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	30.48	2.15	32.63	<=33.01	Pass
			1880	30.29	2.15	32.44	<=33.01	Pass
			1909.8	30.68	2.15	32.83	<=33.01	Pass
	EGPRS	1 TX Slot	1850.2	26.94	2.15	29.09	<=33.01	Pass
		2 TX Slots	1850.2	26.74	2.15	28.89	<=33.01	Pass
		3 TX Slots	1850.2	24.51	2.15	26.66	<=33.01	Pass
		4 TX Slots	1850.2	23.79	2.15	25.94	<=33.01	Pass
		1 TX Slot	1880	26.59	2.15	28.74	<=33.01	Pass
		2 TX Slots	1880	26.23	2.15	28.38	<=33.01	Pass
		3 TX Slots	1880	24.23	2.15	26.38	<=33.01	Pass
		4 TX Slots	1880	23.47	2.15	25.62	<=33.01	Pass
		1 TX Slot	1909.8	26.64	2.15	28.79	<=33.01	Pass
		2 TX Slots	1909.8	26.29	2.15	28.44	<=33.01	Pass
		3 TX Slots	1909.8	25.03	2.15	27.18	<=33.01	Pass
		4 TX Slots	1909.8	23.43	2.15	25.58	<=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	3.4	1.071	0.0006	/	Pass
			3.8	1.086	0.0006	/	Pass
			4.2	8.716	0.0047	/	Pass
		-30	3.8	4.737	0.0026	/	Pass
		-20	3.8	5.433	0.0029	/	Pass
		-10	3.8	10.115	0.0055	/	Pass
		0	3.8	6.331	0.0034	/	Pass
		10	3.8	7.872	0.0043	/	Pass
		30	3.8	1.987	0.0011	/	Pass
		40	3.8	3.099	0.0017	/	Pass
		50	3.8	9.852	0.0053	/	Pass
	1880	20	3.4	10.710	0.0057	/	Pass
			3.8	6.321	0.0034	/	Pass
			4.2	10.071	0.0054	/	Pass
		-30	3.8	9.171	0.0049	/	Pass
		-20	3.8	6.331	0.0034	/	Pass
		-10	3.8	8.559	0.0046	/	Pass
		0	3.8	0.959	0.0005	/	Pass
		10	3.8	9.748	0.0052	/	Pass
		30	3.8	9.577	0.0051	/	Pass
		40	3.8	5.894	0.0031	/	Pass
		50	3.8	9.986	0.0053	/	Pass
	1909.8	20	3.4	13.450	0.0070	/	Pass
			3.8	8.028	0.0042	/	Pass
			4.2	9.586	0.0050	/	Pass
		-30	3.8	6.144	0.0032	/	Pass
		-20	3.8	9.979	0.0052	/	Pass
		-10	3.8	12.598	0.0066	/	Pass
		0	3.8	9.232	0.0048	/	Pass
		10	3.8	9.500	0.0050	/	Pass
		30	3.8	12.700	0.0066	/	Pass
		40	3.8	6.932	0.0036	/	Pass
		50	3.8	5.132	0.0027	/	Pass
EGPRS	1850.2	20	3.4	26.758	0.0145	/	Pass
			3.8	26.854	0.0145	/	Pass
			4.2	29.146	0.0158	/	Pass
		-30	3.8	23.416	0.0127	/	Pass
		-20	3.8	23.263	0.0126	/	Pass
		-10	3.8	27.600	0.0149	/	Pass
		0	3.8	26.280	0.0142	/	Pass
		10	3.8	23.196	0.0125	/	Pass
		30	3.8	23.136	0.0125	/	Pass
		40	3.8	22.042	0.0119	/	Pass
		50	3.8	21.397	0.0116	/	Pass
	1880	20	3.4	26.616	0.0142	/	Pass
			3.8	22.964	0.0122	/	Pass
			4.2	23.300	0.0124	/	Pass
		-30	3.8	20.802	0.0111	/	Pass

		-20	3.8	26.569	0.0141	/	Pass
		-10	3.8	29.510	0.0157	/	Pass
		0	3.8	28.188	0.0150	/	Pass
		10	3.8	26.866	0.0143	/	Pass
		30	3.8	20.778	0.0111	/	Pass
		40	3.8	28.676	0.0153	/	Pass
		50	3.8	22.386	0.0119	/	Pass
	1909.8	20	3.4	25.996	0.0136	/	Pass
			3.8	27.514	0.0144	/	Pass
			4.2	23.797	0.0125	/	Pass
		-30	3.8	27.824	0.0146	/	Pass
		-20	3.8	28.413	0.0149	/	Pass
		-10	3.8	24.146	0.0126	/	Pass
		0	3.8	27.404	0.0143	/	Pass
		10	3.8	29.732	0.0156	/	Pass
		30	3.8	26.601	0.0139	/	Pass
		40	3.8	20.776	0.0109	/	Pass
		50	3.8	27.263	0.0143	/	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	0.247	/	Pass
			1880	0.247	/	Pass
			1909.8	0.244	/	Pass
	EGPRS	1 TX Slot	1850.2	0.240	/	Pass
			1880	0.246	/	Pass
			1909.8	0.248	/	Pass

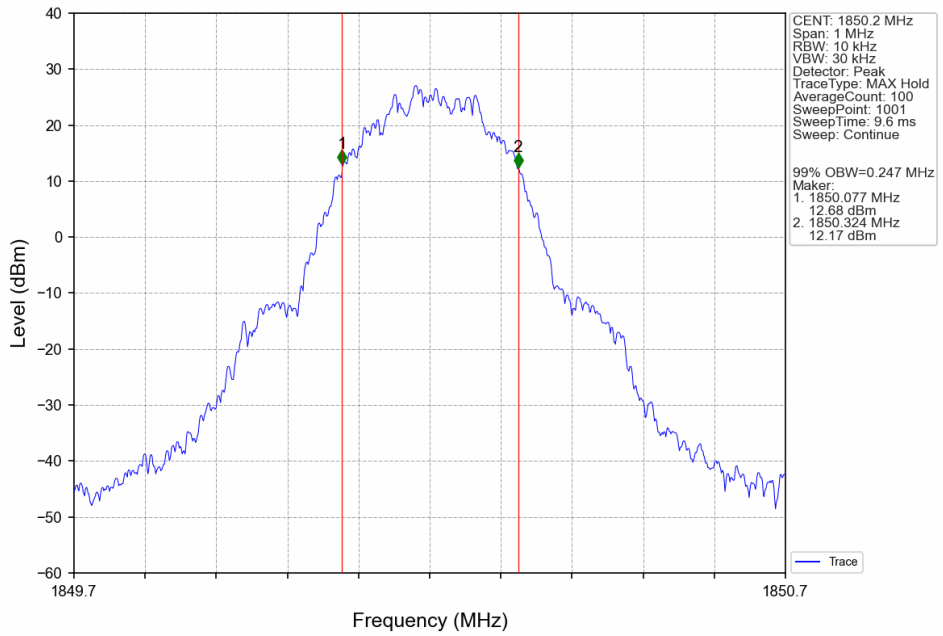
3.1.2 PCS1900_XDB

Band: PCS1900						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.314	/	Pass
			1880	0.317	/	Pass
			1909.8	0.319	/	Pass
	EGPRS	1 TX Slot	1850.2	0.305	/	Pass
			1880	0.319	/	Pass
			1909.8	0.316	/	Pass

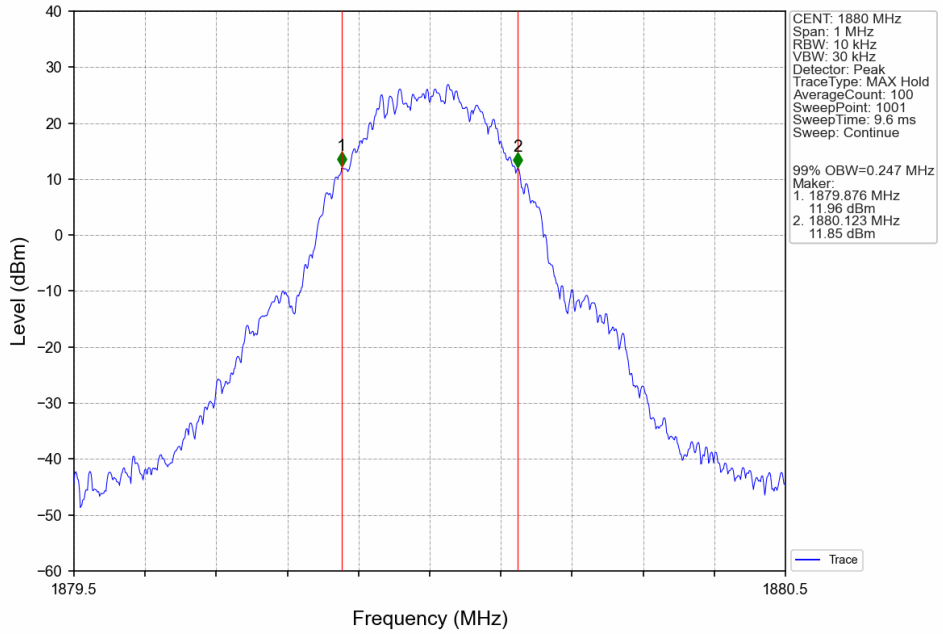
3.2 Test Graph

3.2.1 PCS1900_OBW

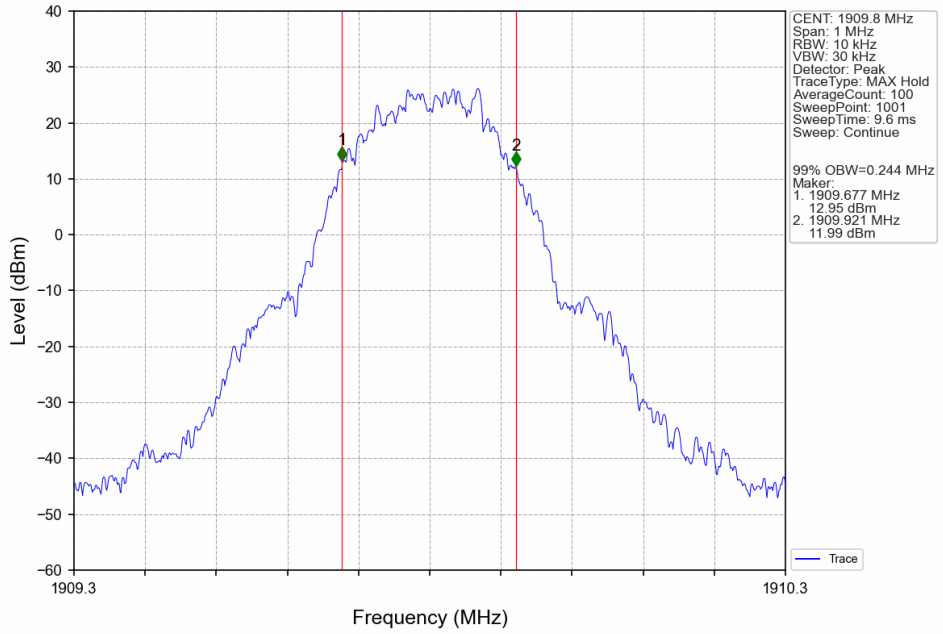
PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



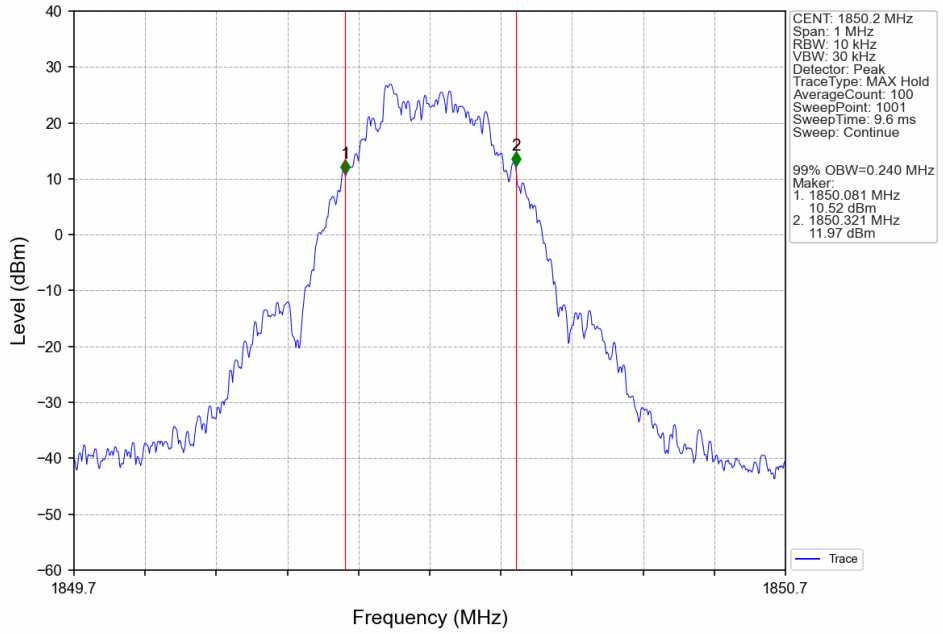
PCS1900_GSM_MCH_1880MHz_GSM_NTNV



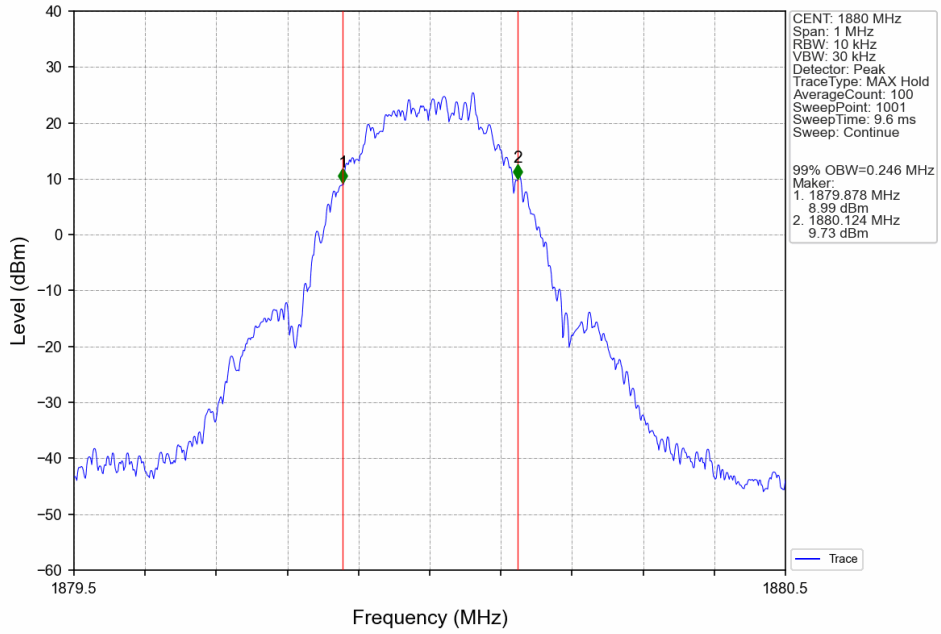
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



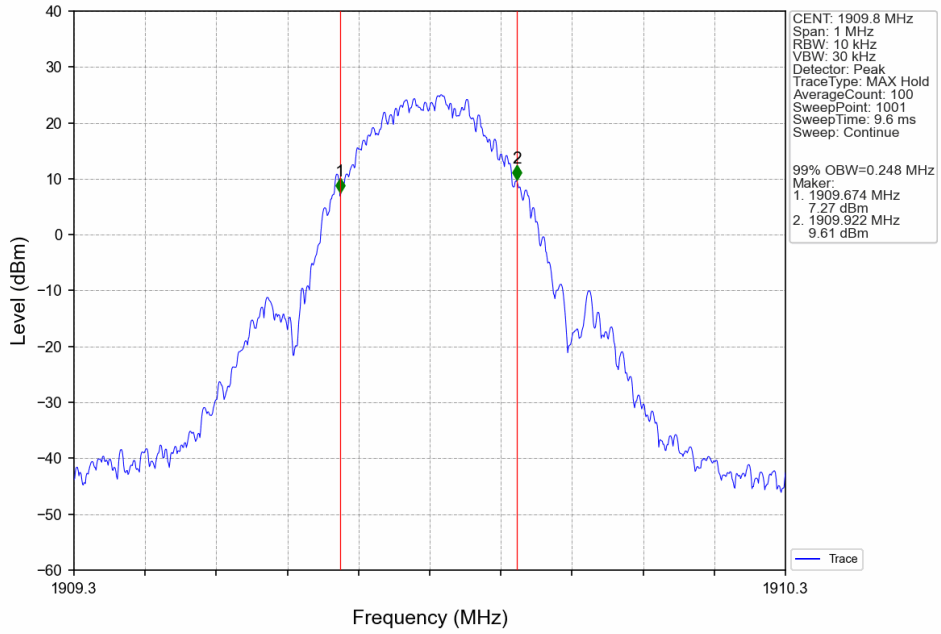
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV

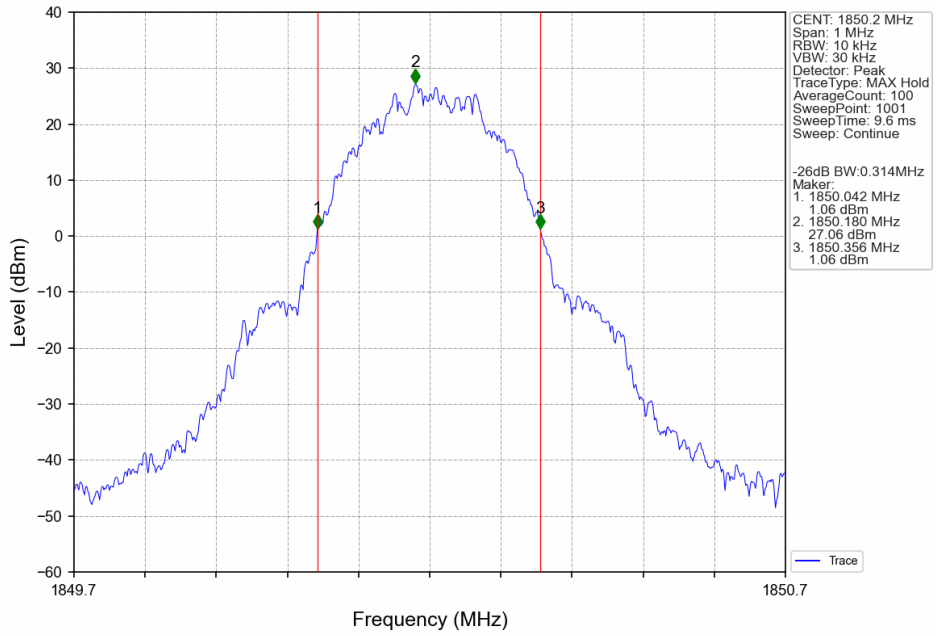


PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV

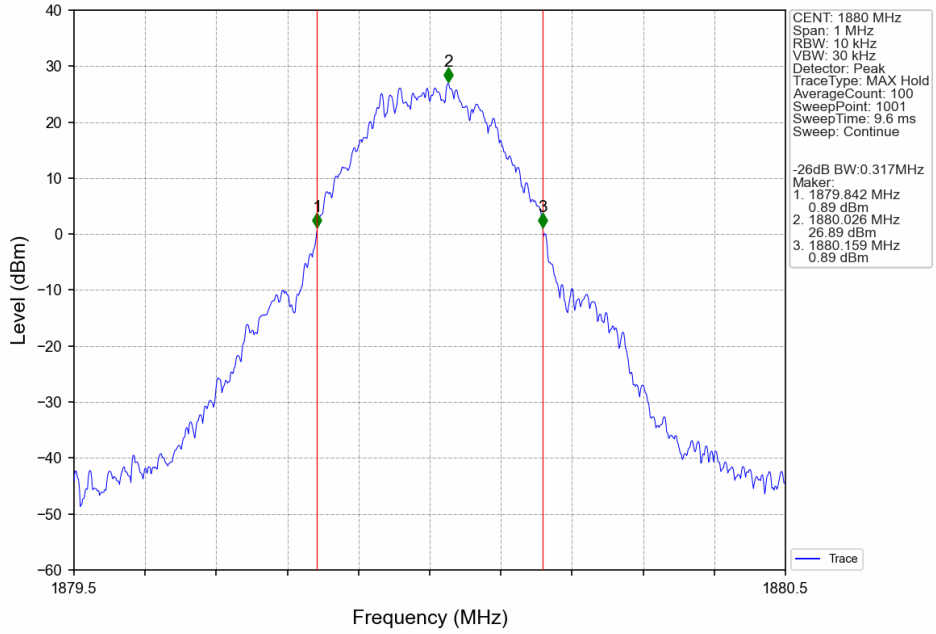


3.2.2 PCS1900_XDB

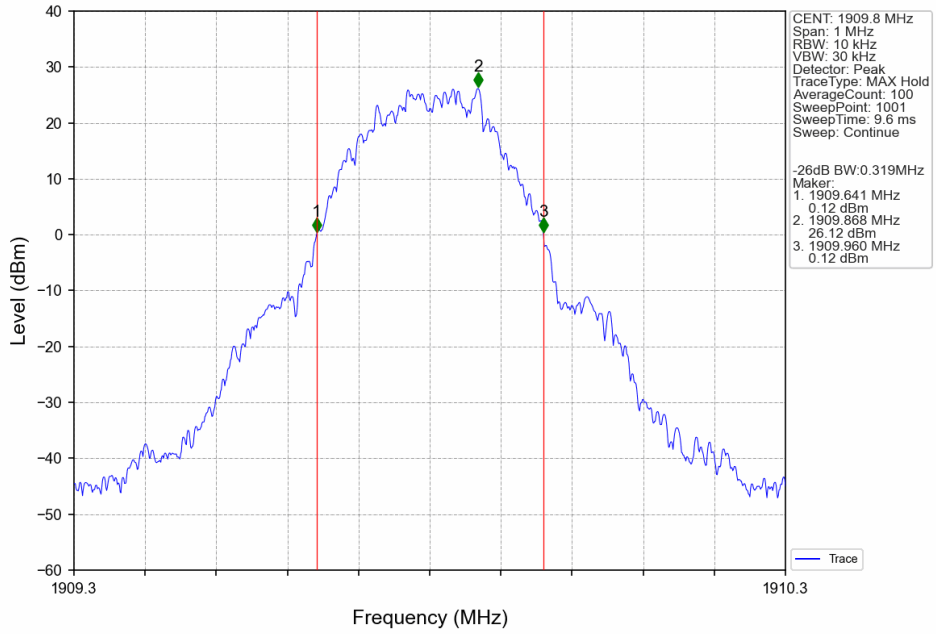
PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



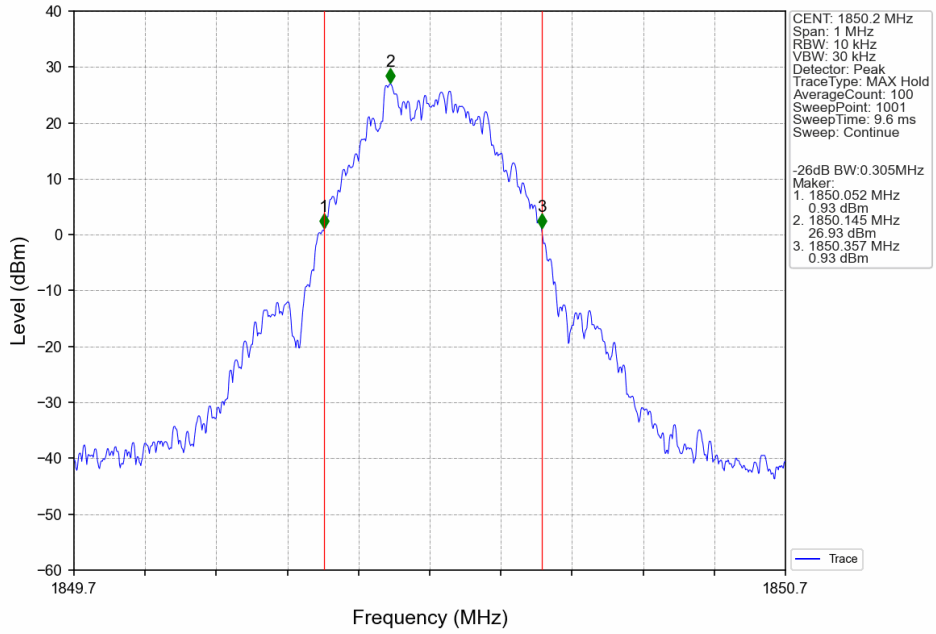
PCS1900_GSM_MCH_1880MHz_GSM_NTNV



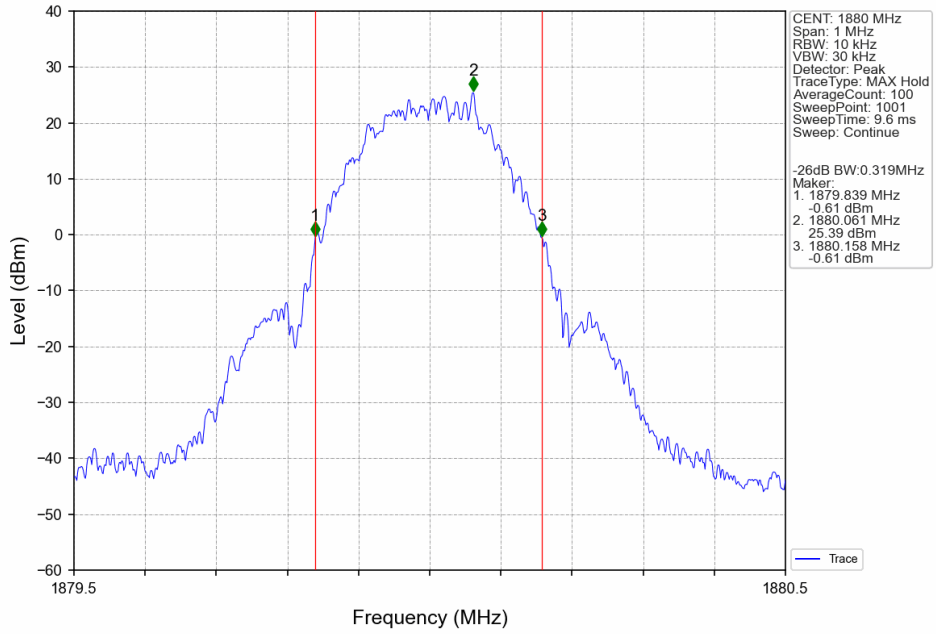
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



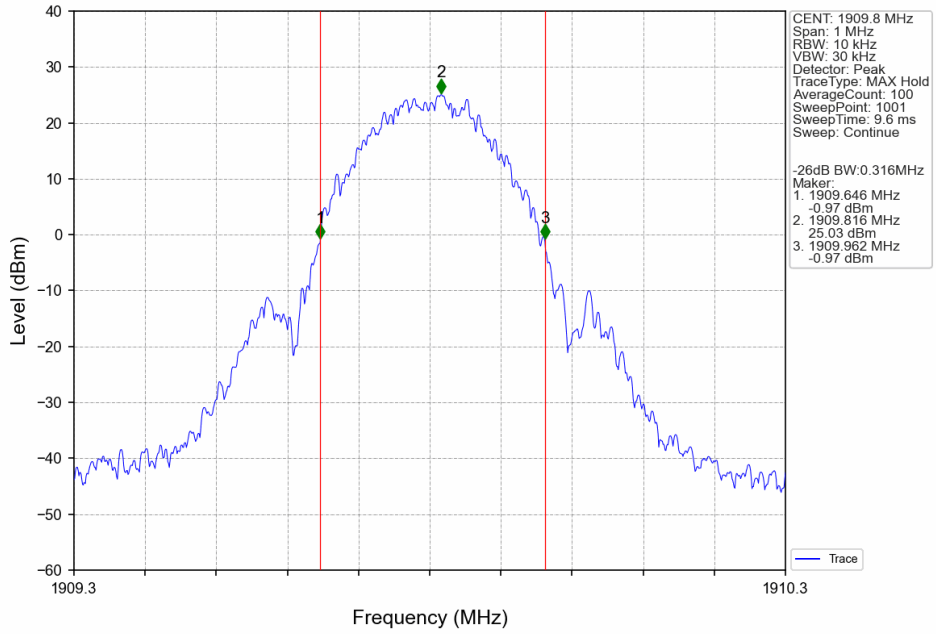
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



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

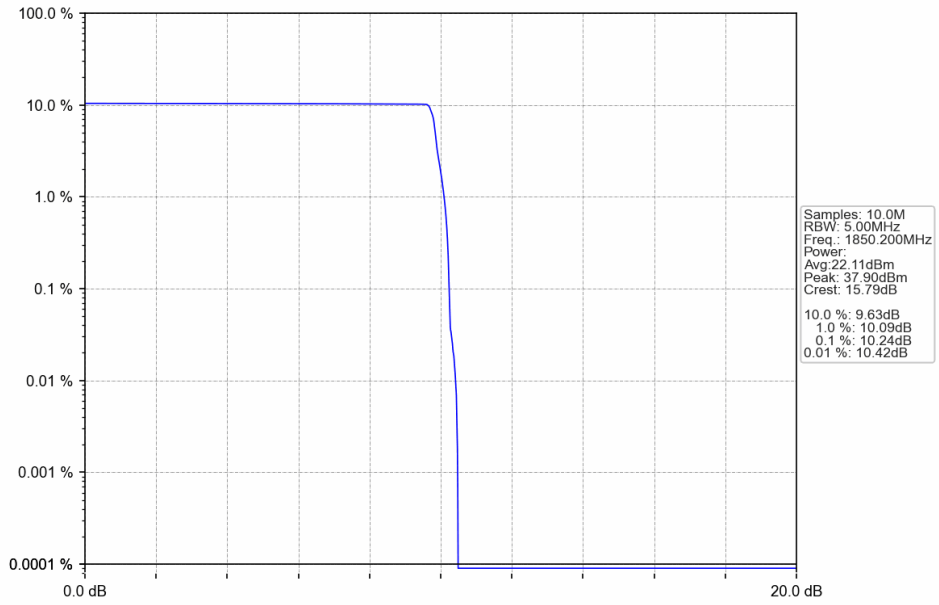
4.1.1 PCS1900

Band: PCS1900						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	10.24	<=13	Pass
			1880	9.83	<=13	Pass
			1909.8	9.78	<=13	Pass
	EGPRS	4 TX Slots	1850.2	6.65	<=13	Pass
			1880	6.97	<=13	Pass
			1909.8	6.67	<=13	Pass

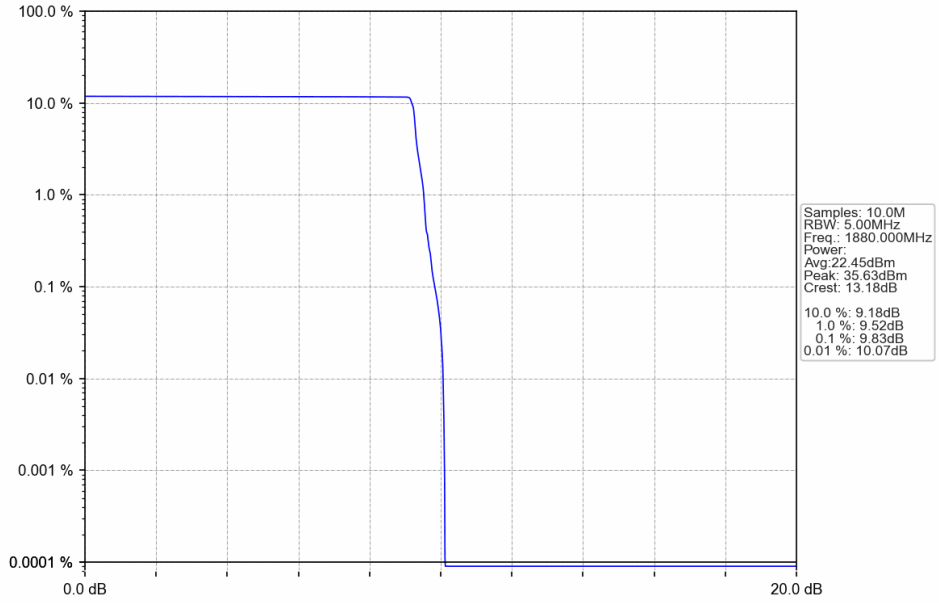
4.2 Test Graph

4.2.1 PCS1900

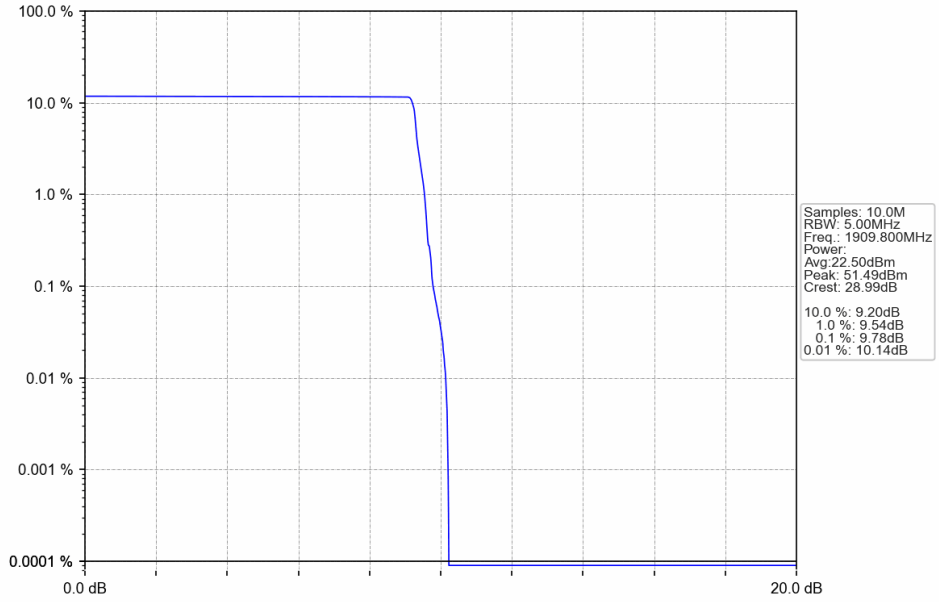
PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



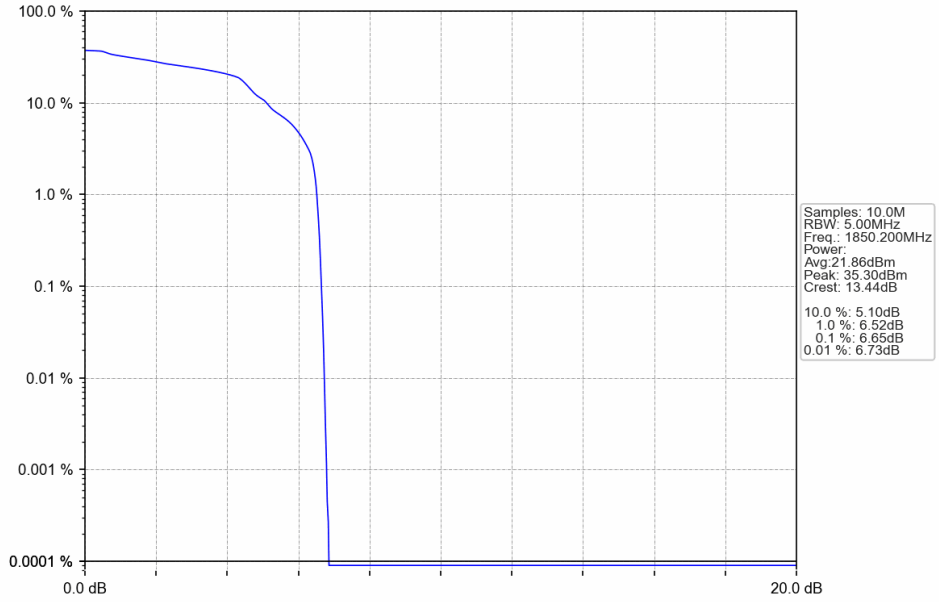
PCS1900_GSM_MCH_1880MHz_GSM_NTNV



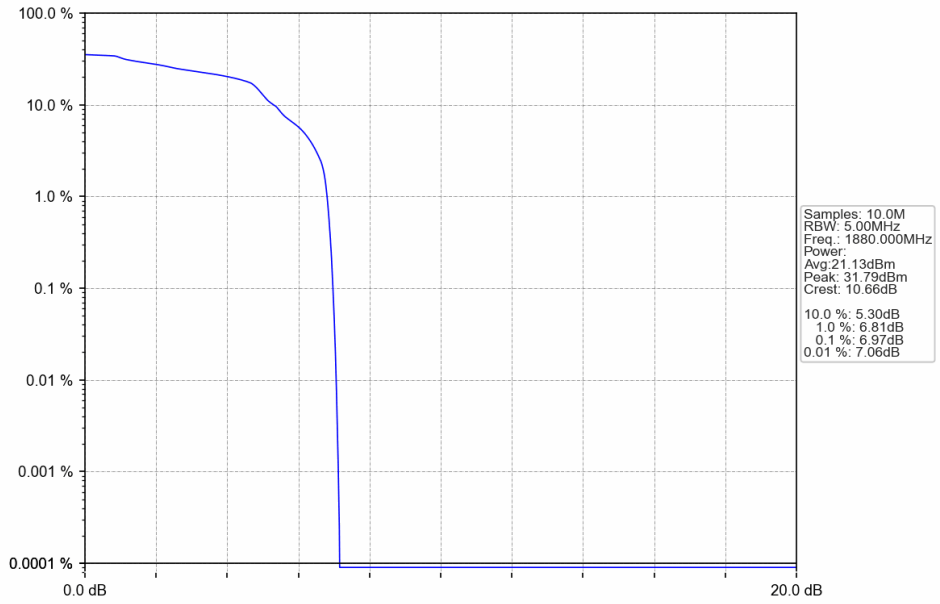
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



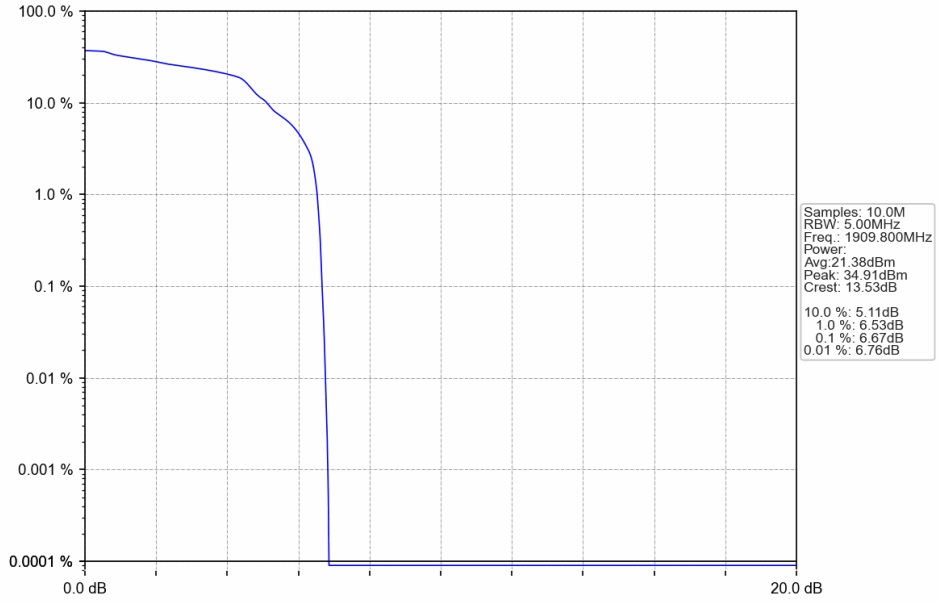
PCS1900_EGPRS_LCH_1850.2MHz_4 TX Slots_NTNV



PCS1900_EGPRS_MCH_1880MHz_4 TX Slots_NTNV



PCS1900_EGPRS_HCH_1909.8MHz_4 TX Slots_NTNV



5. Spurious Emission & Band Edges

5.1 Test Result

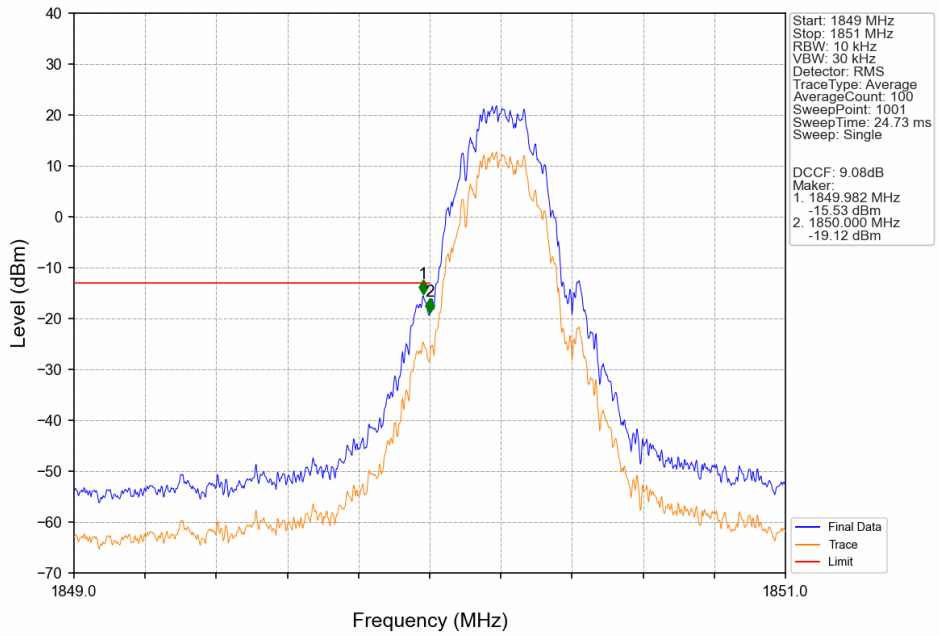
5.1.1 PCS1900

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

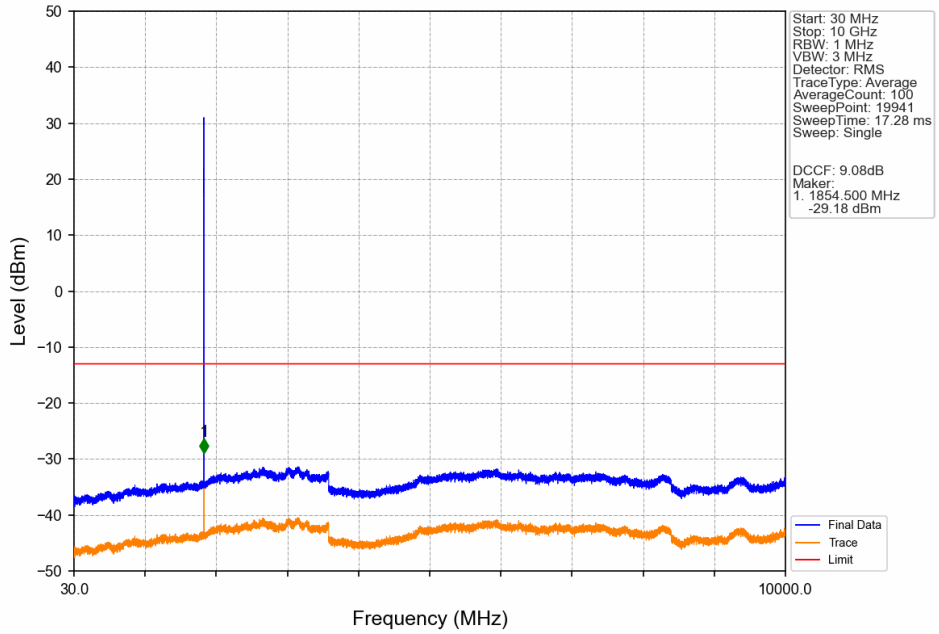
5.2 Test Graph

5.2.1 PCS1900

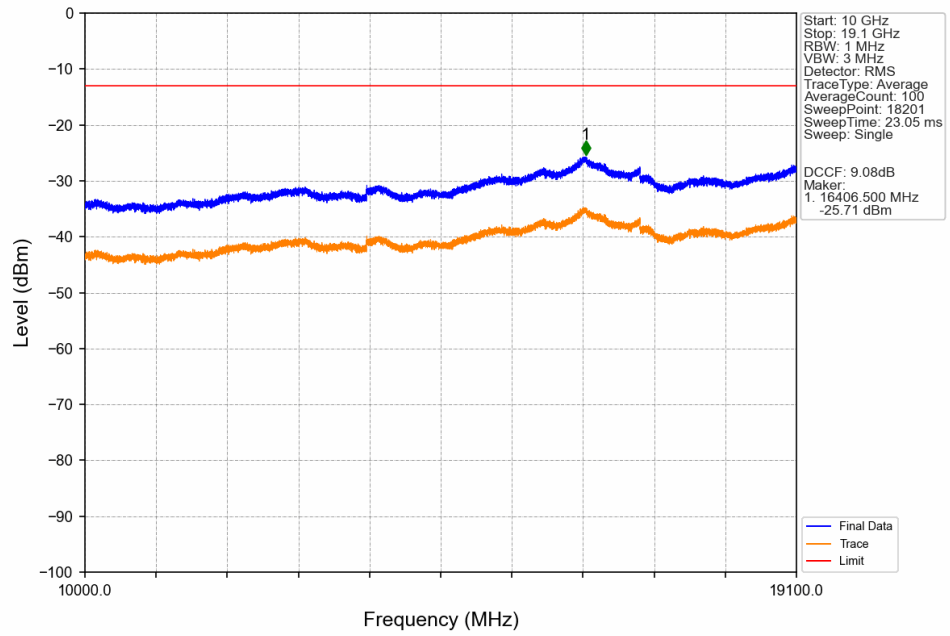
PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



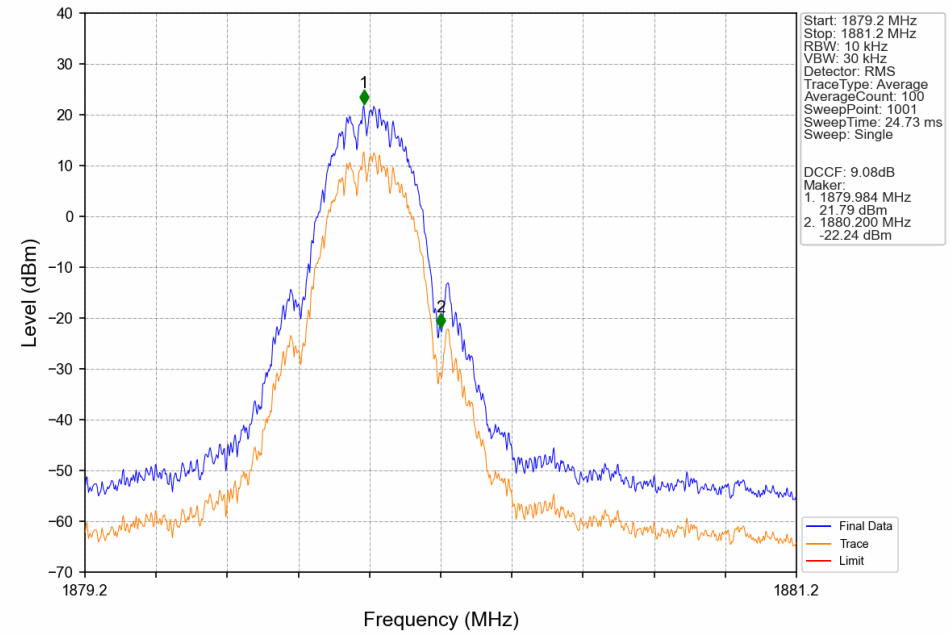
PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



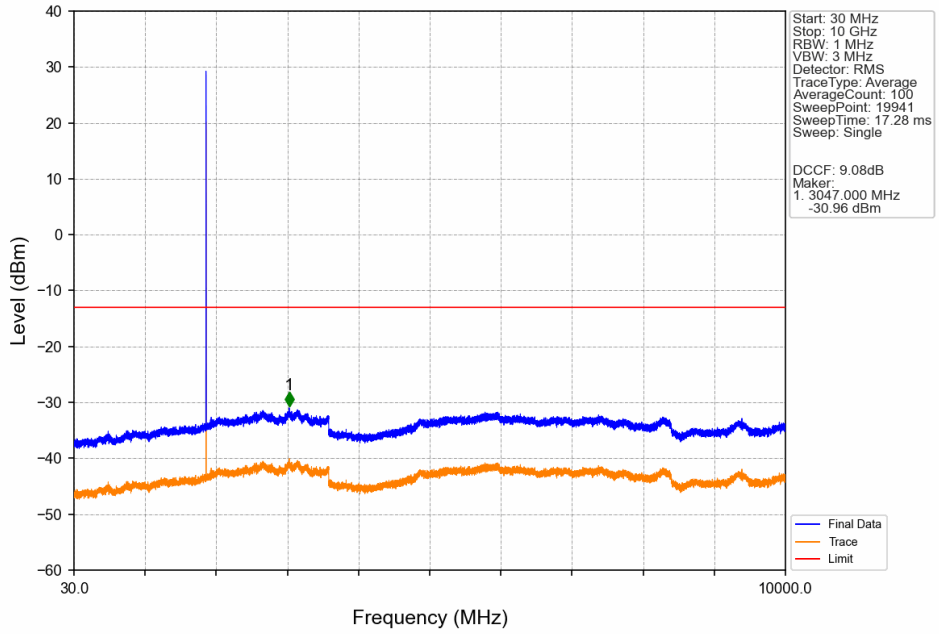
PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



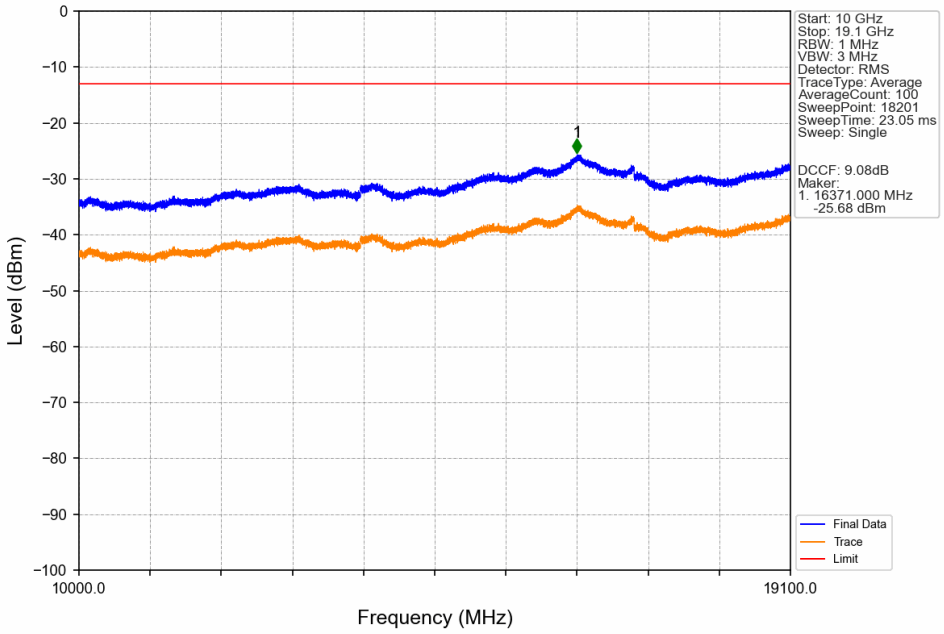
PCS1900_GSM_MCH_1880MHz_GSM_NTNV



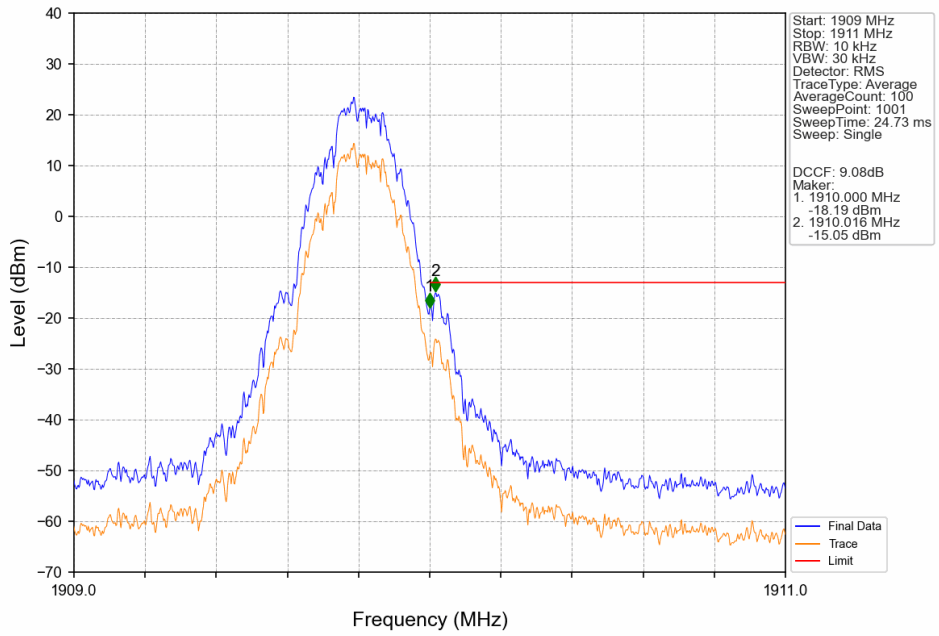
PCS1900_GSM_MCH_1880MHz_GSM_NTNV



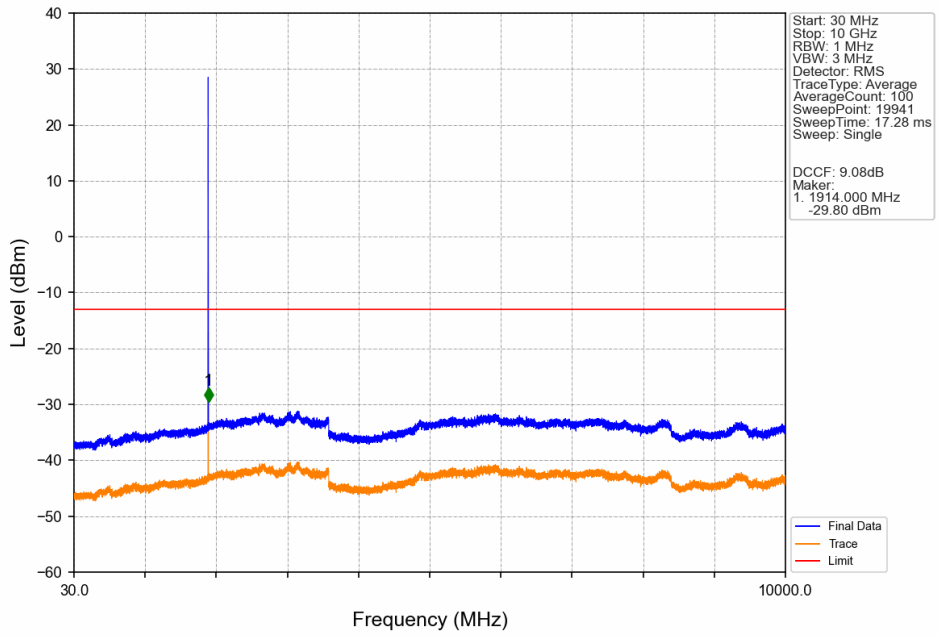
PCS1900_GSM_MCH_1880MHz_GSM_NTNV



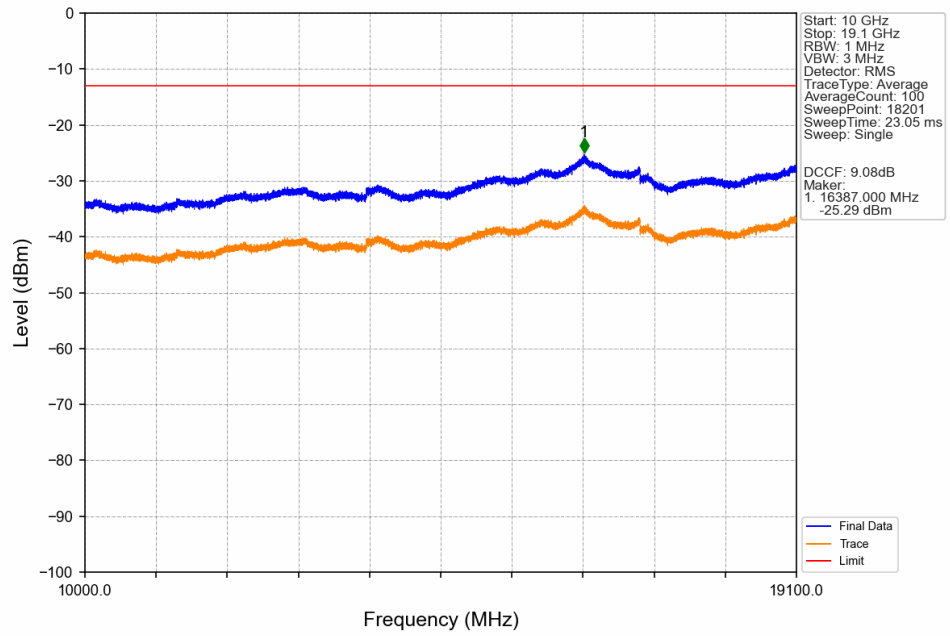
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



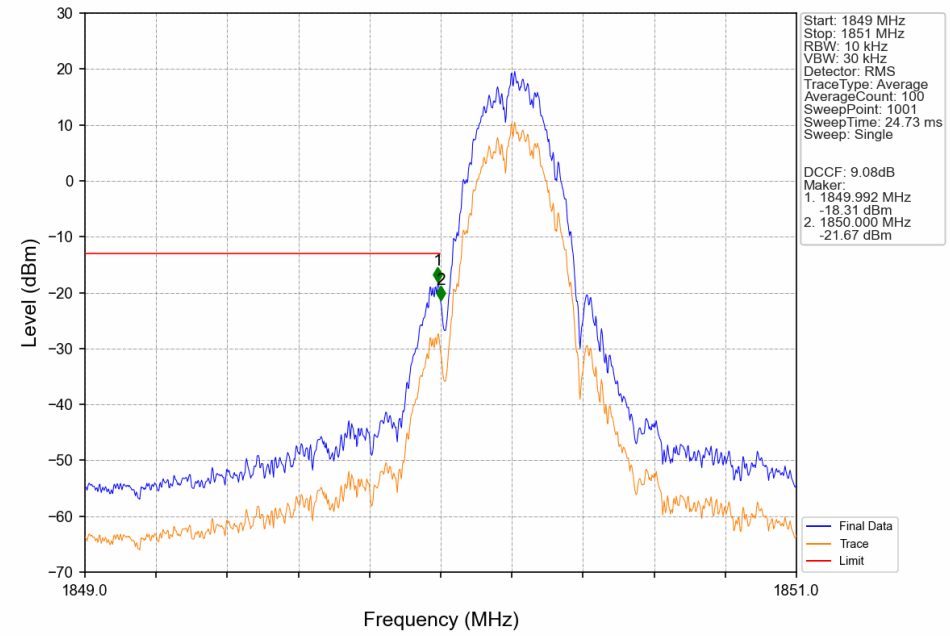
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



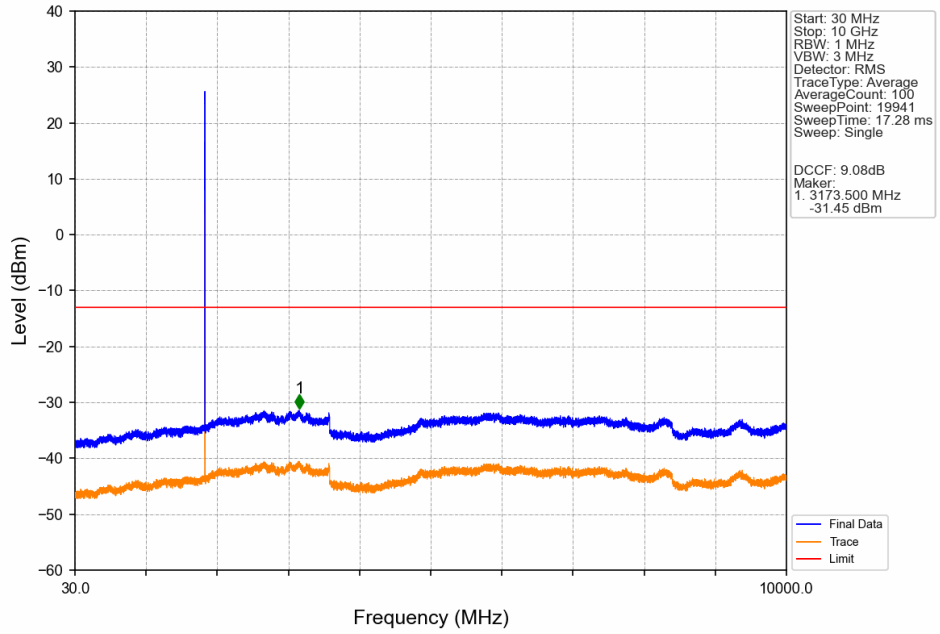
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



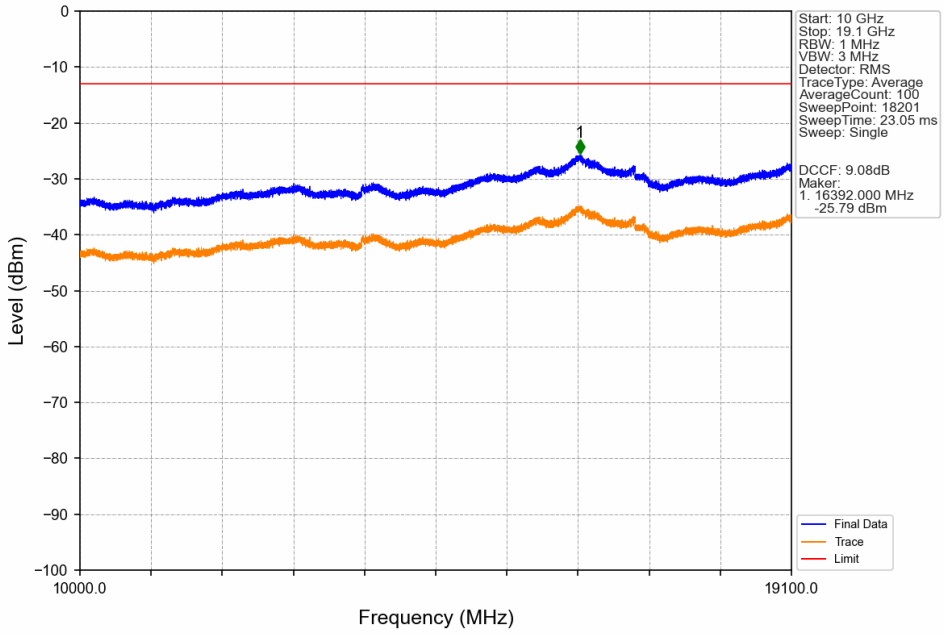
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



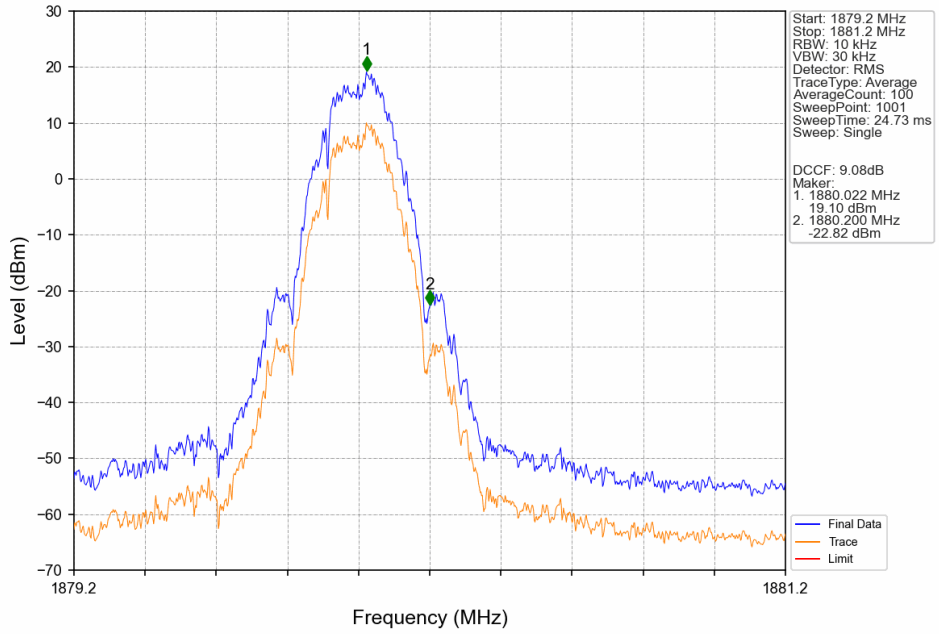
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



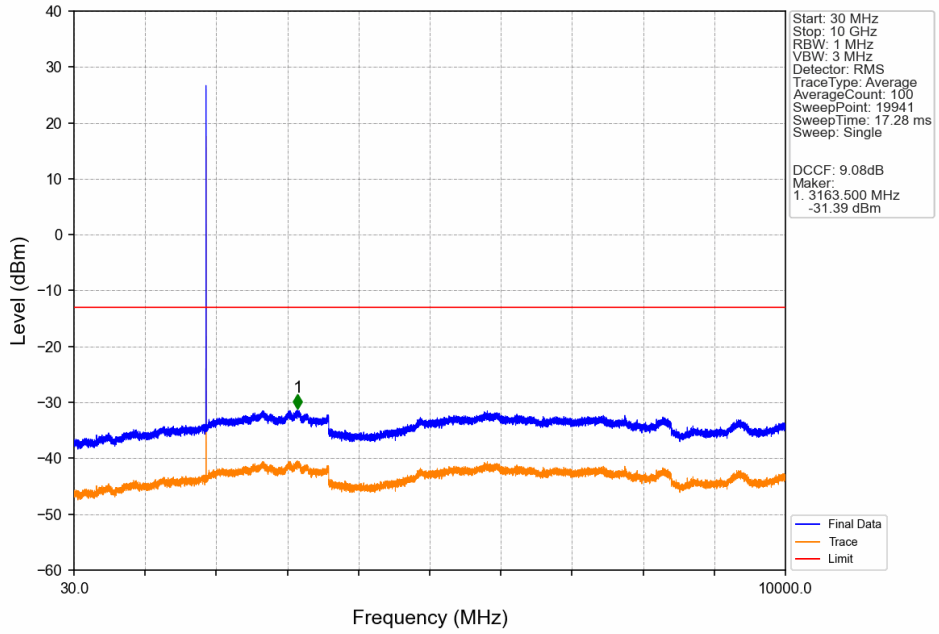
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



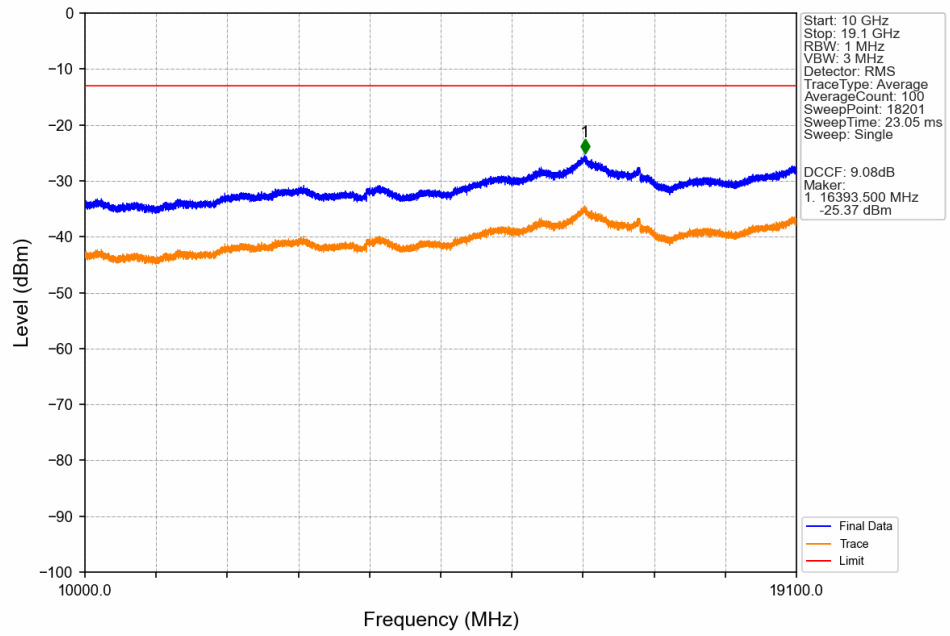
PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV



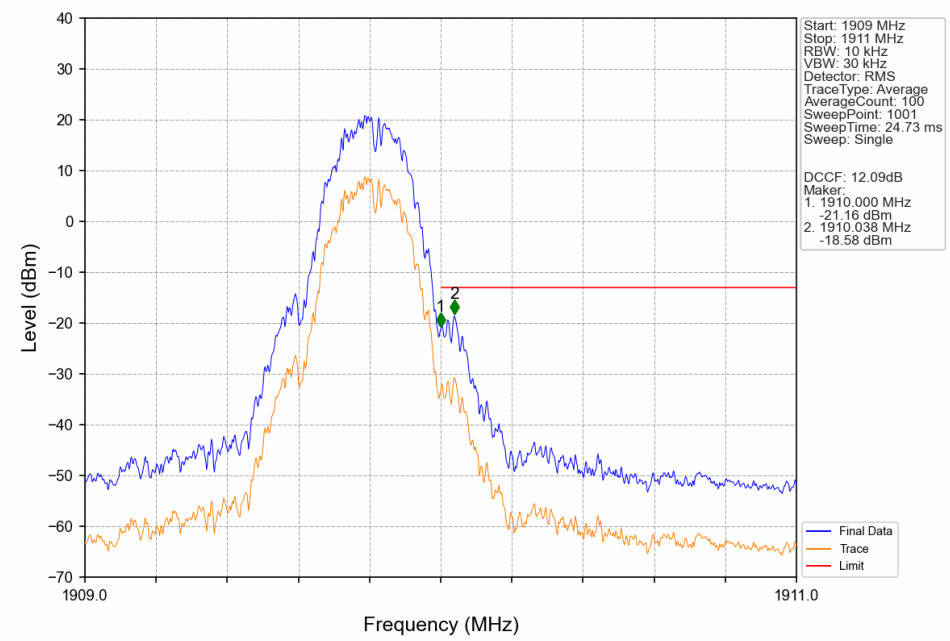
PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV



PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV



PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV



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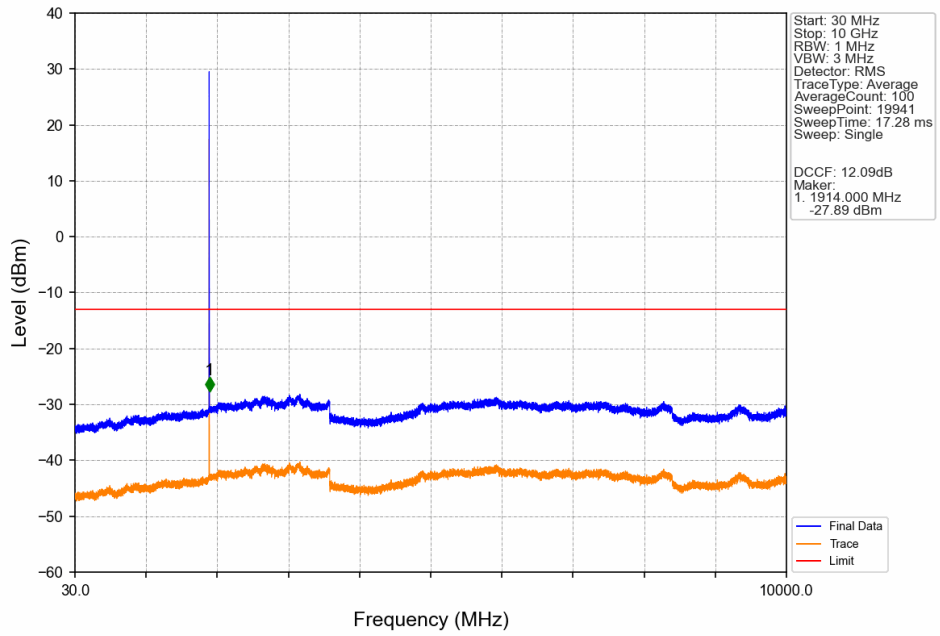
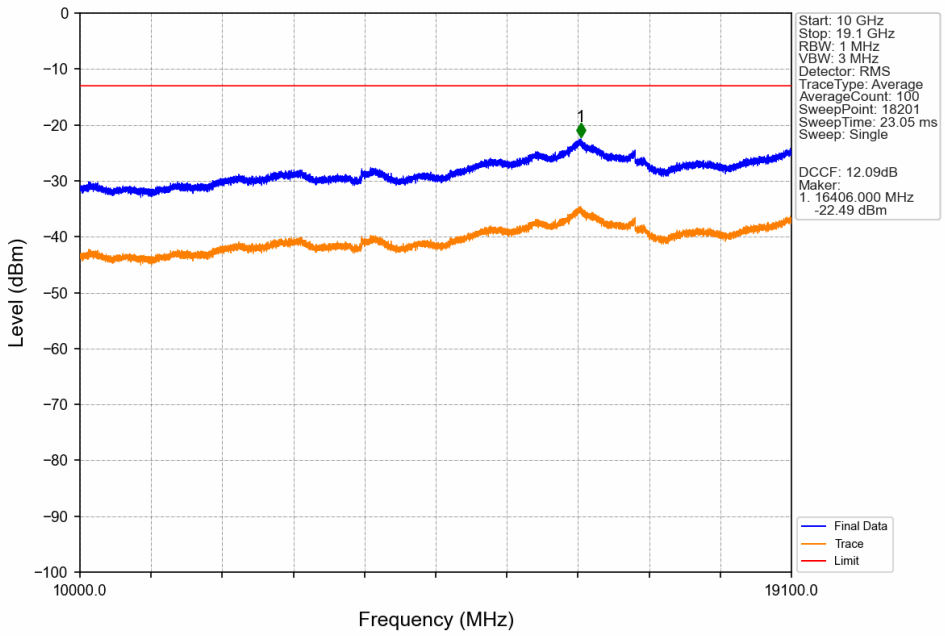


PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV



6. Field Strength of Spurious Radiation

Test Band = GSM 1900_ TM1
Test Channel = Low

Final Data List								
NO.	Frequency [MHz]	Reading [dBµV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3700.5	59.86	-45.50	28.92	-51.98	-13.00	38.98	Horizontal
2	4894.5	42.97	-45.53	31.23	-66.59	-13.00	53.59	Horizontal
3	5686.5	42.25	-44.88	32.34	-65.55	-13.00	52.55	Horizontal
4	7401	43.32	-43.41	36.12	-59.22	-13.00	46.22	Horizontal
5	8186.25	39.48	-42.19	36.99	-60.98	-13.00	47.98	Horizontal
6	9409.5	40.04	-39.87	37.32	-57.77	-13.00	44.77	Horizontal

Final Data List								
NO.	Frequency [MHz]	Reading [dBµV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3700.5	53.32	-45.50	28.92	-58.52	-13.00	45.52	Vertical
2	4433.25	43.14	-45.78	30.44	-67.46	-13.00	54.46	Vertical
3	5550.75	46.67	-45.15	32.31	-61.43	-13.00	48.43	Vertical
4	6721.5	42.25	-43.89	34.50	-62.40	-13.00	49.40	Vertical
5	8862.75	40.01	-41.24	36.58	-59.91	-13.00	46.91	Vertical
6	11420.25	34.87	-37.36	38.81	-58.94	-13.00	45.94	Vertical

Test Band = GSM 1900_ TM1
Test Channel = Mid

Final Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3759.75	57.58	-45.75	29.02	-54.42	-13.00	41.42	Horizontal
2	4650	42.56	-45.64	30.84	-67.50	-13.00	54.50	Horizontal
3	6152.25	42.33	-44.61	32.92	-64.62	-13.00	51.62	Horizontal
4	7278	41.50	-43.68	35.78	-61.66	-13.00	48.66	Horizontal
5	9157.5	37.48	-40.29	36.82	-61.26	-13.00	48.26	Horizontal
6	11073.75	35.00	-37.94	38.64	-59.56	-13.00	46.56	Horizontal

Final Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3759.75	51.71	-45.75	29.02	-60.29	-13.00	47.29	Vertical
2	4462.5	42.95	-45.75	30.51	-67.55	-13.00	54.55	Vertical
3	5640	45.44	-44.98	32.33	-62.47	-13.00	49.47	Vertical
4	7293	41.30	-43.73	35.82	-61.87	-13.00	48.87	Vertical
5	9399.75	39.14	-39.83	37.30	-58.65	-13.00	45.65	Vertical
6	12096.75	34.28	-37.35	39.13	-59.20	-13.00	46.20	Vertical

Test Band = GSM 1900_ TM1
Test Channel = High

Final Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3819.75	55.10	-45.99	29.11	-57.04	-13.00	44.04	Horizontal
2	4594.5	42.58	-45.67	30.75	-67.60	-13.00	54.60	Horizontal
3	5729.25	45.12	-44.82	32.35	-62.61	-13.00	49.61	Horizontal
4	7246.5	41.54	-43.57	35.69	-61.60	-13.00	48.60	Horizontal
5	9423.75	38.98	-39.93	37.35	-58.86	-13.00	45.86	Horizontal
6	11403	34.73	-37.37	38.80	-59.10	-13.00	46.10	Horizontal

Final Data List								
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	3819.75	55.97	-45.99	29.11	-56.17	-13.00	43.17	Vertical
2	4747.5	42.49	-45.57	31.00	-67.35	-13.00	54.35	Vertical
3	5729.25	44.77	-44.82	32.35	-62.96	-13.00	49.96	Vertical
4	7578.75	40.57	-42.97	36.51	-61.15	-13.00	48.15	Vertical
5	9549	40.85	-39.96	37.60	-56.77	-13.00	43.77	Vertical
6	12950.25	33.58	-37.22	39.39	-59.52	-13.00	46.52	Vertical

Remark:
1) The field strength is calculated by adding the Antenna Factor, Cable Factor & AMP. The basic equation with a sample calculation is as follows:
AF = Antenna Factor(dB/m)
Factor = Cable Factor(dB) - Preamplifier (dB)
Level = Reading Level + AF + Factor -95.26
Margin = Limit – Level

---End of Attachment---