



Appendix B

E-UTRA Band 38



CONTENT

	Page
1 EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA.....	3
2 PEAK-TO-AVERAGE RATIO	11
2.1 FOR LTE	12
2.1.1 Test Band = LTE band38.....	12
3 MODULATION CHARACTERISTICS	15
3.1 FOR LTE	15
3.1.1 Test Band = LTE band38.....	15
4 BANDWIDTH	17
4.1 FOR LTE	18
4.1.1 Test Band = LTE band38.....	18
5 BAND EDGES COMPLIANCE	31
5.1 FOR LTE	31
5.1.1 Test Band = LTE band38.....	31
6 SPURIOUS EMISSION AT ANTENNA TERMINAL.....	48
6.1 FOR LTE	48
6.1.1 Test Band = LTE band38.....	48
7 FIELD STRENGTH OF SPURIOUS RADIATION	55
7.1 FOR LTE	55
7.1.1 Test Band = LTE band38.....	55
8 FREQUENCY STABILITY	57
8.1 FREQUENCY ERROR VS. VOLTAGE	57
8.2 FREQUENCY ERROR VS. TEMPERATURE	58



1 Effective (Isotropic) Radiated Power Output Data

Effective Isotropic Radiated Power of Transmitter (EIRP) for LTE BAND 38

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM1	5M	LCH	RB1#0	21.71	20.91	33.00	PASS
				RB1#13	21.66	20.86	33.00	PASS
				RB1#24	21.67	20.87	33.00	PASS
				RB12#0	20.63	19.83	33.00	PASS
				RB12#6	20.59	19.79	33.00	PASS
				RB12#13	20.54	19.74	33.00	PASS
				RB25#0	20.59	19.79	33.00	PASS
			MCH	RB1#0	21.67	20.87	33.00	PASS
				RB1#13	21.80	210	33.00	PASS
				RB1#24	21.74	20.94	33.00	PASS
				RB12#0	20.60	19.80	33.00	PASS
				RB12#6	20.57	19.77	33.00	PASS
				RB12#13	20.68	19.88	33.00	PASS
				RB25#0	20.6	19.8	33.00	PASS
			HCH	RB1#0	21.67	20.87	33.00	PASS
				RB1#13	21.67	20.87	33.00	PASS
				RB1#24	21.57	20.77	33.00	PASS
				RB12#0	20.54	19.74	33.00	PASS
				RB12#6	20.50	19.70	33.00	PASS
				RB12#13	20.50	19.70	33.00	PASS
				RB25#0	20.59	19.79	33.00	PASS



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

Report No.: SZEM1701001110301

Page: 4 of 59

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM2	5M	LCH	RB1#0	20.33	19.53	33.00	PASS
				RB1#13	20.33	19.53	33.00	PASS
				RB1#24	20.34	19.54	33.00	PASS
				RB12#0	19.48	18.68	33.00	PASS
				RB12#6	19.45	18.65	33.00	PASS
				RB12#13	19.48	18.68	33.00	PASS
				RB25#0	19.47	18.67	33.00	PASS
			MCH	RB1#0	20.41	19.61	33.00	PASS
				RB1#13	20.48	19.68	33.00	PASS
				RB1#24	20.50	19.70	33.00	PASS
				RB12#0	19.43	18.63	33.00	PASS
				RB12#6	19.46	18.66	33.00	PASS
				RB12#13	19.58	18.78	33.00	PASS
				RB25#0	19.50	18.70	33.00	PASS
			HCH	RB1#0	20.28	19.48	33.00	PASS
				RB1#13	20.33	19.53	33.00	PASS
				RB1#24	20.30	19.50	33.00	PASS
				RB12#0	19.43	18.63	33.00	PASS
				RB12#6	19.41	18.61	33.00	PASS
				RB12#13	19.40	18.60	33.00	PASS
				RB25#0	19.45	18.65	33.00	PASS



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

Report No.: SZEM1701001110301

Page: 5 of 59

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM1	10M	LCH	RB1#0	21.68	20.88	33.00	PASS
				RB1#25	21.71	20.91	33.00	PASS
				RB1#49	21.71	20.91	33.00	PASS
				RB25#0	20.63	19.83	33.00	PASS
				RB25#13	20.63	19.83	33.00	PASS
				RB25#25	20.56	19.76	33.00	PASS
				RB50#0	20.57	19.77	33.00	PASS
			MCH	RB1#0	21.59	20.79	33.00	PASS
				RB1#25	21.80	21.00	33.00	PASS
				RB1#49	21.70	20.90	33.00	PASS
				RB25#0	20.58	19.78	33.00	PASS
				RB25#13	20.62	19.82	33.00	PASS
				RB25#25	20.56	19.76	33.00	PASS
				RB50#0	20.60	19.80	33.00	PASS
			HCH	RB1#0	21.53	20.73	33.00	PASS
				RB1#25	21.67	20.87	33.00	PASS
				RB1#49	21.67	20.87	33.00	PASS
				RB25#0	20.56	19.76	33.00	PASS
				RB25#13	20.66	19.86	33.00	PASS
				RB25#25	20.60	19.80	33.00	PASS
				RB50#0	20.62	19.82	33.00	PASS



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

Report No.: SZEM1701001110301

Page: 6 of 59

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM2	10M	LCH	RB1#0	20.39	19.59	33.00	PASS
				RB1#25	20.31	19.51	33.00	PASS
				RB1#49	20.37	19.57	33.00	PASS
				RB25#0	19.51	18.71	33.00	PASS
				RB25#13	19.46	18.66	33.00	PASS
				RB25#25	19.48	18.68	33.00	PASS
				RB50#0	19.48	18.68	33.00	PASS
			MCH	RB1#0	20.31	19.51	33.00	PASS
				RB1#25	20.45	19.65	33.00	PASS
				RB1#49	20.30	19.50	33.00	PASS
				RB25#0	19.51	18.71	33.00	PASS
				RB25#13	19.50	18.70	33.00	PASS
				RB25#25	19.50	18.70	33.00	PASS
				RB50#0	19.39	18.59	33.00	PASS
			HCH	RB1#0	20.22	19.42	33.00	PASS
				RB1#25	20.35	19.55	33.00	PASS
				RB1#49	20.28	19.48	33.00	PASS
				RB25#0	19.43	18.63	33.00	PASS
				RB25#13	19.49	18.69	33.00	PASS
				RB25#25	19.43	18.63	33.00	PASS
				RB50#0	19.41	18.61	33.00	PASS



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

Report No.: SZEM1701001110301

Page: 7 of 59

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM1	15M	LCH	RB1#0	21.73	20.93	33.00	PASS
				RB1#38	21.71	20.91	33.00	PASS
				RB1#74	21.73	20.93	33.00	PASS
				RB36#0	20.60	19.80	33.00	PASS
				RB36#18	20.61	19.81	33.00	PASS
				RB36#39	20.54	19.74	33.00	PASS
				RB75#0	20.61	19.81	33.00	PASS
			MCH	RB1#0	21.62	20.82	33.00	PASS
				RB1#38	21.78	20.98	33.00	PASS
				RB1#74	21.71	20.91	33.00	PASS
				RB36#0	20.66	19.86	33.00	PASS
				RB36#18	20.62	19.82	33.00	PASS
				RB36#39	20.55	19.75	33.00	PASS
				RB75#0	20.55	19.75	33.00	PASS
			HCH	RB1#0	21.69	20.89	33.00	PASS
				RB1#38	21.65	20.85	33.00	PASS
				RB1#74	21.74	20.94	33.00	PASS
				RB36#0	20.48	19.68	33.00	PASS
				RB36#18	20.51	19.71	33.00	PASS
				RB36#39	20.58	19.78	33.00	PASS
				RB75#0	20.53	19.73	33.00	PASS



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

Report No.: SZEM1701001110301

Page: 8 of 59

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM2	15M	LCH	RB1#0	20.31	19.51	33.00	PASS
				RB1#38	20.28	19.48	33.00	PASS
				RB1#74	20.30	19.50	33.00	PASS
				RB36#0	19.42	18.62	33.00	PASS
				RB36#18	19.42	18.62	33.00	PASS
				RB36#39	19.41	18.61	33.00	PASS
				RB75#0	19.41	18.61	33.00	PASS
			MCH	RB1#0	20.29	19.49	33.00	PASS
				RB1#38	20.45	19.65	33.00	PASS
				RB1#74	20.39	19.59	33.00	PASS
				RB36#0	19.42	18.62	33.00	PASS
				RB36#18	19.43	18.63	33.00	PASS
				RB36#39	19.34	18.54	33.00	PASS
				RB75#0	19.34	18.54	33.00	PASS
			HCH	RB1#0	20.41	19.61	33.00	PASS
				RB1#38	20.24	19.44	33.00	PASS
				RB1#74	20.27	19.47	33.00	PASS
				RB36#0	19.26	18.46	33.00	PASS
				RB36#18	19.29	18.49	33.00	PASS
				RB36#39	19.37	18.57	33.00	PASS
				RB75#0	19.37	18.57	33.00	PASS



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

Report No.: SZEM1701001110301

Page: 9 of 59

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM1	20M	LCH	RB1#0	21.67	20.87	33.00	PASS
				RB1#50	21.65	20.85	33.00	PASS
				RB1#99	21.71	20.91	33.00	PASS
				RB50#0	20.56	19.76	33.00	PASS
				RB50#25	20.58	19.78	33.00	PASS
				RB50#50	20.54	19.74	33.00	PASS
				RB100#0	20.54	19.74	33.00	PASS
			MCH	RB1#0	21.61	20.81	33.00	PASS
				RB1#50	21.78	20.98	33.00	PASS
				RB1#99	21.72	20.92	33.00	PASS
				RB50#0	20.67	19.87	33.00	PASS
				RB50#25	20.59	19.79	33.00	PASS
				RB50#50	20.51	19.71	33.00	PASS
				RB100#0	20.62	19.82	33.00	PASS
			HCH	RB1#0	21.51	20.71	33.00	PASS
				RB1#50	21.51	20.71	33.00	PASS
				RB1#99	21.62	20.82	33.00	PASS
				RB50#0	20.57	19.77	33.00	PASS
				RB50#25	20.60	19.80	33.00	PASS
				RB50#50	20.57	19.77	33.00	PASS
				RB100#0	20.54	19.74	33.00	PASS



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

Report No.: SZEM1701001110301

Page: 10 of 59

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND38	LTE/TM2	20M	LCH	RB1#0	20.34	19.54	33.00	PASS
				RB1#50	20.26	19.46	33.00	PASS
				RB1#99	20.34	19.54	33.00	PASS
				RB50#0	19.39	18.59	33.00	PASS
				RB50#25	19.40	18.60	33.00	PASS
				RB50#50	19.37	18.57	33.00	PASS
				RB100#0	19.38	18.58	33.00	PASS
			MCH	RB1#0	20.36	19.56	33.00	PASS
				RB1#50	20.48	19.68	33.00	PASS
				RB1#99	20.36	19.56	33.00	PASS
				RB50#0	19.47	18.67	33.00	PASS
				RB50#25	19.39	18.59	33.00	PASS
				RB50#50	19.37	18.57	33.00	PASS
				RB100#0	19.48	18.68	33.00	PASS
			HCH	RB1#0	20.20	19.40	33.00	PASS
				RB1#50	20.20	19.40	33.00	PASS
				RB1#99	20.25	19.45	33.00	PASS
				RB50#0	19.32	18.52	33.00	PASS
				RB50#25	19.36	18.56	33.00	PASS
				RB50#50	19.42	18.62	33.00	PASS
				RB100#0	19.39	18.59	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 38	TM1/20M	LCH	5.10	13	PASS
		MCH	5.57	13	PASS
		HCH	5.57	13	PASS
	TM2/20M	LCH	6.06	13	PASS
		MCH	6.23	13	PASS
		HCH	6.26	13	PASS



Part II - Test Plots

2.1 For LTE

2.1.1 Test Band = LTE band38

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

2.1.1.1.1 Test Channel = LCH



Date: 13.DEC.2017 10:02:15

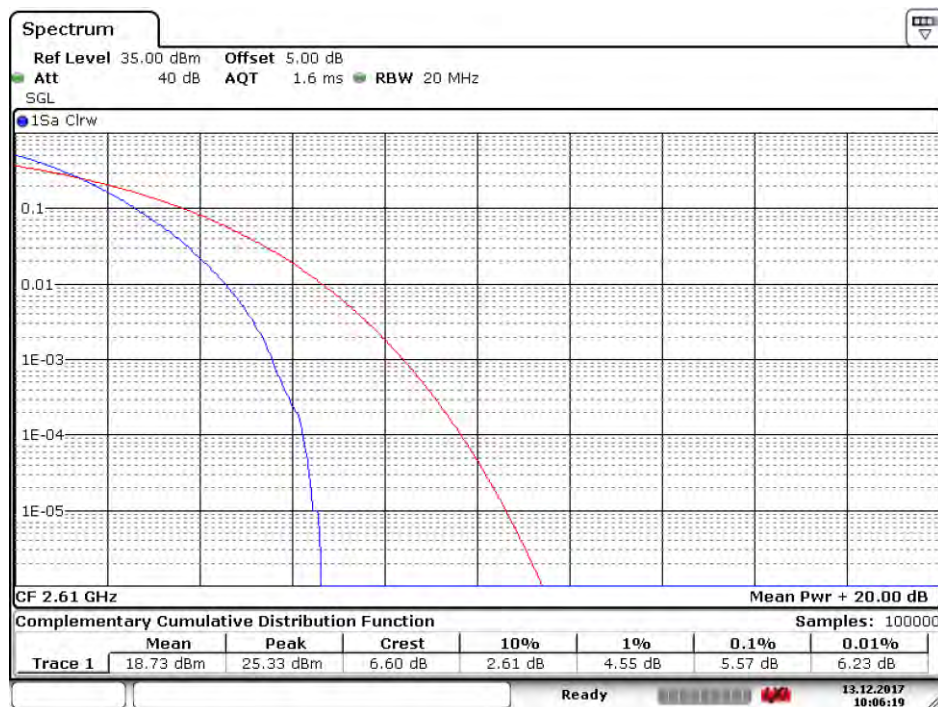
2.1.1.1.2 Test Channel = MCH



Date: 13.DEC.2017 10:03:46



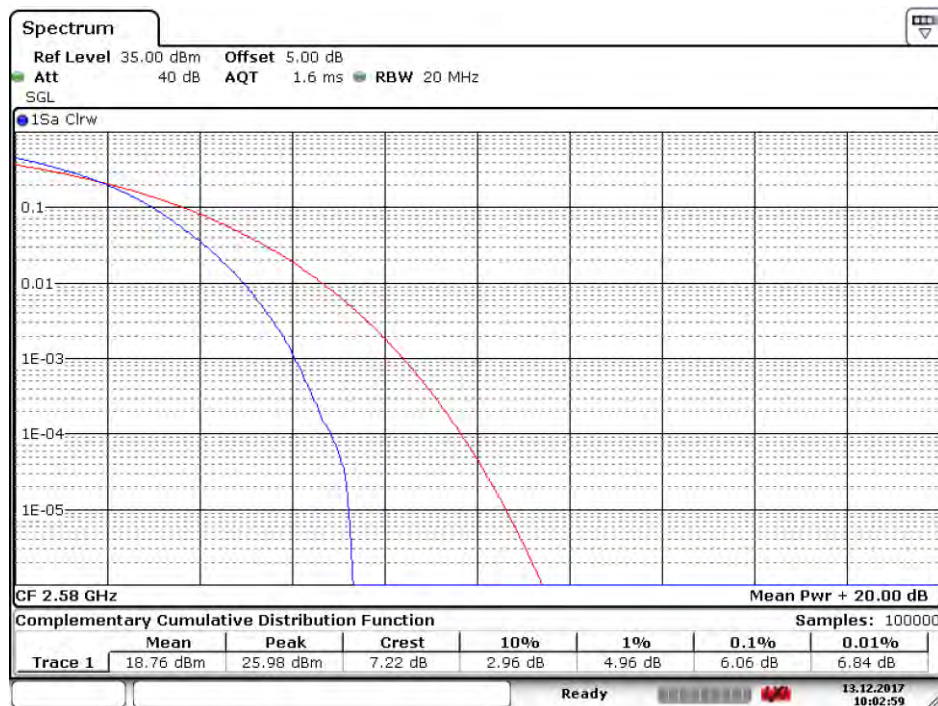
2.1.1.1.3 Test Channel = HCH



Date: 13.DEC.2017 10:06:20

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

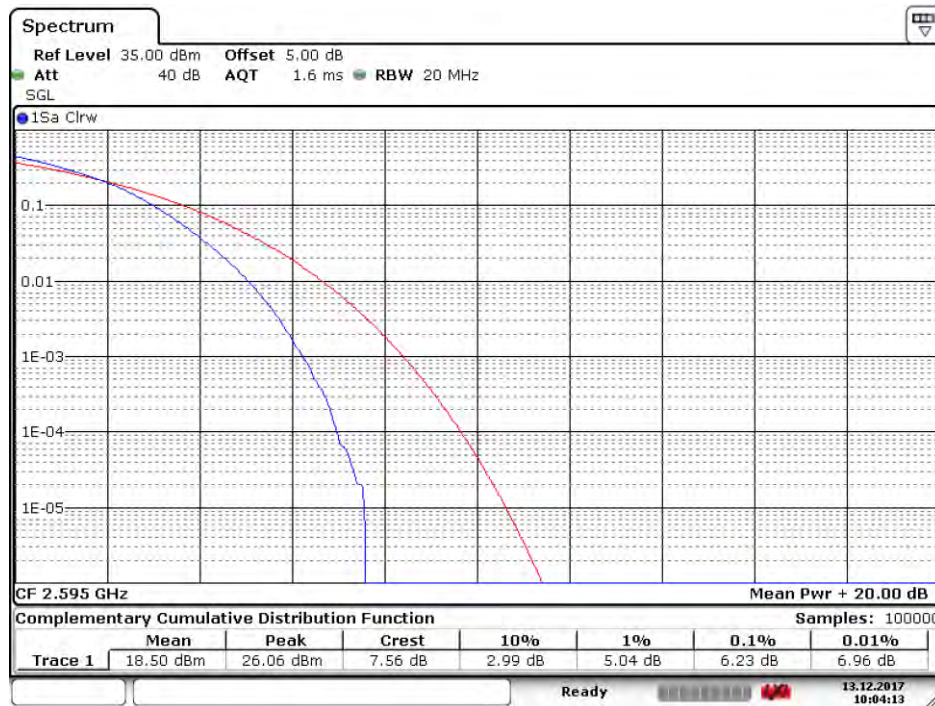
2.1.1.2.1 Test Channel = LCH



Date: 13.DEC.2017 10:02:59



2.1.1.2.2 Test Channel = MCH



Date: 13.DEC.2017 10:04:13

2.1.1.2.3 Test Channel = HCH



Date: 13.DEC.2017 10:06:03

3 Modulation Characteristics

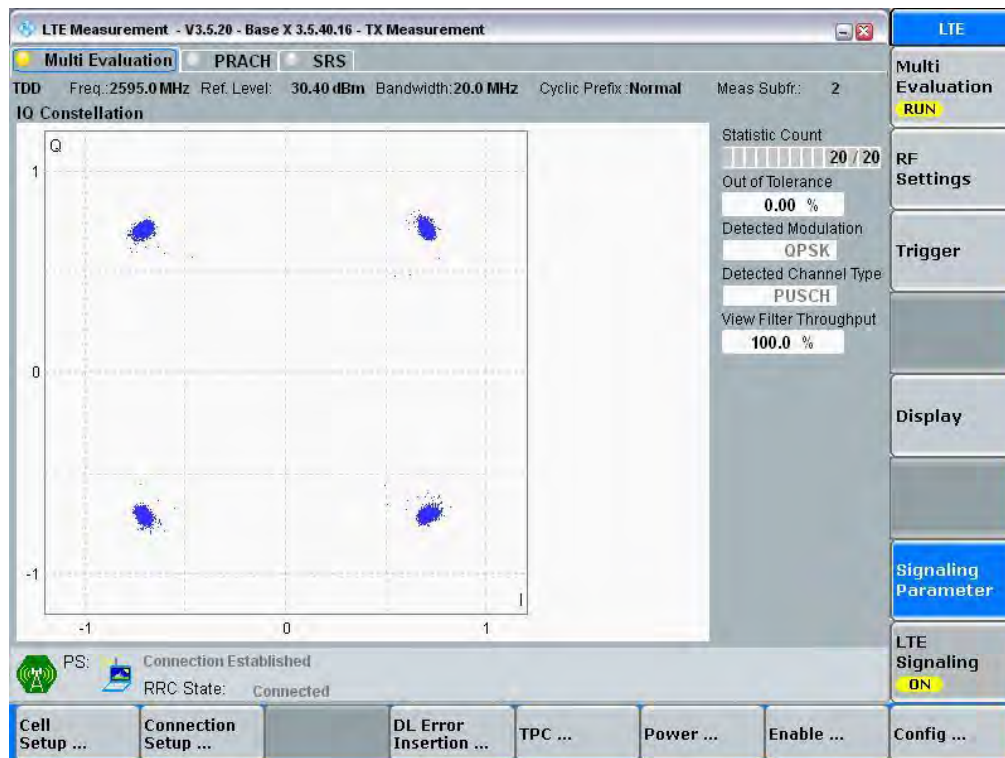
Part I - Test Plots

3.1 For LTE

3.1.1 Test Band = LTE band38

3.1.1.1 Test Mode = LTE /TM1 20MHz

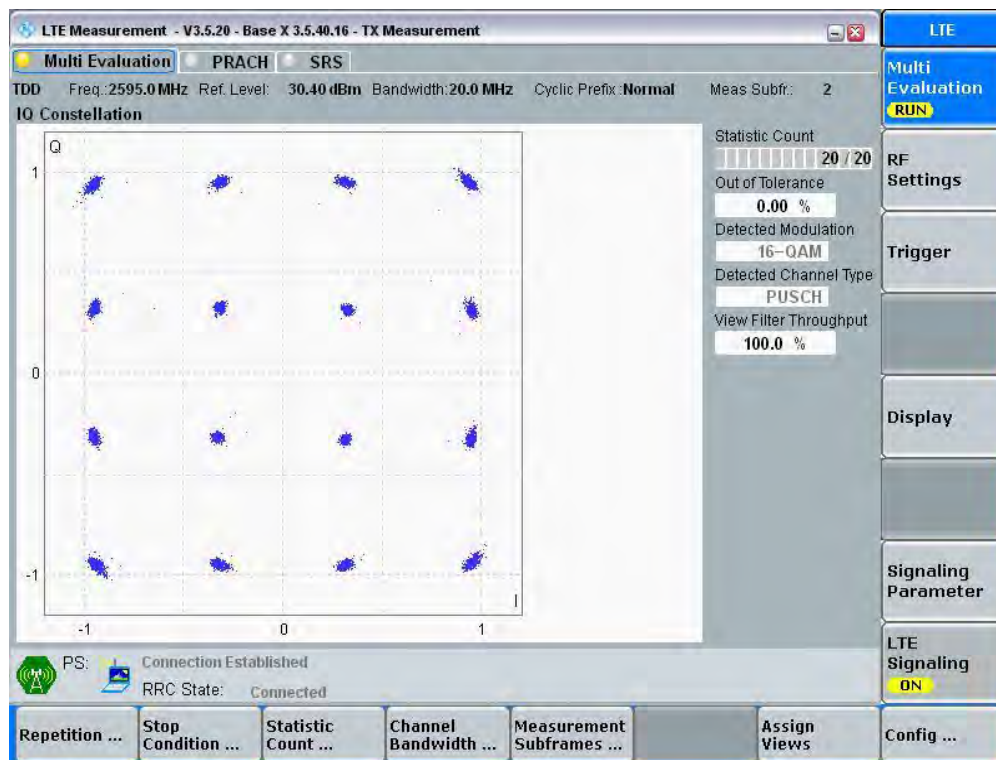
3.1.1.1.1 Test Channel = MCH





3.1.1.2 Test Mode = LTE /TM2 20MHz

3.1.1.2.1 Test Channel = MCH





4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band 38	TM1/ 5MHz	LCH	4.49	4.85	PASS
		MCH	4.48	4.92	PASS
		HCH	4.48	4.90	PASS
	TM2/ 5MHz	LCH	4.48	4.89	PASS
		MCH	4.47	4.84	PASS
		HCH	4.47	4.87	PASS
	TM1/10MHz	LCH	8.93	9.61	PASS
		MCH	8.93	9.73	PASS
		HCH	8.95	9.77	PASS
	TM2/ 10MHz	LCH	8.93	9.67	PASS
		MCH	8.93	9.61	PASS
		HCH	8.91	9.61	PASS
	TM1/ 15MHz	LCH	13.40	14.36	PASS
		MCH	13.40	14.27	PASS
		HCH	13.43	14.21	PASS
	TM2/ 15MHz	LCH	13.40	14.18	PASS
		MCH	13.43	14.27	PASS
		HCH	13.40	14.24	PASS
	TM1/ 20MHz	LCH	17.86	19.34	PASS
		MCH	17.94	19.22	PASS
		HCH	17.86	19.22	PASS
	TM2/ 20MHz	LCH	17.86	19.18	PASS
		MCH	17.90	19.34	PASS
		HCH	17.86	19.38	PASS

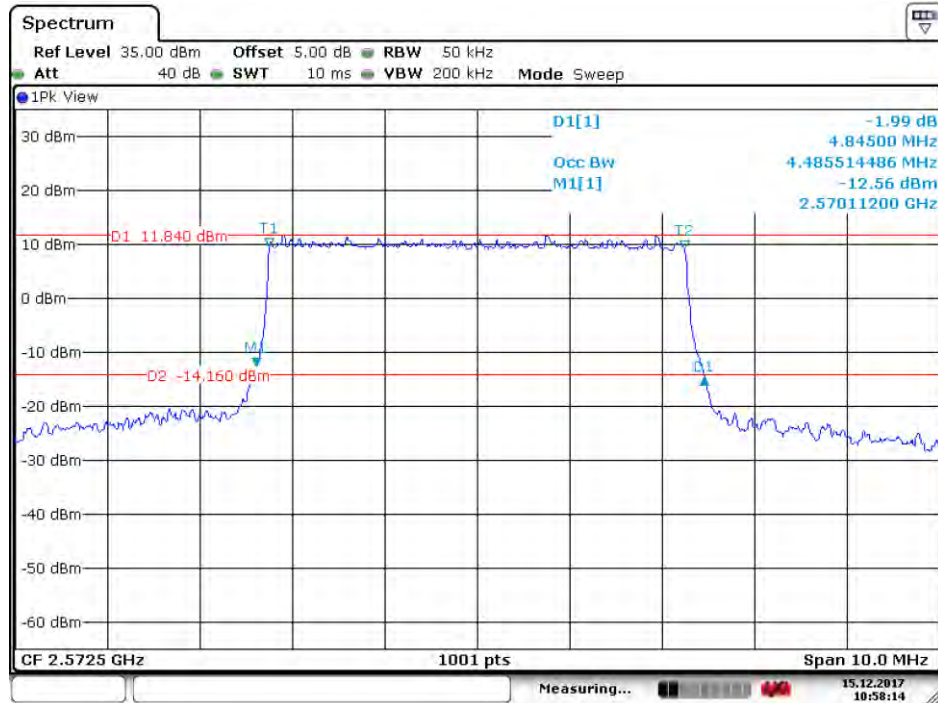


4.1 For LTE

4.1.1 Test Band = LTE band38

4.1.1.1 Test Mode = LTE/TM1 5MHz

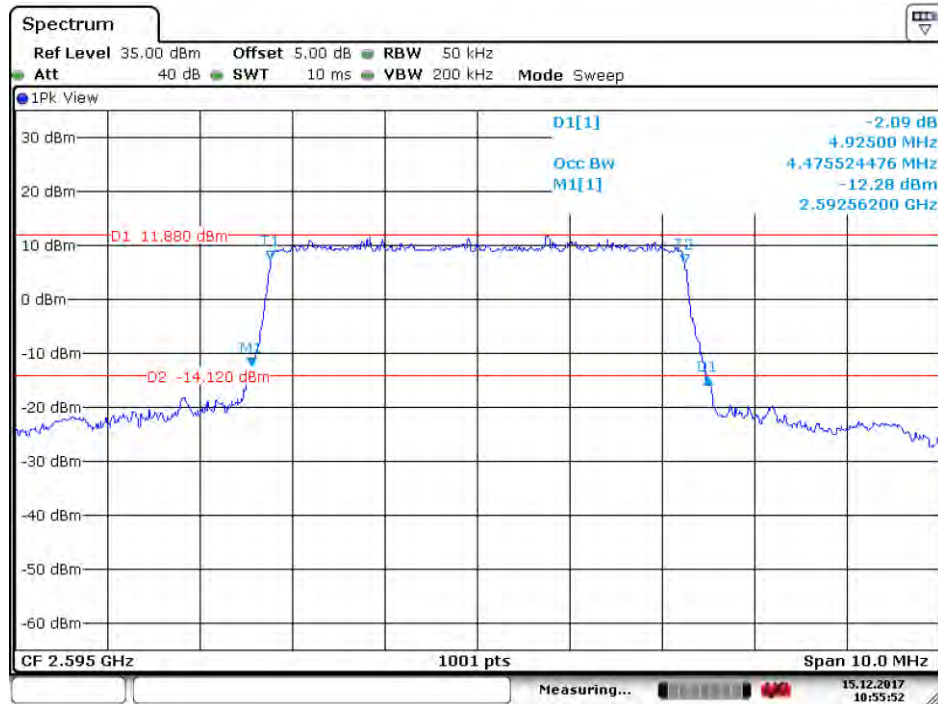
4.1.1.1.1 Test Channel = LCH



Date: 15.DEC.2017 10:58:15

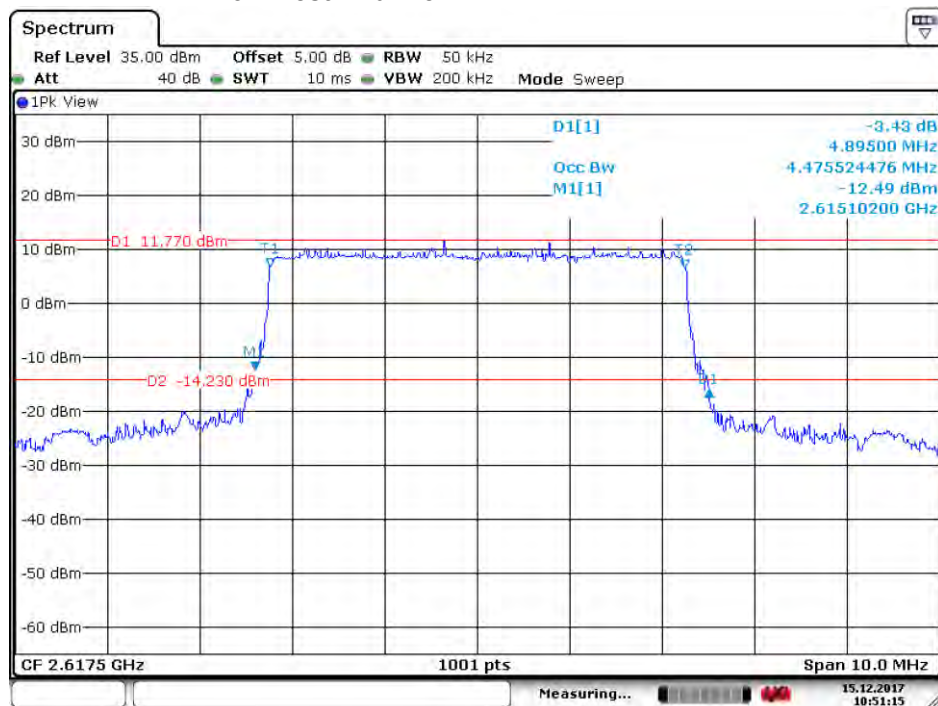


4.1.1.1.2 Test Channel = MCH



Date: 15.DEC.2017 10:55:52

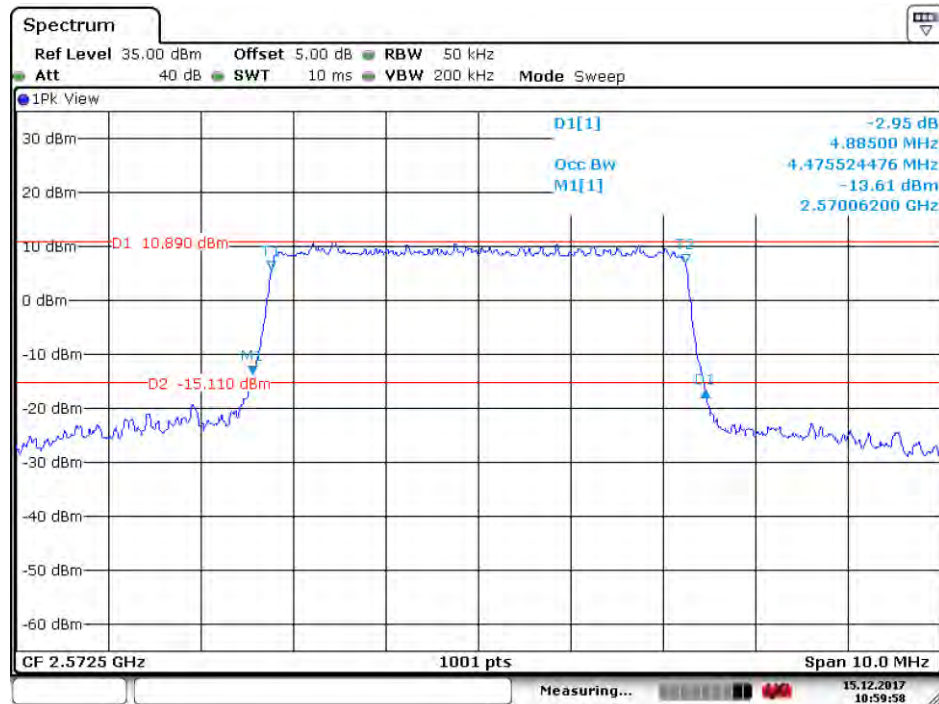
4.1.1.1.3 Test Channel = HCH



Date: 15.DEC.2017 10:51:15

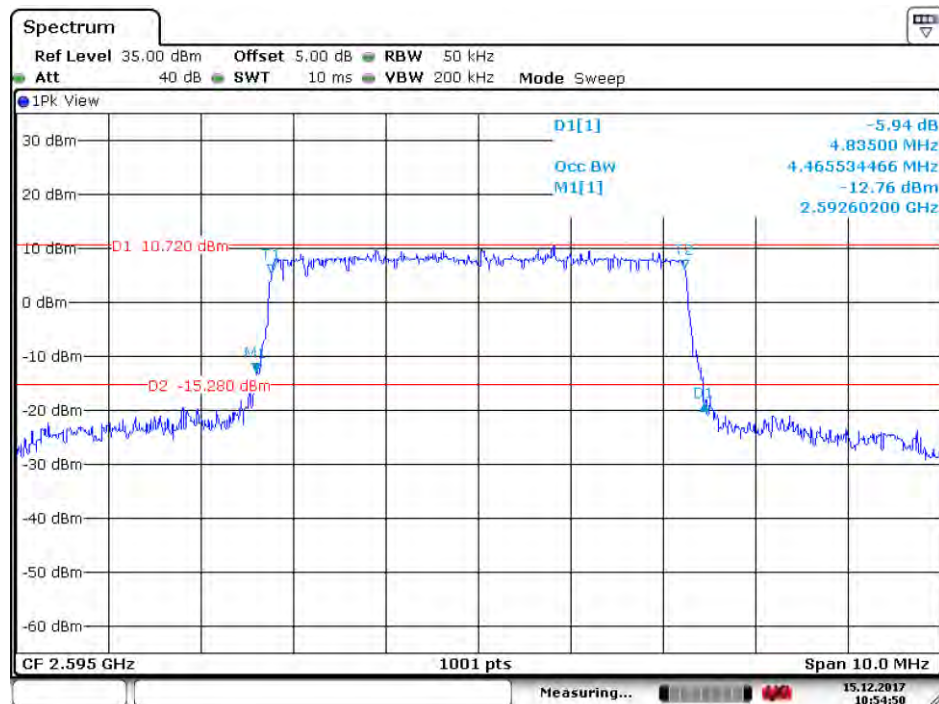
4.1.1.2 Test Mode = LTE/TM2 5MHz

4.1.1.2.1 Test Channel = LCH



Date: 15.DEC.2017 10:59:58

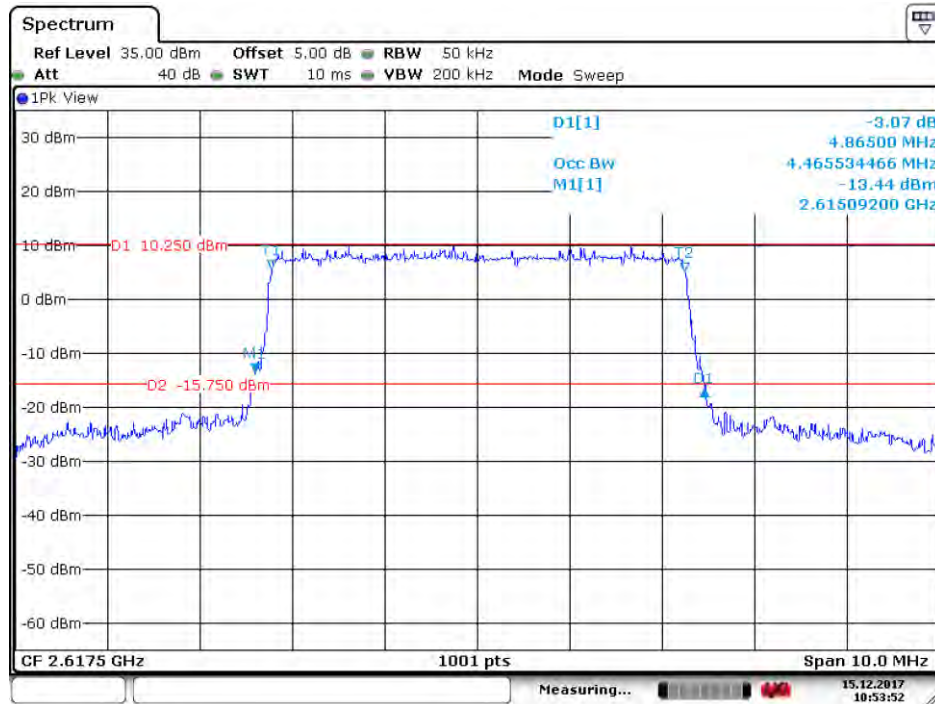
4.1.1.2.2 Test Channel = MCH



Date: 15.DEC.2017 10:54:51



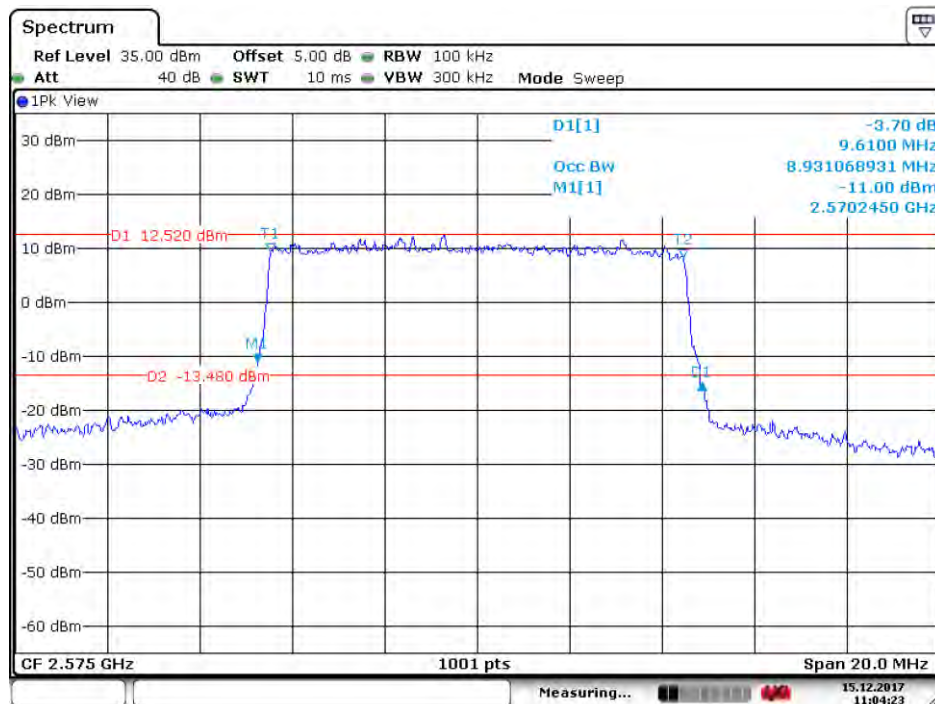
4.1.1.2.3 Test Channel = HCH



Date: 15.DEC.2017 10:53:52

4.1.1.3 Test Mode = LTE/TM1 10MHz

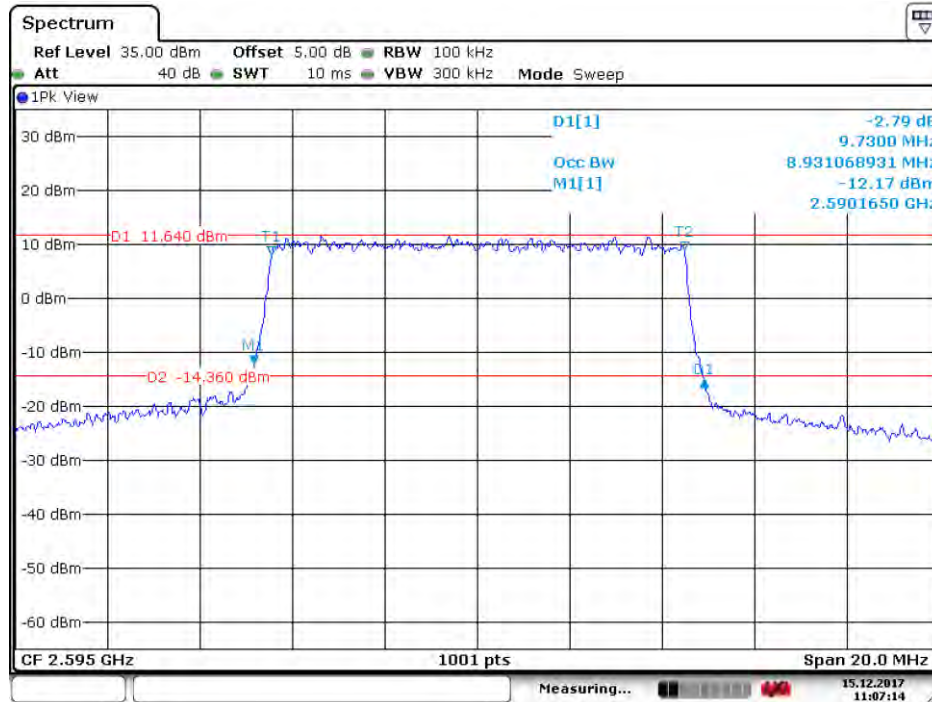
4.1.1.3.1 Test Channel = LCH



Date: 15.DEC.2017 11:04:24

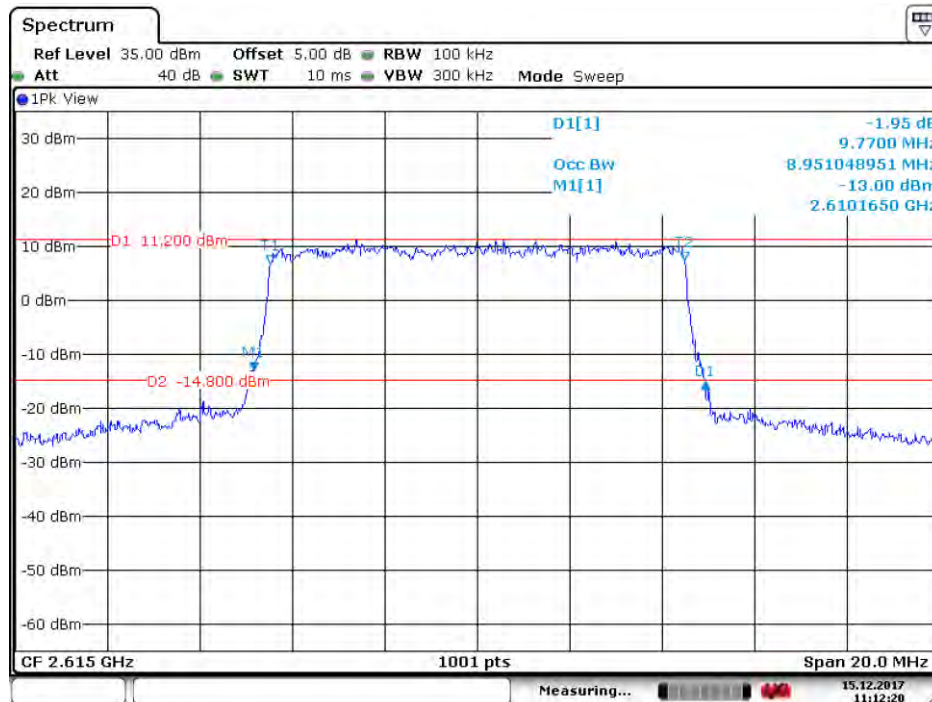


4.1.1.3.2 Test Channel = MCH



Date: 15.DEC.2017 11:07:14

4.1.1.3.3 Test Channel = HCH

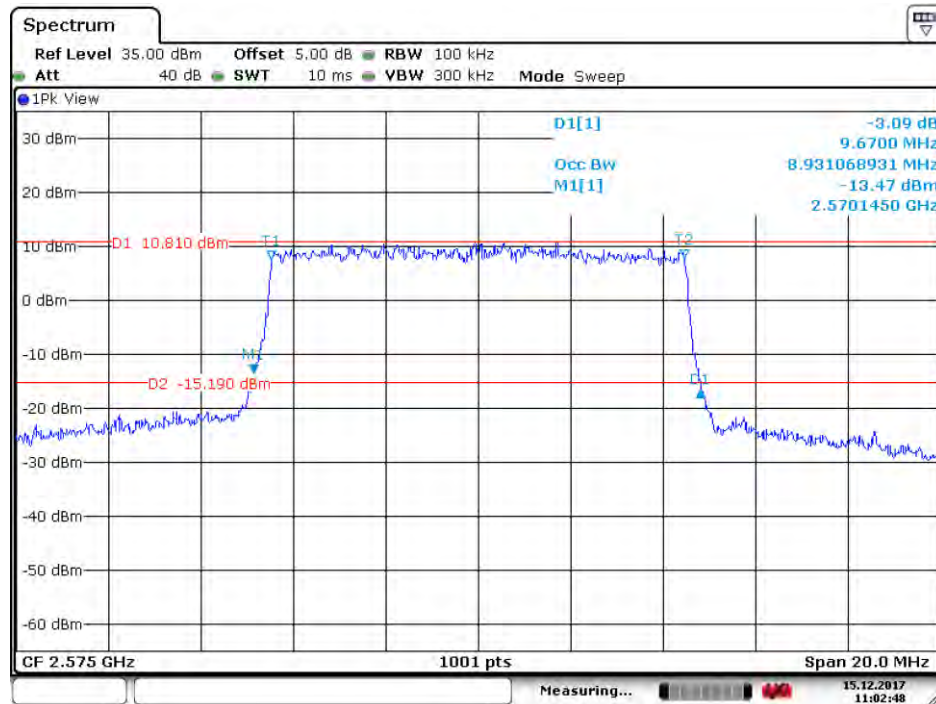


Date: 15.DEC.2017 11:12:20



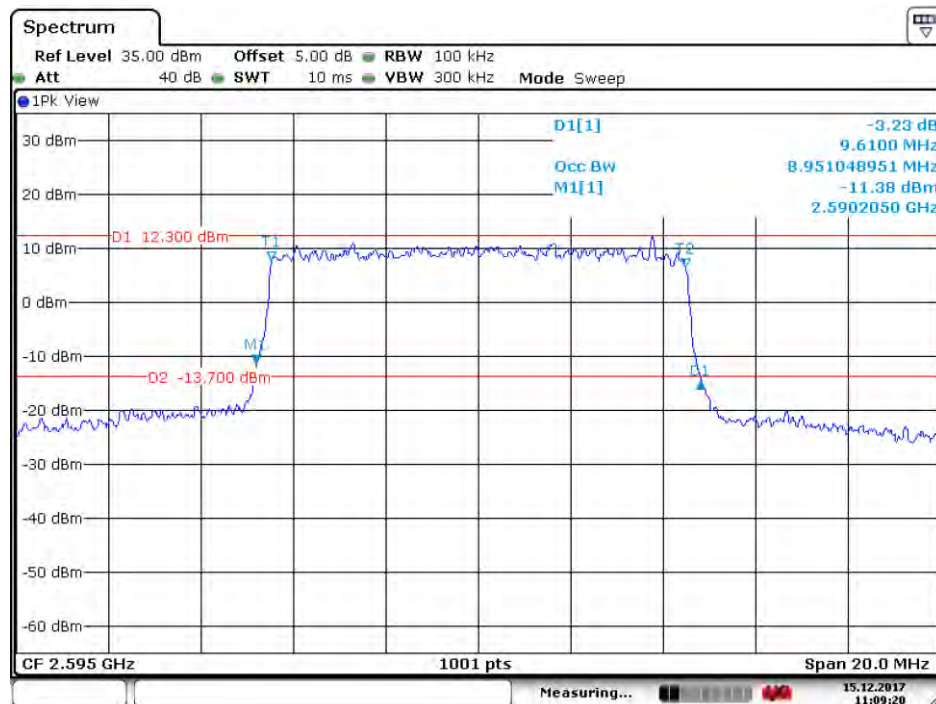
4.1.1.4 Test Mode = LTE/TM2 10MHz

4.1.1.4.1 Test Channel = LCH



Date: 15.DEC.2017 11:02:49

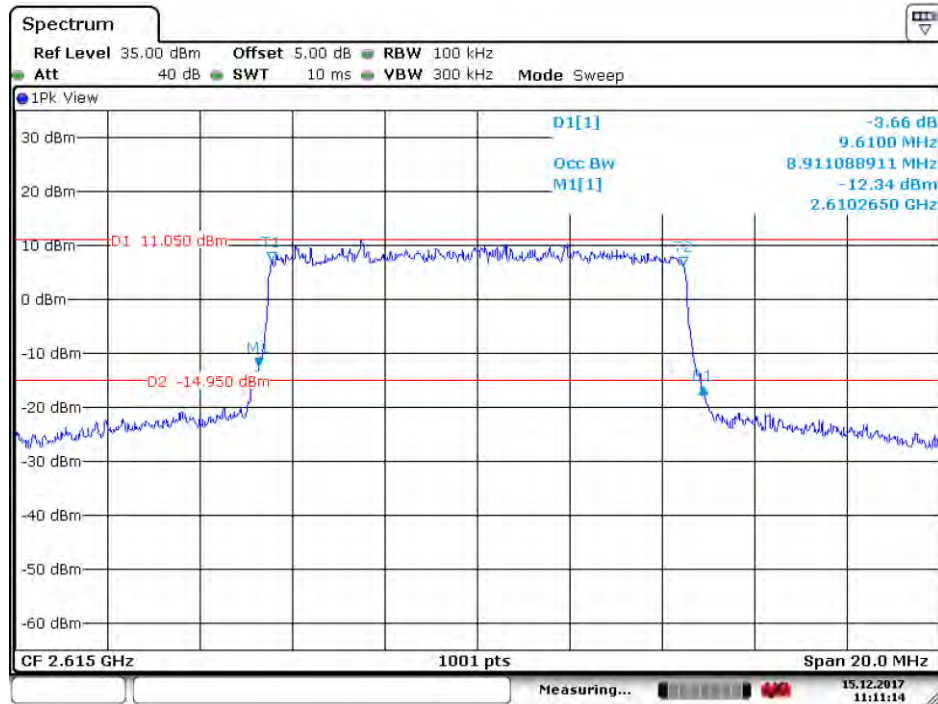
4.1.1.4.2 Test Channel = MCH



Date: 15.DEC.2017 11:09:21



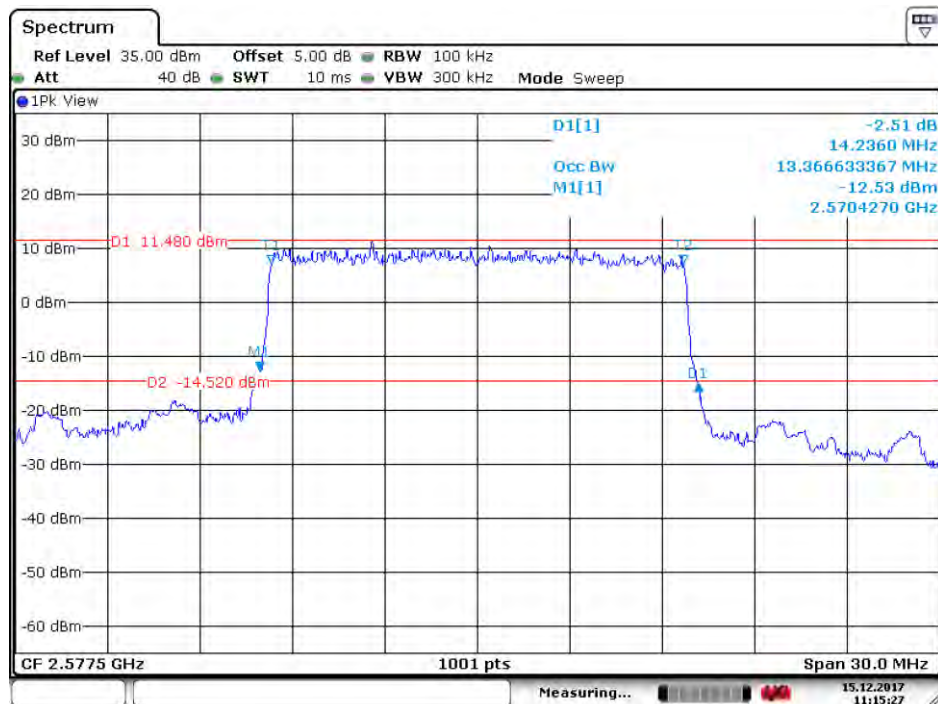
4.1.1.4.3 Test Channel = HCH



Date: 15.DEC.2017 11:11:15

4.1.1.5 Test Mode = LTE/TM1 15MHz

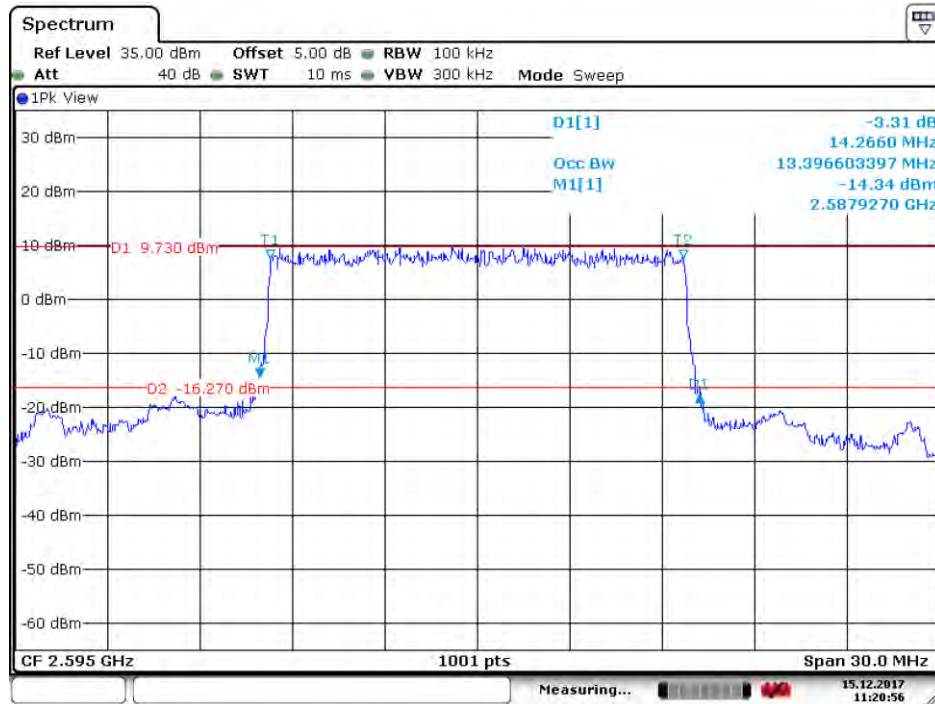
4.1.1.5.1 Test Channel = LCH



Date: 15.DEC.2017 11:15:28

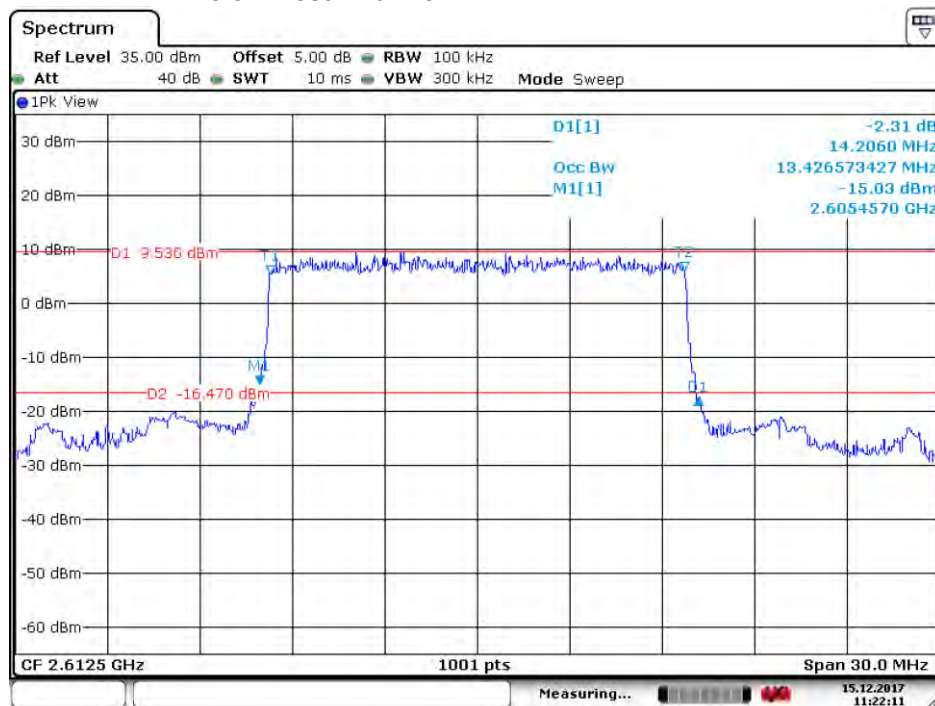


4.1.1.5.2 Test Channel = MCH



Date: 15.DEC.2017 11:20:56

4.1.1.5.3 Test Channel = HCH

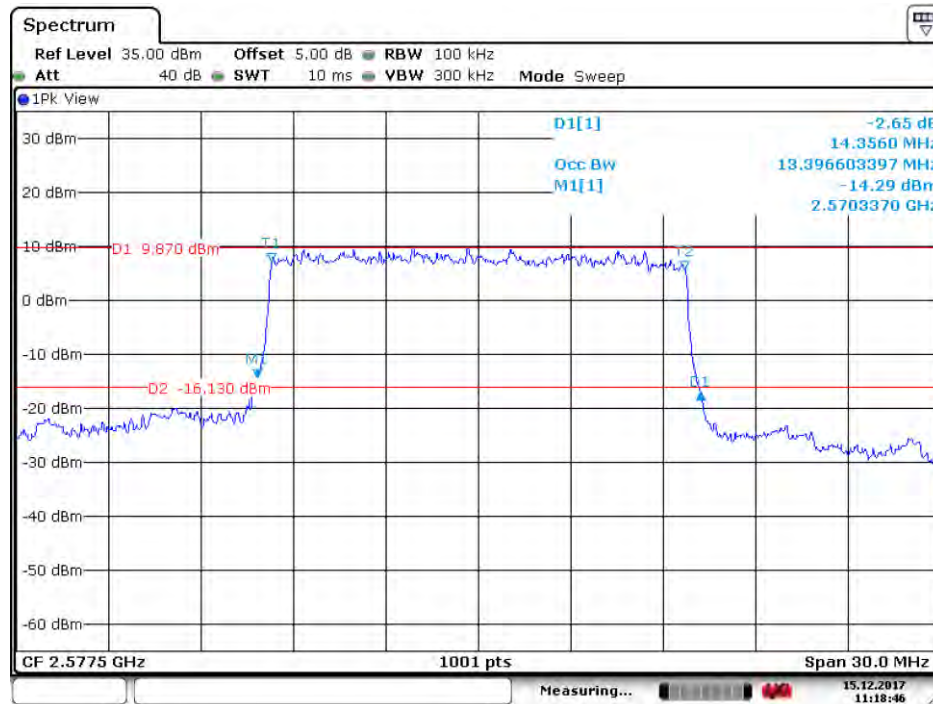


Date: 15.DEC.2017 11:22:12



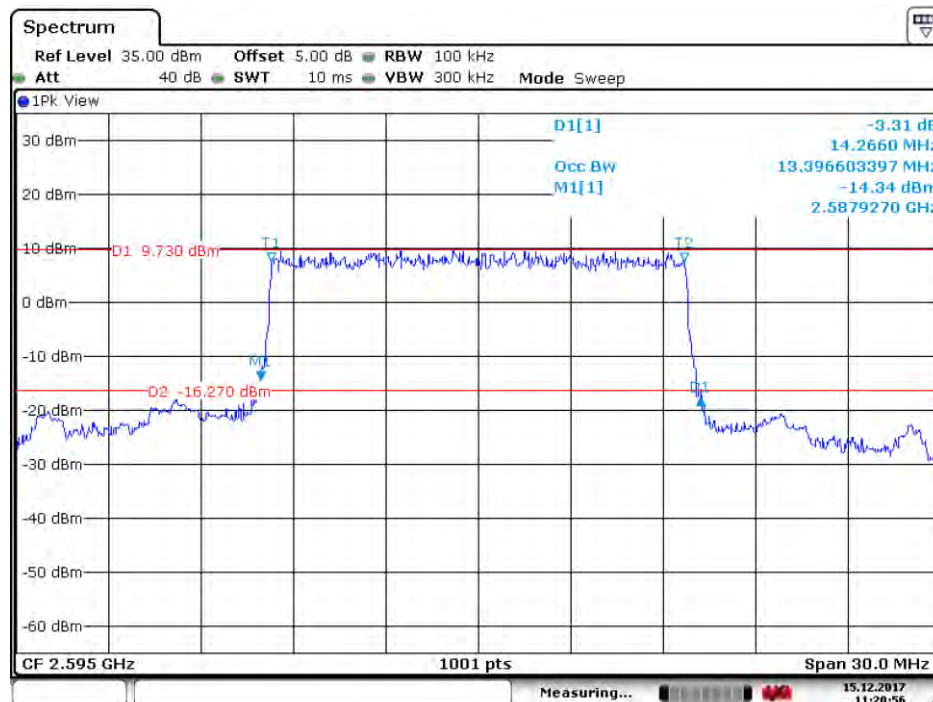
4.1.1.6 Test Mode = LTE/TM2 15MHz

4.1.1.6.1 Test Channel = LCH



Date: 15.DEC.2017 11:18:46

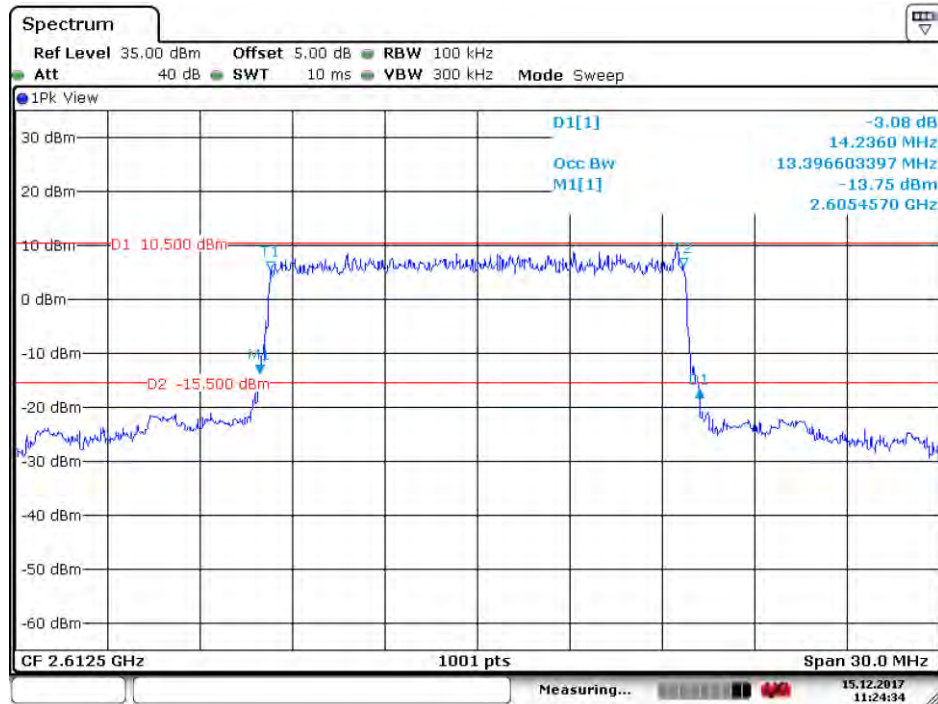
4.1.1.6.2 Test Channel = MCH



Date: 15.DEC.2017 11:20:56



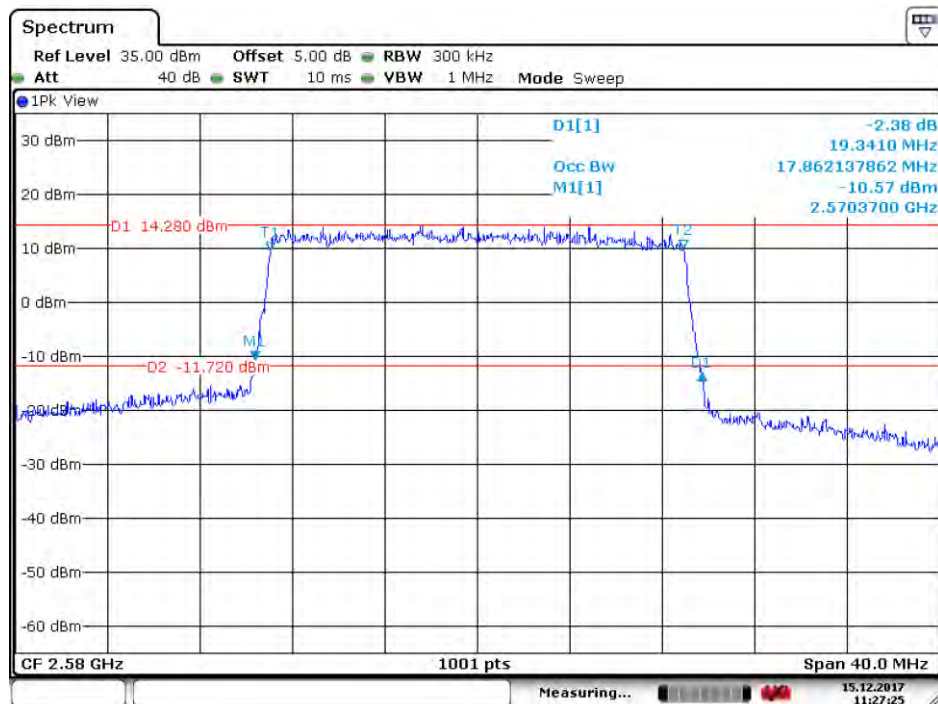
4.1.1.6.3 Test Channel = HCH



Date: 15.DEC.2017 11:24:34

4.1.1.7 Test Mode = LTE/TM1 20MHz

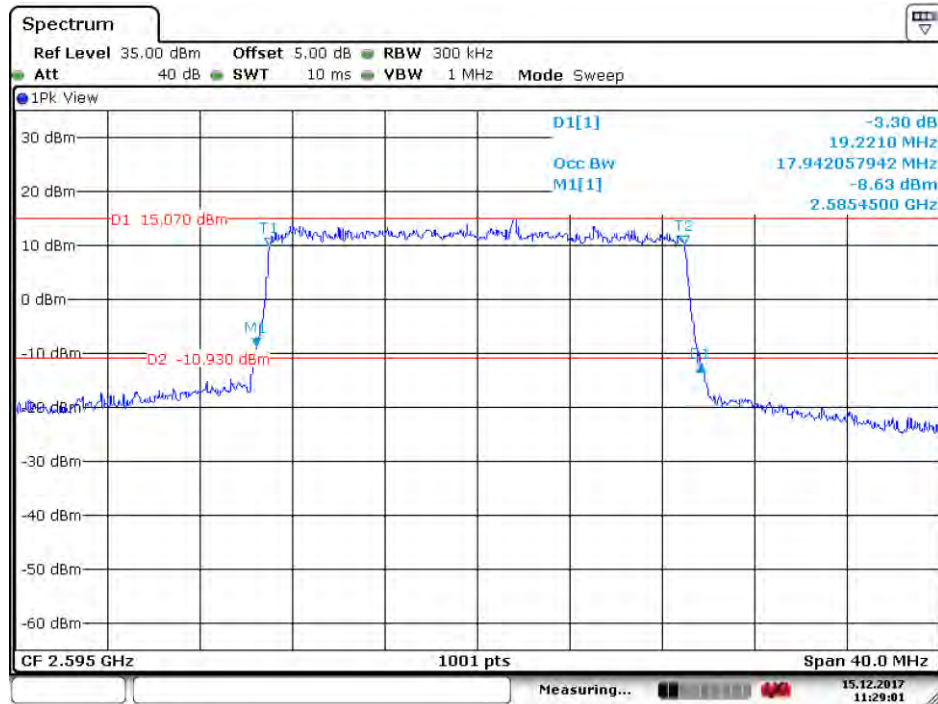
4.1.1.7.1 Test Channel = LCH



Date: 15.DEC.2017 11:27:25

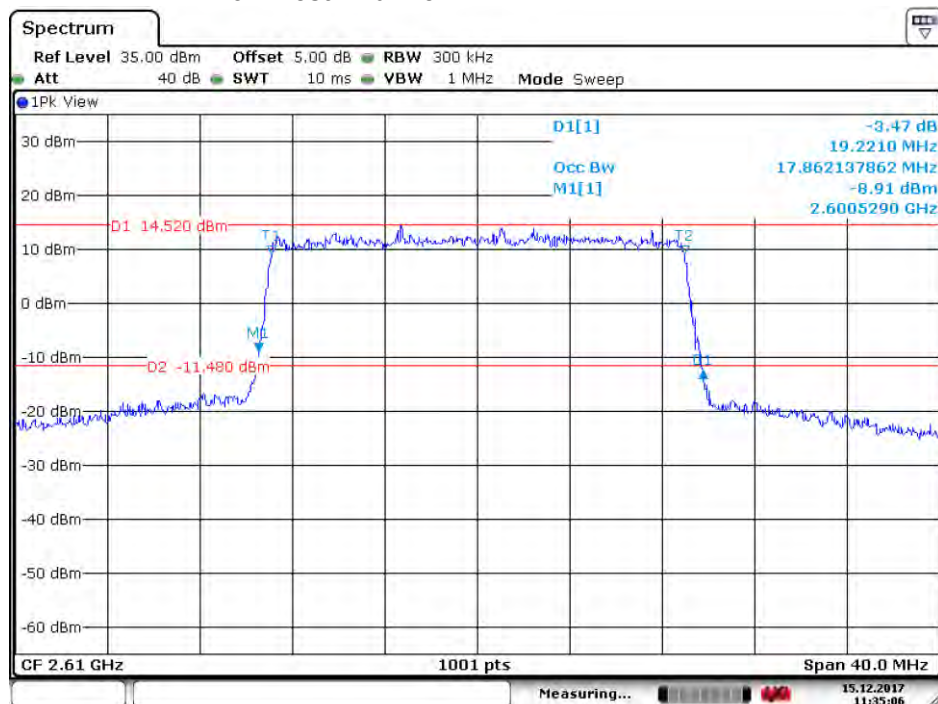


4.1.1.7.2 Test Channel = MCH



Date: 15.DEC.2017 11:29:01

4.1.1.7.3 Test Channel = HCH

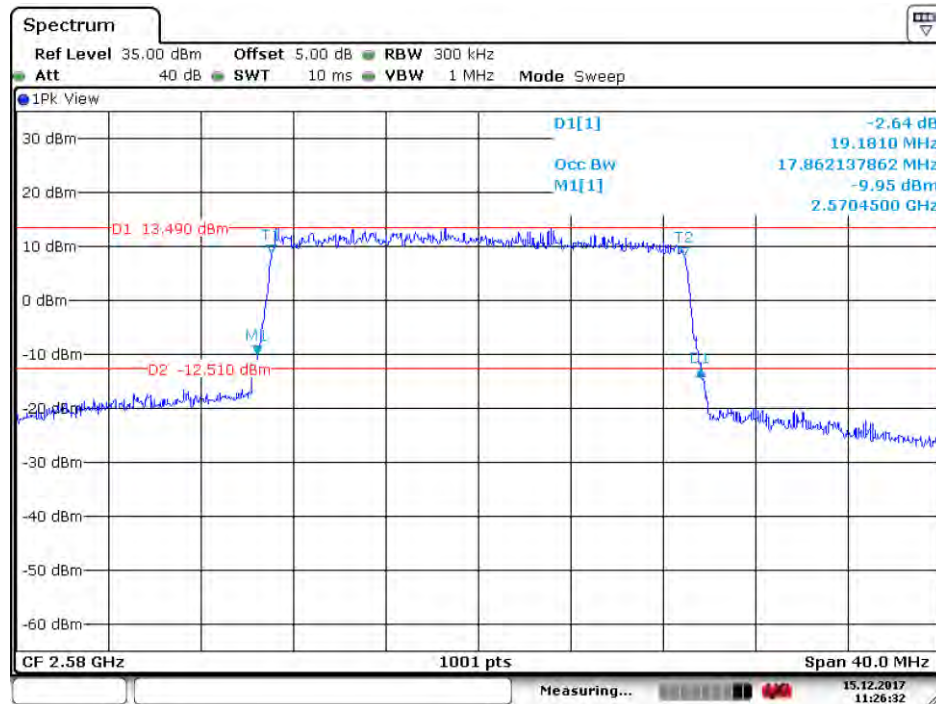


Date: 15.DEC.2017 11:35:07



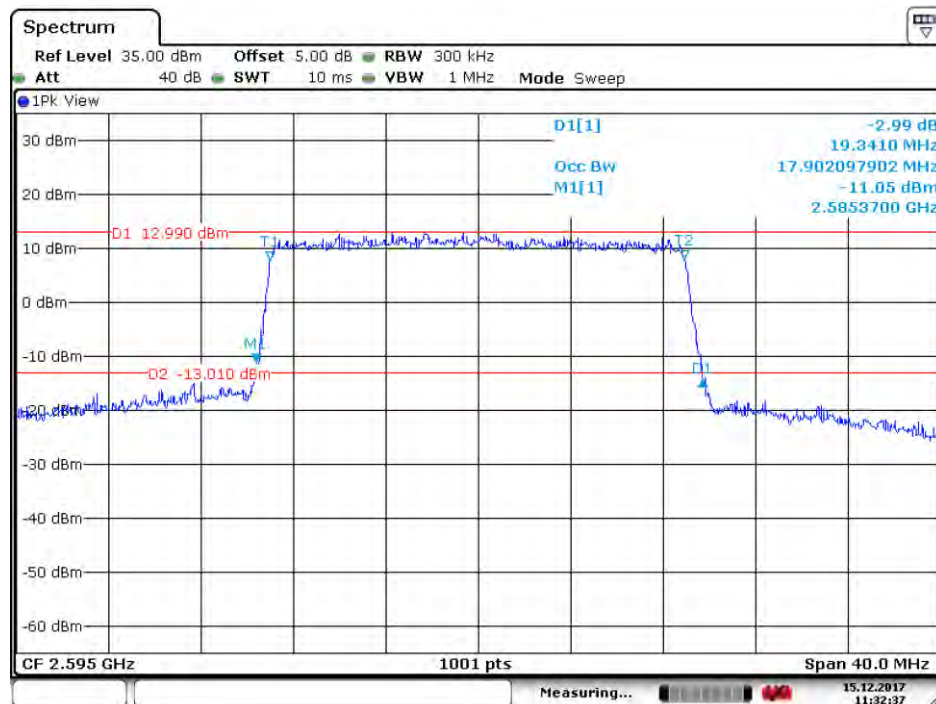
4.1.1.8 Test Mode = LTE/TM2 20MHz

4.1.1.8.1 Test Channel = LCH



Date: 15.DEC.2017 11:26:32

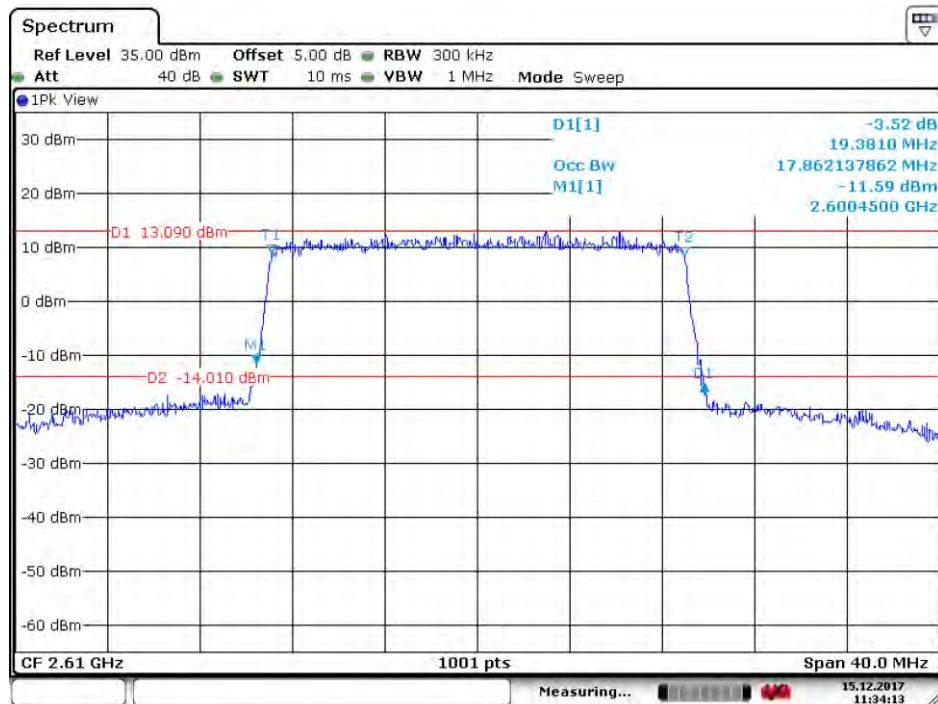
4.1.1.8.2 Test Channel = MCH



Date: 15.DEC.2017 11:32:37



4.1.1.8.3 Test Channel = HCH



Date: 15.DEC.2017 11:34:14



5 Band Edges Compliance

Part I –

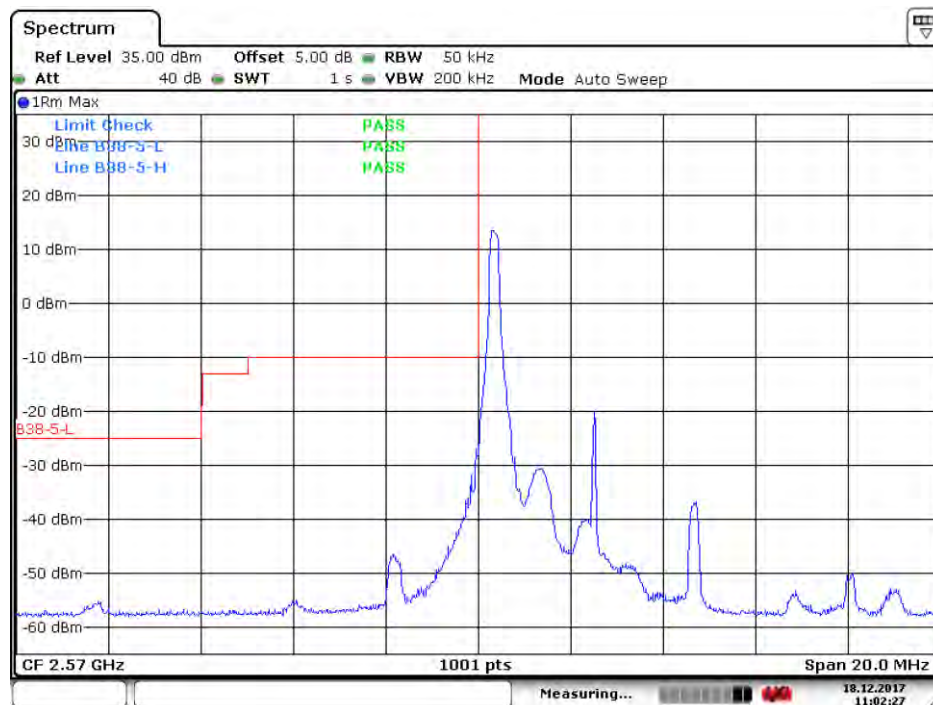
5.1 For LTE

5.1.1 Test Band = LTE band38

5.1.1.1 Test Mode = LTE/TM1 5MHz

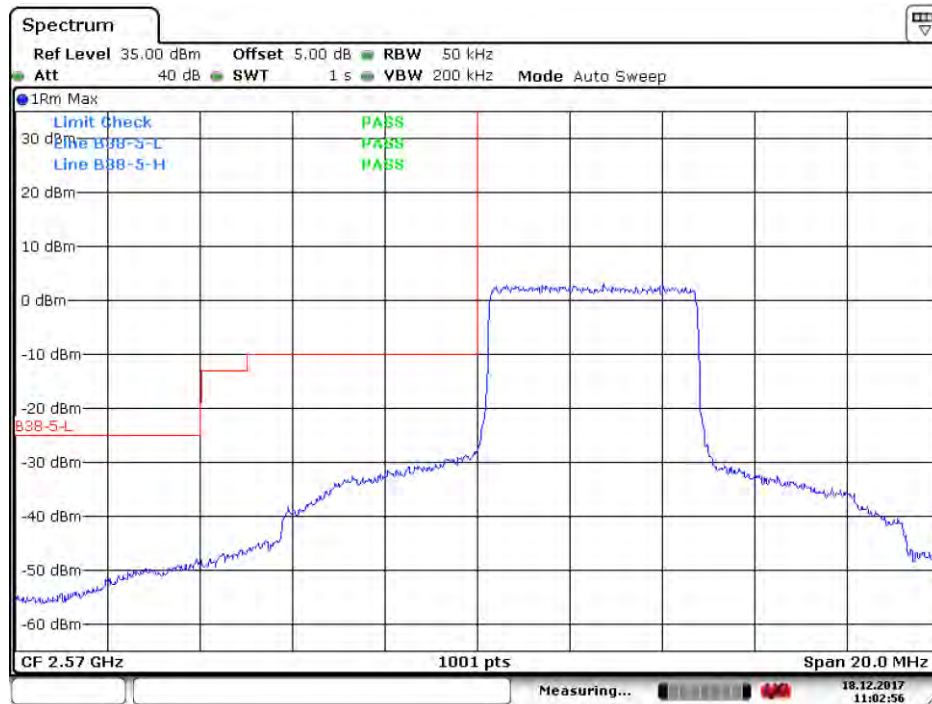
5.1.1.1.1 Test Channel = LCH

5.1.1.1.1.1 Test RB=1RB



Date: 18.DEC.2017 11:02:28

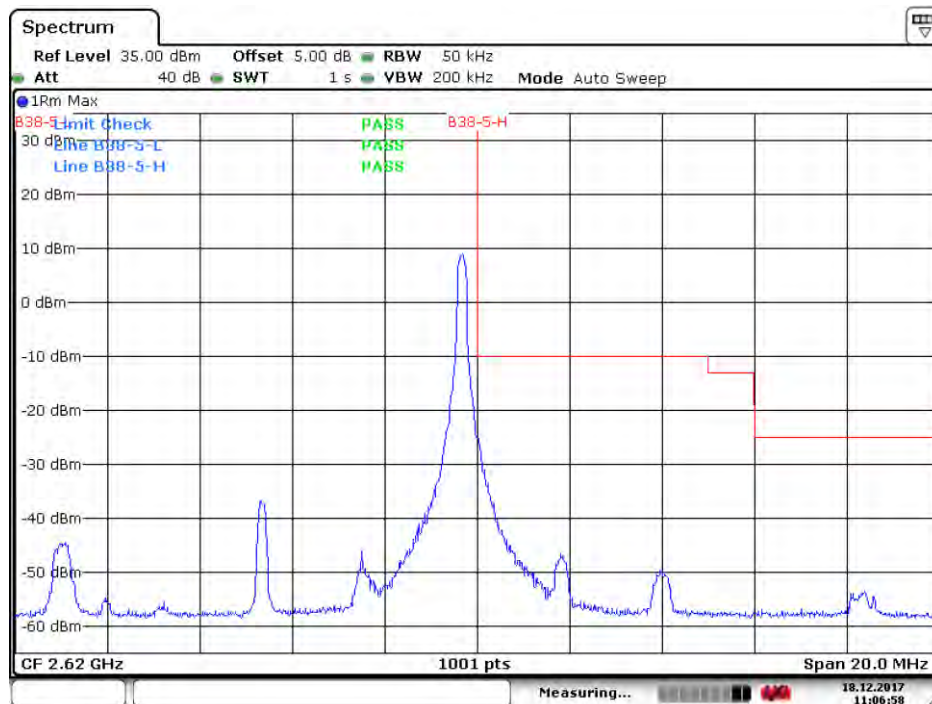
5.1.1.1.1.2 Test RB=25RB



Date: 18.DEC.2017 11:02:57

5.1.1.1.2 Test Channel = HCH

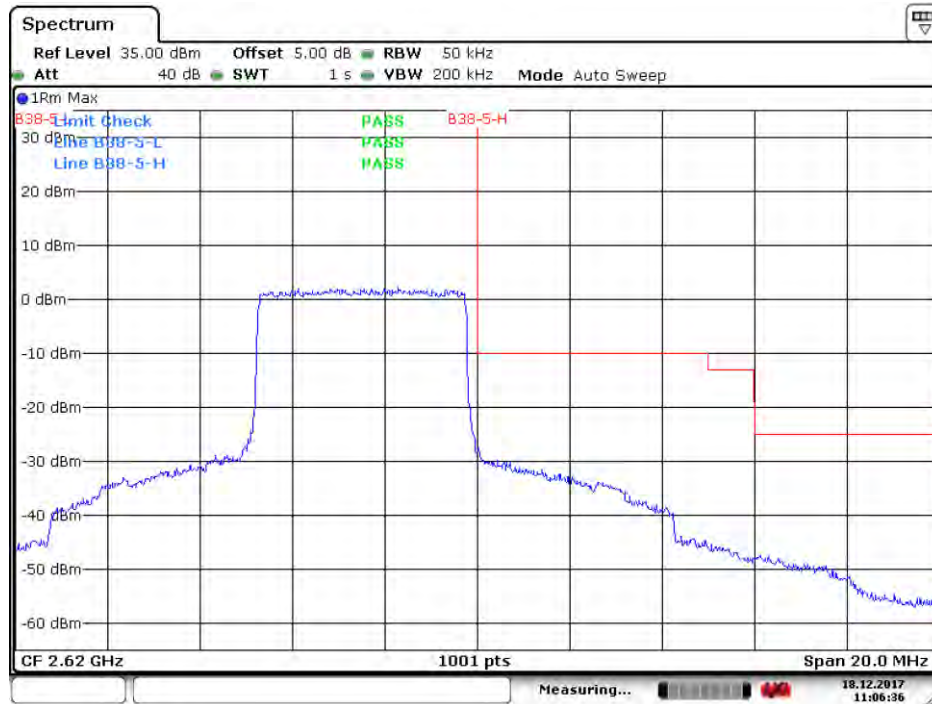
5.1.1.1.2.1 Test RB=1RB



Date: 18.DEC.2017 11:06:58



5.1.1.1.2.2 Test RB=25RB

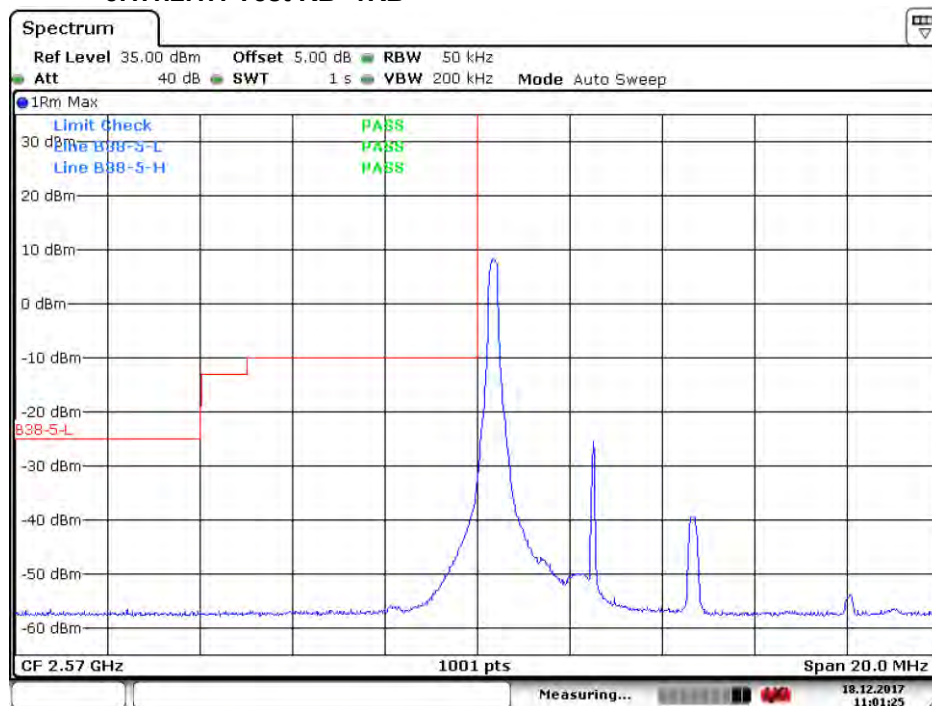


Date: 18.DEC.2017 11:06:37

5.1.1.2 Test Mode = LTE/TM2 5MHz

5.1.1.2.1 Test Channel = LCH

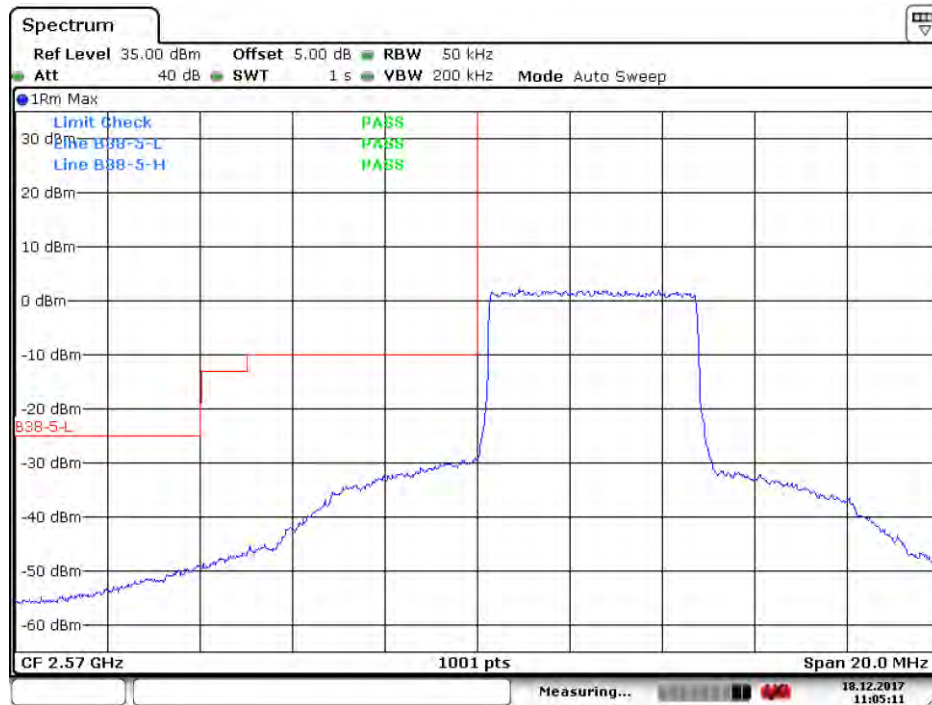
5.1.1.2.1.1 Test RB=1RB



Date: 18.DEC.2017 11:01:25



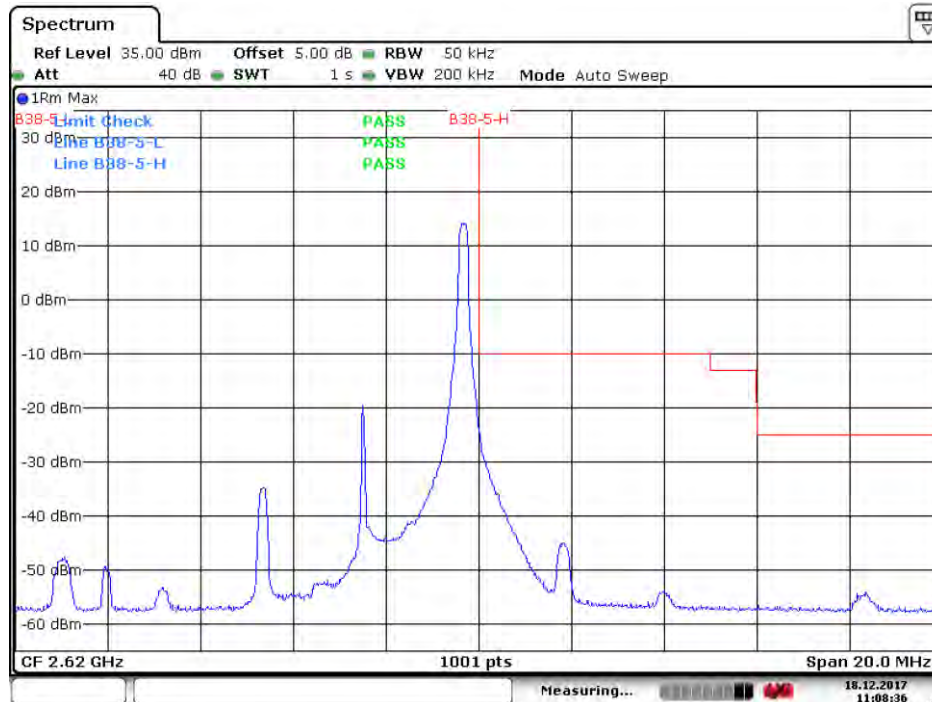
5.1.1.2.1.2 Test RB=25RB



Date: 18.DEC.2017 11:05:12

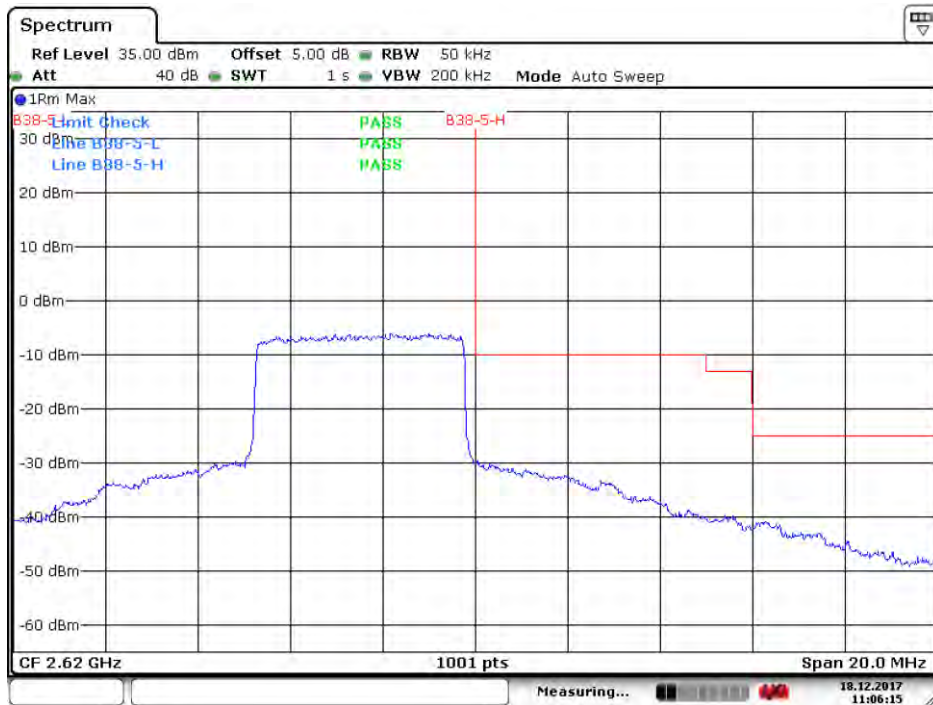
5.1.1.2.2 Test Channel = HCH0-juh

5.1.1.2.2.1 Test RB=1RB



Date: 18.DEC.2017 11:08:36

5.1.1.2.2.2 Test RB=25RB

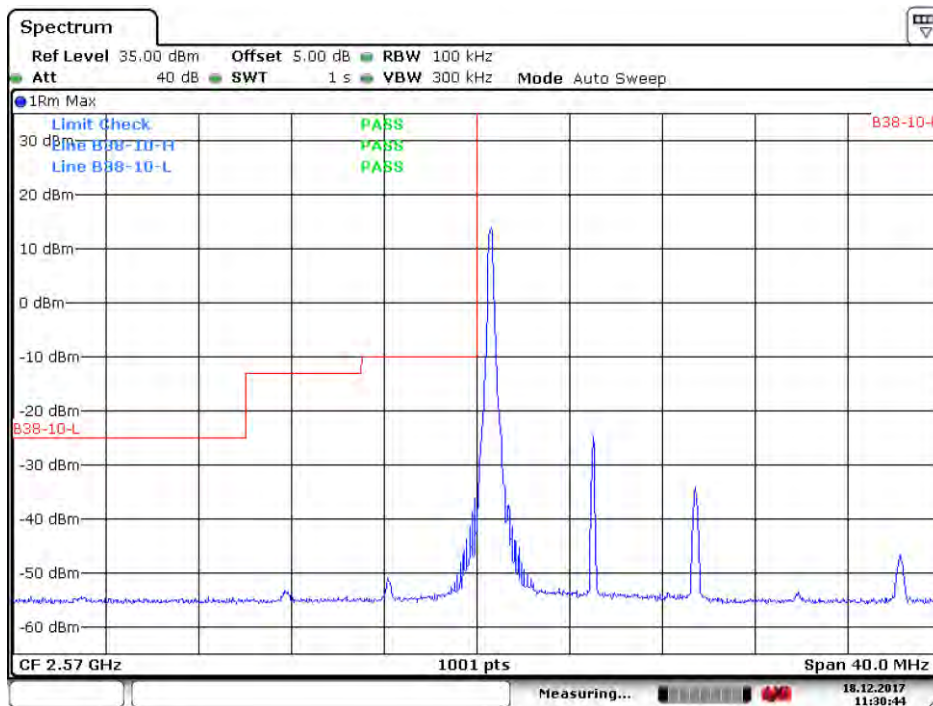


Date: 18.DEC.2017 11:06:16

5.1.1.3 Test Mode = LTE/TM1 10MHz

5.1.1.3.1 Test Channel = LCH

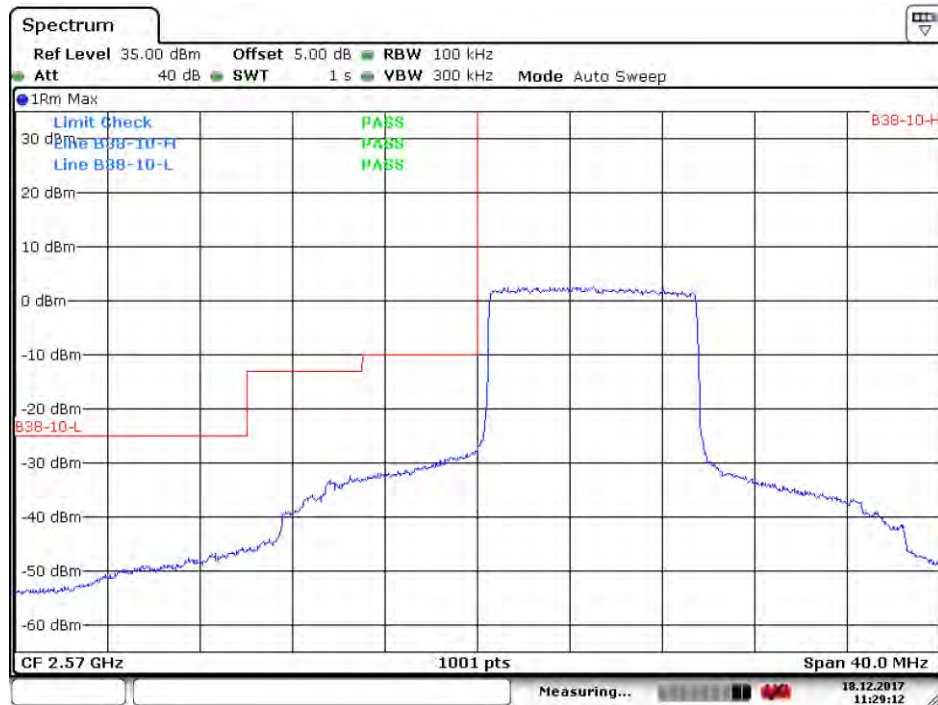
5.1.1.3.1.1 Test RB=1RB



Date: 18.DEC.2017 11:30:45



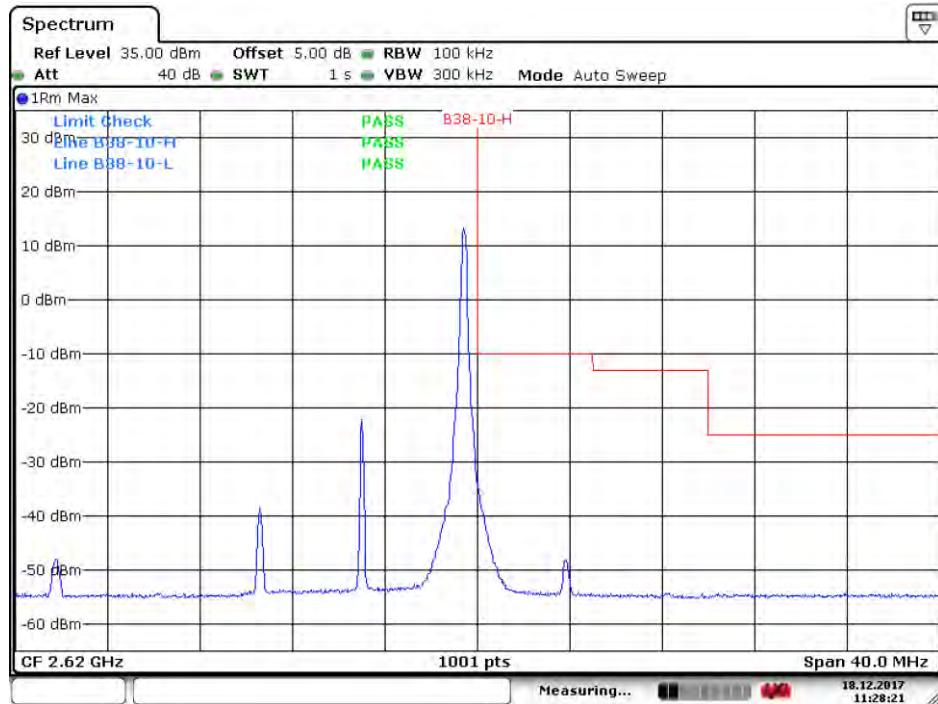
5.1.1.3.1.2 Test RB=50RB



Date: 18.DEC.2017 11:29:13

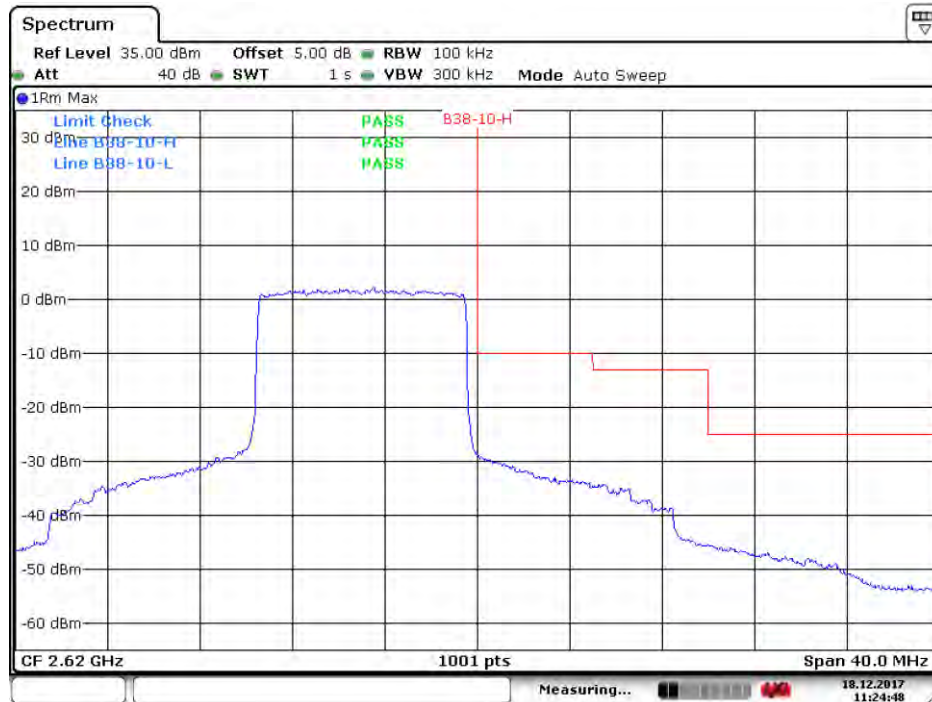
5.1.1.3.2 Test Channel = HCH

5.1.1.3.2.1 Test RB=1RB



Date: 18.DEC.2017 11:28:21

5.1.1.3.2.2 Test RB=50RB

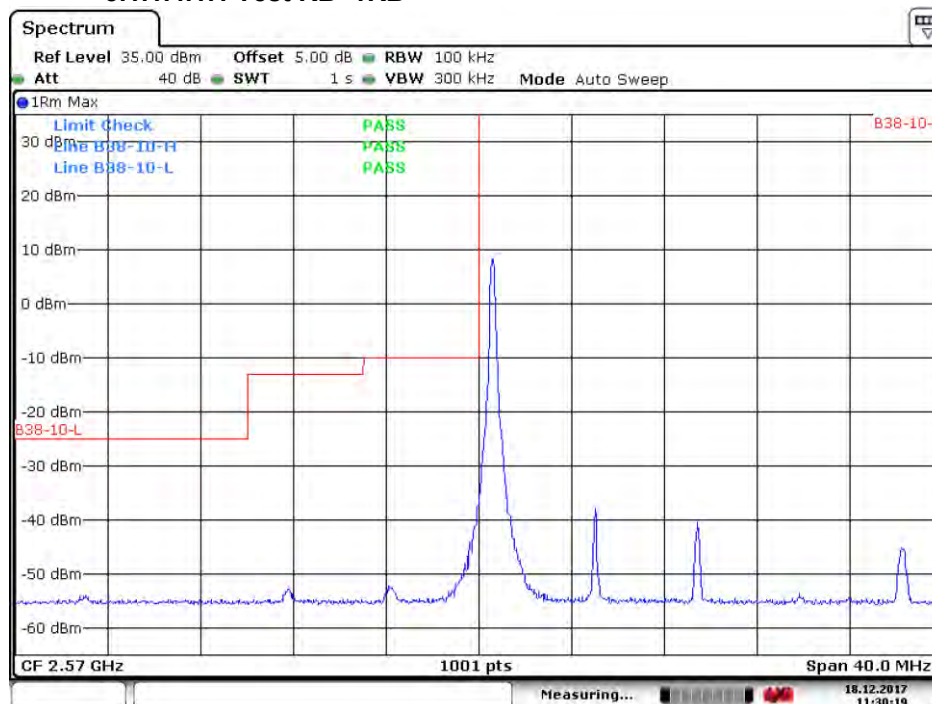


Date: 18.DEC.2017 11:24:48

5.1.1.4 Test Mode = LTE/TM2 10MHz

5.1.1.4.1 Test Channel = LCH

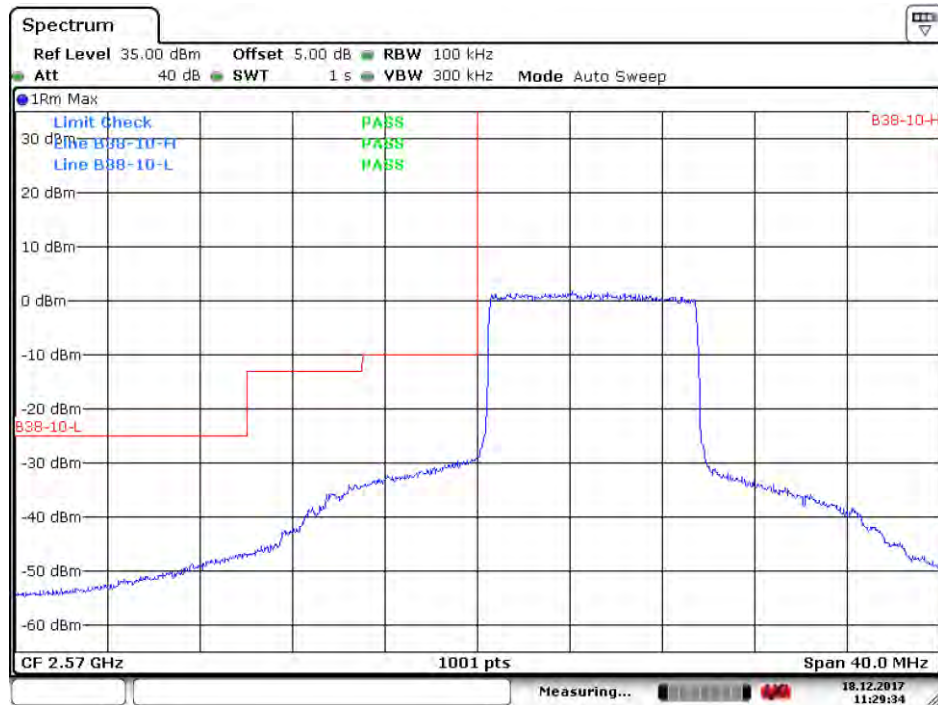
5.1.1.4.1.1 Test RB=1RB



Date: 18.DEC.2017 11:30:20



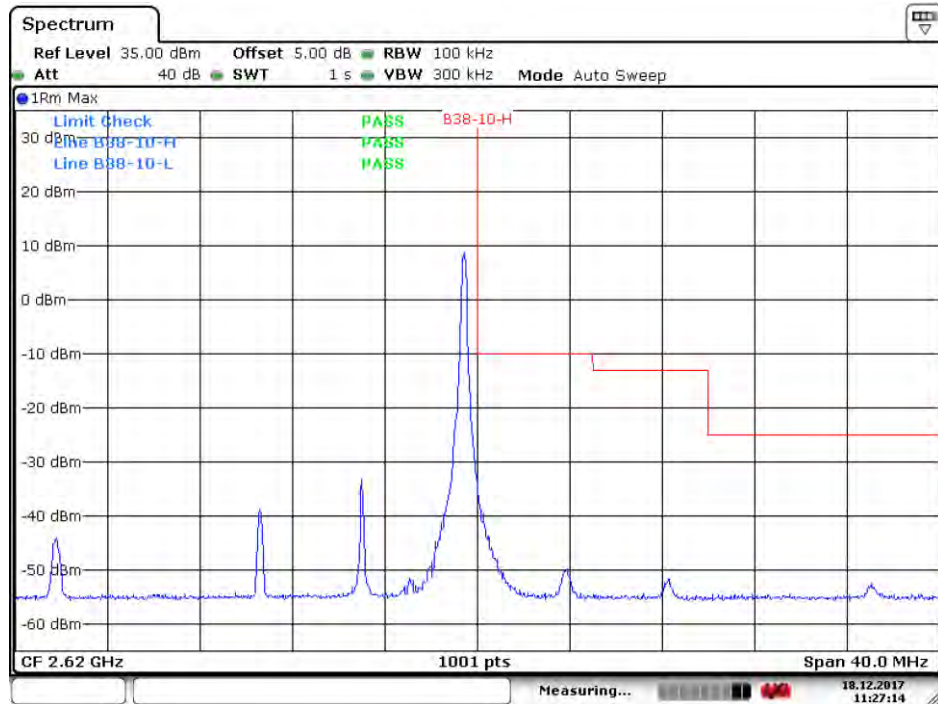
5.1.1.4.1.2 Test RB=50RB



Date: 18.DEC.2017 11:29:35

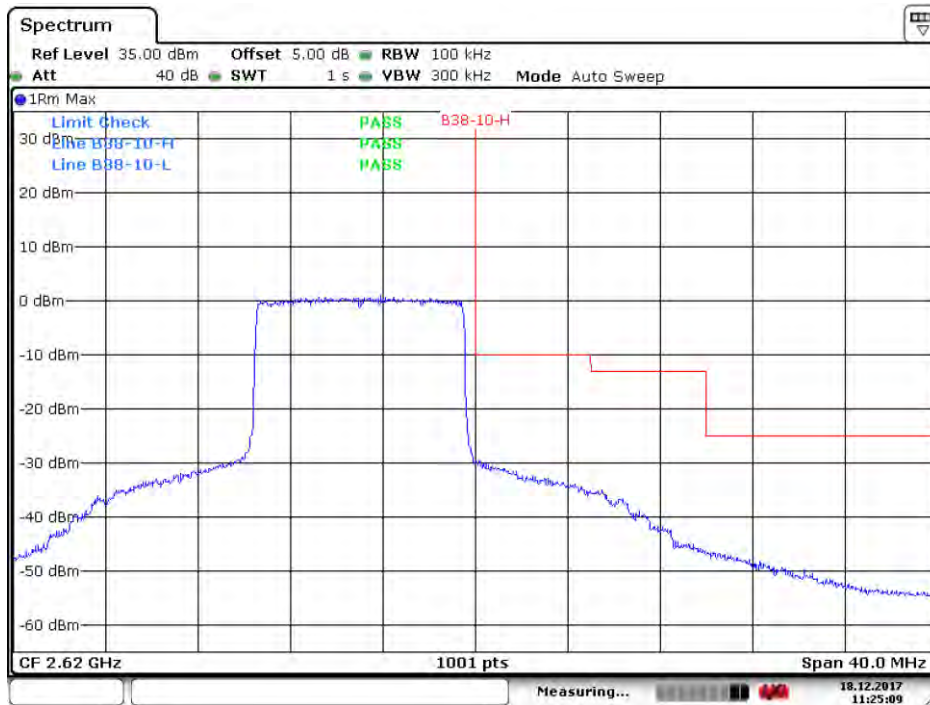
5.1.1.4.2 Test Channel = HCH

5.1.1.4.2.1 Test RB=1RB



Date: 18.DEC.2017 11:27:14

5.1.1.4.2.2 Test RB=50RB

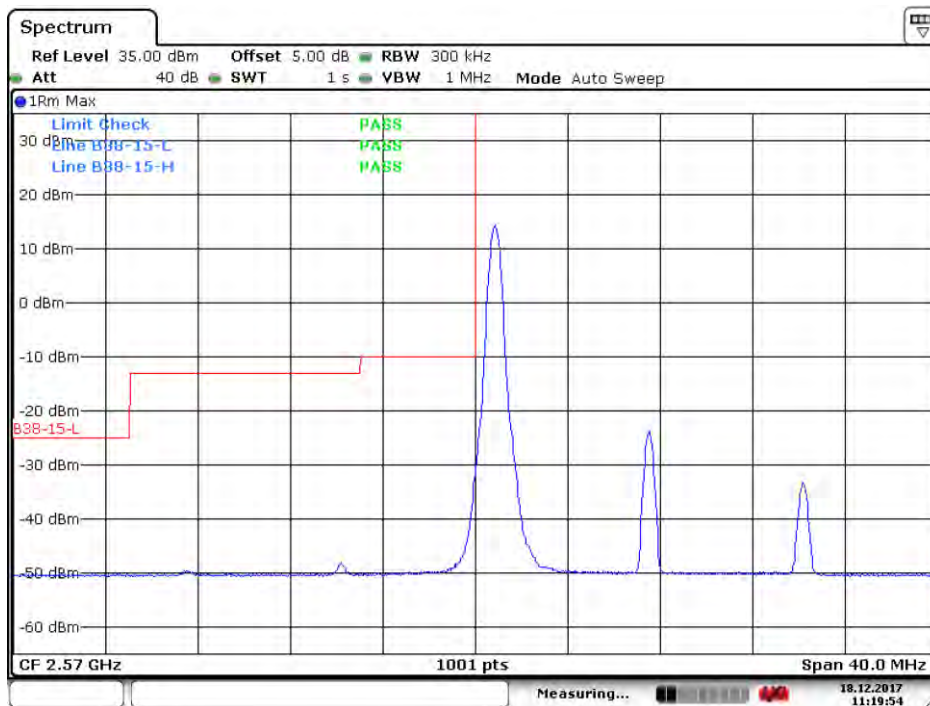


Date: 18.DEC.2017 11:25:10

Test Mode = LTE/TM1 15MHz

5.1.1.4.3 Test Channel = LCH

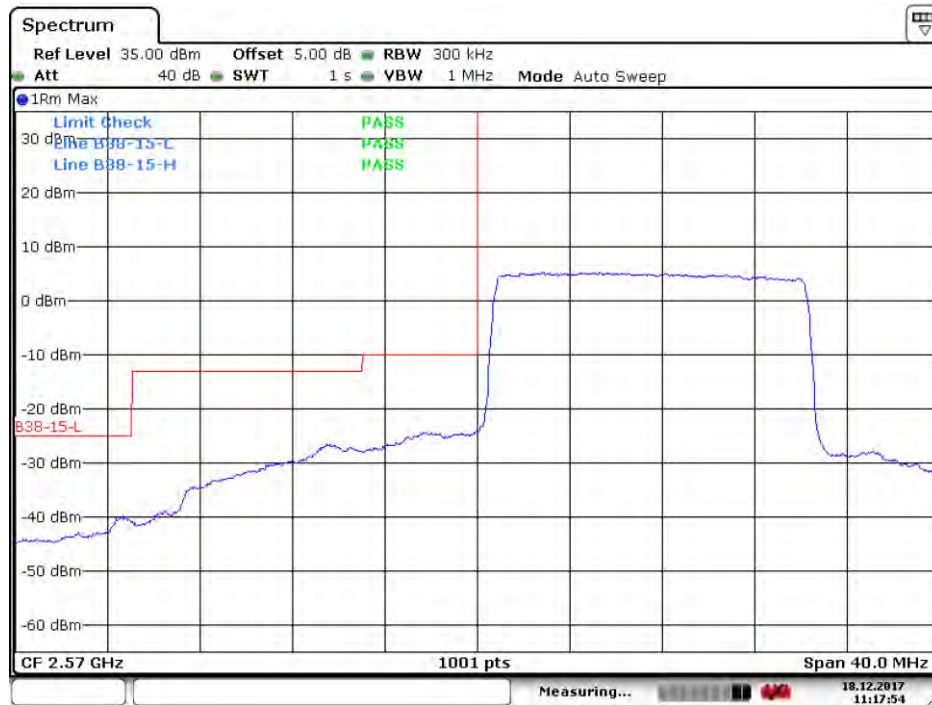
5.1.1.4.3.1 Test RB=1RB



Date: 18.DEC.2017 11:19:55



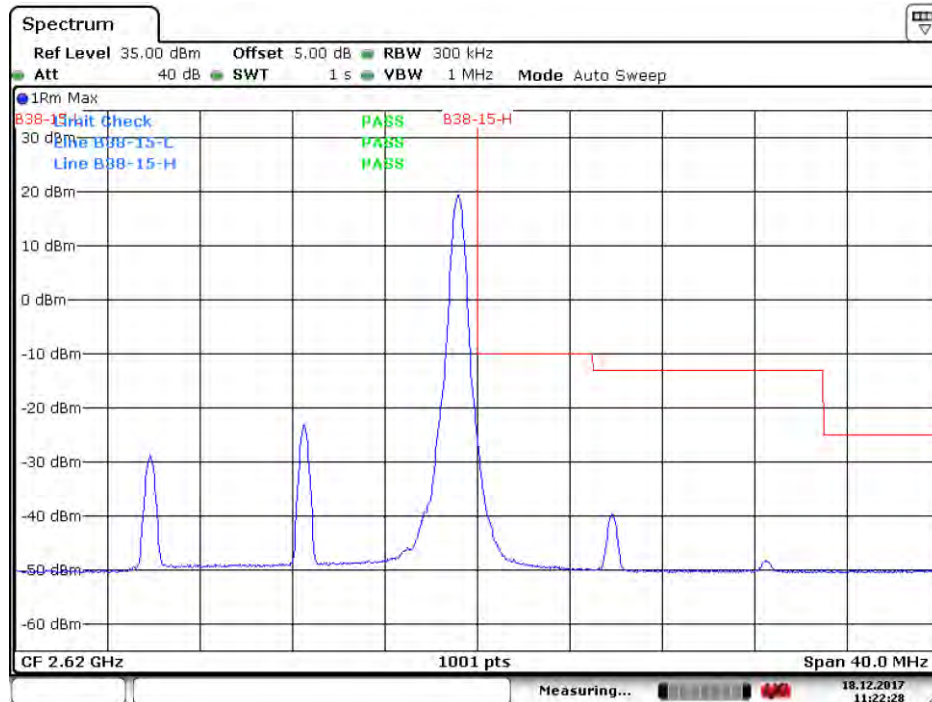
5.1.1.4.3.2 Test RB=75RB



Date: 18.DEC.2017 11:17:54

5.1.1.4.4 Test Channel = HCH

5.1.1.4.4.1 Test RB=1RB



Date: 18.DEC.2017 11:22:28



5.1.1.4.2 Test RB=75RB

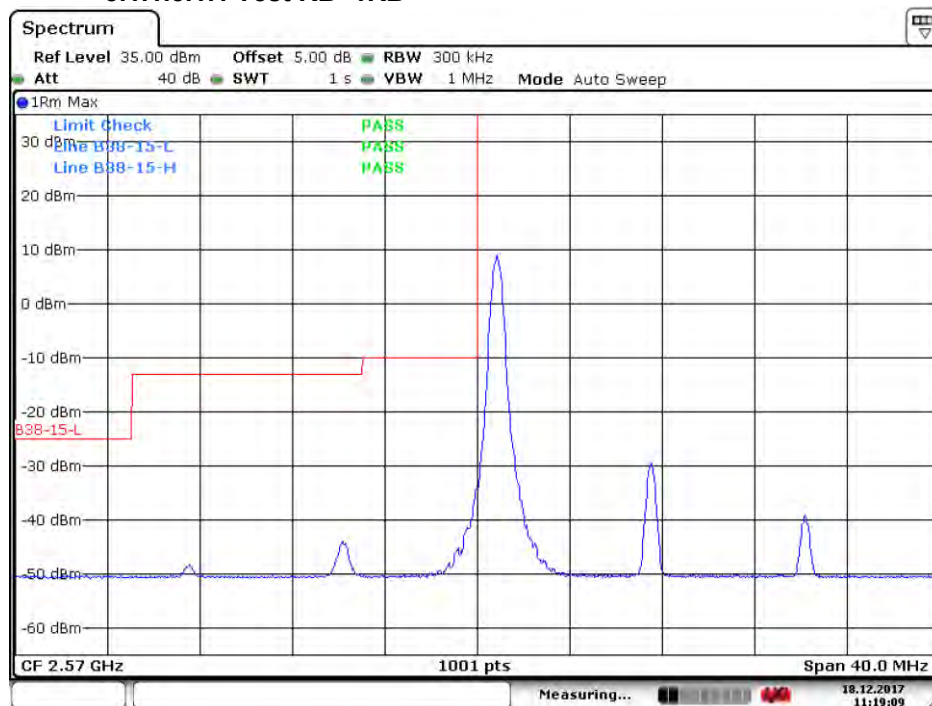


Date: 18.DEC.2017 11:20:46

5.1.1.5 Test Mode = LTE/TM2 15MHz

5.1.1.5.1 Test Channel = LCH

5.1.1.5.1.1 Test RB=1RB



Date: 18.DEC.2017 11:19:09



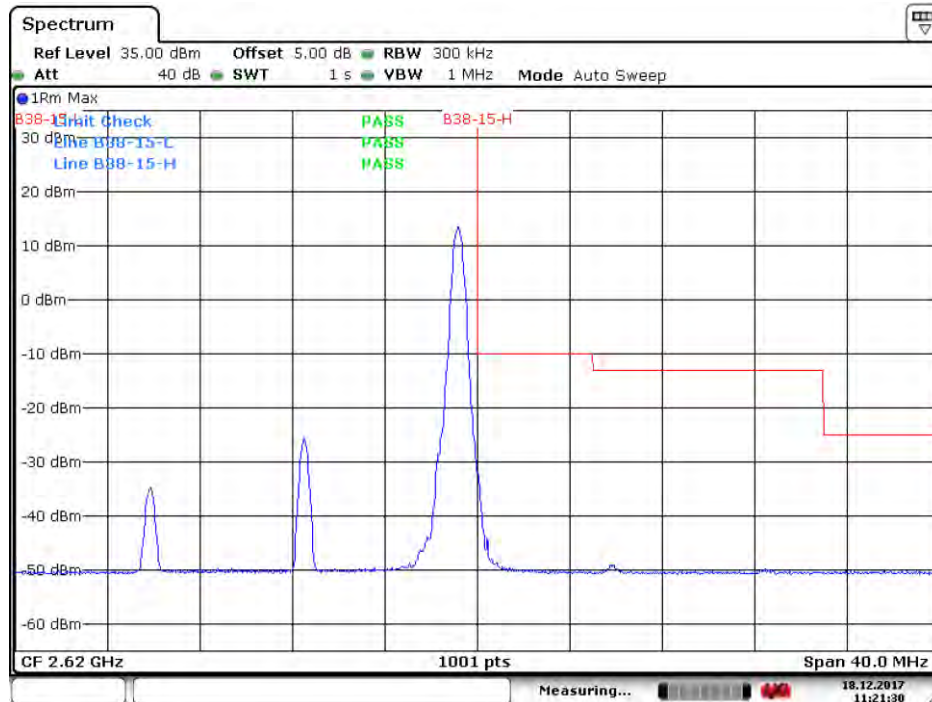
5.1.1.5.1.2 Test RB=75RB



Date: 18.DEC.2017 11:18:24

5.1.1.5.2 Test Channel = HCH

5.1.1.5.2.1 Test RB=1RB



Date: 18.DEC.2017 11:21:31

5.1.1.5.2.2 Test RB=75RB

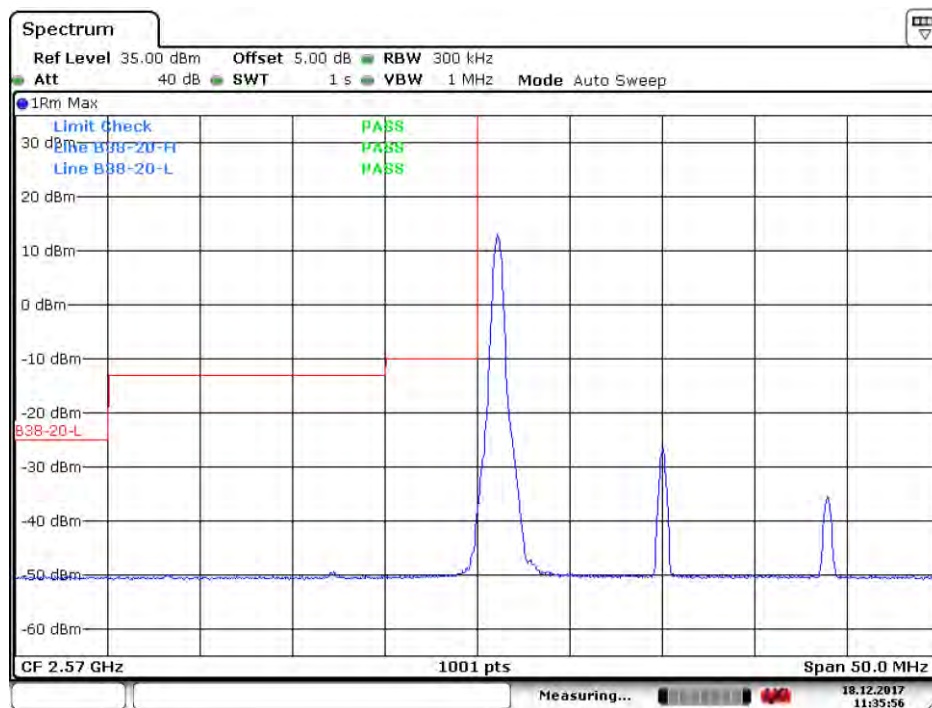


Date: 18.DEC.2017 11:21:09

5.1.1.6 Test Mode = LTE/TM1 20MHz

5.1.1.6.1 Test Channel = LCH

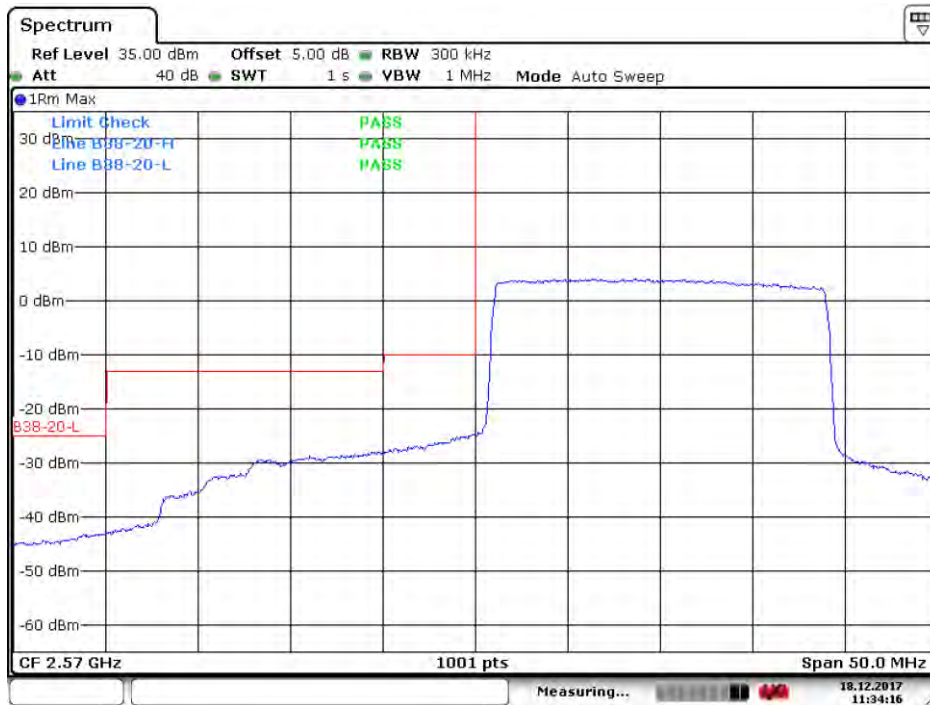
5.1.1.6.1.1 Test RB=1RB



Date: 18.DEC.2017 11:35:56



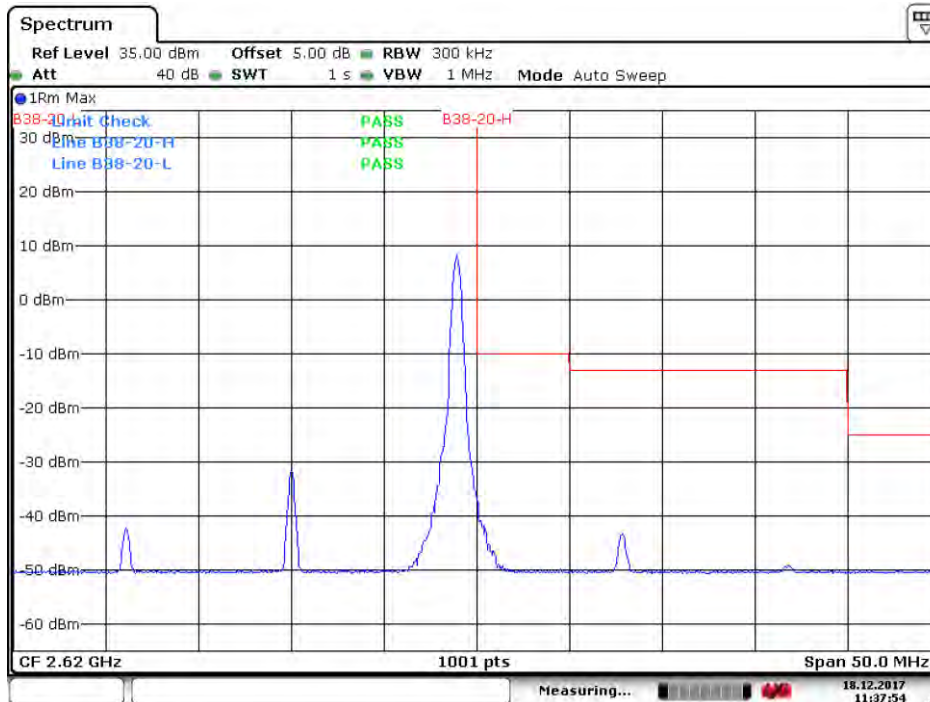
5.1.1.6.1.2 Test RB=100RB



Date: 18.DEC.2017 11:34:17

5.1.1.6.2 Test Channel = HCH

5.1.1.6.2.1 Test RB=1RB



Date: 18.DEC.2017 11:37:55



5.1.1.6.2.2 Test RB=100RB

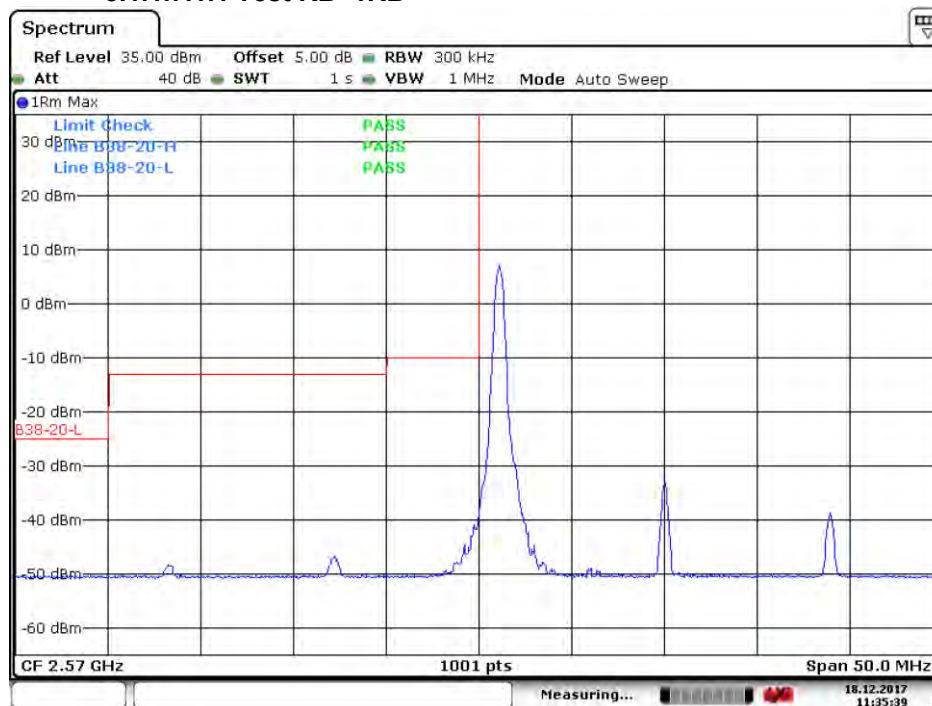


Date: 18.DEC.2017 11:37:21

5.1.1.7 Test Mode = LTE/TM2 20MHz

5.1.1.7.1 Test Channel = LCH

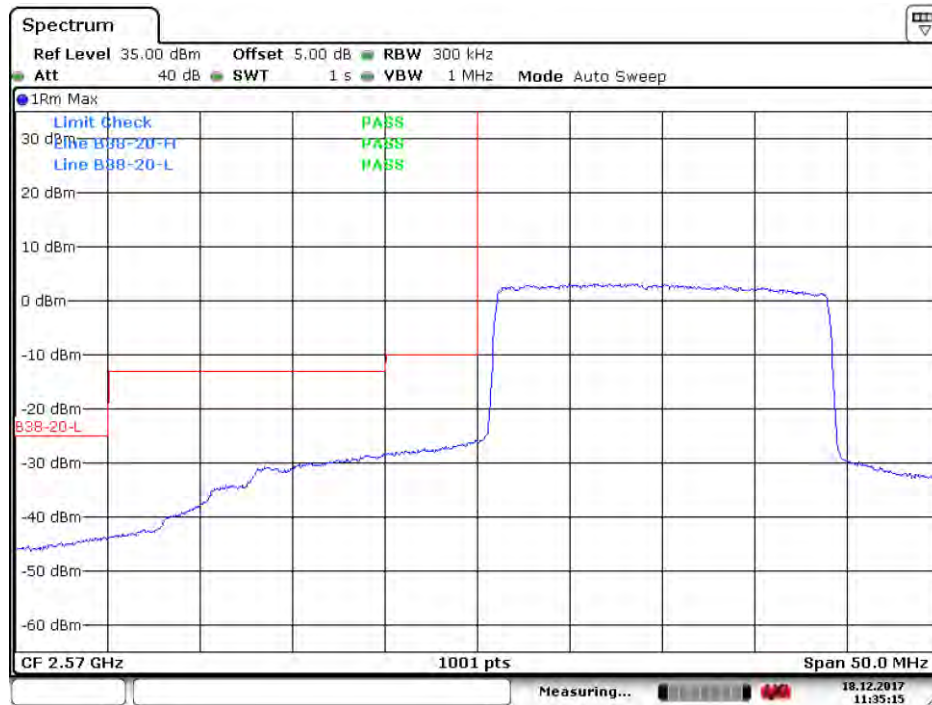
5.1.1.7.1.1 Test RB=1RB



Date: 18.DEC.2017 11:35:39



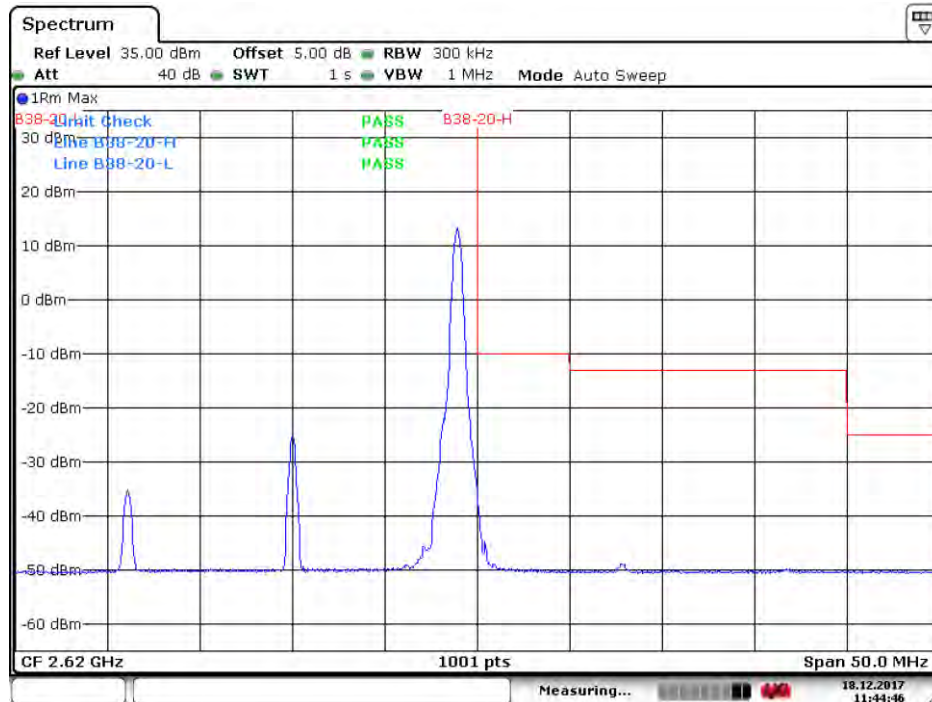
5.1.1.7.1.2 Test RB=100RB



Date: 18.DEC.2017 11:35:15

5.1.1.7.2 Test Channel = HCH

5.1.1.7.2.1 Test RB=1RB



Date: 18.DEC.2017 11:44:46



5.1.1.7.2.2 Test RB=100RB



Date: 18.DEC.2017 11:36:45



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.

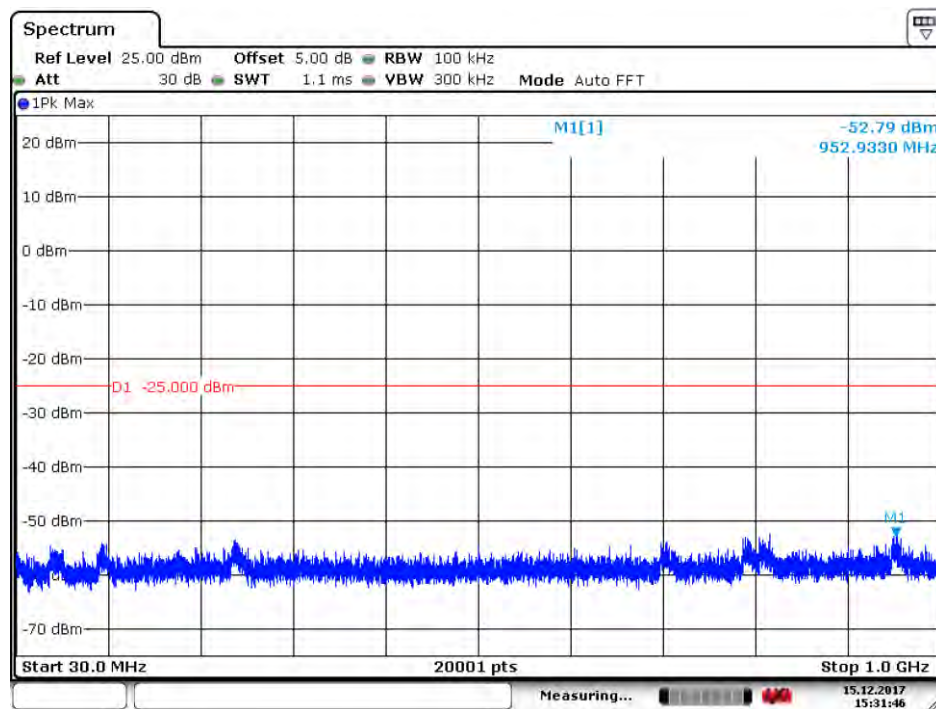
Part I - Test Plots

6.1 For LTE

6.1.1 Test Band = LTE band38

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

6.1.1.1.1 Test Channel = LCH



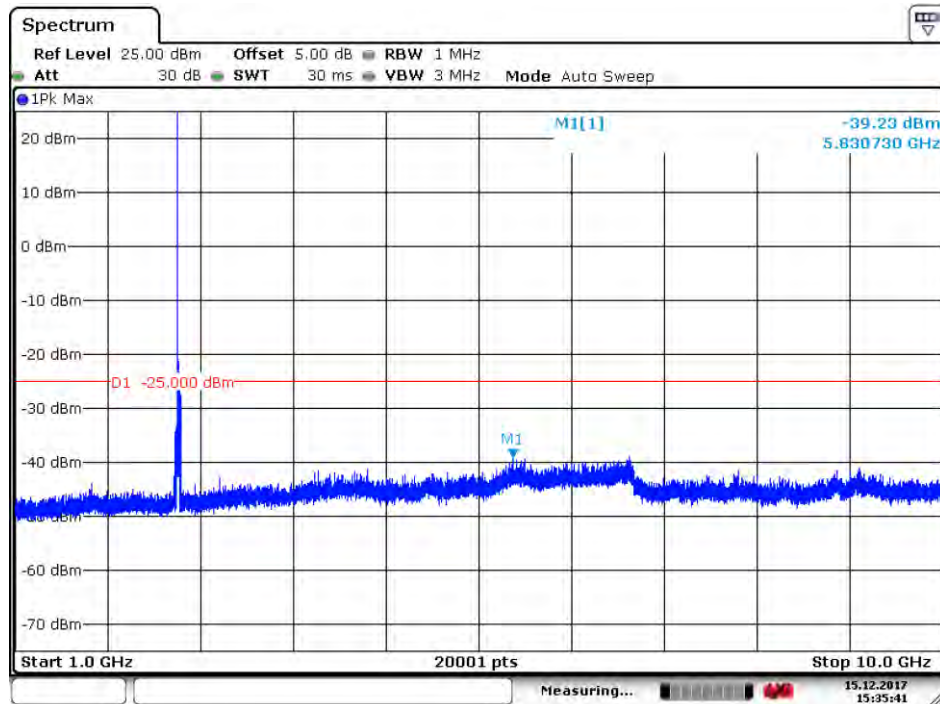
Date: 15.DEC.2017 15:31:47



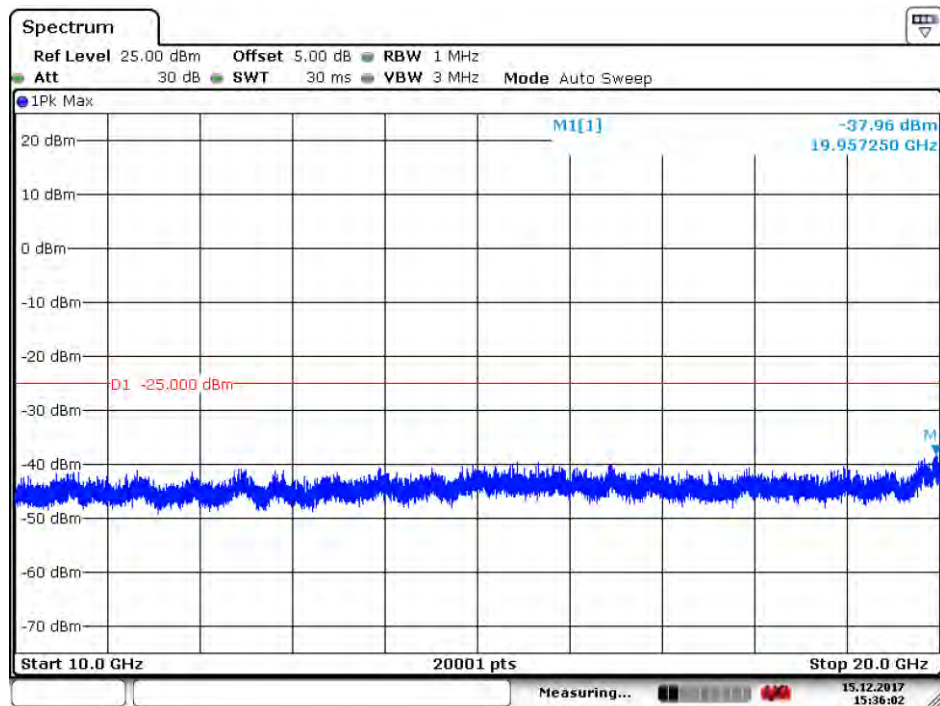
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM1701001110301

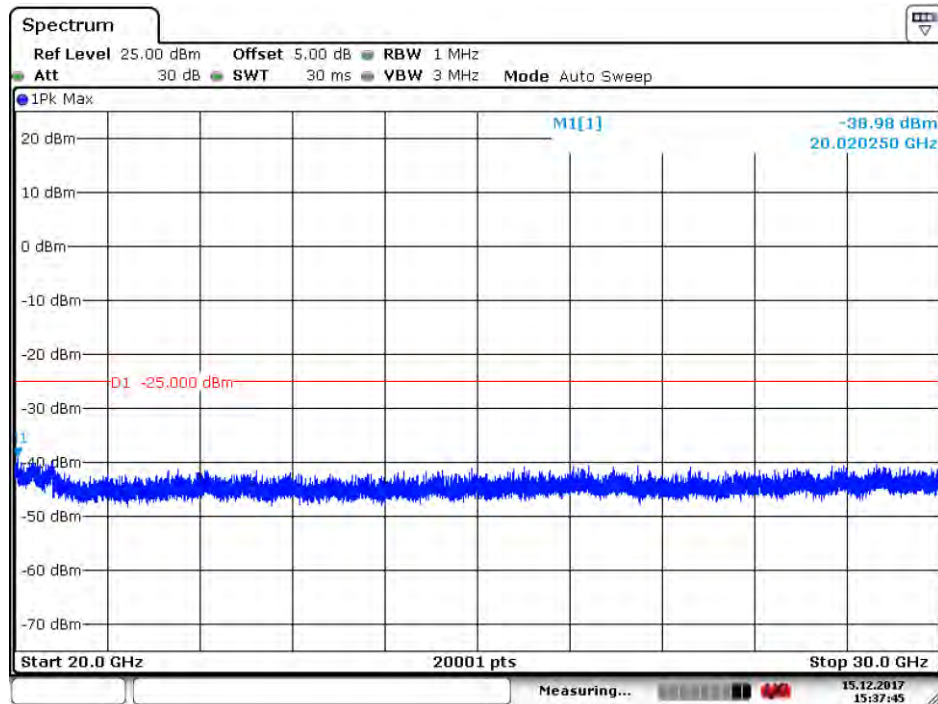
Page: 49 of 59



Date: 15.DEC.2017 15:35:42

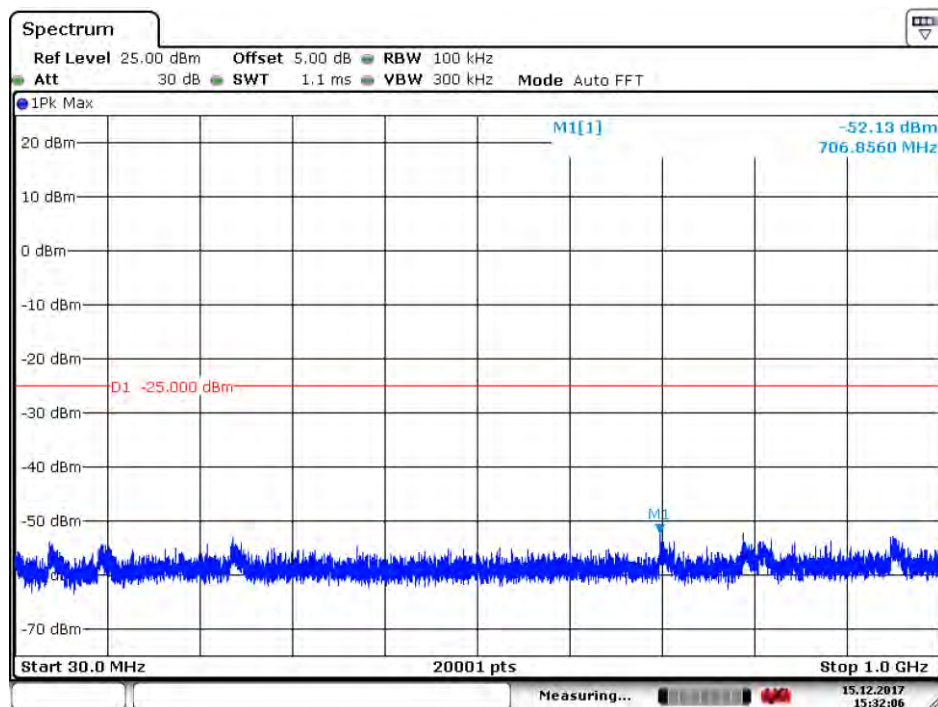


Date: 15.DEC.2017 15:36:02



Date: 15.DEC.2017 15:37:45

6.1.1.1.2 Test Channel = MCH



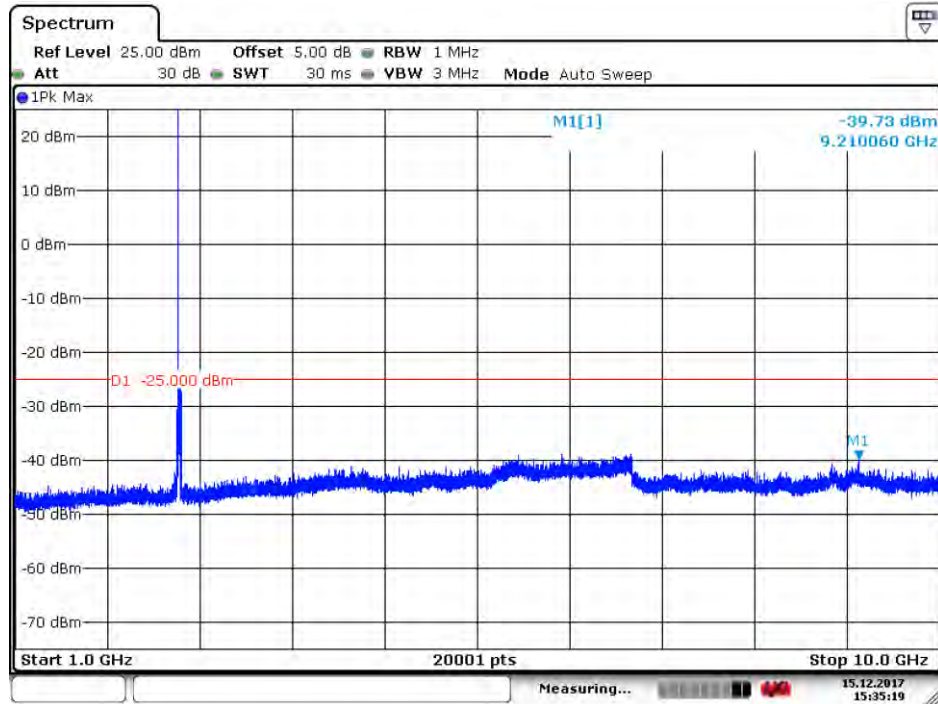
Date: 15.DEC.2017 15:32:07



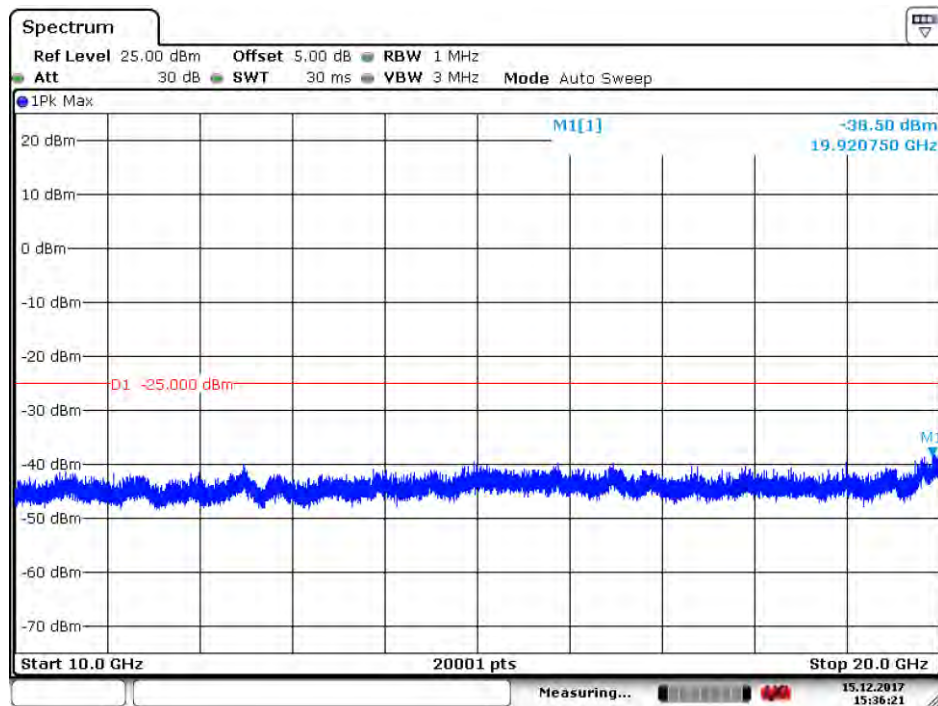
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM1701001110301

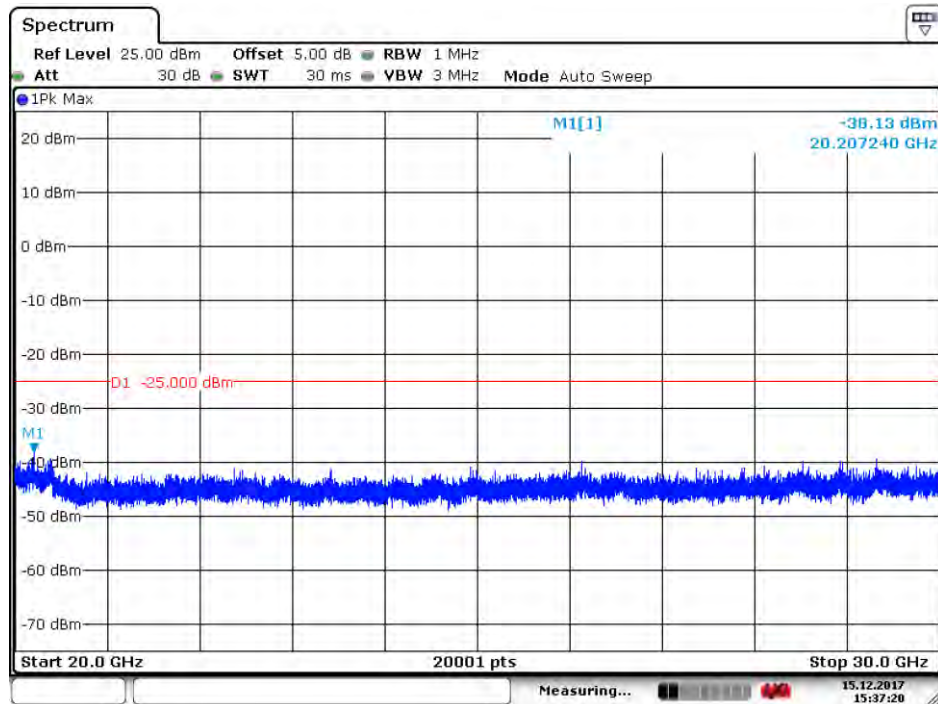
Page: 51 of 59



Date: 15.DEC.2017 15:35:19

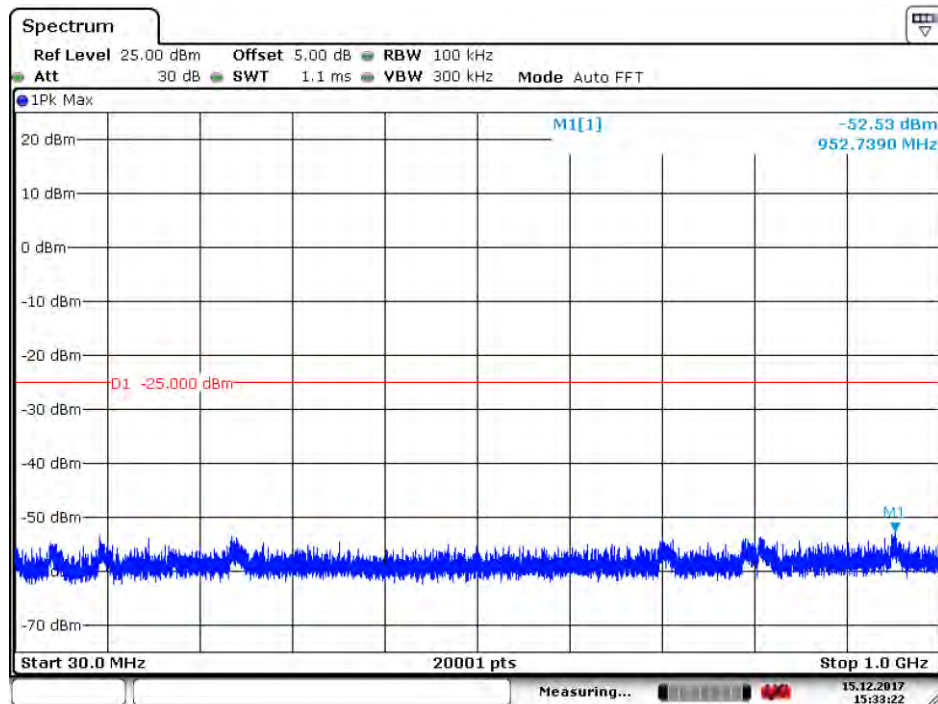


Date: 15.DEC.2017 15:36:21



Date: 15.DEC.2017 15:37:20

6.1.1.1.3 Test Channel = HCH



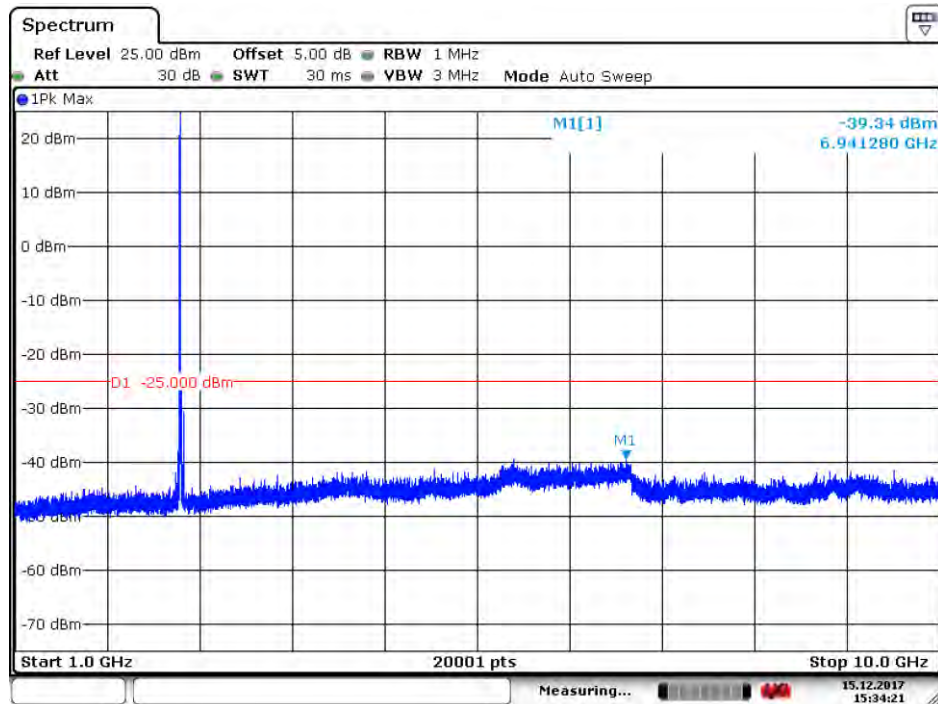
Date: 15.DEC.2017 15:33:23



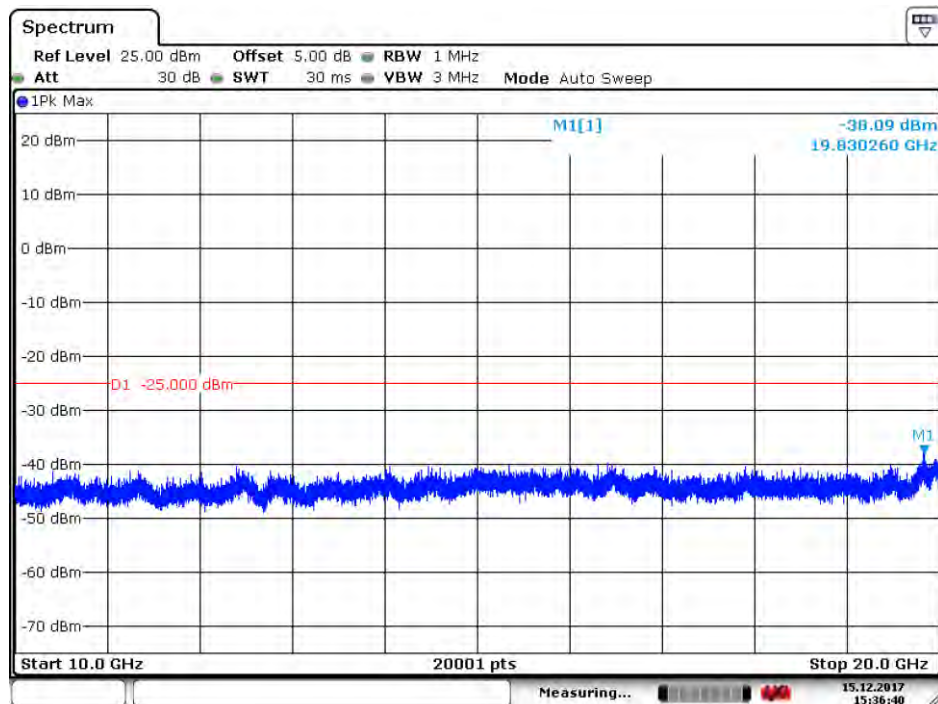
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM1701001110301

Page: 53 of 59



Date: 15.DEC.2017 15:34:22



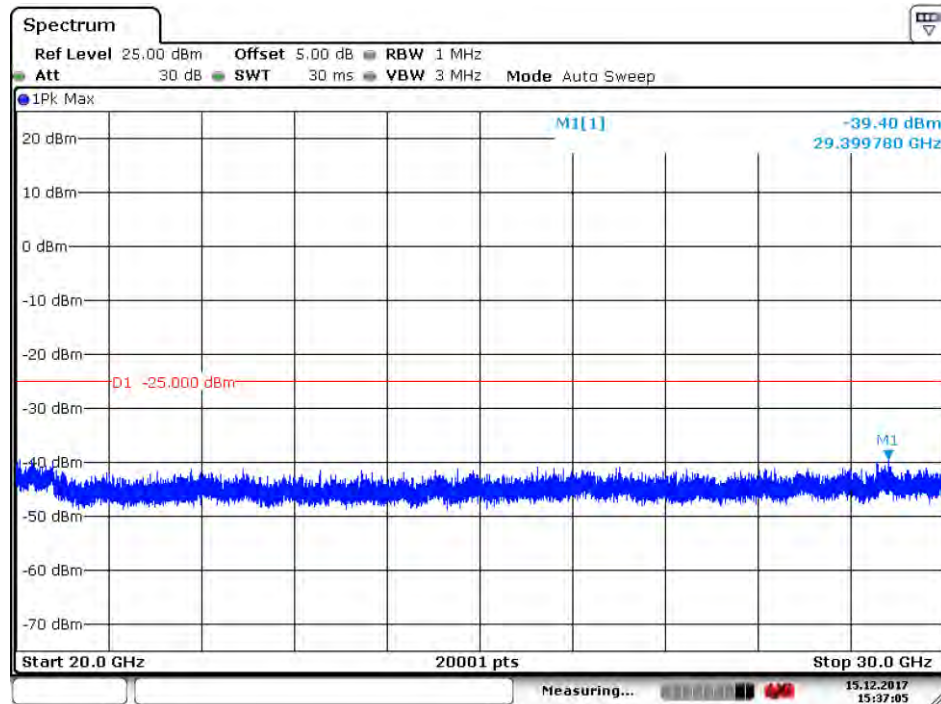
Date: 15.DEC.2017 15:36:40



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

Report No.: SZEM1701001110301

Page: 54 of 59



Date: 15.DEC.2017 15:37:04



7 Field Strength of Spurious Radiation

7.1 For LTE

7.1.1 Test Band = LTE band38

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
172.800000	-70.63	-25.00	-45.63	Vertical
197.550000	-72.94	-25.00	-47.94	Vertical
297.150000	-75.29	-25.00	-50.29	Vertical
2791.000000	-57.69	-25.00	-32.69	Vertical
4621.100000	-67.36	-25.00	-42.36	Vertical
7712.175000	-64.42	-25.00	-39.42	Vertical
62.850000	-77.69	-25.00	-52.69	Vertical
127.350000	-77.65	-25.00	-52.65	Horizontal
199.100000	-78.70	-25.00	-53.7	Horizontal
1947.000000	-62.98	-25.00	-37.98	Horizontal
4333.800000	-67.05	-25.00	-42.05	Horizontal
7865.575000	-63.70	-25.00	-38.70	Horizontal

7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
73.950000	-72.56	-25.00	-47.56	Vertical
172.800000	-70.71	-25.00	-45.71	Vertical
295.900000	-75.34	-25.00	-50.34	Vertical
1193.500000	-66.32	-25.00	-41.32	Vertical
4270.425000	-67.06	-25.00	-42.06	Vertical
7934.475000	-63.71	-25.00	-38.71	Vertical
62.100000	-77.94	-25.00	-52.94	Horizontal
127.300000	-75.13	-25.00	-50.13	Horizontal
200.100000	-79.61	-25.00	-54.61	Horizontal
1694.500000	-64.47	-25.00	-39.47	Horizontal
4843.400000	-67.10	-25.00	-42.10	Horizontal
7758.325000	-61.57	-25.00	-36.57	Horizontal



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

Report No.: SZEM1701001110301

Page: 56 of 59

7.1.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
39.900000	-73.36	-25.00	-48.36	Vertical
72.250000	-72.79	-25.00	-47.79	Vertical
168.600000	-69.00	-25.00	-44.00	Vertical
1271.000000	-66.27	-25.00	-41.27	Vertical
4531.000000	-67.32	-25.00	-42.32	Vertical
7044.300000	-64.83	-25.00	-39.83	Vertical
56.200000	-77.86	-25.00	-52.86	Horizontal
126.600000	-78.37	-25.00	-53.37	Horizontal
195.750000	-78.92	-25.00	-53.92	Horizontal
1128.500000	-67.02	-25.00	-42.02	Horizontal
4784.250000	-67.08	-25.00	-42.08	Horizontal
7803.175000	-59.89	-25.00	-34.89	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.



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
LTEband38	LTE/TM1 20MHz	LCH	TN	VL	-4.33	-0.00168	PASS
				VN	3.76	0.00146	PASS
				VH	-6.13	-0.00238	PASS
		MCH	TN	VL	1.99	0.00077	PASS
				VN	-6.04	-0.00233	PASS
				VH	2.33	0.00090	PASS
		HCH	TN	VL	-3.86	-0.00148	PASS
				VN	-5.69	-0.00218	PASS
				VH	-2.99	-0.00115	PASS
	LTE/TM2 20MHz	LCH	TN	VL	-4.35	-0.00169	PASS
				VN	-2.75	-0.00107	PASS
				VH	-5.36	-0.00208	PASS
		MCH	TN	VL	6.86	0.00264	PASS
				VN	-2.50	-0.00096	PASS
				VH	3.59	0.00138	PASS
		HCH	TN	VL	-1.78	-0.00068	PASS
				VN	-5.02	-0.00192	PASS
				VH	2.44	0.00093	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
LTEband38	LTE/TM1 20MHz	LCH	VN	-30	-0.39	-0.00015	PASS
				-20	-1.95	-0.00076	PASS
				-10	2.68	0.00104	PASS
				0	1.90	0.00074	PASS
				10	1.05	0.00041	PASS
				20	0.32	0.00012	PASS
				30	-0.91	-0.00035	PASS
				40	-0.01	0.00000	PASS
				50	0.29	0.00011	PASS
		MCH	VN	-30	-2.40	-0.00092	PASS
				-20	-5.61	-0.00216	PASS
				-10	-5.79	-0.00223	PASS
				0	-5.39	-0.00208	PASS
				10	-2.04	-0.00079	PASS
				20	-1.94	-0.00075	PASS
				30	-3.66	-0.00141	PASS
				40	-4.02	-0.00155	PASS
				50	-2.92	-0.00113	PASS
		HCH	VN	-30	5.94	0.00228	PASS
				-20	-1.49	-0.00057	PASS
				-10	1.26	0.00048	PASS
				0	-2.44	-0.00093	PASS
				10	2.65	0.00102	PASS
				20	-3.56	-0.00136	PASS
				30	-2.62	-0.00100	PASS
				40	-3.45	-0.00132	PASS
				50	-8.09	-0.00310	PASS



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

Report No.: SZEM1701001110301

Page: 59 of 59

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband38	LTE/TM2 20MHz	LCH	VN	-30	-0.59	-0.00023	PASS
				-20	-2.43	-0.00094	PASS
				-10	3.32	0.00129	PASS
				0	2.65	0.00103	PASS
				10	1.67	0.00065	PASS
				20	-0.22	-0.00009	PASS
				30	-0.45	-0.00017	PASS
				40	5.37	0.00208	PASS
				50	0.72	0.00028	PASS
		MCH	VN	-30	-3.50	-0.00135	PASS
				-20	-5.68	-0.00219	PASS
				-10	-7.59	-0.00292	PASS
				0	-4.22	-0.00163	PASS
				10	-0.14	-0.00005	PASS
				20	1.64	0.00063	PASS
				30	-3.24	-0.00125	PASS
				40	-5.62	-0.00217	PASS
				50	-1.91	-0.00074	PASS
		HCH	VN	-30	4.34	0.00166	PASS
				-20	-3.55	-0.00136	PASS
				-10	4.59	0.00176	PASS
				0	-5.73	-0.00220	PASS
				10	0.88	0.00034	PASS
				20	-3.47	-0.00133	PASS
				30	-1.59	-0.00061	PASS
				40	-0.33	-0.00013	PASS
				50	-6.60	-0.00253	PASS

The End