

# Appendix for GSM 1900

Model: VNE-N41

BTL-FCCP-7-2204C233

## CONTENT

1	Appendix_A: Effective (Isotropic) Radiated Power of Transmitter.....	4
1.1	Test Results.....	4
2	Appendix_B: Peak-to-Average Ratio .....	5
2.1	Test Results.....	5
3	Appendix_C: Modulation Characteristics .....	6
3.1	Test Plots.....	6
	PCS1900_TM1_MCH.....	6
	PCS1900_TM2_MCH.....	6
	PCS1900_TM3_MCH.....	7
4	Appendix_D: Occupied Bandwidth.....	8
4.1	Test Results.....	8
4.2	Test Plots.....	9
	PCS1900_TM1_LCH.....	9
	PCS1900_TM1_MCH.....	10
	PCS1900_TM1_HCH.....	11
	PCS1900_TM2_LCH.....	12
	PCS1900_TM2_MCH.....	13
	PCS1900_TM2_HCH.....	14
	PCS1900_TM3_LCH.....	15
	PCS1900_TM3_MCH.....	16
	PCS1900_TM3_HCH.....	17
5	Appendix_E: Band Edges Compliance .....	18
5.1	Test Results.....	18
5.2	Test Plots.....	19
	PCS1900_TM1_LCH.....	19
	PCS1900_TM1_HCH.....	19
	PCS1900_TM2_LCH.....	20
	PCS1900_TM2_HCH.....	20
	PCS1900_TM3_LCH.....	21
	PCS1900_TM3_HCH.....	21
6	Appendix_F: Spurious Emission at Antenna Terminal.....	22
6.1	Test Results.....	22
6.2	Test Plots.....	23
	PCS1900_TM1_LCH.....	23
	PCS1900_TM1_MCH.....	25
	PCS1900_TM1_HCH.....	27
	PCS1900_TM2_LCH.....	29
	PCS1900_TM2_MCH.....	31
	PCS1900_TM2_HCH.....	33
	PCS1900_TM3_LCH.....	35
	PCS1900_TM3_MCH.....	37

	PCS1900_TM3_HCH .....	39
7	Appendix_G: Frequency Stability .....	41
	7.1 Test Results .....	41
	Frequency Error vs. Voltage .....	41
	Frequency Error vs. Temperature .....	42

# 1 Appendix\_A: Effective (Isotropic) Radiated Power of Transmitter

## 1.1 Test Results

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	Gain [dBi]	ER(I)P [dBm]	Limit [dBm]	Verdict
PCS1900	TM1	LCH	29.52	0.1	29.62	33	PASS
		MCH	30.52	0.1	30.62	33	PASS
		HCH	30.41	0.1	30.51	33	PASS
	TM2	LCH	29.66	0.1	29.76	33	PASS
		MCH	30.64	0.1	30.74	33	PASS
		HCH	30.54	0.1	30.64	33	PASS
	TM3	LCH	25.91	0.1	26.01	33	PASS
		MCH	26.66	0.1	26.76	33	PASS
		HCH	26.50	0.1	26.60	33	PASS

## 2 Appendix\_B: Peak-to-Average Ratio

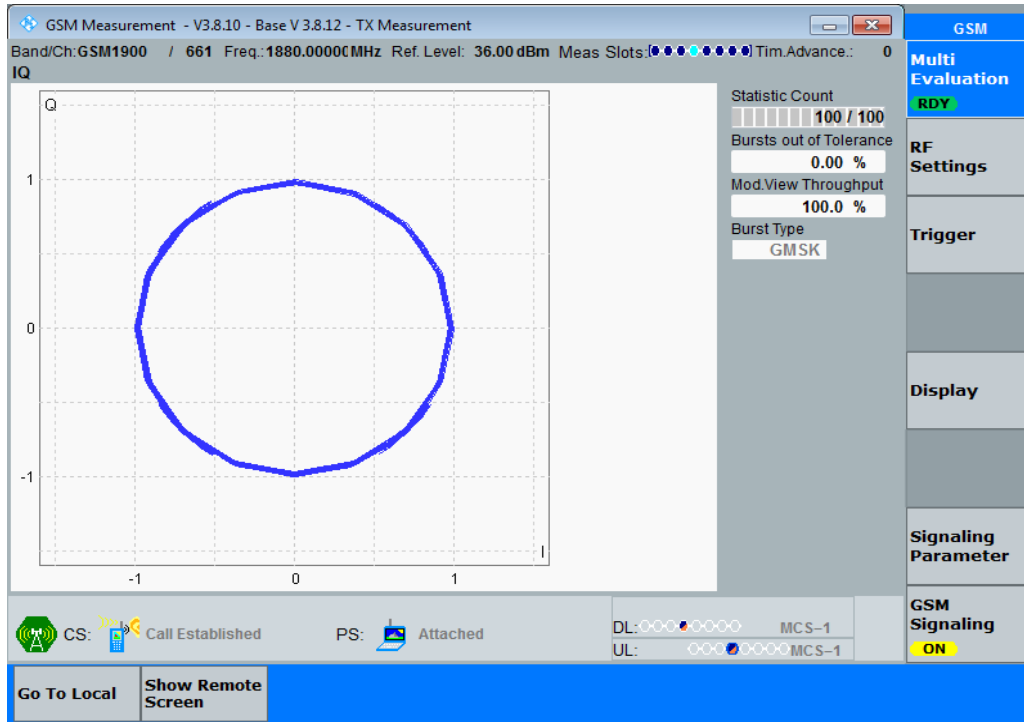
### 2.1 Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
PCS1900	TM1	LCH	-7.09	13	PASS
		MCH	-7.17	13	PASS
		HCH	-7.44	13	PASS
	TM2	LCH	-6.96	13	PASS
		MCH	-7.33	13	PASS
		HCH	-6.88	13	PASS
	TM3	LCH	-4.17	13	PASS
		MCH	-3.94	13	PASS
		HCH	-3.67	13	PASS

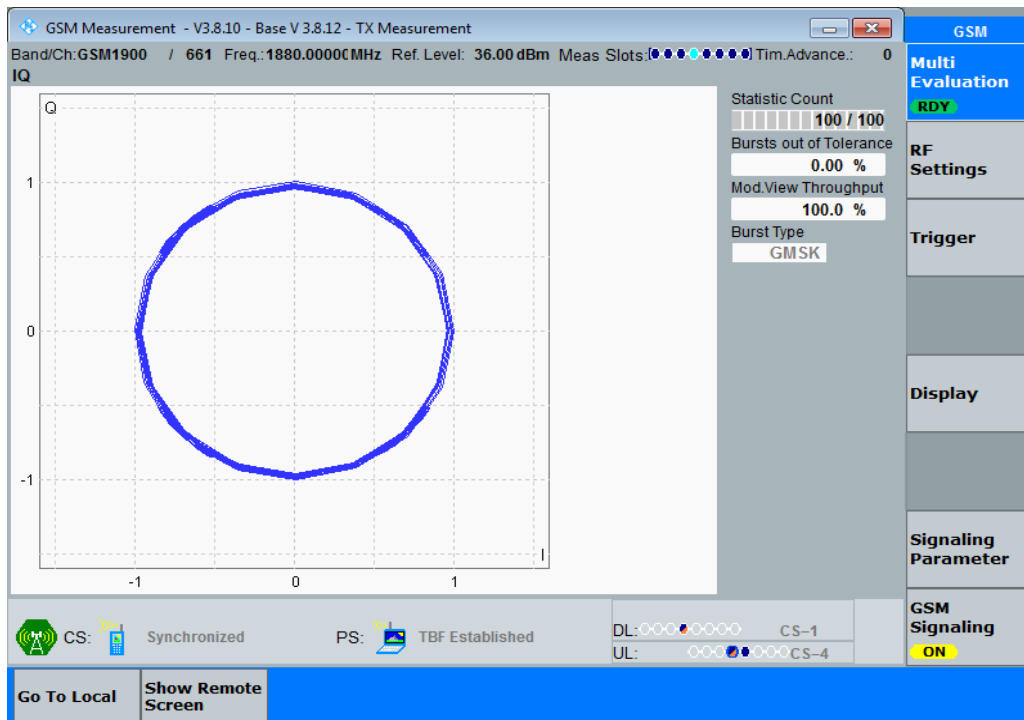
### 3 Appendix\_C: Modulation Characteristics

#### 3.1 Test Plots

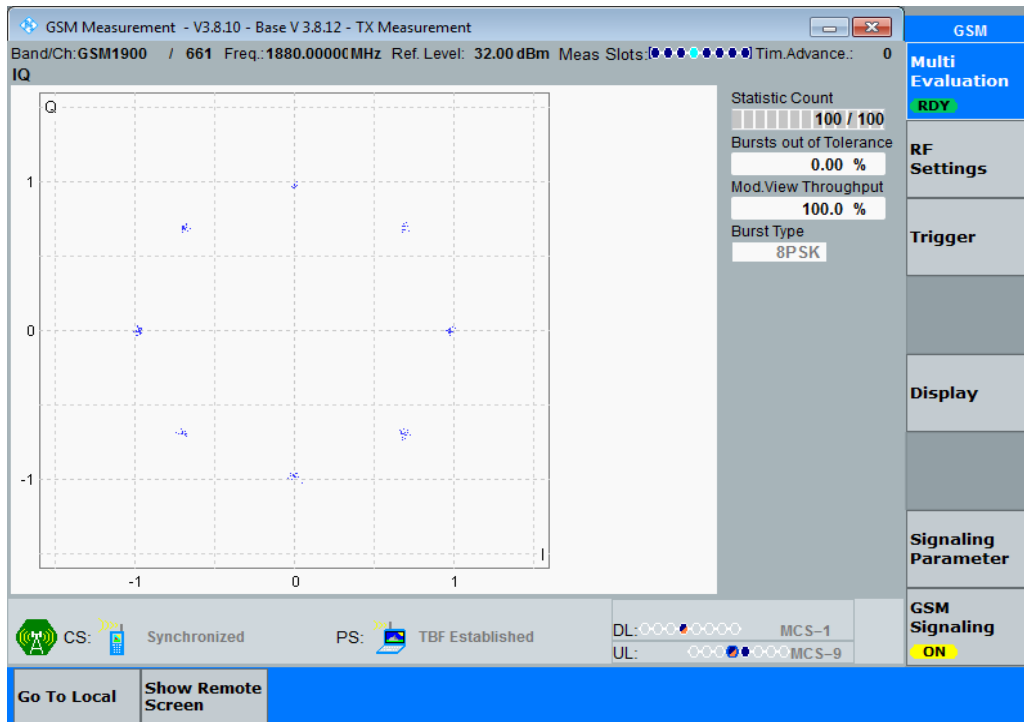
##### PCS1900\_TM1\_MCH



##### PCS1900\_TM2\_MCH



## PCS1900\_TM3\_MCH



## 4 Appendix\_D: Occupied Bandwidth

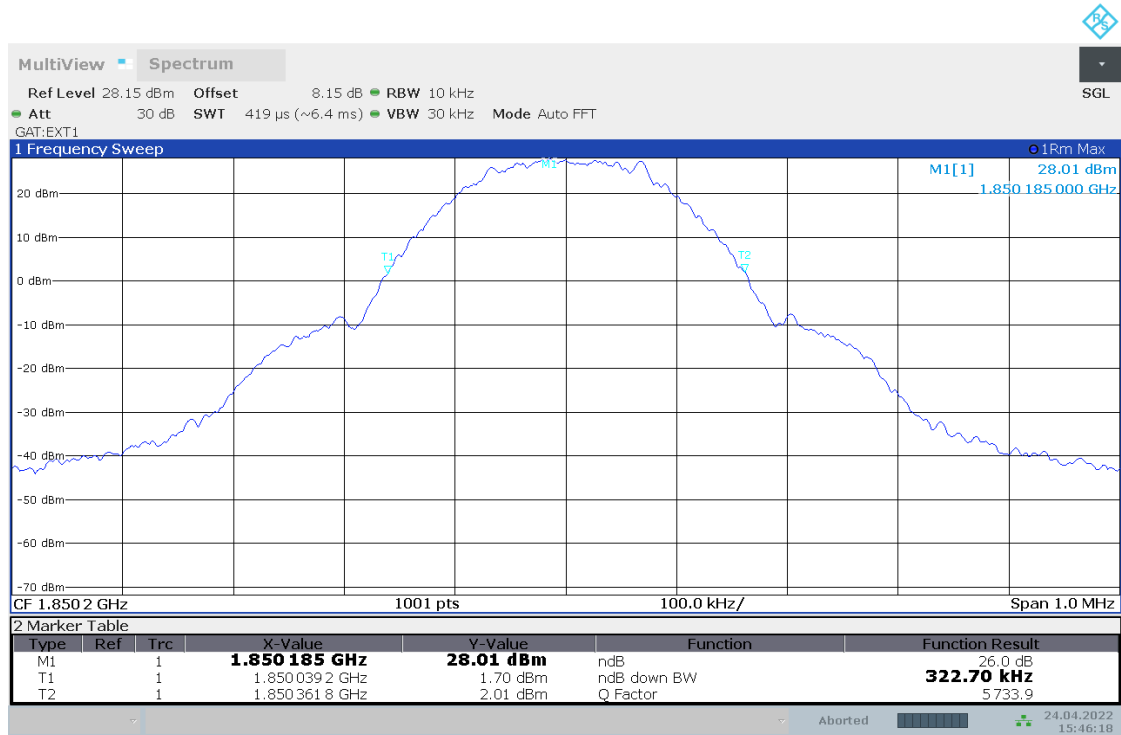
### 4.1 Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [KHz]	Verdict
PCS1900	TM1	LCH	242.94	322.70	PASS
		MCH	243.02	320.70	PASS
		HCH	242.58	324.70	PASS
	TM2	LCH	242.00	314.70	PASS
		MCH	243.28	321.70	PASS
		HCH	241.66	319.70	PASS
	TM3	LCH	245.20	312.70	PASS
		MCH	245.89	313.70	PASS
		HCH	244.70	315.70	PASS

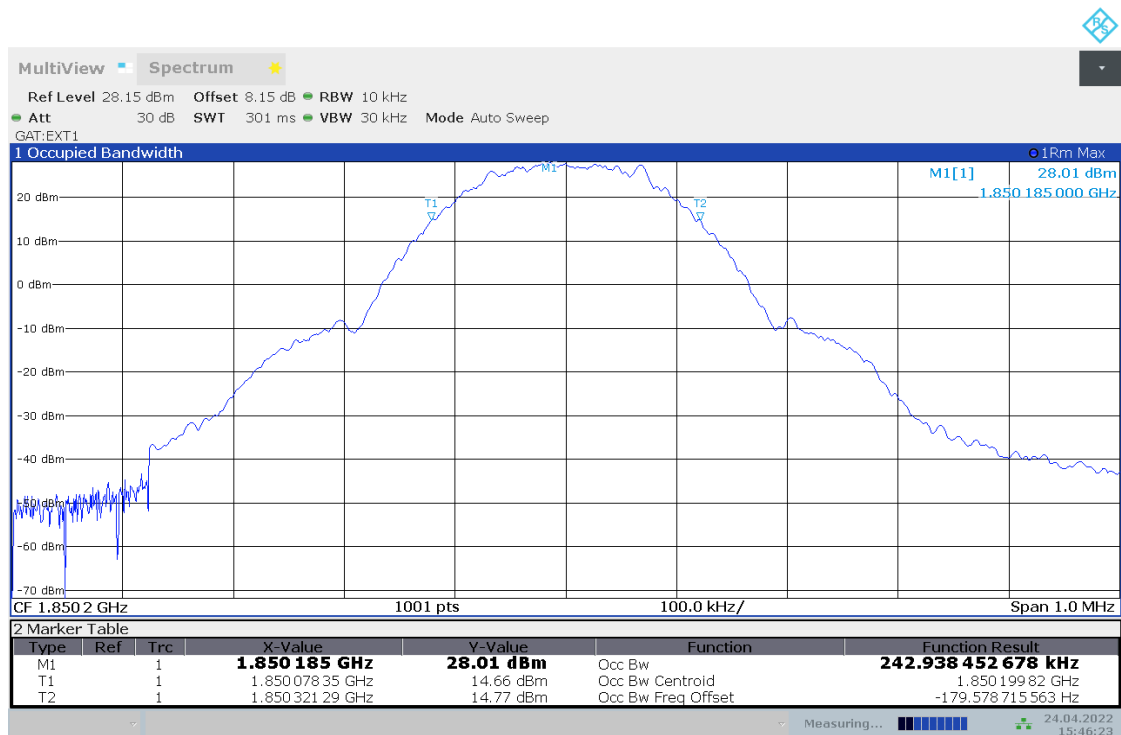


## 4.2 Test Plots

### PCS1900\_TM1\_LCH

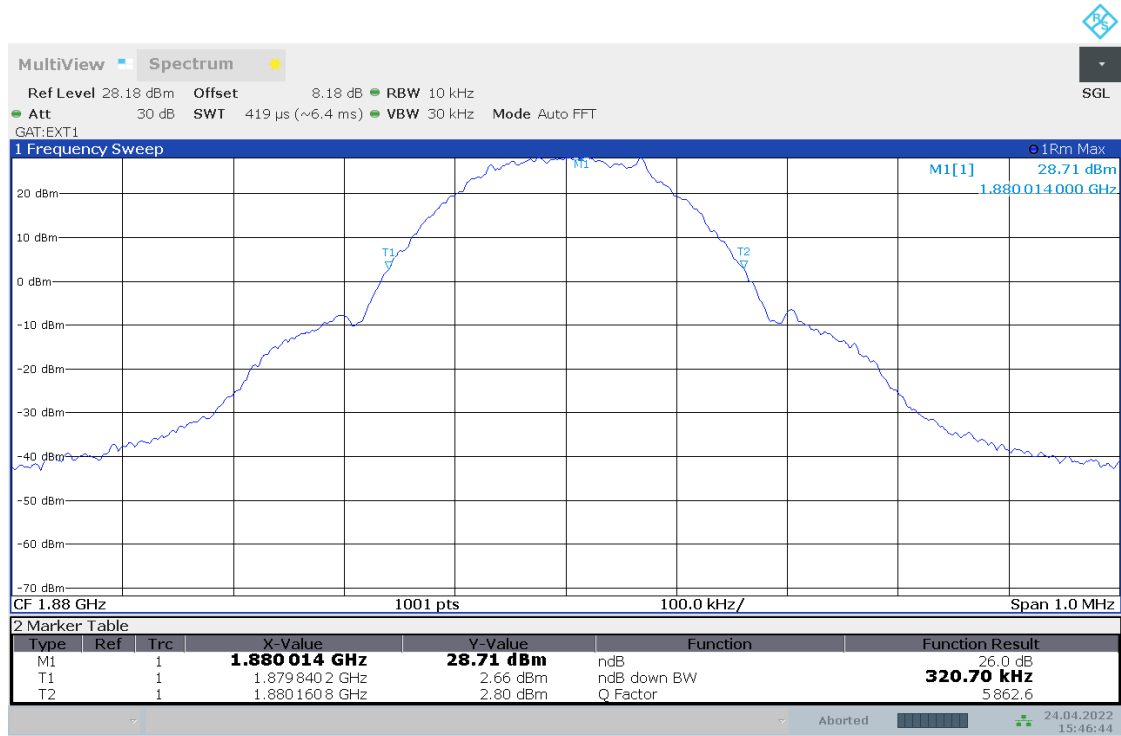


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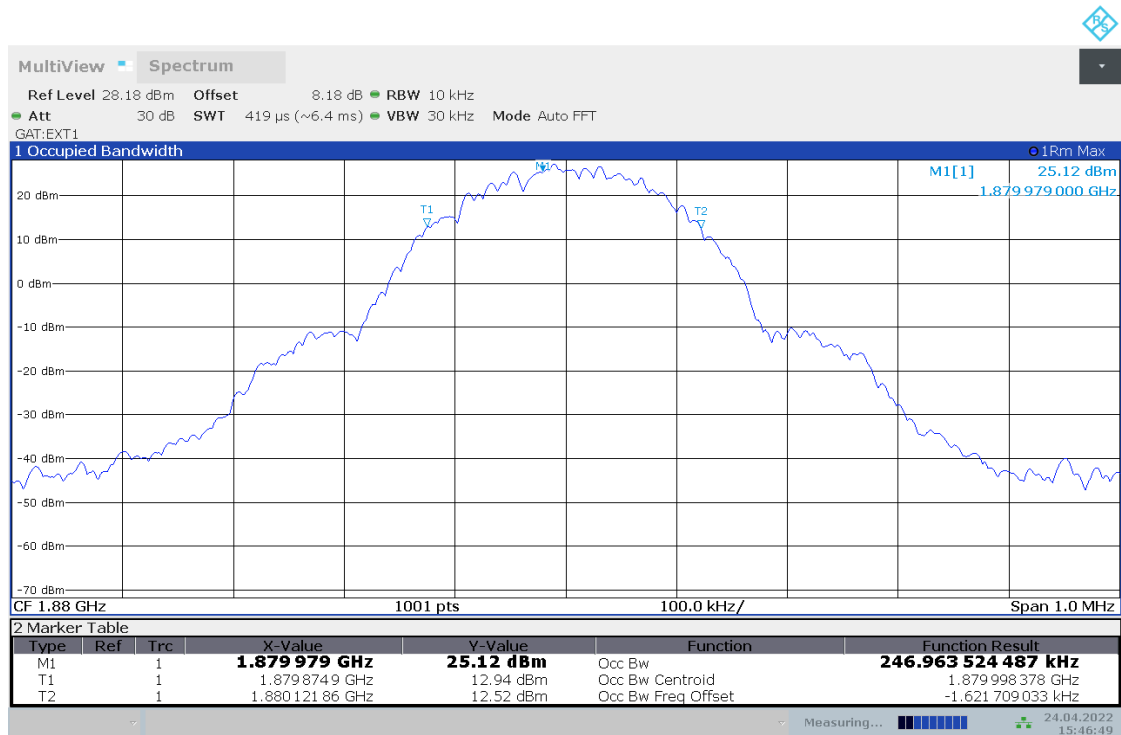


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## PCS1900\_TM1\_MCH

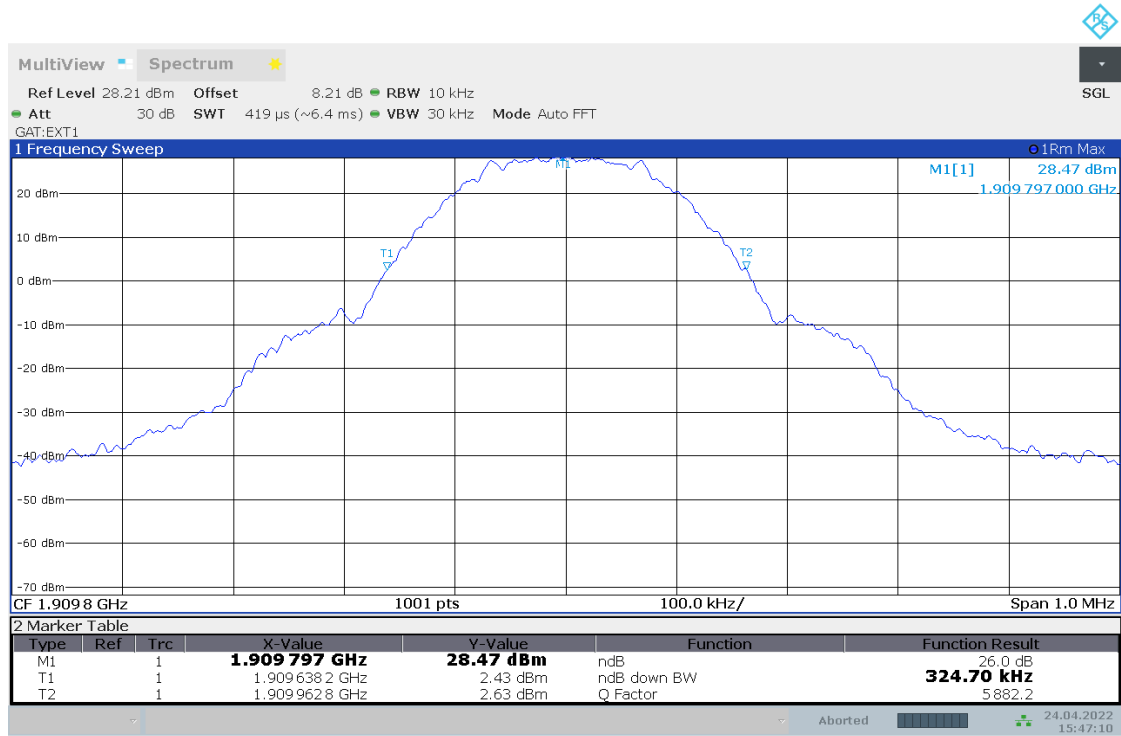


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15:46:49 24.04.2022

## PCS1900\_TM1\_HCH

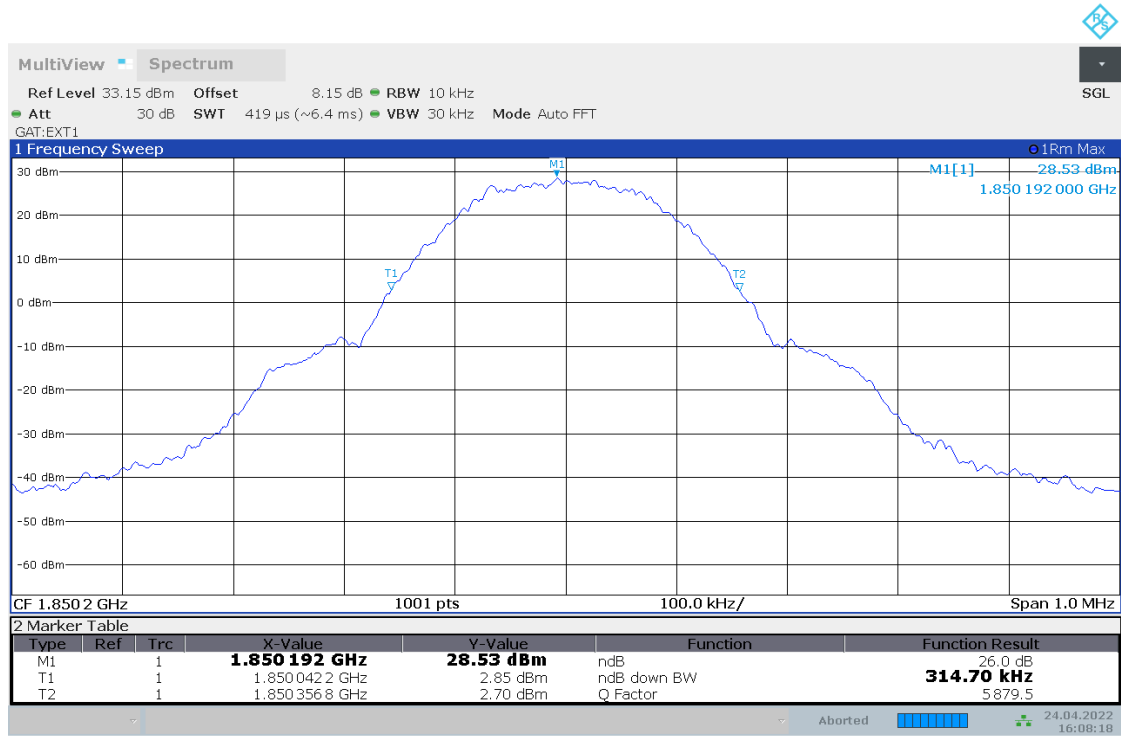


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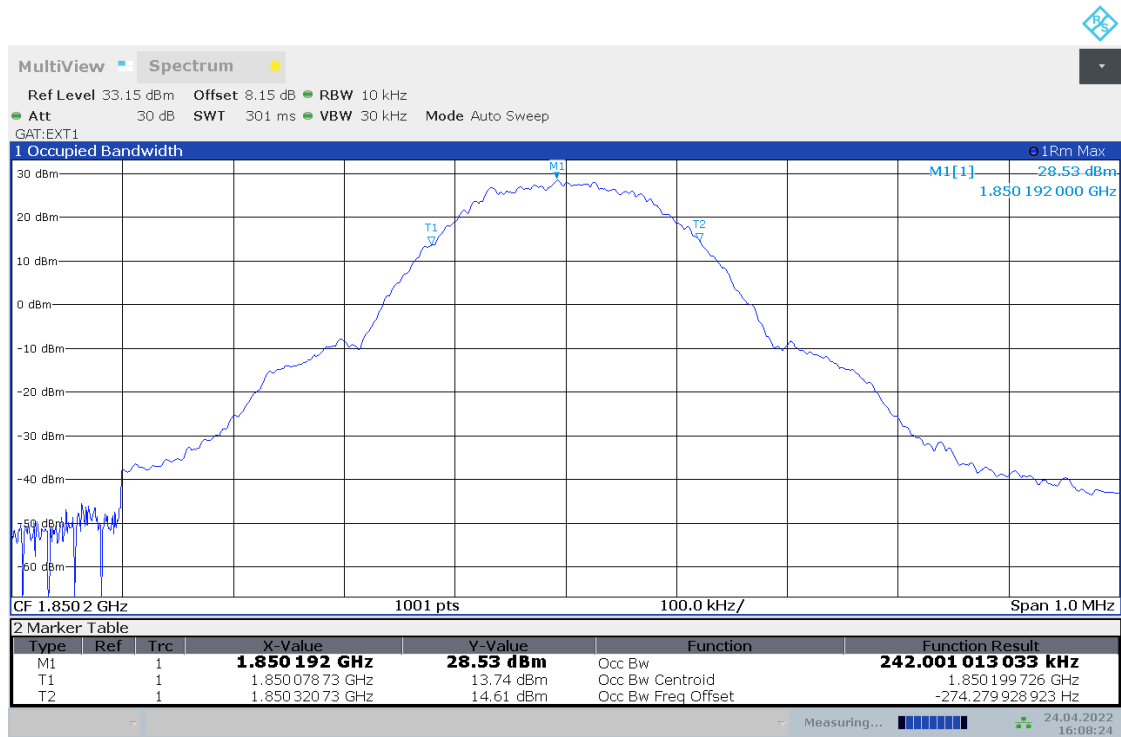


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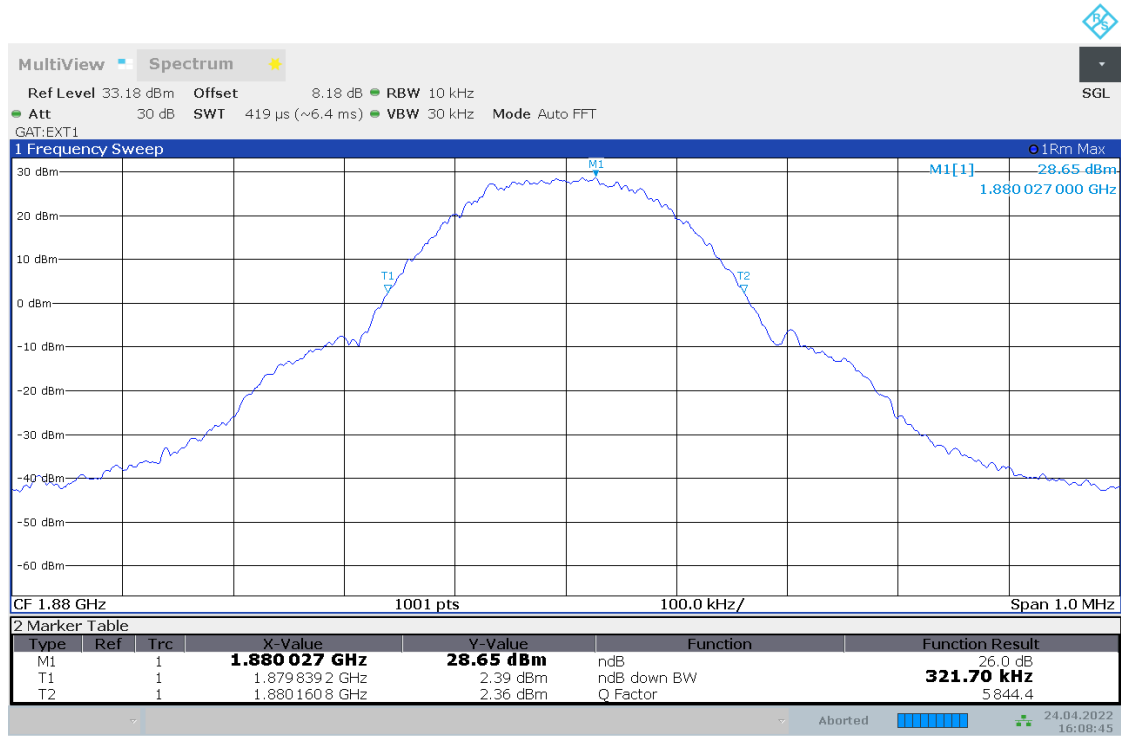


16:08:19 24.04.2022



16:08:24 24.04.2022

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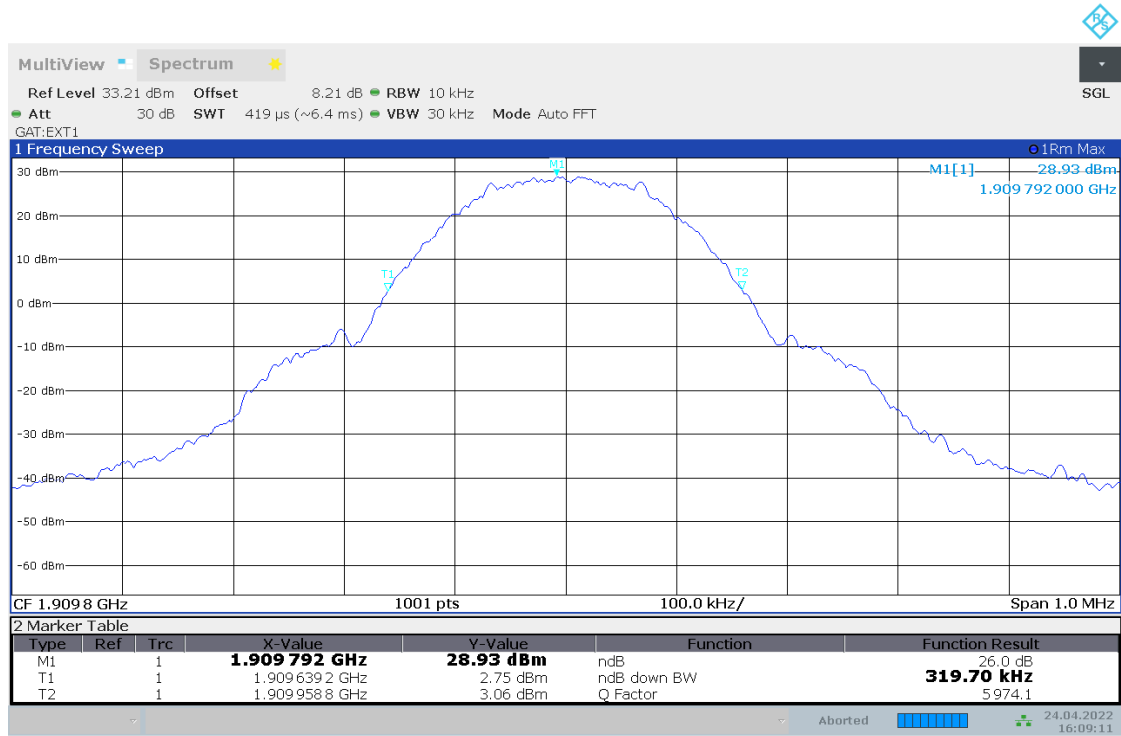


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16:08:51 24.04.2022

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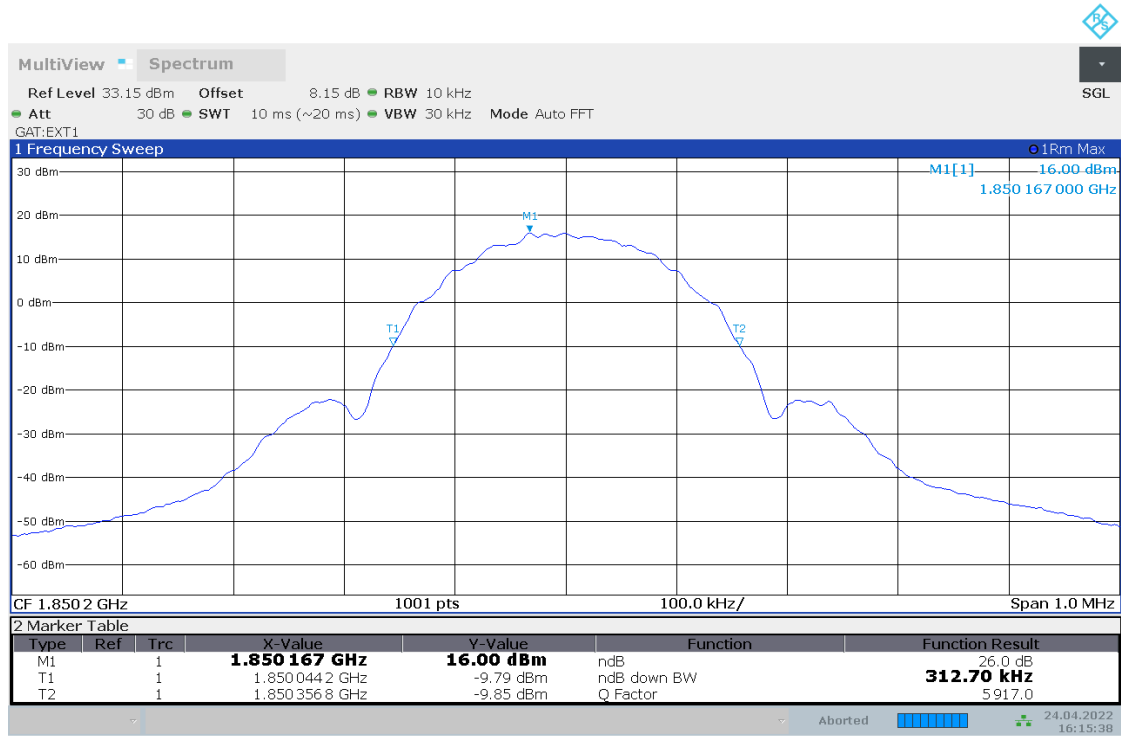


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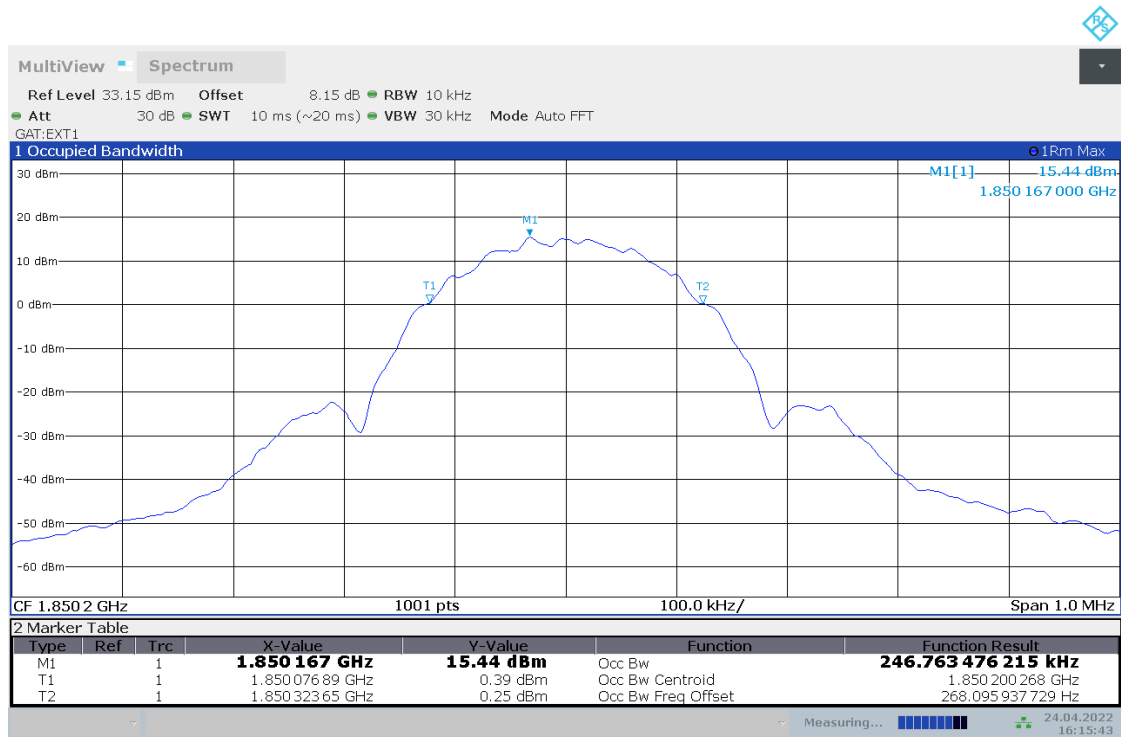


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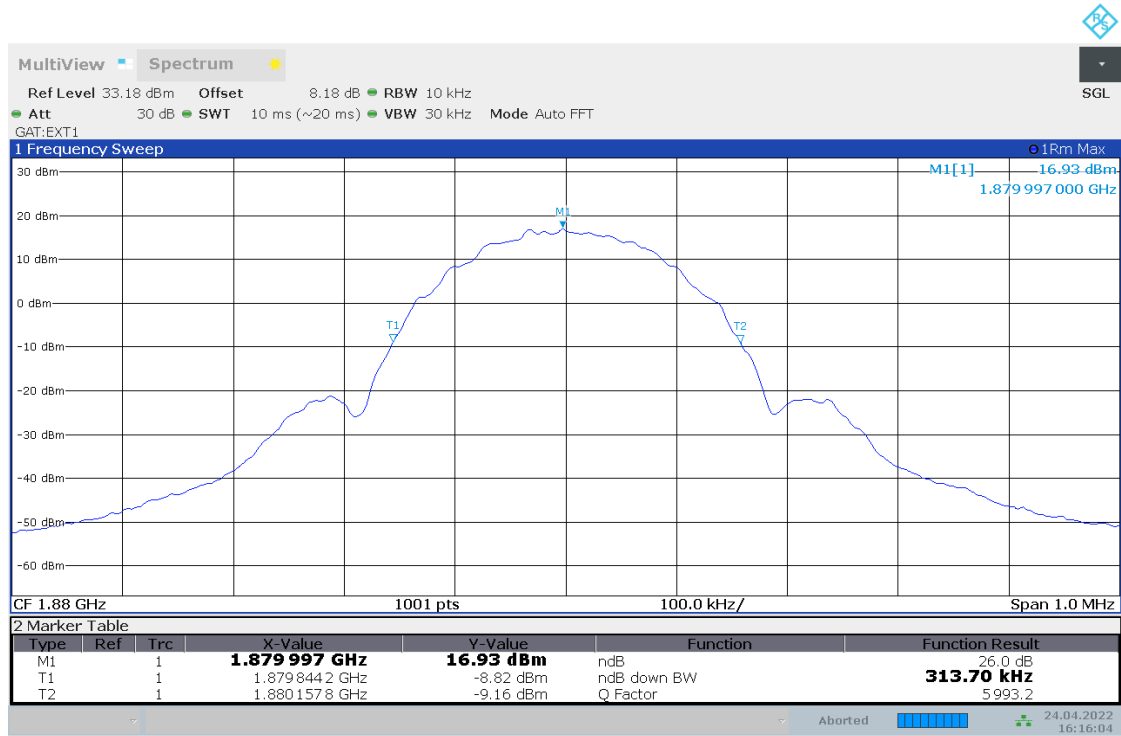


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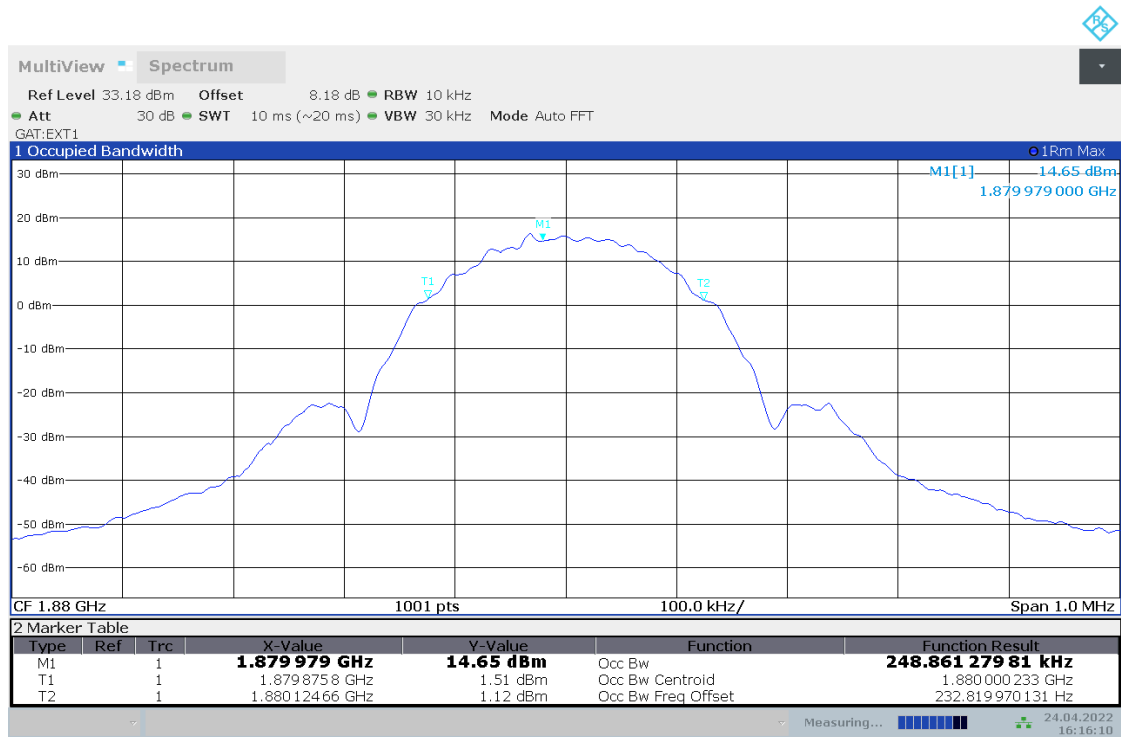


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## PCS1900\_TM3\_MCH



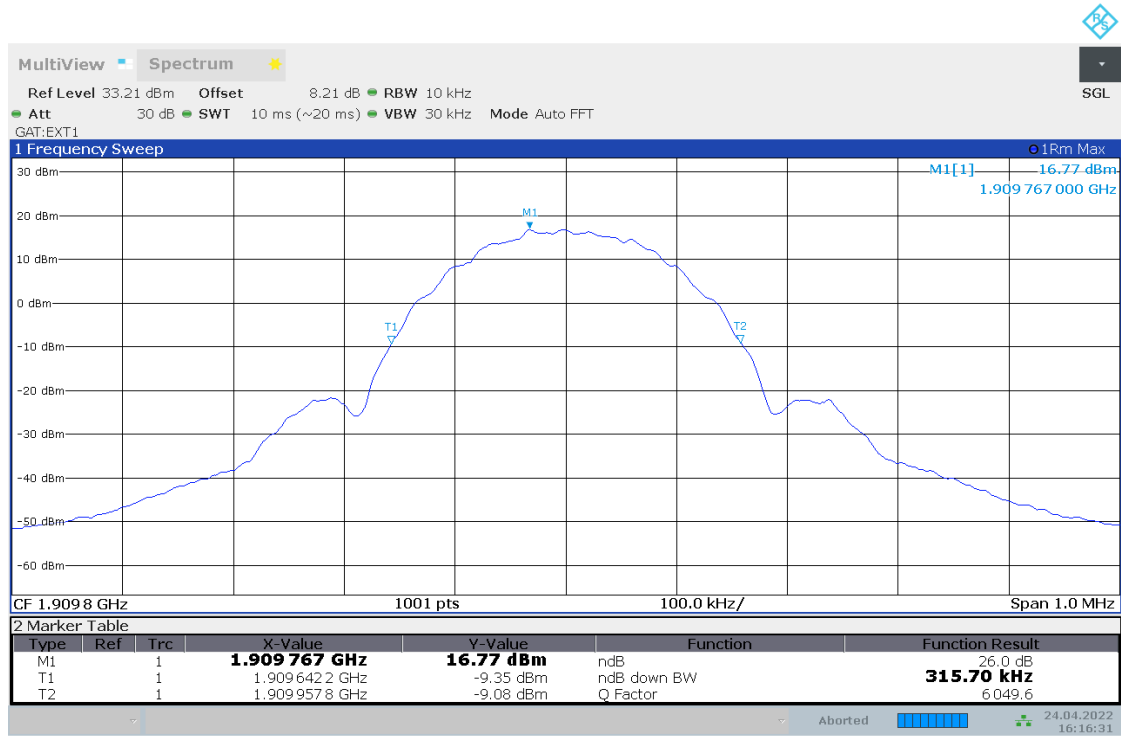
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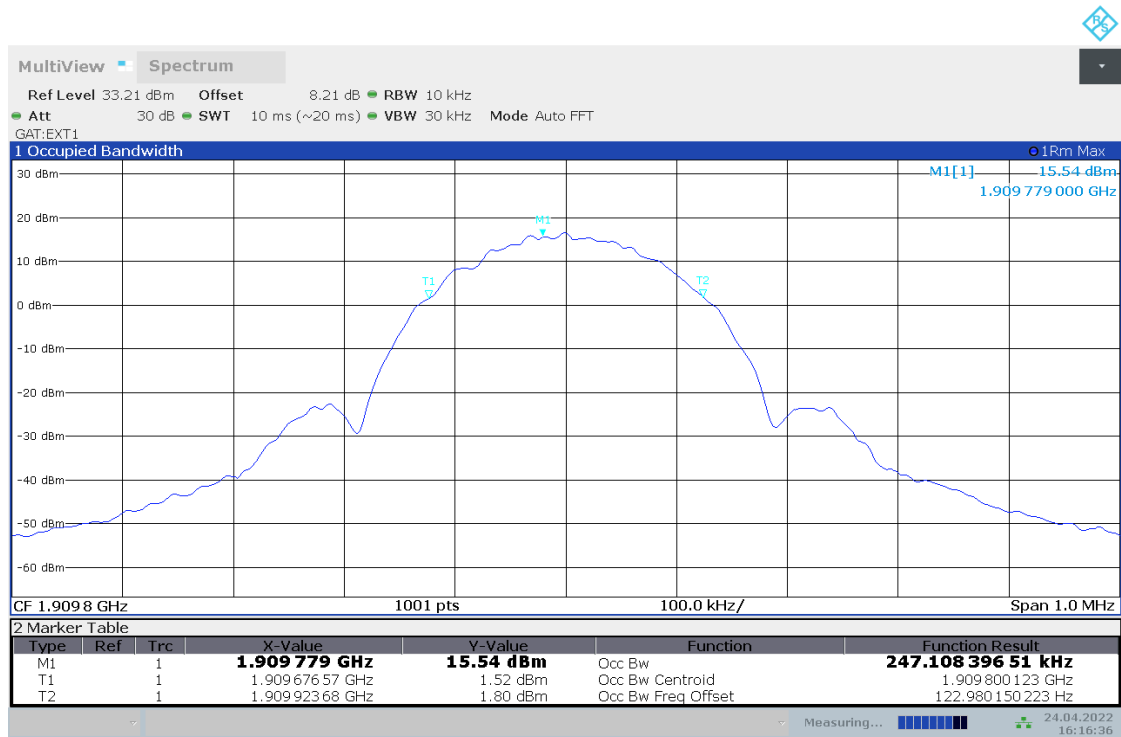
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## PCS1900\_TM3\_HCH



16:16:31 24.04.2022



16:16:37 24.04.2022

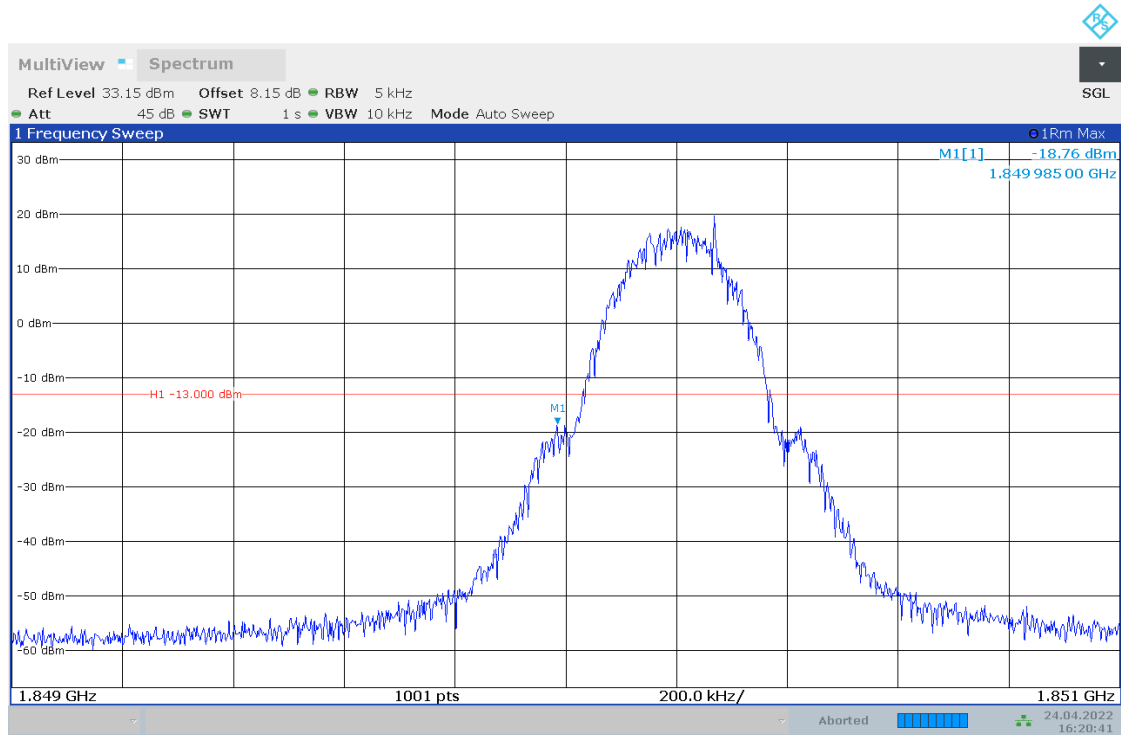
## 5 Appendix\_E: Band Edges Compliance

### 5.1 Test Results

Test Band	Test Mode	Test Channel	Measured Emissions Conformed to the Relevant Limits?	Verdict
PCS1900	TM1	LCH	Yes	PASS
		HCH	Yes	PASS
	TM2	LCH	Yes	PASS
		HCH	Yes	PASS
	TM3	LCH	Yes	PASS
		HCH	Yes	PASS

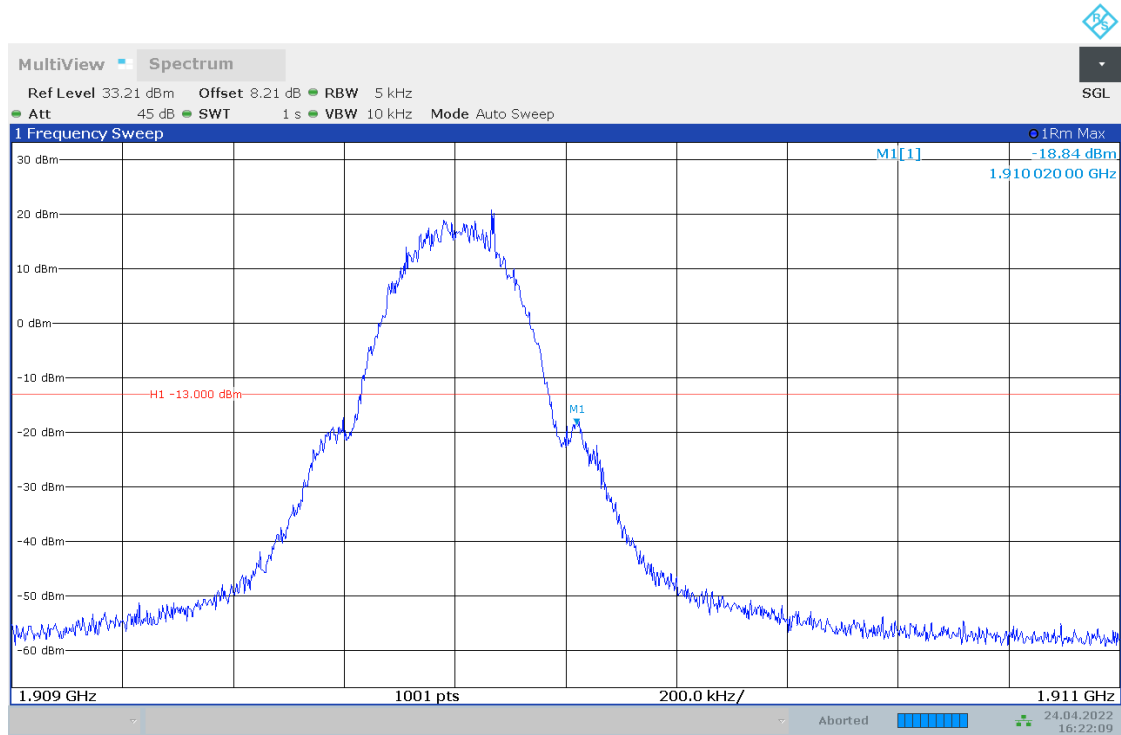
## 5.2 Test Plots

### PCS1900\_TM1\_LCH



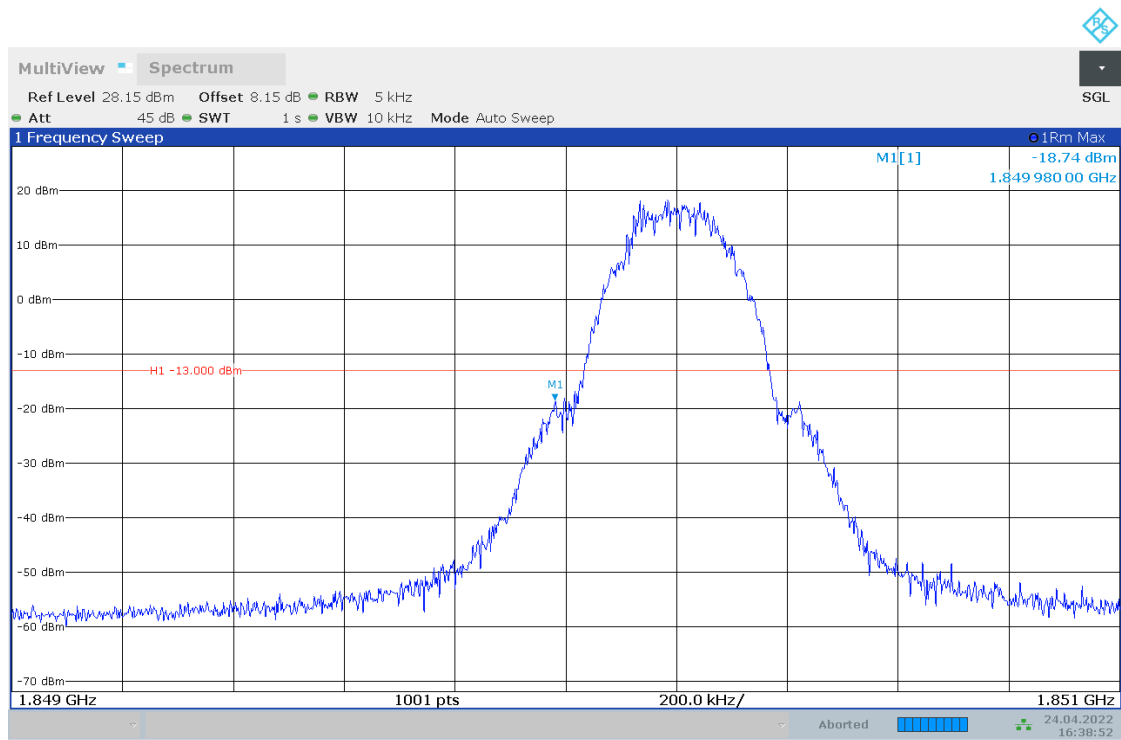
16:20:42 24.04.2022

### PCS1900\_TM1\_HCH



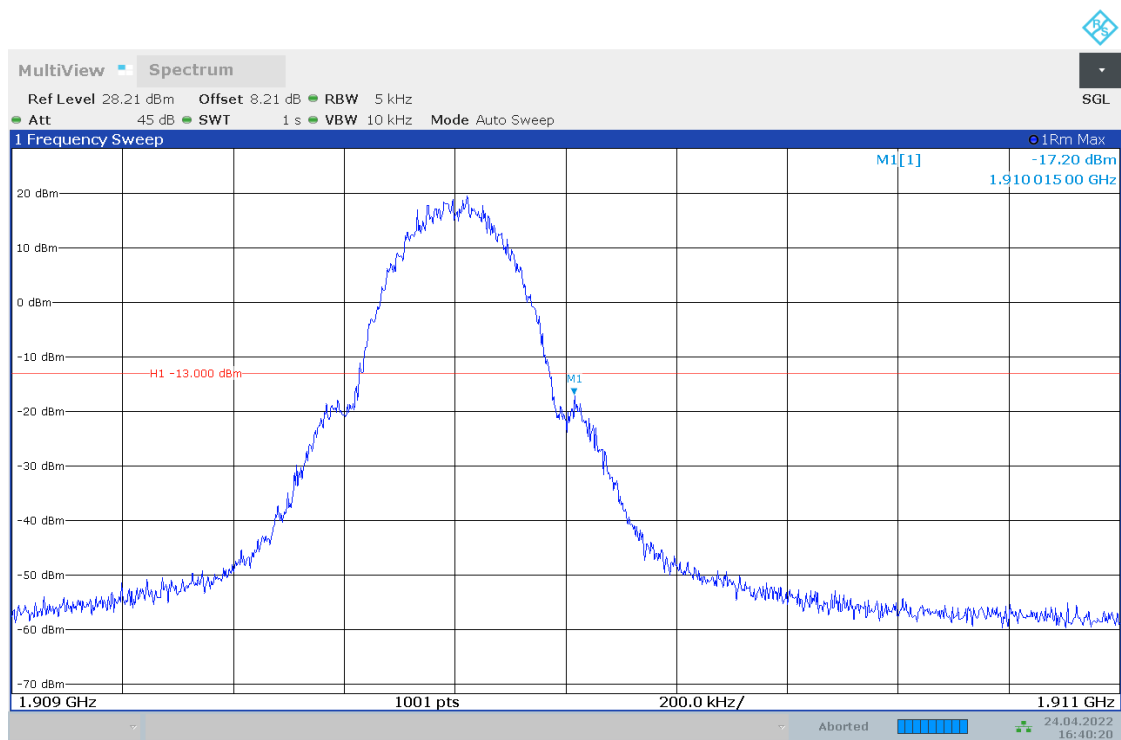
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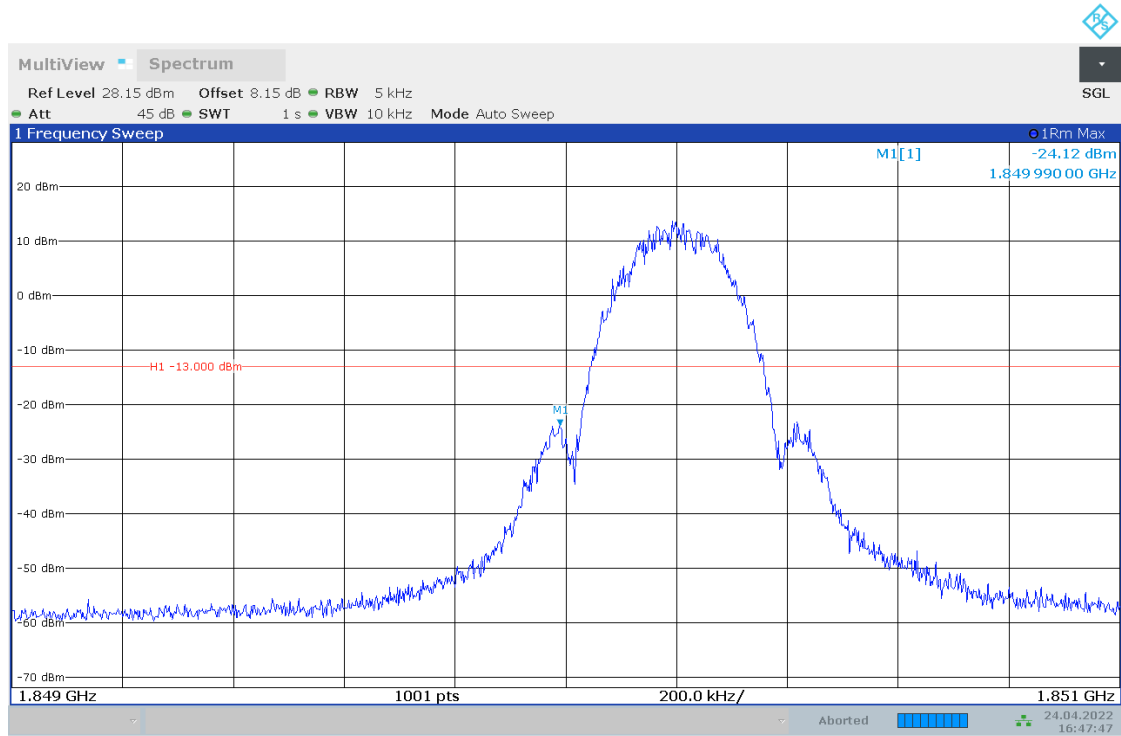
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## PCS1900\_TM2\_HCH



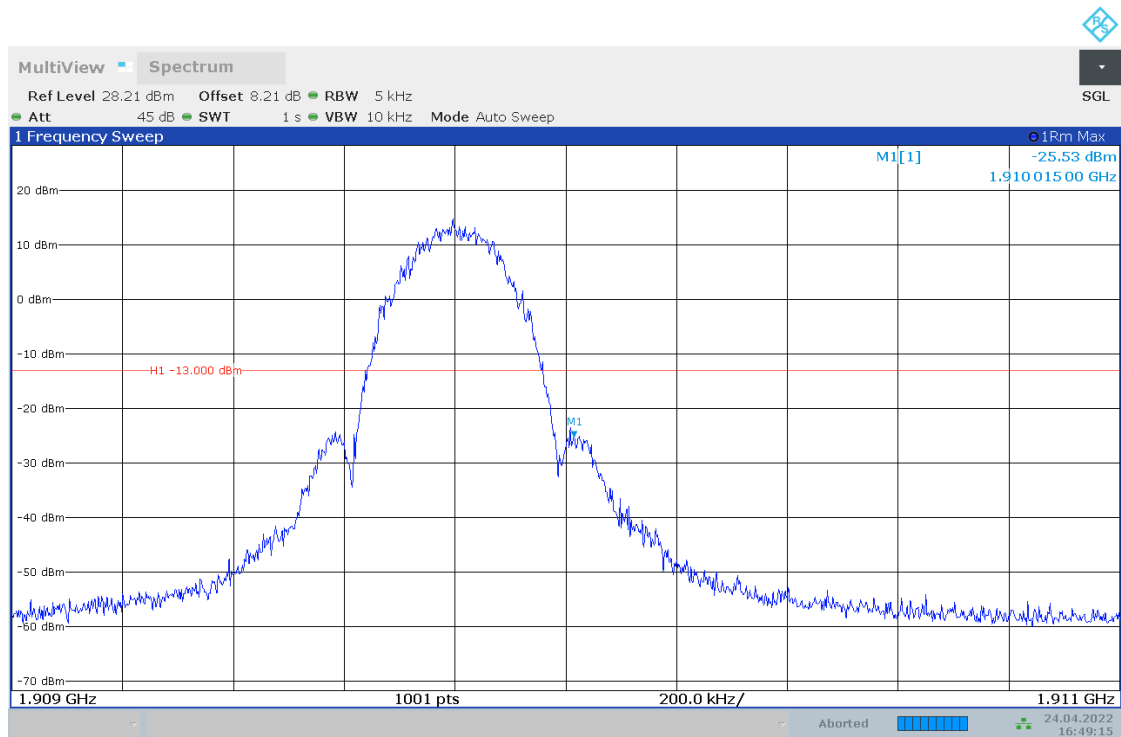
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## PCS1900\_TM3\_LCH



16:47:47 24.04.2022

## PCS1900\_TM3\_HCH



16:49:15 24.04.2022

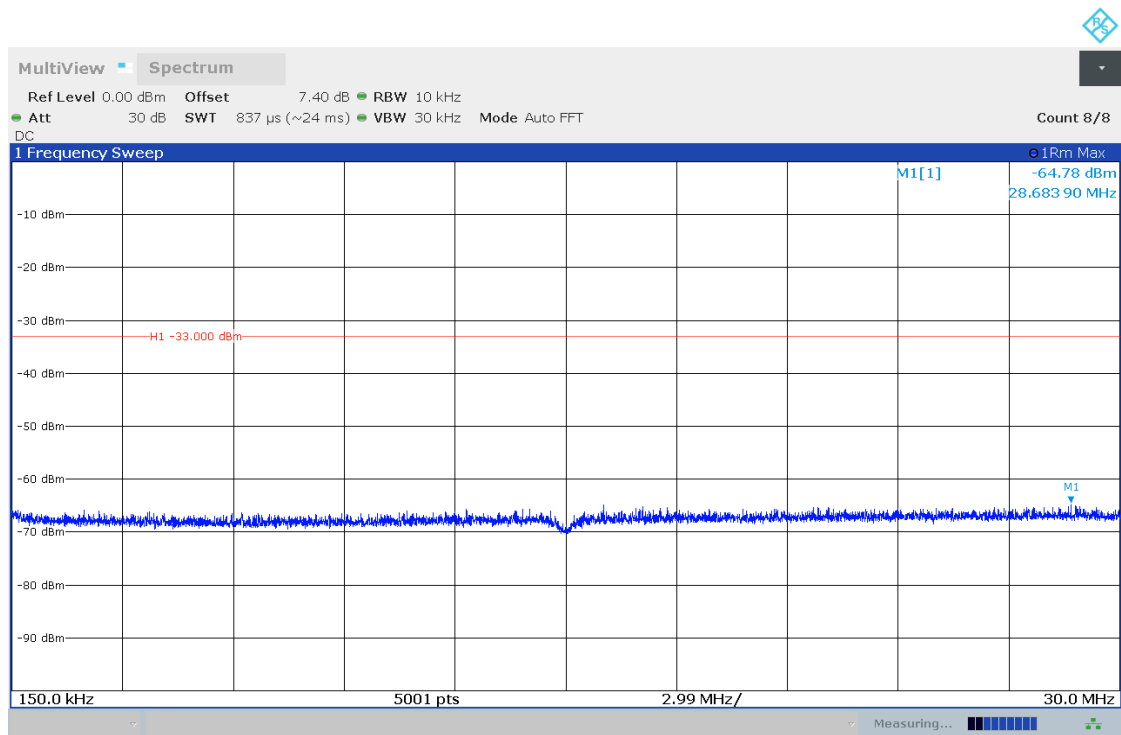
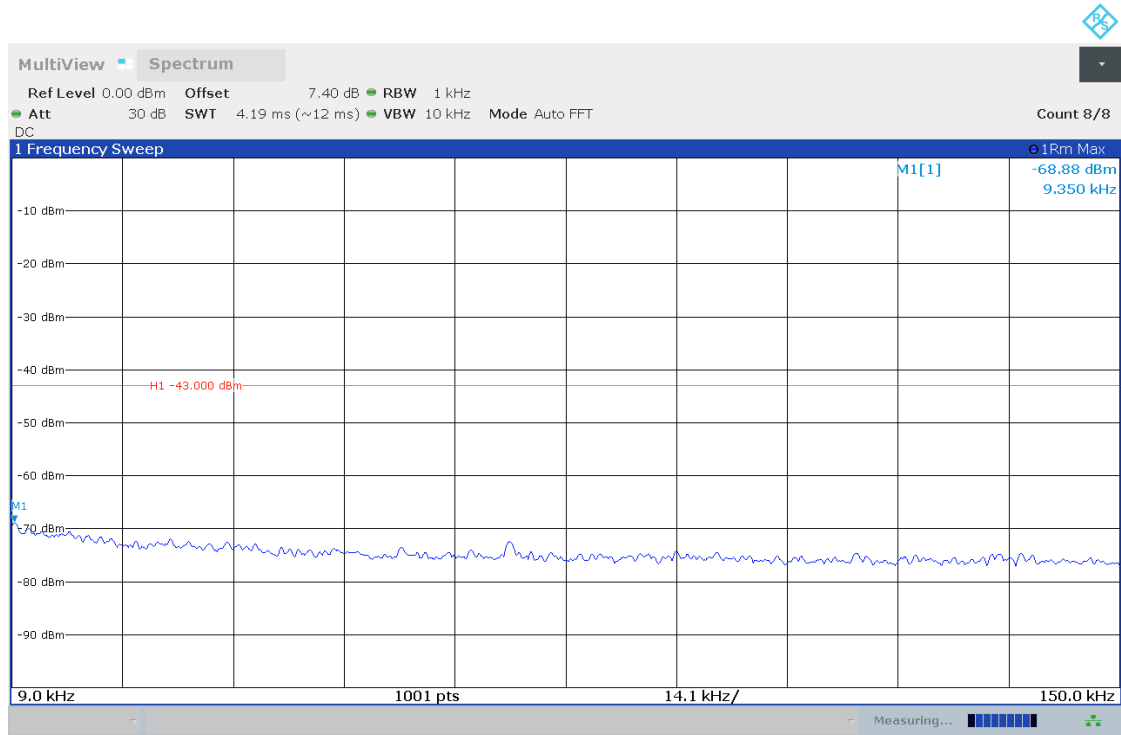
## 6 Appendix\_F: Spurious Emission at Antenna Terminal

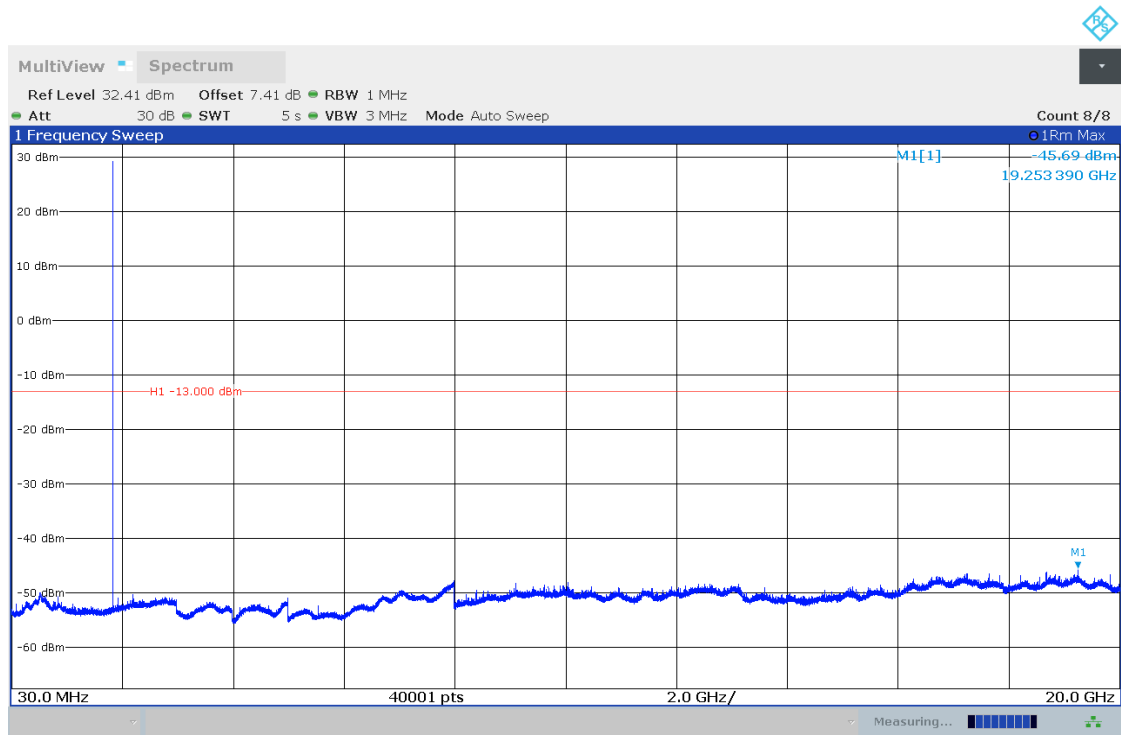
### 6.1 Test Results

Test Band	Test Mode	Test Channel	Measured Emissions Conformed to the Relevant Limits?	Verdict
PCS1900	TM1	LCH	Yes	PASS
		MCH	Yes	PASS
		HCH	Yes	PASS
	TM2	LCH	Yes	PASS
		MCH	Yes	PASS
		HCH	Yes	PASS
	TM3	LCH	Yes	PASS
		MCH	Yes	PASS
		HCH	Yes	PASS

## 6.2 Test Plots

### PCS1900\_TM1\_LCH

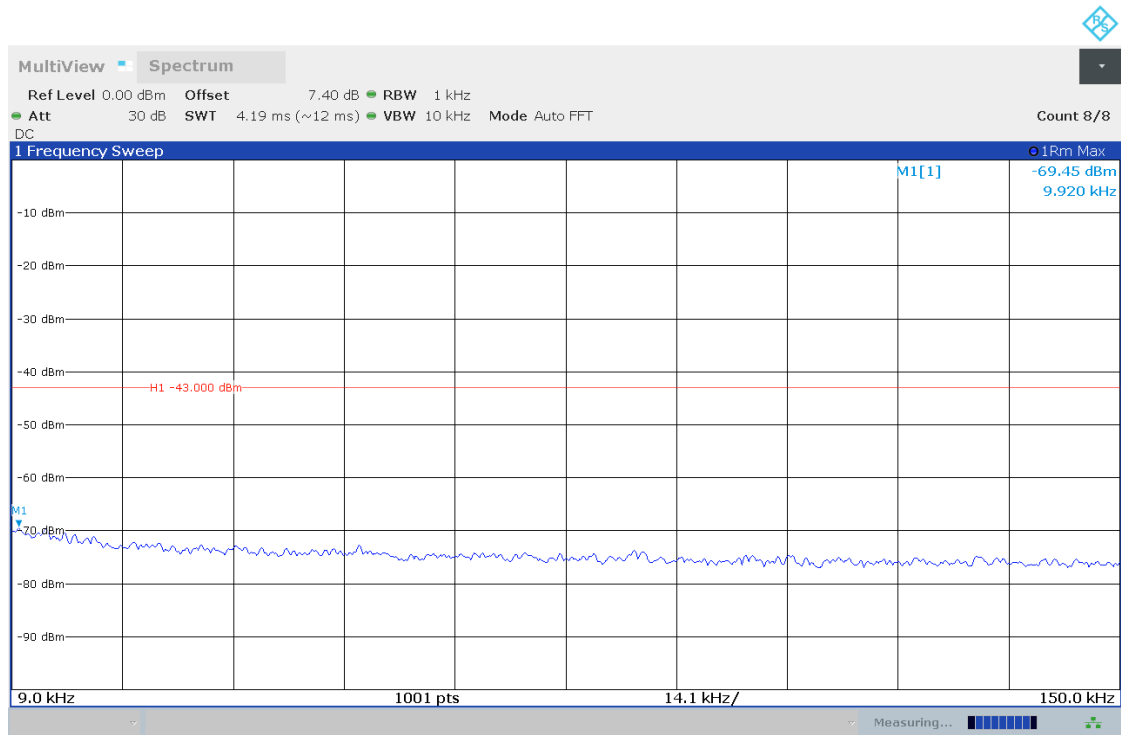




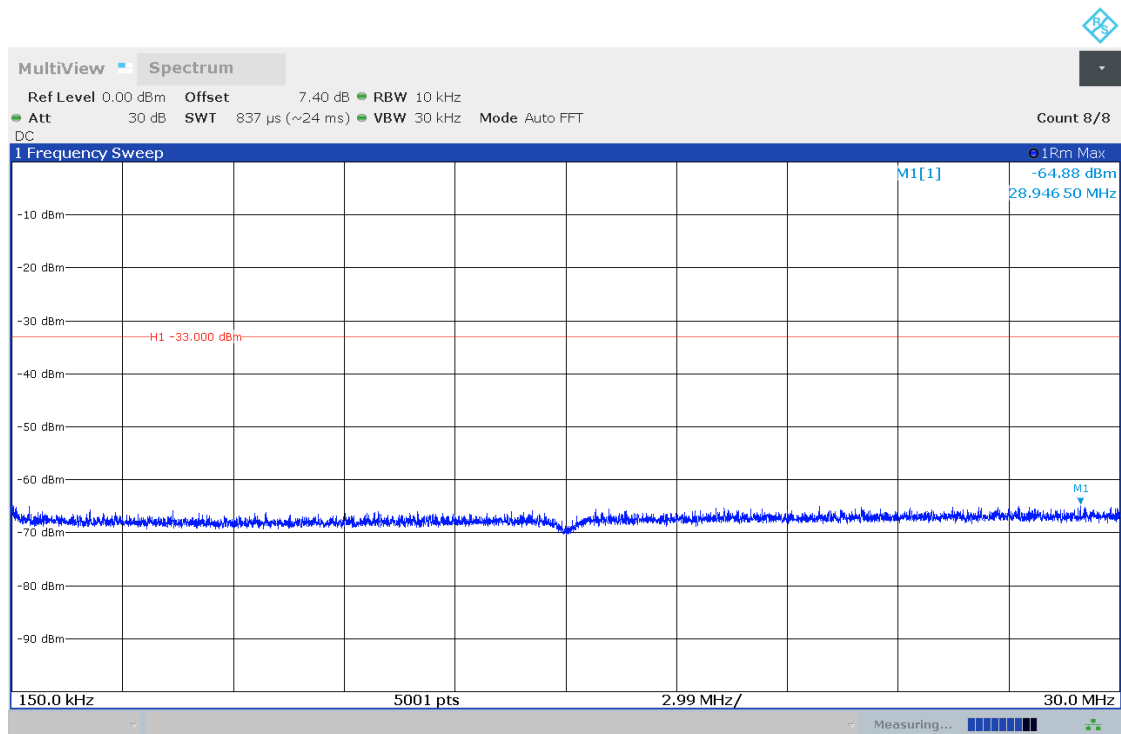
18:20:51 26.04.2022



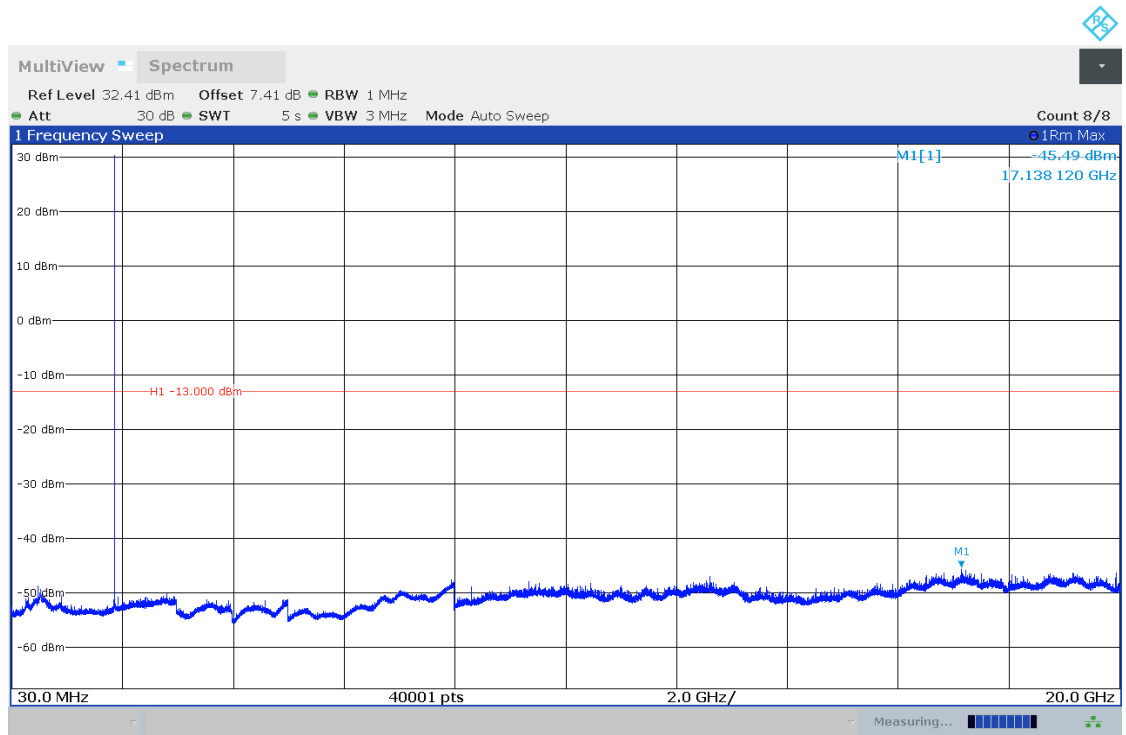
## PCS1900\_TM1\_MCH



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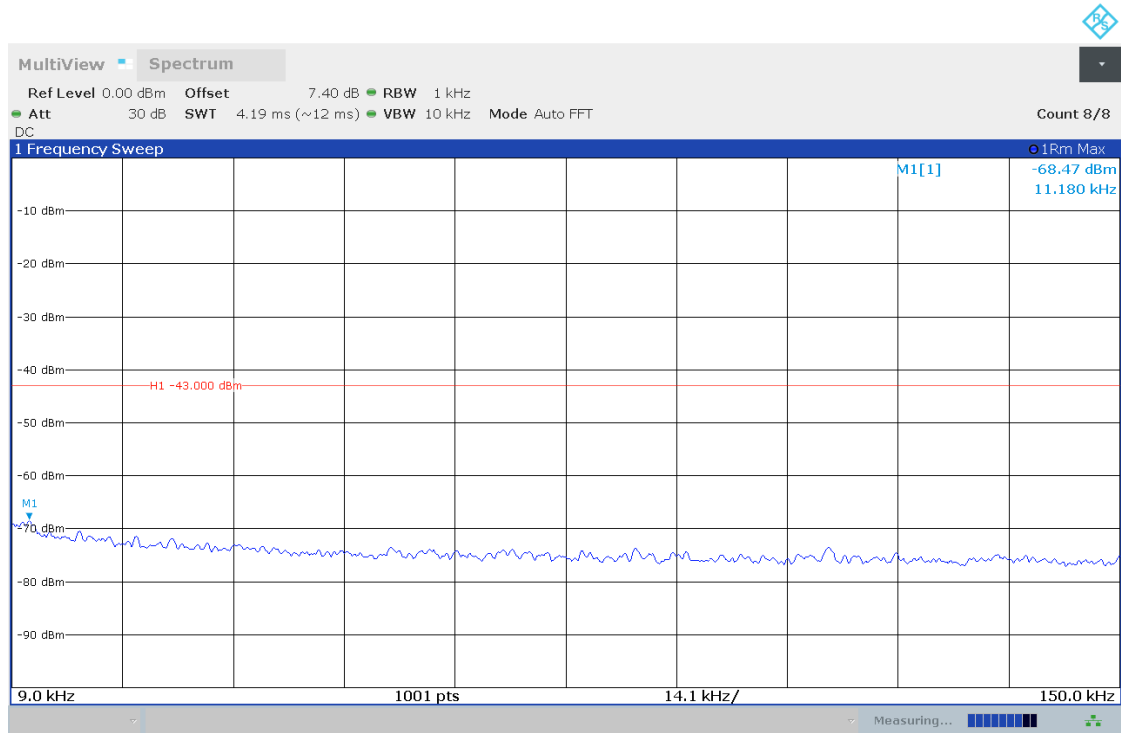


18:22:30 26.04.2022

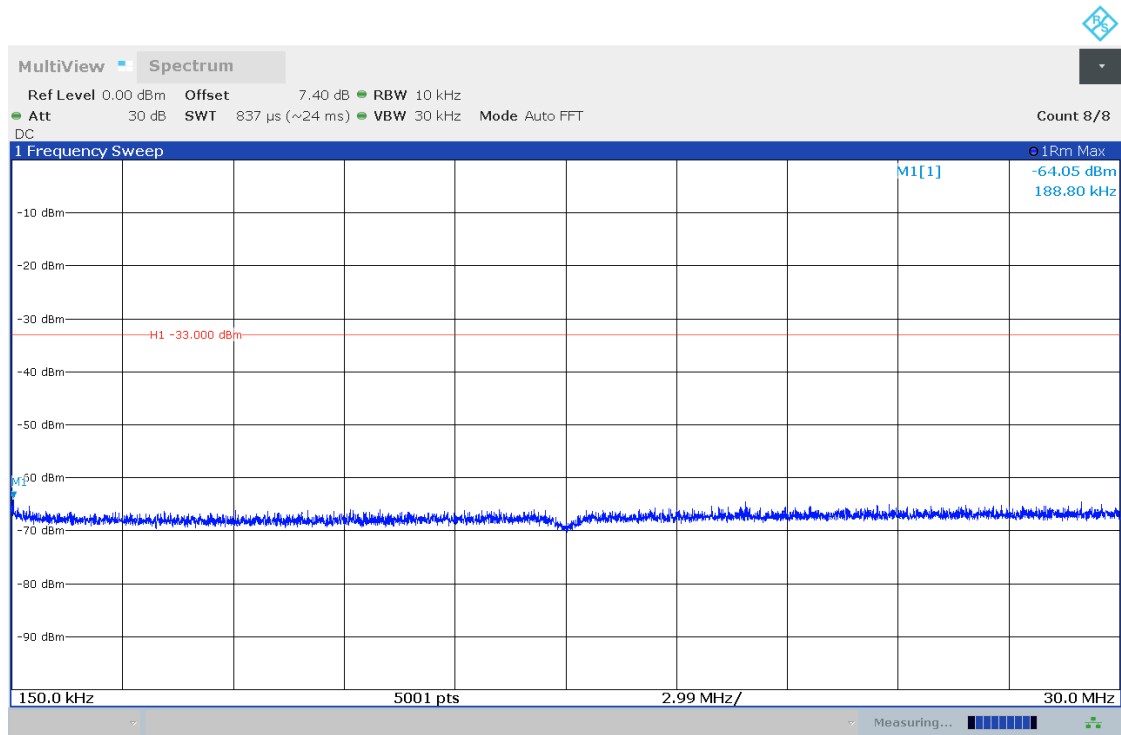


18:23:19 26.04.2022

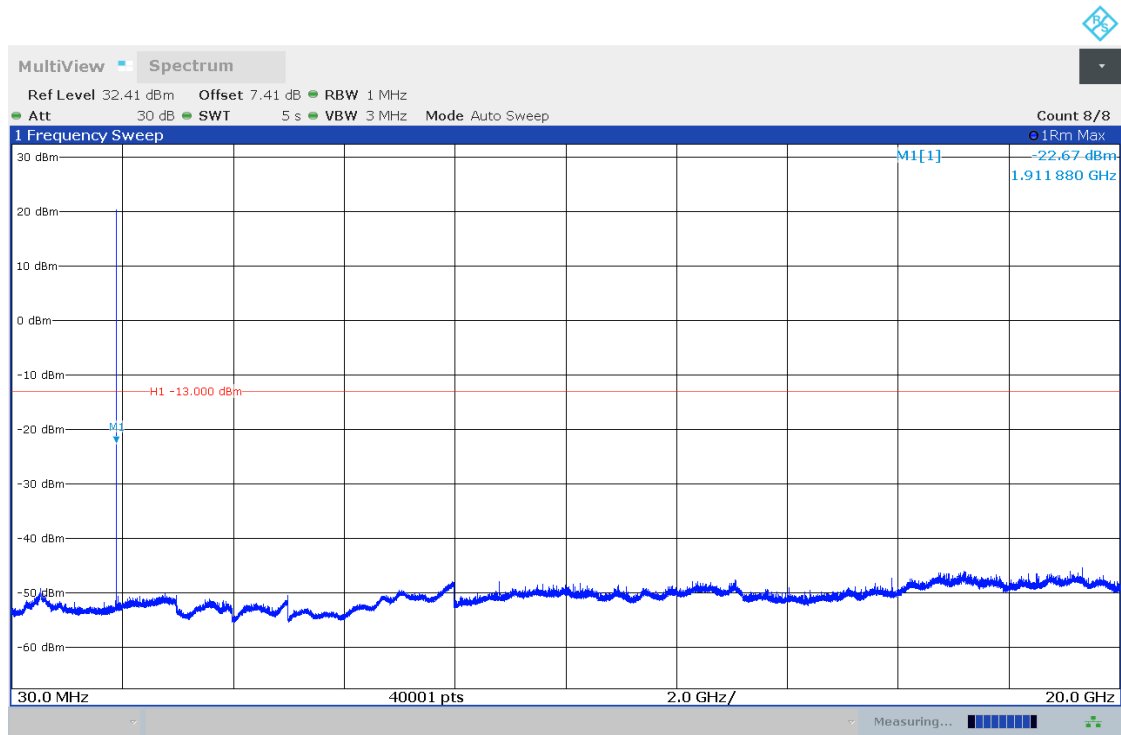
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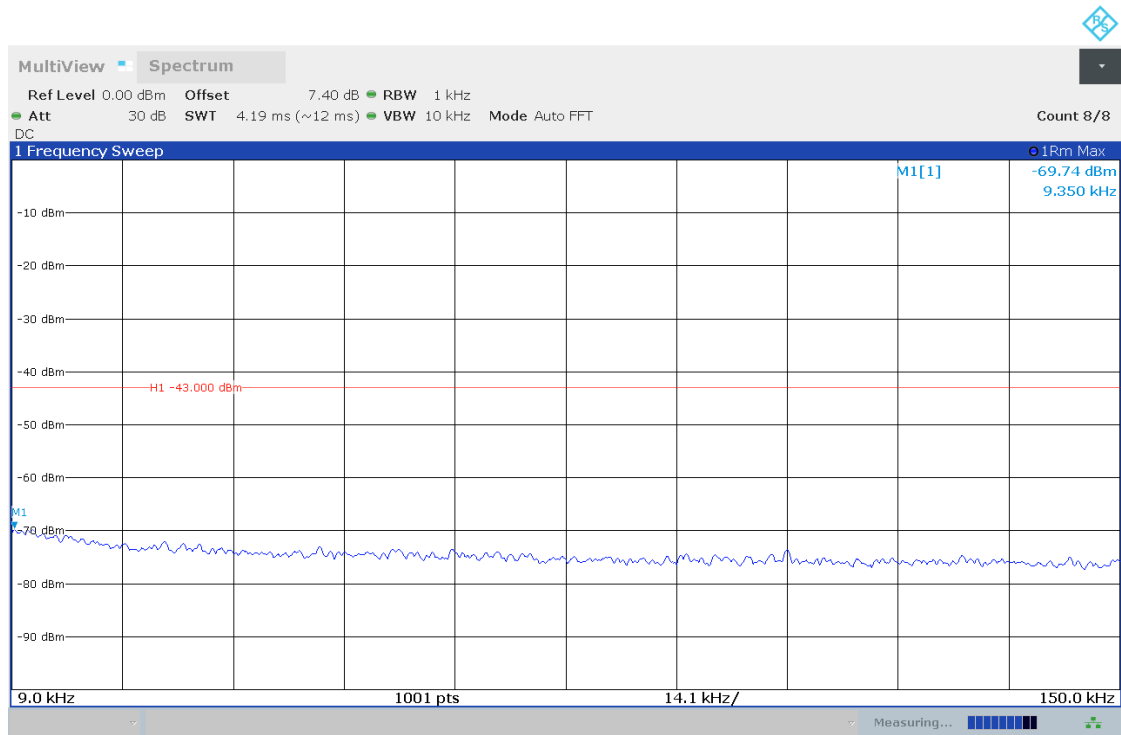


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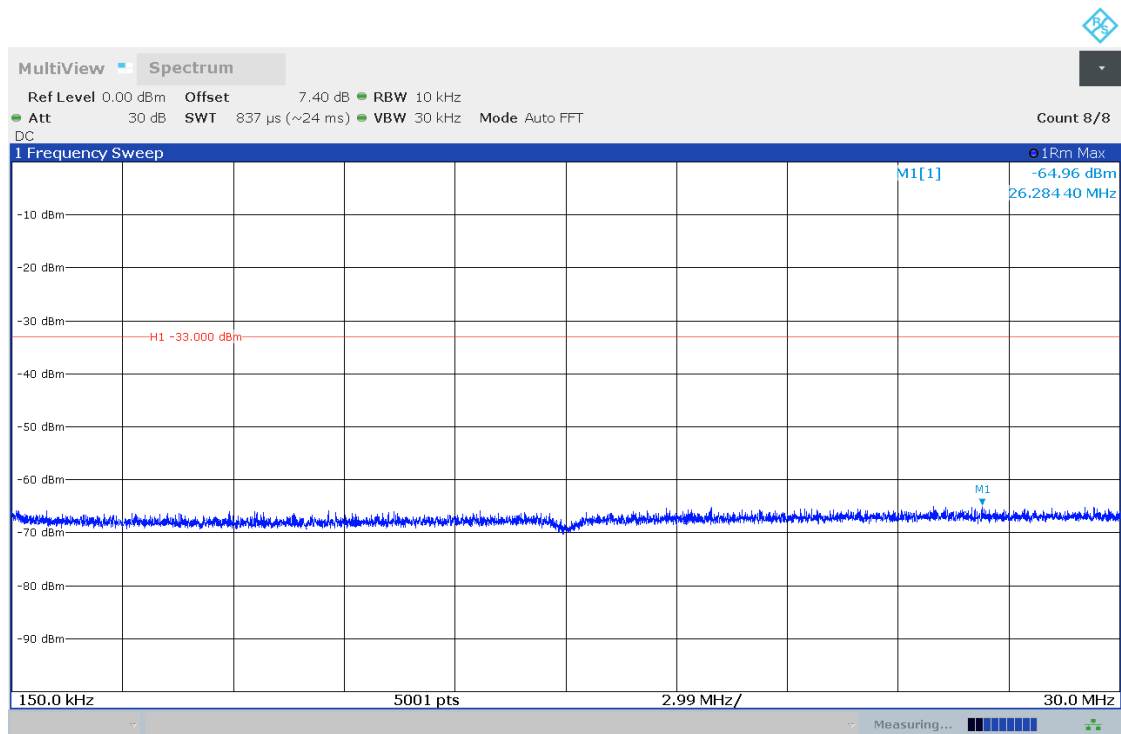


18:25:47 26.04.2022

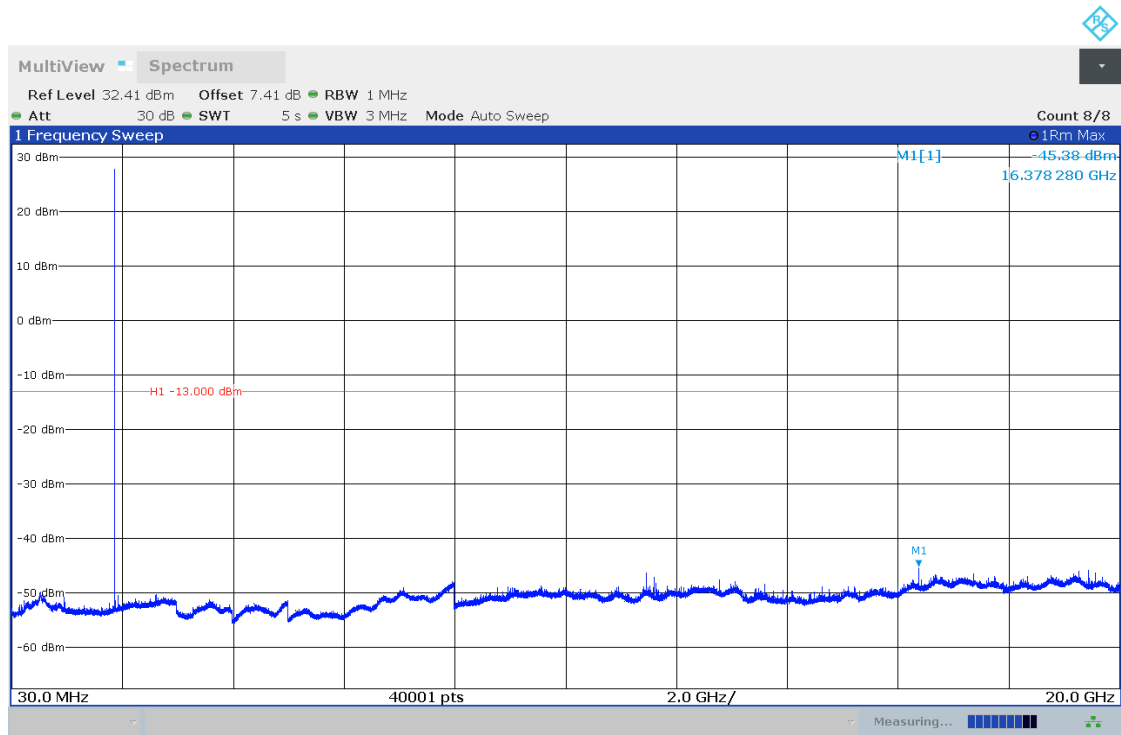
## PCS1900\_TM2\_LCH



18:55:04 26.04.2022

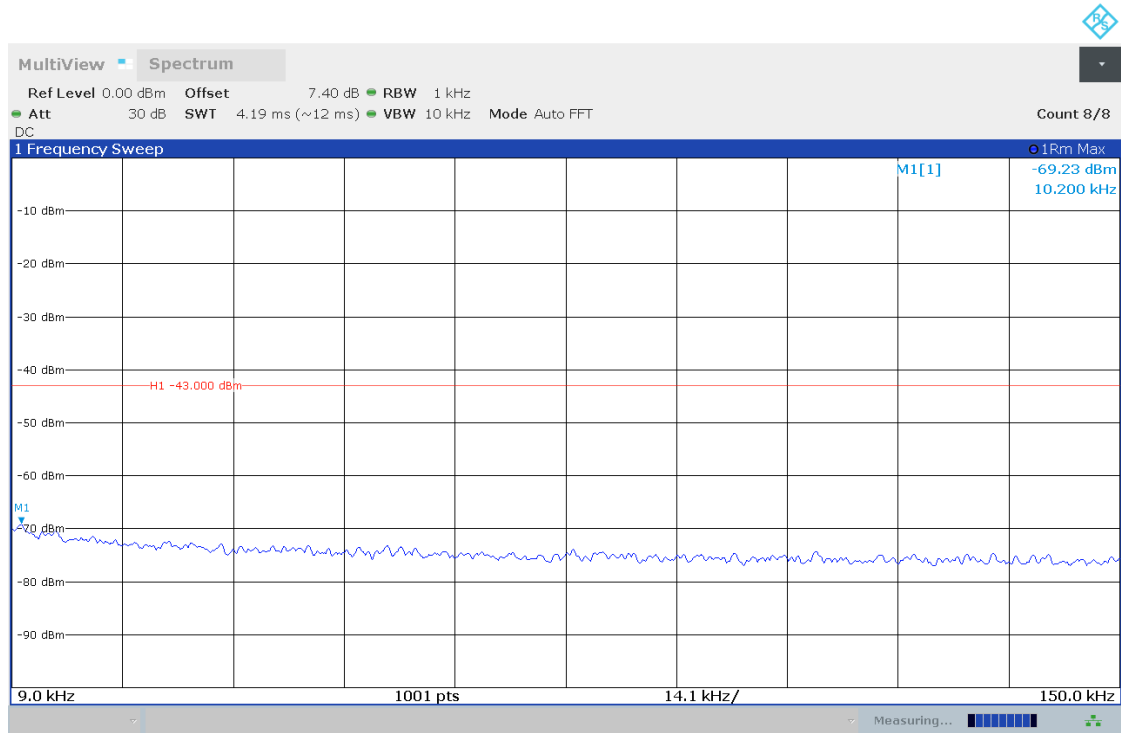


18:55:53 26.04.2022

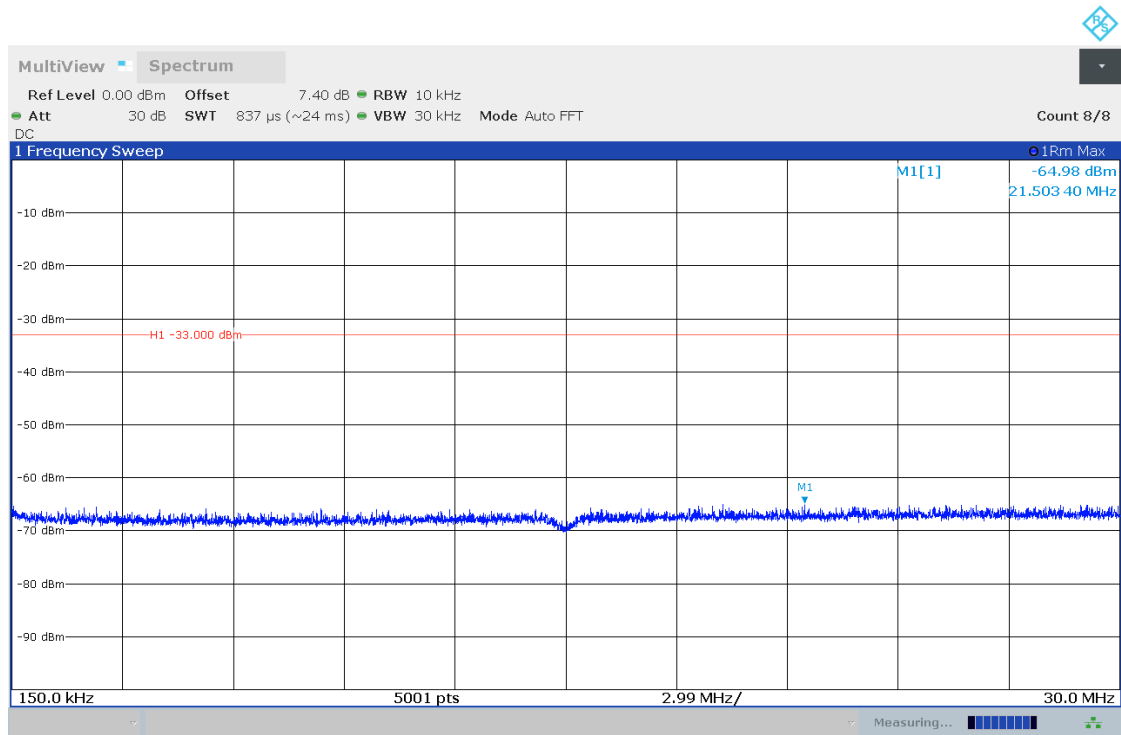


18:56:42 26.04.2022

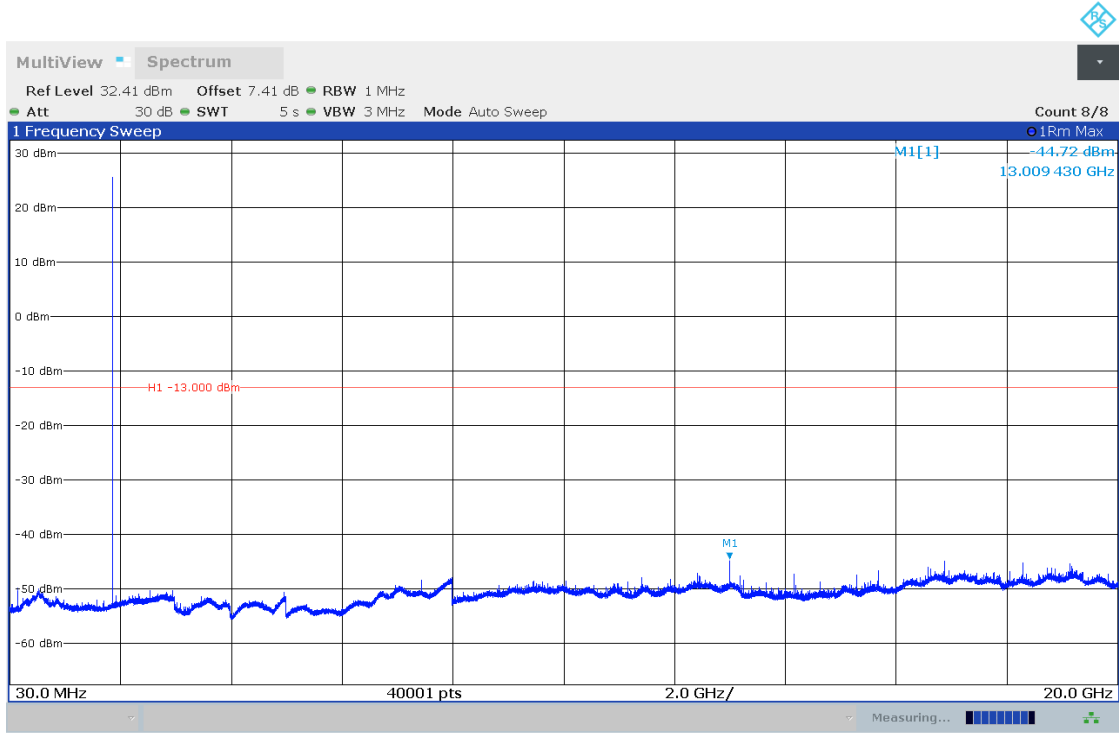
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18:57:33 26.04.2022



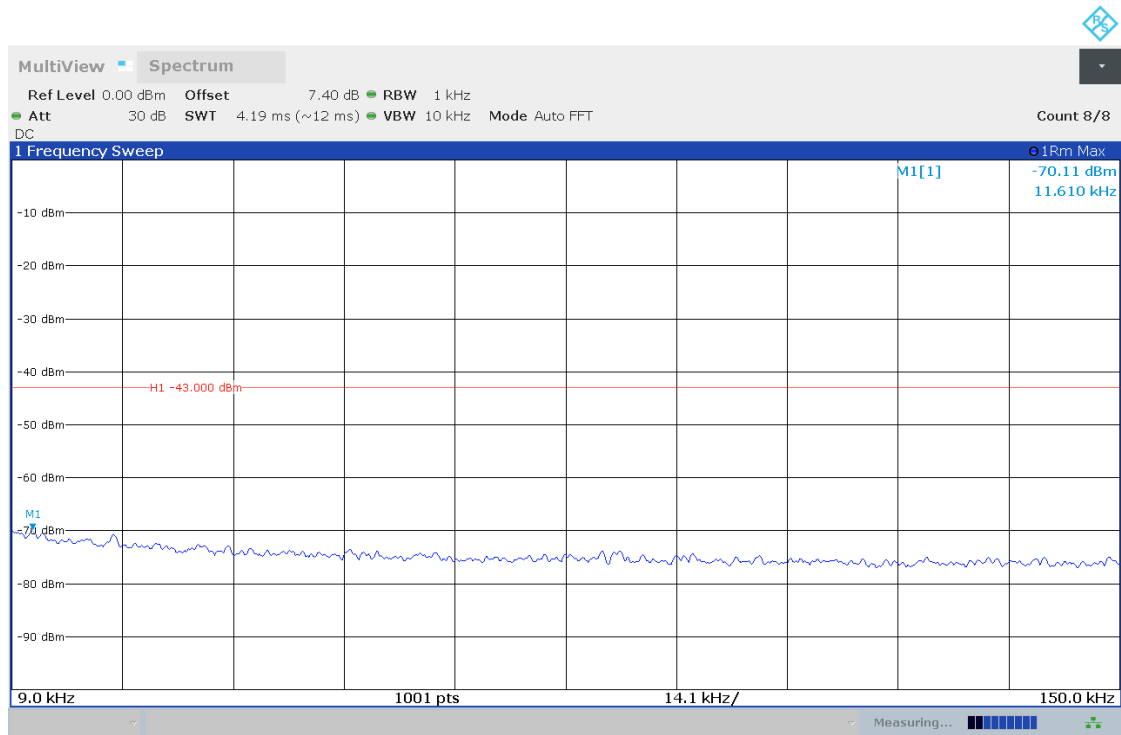
18:58:22 26.04.2022



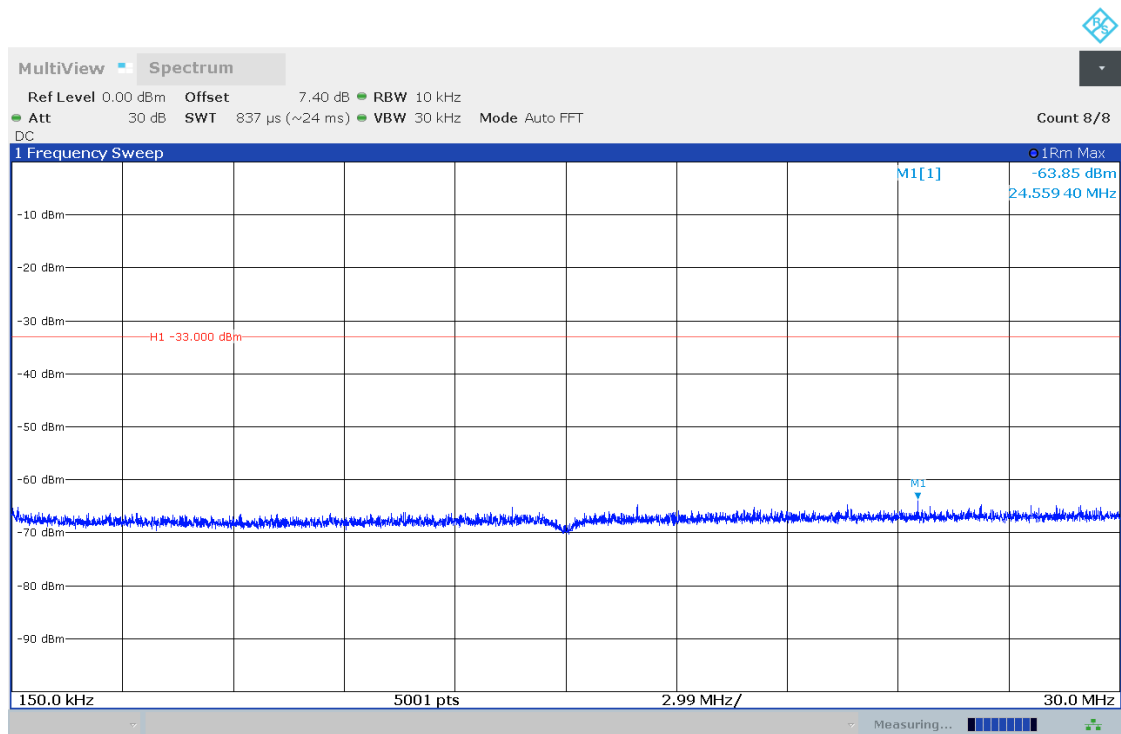
18:59:11 26.04.2022



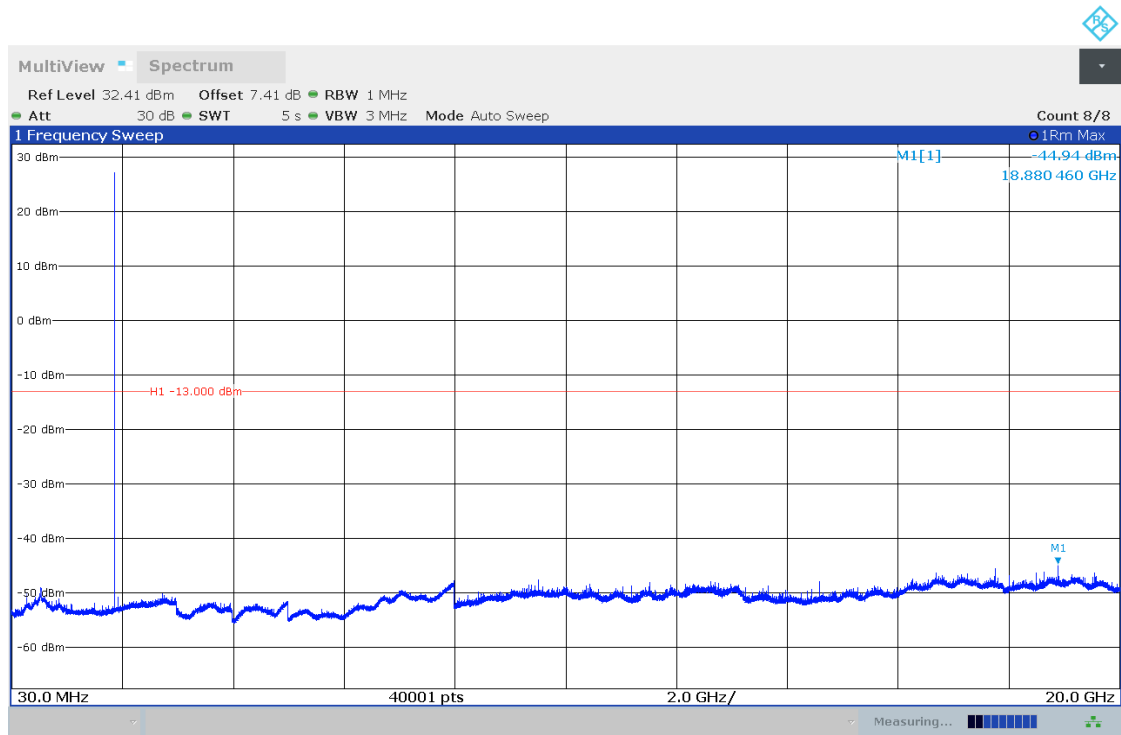
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19:00:01 26.04.2022

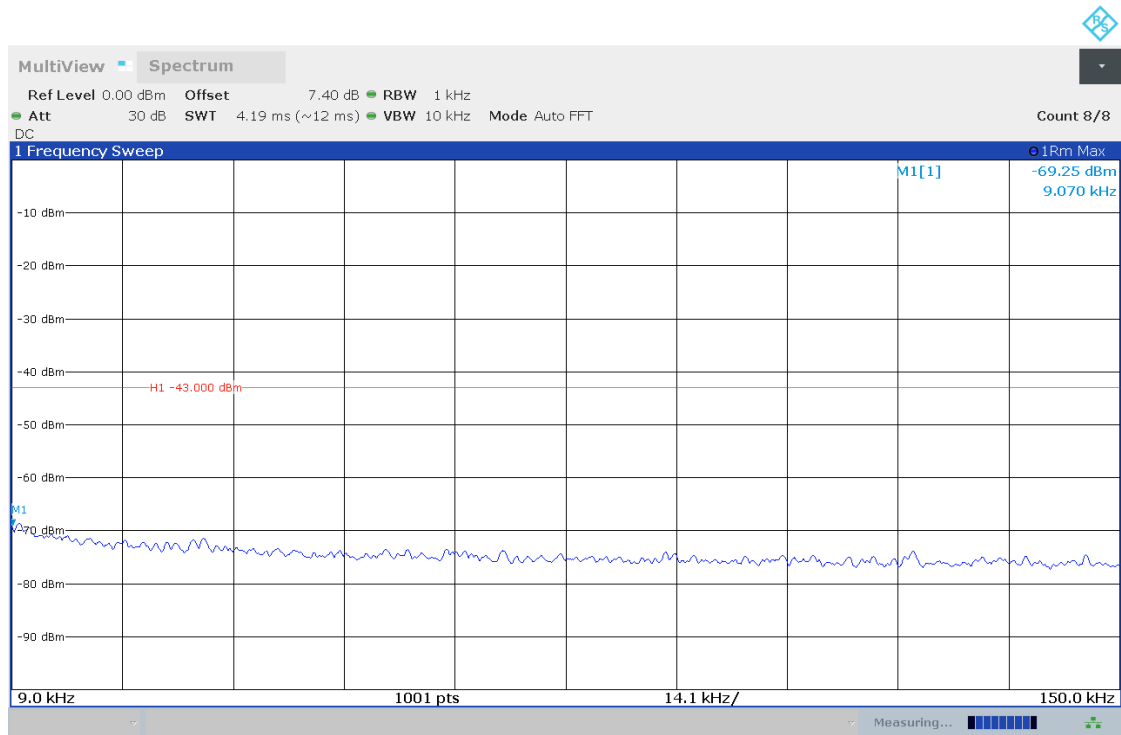


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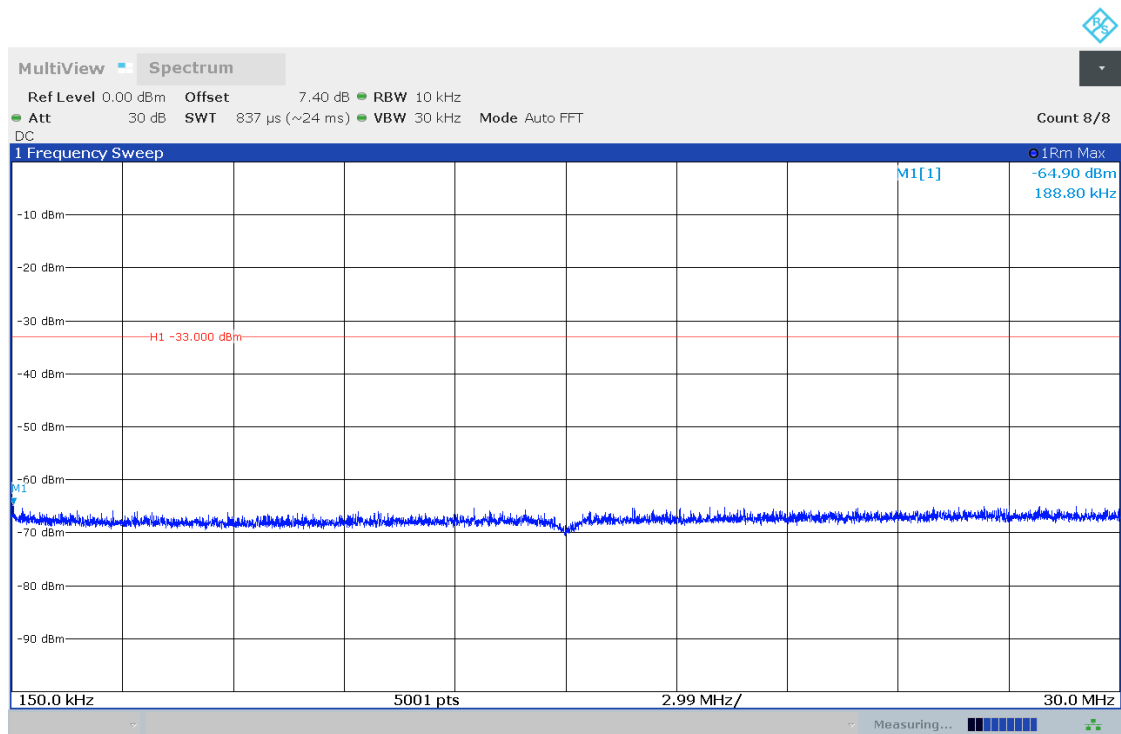


19:01:39 26.04.2022

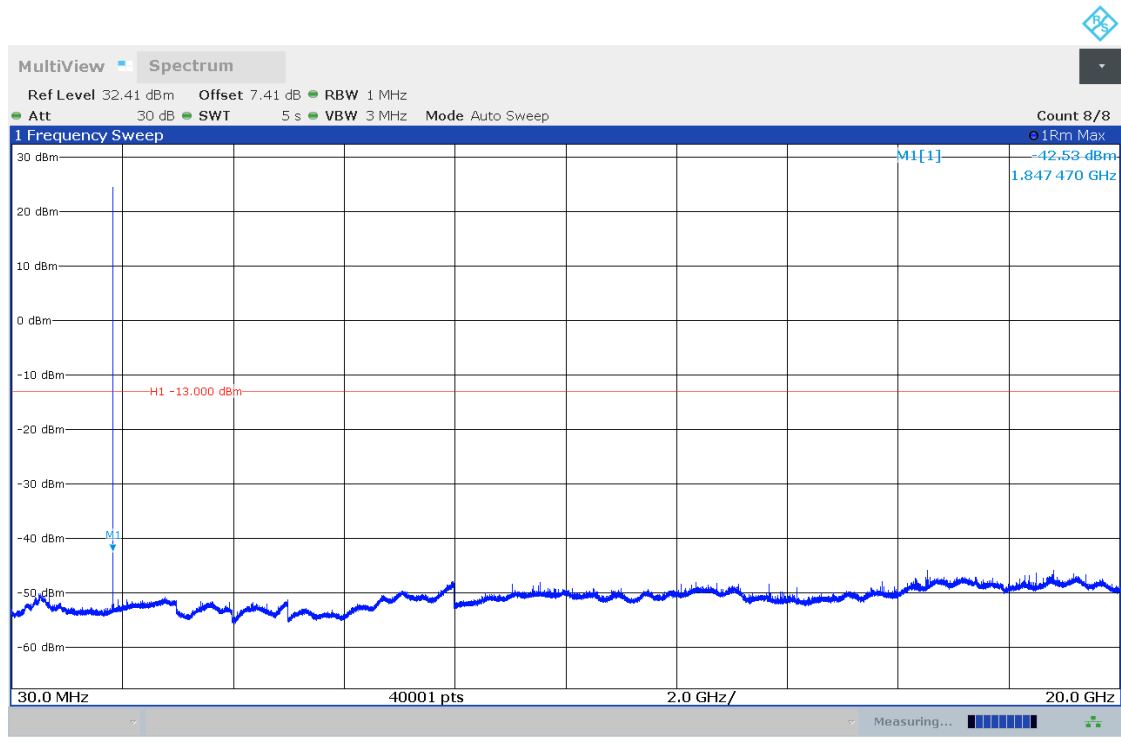
## PCS1900\_TM3\_LCH



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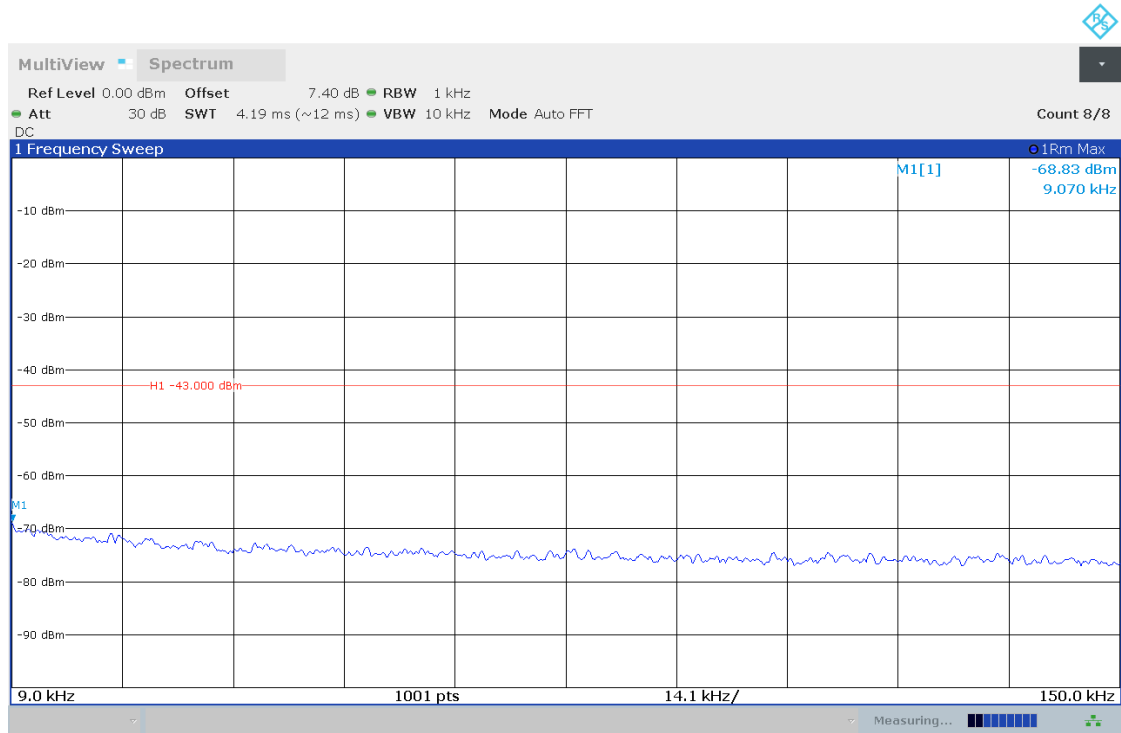


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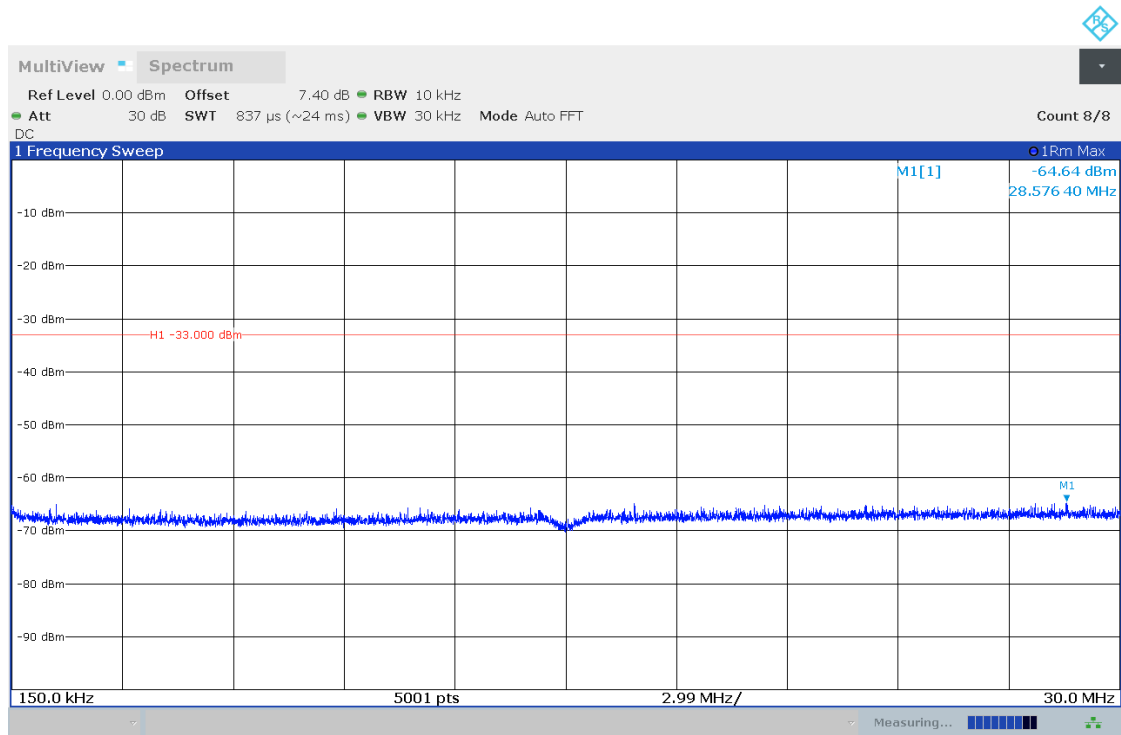


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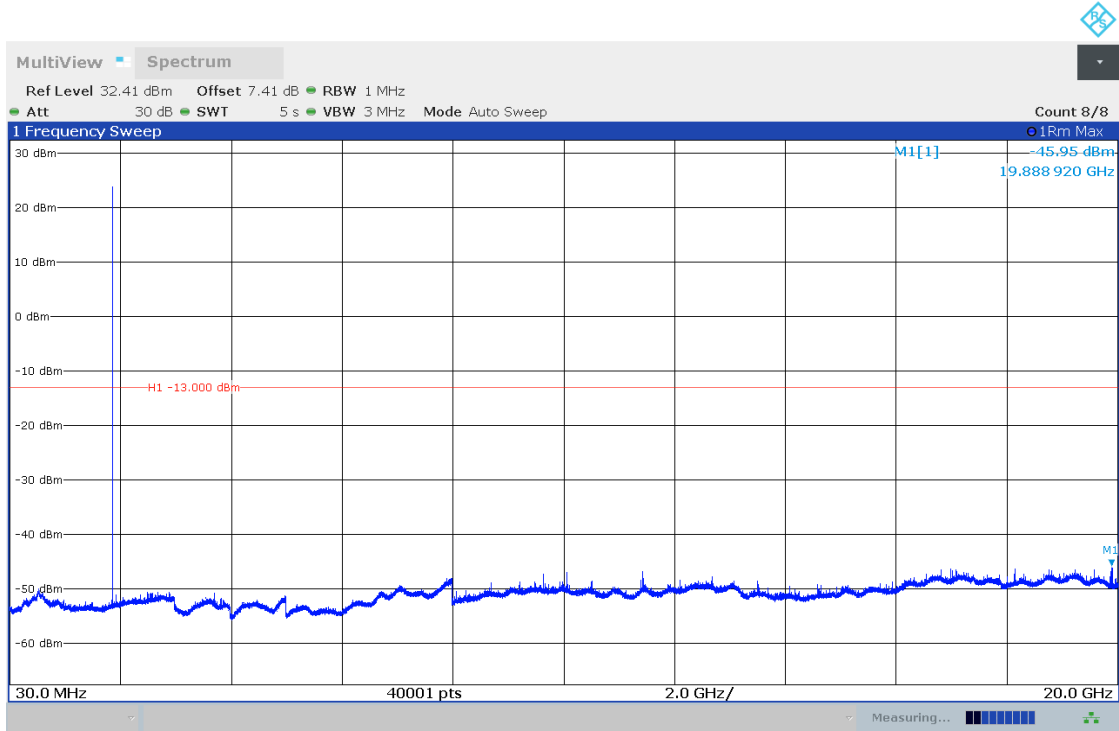
## PCS1900\_TM3\_MCH



18:00:38 26.04.2022

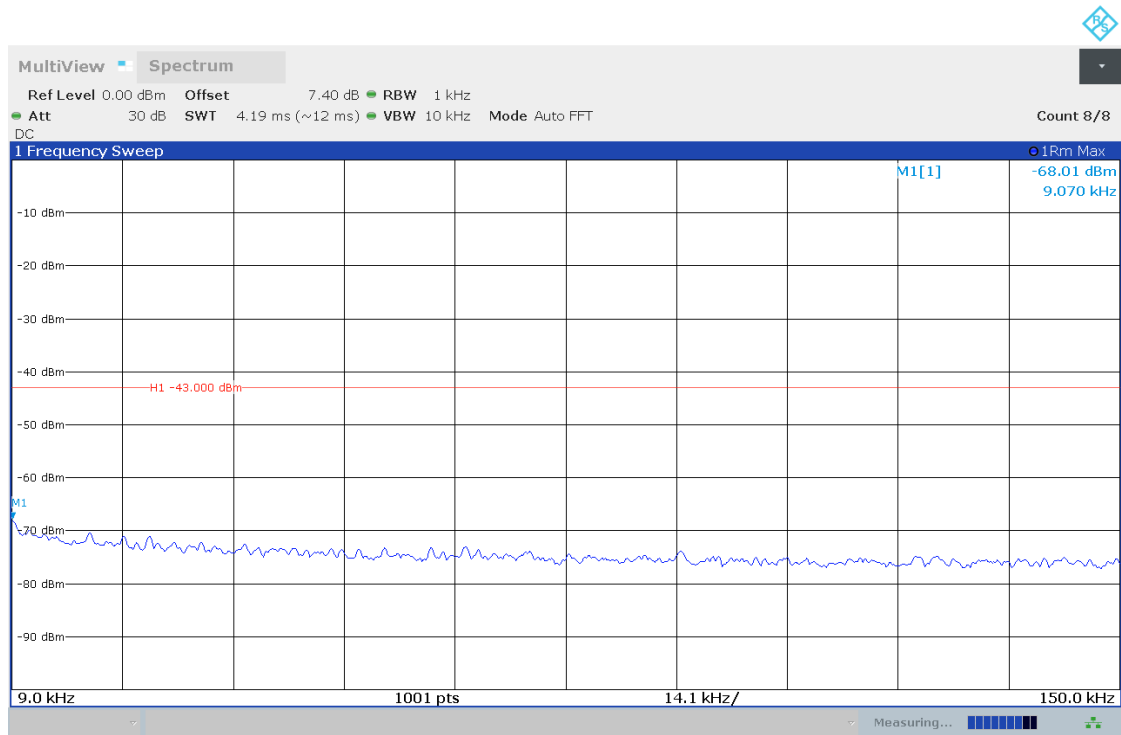


18:01:27 26.04.2022

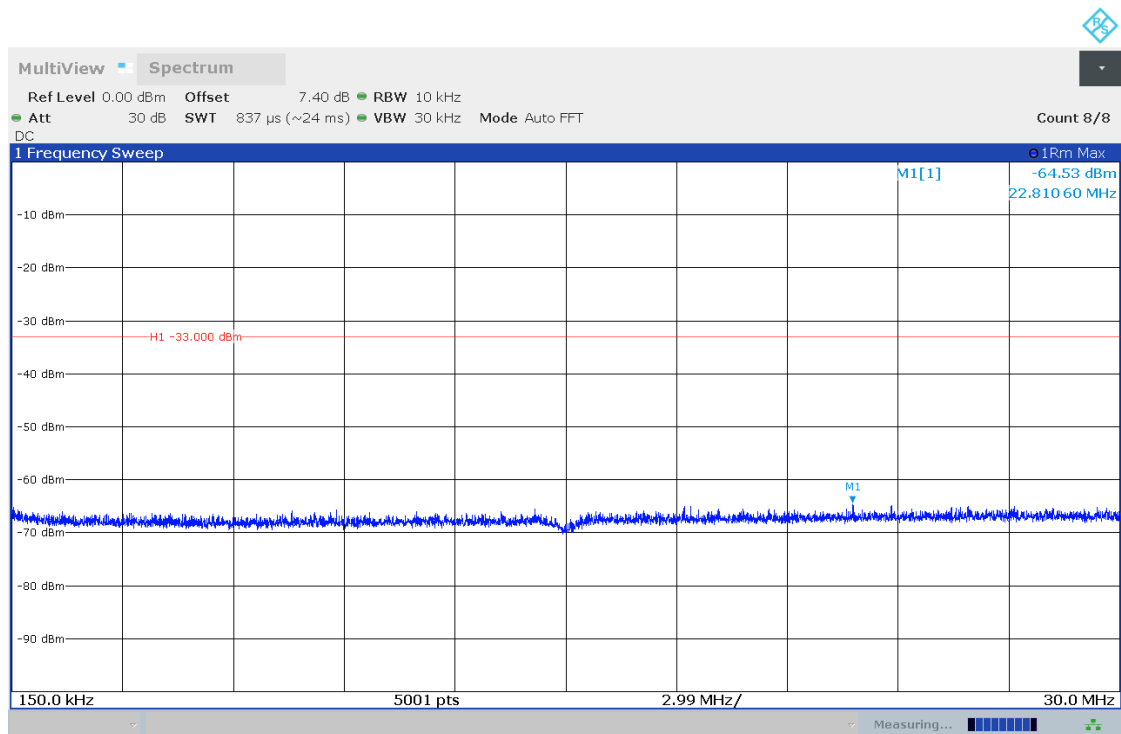


18:02:16 26.04.2022

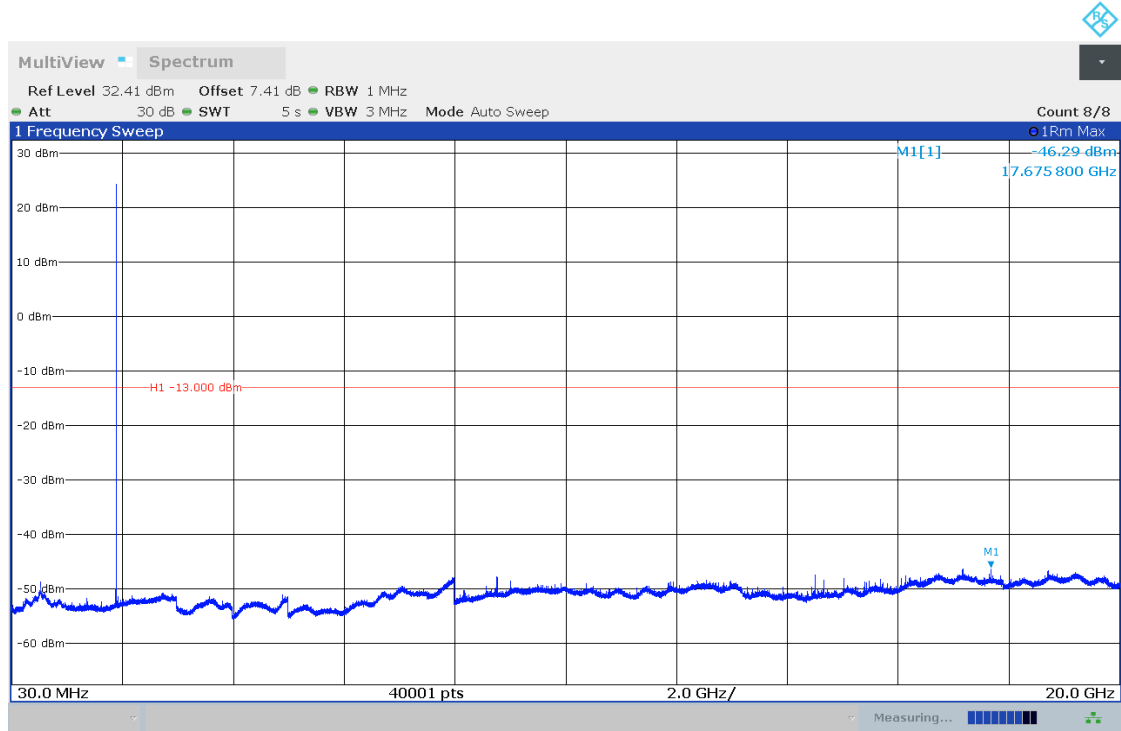
## PCS1900\_TM3\_HCH



18:03:10 26.04.2022



18:03:59 26.04.2022



18:04:48 26.04.2022



## 7 Appendix\_G: Frequency Stability

### 7.1 Test Results

#### Frequency Error vs. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
PCS1900	TM1	LCH	TN	VH	20.35	0.01	PASS
			TN	VN	21.45	0.01	PASS
			TN	VL	21.25	0.01	PASS
		MCH	TN	VH	21.83	0.01	PASS
			TN	VN	21.91	0.01	PASS
			TN	VL	20.76	0.01	PASS
		HCH	TN	VH	22.57	0.01	PASS
			TN	VN	20.00	0.01	PASS
			TN	VL	19.91	0.01	PASS
	TM2	LCH	TN	VH	37.30	0.02	PASS
			TN	VN	38.04	0.02	PASS
			TN	VL	37.23	0.02	PASS
		MCH	TN	VH	38.54	0.02	PASS
			TN	VN	40.18	0.02	PASS
			TN	VL	39.87	0.02	PASS
		HCH	TN	VH	35.47	0.02	PASS
			TN	VN	34.95	0.02	PASS
			TN	VL	35.53	0.02	PASS
	TM3	LCH	TN	VH	28.25	0.02	PASS
			TN	VN	28.82	0.02	PASS
			TN	VL	26.83	0.01	PASS
		MCH	TN	VH	28.29	0.02	PASS
			TN	VN	29.98	0.02	PASS
			TN	VL	30.41	0.02	PASS
		HCH	TN	VH	27.57	0.01	PASS
			TN	VN	29.56	0.02	PASS
			TN	VL	28.53	0.01	PASS

**Frequency Error vs. Temperature**

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
PCS1900	TM1	LCH	VN	-30	22.88	0.01	PASS
			VN	-20	19.06	0.01	PASS
			VN	-10	19.50	0.01	PASS
			VN	0	17.49	0.01	PASS
			VN	10	19.63	0.01	PASS
			VN	20	19.35	0.01	PASS
			VN	30	19.15	0.01	PASS
			VN	40	20.02	0.01	PASS
			VN	50	20.19	0.01	PASS
		MCH	VN	-30	23.42	0.01	PASS
			VN	-20	18.92	0.01	PASS
			VN	-10	20.09	0.01	PASS
			VN	0	18.80	0.01	PASS
			VN	10	19.34	0.01	PASS
			VN	20	19.25	0.01	PASS
			VN	30	17.38	0.01	PASS
			VN	40	18.62	0.01	PASS
			VN	50	19.96	0.01	PASS
		HCH	VN	-30	21.33	0.01	PASS
			VN	-20	21.15	0.01	PASS
			VN	-10	20.29	0.01	PASS
			VN	0	20.49	0.01	PASS
			VN	10	18.75	0.01	PASS
			VN	20	20.56	0.01	PASS
			VN	30	22.13	0.01	PASS
			VN	40	18.32	0.01	PASS
			VN	50	21.31	0.01	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
PCS1900	TM2	LCH	VN	-30	36.66	0.02	PASS
			VN	-20	37.36	0.02	PASS
			VN	-10	33.46	0.02	PASS
			VN	0	33.33	0.02	PASS
			VN	10	34.68	0.02	PASS
			VN	20	32.93	0.02	PASS
			VN	30	32.18	0.02	PASS
			VN	40	32.57	0.02	PASS
			VN	50	32.00	0.02	PASS
		MCH	VN	-30	35.52	0.02	PASS
			VN	-20	35.96	0.02	PASS
			VN	-10	35.91	0.02	PASS
			VN	0	35.46	0.02	PASS
			VN	10	34.99	0.02	PASS
			VN	20	35.76	0.02	PASS
			VN	30	38.25	0.02	PASS
			VN	40	38.11	0.02	PASS
			VN	50	36.77	0.02	PASS
		HCH	VN	-30	35.36	0.02	PASS
			VN	-20	36.72	0.02	PASS
			VN	-10	35.77	0.02	PASS
			VN	0	35.91	0.02	PASS
			VN	10	37.26	0.02	PASS
			VN	20	35.00	0.02	PASS
			VN	30	35.42	0.02	PASS
			VN	40	36.18	0.02	PASS
			VN	50	36.28	0.02	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
PCS1900	TM3	LCH	VN	-30	25.70	0.01	PASS
			VN	-20	25.90	0.01	PASS
			VN	-10	25.52	0.01	PASS
			VN	0	25.24	0.01	PASS
			VN	10	24.31	0.01	PASS
			VN	20	24.74	0.01	PASS
			VN	30	24.27	0.01	PASS
			VN	40	24.27	0.01	PASS
			VN	50	24.07	0.01	PASS
		MCH	VN	-30	26.89	0.01	PASS
			VN	-20	27.49	0.01	PASS
			VN	-10	27.09	0.01	PASS
			VN	0	27.89	0.01	PASS
			VN	10	26.70	0.01	PASS
			VN	20	26.87	0.01	PASS
			VN	30	28.12	0.01	PASS
			VN	40	28.15	0.01	PASS
			VN	50	28.02	0.01	PASS
		HCH	VN	-30	27.36	0.01	PASS
			VN	-20	26.35	0.01	PASS
			VN	-10	25.65	0.01	PASS
			VN	0	26.61	0.01	PASS
			VN	10	26.99	0.01	PASS
			VN	20	26.55	0.01	PASS
			VN	30	26.24	0.01	PASS
			VN	40	27.10	0.01	PASS
			VN	50	27.56	0.01	PASS

End of Test Report