

# 1. Effective (Isotropic) Radiated Power Output Data

## 1.1 Test Result

### 1.1.1 PCS1900\_EIRP

Band: PCS1900								
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict
	Network	Subset				Result	Limit	
NTNV	GSM	GSM	1850.2	29.05	0.91	29.96	<=33.01	Pass
			1880	29.15	0.91	30.06	<=33.01	Pass
			1909.8	29.17	0.91	30.08	<=33.01	Pass
	GPRS	1 TX Slot	1850.2	29.05	0.91	29.96	<=33.01	Pass
		2 TX Slots	1850.2	27.76	0.91	28.67	<=33.01	Pass
		3 TX Slots	1850.2	25.42	0.91	26.33	<=33.01	Pass
		4 TX Slots	1850.2	24.38	0.91	25.29	<=33.01	Pass
		1 TX Slot	1880	29.10	0.91	30.01	<=33.01	Pass
		2 TX Slots	1880	27.89	0.91	28.80	<=33.01	Pass
		3 TX Slots	1880	25.60	0.91	26.51	<=33.01	Pass
		4 TX Slots	1880	24.56	0.91	25.47	<=33.01	Pass
		1 TX Slot	1909.8	29.08	0.91	29.99	<=33.01	Pass
		2 TX Slots	1909.8	27.94	0.91	28.85	<=33.01	Pass
		3 TX Slots	1909.8	25.67	0.91	26.58	<=33.01	Pass
		4 TX Slots	1909.8	24.64	0.91	25.55	<=33.01	Pass
	EGPRS	1 TX Slot	1850.2	23.42	0.91	24.33	<=33.01	Pass
		2 TX Slots	1850.2	22.76	0.91	23.67	<=33.01	Pass
		3 TX Slots	1850.2	21.22	0.91	22.13	<=33.01	Pass
		4 TX Slots	1850.2	20.27	0.91	21.18	<=33.01	Pass
		1 TX Slot	1880	24.03	0.91	24.94	<=33.01	Pass
		2 TX Slots	1880	23.25	0.91	24.16	<=33.01	Pass
		3 TX Slots	1880	21.92	0.91	22.83	<=33.01	Pass
		4 TX Slots	1880	20.94	0.91	21.85	<=33.01	Pass
		1 TX Slot	1909.8	24.44	0.91	25.35	<=33.01	Pass
		2 TX Slots	1909.8	23.77	0.91	24.68	<=33.01	Pass
		3 TX Slots	1909.8	22.36	0.91	23.27	<=33.01	Pass
		4 TX Slots	1909.8	21.46	0.91	22.37	<=33.01	Pass

Note1: EIRP=Conducted Power+Antenna Gain

# 2. Frequency Stability

## 2.1 Test Result

### 2.1.1 PCS1900

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	13.431	0.0073	-2.5 to 2.5	Pass
			3.85	18.629	0.0101	-2.5 to 2.5	Pass
			4.43	13.399	0.0072	-2.5 to 2.5	Pass
		-30	3.85	12.688	0.0069	-2.5 to 2.5	Pass
		-20	3.85	11.397	0.0062	-2.5 to 2.5	Pass
		-10	3.85	24.505	0.0132	-2.5 to 2.5	Pass
		0	3.85	28.218	0.0153	-2.5 to 2.5	Pass
		10	3.85	26.087	0.0141	-2.5 to 2.5	Pass

		30	3.85	33.932	0.0183	-2.5 to 2.5	Pass
		40	3.85	45.652	0.0247	-2.5 to 2.5	Pass
		50	3.85	47.686	0.0258	-2.5 to 2.5	Pass
	1880	20	3.27	15.852	0.0084	-2.5 to 2.5	Pass
			3.85	15.691	0.0083	-2.5 to 2.5	Pass
			4.43	13.334	0.0071	-2.5 to 2.5	Pass
		-30	3.85	18.500	0.0098	-2.5 to 2.5	Pass
		-20	3.85	14.432	0.0077	-2.5 to 2.5	Pass
		-10	3.85	14.884	0.0079	-2.5 to 2.5	Pass
		0	3.85	15.723	0.0084	-2.5 to 2.5	Pass
		10	3.85	28.670	0.0153	-2.5 to 2.5	Pass
		30	3.85	22.148	0.0118	-2.5 to 2.5	Pass
		40	3.85	21.761	0.0116	-2.5 to 2.5	Pass
		50	3.85	24.925	0.0133	-2.5 to 2.5	Pass
	1909.8	20	3.27	10.009	0.0052	-2.5 to 2.5	Pass
			3.85	18.403	0.0096	-2.5 to 2.5	Pass
			4.43	11.752	0.0062	-2.5 to 2.5	Pass
		-30	3.85	15.529	0.0081	-2.5 to 2.5	Pass
		-20	3.85	10.913	0.0057	-2.5 to 2.5	Pass
		-10	3.85	12.430	0.0065	-2.5 to 2.5	Pass
		0	3.85	10.816	0.0057	-2.5 to 2.5	Pass
10		3.85	18.306	0.0096	-2.5 to 2.5	Pass	
30		3.85	20.760	0.0109	-2.5 to 2.5	Pass	
40		3.85	20.372	0.0107	-2.5 to 2.5	Pass	
50	3.85	15.497	0.0081	-2.5 to 2.5	Pass		
GPRS	1850.2	20	3.27	13.431	0.0073	-2.5 to 2.5	Pass
			3.85	12.495	0.0068	-2.5 to 2.5	Pass
			4.43	10.719	0.0058	-2.5 to 2.5	Pass
		-30	3.85	12.075	0.0065	-2.5 to 2.5	Pass
		-20	3.85	10.138	0.0055	-2.5 to 2.5	Pass
		-10	3.85	8.136	0.0044	-2.5 to 2.5	Pass
		0	3.85	10.009	0.0054	-2.5 to 2.5	Pass
		10	3.85	27.120	0.0147	-2.5 to 2.5	Pass
		30	3.85	25.570	0.0138	-2.5 to 2.5	Pass
		40	3.85	17.467	0.0094	-2.5 to 2.5	Pass
	50	3.85	18.468	0.0100	-2.5 to 2.5	Pass	
	1880	20	3.27	8.685	0.0046	-2.5 to 2.5	Pass
			3.85	6.005	0.0032	-2.5 to 2.5	Pass
			4.43	7.426	0.0040	-2.5 to 2.5	Pass
		-30	3.85	9.201	0.0049	-2.5 to 2.5	Pass
		-20	3.85	4.907	0.0026	-2.5 to 2.5	Pass
		-10	3.85	11.461	0.0061	-2.5 to 2.5	Pass
		0	3.85	5.553	0.0030	-2.5 to 2.5	Pass
		10	3.85	4.778	0.0025	-2.5 to 2.5	Pass
		30	3.85	5.263	0.0028	-2.5 to 2.5	Pass
		40	3.85	2.906	0.0015	-2.5 to 2.5	Pass
	50	3.85	3.745	0.0020	-2.5 to 2.5	Pass	
	1909.8	20	3.27	-1.130	-0.0006	-2.5 to 2.5	Pass
			3.85	3.164	0.0017	-2.5 to 2.5	Pass
			4.43	4.294	0.0022	-2.5 to 2.5	Pass
		-30	3.85	4.100	0.0021	-2.5 to 2.5	Pass
		-20	3.85	0.775	0.0004	-2.5 to 2.5	Pass
		-10	3.85	3.713	0.0019	-2.5 to 2.5	Pass
		0	3.85	5.295	0.0028	-2.5 to 2.5	Pass
		10	3.85	0.775	0.0004	-2.5 to 2.5	Pass
		30	3.85	-7.361	-0.0039	-2.5 to 2.5	Pass
		40	3.85	-9.686	-0.0051	-2.5 to 2.5	Pass
50	3.85	-6.586	-0.0034	-2.5 to 2.5	Pass		
EGPRS	1850.2	20	3.27	2.712	0.0015	-2.5 to 2.5	Pass

			3.85	4.359	0.0024	-2.5 to 2.5	Pass	
			4.43	6.651	0.0036	-2.5 to 2.5	Pass	
		-30	3.85	2.809	0.0015	-2.5 to 2.5	Pass	
		-20	3.85	7.749	0.0042	-2.5 to 2.5	Pass	
		-10	3.85	-2.777	-0.0015	-2.5 to 2.5	Pass	
		0	3.85	7.619	0.0041	-2.5 to 2.5	Pass	
		10	3.85	7.038	0.0038	-2.5 to 2.5	Pass	
		30	3.85	12.753	0.0069	-2.5 to 2.5	Pass	
		40	3.85	17.854	0.0096	-2.5 to 2.5	Pass	
		50	3.85	2.421	0.0013	-2.5 to 2.5	Pass	
	1880	20		3.27	2.131	0.0011	-2.5 to 2.5	Pass
				3.85	11.203	0.0060	-2.5 to 2.5	Pass
				4.43	5.650	0.0030	-2.5 to 2.5	Pass
		-30	3.85	8.459	0.0045	-2.5 to 2.5	Pass	
		-20	3.85	4.875	0.0026	-2.5 to 2.5	Pass	
		-10	3.85	8.233	0.0044	-2.5 to 2.5	Pass	
		0	3.85	-2.260	-0.0012	-2.5 to 2.5	Pass	
		10	3.85	7.749	0.0041	-2.5 to 2.5	Pass	
		30	3.85	10.073	0.0054	-2.5 to 2.5	Pass	
		40	3.85	9.201	0.0049	-2.5 to 2.5	Pass	
	50	3.85	18.597	0.0099	-2.5 to 2.5	Pass		
	1909.8	20		3.27	9.912	0.0052	-2.5 to 2.5	Pass
				3.85	0.420	0.0002	-2.5 to 2.5	Pass
				4.43	9.686	0.0051	-2.5 to 2.5	Pass
		-30	3.85	6.651	0.0035	-2.5 to 2.5	Pass	
		-20	3.85	2.647	0.0014	-2.5 to 2.5	Pass	
		-10	3.85	5.908	0.0031	-2.5 to 2.5	Pass	
		0	3.85	4.133	0.0022	-2.5 to 2.5	Pass	
		10	3.85	5.359	0.0028	-2.5 to 2.5	Pass	
		30	3.85	3.713	0.0019	-2.5 to 2.5	Pass	
40		3.85	7.361	0.0039	-2.5 to 2.5	Pass		
50	3.85	8.717	0.0046	-2.5 to 2.5	Pass			

### 3. Modulation Characteristics

#### 3.1 Test Result

##### 3.1.1 PCS1900

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

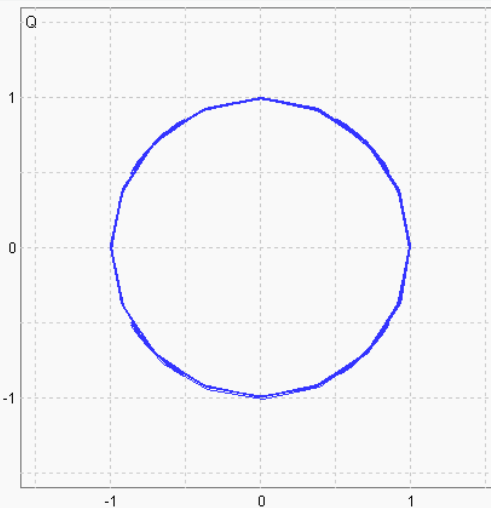
### 3.2 Test Graph

#### 3.2.1 PCS1900

**PCS1900\_GSM\_MCH\_1880MHz\_GSM\_NTNV**

**GSM Measurement 1 - V3.7.20 - Base V 3.7.40 - TX Measurement**

Band/Ch:GSM1900 / 661 Freq.:1880.00000 MHz Ref. Level: 36.00 dBm Meas Slots: [●●●●●●●●●●] Tim.Advance.: 0



Statistic Count: 10 / 10

Bursts out of Tolerance: 0.00 %

Mod.View Throughput: 100.0 %

Burst Type: GMSK

CS: Call Established

PS: Attached

DL: MCS-5

UL: MCS-5

**GSM**

Multi Evaluation: **RDY**

RF Settings

Trigger

Display

Signaling Parameter

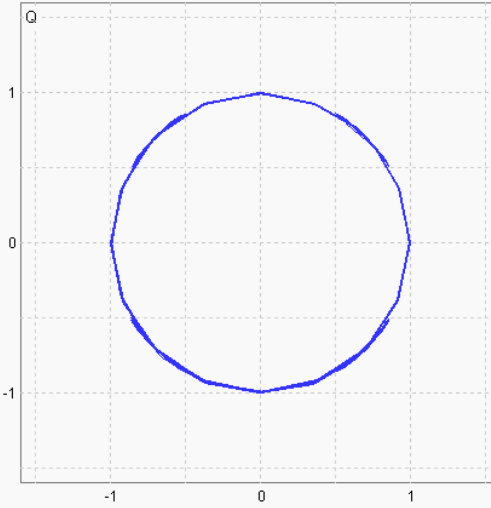
GSM Signaling: **ON**

Go To LocalShow Remote Screen

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

**GSM Measurement 1 - V3.7.20 - Base V 3.7.40 - TX Measurement**

Band/Ch:GSM1900 / 661 Freq.:1880.00000 MHz Ref. Level: 36.00 dBm Meas Slots: [●●●●●●●●●●] Tim.Advance.: 0



Statistic Count: 10 / 10

Bursts out of Tolerance: 0.00 %

Mod.View Throughput: 100.0 %

Burst Type: GMSK

CS: Synchronized

PS: TBF Established

DL: CS-1

UL: CS-1

**GSM**

Multi Evaluation: **RDY**

RF Settings

Trigger

Display

Signaling Parameter

GSM Signaling: **ON**

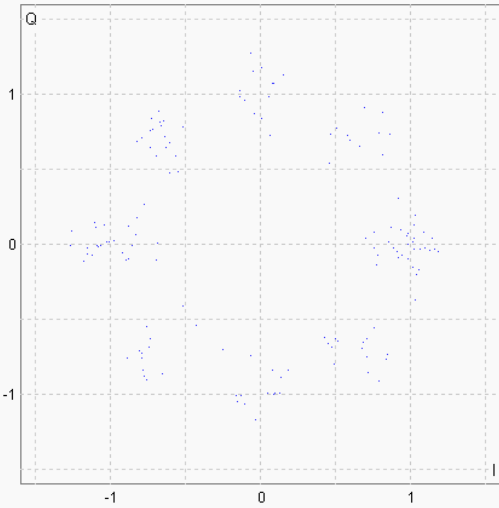
Go To LocalShow Remote Screen

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

**GSM Measurement 1 - V3.7.20 - Base V 3.7.40 - TX Measurement**

Band/Ch:GSM1900 / 661 Freq.:1880.00000 MHz Ref. Level: 39.23 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

**Go To Local** **Show Remote Screen**

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

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

## 4. 99% & 26dB Bandwidth

### 4.1 Test Result

#### 4.1.1 PCS1900\_OBW

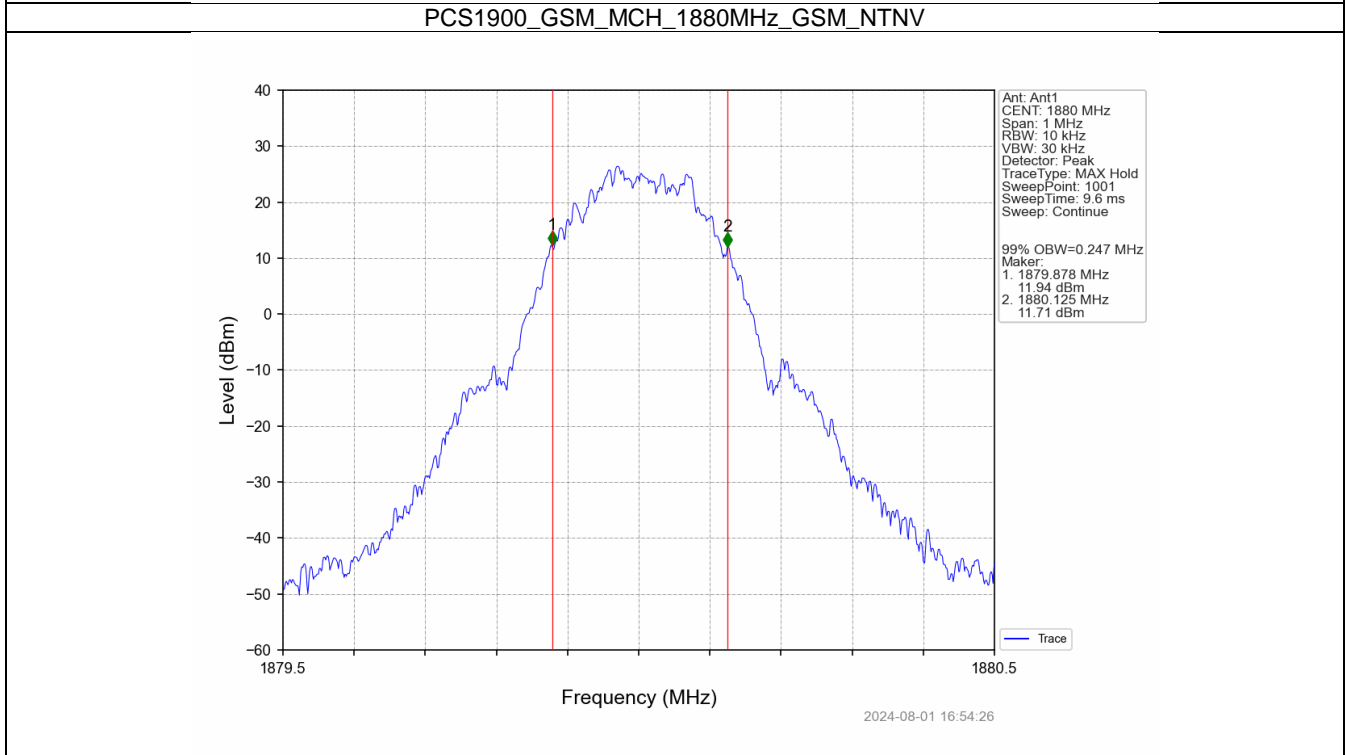
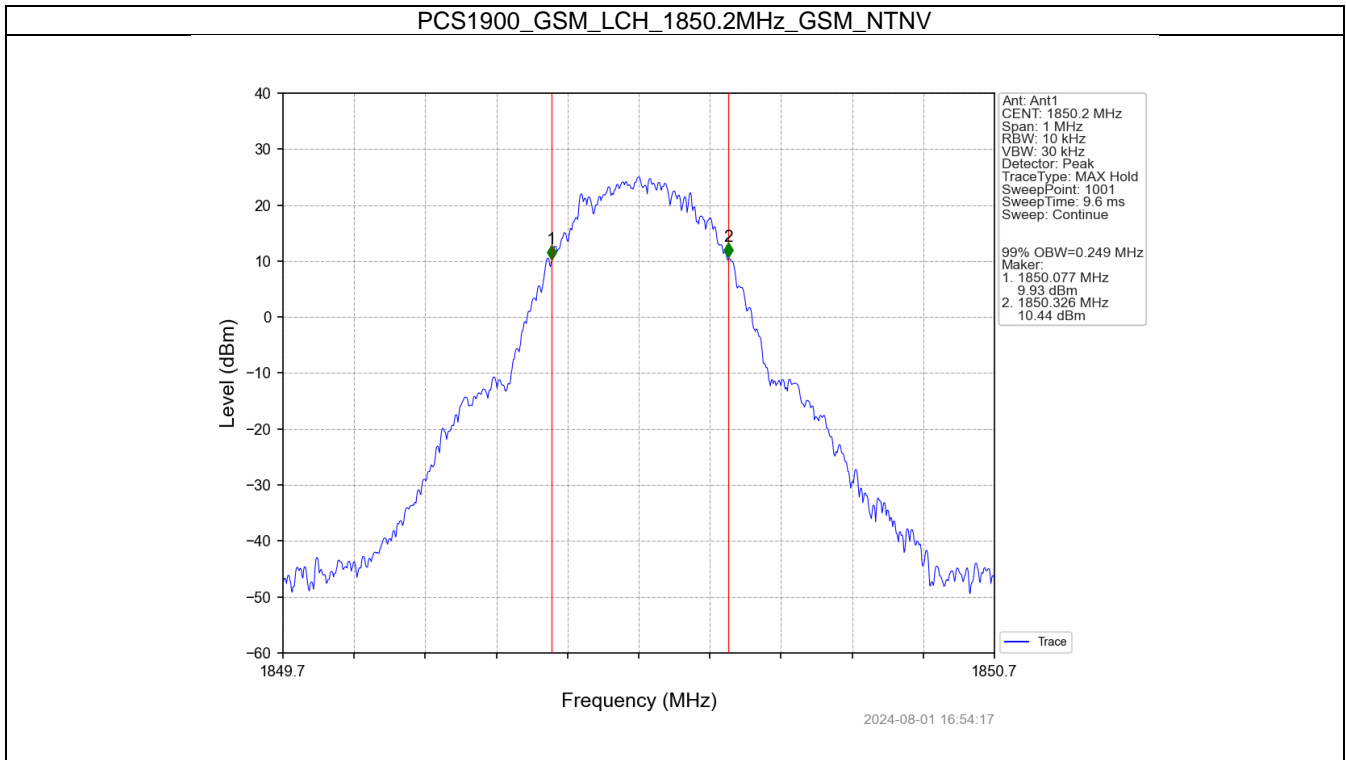
Band: PCS1900						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.249	/	Pass
			1880	0.247	/	Pass
			1909.8	0.251	/	Pass
	GPRS	1 TX Slot	1850.2	0.247	/	Pass
			1880	0.247	/	Pass
			1909.8	0.244	/	Pass
	EGPRS	1 TX Slot	1850.2	0.267	/	Pass
			1880	0.259	/	Pass
			1909.8	0.273	/	Pass

#### 4.1.2 PCS1900\_XDB

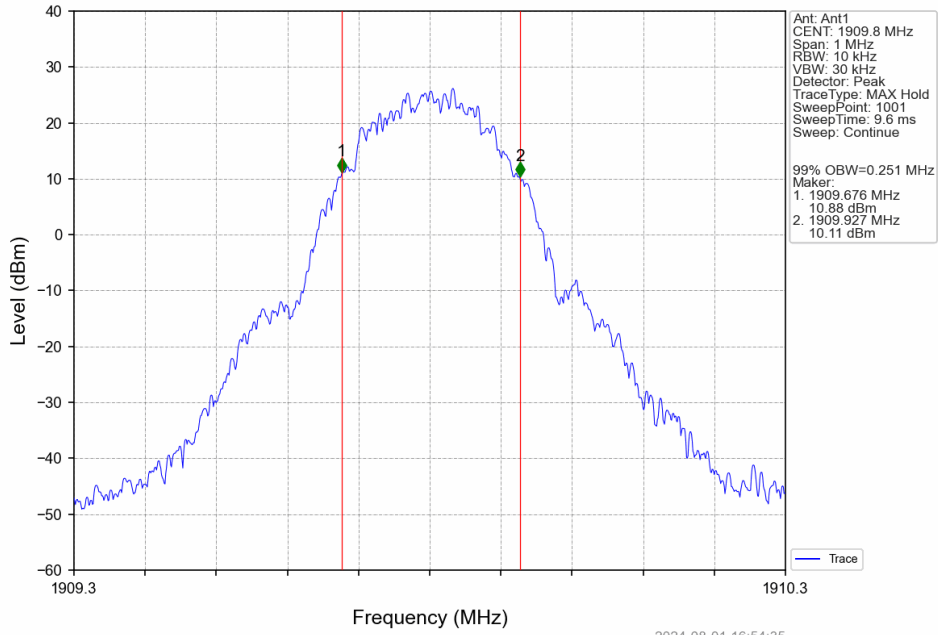
Band: PCS1900						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.321	/	Pass
			1880	0.311	/	Pass
			1909.8	0.319	/	Pass
	GPRS	1 TX Slot	1850.2	0.323	/	Pass
			1880	0.330	/	Pass
			1909.8	0.324	/	Pass
	EGPRS	1 TX Slot	1850.2	0.333	/	Pass
			1880	0.326	/	Pass
			1909.8	0.370	/	Pass

## 4.2 Test Graph

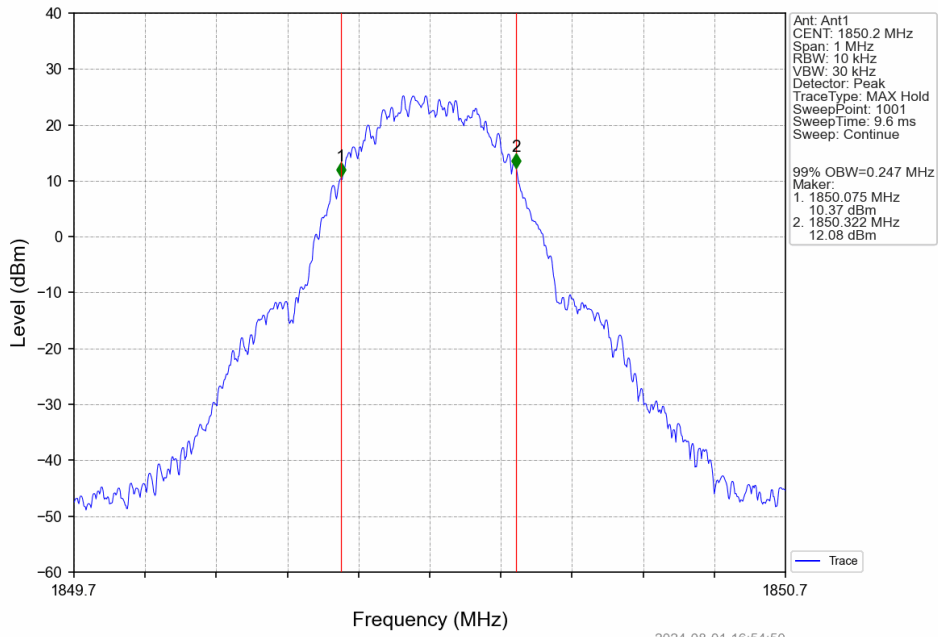
### 4.2.1 PCS1900\_OBW



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

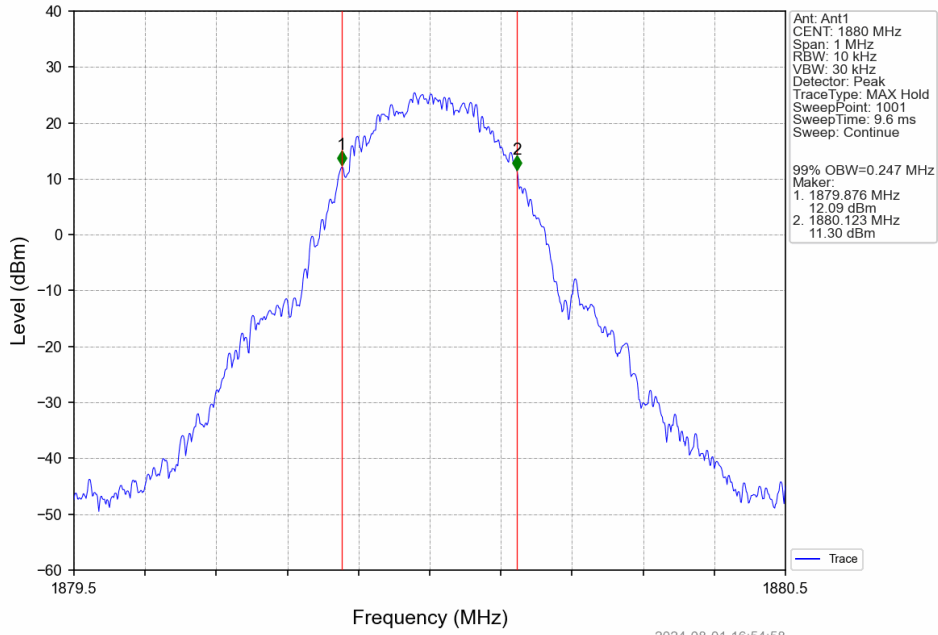


PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV

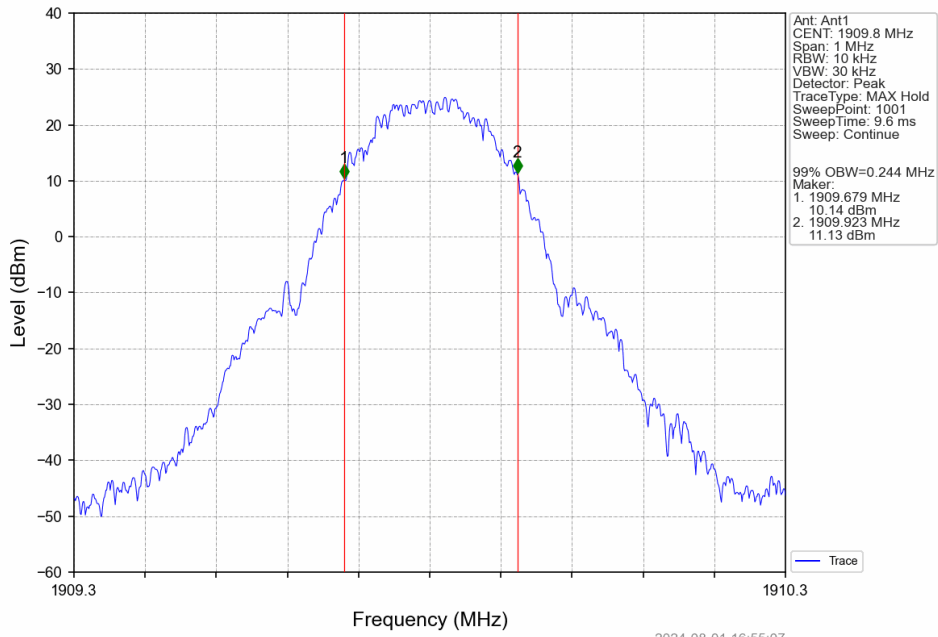




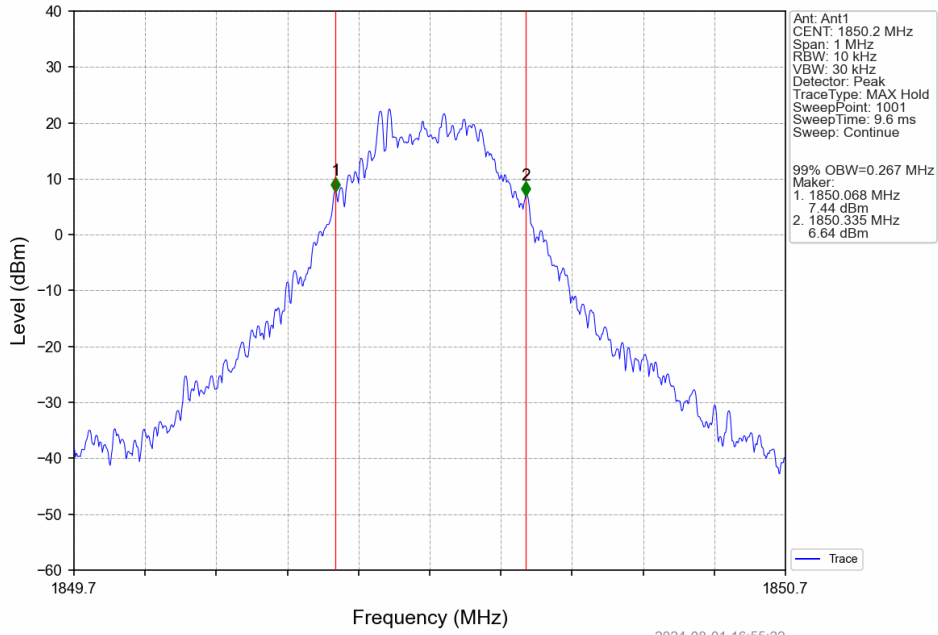
PCS1900\_GPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



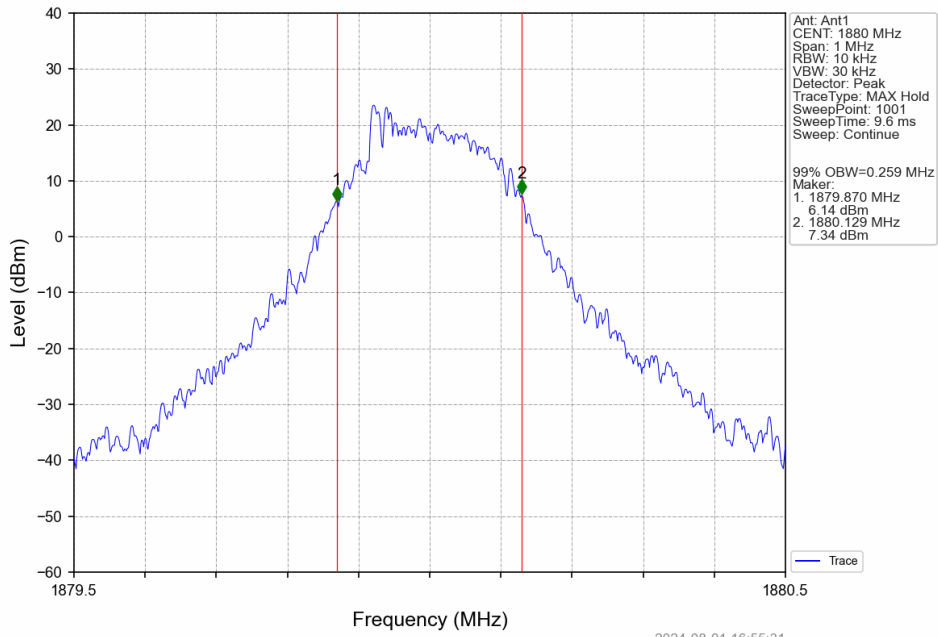
PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



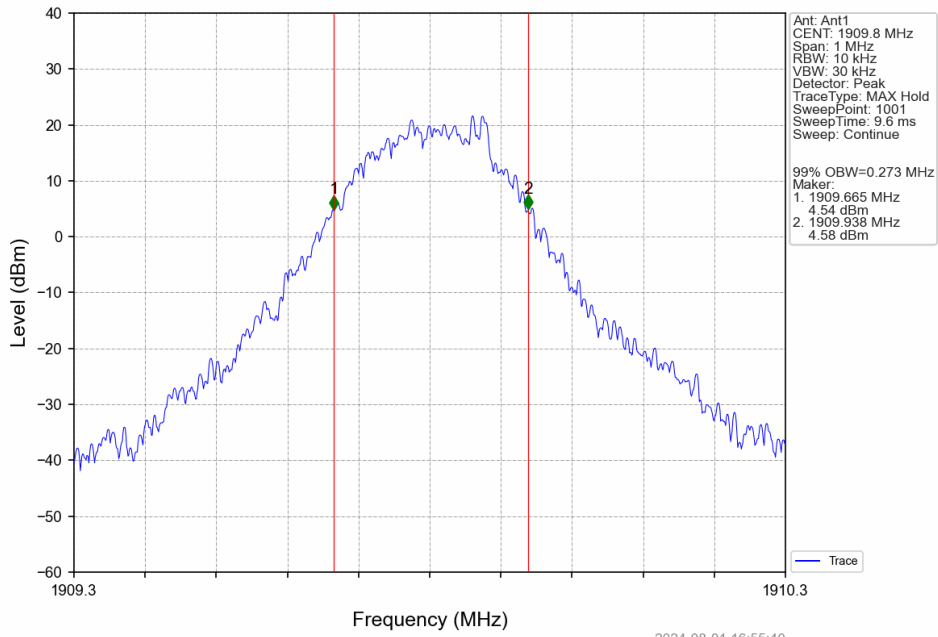
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



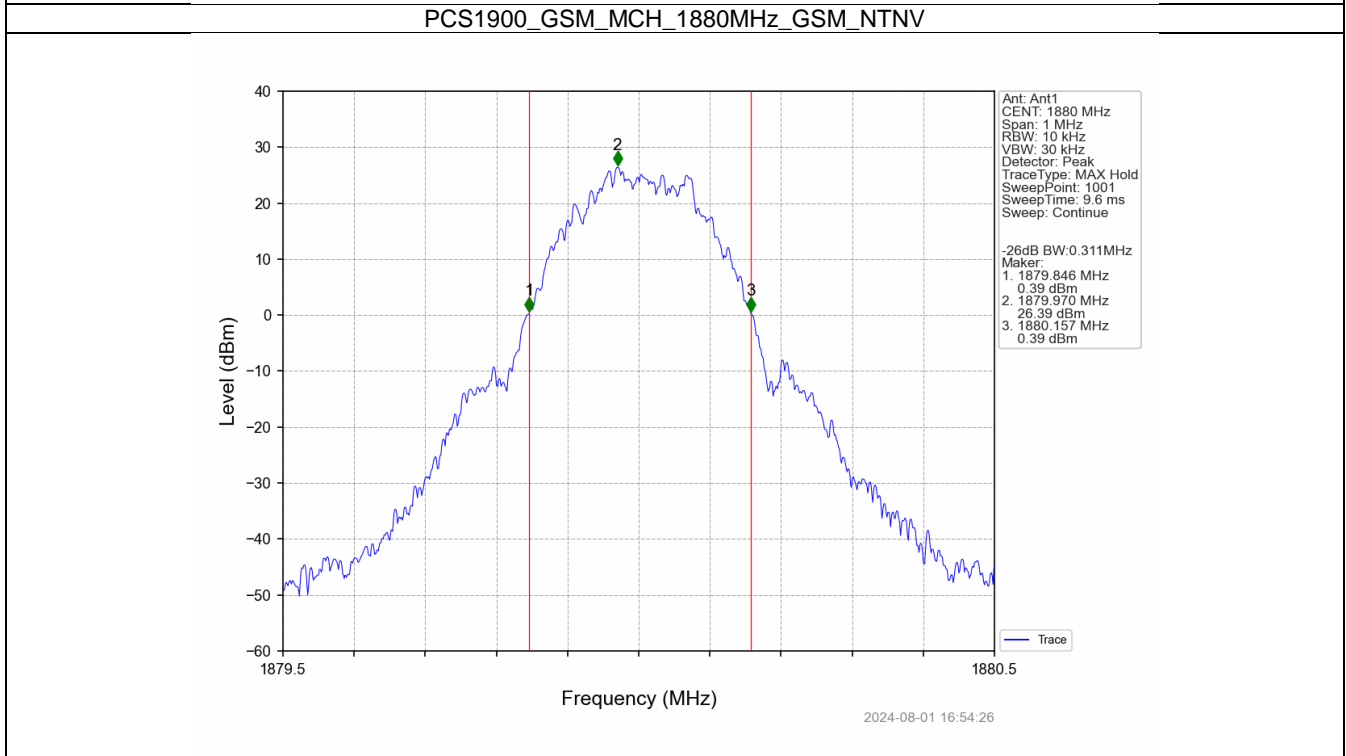
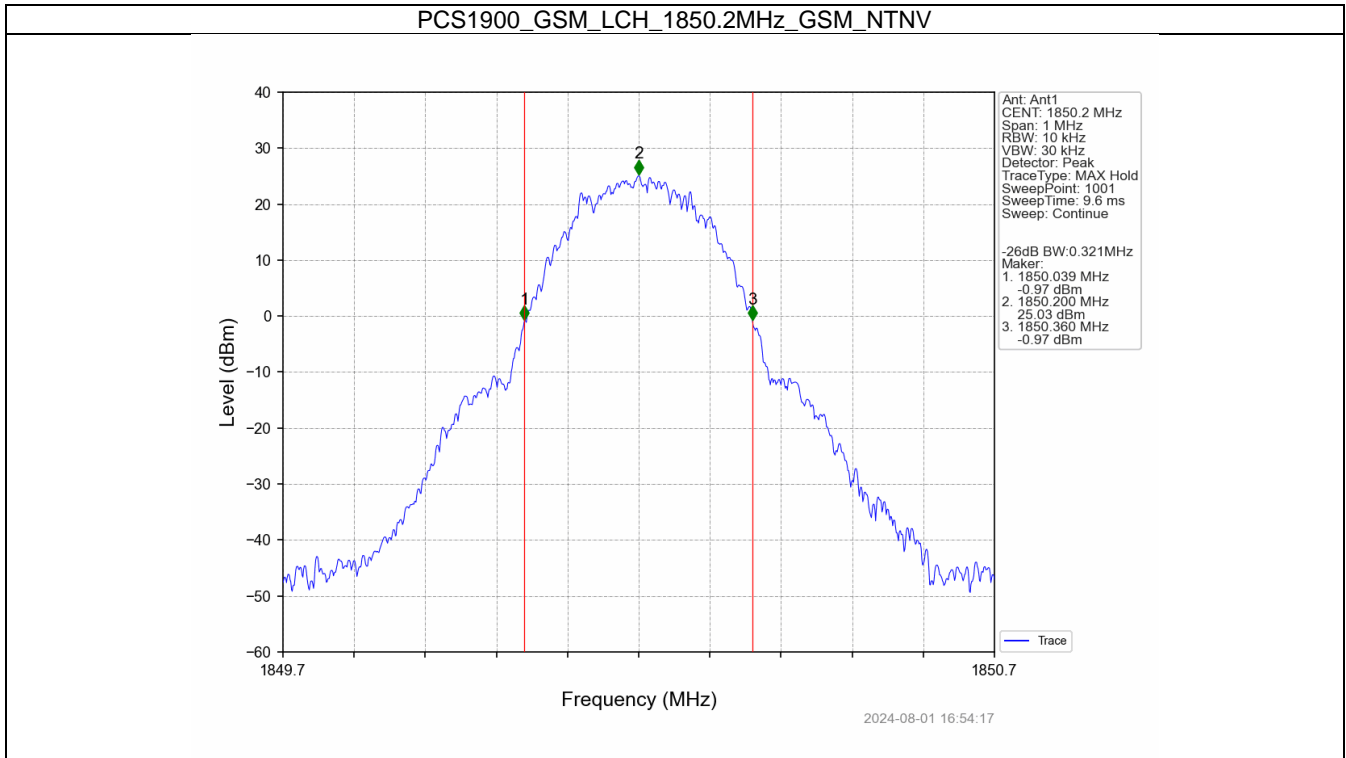
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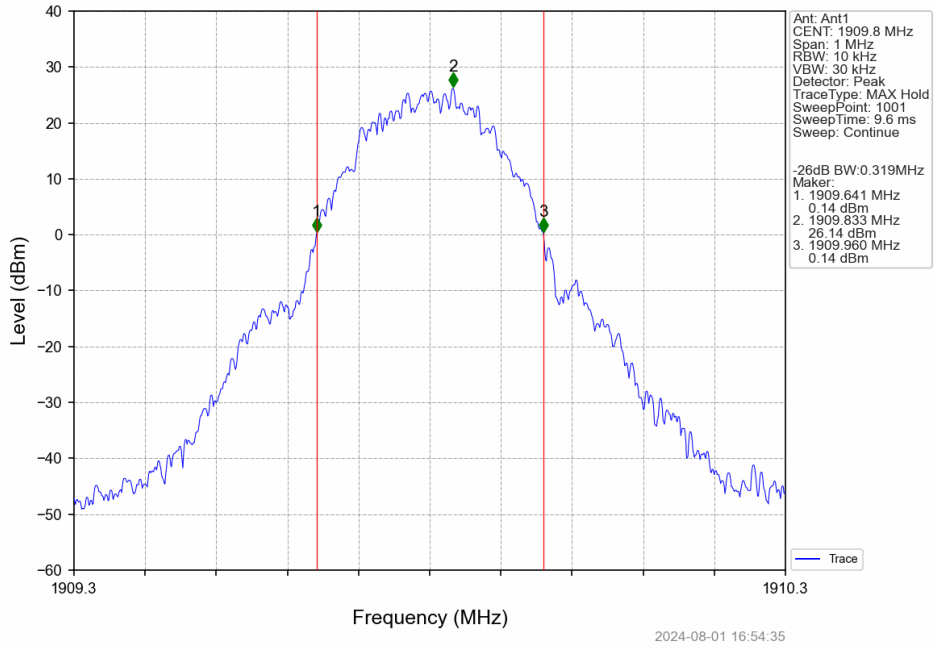
PCS1900\_EGPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



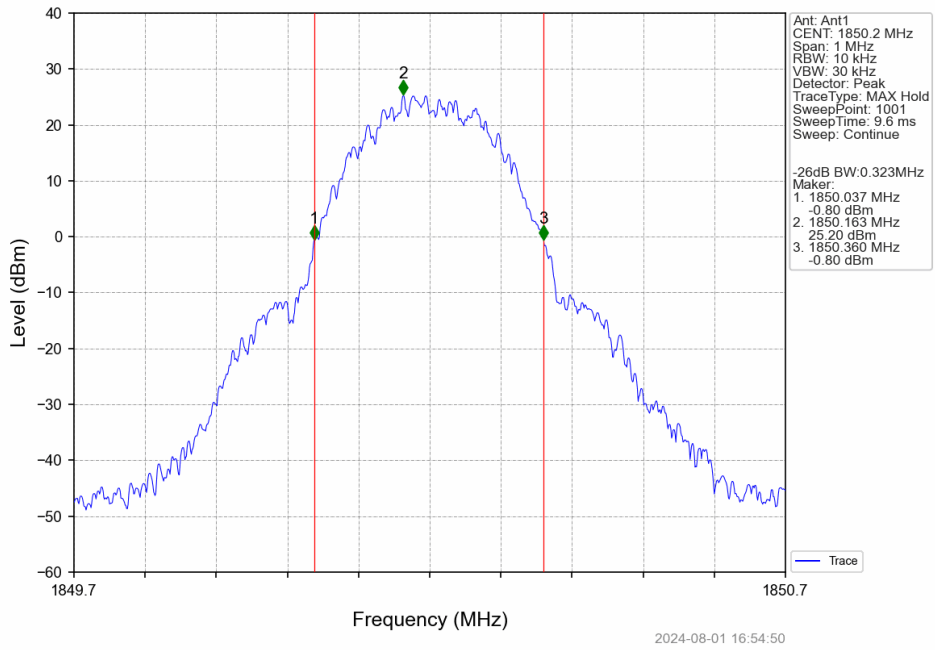
### 4.2.2 PCS1900\_XDB



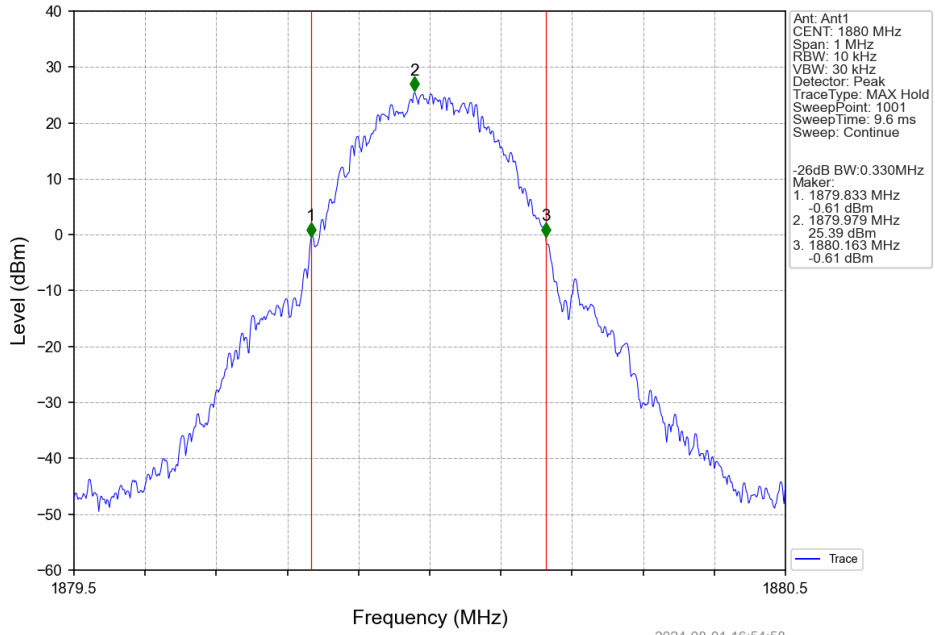
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



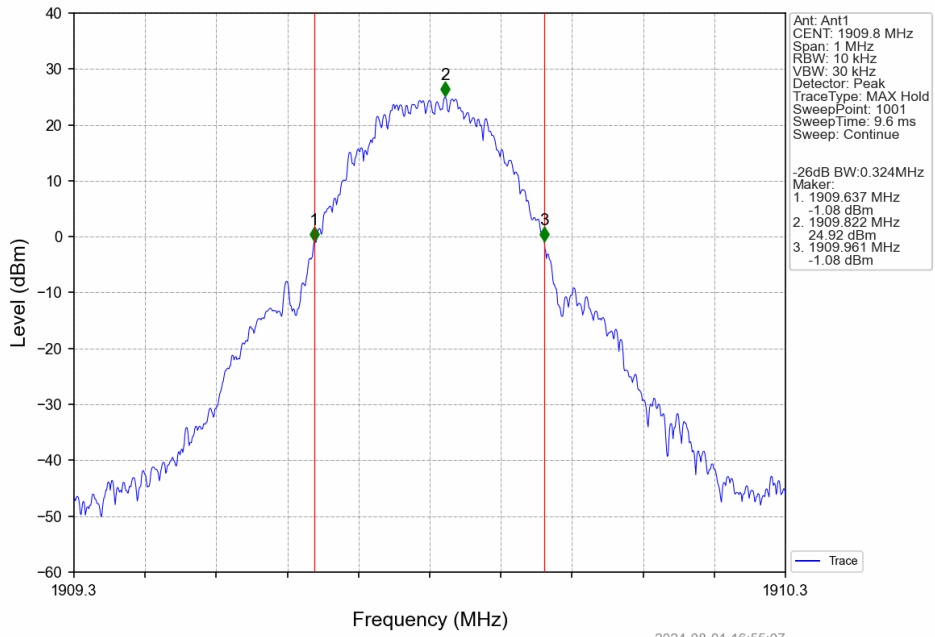
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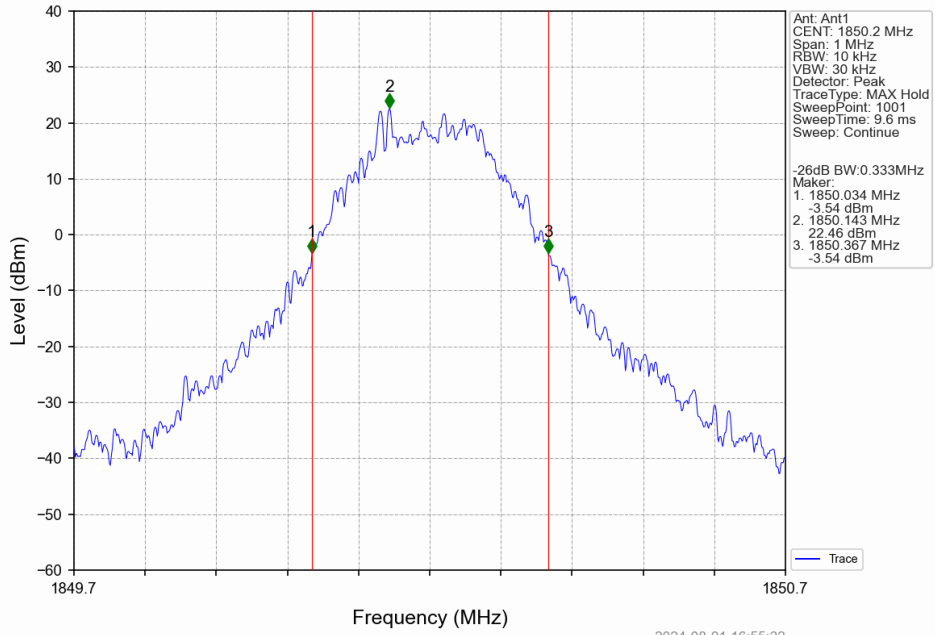
PCS1900\_GPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



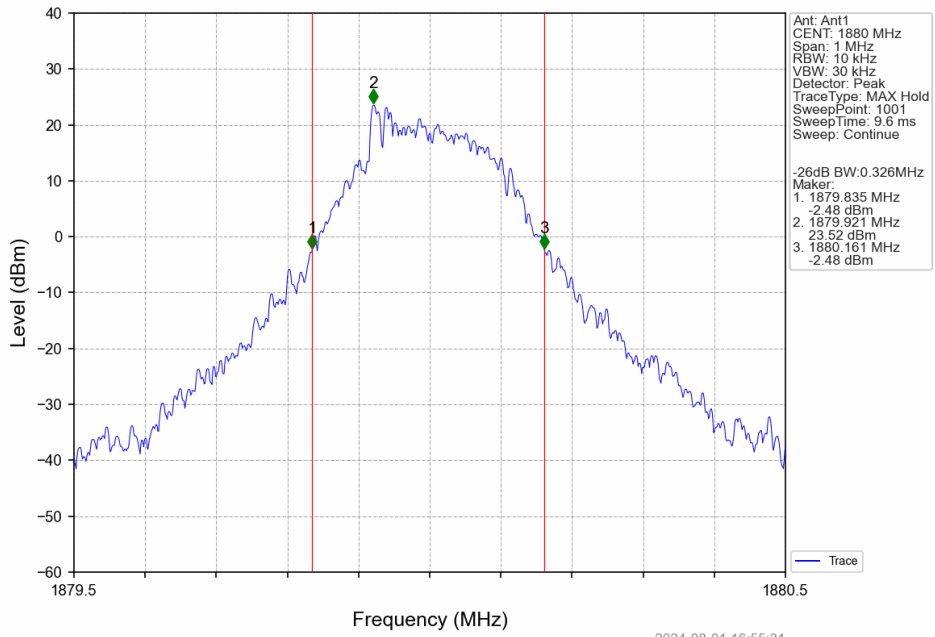
PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



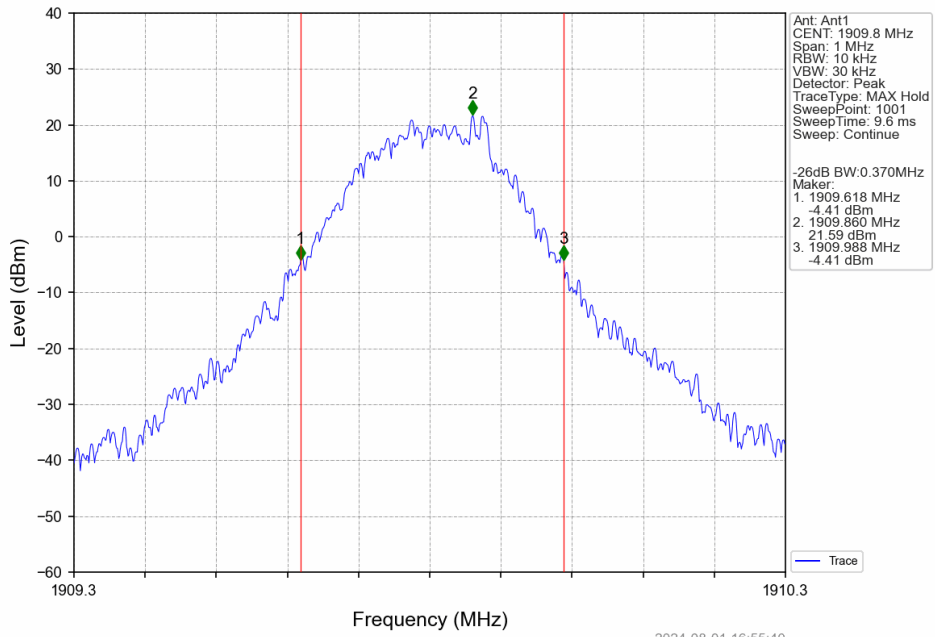
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



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



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



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## 5. Peak-Average Ratio

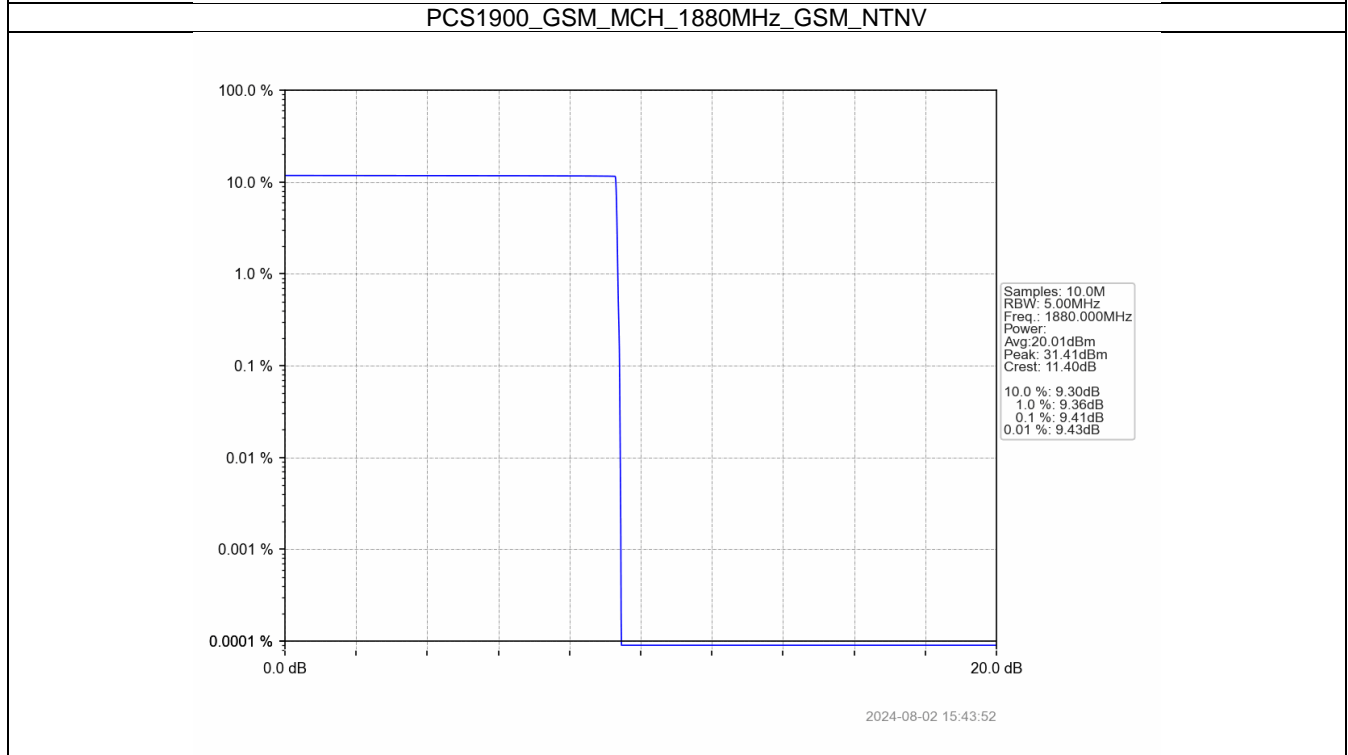
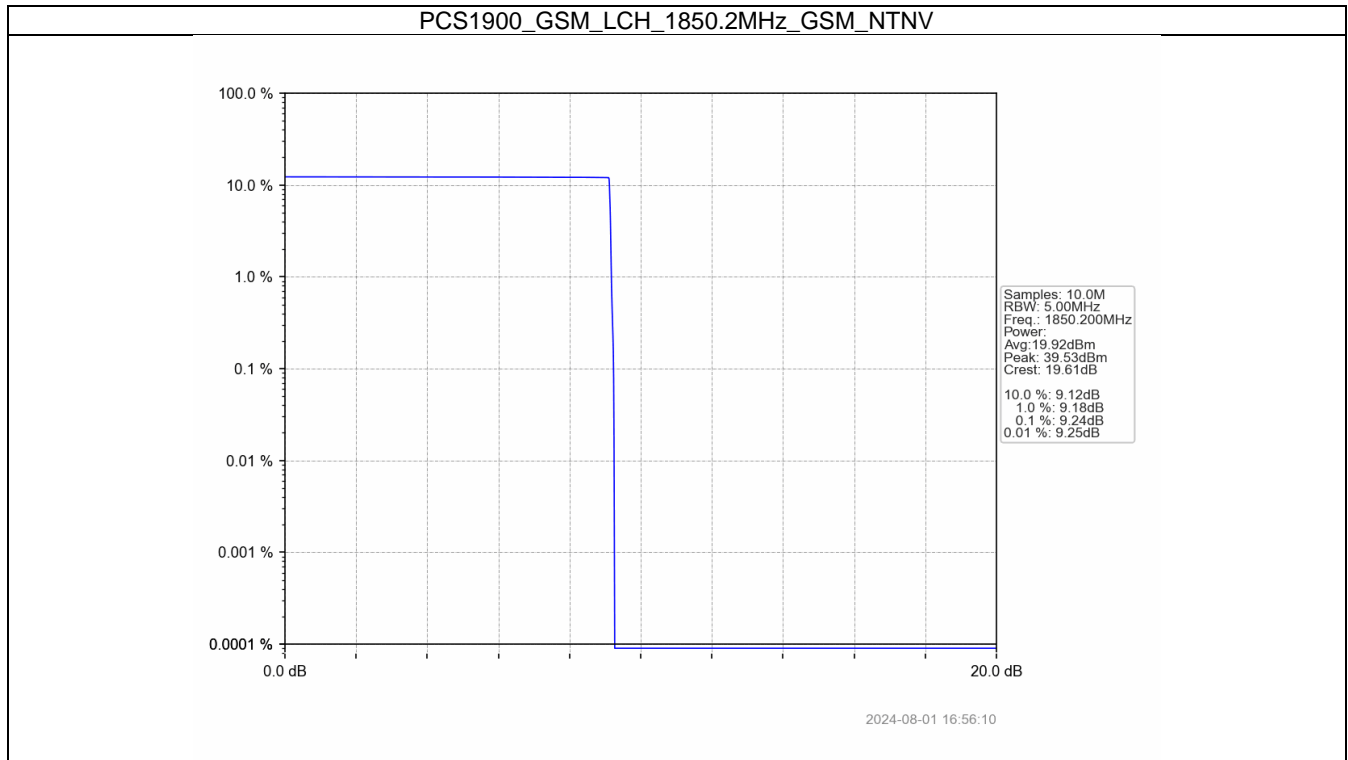
### 5.1 Test Result

#### 5.1.1 PCS1900

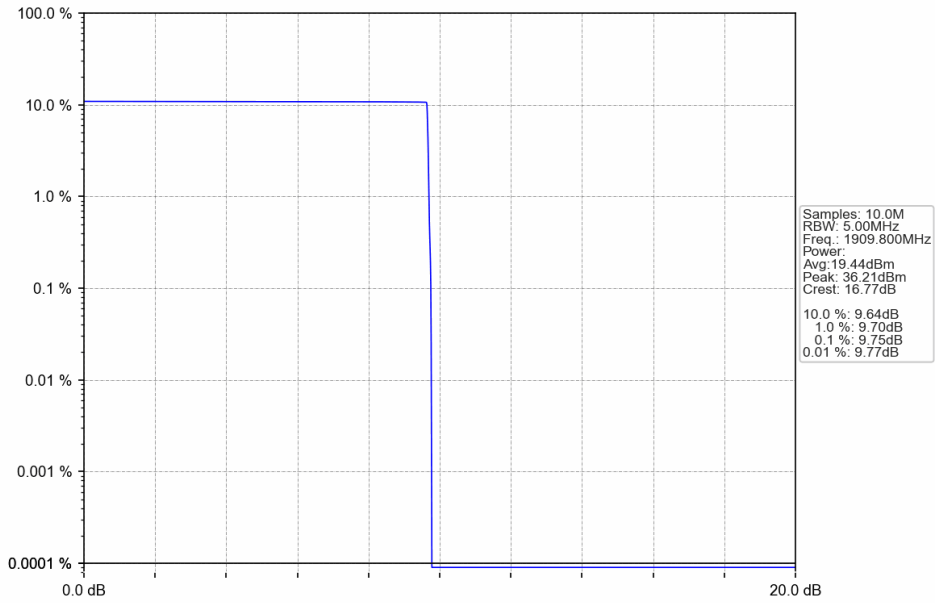
Band: PCS1900						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	9.24	<=13	Pass
			1880	9.41	<=13	Pass
			1909.8	9.75	<=13	Pass
	GPRS	4 TX Slots	1850.2	3.58	<=13	Pass
			1880	3.56	<=13	Pass
			1909.8	3.65	<=13	Pass
	EGPRS	4 TX Slots	1850.2	7.58	<=13	Pass
			1880	7.22	<=13	Pass
			1909.8	6.89	<=13	Pass

## 5.2 Test Graph

### 5.2.1 PCS1900

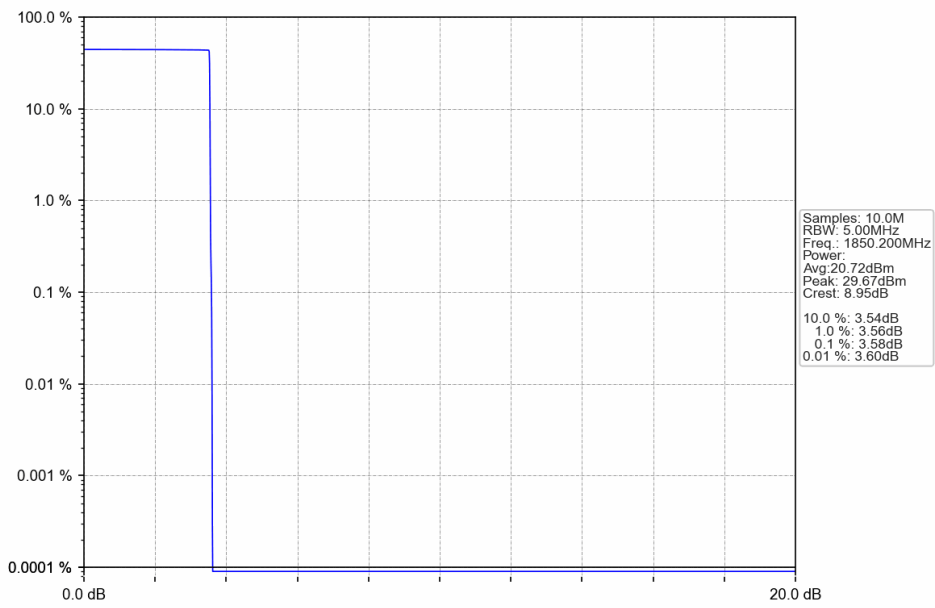


PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



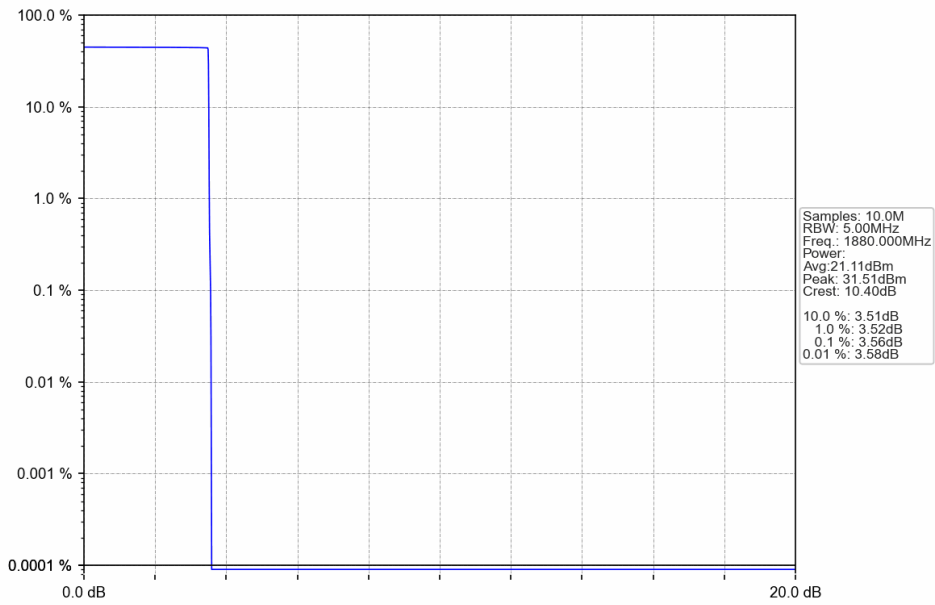
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PCS1900\_GPRS\_LCH\_1850.2MHz\_4 TX Slots\_NTNV



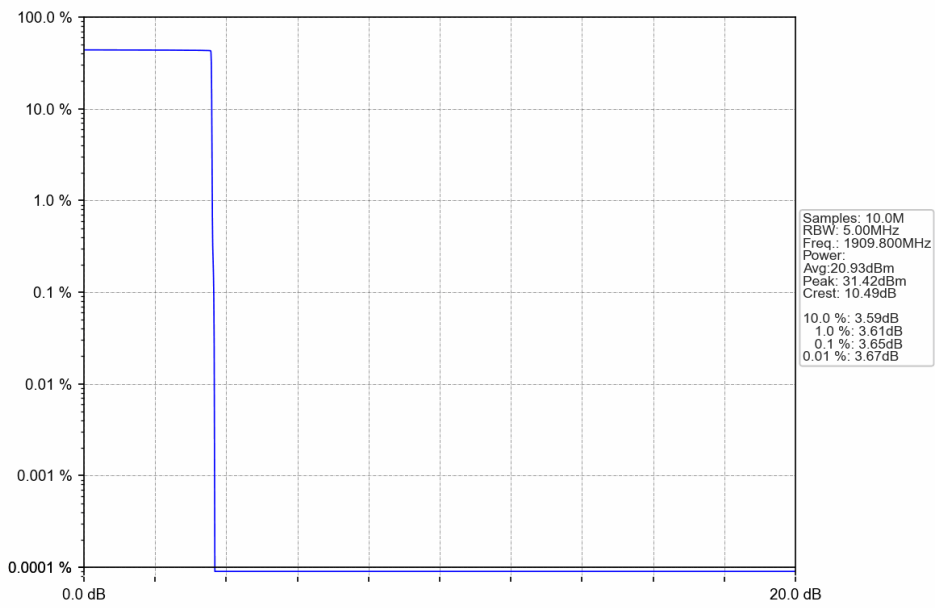
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PCS1900\_GPRS\_MCH\_1880MHz\_4 TX Slots\_NTNV



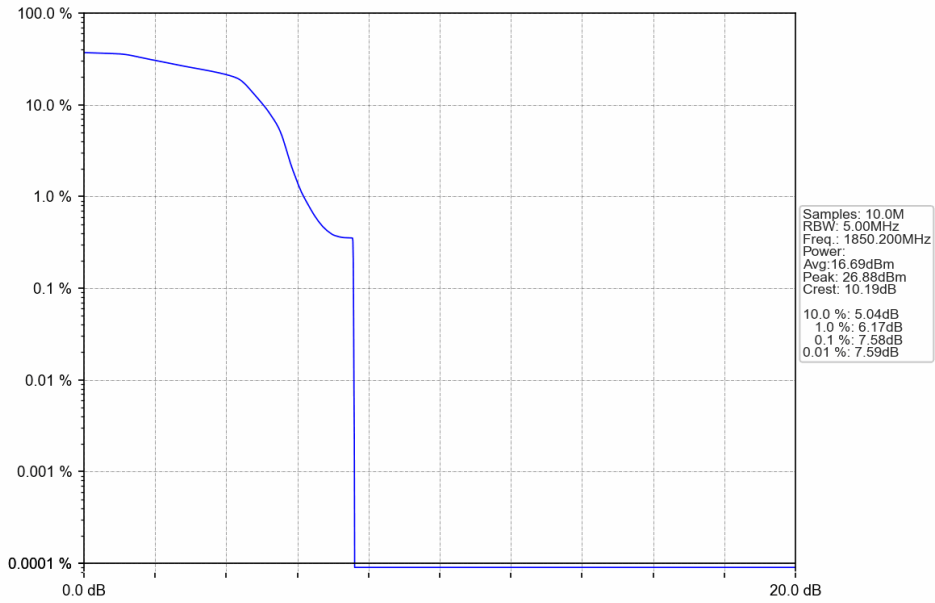
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PCS1900\_GPRS\_HCH\_1909.8MHz\_4 TX Slots\_NTNV



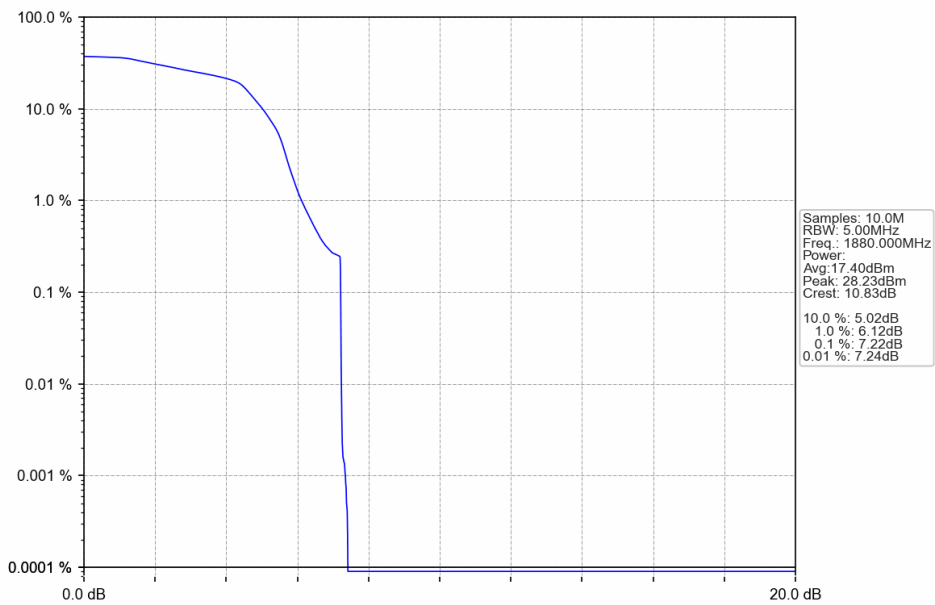
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PCS1900\_EGPRS\_LCH\_1850.2MHz\_4 TX Slots\_NTNV



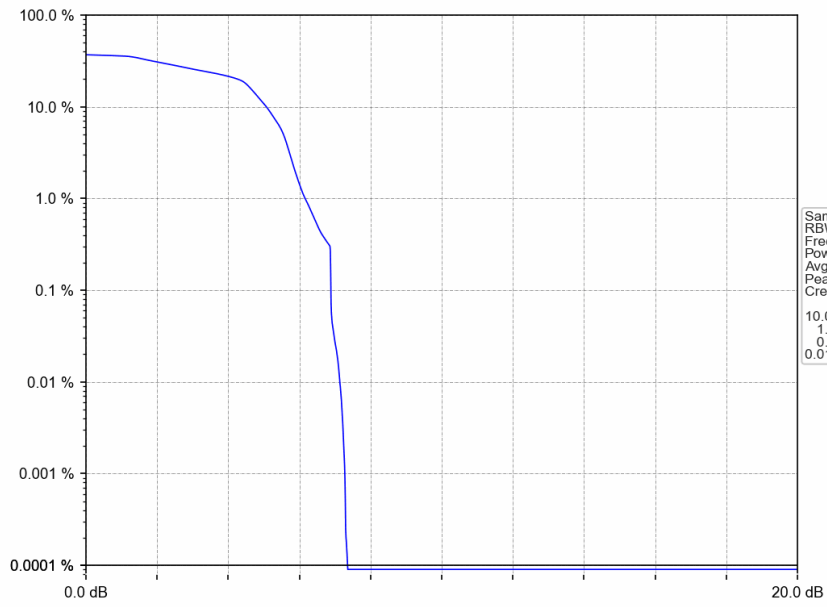
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PCS1900\_EGPRS\_MCH\_1880MHz\_4 TX Slots\_NTNV



2024-08-02 15:45:13

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



Samples: 10.0M  
RBW: 5.00MHz  
Freq.: 1909.800MHz  
Power:  
Avg: 17.66dBm  
Peak: 25.32dBm  
Crest: 7.66dB  
10.0 %: 5.07dB  
1.0 %: 6.16dB  
0.1 %: 6.89dB  
0.01 %: 7.14dB

2024-08-02 15:45:26

## 6. Spurious Emission

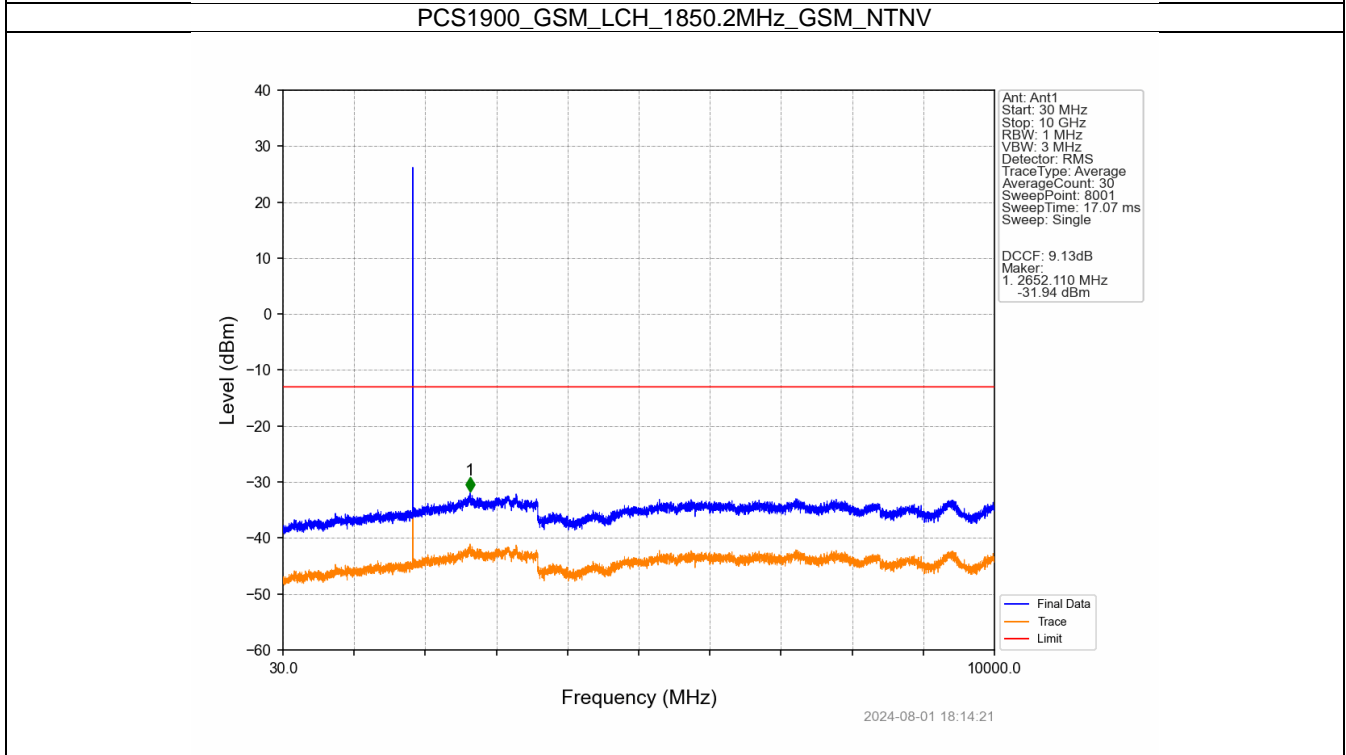
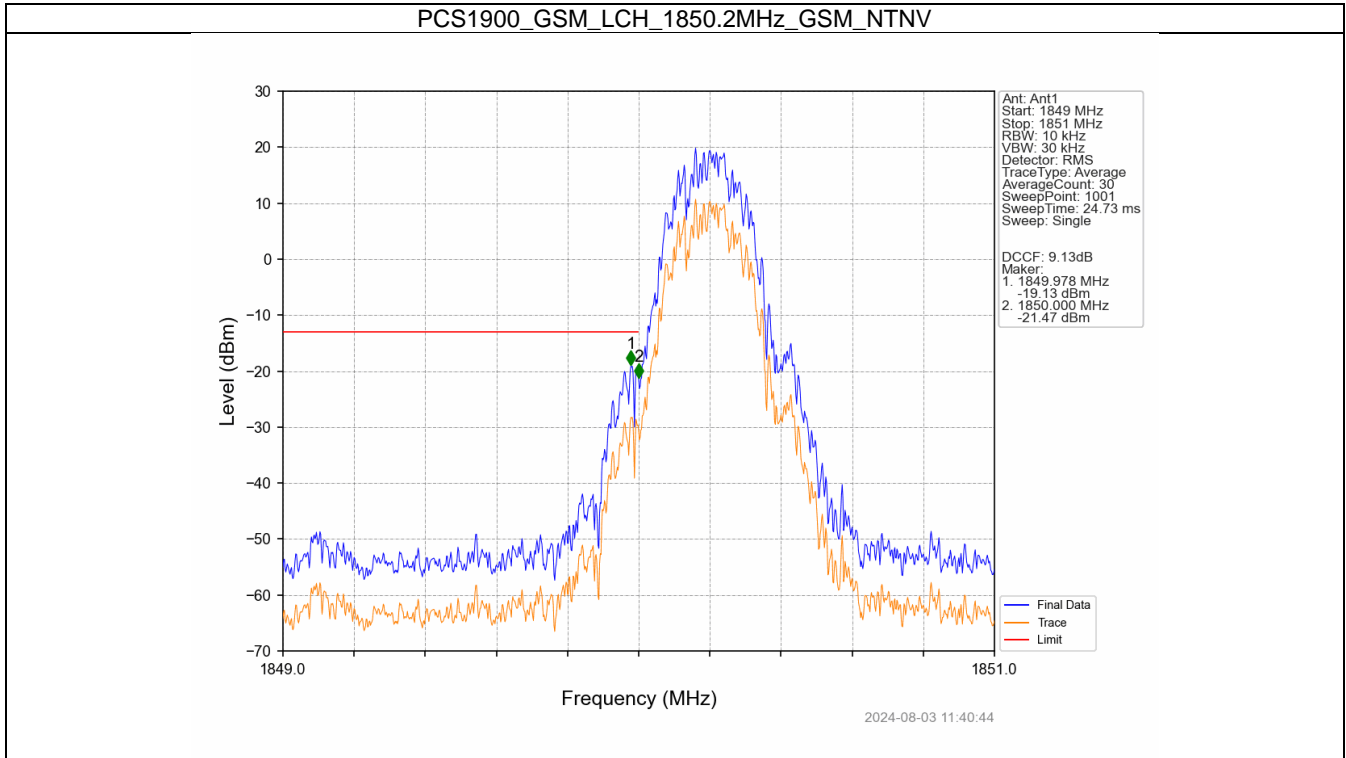
### 6.1 Test Result

#### 6.1.1 PCS1900

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

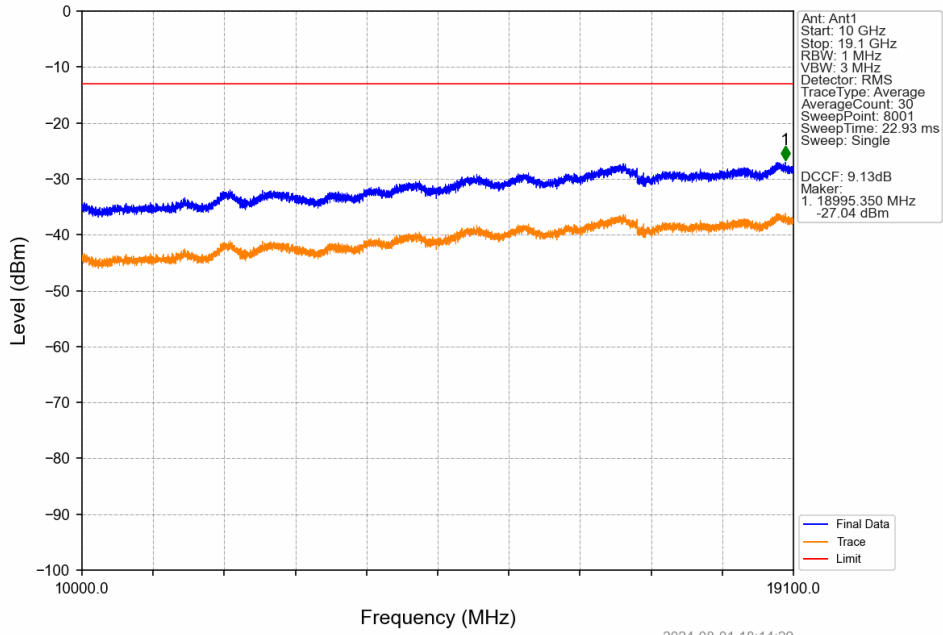
## 6.2 Test Graph

### 6.2.1 PCS1900

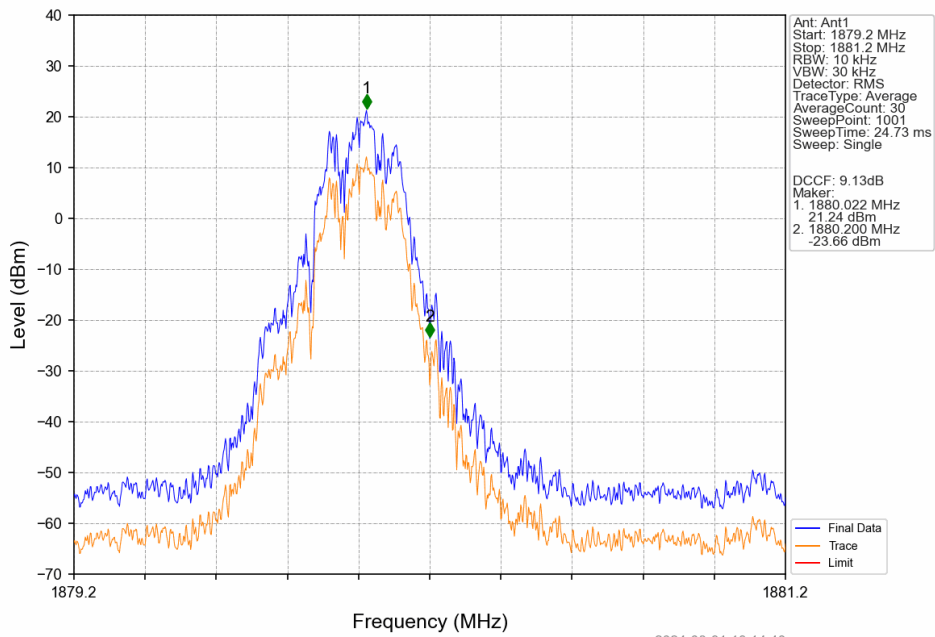




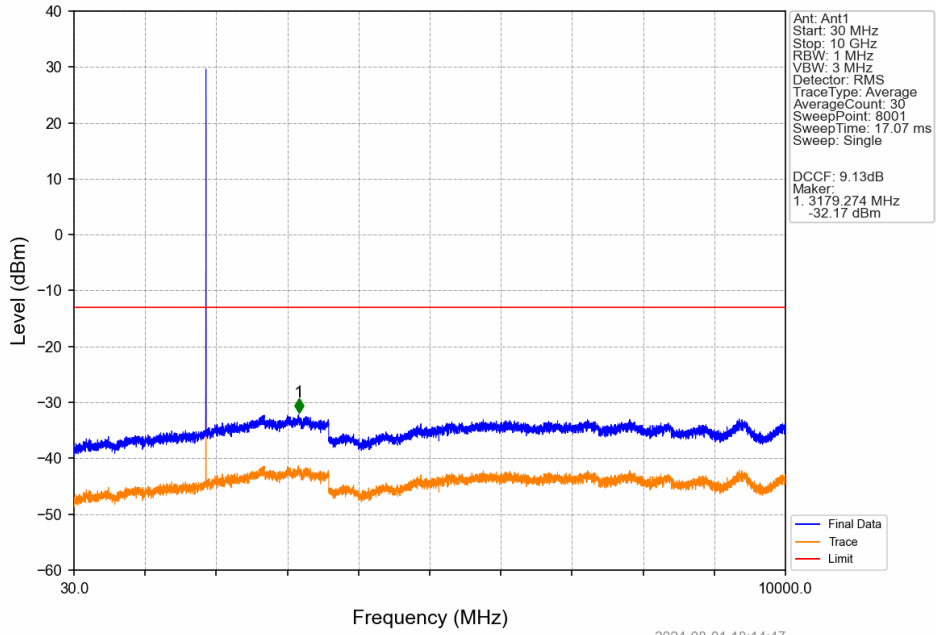
PCS1900\_GSM\_LCH\_1850.2MHz\_GSM\_NTNV



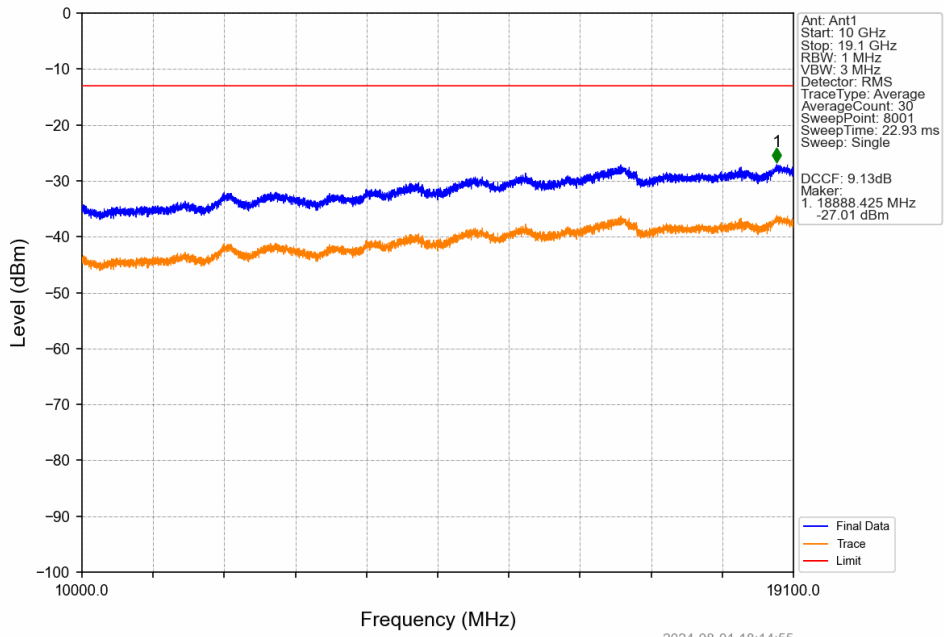
PCS1900\_GSM\_MCH\_1880MHz\_GSM\_NTNV



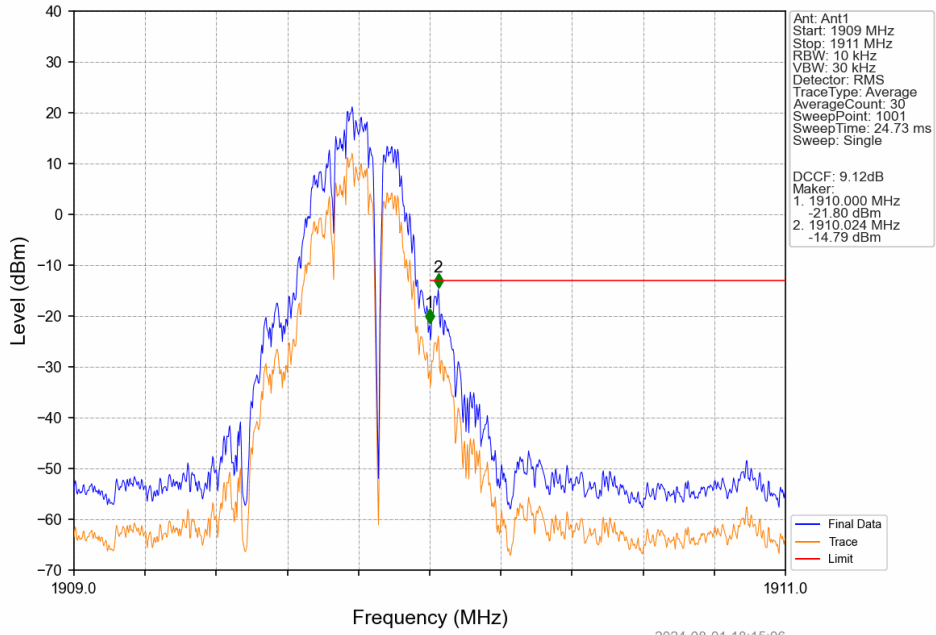
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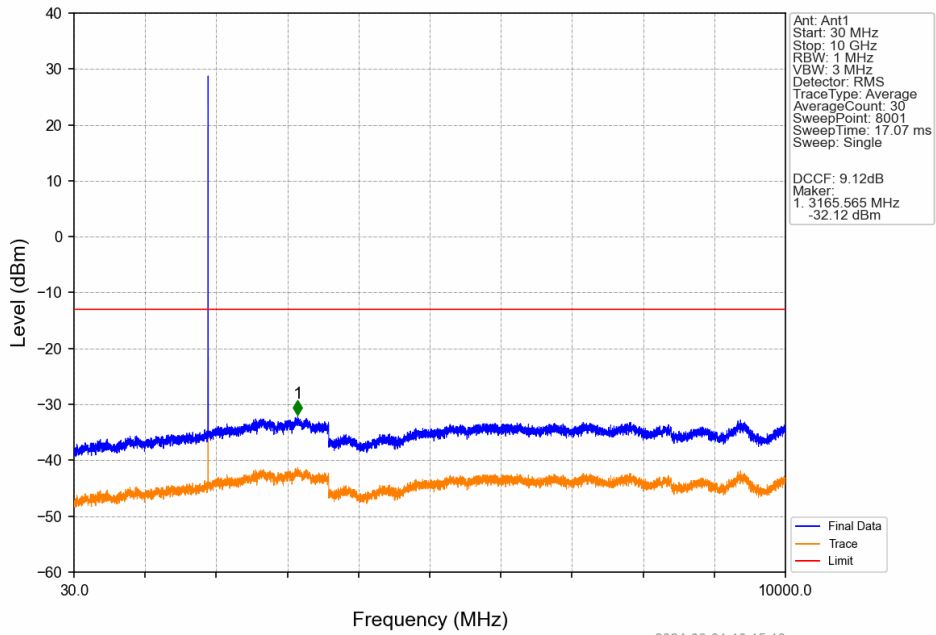
PCS1900\_GSM\_MCH\_1880MHz\_GSM\_NTNV



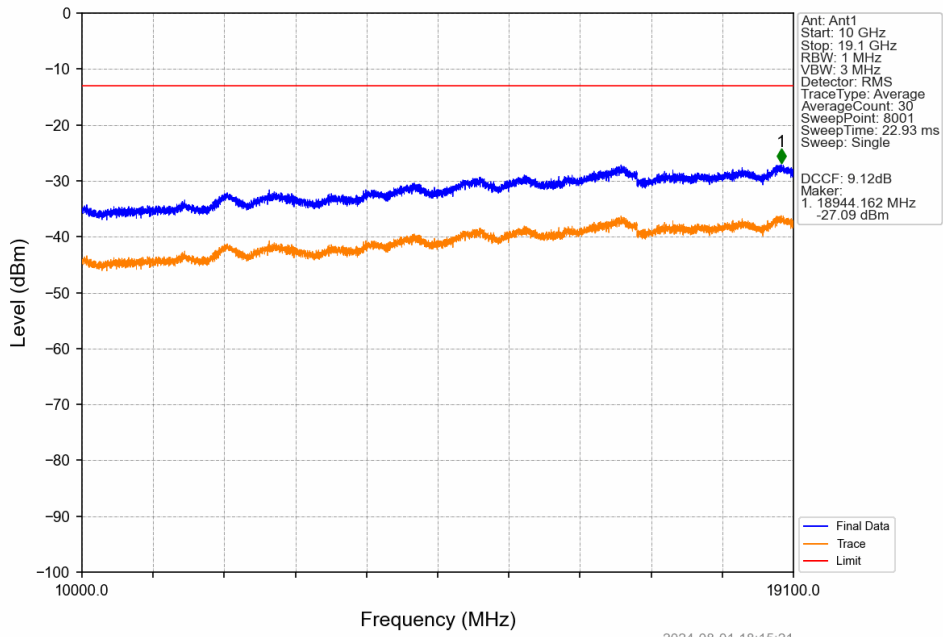
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



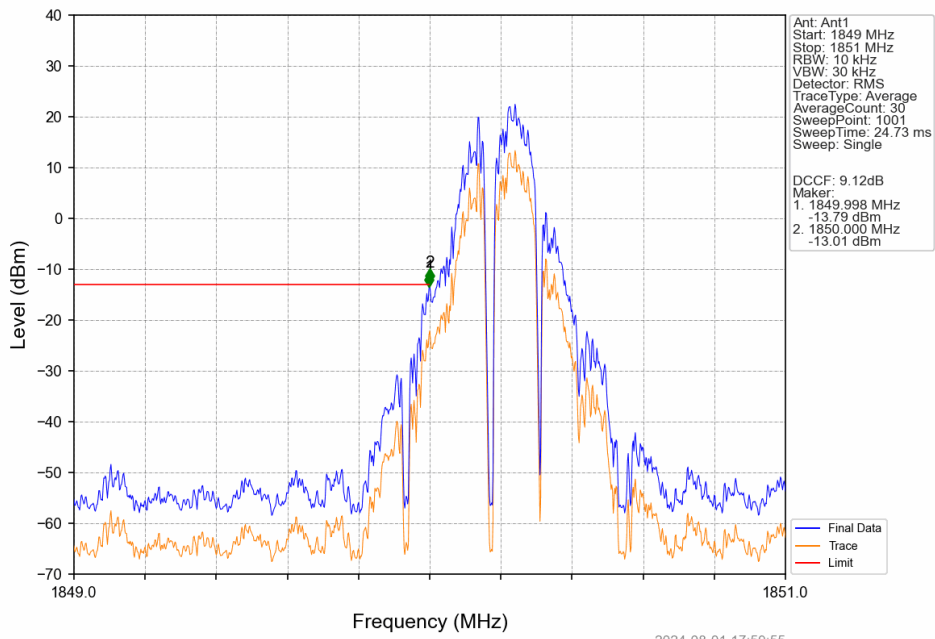
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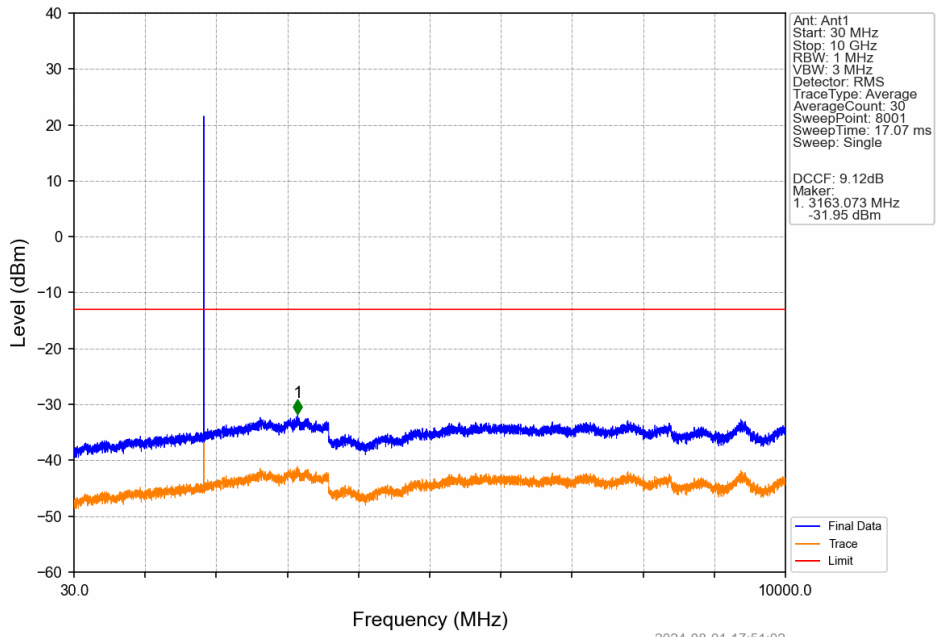
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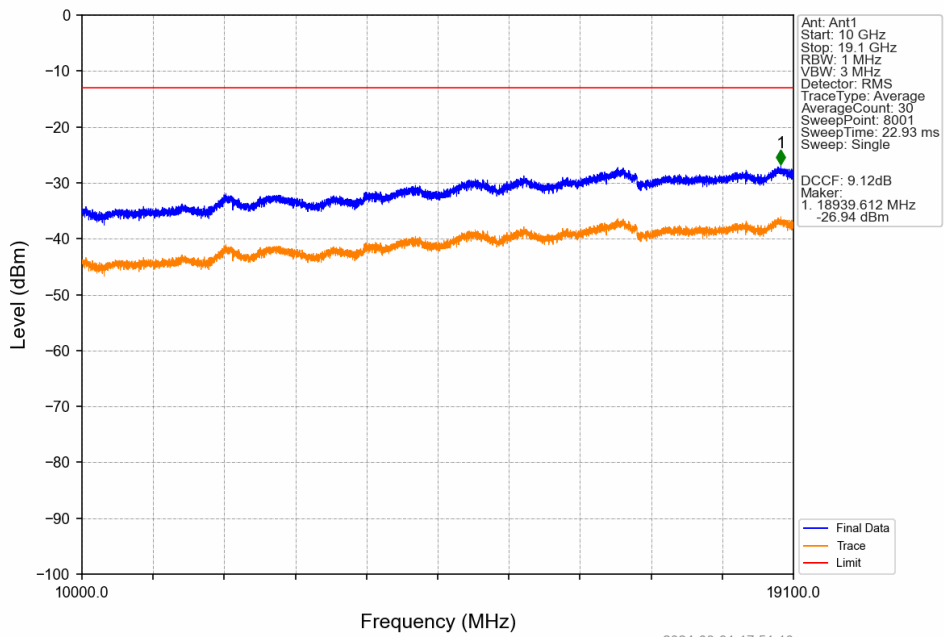
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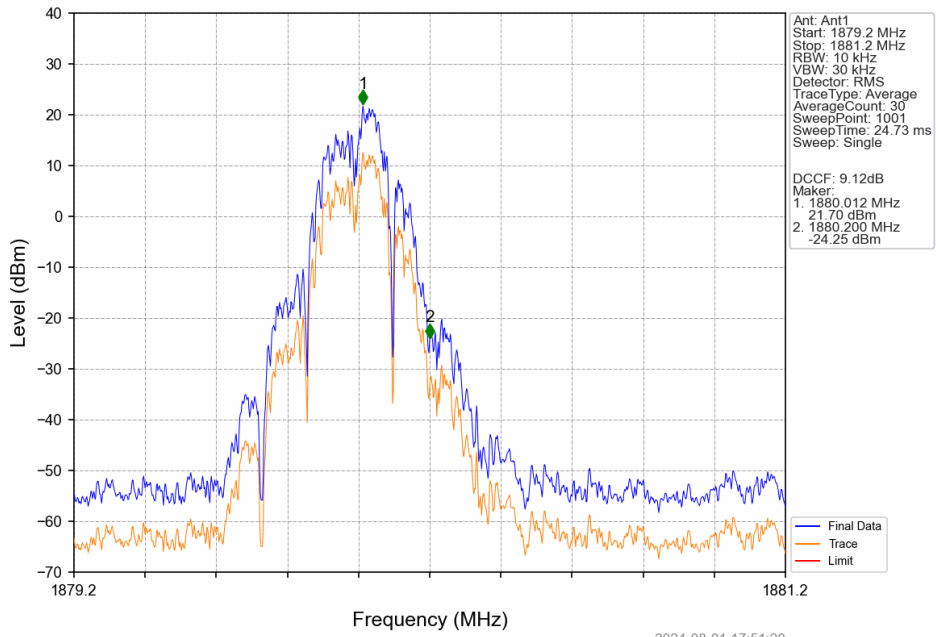
PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



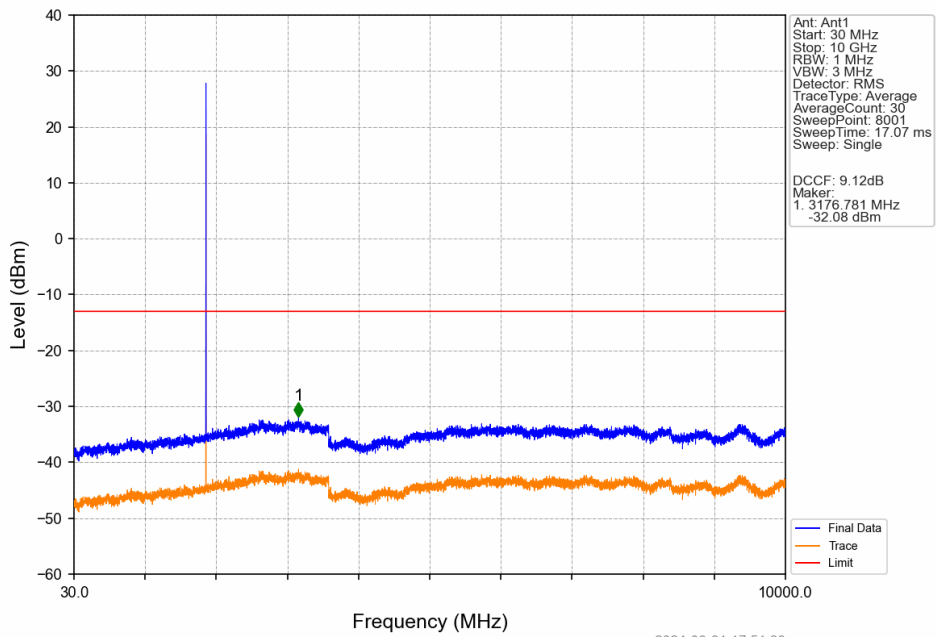
PCS1900\_GPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



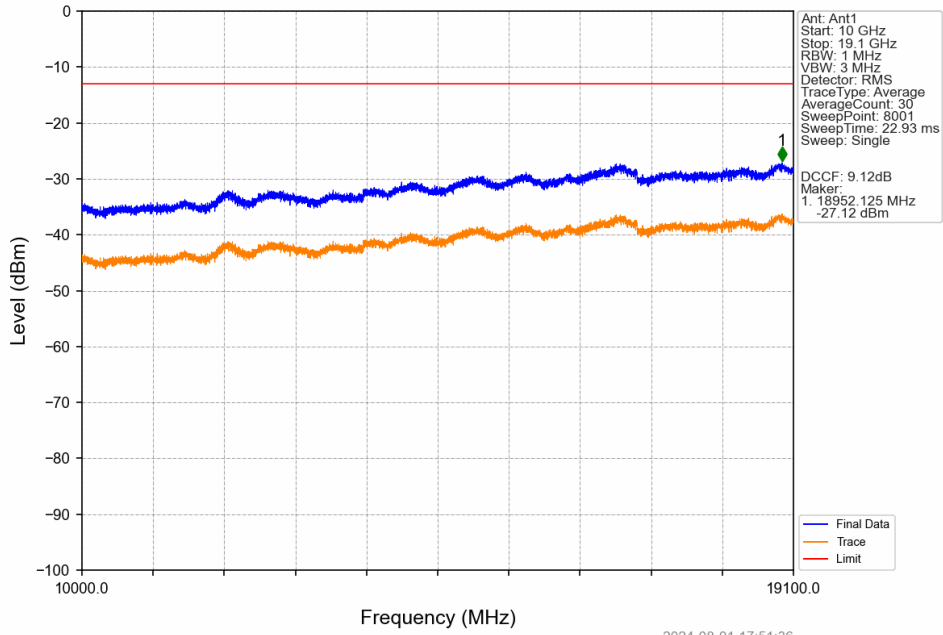
PCS1900\_GPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



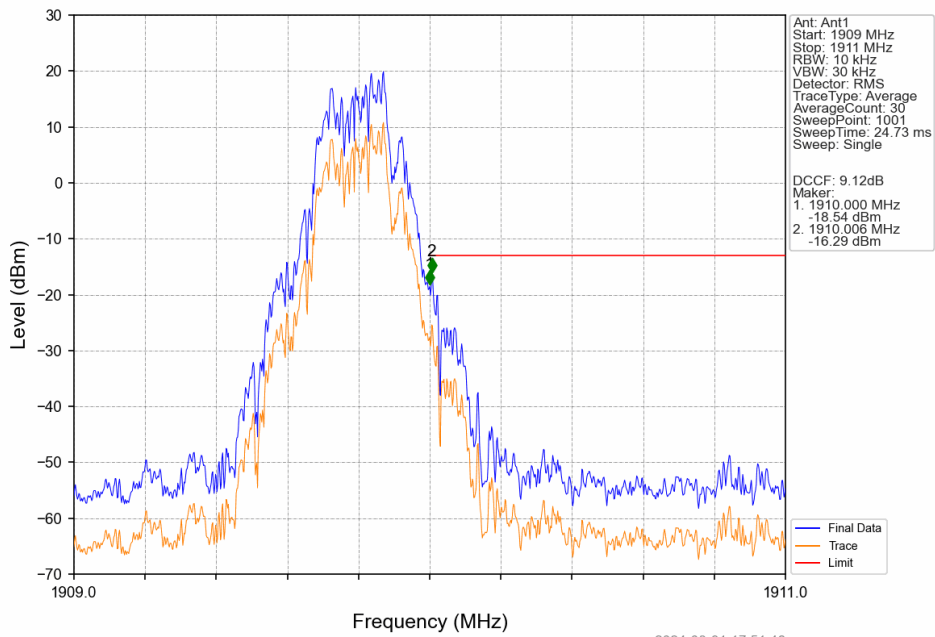
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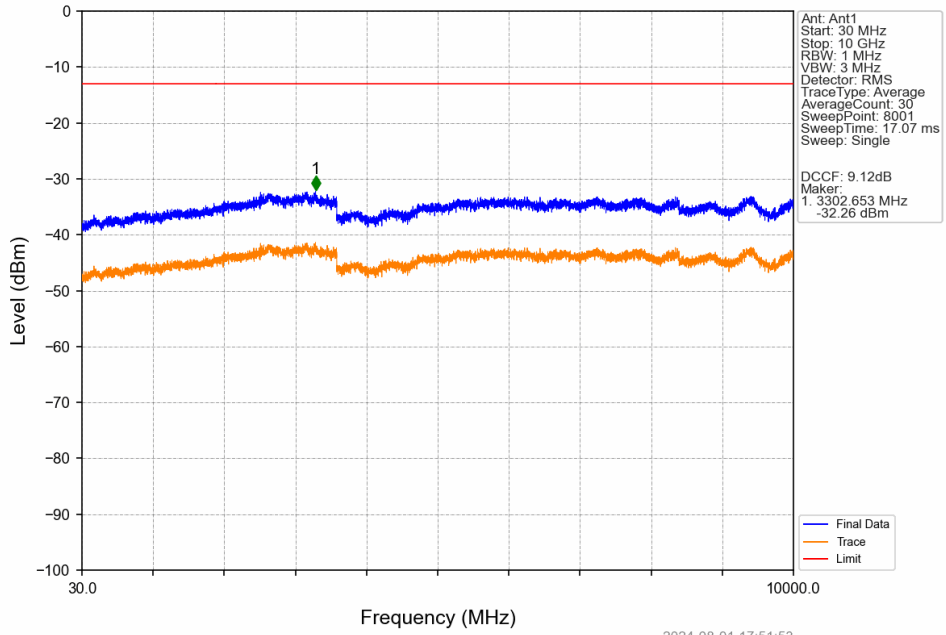
PCS1900\_GPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



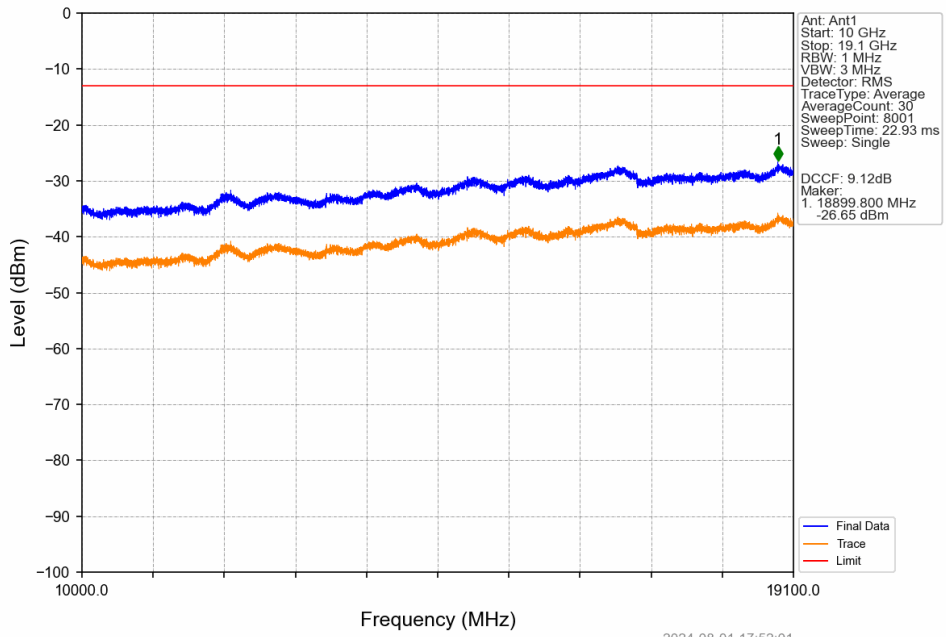
PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



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

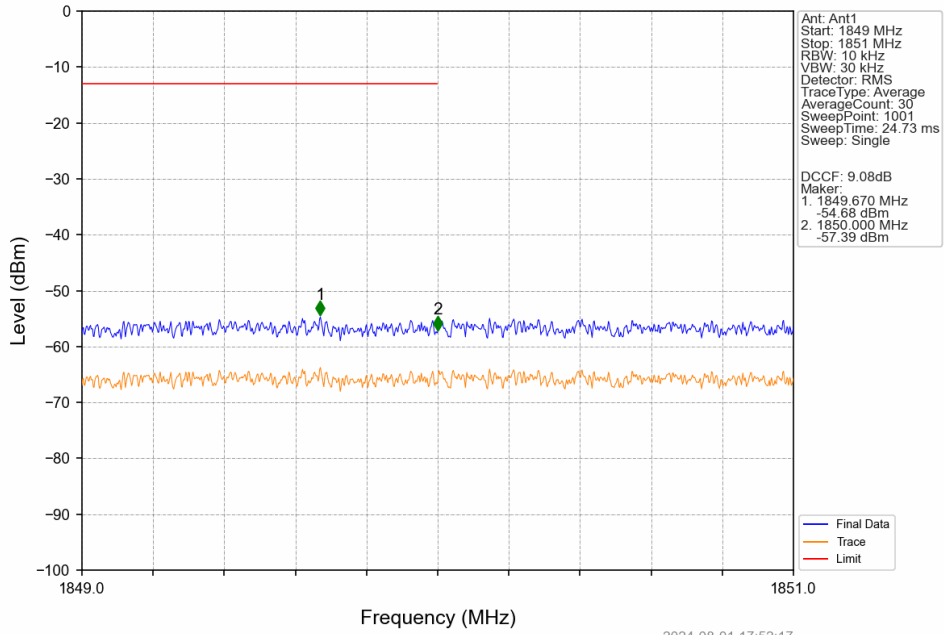


PCS1900\_GPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV

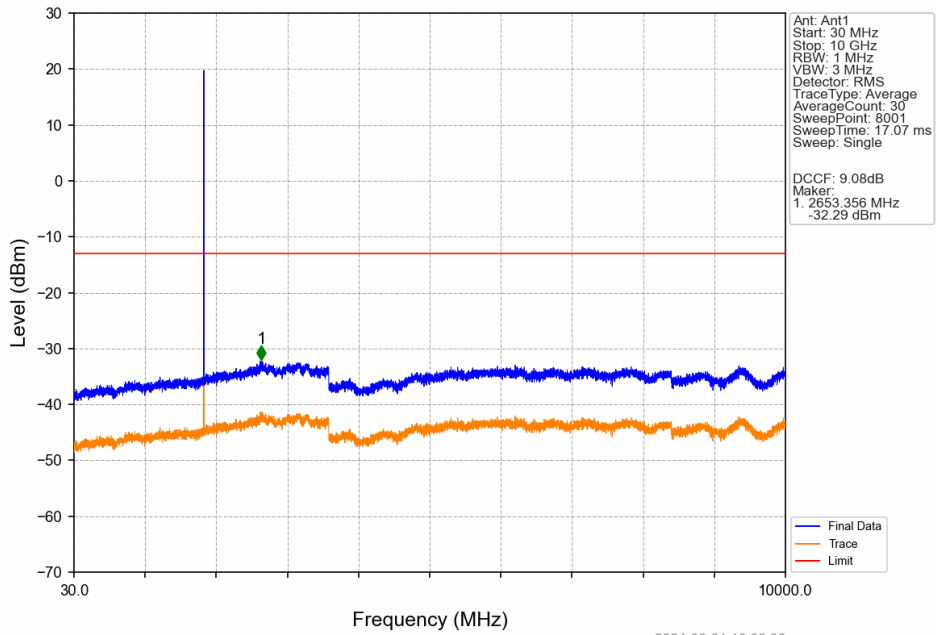




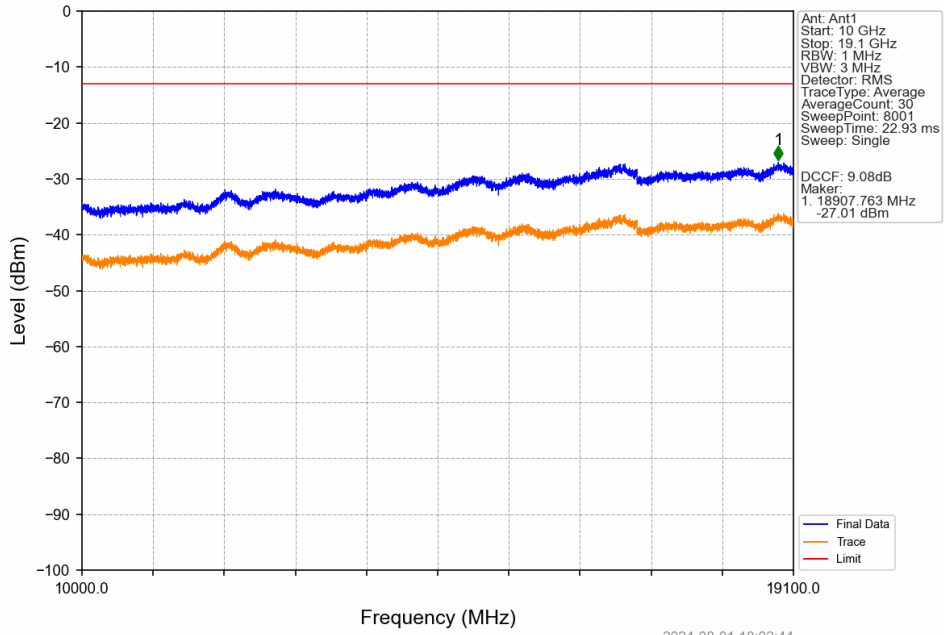
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



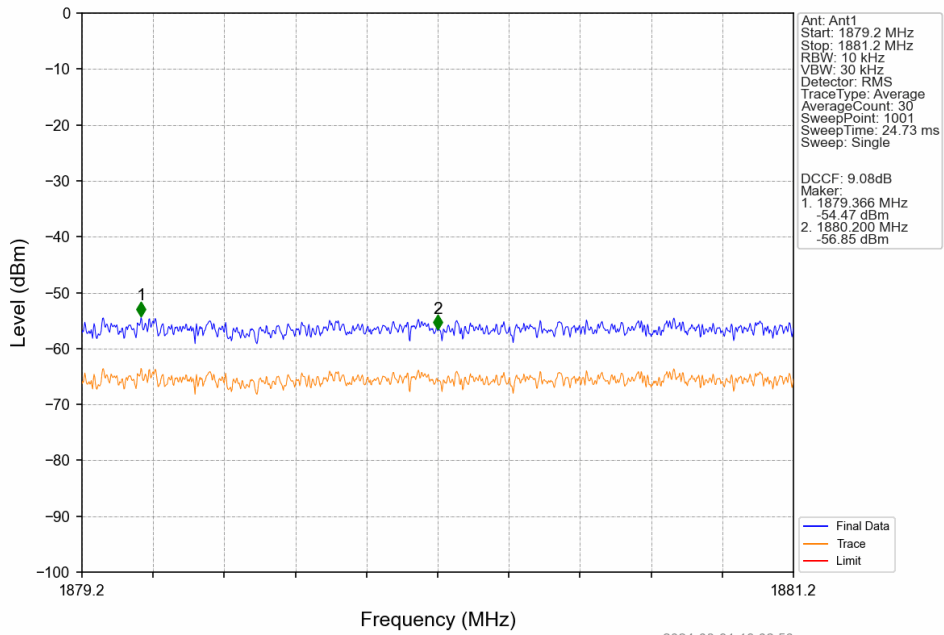
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



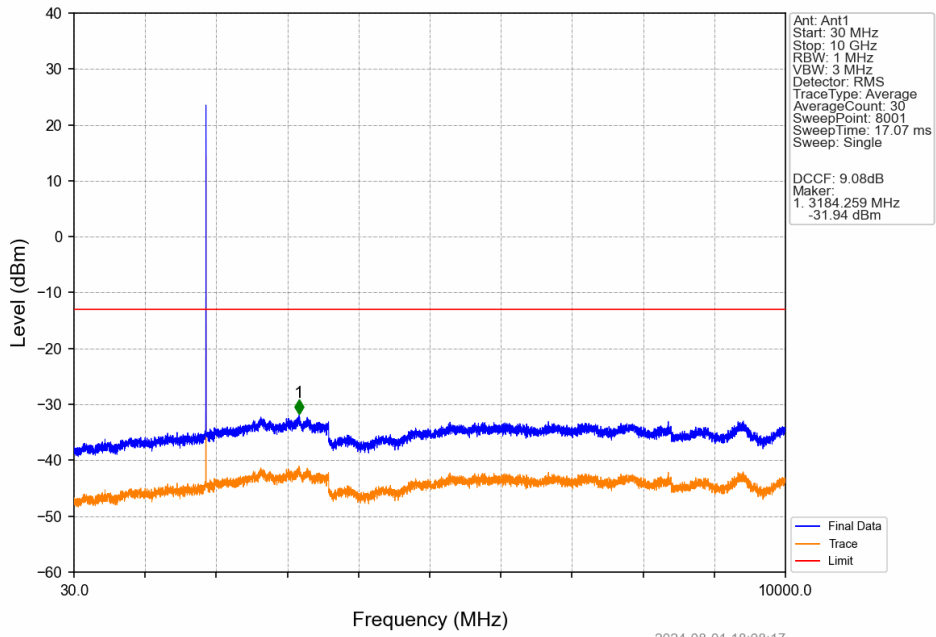
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



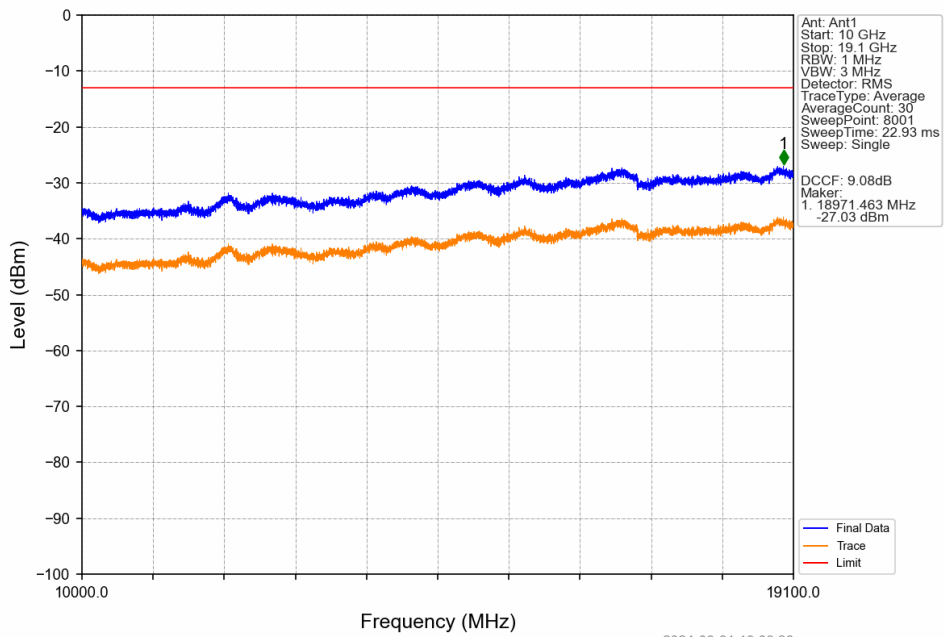
PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



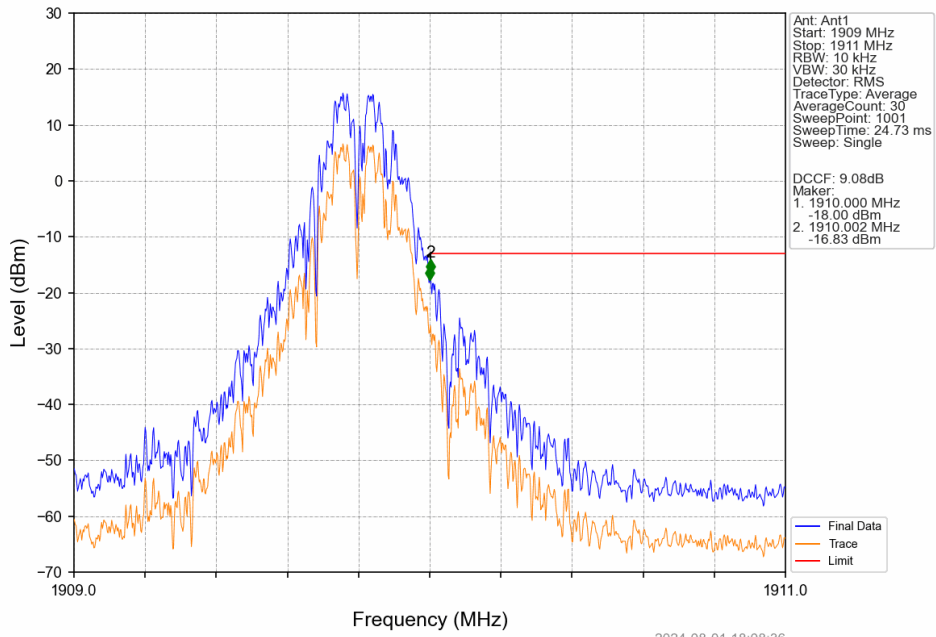
PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



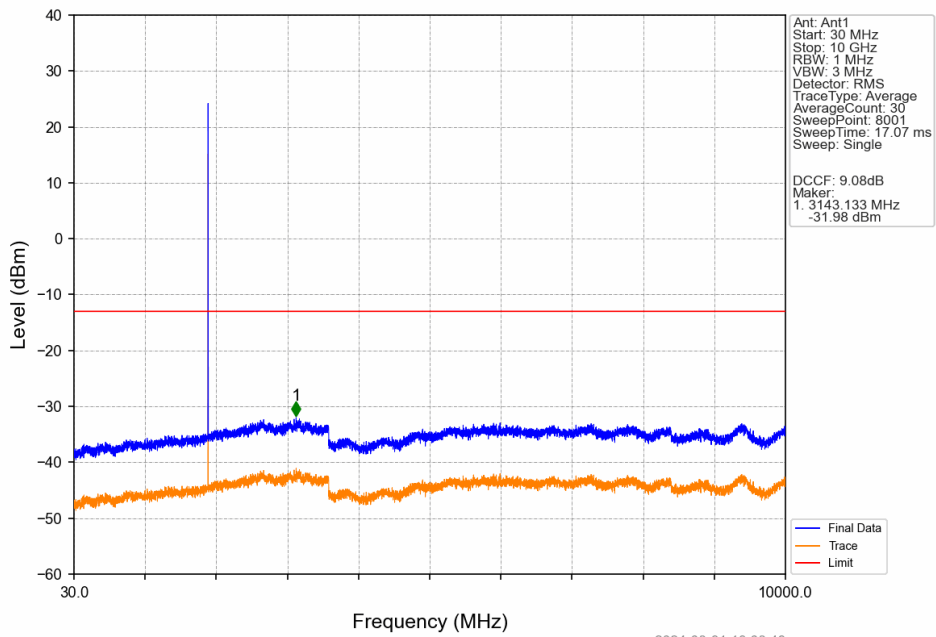
PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



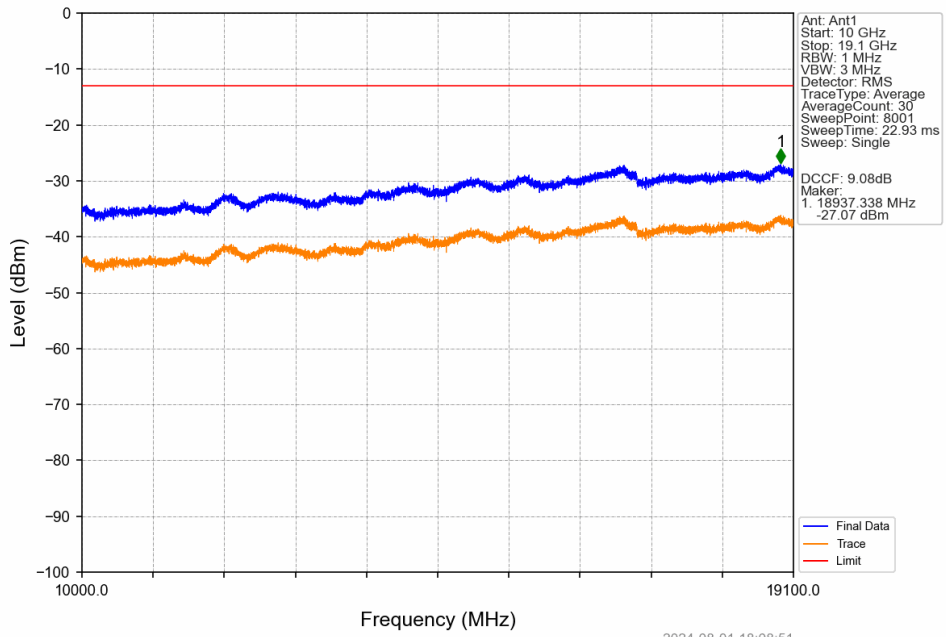
PCS1900\_EGPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



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



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



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## 7. Form731

### 7.1 Test Result

#### 7.1.1 Form731\_Power

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	0.8260	0.0258	ppm	251KGXW	24E	29.17
PCS1900	0.2	1850.2	1909.8	0.2780	0.0099	ppm	273KG7W	24E	24.44

#### 7.1.2 Form731\_EIRP

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	1.0186	0.0258	ppm	251KGXW	24E	30.08
PCS1900	0.2	1850.2	1909.8	0.3428	0.0099	ppm	273KG7W	24E	25.35