



Appendix B

GSM 850 & 1900



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1 Effective (Isotropic) Radiated Power Output Data

1.1. Part I - Test Results

Test Band	Test Mode	Test Channel	Measured [dBm]	ERP[dBm]	Limit[dBm]	Verdict
GSM 850	GSM/TM1	LCH	31.57	22.22	38.45	PASS
		MCH	31.64	22.29	38.45	PASS
		HCH	31.65	22.30	38.45	PASS
	GSM/TM2	LCH	24.85	15.50	38.45	PASS
		MCH	25.10	15.75	38.45	PASS
		HCH	25.18	15.83	38.45	PASS

Test Band	Test Mode	Test Channel	Measured [dBm]	EIRP[dBm]	Limit[dBm]	Verdict
GSM 1900	GSM/TM1	LCH	30.16	28.36	33	PASS
		MCH	30.31	28.51	33	PASS
		HCH	30.53	28.73	33	PASS
	GSM/TM2	LCH	26.40	24.60	33	PASS
		MCH	26.49	24.69	33	PASS
		HCH	26.52	24.72	33	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b: SGP=Signal Generator Level



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2 Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
GSM 850	GSM/TM1	LCH	8.67	13	PASS
		MCH	8.93	13	PASS
		HCH	8.64	13	PASS
	GSM/TM2	LCH	8.43	13	PASS
		MCH	8.46	13	PASS
		HCH	8.49	13	PASS
GSM 1900	GSM/TM1	LCH	9.01	13	PASS
		MCH	8.64	13	PASS
		HCH	8.64	13	PASS
	GSM/TM2	LCH	8.43	13	PASS
		MCH	8.43	13	PASS
		HCH	8.43	13	PASS

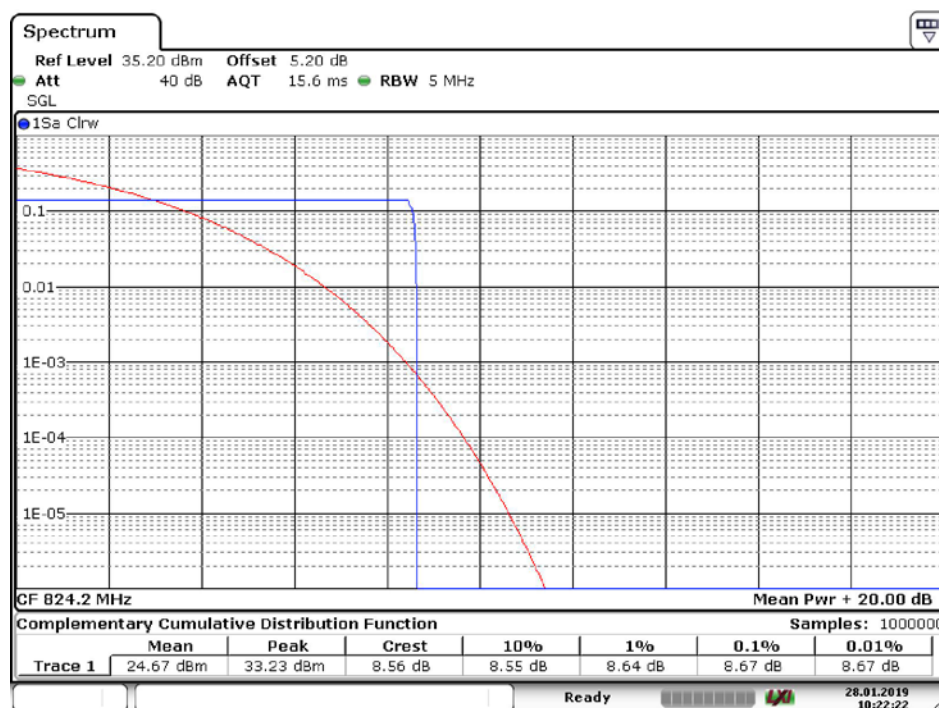


2.1. For GSM

2.1.1. Test Band = GSM 850

2.1.1.1. Test Mode = GSM/TM1

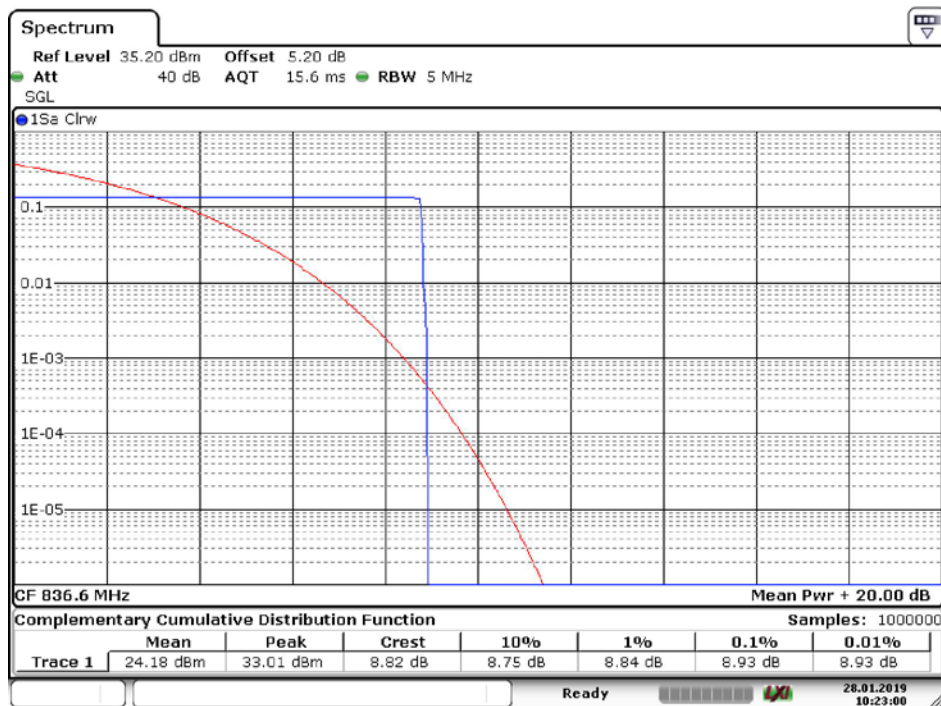
2.1.1.1.1. Test Channel = LCH



Date: 28.JAN.2019 10:22:23

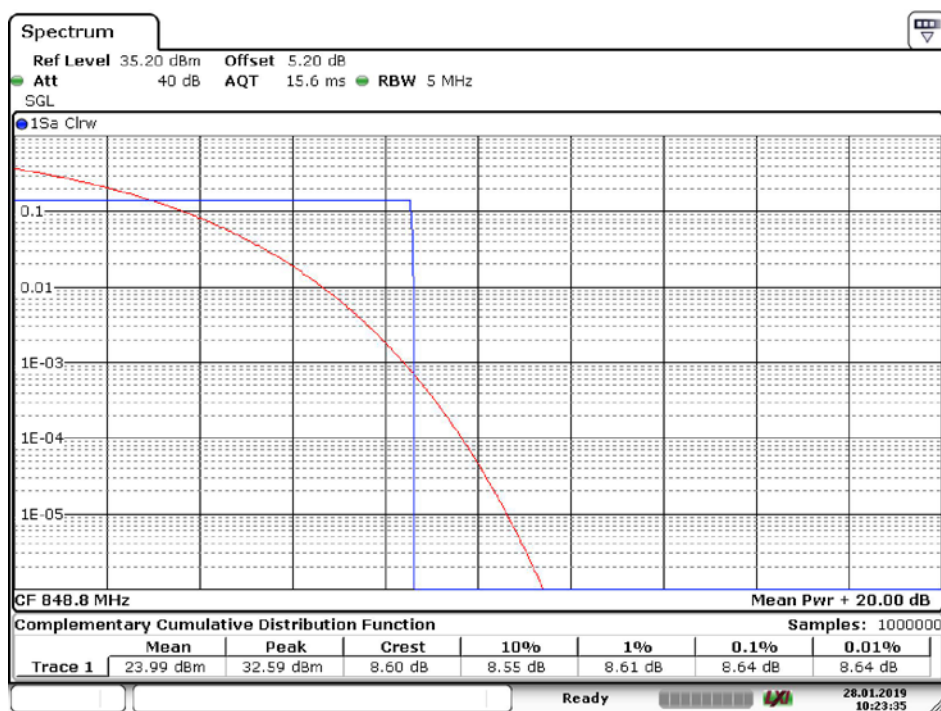


2.1.1.1.2. Test Channel = MCH



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2.1.1.1.3. Test Channel = HCH

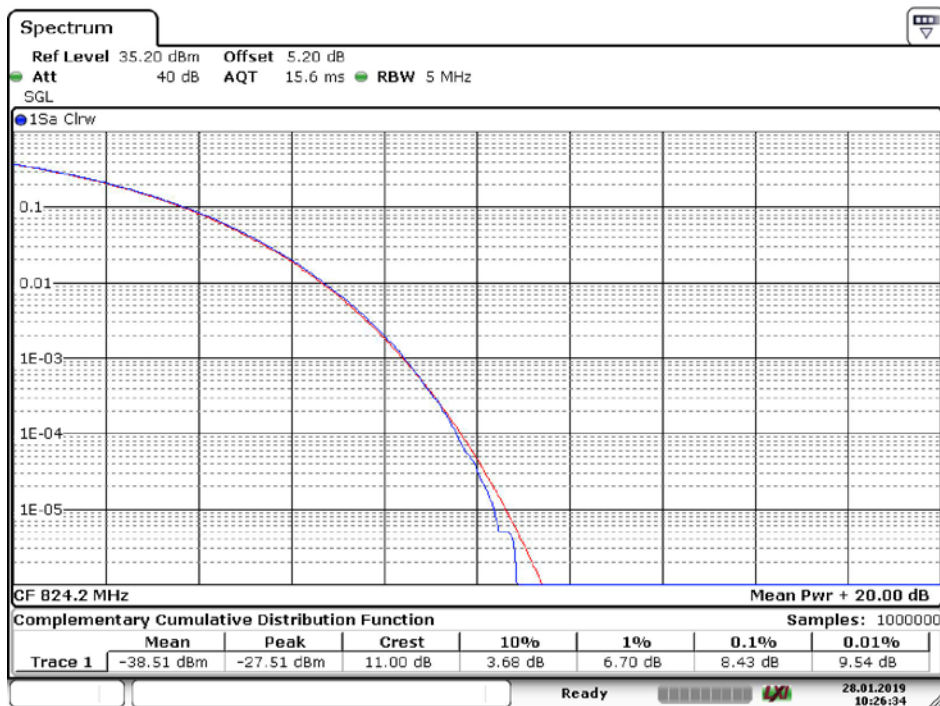


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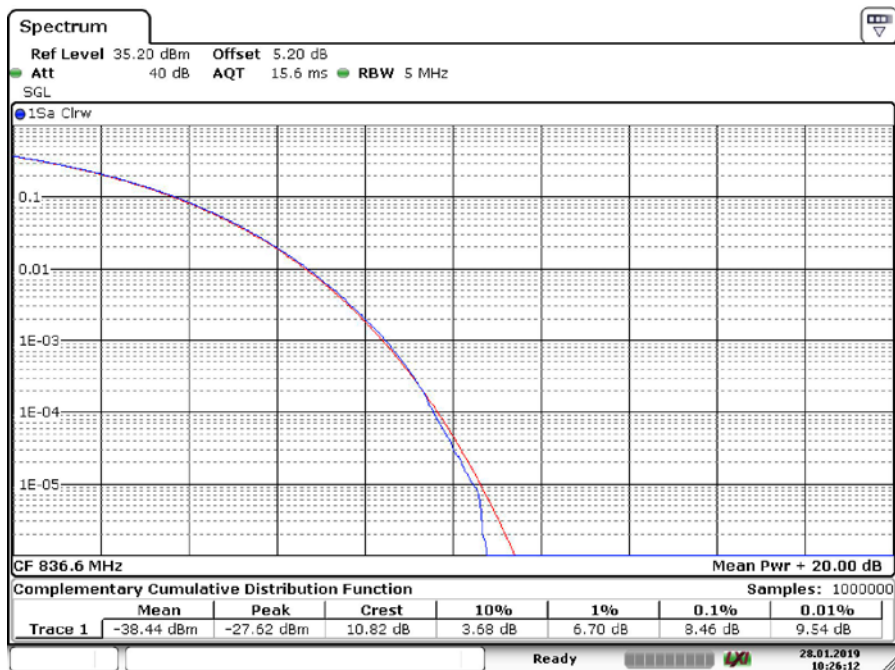
2.1.1.2. Test Mode = GSM/TM2

2.1.1.2.1. Test Channel = LCH



Date: 28.JAN.2019 10:26:35

2.1.1.2.2. Test Channel = MCH



Date: 28.JAN.2019 10:26:13



2.1.1.2.3. Test Channel = HCH



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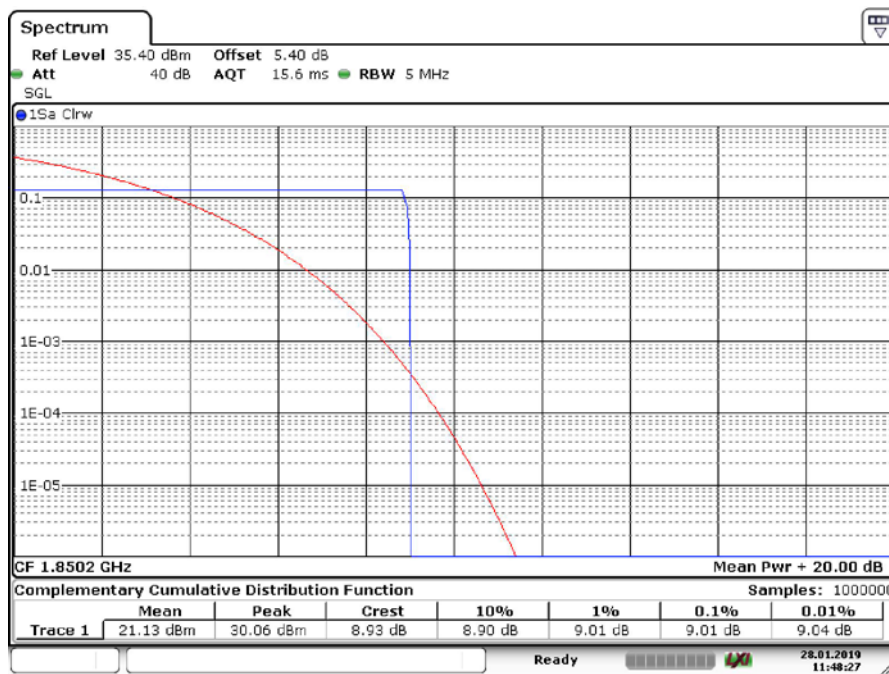
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2.1.2. Test Band = GSM 1900

2.1.2.1. Test Mode = GSM/TM1

2.1.2.1.1. Test Channel = LCH



Date: 28.JAN.2019 11:48:27



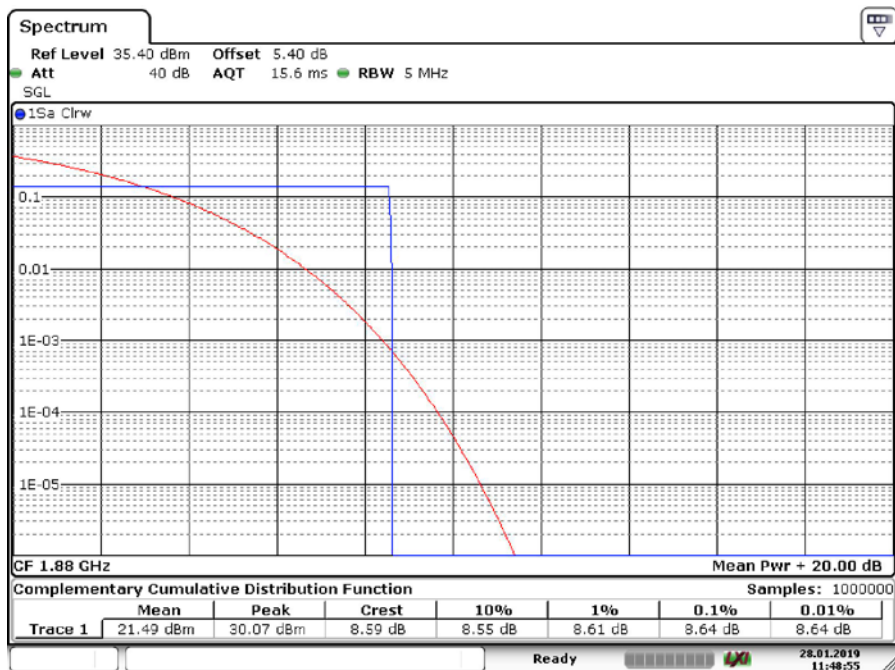
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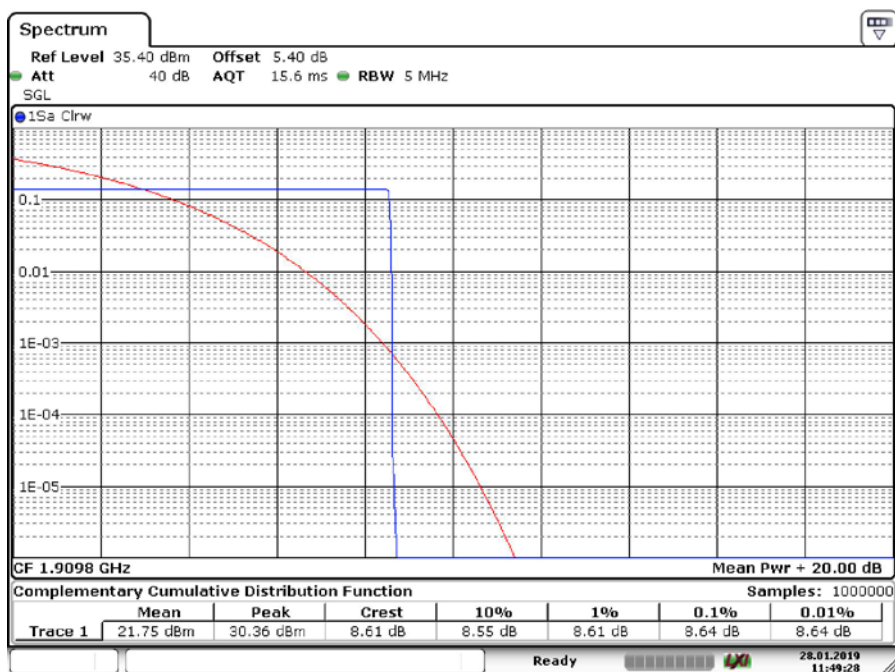
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2.1.2.1.2. Test Channel = MCH



Date: 28.JAN.2019 11:48:55

2.1.2.1.3. Test Channel = HCH

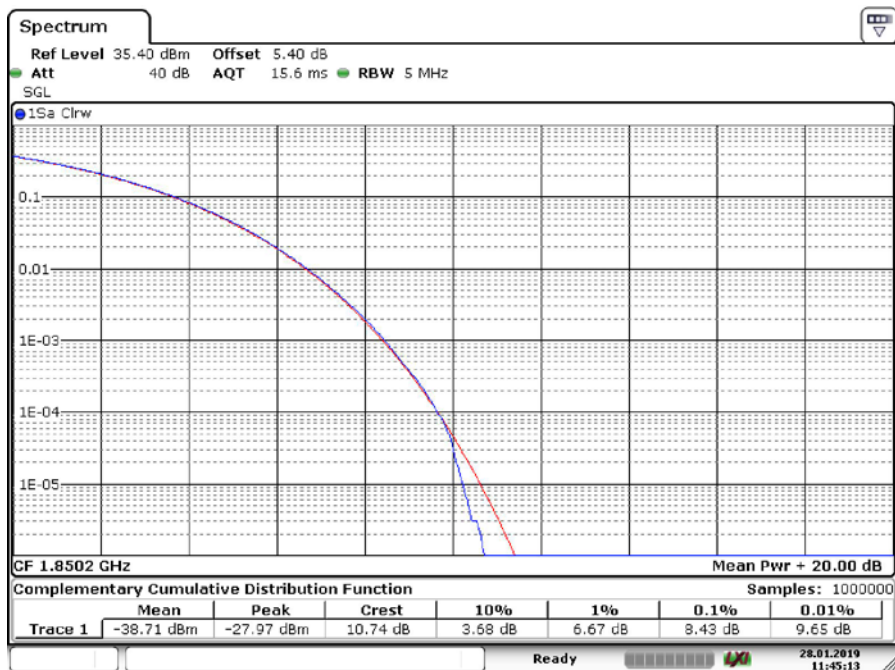


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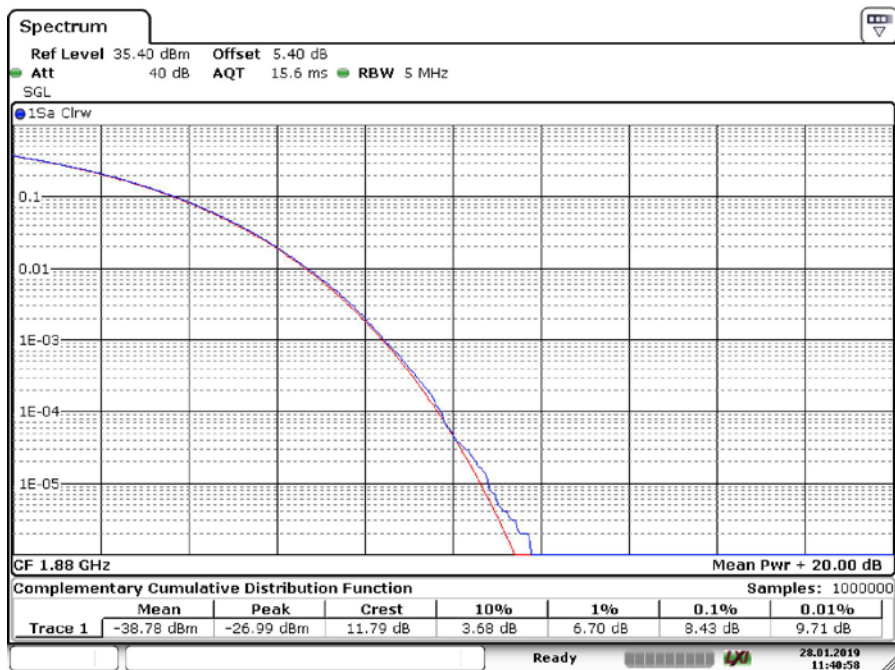
2.1.2.2. Test Mode = GSM/TM2

2.1.2.2.1. Test Channel = LCH



Date: 28.JAN.2019 11:45:13

2.1.2.2.2. Test Channel = MCH



Date: 28.JAN.2019 11:40:58



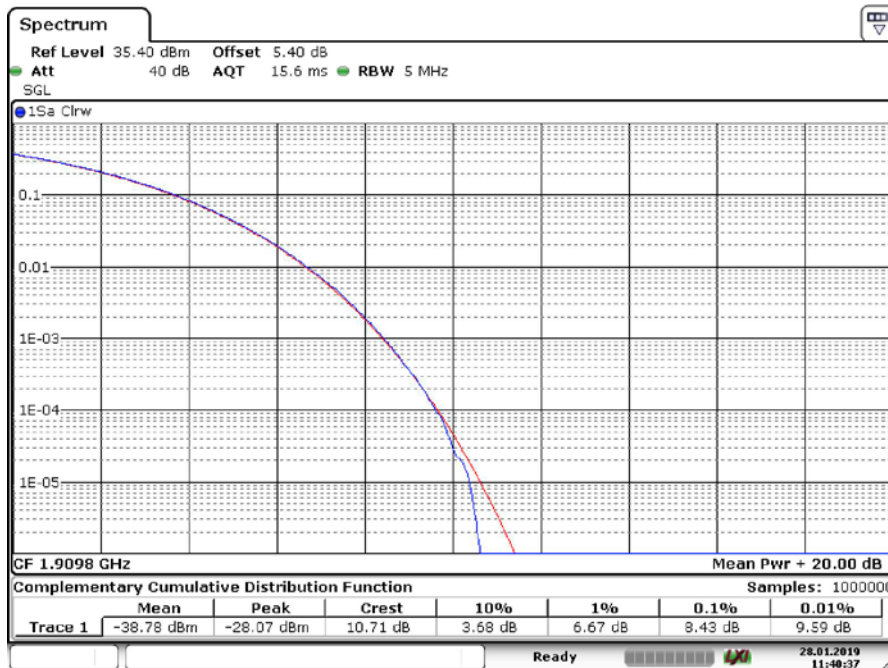
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2.1.2.2.3. Test Channel = HCH



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3 Modulation Characteristics

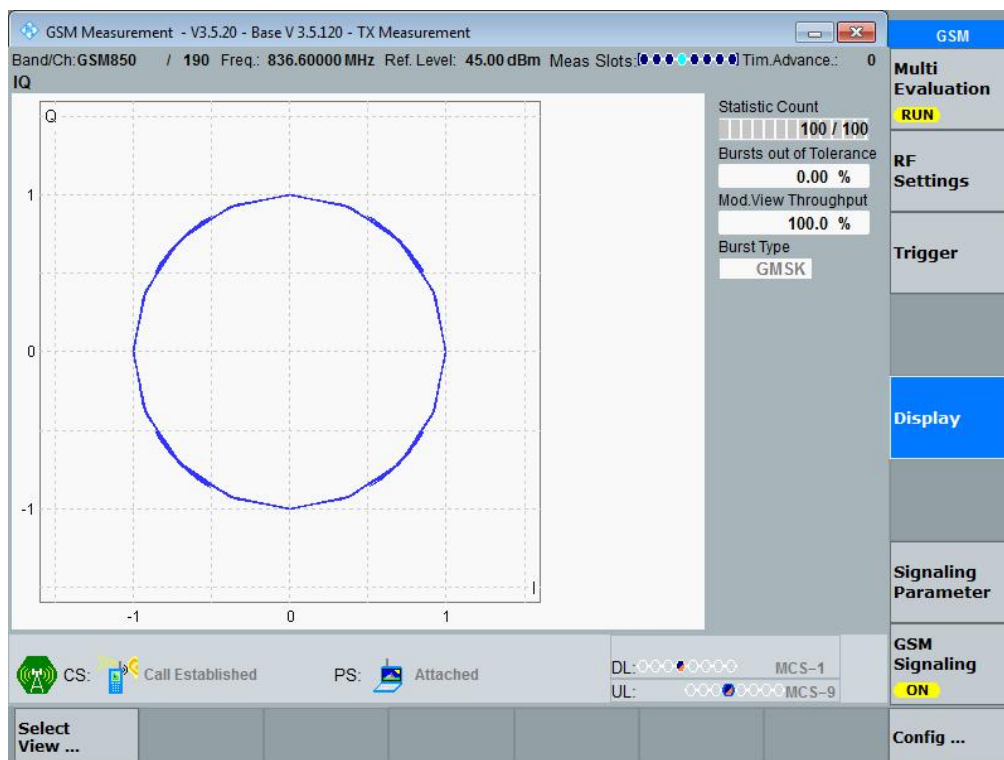
Part I - Test Plots

3.1 For GSM

3.1.1 Test Band = GSM 850

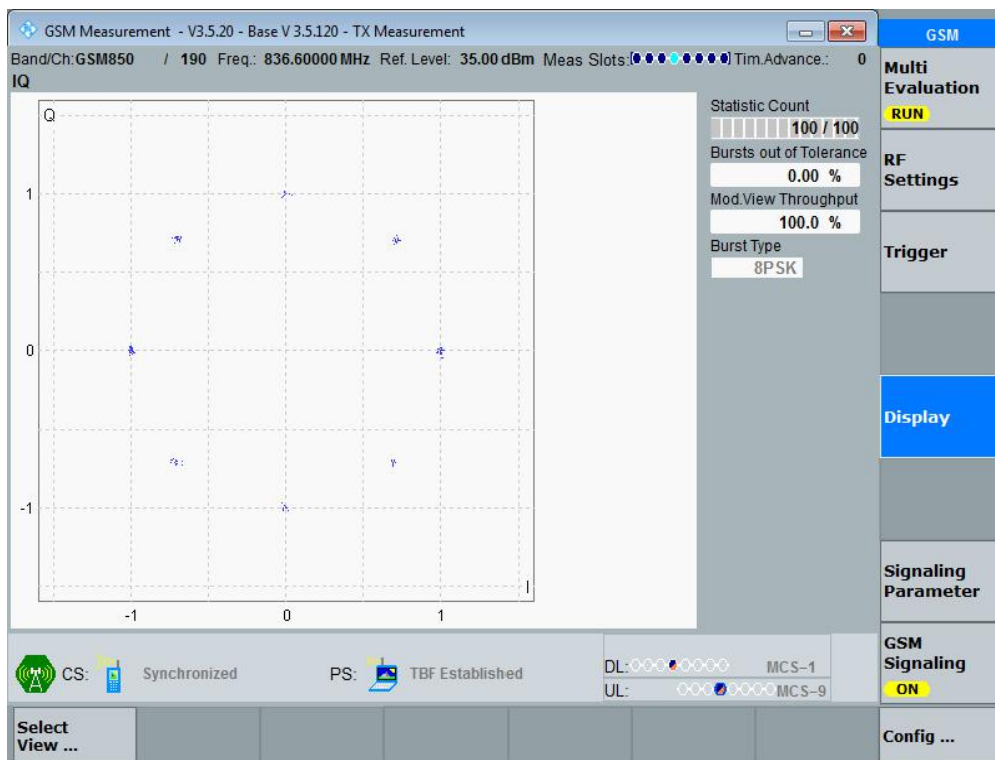
3.1.1.1 Test Mode = GSM/TM1

3.1.1.1.1 Test Channel = MCH



3.1.1.2 Test Mode = GSM/TM2

3.1.1.2.1 Test Channel = MCH



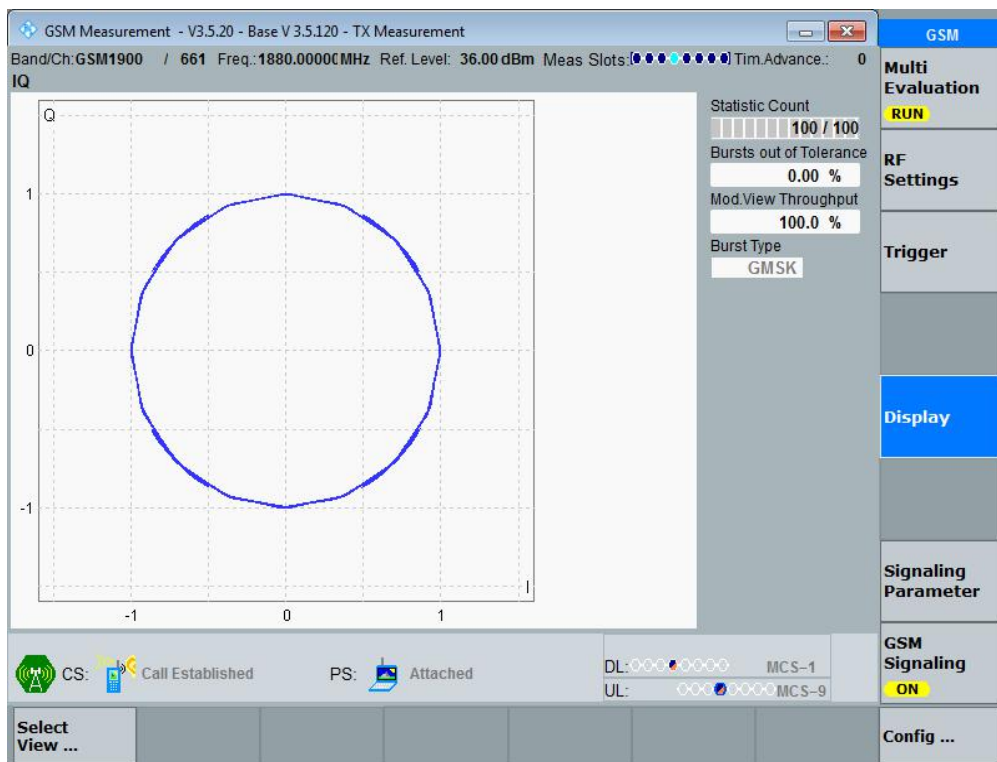
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3.1.2 Test Band = GSM 1900

3.1.2.1 Test Mode = GSM/TM1

3.1.2.1.1 Test Channel = MCH

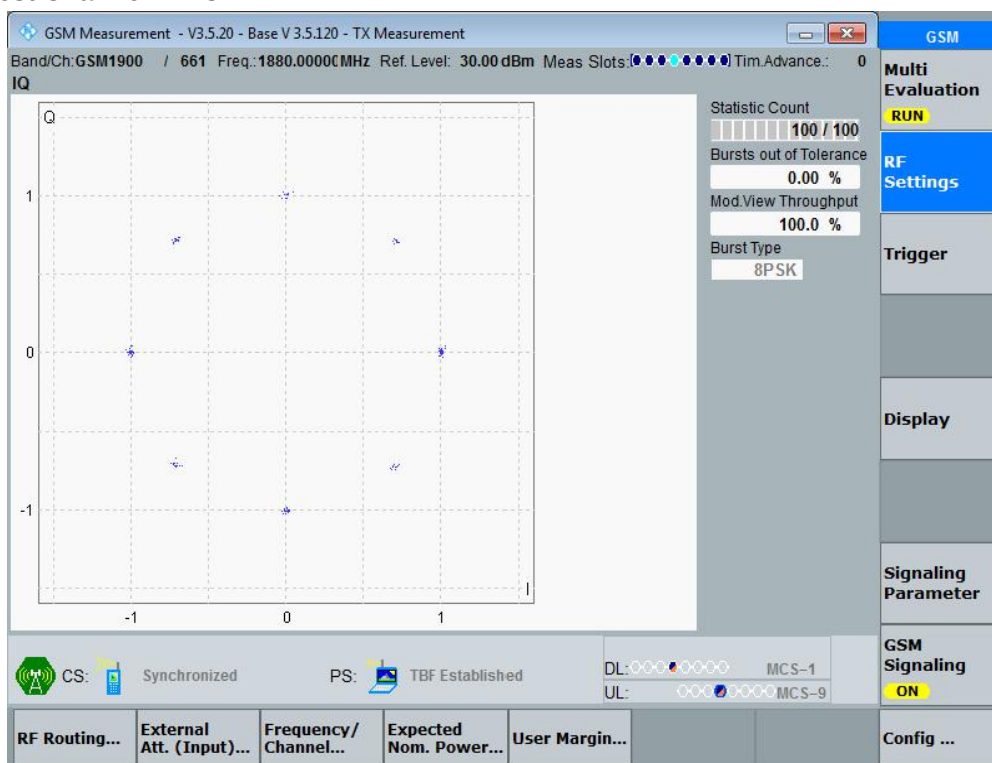


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3.1.2.2 Test Mode = GSM/TM2

3.1.2.2.1 Test Channel = MCH



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4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
GSM 850	GSM/TM1	LCH	244.76	317.70	PASS
		MCH	241.76	317.70	PASS
		HCH	241.76	315.70	PASS
	GSM/TM2	LCH	243.76	218.70	PASS
		MCH	239.76	315.70	PASS
		HCH	240.76	310.70	PASS
GSM 1900	GSM/TM1	LCH	244.76	316.70	PASS
		MCH	244.76	316.70	PASS
		HCH	245.75	320.70	PASS
	GSM/TM2	LCH	242.76	309.70	PASS
		MCH	242.76	323.70	PASS
		HCH	242.76	315.70	PASS



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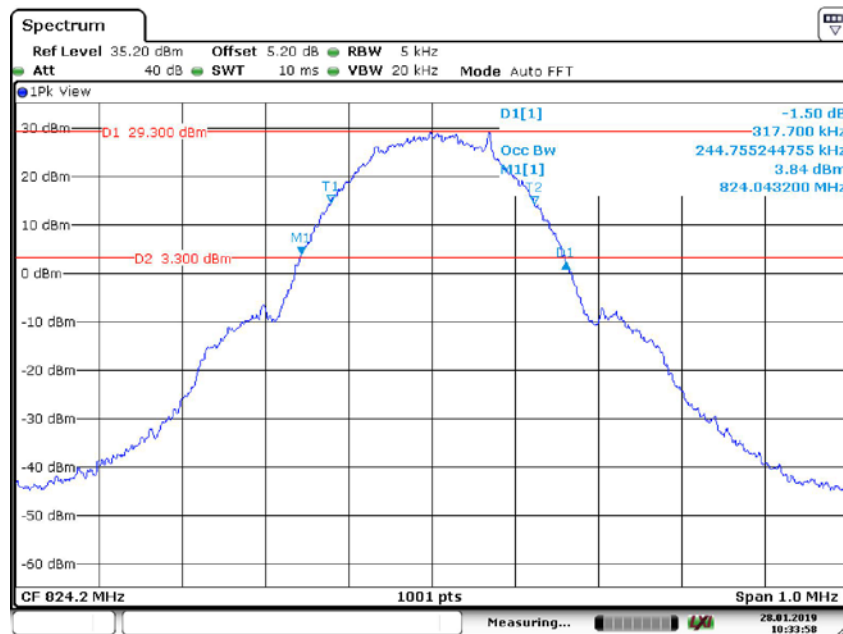
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4.1 For GSM

4.1.1 Test Band = GSM 850

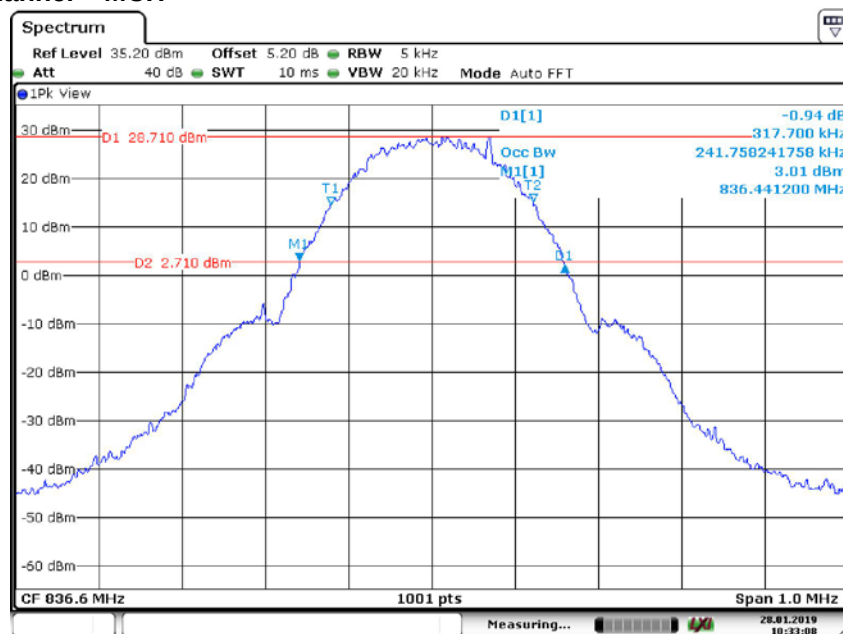
4.1.1.1 Test Mode = GSM/TM1

4.1.1.1.1 Test Channel = LCH



Date: 28 JAN 2019 10:33:59

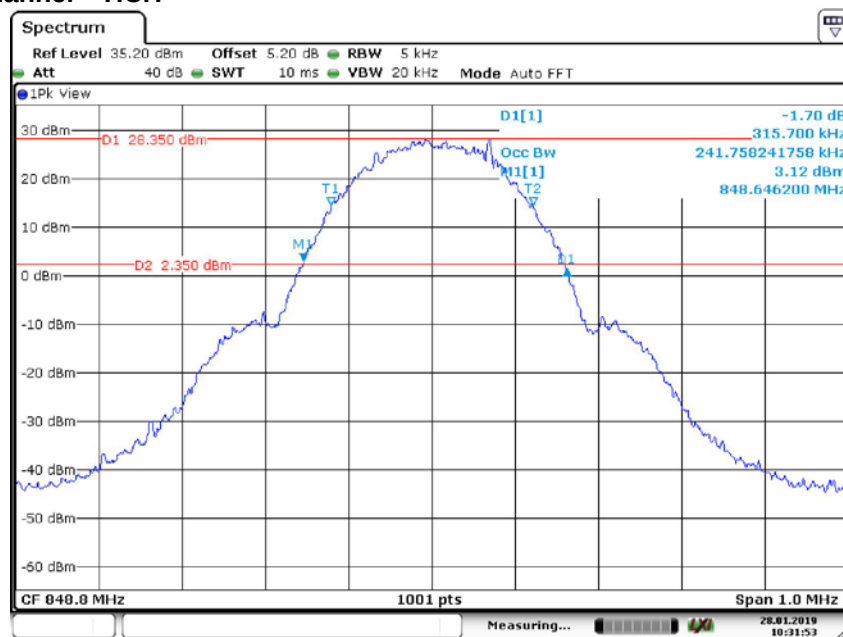
4.1.1.1.2 Test Channel = MCH



Date: 28 JAN 2019 10:33:08



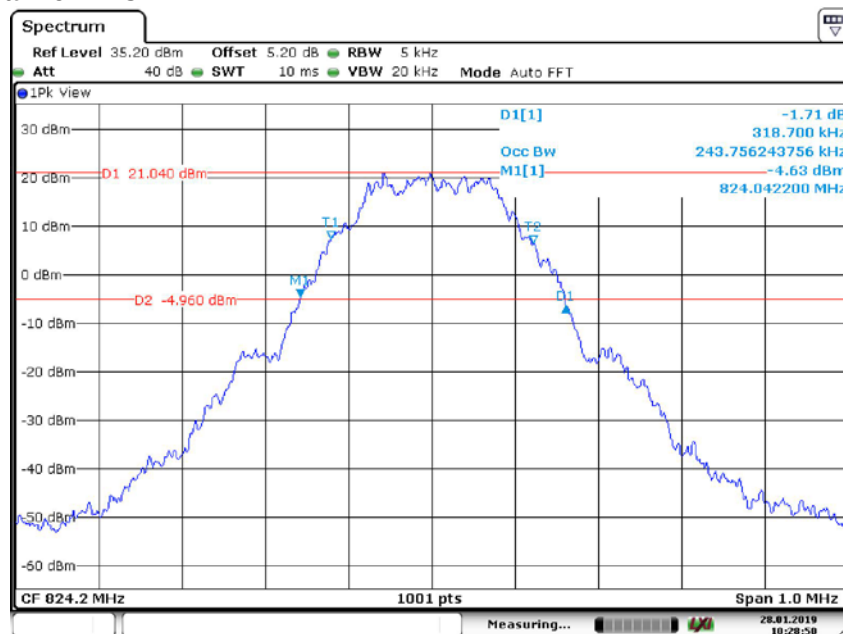
4.1.1.1.3 Test Channel = HCH



Date: 28 JAN 2019 10:31:53

4.1.1.2 Test Mode = GSM/TM2

4.1.1.2.1 Test Channel = LCH



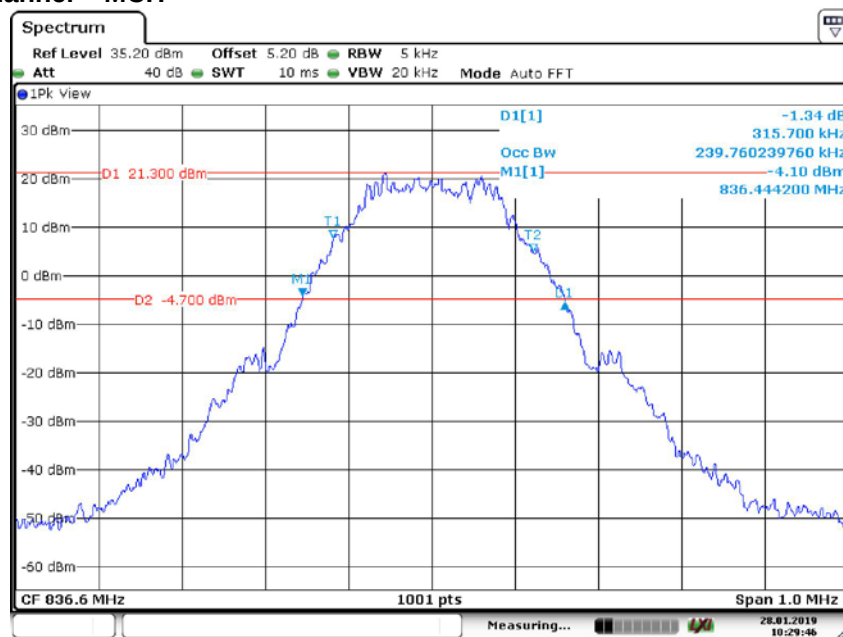
Date: 28 JAN 2019 10:28:50



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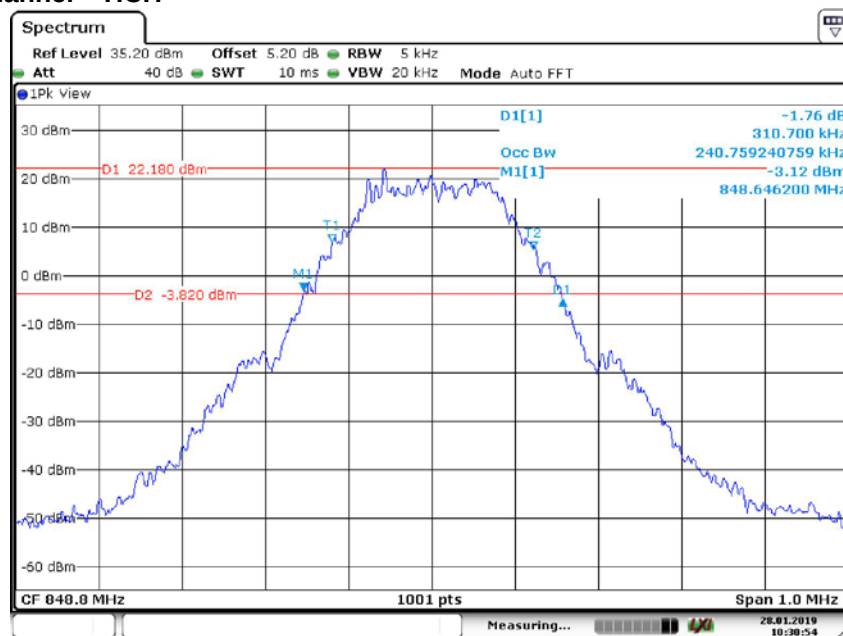
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4.1.1.2.2 Test Channel = MCH



Date: 28. JAN. 2019 10:29:47

4.1.1.2.3 Test Channel = HCH



Date: 28. JAN. 2019 10:30:54



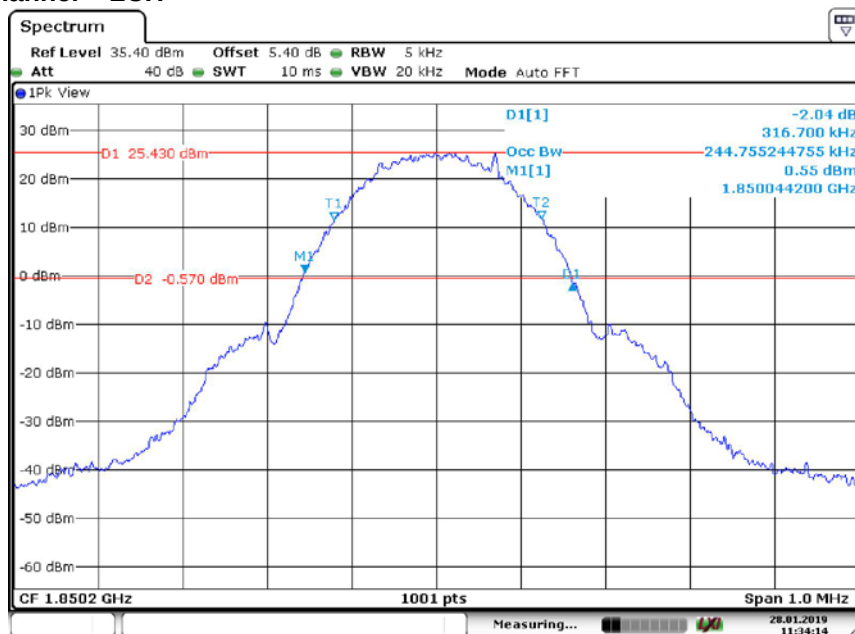
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4.1.2 Test Band = GSM 1900

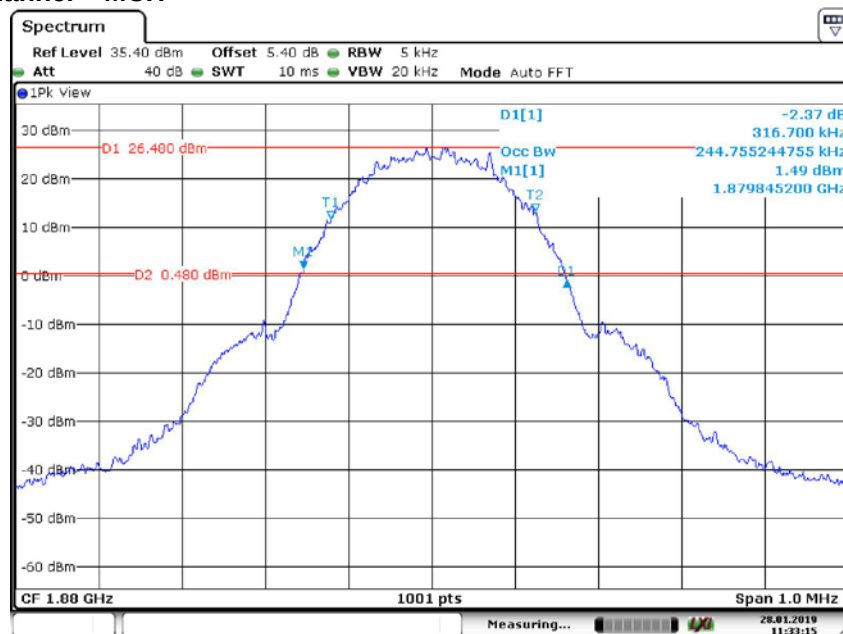
4.1.2.1 Test Mode = GSM/TM1

4.1.2.1.1 Test Channel = LCH



Date: 28.JAN.2019 11:34:13

4.1.2.1.2 Test Channel = MCH



Date: 28.JAN.2019 11:33:15

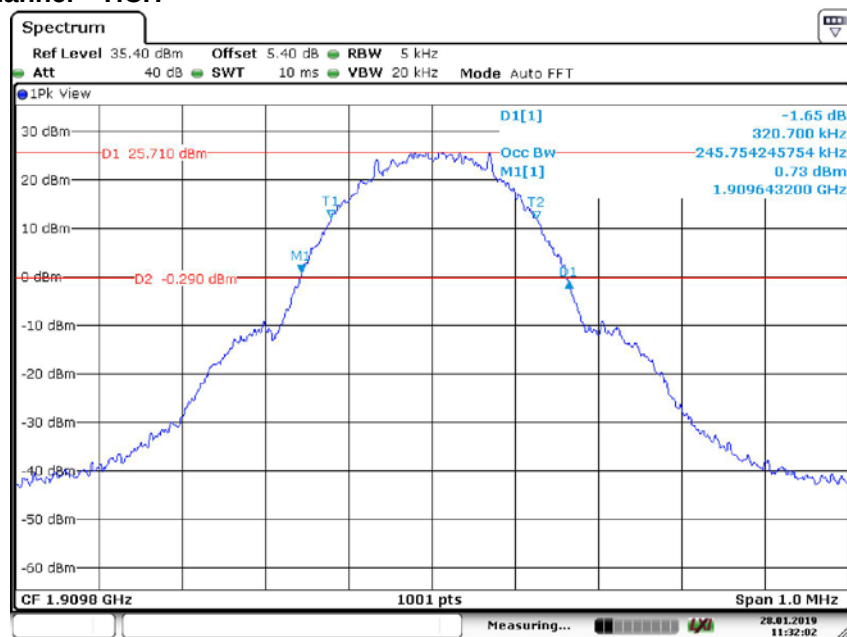


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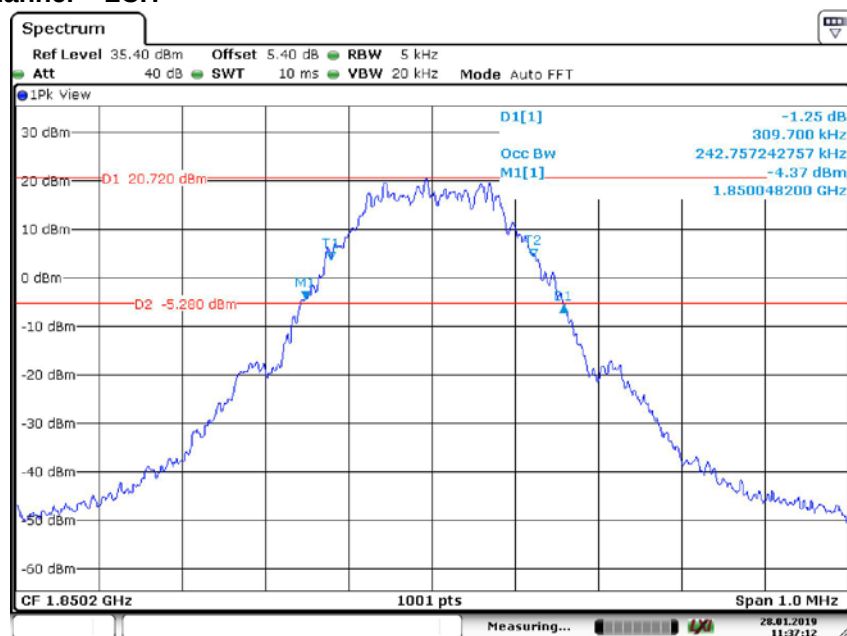
4.1.2.1.3 Test Channel = HCH



Date: 28 JAN 2019 11:32:02

4.1.2.2 Test Mode = GSM/TM2

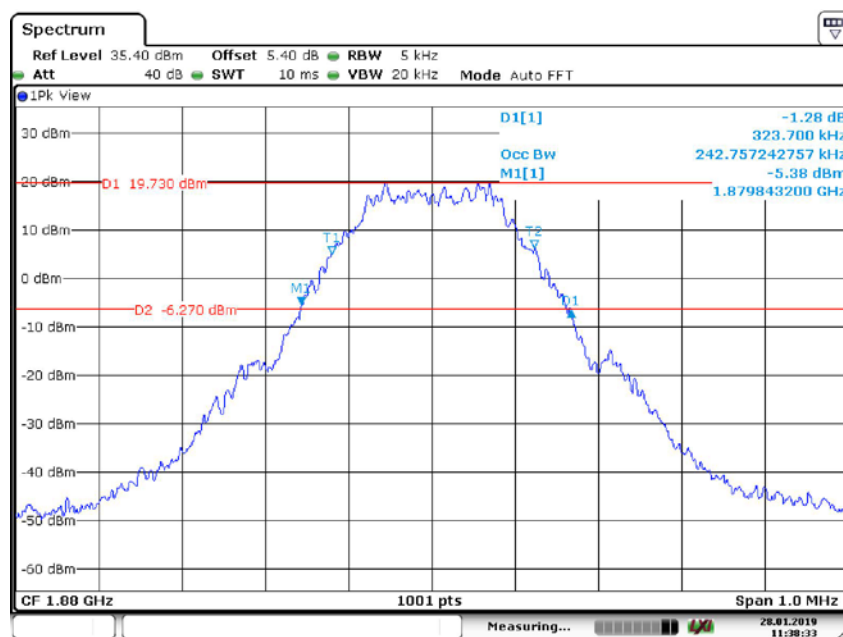
4.1.2.2.1 Test Channel = LCH



Date: 28 JAN 2019 11:37:13

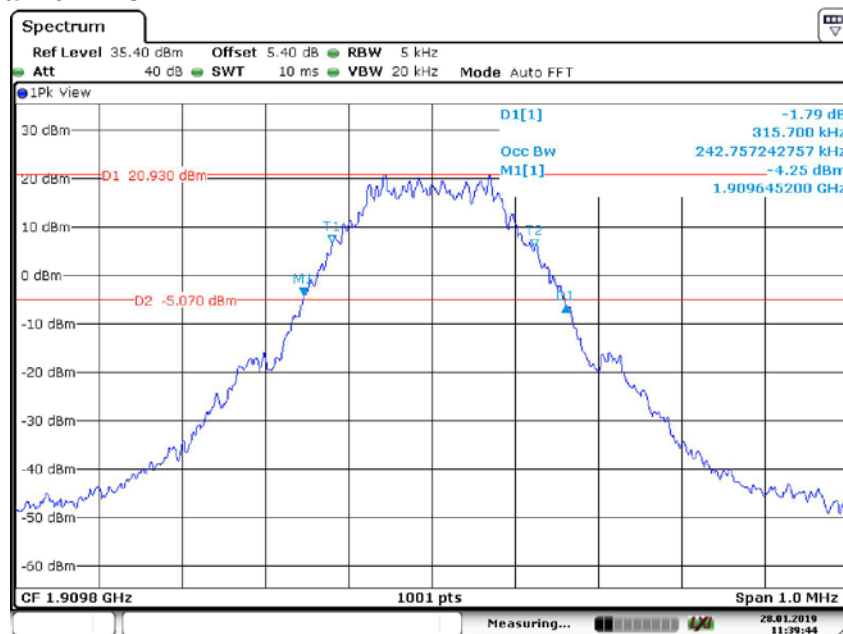


4.1.2.2.2 Test Channel = MCH



Date: 28. JAN 2019 11:38:34

4.1.2.2.3 Test Channel = HCH



Date: 28. JAN 2019 11:39:45



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5 Band Edges Compliance

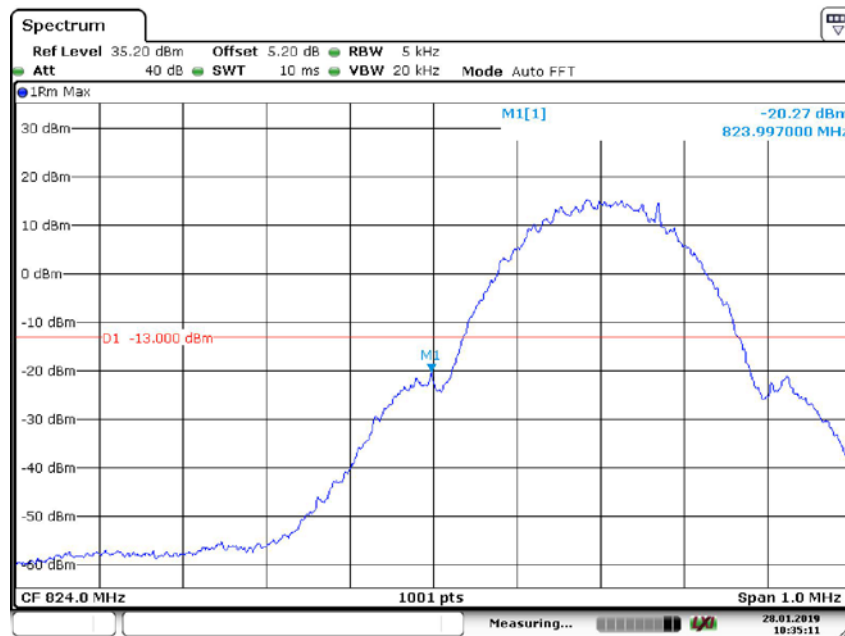
Part I - Test Plots

5.1 For GSM

5.1.1 Test Band = GSM 850

5.1.1.1 Test Mode = GSM/TM1

5.1.1.1.1 Test Channel = LCH



Date: 28. JAN.2019 10:35:12



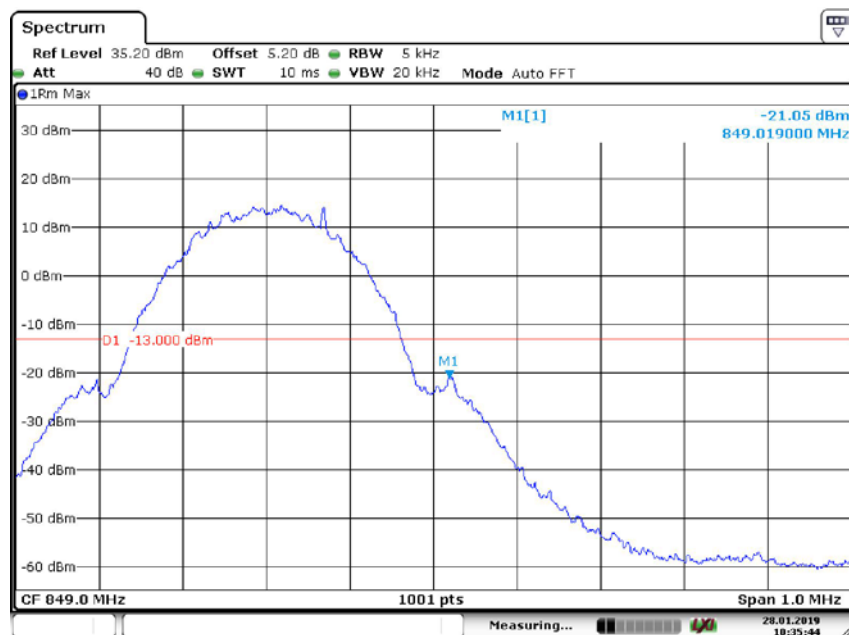
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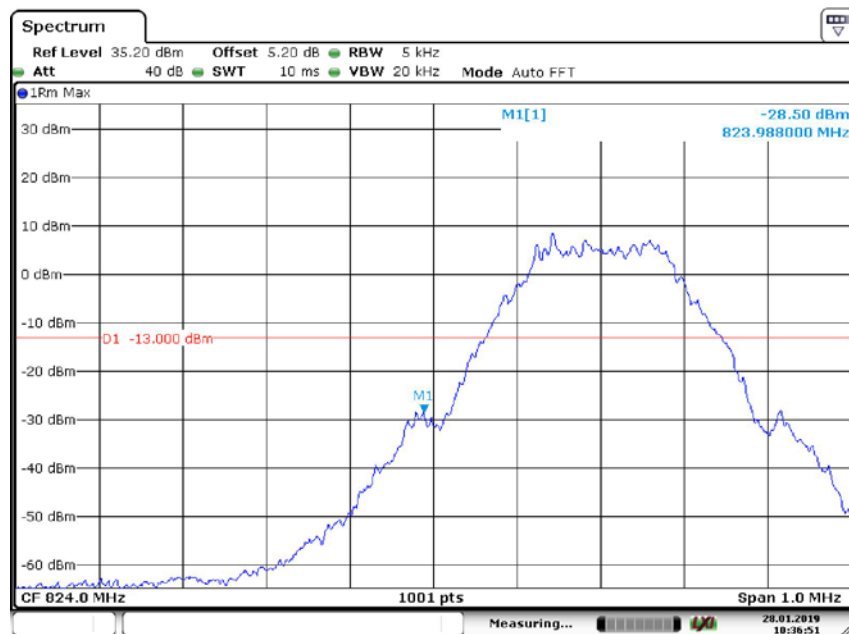
5.1.1.1.2 Test Channel = HCH



Date: 28.JAN.2019 10:35:44

5.1.1.2 Test Mode = GSM/TM2

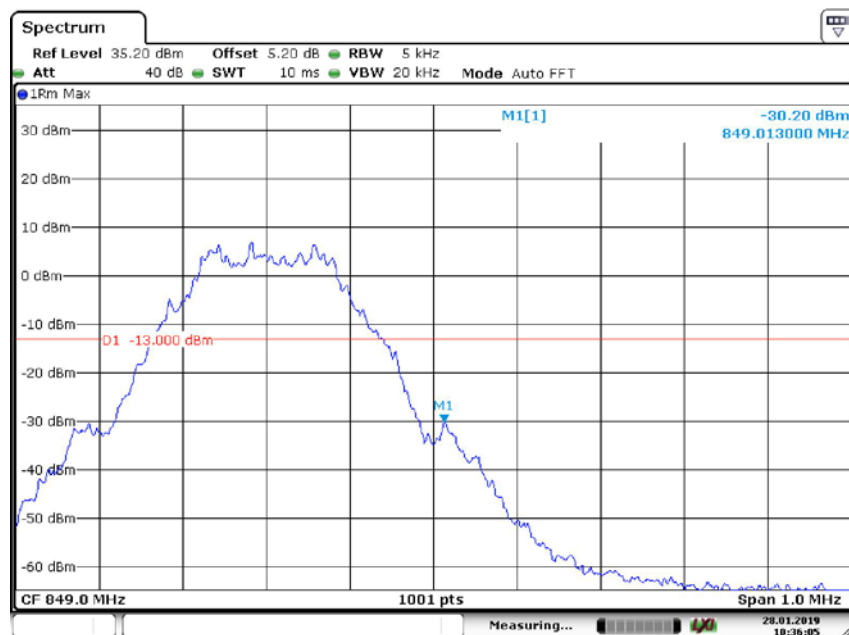
5.1.1.2.1 Test Channel = LCH



Date: 28.JAN.2019 10:36:51



5.1.1.2.2 Test Channel = HCH

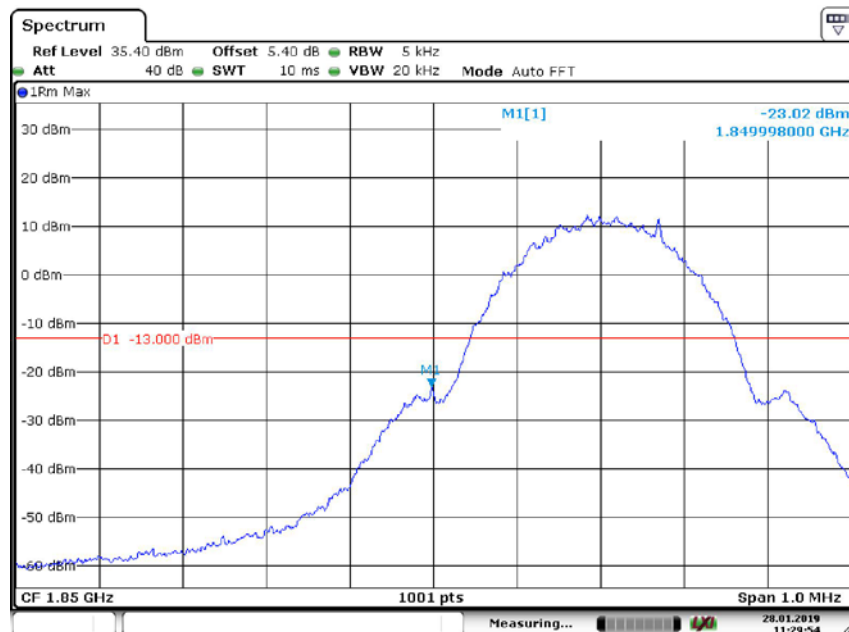


Date: 28.JAN.2019 10:36:05

5.1.2 Test Band = GSM 1900

5.1.2.1 Test Mode = GSM/TM1

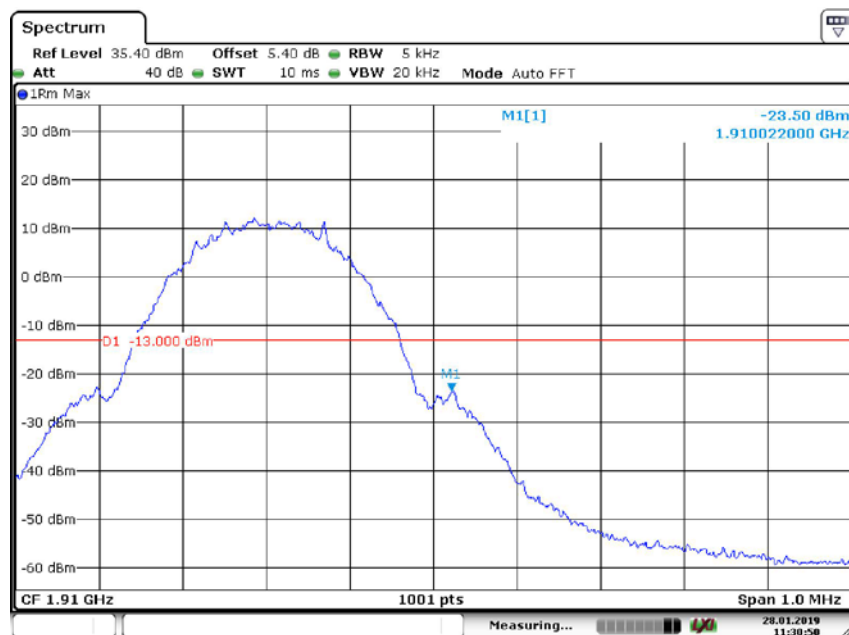
5.1.2.1.1 Test Channel = LCH



Date: 28.JAN.2019 11:29:54



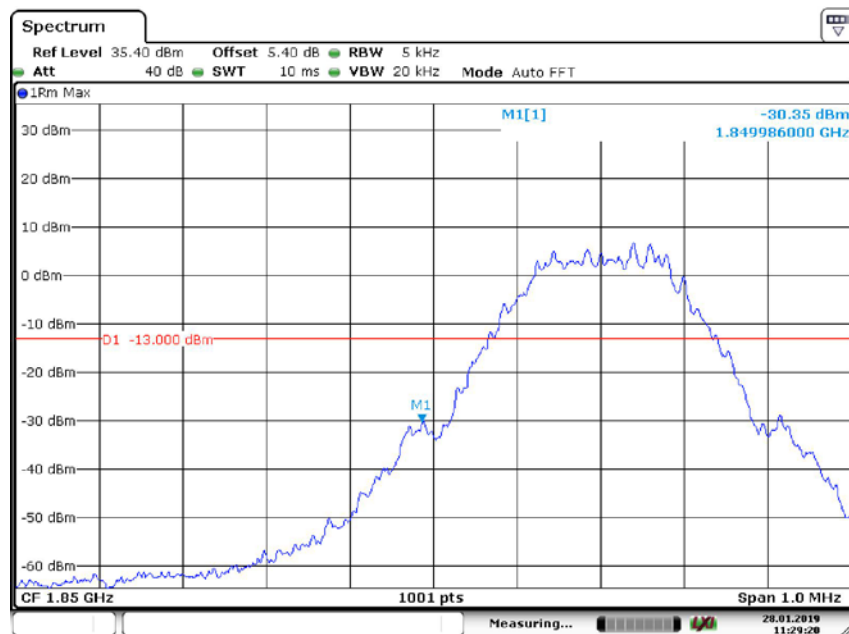
5.1.2.1.2 Test Channel = HCH



Date: 28.JAN.2019 11:30:50

5.1.2.2 Test Mode = GSM/TM2

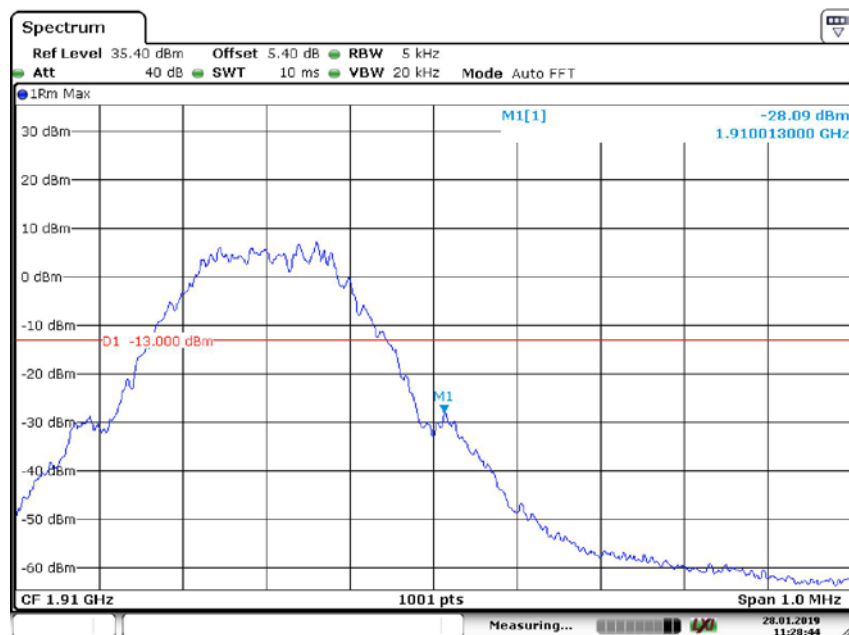
5.1.2.2.1 Test Channel = LCH



Date: 28.JAN.2019 11:29:21



5.1.2.2.2 Test Channel = HCH



Date: 28.JAN.2019 11:28:45



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6 Spurious Emission at Antenna Terminal

REMARK: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

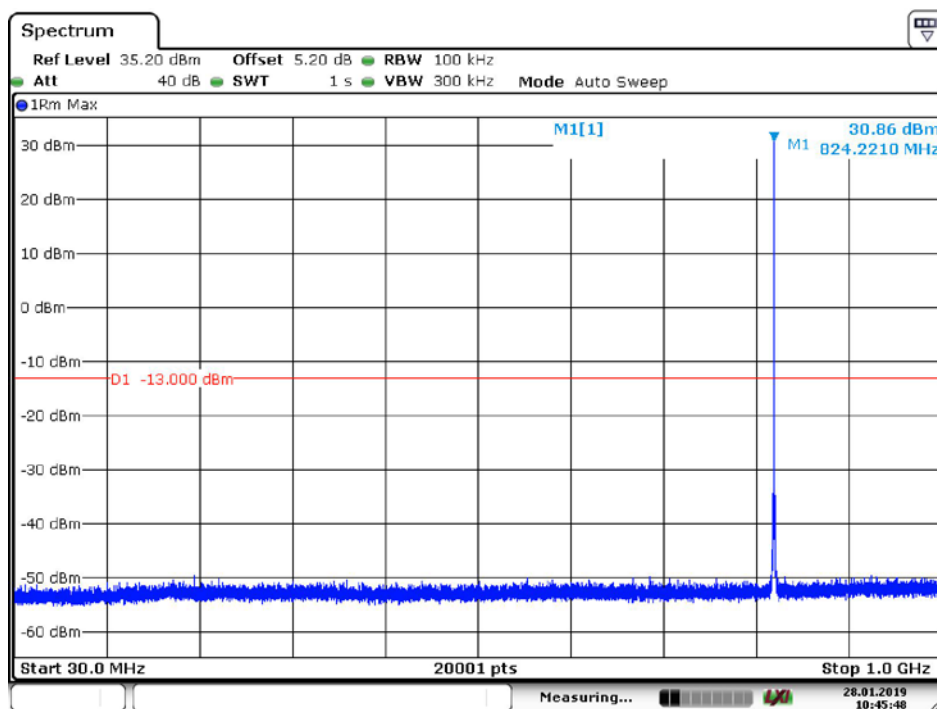
Part I - Test Plots

6.1 For GSM

6.1.1 Test Band = GSM 850

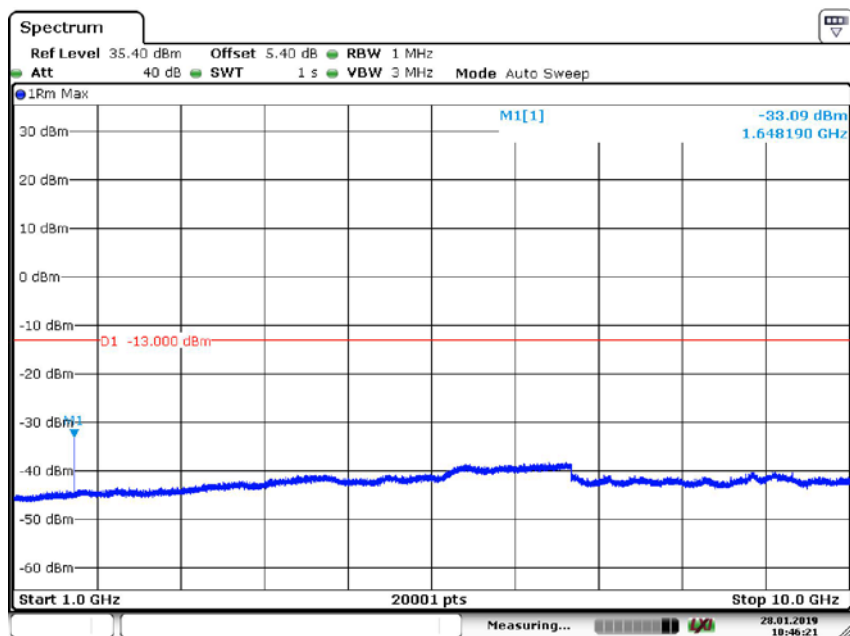
6.1.1.1 Test Mode = GSM/TM1

6.1.1.1.1 Test Channel = LCH



Date: 28.JAN.2019 10:45:49

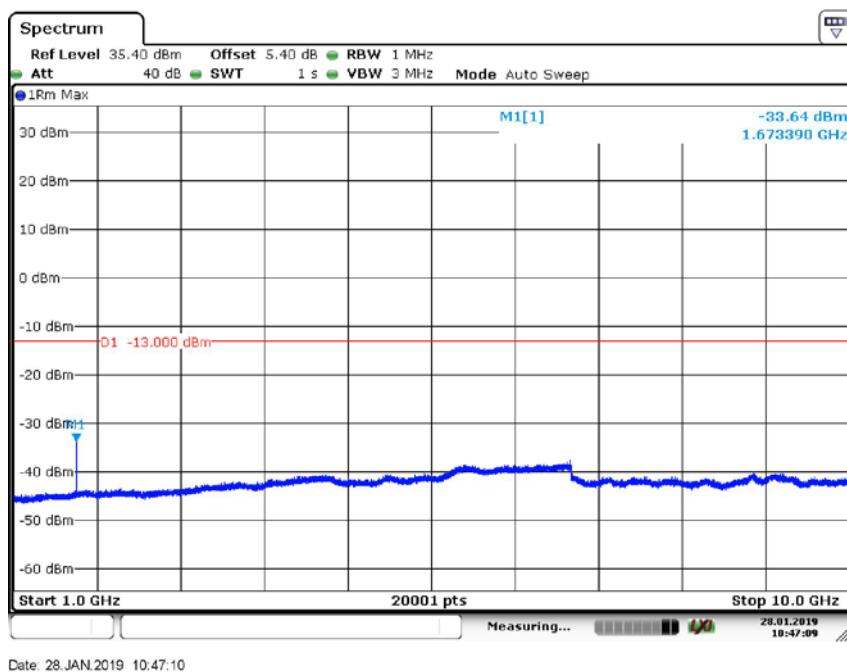
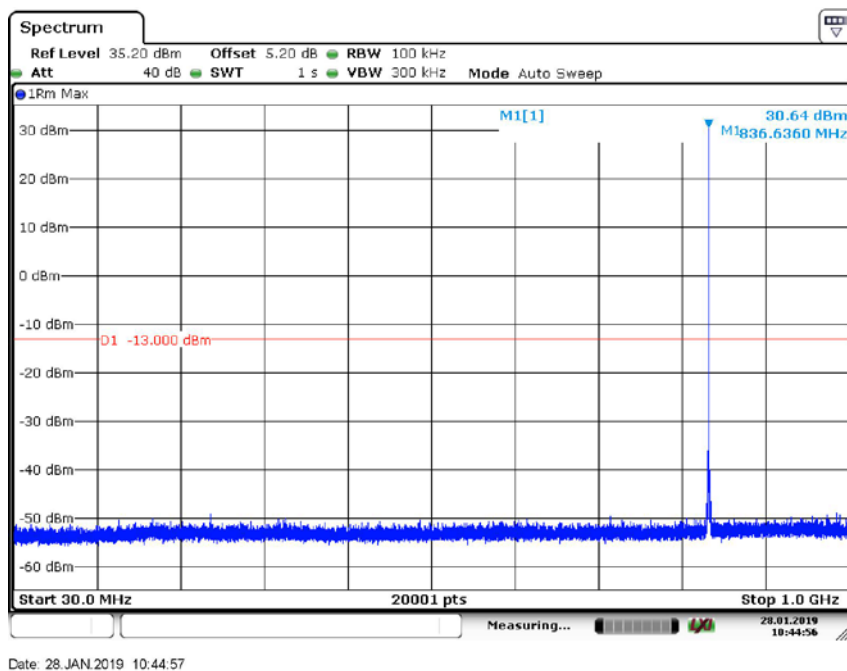




Date: 28.JAN.2019 10:46:20



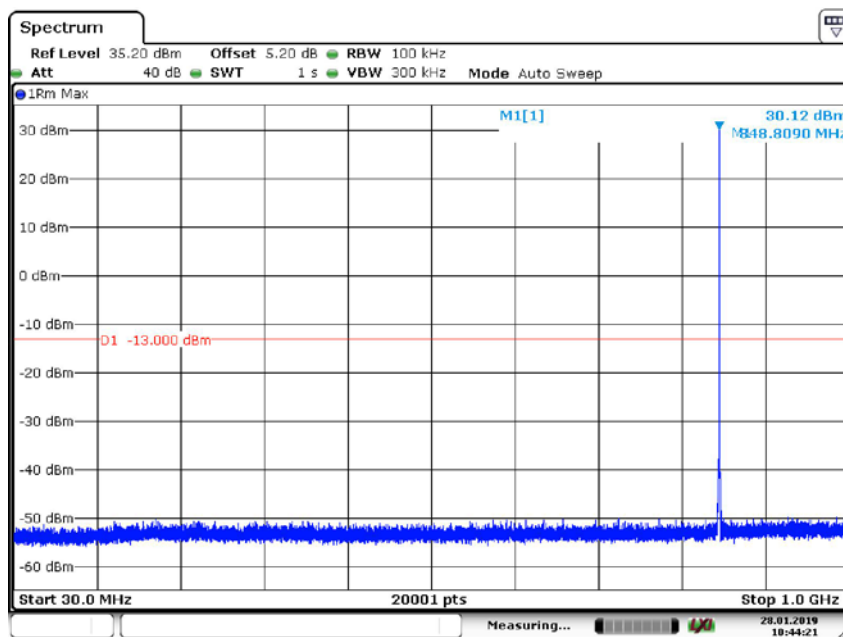
6.1.1.1.2 Test Channel = MCH



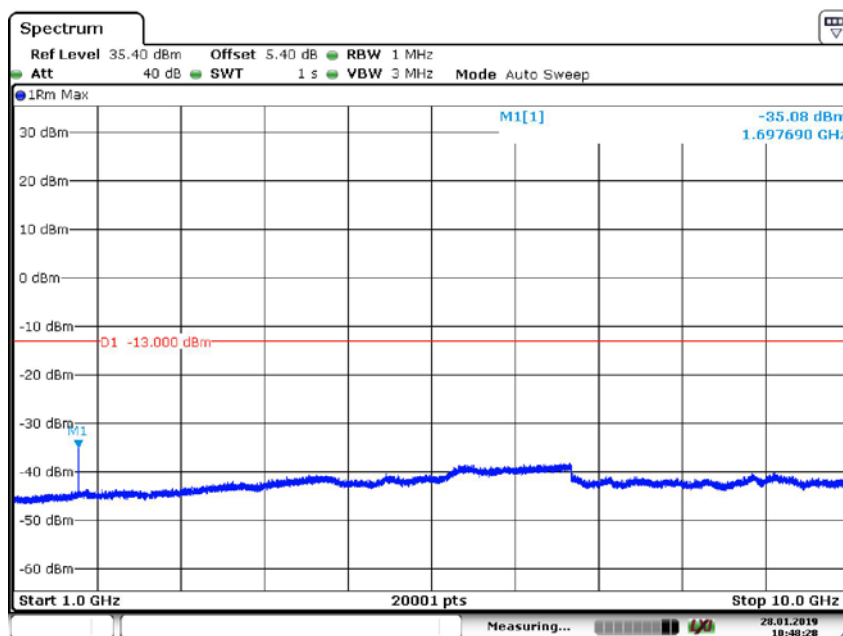
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6.1.1.1.3 Test Channel = HCH



Date: 28.JAN.2019 10:44:22

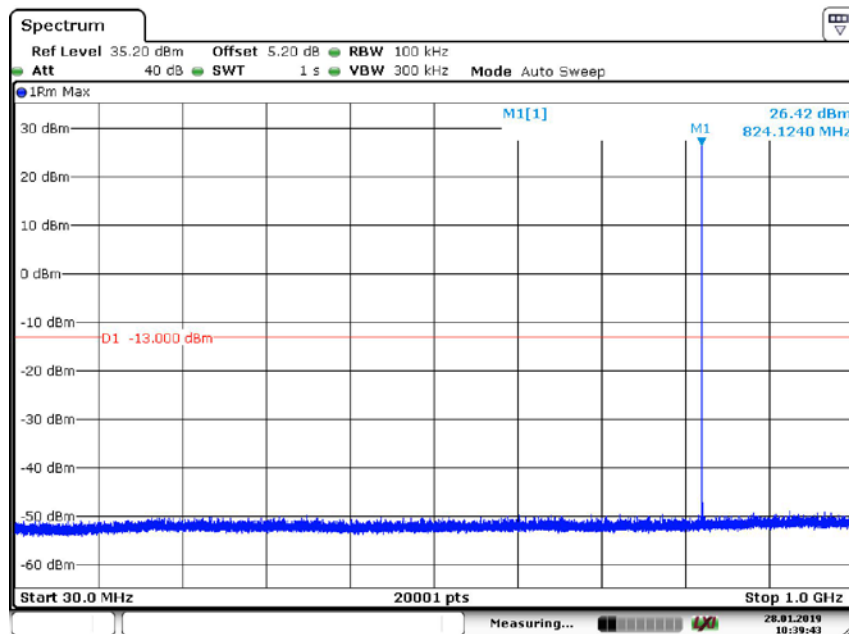


Date: 28.JAN.2019 10:48:28

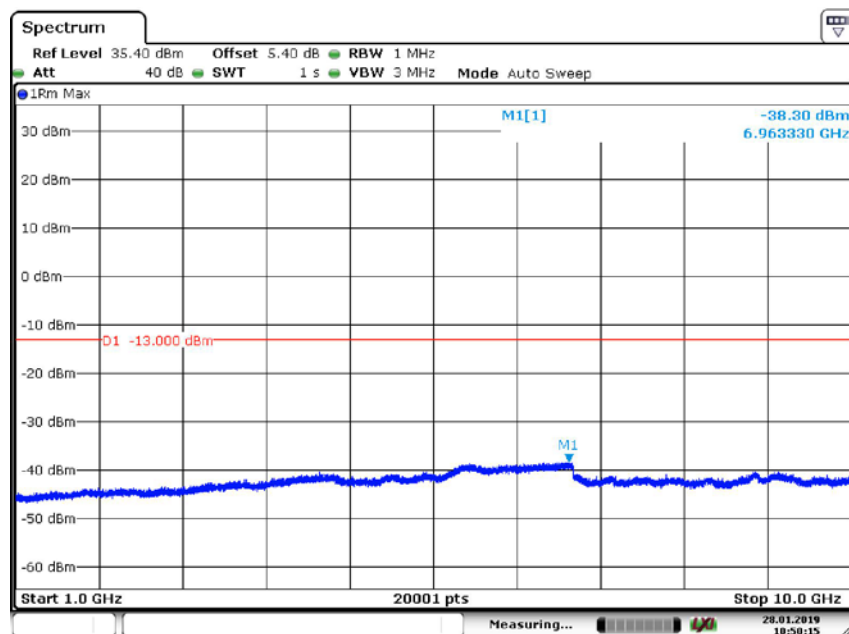


6.1.1.2 Test Mode = GSM/TM2

6.1.1.2.1 Test Channel = LCH



Date: 28.JAN.2019 10:39:44



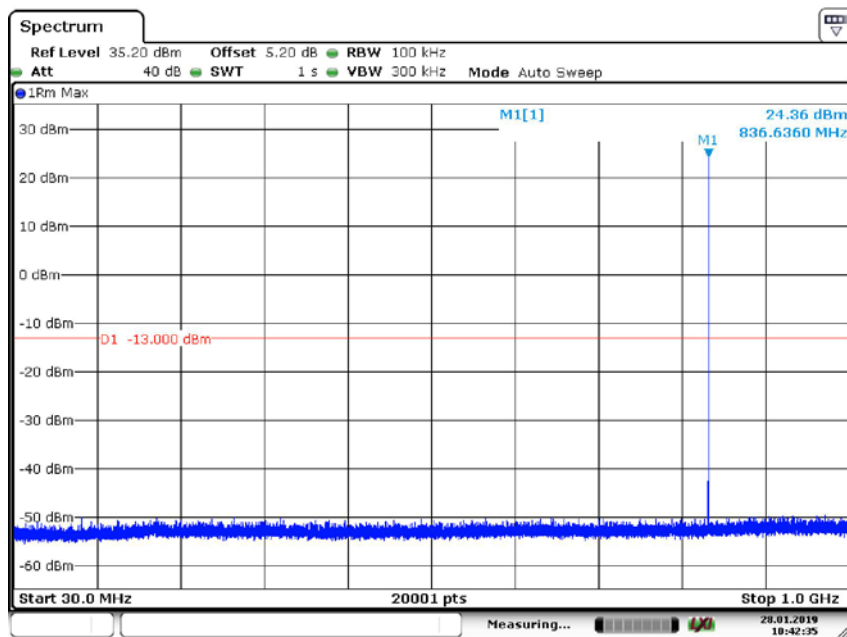
Date: 28.JAN.2019 10:50:15



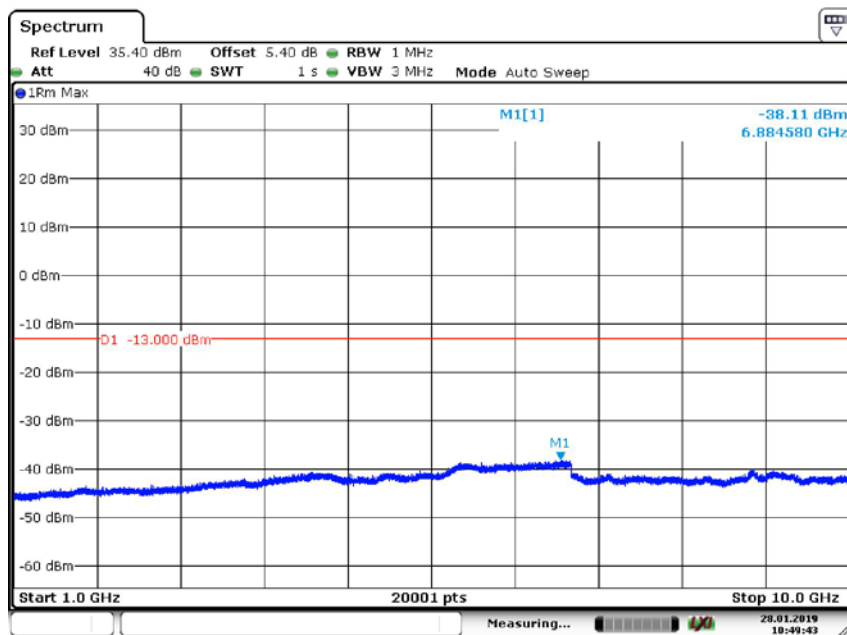
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6.1.1.2.2 Test Channel = MCH



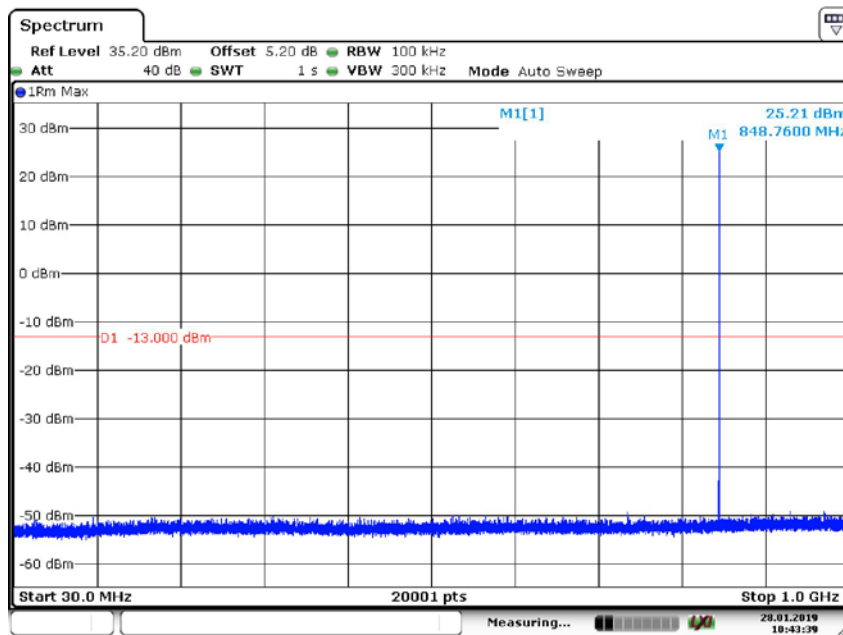
Date: 28. JAN. 2019 10:42:36



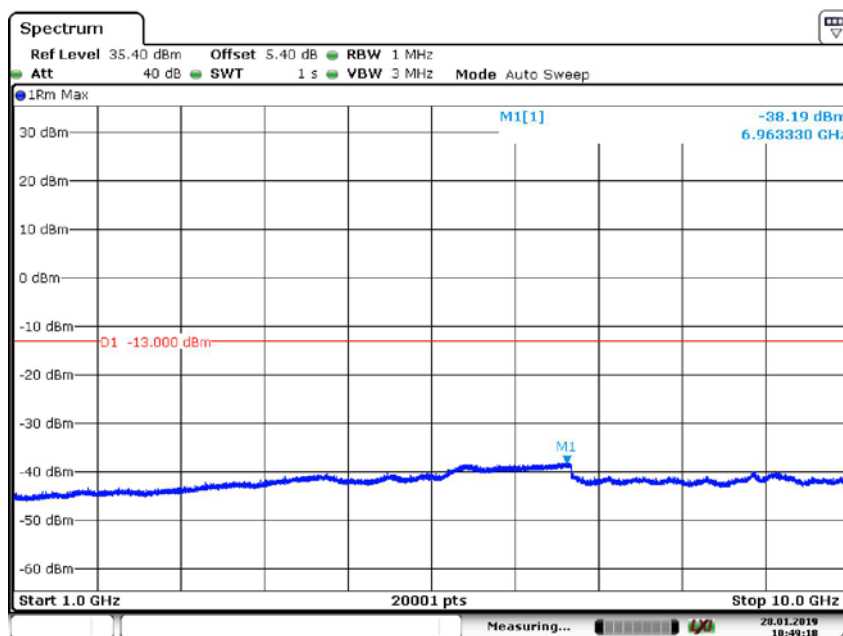
Date: 28. JAN. 2019 10:49:43



6.1.1.2.3 Test Channel = HCH



Date: 28.JAN.2019 10:43:39



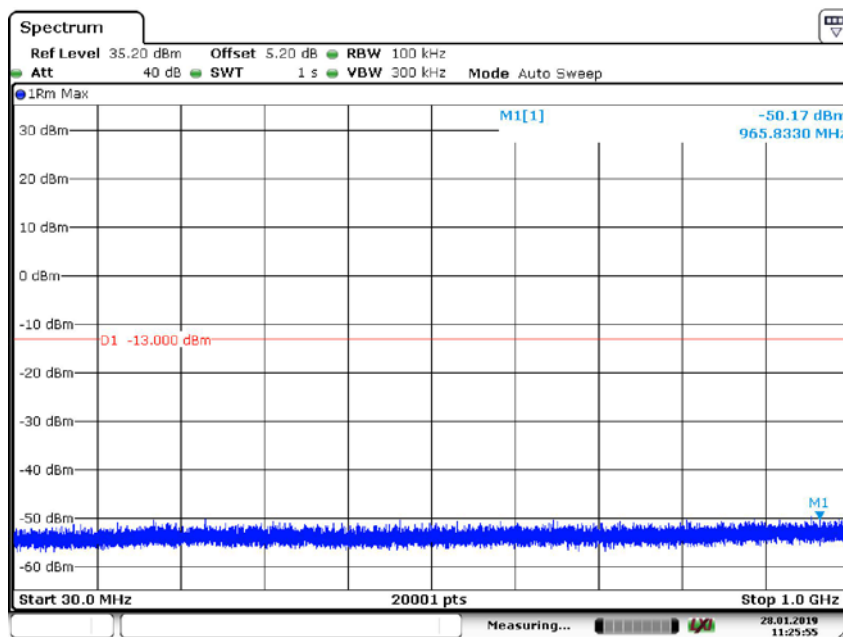
Date: 28.JAN.2019 10:49:19



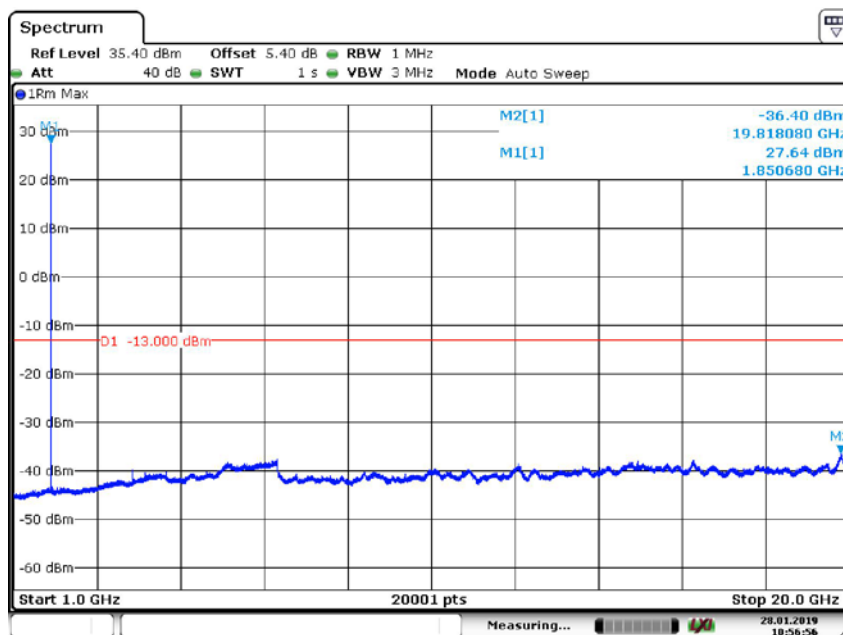
6.1.2 Test Band = GSM 1900

6.1.2.1 Test Mode = GSM/TM1

6.1.2.1.1 Test Channel = LCH



Date: 28.JAN.2019 11:25:55



Date: 28.JAN.2019 10:56:56



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