



Appendix B

E-UTRA Band 2



CONTENT

	Page
1 EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA.....	3
2 PEAK-TO-AVERAGE RATIO	12
2.1 FOR LTE	12
2.1.1 Test Band = LTE band2.....	12
3 MODULATION CHARACTERISTICS	15
3.1 FOR LTE	15
3.1.1 Test Band = LTE band2.....	15
4 BANDWIDTH	16
4.1 FOR LTE	17
4.1.1 Test Band = LTE band2.....	17
5 BAND EDGES COMPLIANCE	44
5.1 FOR LTE	44
5.1.1 Test Band = LTE band2.....	44
6 SPURIOUS EMISSION AT ANTENNA TERMINAL.....	80
6.1 FOR LTE	80
6.1.1 Test Band = LTE band2.....	80
7 FIELD STRENGTH OF SPURIOUS RADIATION	98
7.1 FOR LTE	98
7.1.1 Test Band = LTE band2.....	98
8 FREQUENCY STABILITY	100
8.1 FREQUENCY ERROR VS. VOLTAGE	100
8.2 FREQUENCY ERROR VS. TEMPERATURE	101



1 Effective (Isotropic) Radiated Power Output Data

Effective Isotropic Radiated Power of Transmitter (EIRP) for LTE BAND 2

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM1	1.4M	LCH	RB1#0	22.45	25.45	33.00	PASS
				RB1#2	22.57	25.57	33.00	PASS
				RB1#5	22.47	25.47	33.00	PASS
				RB3#0	22.21	25.21	33.00	PASS
				RB3#2	22.20	25.2	33.00	PASS
				RB3#3	22.23	25.23	33.00	PASS
				RB6#0	21.30	24.3	33.00	PASS
			MCH	RB1#0	22.32	25.32	33.00	PASS
				RB1#2	22.47	25.47	33.00	PASS
				RB1#5	22.42	25.42	33.00	PASS
				RB3#0	22.46	25.46	33.00	PASS
				RB3#2	22.47	25.47	33.00	PASS
				RB3#3	22.33	25.33	33.00	PASS
				RB6#0	21.53	24.53	33.00	PASS
			HCH	RB1#0	22.47	25.47	33.00	PASS
				RB1#2	22.37	25.37	33.00	PASS
				RB1#5	22.44	25.44	33.00	PASS
				RB3#0	22.51	25.51	33.00	PASS
				RB3#2	22.49	25.49	33.00	PASS
				RB3#3	22.39	25.39	33.00	PASS
				RB6#0	21.68	24.68	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503

Page: 4 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM2	1.4M	LCH	RB1#0	21.56	24.56	33.00	PASS
				RB1#2	21.69	24.69	33.00	PASS
				RB1#5	21.46	24.46	33.00	PASS
				RB3#0	21.19	24.19	33.00	PASS
				RB3#2	21.18	24.18	33.00	PASS
				RB3#3	21.22	24.22	33.00	PASS
				RB6#0	20.42	23.42	33.00	PASS
			MCH	RB1#0	21.17	24.17	33.00	PASS
				RB1#2	21.40	24.4	33.00	PASS
				RB1#5	21.38	24.38	33.00	PASS
				RB3#0	21.34	24.34	33.00	PASS
				RB3#2	21.33	24.33	33.00	PASS
				RB3#3	21.56	24.56	33.00	PASS
				RB6#0	20.39	23.39	33.00	PASS
			HCH	RB1#0	21.43	24.43	33.00	PASS
				RB1#2	21.63	24.63	33.00	PASS
				RB1#5	21.76	24.76	33.00	PASS
				RB3#0	21.52	24.52	33.00	PASS
				RB3#2	21.50	24.5	33.00	PASS
				RB3#3	21.54	24.54	33.00	PASS
				RB6#0	20.56	23.56	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503

Page: 5 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM1	3M	LCH	RB1#0	21.29	24.29	33.00	PASS
				RB1#7	22.57	25.57	33.00	PASS
				RB1#14	22.17	25.17	33.00	PASS
				RB8#0	22.21	25.21	33.00	PASS
				RB8#4	21.33	24.33	33.00	PASS
				RB8#7	21.32	24.32	33.00	PASS
				RB15#0	21.26	24.26	33.00	PASS
			MCH	RB1#0	21.49	24.49	33.00	PASS
				RB1#7	22.69	25.69	33.00	PASS
				RB1#14	22.45	25.45	33.00	PASS
				RB8#0	22.83	25.83	33.00	PASS
				RB8#4	21.53	24.53	33.00	PASS
				RB8#7	21.44	24.44	33.00	PASS
				RB15#0	21.55	24.55	33.00	PASS
			HCH	RB1#0	21.69	24.69	33.00	PASS
				RB1#7	22.48	25.48	33.00	PASS
				RB1#14	22.43	25.43	33.00	PASS
				RB8#0	22.49	25.49	33.00	PASS
				RB8#4	21.67	24.67	33.00	PASS
				RB8#7	21.56	24.56	33.00	PASS
				RB15#0	21.63	24.63	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503

Page: 6 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM2	3M	LCH	RB1#0	20.28	23.28	33.00	PASS
				RB1#7	21.63	24.63	33.00	PASS
				RB1#14	21.29	24.29	33.00	PASS
				RB8#0	21.18	24.18	33.00	PASS
				RB8#4	20.40	23.4	33.00	PASS
				RB8#7	20.40	23.4	33.00	PASS
				RB15#0	20.53	23.53	33.00	PASS
			MCH	RB1#0	20.61	23.61	33.00	PASS
				RB1#7	21.68	24.68	33.00	PASS
				RB1#14	21.53	24.53	33.00	PASS
				RB8#0	21.63	24.63	33.00	PASS
				RB8#4	20.61	23.61	33.00	PASS
				RB8#7	20.52	23.52	33.00	PASS
				RB15#0	20.74	23.74	33.00	PASS
			HCH	RB1#0	20.75	23.75	33.00	PASS
				RB1#7	21.65	24.65	33.00	PASS
				RB1#14	21.58	24.58	33.00	PASS
				RB8#0	21.54	24.54	33.00	PASS
				RB8#4	20.65	23.65	33.00	PASS
				RB8#7	20.76	23.76	33.00	PASS
				RB15#0	20.67	23.67	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503

Page: 7 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM1	5M	LCH	RB1#0	21.38	24.38	33.00	PASS
				RB1#13	21.38	24.38	33.00	PASS
				RB1#24	21.38	24.38	33.00	PASS
				RB12#0	22.44	25.44	33.00	PASS
				RB12#6	22.43	25.43	33.00	PASS
				RB12#13	22.37	25.37	33.00	PASS
				RB25#0	21.34	24.34	33.00	PASS
			MCH	RB1#0	21.50	24.5	33.00	PASS
				RB1#13	21.53	24.53	33.00	PASS
				RB1#24	21.49	24.49	33.00	PASS
				RB12#0	22.38	25.38	33.00	PASS
				RB12#6	22.37	25.37	33.00	PASS
				RB12#13	22.54	25.54	33.00	PASS
				RB25#0	21.51	24.51	33.00	PASS
			HCH	RB1#0	21.73	24.73	33.00	PASS
				RB1#13	21.61	24.61	33.00	PASS
				RB1#24	21.63	24.63	33.00	PASS
				RB12#0	22.63	25.63	33.00	PASS
				RB12#6	22.63	25.63	33.00	PASS
				RB12#13	22.59	25.59	33.00	PASS
				RB25#0	21.57	24.57	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503

Page: 8 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM2	5M	LCH	RB1#0	20.52	23.52	33.00	PASS
				RB1#13	20.40	23.4	33.00	PASS
				RB1#24	20.44	23.44	33.00	PASS
				RB12#0	21.32	24.32	33.00	PASS
				RB12#6	21.69	24.69	33.00	PASS
				RB12#13	21.40	24.4	33.00	PASS
				RB25#0	20.31	23.31	33.00	PASS
			MCH	RB1#0	20.40	23.4	33.00	PASS
				RB1#13	20.35	23.35	33.00	PASS
				RB1#24	20.40	23.4	33.00	PASS
				RB12#0	21.46	24.46	33.00	PASS
				RB12#6	21.58	24.58	33.00	PASS
				RB12#13	21.46	24.46	33.00	PASS
				RB25#0	20.52	23.52	33.00	PASS
			HCH	RB1#0	20.68	23.68	33.00	PASS
				RB1#13	20.67	23.67	33.00	PASS
				RB1#24	20.67	23.67	33.00	PASS
				RB12#0	21.09	24.09	33.00	PASS
				RB12#6	21.12	24.12	33.00	PASS
				RB12#13	21.38	24.38	33.00	PASS
				RB25#0	20.64	23.64	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503

Page: 9 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM1	10M	LCH	RB1#0	22.50	25.5	33.00	PASS
				RB1#25	22.67	25.67	33.00	PASS
				RB1#49	22.32	25.32	33.00	PASS
				RB25#0	21.54	24.54	33.00	PASS
				RB25#13	21.54	24.54	33.00	PASS
				RB25#25	21.40	24.4	33.00	PASS
				RB50#0	21.54	24.54	33.00	PASS
			MCH	RB1#0	22.43	25.43	33.00	PASS
				RB1#25	22.94	25.94	33.00	PASS
				RB1#49	22.21	25.21	33.00	PASS
				RB25#0	21.54	24.54	33.00	PASS
				RB25#13	21.63	24.63	33.00	PASS
				RB25#25	21.55	24.55	33.00	PASS
				RB50#0	21.57	24.57	33.00	PASS
			HCH	RB1#0	22.65	25.65	33.00	PASS
				RB1#25	23.09	26.09	33.00	PASS
				RB1#49	22.50	25.5	33.00	PASS
				RB25#0	21.67	24.67	33.00	PASS
				RB25#13	21.66	24.66	33.00	PASS
				RB25#25	21.80	24.8	33.00	PASS
				RB50#0	21.77	24.77	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503

Page: 10 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM1	15M	LCH	RB1#0	22.28	25.28	33.00	PASS
				RB1#38	22.53	25.53	33.00	PASS
				RB1#74	22.36	25.36	33.00	PASS
				RB36#0	22.61	25.61	33.00	PASS
				RB36#18	22.54	25.54	33.00	PASS
				RB36#39	22.39	25.39	33.00	PASS
				RB75#0	21.67	24.67	33.00	PASS
			MCH	RB1#0	22.57	25.57	33.00	PASS
				RB1#38	22.92	25.92	33.00	PASS
				RB1#74	22.43	25.43	33.00	PASS
				RB36#0	22.59	25.59	33.00	PASS
				RB36#18	22.87	25.87	33.00	PASS
				RB36#39	22.41	25.41	33.00	PASS
				RB75#0	21.69	24.69	33.00	PASS
			HCH	RB1#0	22.64	25.64	33.00	PASS
				RB1#38	22.86	25.86	33.00	PASS
				RB1#74	22.58	25.58	33.00	PASS
				RB36#0	22.72	25.72	33.00	PASS
				RB36#18	22.88	25.88	33.00	PASS
				RB36#39	22.62	25.62	33.00	PASS
				RB75#0	21.86	24.86	33.00	PASS



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180400306503

Page: 11 of 101

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND2	LTE/TM1	20M	LCH	RB1#0	21.52	24.52	33.00	PASS
				RB1#50	22.35	25.35	33.00	PASS
				RB1#99	22.90	25.9	33.00	PASS
				RB50#0	22.30	25.3	33.00	PASS
				RB50#25	21.56	24.56	33.00	PASS
				RB50#50	21.56	24.56	33.00	PASS
				RB100#0	21.45	24.45	33.00	PASS
			MCH	RB1#0	21.64	24.64	33.00	PASS
				RB1#50	22.68	25.68	33.00	PASS
				RB1#99	22.73	25.73	33.00	PASS
				RB50#0	22.33	25.33	33.00	PASS
				RB50#25	21.53	24.53	33.00	PASS
				RB50#50	21.52	24.52	33.00	PASS
				RB100#0	21.54	24.54	33.00	PASS
			HCH	RB1#0	21.90	24.9	33.00	PASS
				RB1#50	22.54	25.54	33.00	PASS
				RB1#99	23.09	26.09	33.00	PASS
				RB50#0	22.59	25.59	33.00	PASS
				RB50#25	21.78	24.78	33.00	PASS
				RB50#50	21.78	24.78	33.00	PASS
				RB100#0	21.76	24.76	33.00	PASS

Note:

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

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

b: SGP=Signal Generator Level



2 Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
Band 2	TM1/20M	LCH	3.97	13	PASS
		MCH	4.20	13	PASS
		HCH	4.06	13	PASS

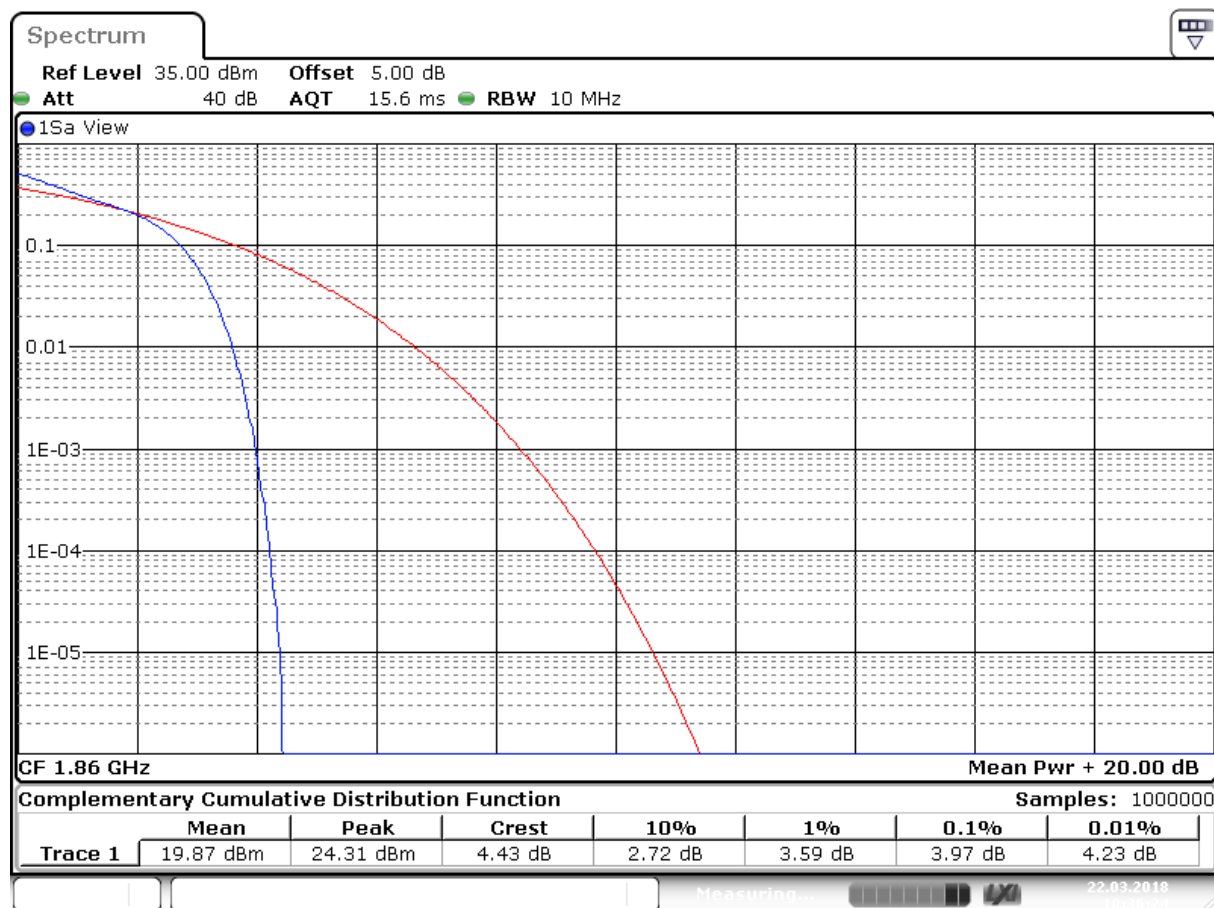
Part II - Test Plots

2.1 For LTE

2.1.1 Test Band = LTE band2

2.1.1.1 Test Mode = LTE/TM1.Bandwidth=20MHz

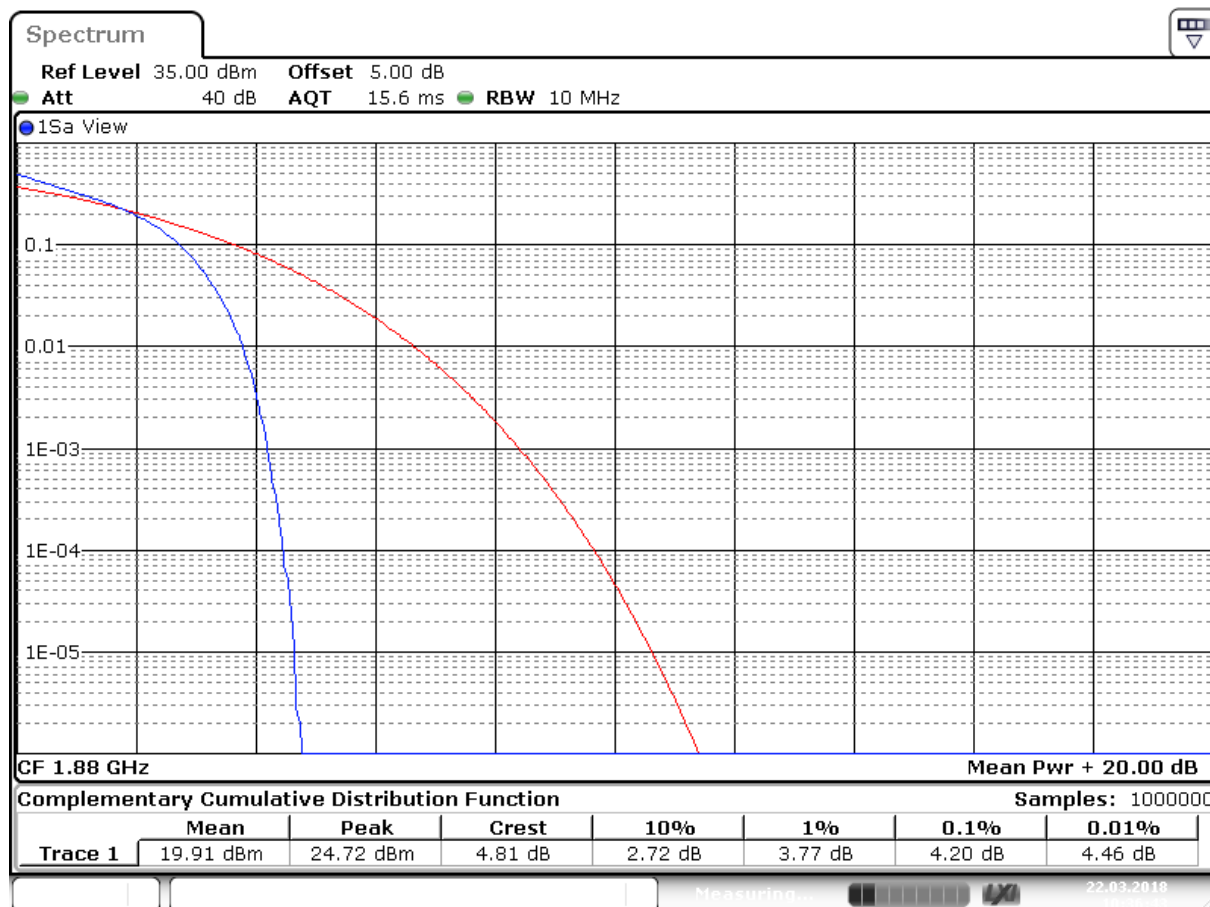
2.1.1.1.1 Test Channel = LCH



Date: 22 MAR 2018 10:36:24



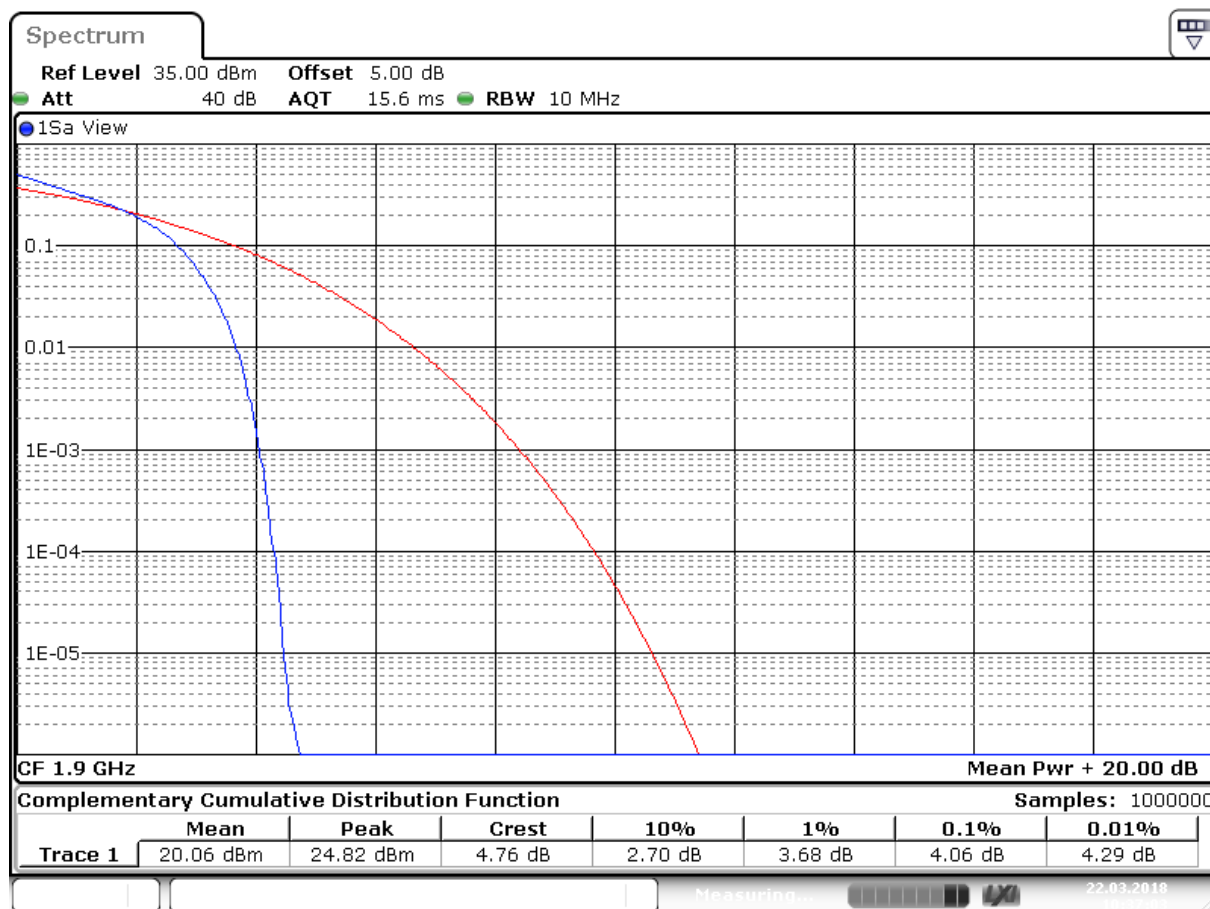
2.1.1.1.2 Test Channel = MCH



Date: 22 MAR 2018 10:36:44



2.1.1.1.3 Test Channel = HCH



Date: 22 MAR 2018 10:37:03



3 Modulation Characteristics

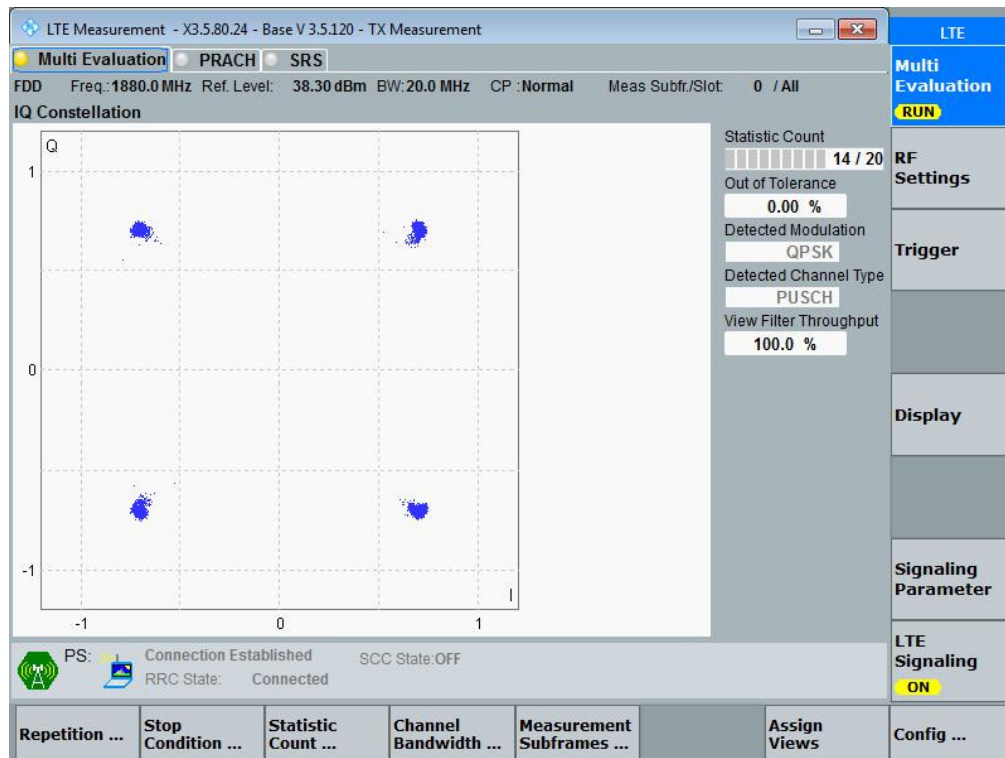
Part I - Test Plots

3.1 For LTE

3.1.1 Test Band = LTE band2

3.1.1.1 Test Mode = LTE /TM1 20MHz

3.1.1.1.1 Test Channel = MCH





4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band 2	TM1/1.4MHz	LCH	1.091	1.227	PASS
		MCH	1.091	1.242	PASS
		HCH	1.094	1.245	PASS
	TM2/1.4MHz	LCH	1.091	1.248	PASS
		MCH	1.088	1.245	PASS
		HCH	1.091	1.251	PASS
	TM1/ 3MHz	LCH	2.697	2.892	PASS
		MCH	2.697	2.856	PASS
		HCH	2.691	2.880	PASS
	TM2/3MHz	LCH	2.697	2.886	PASS
		MCH	2.697	2.850	PASS
		HCH	2.691	2.880	PASS
	TM1/ 5MHz	LCH	4.476	4.700	PASS
		MCH	4.476	4.730	PASS
		HCH	4.476	4.740	PASS
	TM2/ 5MHz	LCH	4.466	4.780	PASS
		MCH	4.486	4.730	PASS
		HCH	4.476	4.720	PASS
	TM1/10MHz	LCH	8.931	9.320	PASS
		MCH	8.931	9.300	PASS
		HCH	8.951	9.280	PASS
	TM1/ 15MHz	LCH	13.457	14.280	PASS
		MCH	13.457	14.280	PASS
		HCH	13.457	14.280	PASS
	TM1/ 20MHz	LCH	17.862	18.800	PASS
		MCH	17.942	19.421	PASS
		HCH	17.902	18.800	PASS

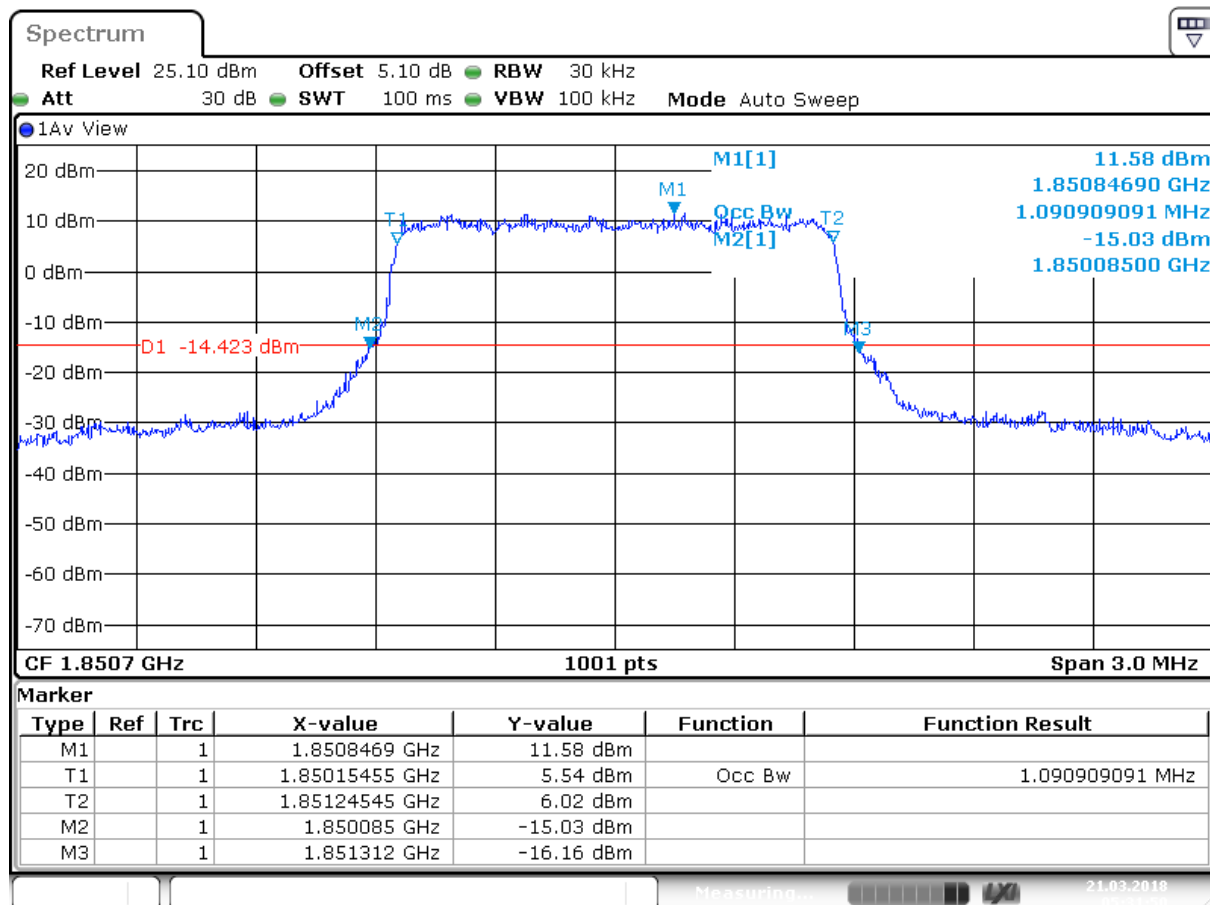


4.1 For LTE

4.1.1 Test Band = LTE band2

4.1.1.1 Test Mode = LTE/TM1 1.4MHz

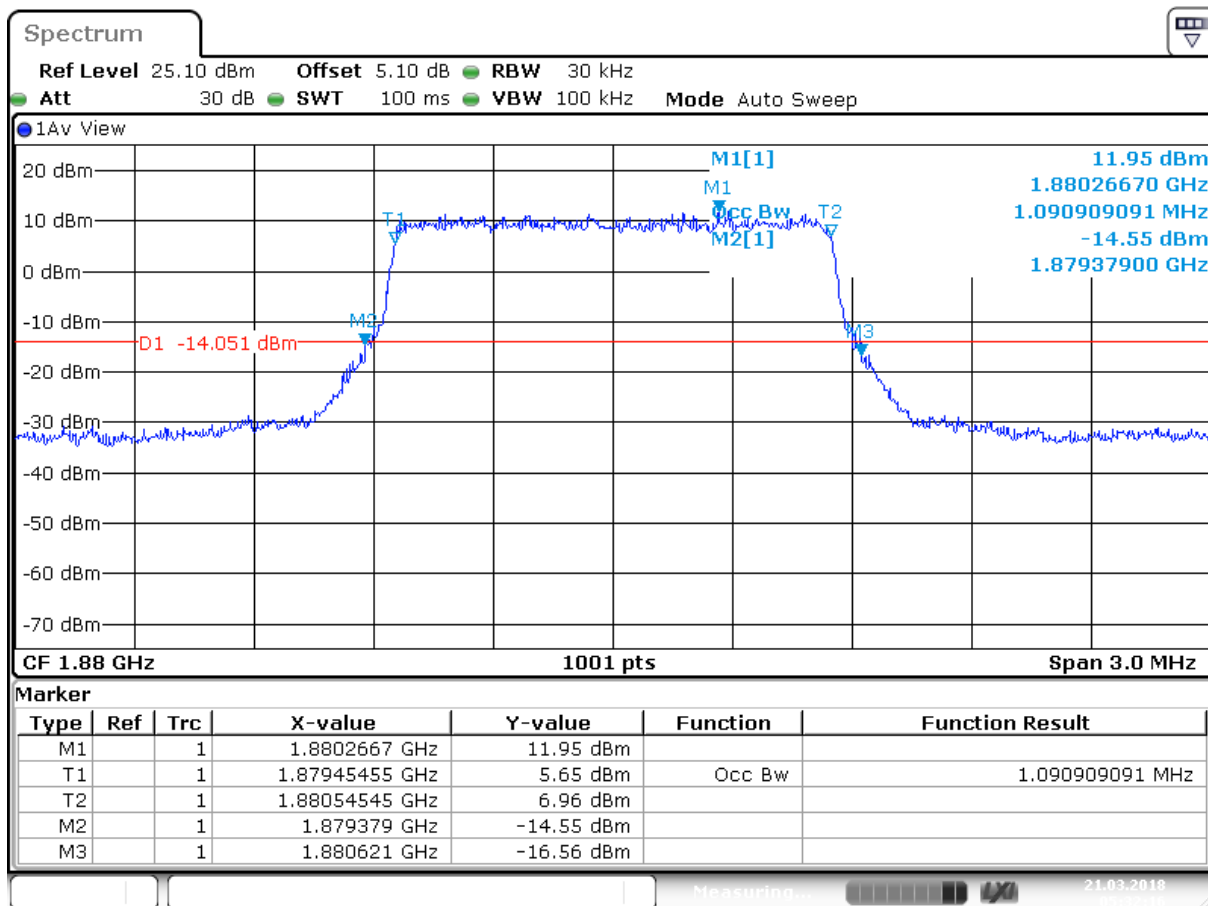
4.1.1.1.1 Test Channel = LCH



Date: 21 MAR 2018 05:31:51



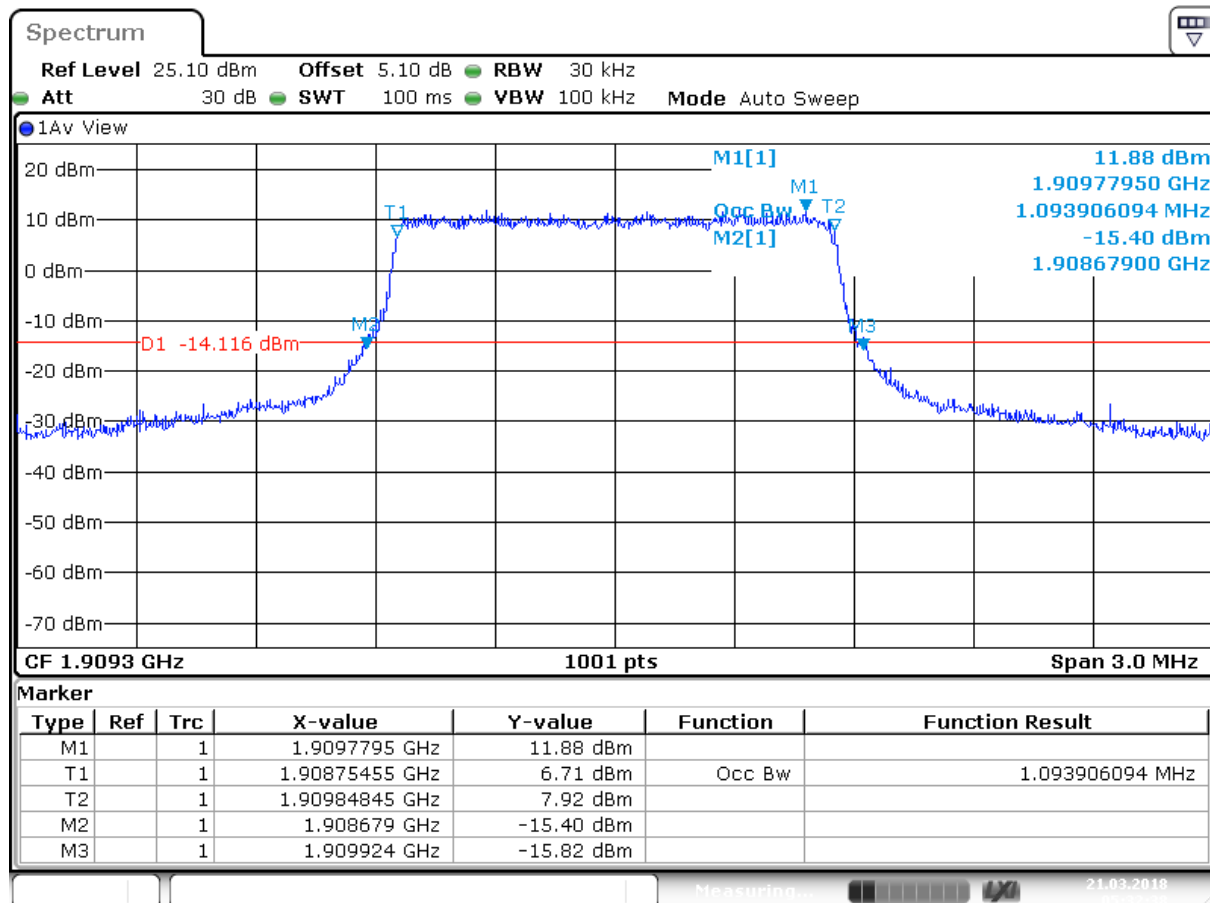
4.1.1.1.2 Test Channel = MCH



Date: 21 MAR 2018 05:32:16



4.1.1.1.3 Test Channel = HCH

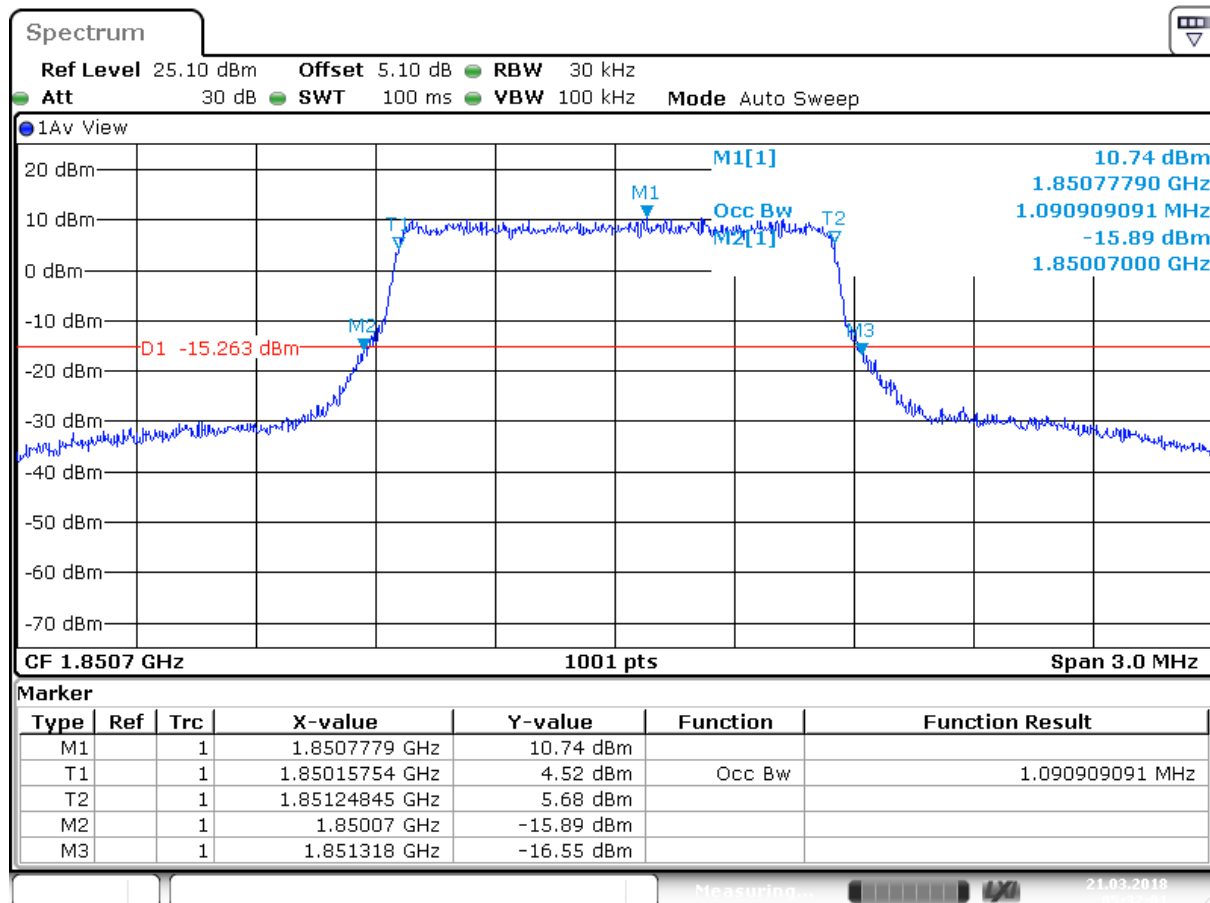


Date: 21 MAR 2018 05:32:38



4.1.1.2 Test Mode = LTE/TM2 1.4MHz

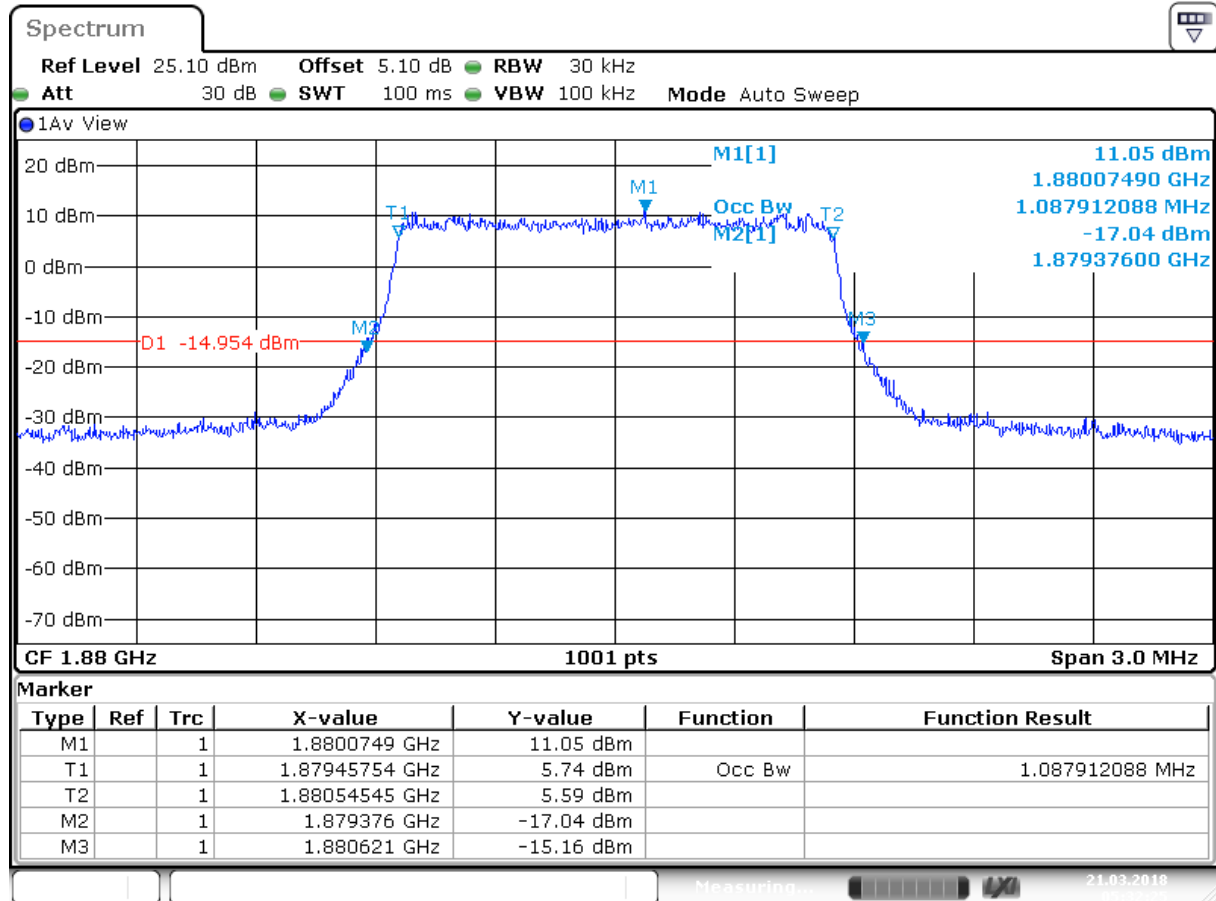
4.1.1.2.1 Test Channel = LCH



Date: 21 MAR 2018 05:32:01



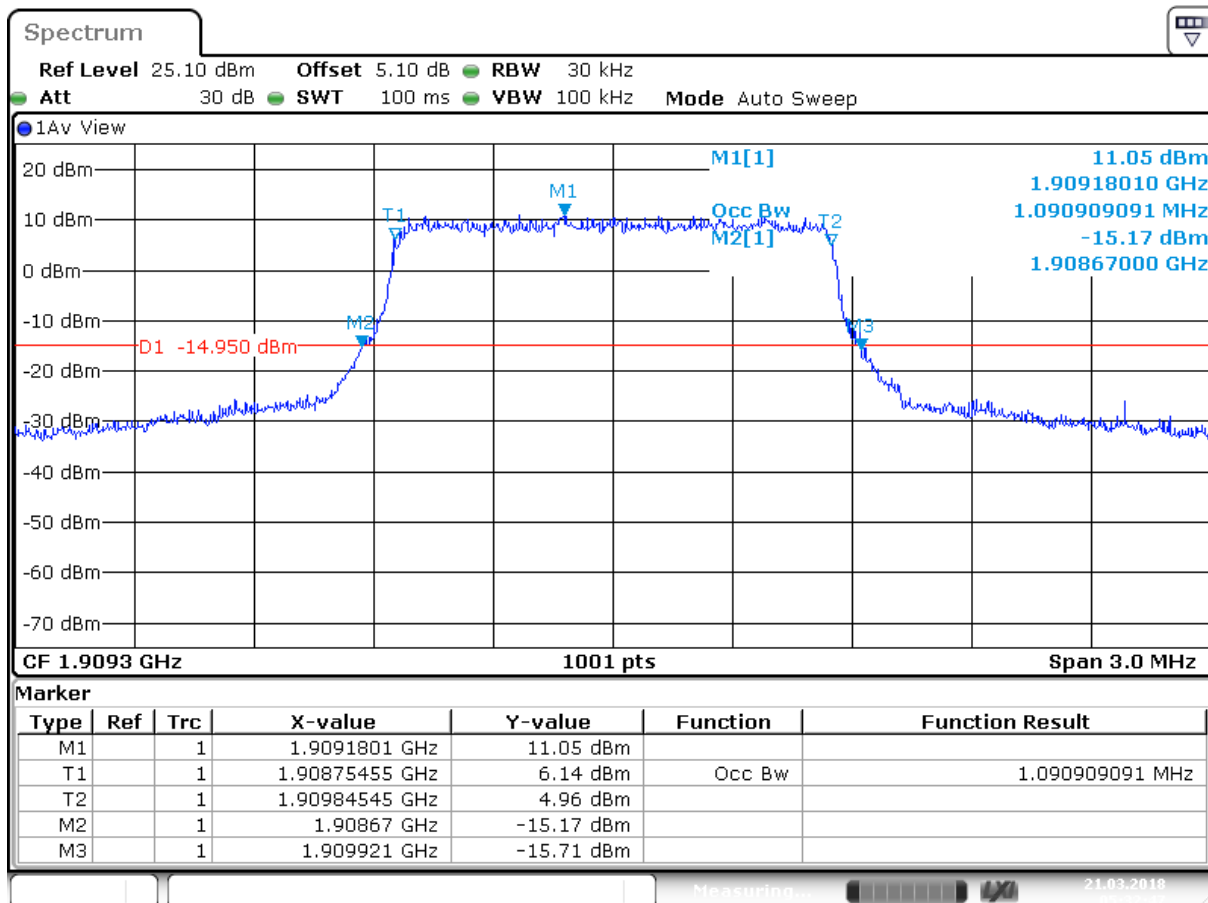
4.1.1.2.2 Test Channel = MCH



Date: 21 MAR 2018 05:32:25



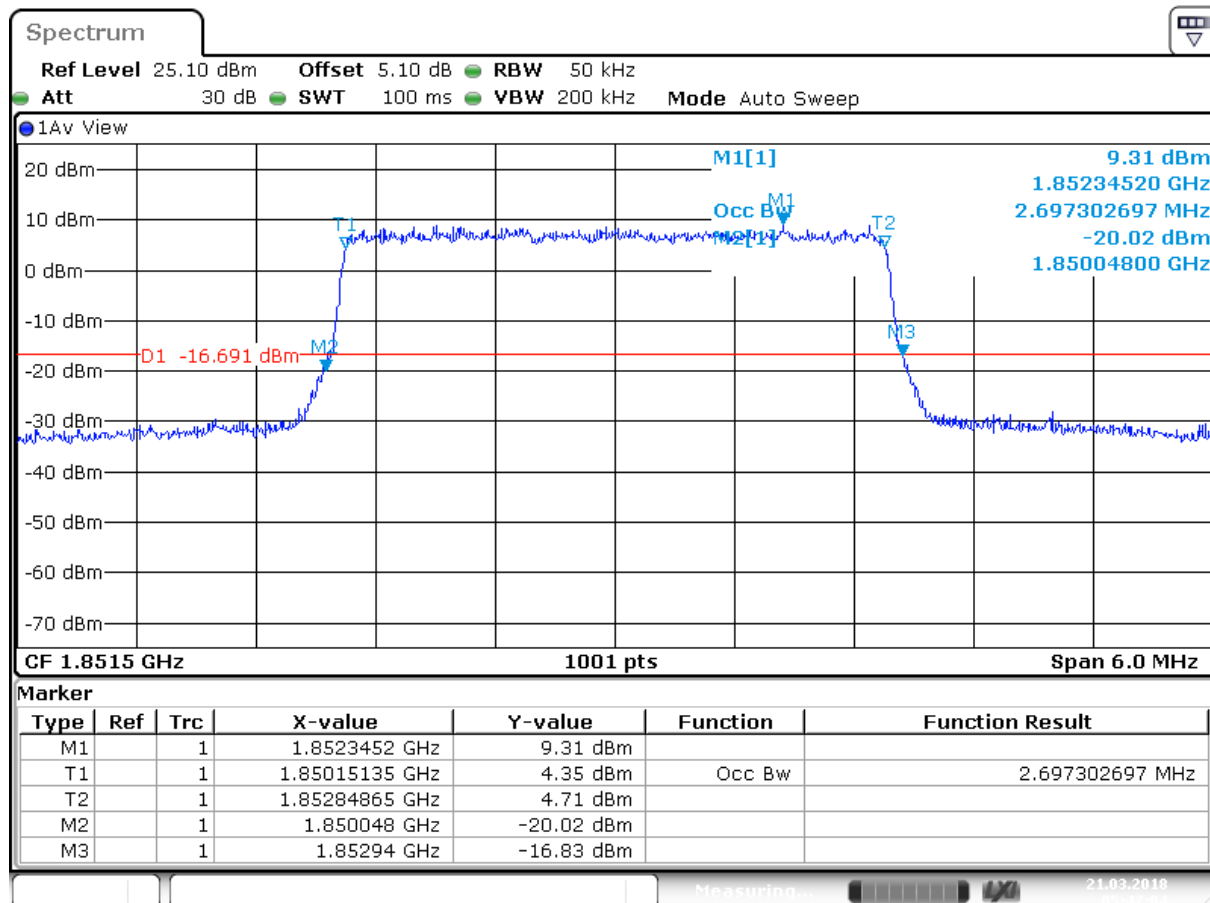
4.1.1.2.3 Test Channel = HCH



Date: 21 MAR 2018 05:32:48



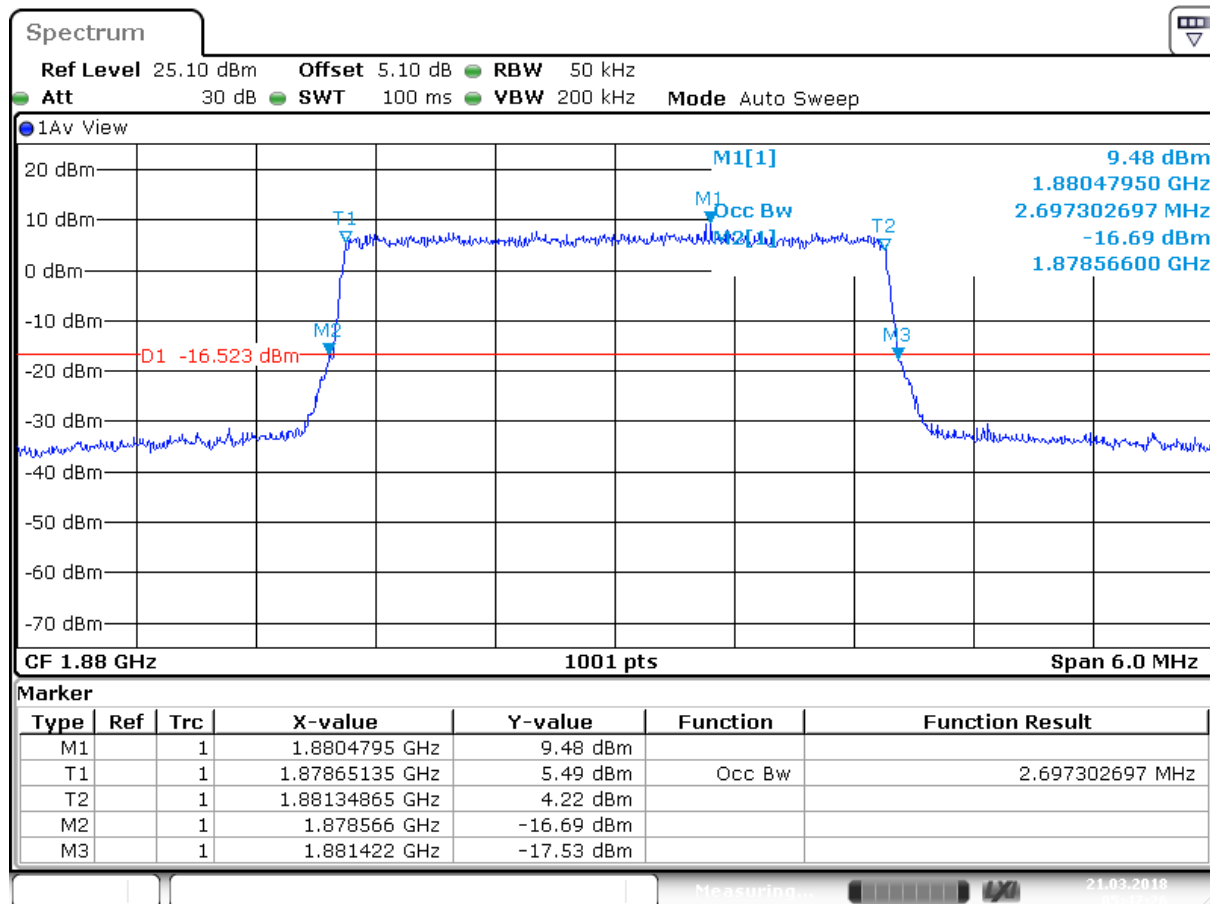
4.1.1.3 Test Mode = LTE/TM1 3MHz
4.1.1.3.1 Test Channel = LCH



Date: 21 MAR 2018 05:47:05



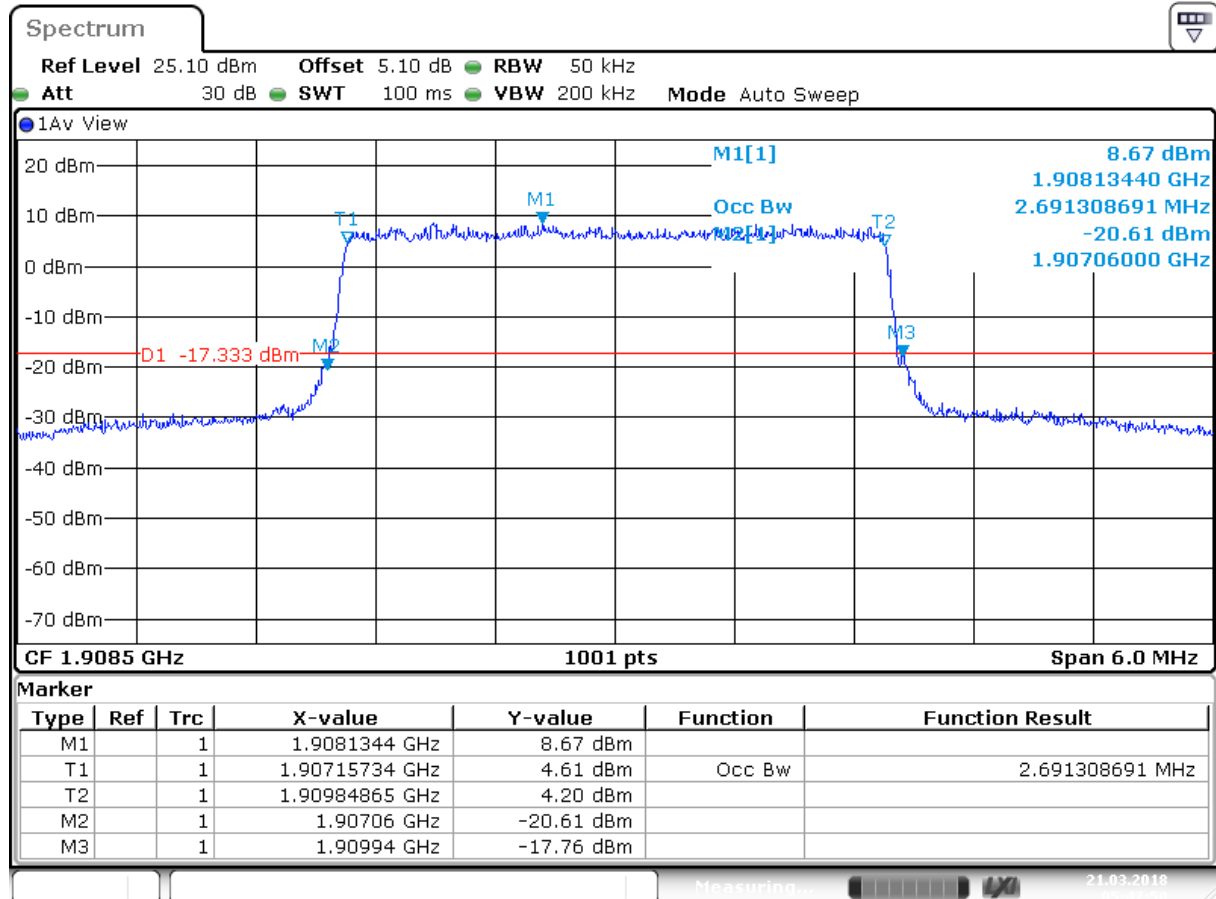
4.1.1.3.2 Test Channel = MCH



Date: 21 MAR 2018 05:47:27



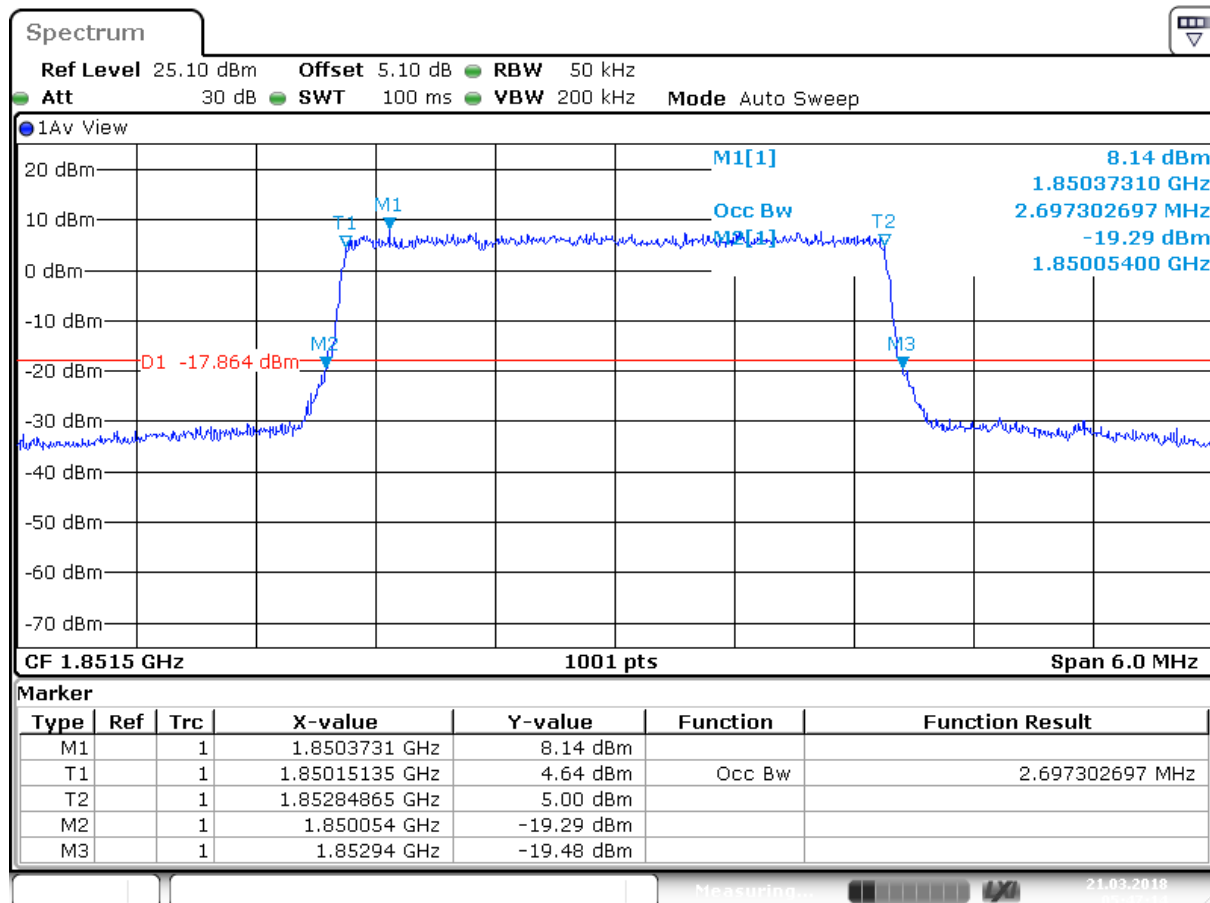
4.1.1.3.3 Test Channel = HCH



Date: 21 MAR 2018 05:47:50



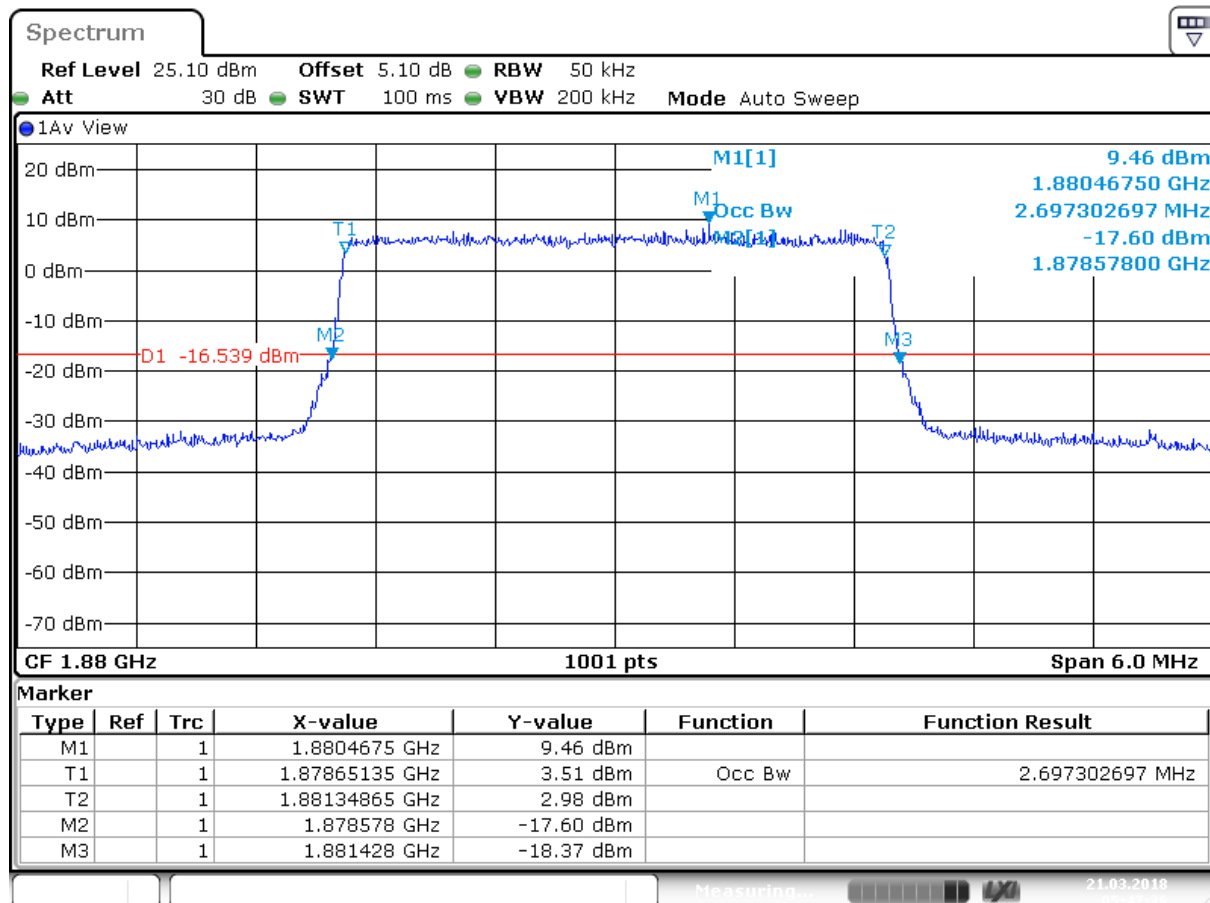
4.1.1.4 Test Mode = LTE/TM2 3MHz
4.1.1.4.1 Test Channel = LCH



Date: 21 MAR 2018 05:47:15



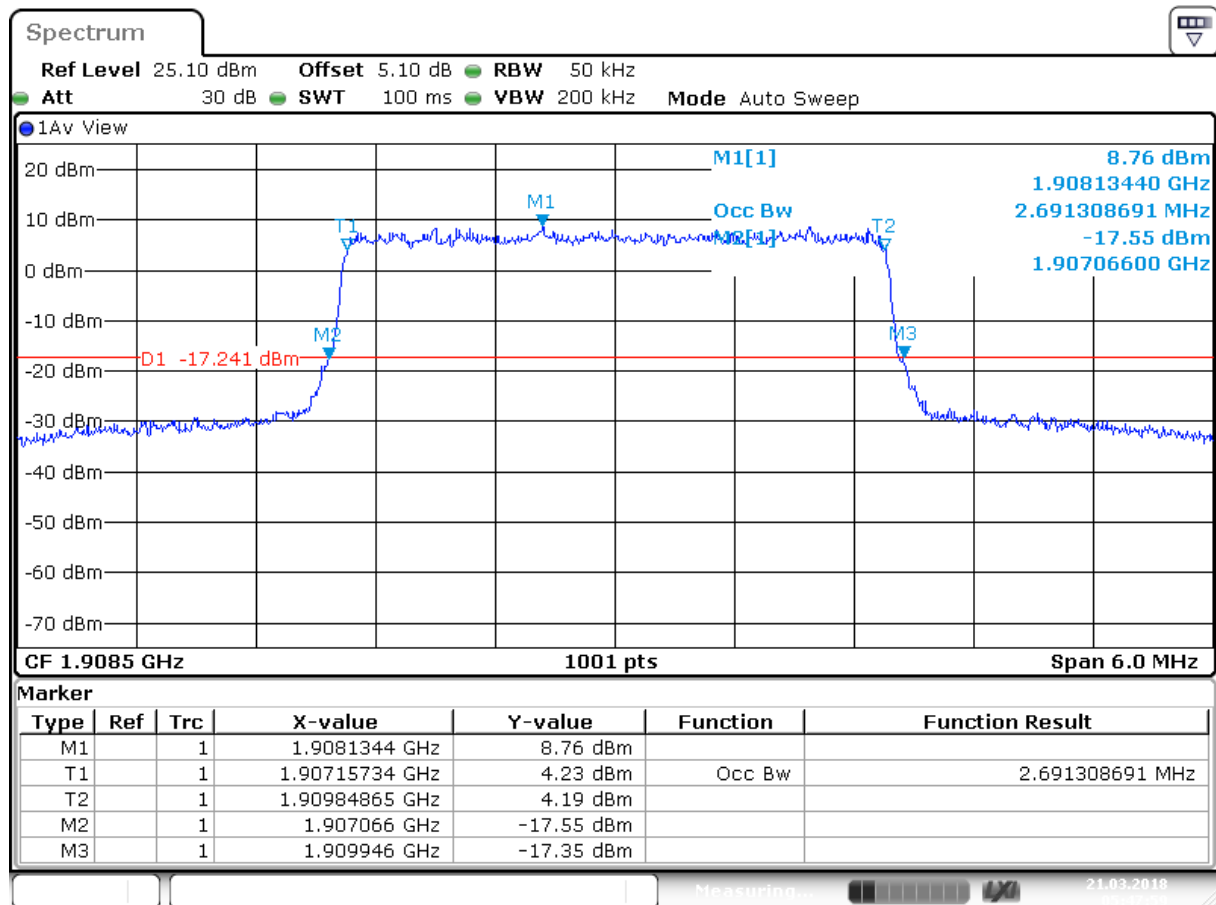
4.1.1.4.2 Test Channel = MCH



Date: 21 MAR 2018 05:47:37



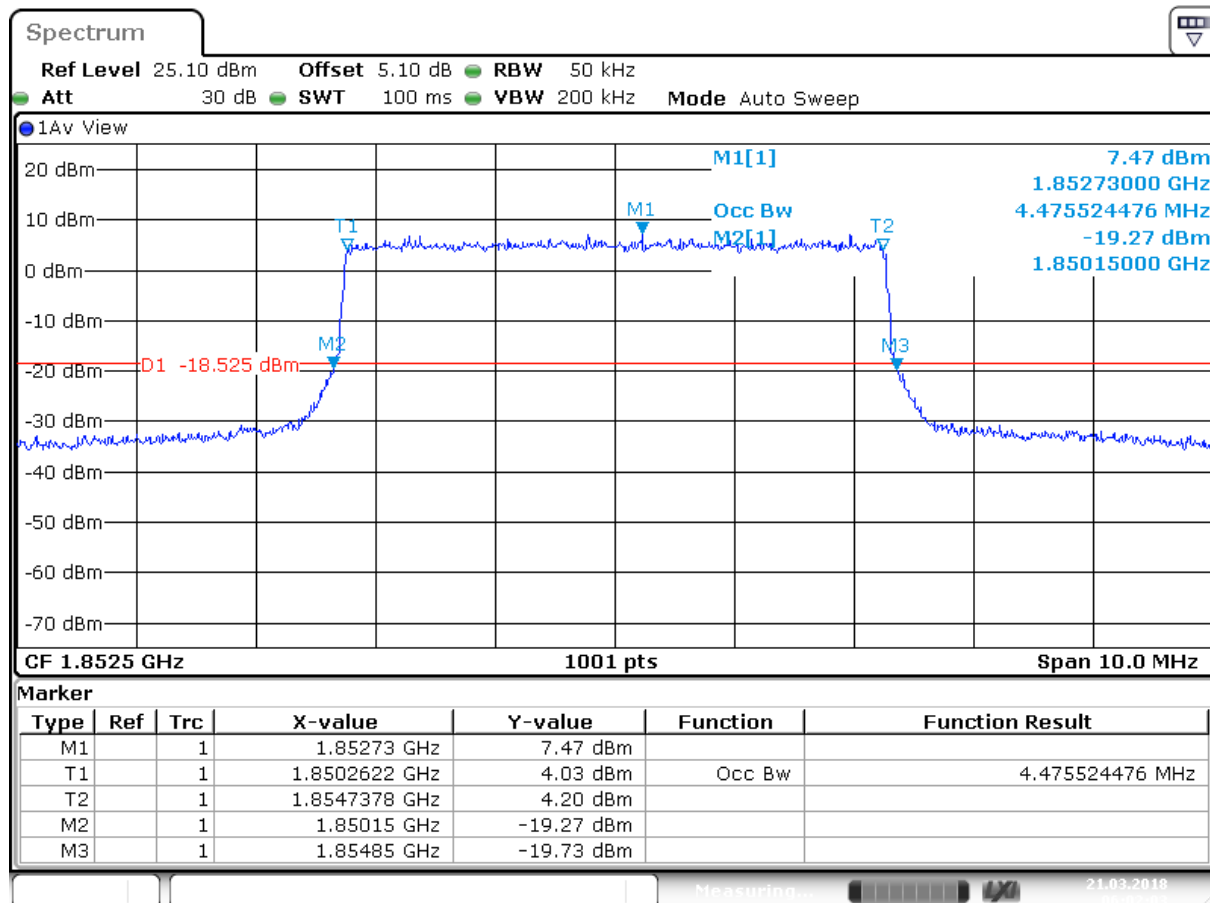
4.1.1.4.3 Test Channel = HCH



Date: 21 MAR 2018 05:47:59



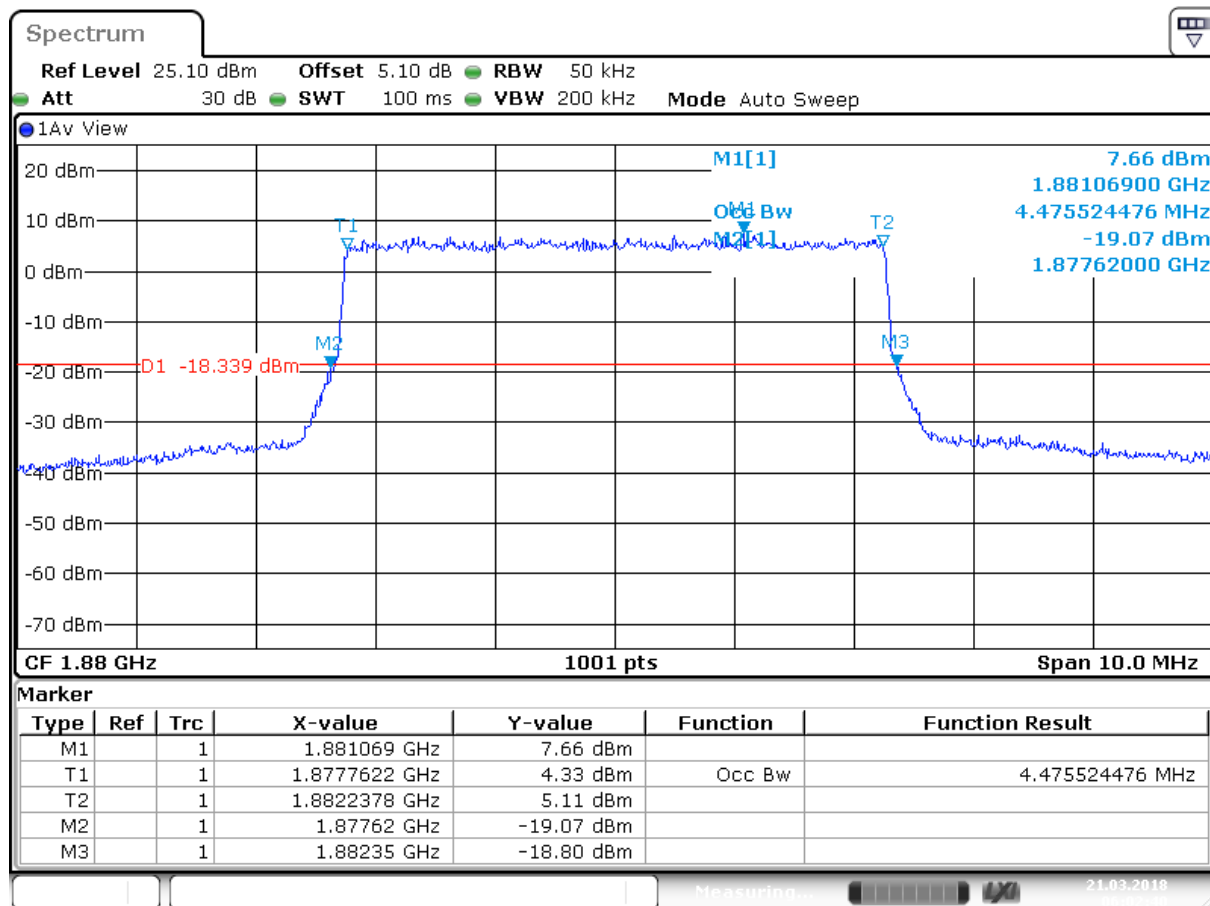
4.1.1.5 Test Mode = LTE/TM1 5MHz
4.1.1.5.1 Test Channel = LCH



Date: 21 MAR 2018 06:02:04



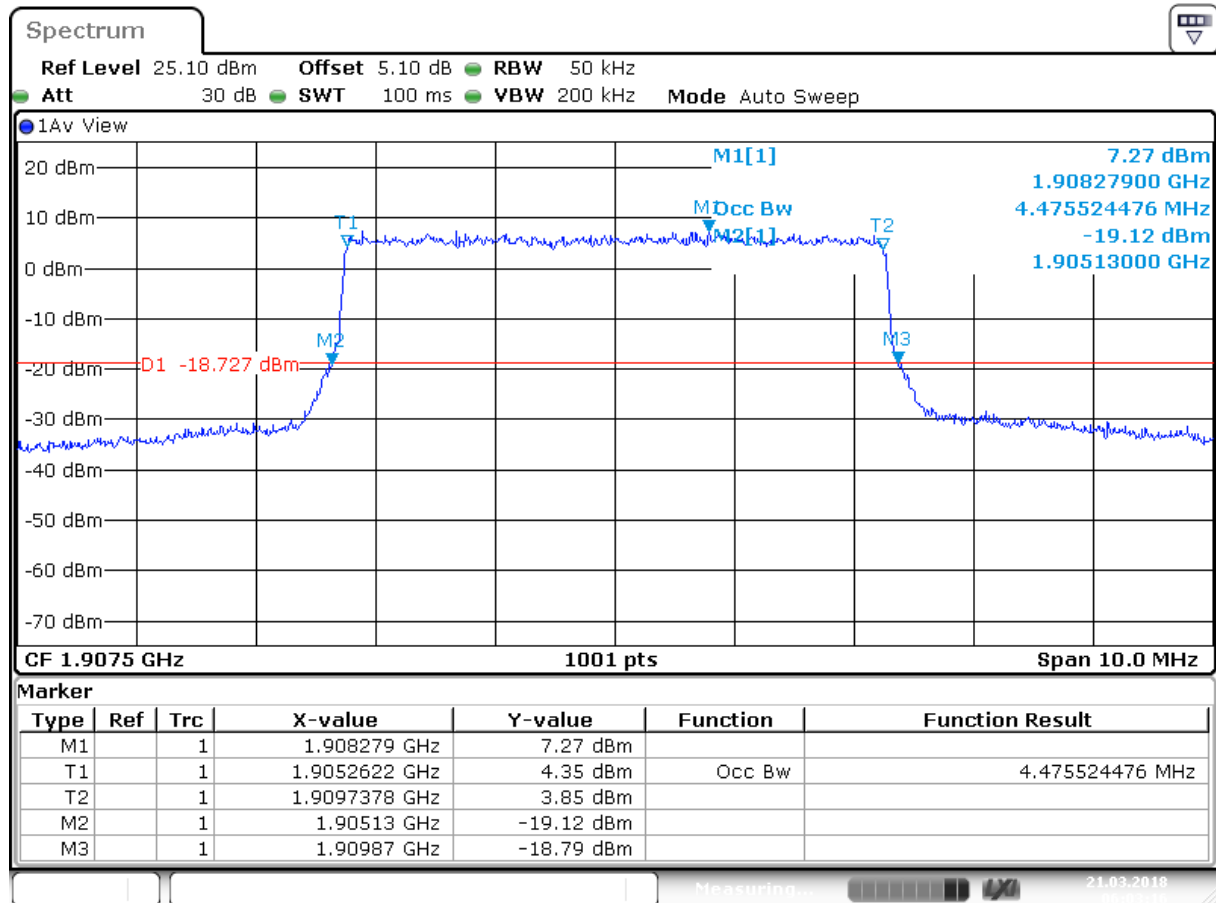
4.1.1.5.2 Test Channel = MCH



Date: 21 MAR 2018 06:02:41



4.1.1.5.3 Test Channel = HCH

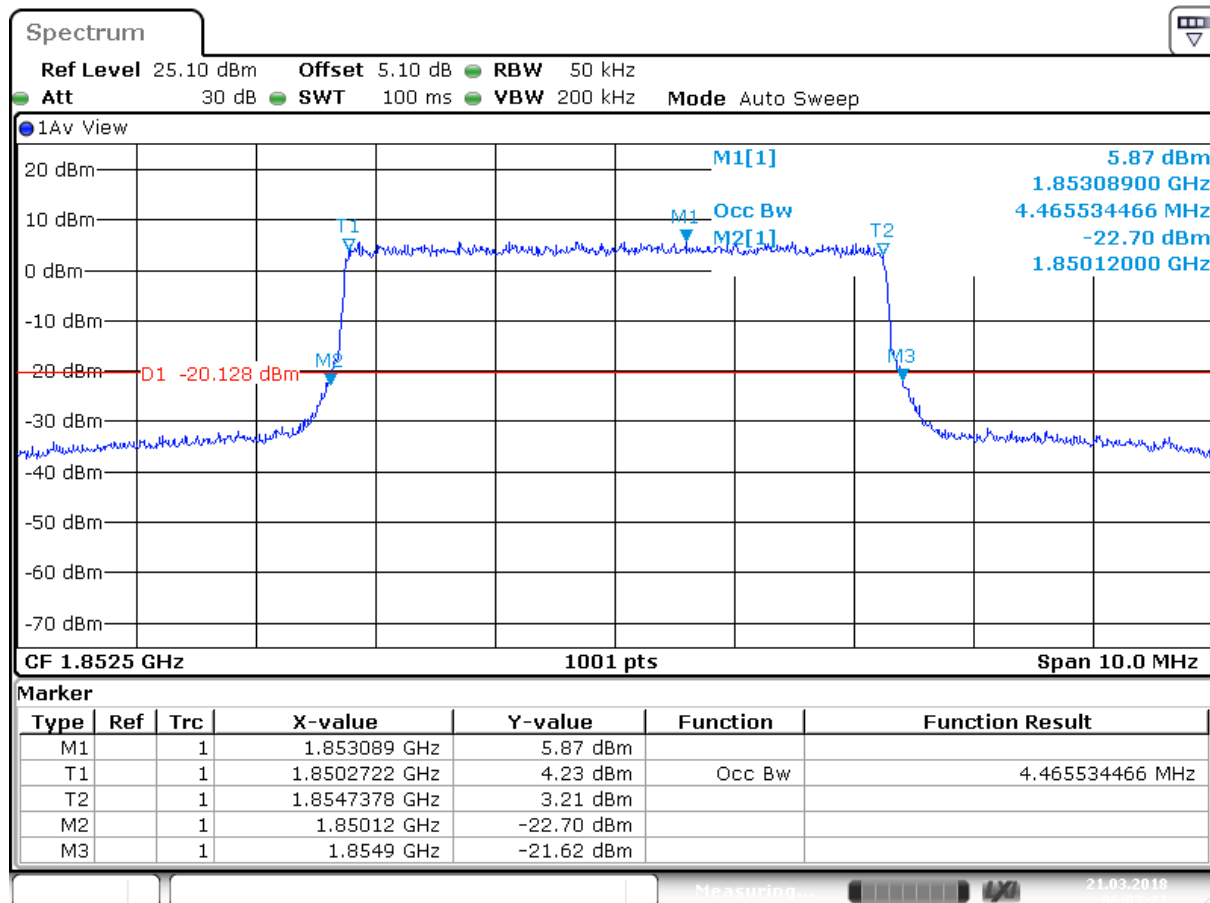


Date: 21 MAR 2018 06:03:17



4.1.1.6 Test Mode = LTE/TM2 5MHz

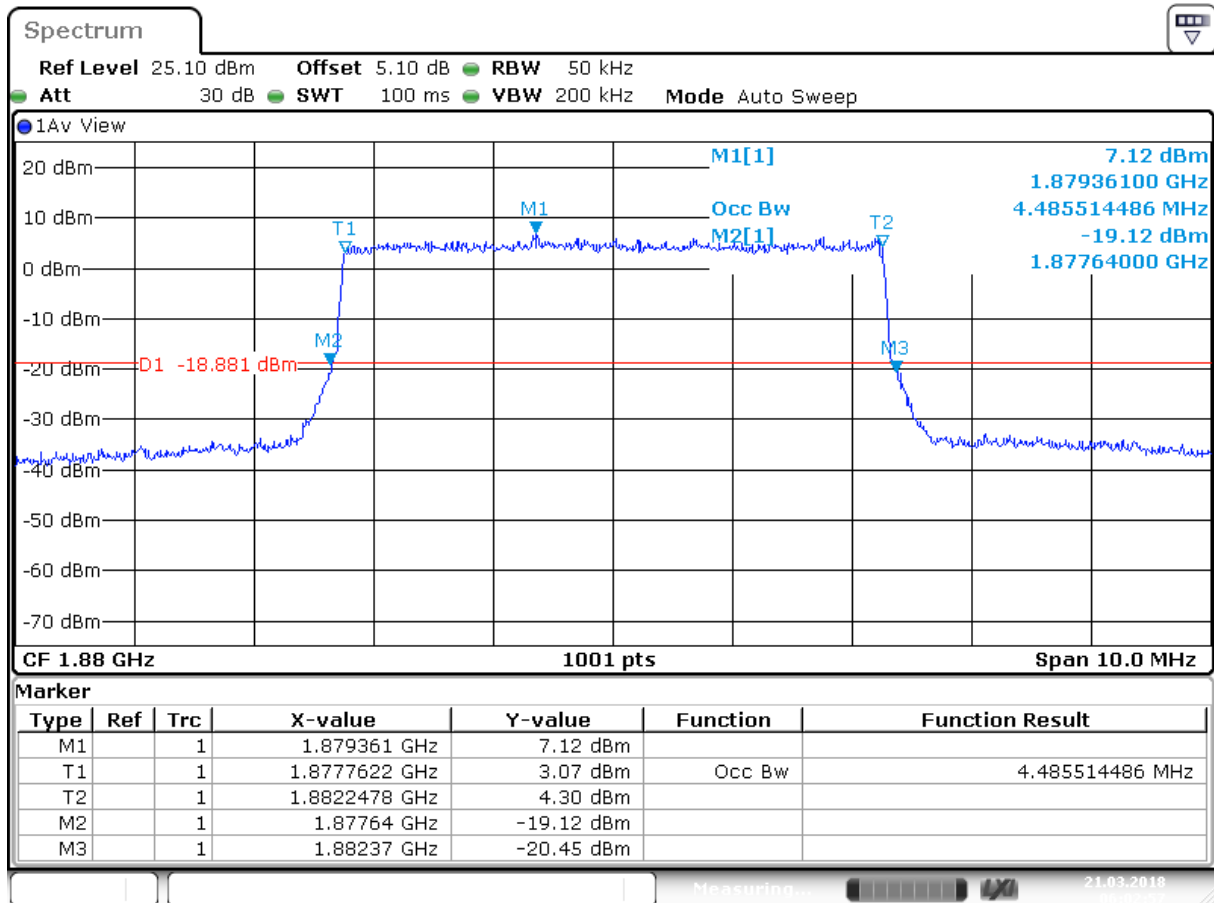
4.1.1.6.1 Test Channel = LCH



Date: 21 MAR 2018 06:02:21



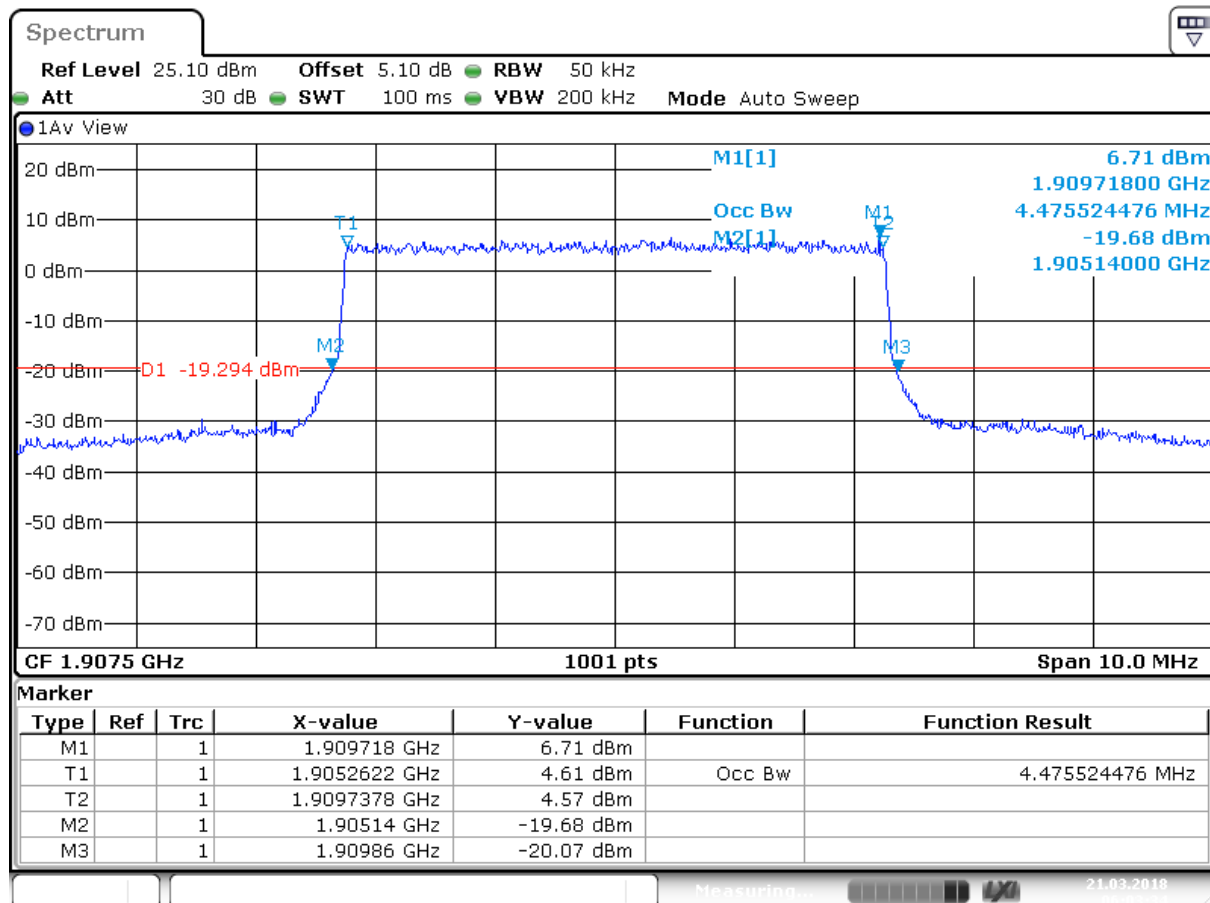
4.1.1.6.2 Test Channel = MCH



Date: 21 MAR 2018 06:02:57



4.1.1.6.3 Test Channel = HCH

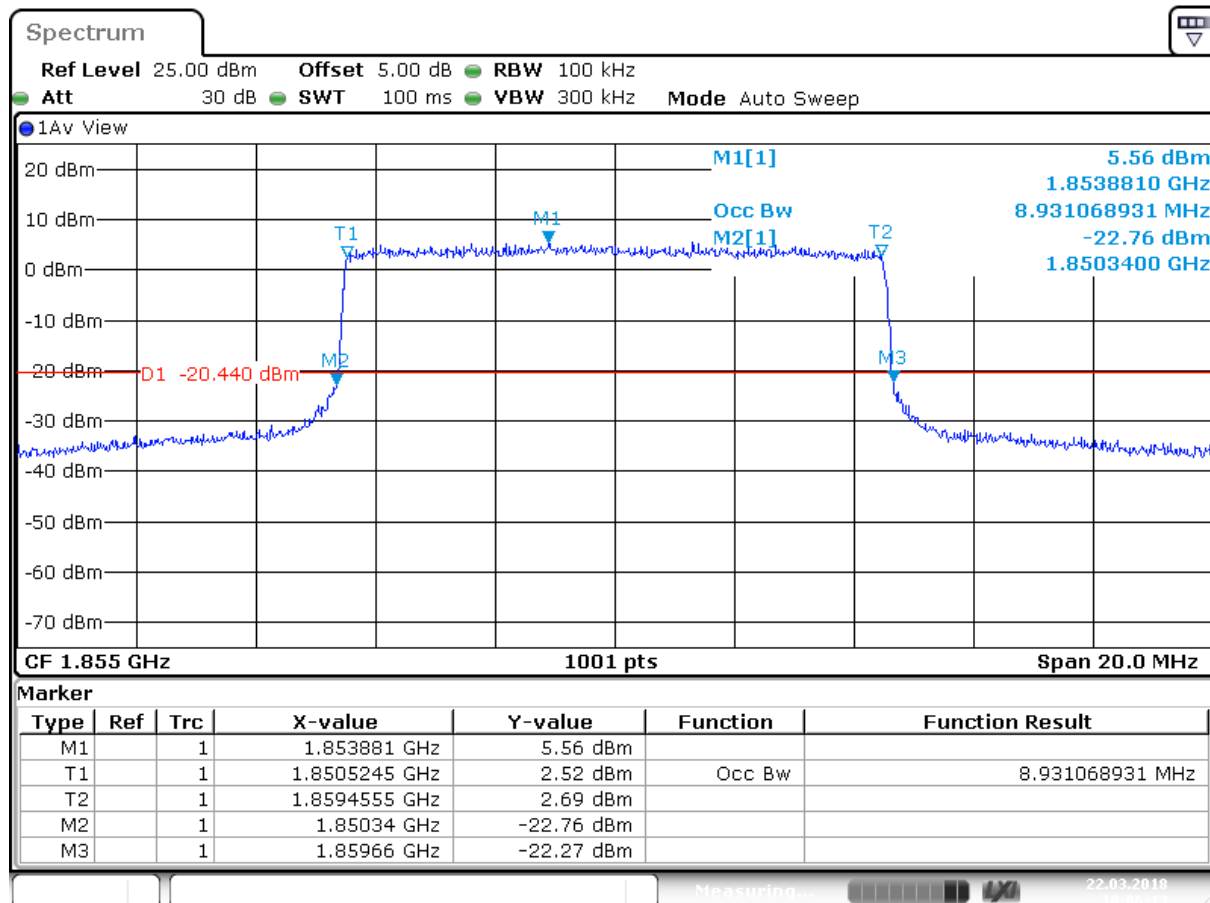


Date: 21 MAR 2018 06:03:34



4.1.1.7 Test Mode = LTE/TM1 10MHz

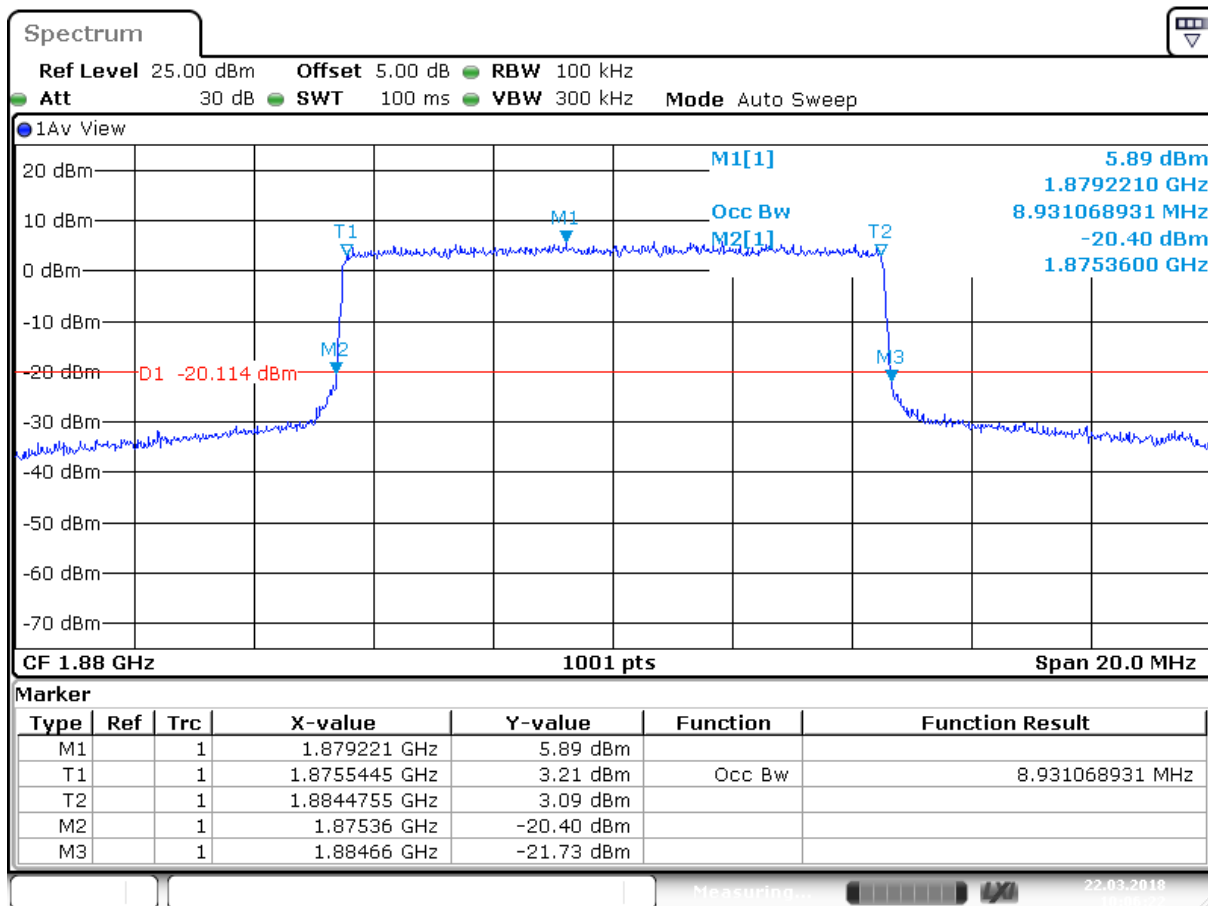
4.1.1.7.1 Test Channel = LCH



Date: 22 MAR 2018 10:06:13



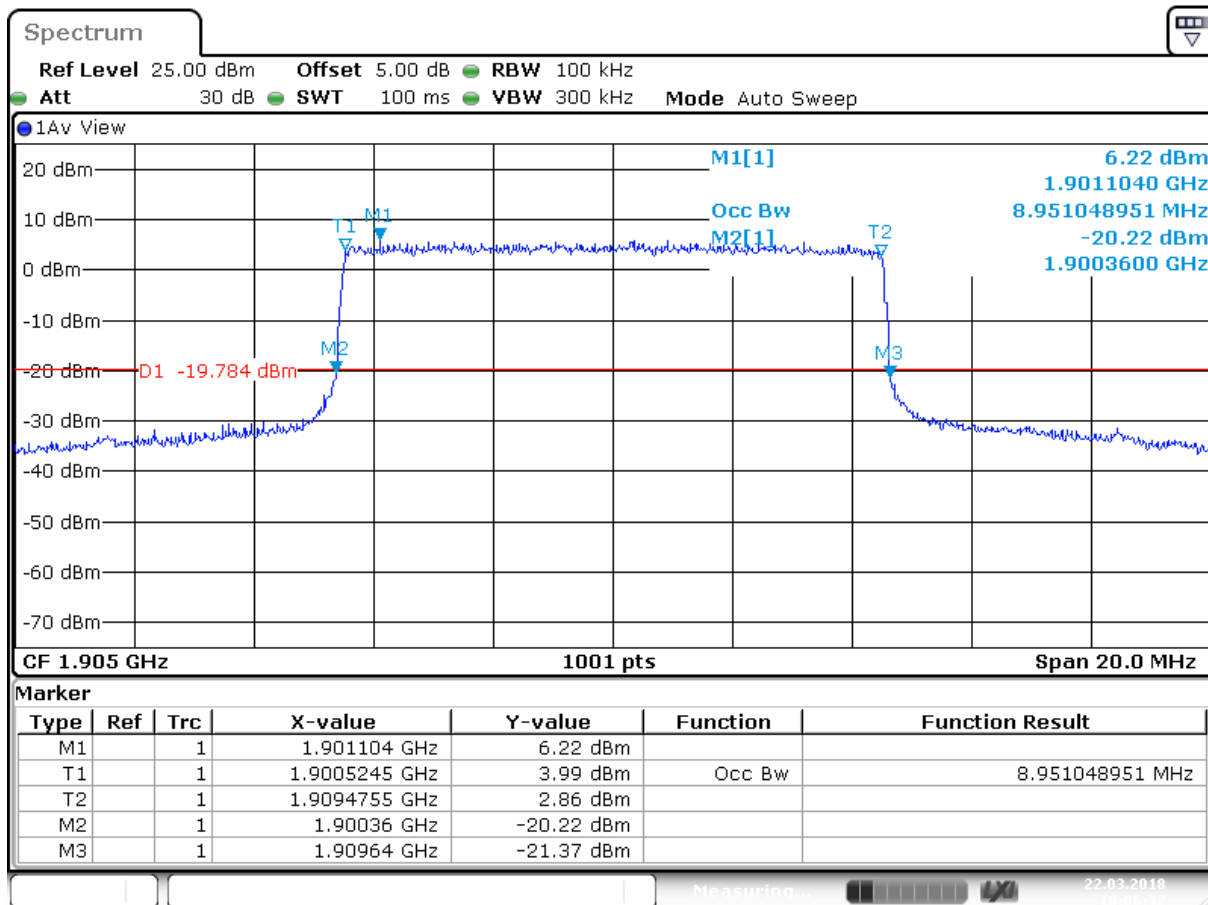
4.1.1.7.2 Test Channel = MCH



Date: 22 MAR 2018 10:06:23



4.1.1.7.3 Test Channel = HCH

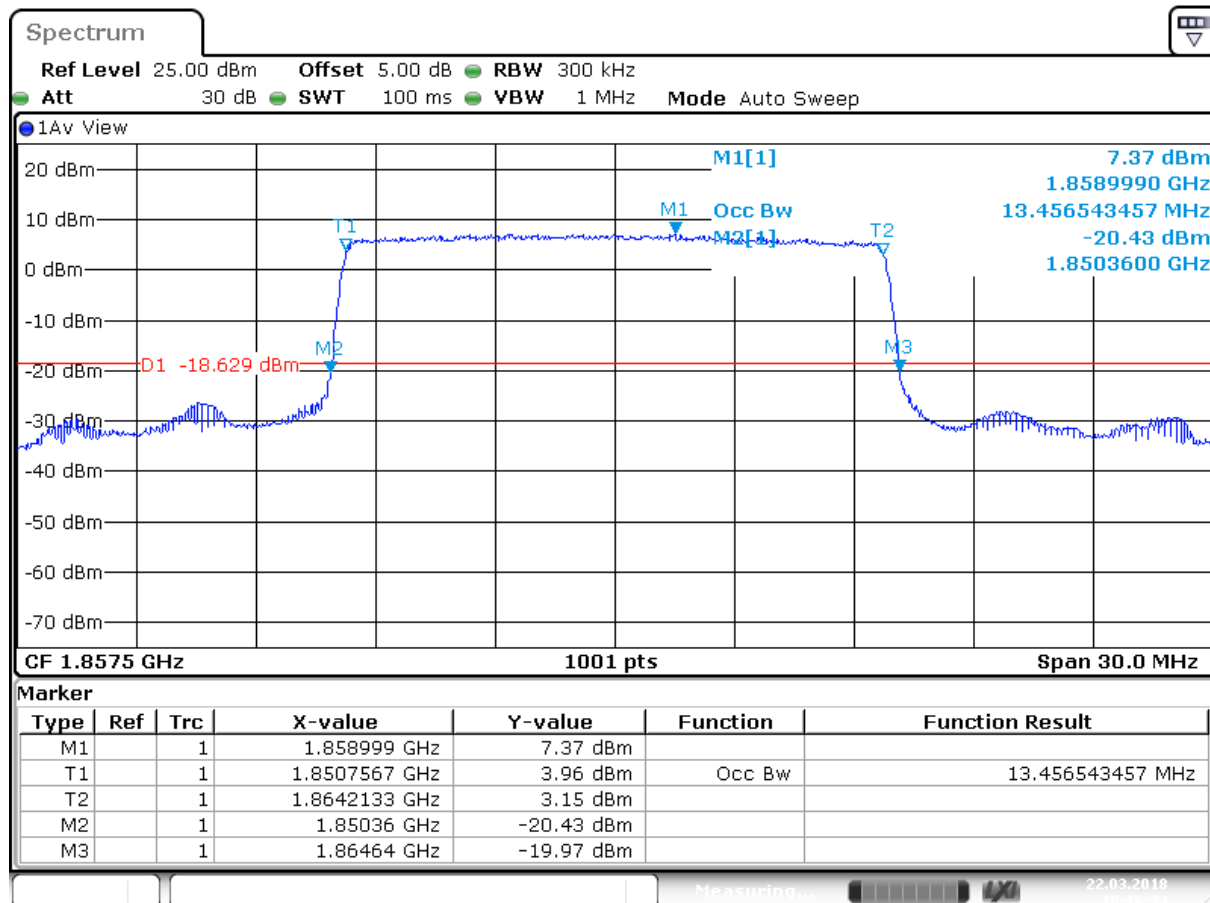


Date: 22 MAR 2018 10:06:32



4.1.1.8 Test Mode = LTE/TM1 15MHz

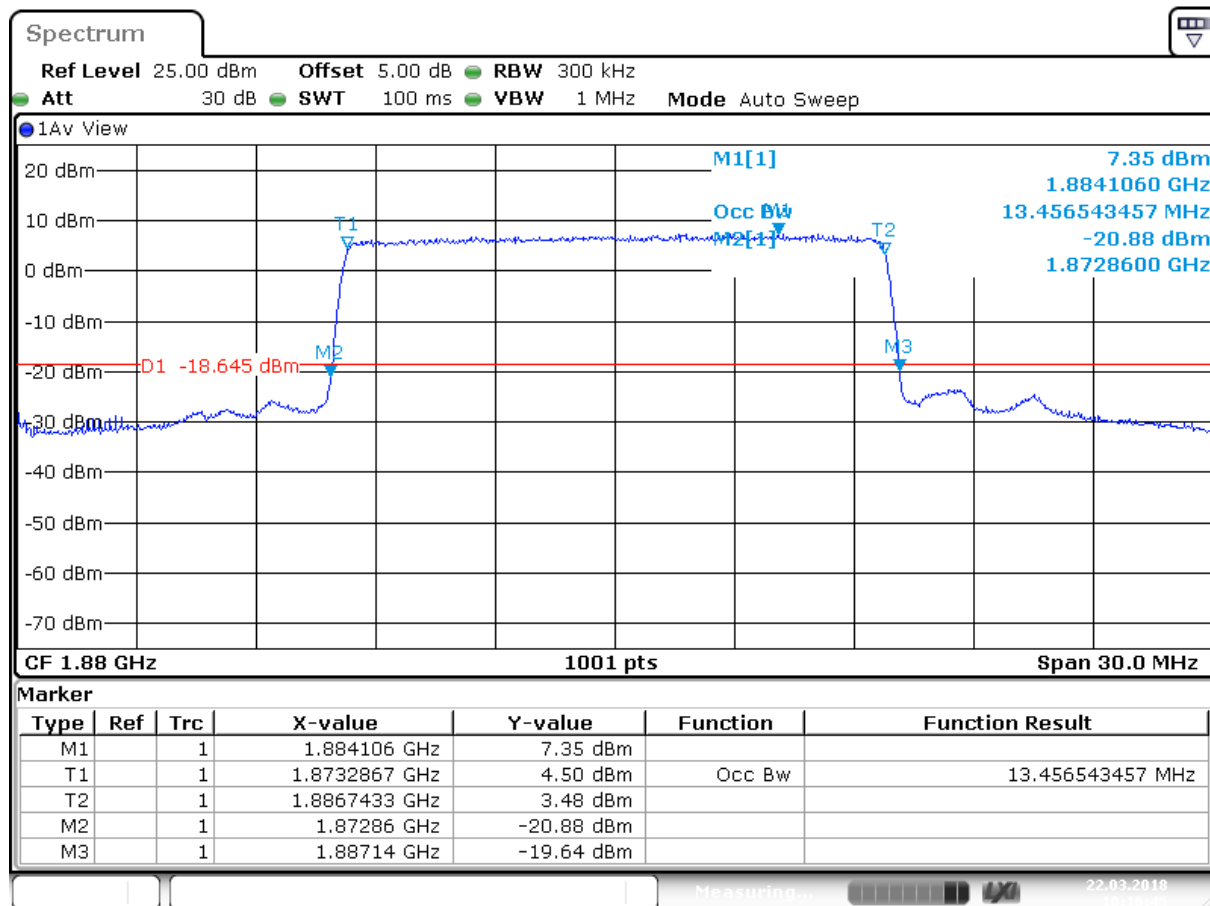
4.1.1.8.1 Test Channel = LCH



Date: 22 MAR 2018 10:16:35



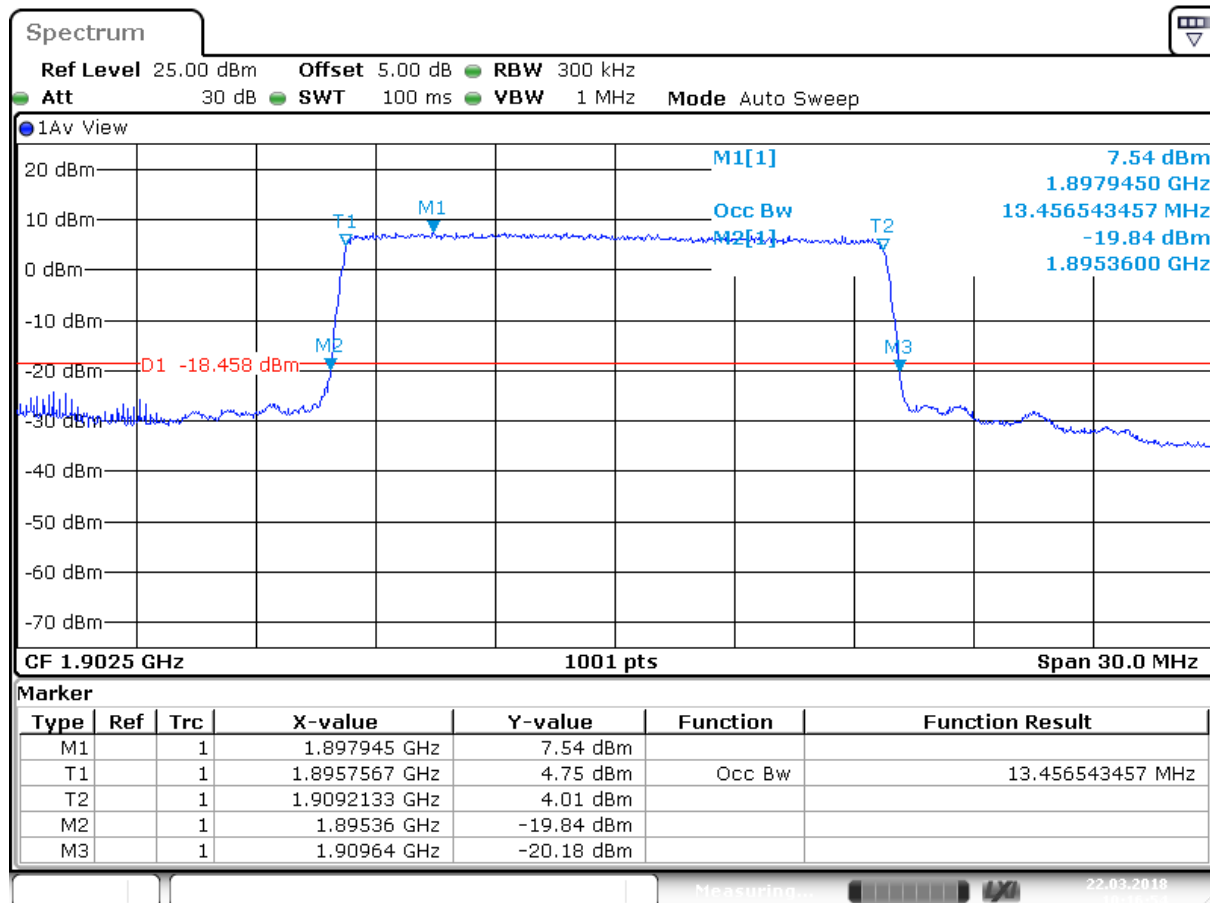
4.1.1.8.2 Test Channel = MCH



Date: 22 MAR 2018 10:16:45



4.1.1.8.3 Test Channel = HCH

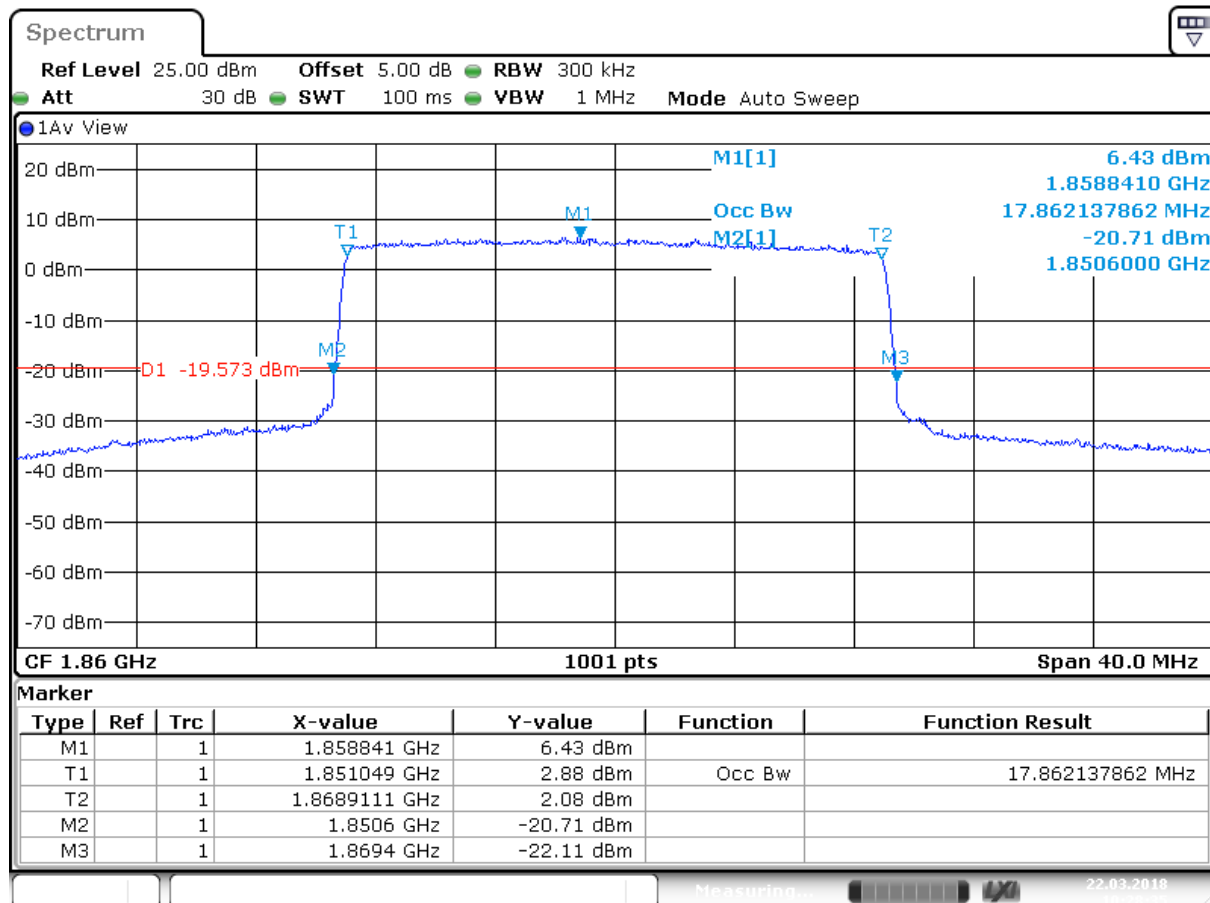


Date: 22 MAR 2018 10:16:54



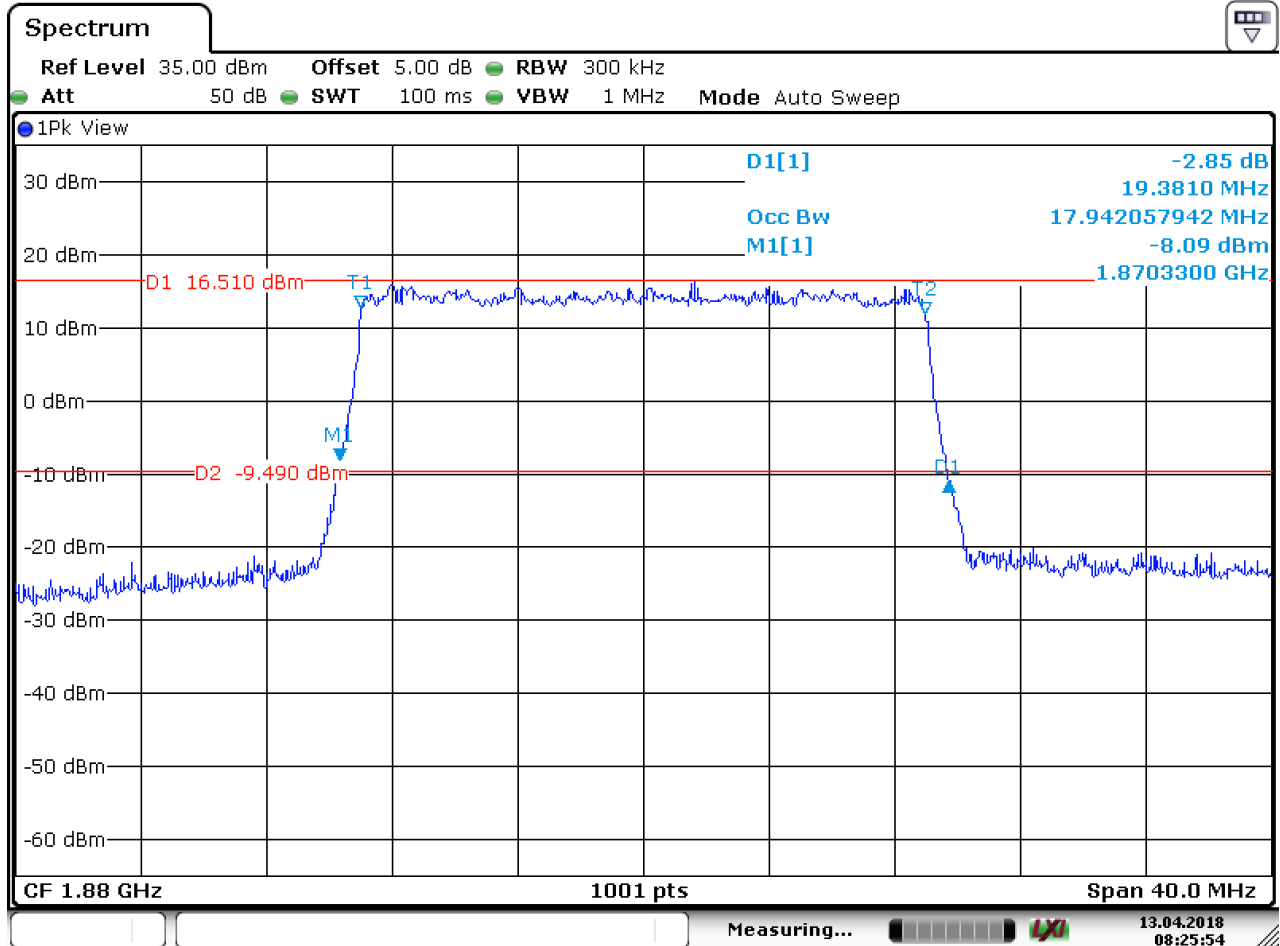
4.1.1.9 Test Mode = LTE/TM1 20MHz

4.1.1.9.1 Test Channel = LCH



Date: 22 MAR 2018 10:28:36

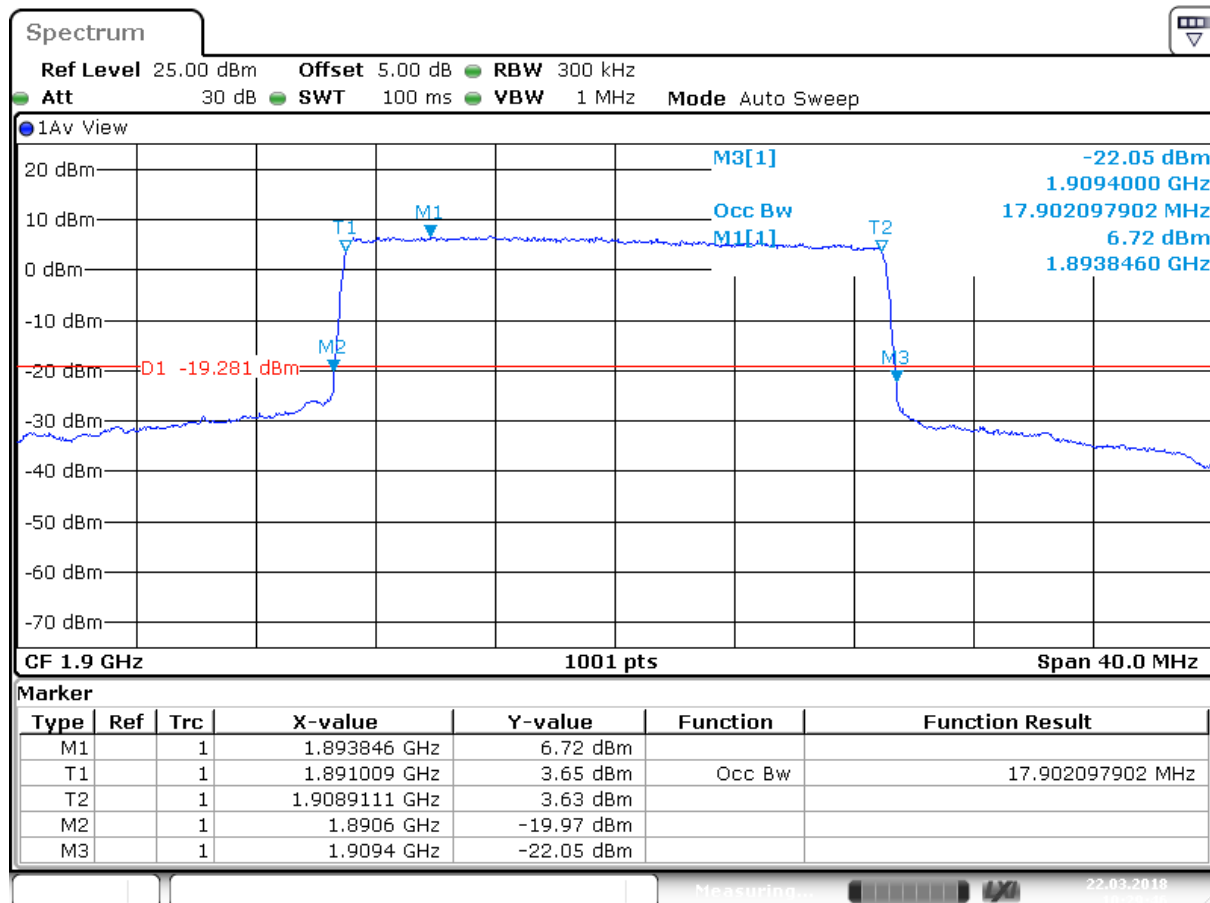
4.1.1.9.2 Test Channel = MCH



Date: 13.APR.2018 08:25:55



4.1.1.9.3 Test Channel = HCH



Date: 22 MAR 2018 10:29:47

5 Band Edges Compliance

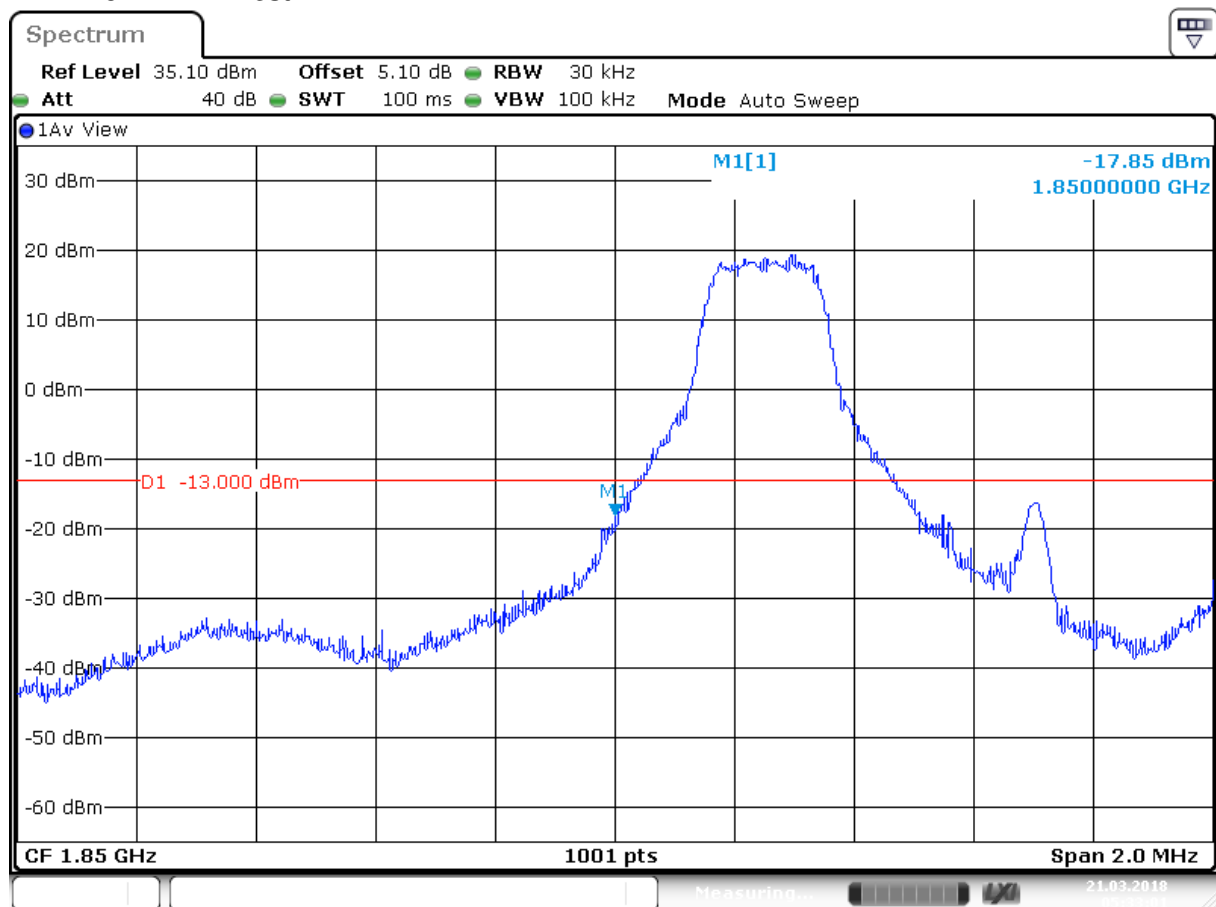
5.1 For LTE

5.1.1 Test Band = LTE band2

5.1.1.1 Test Mode = LTE/TM1 1.4MHz

5.1.1.1.1 Test Channel = LCH

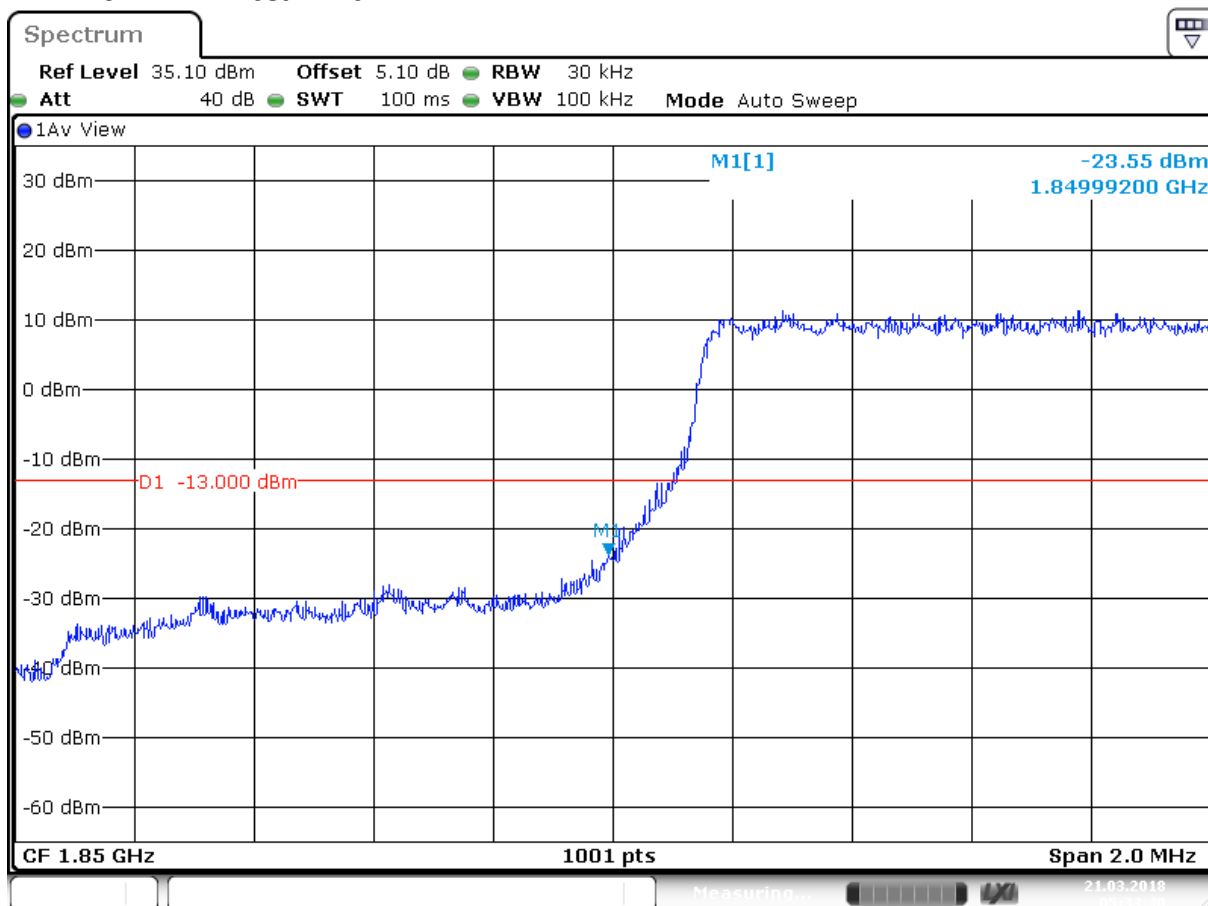
5.1.1.1.1.1 Test RB=1RB



Date: 21 MAR 2018 05:33:02



5.1.1.1.2 Test RB=6RB

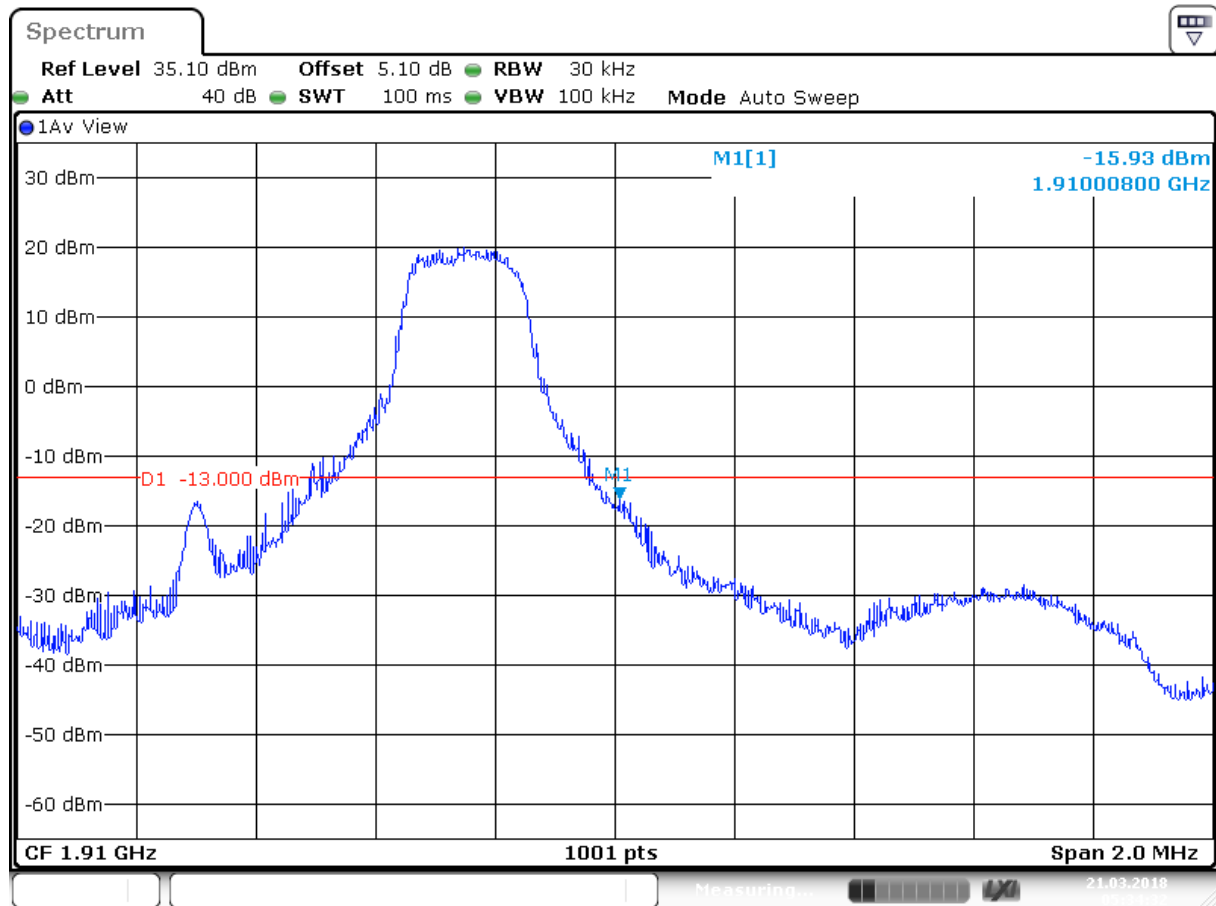


Date: 21 MAR 2018 05:33:40



5.1.1.1.2 Test Channel = HCH

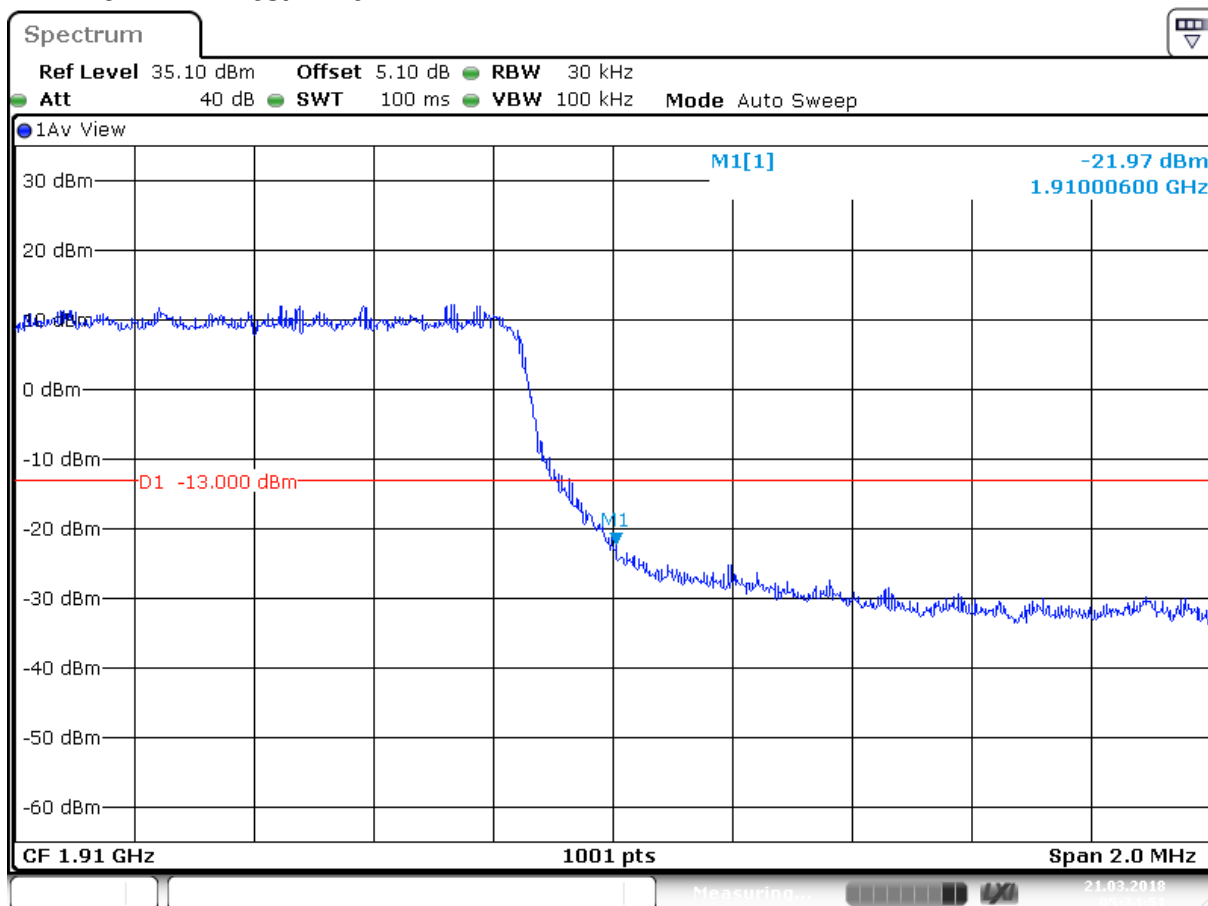
5.1.1.1.2.1 Test RB=1RB



Date: 21 MAR 2018 05:34:32



5.1.1.1.2.2 Test RB=6RB



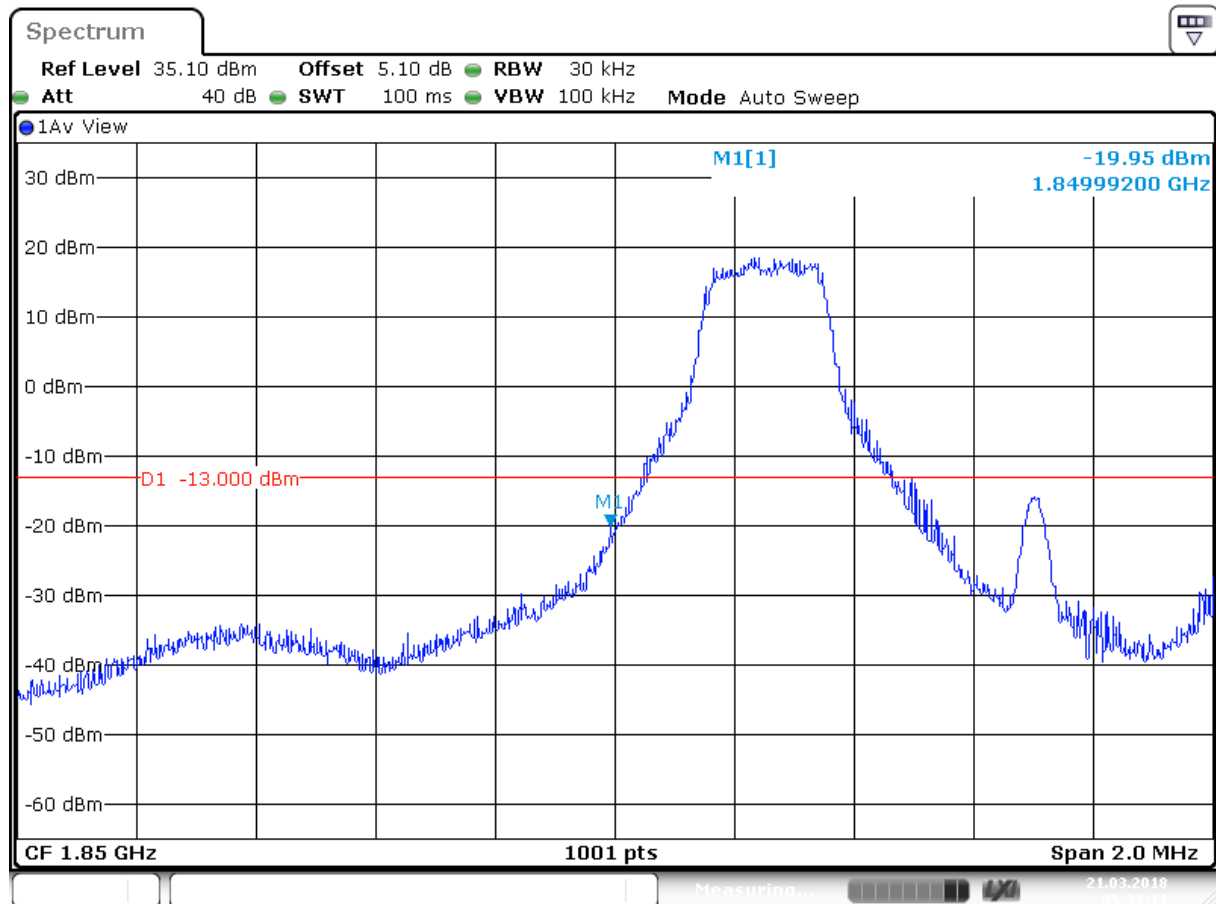
Date: 21 MAR 2018 05:34:51



5.1.1.2 Test Mode = LTE/TM2 1.4MHz

5.1.1.2.1 Test Channel = LCH

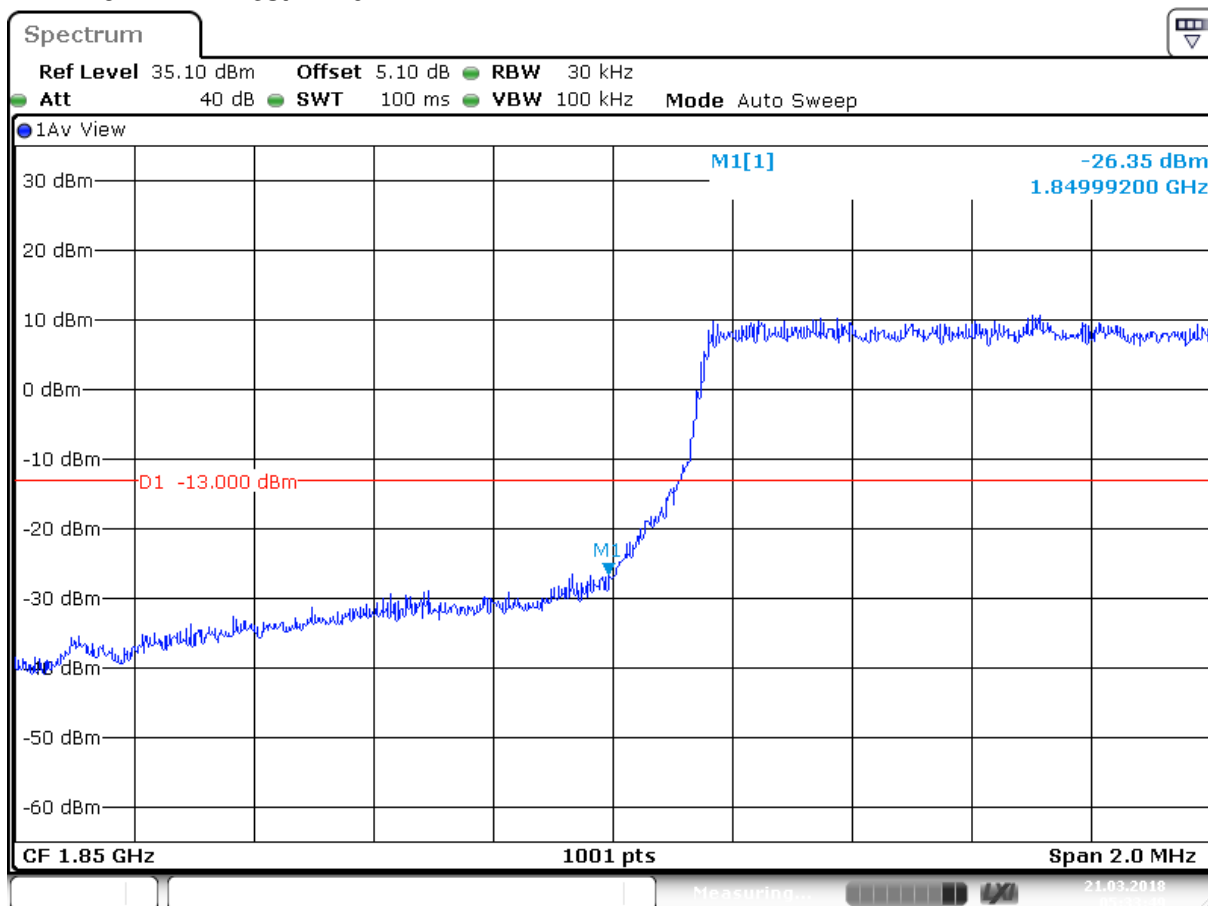
5.1.1.2.1.1 Test RB=1RB



Date: 21 MAR 2018 05:33:11



5.1.1.2.1.2 Test RB=6RB

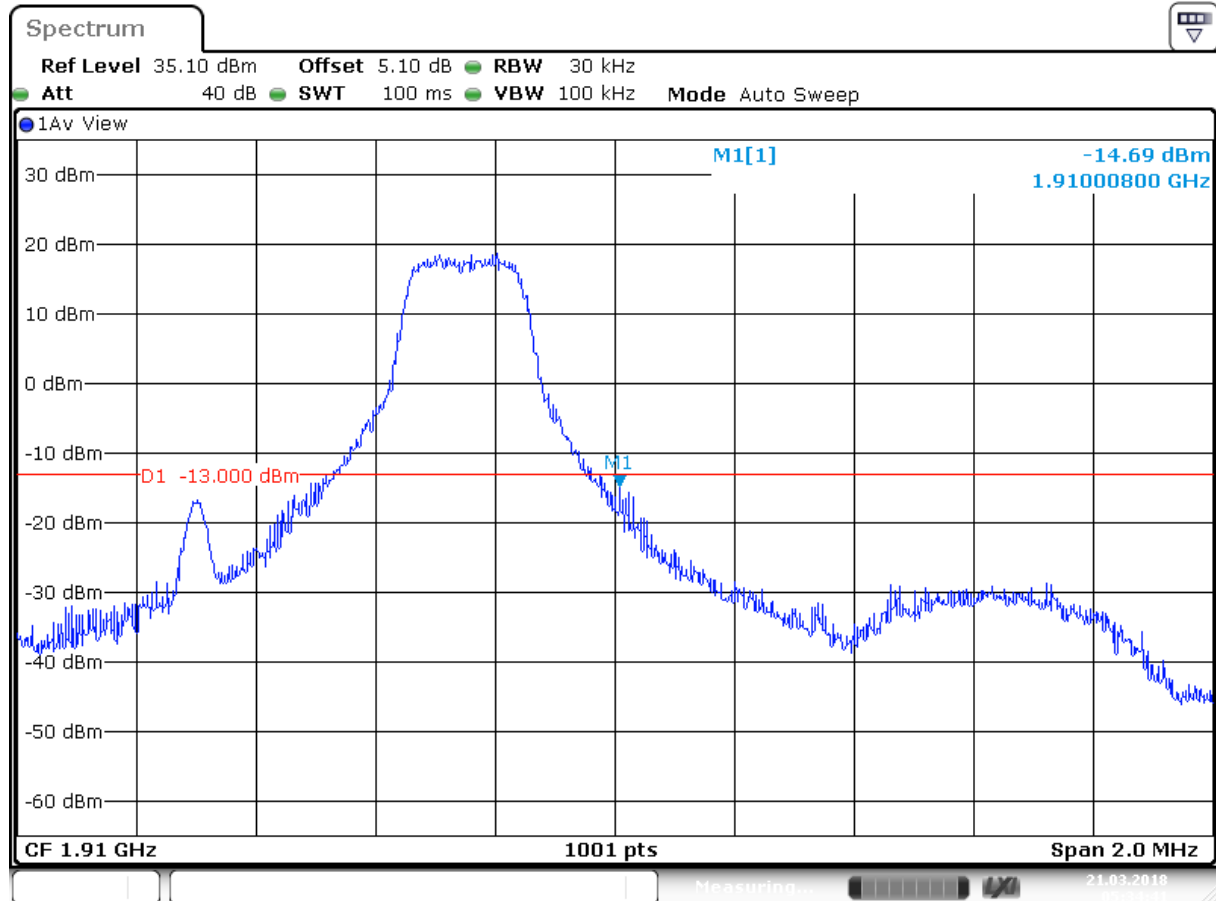


Date: 21 MAR 2018 05:33:49



5.1.1.2.2 Test Channel = HCH

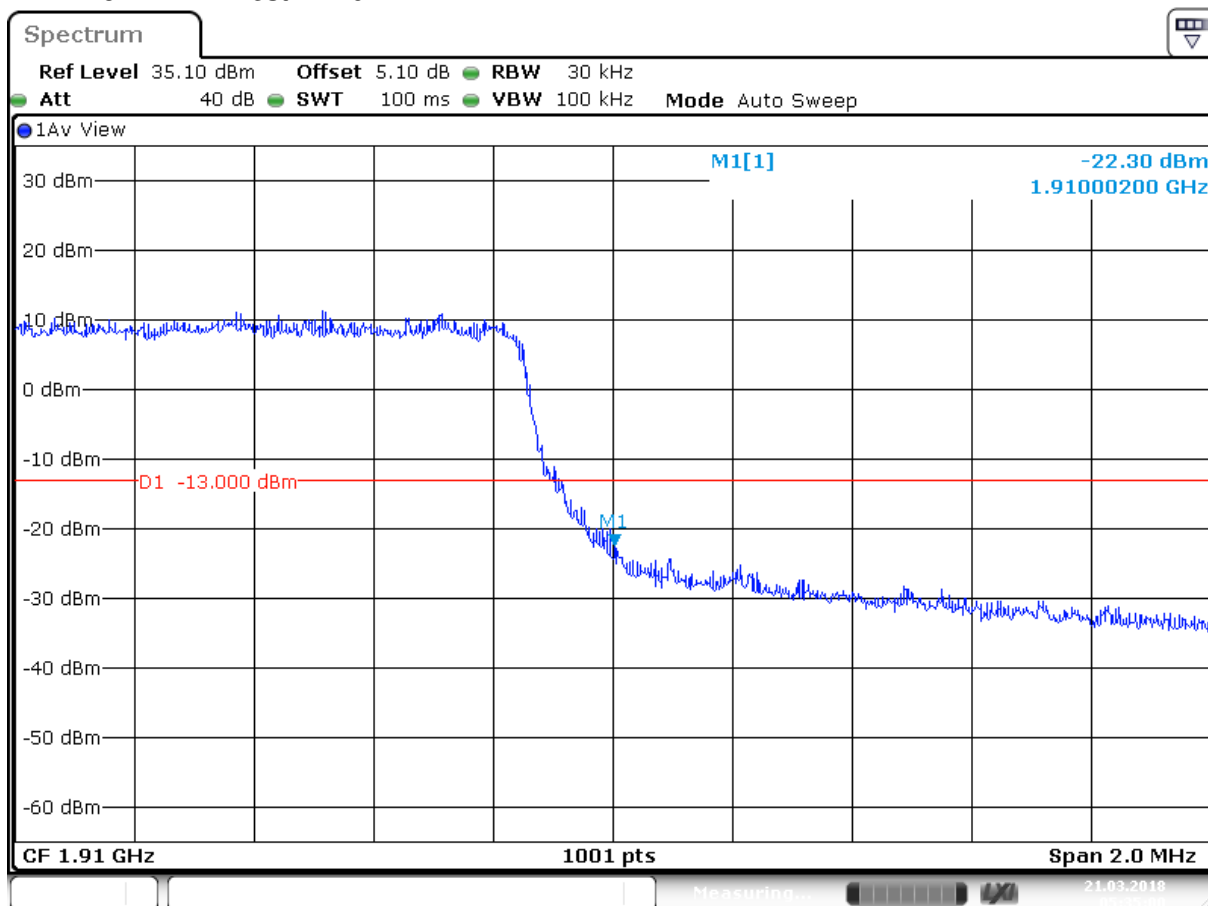
5.1.1.2.2.1 Test RB=1RB



Date: 21 MAR 2018 05:34:41



5.1.1.2.2.2 Test RB=6RB



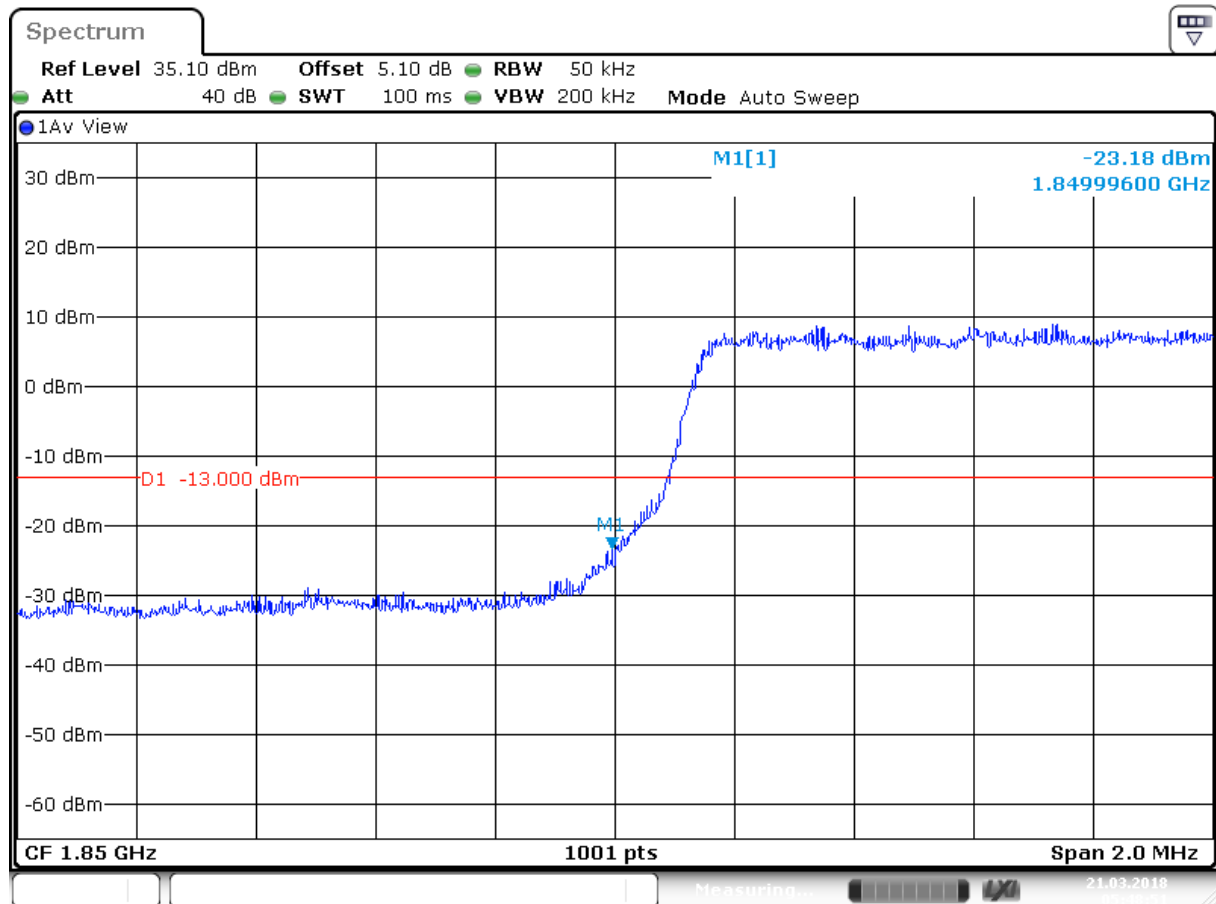
Date: 21 MAR 2018 05:35:00



5.1.1.3 Test Mode = LTE/TM1 3MHz

5.1.1.3.1 Test Channel = LCH

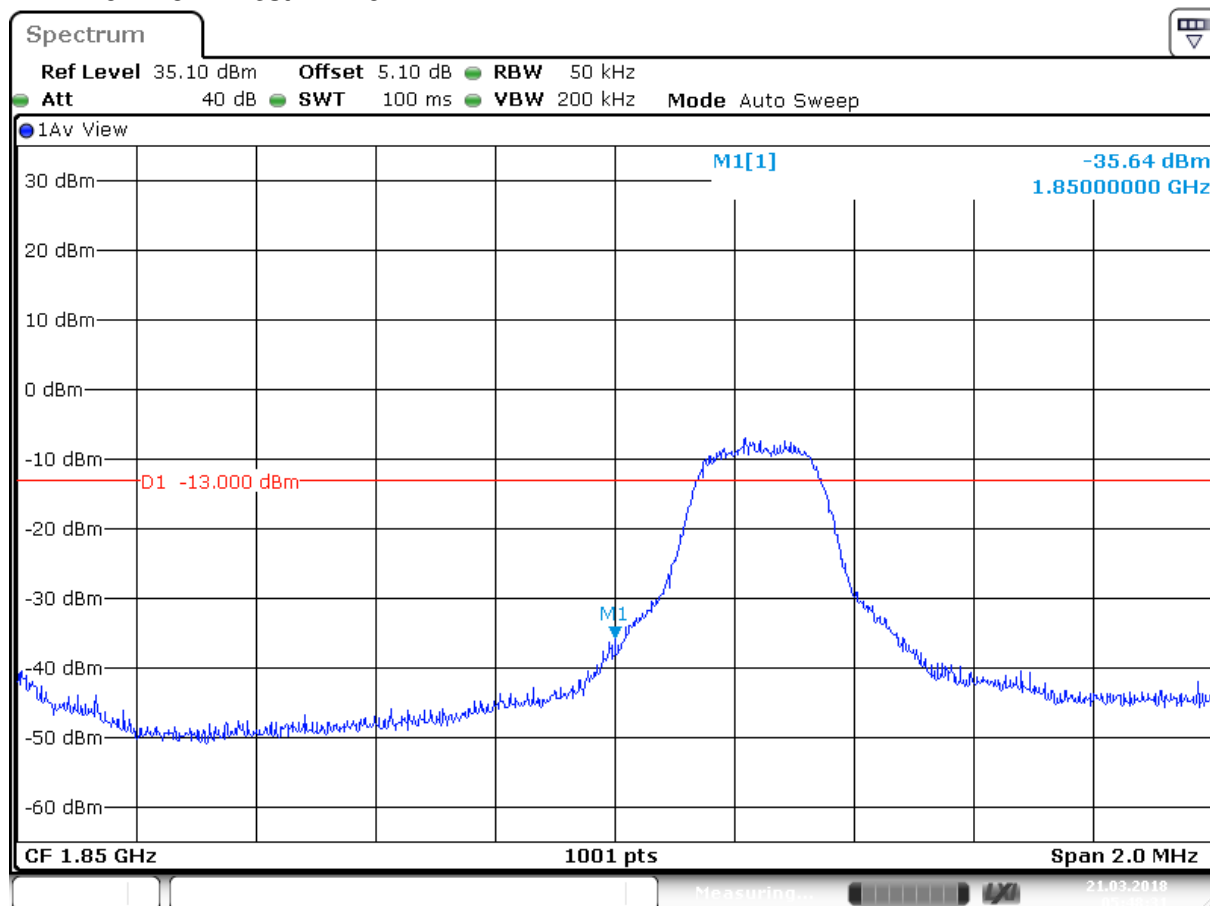
5.1.1.3.1.1 Test RB=1RB



Date: 21 MAR 2018 05:48:51



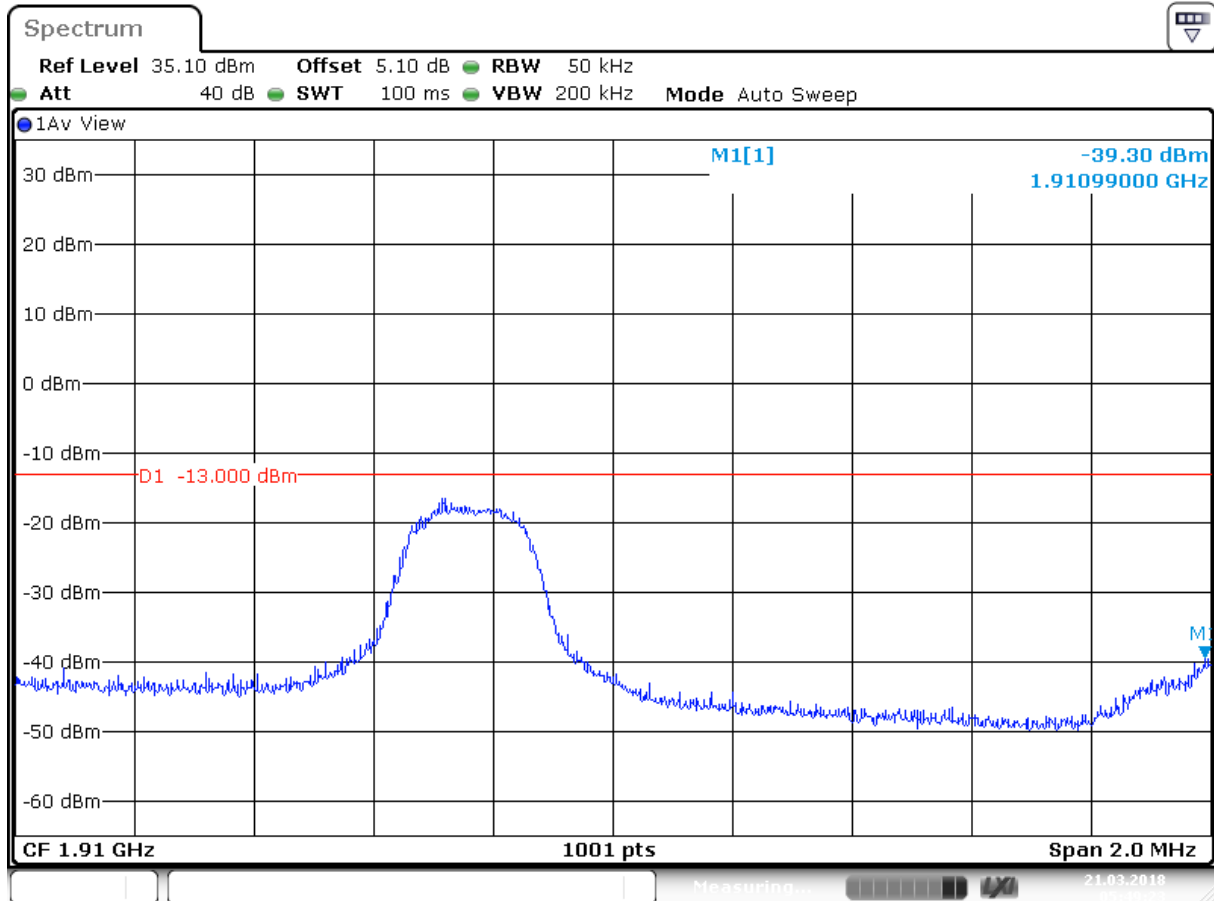
5.1.1.3.1.2 Test RB=15RB



Date: 21 MAR 2018 05:48:32

5.1.1.3.2 Test Channel = HCH

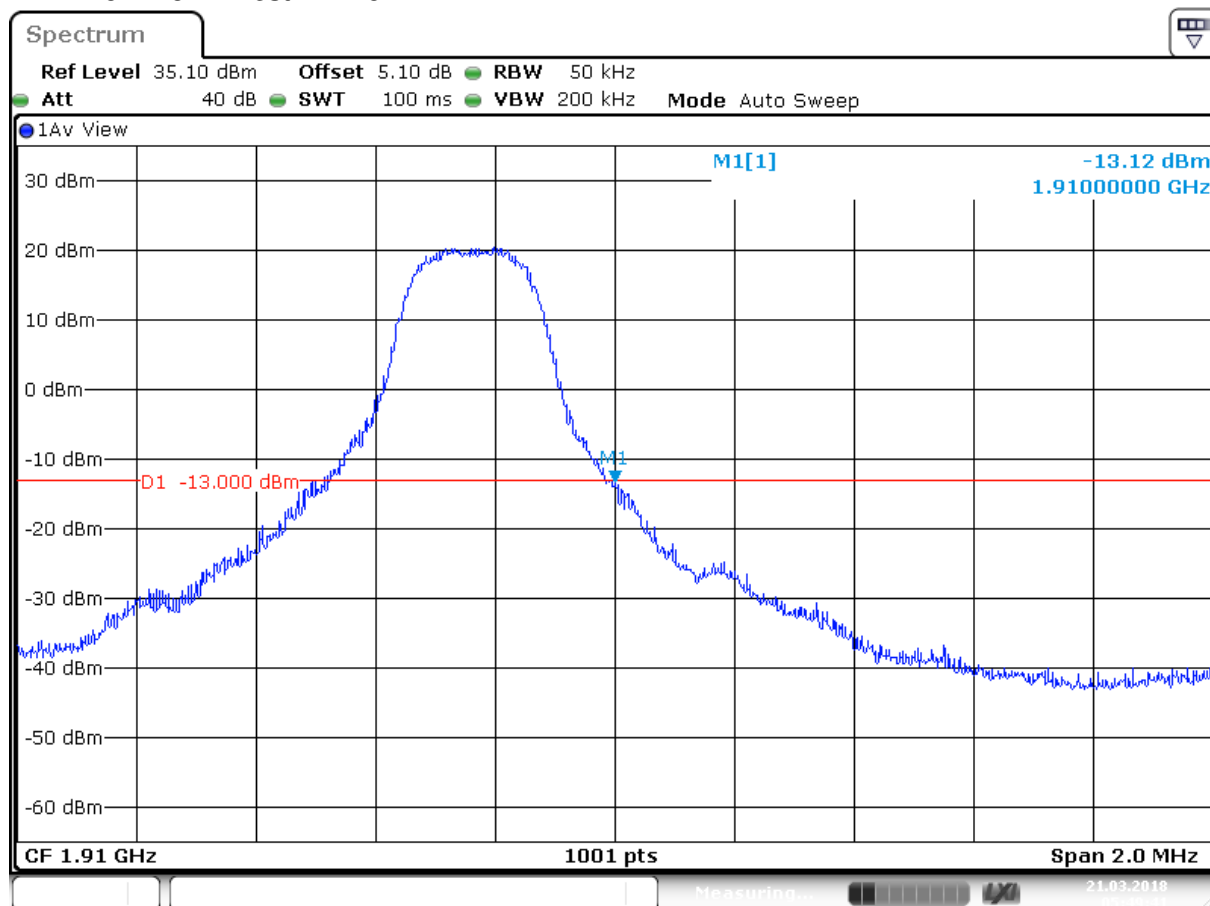
5.1.1.3.2.1 Test RB=1RB



Date: 21 MAR 2018 05:49:23



5.1.1.3.2.2 Test RB=15RB



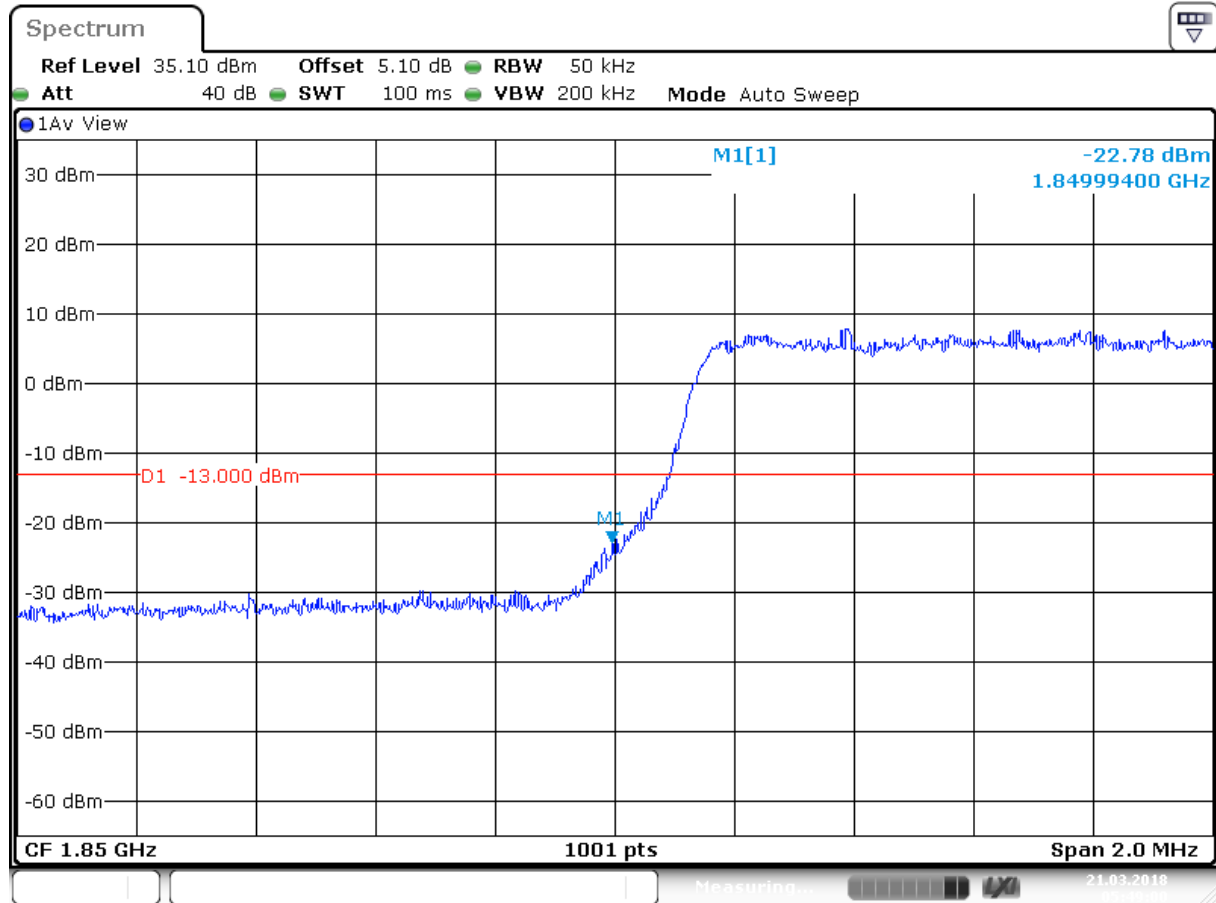
Date: 21 MAR 2018 05:49:42



5.1.1.4 Test Mode = LTE/TM2 3MHz

5.1.1.4.1 Test Channel = LCH

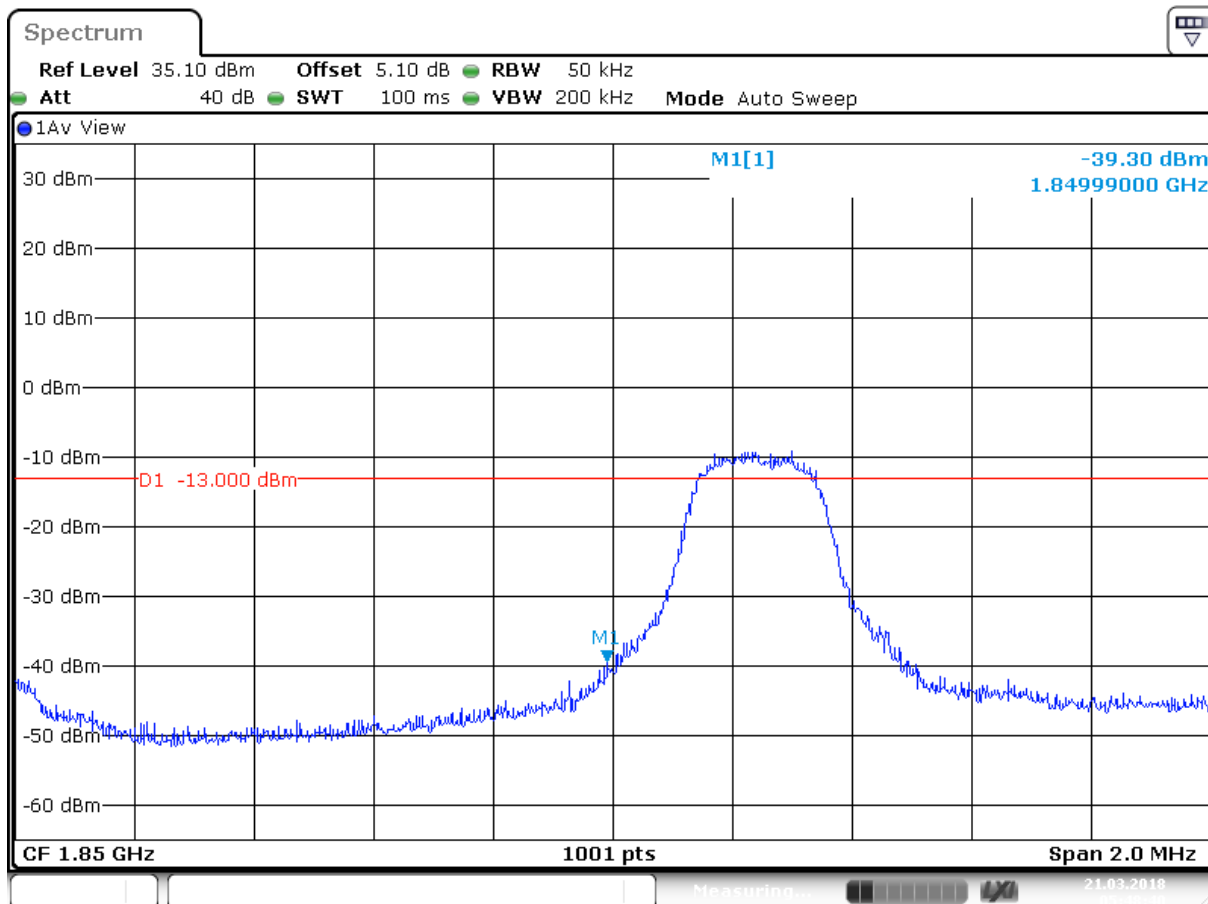
5.1.1.4.1.1 Test RB=1RB



Date: 21 MAR 2018 05:49:00



5.1.1.4.1.2 Test RB=15RB

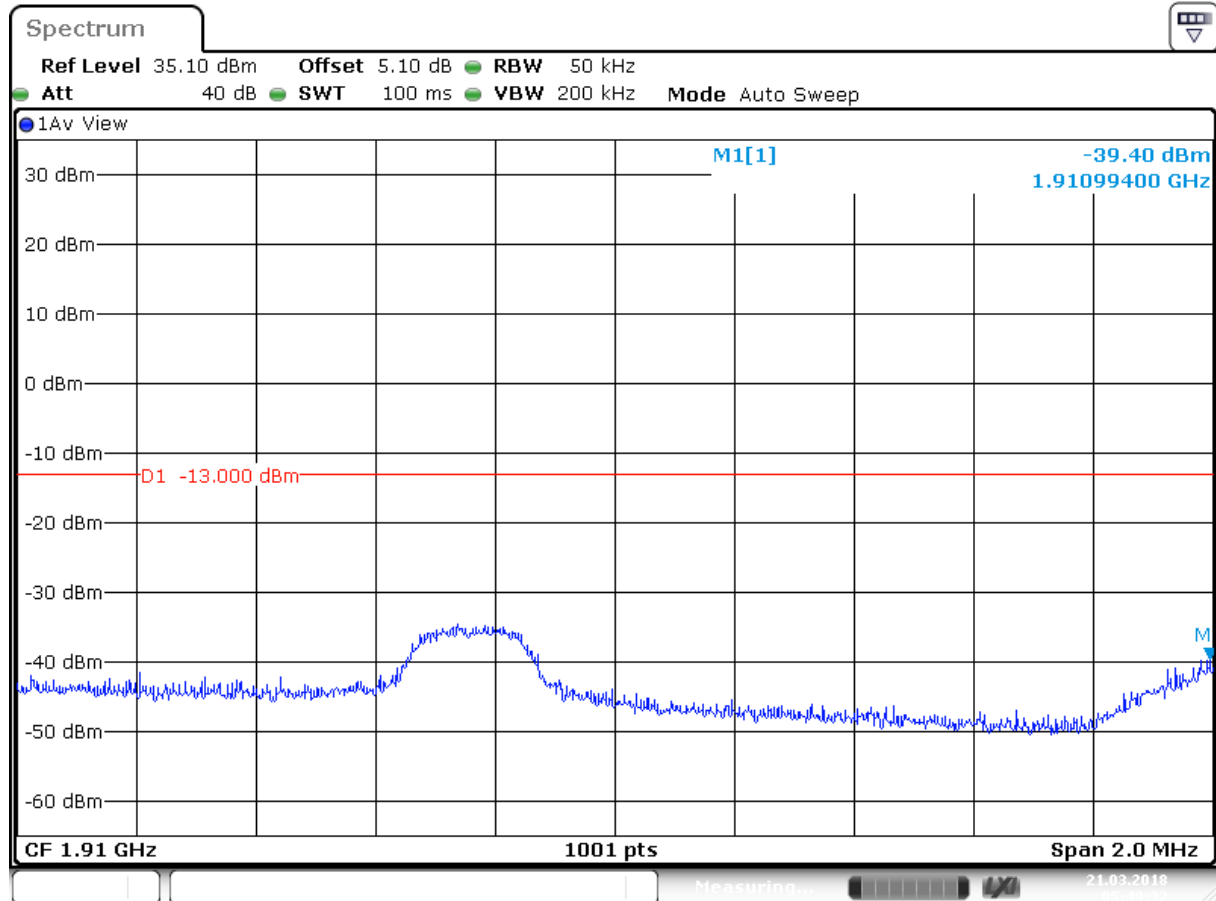


Date: 21 MAR 2018 05:48:41



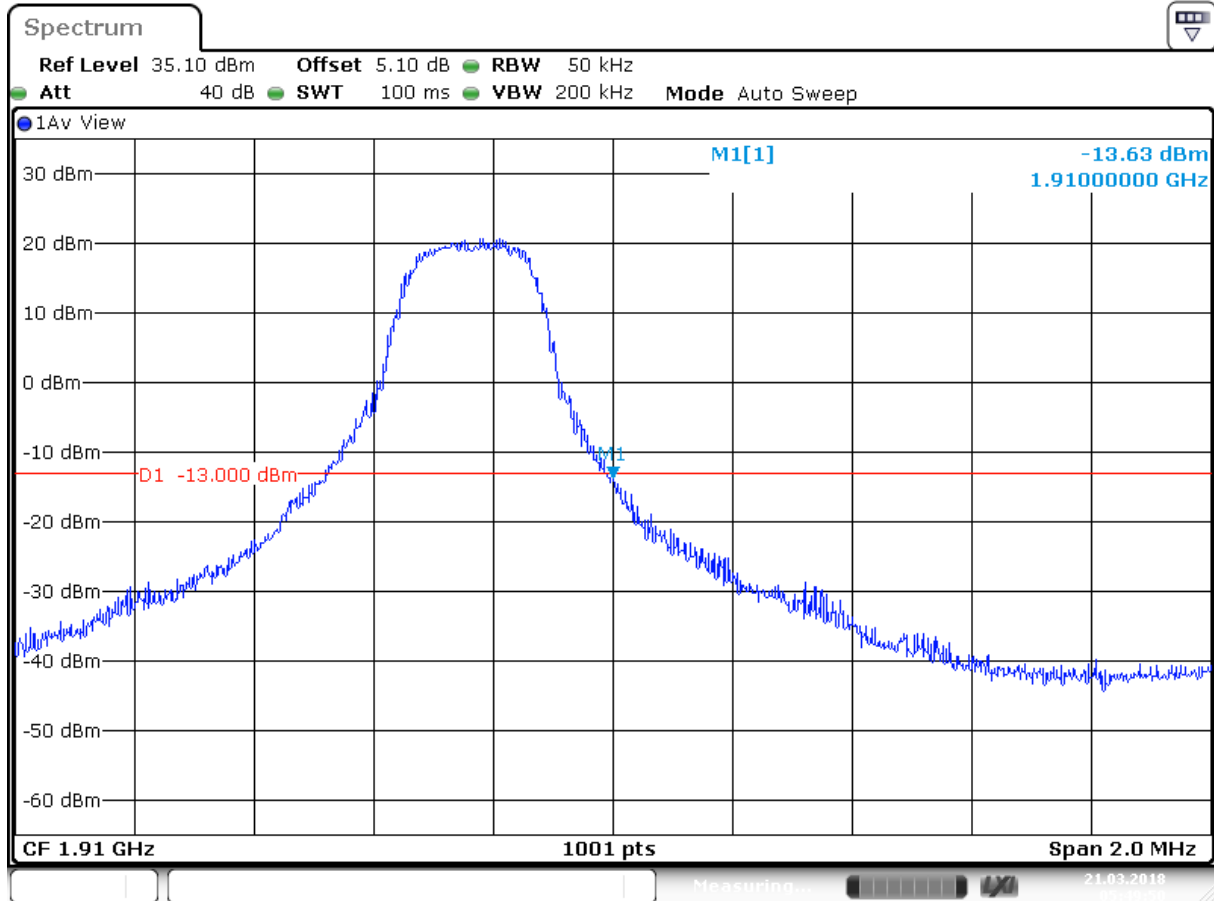
5.1.1.4.2 Test Channel = HCH

5.1.1.4.2.1 Test RB=1RB



Date: 21 MAR 2018 05:49:33

5.1.1.4.3 Test RB=15RB



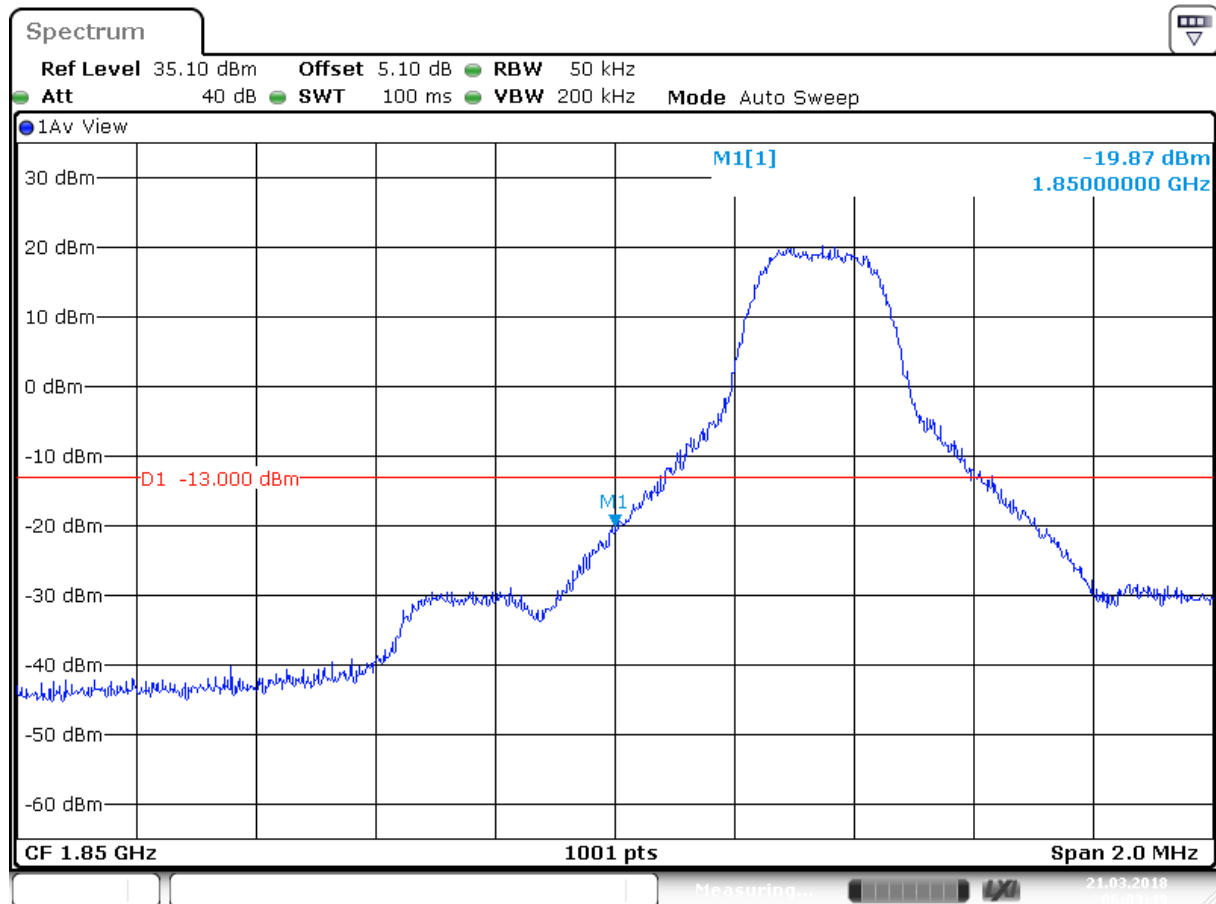
Date: 21 MAR 2018 05:49:51



5.1.1.5 Test Mode = LTE/TM1 5MHz

5.1.1.5.1 Test Channel = LCH

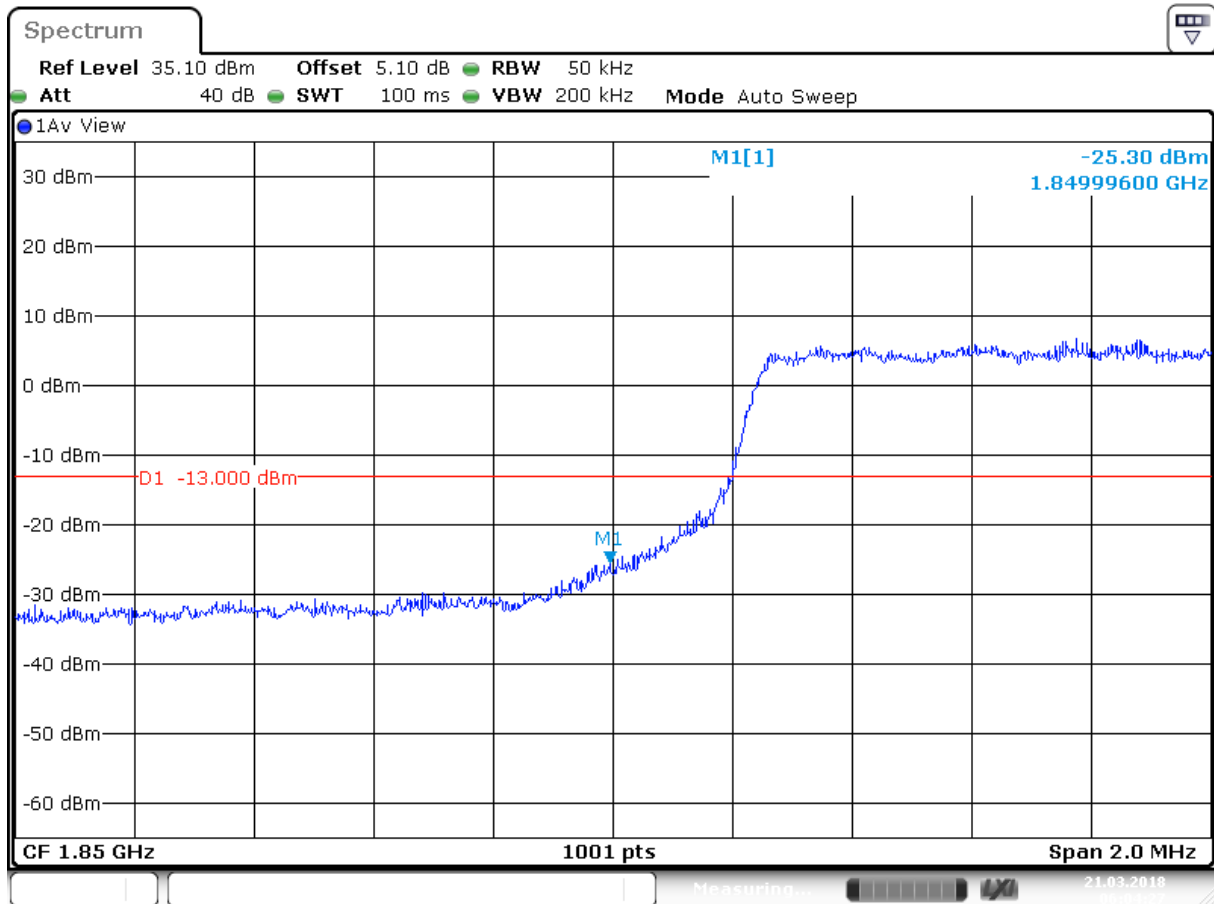
5.1.1.5.1.1 Test RB=1RB



Date: 21 MAR 2018 06:03:49



5.1.1.5.1.2 Test RB=25RB

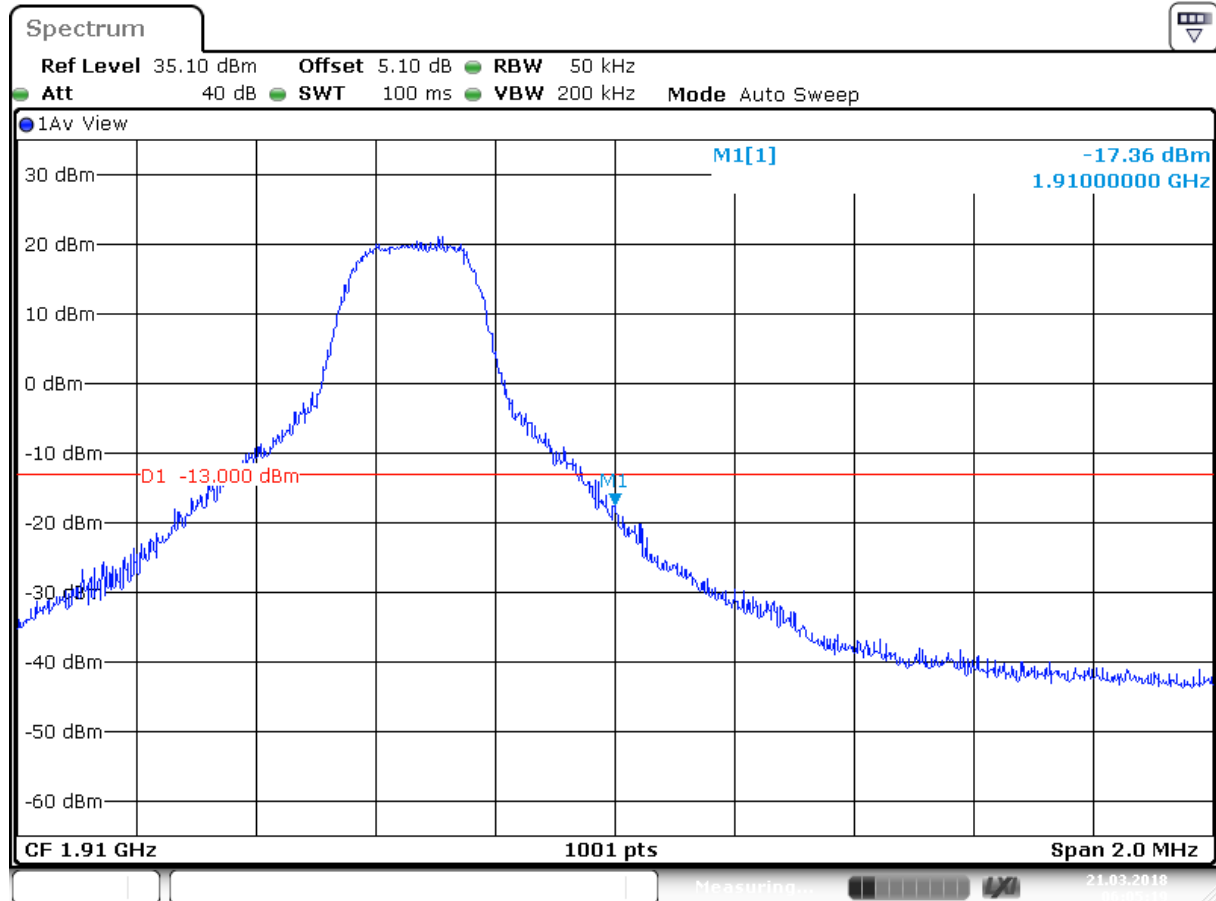


Date: 21 MAR 2018 06:04:27



5.1.1.5.2 Test Channel = HCH

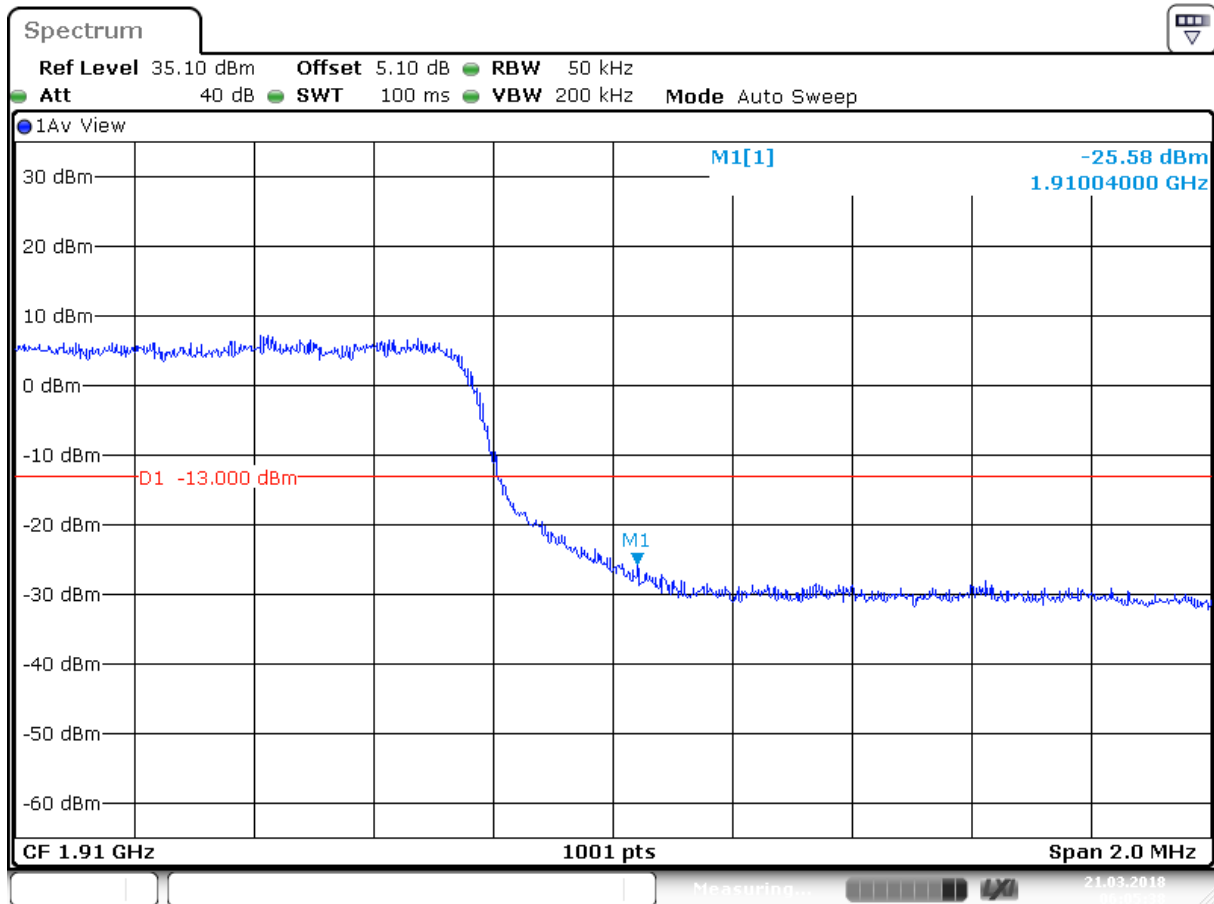
5.1.1.5.2.1 Test RB=1RB



Date: 21 MAR 2018 06:05:19



5.1.1.5.2.2 Test RB=25RB



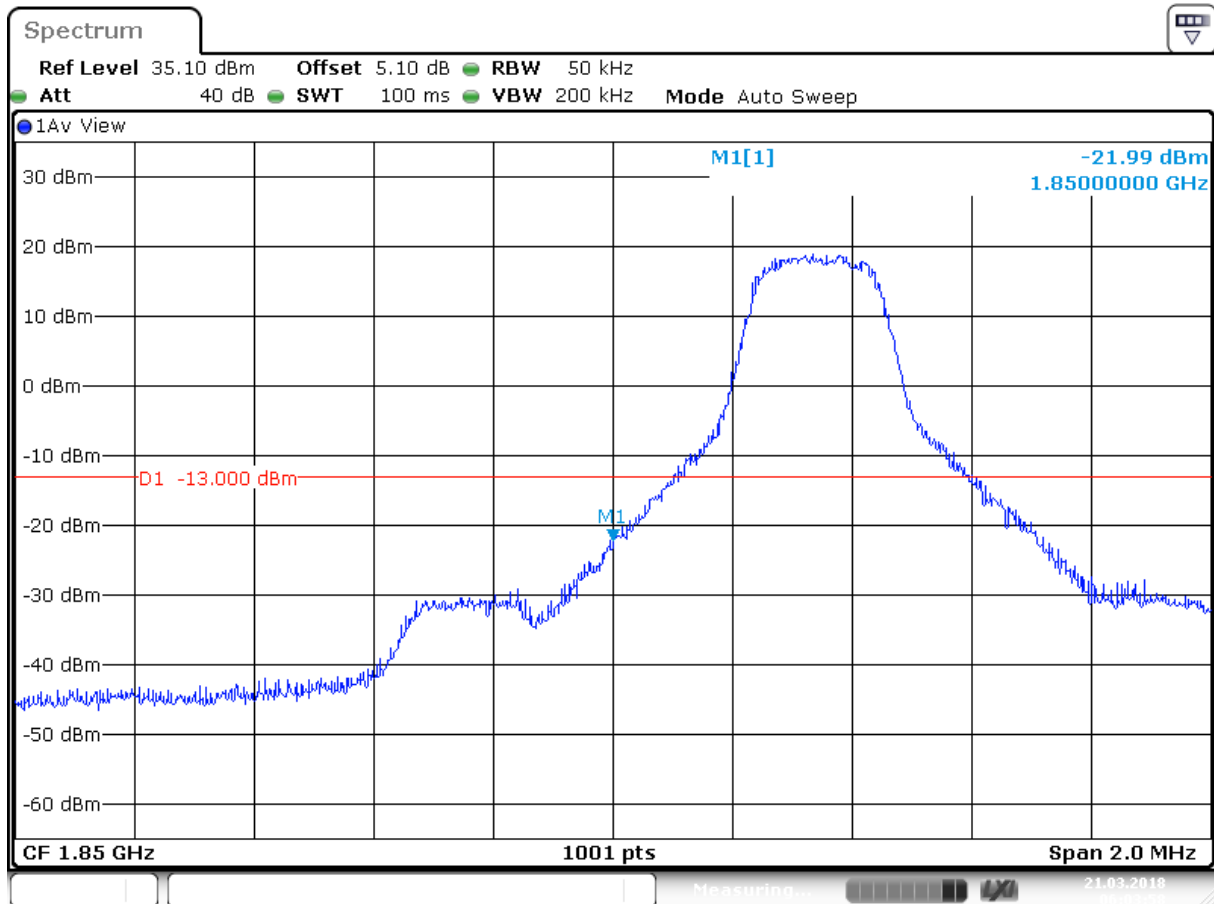
Date: 21 MAR 2018 06:05:39



5.1.1.6 Test Mode = LTE/TM2 5MHz

5.1.1.6.1 Test Channel = LCH

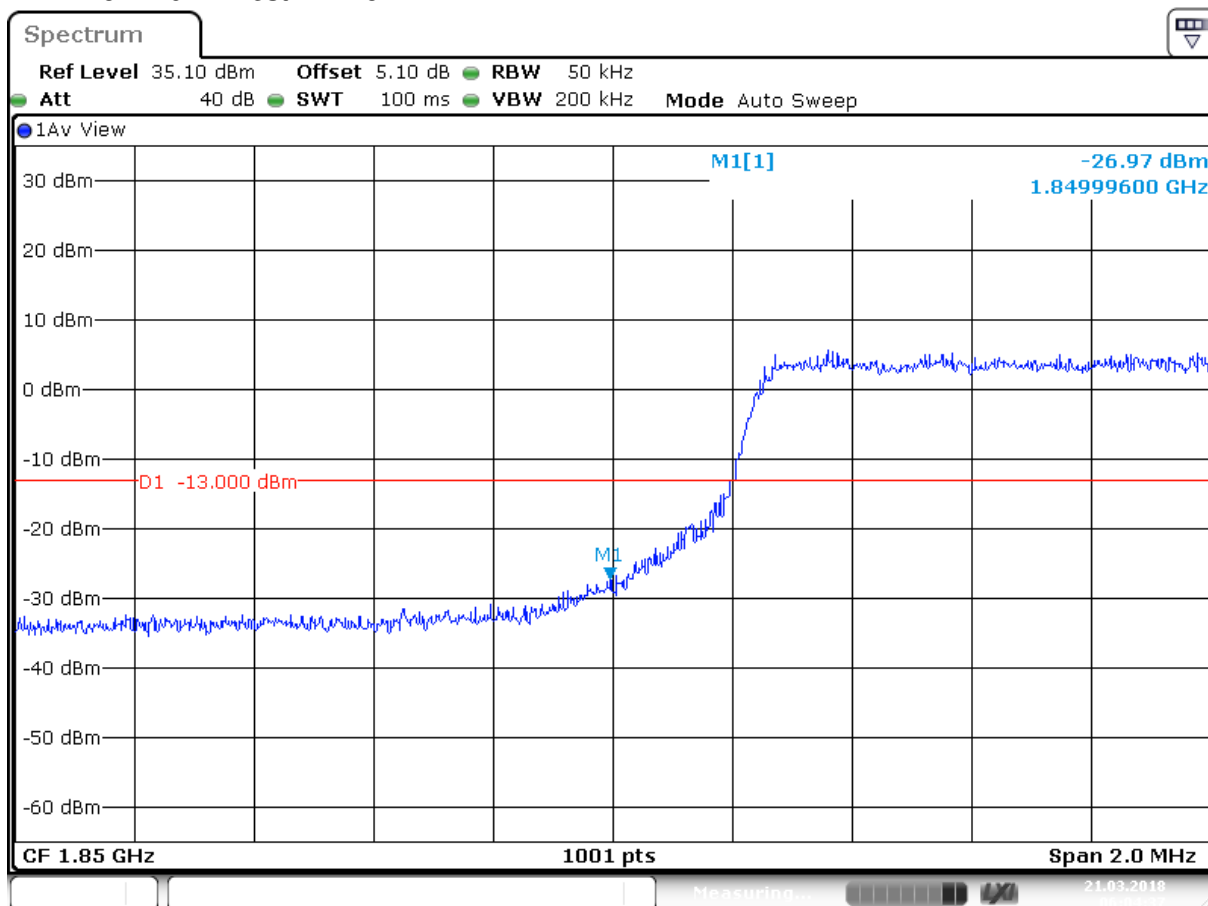
5.1.1.6.1.1 Test RB=1RB



Date: 21 MAR 2018 06:03:59



5.1.1.6.1.2 Test RB=25RB

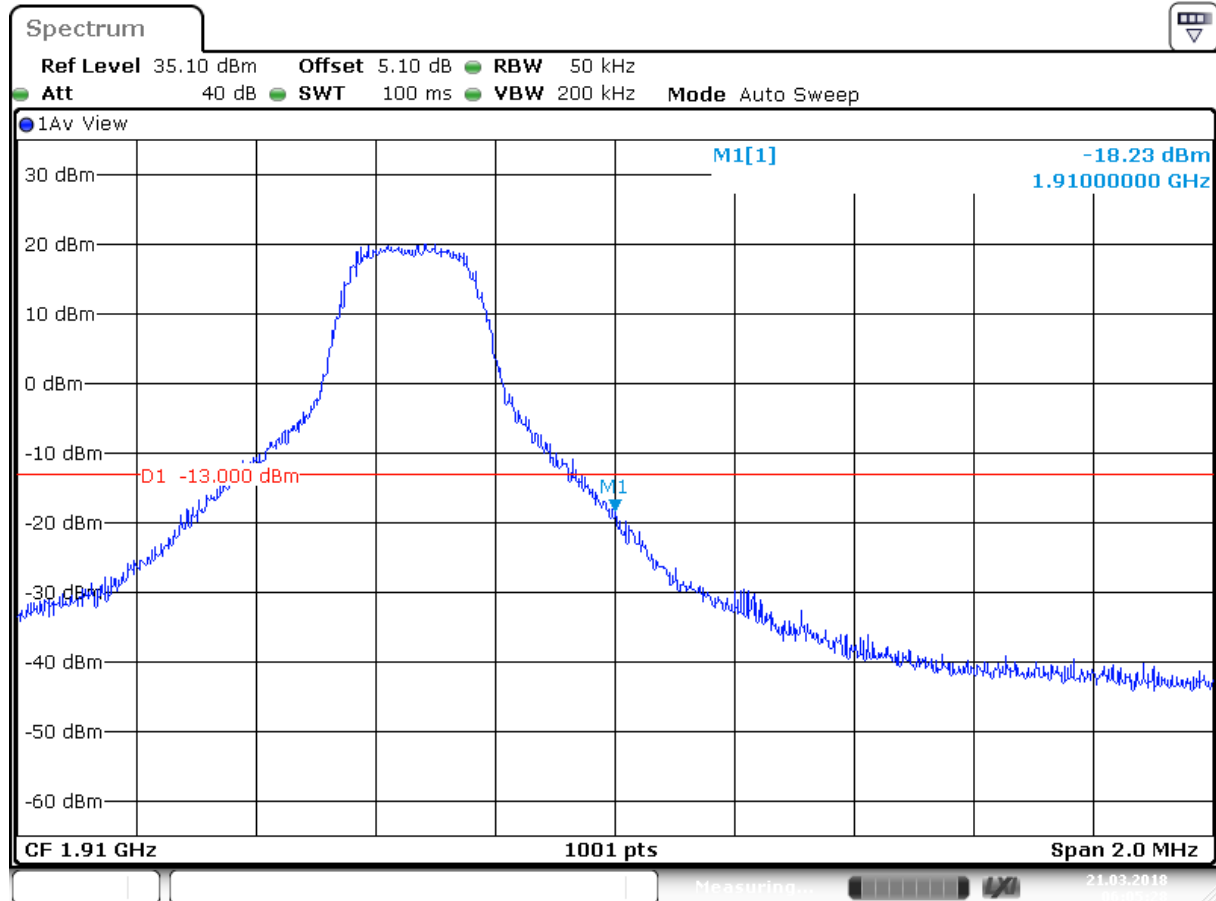


Date: 21 MAR 2018 06:04:37



5.1.1.6.2 Test Channel = HCH

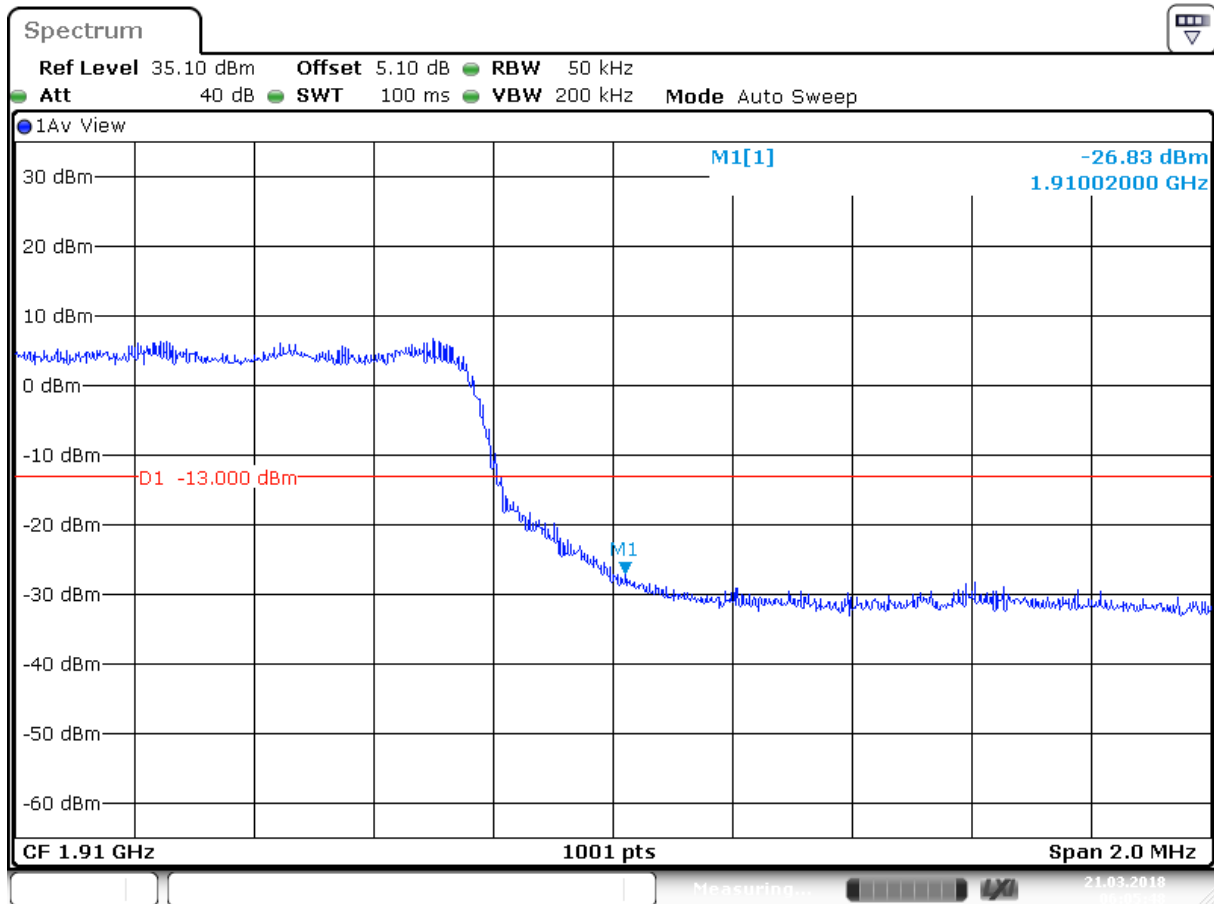
5.1.1.6.2.1 Test RB=1RB



Date: 21 MAR 2018 06:05:29



5.1.1.6.2.2 Test RB=25RB



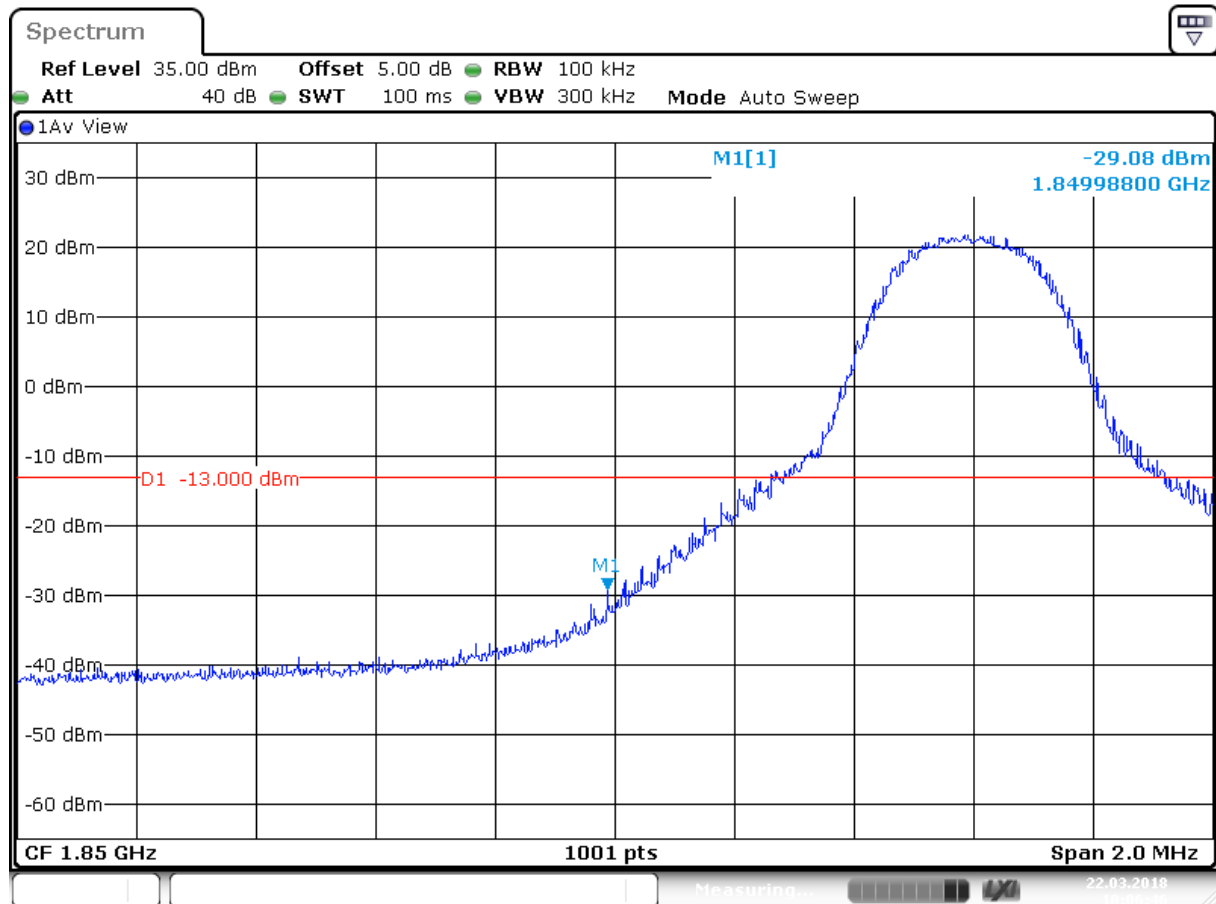
Date: 21 MAR 2018 06:05:48



5.1.1.7 Test Mode = LTE/TM1 10MHz

5.1.1.7.1 Test Channel = LCH

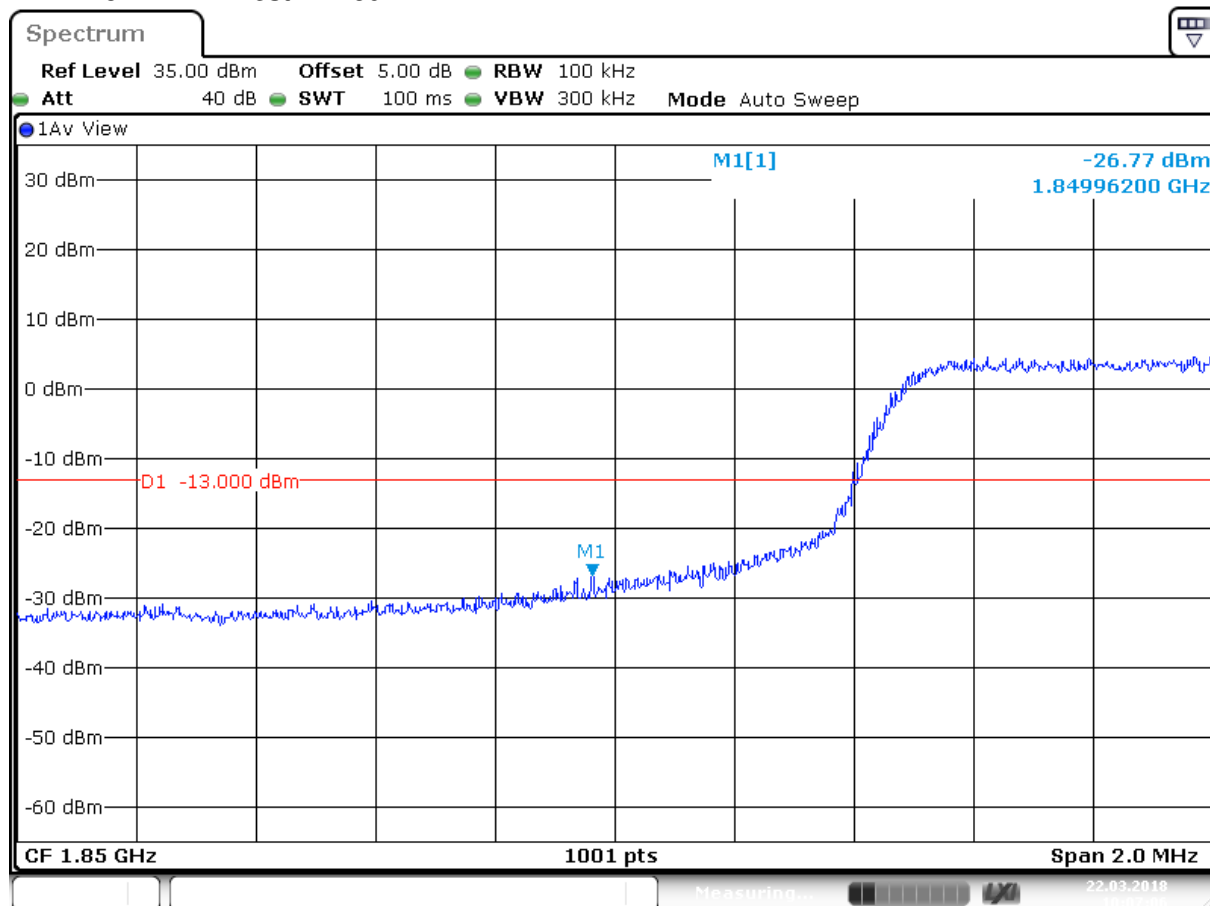
5.1.1.7.1.1 Test RB=1RB



Date: 22 MAR 2018 10:06:47



5.1.1.7.1.2 Test RB=50RB

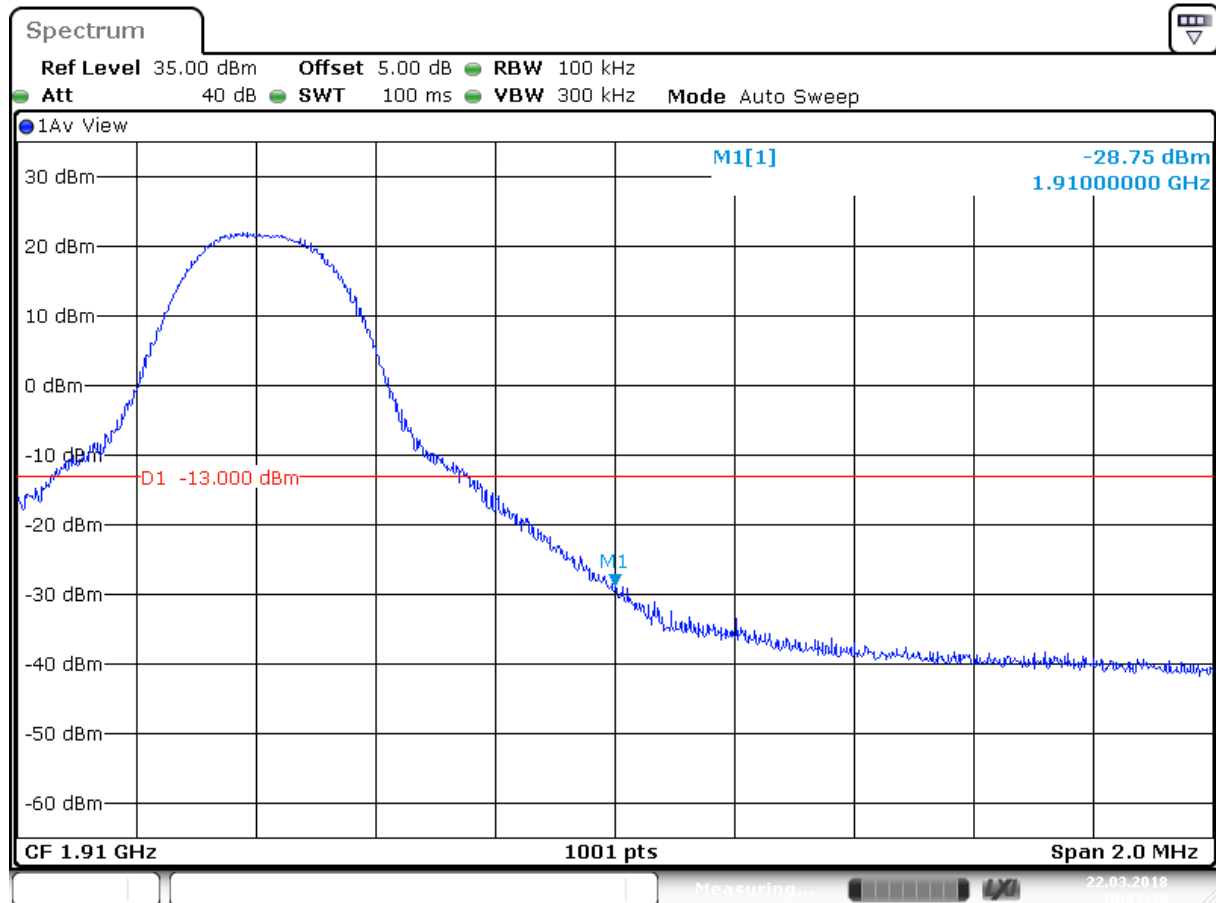


Date: 22 MAR 2018 10:07:06



5.1.1.7.2 Test Channel = HCH

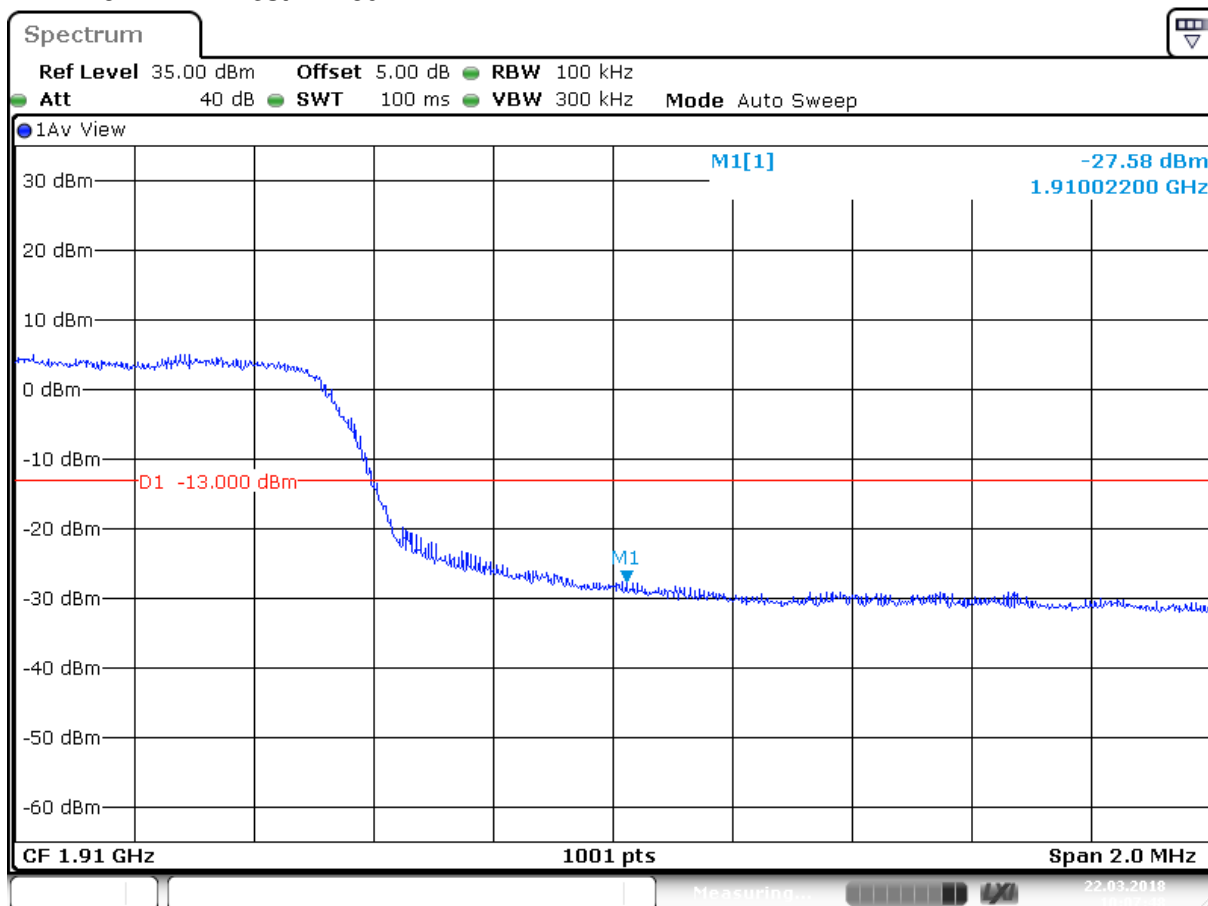
5.1.1.7.2.1 Test RB=1RB



Date: 22 MAR 2018 10:07:39



5.1.1.7.2.2 Test RB=50RB



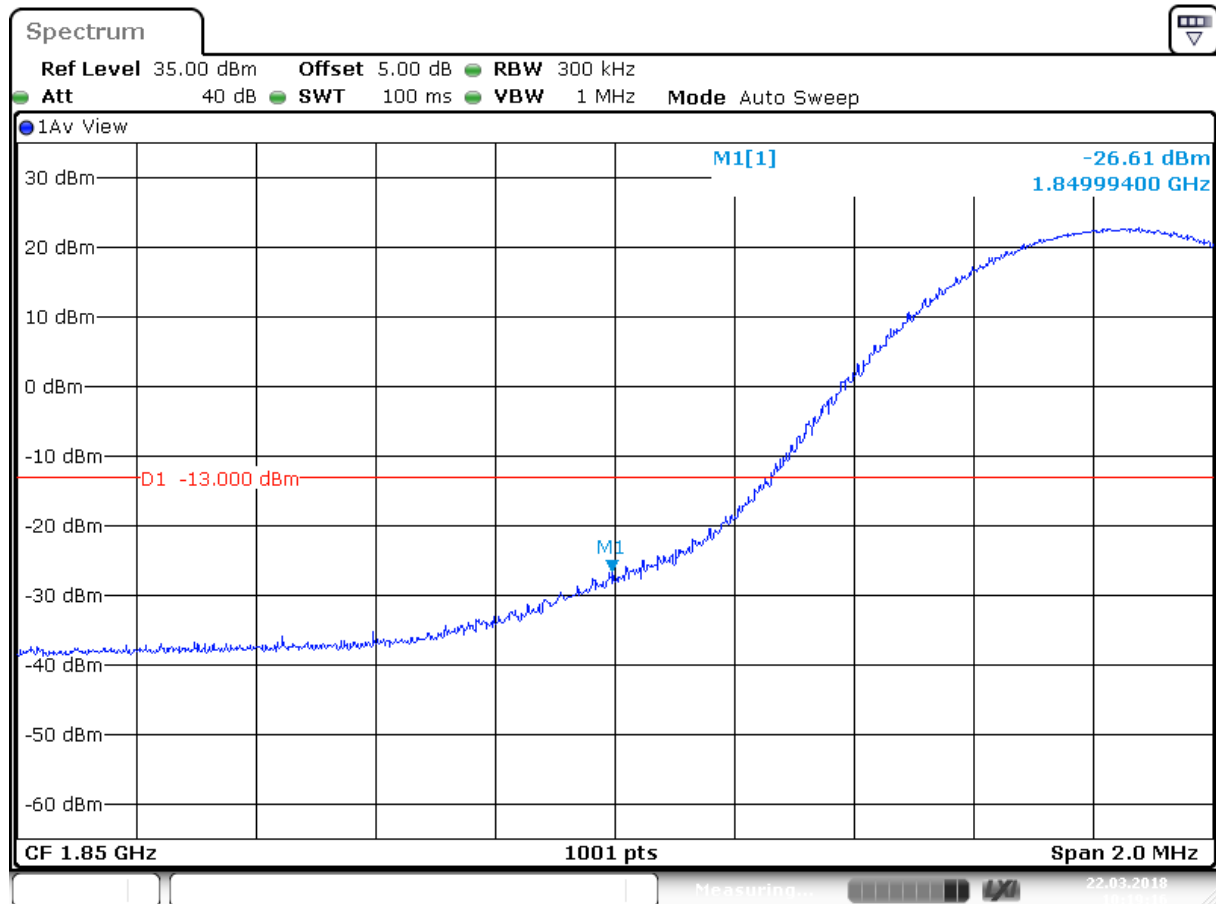
Date: 22 MAR 2018 10:07:48



5.1.1.8 Test Mode = LTE/TM1 15MHz

5.1.1.8.1 Test Channel = LCH

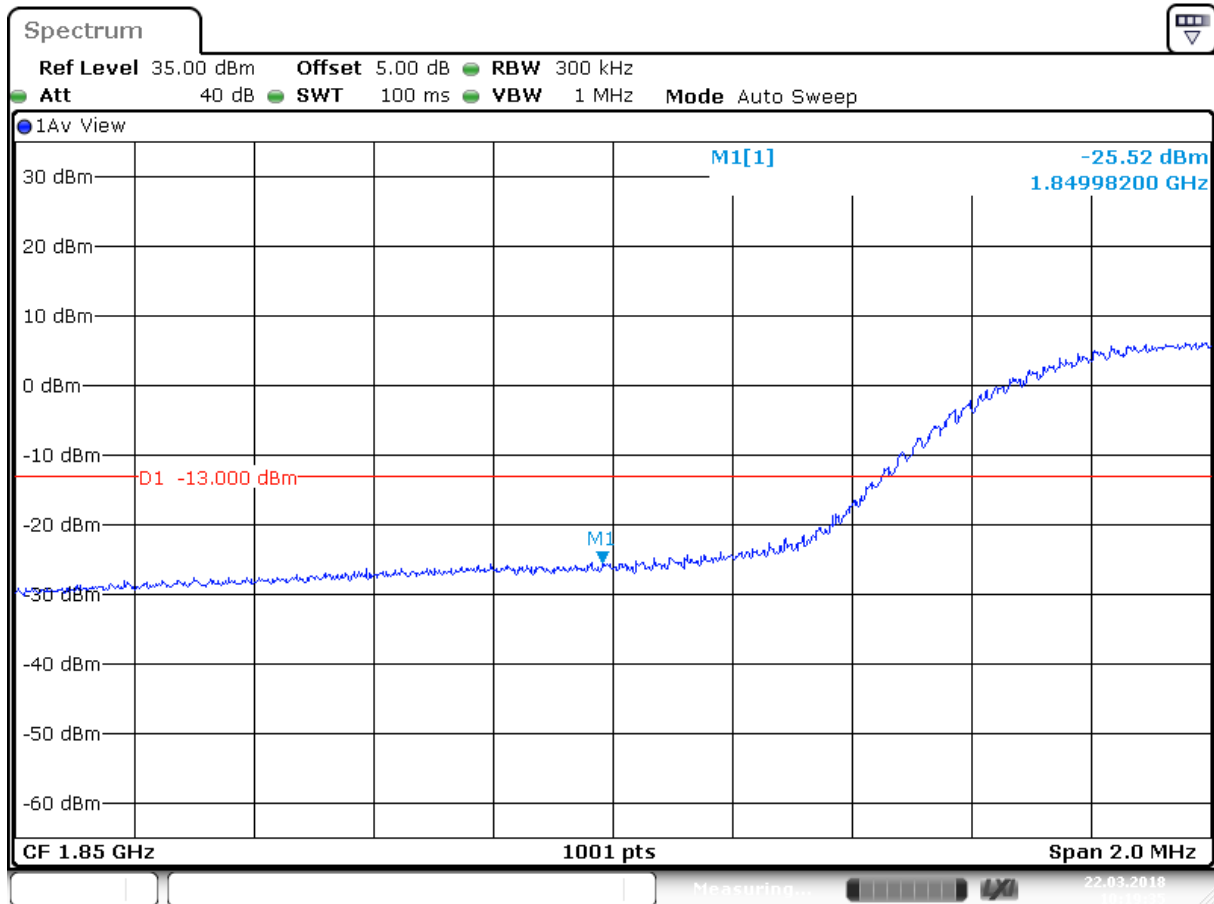
5.1.1.8.1.1 Test RB=1RB



Date: 22 MAR 2018 10:19:16



5.1.1.8.1.2 Test RB=75RB

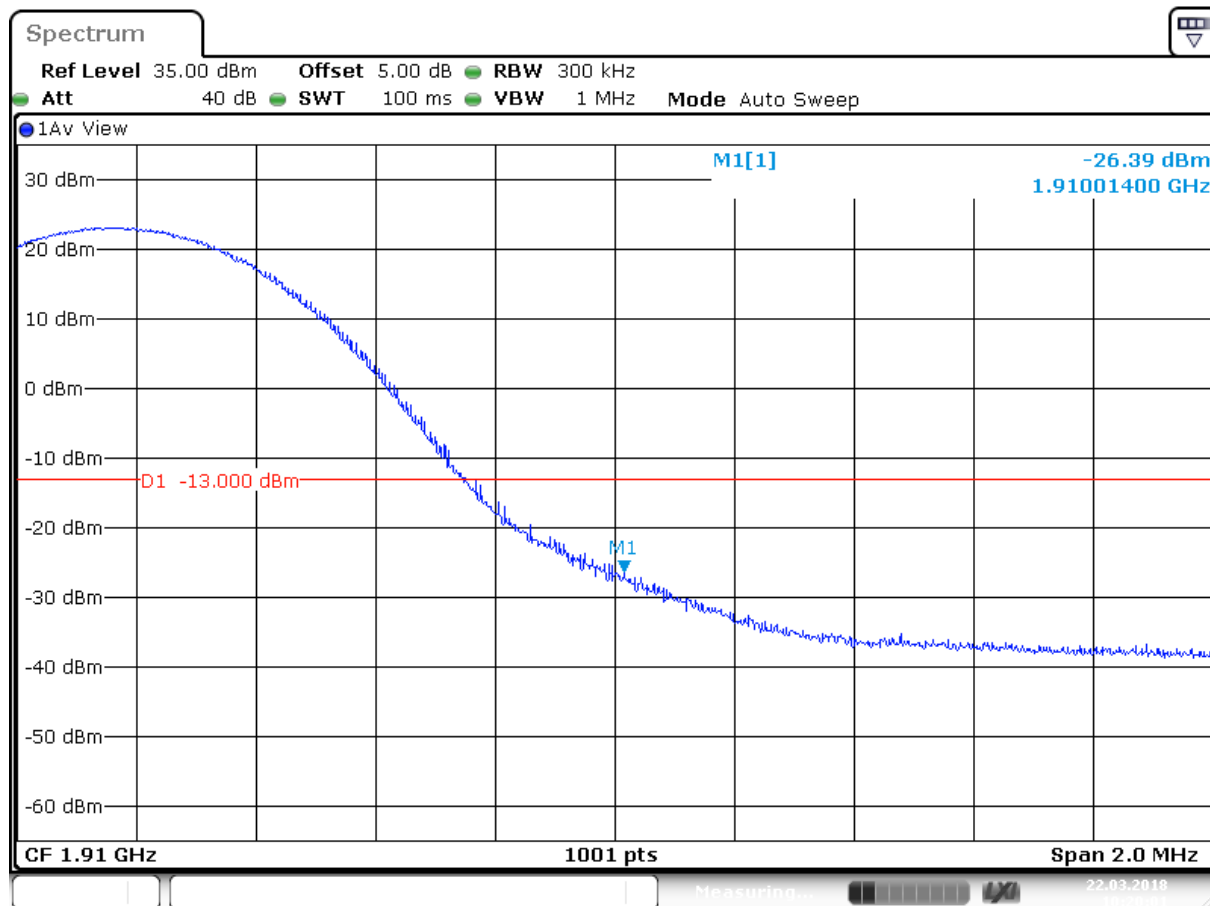


Date: 22 MAR 2018 10:19:35



5.1.1.8.2 Test Channel = HCH

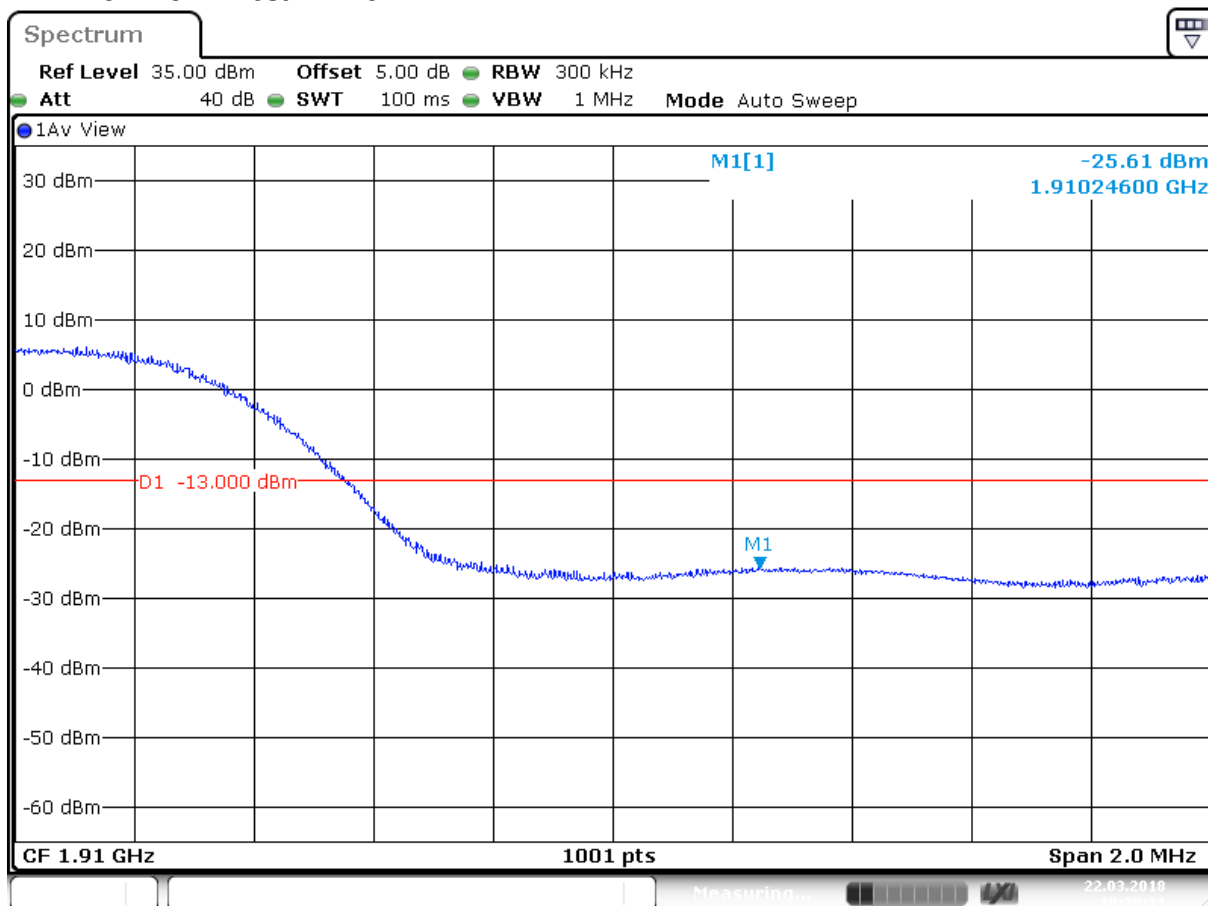
5.1.1.8.2.1 Test RB=1RB



Date: 22 MAR 2018 10:20:02



5.1.1.8.2.2 Test RB=75RB



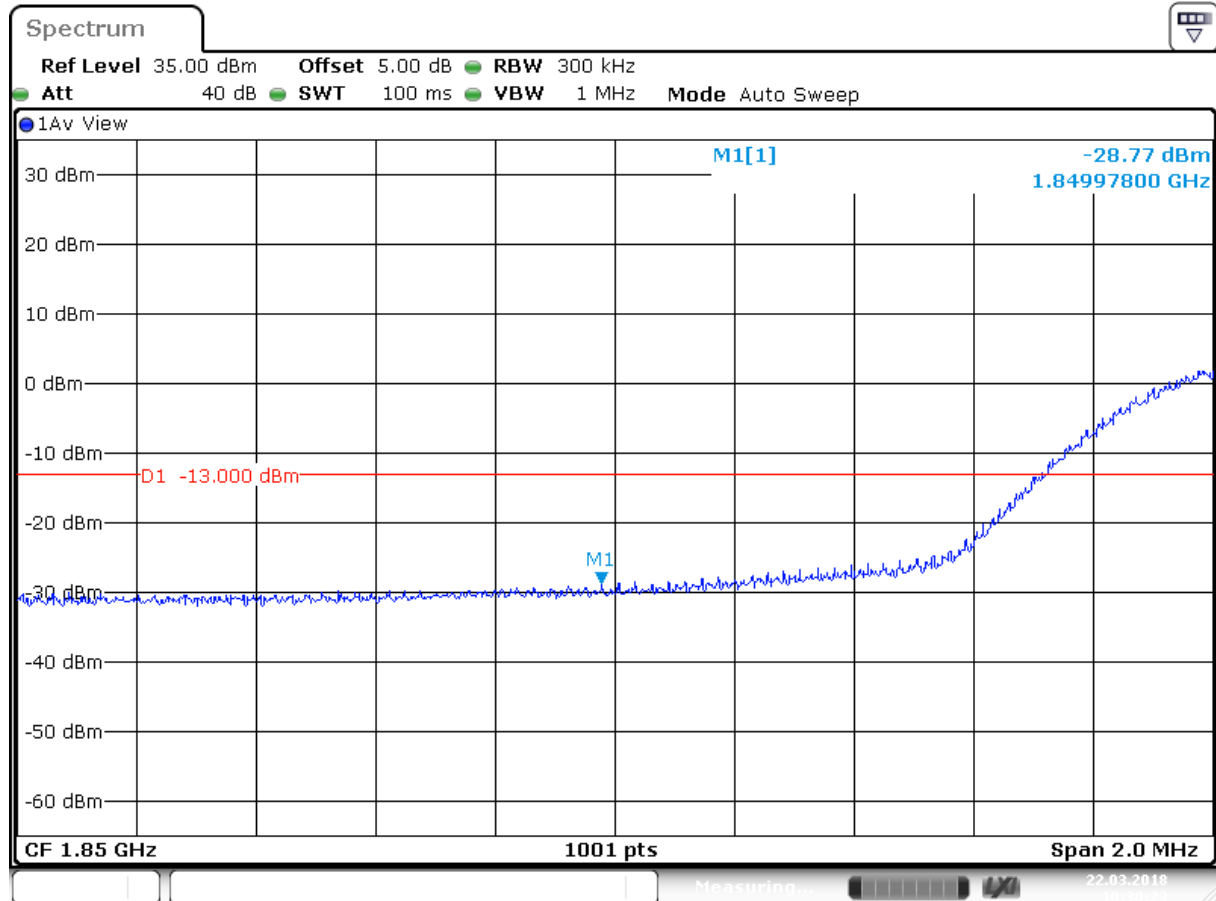
Date: 22 MAR 2018 10:20:12



5.1.1.9 Test Mode = LTE/TM1 20MHz

5.1.1.9.1 Test Channel = LCH

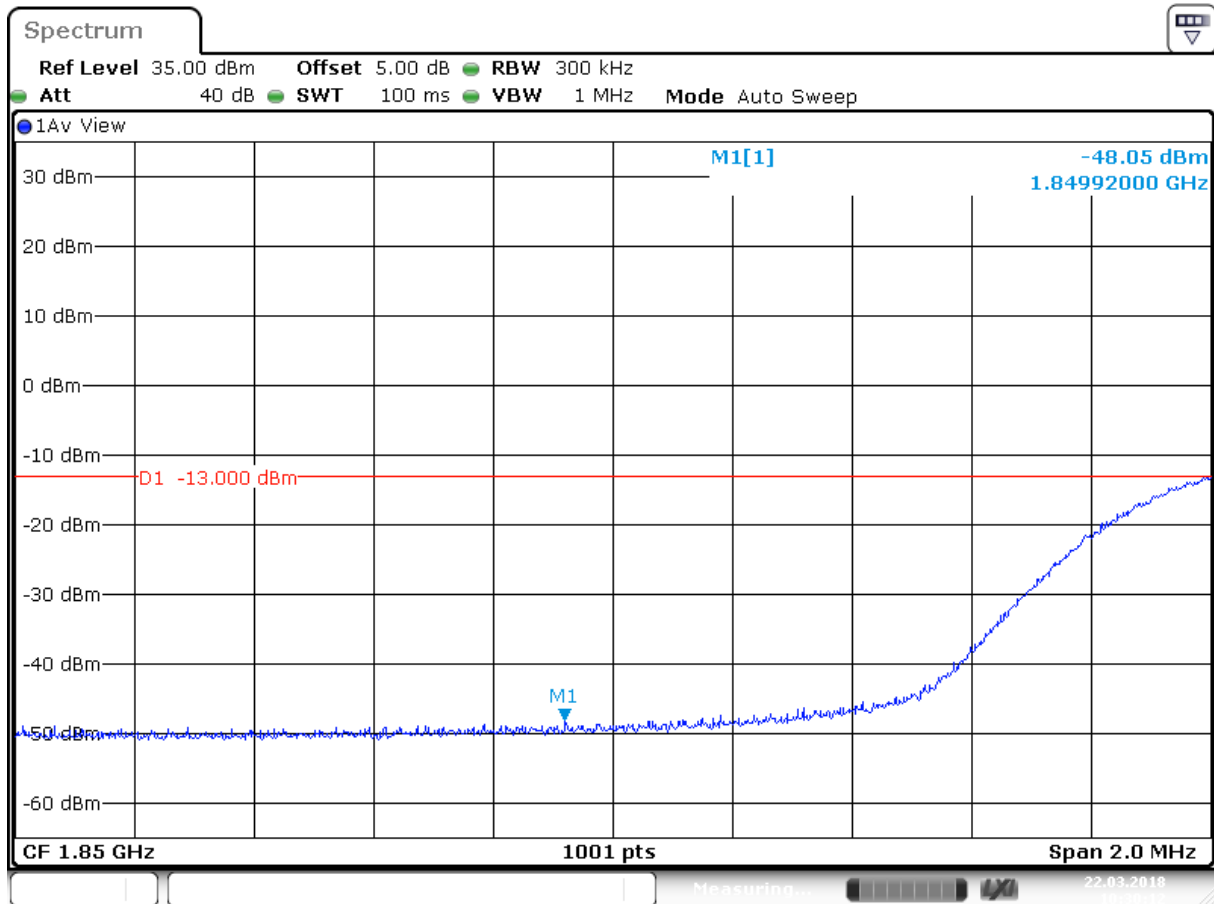
5.1.1.9.1.1 Test RB=1RB



Date: 22 MAR 2018 10:30:23



5.1.1.9.1.2 Test RB=100RB

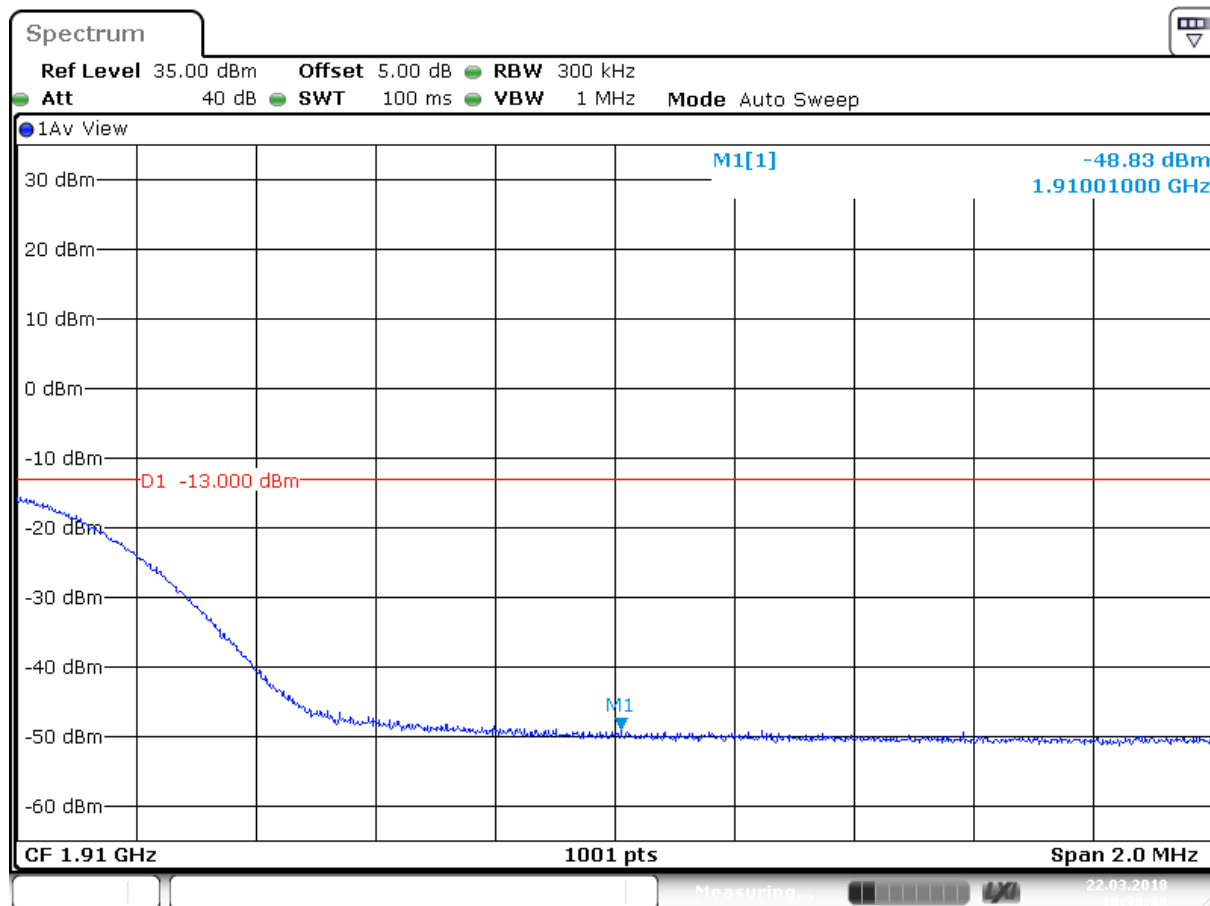


Date: 22 MAR 2018 10:30:13



5.1.1.9.2 Test Channel = HCH

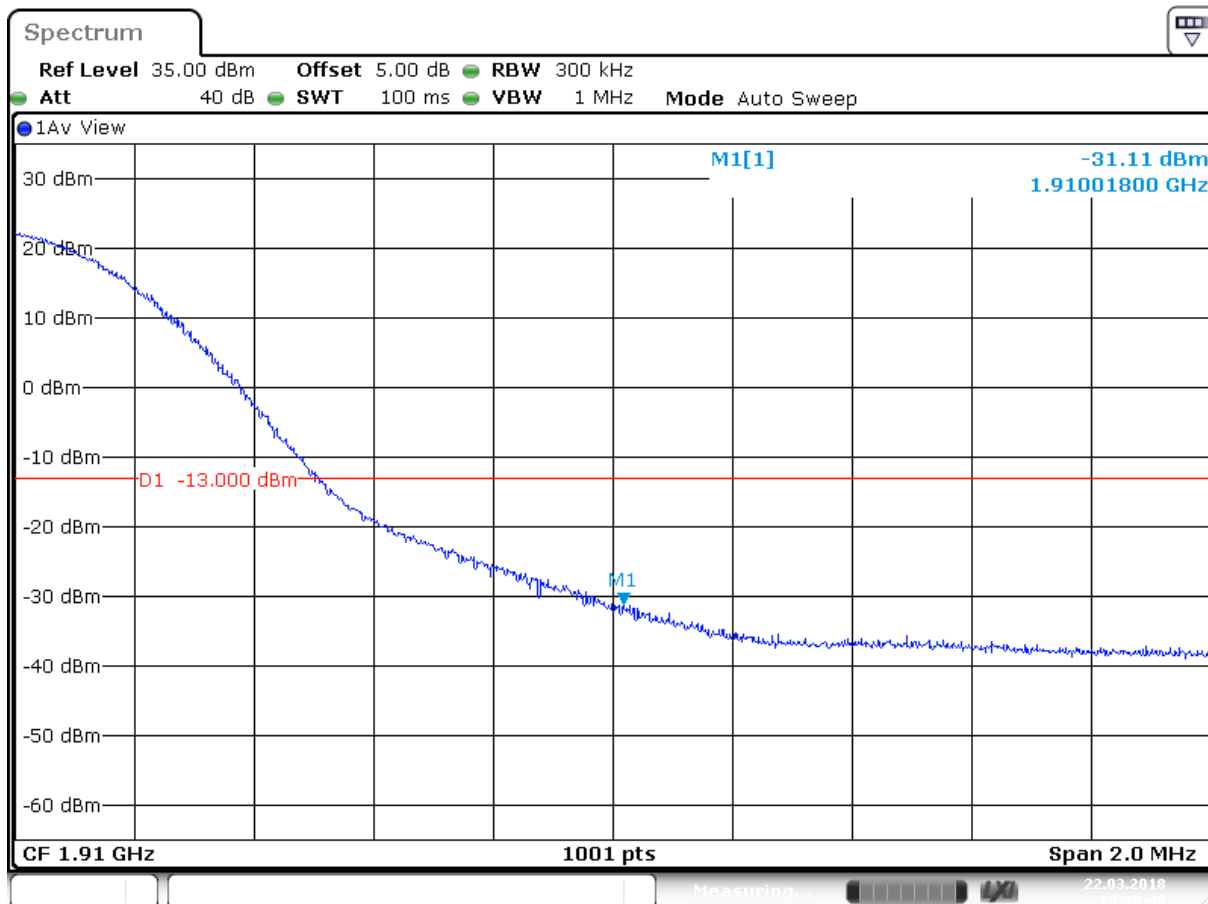
5.1.1.9.2.1 Test RB=1RB



Date: 22 MAR 2018 10:30:39



5.1.1.9.2.2 Test RB=100RB



Date: 22 MAR 2018 10:30:49



6 Spurious Emission at Antenna Terminal

NOTE: 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 = $k \cdot (\text{Span} / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

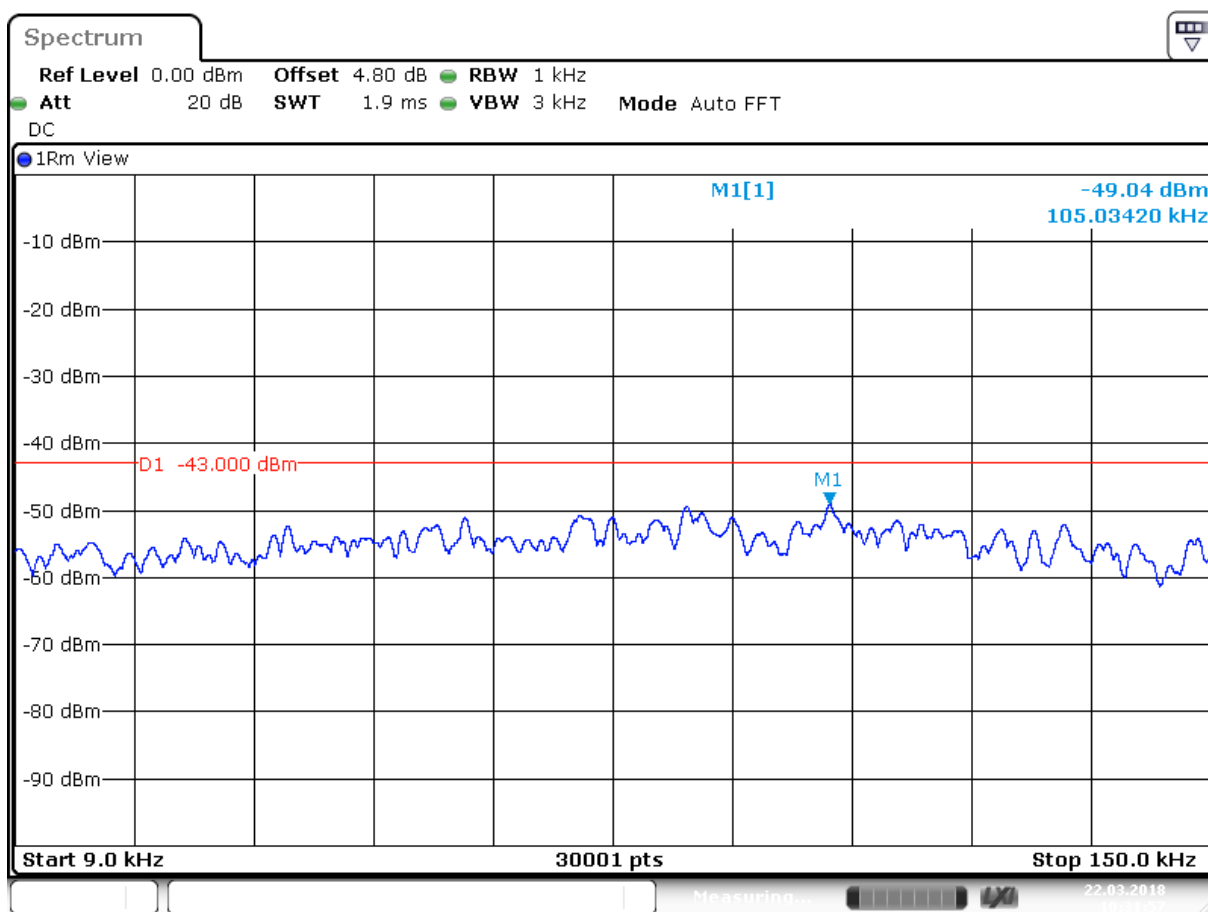
Part I - Test Plots

6.1 For LTE

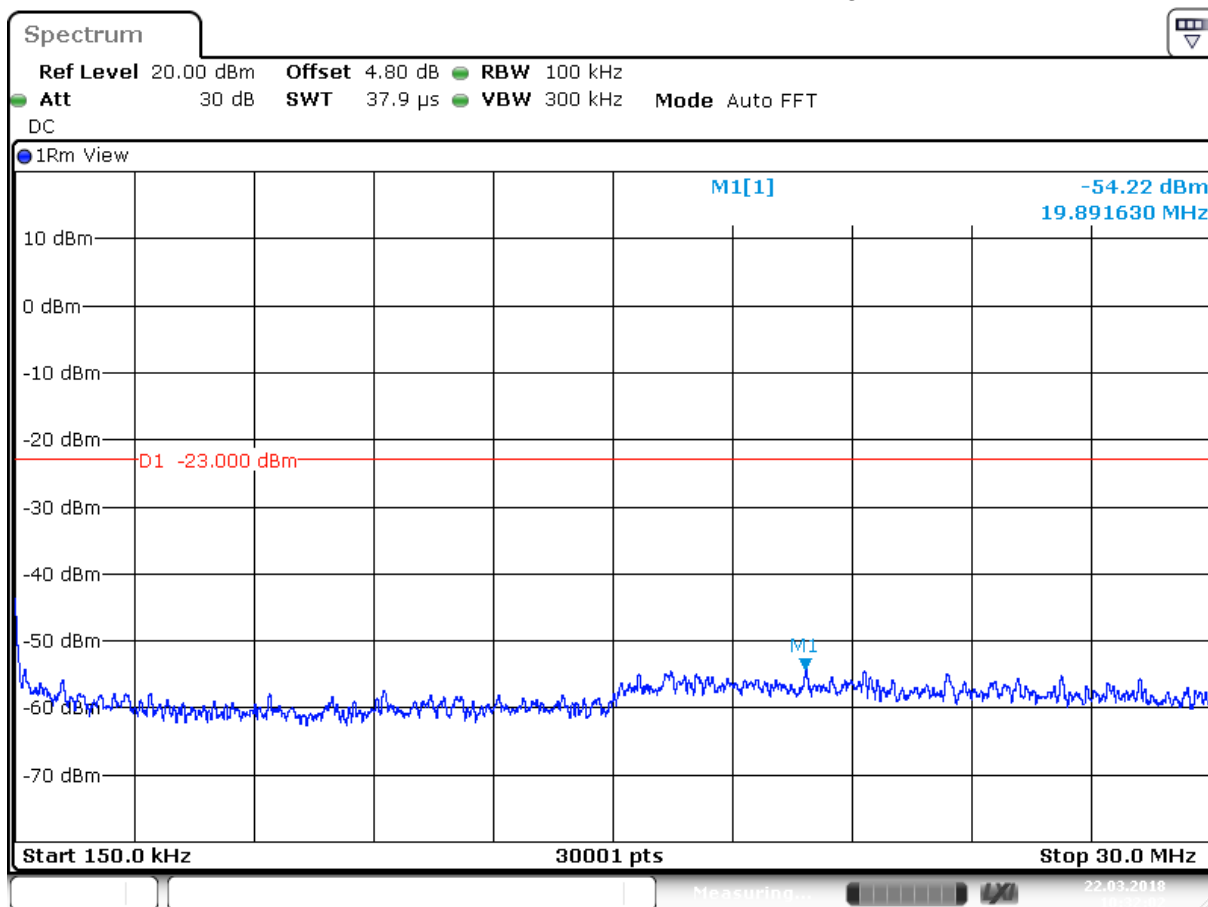
6.1.1 Test Band = LTE band2

6.1.1.1 Test Mode = LTE / TM1 20MHz RB1#0

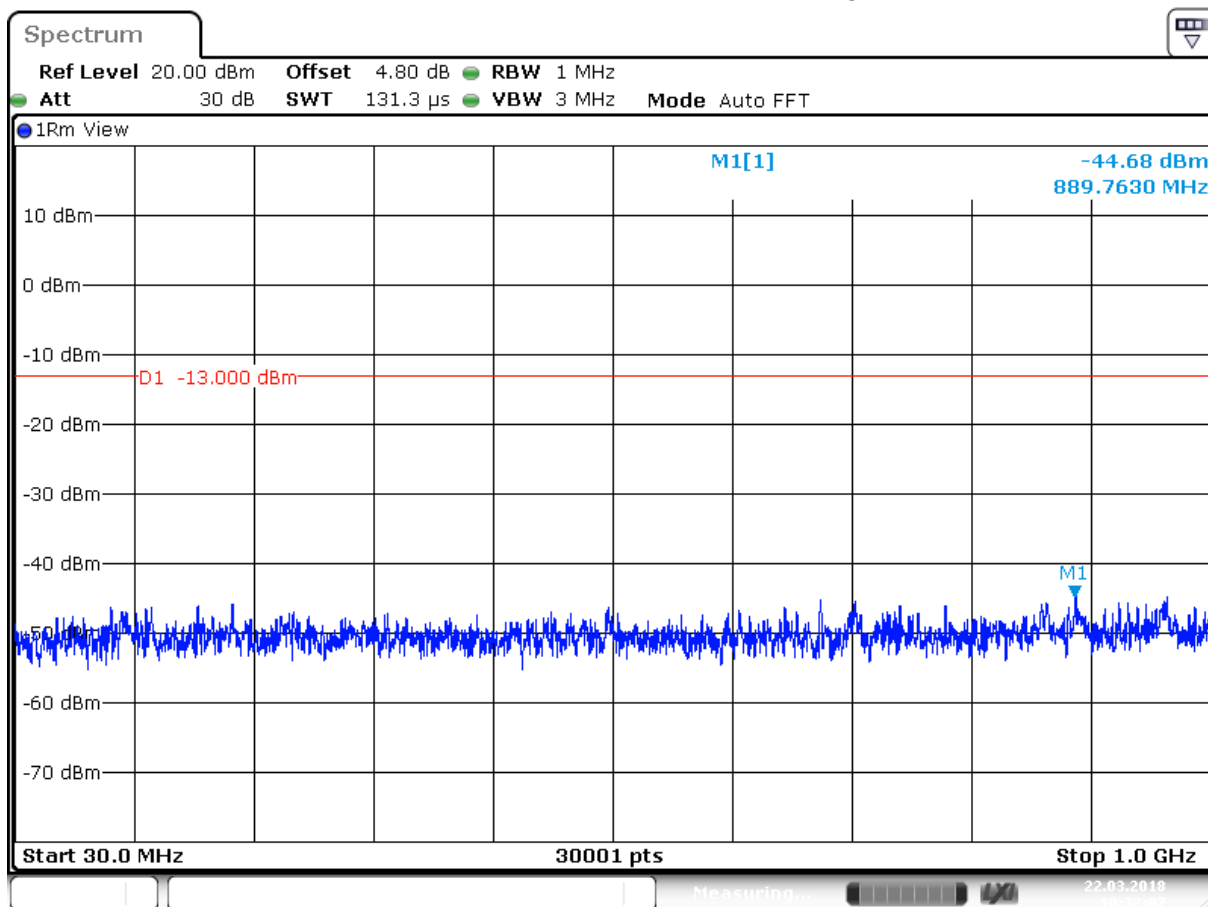
6.1.1.1.1 Test Channel = LCH



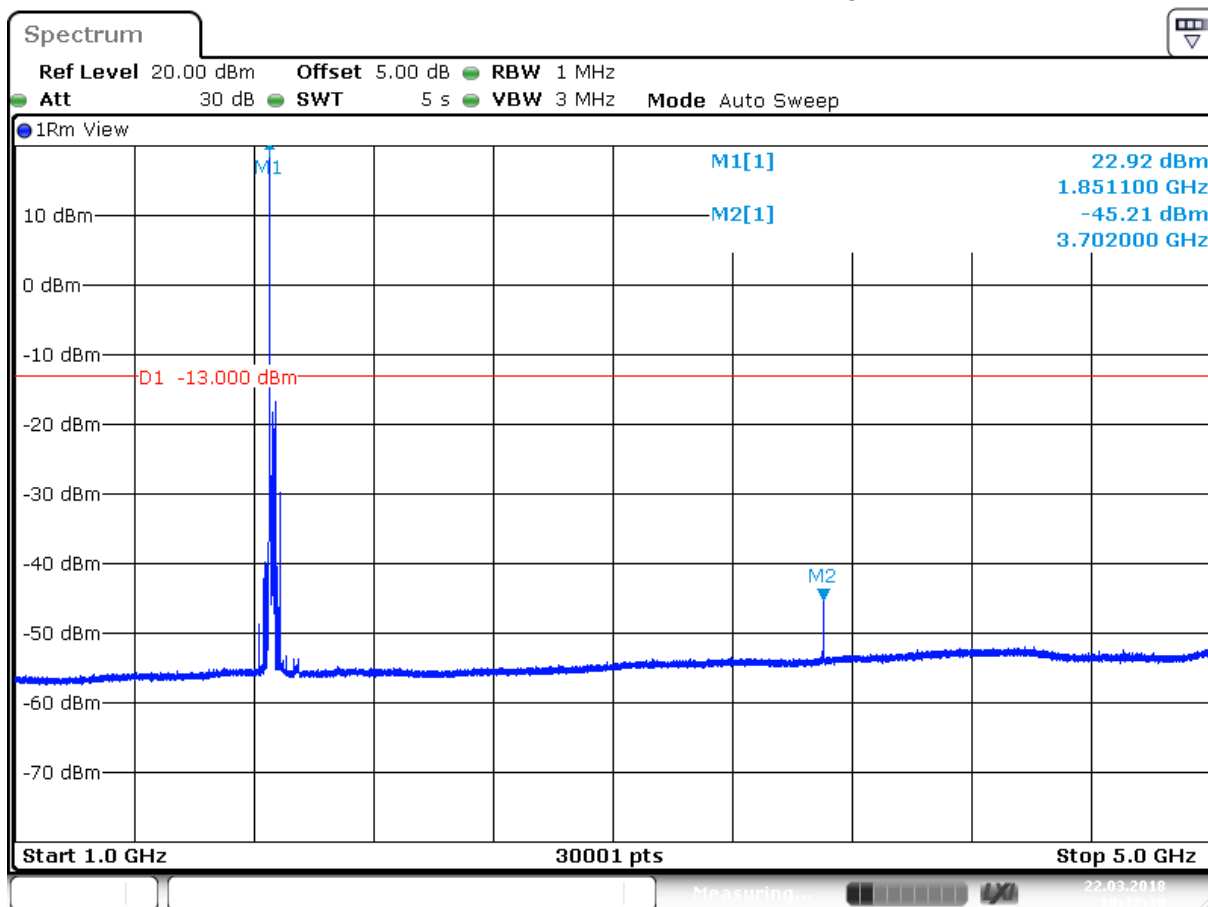
Date: 22 MAR 2018 10:31:57



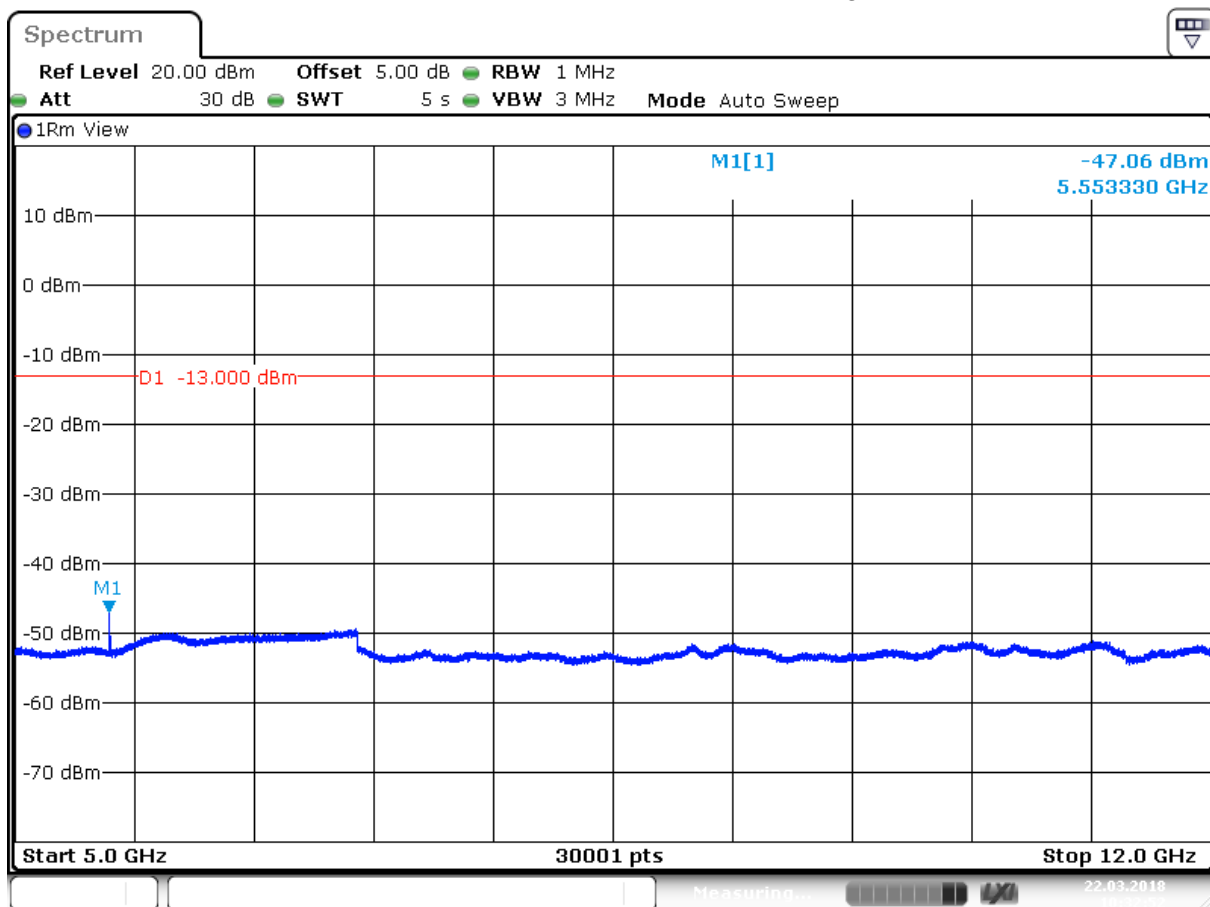
Date: 22 MAR 2018 10:32:03



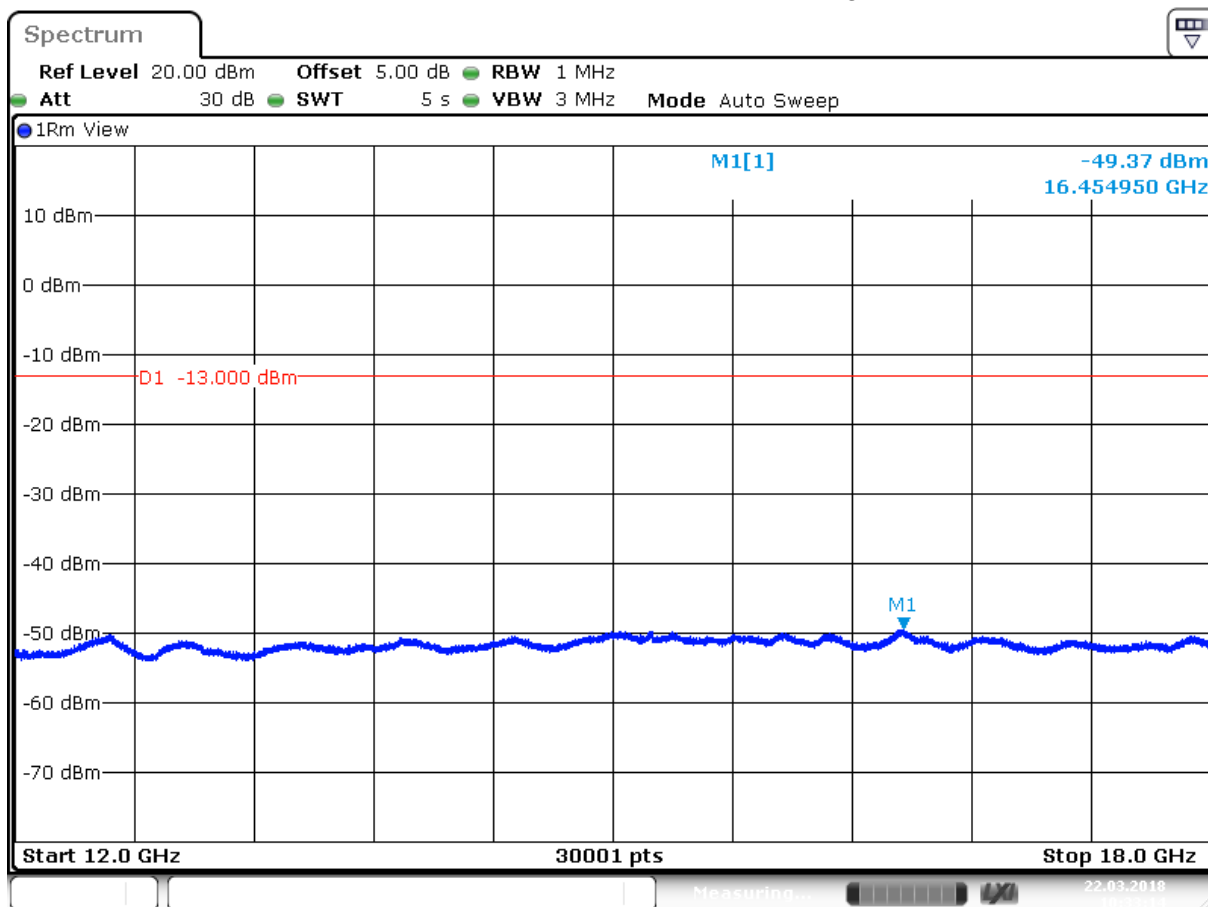
Date: 22 MAR 2018 10:32:08



Date: 22 MAR 2018 10:32:30



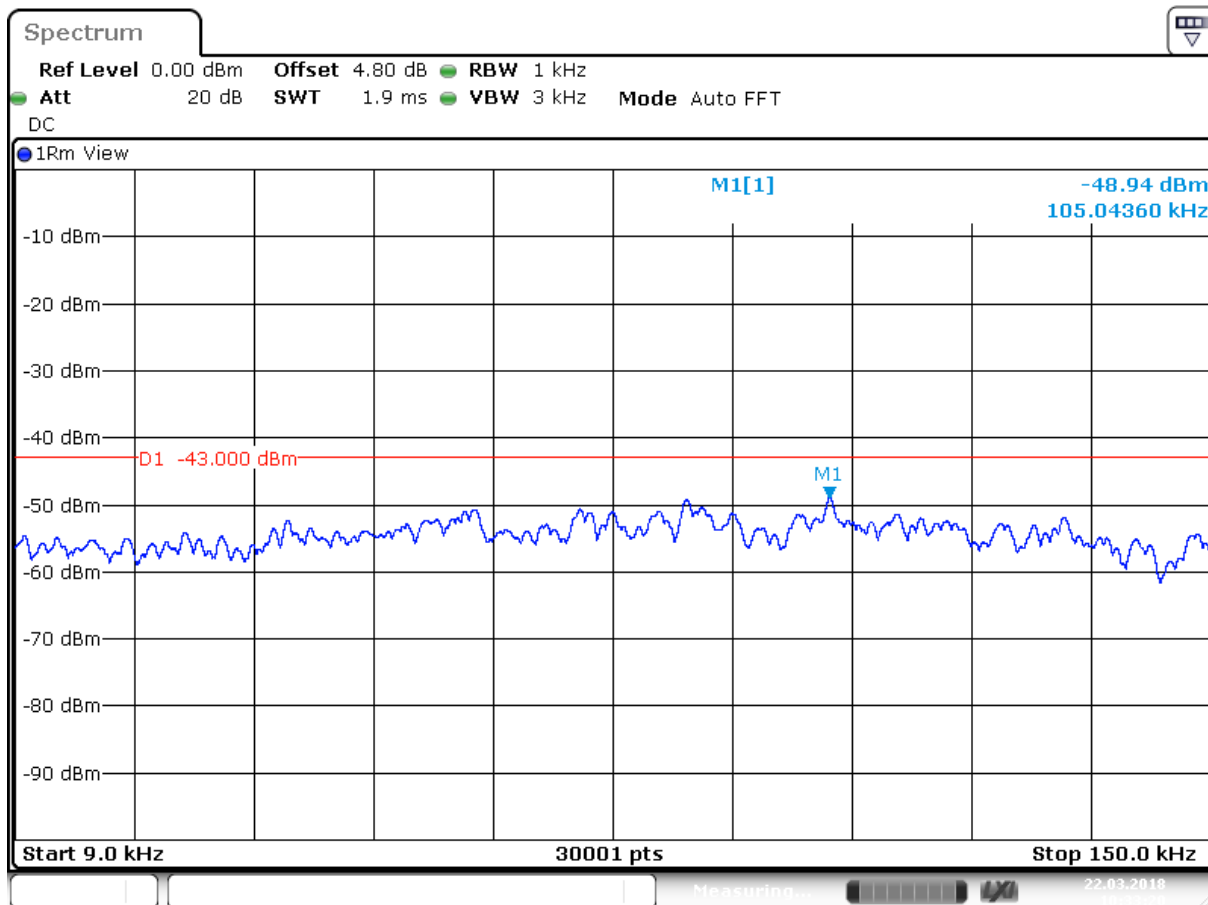
Date: 22 MAR 2018 10:32:52



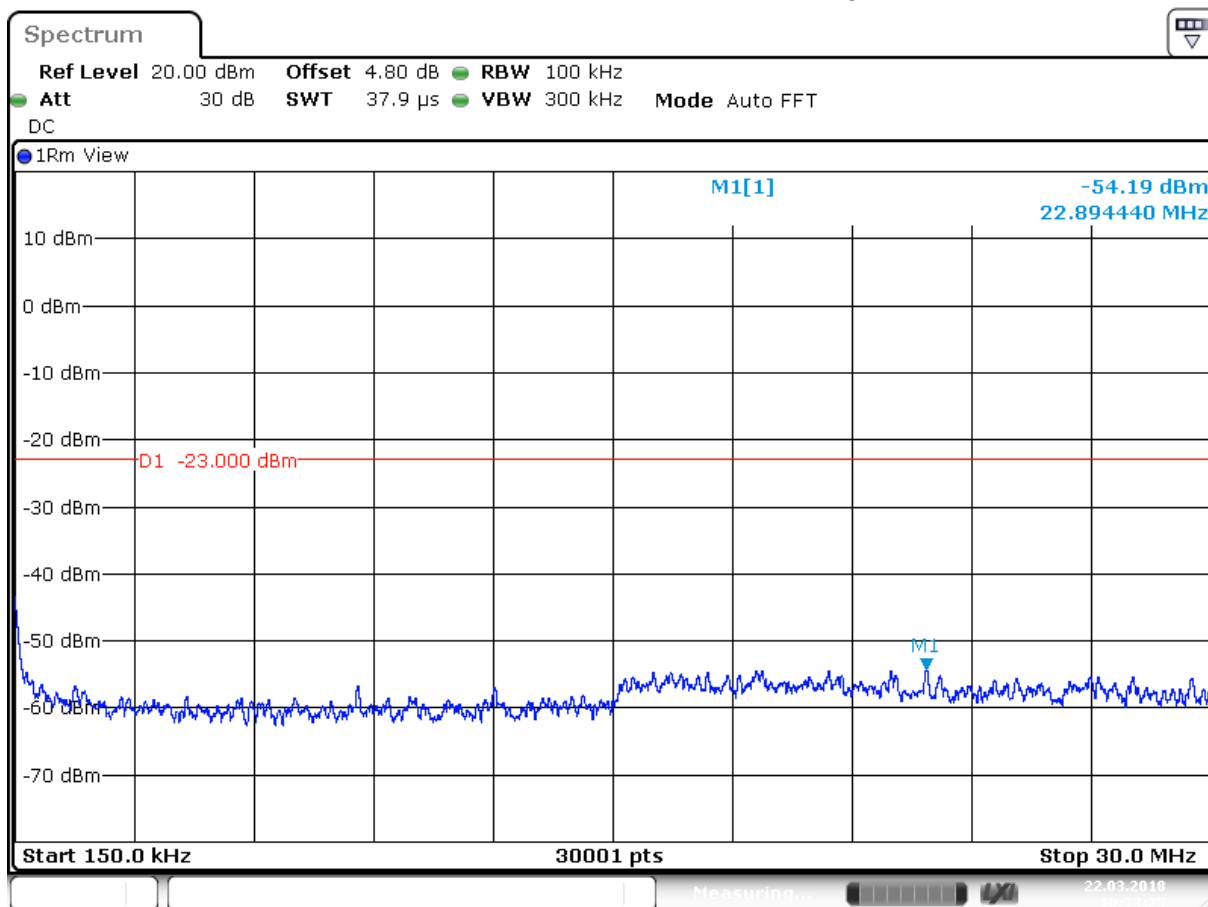
Date: 22 MAR 2018 10:33:14



6.1.1.1.2 Test Channel = MCH



Date: 22 MAR. 2018 10:33:20

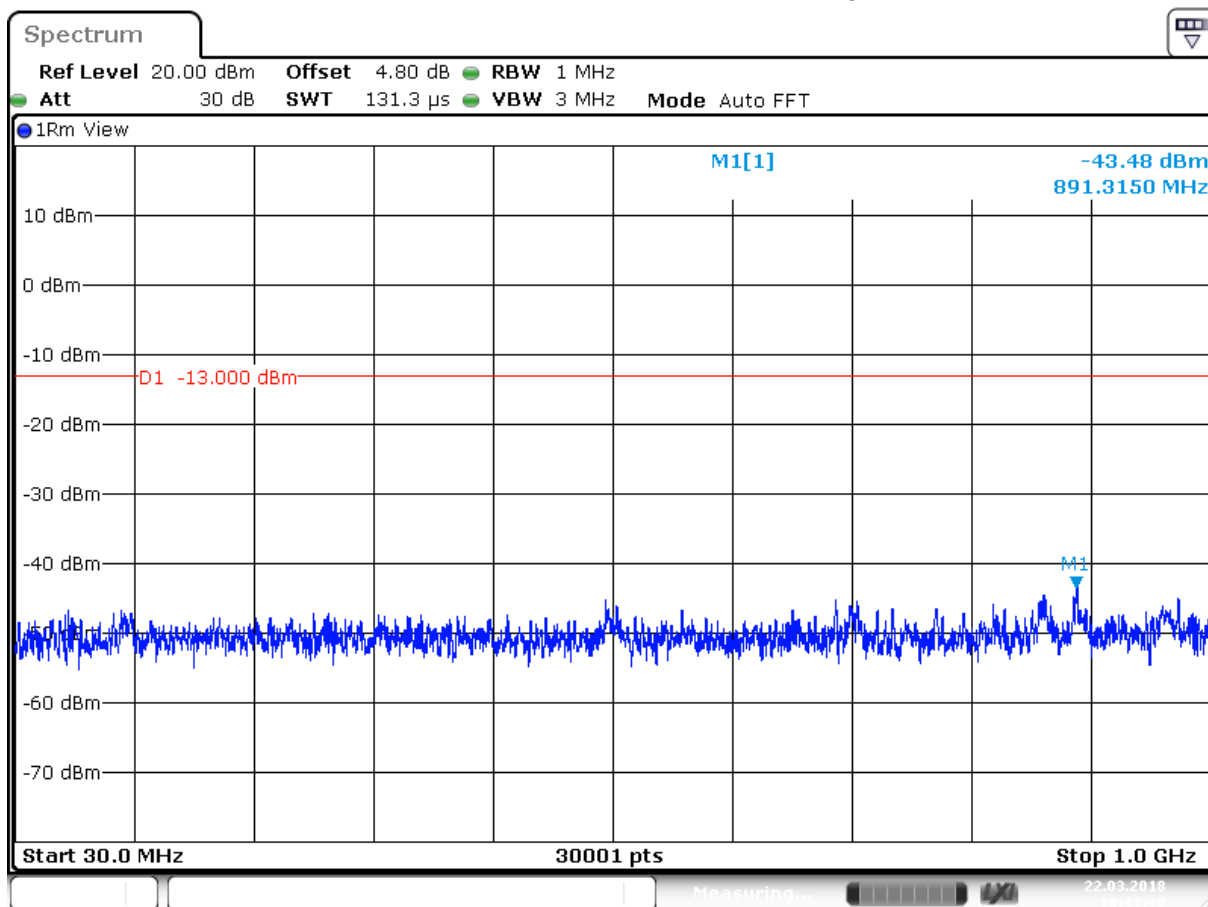


Date: 22 MAR 2018 10:33:26

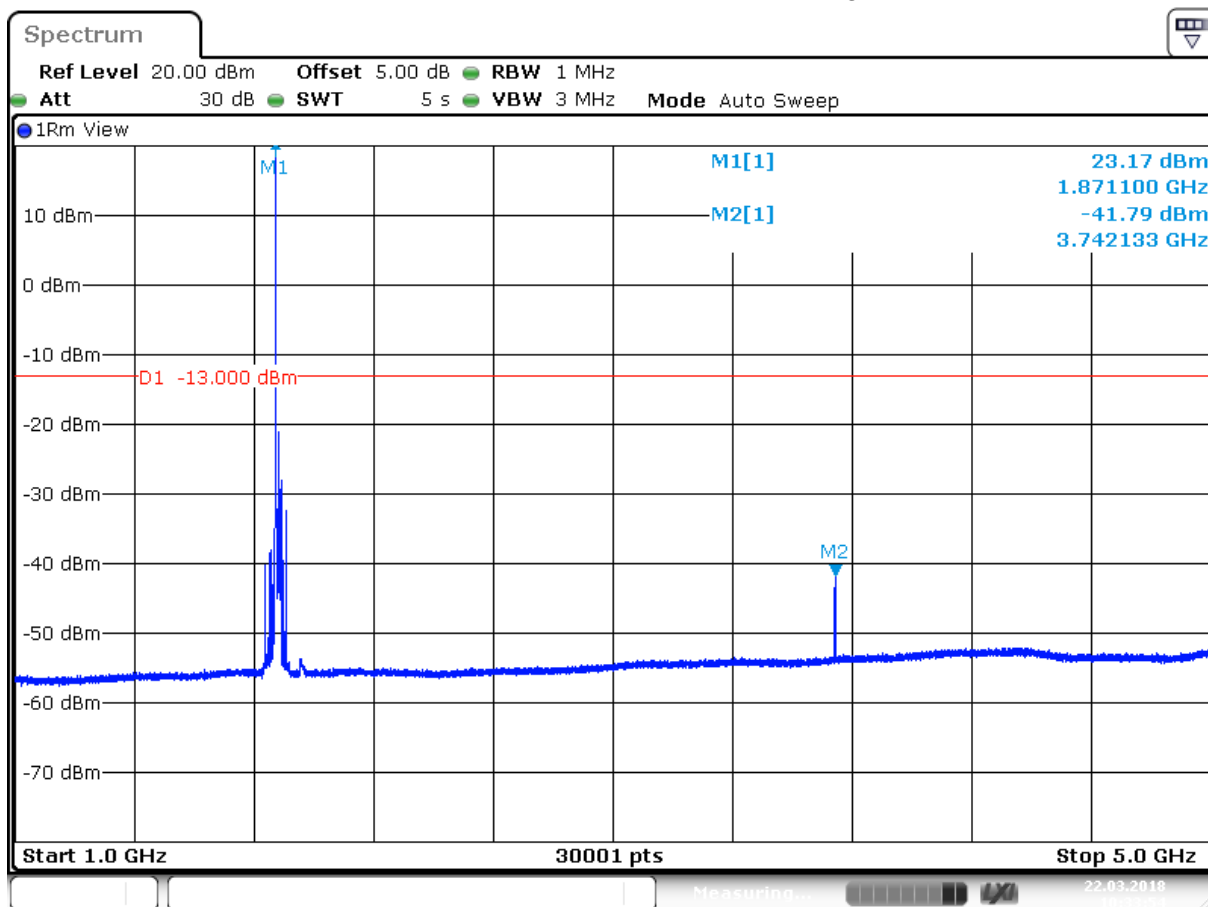


SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

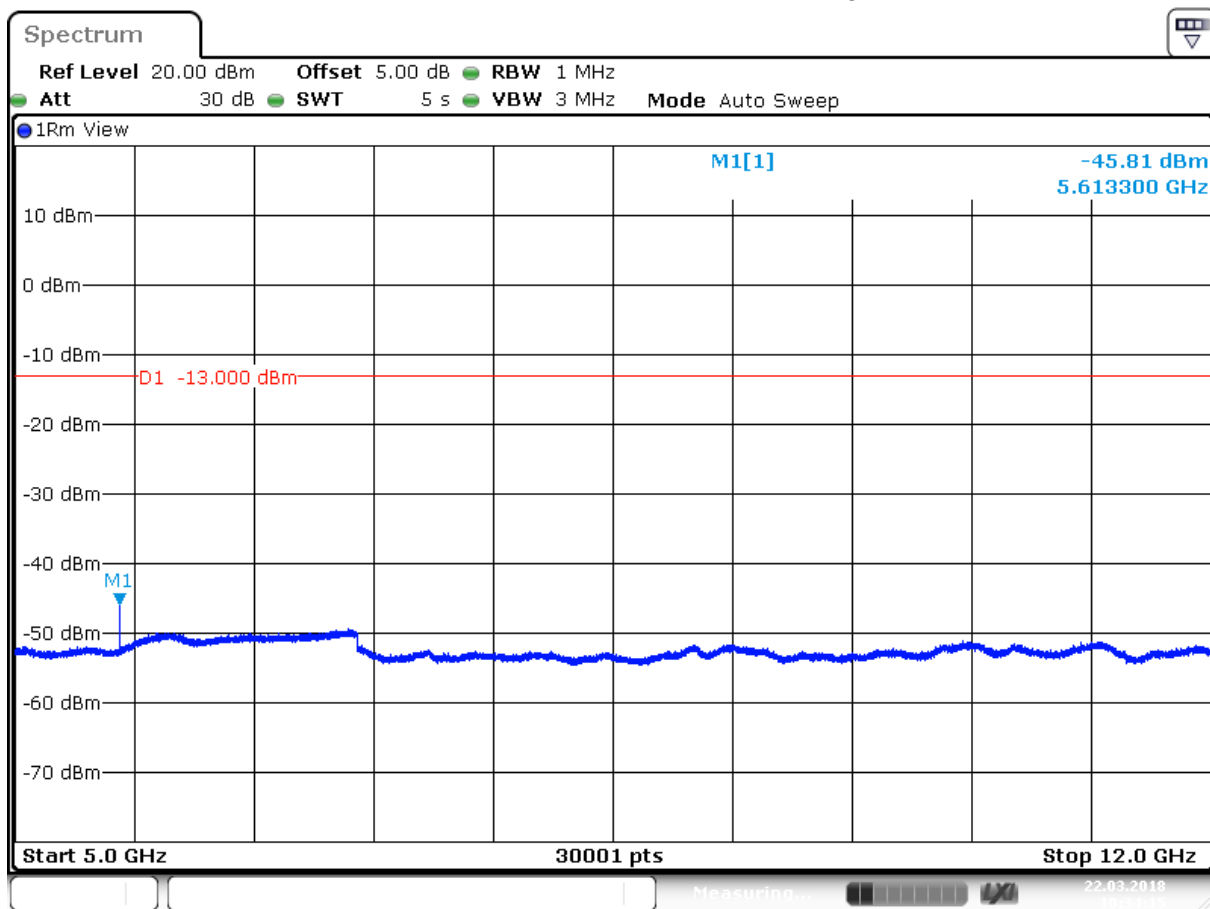
Report No.: SZEM180400306503
Page: 88 of 101



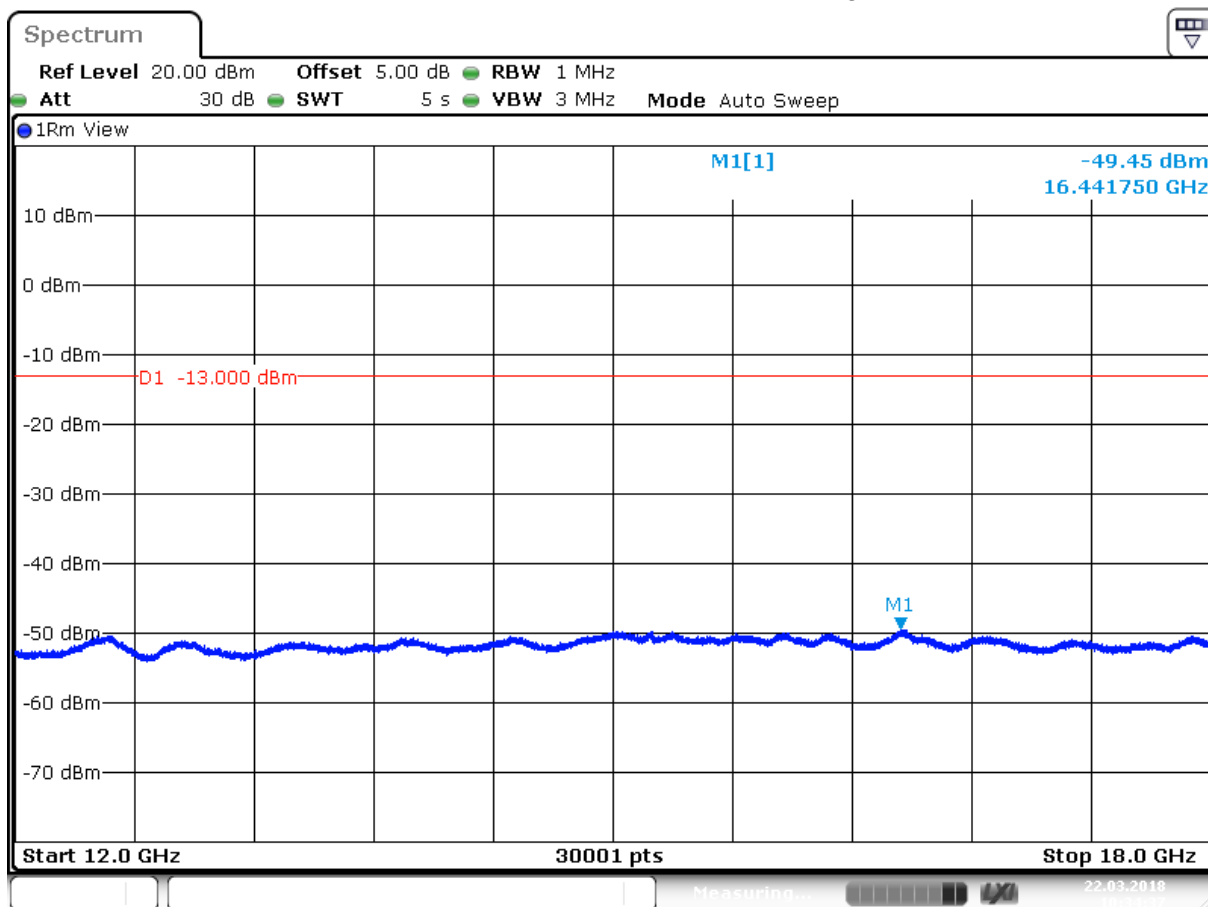
Date: 22 MAR 2018 10:33:31



Date: 22 MAR 2018 10:33:54



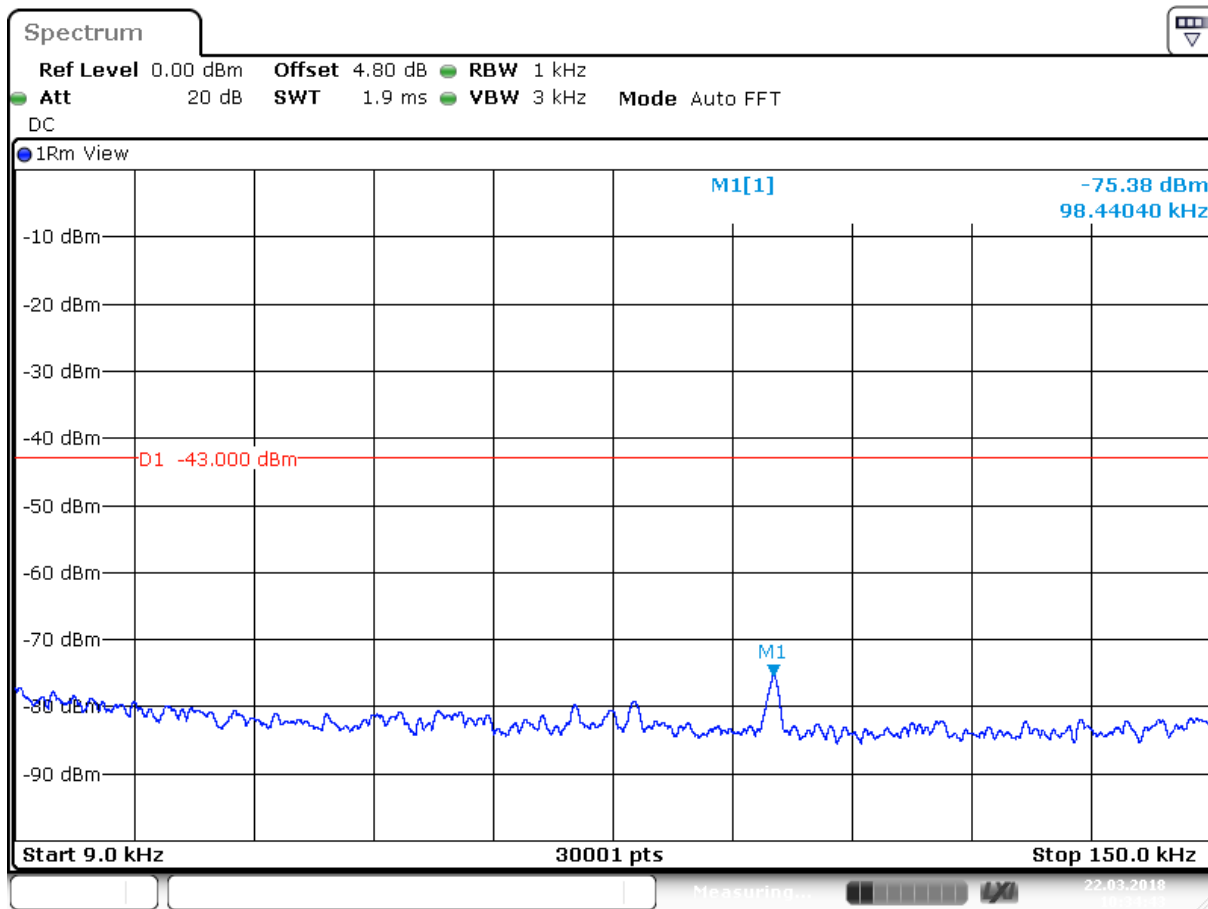
Date: 22 MAR 2018 10:34:16



Date: 22 MAR 2018 10:34:38



6.1.1.1.3 Test Channel = HCH

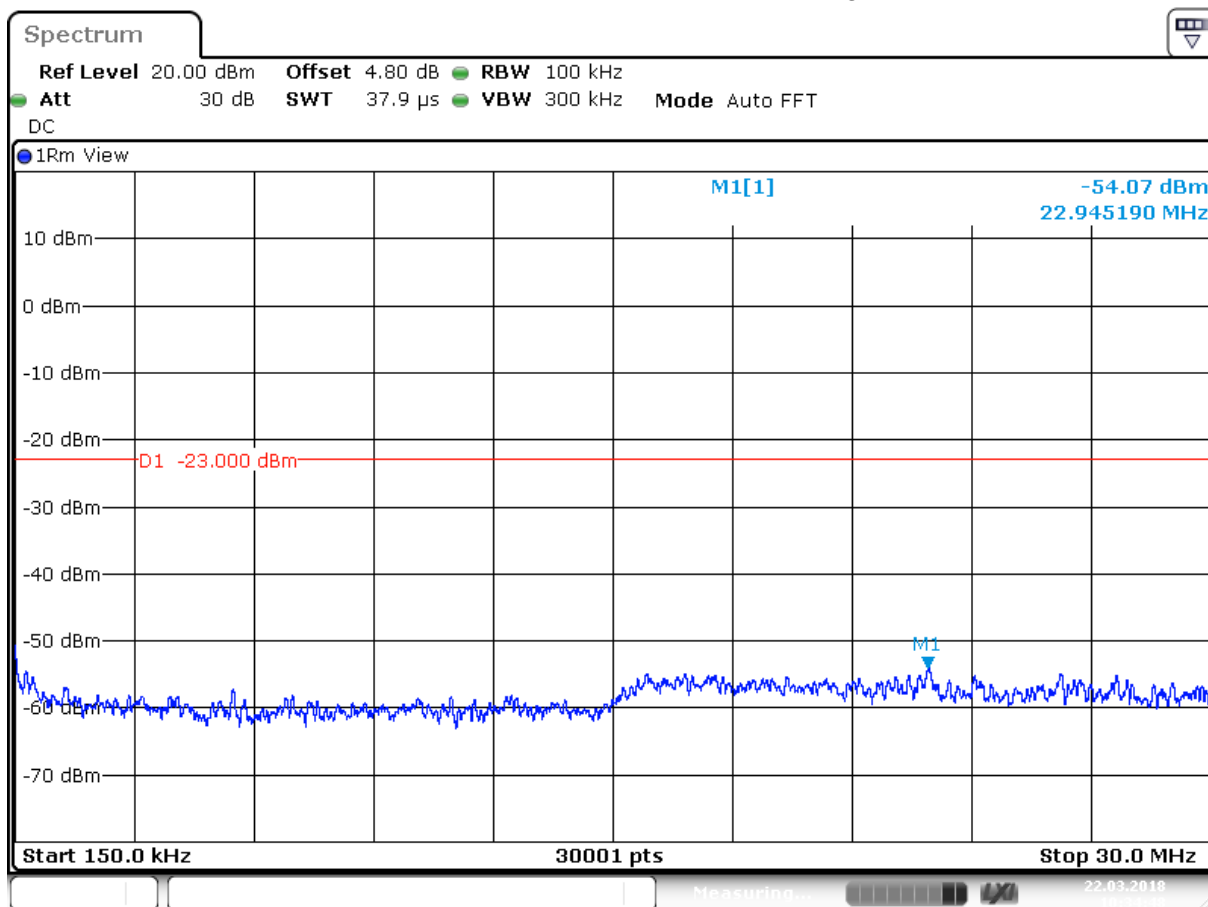


Date: 22 MAR. 2018 10:34:43

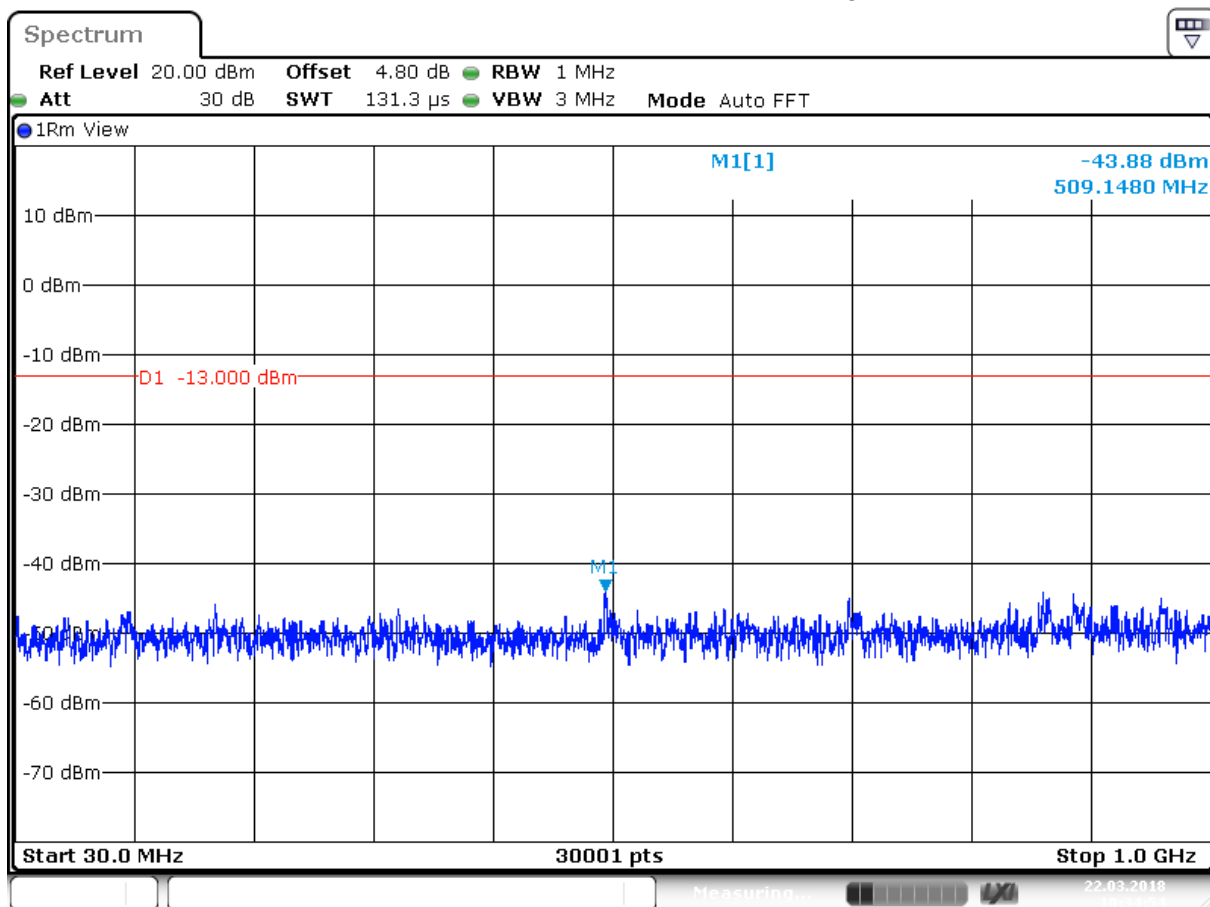


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

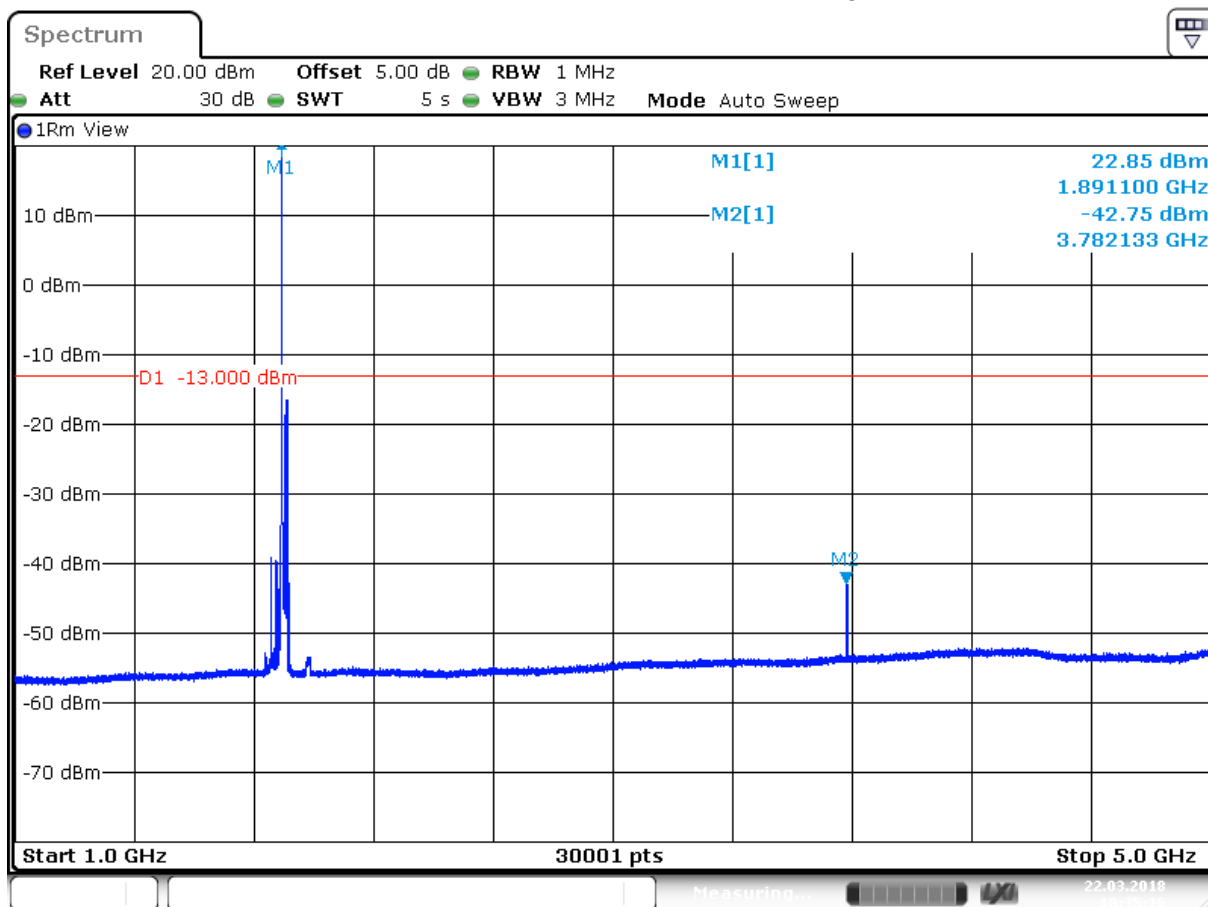
Report No.: SZEM180400306503
Page: 93 of 101



Date: 22 MAR 2018 10:34:49



Date: 22 MAR 2018 10:34:54

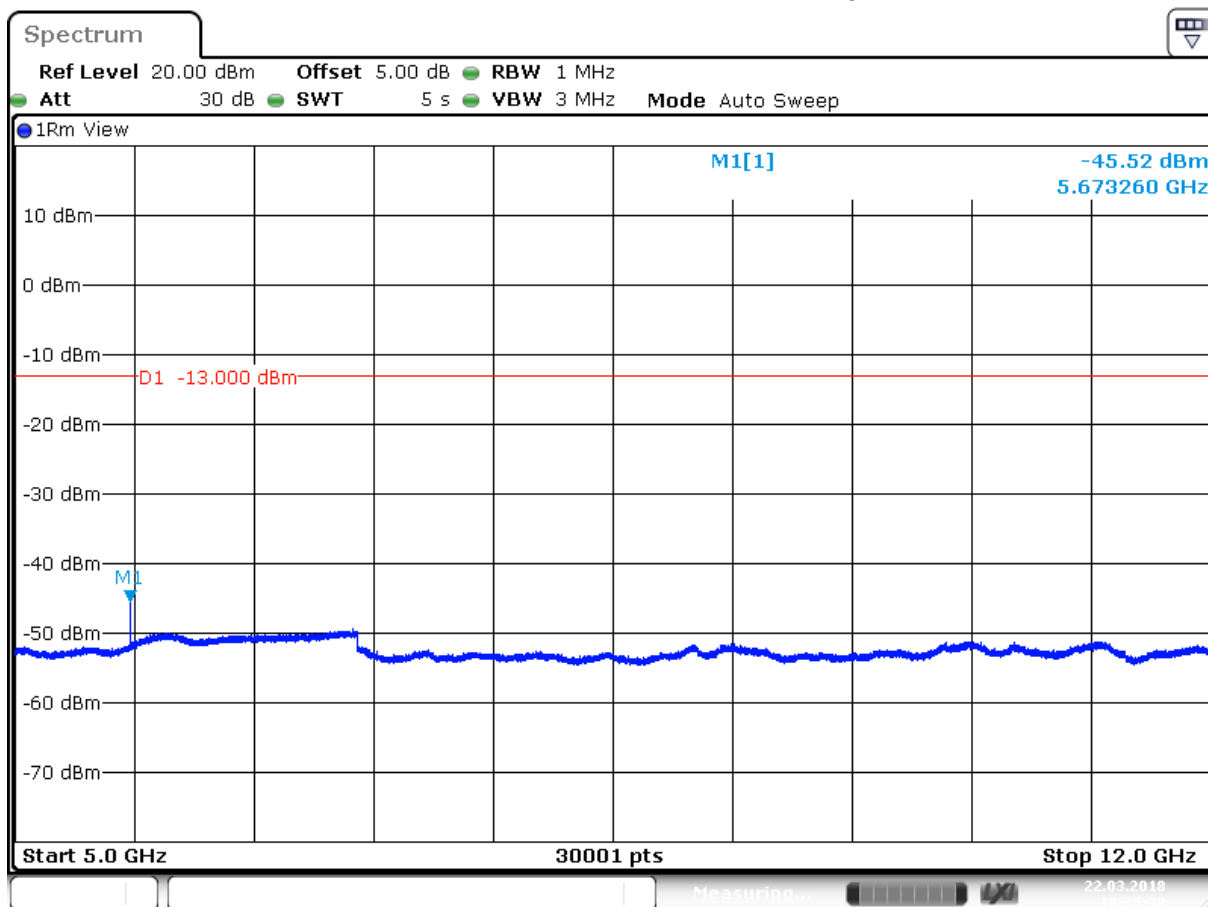


Date: 22 MAR 2018 10:35:17

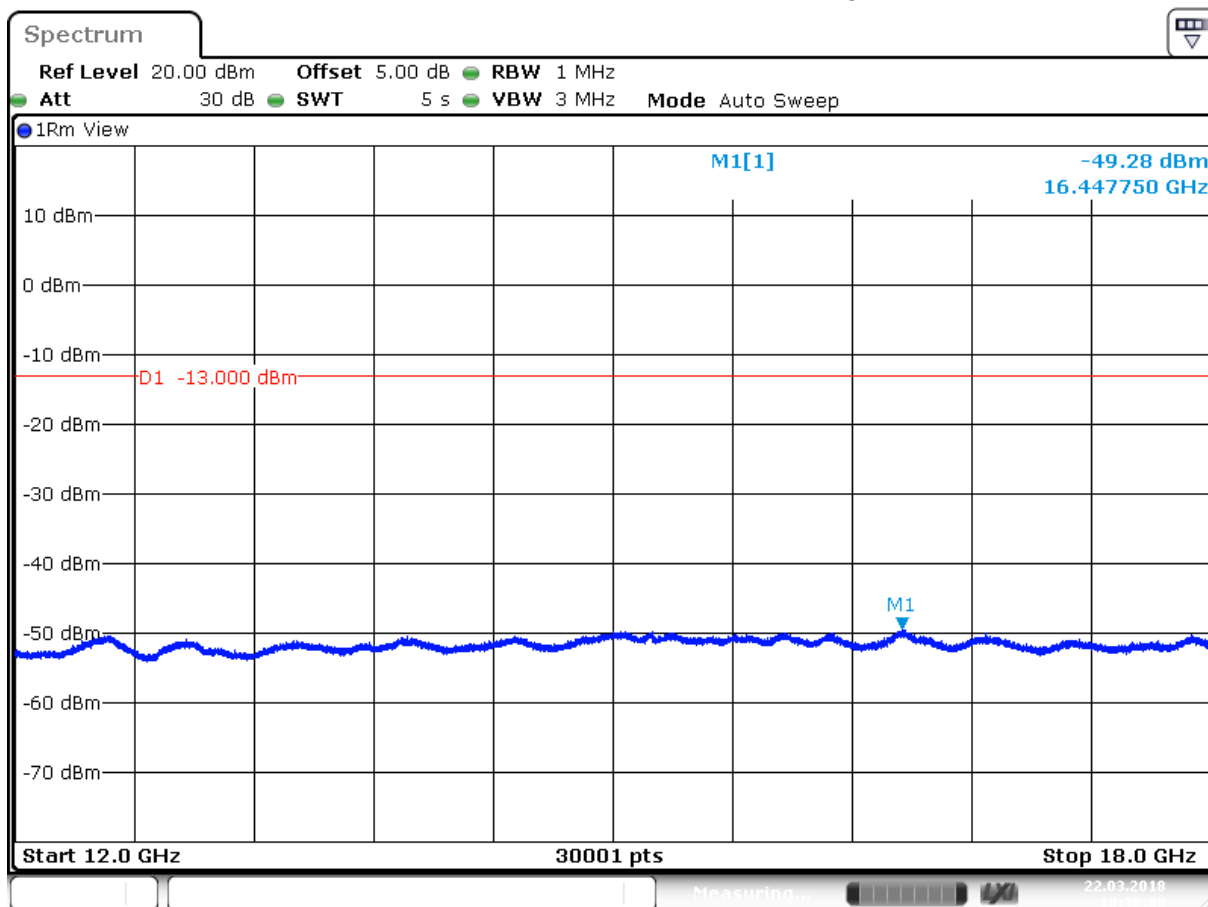


SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180400306503
Page: 96 of 101



Date: 22 MAR 2018 10:35:39



Date: 22 MAR 2018 10:36:01



7 Field Strength of Spurious Radiation

7.1 For LTE

7.1.1 Test Band = LTE band2

7.1.1.1 Test Mode =LTE/TM1 20MHz RB1#0

7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
89.150000	-73.17	-13.00	60.17	Vertical
345.600000	-73.60	-13.00	60.60	Vertical
1271.000000	-66.48	-13.00	53.48	Vertical
3702.000000	-50.16	-13.00	37.16	Vertical
5553.200000	-48.82	-13.00	35.82	Vertical
7404.400000	-60.55	-13.00	47.55	Vertical
90.150000	-72.14	-13.00	59.14	Horizontal
304.950000	-67.91	-13.00	54.91	Horizontal
1456.500000	-61.12	-13.00	48.12	Horizontal
3702.325000	-49.06	-13.00	36.06	Horizontal
5552.875000	-56.03	-13.00	43.03	Horizontal
7404.400000	-60.78	-13.00	47.78	Horizontal

7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
88.100000	-73.81	-13.00	60.81	Vertical
345.600000	-73.59	-13.00	60.59	Vertical
1271.000000	-66.48	-13.00	53.48	Vertical
3741.975000	-45.31	-13.00	32.31	Vertical
5613.325000	-56.22	-13.00	43.22	Vertical
7484.025000	-62.24	-13.00	49.24	Vertical
63.300000	-77.67	-13.00	64.67	Horizontal
89.600000	-72.95	-13.00	59.95	Horizontal
309.950000	-68.47	-13.00	55.47	Horizontal
3741.975000	-47.86	-13.00	34.86	Horizontal
5613.000000	-55.31	-13.00	42.31	Horizontal
7484.350000	-62.81	-13.00	49.81	Horizontal



7.1.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
89.650000	-73.04	-13.00	60.04	Vertical
345.600000	-73.22	-13.00	60.22	Vertical
2200.000000	-59.27	-13.00	46.27	Vertical
3781.950000	-51.05	-13.00	38.05	Vertical
5673.125000	-54.32	-13.00	41.32	Vertical
7564.300000	-61.71	-13.00	48.71	Vertical
88.150000	-72.26	-13.00	59.26	Horizontal
303.950000	-68.11	-13.00	55.11	Horizontal
2711.500000	-57.57	-13.00	44.57	Horizontal
3781.950000	-50.80	-13.00	37.80	Horizontal
5673.125000	-54.71	-13.00	41.71	Horizontal
7564.300000	-63.50	-13.00	50.50	Horizontal

NOTE:

- 1) The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
- 2) We have tested all modulation, but only the worst case data presented in this report.



8 Frequency Stability

8.1 Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband2	LTE/TM1 20MHz	LCH	TN	VL	-4.03	-0.00217	PASS
				VN	0.46	0.00025	PASS
				VH	-7.73	-0.00416	PASS
		MCH	TN	VL	1.49	0.00079	PASS
				VN	-2.84	-0.00151	PASS
				VH	2.63	0.00140	PASS
		HCH	TN	VL	-6.56	-0.00345	PASS
				VN	-5.17	-0.00272	PASS
				VH	-0.79	-0.00042	PASS



8.2 Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband2	LTE/TM1 20MHz	LCH	VN	-30	-0.40	-0.00022	PASS
				-20	-1.34	-0.00072	PASS
				-10	2.38	0.00128	PASS
				0	1.75	0.00094	PASS
				10	1.65	0.00089	PASS
				20	0.11	0.00006	PASS
				30	-0.31	-0.00017	PASS
				40	-0.14	-0.00008	PASS
				50	0.59	0.00032	PASS
		MCH	VN	-30	-7.80	-0.00415	PASS
				-20	-5.95	-0.00316	PASS
				-10	-7.49	-0.00398	PASS
				0	-5.62	-0.00299	PASS
				10	-4.04	-0.00215	PASS
				20	-9.94	-0.00529	PASS
				30	-5.66	-0.00301	PASS
				40	-4.62	-0.00246	PASS
				50	-6.92	-0.00368	PASS
		HCH	VN	-30	0.54	0.00028	PASS
				-20	-1.49	-0.00078	PASS
				-10	1.53	0.00081	PASS
				0	-2.83	-0.00149	PASS
				10	2.60	0.00137	PASS
				20	-0.57	-0.00030	PASS
				30	-2.66	-0.00140	PASS
				40	-5.43	-0.00286	PASS
				50	-8.90	-0.00468	PASS

The End