



Appendix B

E-UTRA Band 7



CONTENT

	Page
1 EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA.....	3
2 PEAK-TO-AVERAGE RATIO	11
2.1 FOR LTE	12
2.1.1 <i>Test Band = LTE band7</i>	12
3 MODULATION CHARACTERISTICS	18
3.1 FOR LTE	18
3.1.1 <i>Test Band = LTE band7</i>	18
4 BANDWIDTH	26
4.1 FOR LTE	27
4.1.1 <i>Test Band = LTE band7</i>	27
5 BAND EDGES COMPLIANCE	51
5.1 FOR LTE	51
5.1.1 <i>Test Band = LTE band2</i>	51
6 SPURIOUS EMISSION AT ANTENNA TERMINAL.....	83
6.1 FOR LTE	83
6.1.1 <i>Test Band = LTE band7</i>	83
7 FIELD STRENGTH OF SPURIOUS RADIATION	131
7.1 FOR LTE	131
7.1.1 <i>Test Band = LTE band7</i>	131
8 FREQUENCY STABILITY	132
8.1 FREQUENCY ERROR VS. VOLTAGE	132
8.2 FREQUENCY ERROR VS. TEMPERATURE	133



1 Effective (Isotropic) Radiated Power Output Data

Effective Isotropic Radiated Power of Transmitter (EIRP) for LTE BAND 7

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM1	5M	LCH	RB1#0	21.20	21.20	33.00	PASS
				RB1#13	21.13	21.13	33.00	PASS
				RB1#24	21.25	21.25	33.00	PASS
				RB12#0	20.28	20.28	33.00	PASS
				RB12#6	20.26	20.26	33.00	PASS
				RB12#13	20.38	20.38	33.00	PASS
				RB25#0	20.10	20.10	33.00	PASS
			MCH	RB1#0	21.23	21.23	33.00	PASS
				RB1#13	21.37	21.37	33.00	PASS
				RB1#24	21.63	21.63	33.00	PASS
				RB12#0	19.99	19.99	33.00	PASS
				RB12#6	20.04	20.04	33.00	PASS
				RB12#13	20.06	20.06	33.00	PASS
				RB25#0	20.06	20.06	33.00	PASS
			HCH	RB1#0	21.71	21.71	33.00	PASS
				RB1#13	20.99	20.99	33.00	PASS
				RB1#24	21.04	21.04	33.00	PASS
				RB12#0	20.64	20.64	33.00	PASS
				RB12#6	20.69	20.69	33.00	PASS
				RB12#13	20.61	20.61	33.00	PASS
				RB25#0	20.23	20.23	33.00	PASS



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

Report No.: SZEM170800849706

Page: 4 of 134

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM2	5M	LCH	RB1#0	19.97	19.97	33.00	PASS
				RB1#13	19.83	19.83	33.00	PASS
				RB1#24	19.79	19.79	33.00	PASS
				RB12#0	19.60	19.60	33.00	PASS
				RB12#6	19.64	19.64	33.00	PASS
				RB12#13	19.86	19.86	33.00	PASS
				RB25#0	19.07	19.07	33.00	PASS
			MCH	RB1#0	20.51	20.51	33.00	PASS
				RB1#13	20.01	20.01	33.00	PASS
				RB1#24	19.82	19.82	33.00	PASS
				RB12#0	19.27	19.27	33.00	PASS
				RB12#6	19.46	19.46	33.00	PASS
				RB12#13	19.81	19.81	33.00	PASS
				RB25#0	18.93	18.93	33.00	PASS
			HCH	RB1#0	20.57	20.57	33.00	PASS
				RB1#13	20.27	20.27	33.00	PASS
				RB1#24	20.06	20.06	33.00	PASS
				RB12#0	19.68	19.68	33.00	PASS
				RB12#6	19.59	19.59	33.00	PASS
				RB12#13	19.43	19.43	33.00	PASS
				RB25#0	19.41	19.41	33.00	PASS



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

Report No.: SZEM170800849706

Page: 5 of 134

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM1	10M	LCH	RB1#0	21.26	21.26	33.00	PASS
				RB1#25	21.21	21.21	33.00	PASS
				RB1#49	21.30	21.30	33.00	PASS
				RB25#0	20.33	20.33	33.00	PASS
				RB25#13	20.32	20.32	33.00	PASS
				RB25#25	20.45	20.45	33.00	PASS
				RB50#0	20.16	20.16	33.00	PASS
			MCH	RB1#0	21.27	21.27	33.00	PASS
				RB1#25	21.45	21.45	33.00	PASS
				RB1#49	21.70	21.70	33.00	PASS
				RB25#0	20.04	20.04	33.00	PASS
				RB25#13	20.11	20.11	33.00	PASS
				RB25#25	20.13	20.13	33.00	PASS
				RB50#0	20.09	20.09	33.00	PASS
			HCH	RB1#0	21.76	21.76	33.00	PASS
				RB1#25	21.06	21.06	33.00	PASS
				RB1#49	21.09	21.09	33.00	PASS
				RB25#0	20.72	20.72	33.00	PASS
				RB25#13	20.73	20.73	33.00	PASS
				RB25#25	20.66	20.66	33.00	PASS
				RB50#0	20.30	20.30	33.00	PASS



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

Report No.: SZEM170800849706

Page: 6 of 134

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM2	10M	LCH	RB1#0	20.05	20.05	33.00	PASS
				RB1#25	19.90	19.90	33.00	PASS
				RB1#49	19.85	19.85	33.00	PASS
				RB25#0	19.66	19.66	33.00	PASS
				RB25#13	19.70	19.70	33.00	PASS
				RB25#25	19.90	19.90	33.00	PASS
				RB50#0	19.10	19.10	33.00	PASS
			MCH	RB1#0	20.54	20.54	33.00	PASS
				RB1#25	20.08	20.08	33.00	PASS
				RB1#49	19.88	19.88	33.00	PASS
				RB25#0	19.35	19.35	33.00	PASS
				RB25#13	19.51	19.51	33.00	PASS
				RB25#25	19.87	19.87	33.00	PASS
				RB50#0	19.00	19.00	33.00	PASS
			HCH	RB1#0	20.65	20.65	33.00	PASS
				RB1#25	20.34	20.34	33.00	PASS
				RB1#49	20.09	20.09	33.00	PASS
				RB25#0	19.74	19.74	33.00	PASS
				RB25#13	19.62	19.62	33.00	PASS
				RB25#25	19.47	19.47	33.00	PASS
				RB50#0	19.45	19.45	33.00	PASS



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

Report No.: SZEM170800849706
Page: 7 of 134

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM1	15M	LCH	RB1#0	21.32	21.32	33.00	PASS
				RB1#38	21.27	21.27	33.00	PASS
				RB1#74	21.34	21.34	33.00	PASS
				RB36#0	20.39	20.39	33.00	PASS
				RB36#18	20.38	20.38	33.00	PASS
				RB36#39	20.51	20.51	33.00	PASS
				RB75#0	20.21	20.21	33.00	PASS
			MCH	RB1#0	21.31	21.31	33.00	PASS
				RB1#38	21.48	21.48	33.00	PASS
				RB1#74	21.74	21.74	33.00	PASS
				RB36#0	20.12	20.12	33.00	PASS
				RB36#18	20.17	20.17	33.00	PASS
				RB36#39	20.19	20.19	33.00	PASS
				RB75#0	20.14	20.14	33.00	PASS
			HCH	RB1#0	21.84	21.84	33.00	PASS
				RB1#38	21.11	21.11	33.00	PASS
				RB1#74	21.12	21.12	33.00	PASS
				RB36#0	20.78	20.78	33.00	PASS
				RB36#18	20.79	20.79	33.00	PASS
				RB36#39	20.70	20.70	33.00	PASS
				RB75#0	20.36	20.36	33.00	PASS



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

Report No.: SZEM170800849706

Page: 8 of 134

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM2	15M	LCH	RB1#0	20.12	20.12	33.00	PASS
				RB1#38	19.97	19.97	33.00	PASS
				RB1#74	19.91	19.91	33.00	PASS
				RB36#0	19.72	19.72	33.00	PASS
				RB36#18	19.76	19.76	33.00	PASS
				RB36#39	19.95	19.95	33.00	PASS
				RB75#0	19.18	19.18	33.00	PASS
			MCH	RB1#0	20.59	20.59	33.00	PASS
				RB1#38	20.14	20.14	33.00	PASS
				RB1#74	19.92	19.92	33.00	PASS
				RB36#0	19.43	19.43	33.00	PASS
				RB36#18	19.56	19.56	33.00	PASS
				RB36#39	19.91	19.91	33.00	PASS
				RB75#0	19.06	19.06	33.00	PASS
			HCH	RB1#0	20.70	20.70	33.00	PASS
				RB1#38	20.39	20.39	33.00	PASS
				RB1#74	20.15	20.15	33.00	PASS
				RB36#0	19.82	19.82	33.00	PASS
				RB36#18	19.65	19.65	33.00	PASS
				RB36#39	19.50	19.50	33.00	PASS
				RB75#0	19.51	19.51	33.00	PASS



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

Report No.: SZEM170800849706

Page: 9 of 134

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM1	20M	LCH	RB1#0	21.38	21.38	33.00	PASS
				RB1#50	21.32	21.32	33.00	PASS
				RB1#99	21.37	21.37	33.00	PASS
				RB50#0	20.44	20.44	33.00	PASS
				RB50#25	20.45	20.45	33.00	PASS
				RB50#50	20.58	20.58	33.00	PASS
				RB100#0	20.27	20.27	33.00	PASS
			MCH	RB1#0	21.37	21.37	33.00	PASS
				RB1#50	21.54	21.54	33.00	PASS
				RB1#99	21.80	21.80	33.00	PASS
				RB50#0	20.16	20.16	33.00	PASS
				RB50#25	20.21	20.21	33.00	PASS
				RB50#50	20.24	20.24	33.00	PASS
				RB100#0	20.21	20.21	33.00	PASS
			HCH	RB1#0	21.87	21.87	33.00	PASS
				RB1#50	21.16	21.16	33.00	PASS
				RB1#99	21.15	21.15	33.00	PASS
				RB50#0	20.86	20.86	33.00	PASS
				RB50#25	20.83	20.83	33.00	PASS
				RB50#50	20.77	20.77	33.00	PASS
				RB100#0	20.41	20.41	33.00	PASS



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

Report No.: SZEM170800849706
Page: 10 of 134

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND7	LTE/TM2	20M	LCH	RB1#0	20.19	20.19	33.00	PASS
				RB1#50	20.01	20.01	33.00	PASS
				RB1#99	19.98	19.98	33.00	PASS
				RB50#0	19.79	19.79	33.00	PASS
				RB50#25	19.82	19.82	33.00	PASS
				RB50#50	20.01	20.01	33.00	PASS
				RB100#0	19.24	19.24	33.00	PASS
			MCH	RB1#0	20.63	20.63	33.00	PASS
				RB1#50	20.18	20.18	33.00	PASS
				RB1#99	19.99	19.99	33.00	PASS
				RB50#0	19.51	19.51	33.00	PASS
				RB50#25	19.63	19.63	33.00	PASS
				RB50#50	19.98	19.98	33.00	PASS
				RB100#0	19.11	19.11	33.00	PASS
			HCH	RB1#0	20.76	20.76	33.00	PASS
				RB1#50	20.45	20.45	33.00	PASS
				RB1#99	20.18	20.18	33.00	PASS
				RB50#0	19.88	19.88	33.00	PASS
				RB50#25	19.73	19.73	33.00	PASS
				RB50#50	19.54	19.54	33.00	PASS
				RB100#0	19.56	19.56	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

c: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS



2 Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
Band 7	TM1/20M	LCH	4.67	13	PASS
		MCH	4.67	13	PASS
		HCH	4.61	13	PASS
	TM2/20M	LCH	5.45	13	PASS
		MCH	5.54	13	PASS
		HCH	5.51	13	PASS

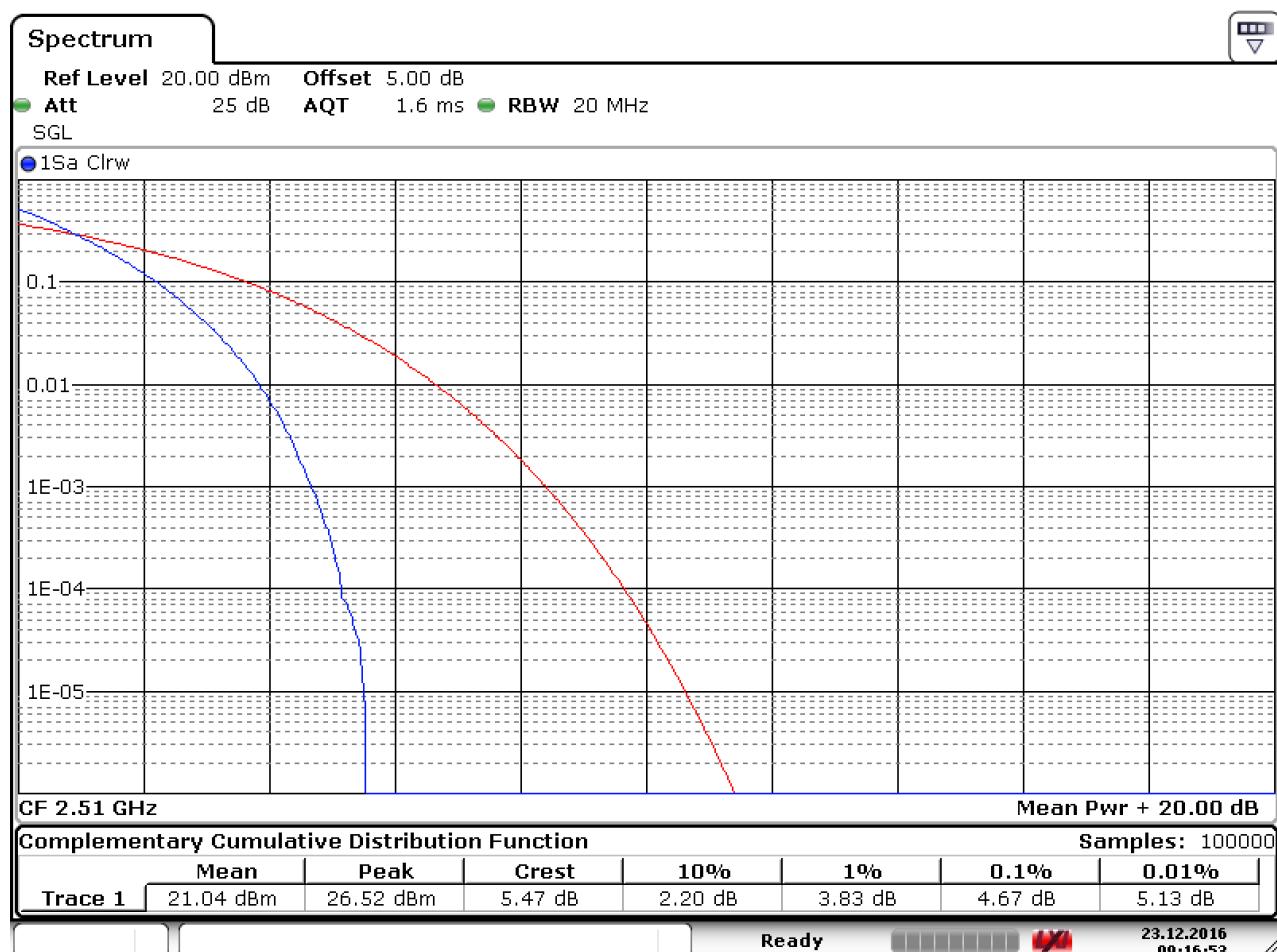
Part II - Test Plots

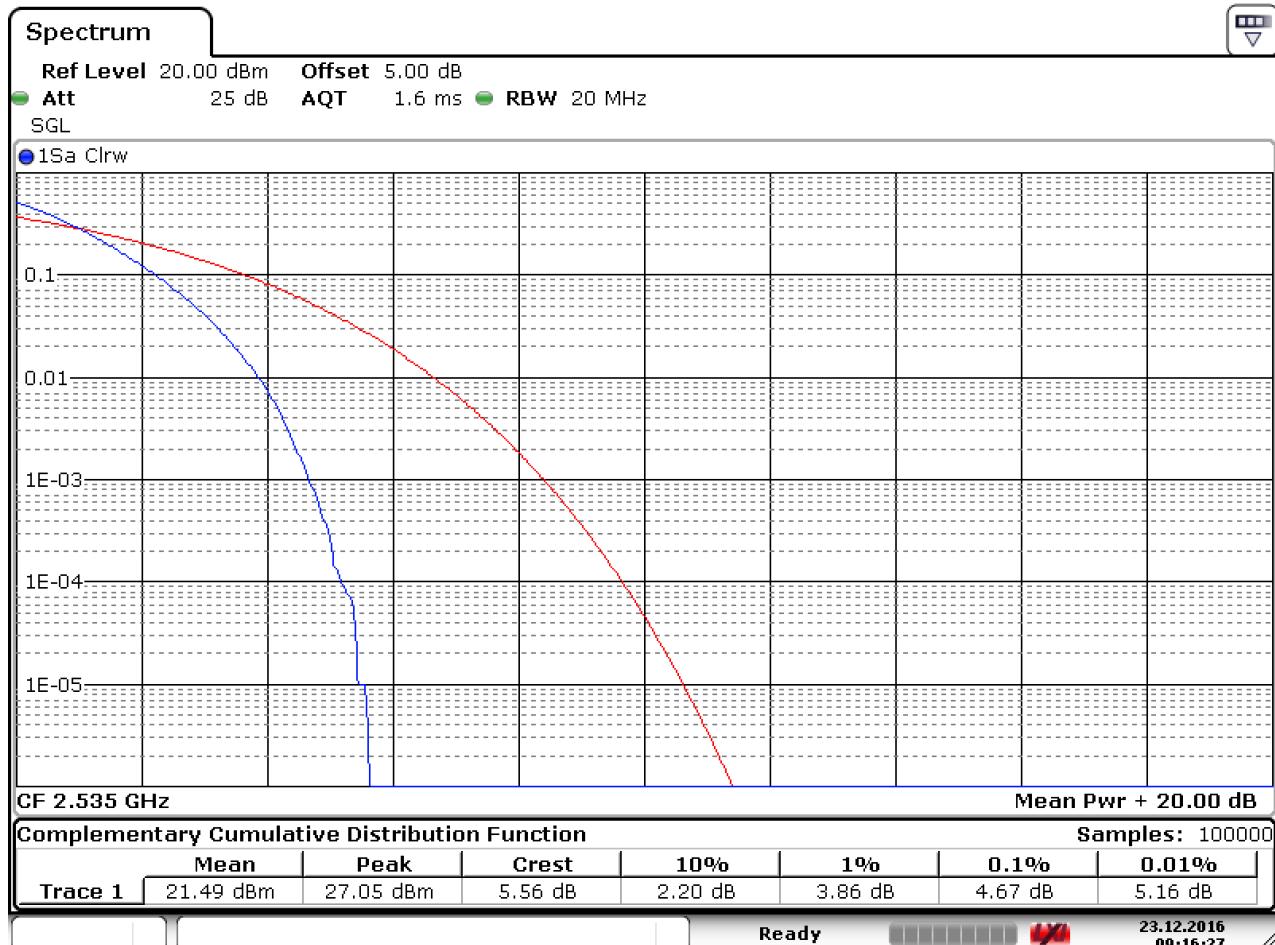
2.1 For LTE

2.1.1 Test Band = LTE band7

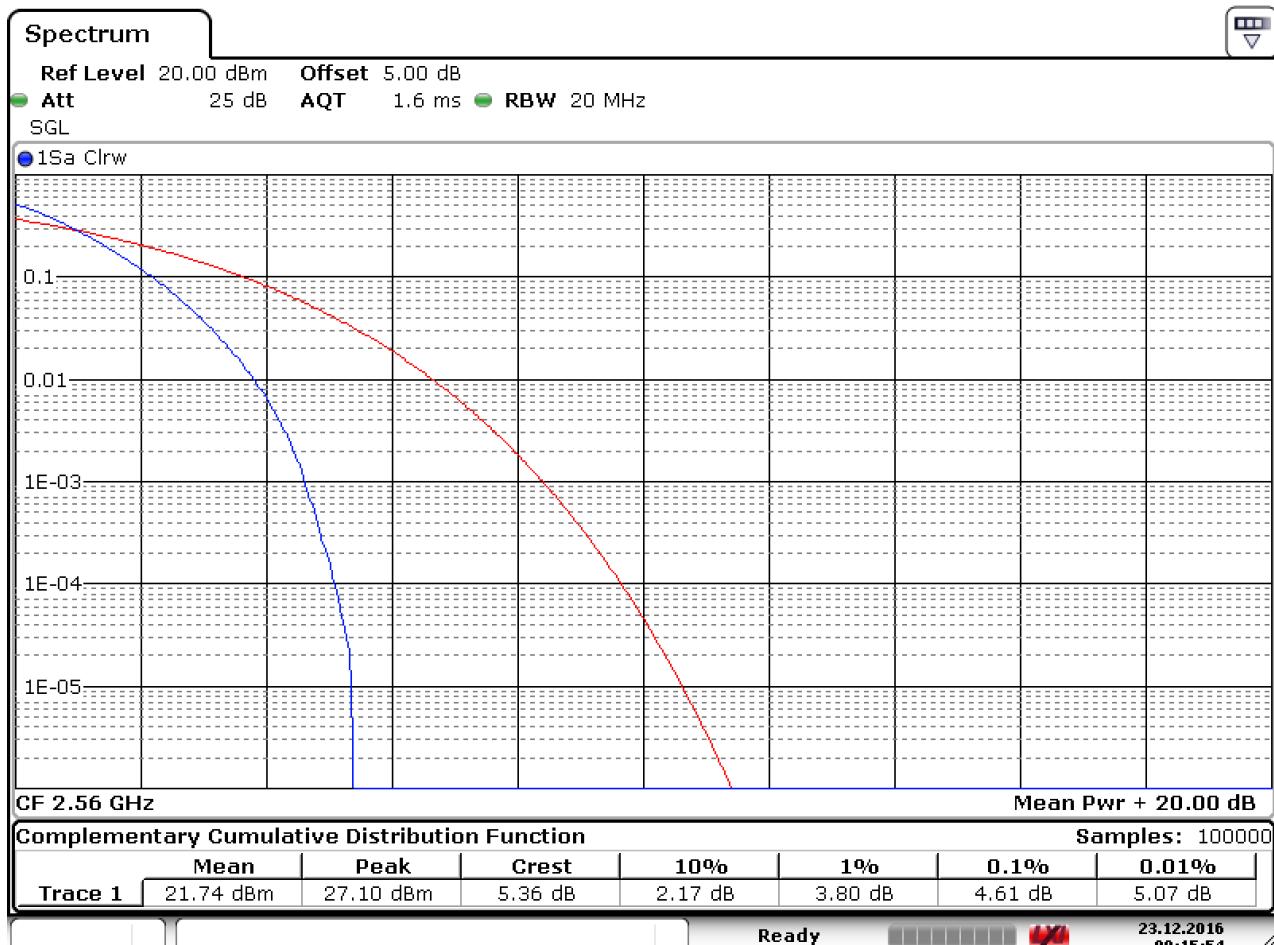
2.1.1.1 Test Mode = LTE/TM1.Bandwidth=20MHz

2.1.1.1.1 Test Channel = LCH



2.1.1.1.2 Test Channel = MCH

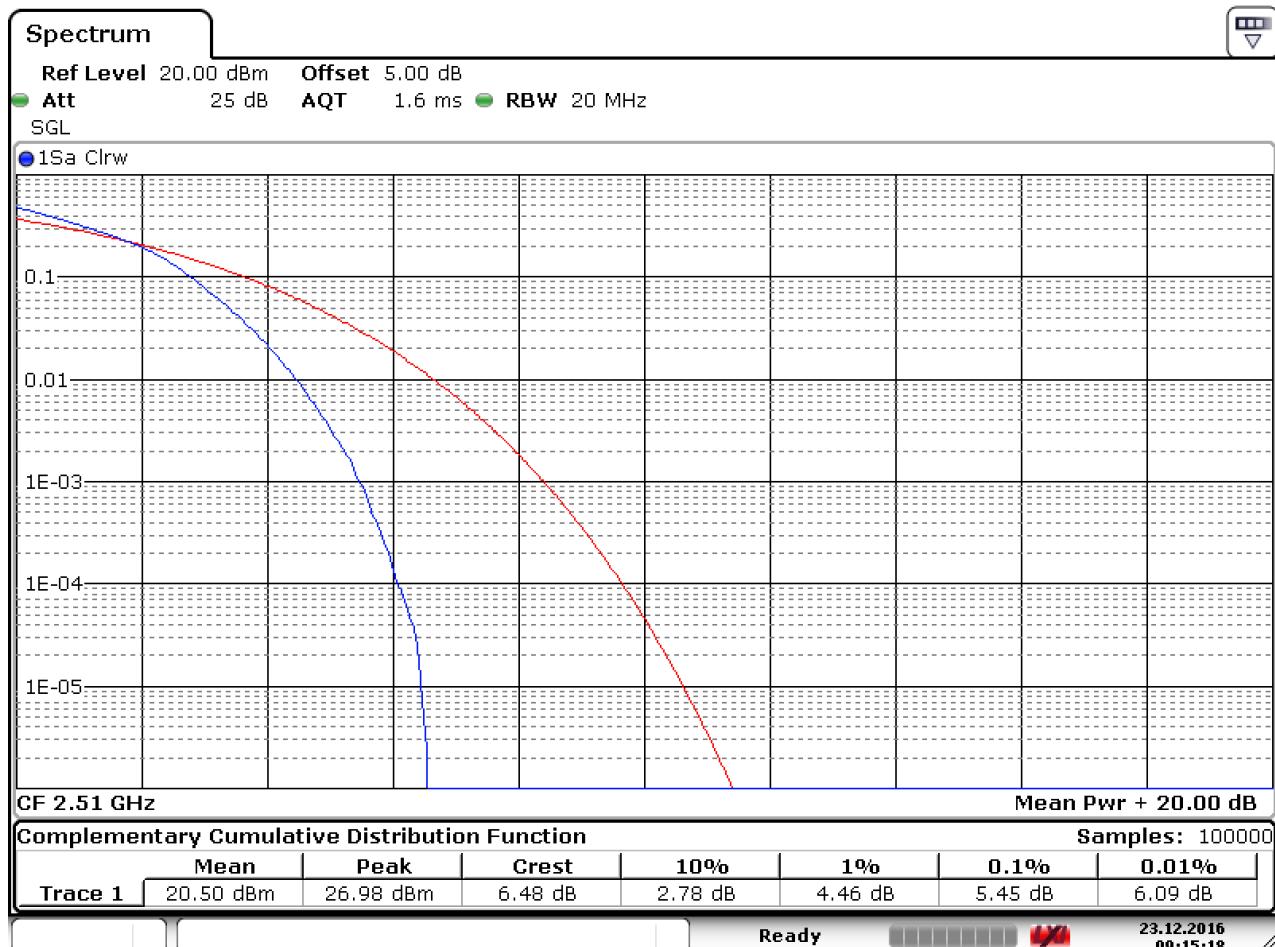
Date: 23.DEC.2016 09:16:28

2.1.1.1.3 Test Channel = HCH

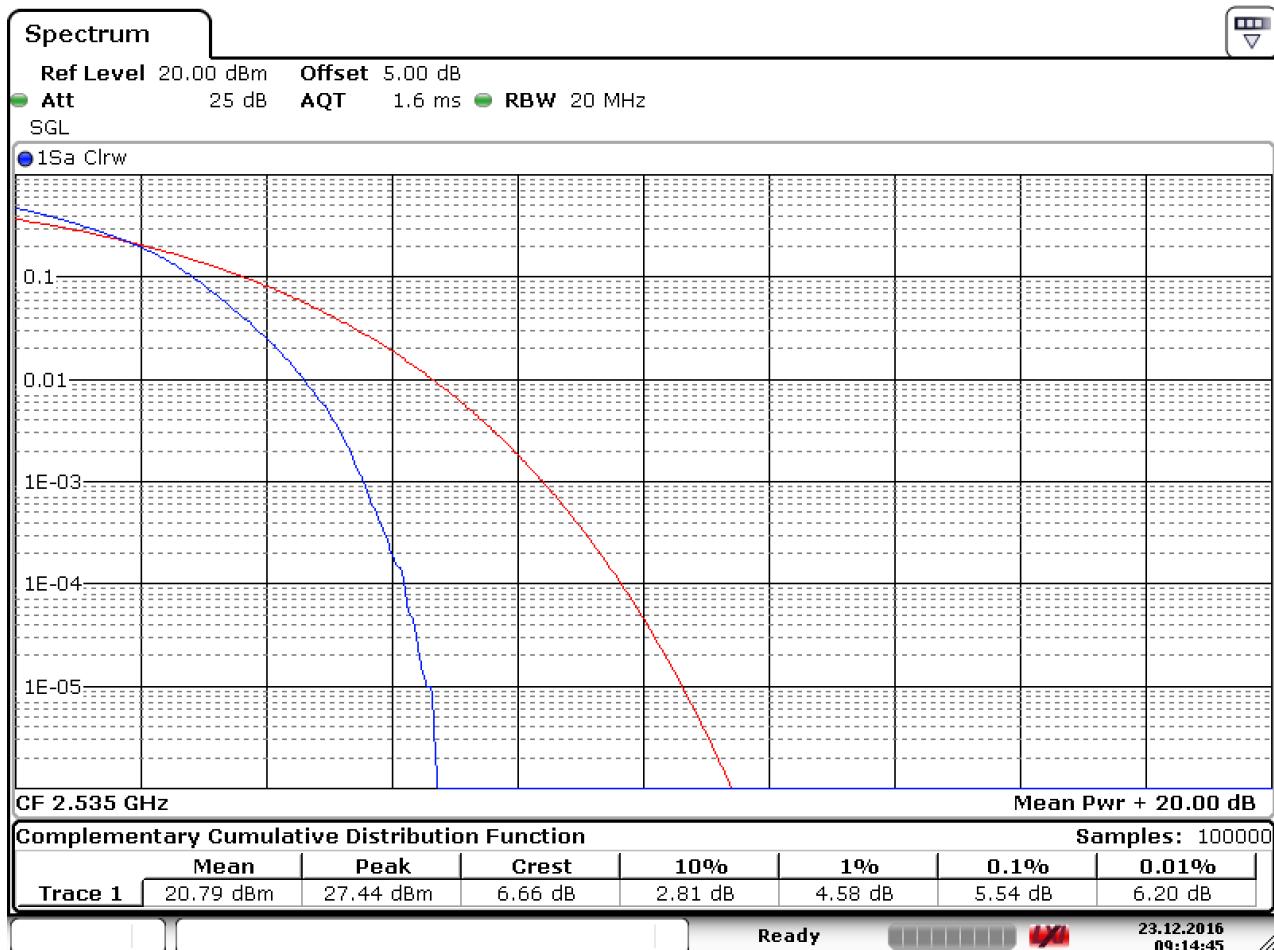
Date: 23.DEC.2016 09:15:54

2.1.1.2 Test Mode = LTE/TM2.Bandwidth=20MHz

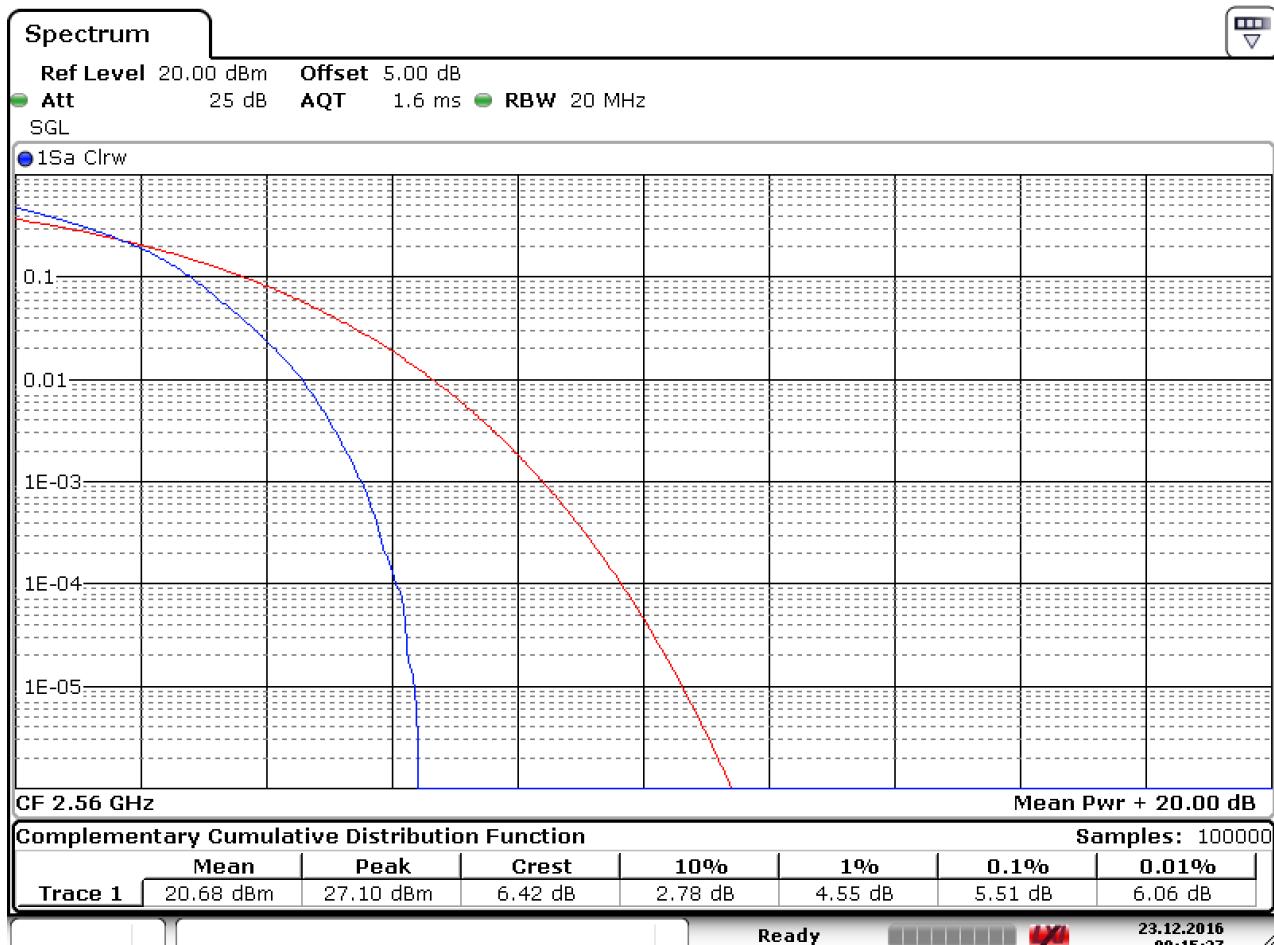
2.1.1.2.1 Test Channel = LCH



Date: 23.DEC.2016 09:15:19

2.1.1.2.2 Test Channel = MCH

Date: 23.DEC.2016 09:14:45

2.1.1.2.3 Test Channel = HCH

Date: 23.DEC.2016 09:15:37

3 Modulation Characteristics

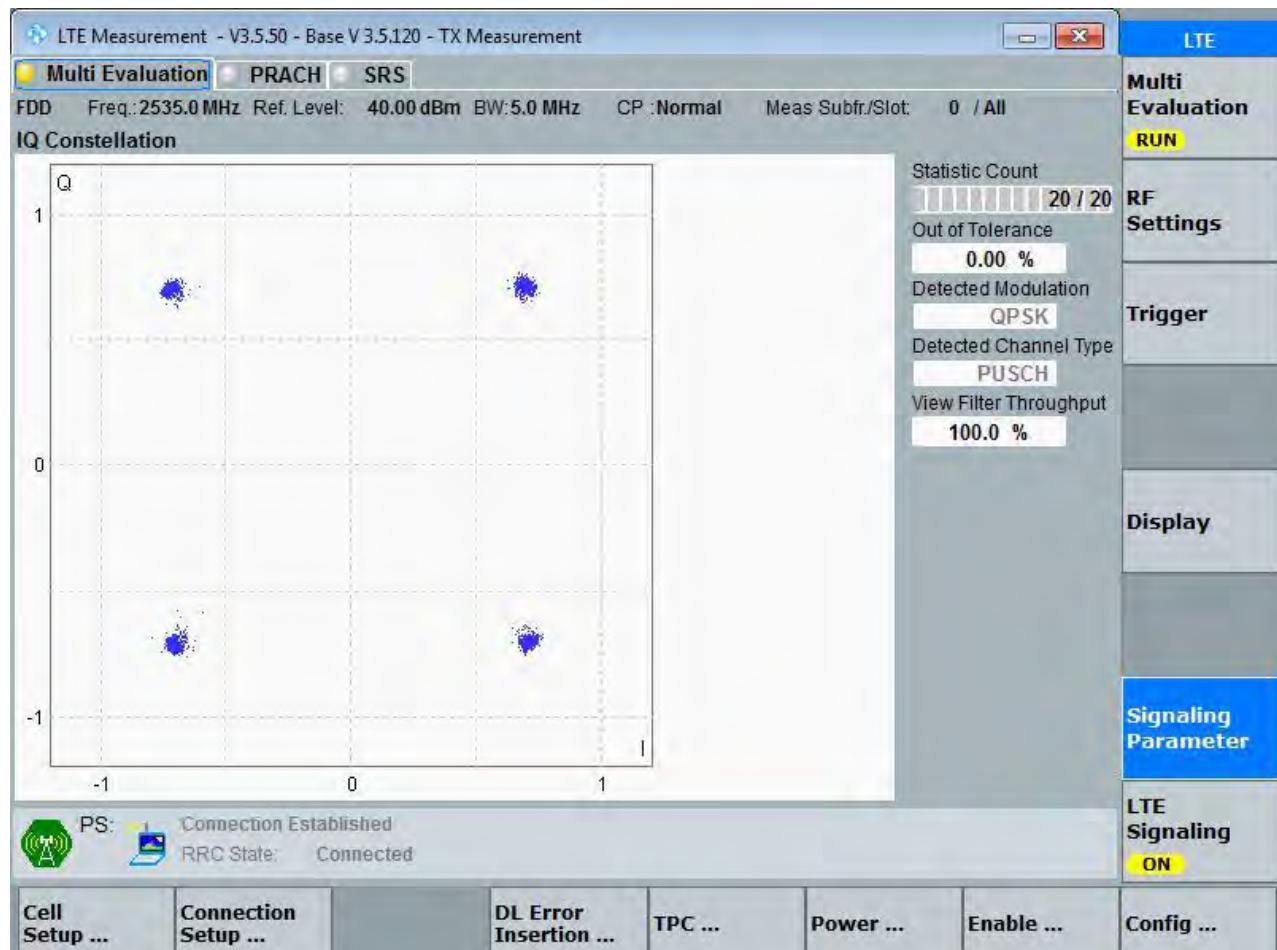
Part I - Test Plots

3.1 For LTE

3.1.1 Test Band = LTE band7

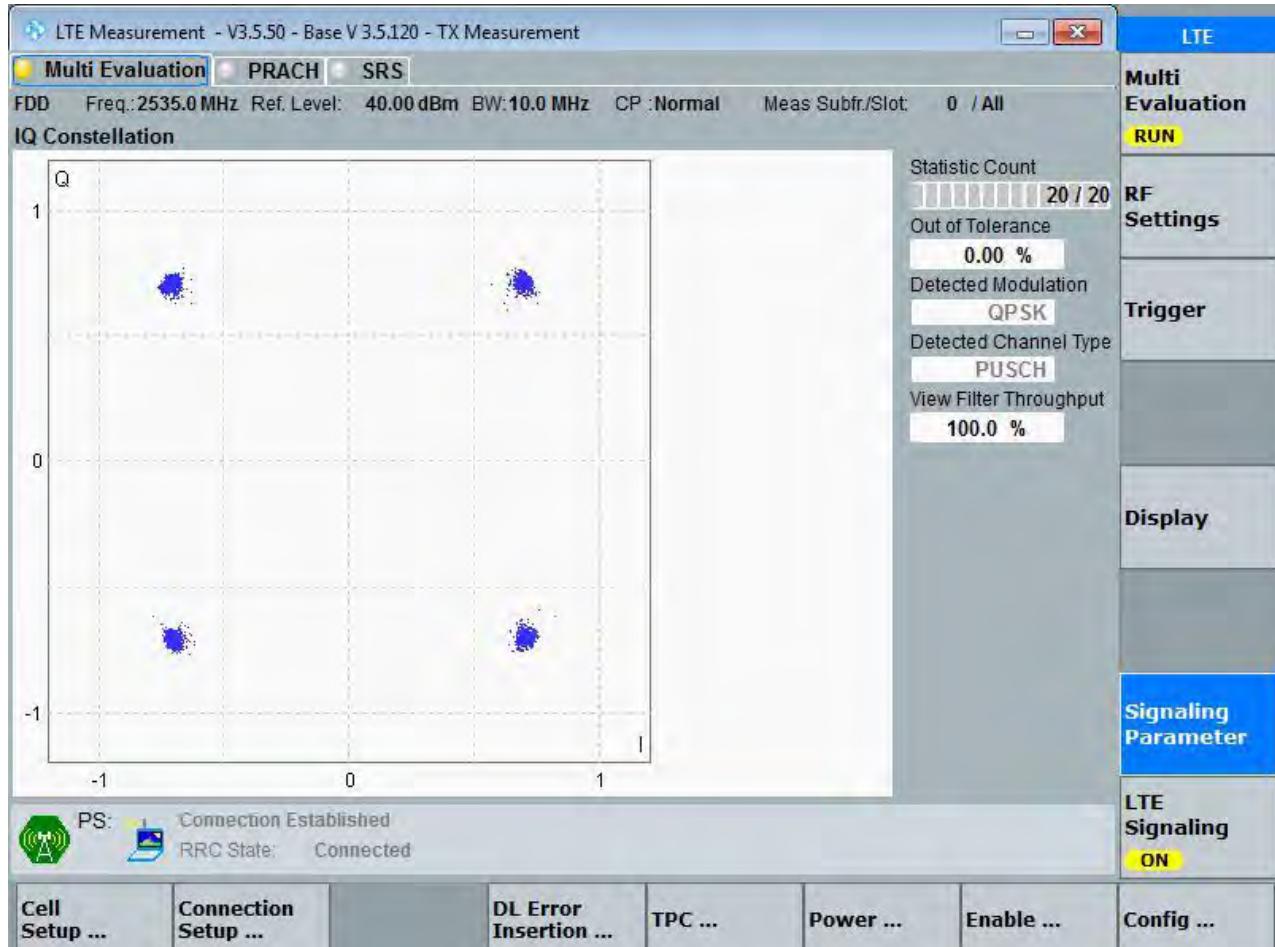
3.1.1.1 Test Mode = LTE /TM1 5MHz

3.1.1.1.1 Test Channel = MCH



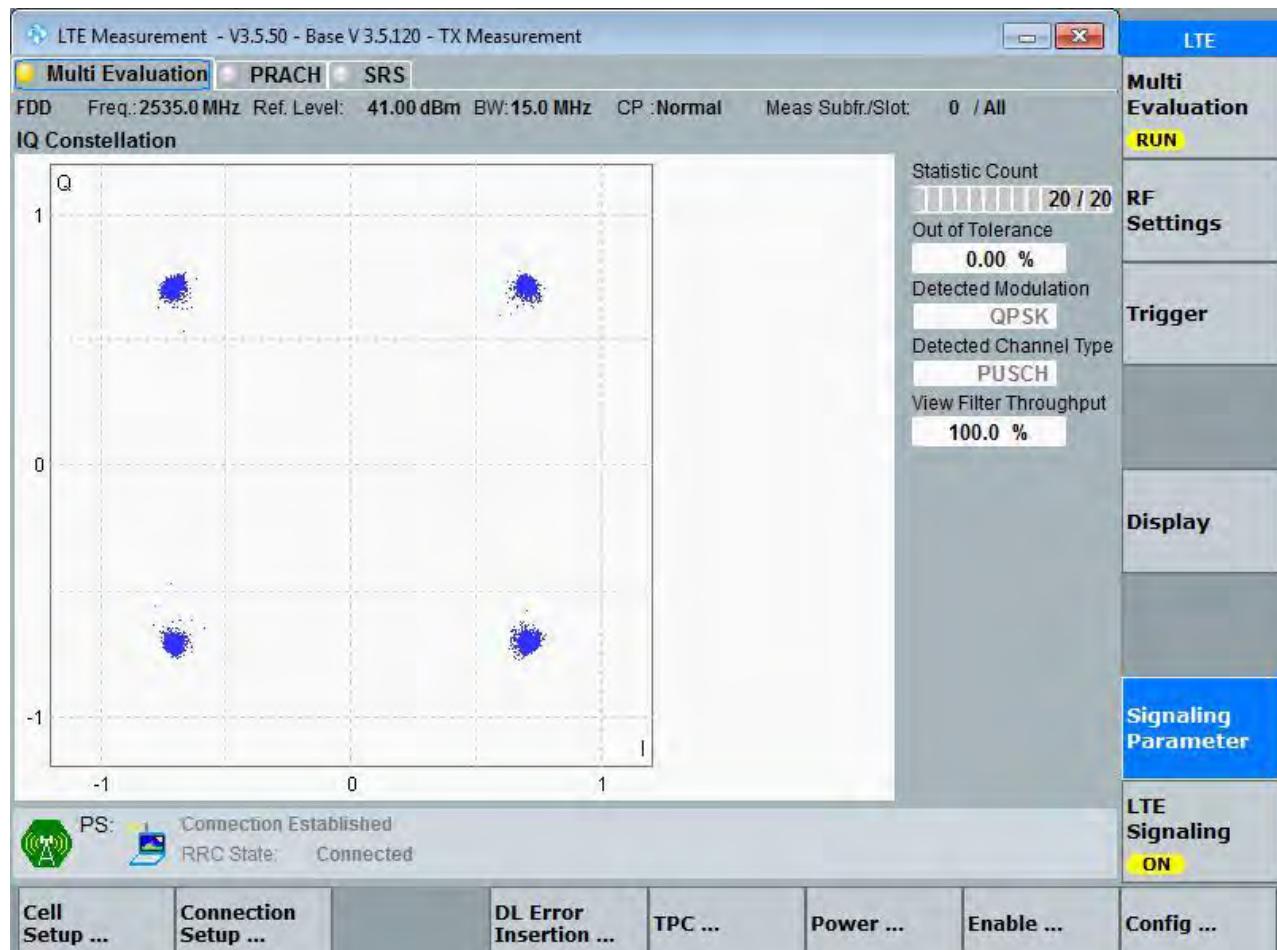
3.1.1.2 Test Mode = LTE /TM1 10MHz

3.1.1.2.1 Test Channel = MCH



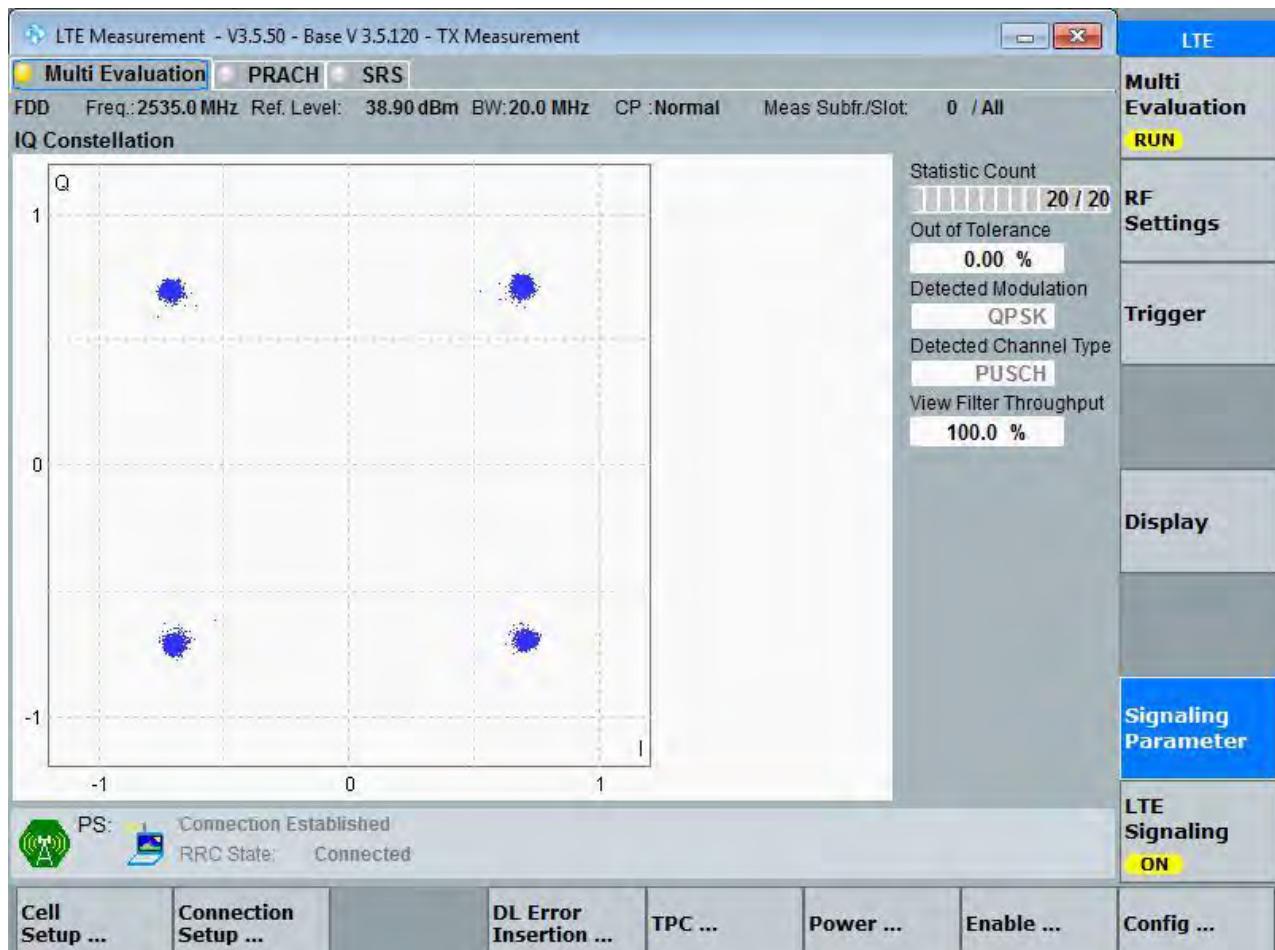
3.1.1.3 Test Mode = LTE /TM1 15MHz

3.1.1.3.1 Test Channel = MCH



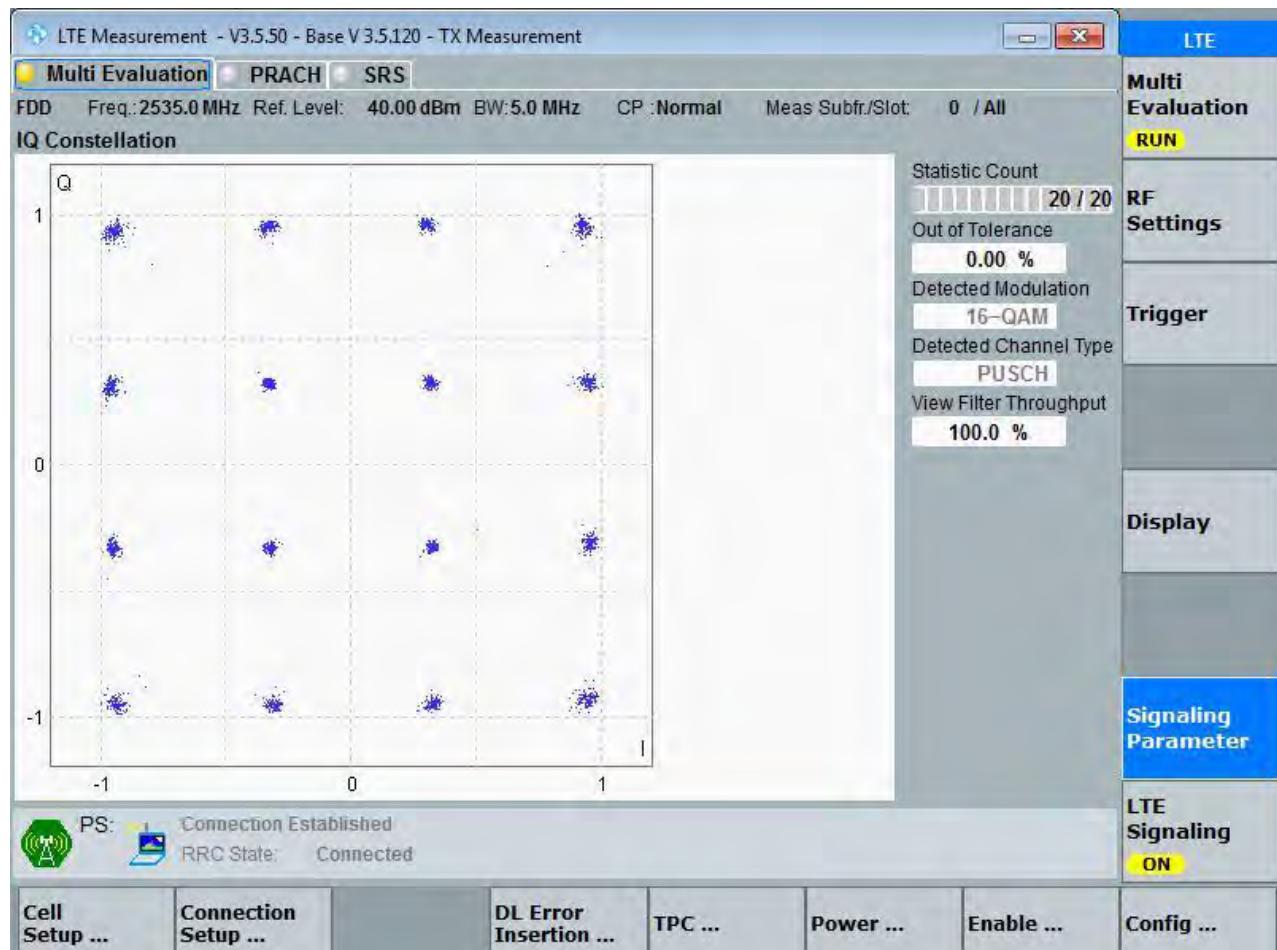
3.1.1.4 Test Mode = LTE /TM1 20MHz

3.1.1.4.1 Test Channel = MCH



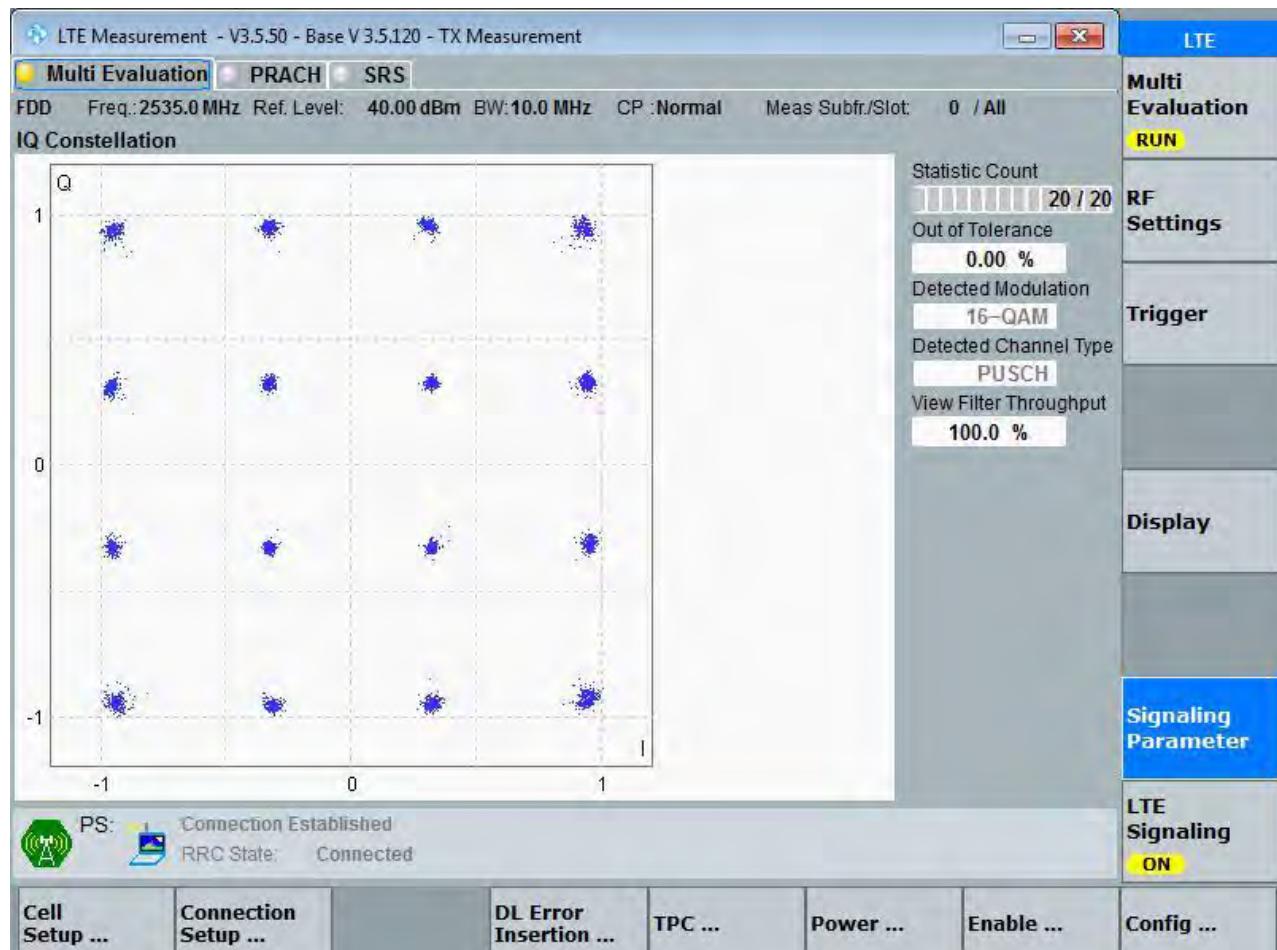
3.1.1.5 Test Mode = LTE /TM2 5MHz

3.1.1.5.1 Test Channel = MCH



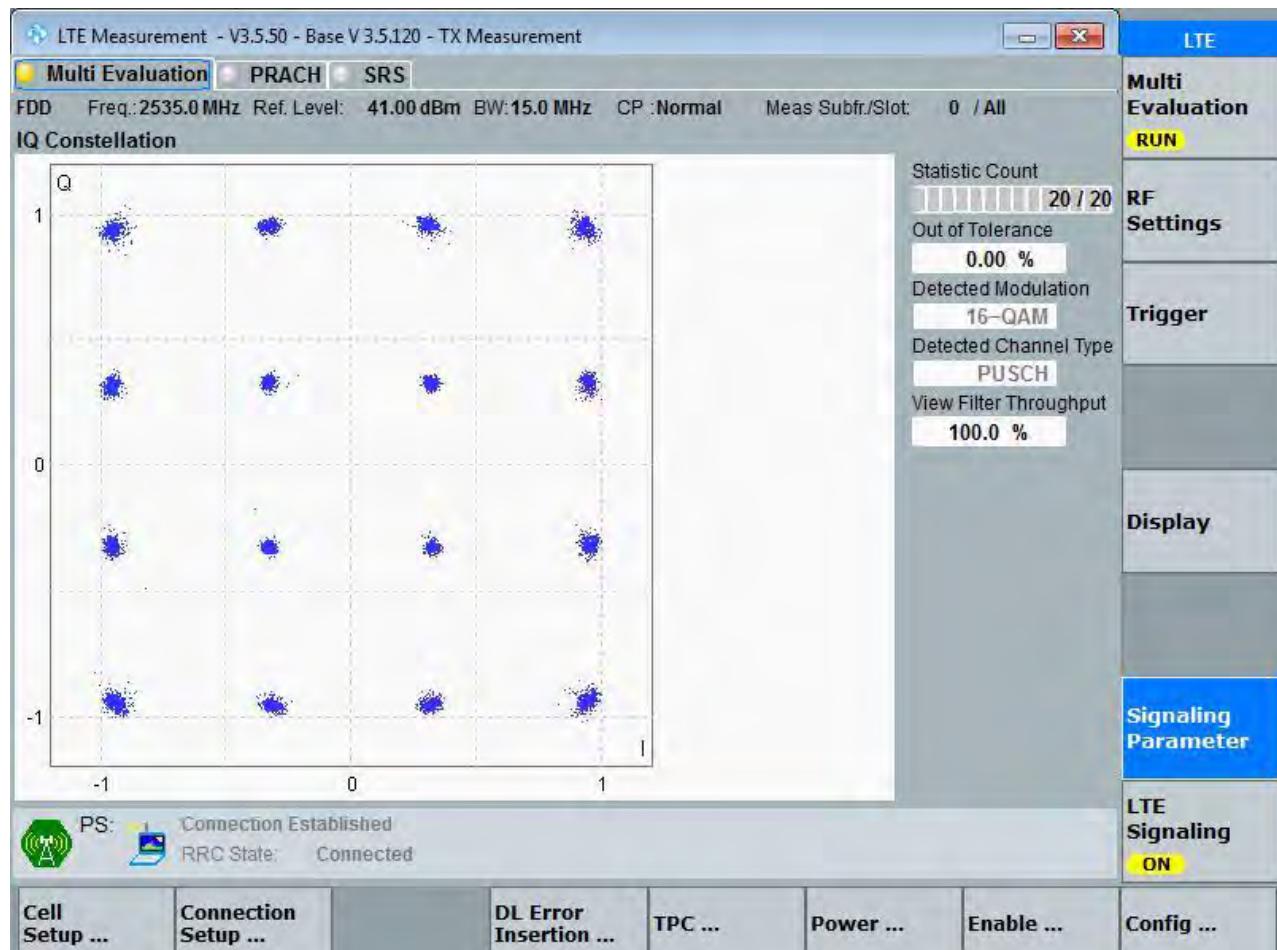
3.1.1.6 Test Mode = LTE /TM2 10MHz

3.1.1.6.1 Test Channel = MCH



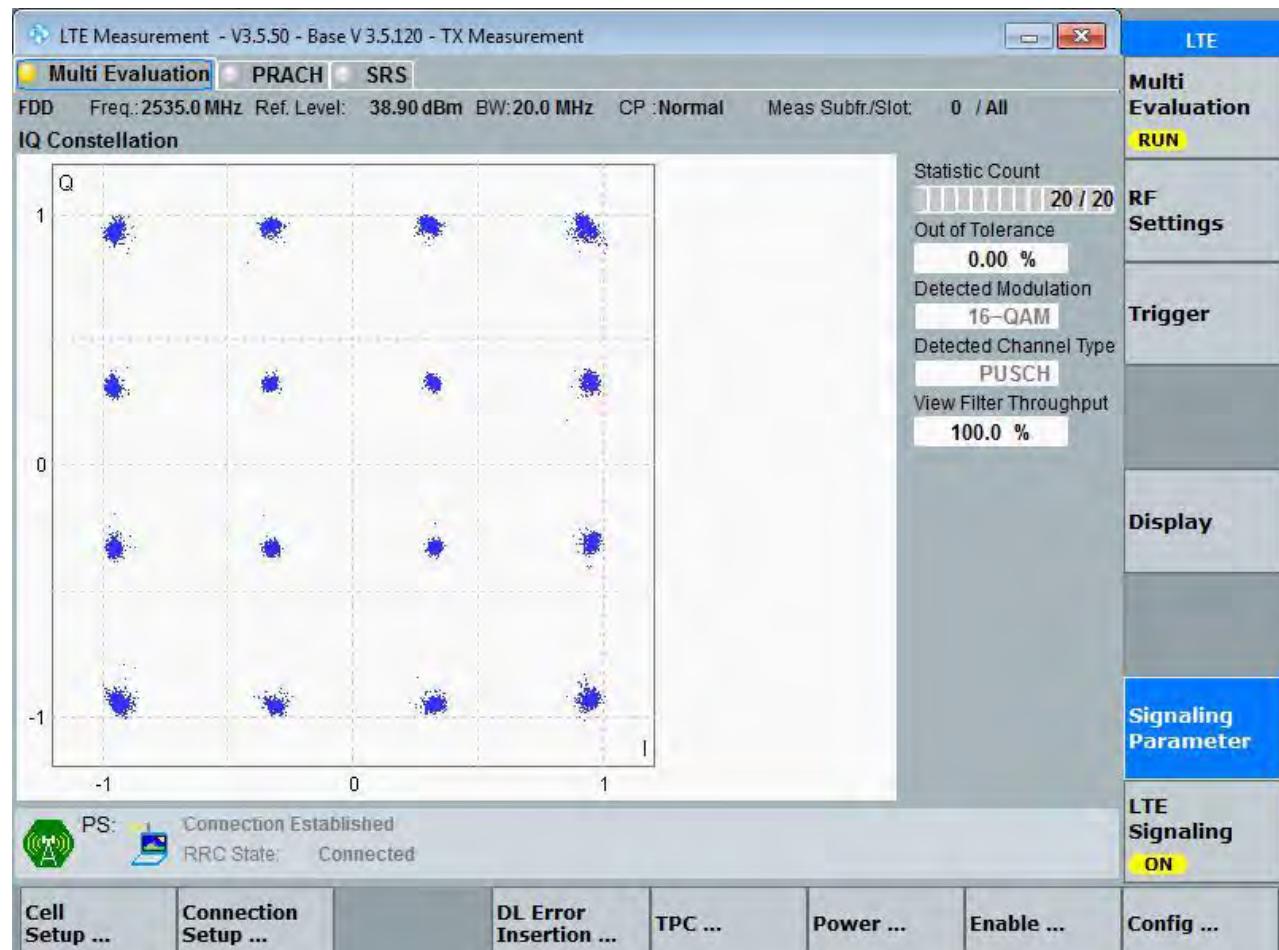
3.1.1.7 Test Mode = LTE /TM2 15MHz

3.1.1.7.1 Test Channel = MCH



3.1.1.8 Test Mode = LTE /TM2 20MHz

3.1.1.8.1 Test Channel = MCH



4 Bandwidth

Part I - Test Results

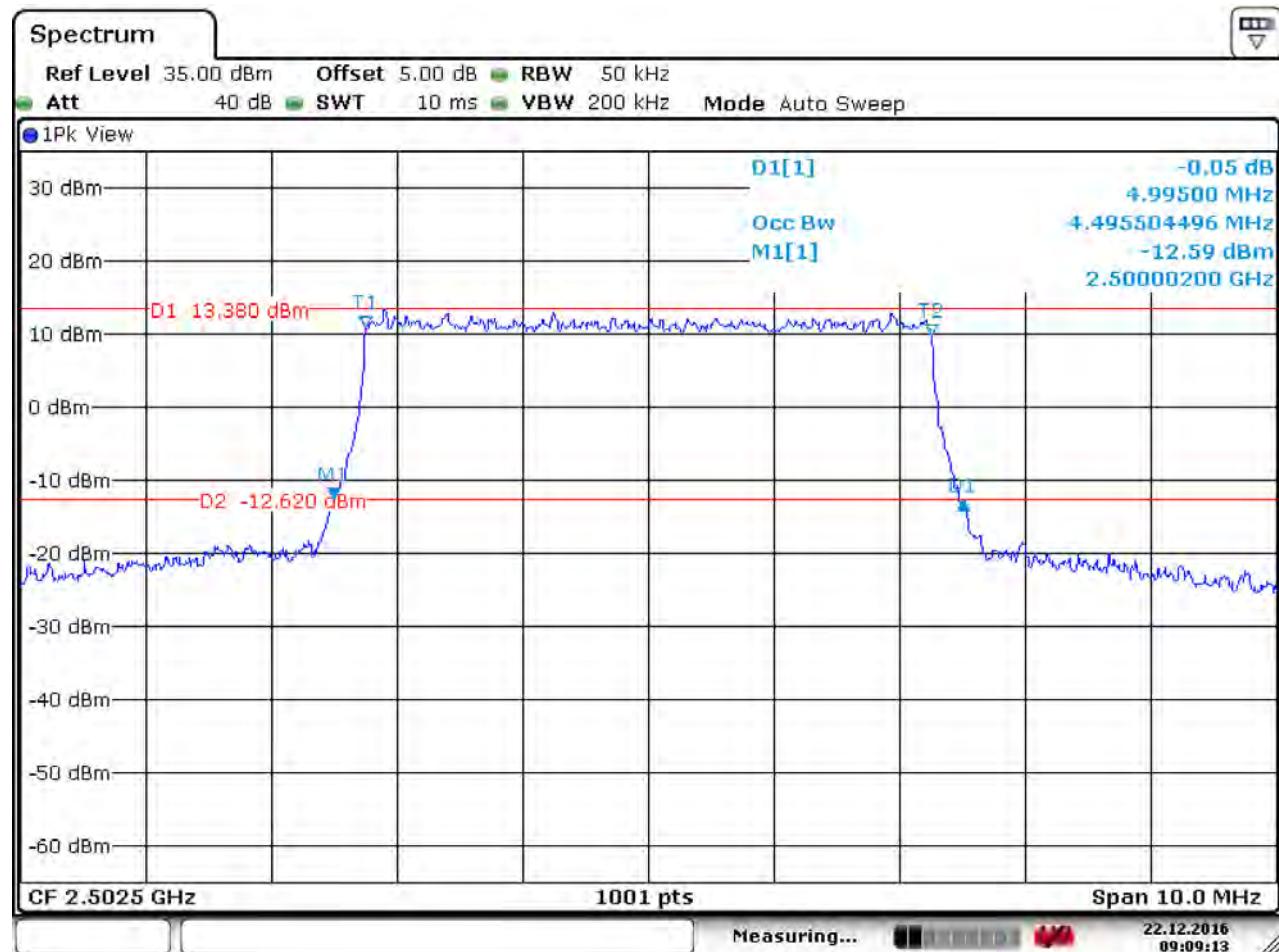
Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band 7	TM1/ 5MHz	LCH	4.50	5.00	PASS
		MCH	4.50	5.00	PASS
		HCH	4.48	5.00	PASS
	TM2/ 5MHz	LCH	4.50	5.00	PASS
		MCH	4.49	4.95	PASS
		HCH	4.49	5.00	PASS
	TM1/10MHz	LCH	8.95	9.73	PASS
		MCH	8.97	9.88	PASS
		HCH	8.95	9.79	PASS
	TM2/ 10MHz	LCH	8.95	9.77	PASS
		MCH	8.95	9.66	PASS
		HCH	8.97	9.75	PASS
	TM1/ 15MHz	LCH	13.49	15.02	PASS
		MCH	13.49	14.98	PASS
		HCH	13.49	15.02	PASS
	TM2/ 15MHz	LCH	13.55	14.90	PASS
		MCH	13.49	14.83	PASS
		HCH	13.49	14.99	PASS
	TM1/ 20MHz	LCH	17.94	19.62	PASS
		MCH	17.94	19.42	PASS
		HCH	17.98	19.66	PASS
	TM2/ 20MHz	LCH	17.98	19.74	PASS
		MCH	17.94	19.46	PASS
		HCH	17.90	19.46	PASS

4.1 For LTE

4.1.1 Test Band = LTE band7

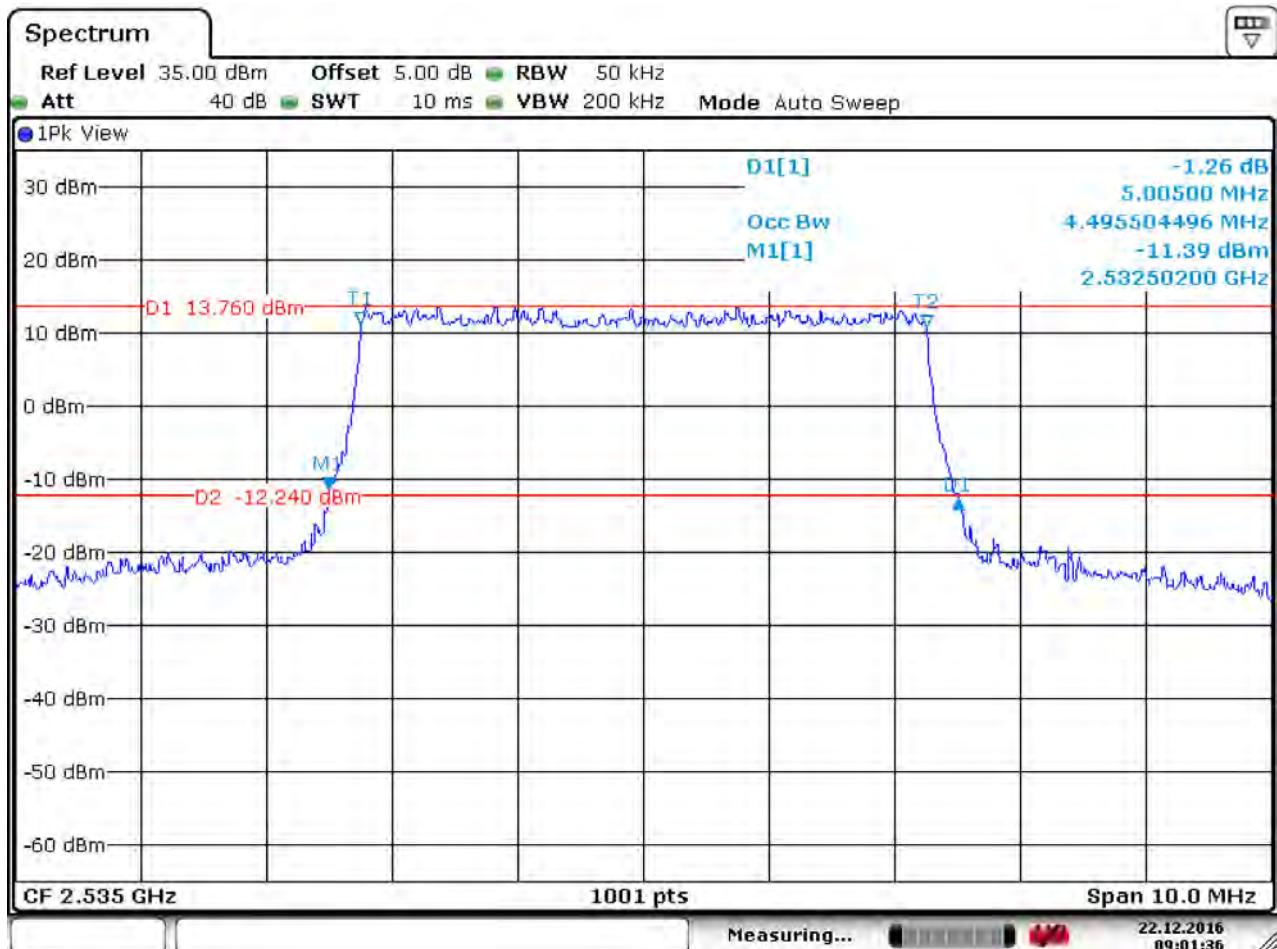
4.1.1.1 Test Mode = LTE/TM1 5MHz

4.1.1.1.1 Test Channel = LCH



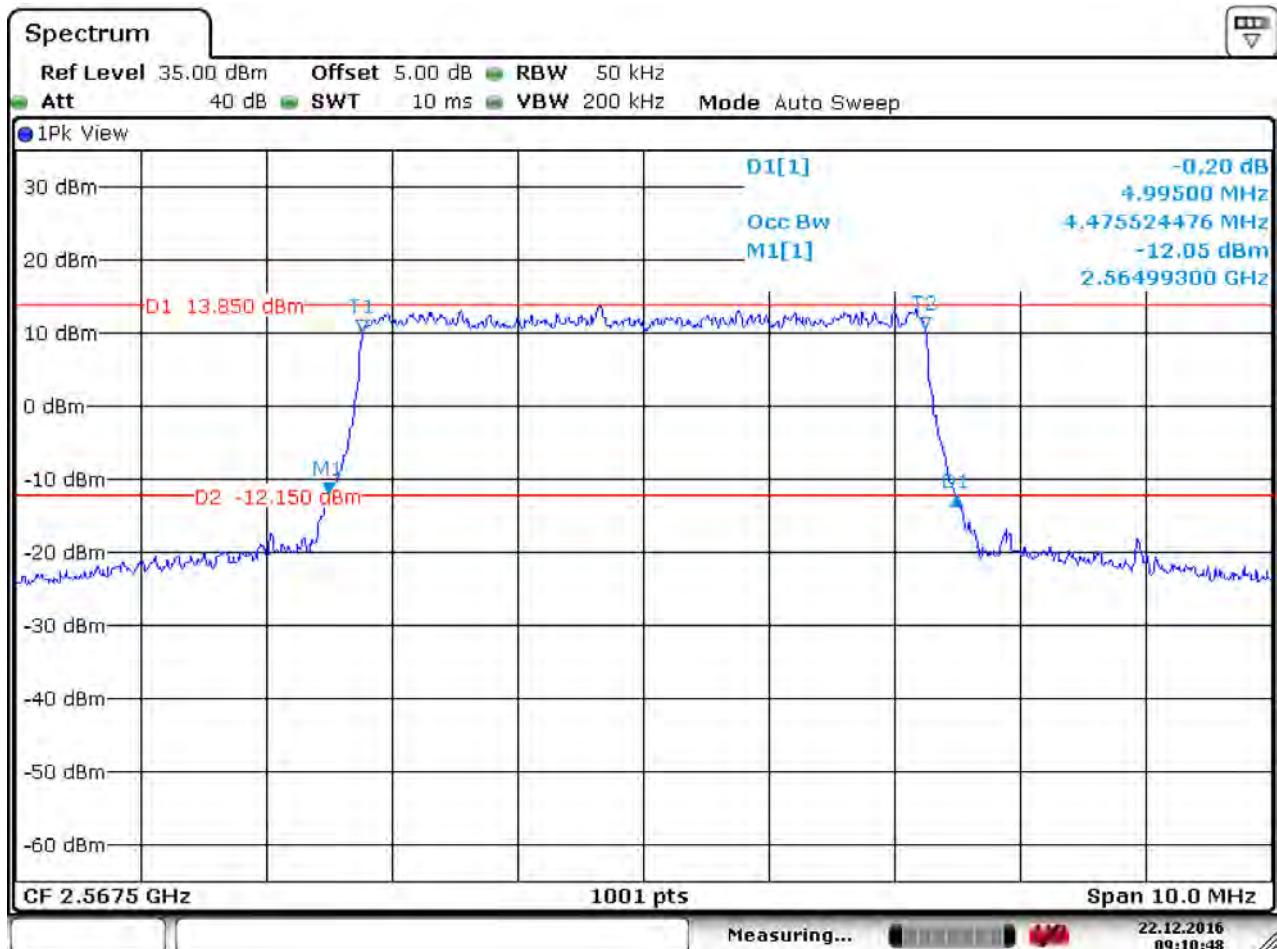
Date: 22.DEC.2016 09:09:14

4.1.1.1.2 Test Channel = MCH



Date: 22.DEC.2016 09:01:37

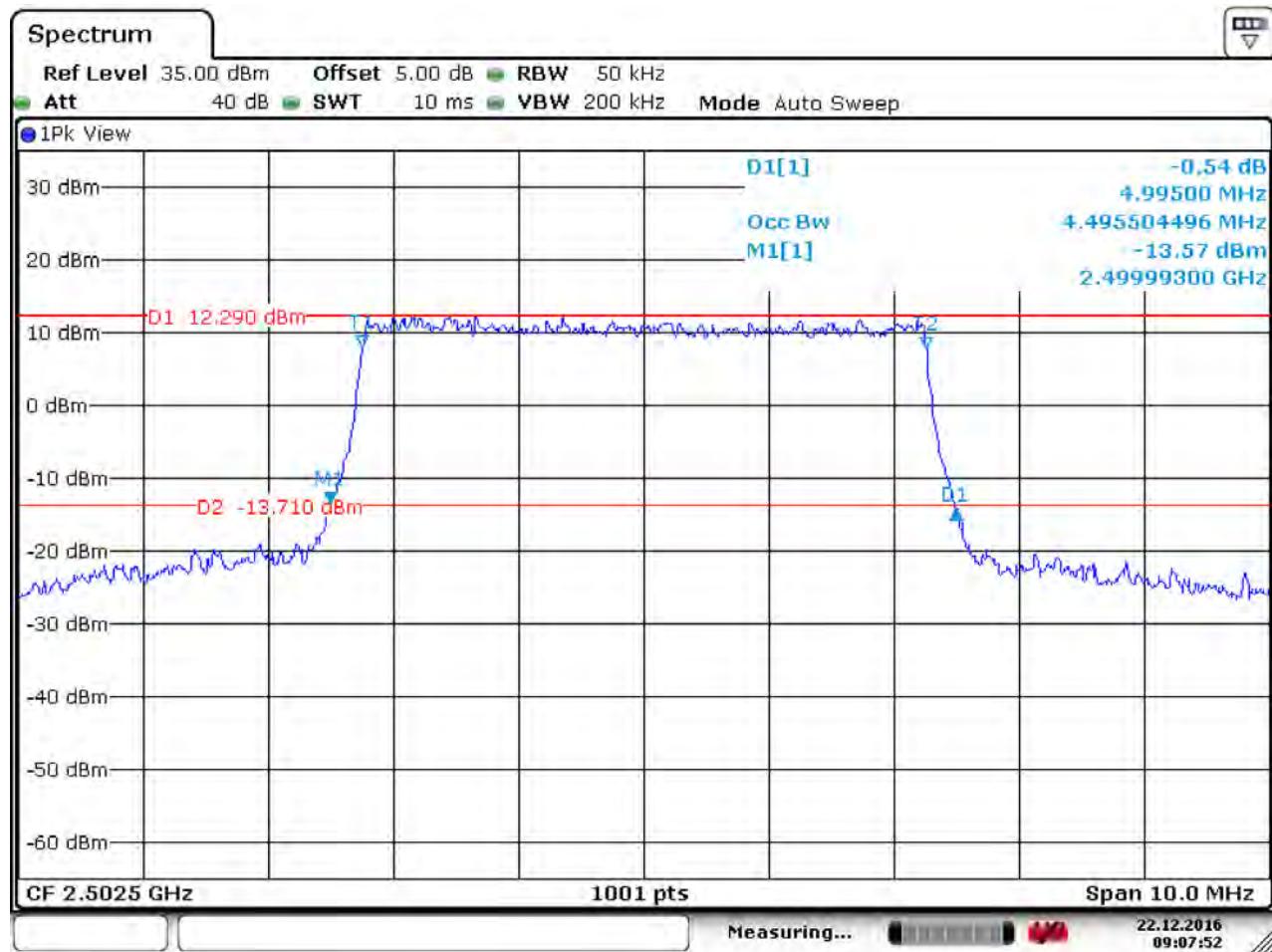
4.1.1.1.3 Test Channel = HCH



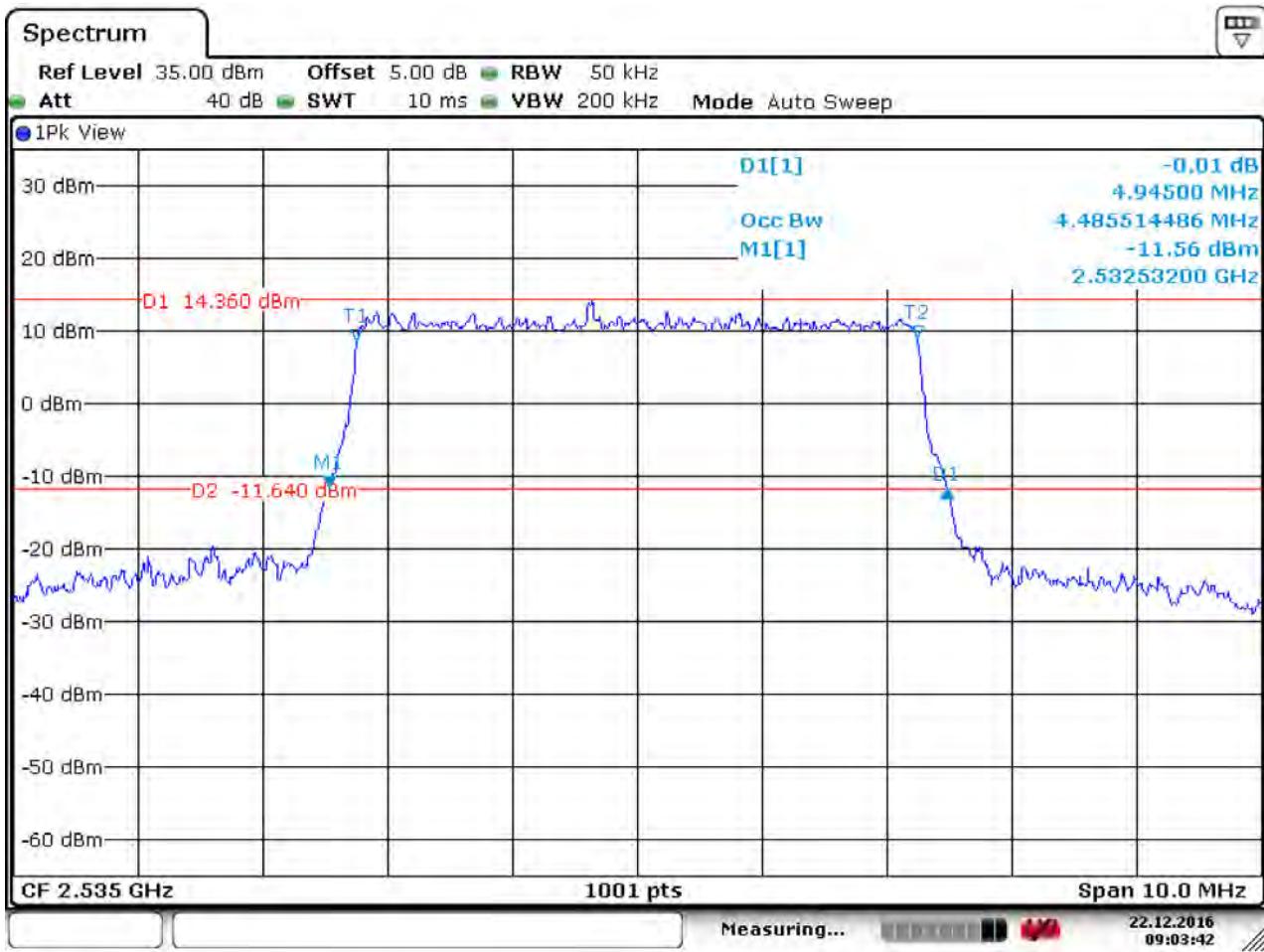
Date: 22.DEC.2016 09:10:48

4.1.1.2 Test Mode = LTE/TM2 5MHz

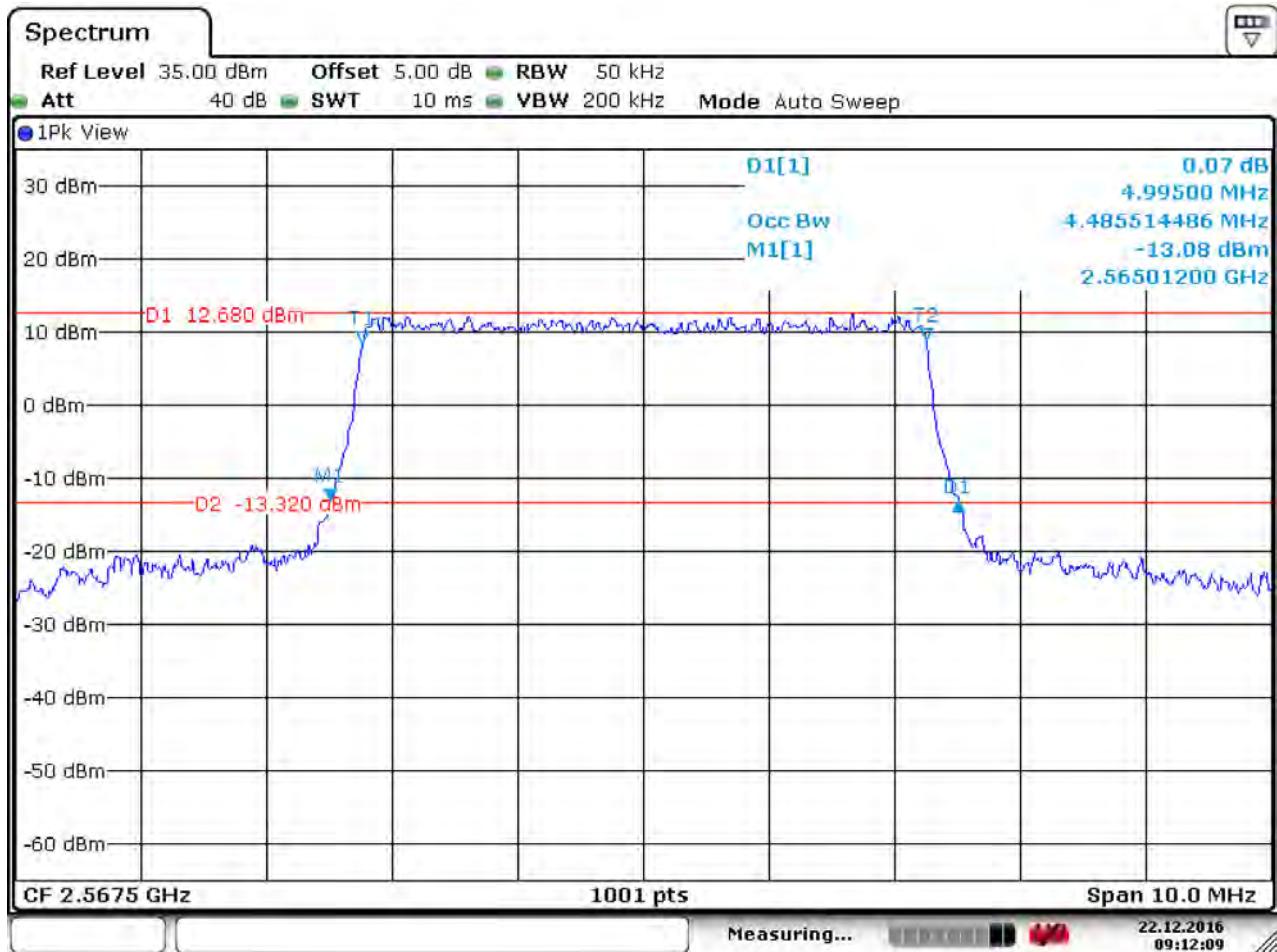
4.1.1.2.1 Test Channel = LCH



4.1.1.2.2 Test Channel = MCH



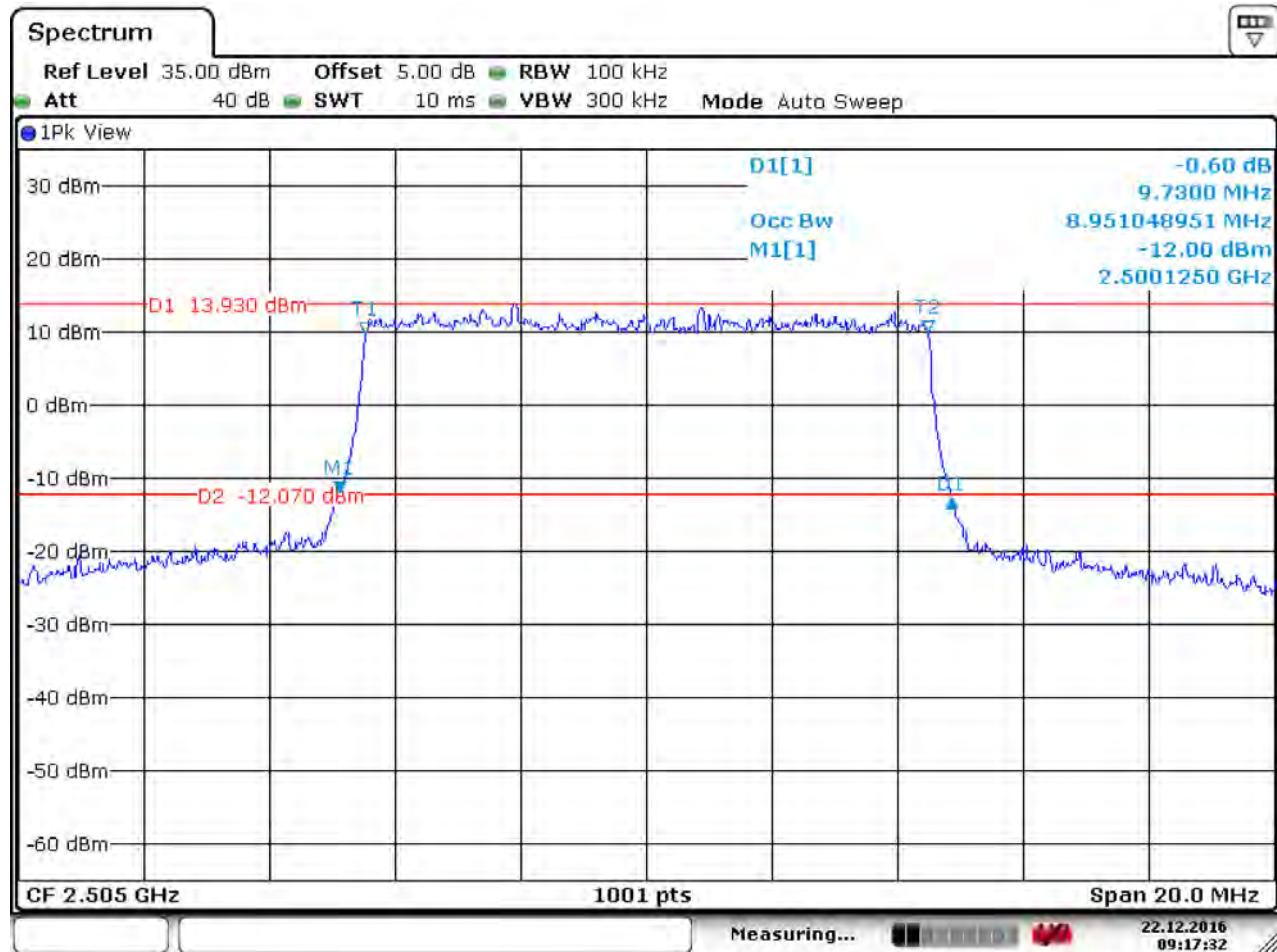
Date: 22.DEC.2016 09:03:42

4.1.1.2.3 Test Channel = HCH

Date: 22.DEC.2016 09:12:09

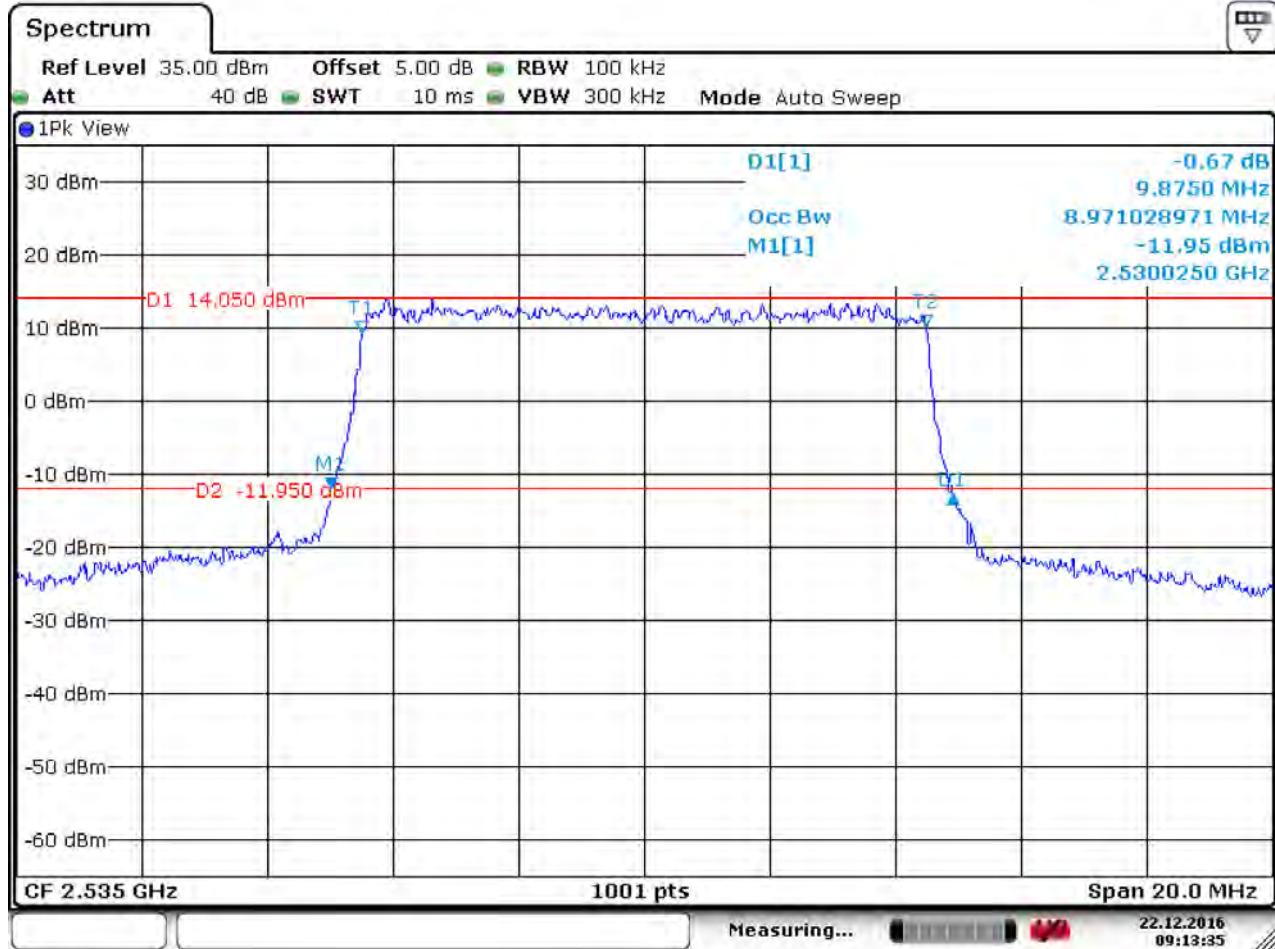
4.1.1.3 Test Mode = LTE/TM1 10MHz

4.1.1.3.1 Test Channel = LCH

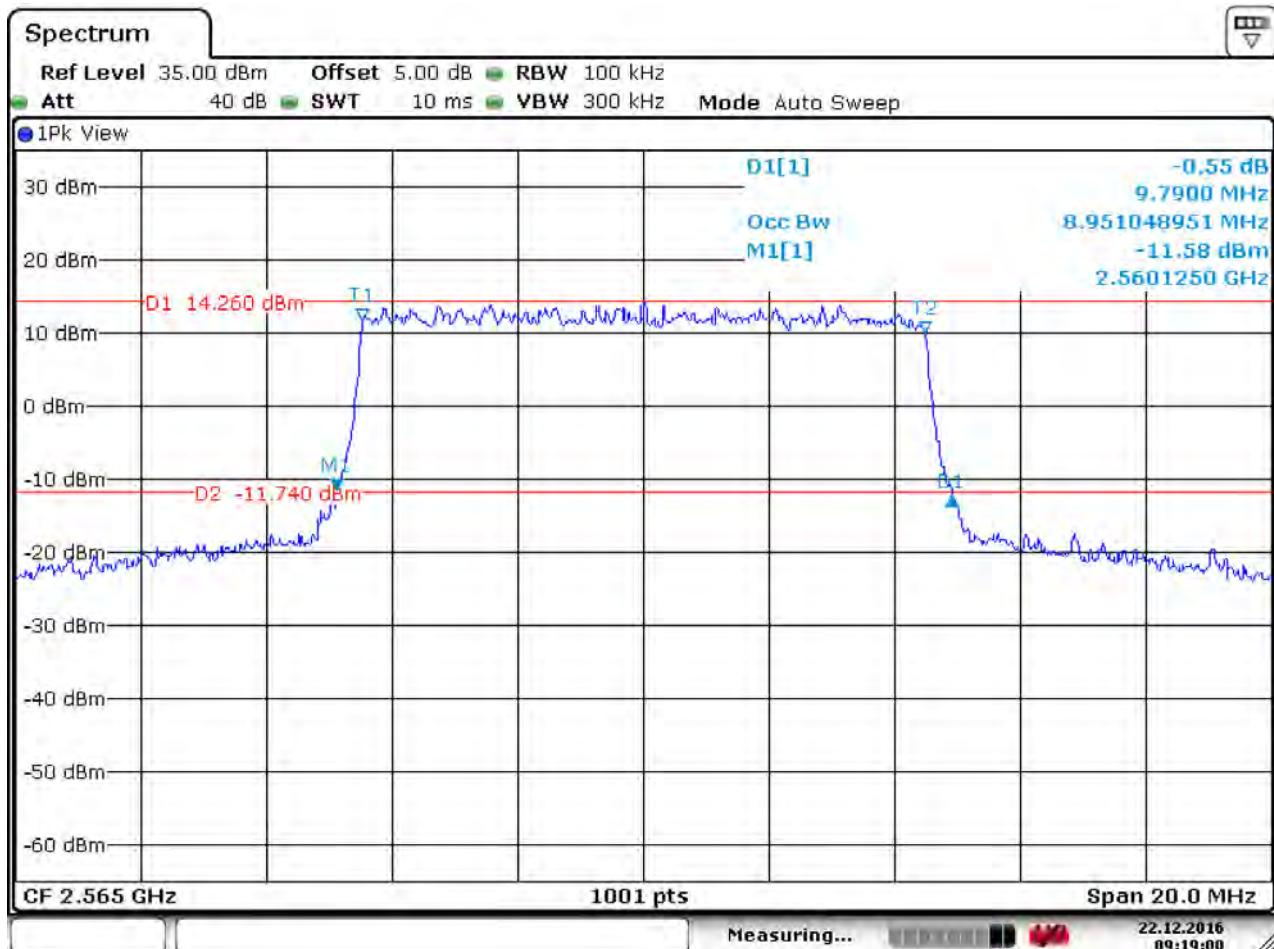


Date: 22.DEC.2016 09:17:32

4.1.1.3.2 Test Channel = MCH



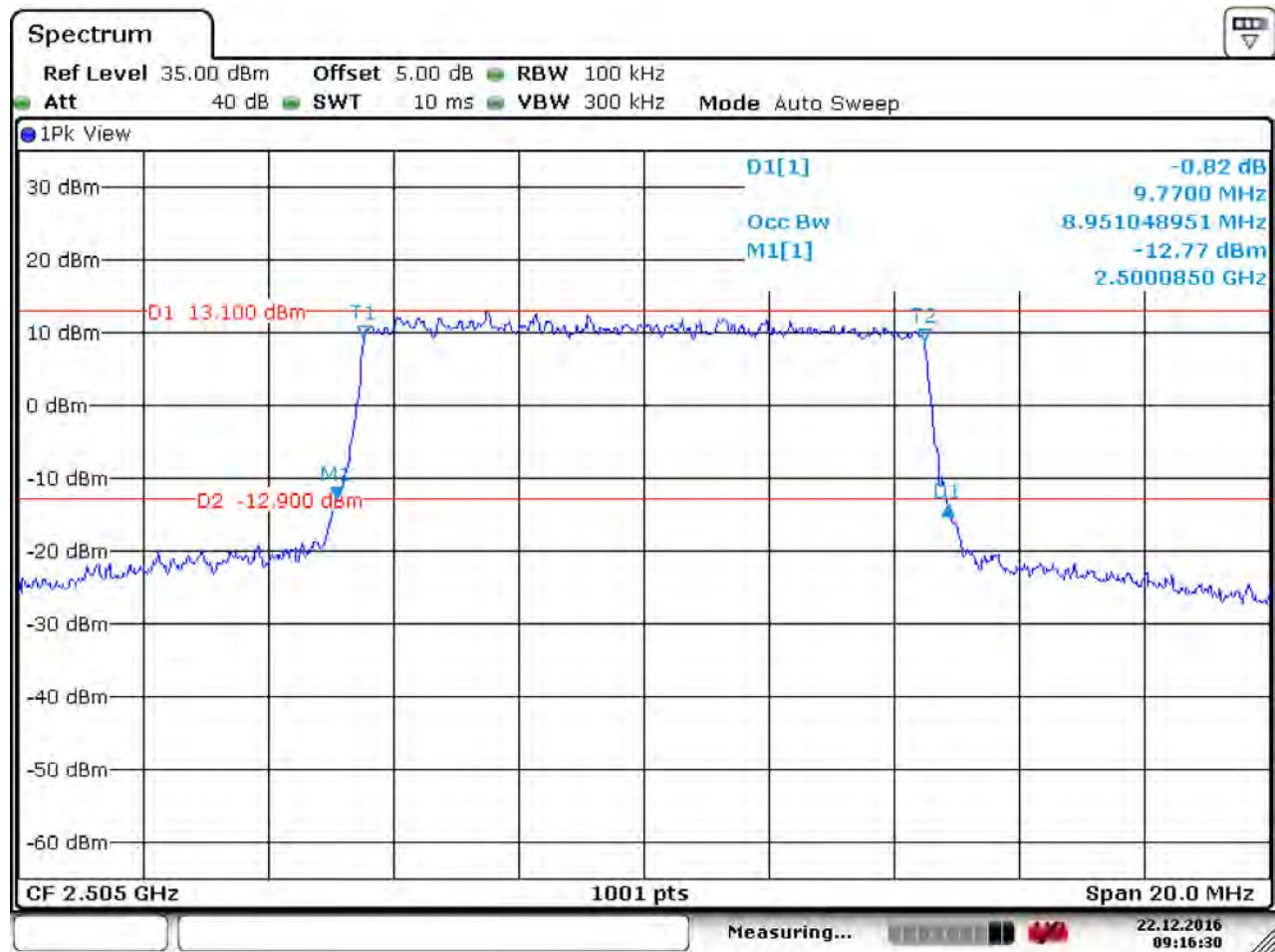
Date: 22.DEC.2016 09:13:35

4.1.1.3.3 Test Channel = HCH

Date: 22.DEC.2016 09:19:00

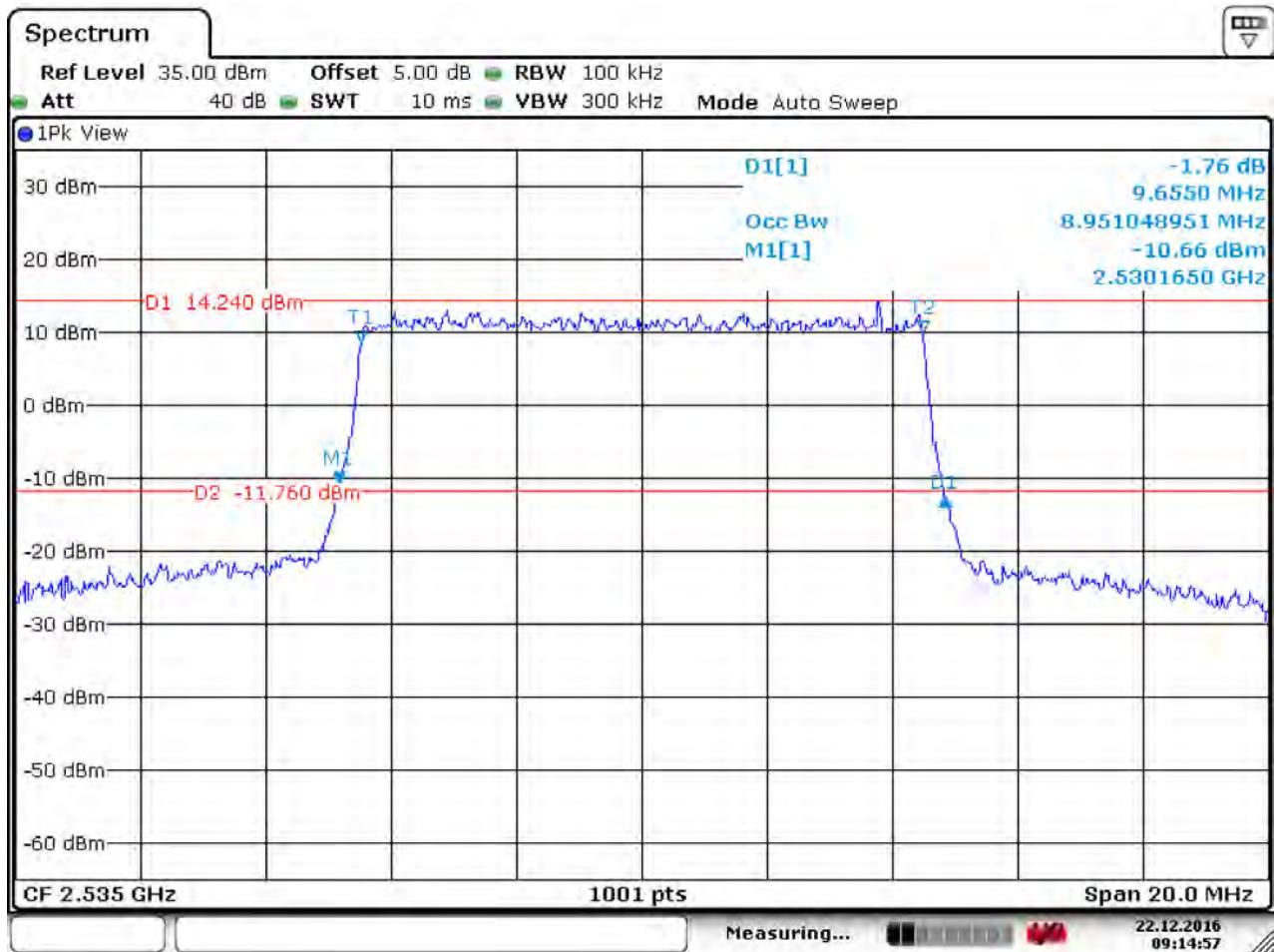
4.1.1.4 Test Mode = LTE/TM2 10MHz

4.1.1.4.1 Test Channel = LCH

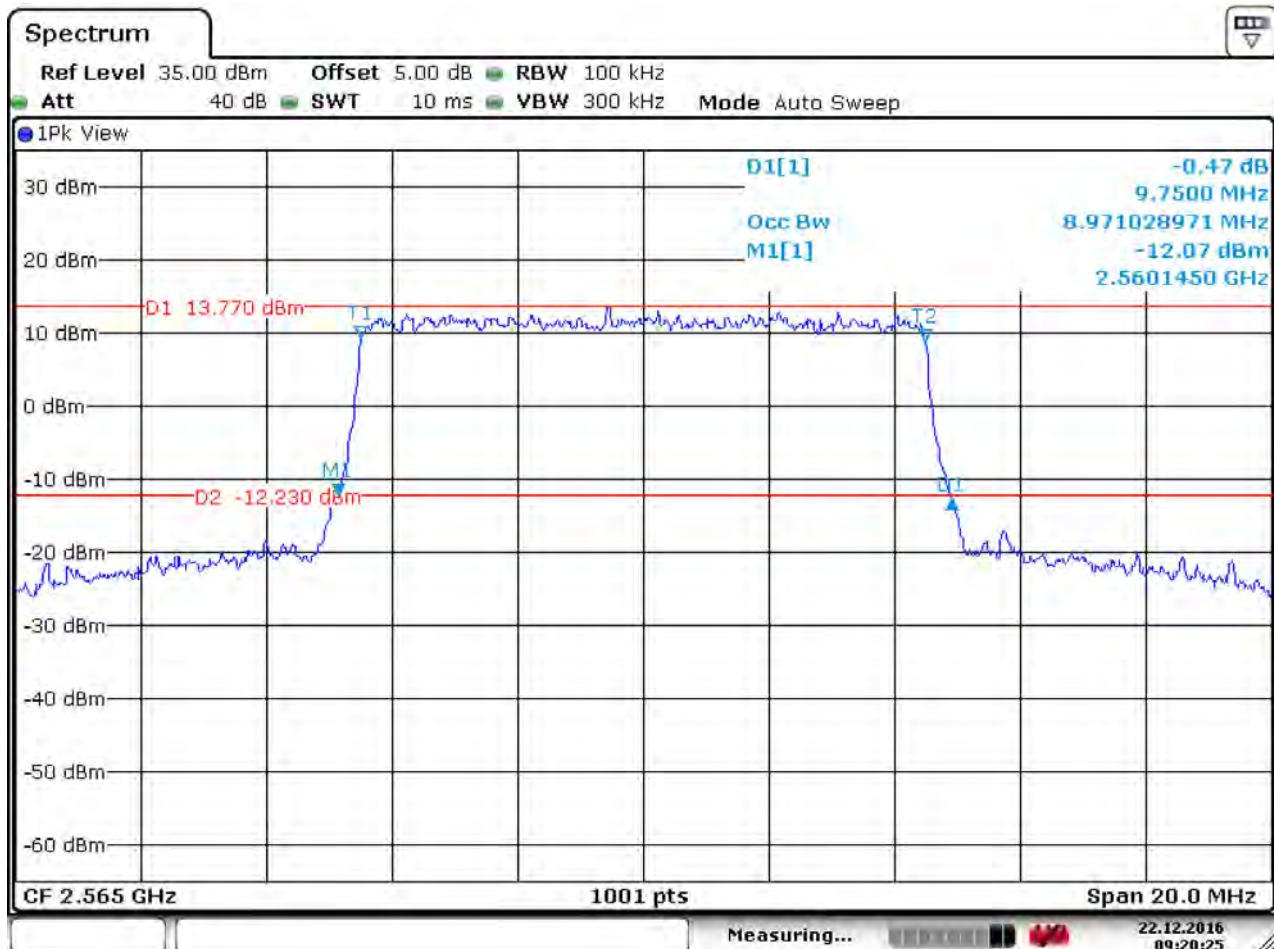


Date: 22.DEC.2016 09:16:31

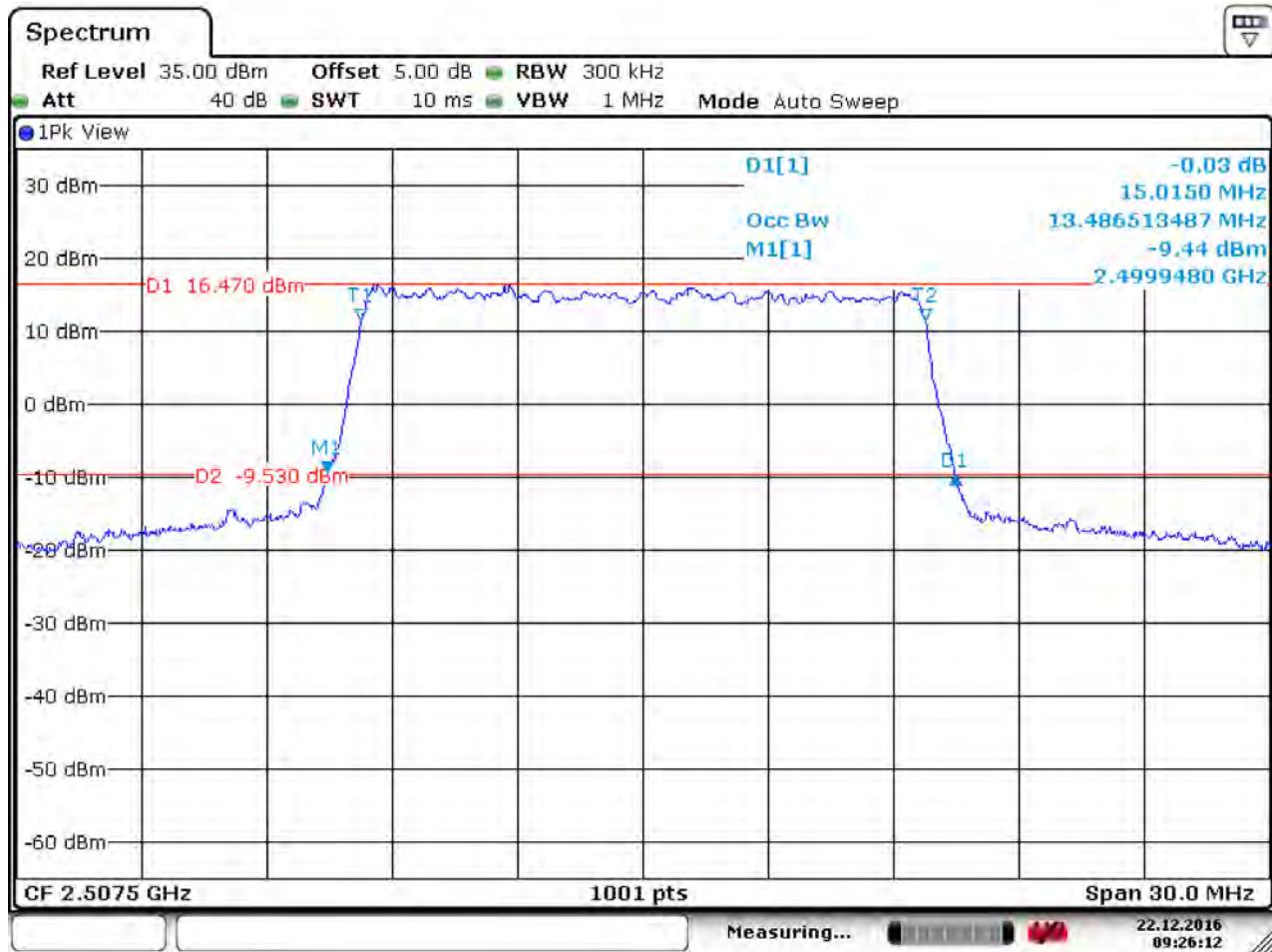
4.1.1.4.2 Test Channel = MCH



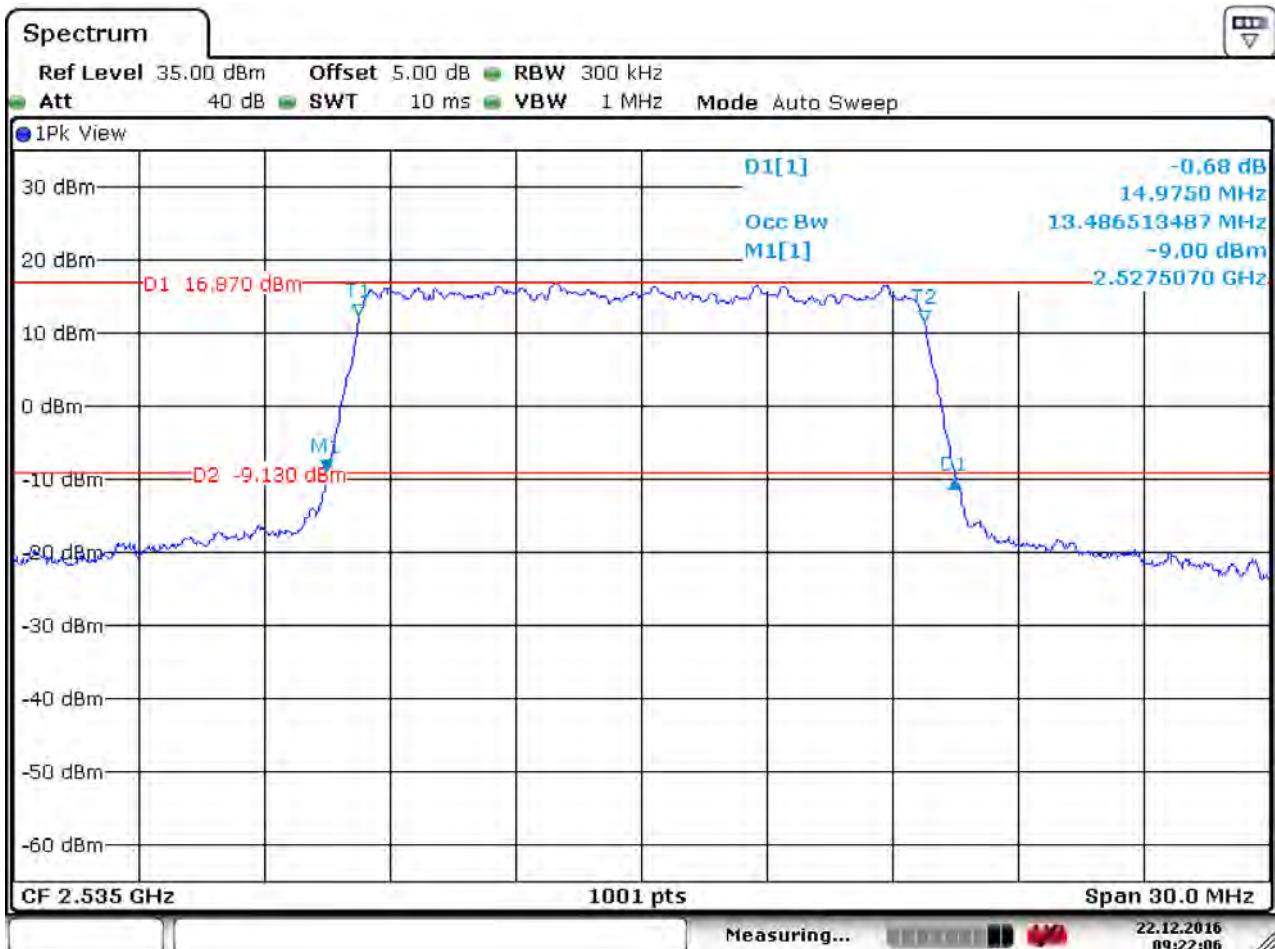
Date: 22.DEC.2016 09:14:58

4.1.1.4.3 Test Channel = HCH

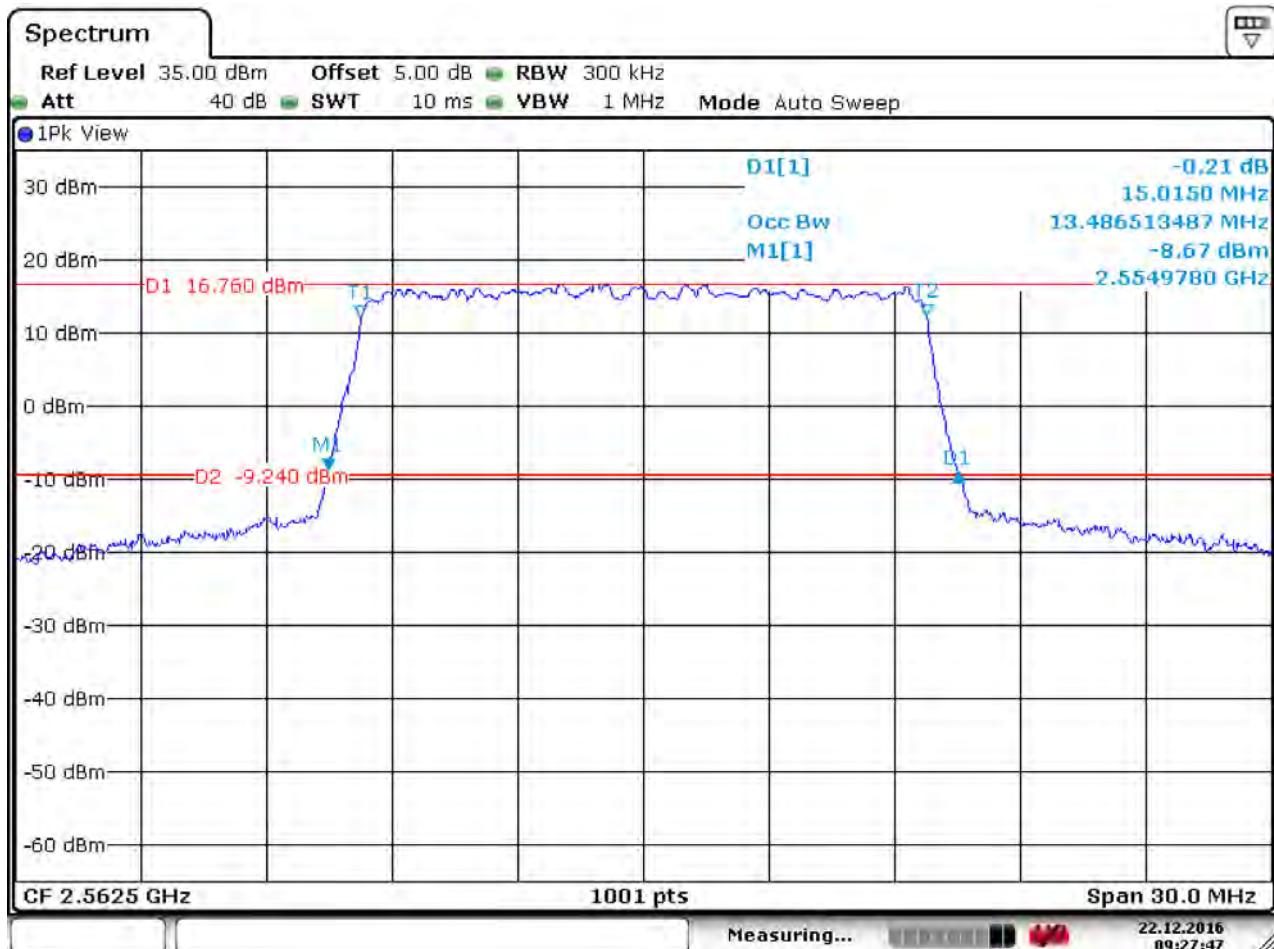
Date: 22.DEC.2016 09:20:25

4.1.1.5 Test Mode = LTE/TM1 15MHz**4.1.1.5.1 Test Channel = LCH**

Date: 22.DEC.2016 09:26:11

4.1.1.5.2 Test Channel = MCH

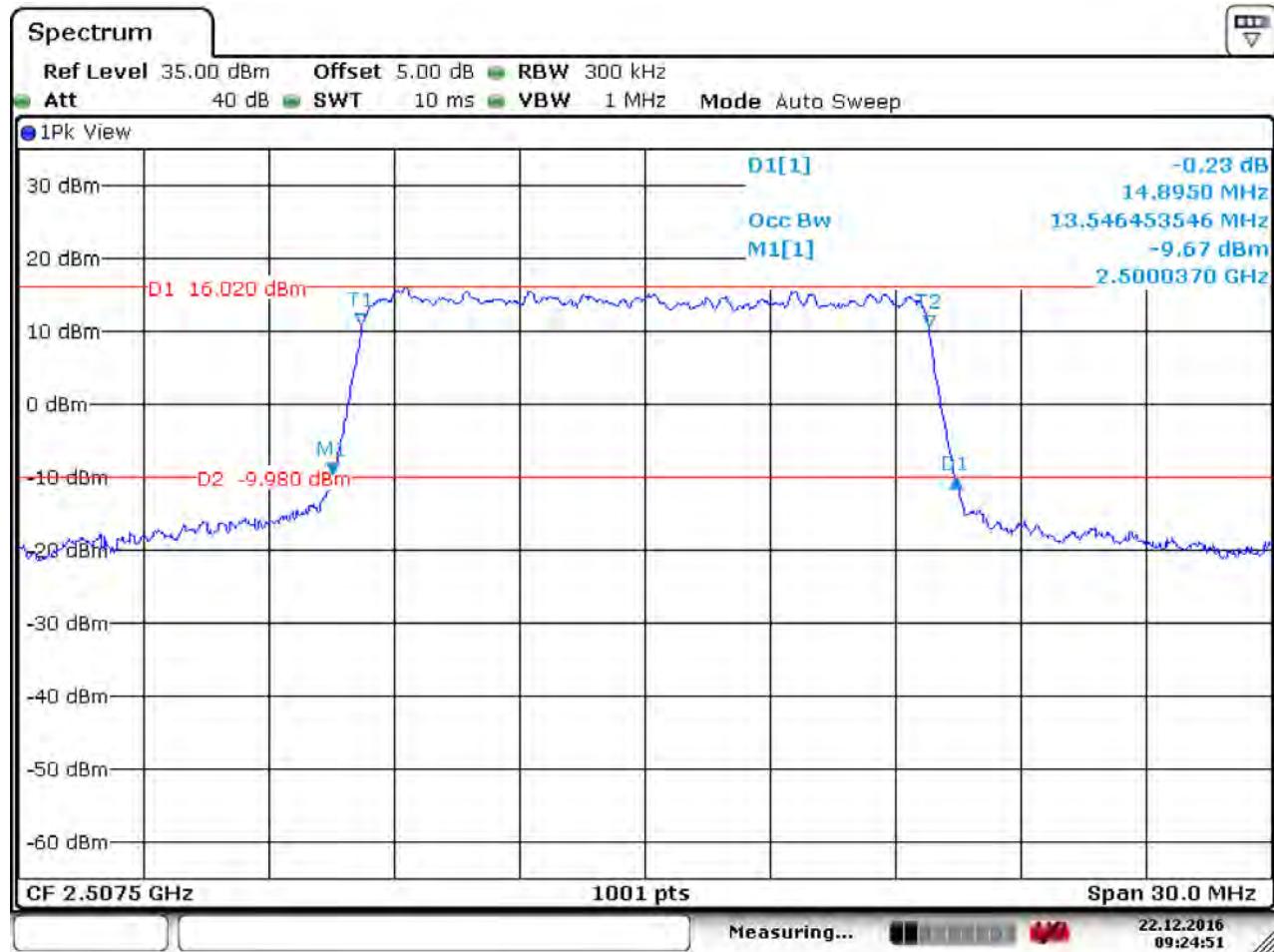
Date: 22.DEC.2016 09:22:06

4.1.1.5.3 Test Channel = HCH

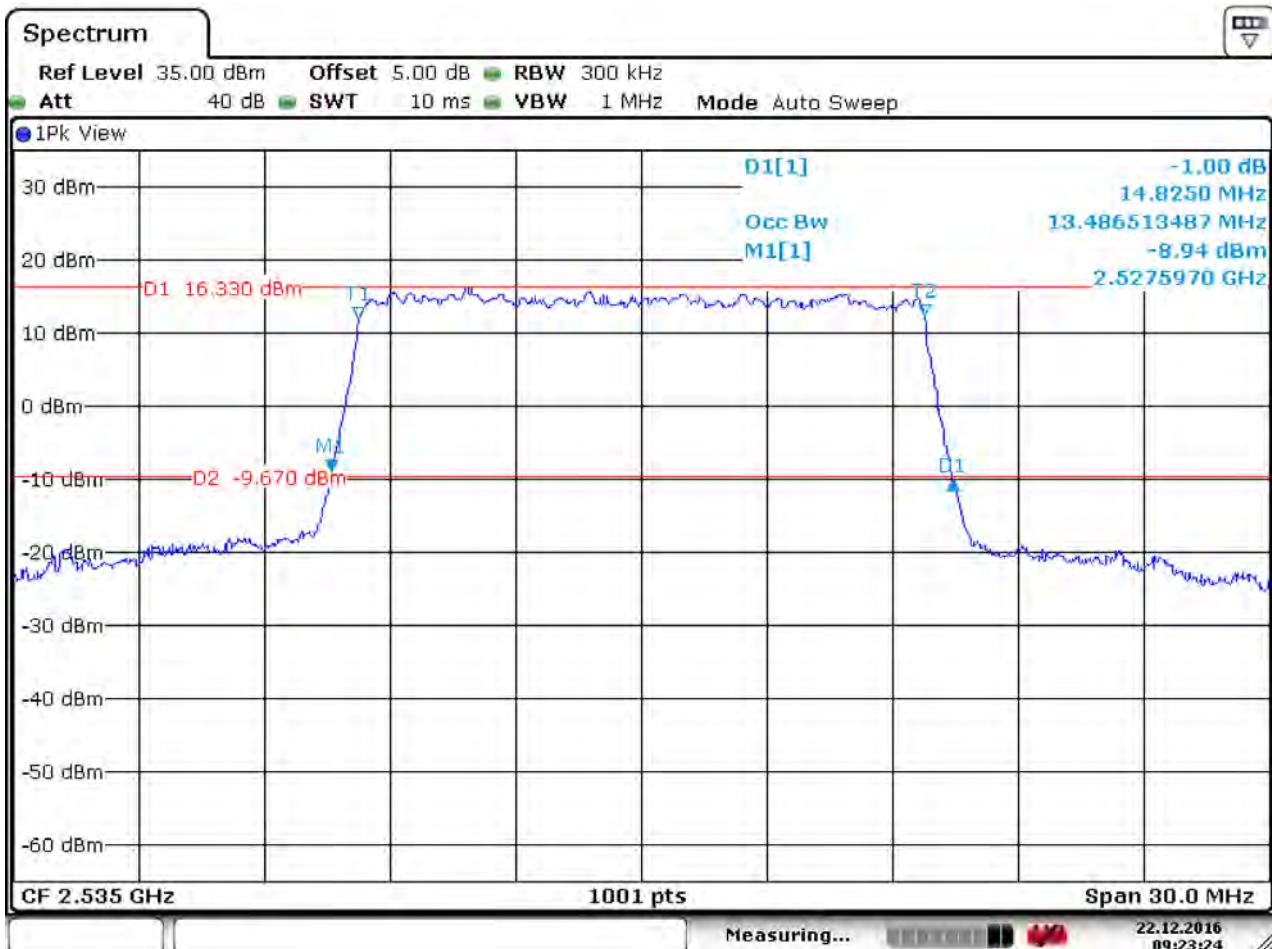
Date: 22.DEC.2016 09:27:47

4.1.1.6 Test Mode = LTE/TM2 15MHz

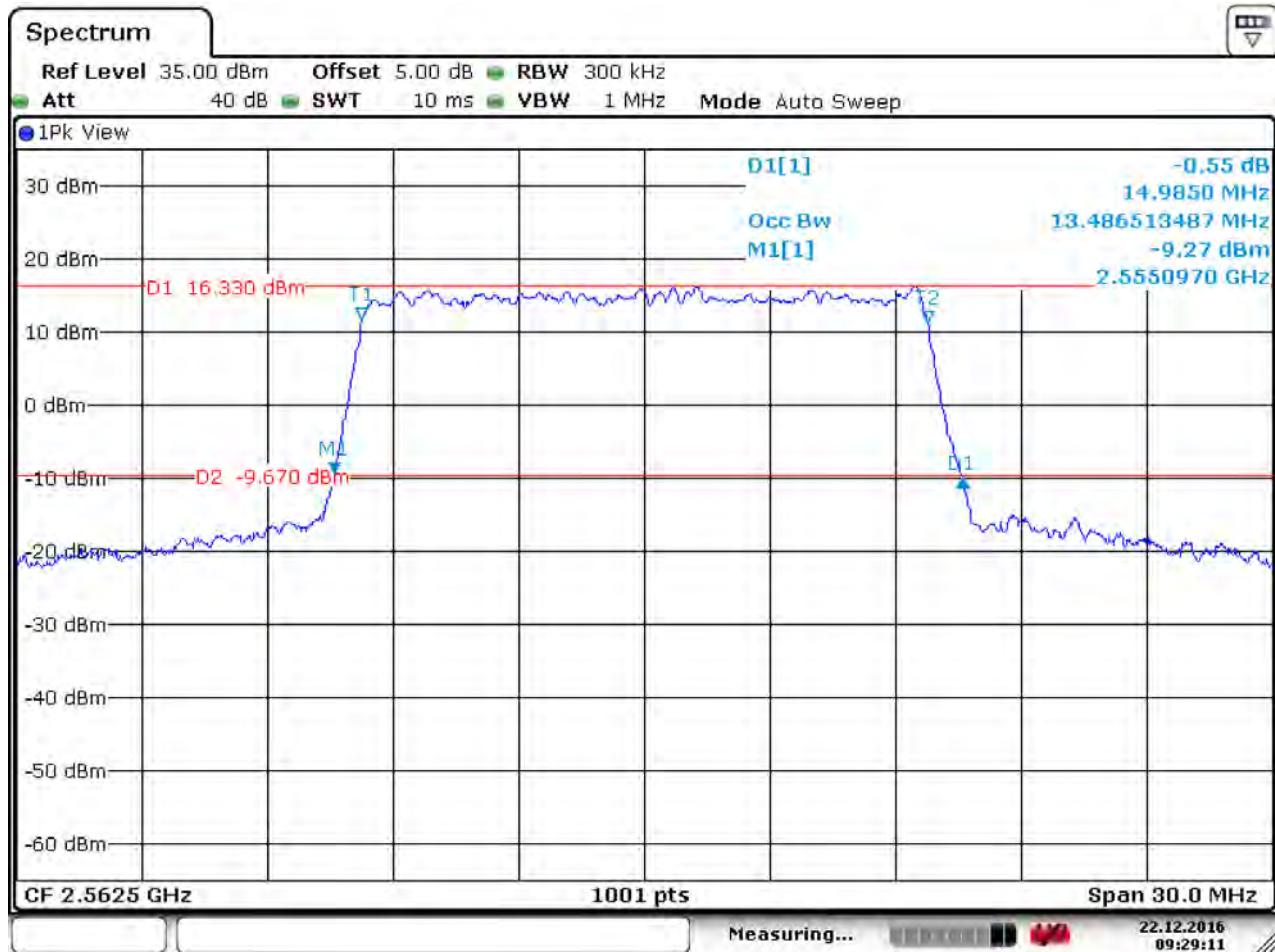
4.1.1.6.1 Test Channel = LCH



Date: 22.DEC.2016 09:24:52

4.1.1.6.2 Test Channel = MCH

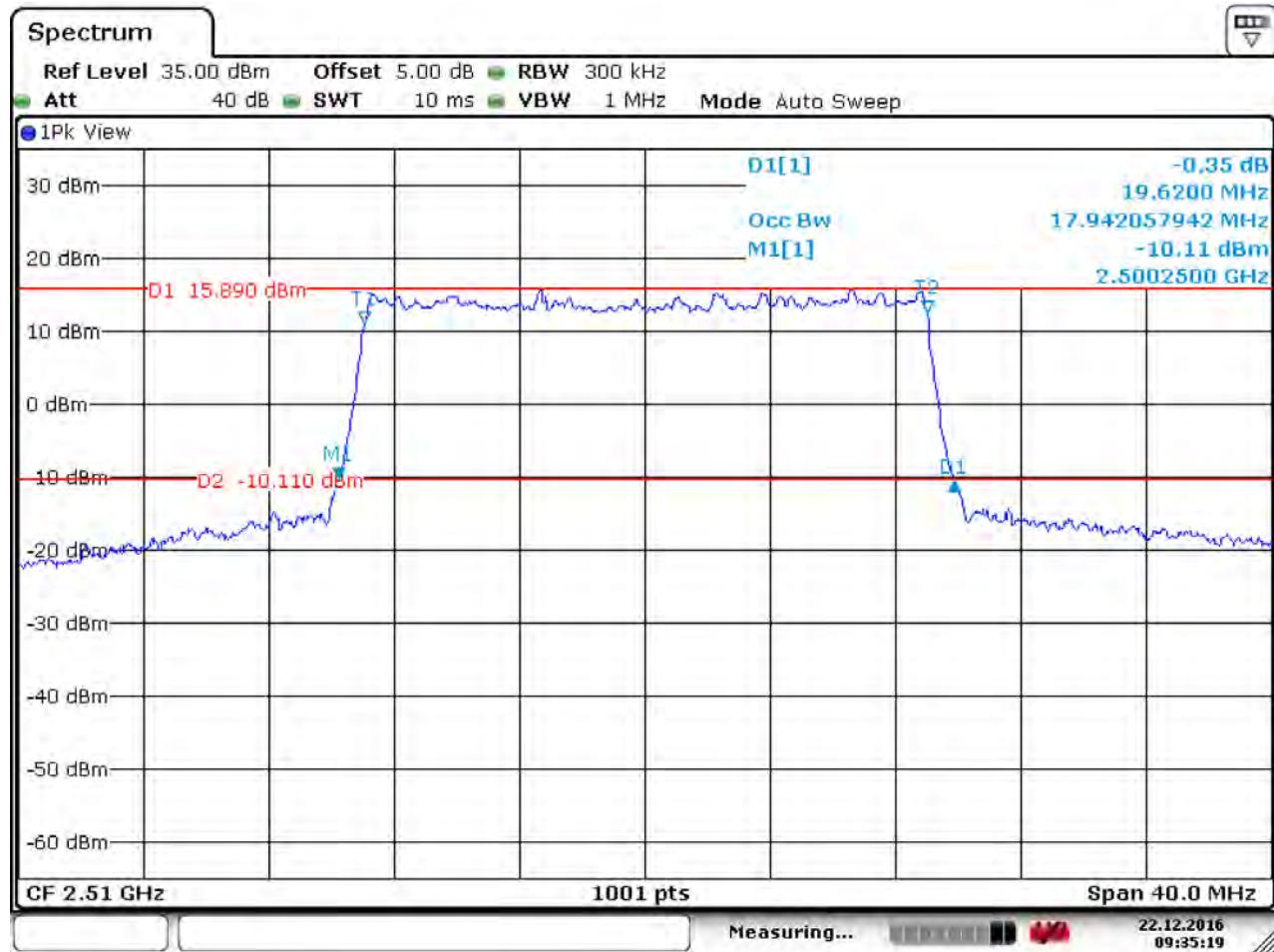
Date: 22.DEC.2016 09:23:25

4.1.1.6.3 Test Channel = HCH

Date: 22.DEC.2016 09:29:12

4.1.1.7 Test Mode = LTE/TM1 20MHz

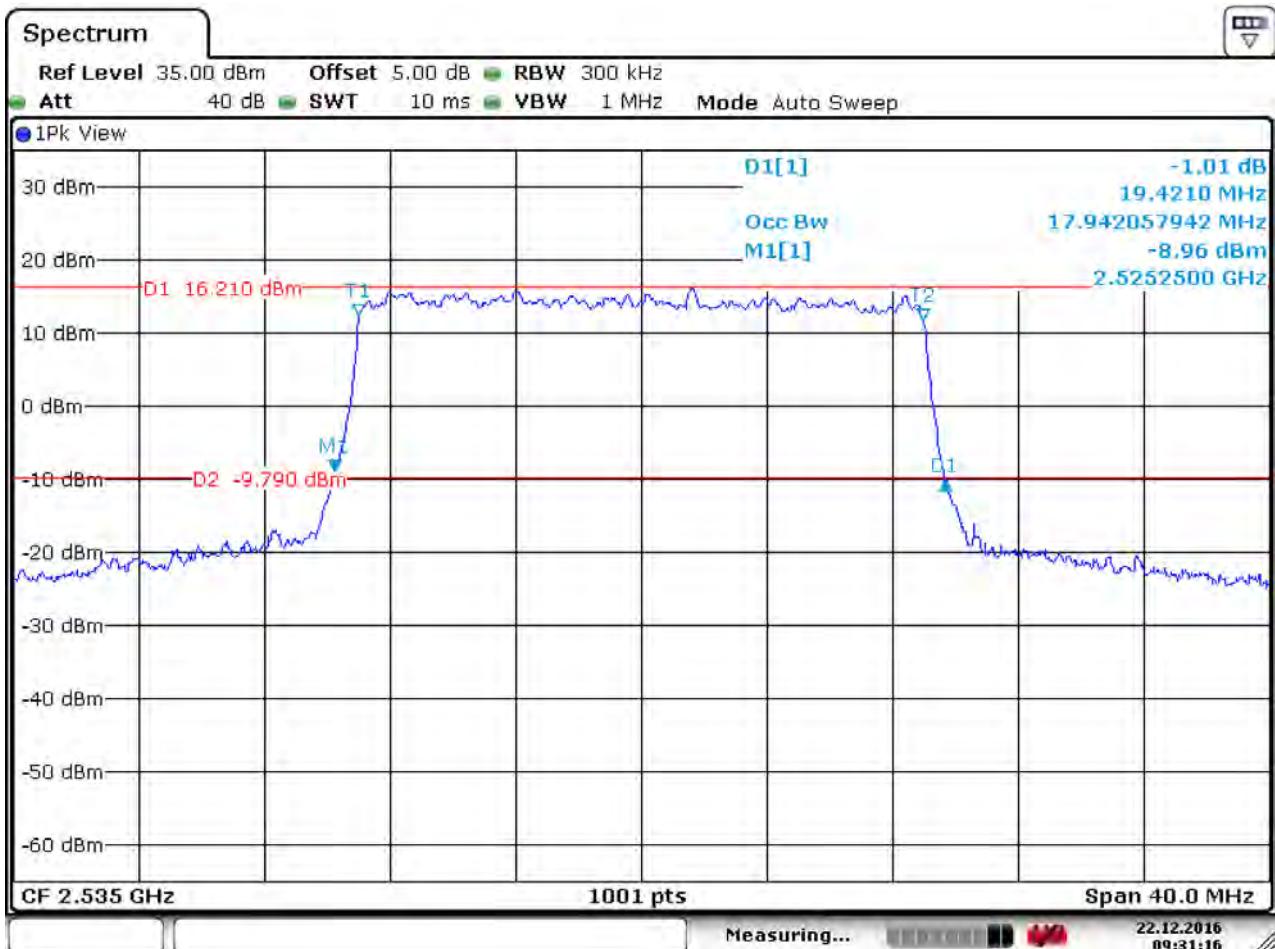
4.1.1.7.1 Test Channel = LCH



Date: 22.DEC.2016 09:35:19

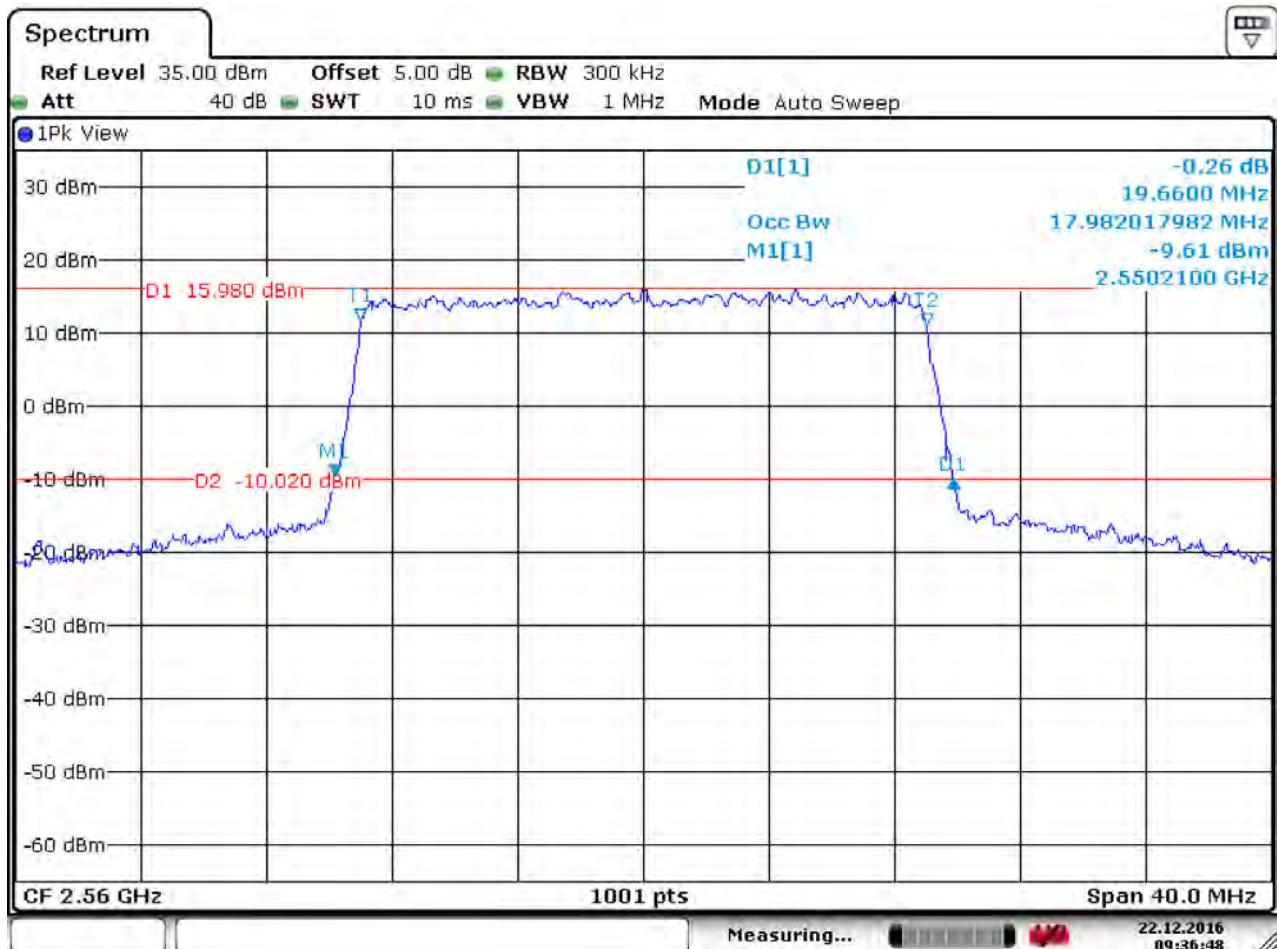
22.12.2016
09:35:19

4.1.1.7.2 Test Channel = MCH



Date: 22.DEC.2016 09:31:16

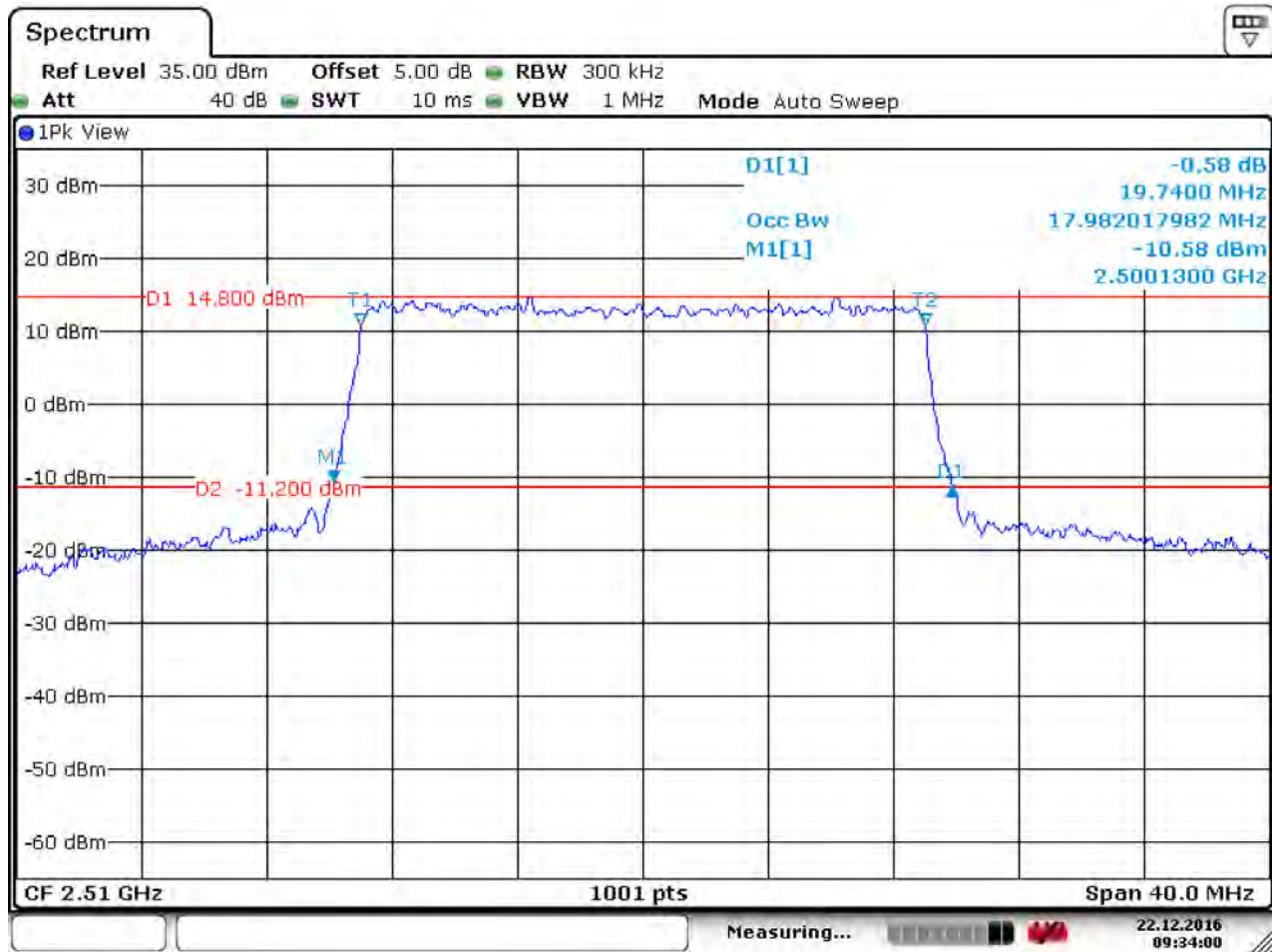
4.1.1.7.3 Test Channel = HCH



Date: 22.DEC.2016 09:36:49

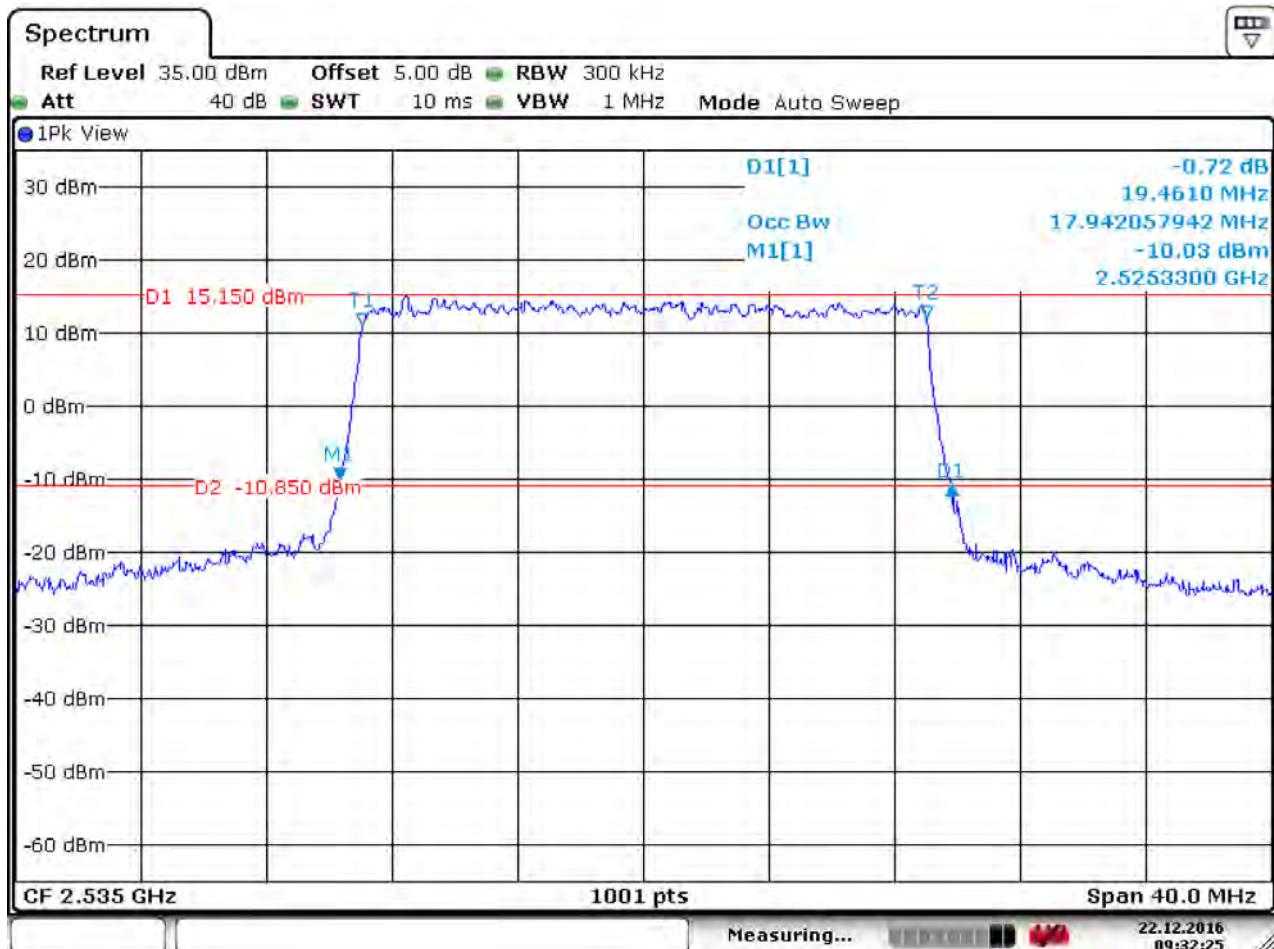
4.1.1.8 Test Mode = LTE/TM2 20MHz

4.1.1.8.1 Test Channel = LCH



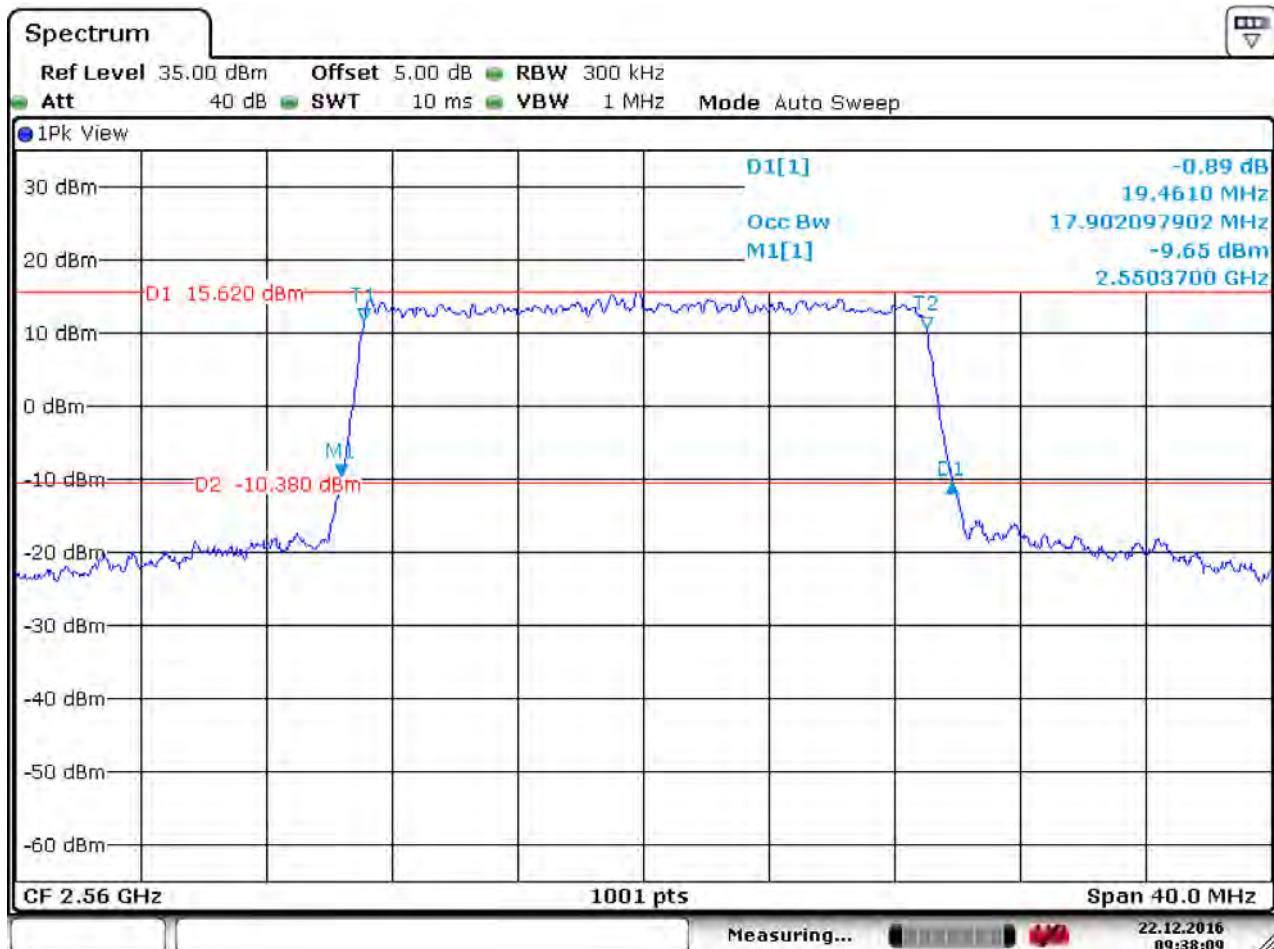
Date: 22.DEC.2016 09:34:00

4.1.1.8.2 Test Channel = MCH



Date: 22.DEC.2016 09:32:25

4.1.1.8.3 Test Channel = HCH



Date: 22.DEC.2016 09:38:10

5 Band Edges Compliance

Part I –

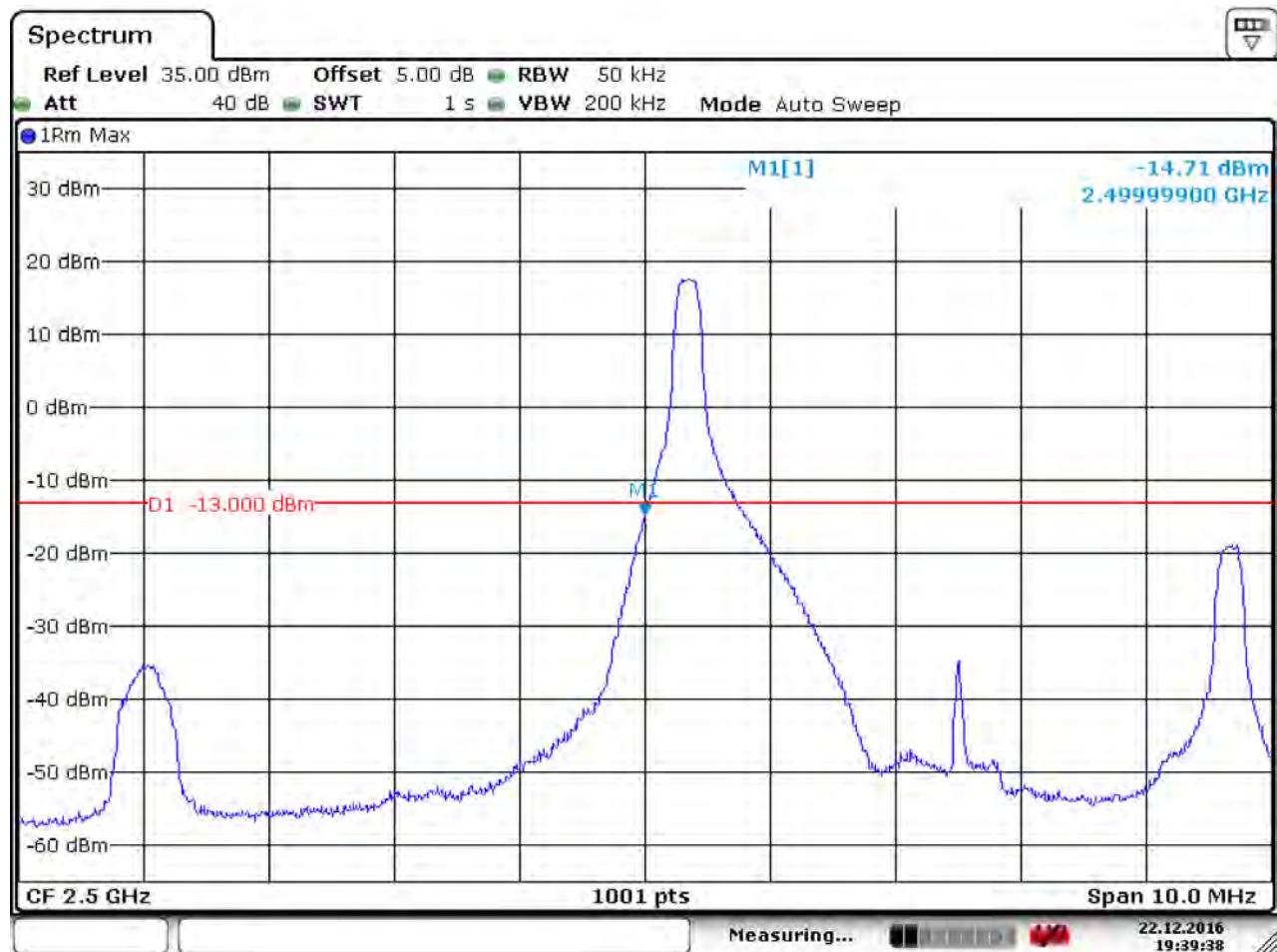
5.1 For LTE

5.1.1 Test Band = LTE band2

5.1.1.1 Test Mode = LTE/TM1 5MHz

5.1.1.1.1 Test Channel = LCH

5.1.1.1.1.1 Test RB=1RB



Date: 22.DEC.2016 19:39:38

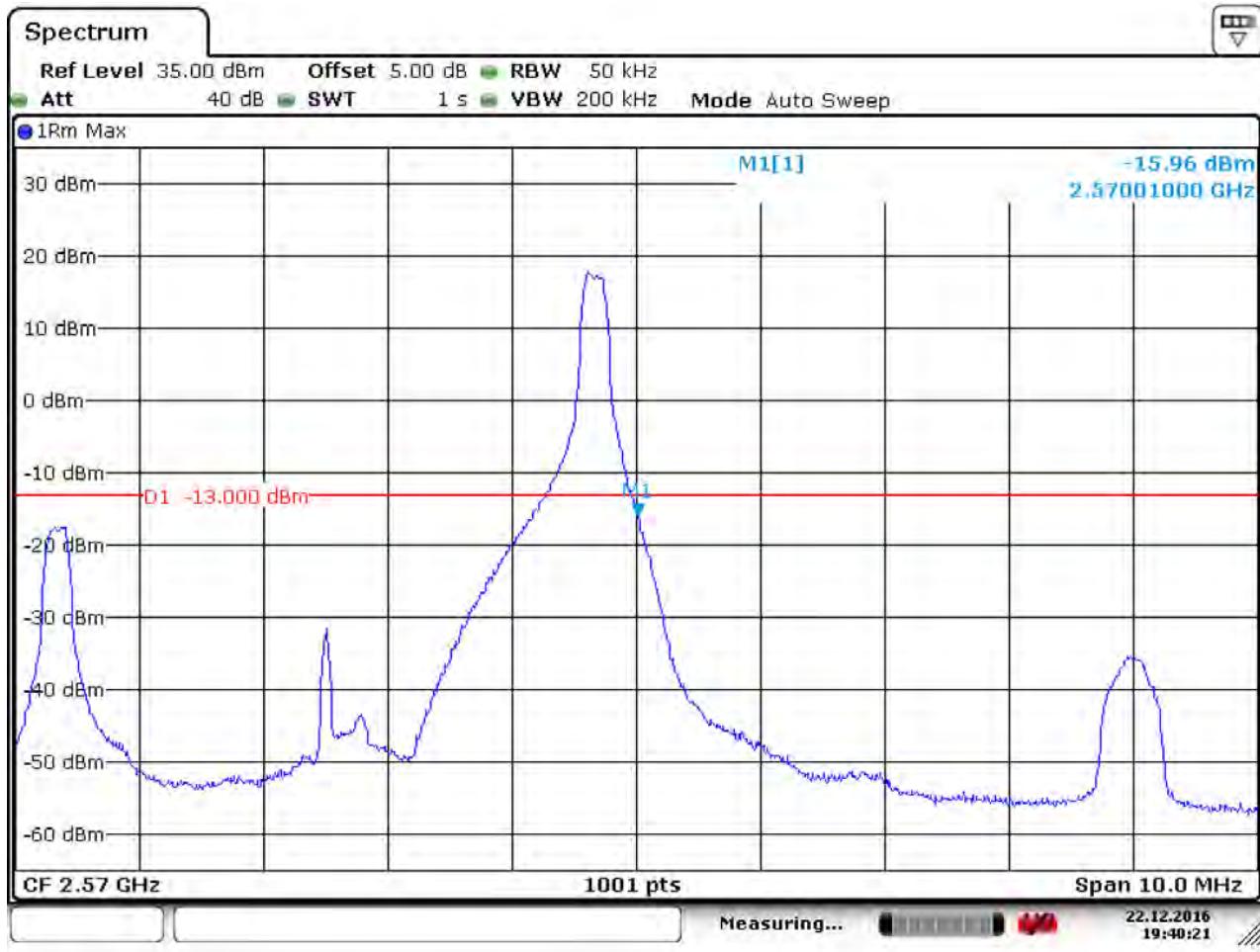
5.1.1.1.1.2 Test RB=25RB



Date: 22.DEC.2016 19:37:32

5.1.1.1.2 Test Channel = HCH

5.1.1.1.2.1 Test RB=1RB



Date: 22.DEC.2016 19:40:21

5.1.1.1.2.2 Test RB=25RB

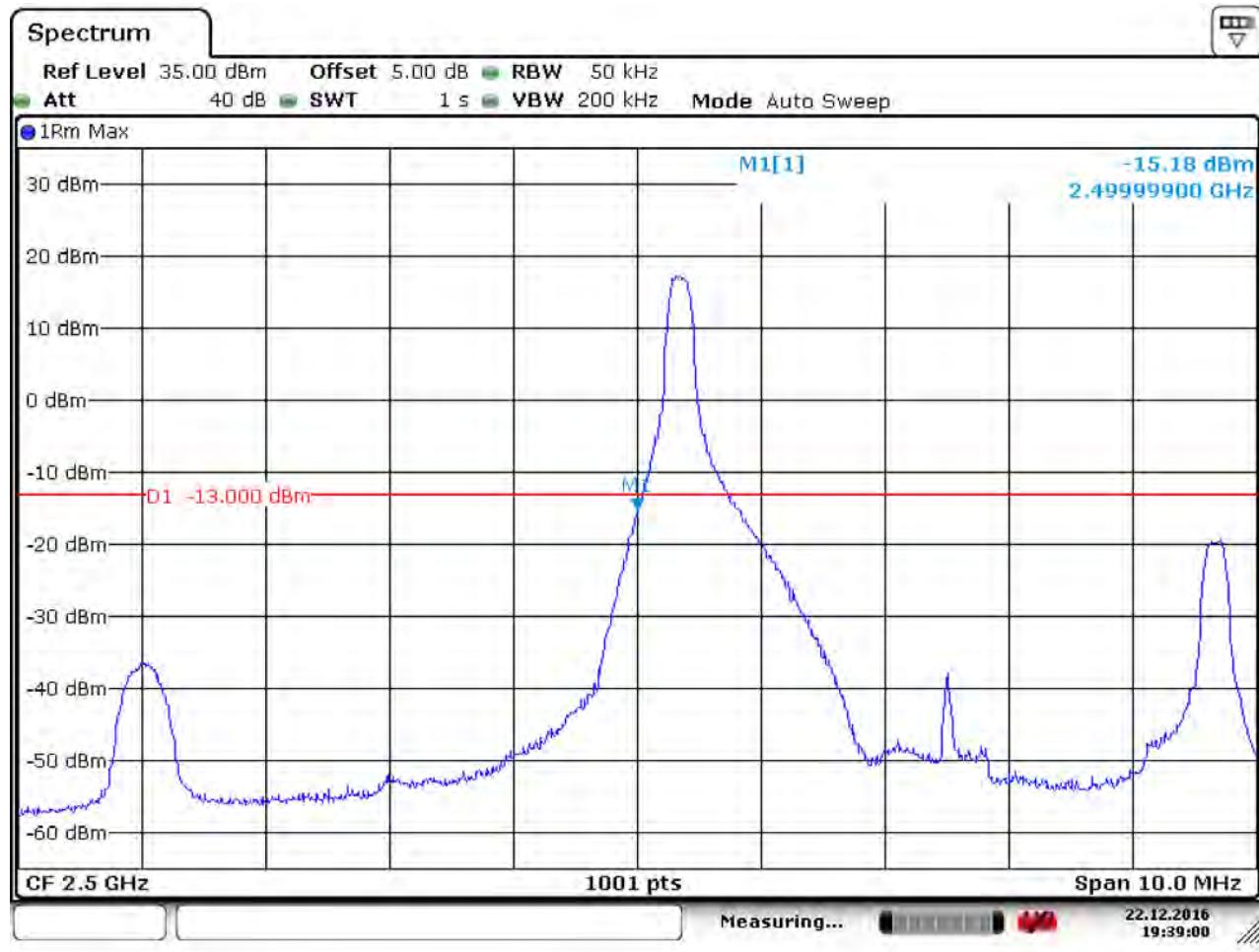


Date: 22.DEC.2016 19:41:41

5.1.1.2 Test Mode = LTE/TM2 5MHz

5.1.1.2.1 Test Channel = LCH

5.1.1.2.1.1 Test RB=1RB



Date: 22.DEC.2016 19:39:01

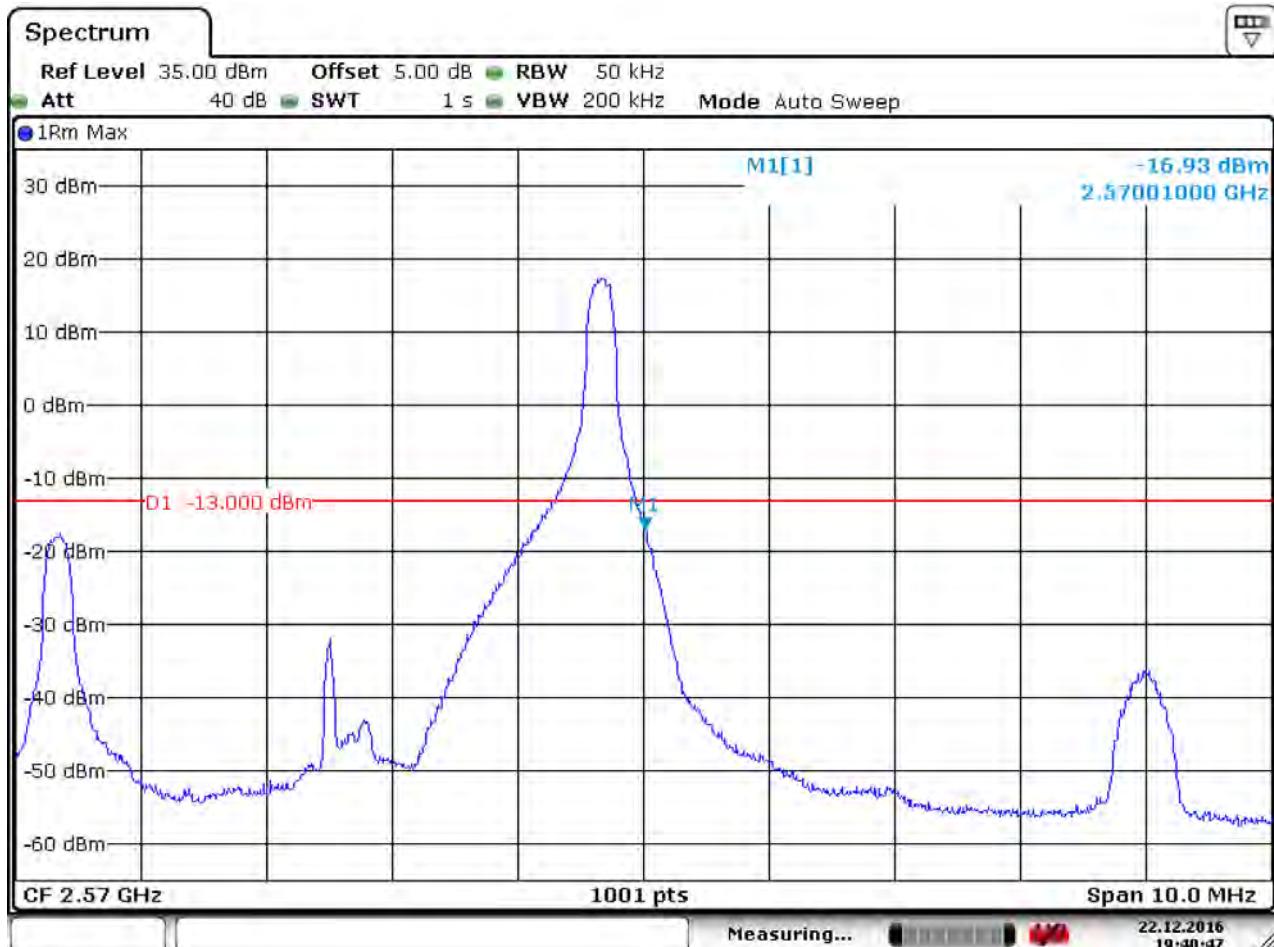
5.1.1.2.1.2 Test RB=25RB



Date: 22.DEC.2016 19:38:34

5.1.1.2.2 Test Channel = HCH

5.1.1.2.2.1 Test RB=1RB



Date: 22.DEC.2016 19:40:47

5.1.1.2.2.2 Test RB=25RB

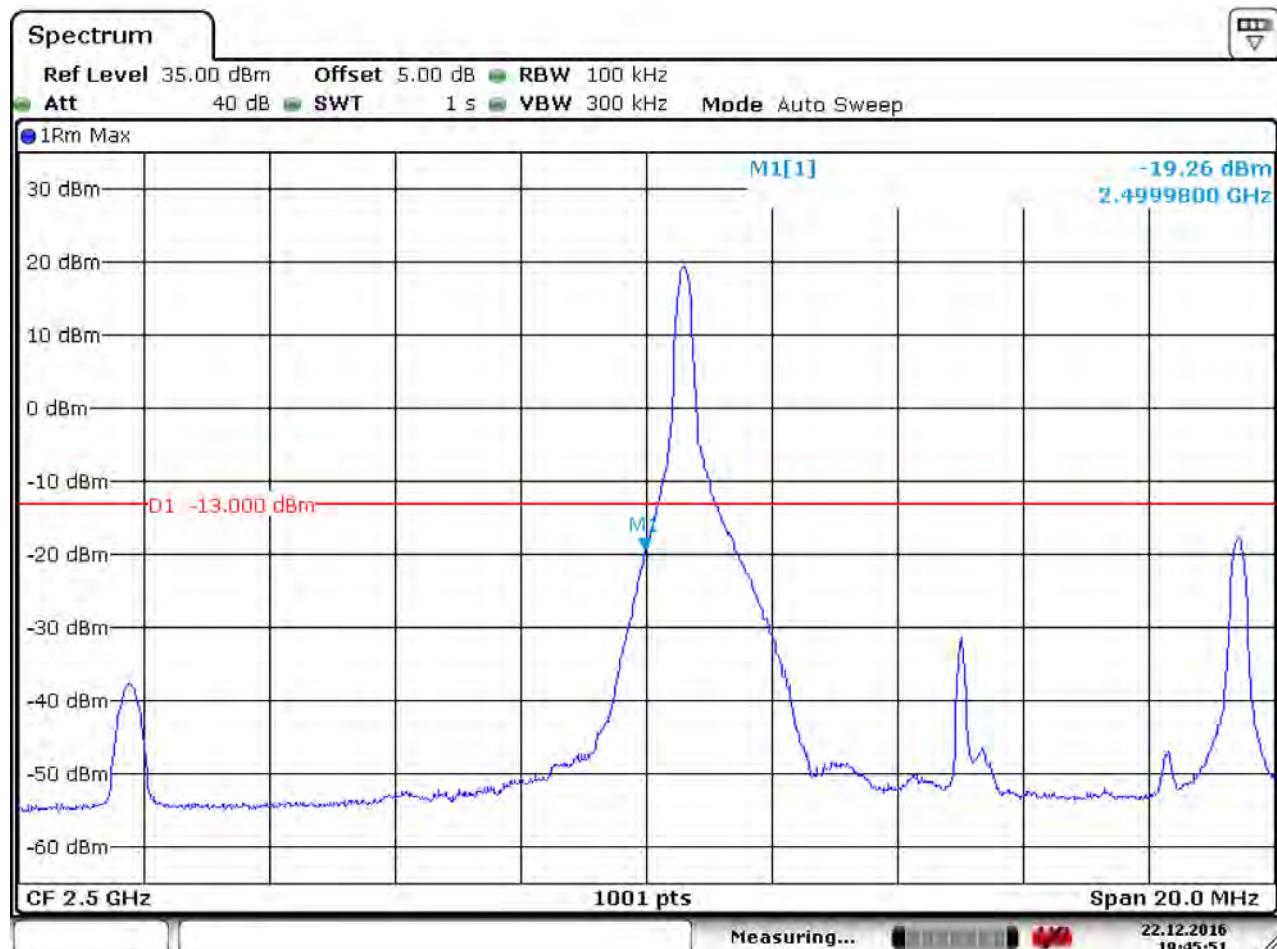


Date: 22.DEC.2016 19:41:17

5.1.1.3 Test Mode = LTE/TM1 10MHz

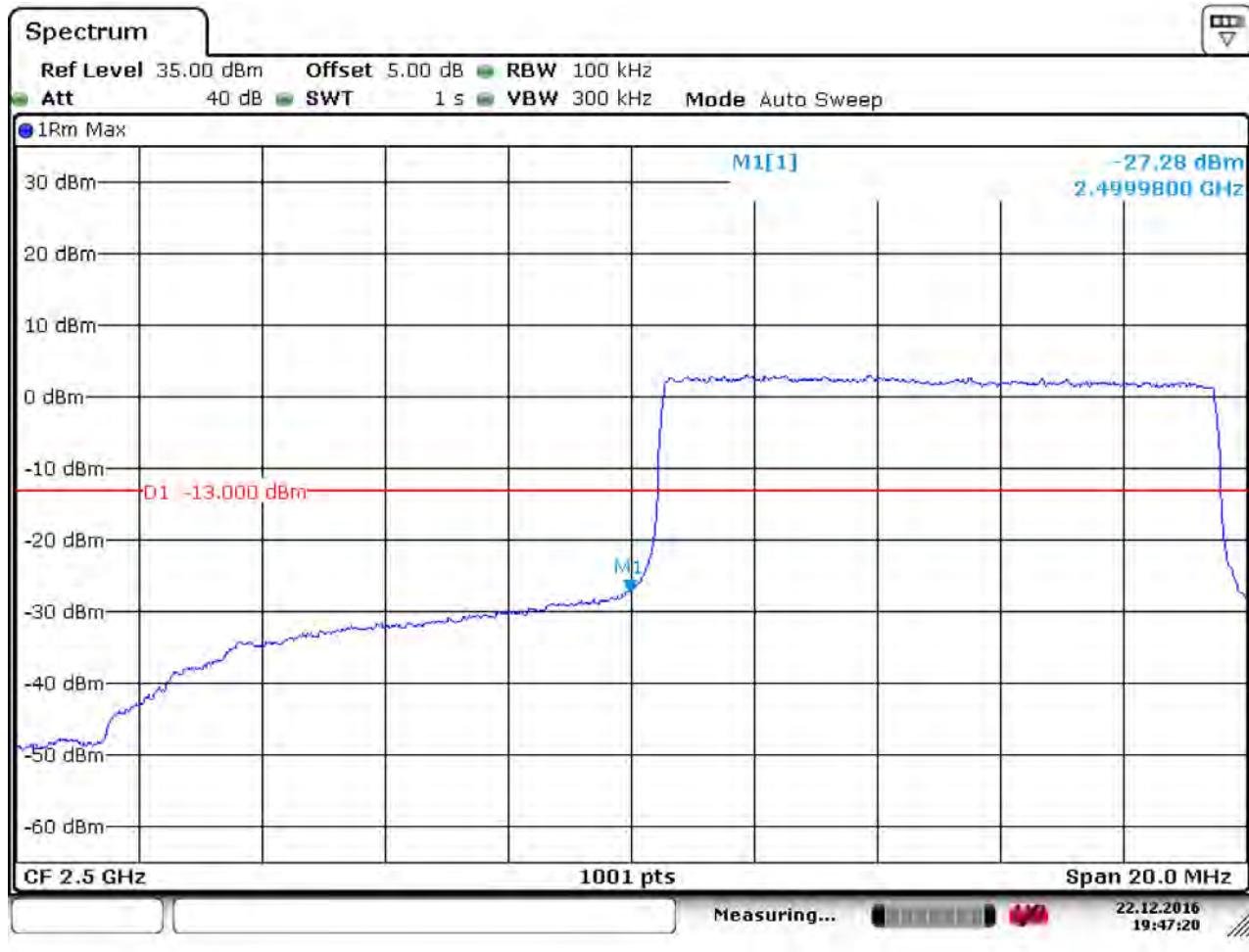
5.1.1.3.1 Test Channel = LCH

5.1.1.3.1.1 Test RB=1RB



Date: 22.DEC.2016 19:45:51

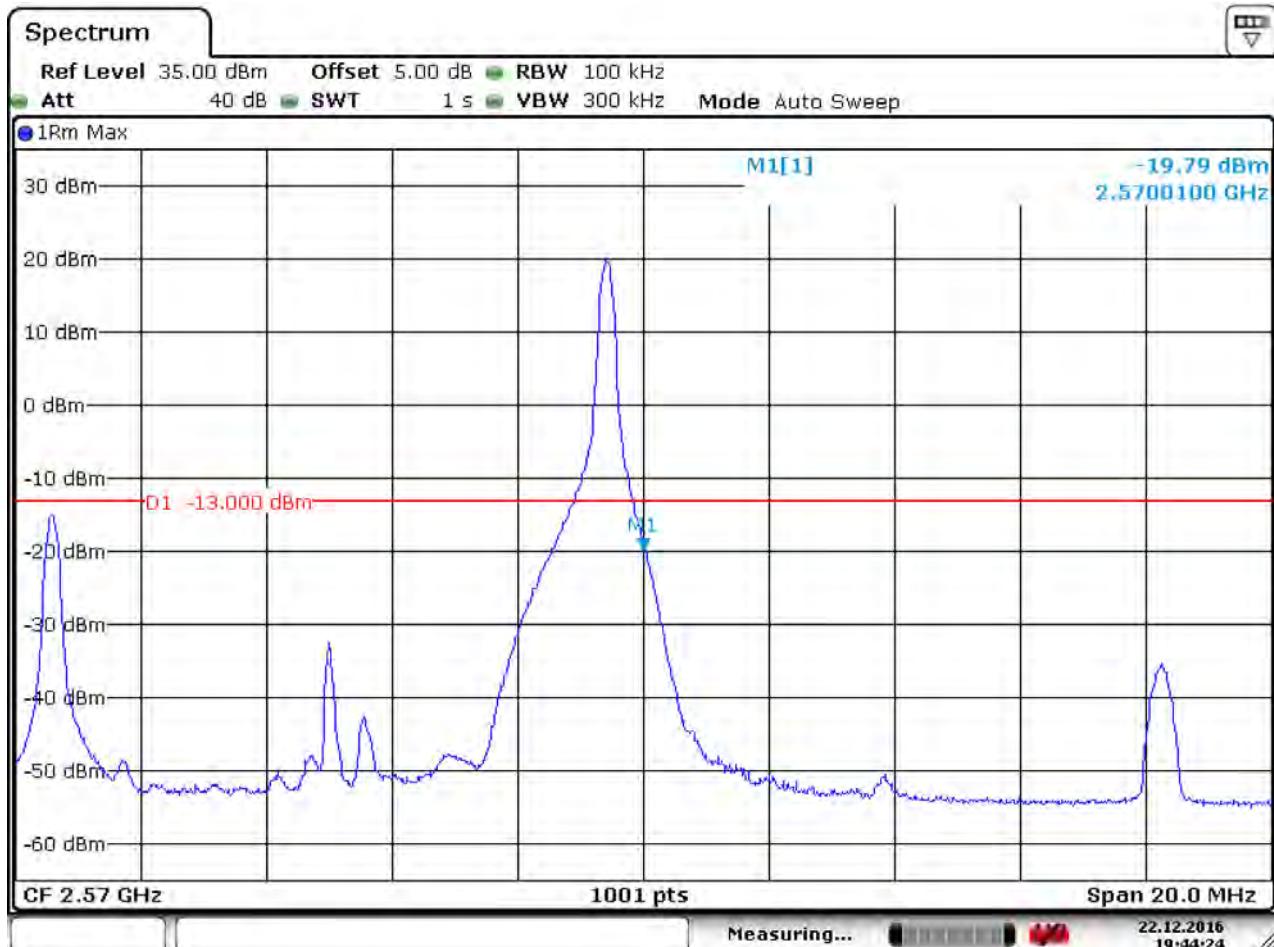
5.1.1.3.1.2 Test RB=50RB



Date: 22.DEC.2016 19:47:21

5.1.1.3.2 Test Channel = HCH

5.1.1.3.2.1 Test RB=1RB



Date: 22.DEC.2016 19:44:24

5.1.1.3.2.2 Test RB=50RB

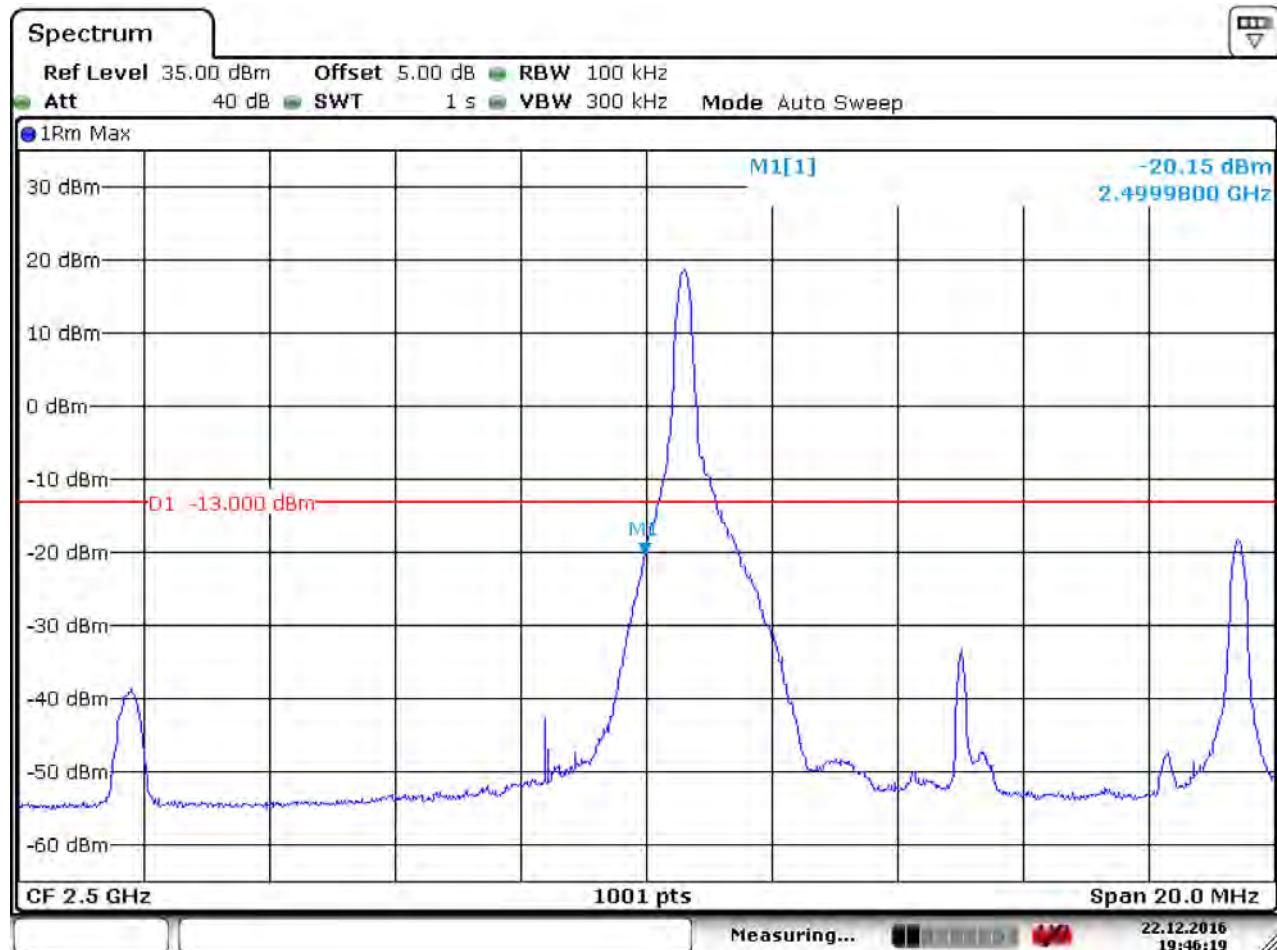


Date: 22.DEC.2016 19:42:37

5.1.1.4 Test Mode = LTE/TM2 10MHz

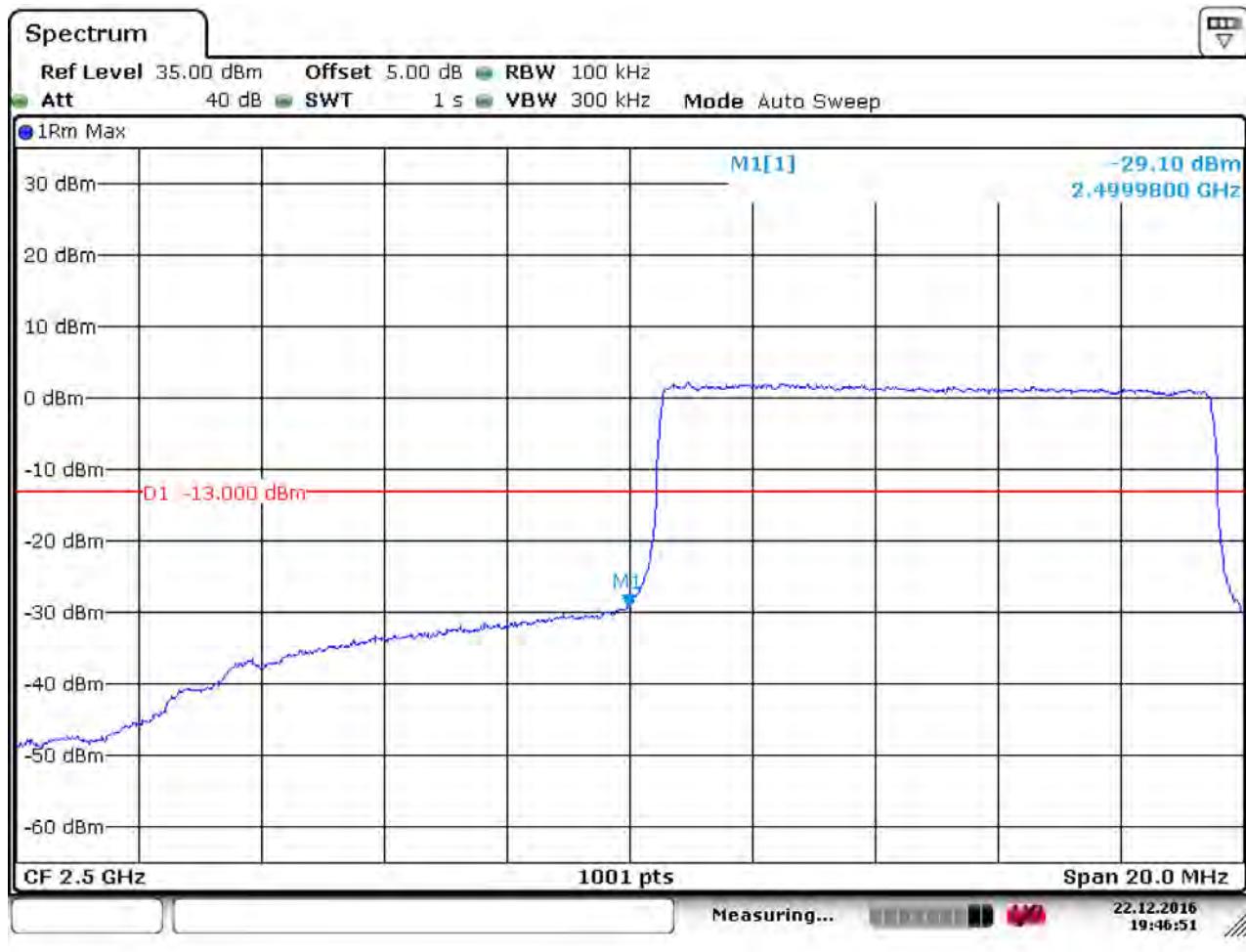
5.1.1.4.1 Test Channel = LCH

5.1.1.4.1.1 Test RB=1RB



Date: 22.DEC.2016 19:46:20

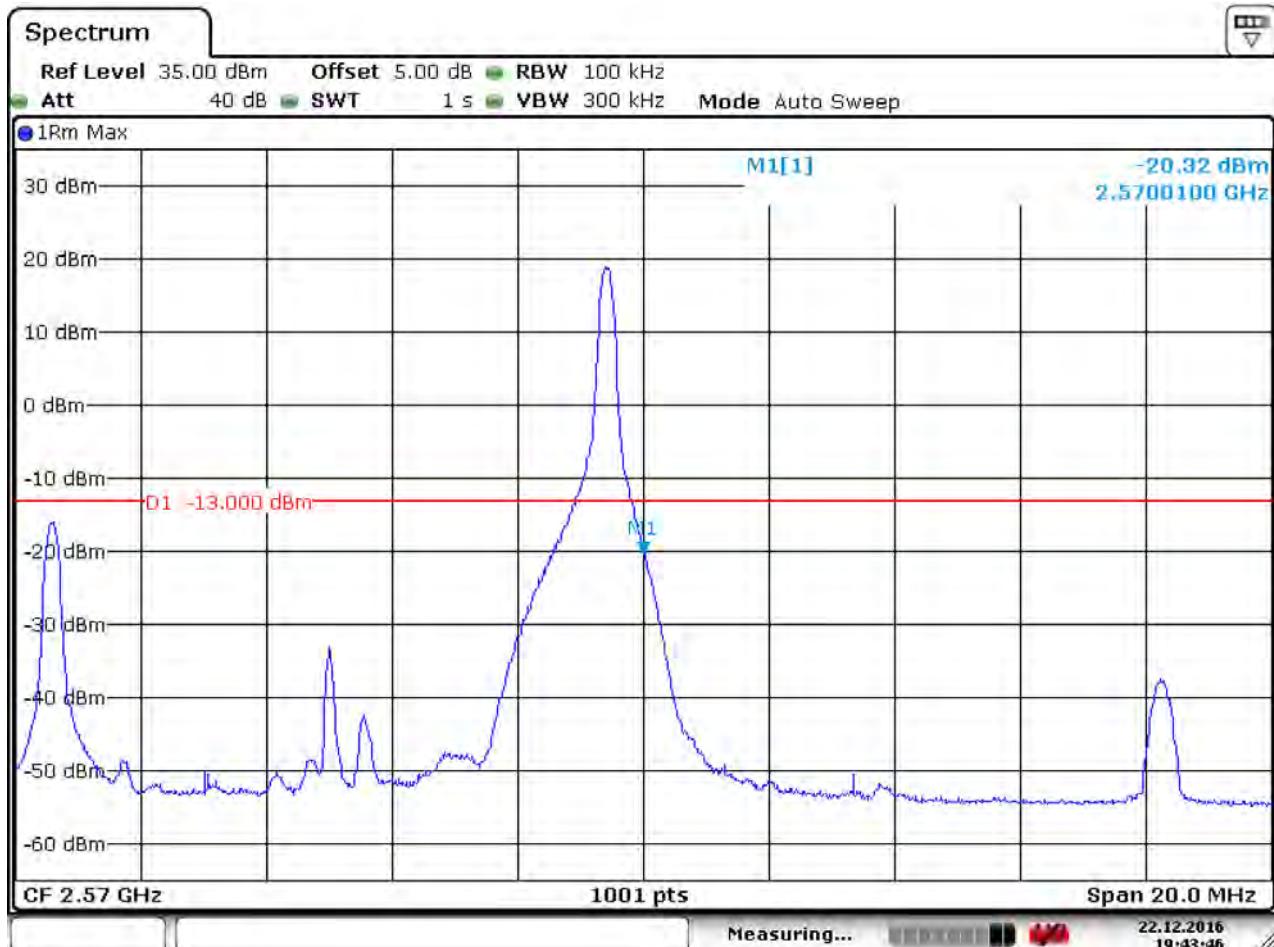
5.1.1.4.1.2 Test RB=50RB



Date: 22.DEC.2016 19:46:52

5.1.1.4.2 Test Channel = HCH

5.1.1.4.2.1 Test RB=1RB



Date: 22.DEC.2016 19:43:47

5.1.1.4.2.2 Test RB=50RB

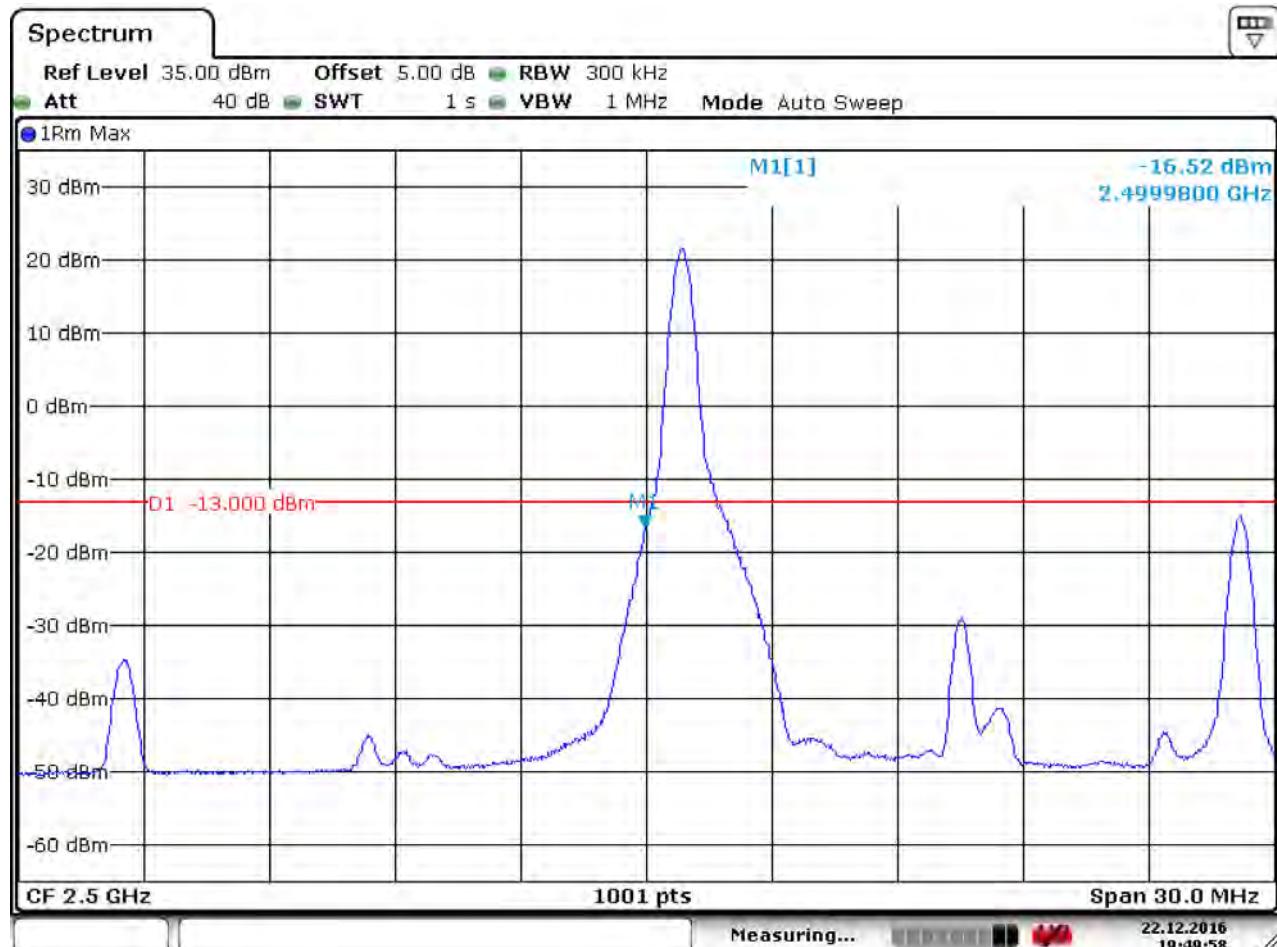


Date: 22.DEC.2016 19:43:13

5.1.1.5 Test Mode = LTE/TM1 15MHz

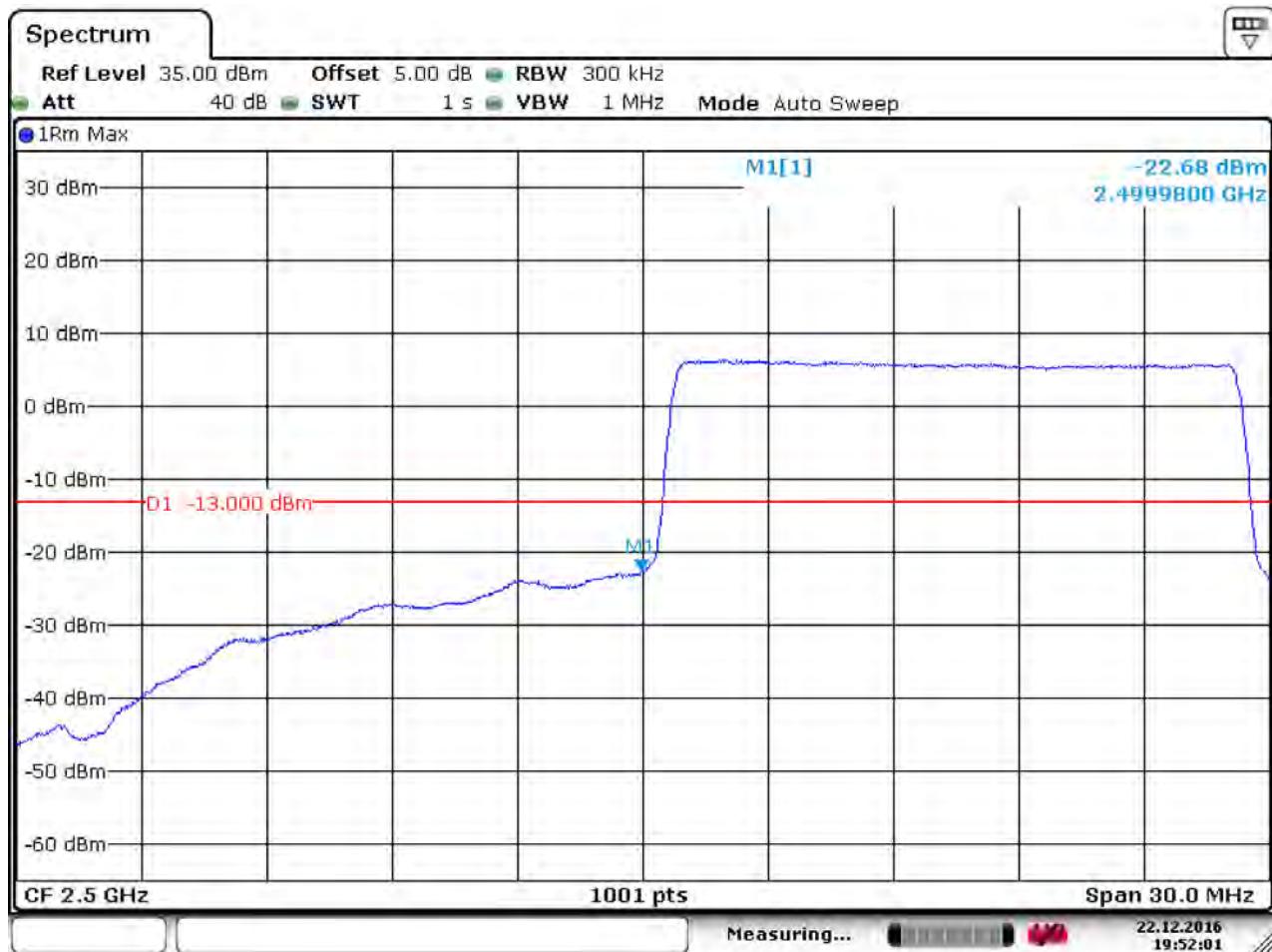
5.1.1.5.1 Test Channel = LCH

5.1.1.5.1.1 Test RB=1RB



Date: 22.DEC.2016 19:49:59

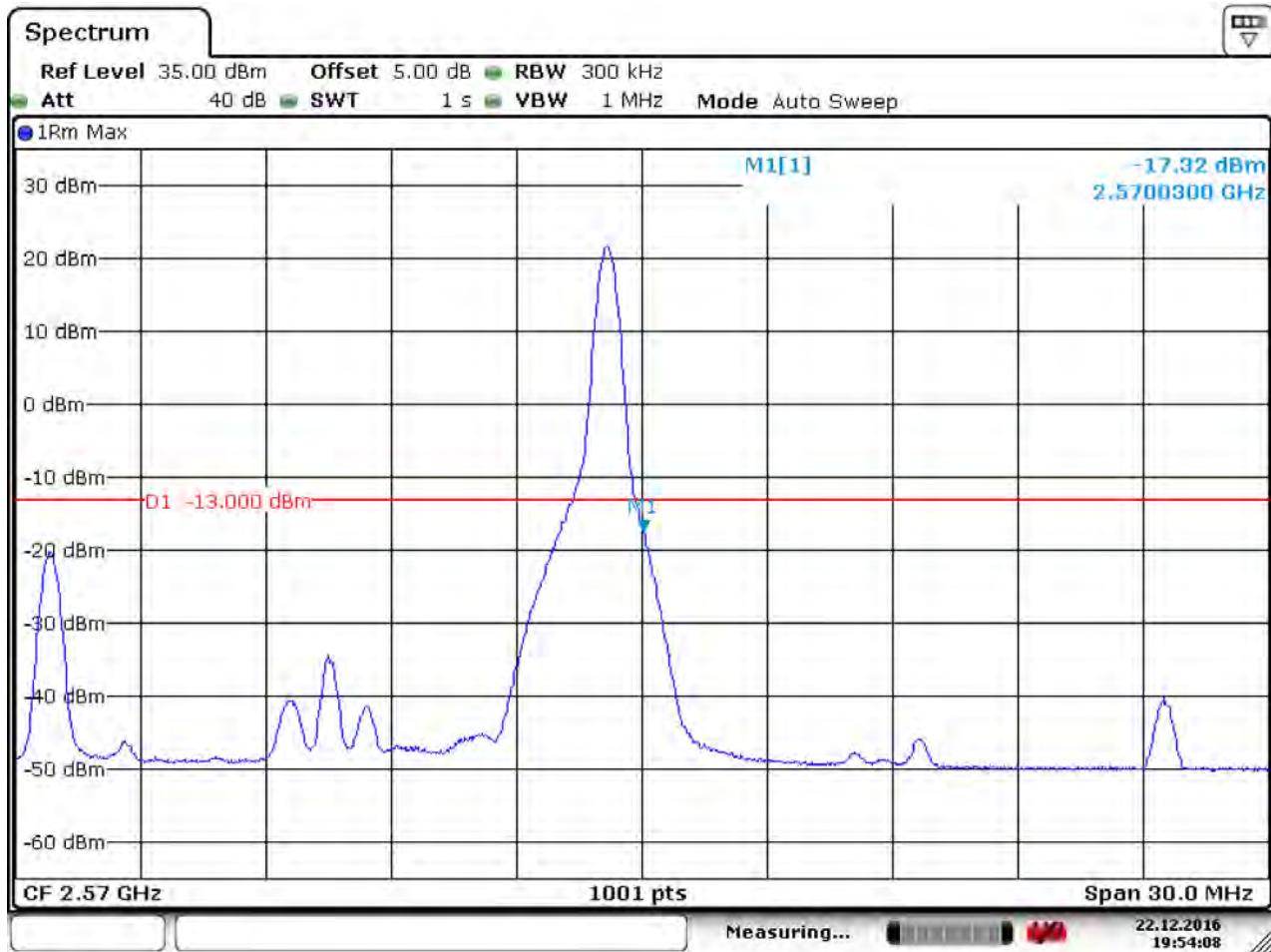
5.1.1.5.1.2 Test RB=75RB



Date: 22.DEC.2016 19:52:02

5.1.1.5.2 Test Channel = HCH

5.1.1.5.2.1 Test RB=1RB

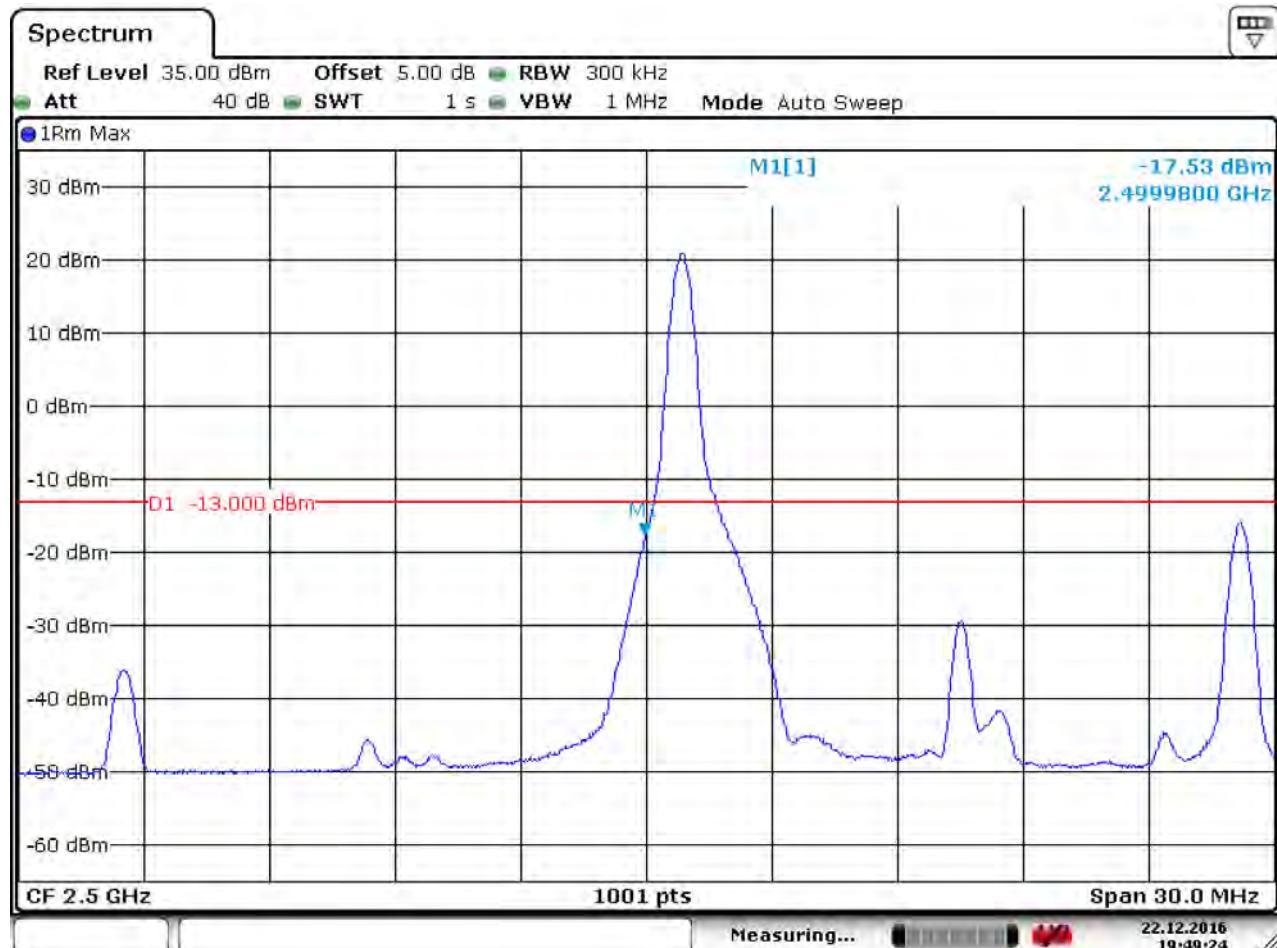


Date: 22.DEC.2016 19:54:08

5.1.1.5.2.2 Test RB=75RB



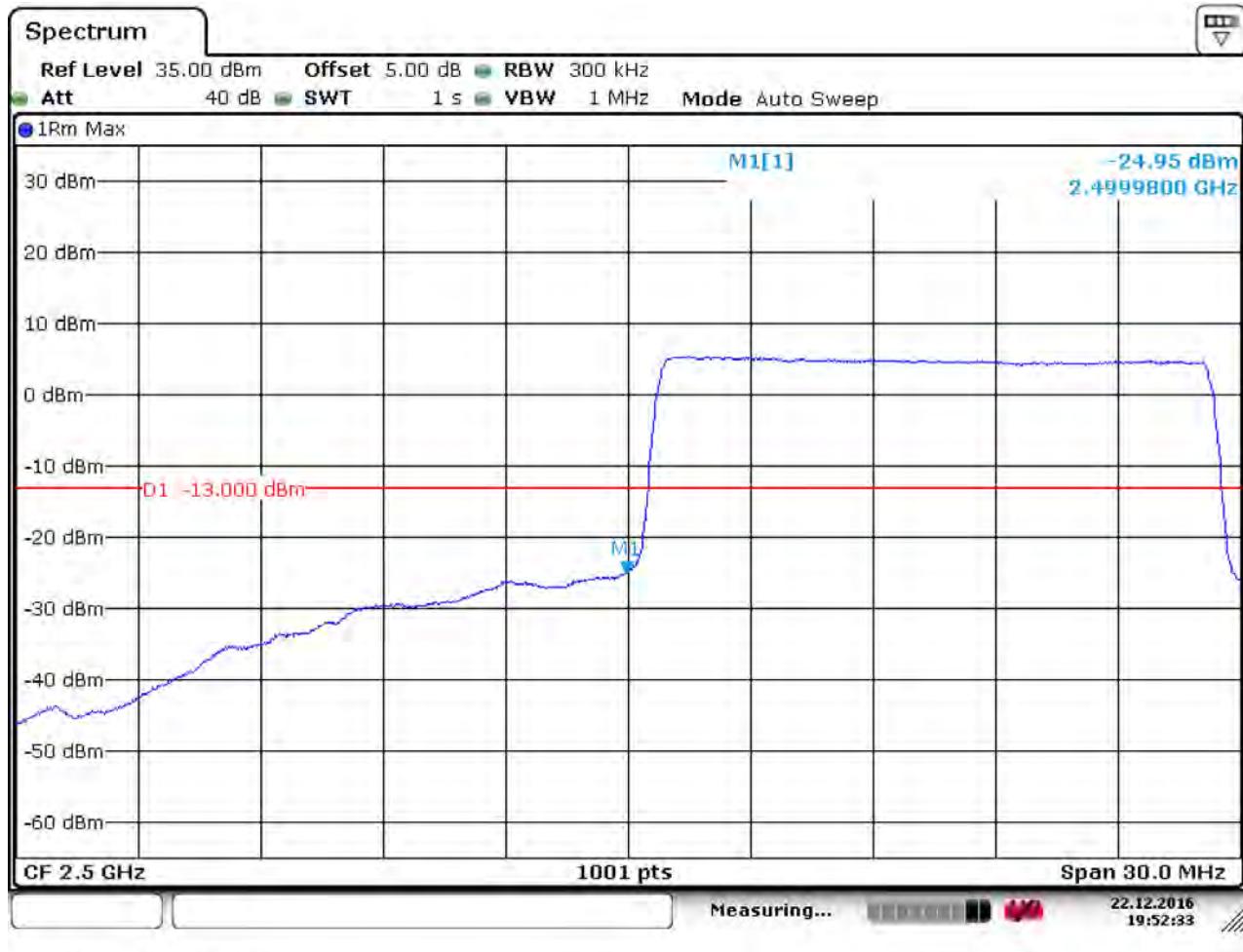
Date: 22.DEC.2016 19:53:41

5.1.1.6 Test Mode = LTE/TM2 15MHz**5.1.1.6.1 Test Channel = LCH****5.1.1.6.1.1 Test RB=1RB**

Date: 22.DEC.2016 19:49:25

22.12.2016
19:49:24

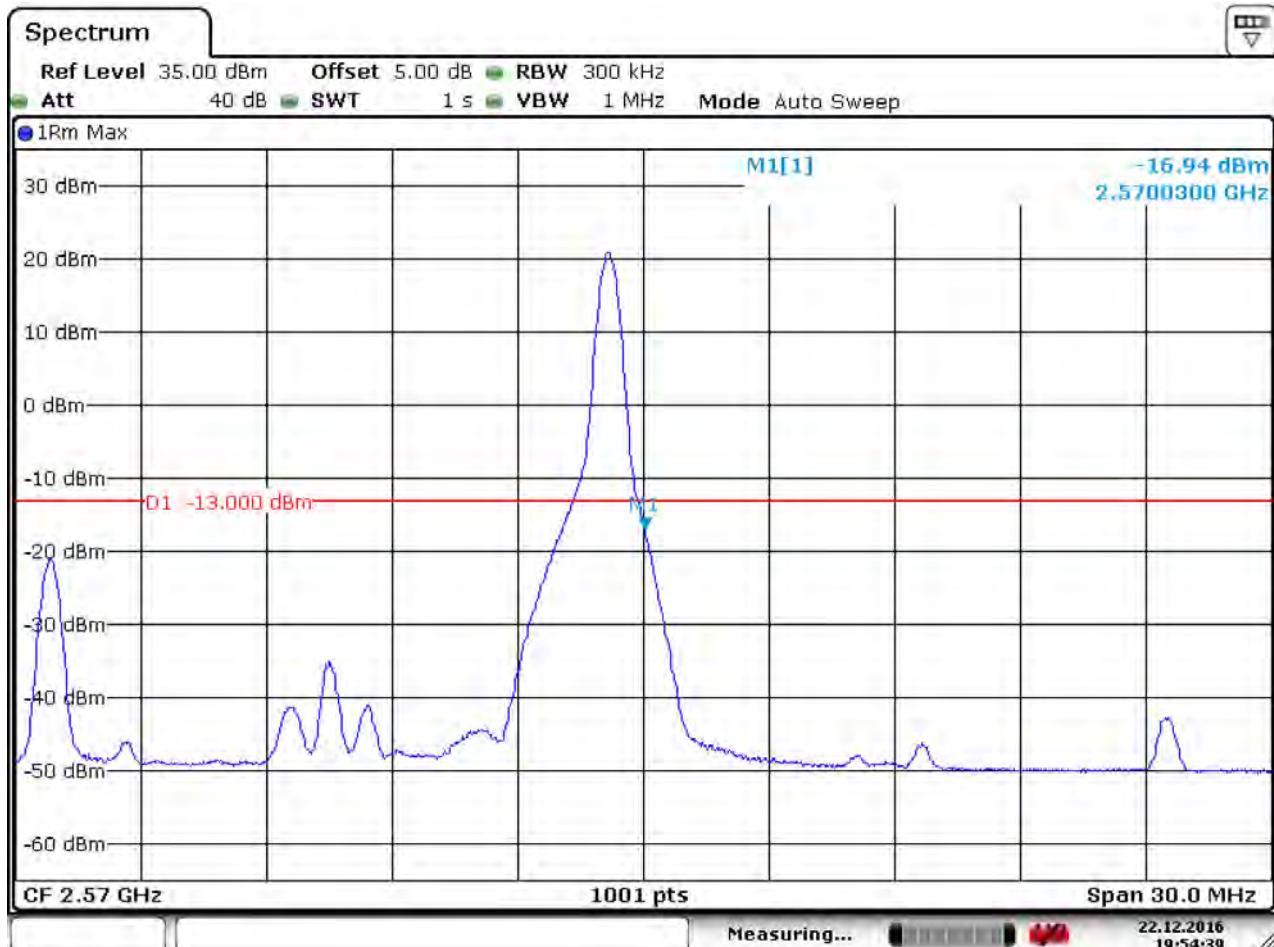
5.1.1.6.1.2 Test RB=75RB



Date: 22.DEC.2016 19:52:33

5.1.1.6.2 Test Channel = HCH

5.1.1.6.2.1 Test RB=1RB

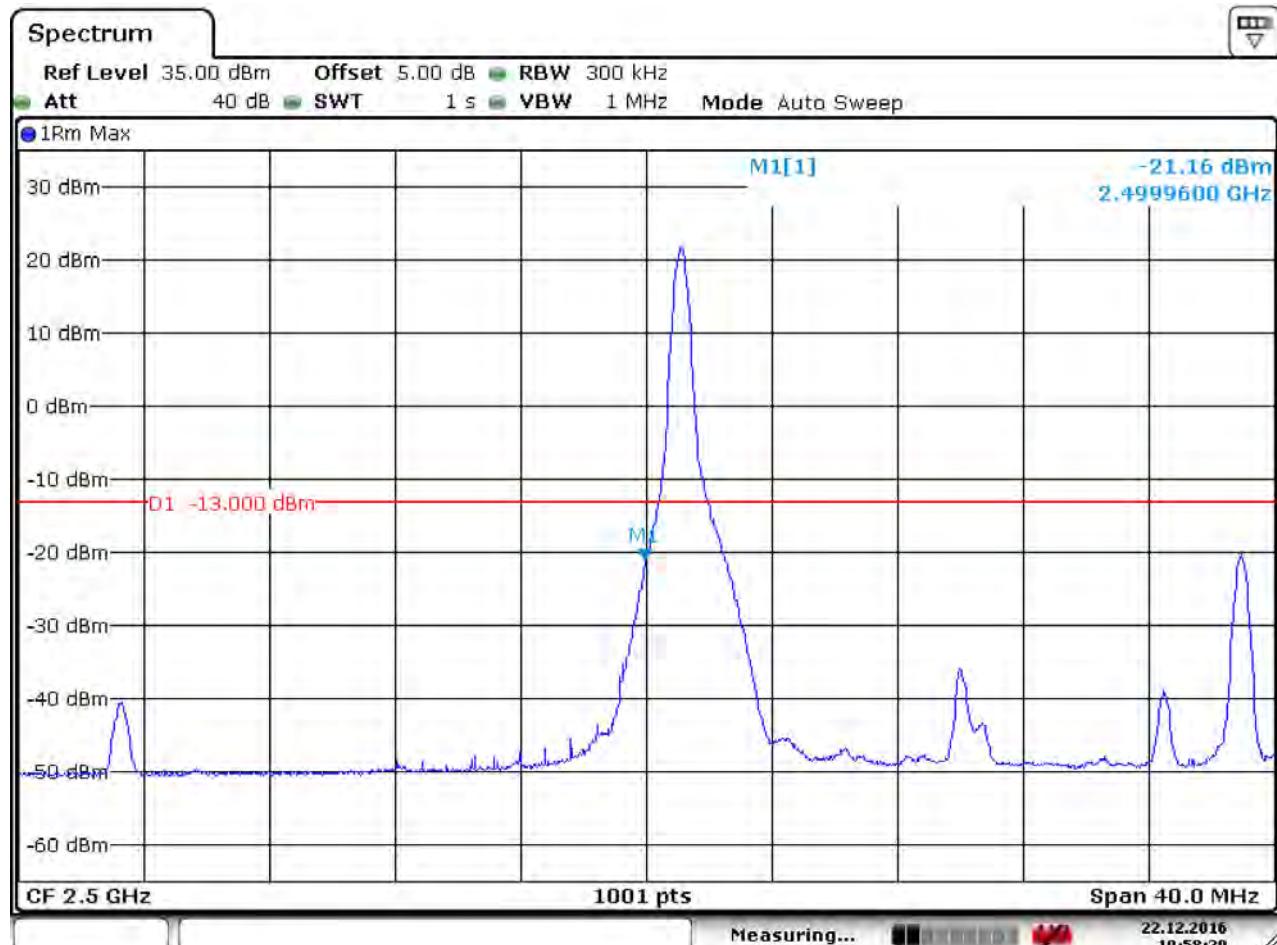


Date: 22.DEC.2016 19:54:40

5.1.1.6.2.2 Test RB=75RB



Date: 22.DEC.2016 19:53:16

5.1.1.7 Test Mode = LTE/TM1 20MHz**5.1.1.7.1 Test Channel = LCH****5.1.1.7.1.1 Test RB=1RB**

Date: 22.DEC.2016 19:58:20

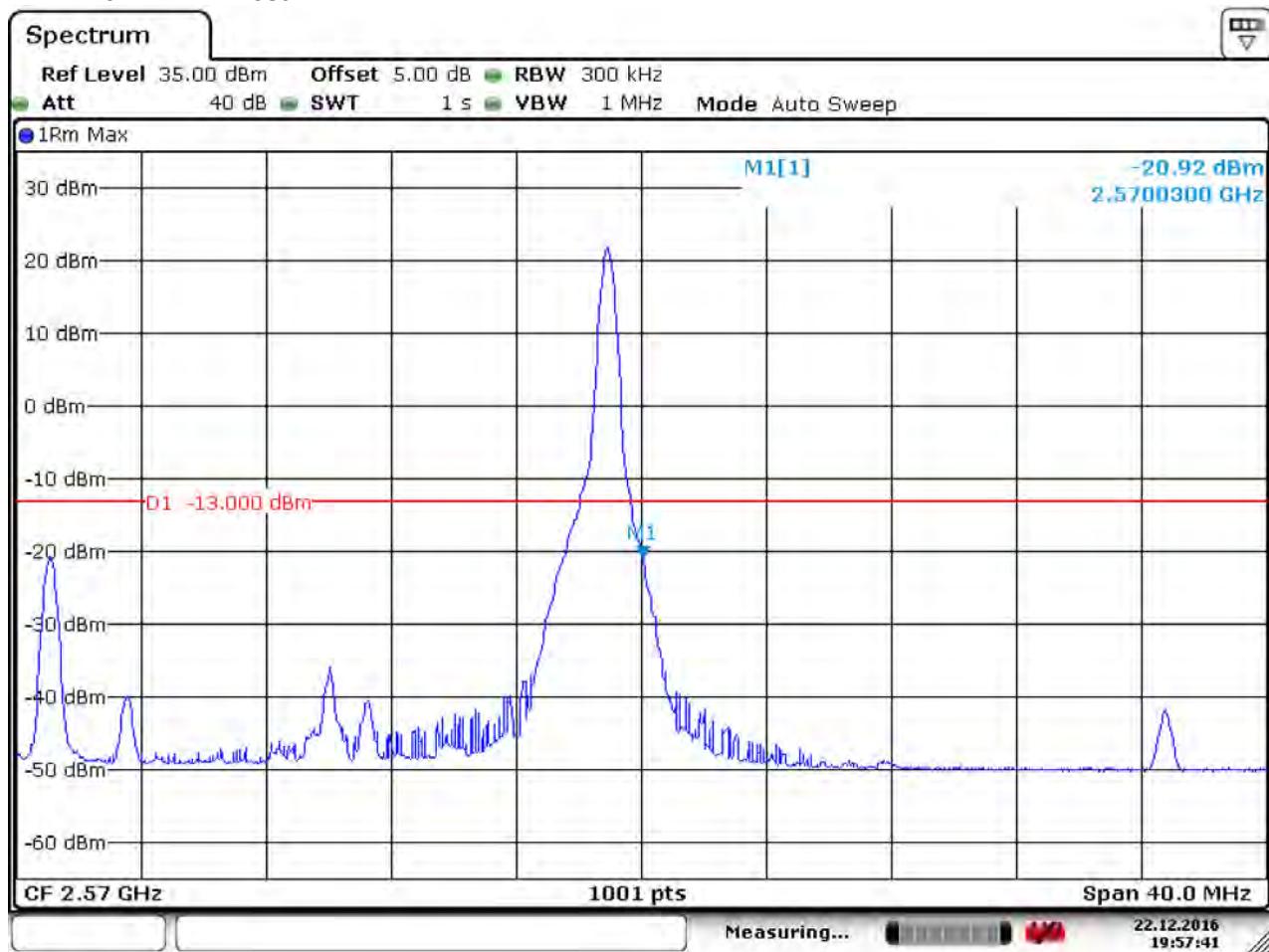
5.1.1.7.1.2 Test RB=100RB



Date: 22.DEC.2016 20:00:14

5.1.1.7.2 Test Channel = HCH

5.1.1.7.2.1 Test RB=1RB



Date: 22.DEC.2016 19:57:42

5.1.1.7.2.2 Test RB=100RB

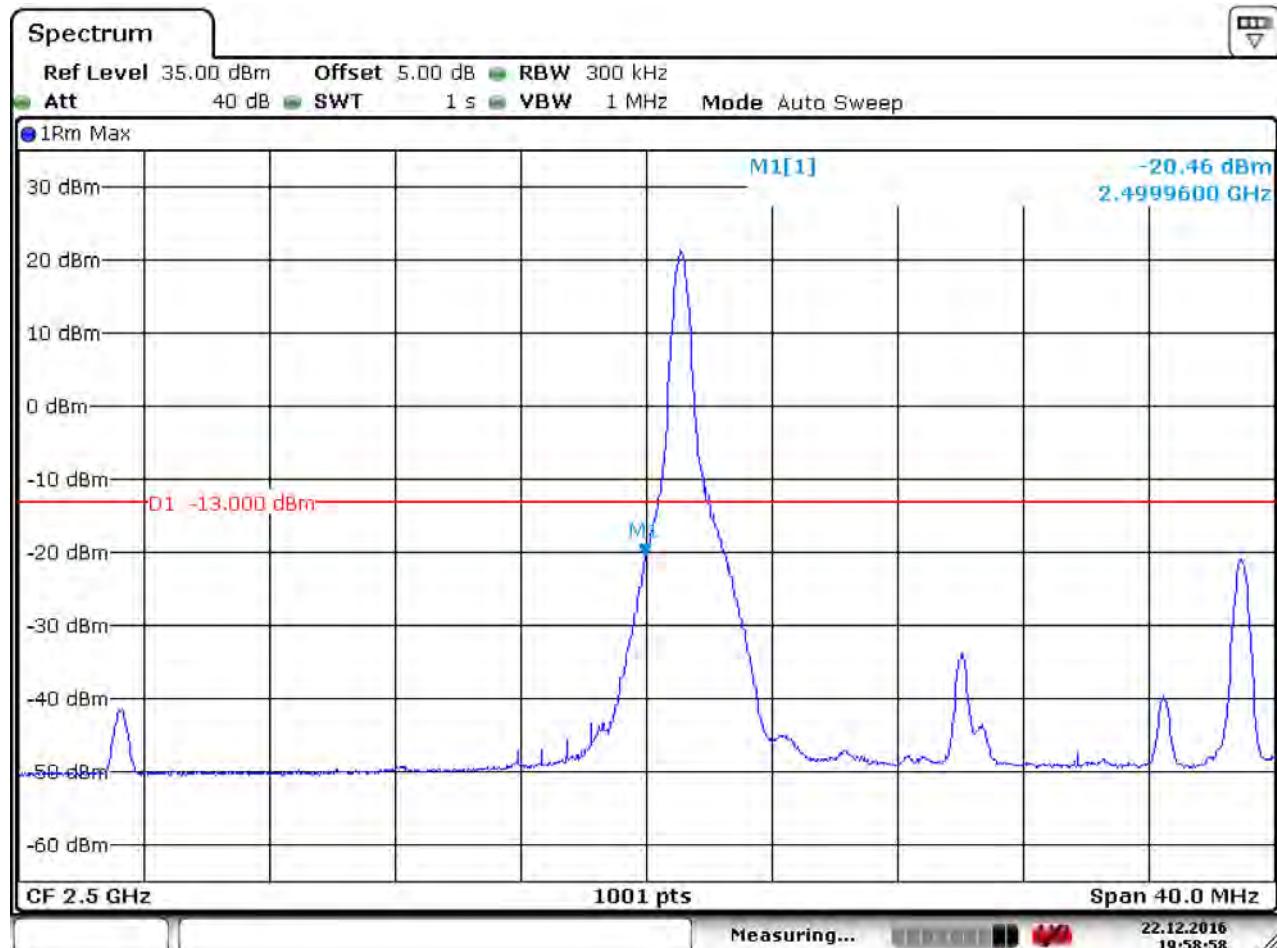


Date: 22.DEC.2016 19:55:49

5.1.1.8 Test Mode = LTE/TM2 20MHz

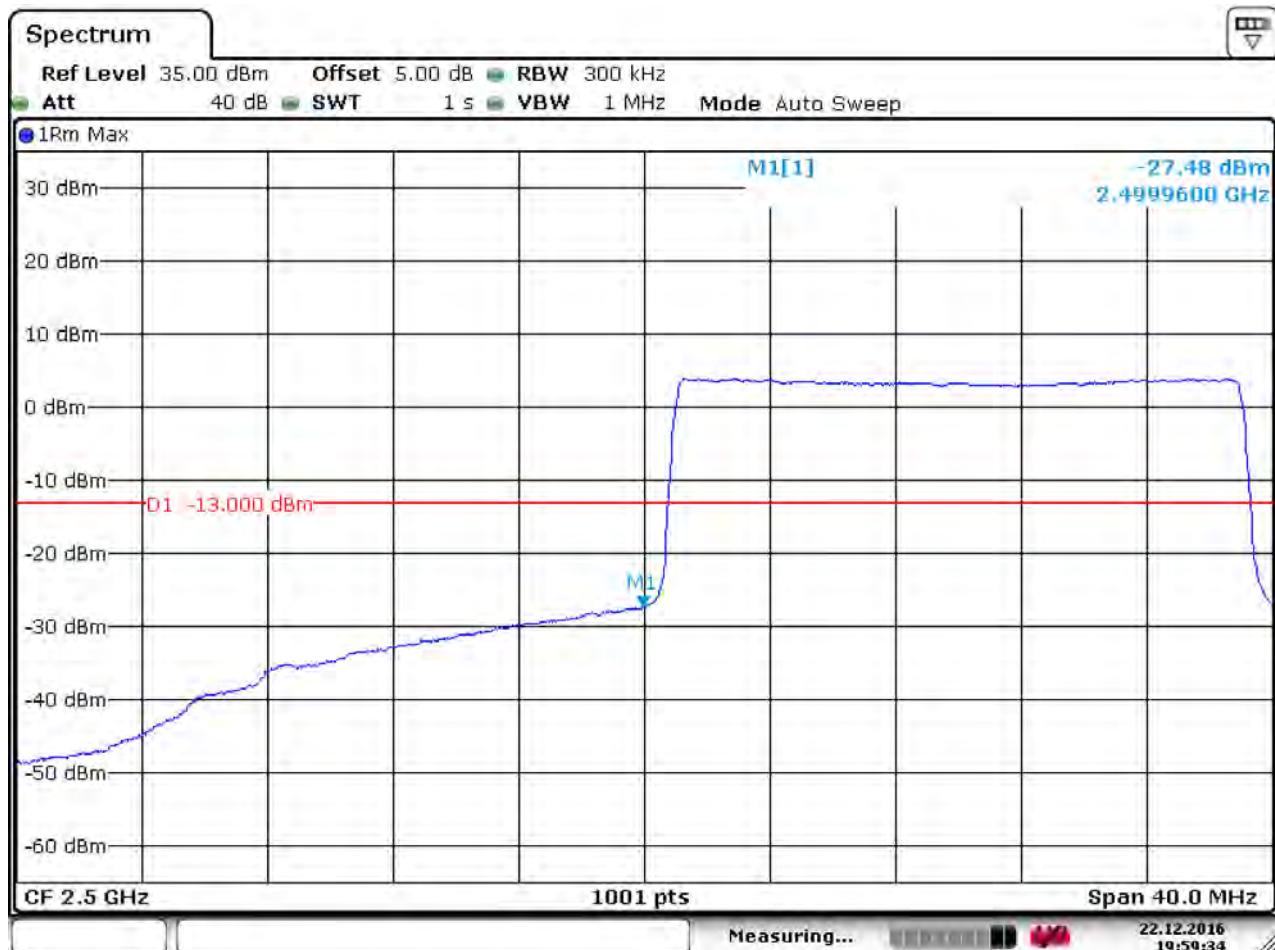
5.1.1.8.1 Test Channel = LCH

5.1.1.8.1.1 Test RB=1RB



Date: 22.DEC.2016 19:58:59

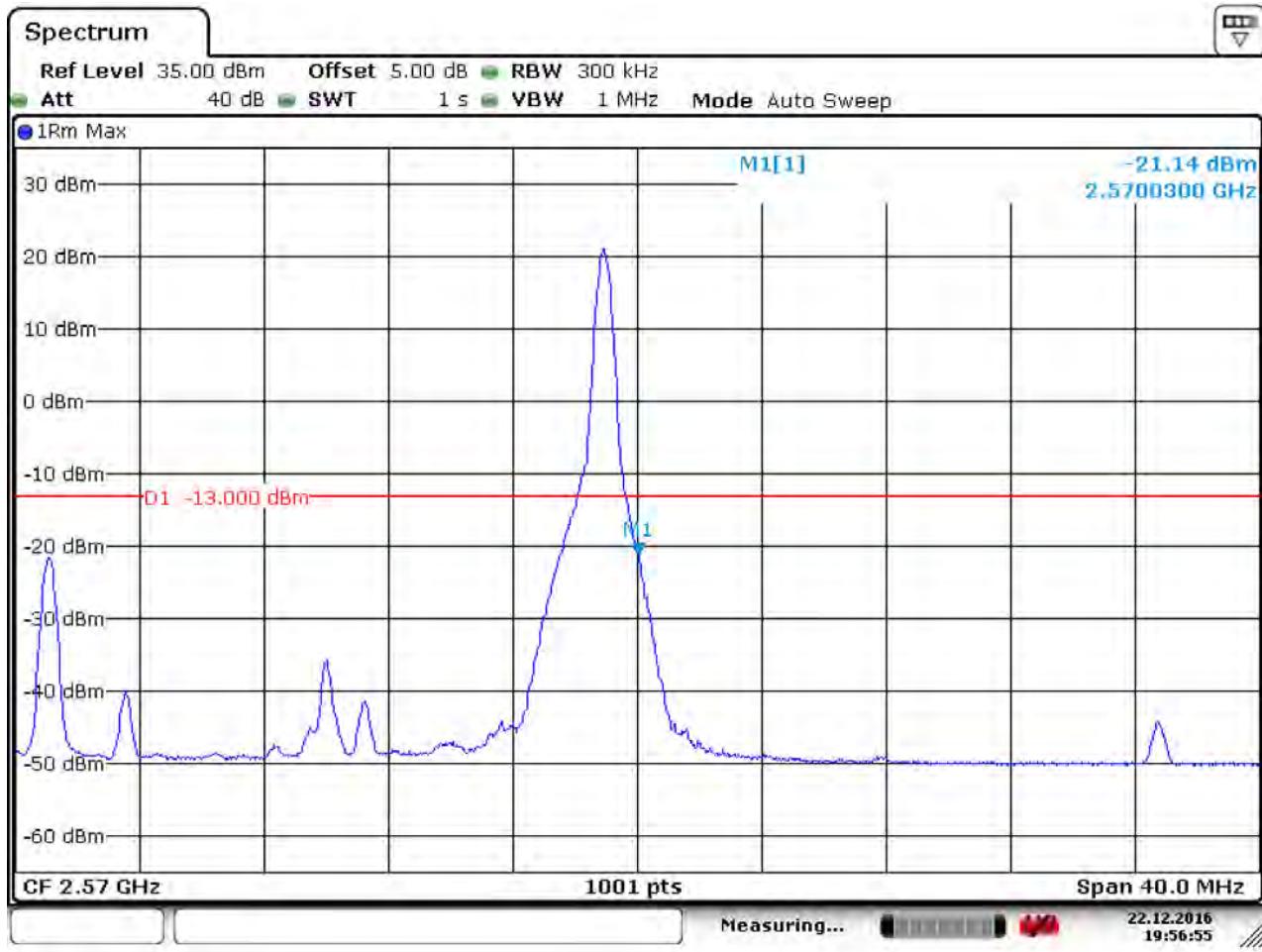
5.1.1.8.1.2 Test RB=100RB



Date: 22.DEC.2016 19:59:35

5.1.1.8.2 Test Channel = HCH

5.1.1.8.2.1 Test RB=1RB



Date: 22.DEC.2016 19:56:55

5.1.1.8.2.2 Test RB=100RB



Date: 22.DEC.2016 19:56:25

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 * (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

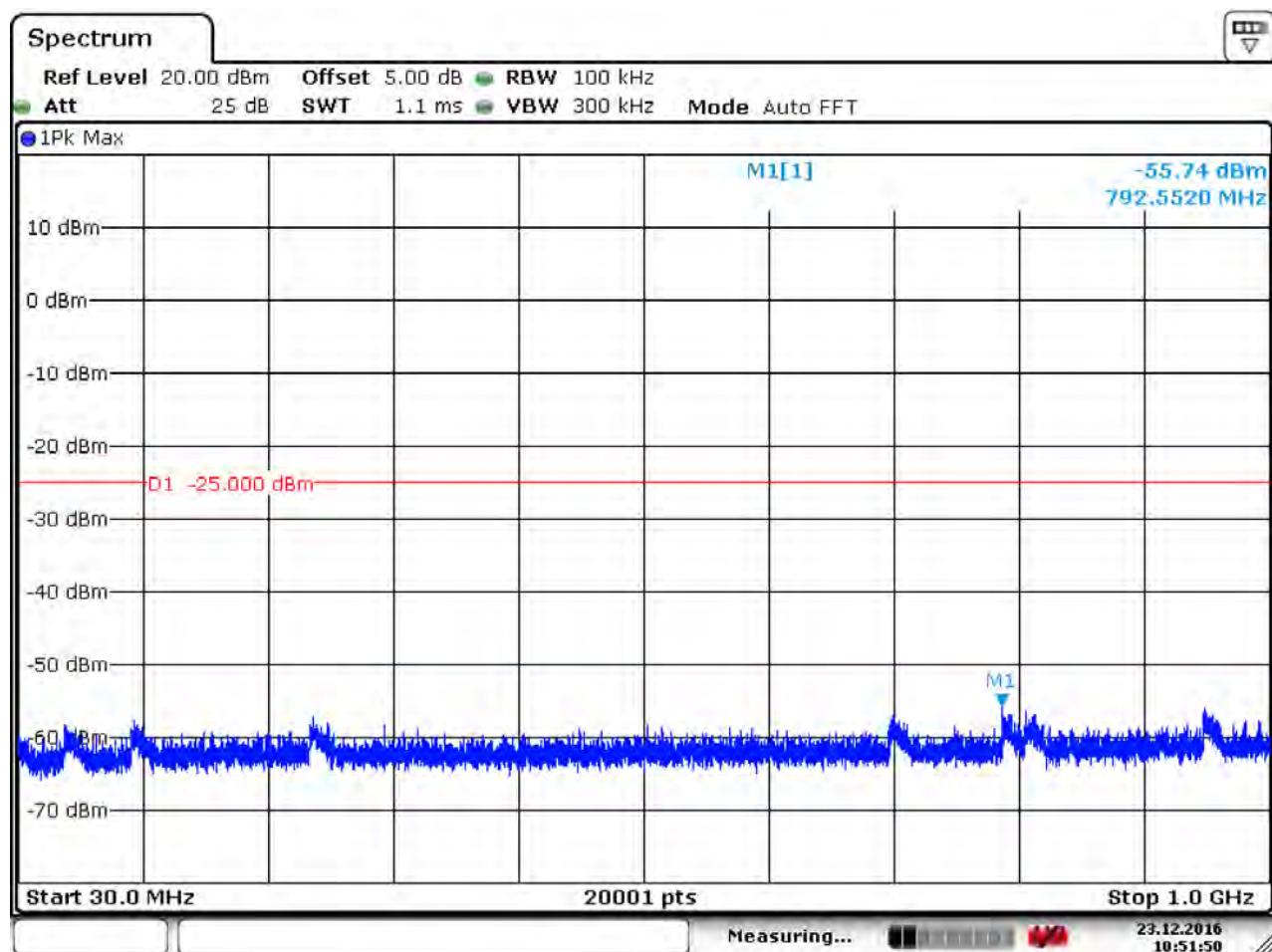
Part I - Test Plots

6.1 For LTE

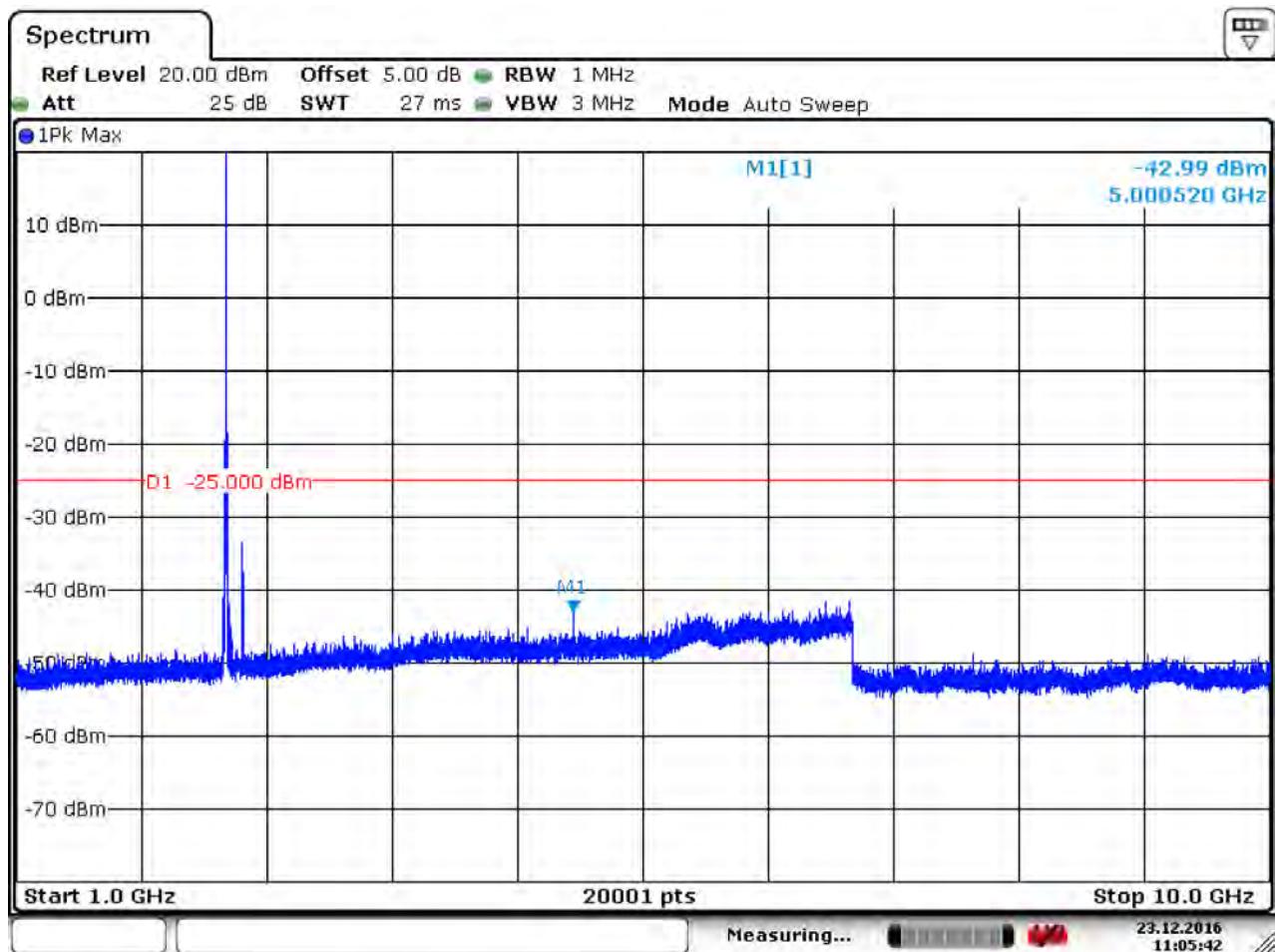
6.1.1 Test Band = LTE band7

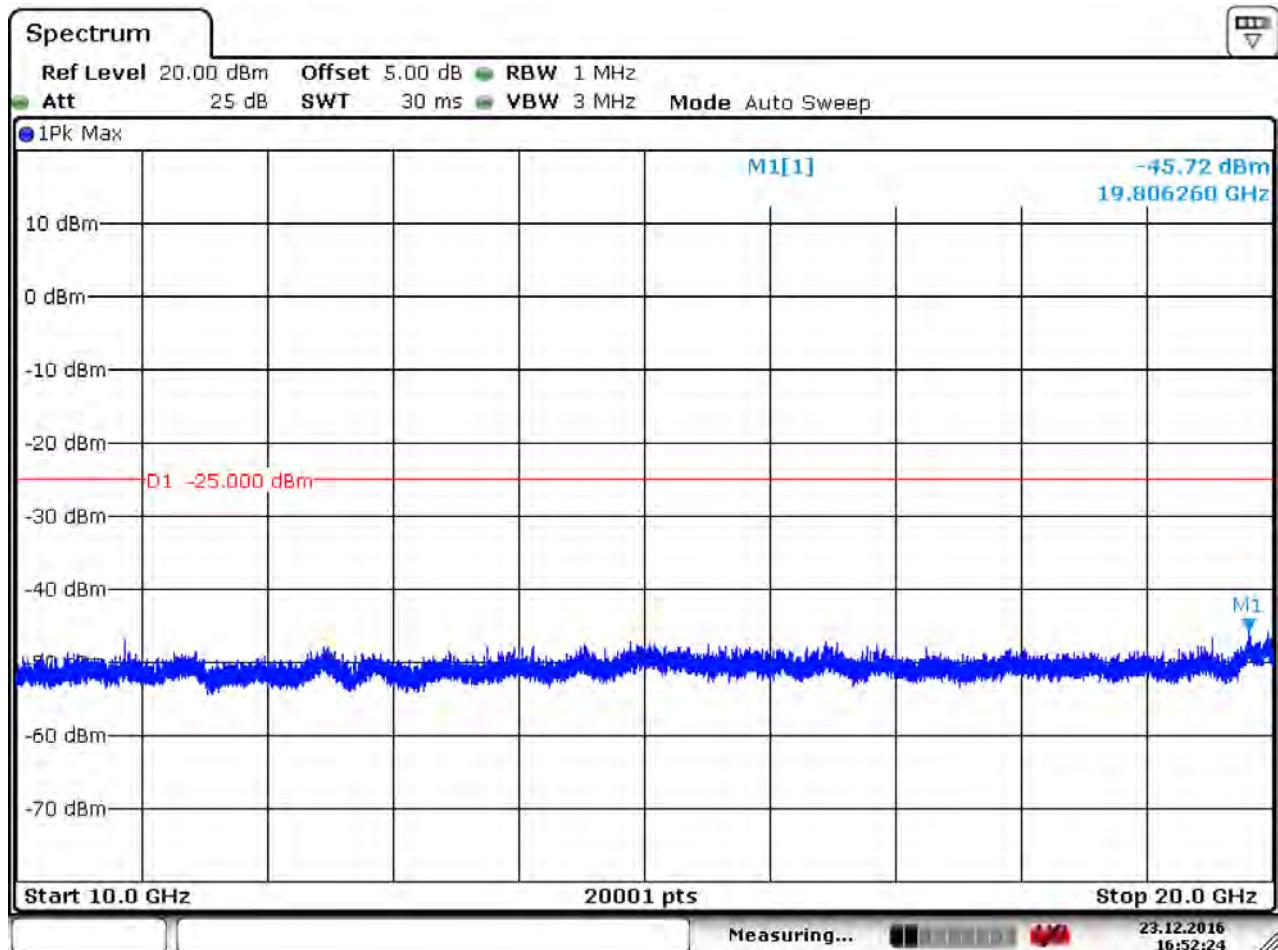
6.1.1.1 Test Mode = LTE / TM1 5MHz RB1#0

6.1.1.1.1 Test Channel = LCH

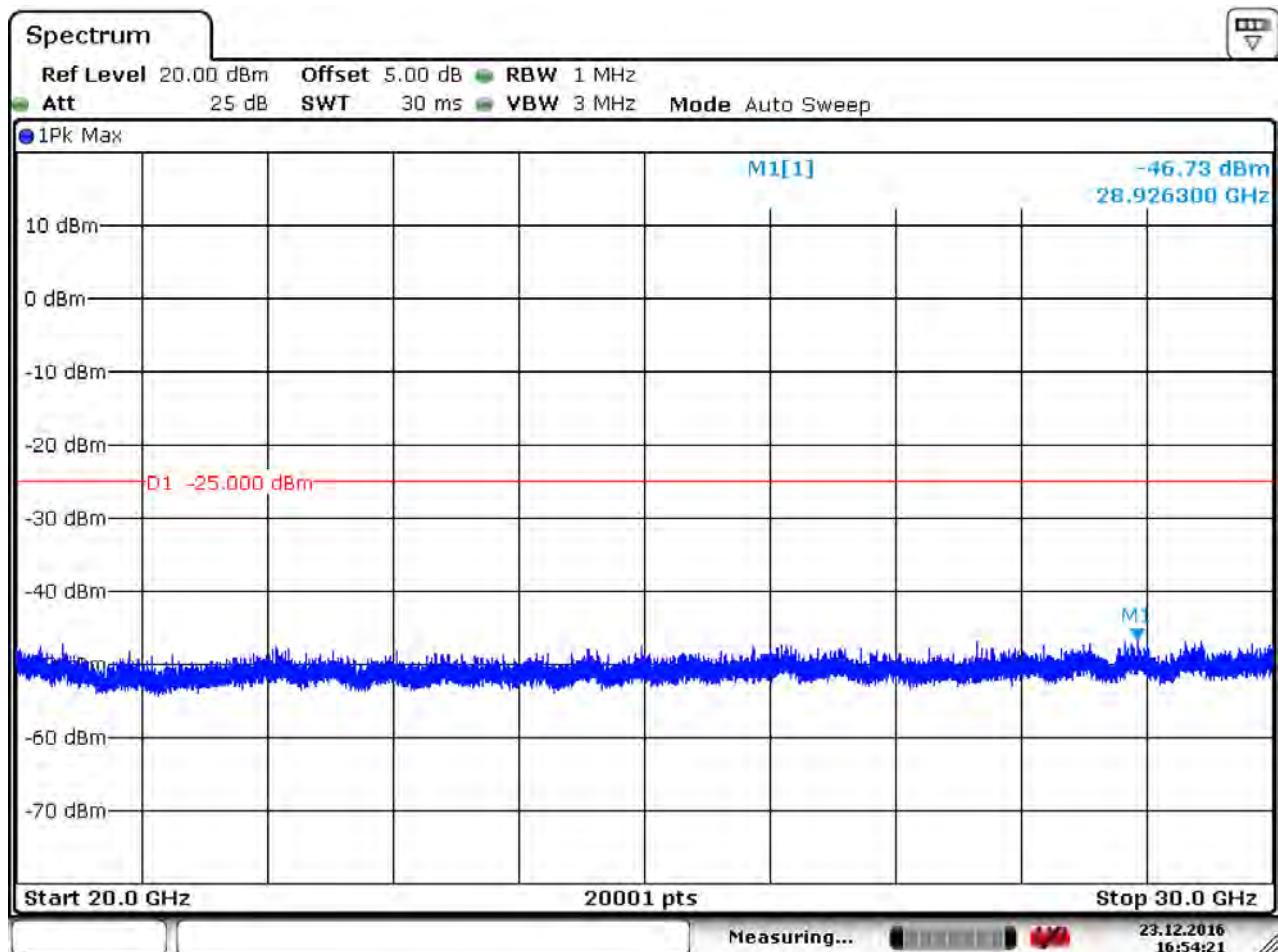


Date: 23.DEC.2016 10:51:51

Report No.: SZEM170800849706
Page: 84 of 134

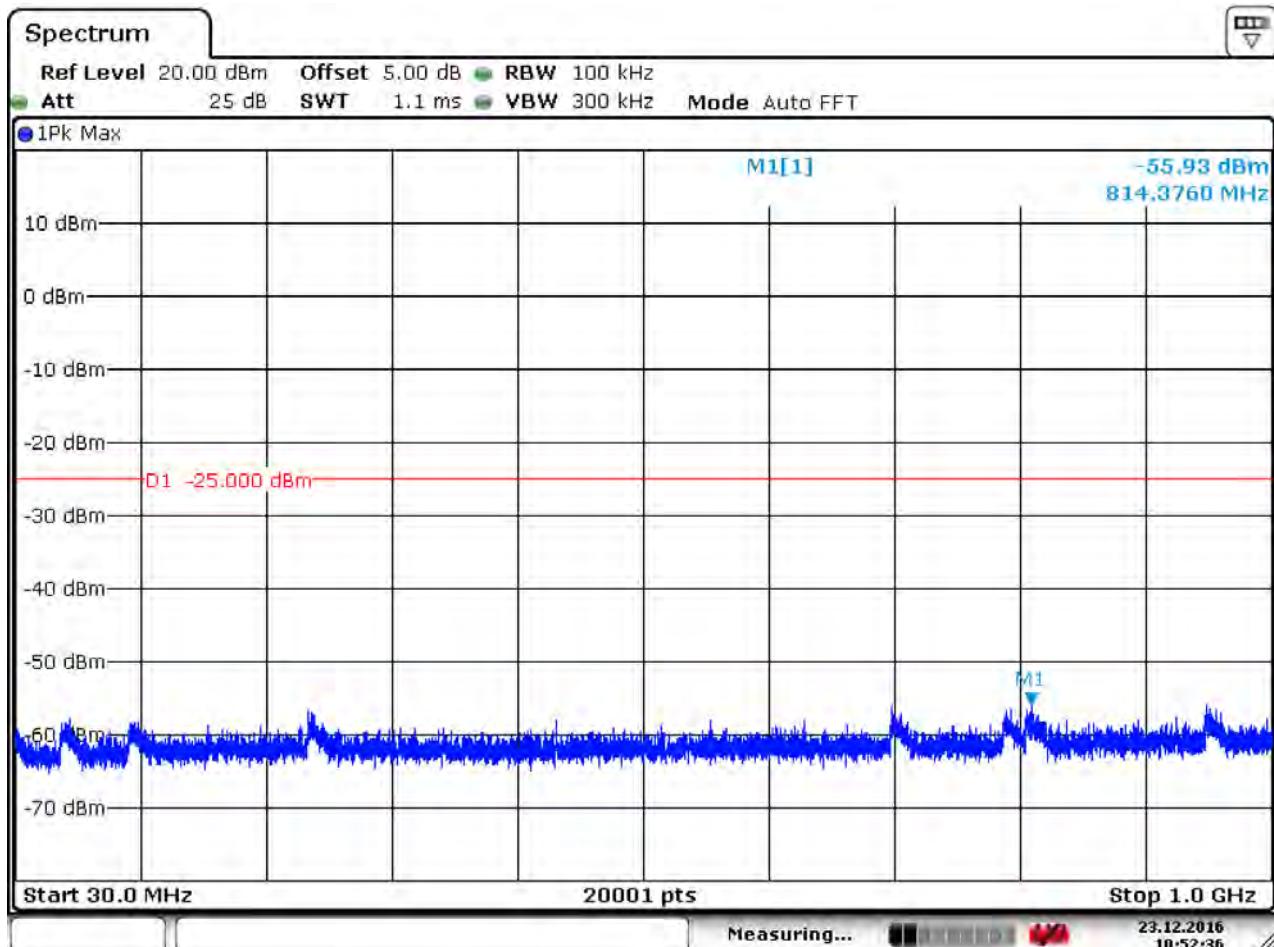
Report No.: SZEM170800849706
Page: 85 of 134

Date: 23.DEC.2016 16:52:25

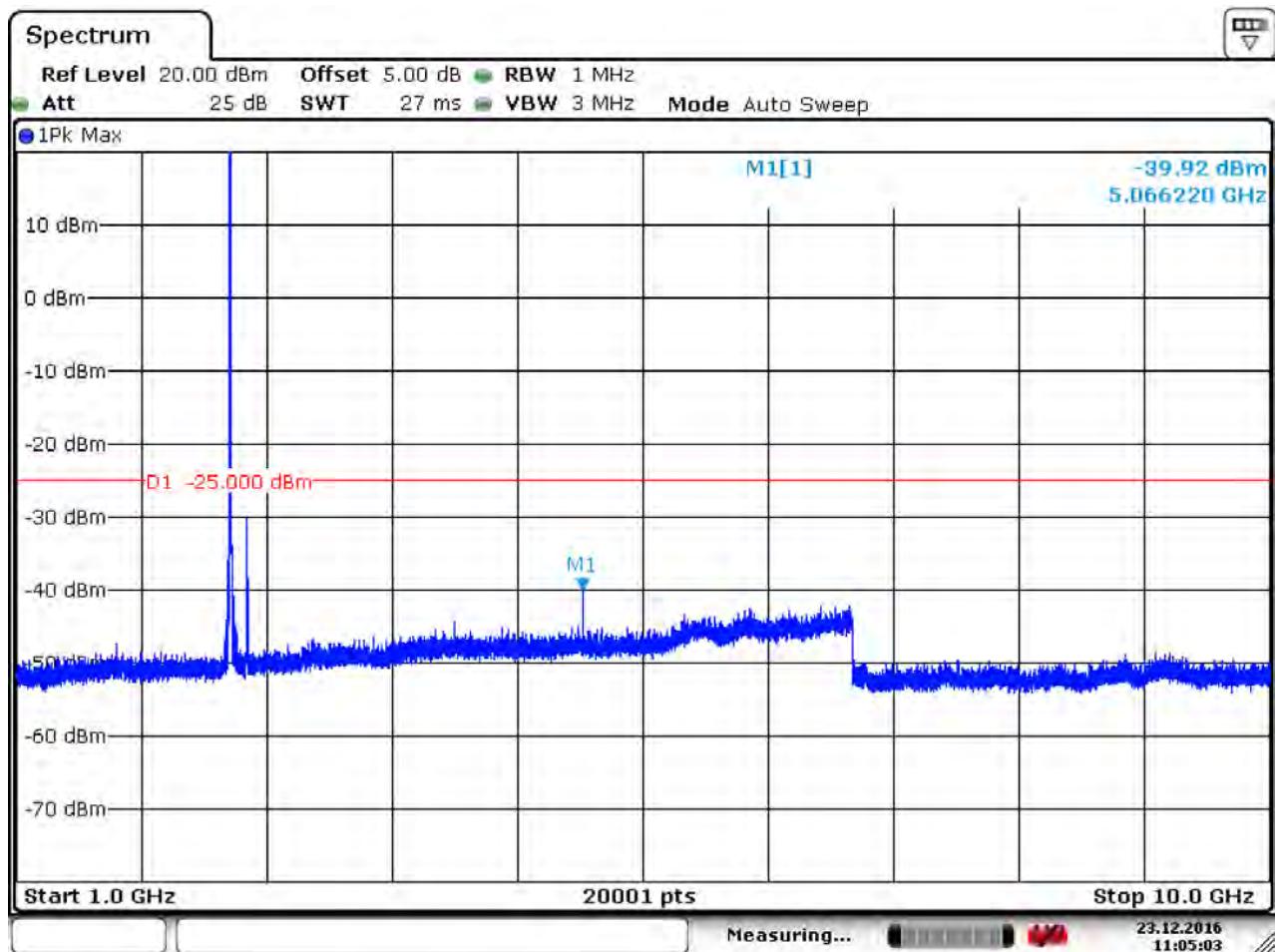
Report No.: SZEM170800849706
Page: 86 of 134

Date: 23.DEC.2016 16:54:21

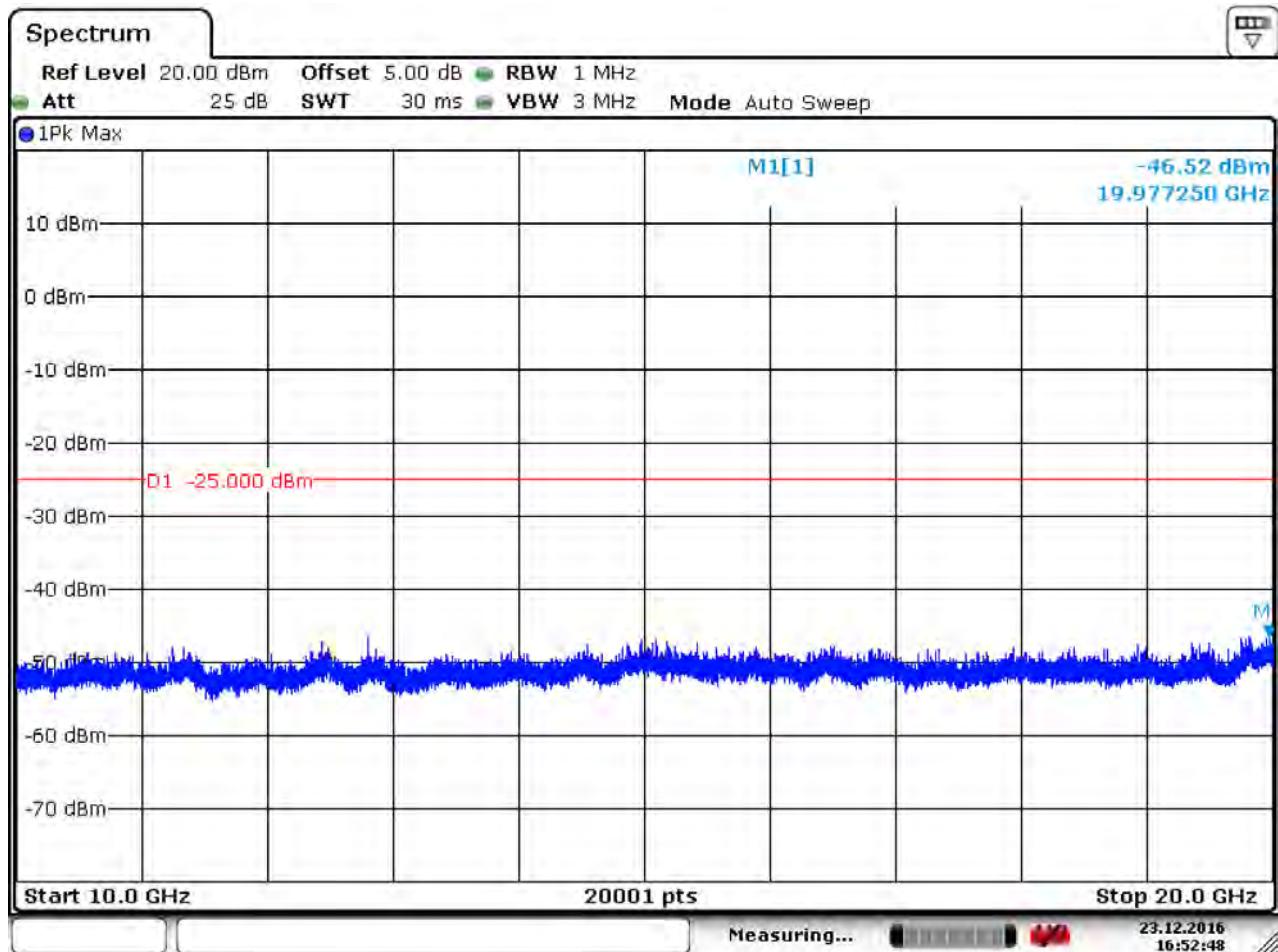
6.1.1.1.2 Test Channel = MCH



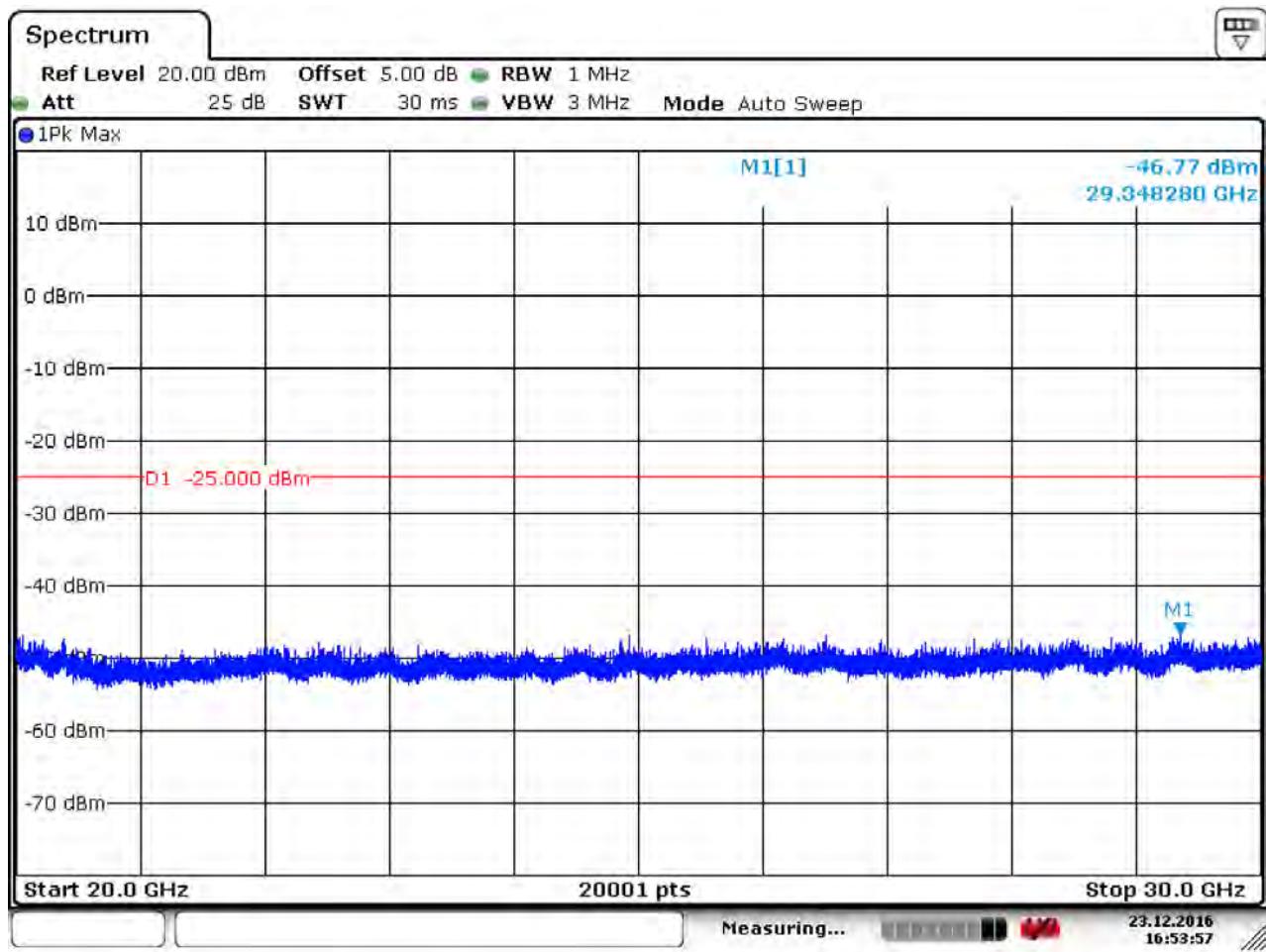
Date: 23.DEC.2016 10:52:37



Date: 23.DEC.2016 11:05:03

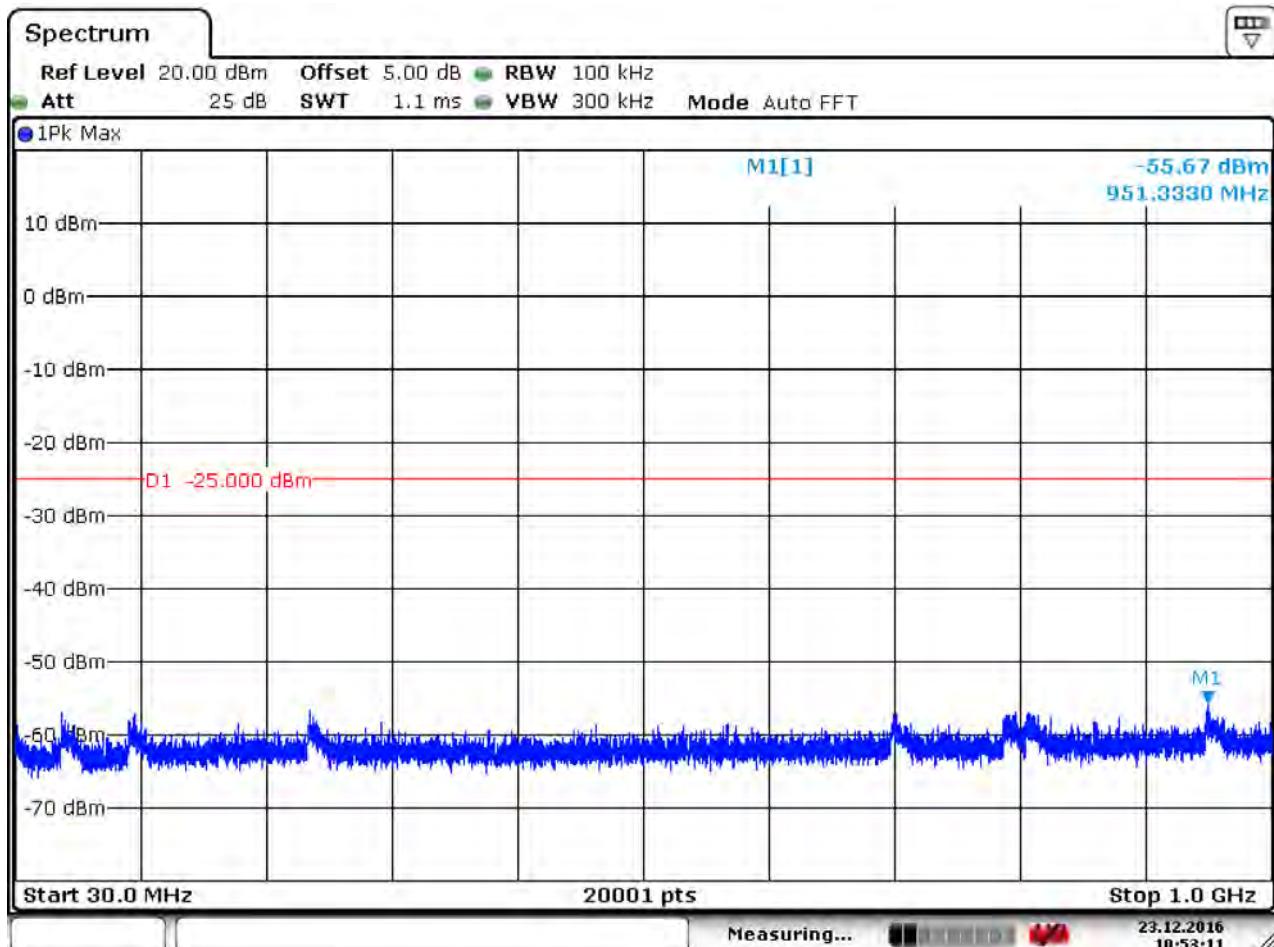
Report No.: SZEM170800849706
Page: 89 of 134

Date: 23.DEC.2016 16:52:48

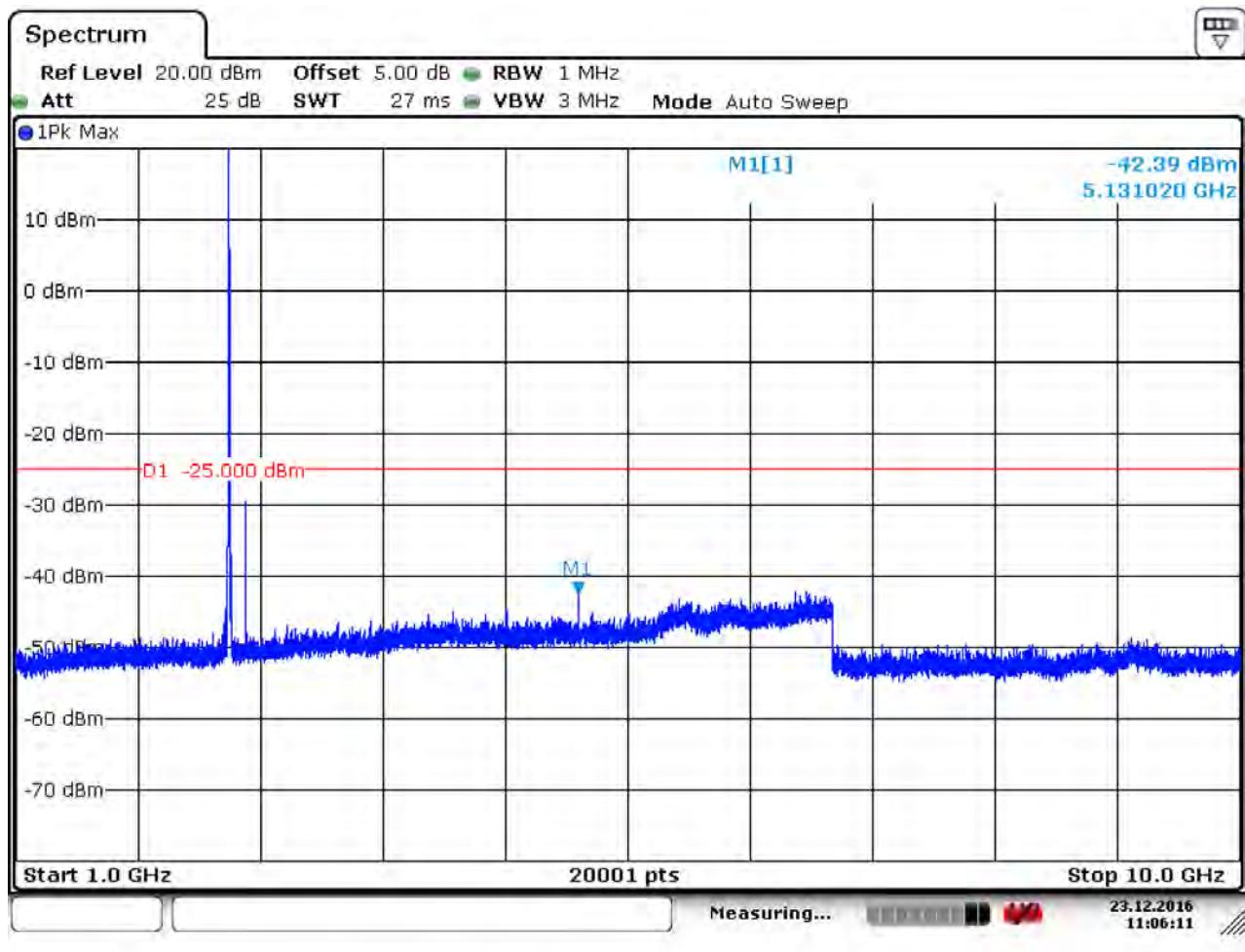
Report No.: SZEM170800849706
Page: 90 of 134

Date: 23.DEC.2016 16:53:57

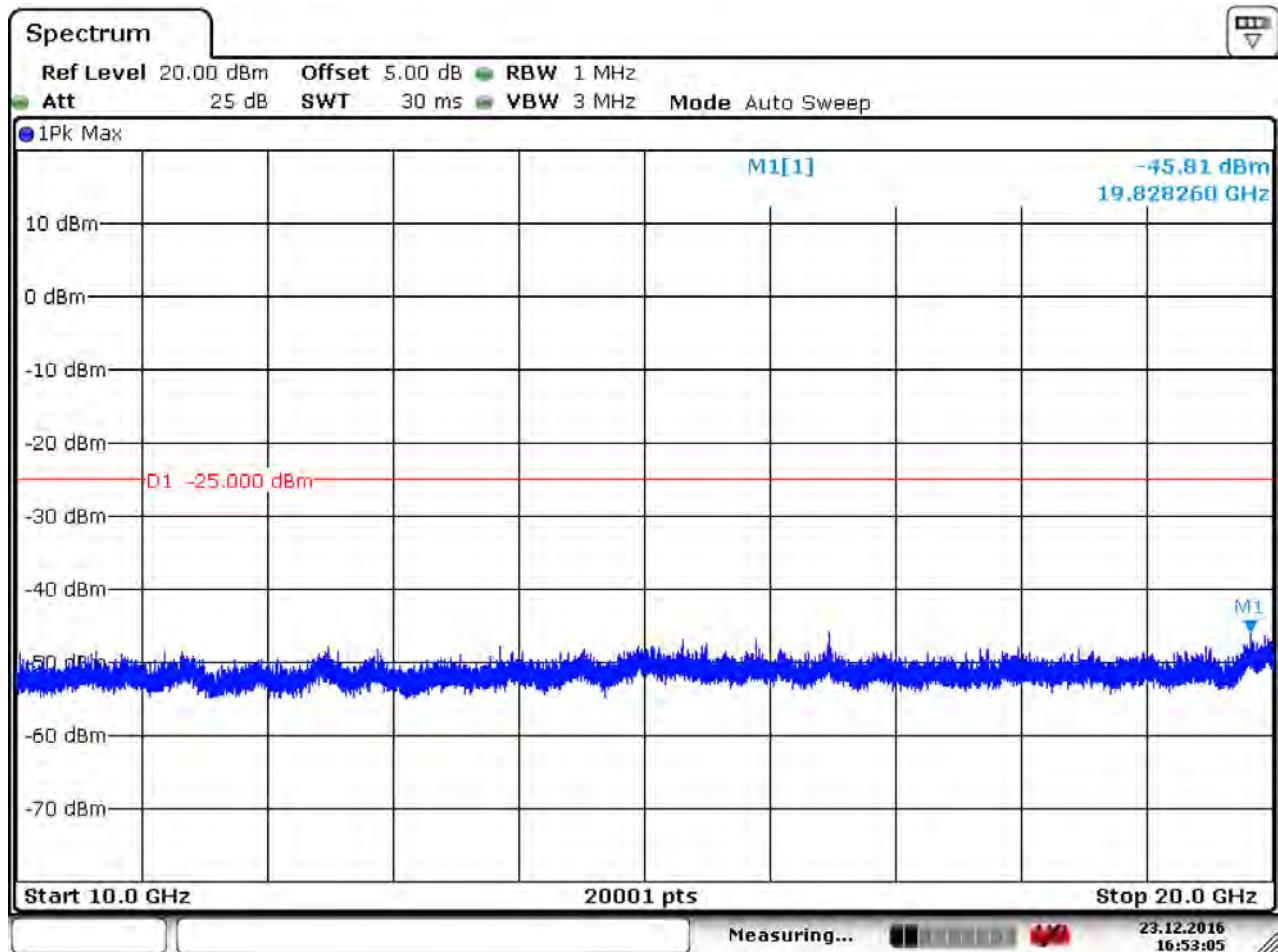
6.1.1.1.3 Test Channel = HCH



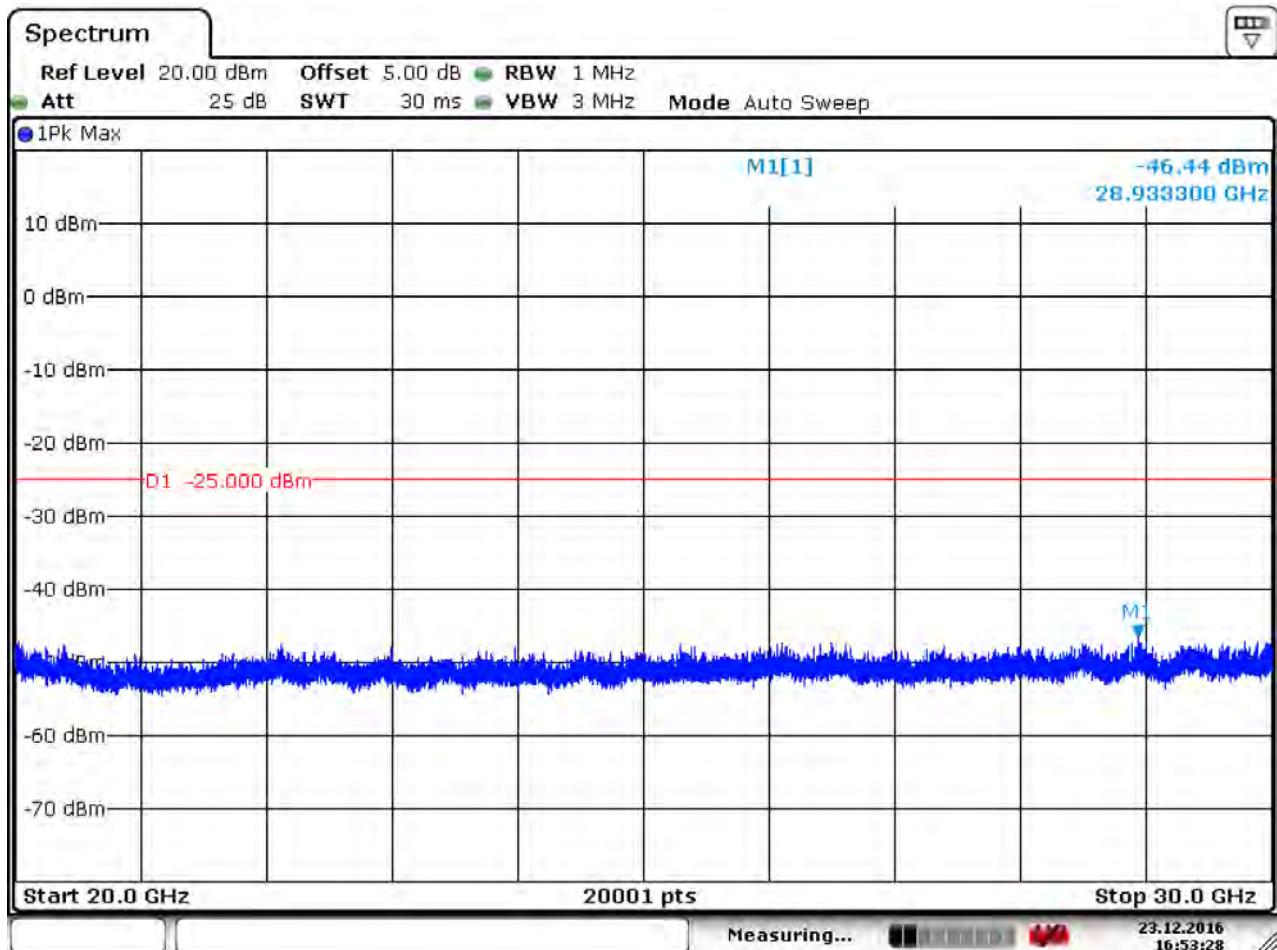
Date: 23.DEC.2016 10:53:11

Report No.: SZEM170800849706
Page: 92 of 134

Date: 23.DEC.2016 11:06:12



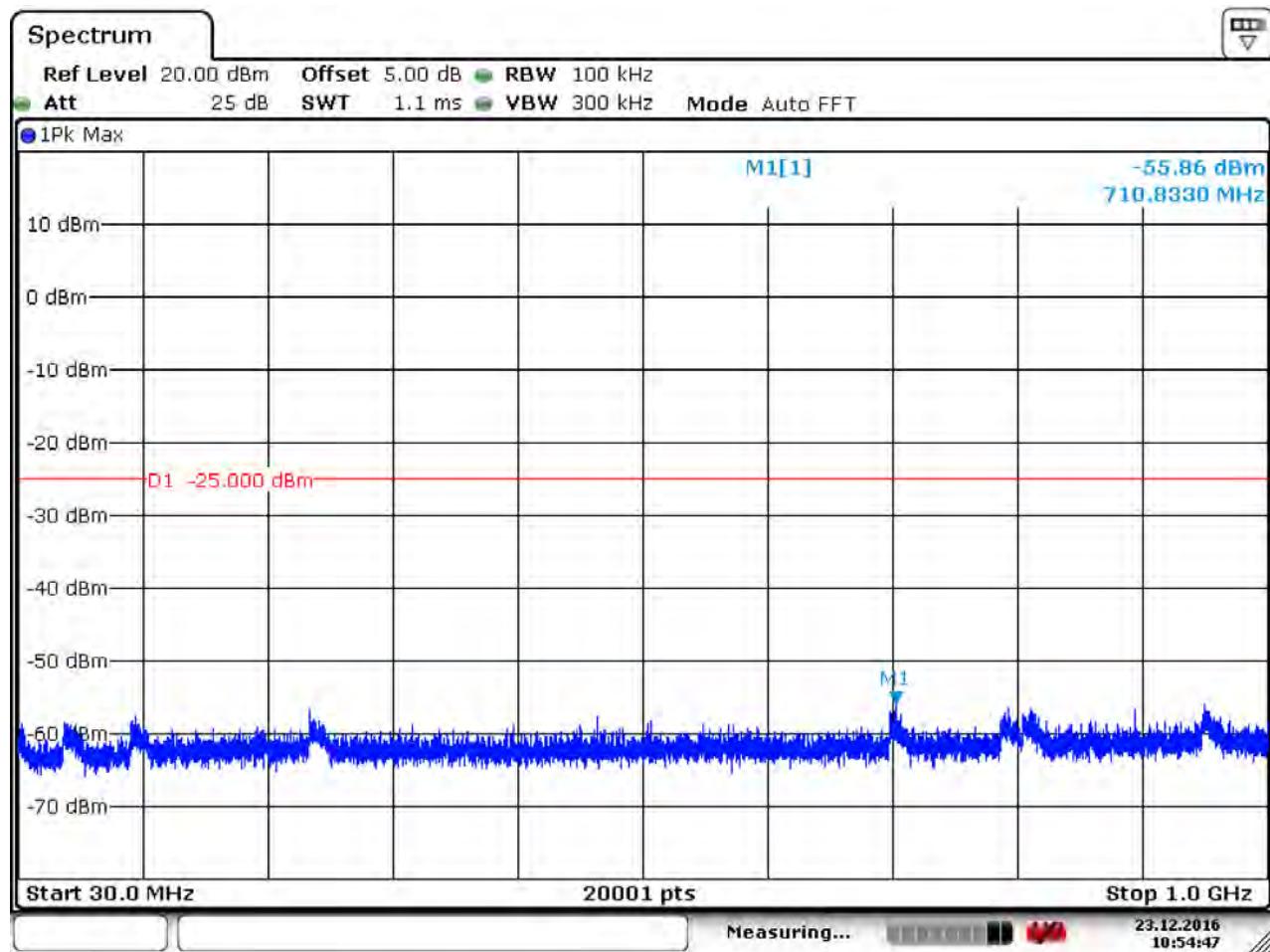
Date: 23.DEC.2016 16:53:05

Report No.: SZEM170800849706
Page: 94 of 134

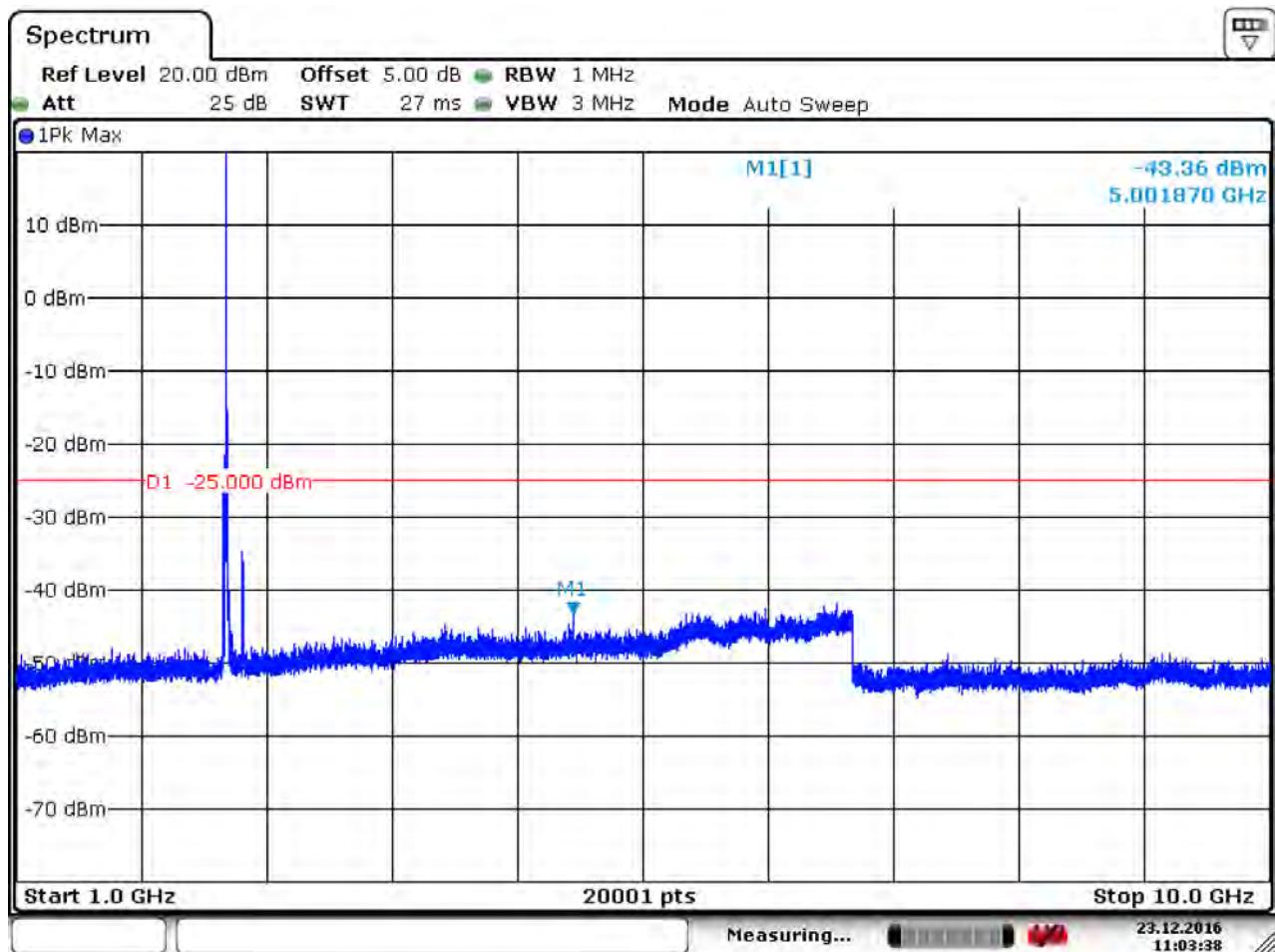
Date: 23.DEC.2016 16:53:28

6.1.1.2 Test Mode = LTE / TM1 10MHz RB1#0

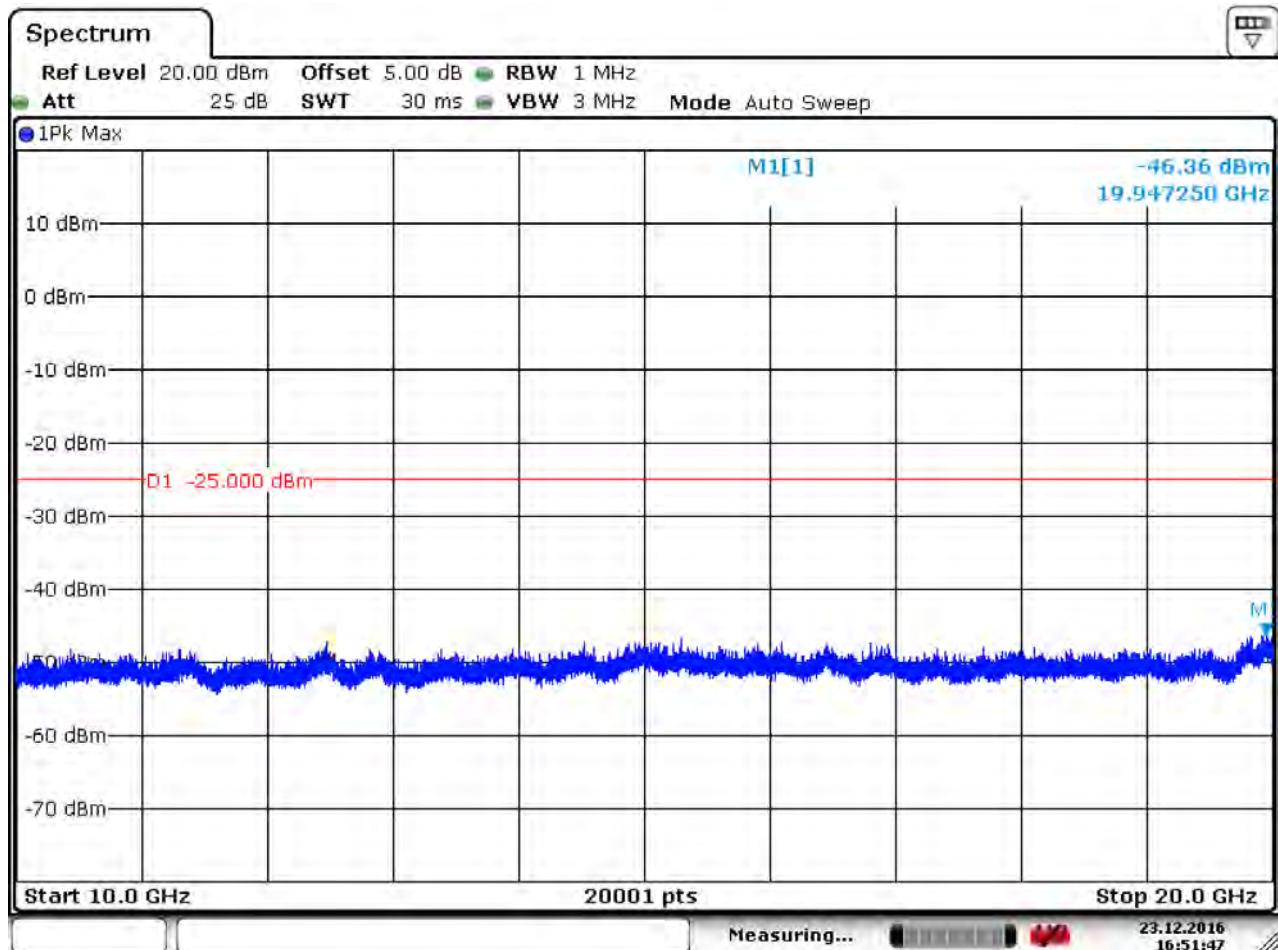
6.1.1.2.1 Test Channel = LCH



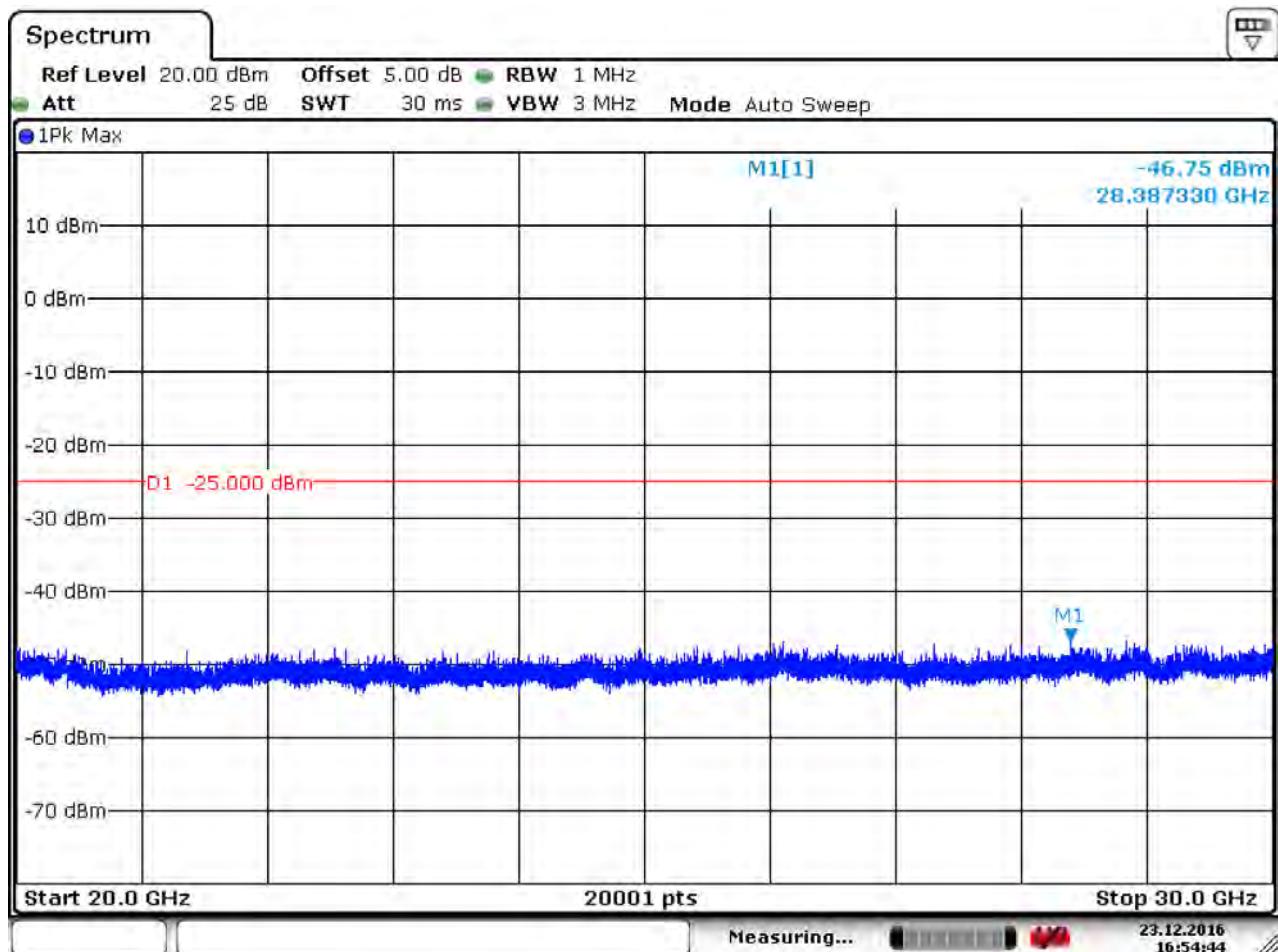
Date: 23.DEC.2016 10:54:47

Report No.: SZEM170800849706
Page: 96 of 134

Date: 23.DEC.2016 11:03:39

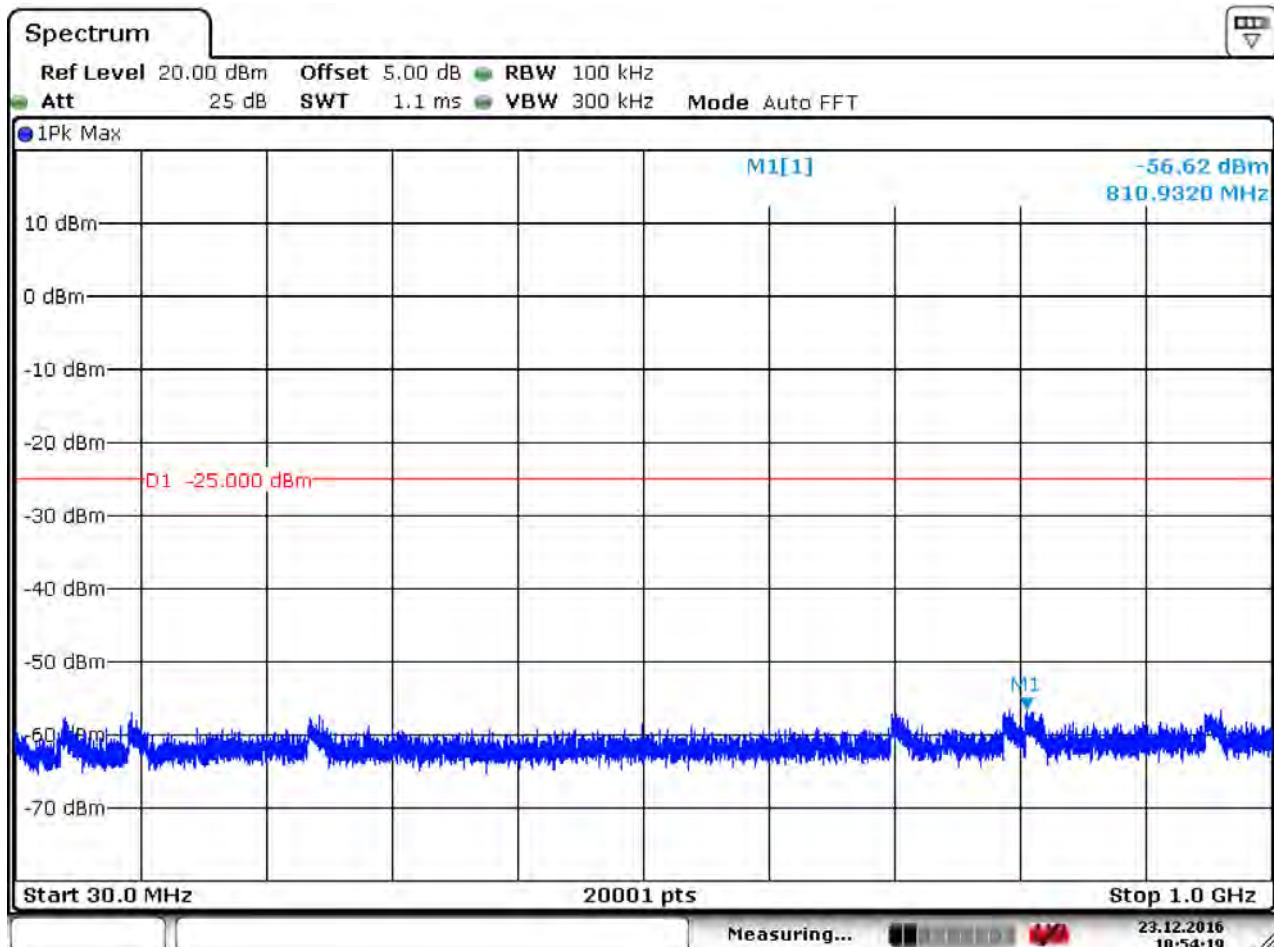
Report No.: SZEM170800849706
Page: 97 of 134

Date: 23.DEC.2016 16:51:47

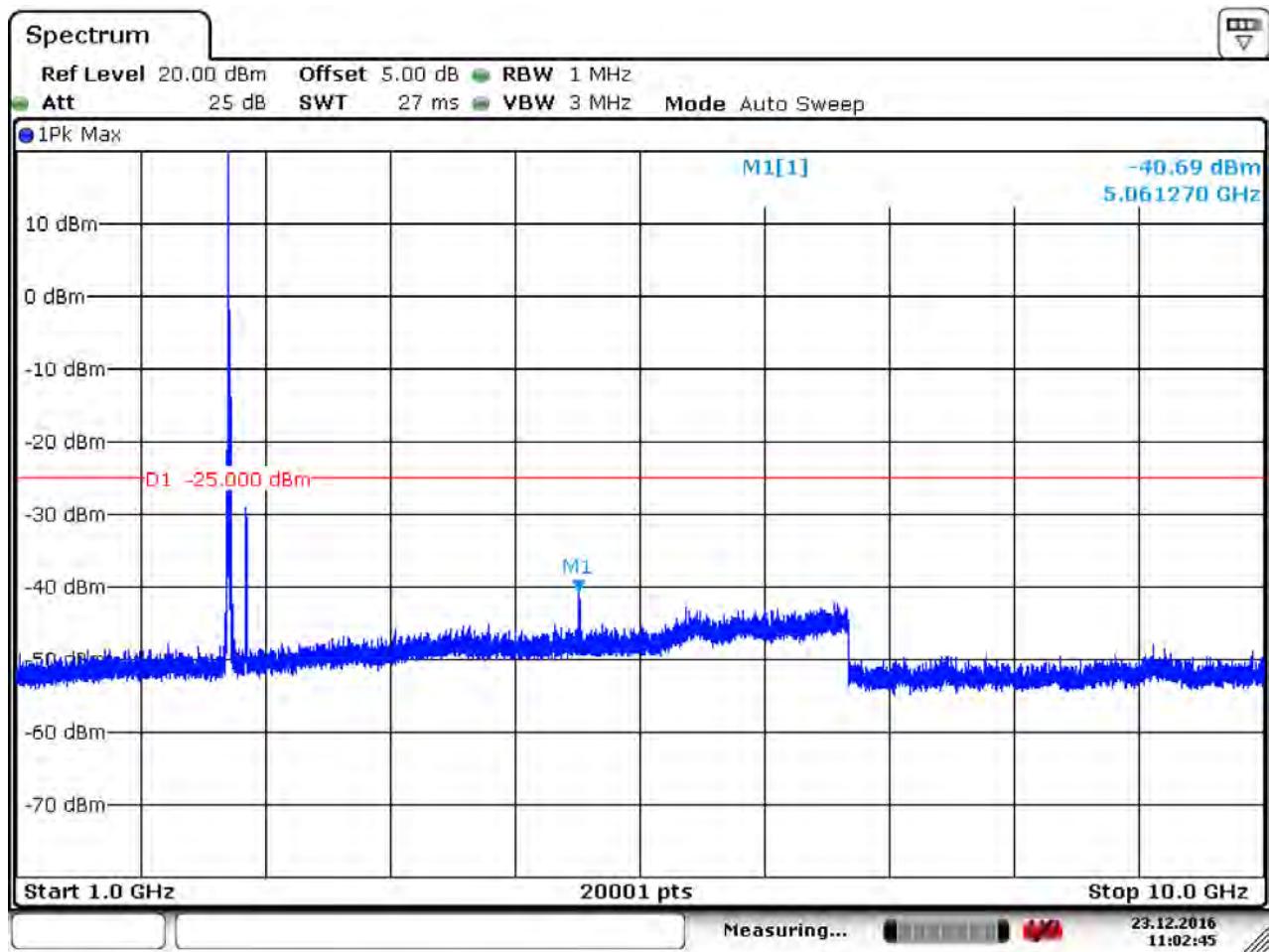
Report No.: SZEM170800849706
Page: 98 of 134

Date: 23.DEC.2016 16:54:45

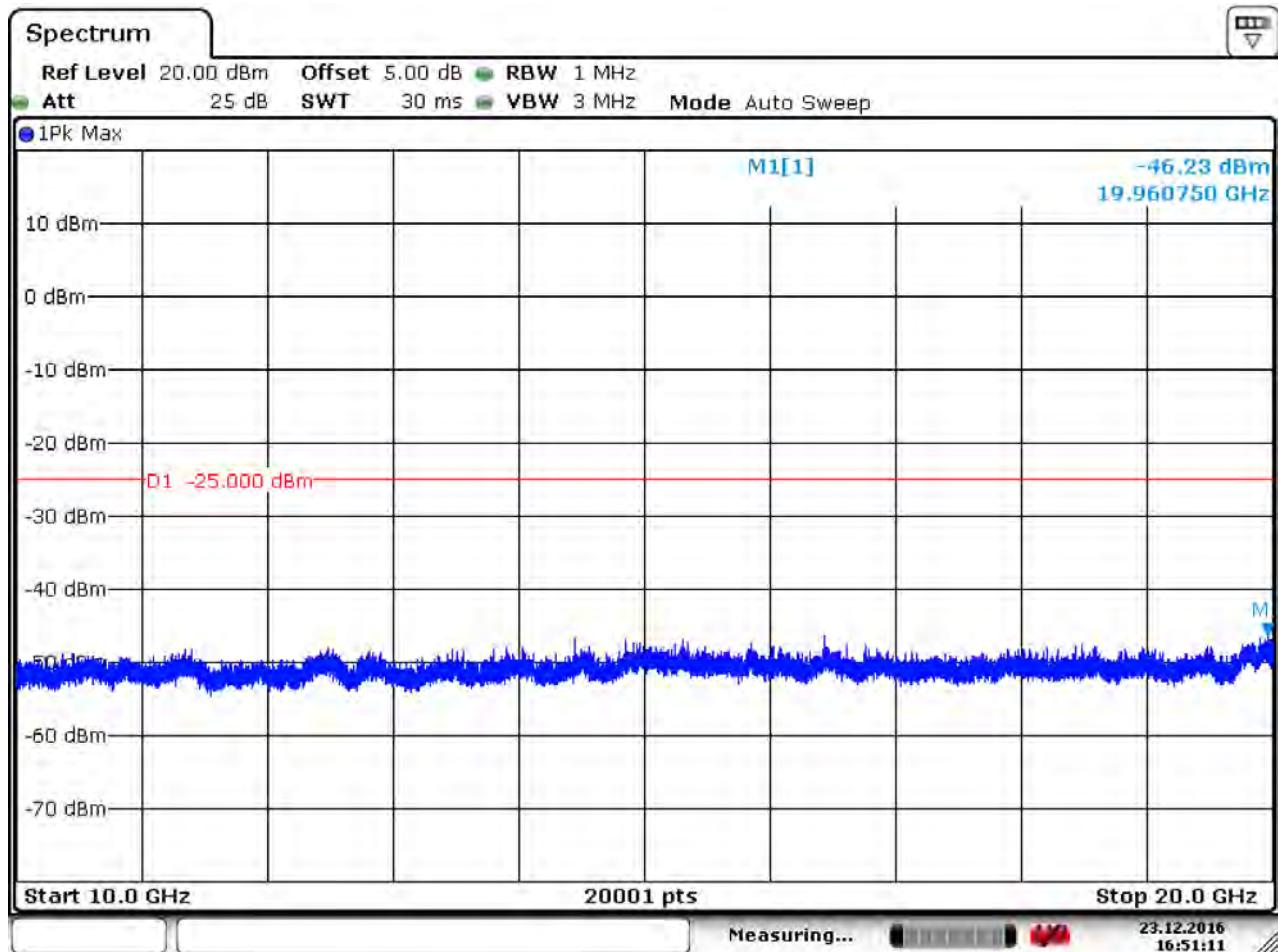
6.1.1.2.2 Test Channel = MCH

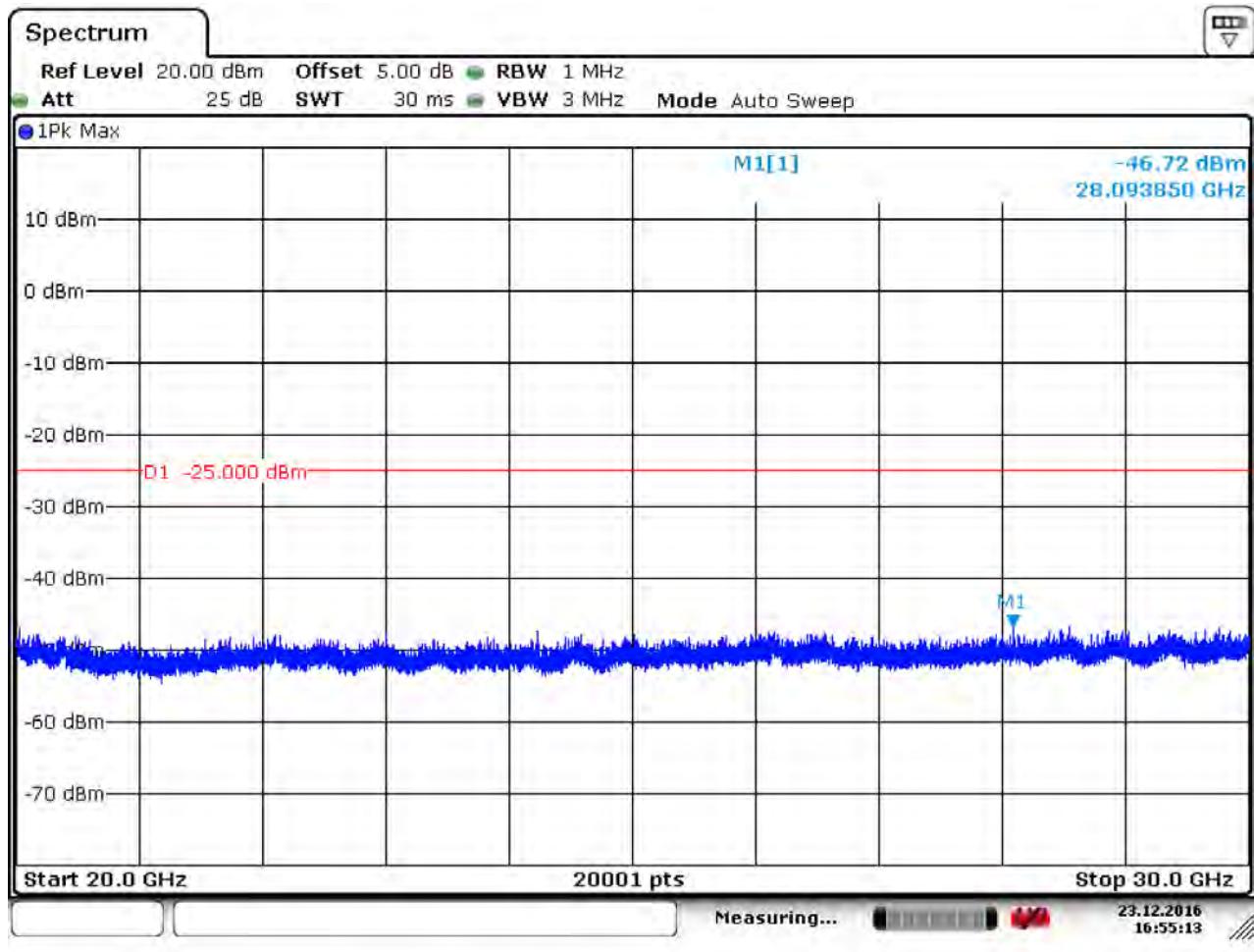


Date: 23.DEC.2016 10:54:19

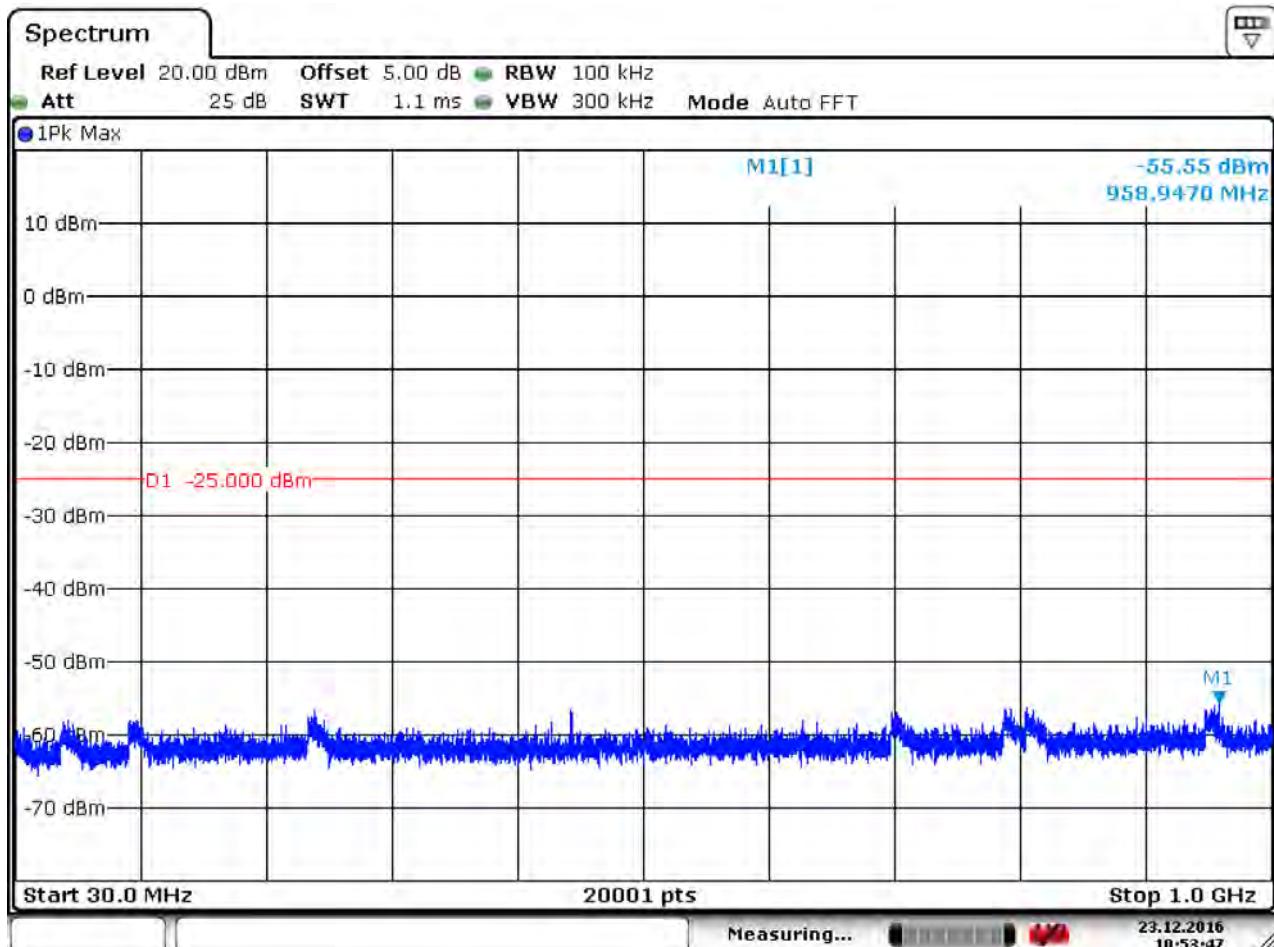
Report No.: SZEM170800849706
Page: 100 of 134

Date: 23.DEC.2016 11:02:45

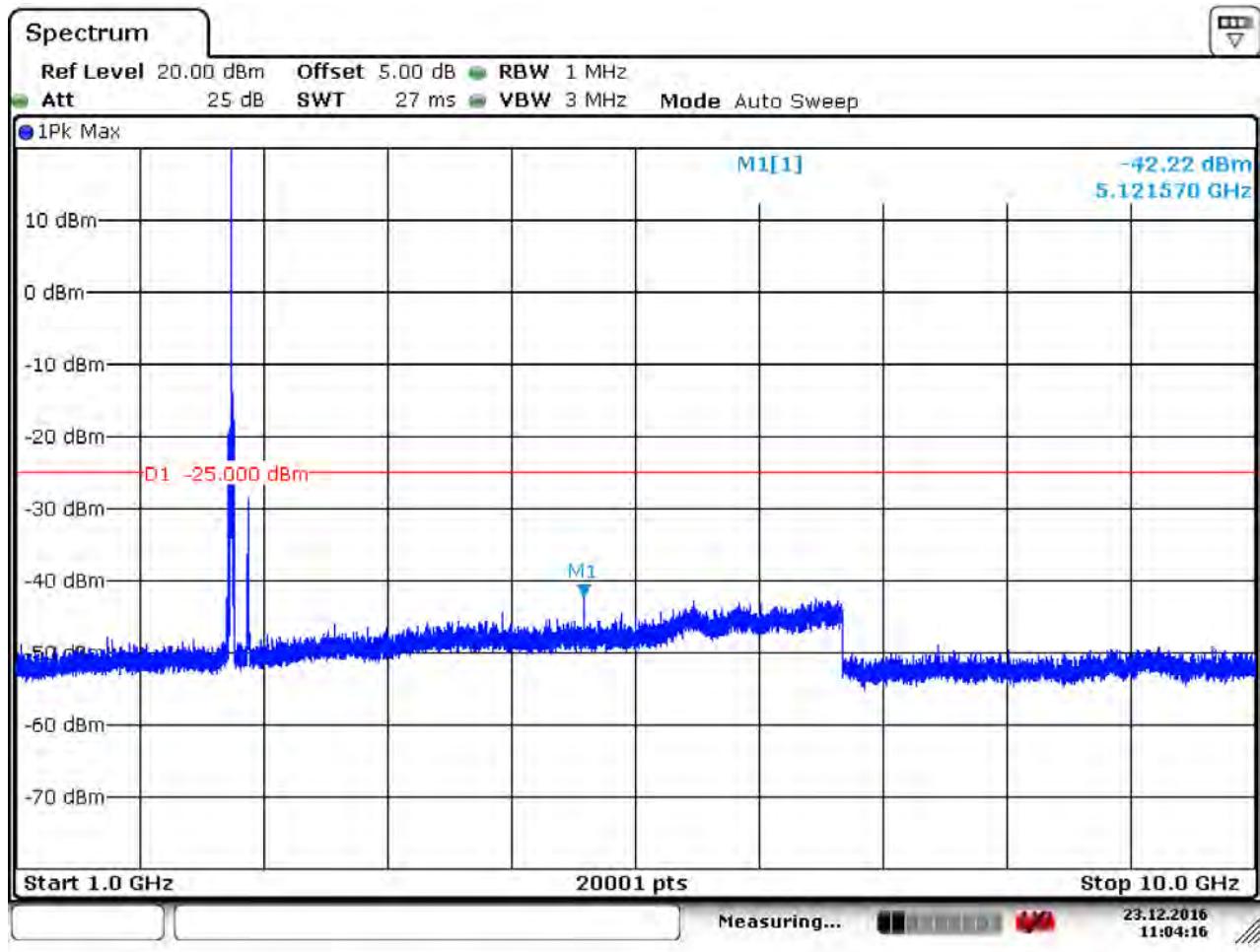
Report No.: SZEM170800849706
Page: 101 of 134

Report No.: SZEM170800849706
Page: 102 of 134

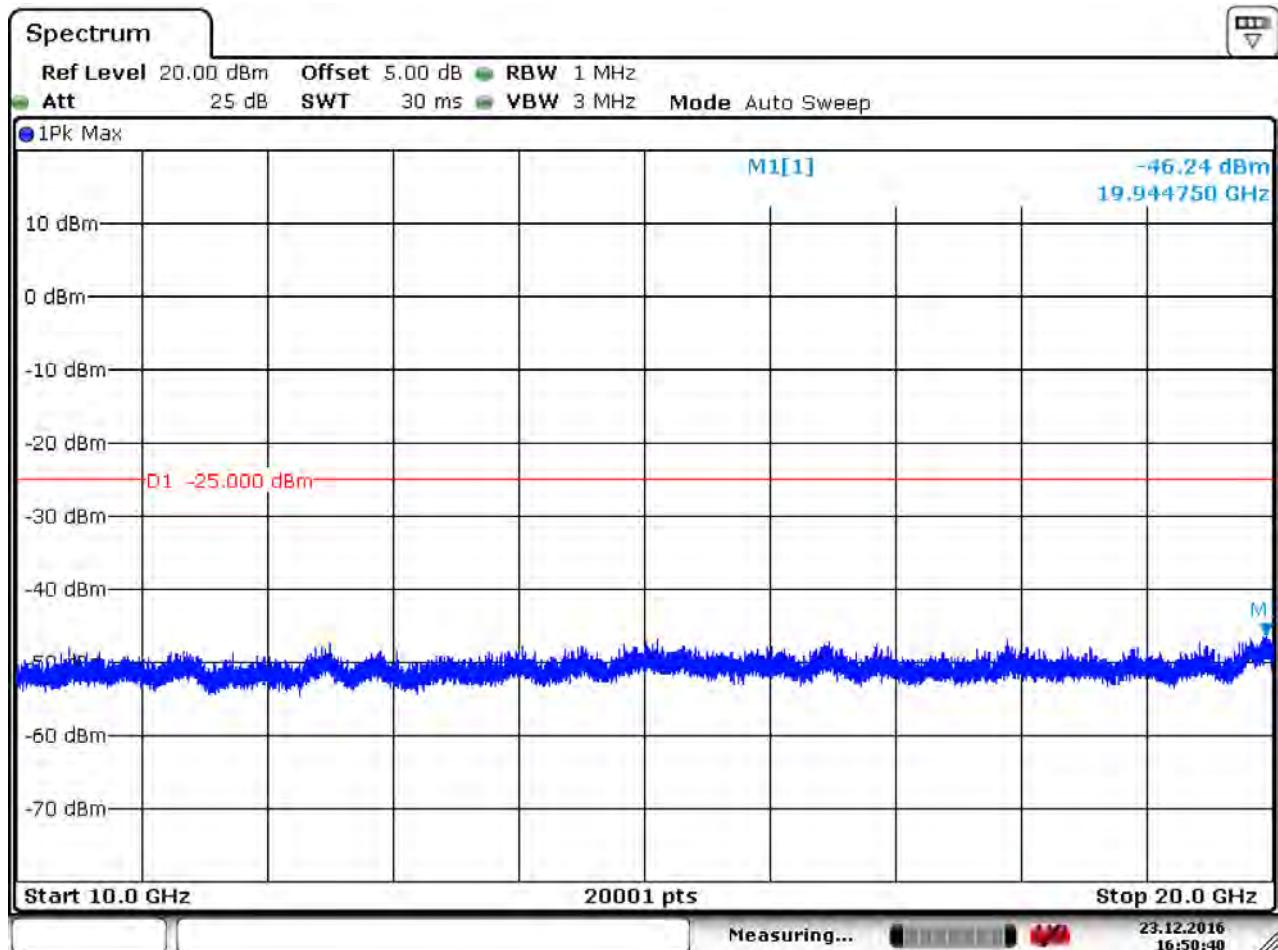
6.1.1.2.3 Test Channel = HCH



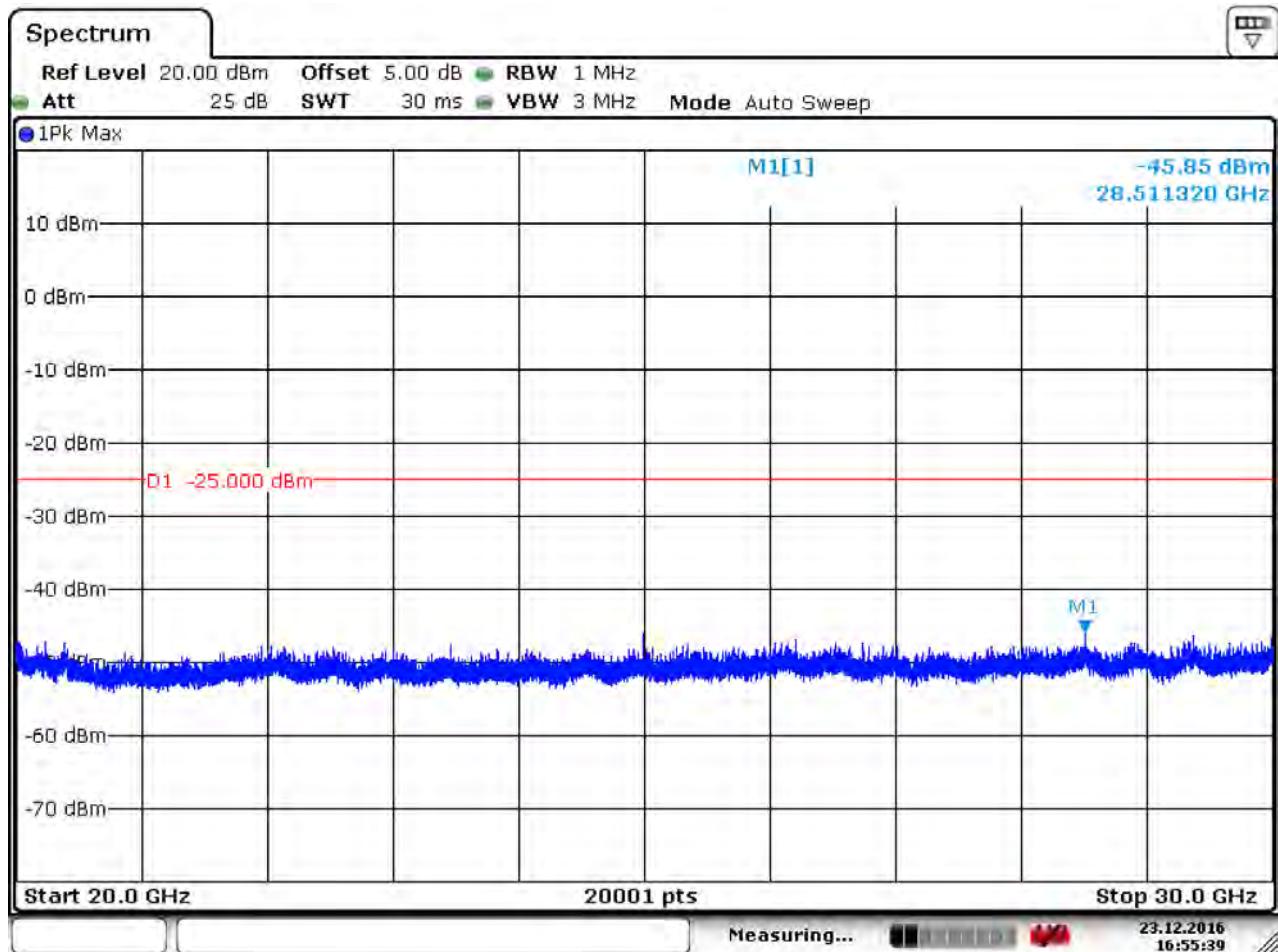
Date: 23.DEC.2016 10:53:47

Report No.: SZEM170800849706
Page: 104 of 134

Date: 23.DEC.2016 11:04:17

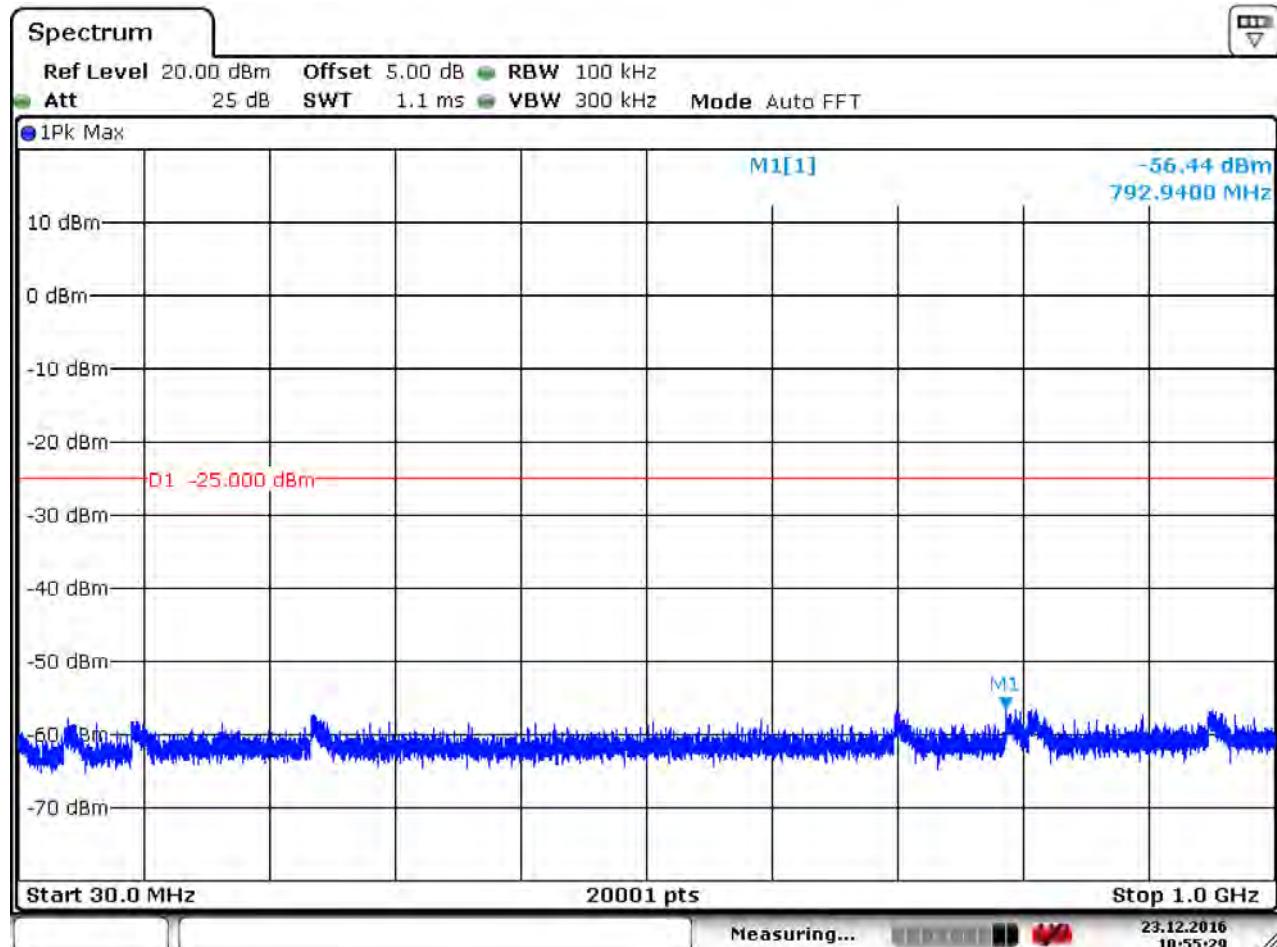
Report No.: SZEM170800849706
Page: 105 of 134

Date: 23.DEC.2016 16:50:40

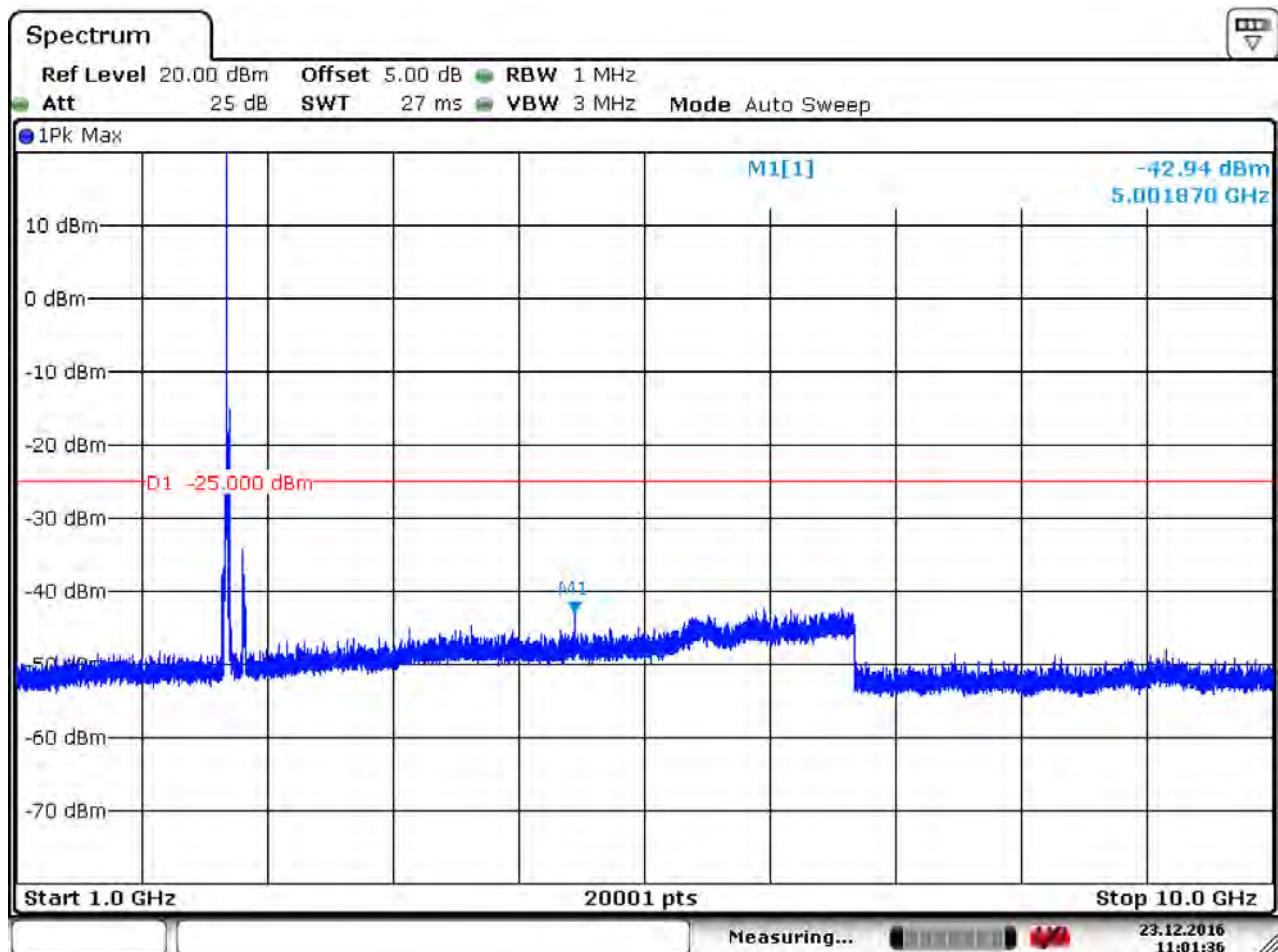
Report No.: SZEM170800849706
Page: 106 of 134

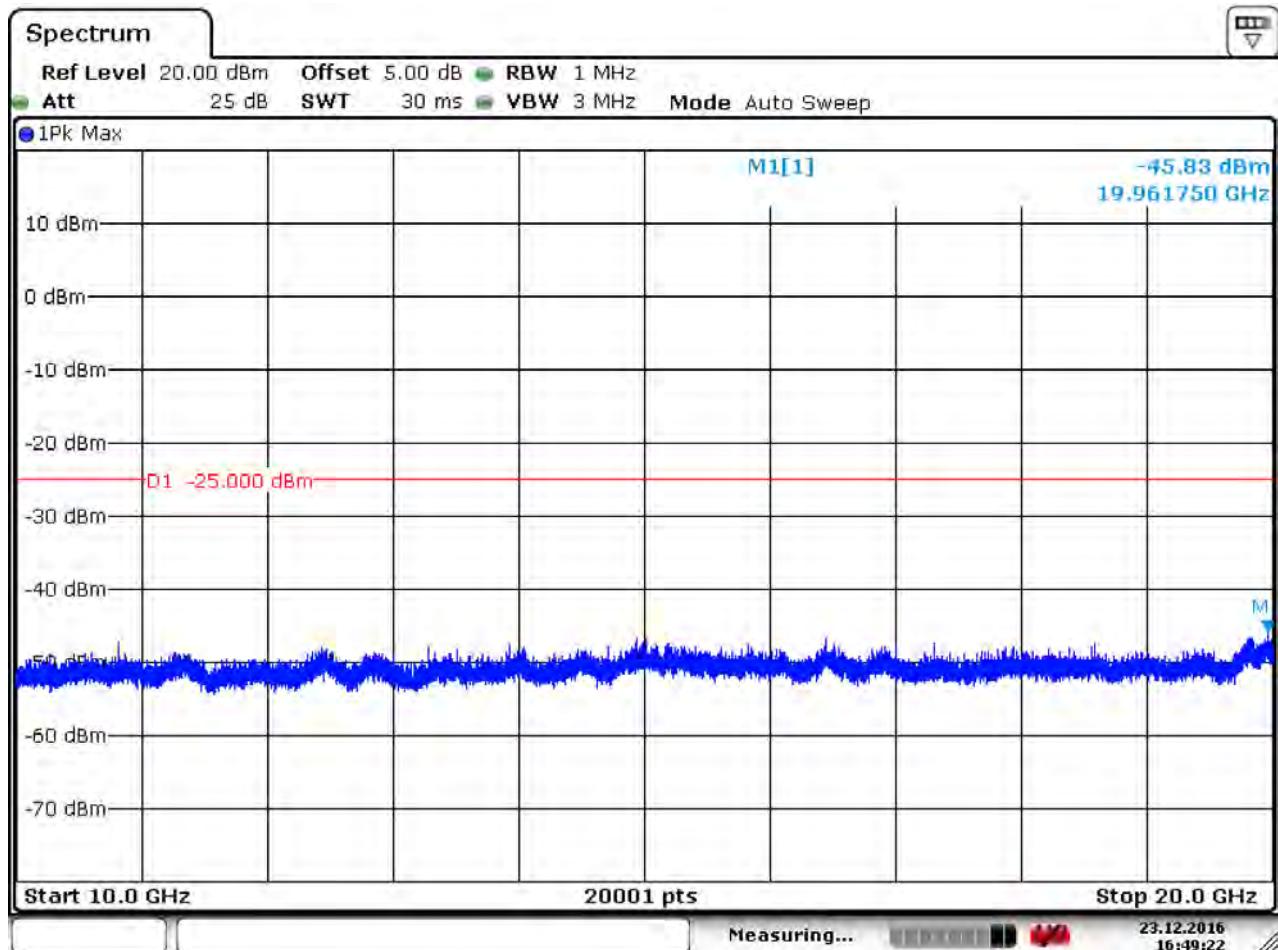
6.1.1.3 Test Mode = LTE / TM1 15MHz RB1#0

6.1.1.3.1 Test Channel = LCH

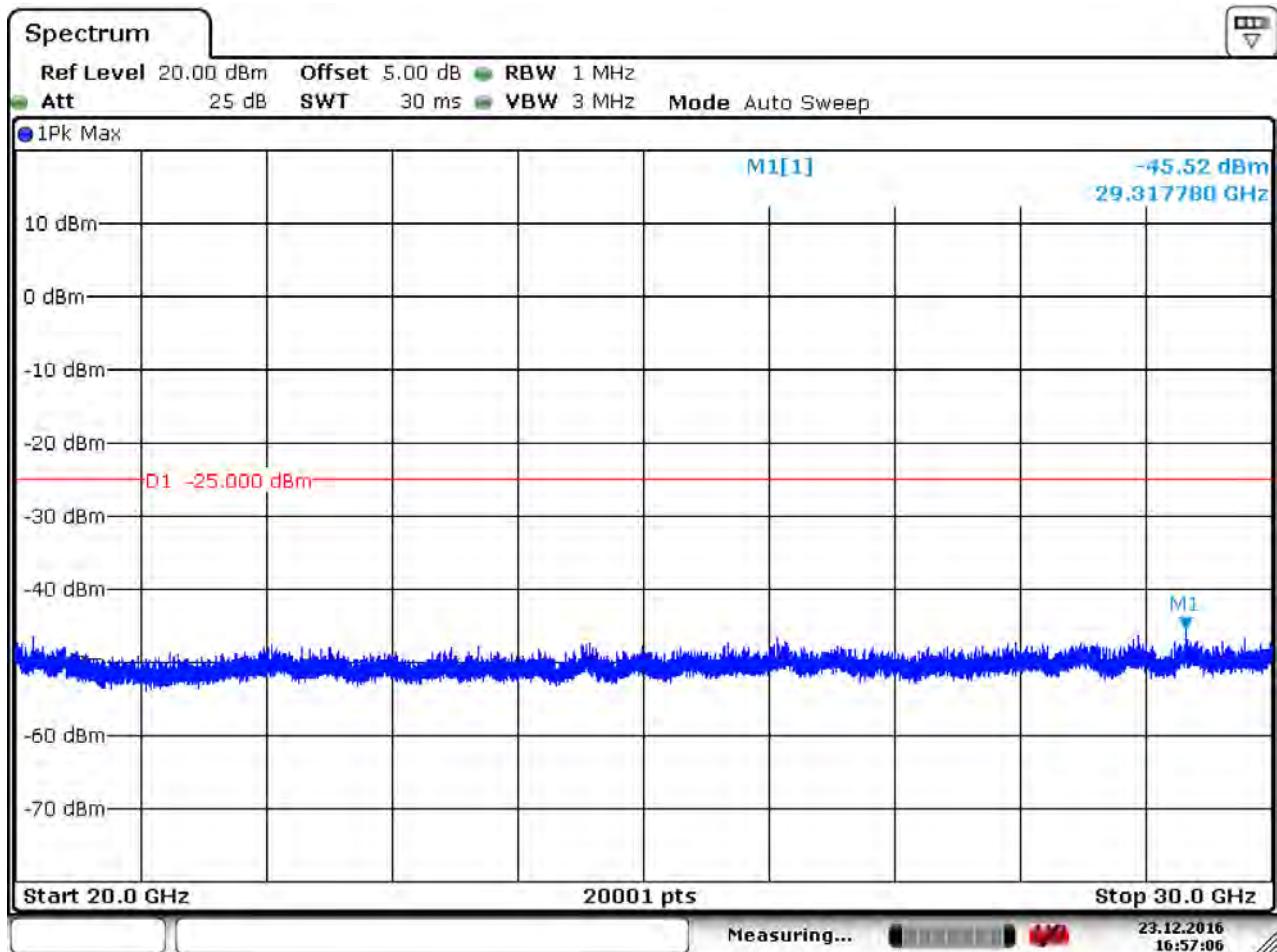


Date: 23.DEC.2016 10:55:30

Report No.: SZEM170800849706
Page: 108 of 134

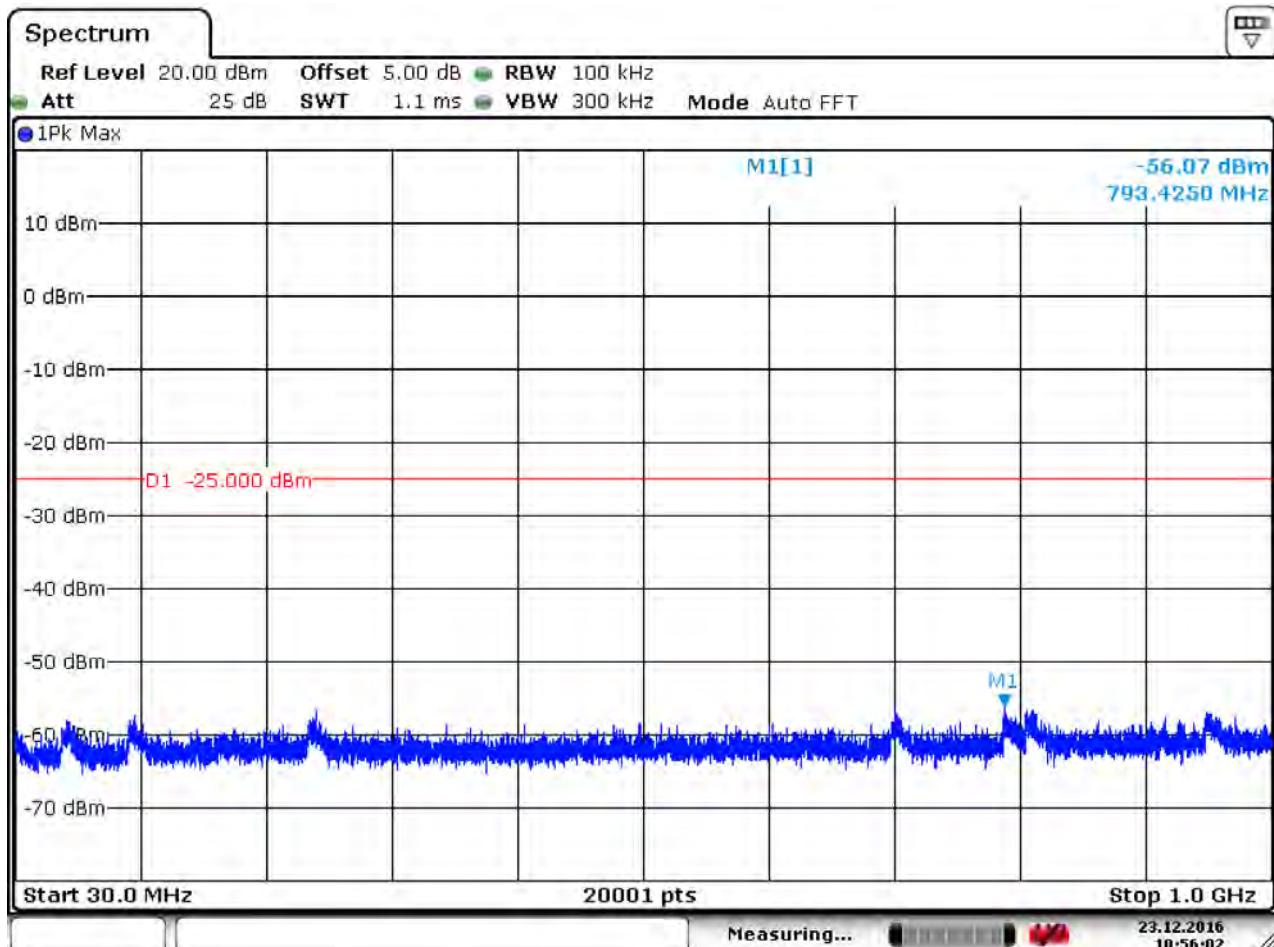
Report No.: SZEM170800849706
Page: 109 of 134

Date: 23.DEC.2016 16:49:22

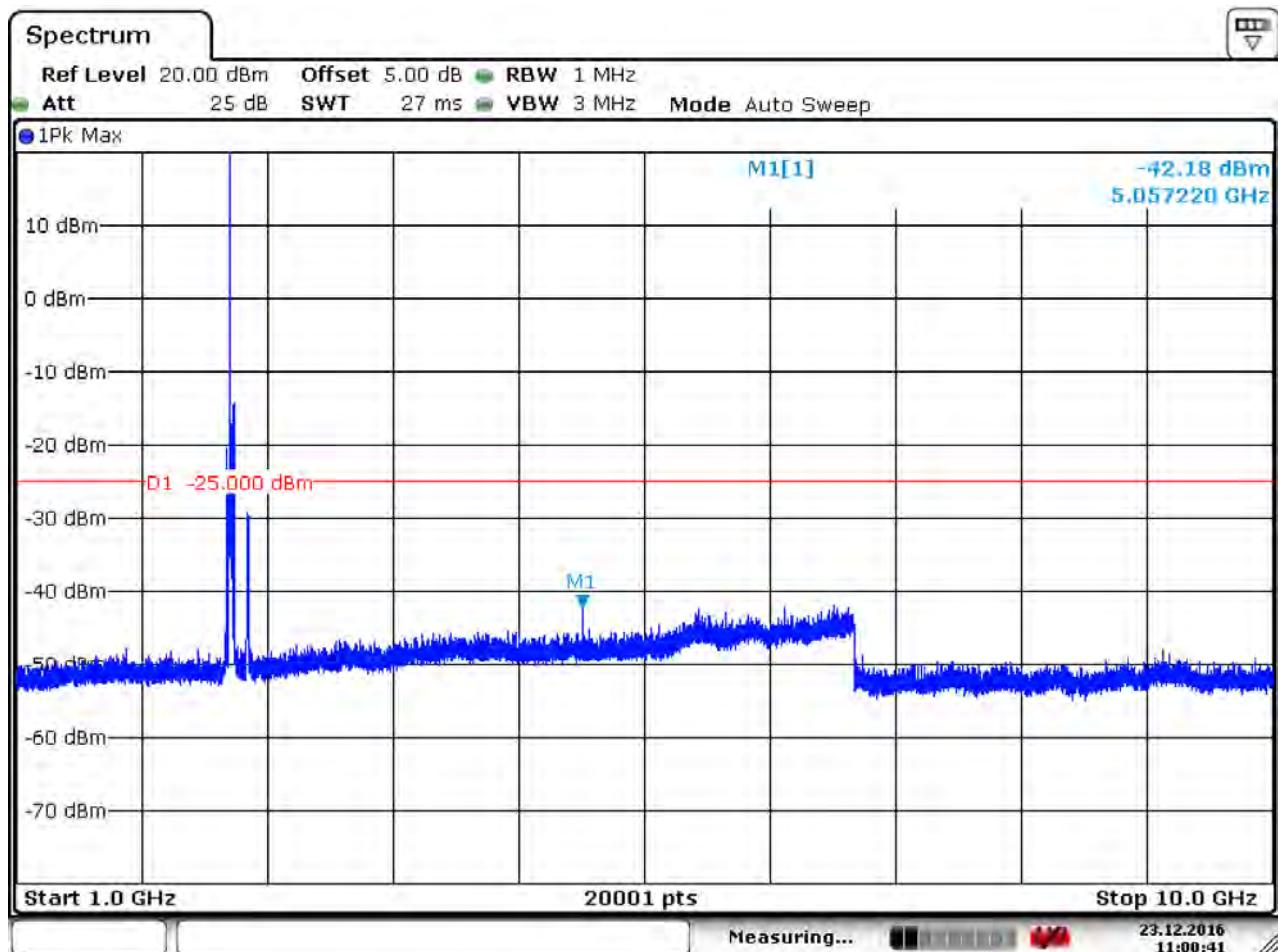
Report No.: SZEM170800849706
Page: 110 of 134

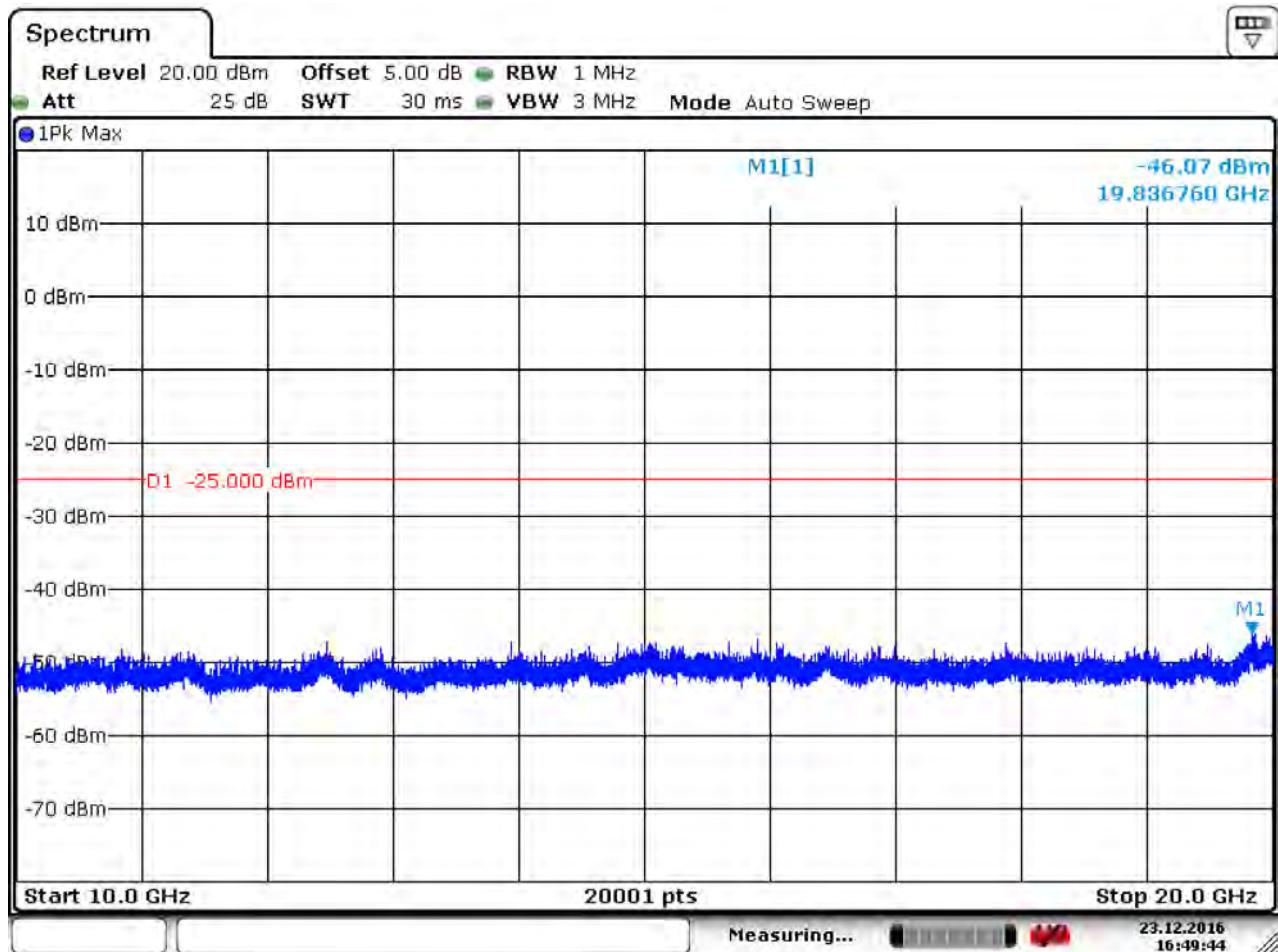
Date: 23.DEC.2016 16:57:07

6.1.1.3.2 Test Channel = MCH

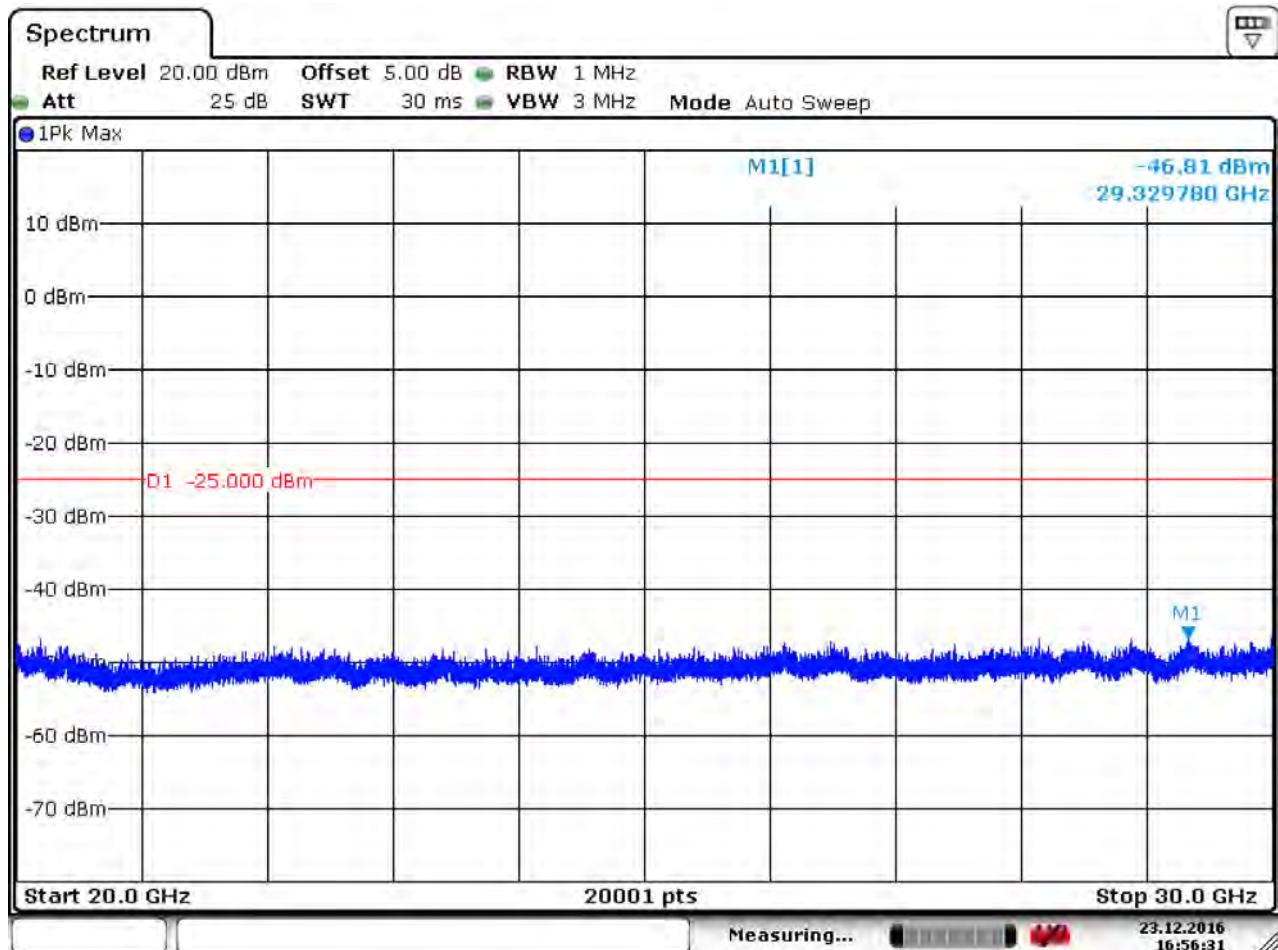


Date: 23.DEC.2016 10:56:03

Report No.: SZEM170800849706
Page: 112 of 134

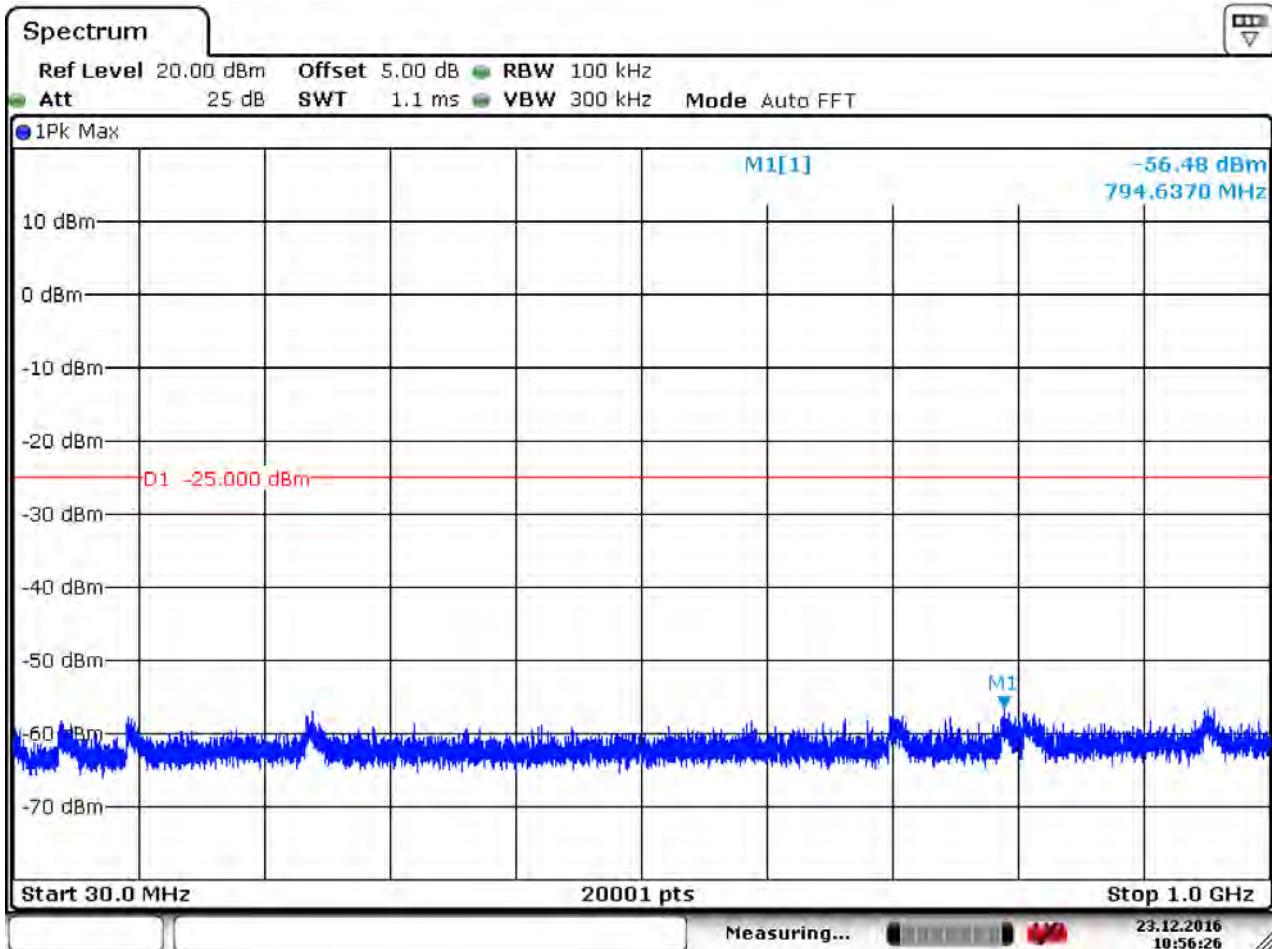
Report No.: SZEM170800849706
Page: 113 of 134

Date: 23.DEC.2016 16:49:45

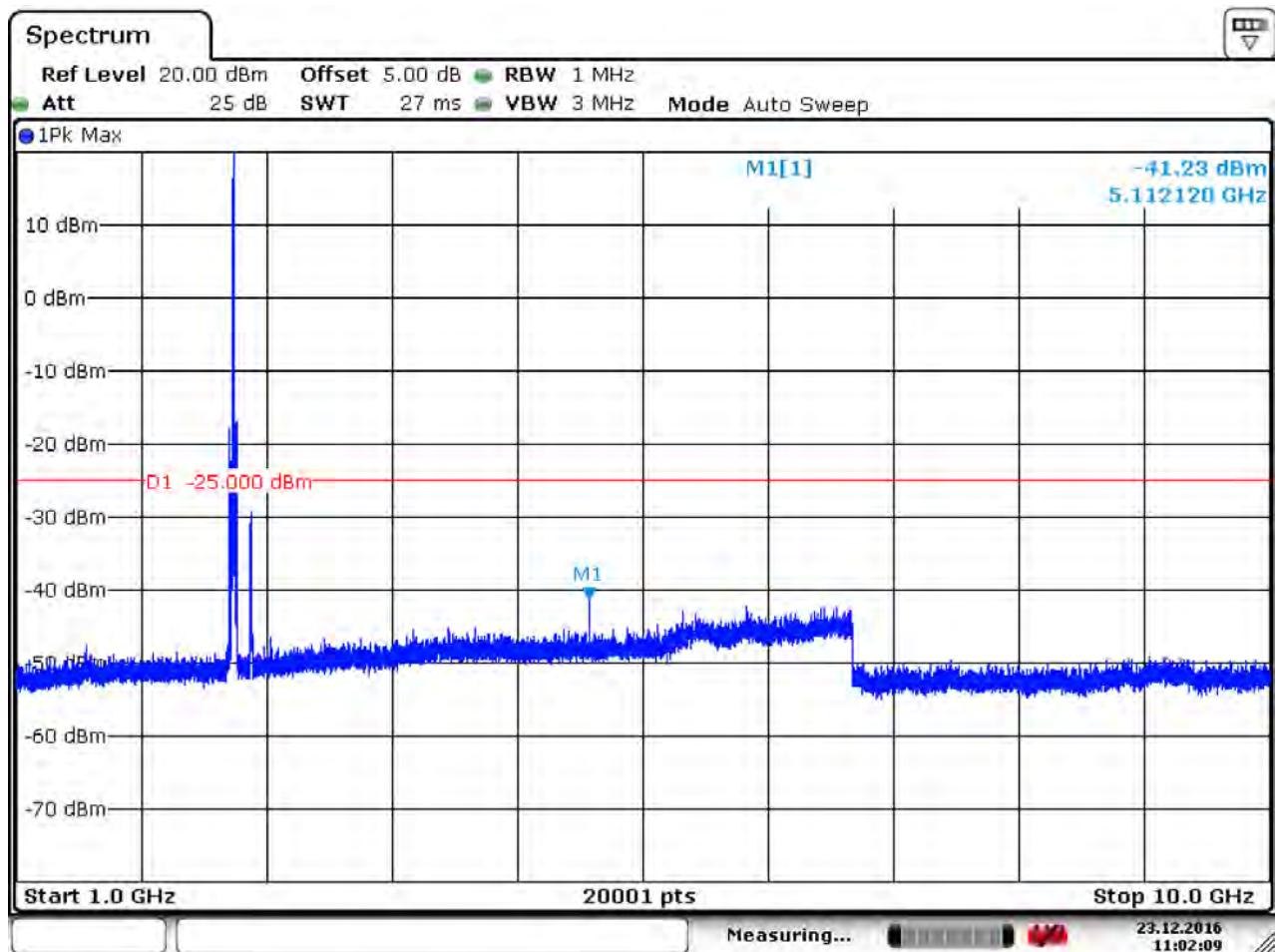
Report No.: SZEM170800849706
Page: 114 of 134

Date: 23.DEC.2016 16:56:31

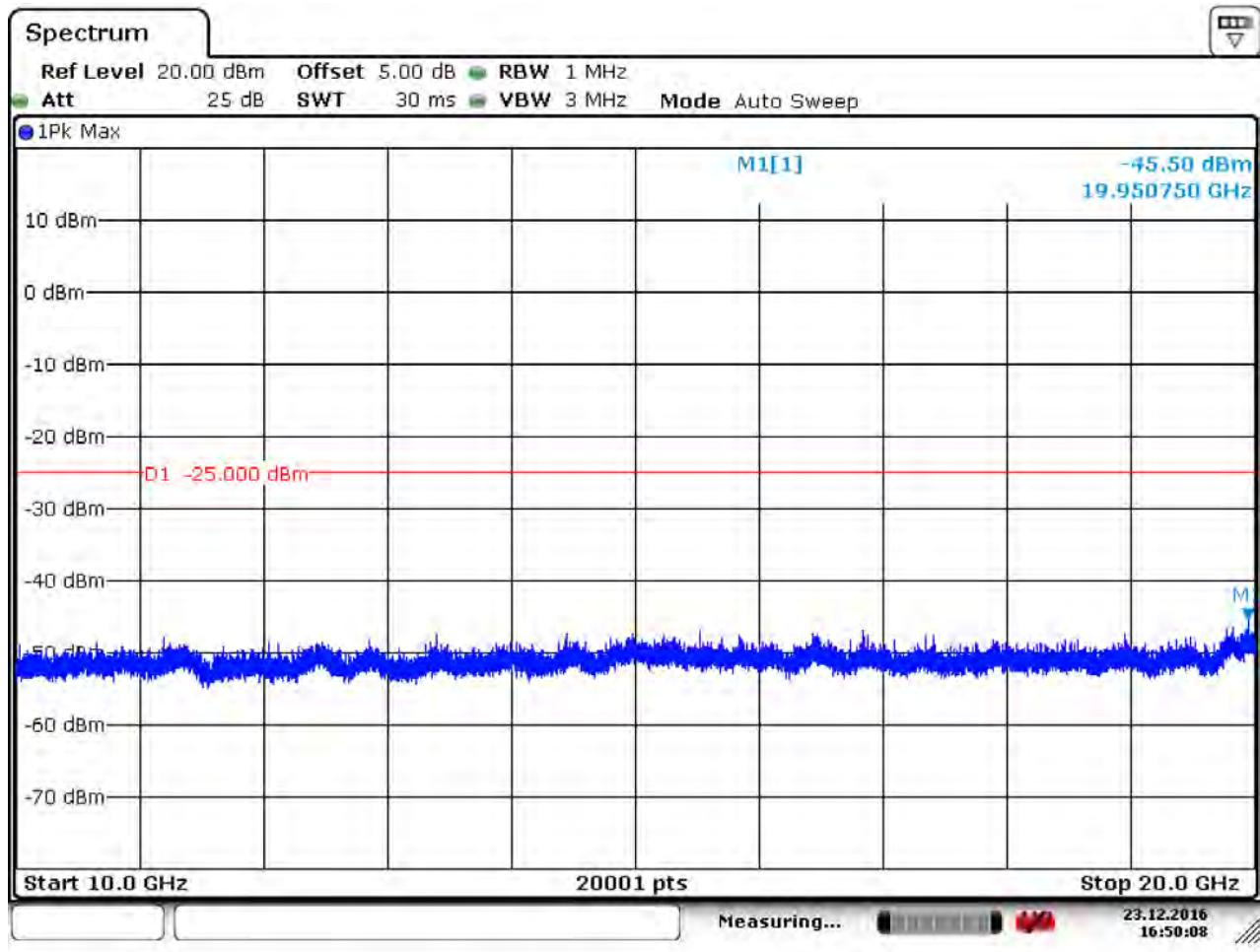
6.1.1.3.3 Test Channel = HCH



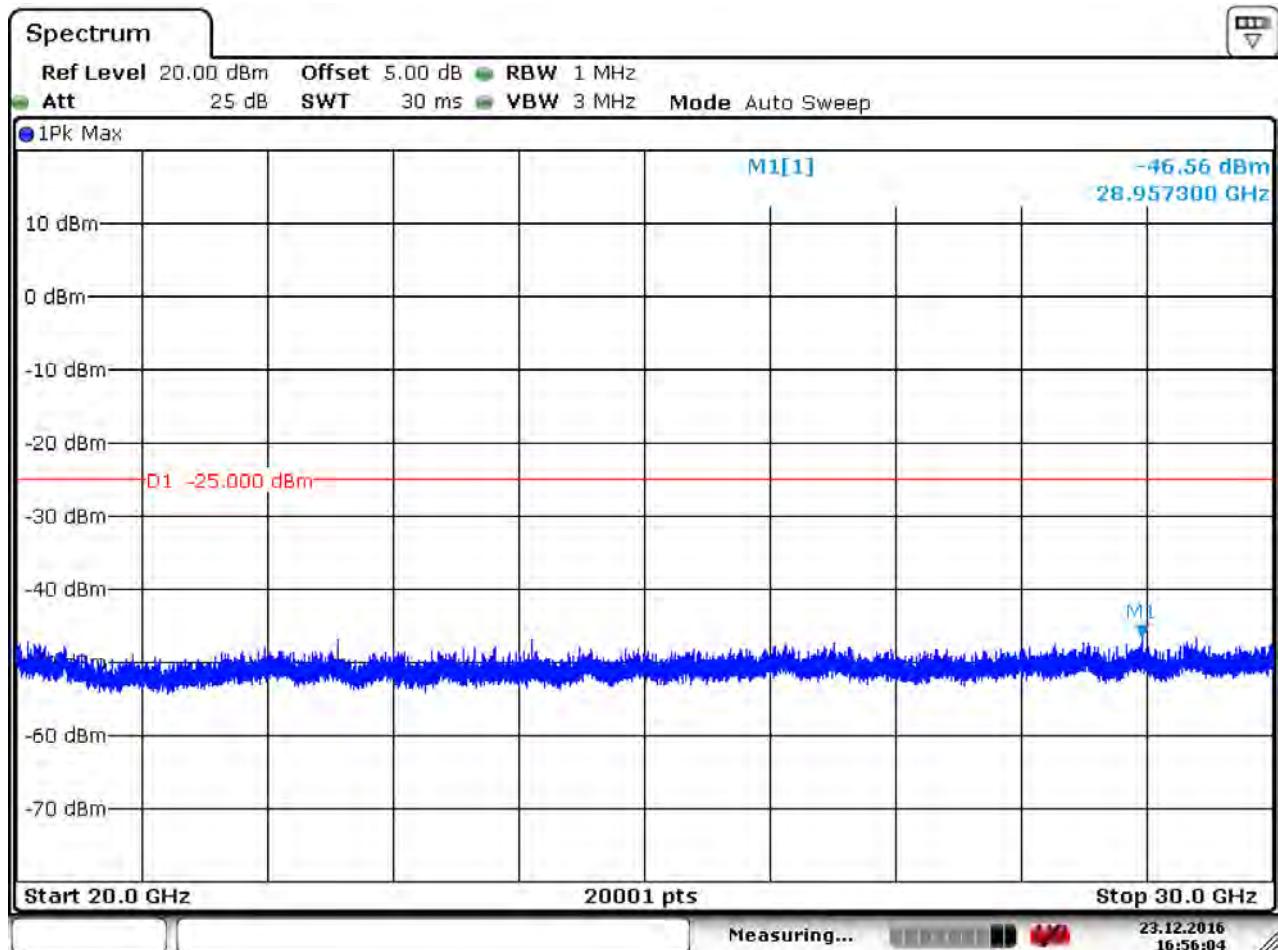
Date: 23.DEC.2016 10:56:26

Report No.: SZEM170800849706
Page: 116 of 134

Date: 23.DEC.2016 11:02:09

Report No.: SZEM170800849706
Page: 117 of 134

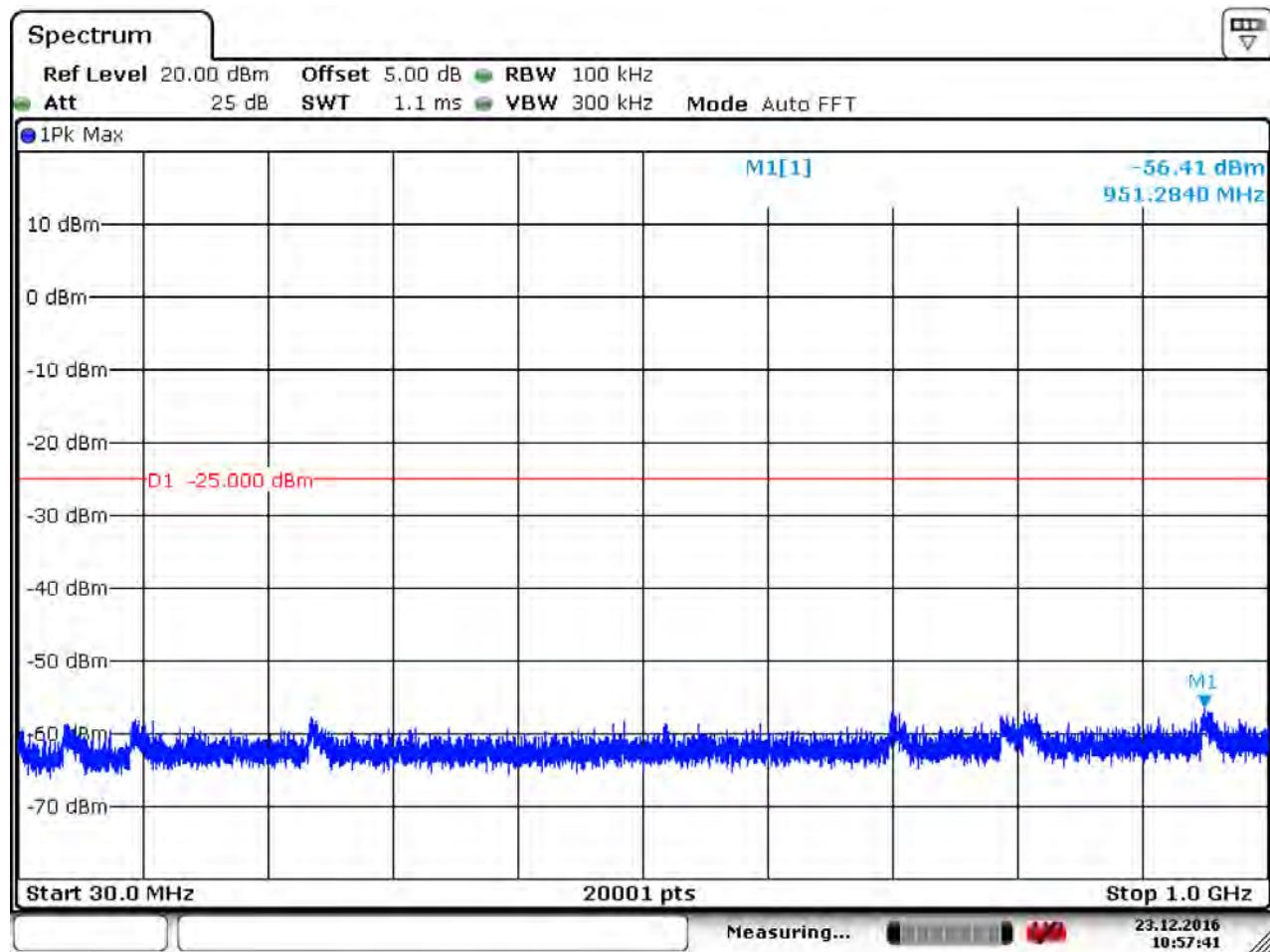
Date: 23.DEC.2016 16:50:08

Report No.: SZEM170800849706
Page: 118 of 134

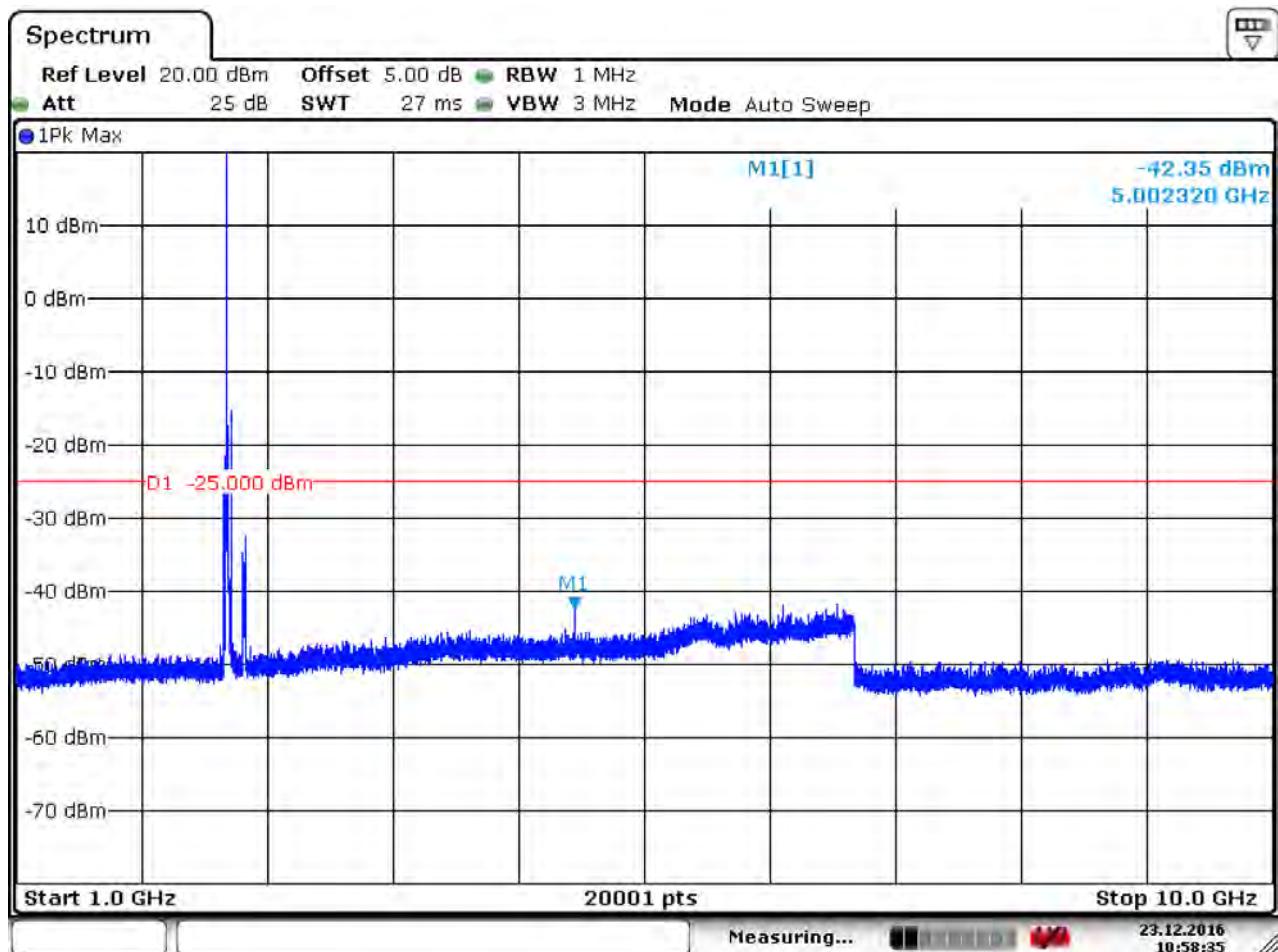
Date: 23.DEC.2016 16:56:05

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

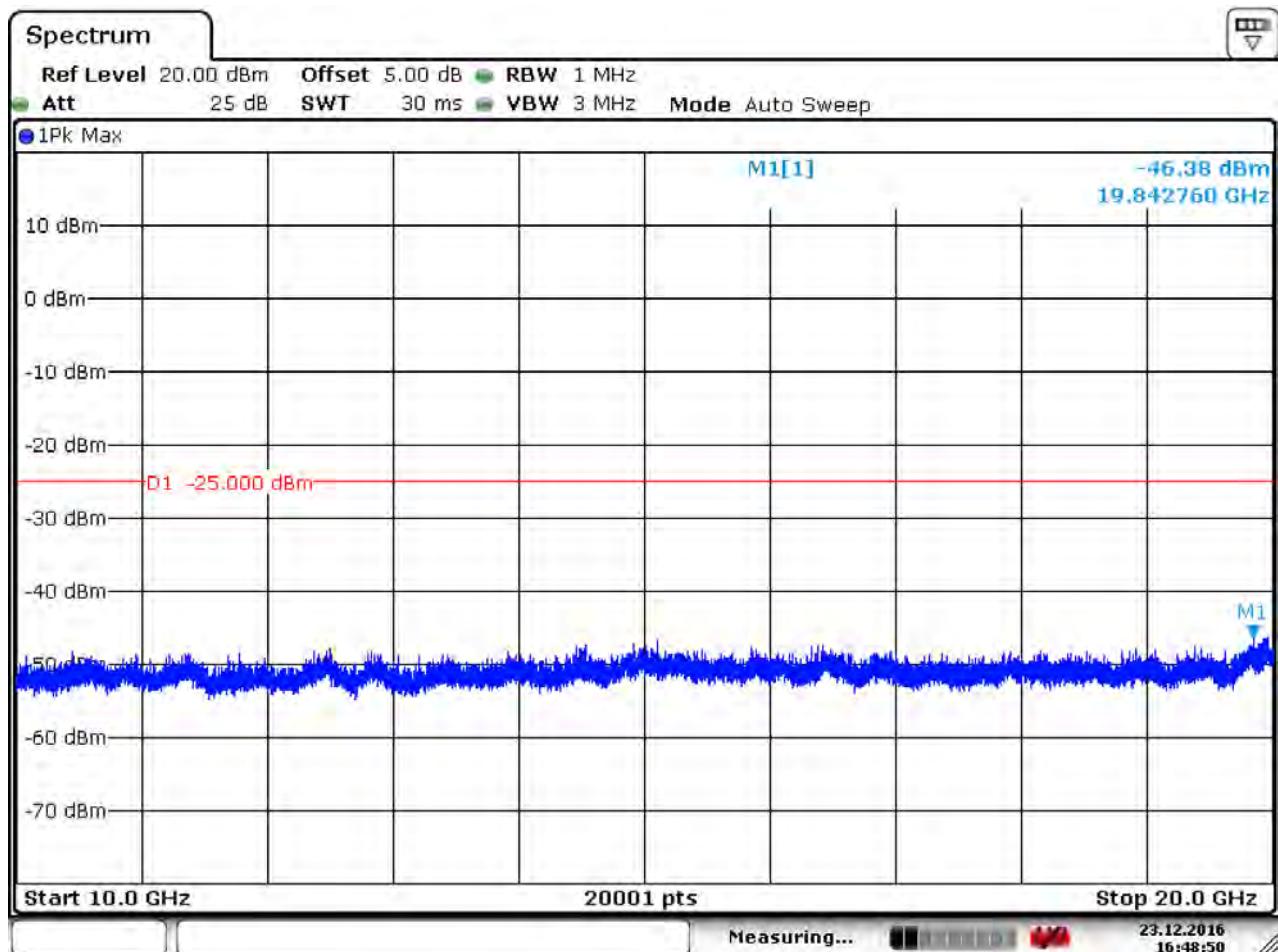
6.1.1.4.1 Test Channel = LCH



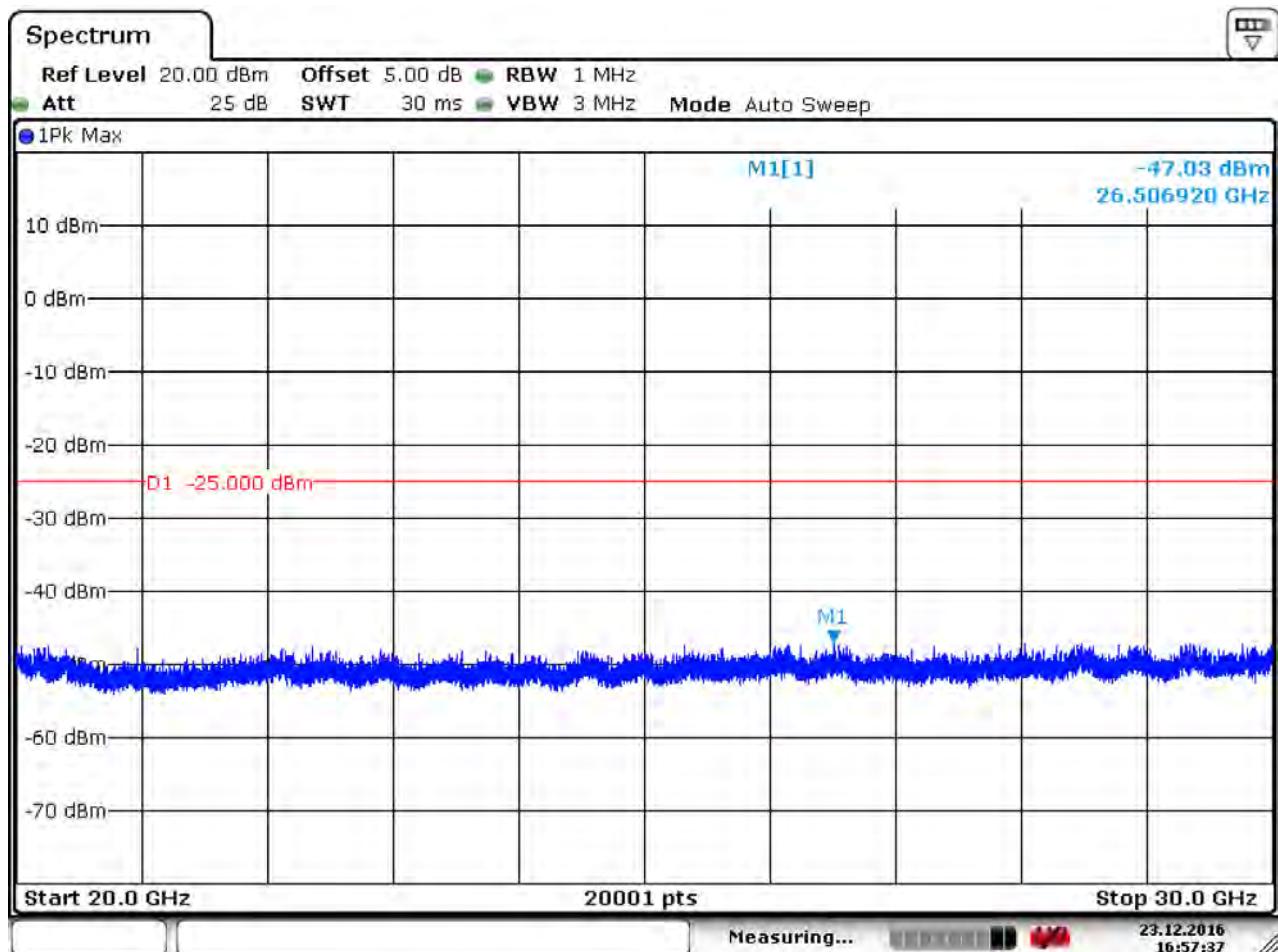
Date: 23.DEC.2016 10:57:42

Report No.: SZEM170800849706
Page: 120 of 134

Date: 23.DEC.2016 10:58:35

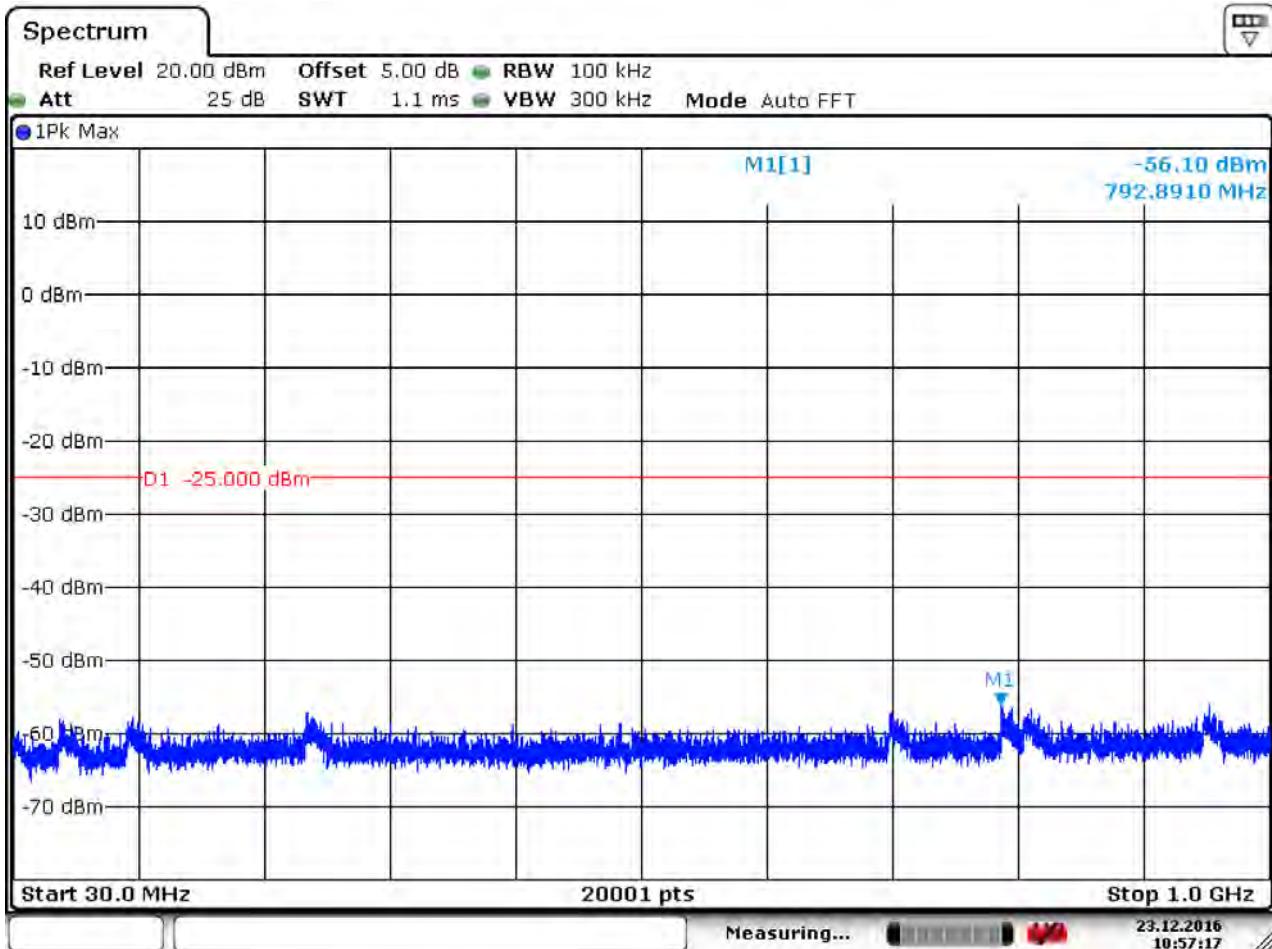
Report No.: SZEM170800849706
Page: 121 of 134

Date: 23.DEC.2016 16:48:51

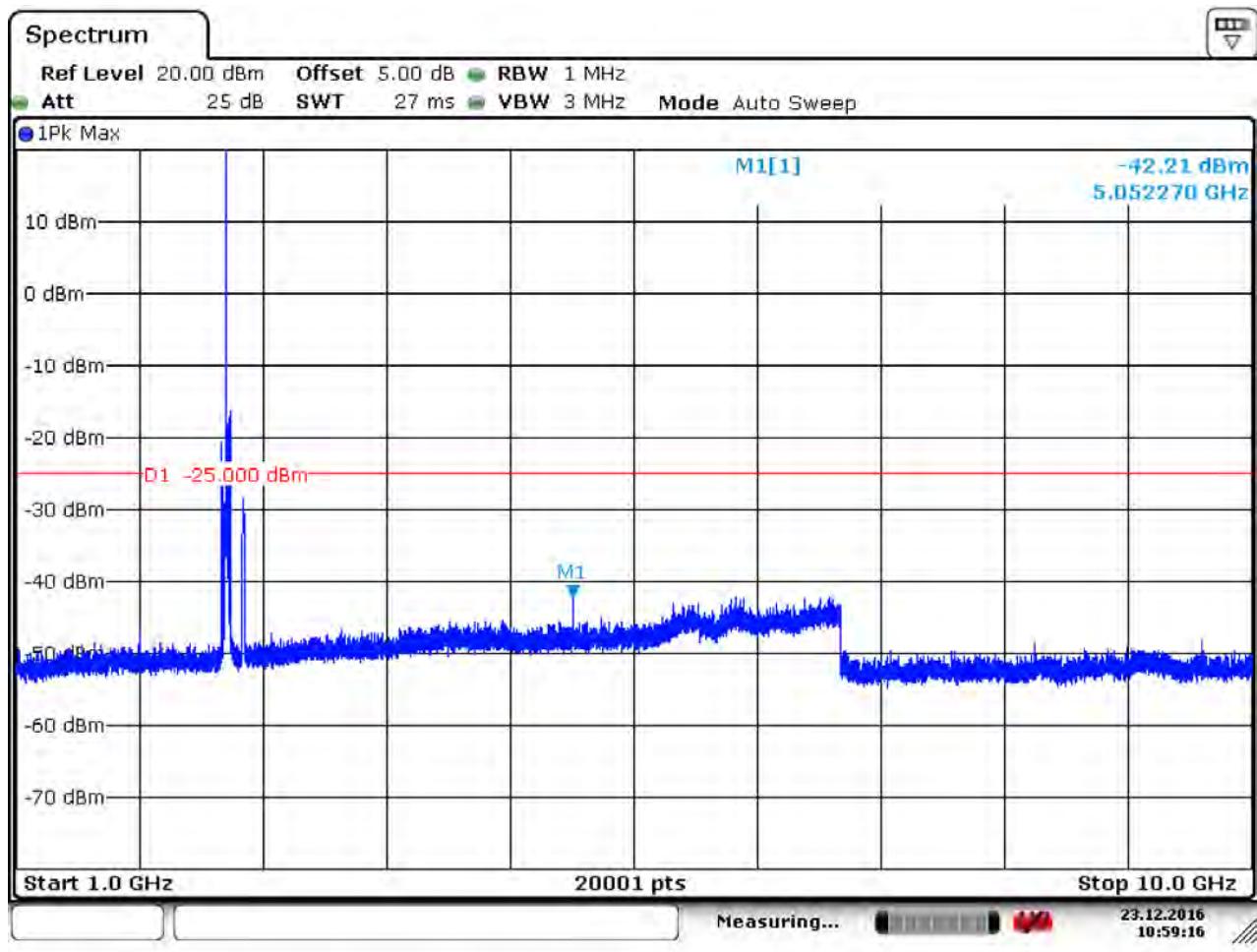
Report No.: SZEM170800849706
Page: 122 of 134

Date: 23.DEC.2016 16:57:37

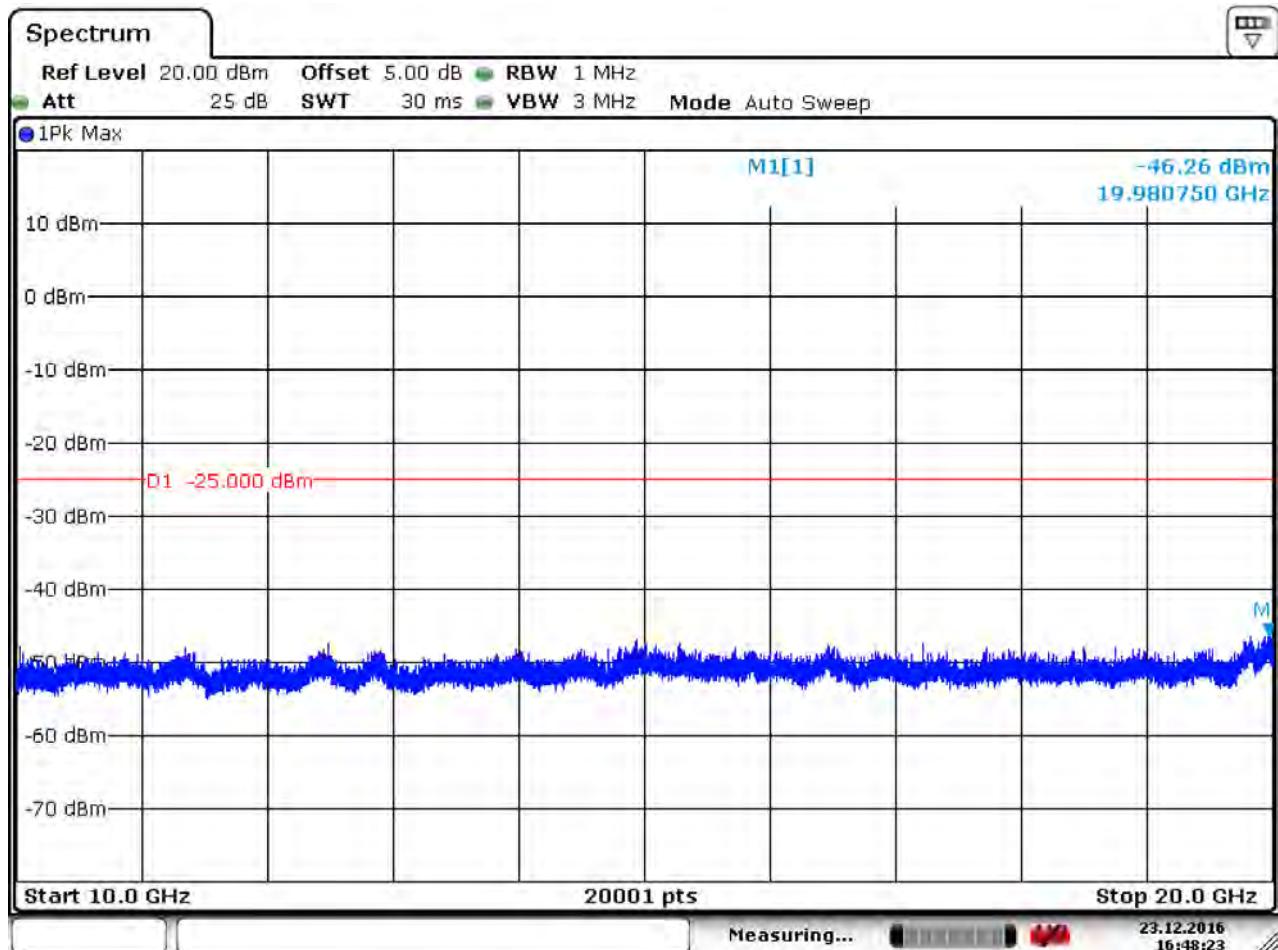
6.1.1.4.2 Test Channel = MCH



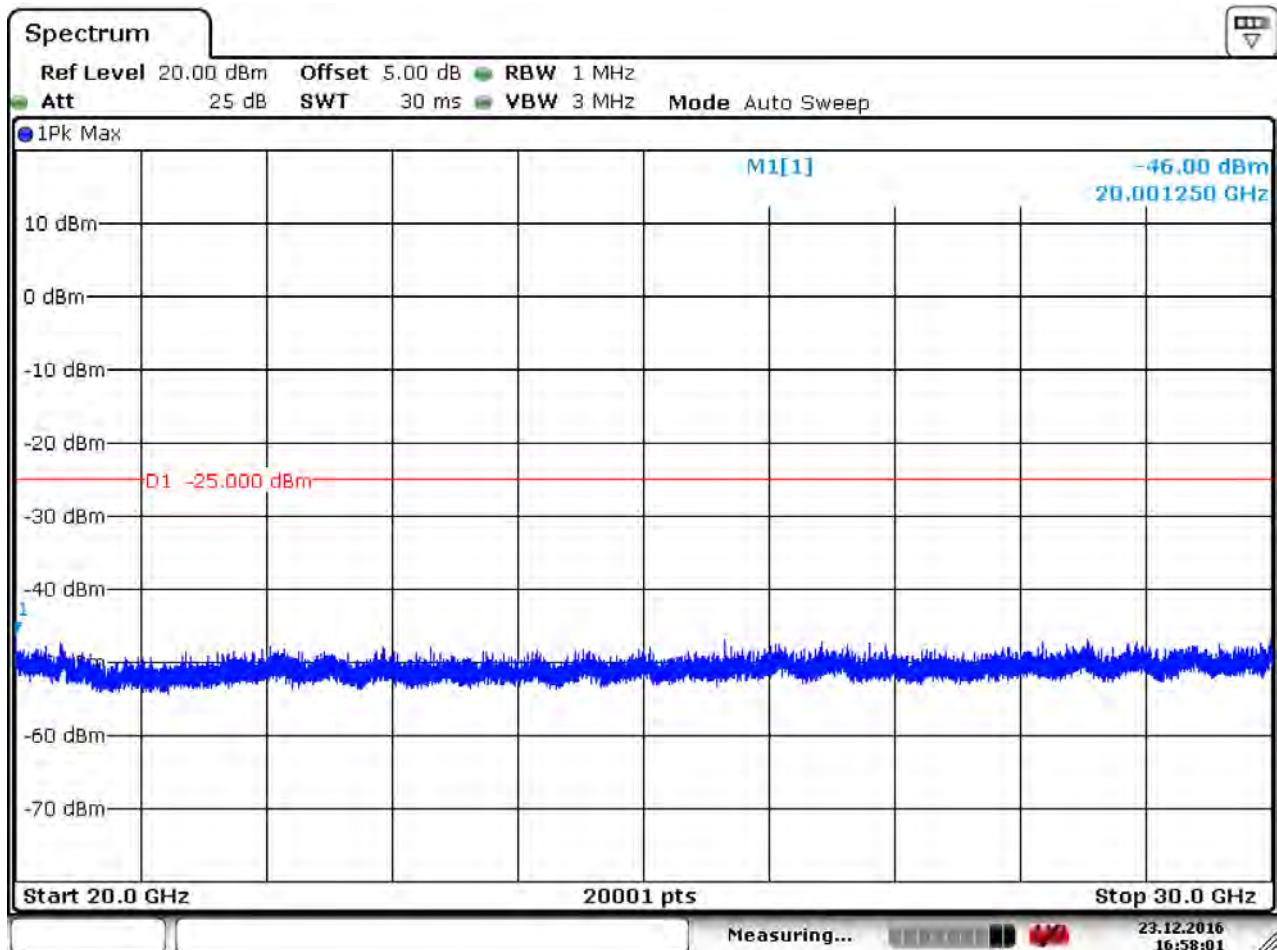
Date: 23.DEC.2016 10:57:18

Report No.: SZEM170800849706
Page: 124 of 134

Date: 23.DEC.2016 10:59:16

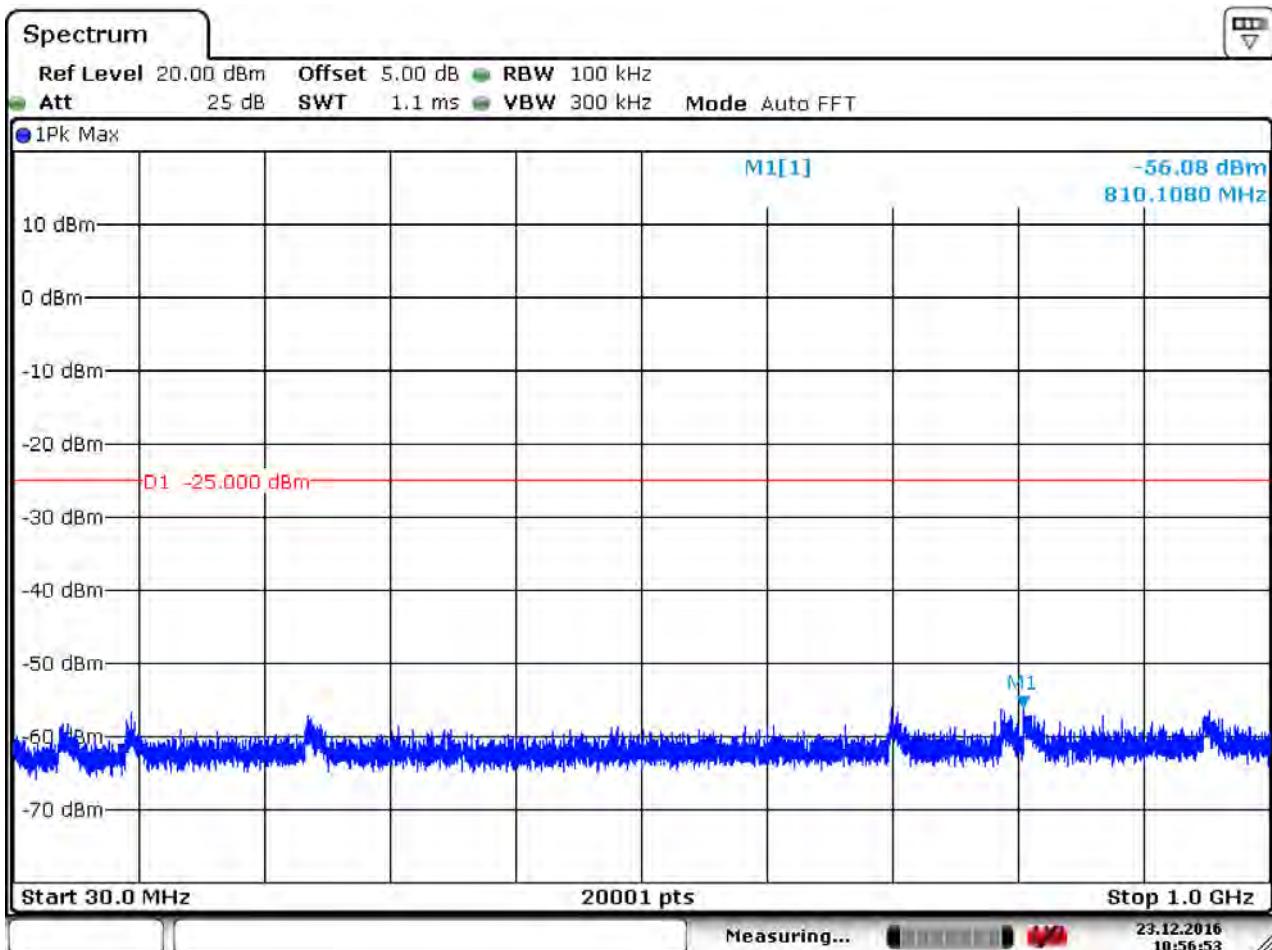
Report No.: SZEM170800849706
Page: 125 of 134

Date: 23.DEC.2016 16:48:23

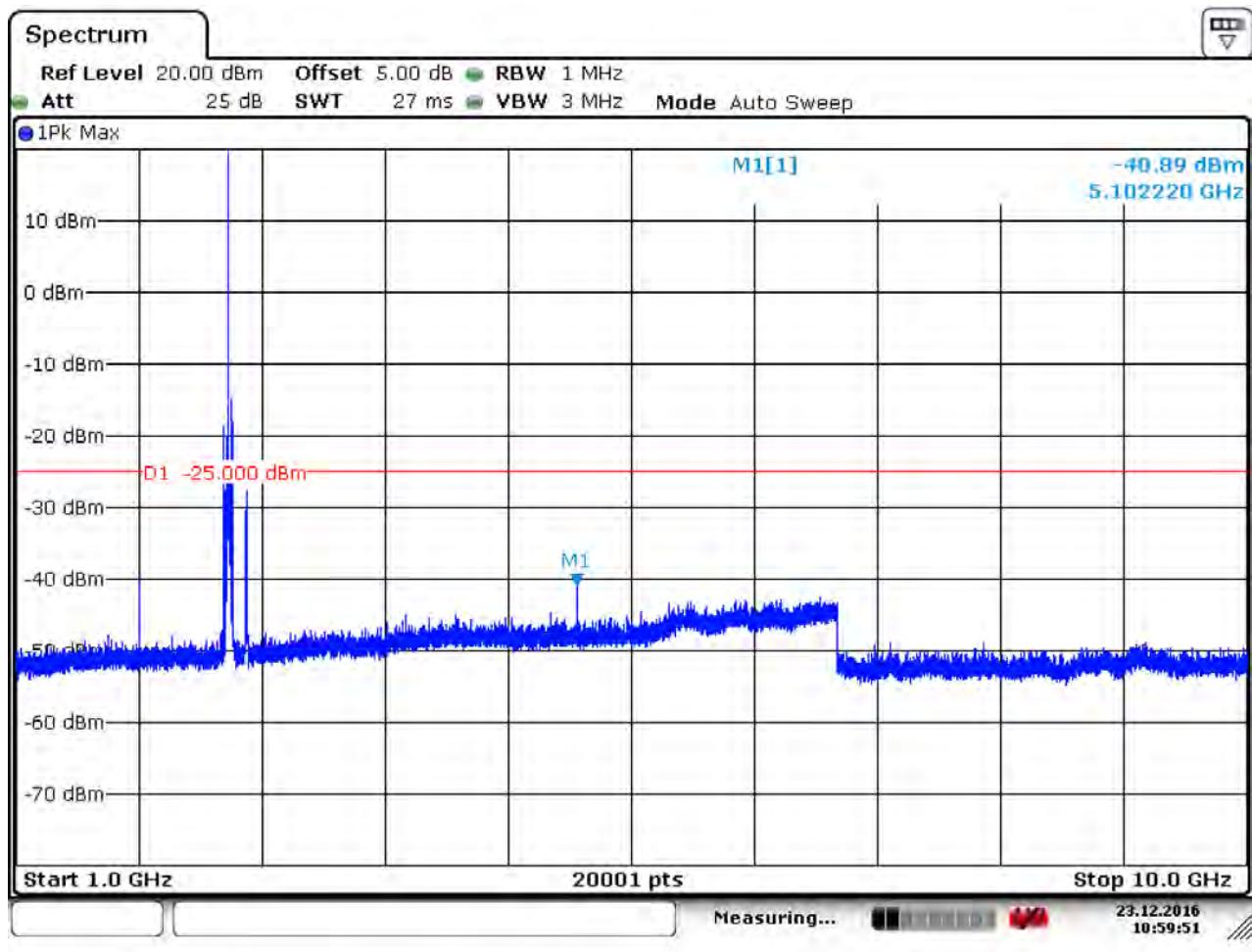
Report No.: SZEM170800849706
Page: 126 of 134

Date: 23.DEC.2016 16:58:01

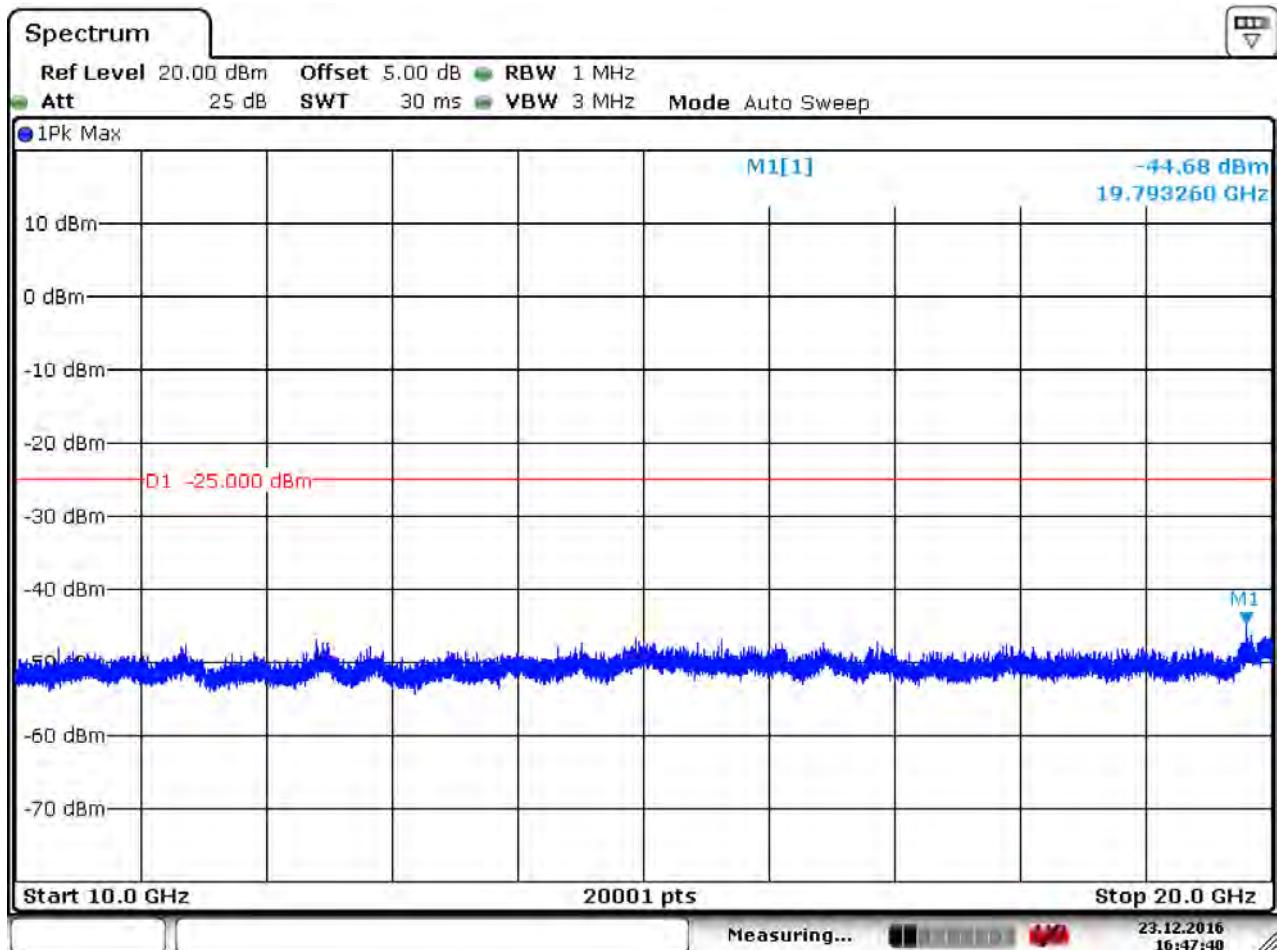
6.1.1.4.3 Test Channel = HCH



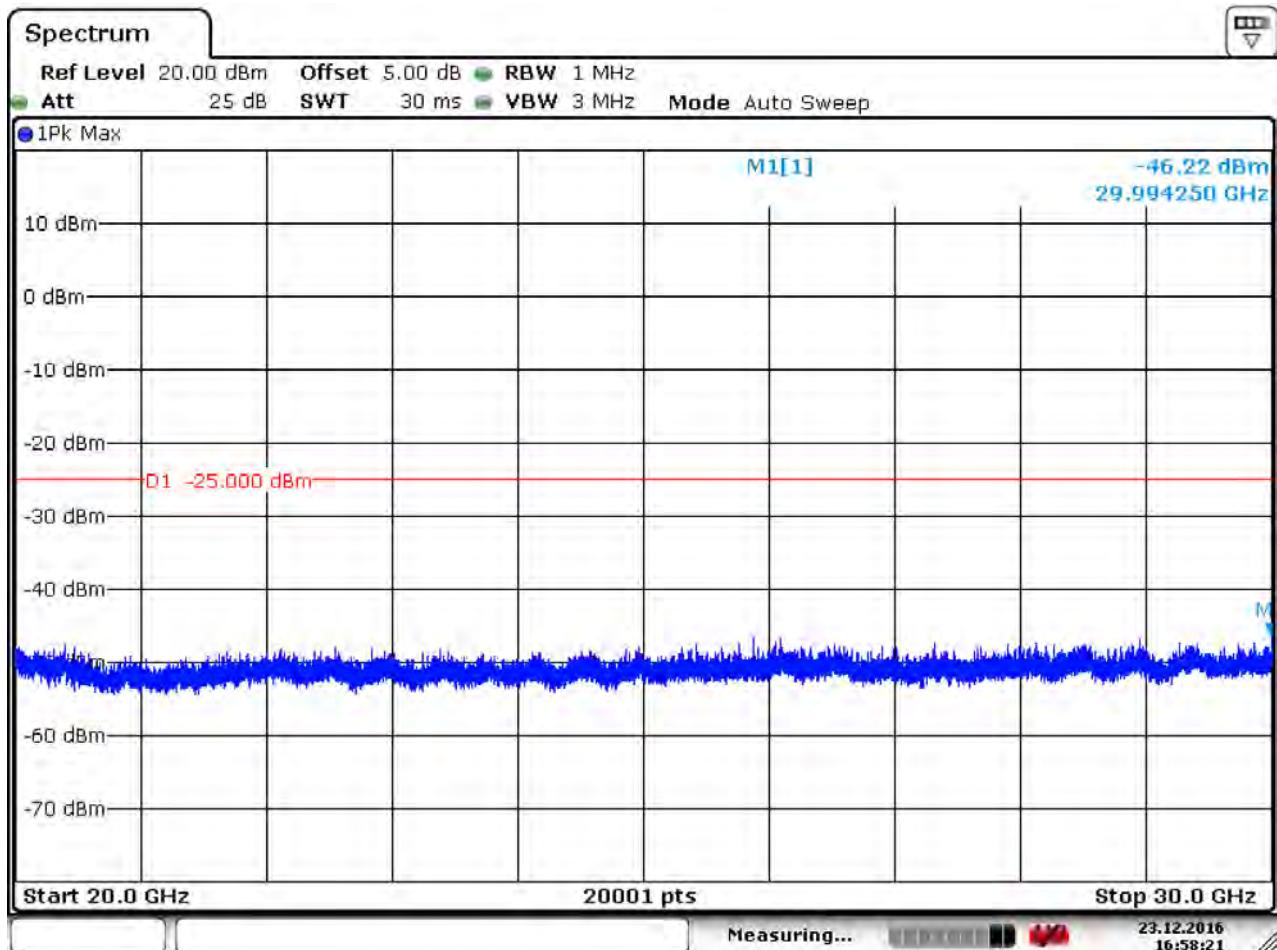
Date: 23.DEC.2016 10:56:53

Report No.: SZEM170800849706
Page: 128 of 134

Date: 23.DEC.2016 10:59:52

Report No.: SZEM170800849706
Page: 129 of 134

Date: 23.DEC.2016 16:47:41

Report No.: SZEM170800849706
Page: 130 of 134

Date: 23.DEC.2016 16:58:21



7 Field Strength of Spurious Radiation

7.1 For LTE

7.1.1 Test Band = LTE band7

7.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1397.000000	-67.29	-25.00	-42.29	Vertical
4267.500000	-66.87	-25.00	-41.87	Vertical
6412.500000	-65.49	-25.00	-40.49	Vertical
1276.000000	-67.11	-25.00	-42.11	Horizontal
4657.500000	-67.07	-25.00	-42.07	Horizontal
6607.500000	-65.11	-25.00	-40.11	Horizontal

NOTE:

- 1) All modes are tested, but the data presented above is the worst case. 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.

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
LTE band 7	LTE/TM1 20MHz	LCH	TN	VL	-3.13	-0.00125	PASS
				VN	2.44	0.00097	PASS
				VH	-5.73	-0.00228	PASS
		MCH	TN	VL	1.49	0.00059	PASS
				VN	-2.34	-0.00092	PASS
				VH	3.63	0.00143	PASS
		HCH	TN	VL	-3.56	-0.00139	PASS
				VN	-5.65	-0.00221	PASS
				VH	-1.59	-0.00062	PASS
	LTE/TM2 20MHz	LCH	TN	VL	-3.48	-0.00139	PASS
				VN	-2.74	-0.00109	PASS
				VH	-4.66	-0.00186	PASS
		MCH	TN	VL	0.56	0.00022	PASS
				VN	-1.89	-0.00075	PASS
				VH	2.59	0.00102	PASS
		HCH	TN	VL	-2.95	-0.00115	PASS
				VN	-4.43	-0.00173	PASS
				VH	-2.53	-0.00099	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
LTEband7	LTE/TM1 20MHz	LCH	VN	-30	-3.40	-0.00135	PASS
				-20	-1.34	-0.00053	PASS
				-10	2.38	0.00095	PASS
				0	1.75	0.00070	PASS
				10	1.65	0.00066	PASS
				20	2.11	0.00084	PASS
				30	-4.31	-0.00172	PASS
				40	-0.65	-0.00026	PASS
				50	2.59	0.00103	PASS
		MCH	VN	-30	-4.80	-0.00189	PASS
				-20	-2.95	-0.00116	PASS
				-10	-7.49	-0.00295	PASS
				0	-5.12	-0.00202	PASS
				10	-4.04	-0.00159	PASS
				20	-3.94	-0.00155	PASS
				30	-5.16	-0.00204	PASS
				40	-2.62	-0.00103	PASS
				50	-6.52	-0.00257	PASS
		HCH	VN	-30	2.51	0.00098	PASS
				-20	-1.88	-0.00073	PASS
				-10	2.53	0.00099	PASS
				0	-4.83	-0.00189	PASS
				10	2.60	0.00102	PASS
				20	-3.51	-0.00137	PASS
				30	-2.87	-0.00112	PASS
				40	-5.43	-0.00212	PASS
				50	-4.90	-0.00191	PASS



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

Report No.: SZEM170800849706
Page: 134 of 134

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband7	LTE/TM2 20MHz	LCH	VN	-30	-2.50	-0.00100	PASS
				-20	-2.45	-0.00098	PASS
				-10	3.54	0.00141	PASS
				0	2.64	0.00105	PASS
				10	1.60	0.00064	PASS
				20	-0.23	-0.00009	PASS
				30	-3.44	-0.00137	PASS
				40	5.34	0.00213	PASS
				50	6.39	0.00255	PASS
		MCH	VN	-30	-3.30	-0.00130	PASS
				-20	-5.28	-0.00208	PASS
				-10	-6.29	-0.00248	PASS
				0	-4.32	-0.00170	PASS
				10	-3.85	-0.00152	PASS
				20	1.34	0.00053	PASS
				30	-3.64	-0.00144	PASS
				40	-2.62	-0.00103	PASS
				50	-4.99	-0.00197	PASS
		HCH	VN	-30	1.34	0.00052	PASS
				-20	-2.25	-0.00088	PASS
				-10	3.59	0.00140	PASS
				0	-3.72	-0.00145	PASS
				10	2.88	0.00113	PASS
				20	-1.92	-0.00075	PASS
				30	-2.52	-0.00098	PASS
				40	-4.13	-0.00161	PASS
				50	-3.60	-0.00141	PASS

The End