

# 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	29.54	0.00	29.54	<=33.00	Pass
			1880	29.53	0.00	29.53	<=33.00	Pass
			1909.8	29.50	0.00	29.50	<=33.00	Pass
	EGPRS	1 TX Slot	1850.2	25.90	0.00	25.90	<=33.00	Pass
		2 TX Slots	1850.2	25.07	0.00	25.07	<=33.00	Pass
		3 TX Slots	1850.2	22.24	0.00	22.24	<=33.00	Pass
		4 TX Slots	1850.2	20.66	0.00	20.66	<=33.00	Pass
		1 TX Slot	1880	25.58	0.00	25.58	<=33.00	Pass
		2 TX Slots	1880	24.55	0.00	24.55	<=33.00	Pass
		3 TX Slots	1880	21.93	0.00	21.93	<=33.00	Pass
		4 TX Slots	1880	20.44	0.00	20.44	<=33.00	Pass
		1 TX Slot	1909.8	25.54	0.00	25.54	<=33.00	Pass
		2 TX Slots	1909.8	24.23	0.00	24.23	<=33.00	Pass
		3 TX Slots	1909.8	21.85	0.00	21.85	<=33.00	Pass
4 TX Slots	1909.8	20.71	0.00	20.71	<=33.00	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	3.6	12.260	0.0066	-2.5 to 2.5	Pass
			3.88	9.332	0.0050	-2.5 to 2.5	Pass
			4.53	0.968	0.0005	-2.5 to 2.5	Pass
		-30	3.88	-8.521	-0.0046	-2.5 to 2.5	Pass
		-20	3.88	-7.508	-0.0041	-2.5 to 2.5	Pass
		-10	3.88	-3.596	-0.0019	-2.5 to 2.5	Pass
		0	3.88	-5.349	-0.0029	-2.5 to 2.5	Pass
		10	3.88	-6.113	-0.0033	-2.5 to 2.5	Pass
		30	3.88	-10.086	-0.0055	-2.5 to 2.5	Pass
		40	3.88	-5.795	-0.0031	-2.5 to 2.5	Pass
	50	3.88	-5.566	-0.0030	-2.5 to 2.5	Pass	
	1880	20	3.6	-1.528	-0.0008	-2.5 to 2.5	Pass
			3.88	-0.167	-0.0001	-2.5 to 2.5	Pass
			4.53	-1.611	-0.0009	-2.5 to 2.5	Pass
		-30	3.88	1.000	0.0005	-2.5 to 2.5	Pass
		-20	3.88	-1.039	-0.0006	-2.5 to 2.5	Pass
		-10	3.88	-1.850	-0.0010	-2.5 to 2.5	Pass
		0	3.88	-0.885	-0.0005	-2.5 to 2.5	Pass
		10	3.88	-11.115	-0.0059	-2.5 to 2.5	Pass
		30	3.88	-9.449	-0.0050	-2.5 to 2.5	Pass
40		3.88	-8.944	-0.0048	-2.5 to 2.5	Pass	

	1909.8	50	3.88	-3.207	-0.0017	-2.5 to 2.5	Pass
		20	3.6	-4.210	-0.0022	-2.5 to 2.5	Pass
			3.88	-5.214	-0.0027	-2.5 to 2.5	Pass
			4.53	-3.870	-0.0020	-2.5 to 2.5	Pass
		-30	3.88	-4.740	-0.0025	-2.5 to 2.5	Pass
		-20	3.88	-3.819	-0.0020	-2.5 to 2.5	Pass
		-10	3.88	-4.655	-0.0024	-2.5 to 2.5	Pass
		0	3.88	-3.027	-0.0016	-2.5 to 2.5	Pass
		10	3.88	-11.887	-0.0062	-2.5 to 2.5	Pass
		30	3.88	-11.191	-0.0059	-2.5 to 2.5	Pass
40	3.88	-11.513	-0.0060	-2.5 to 2.5	Pass		
50	3.88	-10.499	-0.0055	-2.5 to 2.5	Pass		
EGPRS	1850.2	20	3.6	-7.818	-0.0042	-2.5 to 2.5	Pass
			3.88	-10.168	-0.0055	-2.5 to 2.5	Pass
			4.53	-6.763	-0.0037	-2.5 to 2.5	Pass
		-30	3.88	-4.984	-0.0027	-2.5 to 2.5	Pass
		-20	3.88	-6.434	-0.0035	-2.5 to 2.5	Pass
		-10	3.88	-6.811	-0.0037	-2.5 to 2.5	Pass
		0	3.88	-1.576	-0.0009	-2.5 to 2.5	Pass
		10	3.88	-4.646	-0.0025	-2.5 to 2.5	Pass
		30	3.88	-4.050	-0.0022	-2.5 to 2.5	Pass
		40	3.88	-2.907	-0.0016	-2.5 to 2.5	Pass
	50	3.88	-9.310	-0.0050	-2.5 to 2.5	Pass	
	1880	20	3.6	-4.757	-0.0025	-2.5 to 2.5	Pass
			3.88	-8.135	-0.0043	-2.5 to 2.5	Pass
			4.53	-9.119	-0.0049	-2.5 to 2.5	Pass
		-30	3.88	-10.314	-0.0055	-2.5 to 2.5	Pass
		-20	3.88	-7.701	-0.0041	-2.5 to 2.5	Pass
		-10	3.88	-6.923	-0.0037	-2.5 to 2.5	Pass
		0	3.88	-4.932	-0.0026	-2.5 to 2.5	Pass
		10	3.88	-4.844	-0.0026	-2.5 to 2.5	Pass
		30	3.88	-7.905	-0.0042	-2.5 to 2.5	Pass
		40	3.88	-6.626	-0.0035	-2.5 to 2.5	Pass
	50	3.88	-9.810	-0.0052	-2.5 to 2.5	Pass	
	1909.8	20	3.6	-8.245	-0.0043	-2.5 to 2.5	Pass
			3.88	-5.417	-0.0028	-2.5 to 2.5	Pass
			4.53	-9.525	-0.0050	-2.5 to 2.5	Pass
		-30	3.88	-8.598	-0.0045	-2.5 to 2.5	Pass
		-20	3.88	-7.399	-0.0039	-2.5 to 2.5	Pass
		-10	3.88	-4.061	-0.0021	-2.5 to 2.5	Pass
		0	3.88	-8.968	-0.0047	-2.5 to 2.5	Pass
		10	3.88	-8.928	-0.0047	-2.5 to 2.5	Pass
30		3.88	-7.085	-0.0037	-2.5 to 2.5	Pass	
40		3.88	-18.632	-0.0098	-2.5 to 2.5	Pass	
50	3.88	-15.044	-0.0079	-2.5 to 2.5	Pass		

### 3. 99% & 26dB Bandwidth

#### 3.1 Test Result

##### 3.1.1 PCS1900\_OBW

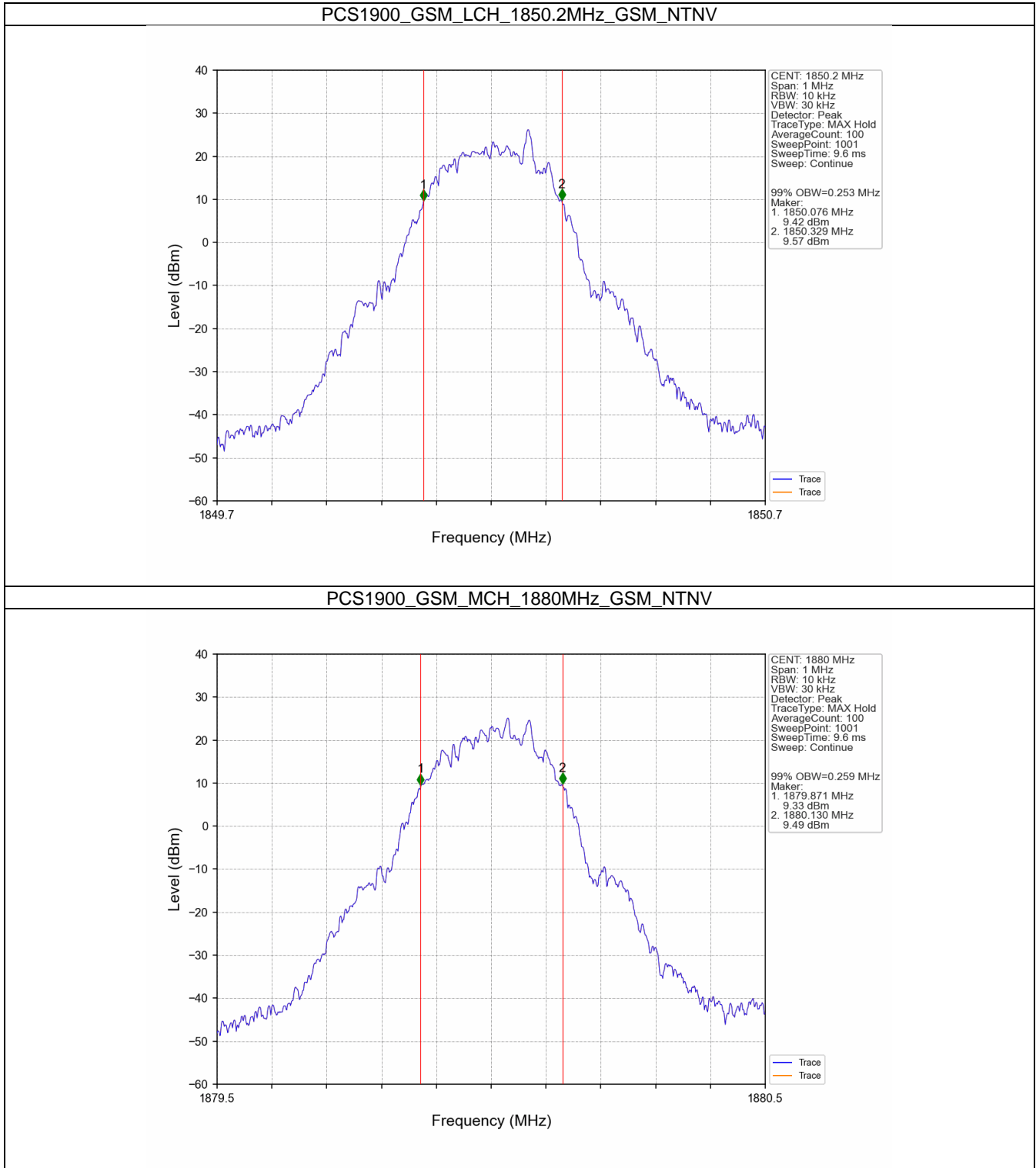
Band: PCS1900						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.253	/	Pass
			1880	0.259	/	Pass
			1909.8	0.259	/	Pass
	EGPRS	1 TX Slot	1850.2	0.251	/	Pass
			1880	0.253	/	Pass
			1909.8	0.255	/	Pass

##### 3.1.2 PCS1900\_XDB

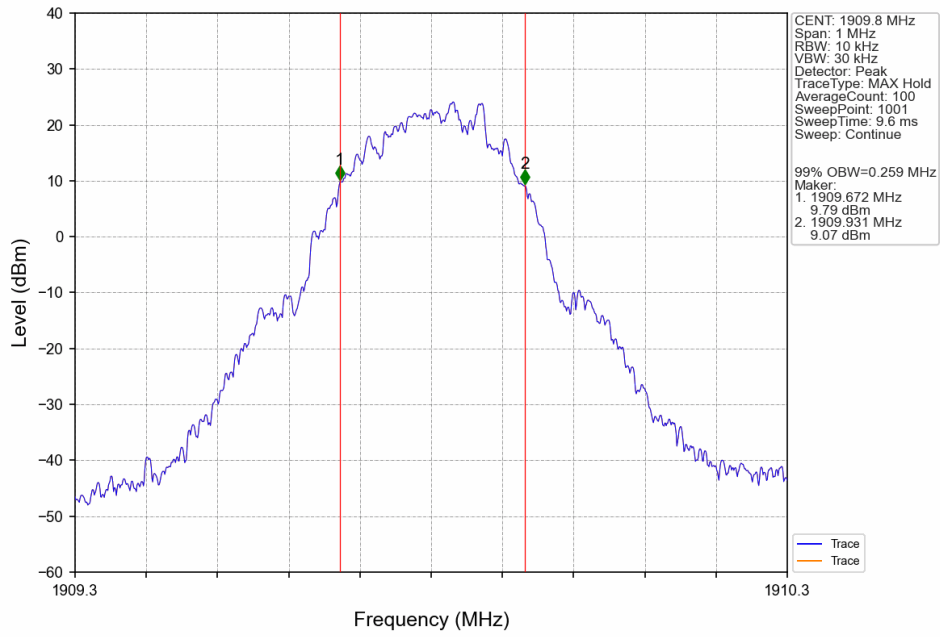
Band: PCS1900						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.314	/	Pass
			1880	0.325	/	Pass
			1909.8	0.330	/	Pass
	EGPRS	1 TX Slot	1850.2	0.318	/	Pass
			1880	0.321	/	Pass
			1909.8	0.322	/	Pass

### 3.2 Test Graph

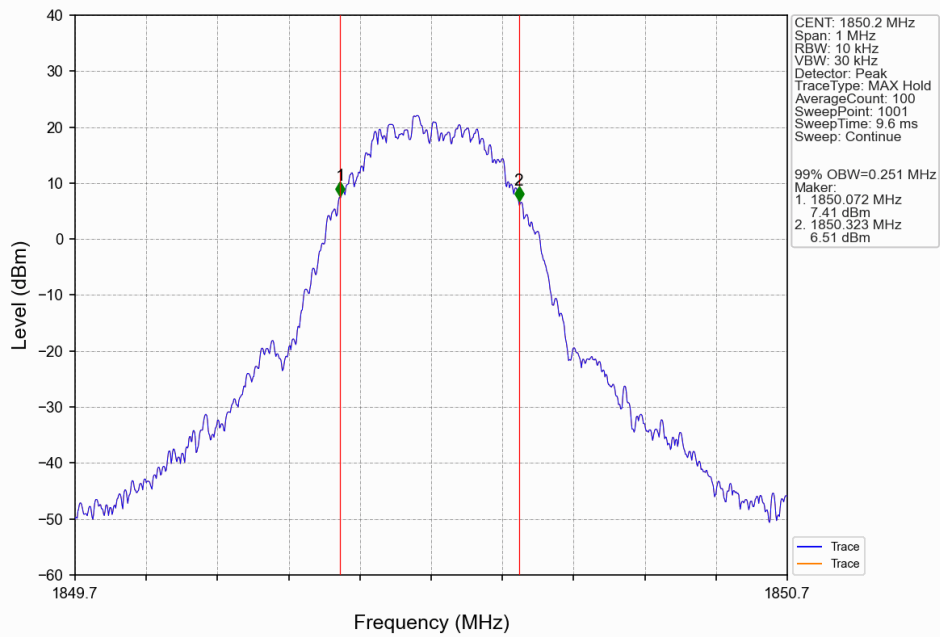
#### 3.2.1 PCS1900\_OBW



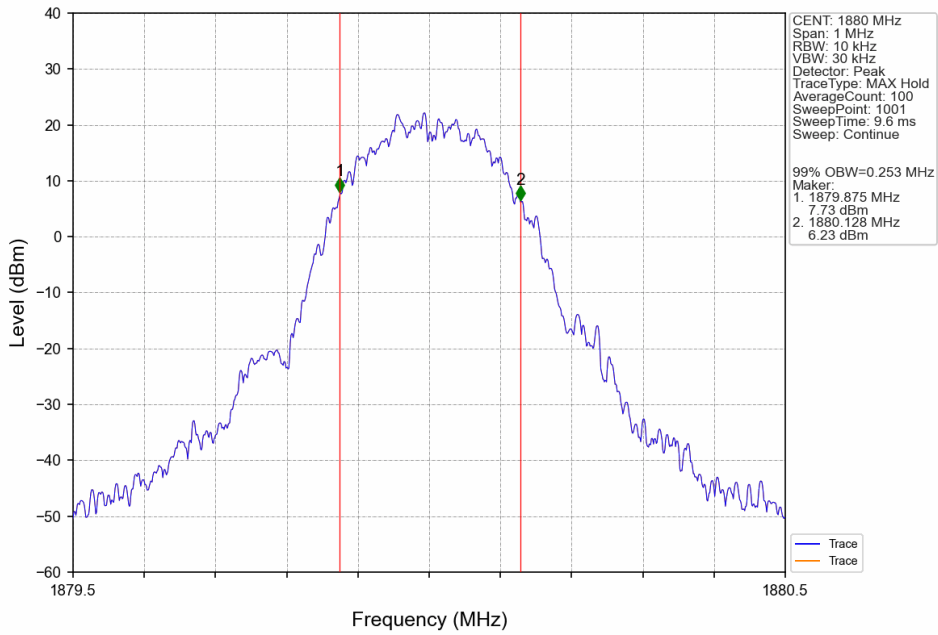
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



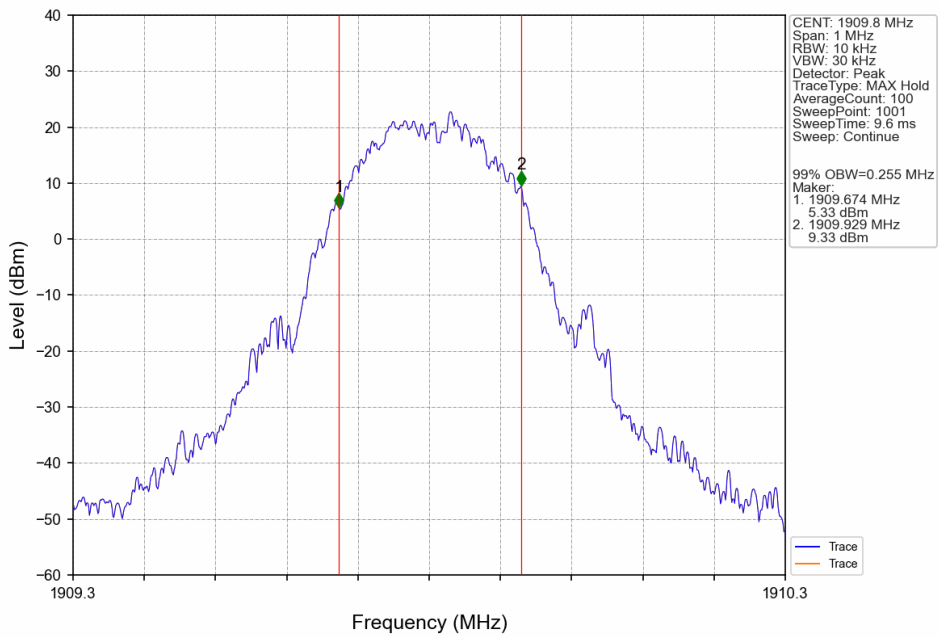
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



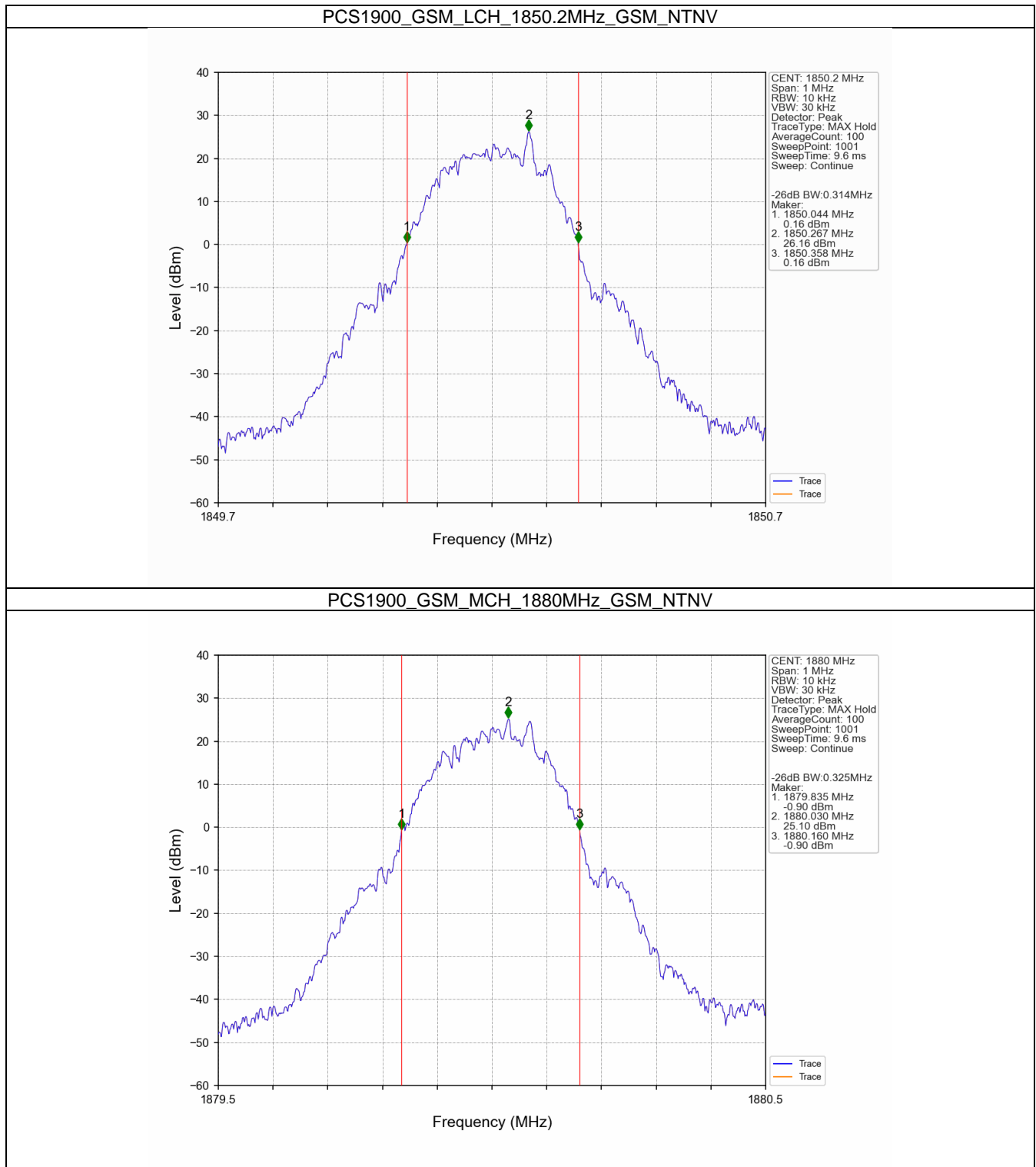
PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



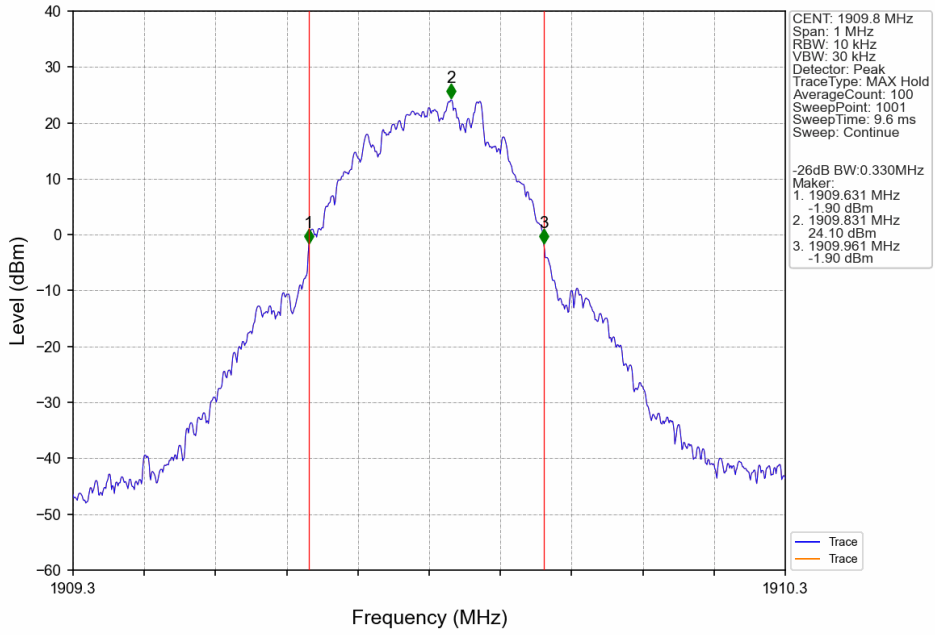
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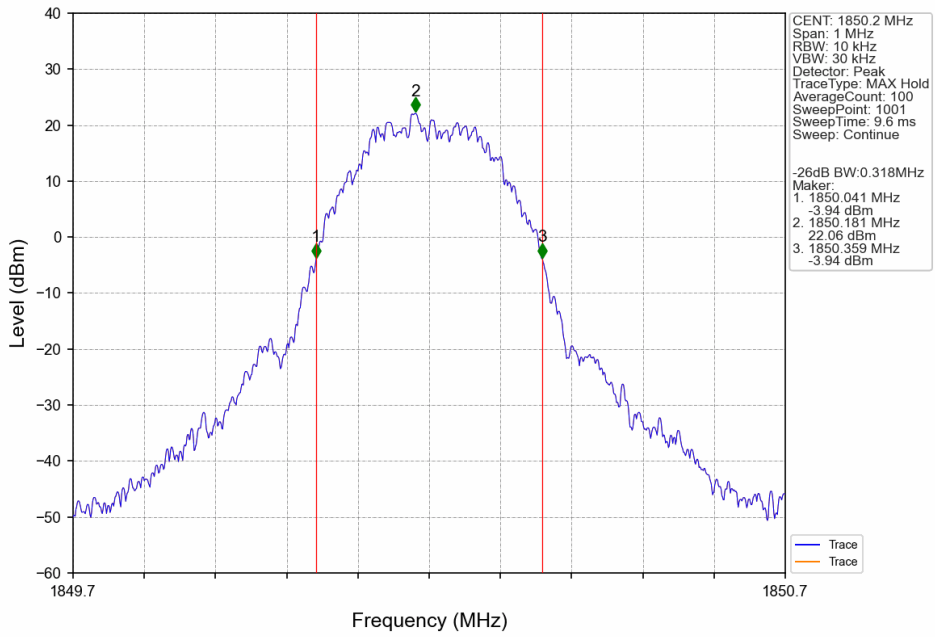
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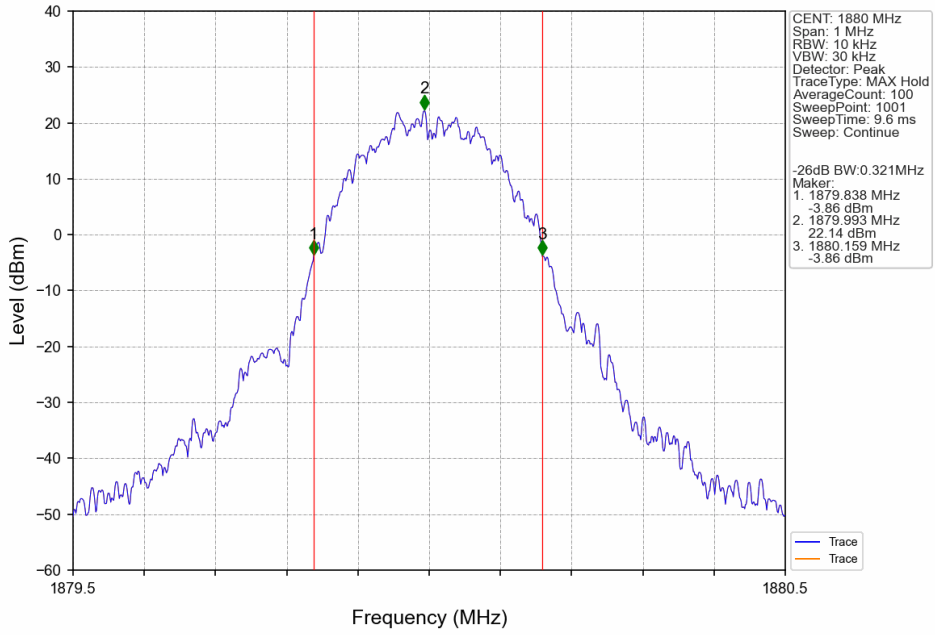
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



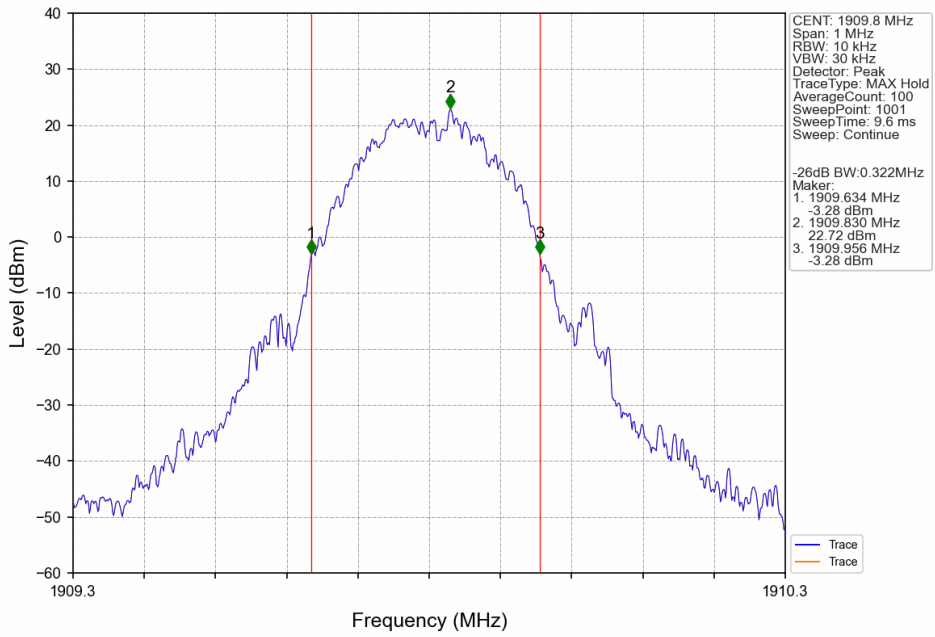
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



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



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



## 4. Peak-Average Ratio

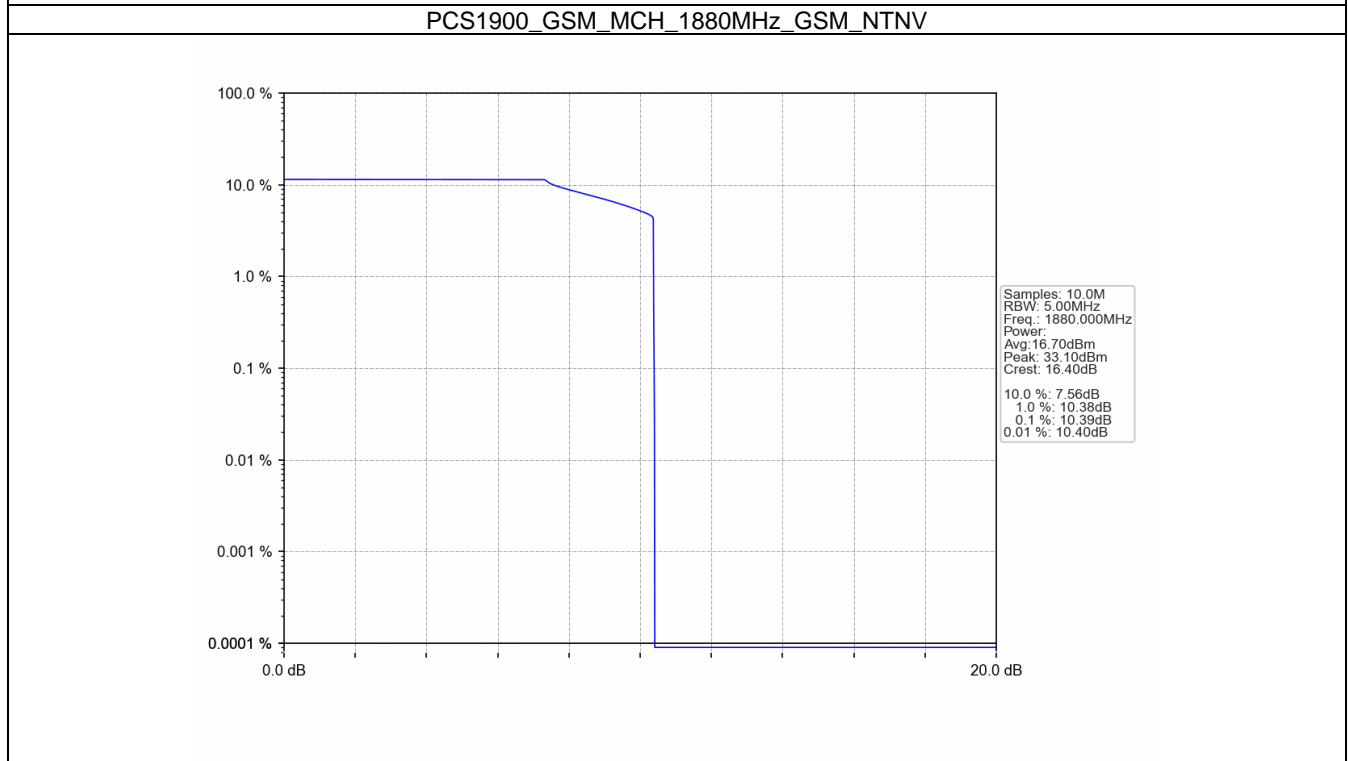
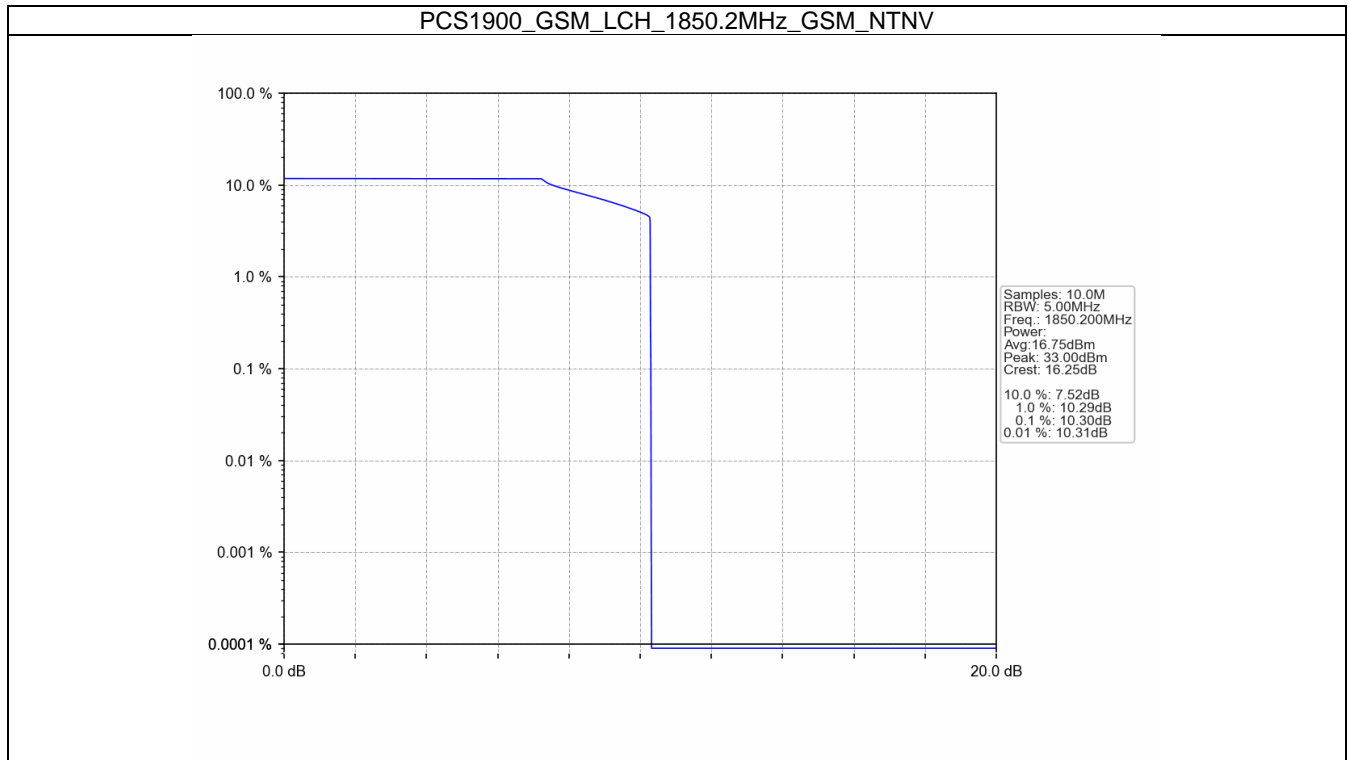
### 4.1 Test Result

#### 4.1.1 PCS1900

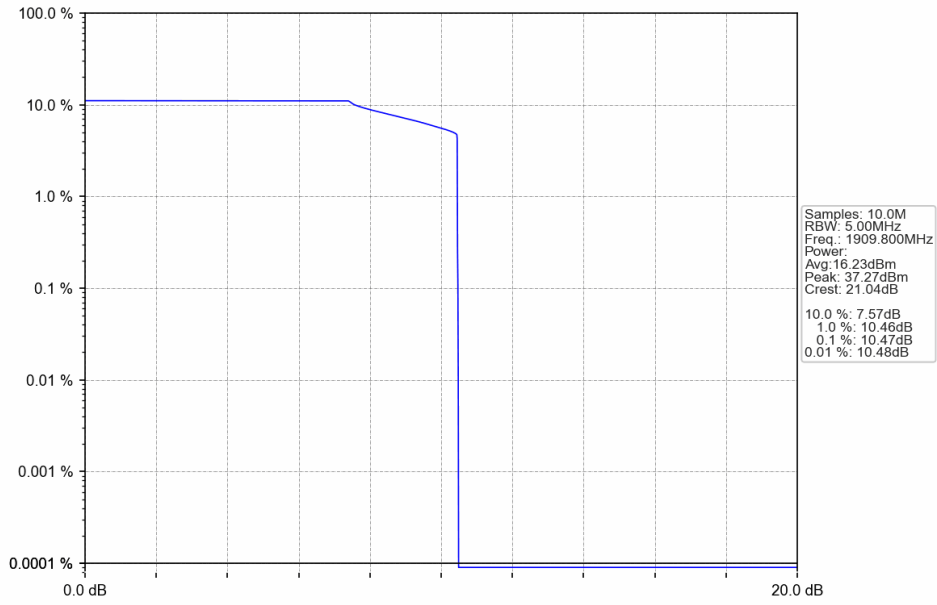
Band: PCS1900						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	10.30	<=13	Pass
			1880	10.39	<=13	Pass
			1909.8	10.47	<=13	Pass
	EGPRS	4 TX Slots	1850.2	7.56	<=13	Pass
			1880	7.20	<=13	Pass
			1909.8	7.67	<=13	Pass

## 4.2 Test Graph

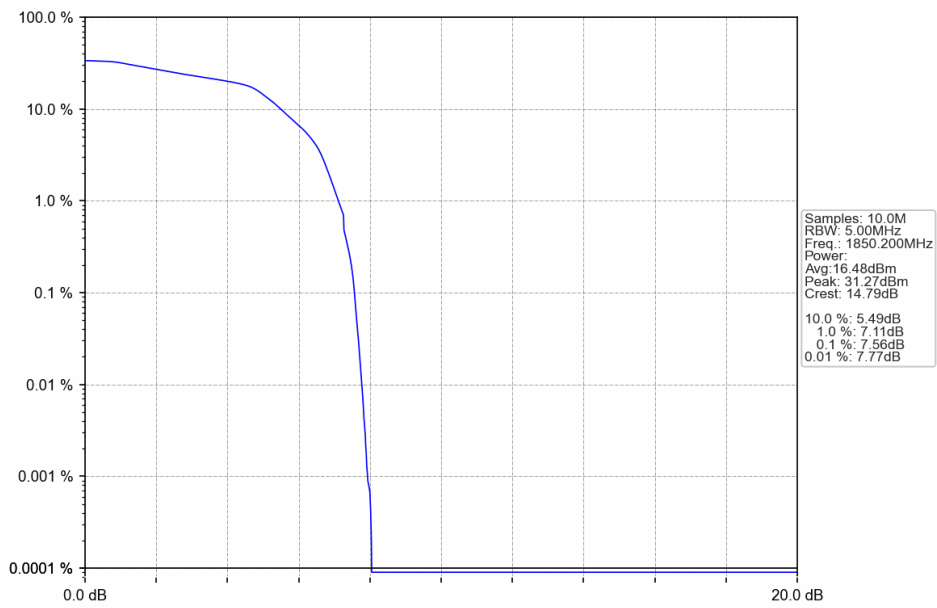
### 4.2.1 PCS1900



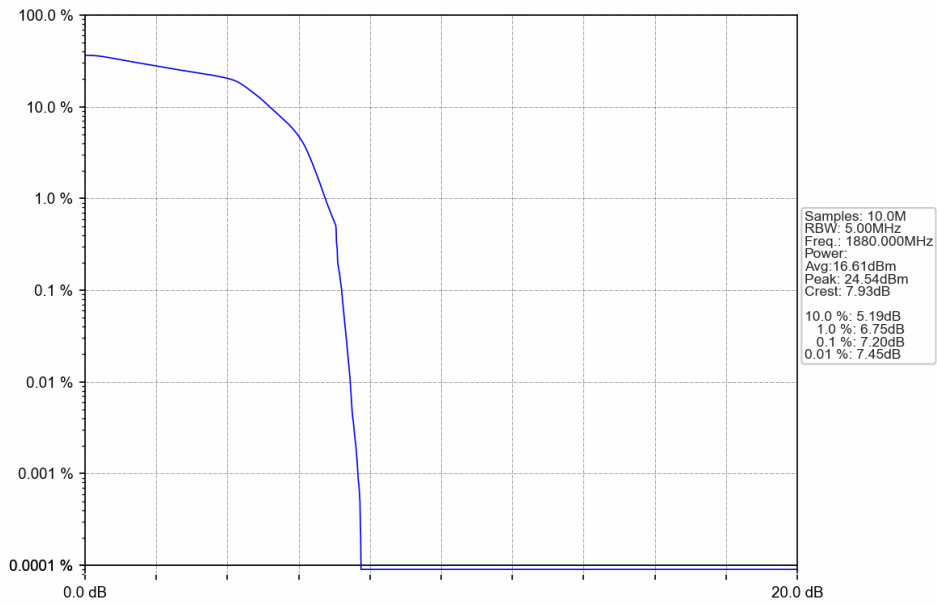
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



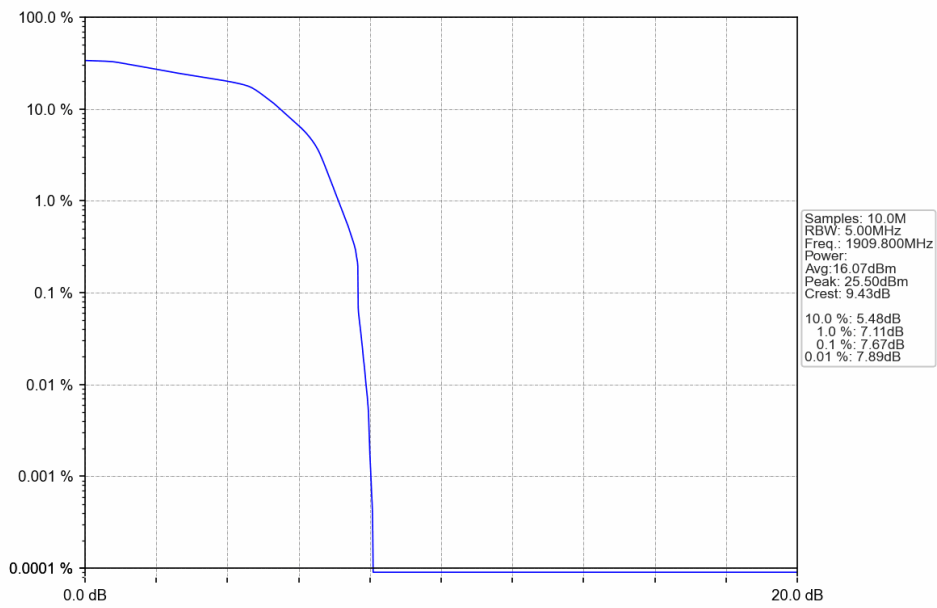
PCS1900\_EGPRS\_LCH\_1850.2MHz\_4 TX Slots\_NTNV



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



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



## 5. Spurious Emission

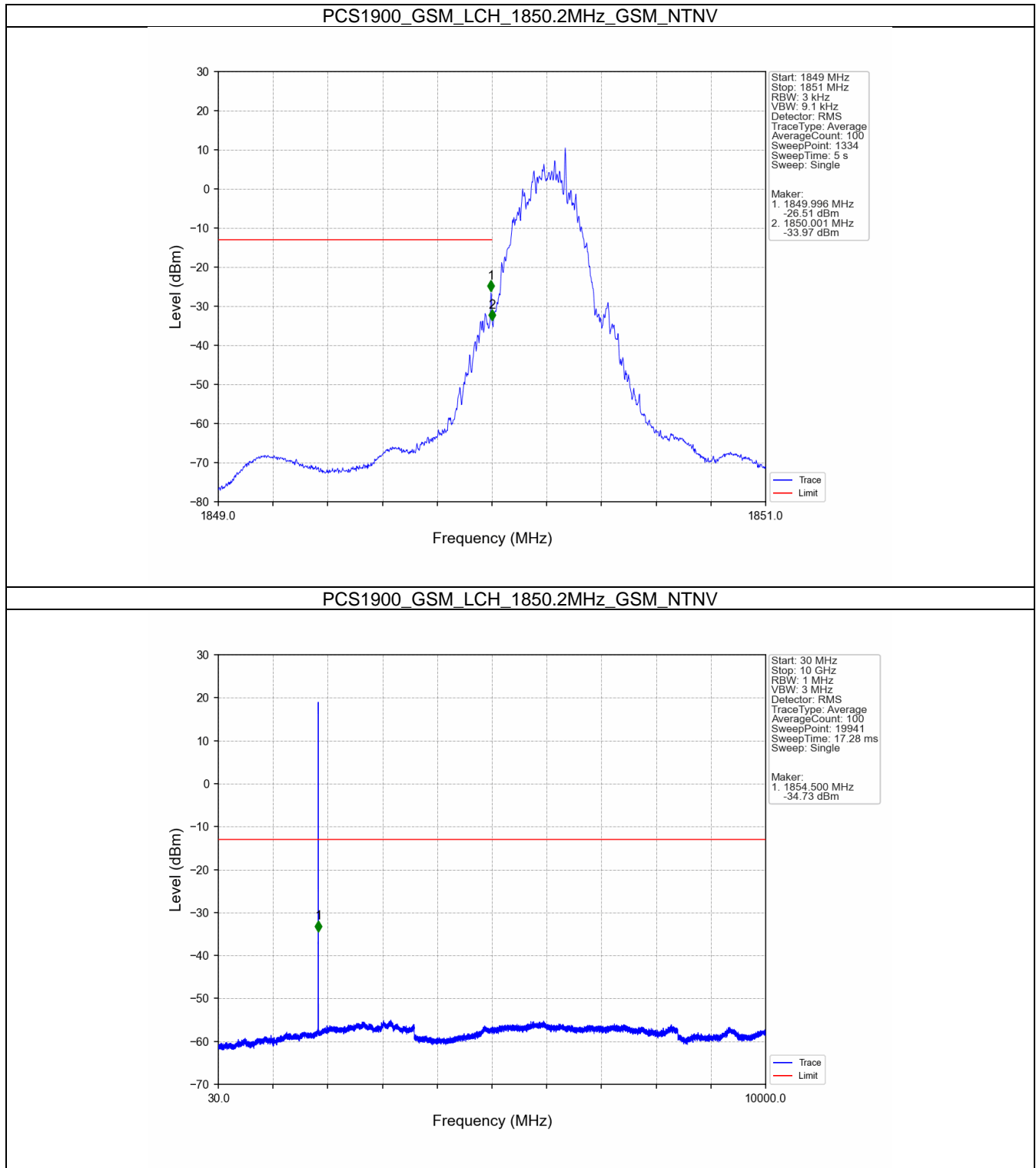
### 5.1 Test Result

#### 5.1.1 PCS1900

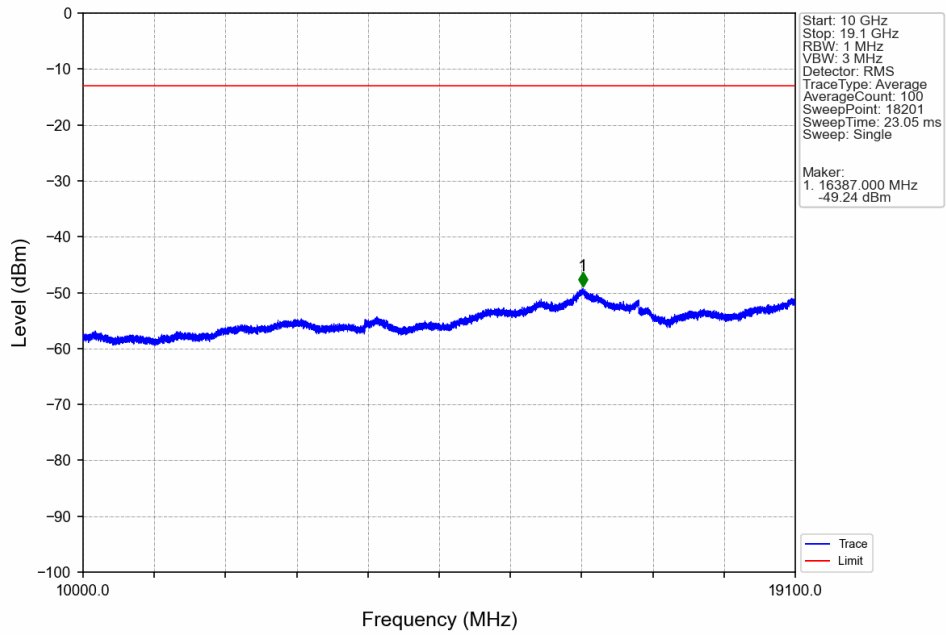
Band: PCS1900						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	Refer To Test Graph	Pass	
			1880	Refer To Test Graph	Pass	
			1909.8	Refer To Test Graph	Pass	
	EGPRS	1 TX Slot	1850.2	Refer To Test Graph	Pass	
			1880	Refer To Test Graph	Pass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

## 5.2 Test Graph

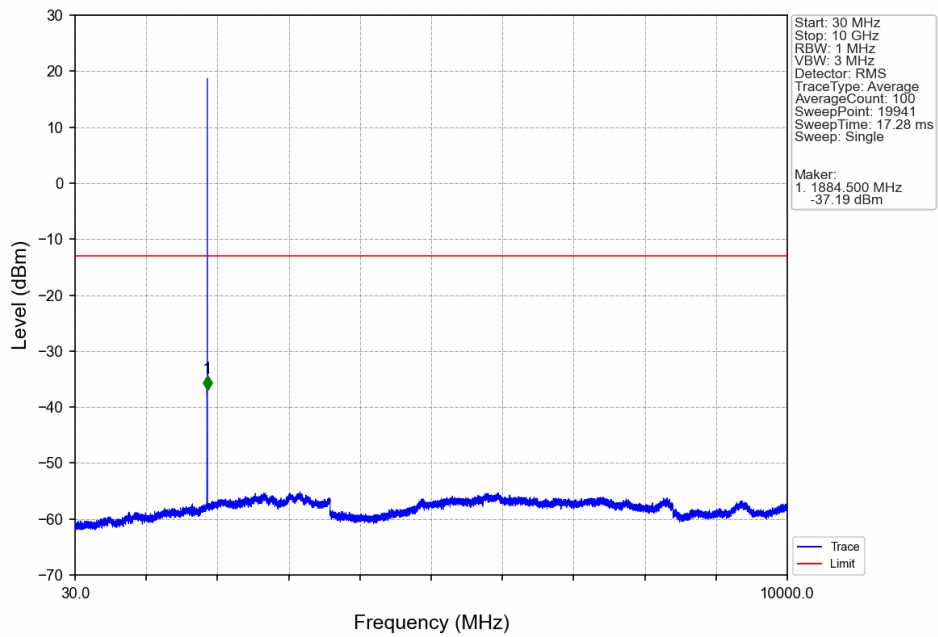
### 5.2.1 PCS1900



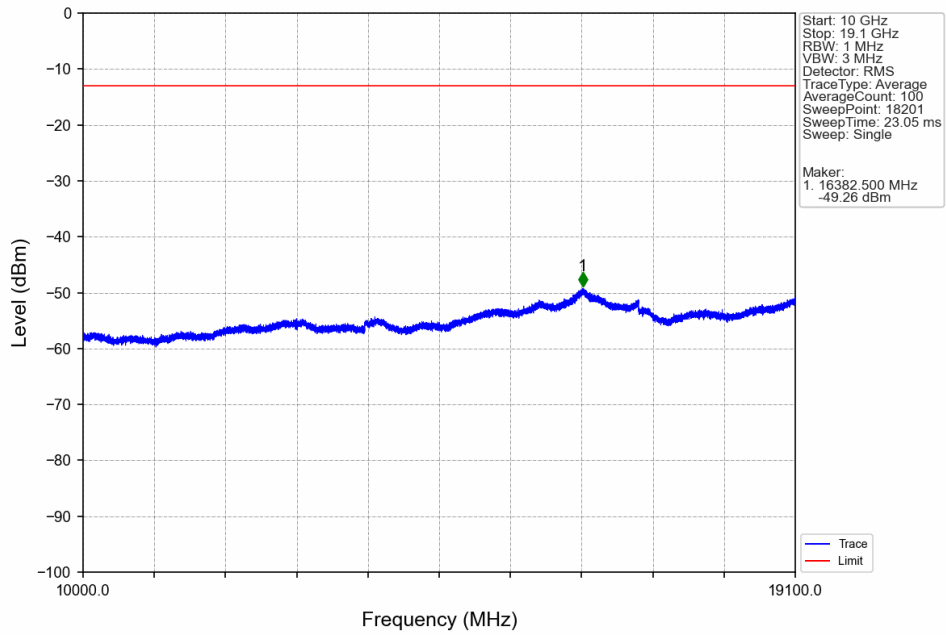
PCS1900\_GSM\_LCH\_1850.2MHz\_GSM\_NTNV



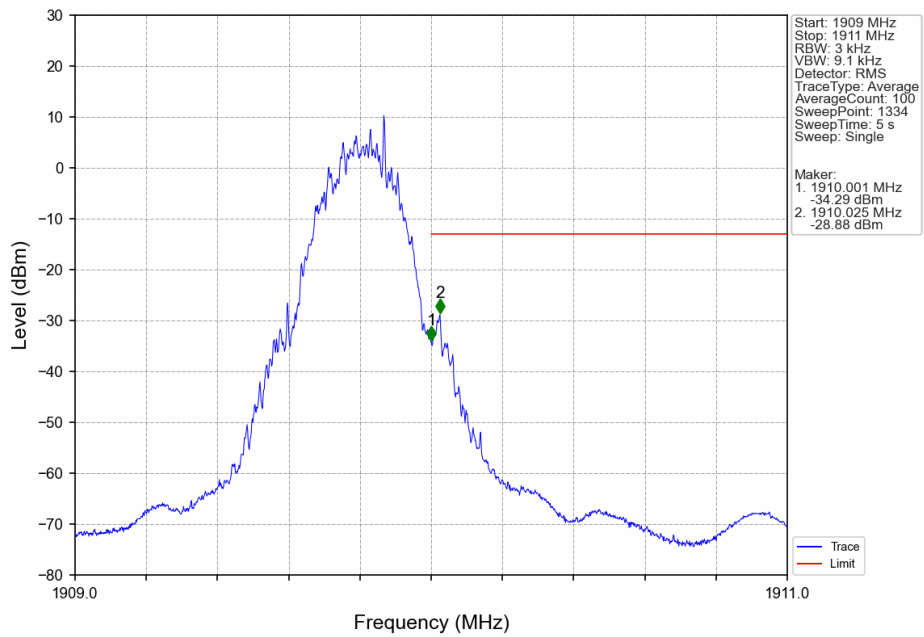
PCS1900\_GSM\_MCH\_1880MHz\_GSM\_NTNV



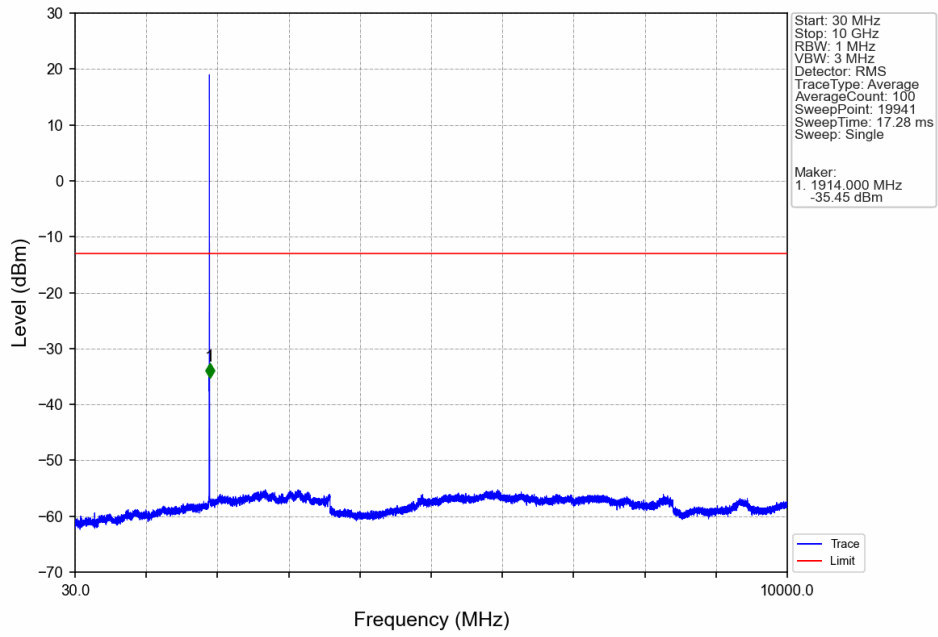
PCS1900\_GSM\_MCH\_1880MHz\_GSM\_NTNV



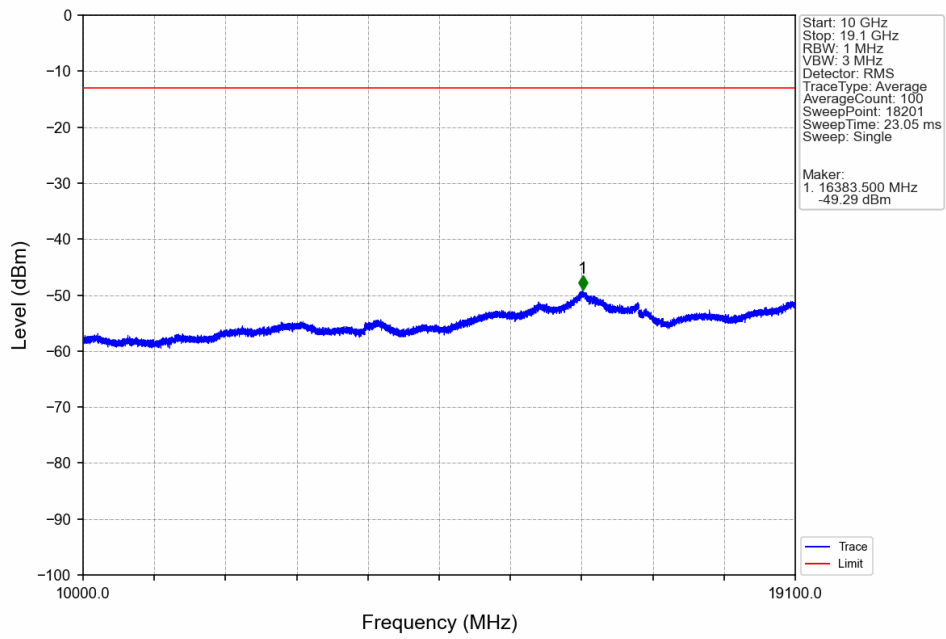
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



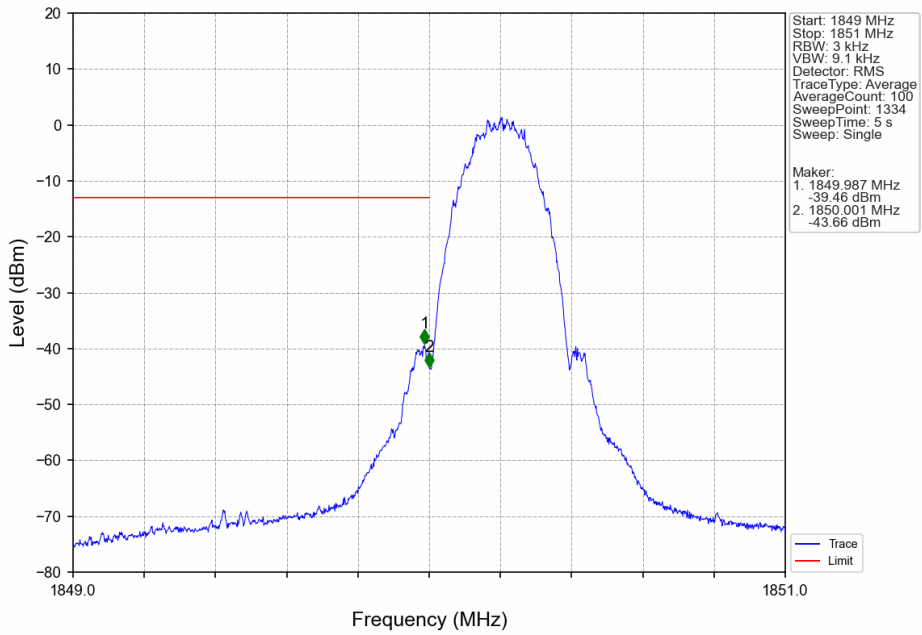
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



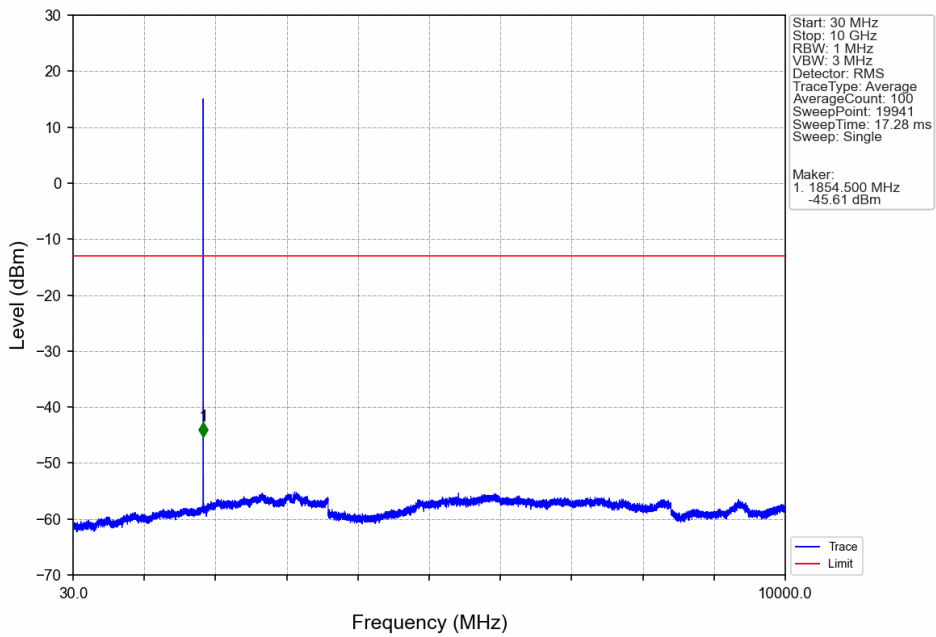
PCS1900\_GSM\_HCH\_1909.8MHz\_GSM\_NTNV



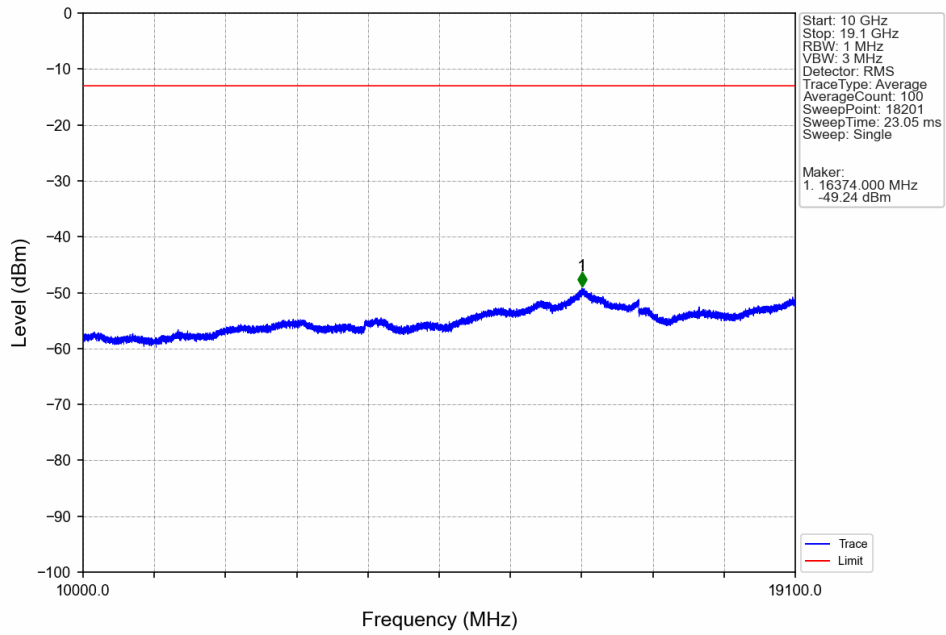
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



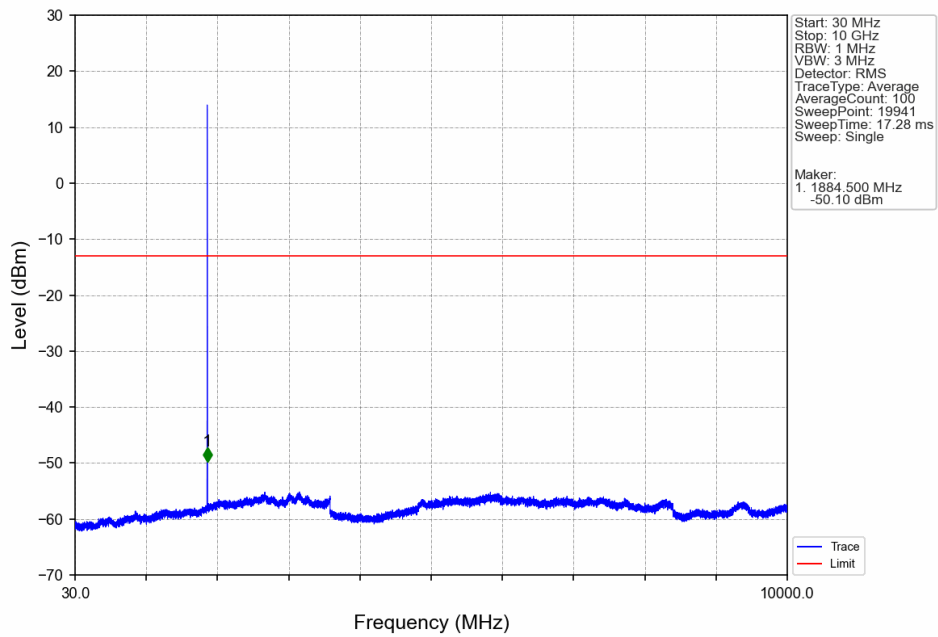
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



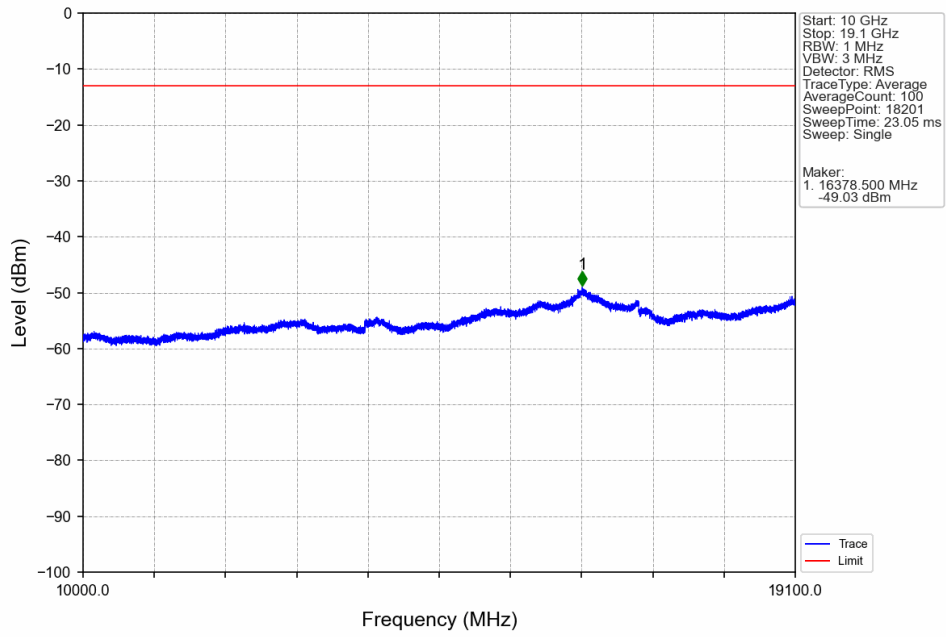
PCS1900\_EGPRS\_LCH\_1850.2MHz\_1 TX Slot\_NTNV



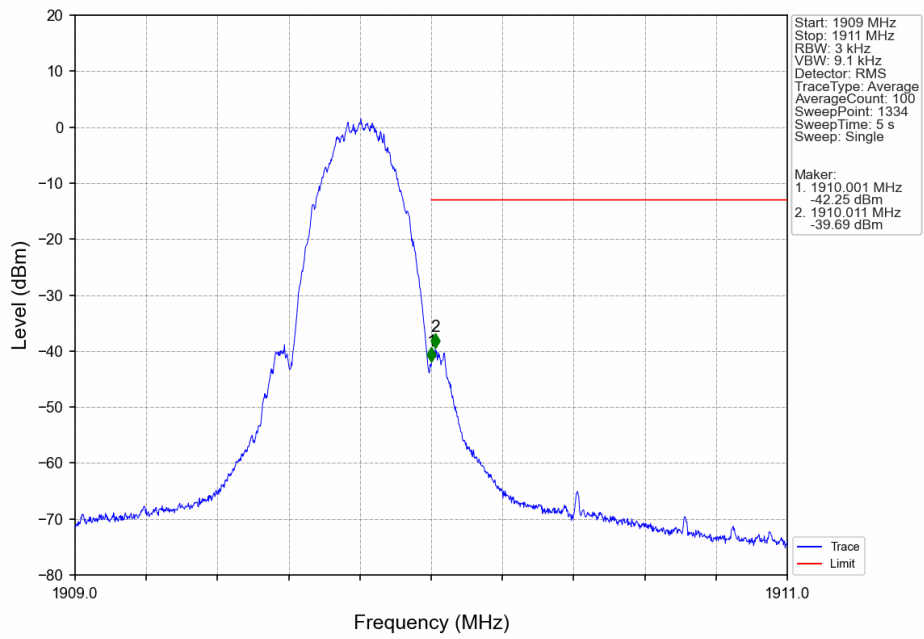
PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



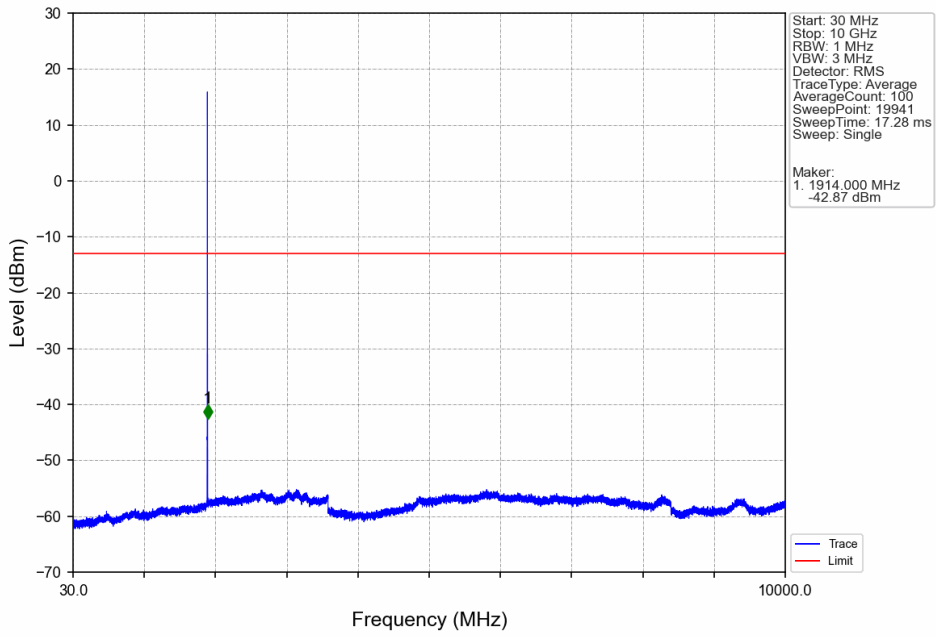
PCS1900\_EGPRS\_MCH\_1880MHz\_1 TX Slot\_NTNV



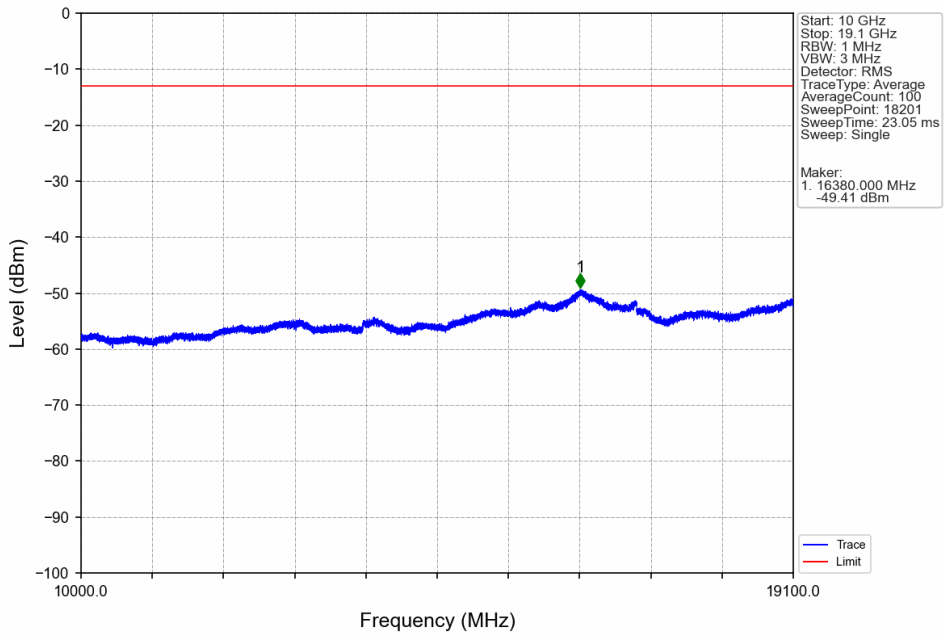
PCS1900\_EGPRS\_HCH\_1909.8MHz\_1 TX Slot\_NTNV



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



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



## 6. Field Strength of Spurious Radiation

For Sample 1

**Test Band = GSM1900**

**Test Channel = Low**

Data List								
NO.	Frequency [MHz]	Reading [dB $\mu$ V]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3420	50.69	-46.28	28.52	-62.33	-13.00	49.33	Horizontal
2	5130	60.03	-45.34	31.63	-48.94	-13.00	35.94	Horizontal
3	6345.75	41.06	-44.48	33.58	-65.10	-13.00	52.10	Horizontal
4	8550.75	46.39	-41.47	36.77	-53.57	-13.00	40.57	Horizontal
5	10448.25	35.05	-38.91	38.54	-60.57	-13.00	47.57	Horizontal
6	12970.5	33.03	-37.27	39.39	-60.10	-13.00	47.10	Horizontal

Data List								
NO.	Frequency [MHz]	Reading [dB $\mu$ V]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3420	50.84	-46.28	28.52	-62.18	-13.00	49.18	Vertical
2	5130.75	61.82	-45.34	31.64	-47.15	-13.00	34.15	Vertical
3	6130.5	41.15	-44.54	32.84	-65.81	-13.00	52.81	Vertical
4	8550.75	40.68	-41.47	36.77	-59.28	-13.00	46.28	Vertical
5	10076.25	35.00	-39.15	38.51	-60.90	-13.00	47.90	Vertical
6	11652.75	33.96	-36.93	38.93	-59.31	-13.00	46.31	Vertical

**Test Band = GSM1900**  
**Test Channel = Mid**

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3480	49.02	-46.26	28.58	-63.92	-13.00	50.92	Horizontal
2	5220	59.14	-45.24	31.80	-49.57	-13.00	36.57	Horizontal
3	6476.25	40.71	-44.56	34.02	-65.09	-13.00	52.09	Horizontal
4	8039.25	38.76	-41.96	37.08	-61.38	-13.00	48.38	Horizontal
5	10056.75	35.29	-39.17	38.51	-60.64	-13.00	47.64	Horizontal
6	11433.75	34.06	-37.35	38.82	-59.73	-13.00	46.73	Horizontal

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	5220	61.23	-45.24	31.80	-47.48	-13.00	34.48	Vertical
2	6108	41.16	-44.47	32.77	-65.81	-13.00	52.81	Vertical
3	7453.5	39.61	-43.27	36.27	-62.65	-13.00	49.65	Vertical
4	8202.75	38.65	-42.31	36.98	-61.94	-13.00	48.94	Vertical
5	10063.5	35.20	-39.16	38.51	-60.72	-13.00	47.72	Vertical
6	11578.5	34.03	-36.99	38.89	-59.33	-13.00	46.33	Vertical

**Test Band = GSM1900**  
**Test Channel = High**

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	5309.25	60.06	-45.11	31.96	-48.35	-13.00	35.35	Horizontal
2	6414.75	40.69	-44.44	33.81	-65.20	-13.00	52.20	Horizontal
3	8243.25	38.73	-42.19	36.95	-61.76	-13.00	48.76	Horizontal
4	9345.75	35.93	-40.04	37.19	-62.18	-13.00	49.18	Horizontal
5	11403.75	34.52	-37.37	38.80	-59.31	-13.00	46.31	Horizontal
6	12315	33.97	-37.43	39.19	-59.53	-13.00	46.53	Horizontal

Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	4425	42.48	-45.79	30.42	-68.15	-13.00	55.15	Vertical
2	6816	40.91	-44.16	34.67	-63.84	-13.00	50.84	Vertical
3	7558.5	39.60	-43.02	36.48	-62.20	-13.00	49.20	Vertical
4	9355.5	35.95	-40.00	37.21	-62.10	-13.00	49.10	Vertical
5	10667.25	34.29	-38.07	38.57	-60.48	-13.00	47.48	Vertical
6	11865.75	33.57	-37.05	39.03	-59.70	-13.00	46.70	Vertical