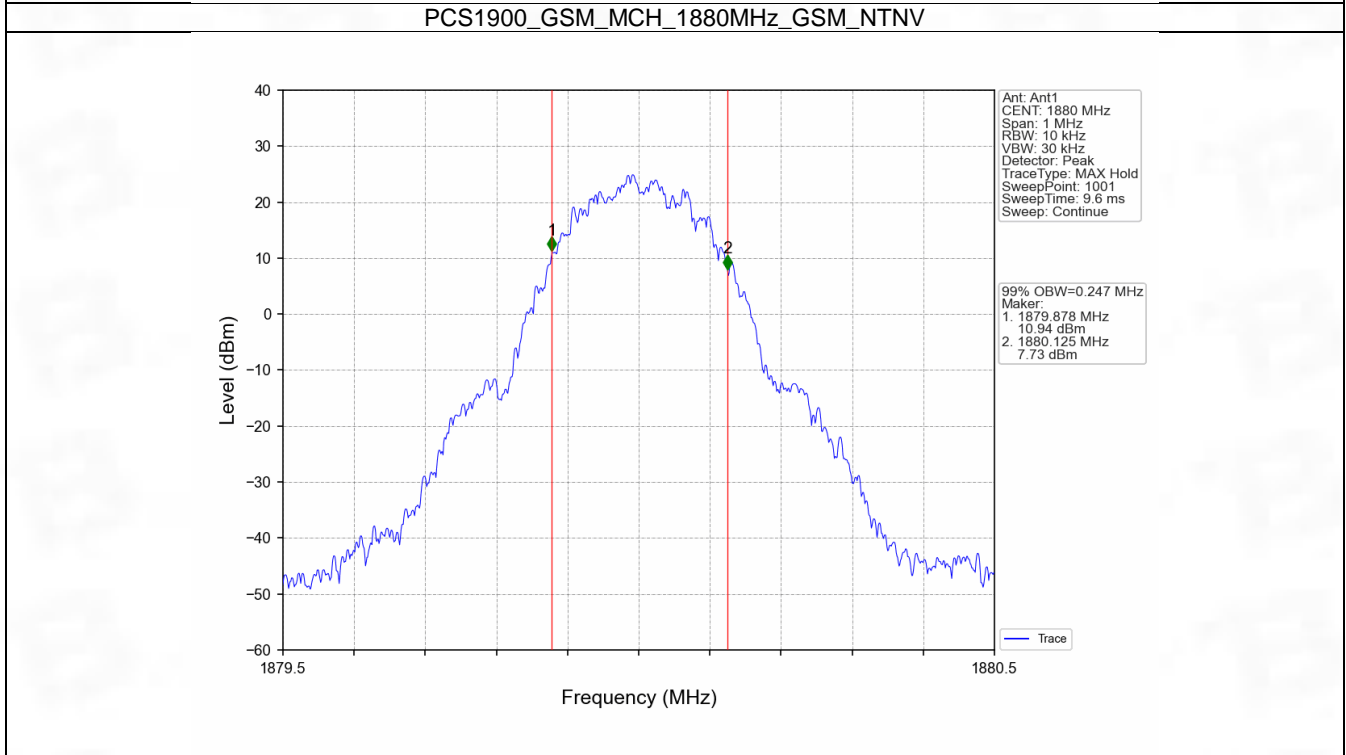
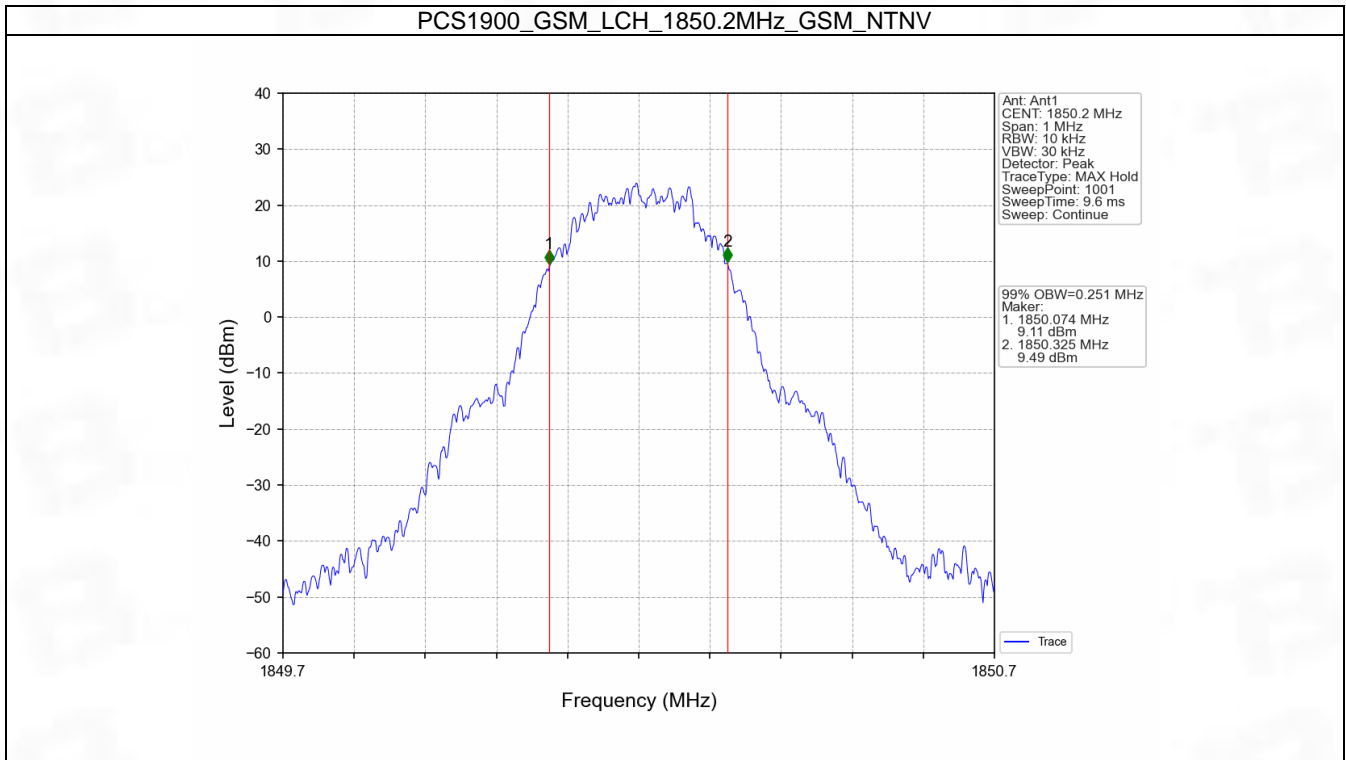
## 4. 99% & 26dB Bandwidth

### 4.1 PCS1900\_OBW

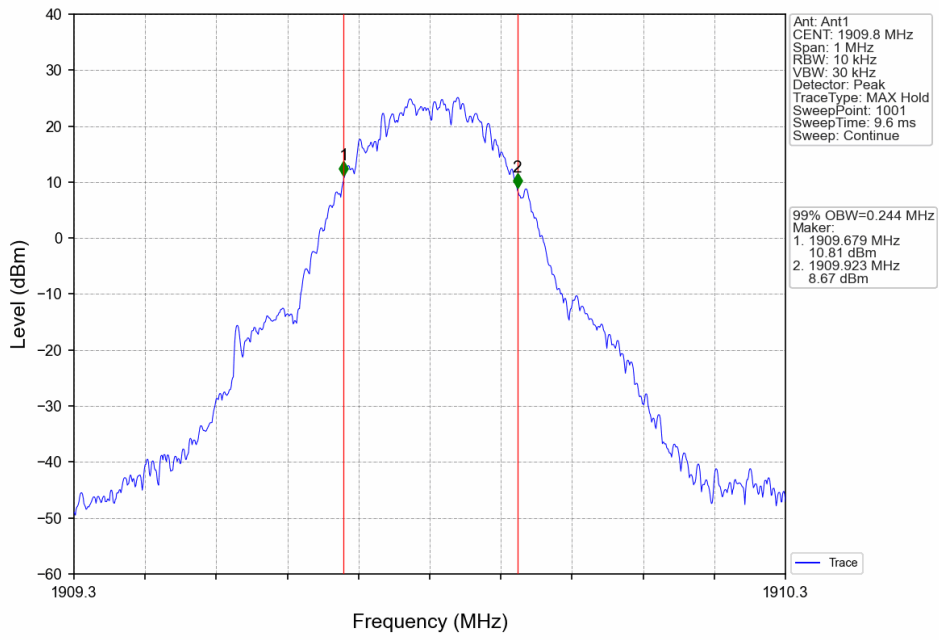
#### 4.1.1 Test Result

Band: PCS1900						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.251	/	Pass
			1880	0.247	/	Pass
			1909.8	0.244	/	Pass
	GPRS	1 TX Slot	1850.2	0.243	/	Pass
			1880	0.246	/	Pass
			1909.8	0.244	/	Pass
	EGPRS	1 TX Slot	1850.2	0.437	/	Pass
			1880	0.443	/	Pass
			1909.8	0.428	/	Pass

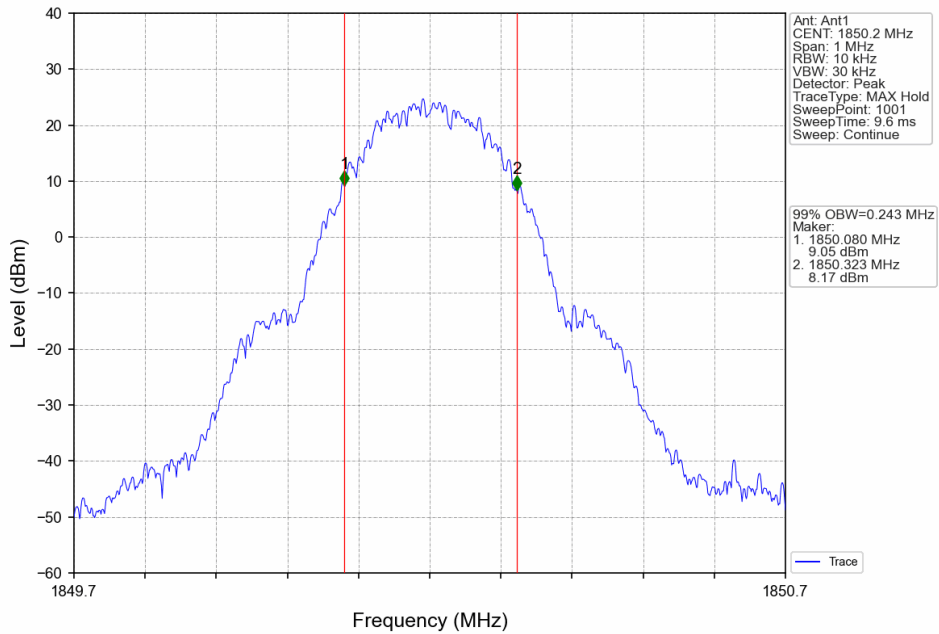
### 4.1.2 Test Graph



PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV

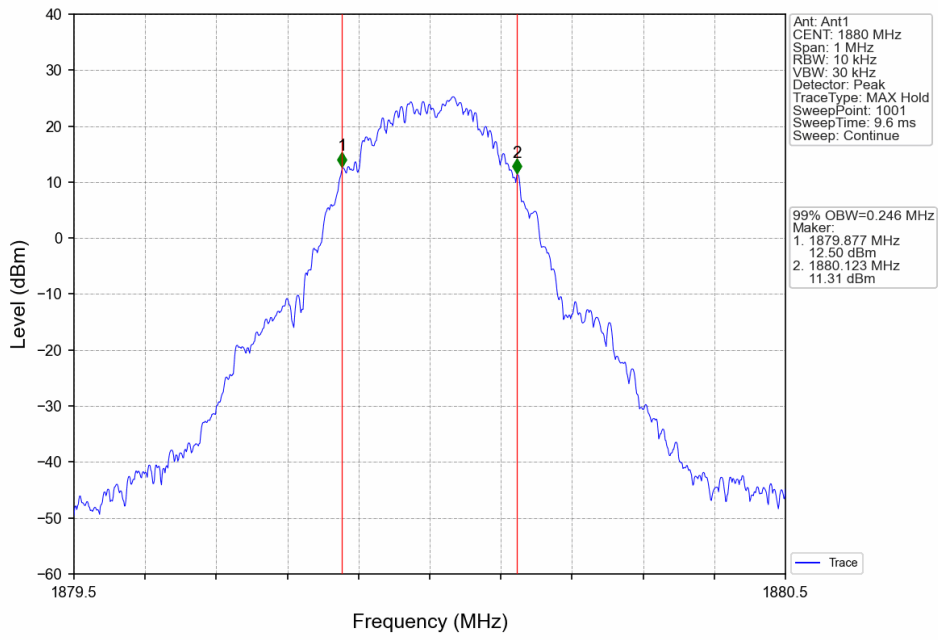


PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV

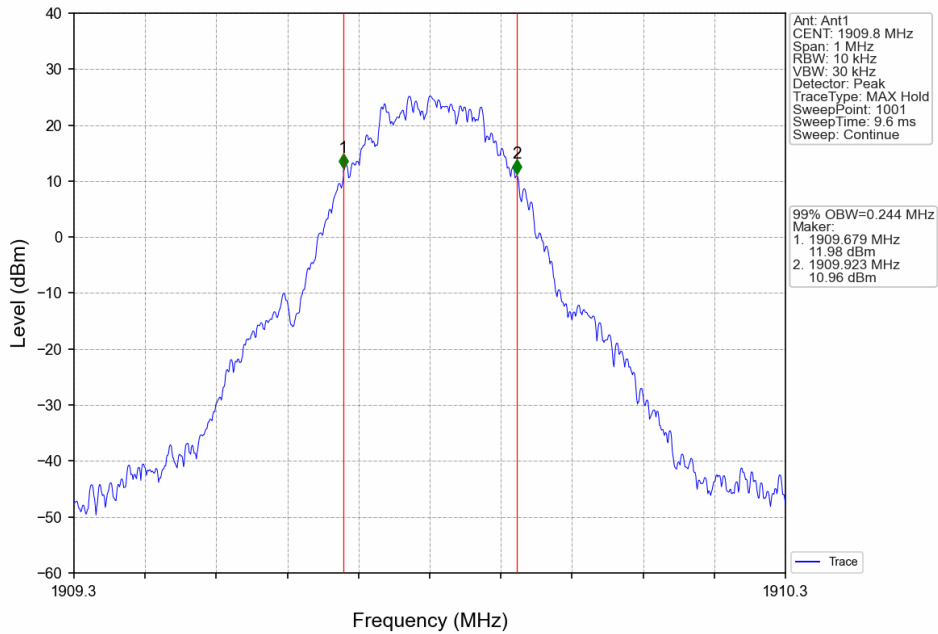




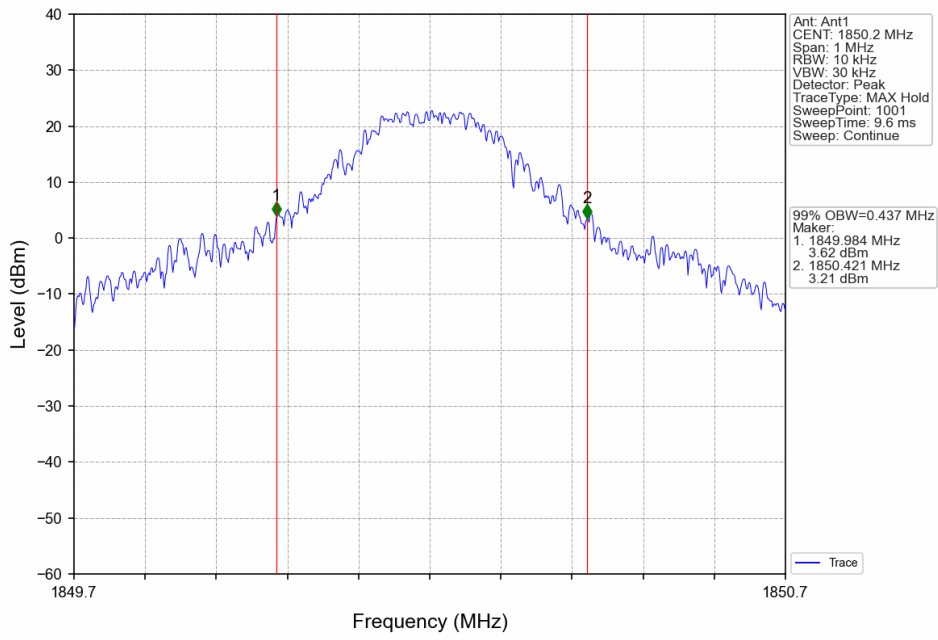
PCS1900\_GPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



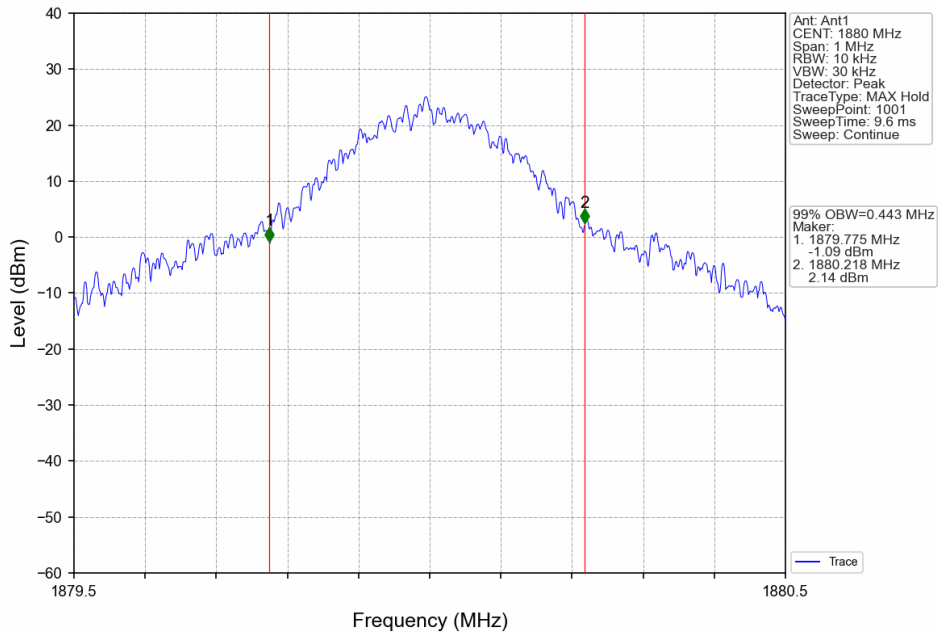
PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



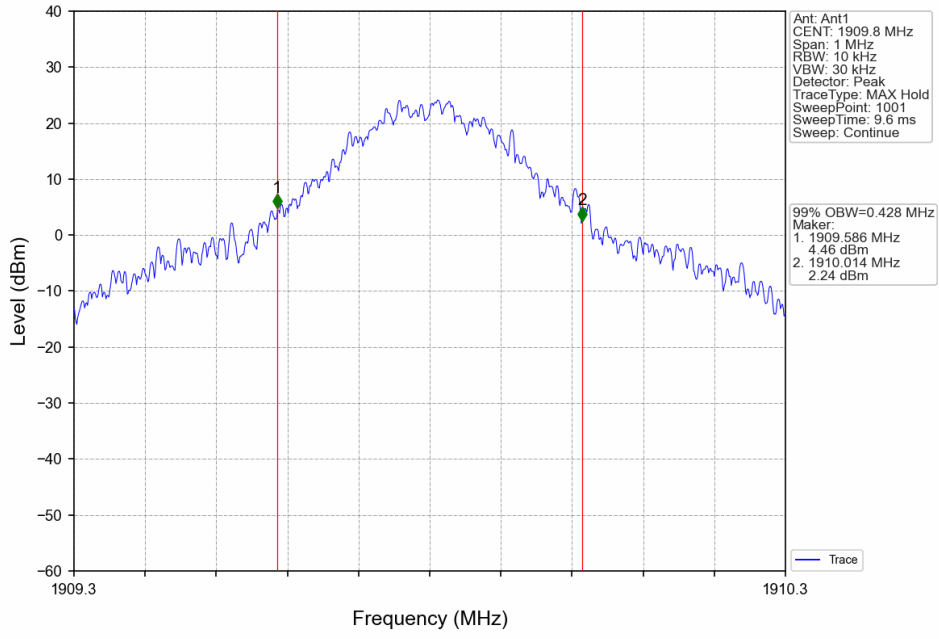
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



PCS1900\_EGPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV

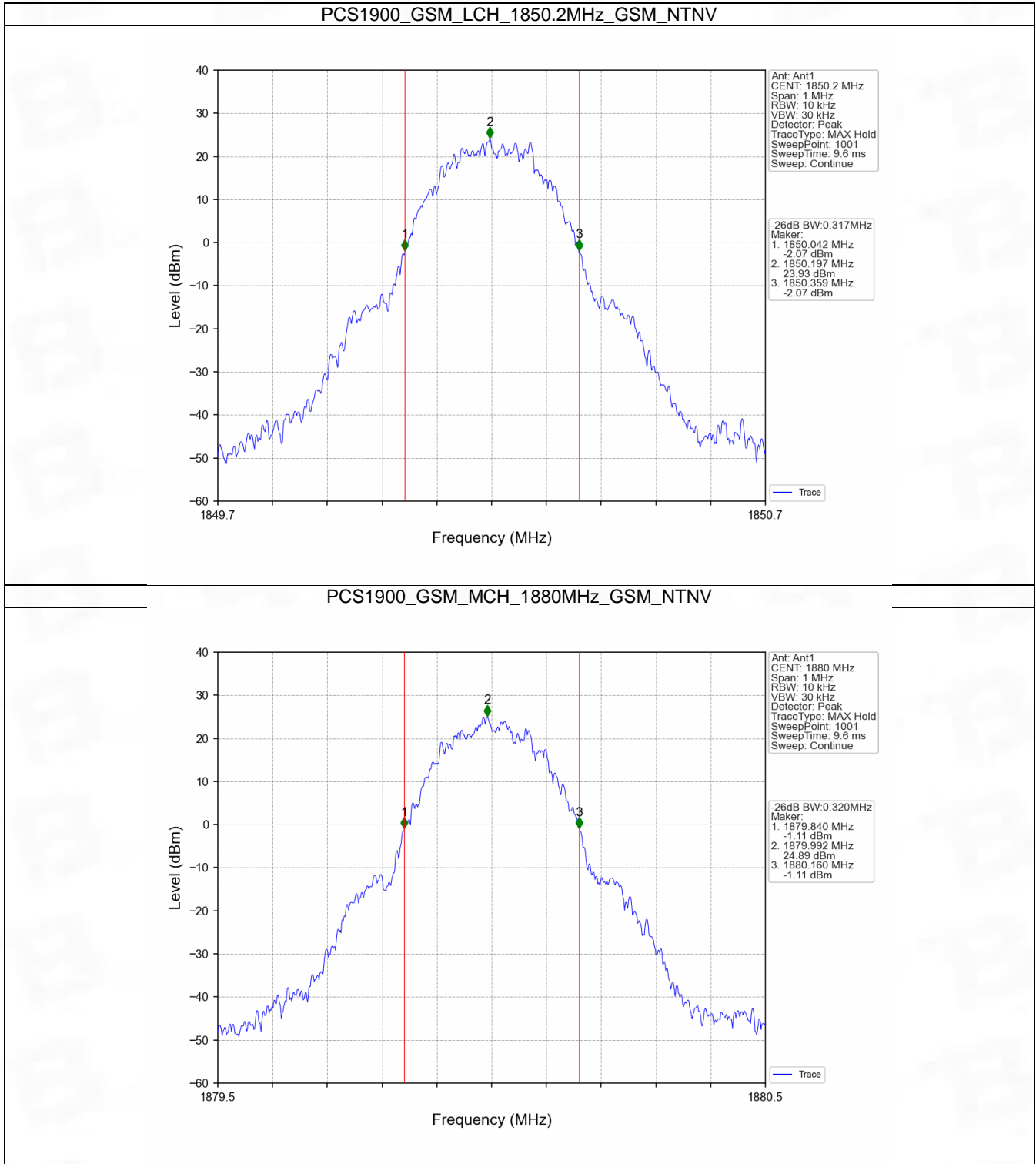


## 4.2 PCS1900\_XDB

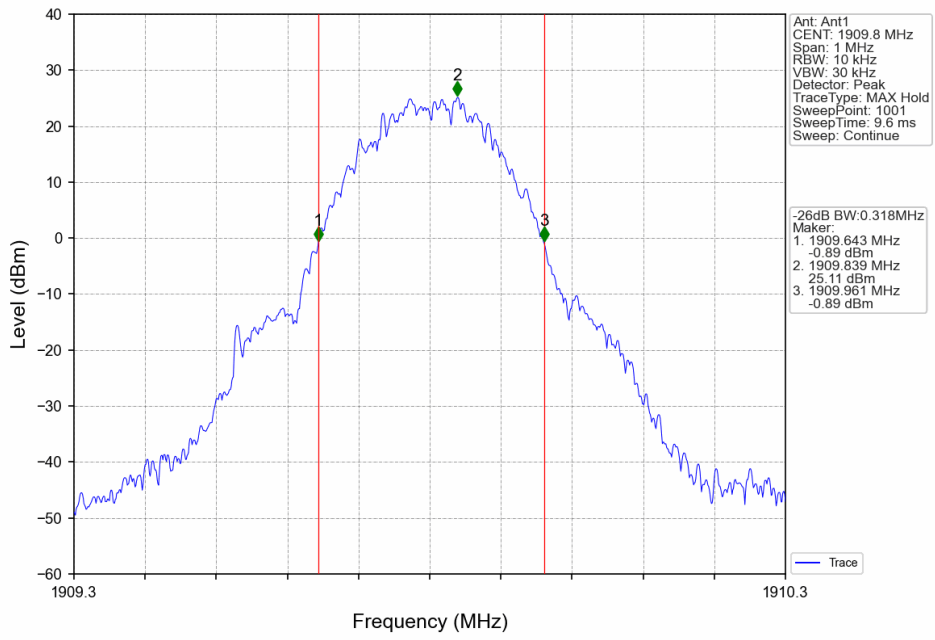
### 4.2.1 Test Result

Band: PCS1900						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.317	/	Pass
			1880	0.320	/	Pass
			1909.8	0.318	/	Pass
	GPRS	1 TX Slot	1850.2	0.318	/	Pass
			1880	0.308	/	Pass
			1909.8	0.317	/	Pass
	EGPRS	1 TX Slot	1850.2	0.745	/	Pass
			1880	0.662	/	Pass
			1909.8	0.704	/	Pass

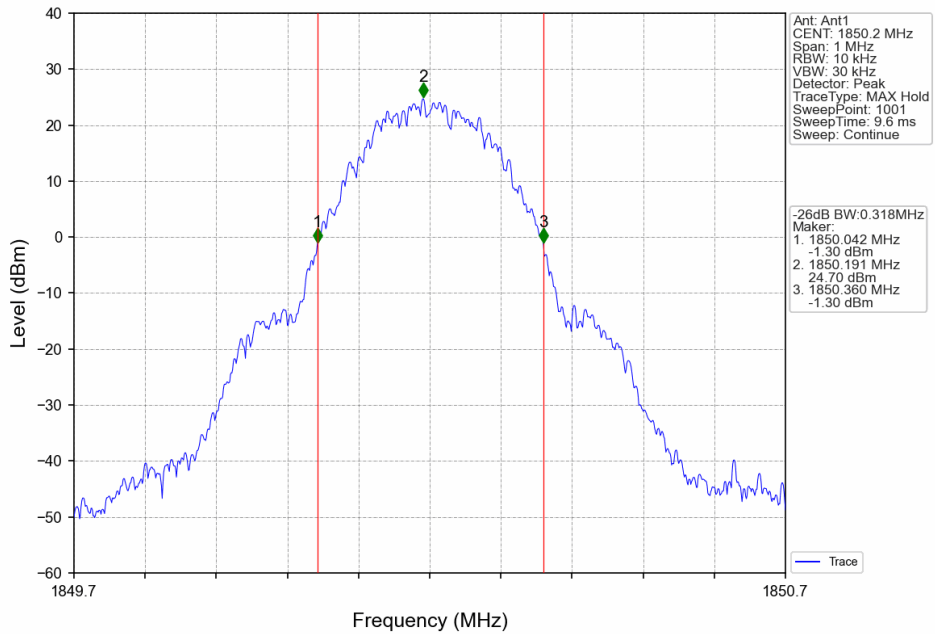
### 4.2.2 Test Graph



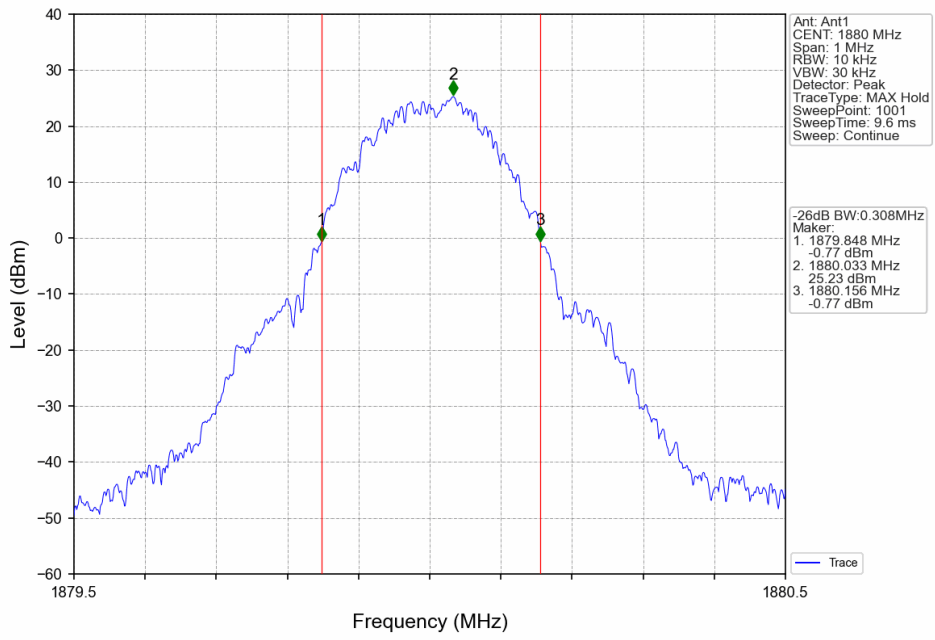
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



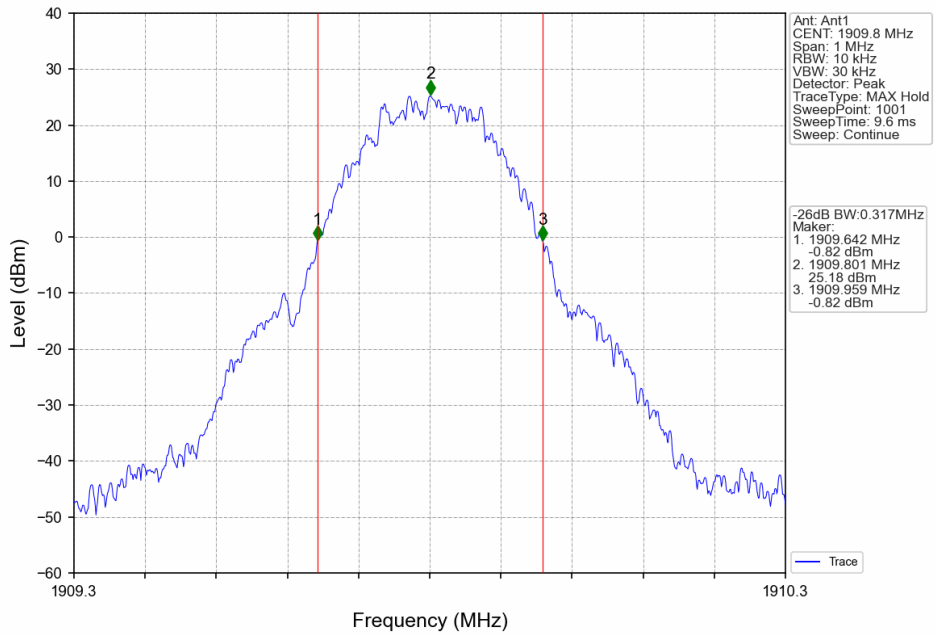
PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



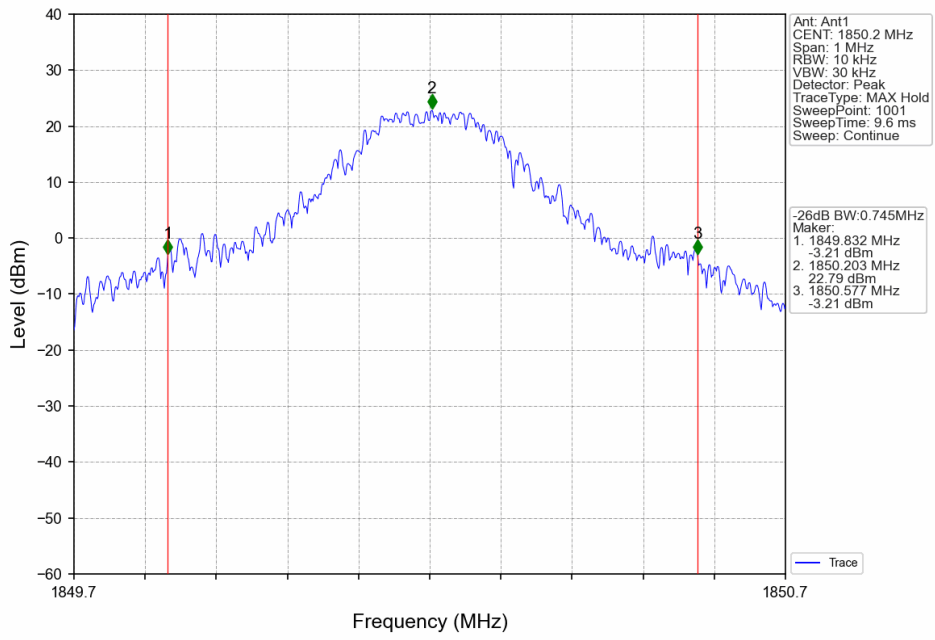
PCS1900\_GPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



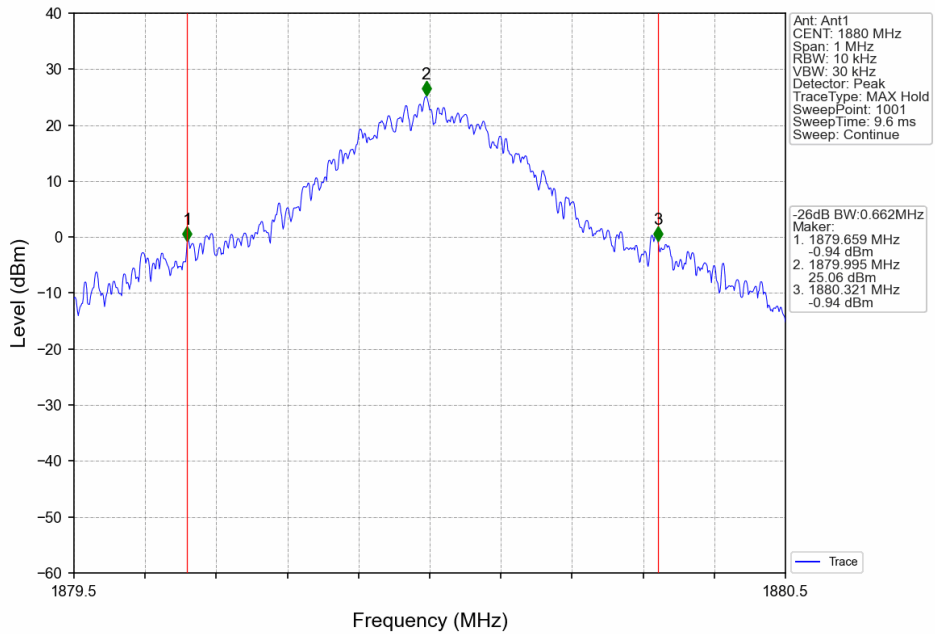
PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV

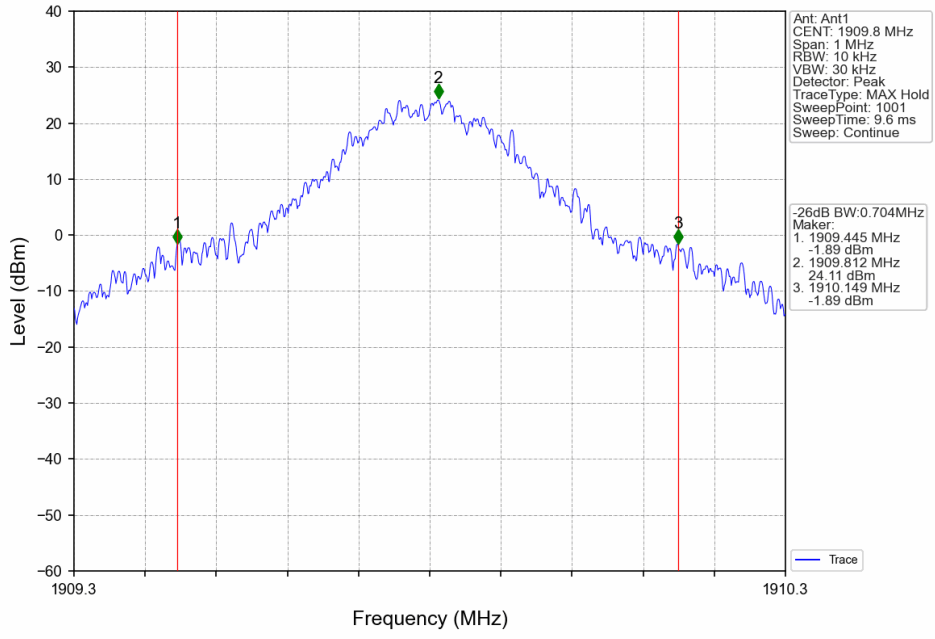


PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV





PCS1900\_EGPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



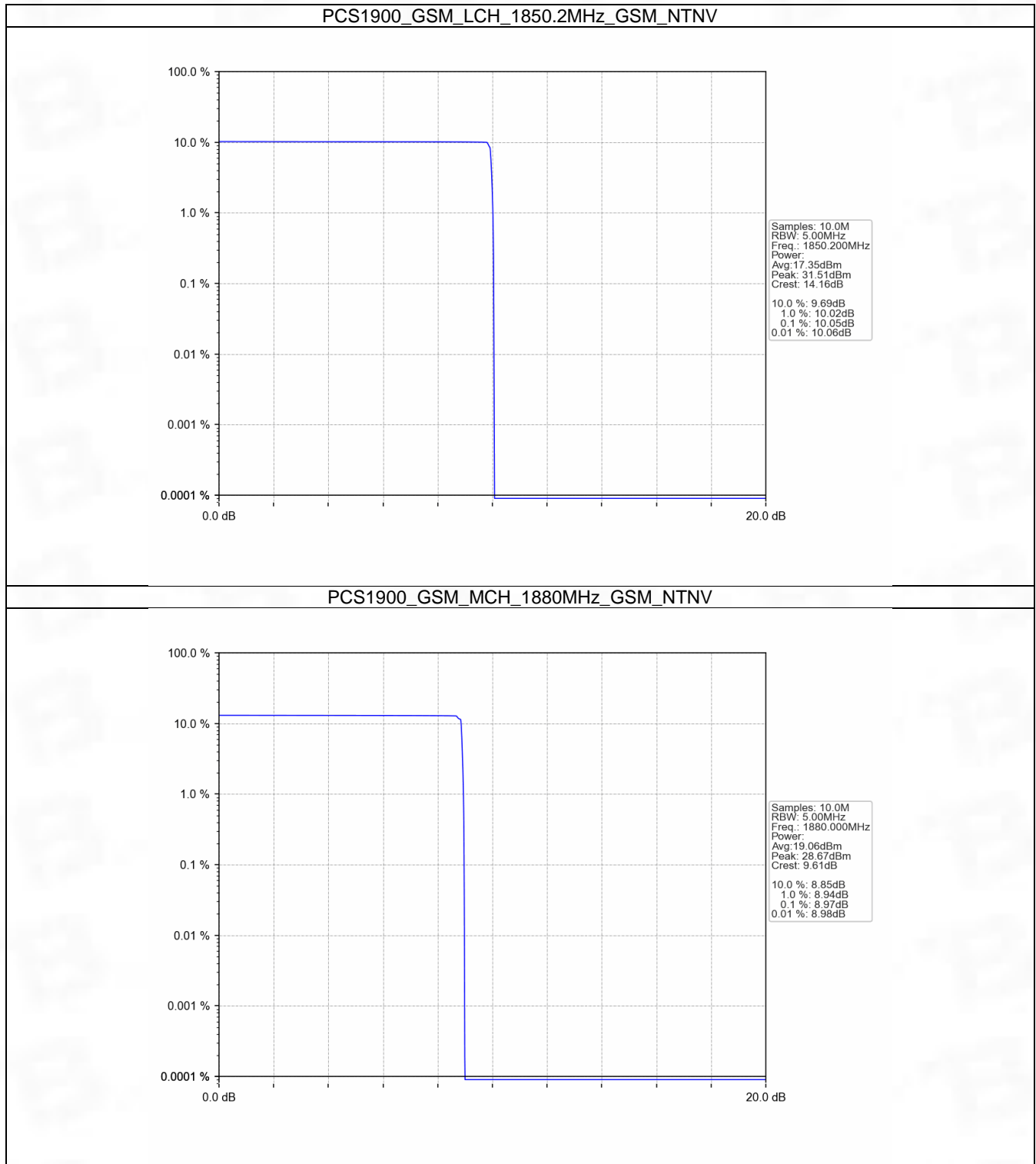
## 5. Peak-Average Ratio

### 5.1 PCS1900

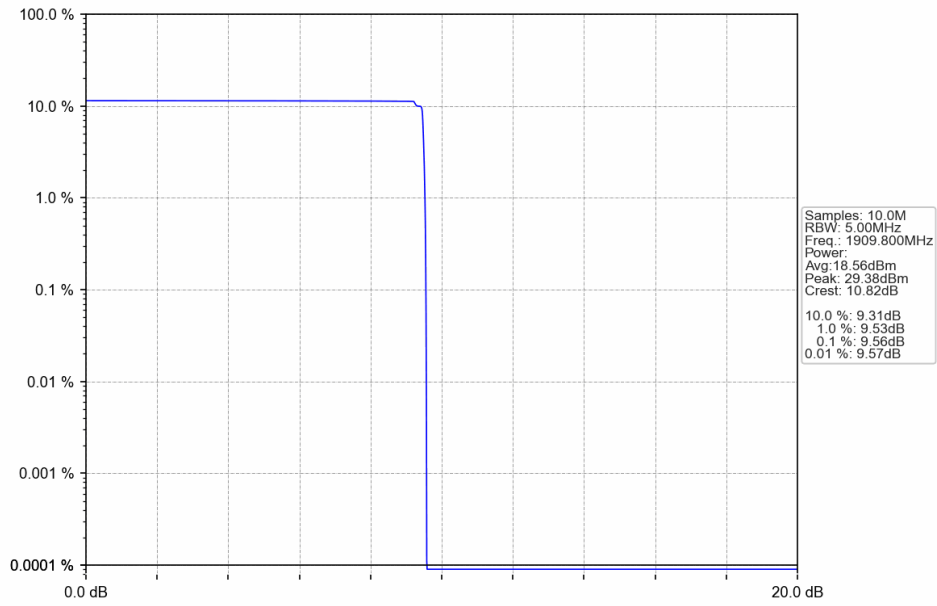
#### 5.1.1 Test Result

Band: PCS1900						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	10.05	<=13	Pass
			1880	8.97	<=13	Pass
			1909.8	9.56	<=13	Pass
	GPRS	4 TX Slots	1850.2	3.66	<=13	Pass
			1880	3.62	<=13	Pass
			1909.8	3.44	<=13	Pass
	EGPRS	4 TX Slots	1850.2	4.59	<=13	Pass
			1880	4.75	<=13	Pass
			1909.8	4.45	<=13	Pass

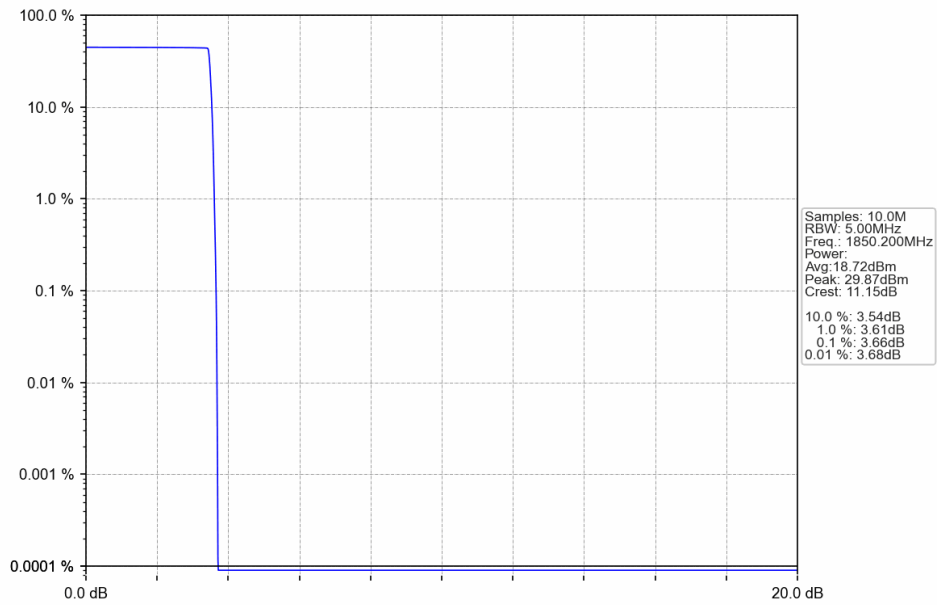
### 5.1.2 Test Graph



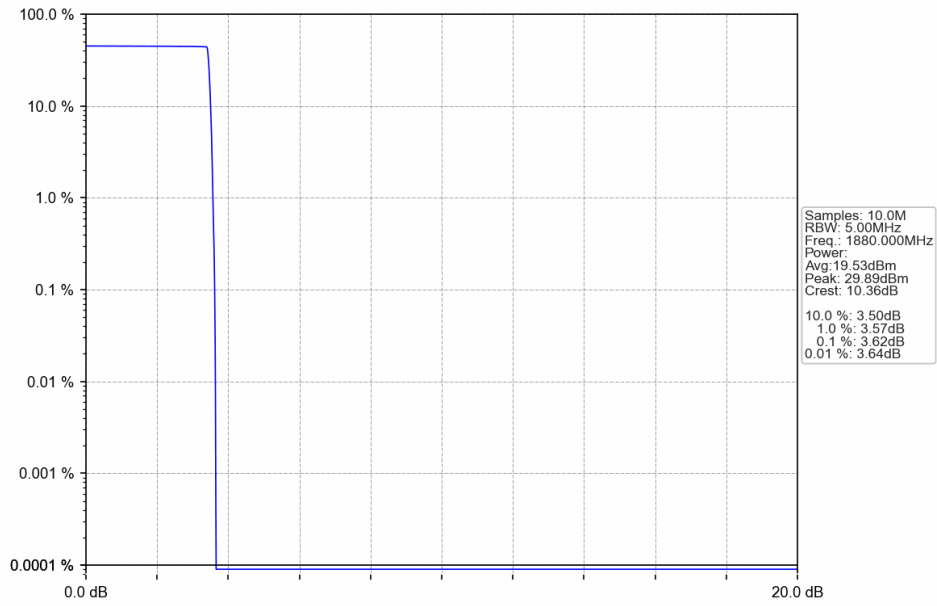
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



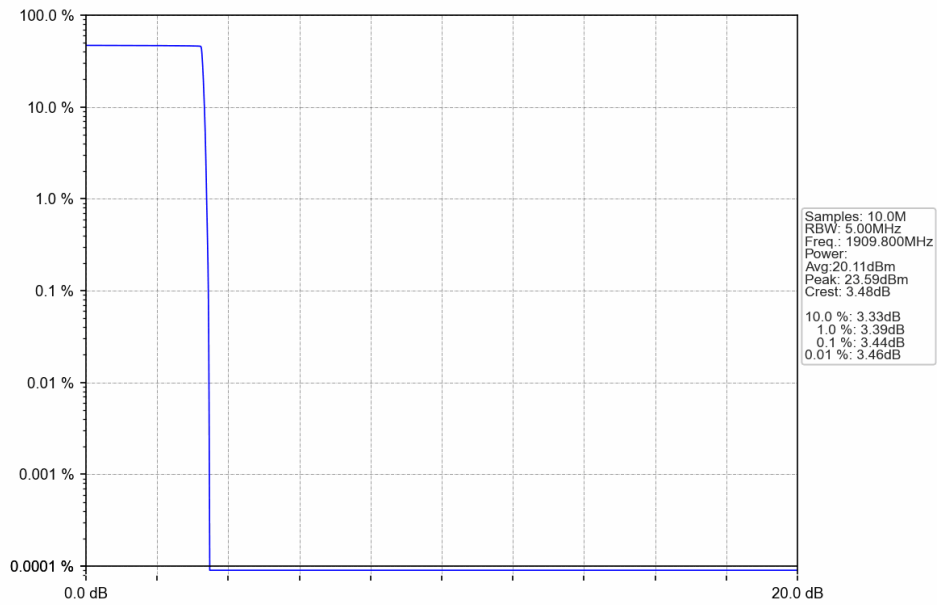
PCS1900\_GPRS\_LCH\_1850.2MHz\_4 TX Slots\_NTNV



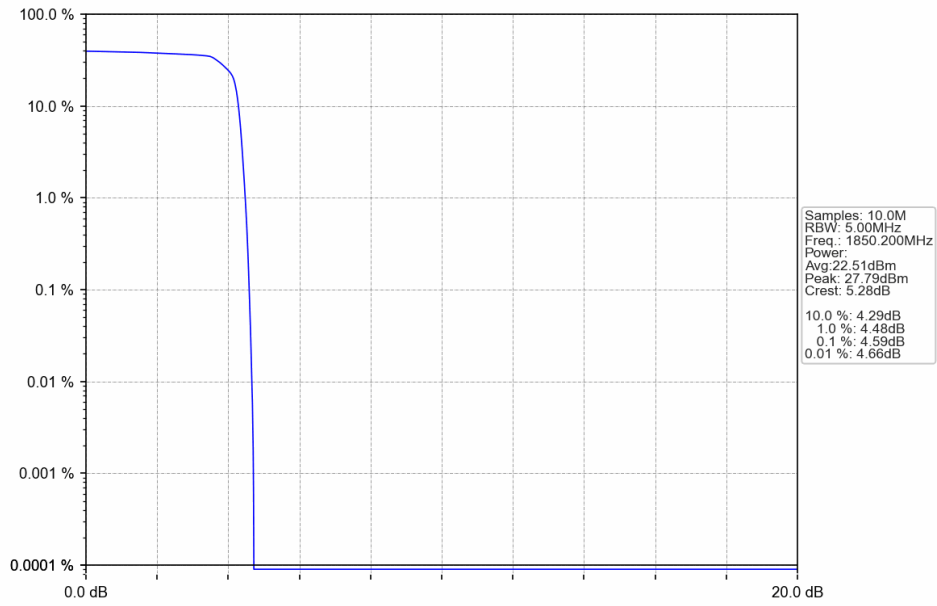
PCS1900\_GPRS\_MCH\_1880MHz\_4 TX Slots\_NTNV



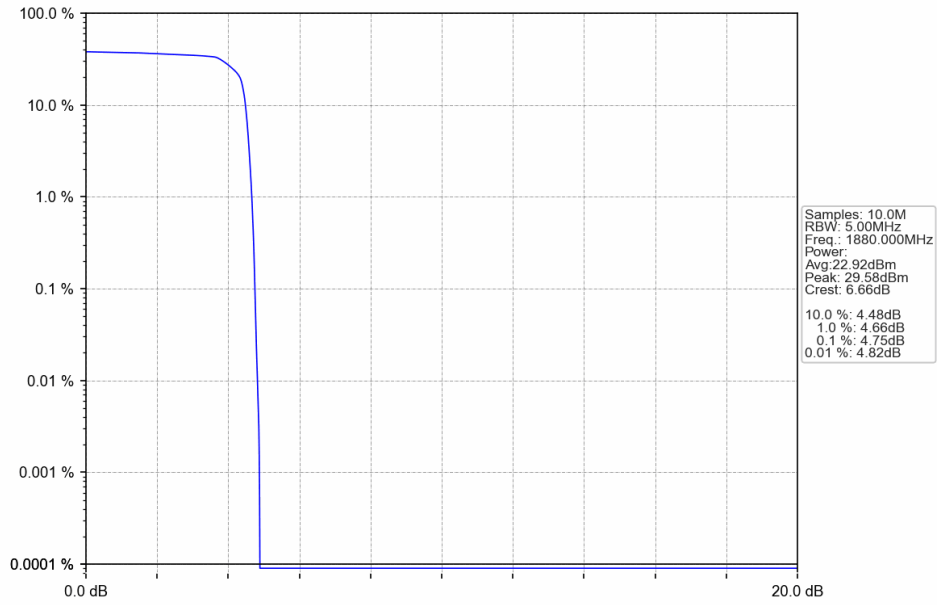
PCS1900\_GPRS\_HCH\_1909.8MHz\_4 TX Slots\_NTNV



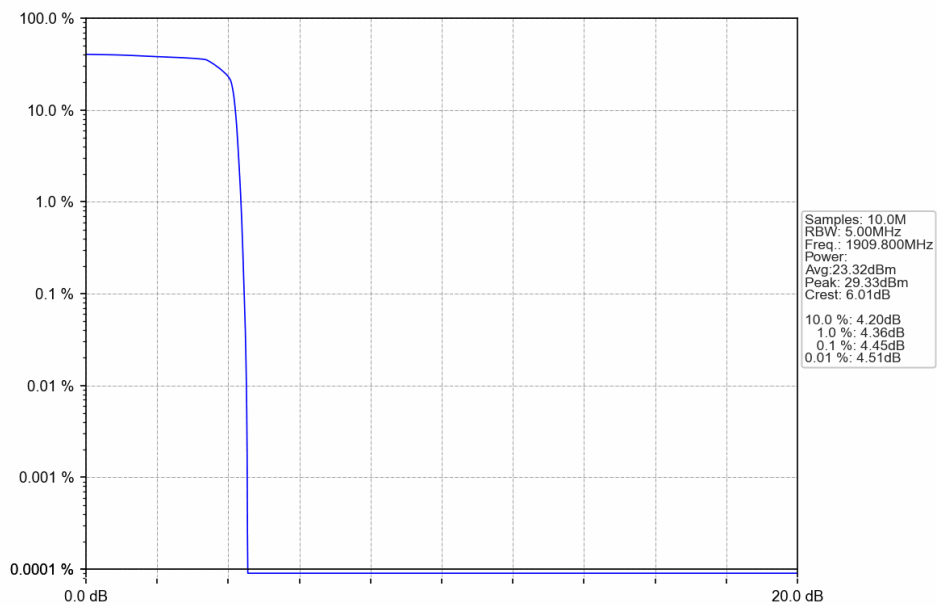
PCS1900\_EGPRS\_LCH\_1850.2MHz\_4 TX Slots\_NTNV



PCS1900\_EGPRS\_MCH\_1880MHz\_4 TX Slots\_NTNV



PCS1900\_EGPRS\_HCH\_1909.8MHz\_4 TX Slots\_NTNV



## 6. Spurious Emission

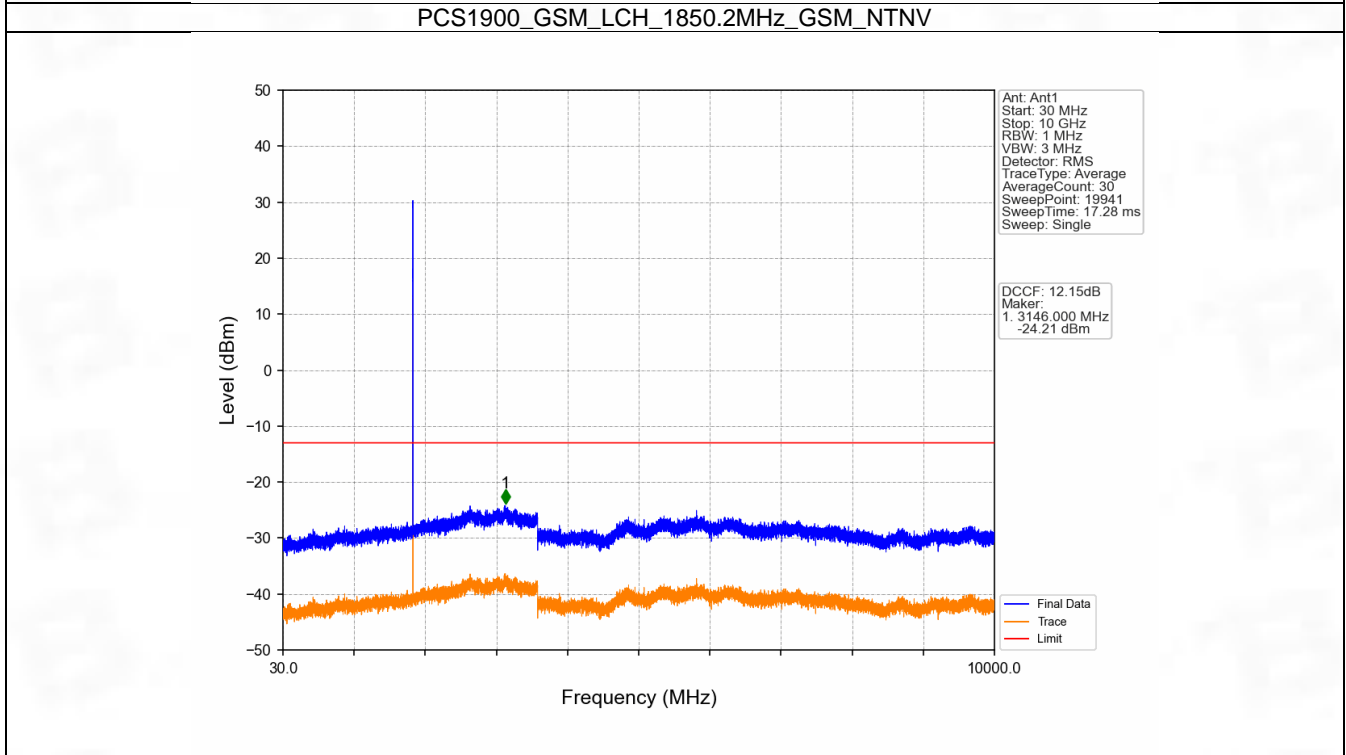
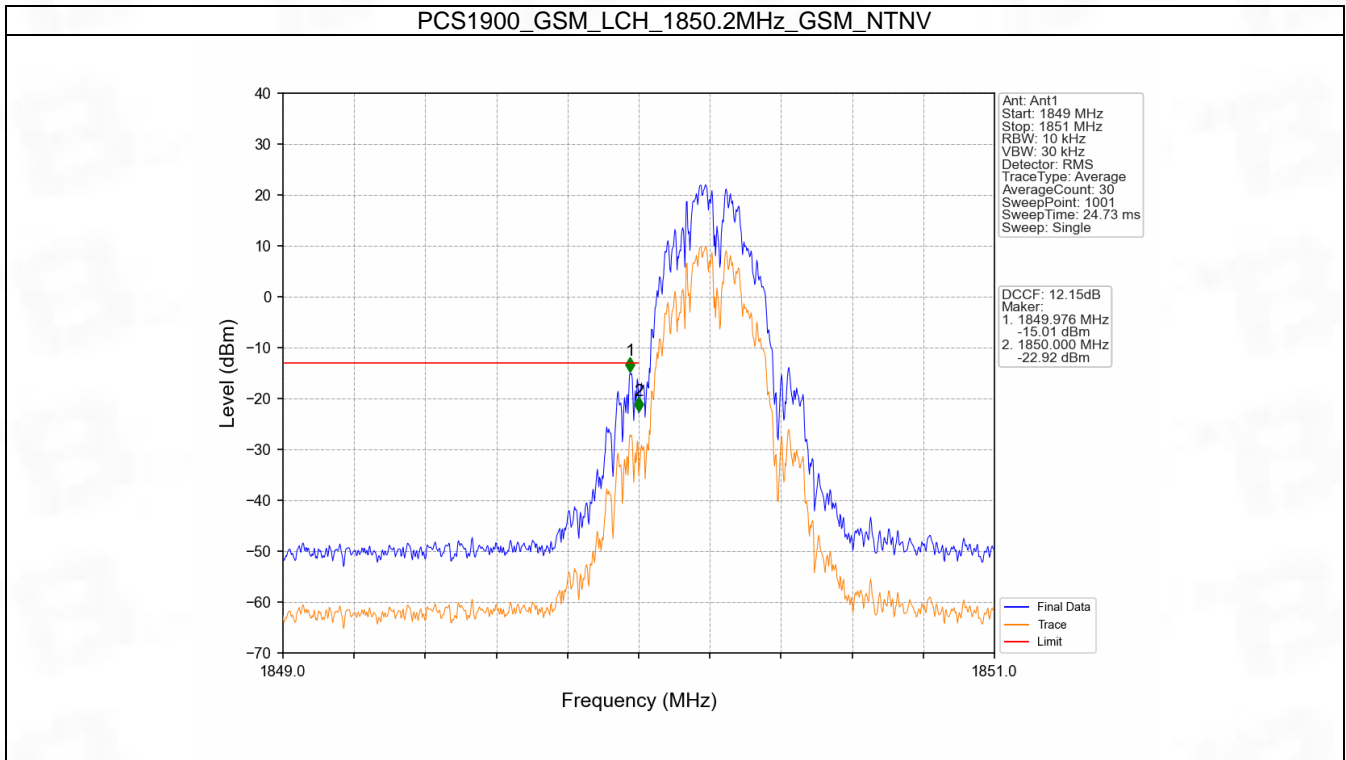
### 6.1 PCS1900

#### 6.1.1 Test Result

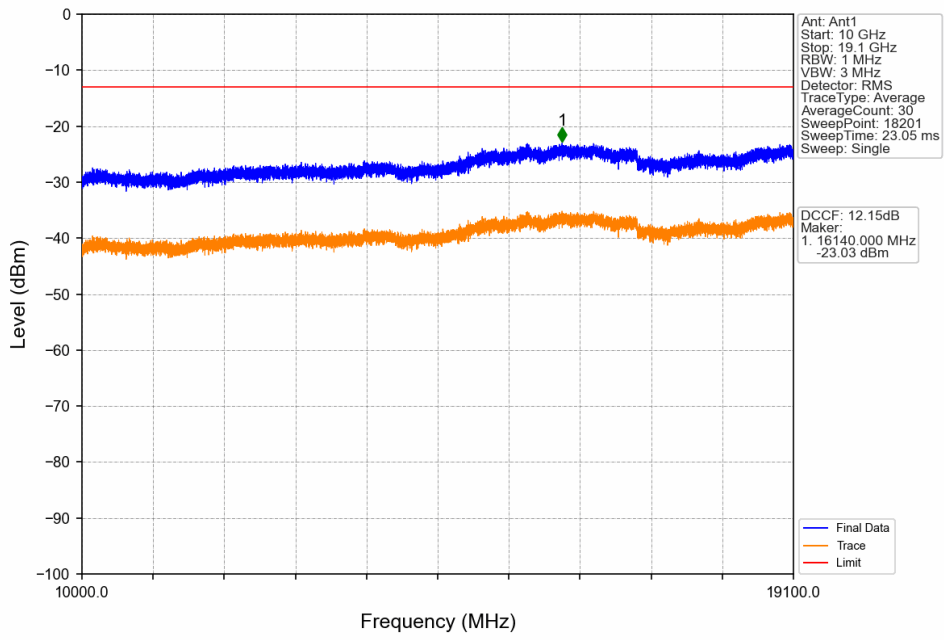
Band: PCS1900						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	Refer To Test Graph		Pass
			1880	Refer To Test Graph		Pass
			1909.8	Refer To Test Graph		Pass
	GPRS	1 TX Slot	1850.2	Refer To Test Graph		Pass
			1880	Refer To Test Graph		Pass
			1909.8	Refer To Test Graph		Pass
	EGPRS	1 TX Slot	1850.2	Refer To Test Graph		Pass
			1880	Refer To Test Graph		Pass
			1909.8	Refer To Test Graph		Pass



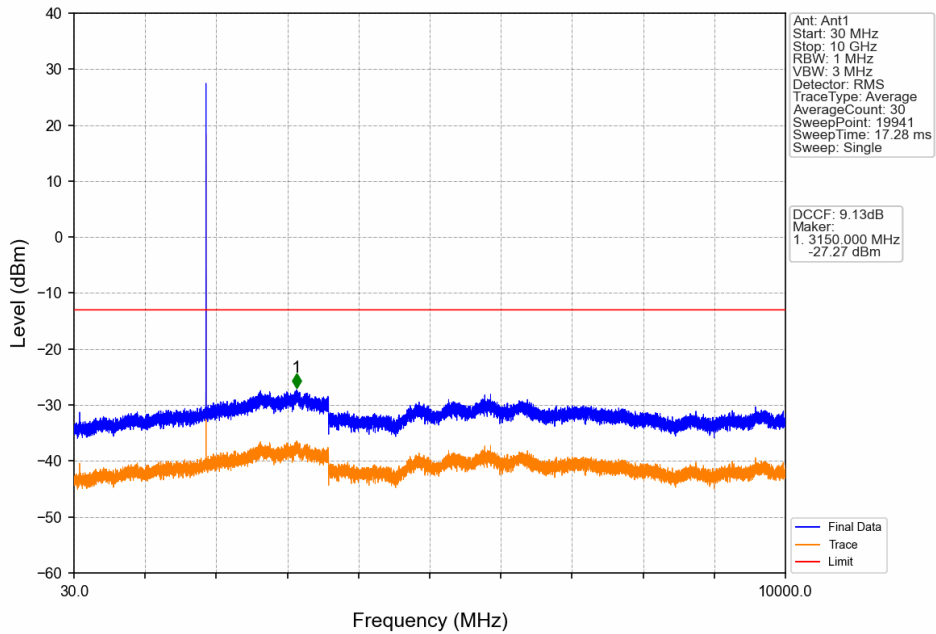
### 6.1.2 Test Graph



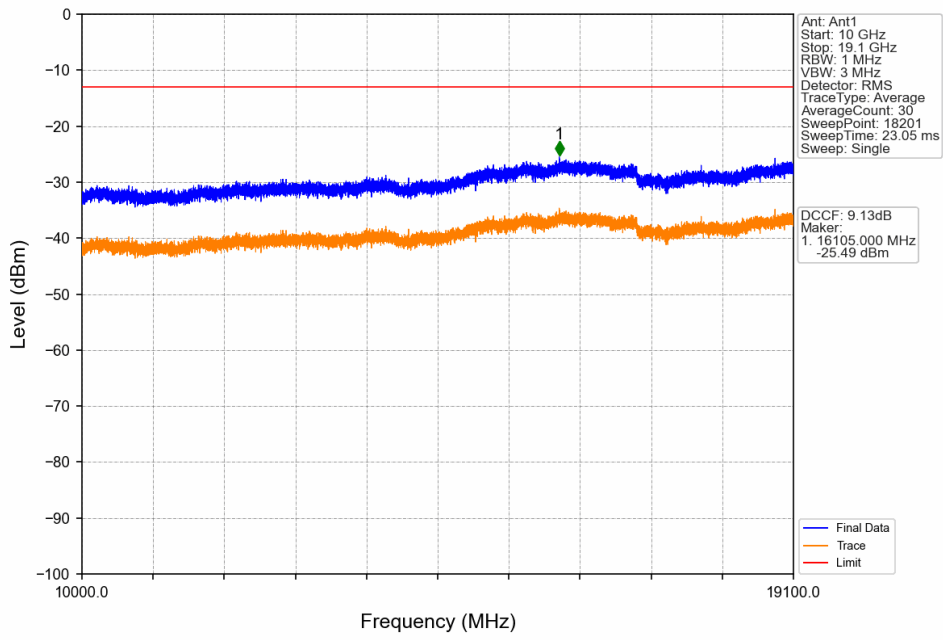
PCS1900\_GSM\_LCH\_1850.2MHz\_GSM\_NTNV



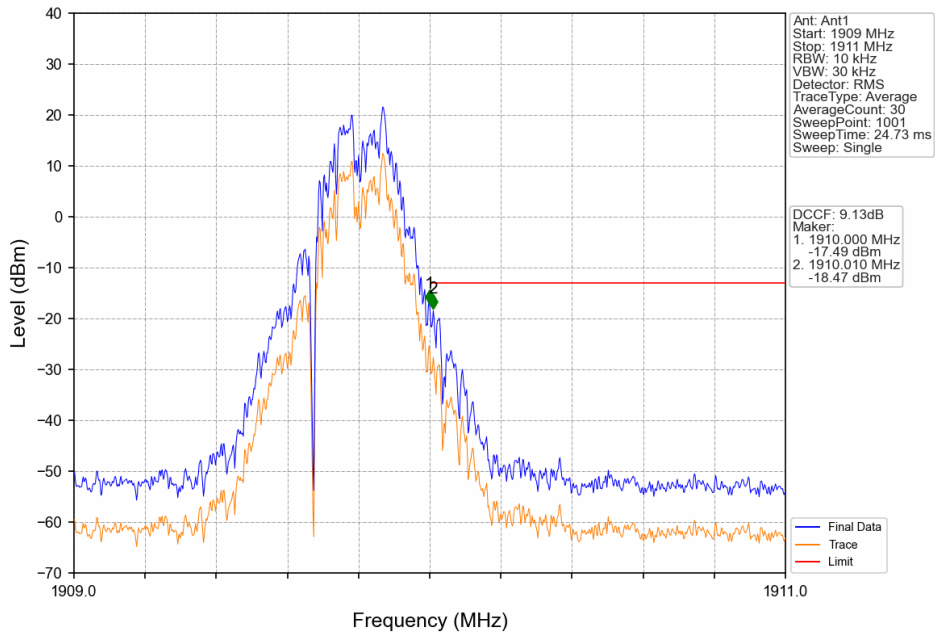
PCS1900\_GSM\_MCH\_1880MHz\_GSM\_NTNV



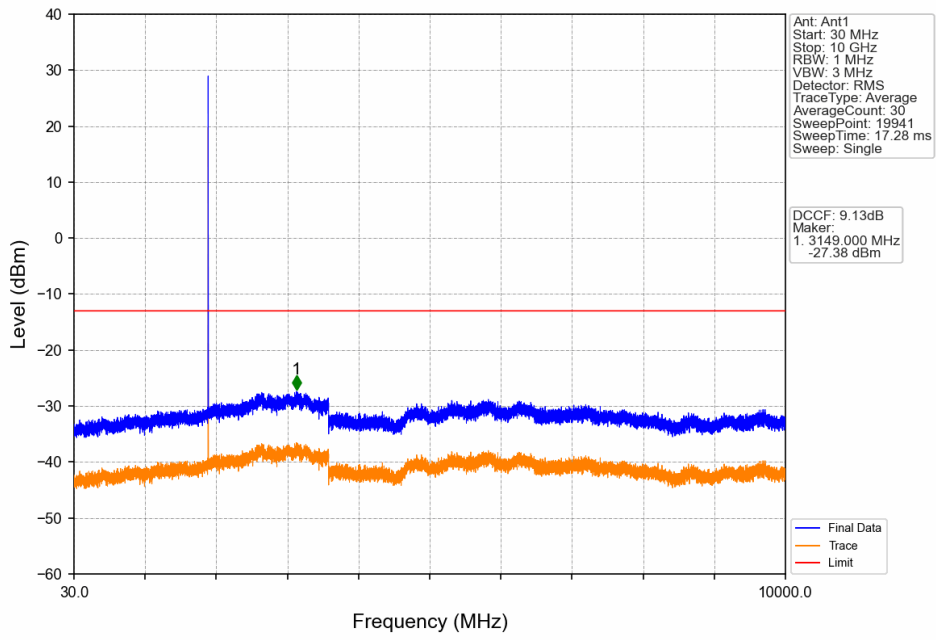
PCS1900\_GSM\_MCH\_1880MHz\_GSM\_NTNV



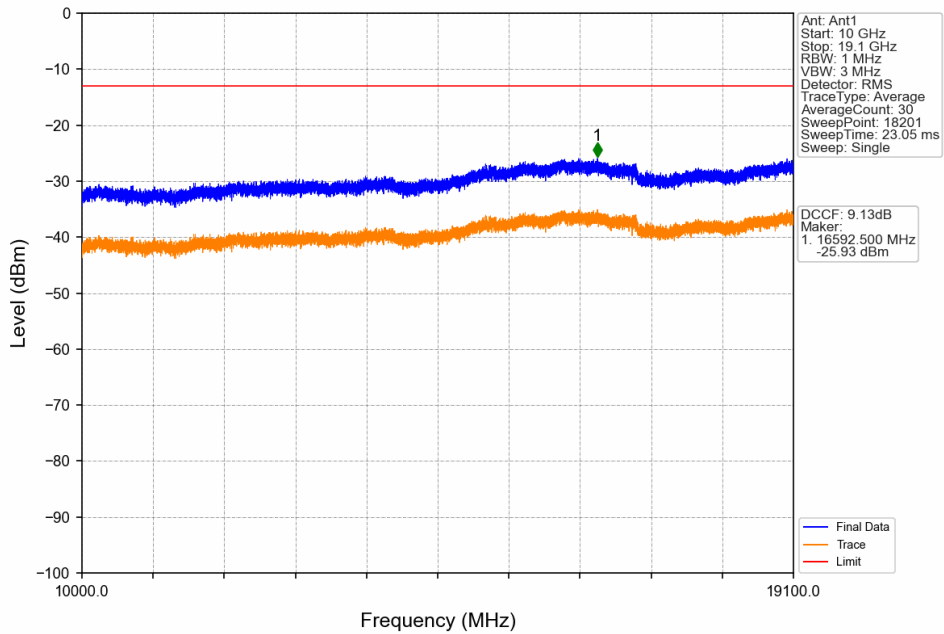
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



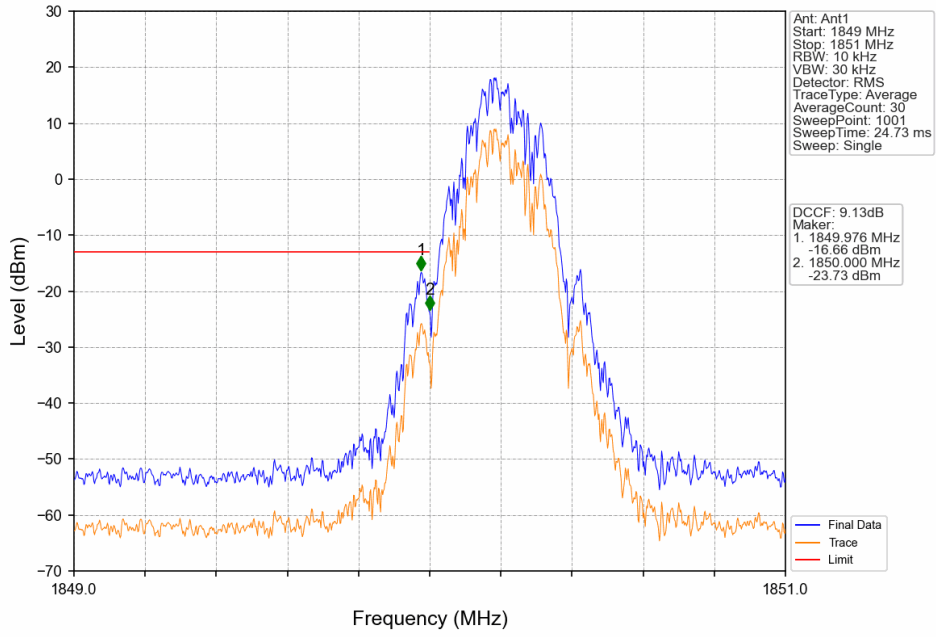
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



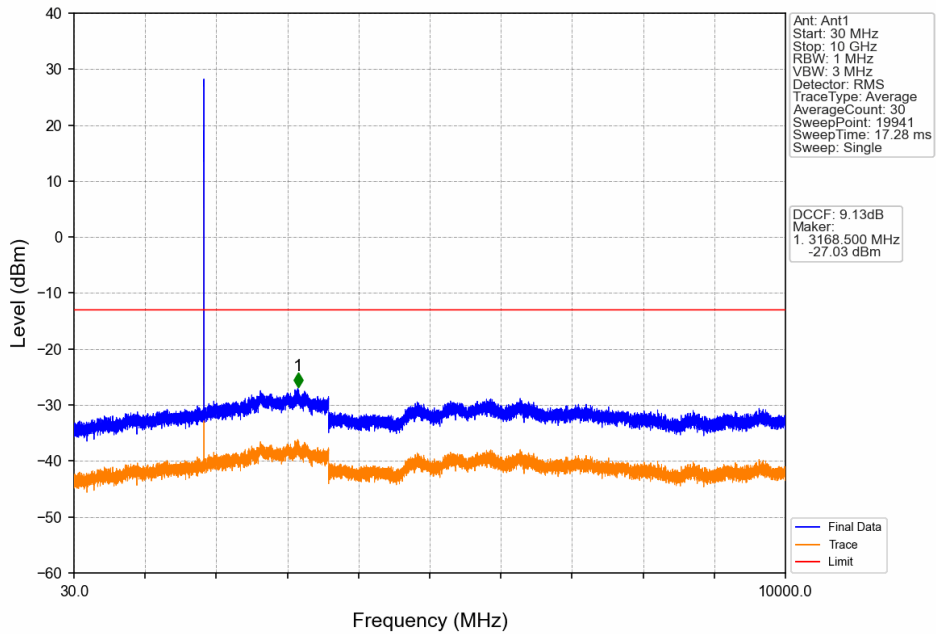
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



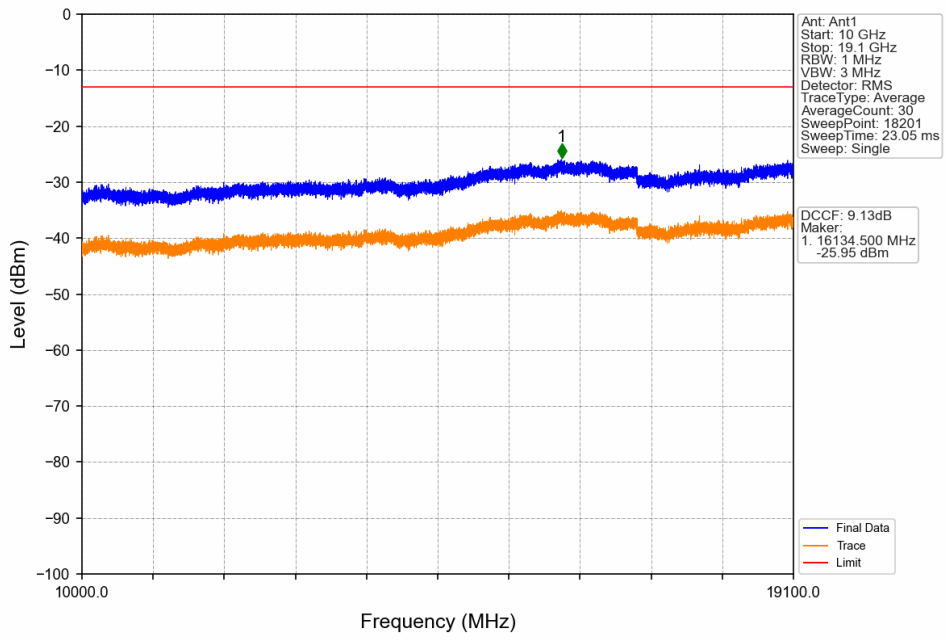
PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



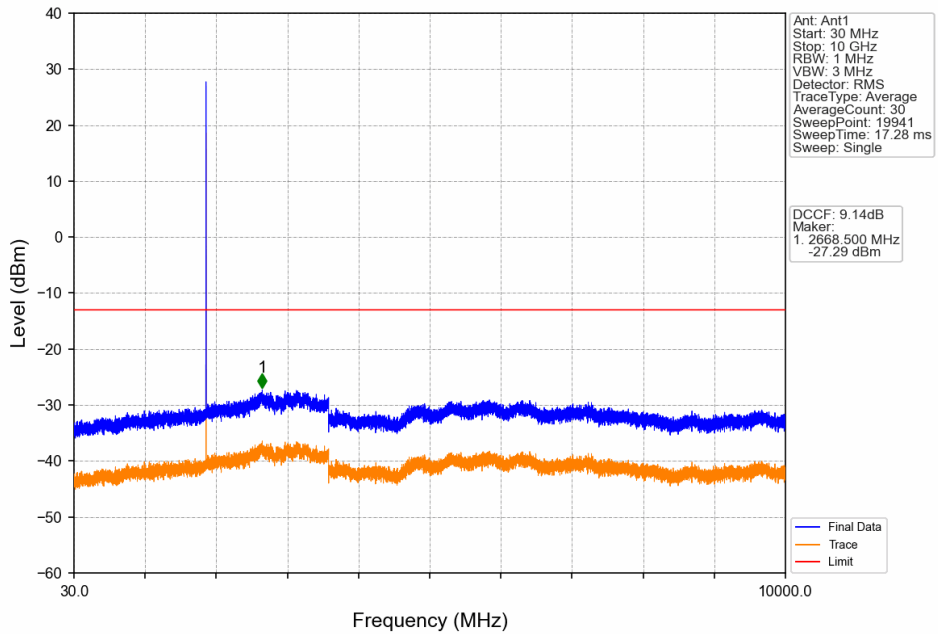
PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



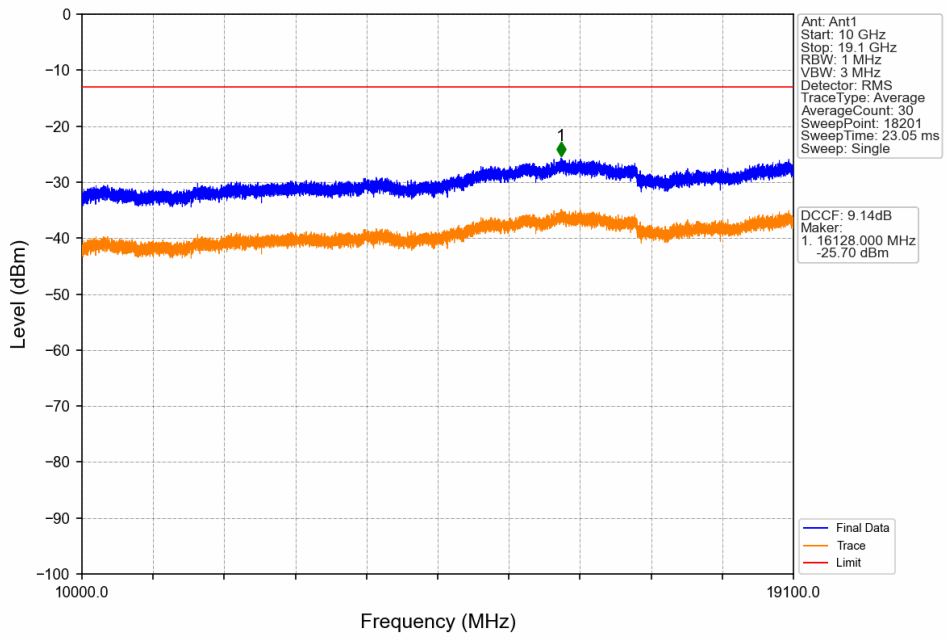
PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



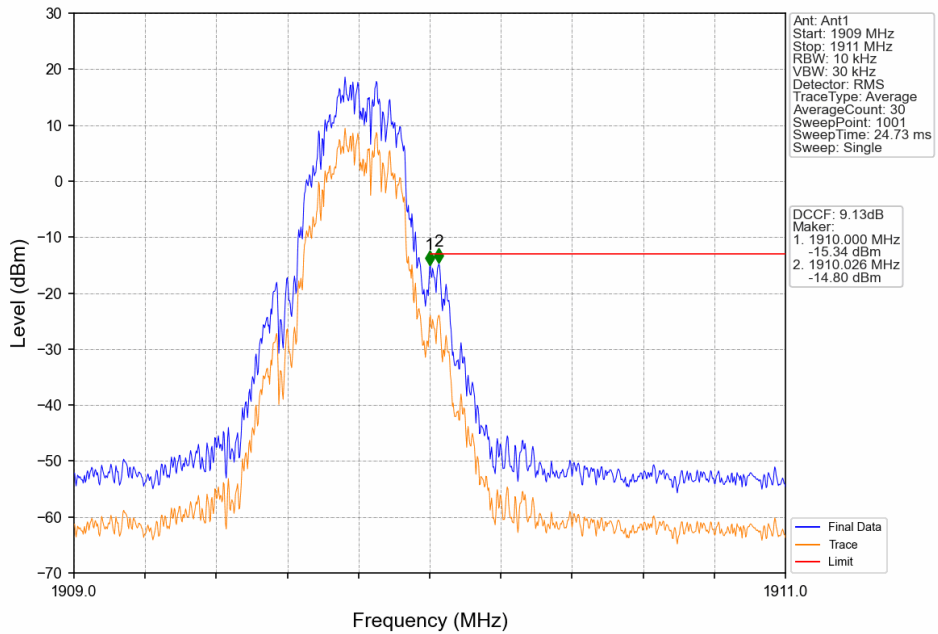
PCS1900\_GPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



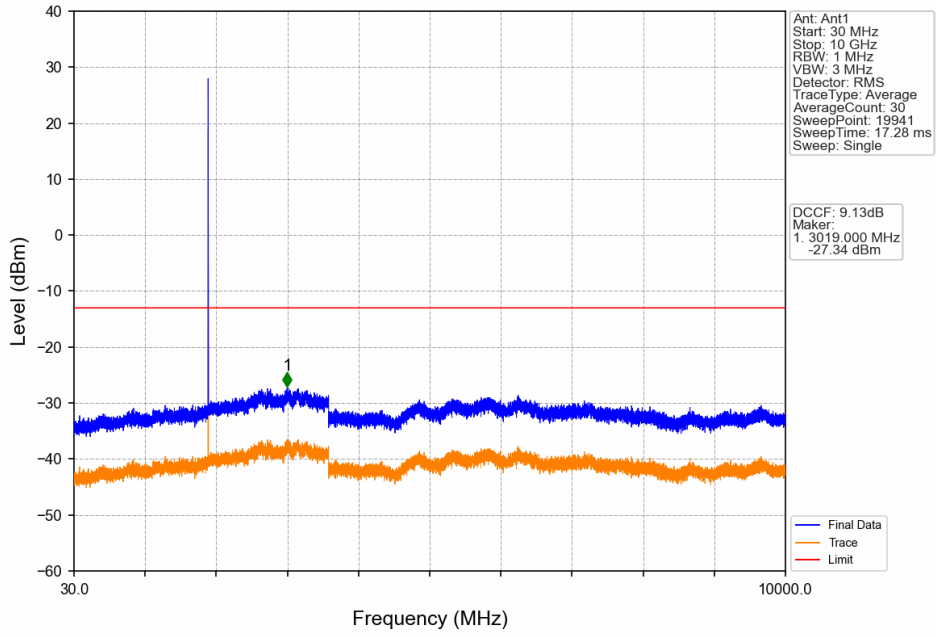
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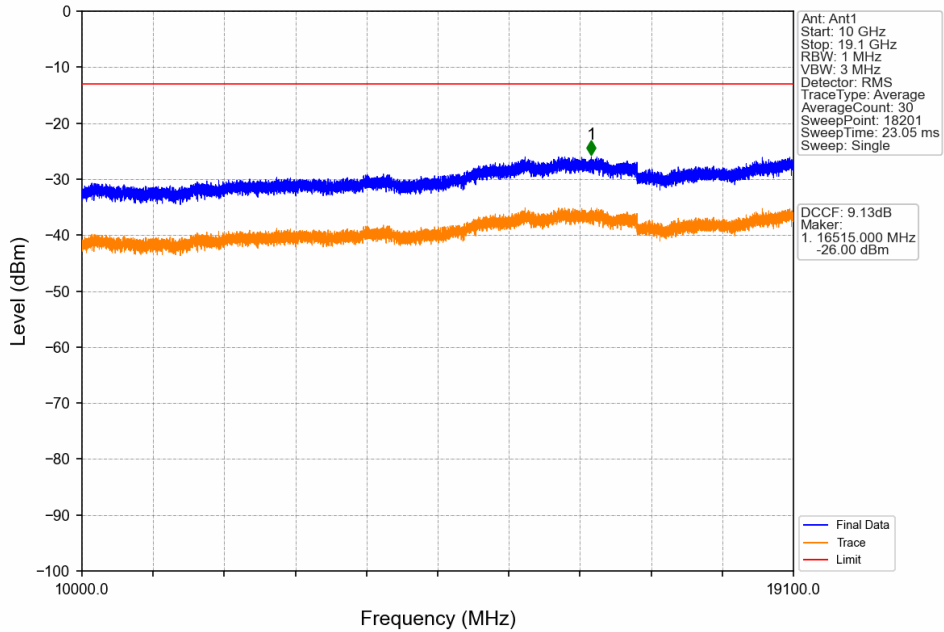
PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV

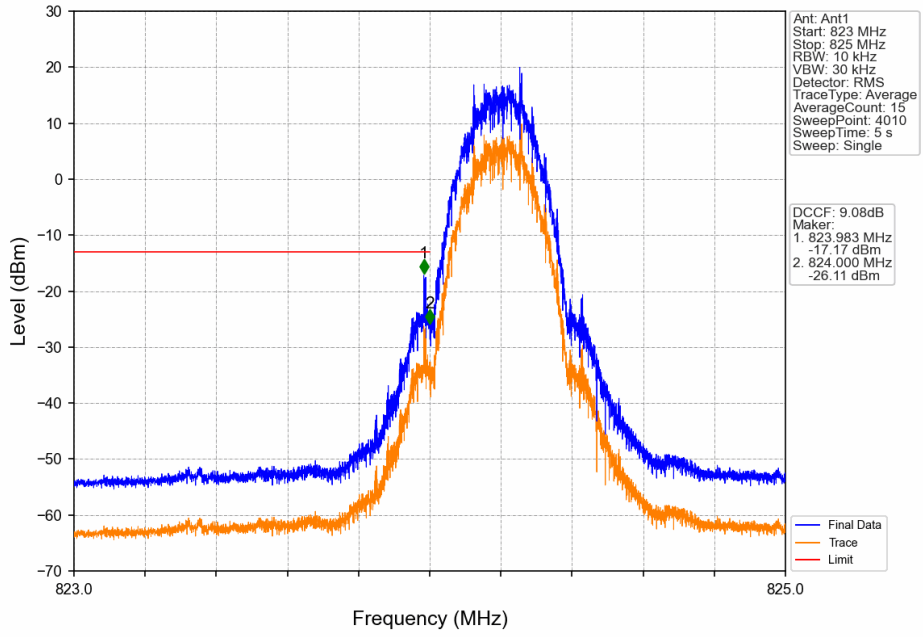


PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV

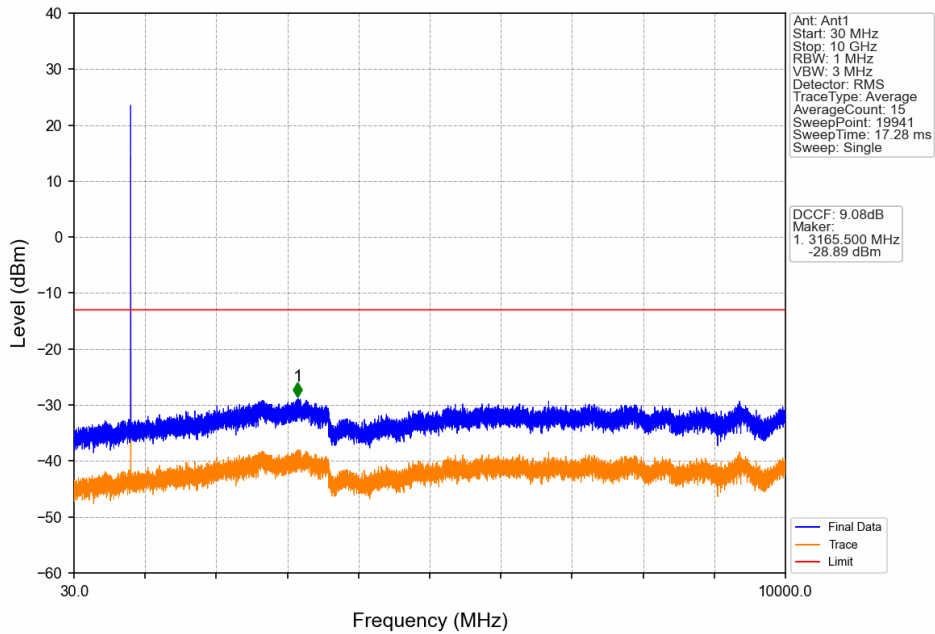




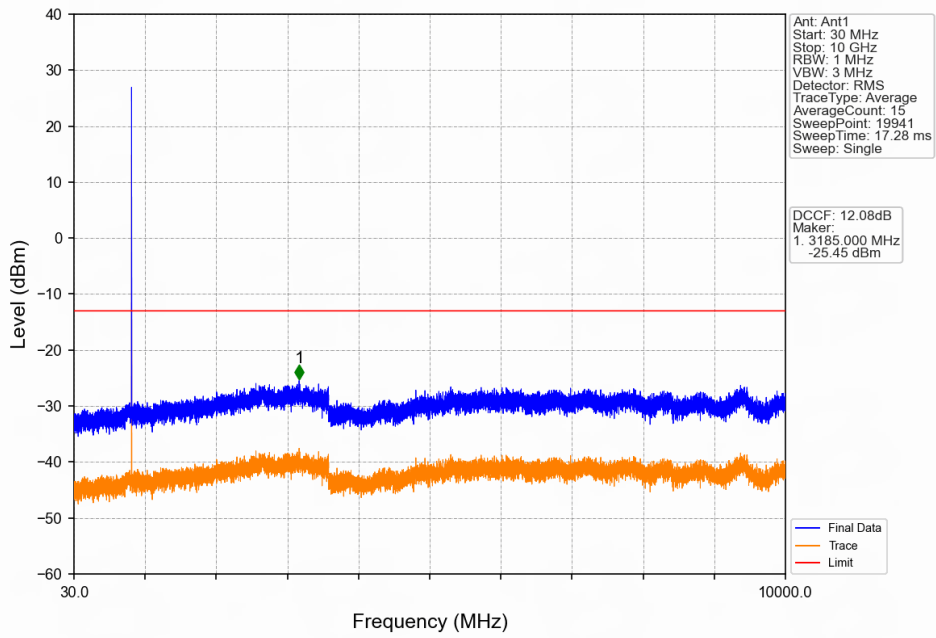
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



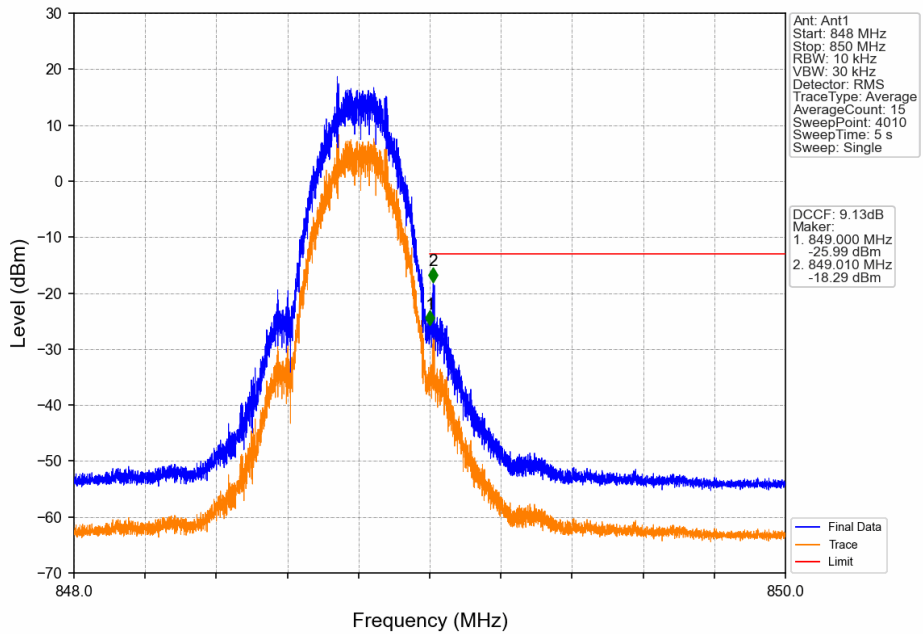
GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



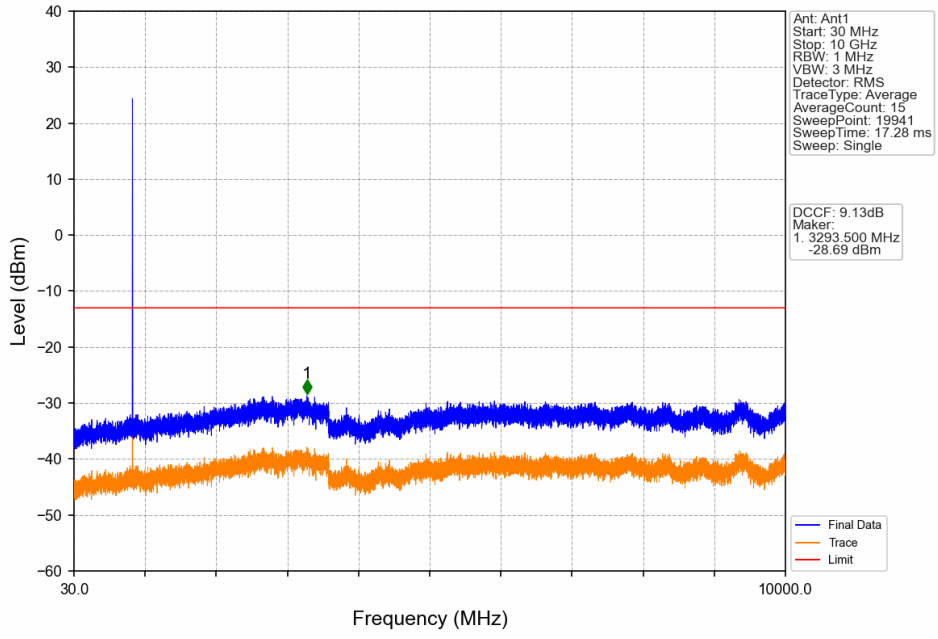
GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



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)
PCS1900	0.2	1850.2	1909.8	0.6124	0.0660	ppm	251KGXW	24E	27.87
PCS1900	0.2	1850.2	1909.8	0.6180	1.8453	ppm	443KG7W	24E	27.91

### 7.2 Form731\_EIRP

#### 7.2.1 Test Result

Band	BW	Lower Freq	High Freq	MAX Power (W)	Value	Hz/ppm	Emission Designator	Rule Parts	MAX Power (dBm)
PCS1900	0.2	1850.2	1909.8	0.7079	0.0660	ppm	251KGXW	24E	28.50
PCS1900	0.2	1850.2	1909.8	0.7145	1.8453	ppm	443KG7W	24E	28.54