



# Appendix B

## E-UTRA Band 71



## CONTENT

	Page
<b>1 EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA.....</b>	<b>3</b>
<b>2 PEAK-TO-AVERAGE RATIO .....</b>	<b>11</b>
2.1 FOR LTE .....	12
2.1.1 Test Band = LTE band71.....	12
<b>3 MODULATION CHARACTERISTICS .....</b>	<b>15</b>
3.1 FOR LTE .....	15
3.1.1 Test Band = LTE band71.....	15
<b>4 BANDWIDTH .....</b>	<b>17</b>
4.1 FOR LTE .....	18
4.1.1 Test Band = LTE band71.....	18
<b>5 BAND EDGES COMPLIANCE .....</b>	<b>31</b>
5.1 FOR LTE .....	31
5.1.1 Test Band = LTE band71.....	31
<b>6 SPURIOUS EMISSION AT ANTENNA TERMINAL.....</b>	<b>48</b>
6.1 FOR LTE .....	48
6.1.1 Test Band = LTE band71.....	48
<b>7 FIELD STRENGTH OF SPURIOUS RADIATION .....</b>	<b>52</b>
7.1 FOR LTE .....	52
7.1.1 Test Band = LTE band71.....	52
<b>8 FREQUENCY STABILITY .....</b>	<b>54</b>
8.1 FREQUENCY ERROR VS. VOLTAGE .....	54
8.2 FREQUENCY ERROR VS. TEMPERATURE .....	55



## 1 Effective (Isotropic) Radiated Power Output Data

Effective Radiated Power of Transmitter (ERP) for LTE BAND 71

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM1	5M	LCH	RB1#0	23.00	19.45	34.77	PASS
				RB1#13	22.80	19.25	34.77	PASS
				RB1#24	22.98	19.43	34.77	PASS
				RB12#0	21.94	18.39	34.77	PASS
				RB12#6	21.83	18.28	34.77	PASS
				RB12#13	21.94	18.39	34.77	PASS
				RB25#0	21.81	18.26	34.77	PASS
			MCH	RB1#0	23.16	19.61	34.77	PASS
				RB1#13	23.02	19.47	34.77	PASS
				RB1#24	23.17	19.62	34.77	PASS
				RB12#0	22.07	18.52	34.77	PASS
				RB12#6	21.93	18.38	34.77	PASS
				RB12#13	21.79	18.24	34.77	PASS
				RB25#0	21.92	18.37	34.77	PASS
			HCH	RB1#0	22.90	19.35	34.77	PASS
				RB1#13	22.91	19.36	34.77	PASS
				RB1#24	22.86	19.31	34.77	PASS
				RB12#0	22.13	18.58	34.77	PASS
				RB12#6	22.16	18.61	34.77	PASS
				RB12#13	22.00	18.45	34.77	PASS
				RB25#0	22.09	18.54	34.77	PASS



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

Report No.: SZEM171201298701

Page: 4 of 56

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM2	5M	LCH	RB1#0	22.24	18.69	34.77	PASS
				RB1#13	22.23	18.68	34.77	PASS
				RB1#24	22.08	18.53	34.77	PASS
				RB12#0	21.04	17.49	34.77	PASS
				RB12#6	21.00	17.45	34.77	PASS
				RB12#13	21.12	17.57	34.77	PASS
				RB25#0	21.17	17.62	34.77	PASS
			MCH	RB1#0	21.82	18.27	34.77	PASS
				RB1#13	22.17	18.62	34.77	PASS
				RB1#24	21.61	18.06	34.77	PASS
				RB12#0	21.15	17.6	34.77	PASS
				RB12#6	21.13	17.58	34.77	PASS
				RB12#13	21.10	17.55	34.77	PASS
				RB25#0	21.00	17.45	34.77	PASS
			HCH	RB1#0	21.69	18.14	34.77	PASS
				RB1#13	21.58	18.03	34.77	PASS
				RB1#24	21.49	17.94	34.77	PASS
				RB12#0	21.08	17.53	34.77	PASS
				RB12#6	21.24	17.69	34.77	PASS
				RB12#13	21.21	17.66	34.77	PASS
				RB25#0	21.27	17.72	34.77	PASS



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

Report No.: SZEM171201298701

Page: 5 of 56

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM1	10M	LCH	RB1#0	23.01	19.46	34.77	PASS
				RB1#25	22.75	19.2	34.77	PASS
				RB1#49	22.92	19.37	34.77	PASS
				RB25#0	22.03	18.48	34.77	PASS
				RB25#13	21.82	18.27	34.77	PASS
				RB25#25	21.94	18.39	34.77	PASS
				RB50#0	21.85	18.30	34.77	PASS
			MCH	RB1#0	23.10	19.55	34.77	PASS
				RB1#25	23.07	19.52	34.77	PASS
				RB1#49	23.19	19.64	34.77	PASS
				RB25#0	22.05	18.5	34.77	PASS
				RB25#13	21.94	18.39	34.77	PASS
				RB25#25	21.78	18.23	34.77	PASS
				RB50#0	21.90	18.35	34.77	PASS
			HCH	RB1#0	22.88	19.33	34.77	PASS
				RB1#25	22.83	19.28	34.77	PASS
				RB1#49	22.93	19.38	34.77	PASS
				RB25#0	22.14	18.59	34.77	PASS
				RB25#13	22.14	18.59	34.77	PASS
				RB25#25	22.04	18.49	34.77	PASS
				RB50#0	22.02	18.47	34.77	PASS



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

Report No.: SZEM171201298701

Page: 6 of 56

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM2	10M	LCH	RB1#0	22.23	18.68	34.77	PASS
				RB1#25	22.17	18.62	34.77	PASS
				RB1#49	22.16	18.61	34.77	PASS
				RB25#0	21.03	17.48	34.77	PASS
				RB25#13	21.01	17.46	34.77	PASS
				RB25#25	21.17	17.62	34.77	PASS
				RB50#0	21.14	17.59	34.77	PASS
			MCH	RB1#0	21.83	18.28	34.77	PASS
				RB1#25	22.17	18.62	34.77	PASS
				RB1#49	21.62	18.07	34.77	PASS
				RB25#0	21.19	17.64	34.77	PASS
				RB25#13	21.19	17.64	34.77	PASS
				RB25#25	21.10	17.55	34.77	PASS
				RB50#0	21.06	17.51	34.77	PASS
			HCH	RB1#0	21.72	18.17	34.77	PASS
				RB1#25	21.57	18.02	34.77	PASS
				RB1#49	21.54	17.99	34.77	PASS
				RB25#0	21.02	17.47	34.77	PASS
				RB25#13	21.22	17.67	34.77	PASS
				RB25#25	21.18	17.63	34.77	PASS
				RB50#0	21.18	17.63	34.77	PASS



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

Report No.: SZEM171201298701

Page: 7 of 56

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM1	15M	LCH	RB1#0	23.10	19.55	34.77	PASS
				RB1#38	22.83	19.28	34.77	PASS
				RB1#74	22.99	19.44	34.77	PASS
				RB36#0	22.03	18.48	34.77	PASS
				RB36#18	21.92	18.37	34.77	PASS
				RB36#39	22.03	18.48	34.77	PASS
				RB75#0	21.89	18.34	34.77	PASS
			MCH	RB1#0	23.16	19.61	34.77	PASS
				RB1#38	23.07	19.52	34.77	PASS
				RB1#74	23.25	19.70	34.77	PASS
				RB36#0	22.11	18.56	34.77	PASS
				RB36#18	21.96	18.41	34.77	PASS
				RB36#39	21.85	18.30	34.77	PASS
				RB75#0	21.95	18.40	34.77	PASS
			HCH	RB1#0	22.90	19.35	34.77	PASS
				RB1#38	22.92	19.37	34.77	PASS
				RB1#74	22.94	19.39	34.77	PASS
				RB36#0	22.20	18.65	34.77	PASS
				RB36#18	22.20	18.65	34.77	PASS
				RB36#39	22.06	18.51	34.77	PASS
				RB75#0	22.11	18.56	34.77	PASS



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

Report No.: SZEM171201298701

Page: 8 of 56

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM2	15M	LCH	RB1#0	22.32	18.77	34.77	PASS
				RB1#38	22.24	18.69	34.77	PASS
				RB1#74	22.18	18.63	34.77	PASS
				RB36#0	21.13	17.58	34.77	PASS
				RB36#18	21.08	17.53	34.77	PASS
				RB36#39	21.17	17.62	34.77	PASS
				RB75#0	21.23	17.68	34.77	PASS
			MCH	RB1#0	21.83	18.28	34.77	PASS
				RB1#38	22.26	18.71	34.77	PASS
				RB1#74	21.66	18.11	34.77	PASS
				RB36#0	21.20	17.65	34.77	PASS
				RB36#18	21.20	17.65	34.77	PASS
				RB36#39	21.20	17.65	34.77	PASS
				RB75#0	21.07	17.52	34.77	PASS
			HCH	RB1#0	21.73	18.18	34.77	PASS
				RB1#38	21.62	18.07	34.77	PASS
				RB1#74	21.58	18.03	34.77	PASS
				RB36#0	21.09	17.54	34.77	PASS
				RB36#18	21.28	17.73	34.77	PASS
				RB36#39	21.27	17.72	34.77	PASS
				RB75#0	21.27	17.72	34.77	PASS





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

Report No.: SZEM171201298701

Page: 9 of 56

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM1	20M	LCH	RB1#0	23.13	19.58	34.77	PASS
				RB1#50	23.24	19.69	34.77	PASS
				RB1#99	23.21	19.66	34.77	PASS
				RB50#0	22.20	18.65	34.77	PASS
				RB50#25	22.38	18.83	34.77	PASS
				RB50#50	22.31	18.76	34.77	PASS
				RB100#0	22.28	18.73	34.77	PASS
			MCH	RB1#0	22.78	19.23	34.77	PASS
				RB1#50	23.01	19.46	34.77	PASS
				RB1#99	22.98	19.43	34.77	PASS
				RB50#0	22.31	18.76	34.77	PASS
				RB50#25	22.28	18.73	34.77	PASS
				RB50#50	22.23	18.68	34.77	PASS
				RB100#0	22.17	18.62	34.77	PASS
			HCH	RB1#0	22.99	19.44	34.77	PASS
				RB1#50	23.01	19.46	34.77	PASS
				RB1#99	22.95	19.4	34.77	PASS
				RB50#0	22.24	18.69	34.77	PASS
				RB50#25	22.25	18.7	34.77	PASS
				RB50#50	22.12	18.57	34.77	PASS
				RB100#0	22.18	18.63	34.77	PASS



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

Report No.: SZEM171201298701

Page: 10 of 56

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND71	LTE/TM2	20M	LCH	RB1#0	22.40	18.85	34.77	PASS
				RB1#50	22.26	18.71	34.77	PASS
				RB1#99	22.21	18.66	34.77	PASS
				RB50#0	21.18	17.63	34.77	PASS
				RB50#25	21.11	17.56	34.77	PASS
				RB50#50	21.24	17.69	34.77	PASS
				RB100#0	21.24	17.69	34.77	PASS
			MCH	RB1#0	21.92	18.37	34.77	PASS
				RB1#50	22.32	18.77	34.77	PASS
				RB1#99	21.71	18.16	34.77	PASS
				RB50#0	21.30	17.75	34.77	PASS
				RB50#25	21.28	17.73	34.77	PASS
				RB50#50	21.27	17.72	34.77	PASS
				RB100#0	21.17	17.62	34.77	PASS
			HCH	RB1#0	21.81	18.26	34.77	PASS
				RB1#50	21.71	18.16	34.77	PASS
				RB1#99	21.67	18.12	34.77	PASS
				RB50#0	21.10	17.55	34.77	PASS
				RB50#25	21.34	17.79	34.77	PASS
				RB50#50	21.35	17.80	34.77	PASS
				RB100#0	21.33	17.78	34.77	PASS

Note:

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

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

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 71	TM1/20M	LCH	4.64	13	PASS
		MCH	4.46	13	PASS
		HCH	4.84	13	PASS
	TM2/20M	LCH	5.74	13	PASS
		MCH	5.54	13	PASS
		HCH	5.65	13	PASS



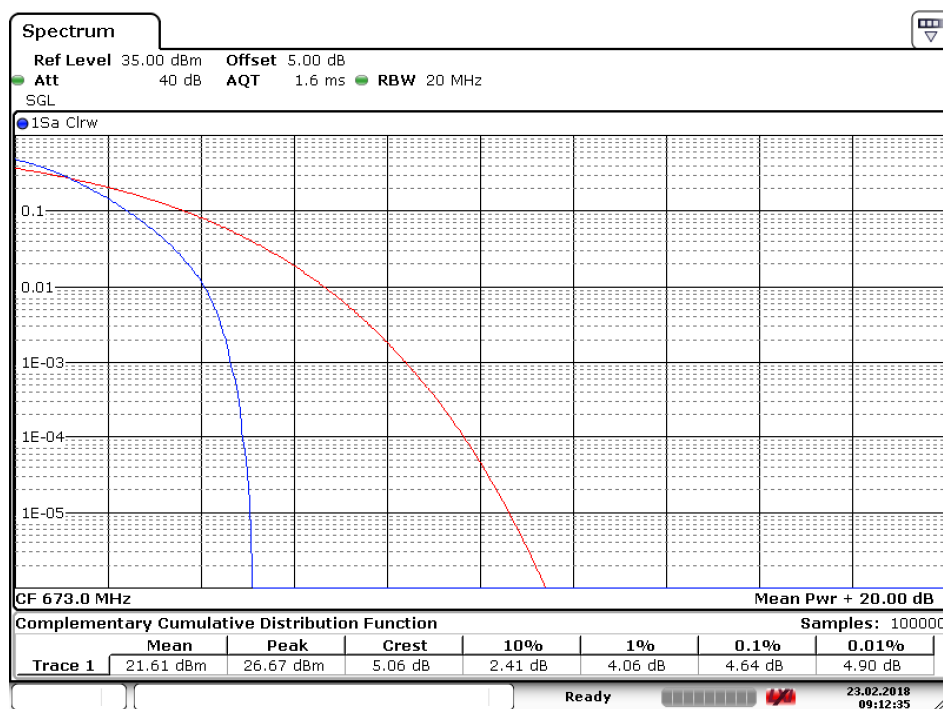
## Part II - Test Plots

### 2.1 For LTE

#### 2.1.1 Test Band = LTE band71

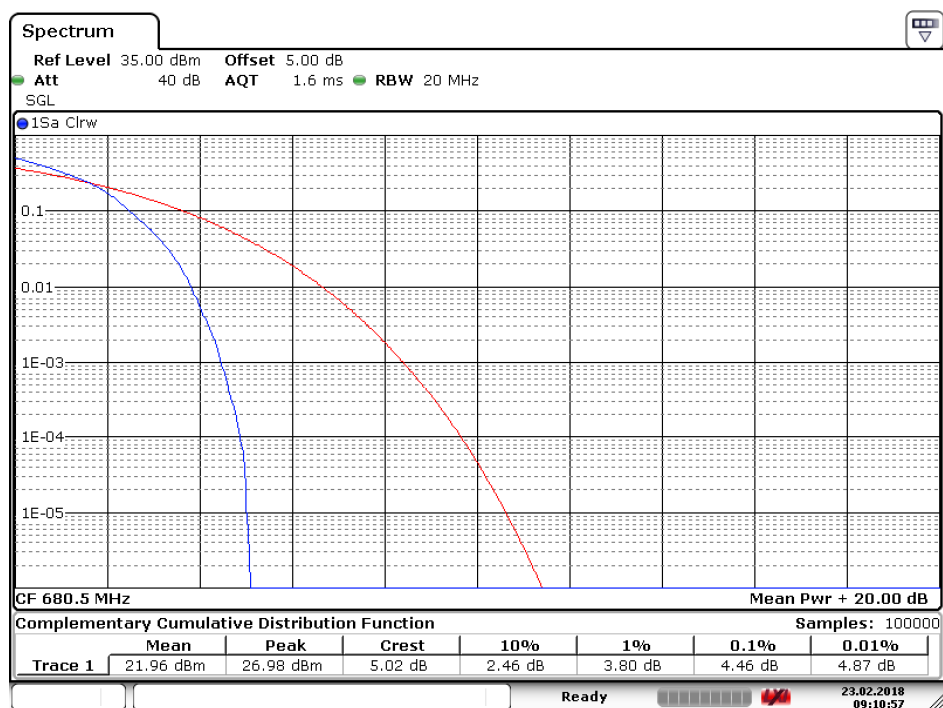
##### 2.1.1.1 Test Mode = LTE/TM1.Bandwidth=20MHz

##### 2.1.1.1.1 Test Channel = LCH



Date: 23.FEB.2018 09:12:35

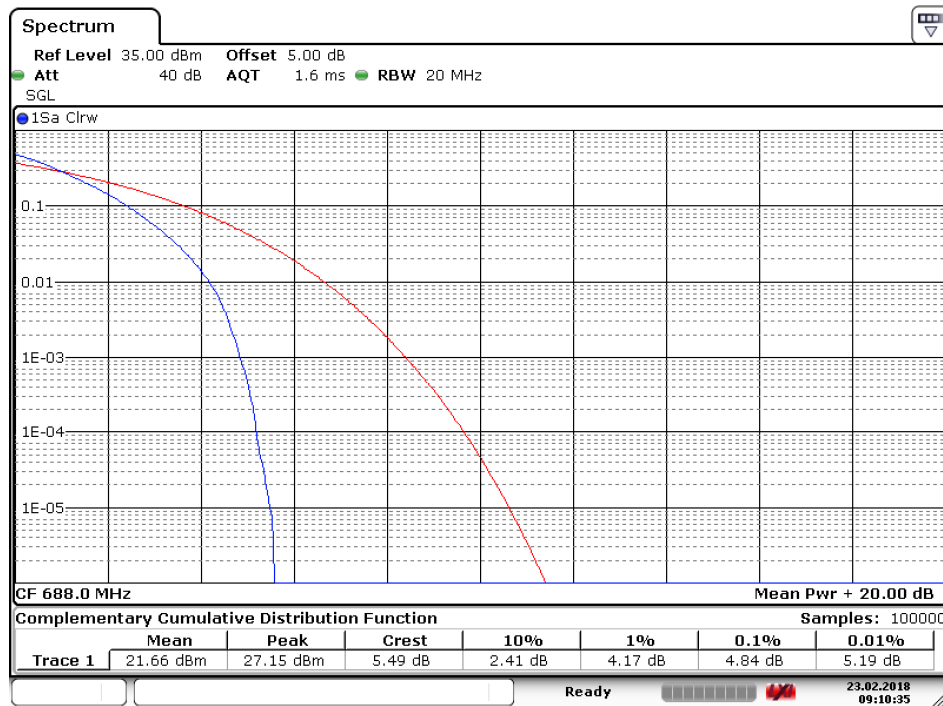
##### 2.1.1.1.2 Test Channel = MCH



Date: 23.FEB.2018 09:10:57



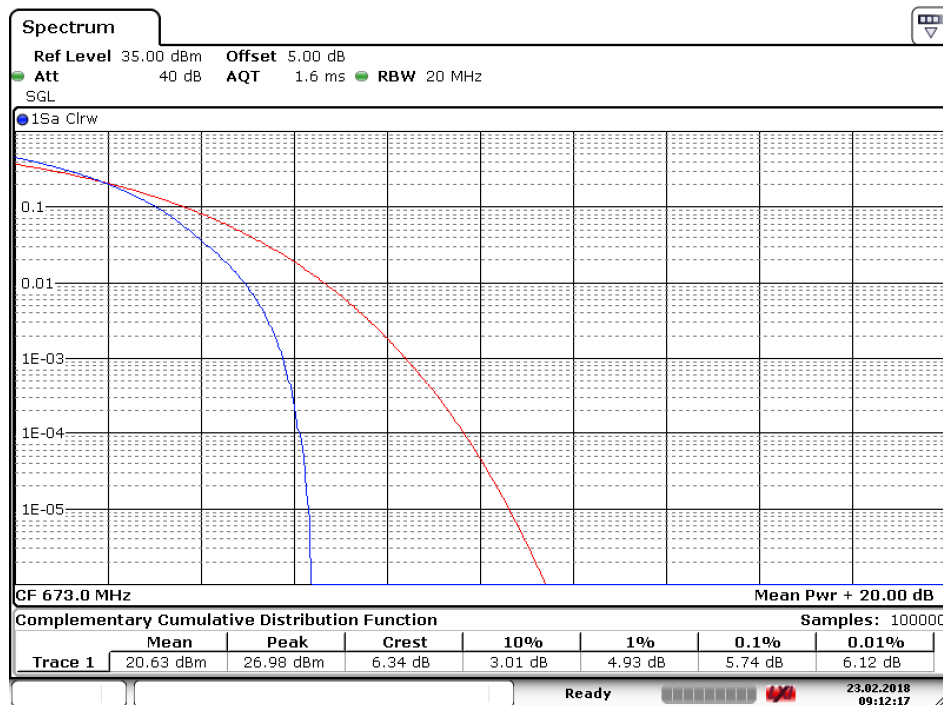
2.1.1.1.3 Test Channel = HCH



Date: 23.FEB.2018 09:10:35

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

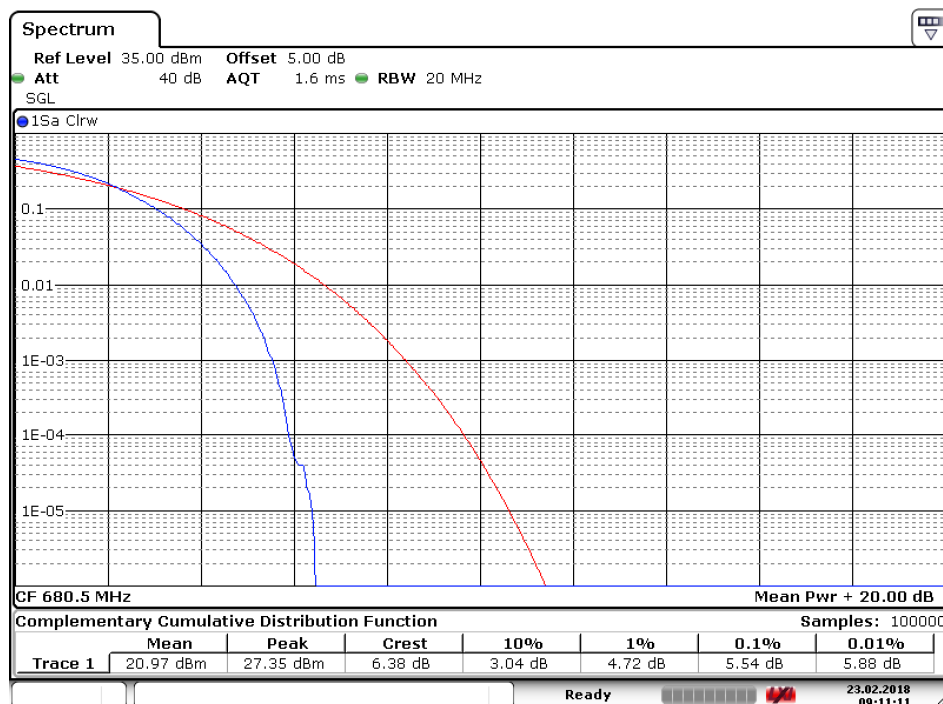
2.1.1.2.1 Test Channel = LCH



Date: 23.FEB.2018 09:12:18

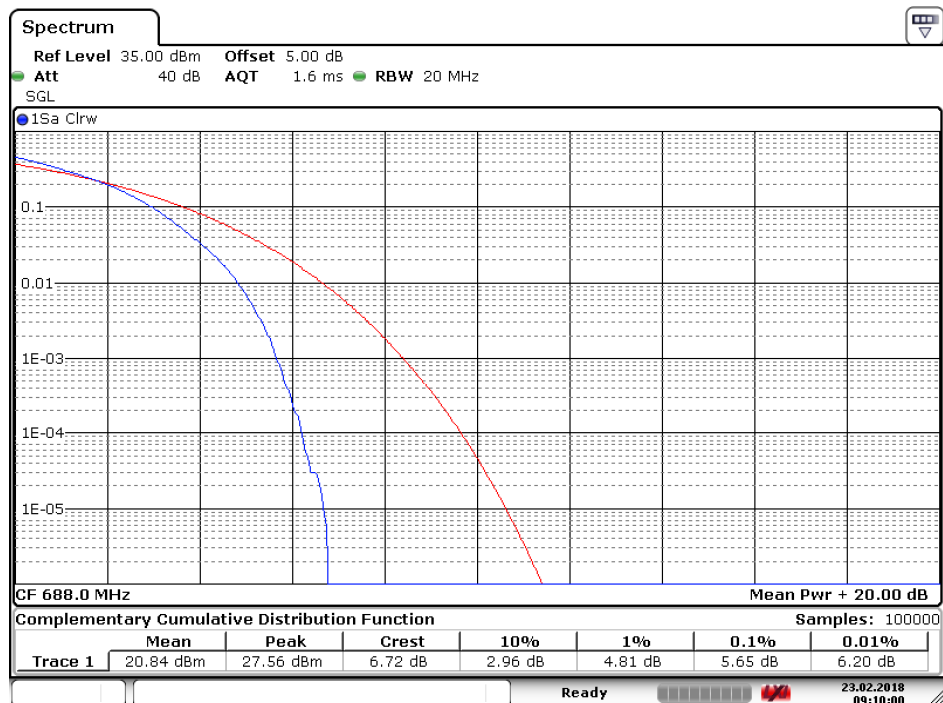


2.1.1.2.2 Test Channel = MCH



Date: 23.FEB.2018 09:11:12

2.1.1.2.3 Test Channel = HCH



Date: 23.FEB.2018 09:10:01



### 3 Modulation Characteristics

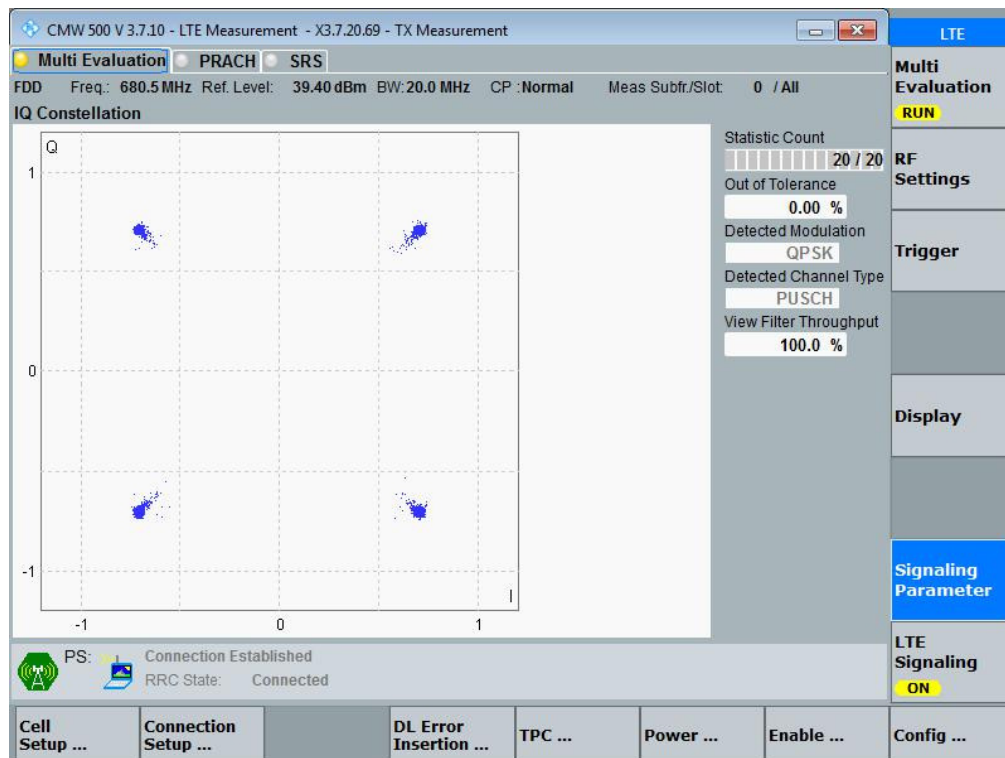
#### Part I - Test Plots

#### 3.1 For LTE

##### 3.1.1 Test Band = LTE band71

##### 3.1.1.1 Test Mode = LTE /TM1 20MHz

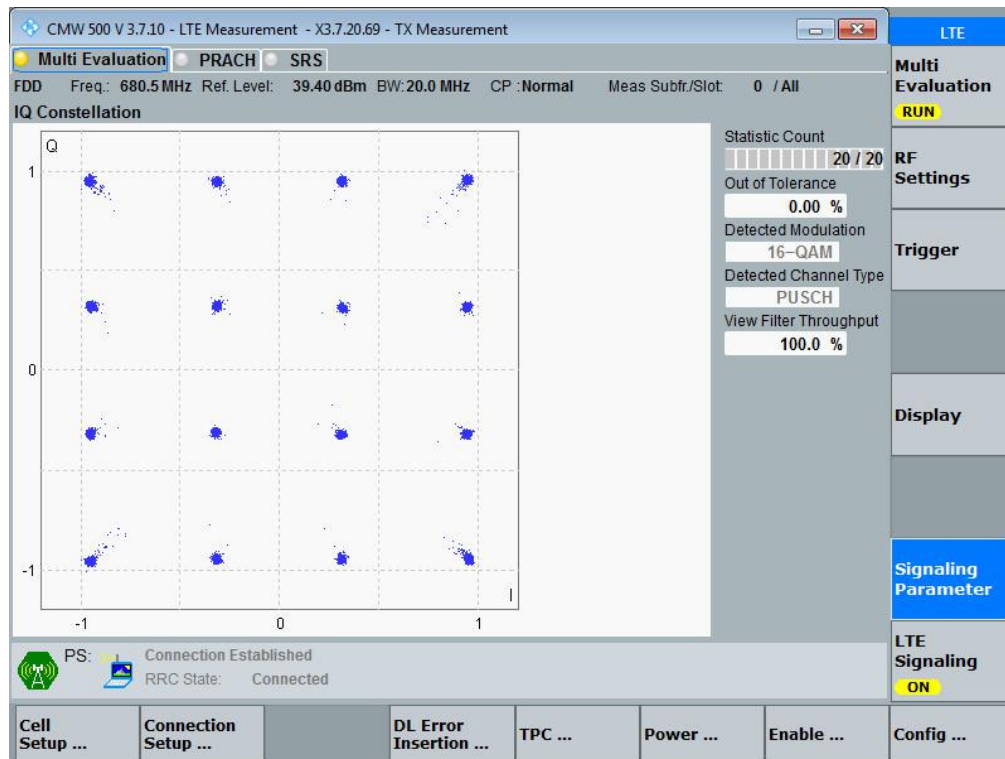
##### 3.1.1.1.1 Test Channel = MCH





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 71	TM1/ 5MHz	LCH	4.48	4.92	PASS
		MCH	4.46	4.89	PASS
		HCH	4.46	4.92	PASS
	TM2/ 5MHz	LCH	4.47	4.92	PASS
		MCH	4.48	4.93	PASS
		HCH	4.47	4.87	PASS
	TM1/10MHz	LCH	8.91	9.69	PASS
		MCH	8.89	9.57	PASS
		HCH	8.91	9.57	PASS
	TM2/ 10MHz	LCH	8.91	9.59	PASS
		MCH	8.91	9.63	PASS
		HCH	8.89	9.59	PASS
	TM1/ 15MHz	LCH	13.49	14.81	PASS
		MCH	13.31	14.60	PASS
		HCH	13.46	14.75	PASS
	TM2/ 15MHz	LCH	13.49	14.69	PASS
		MCH	13.37	14.63	PASS
		HCH	13.46	14.72	PASS
	TM1/ 20MHz	LCH	17.86	19.14	PASS
		MCH	17.78	19.14	PASS
		HCH	17.90	19.58	PASS
	TM2/ 20MHz	LCH	17.82	19.26	PASS
		MCH	17.74	19.26	PASS
		HCH	17.86	19.42	PASS

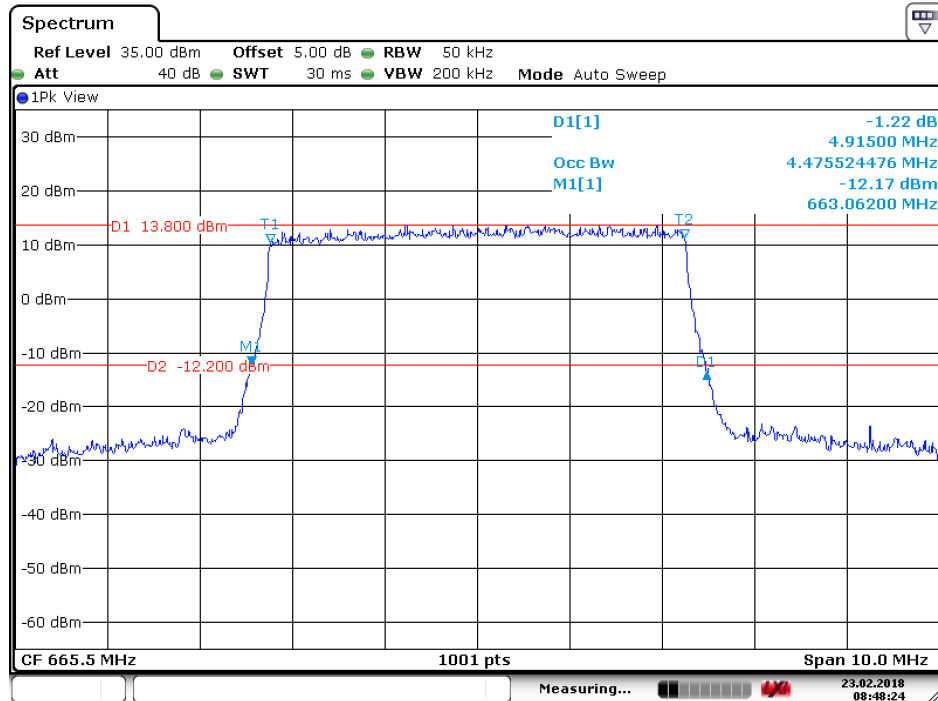


## 4.1 For LTE

### 4.1.1 Test Band = LTE band71

#### 4.1.1.1 Test Mode = LTE/TM1 5MHz

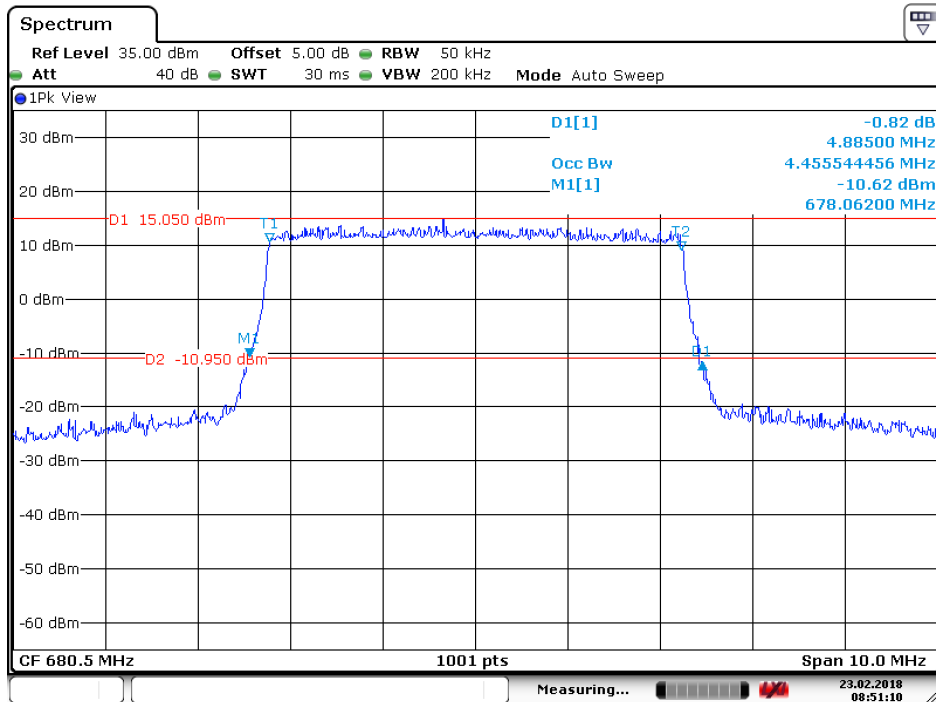
##### 4.1.1.1.1 Test Channel = LCH



Date: 23.FEB.2018 08:48:25

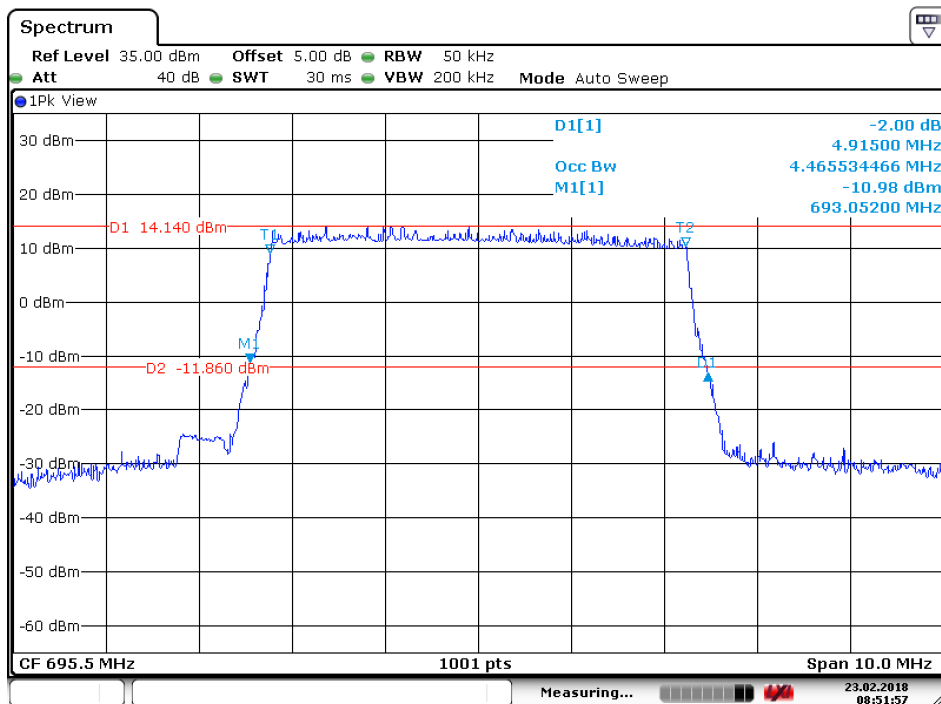


4.1.1.1.2 Test Channel = MCH



Date: 23.FEB.2018 08:51:10

4.1.1.1.3 Test Channel = HCH

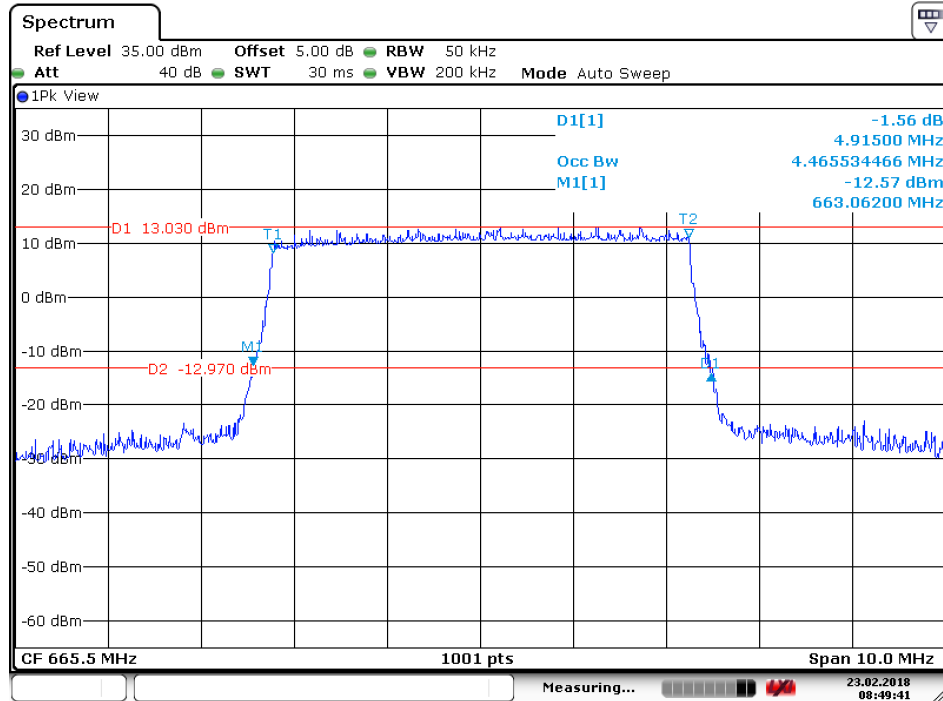


Date: 23.FEB.2018 08:51:57



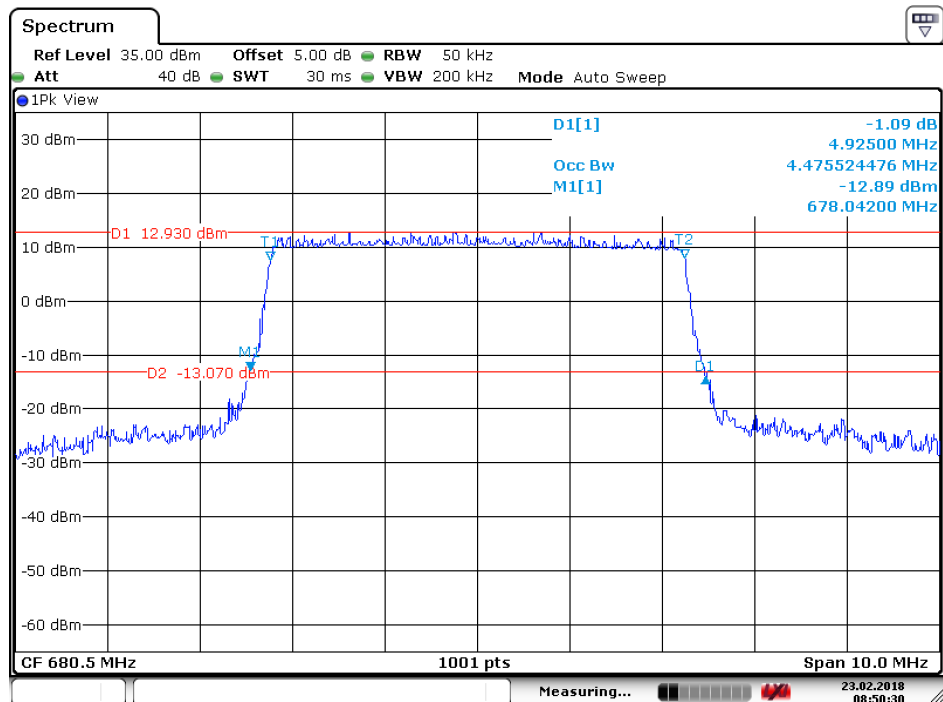
#### 4.1.1.2 Test Mode = LTE/TM2 5MHz

##### 4.1.1.2.1 Test Channel = LCH



Date: 23.FEB.2018 08:49:42

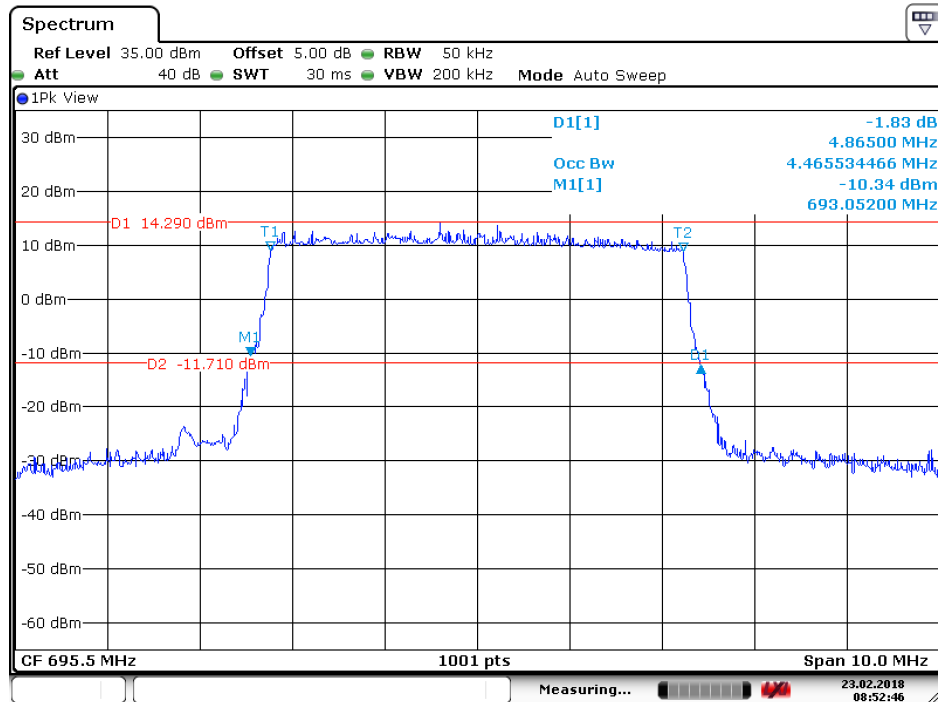
##### 4.1.1.2.2 Test Channel = MCH



Date: 23.FEB.2018 08:50:30



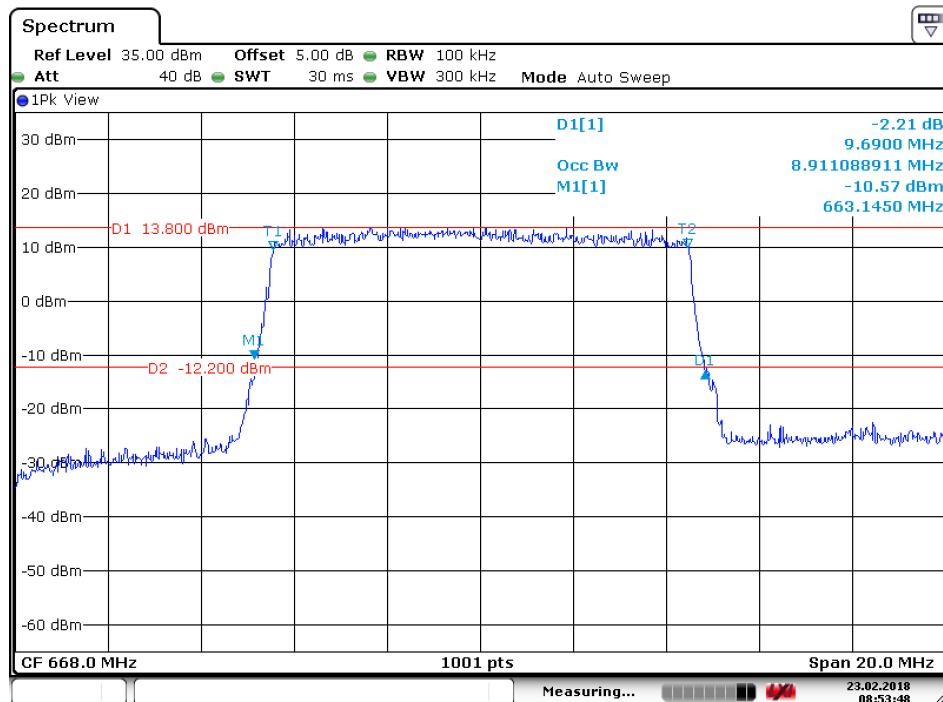
#### 4.1.1.2.3 Test Channel = HCH



Date: 23.FEB.2018 08:52:46

#### 4.1.1.3 Test Mode = LTE/TM1 10MHz

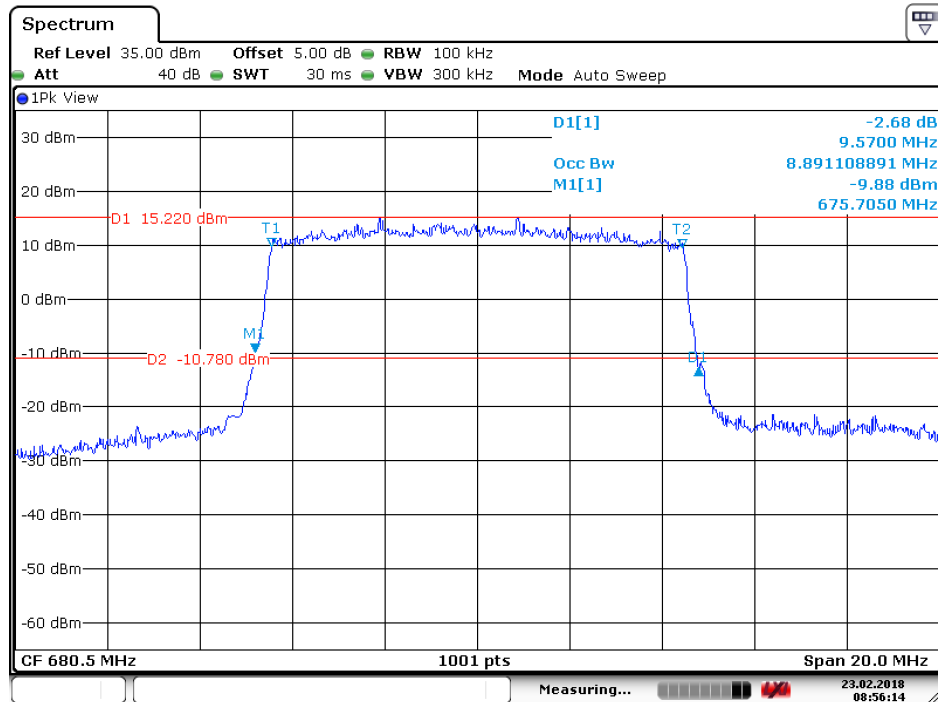
##### 4.1.1.3.1 Test Channel = LCH



Date: 23.FEB.2018 08:53:49

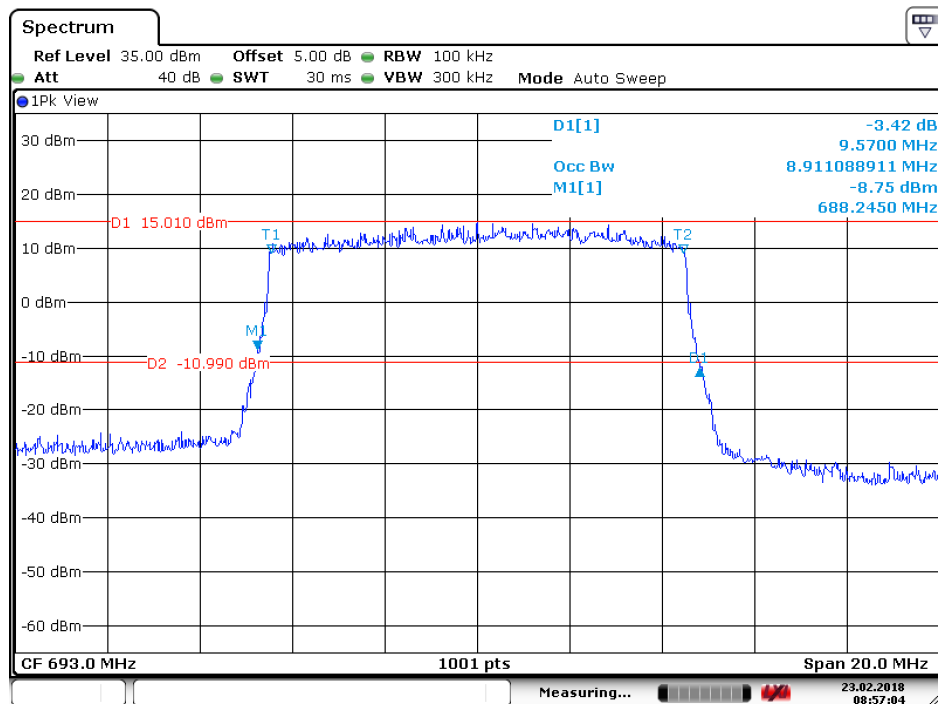


#### 4.1.1.3.2 Test Channel = MCH



Date: 23.FEB.2018 08:56:15

#### 4.1.1.3.3 Test Channel = HCH

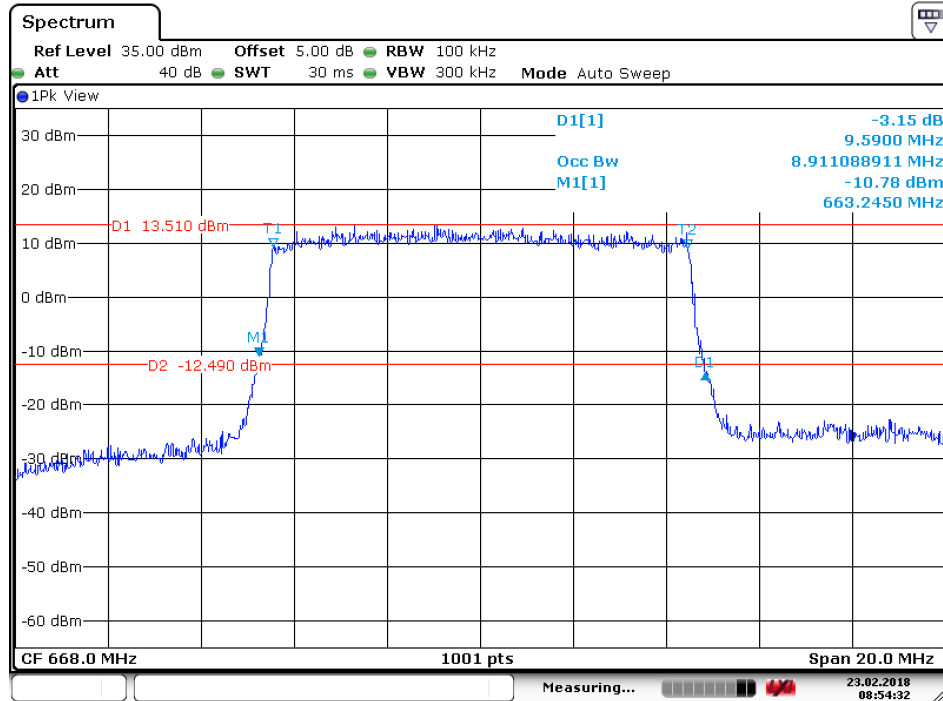


Date: 23.FEB.2018 08:57:05



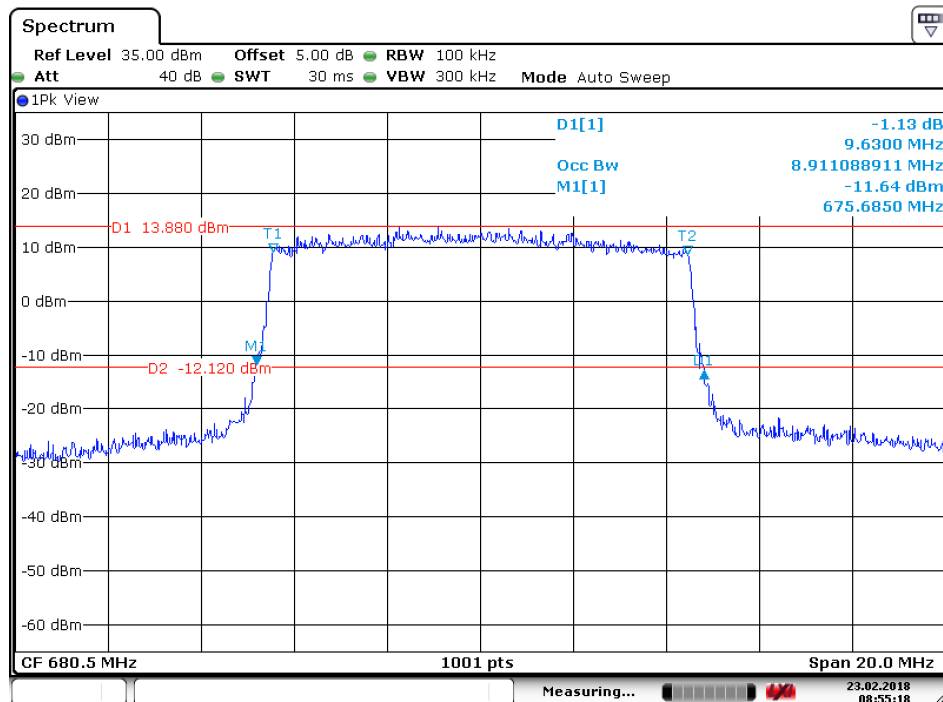
#### 4.1.1.4 Test Mode = LTE/TM2 10MHz

##### 4.1.1.4.1 Test Channel = LCH



Date: 23.FEB.2018 08:54:32

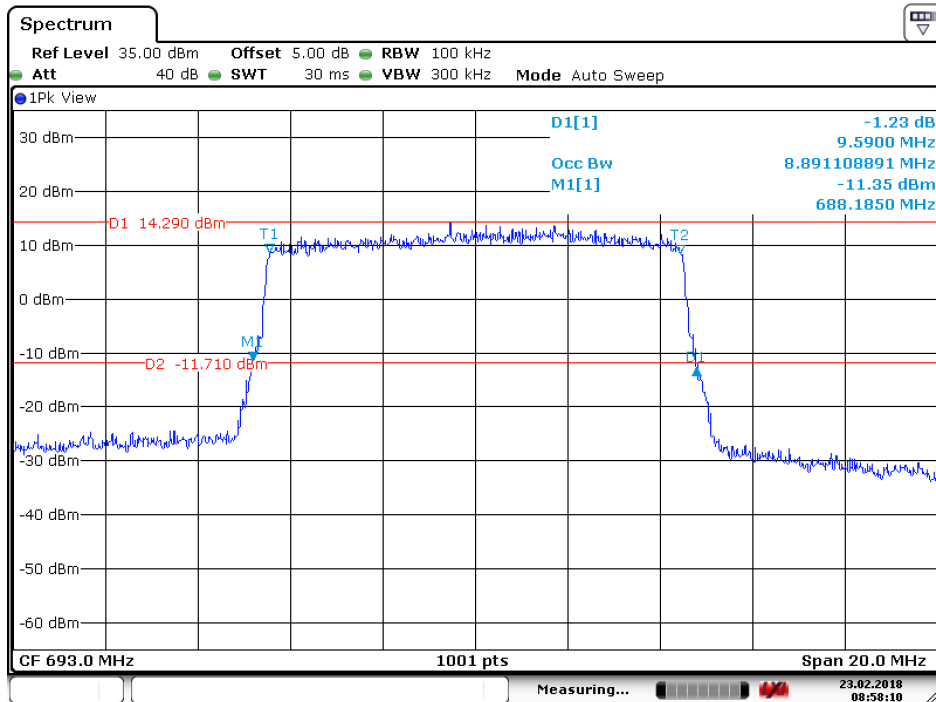
##### 4.1.1.4.2 Test Channel = MCH



Date: 23.FEB.2018 08:55:18



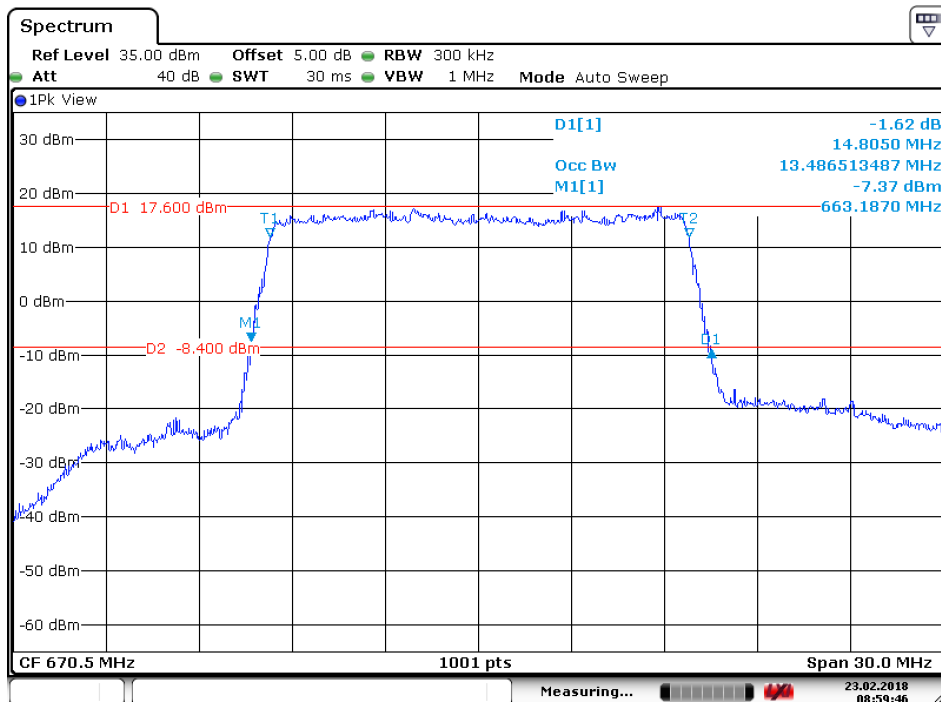
#### 4.1.1.4.3 Test Channel = HCH



Date: 23.FEB.2018 08:58:10

#### 4.1.1.5 Test Mode = LTE/TM1 15MHz

##### 4.1.1.5.1 Test Channel = LCH

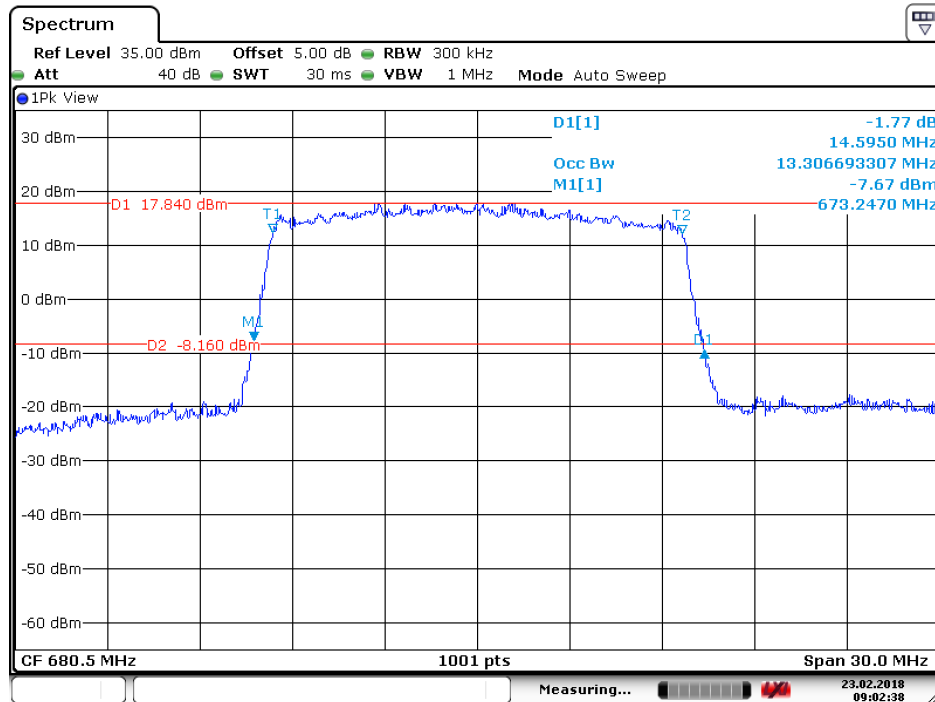


Date: 23.FEB.2018 08:59:47



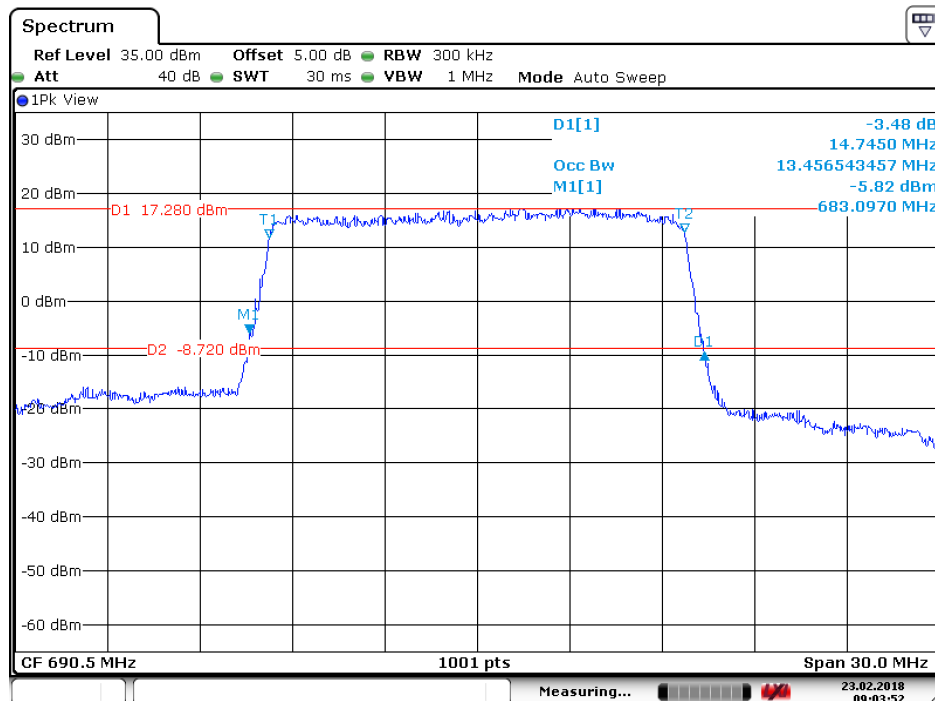


#### 4.1.1.5.2 Test Channel = MCH



Date: 23.FEB.2018 09:02:38

#### 4.1.1.5.3 Test Channel = HCH

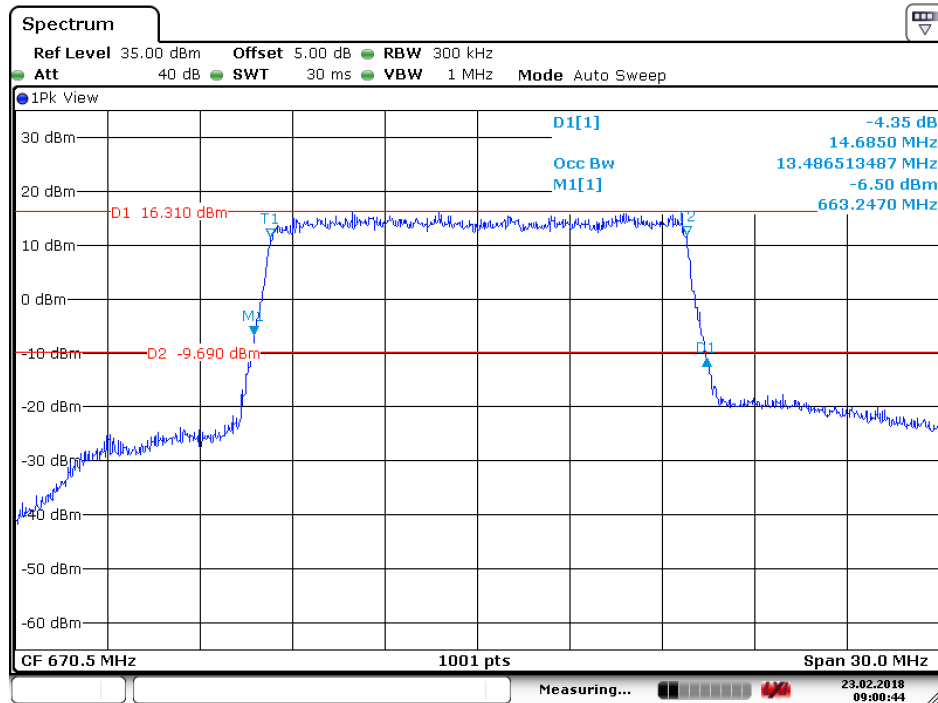


Date: 23.FEB.2018 09:03:52



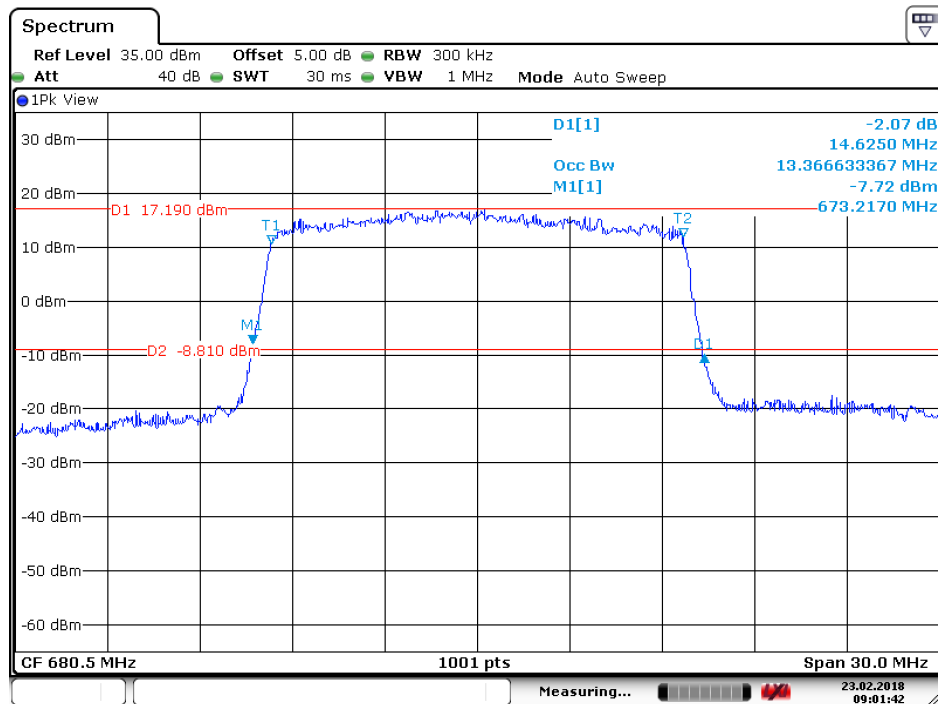
#### 4.1.1.6 Test Mode = LTE/TM2 15MHz

##### 4.1.1.6.1 Test Channel = LCH



Date: 23.FEB.2018 09:00:45

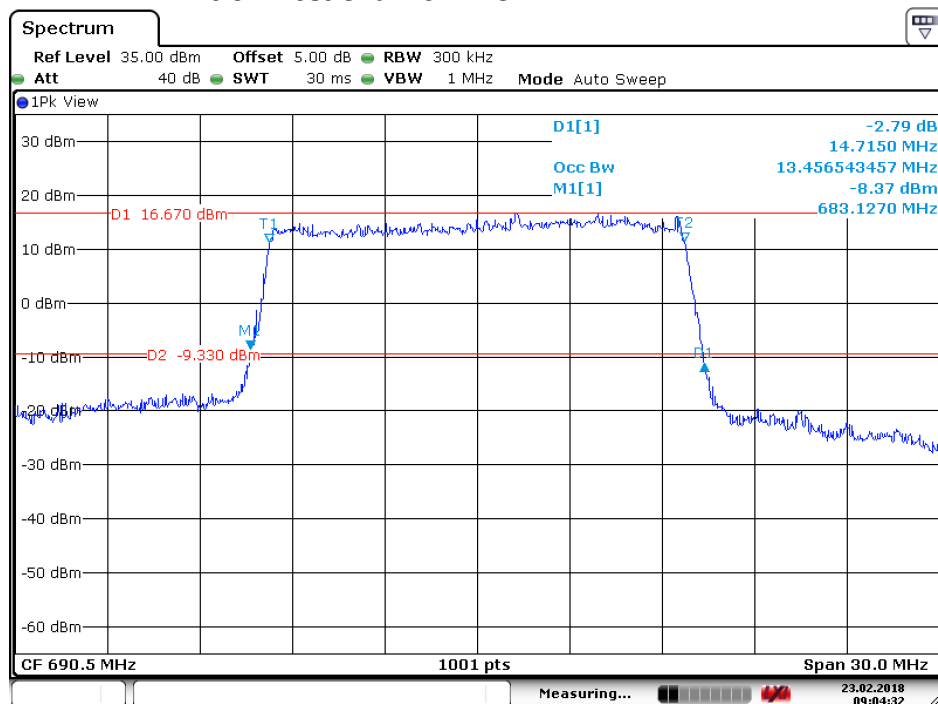
##### 4.1.1.6.2 Test Channel = MCH



Date: 23.FEB.2018 09:01:42



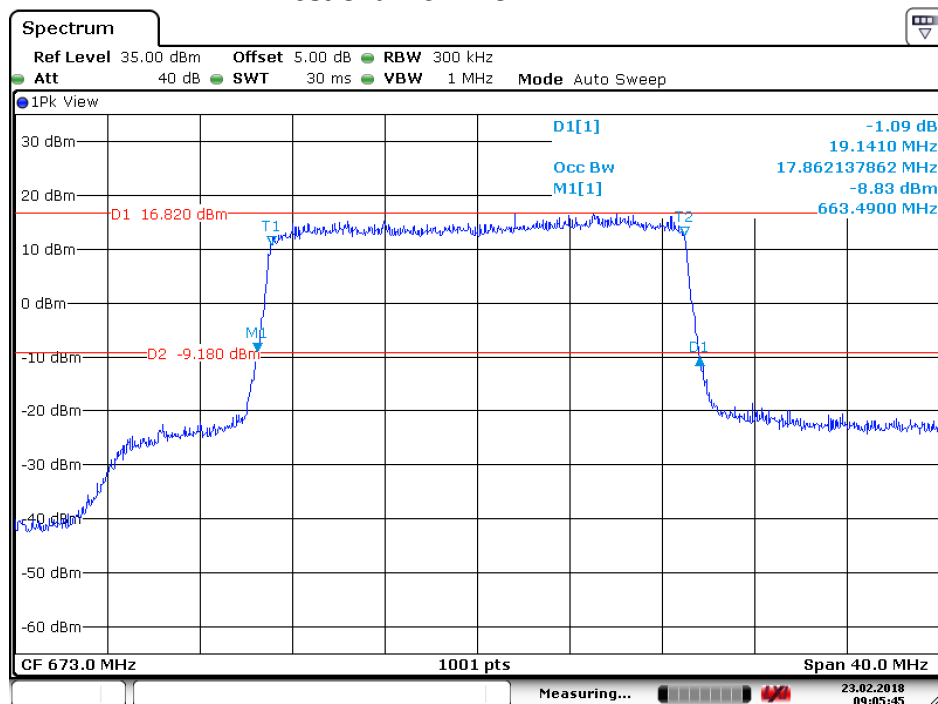
#### 4.1.1.6.3 Test Channel = HCH



Date: 23.FEB.2018 09:04:33

#### 4.1.1.7 Test Mode = LTE/TM1 20MHz

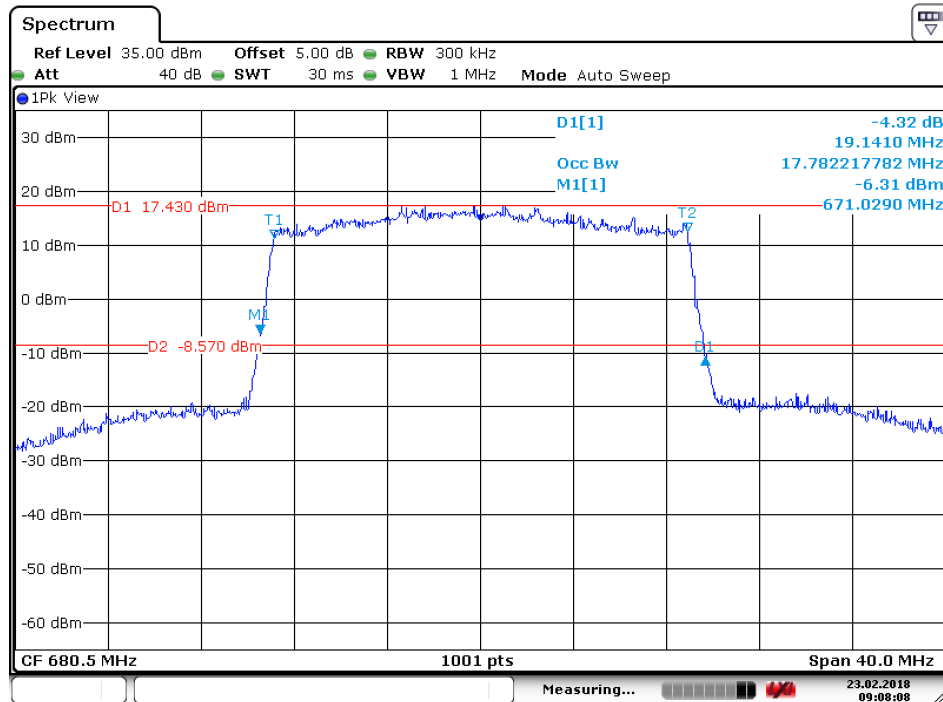
##### 4.1.1.7.1 Test Channel = LCH



Date: 23.FEB.2018 09:05:46

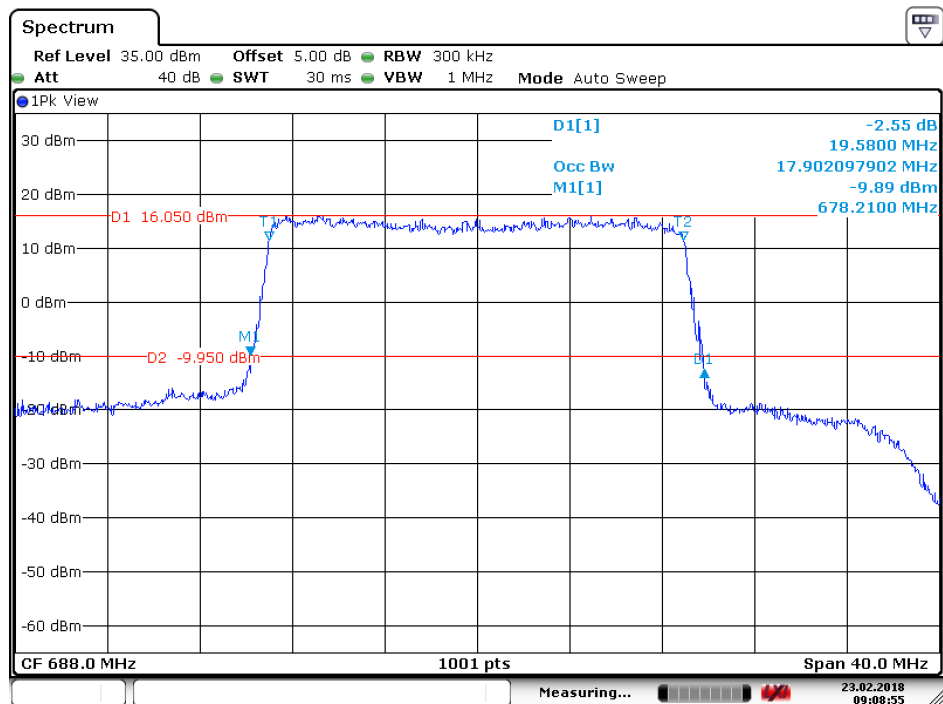


#### 4.1.1.7.2 Test Channel = MCH



Date: 23.FEB.2018 09:08:08

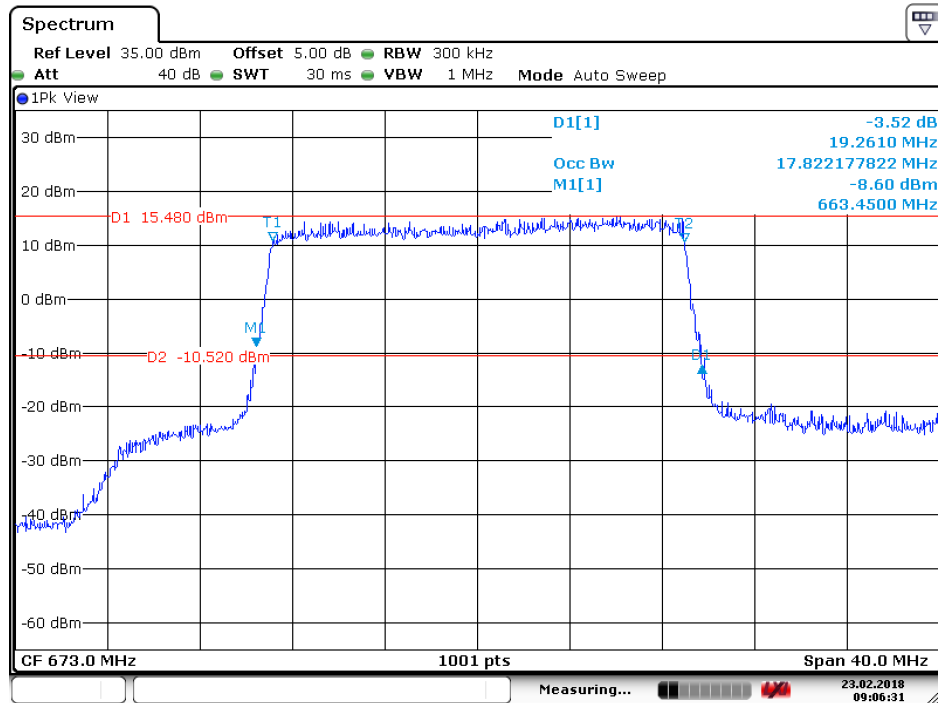
#### 4.1.1.7.3 Test Channel = HCH



Date: 23.FEB.2018 09:08:56

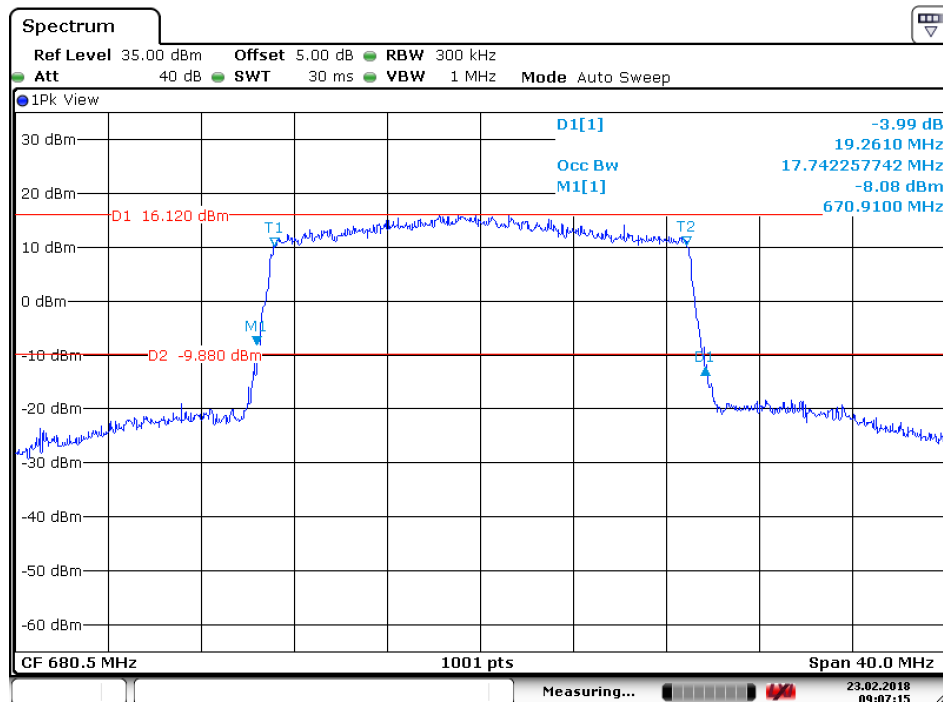
#### 4.1.1.8 Test Mode = LTE/TM2 20MHz

#### 4.1.1.8.1 Test Channel = LCH



Date: 23.FEB.2018 09:06:31

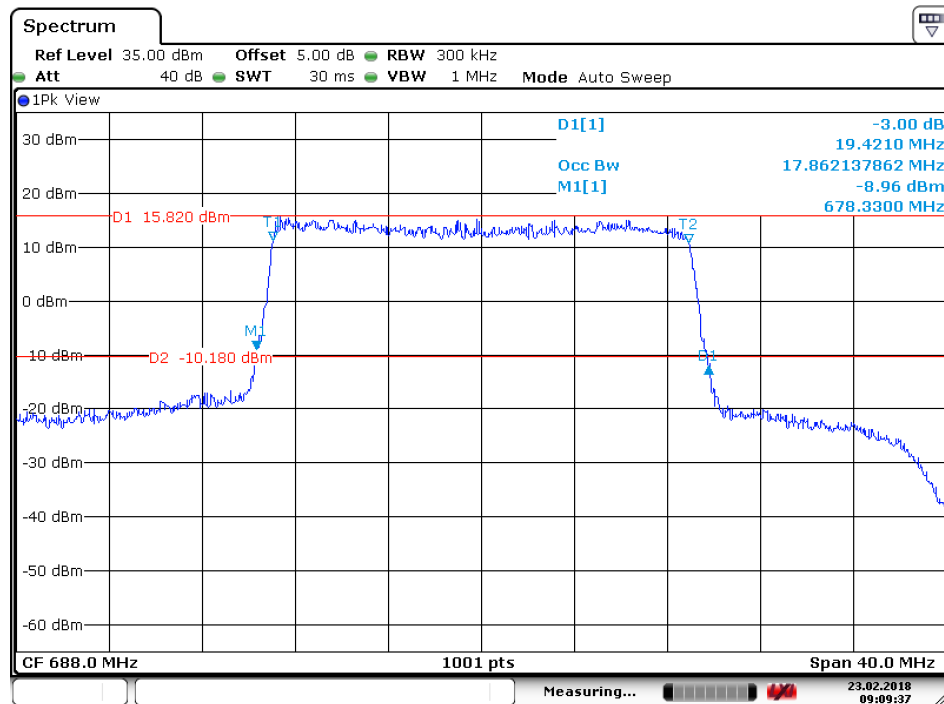
#### 4.1.1.8.2 Test Channel = MCH



Date: 23.FEB.2018 09:07:15



4.1.1.8.3 Test Channel = HCH



Date: 23.FEB.2018 09:09:37



## 5 Band Edges Compliance

Part I –

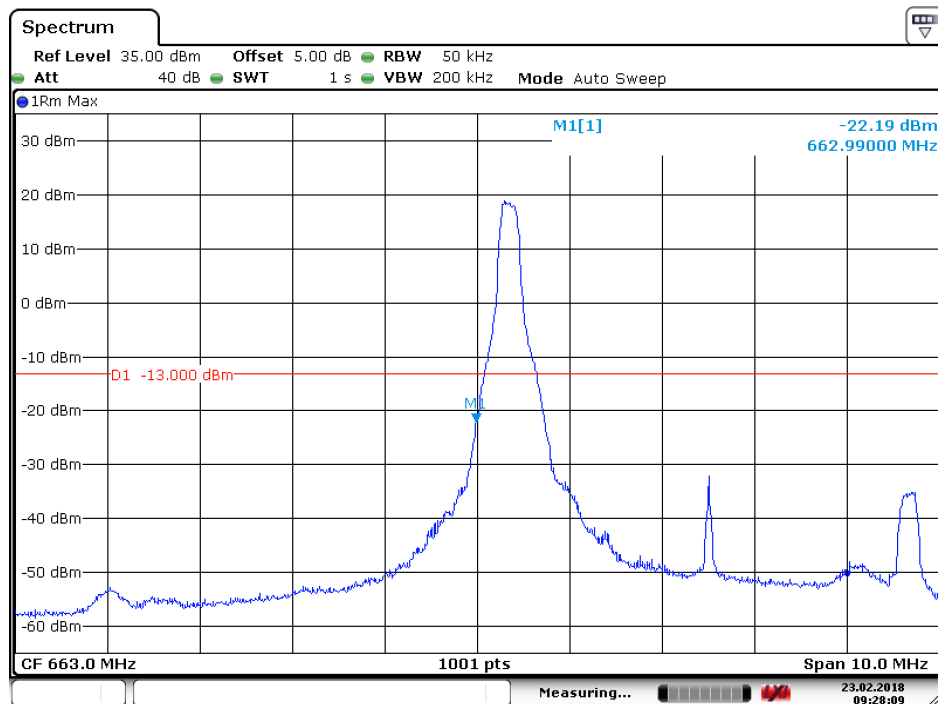
### 5.1 For LTE

#### 5.1.1 Test Band = LTE band71

##### 5.1.1.1 Test Mode = LTE/TM1 5MHz

##### 5.1.1.1.1 Test Channel = LCH

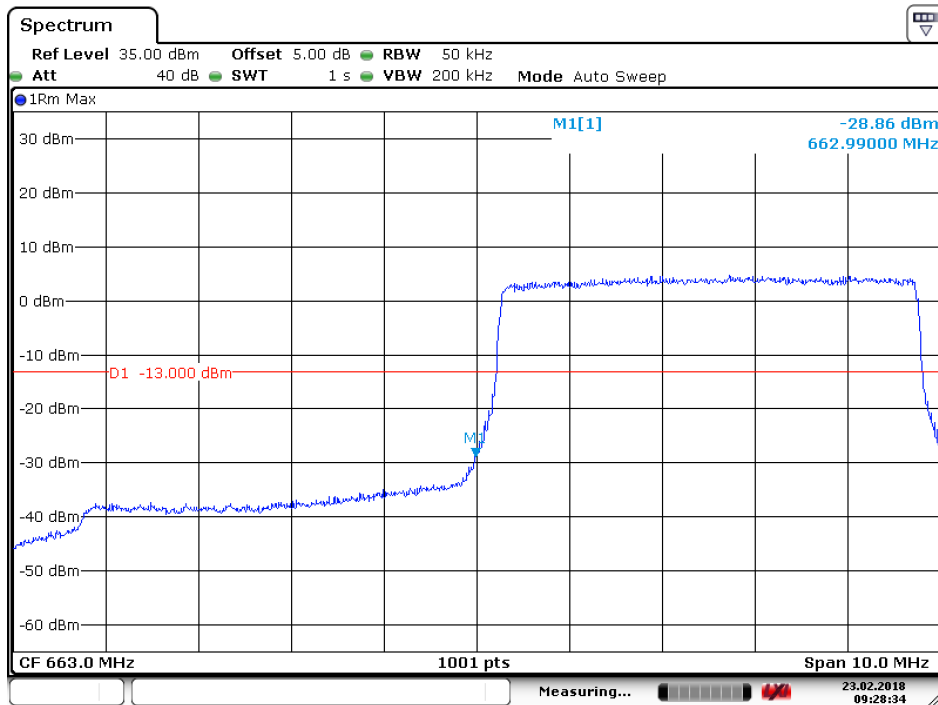
##### 5.1.1.1.1.1 Test RB=1RB



Date: 23.FEB.2018 09:28:09



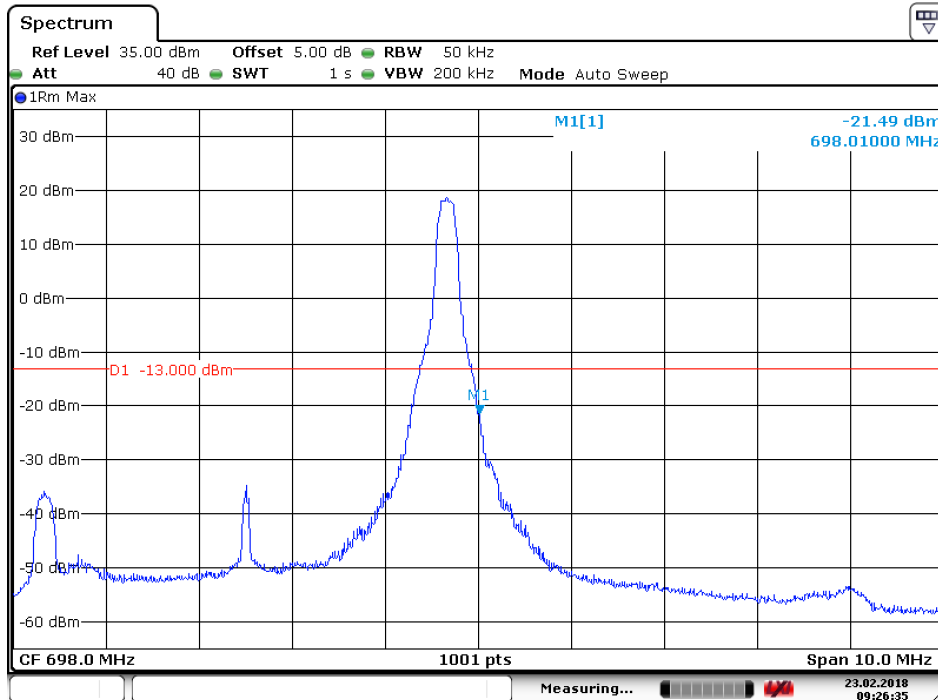
#### 5.1.1.1.2 Test RB=25RB



Date: 23.FEB.2018 09:28:34

#### 5.1.1.1.2 Test Channel = HCH

##### 5.1.1.1.2.1 Test RB=1RB

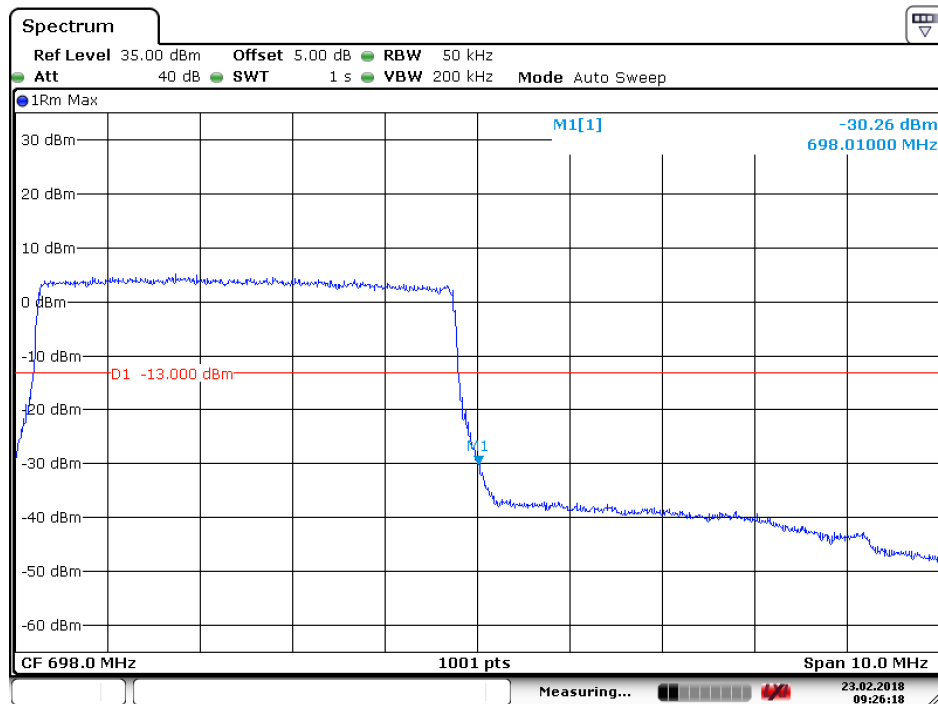


Date: 23.FEB.2018 09:26:35





#### 5.1.1.1.2.2 Test RB=25RB

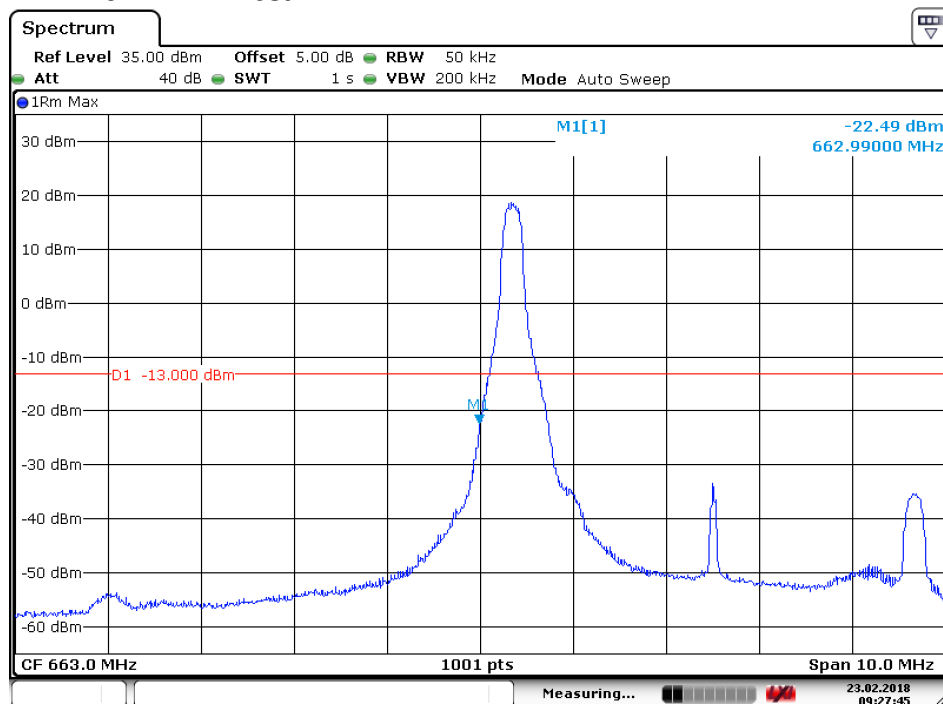


Date: 23.FEB.2018 09:26:19

#### 5.1.1.2 Test Mode = LTE/TM2 5MHz

##### 5.1.1.2.1 Test Channel = LCH

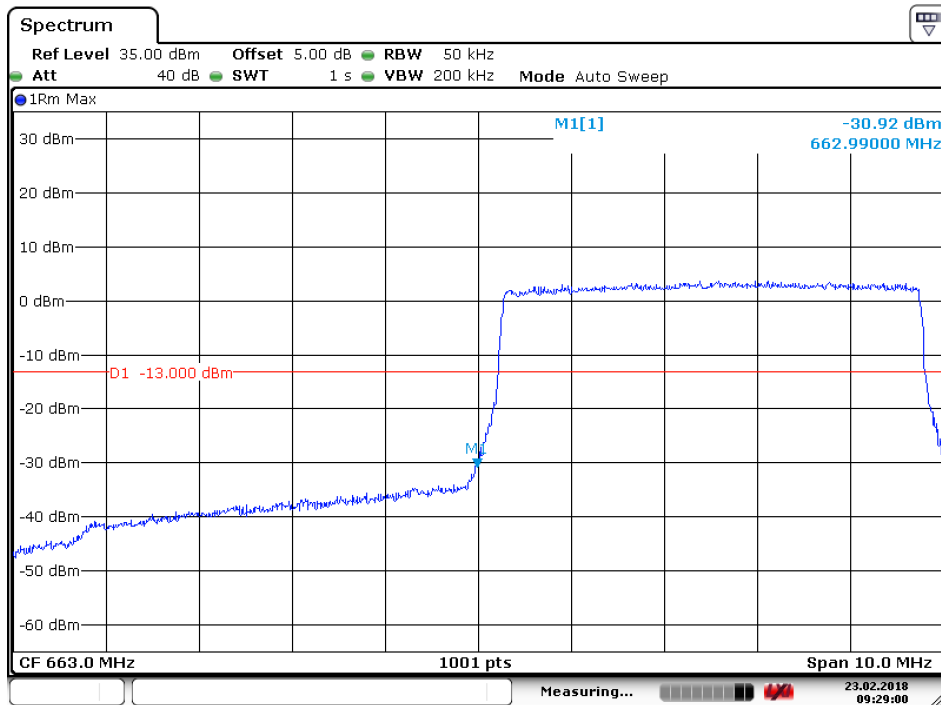
##### 5.1.1.2.1.1 Test RB=1RB



Date: 23.FEB.2018 09:27:45



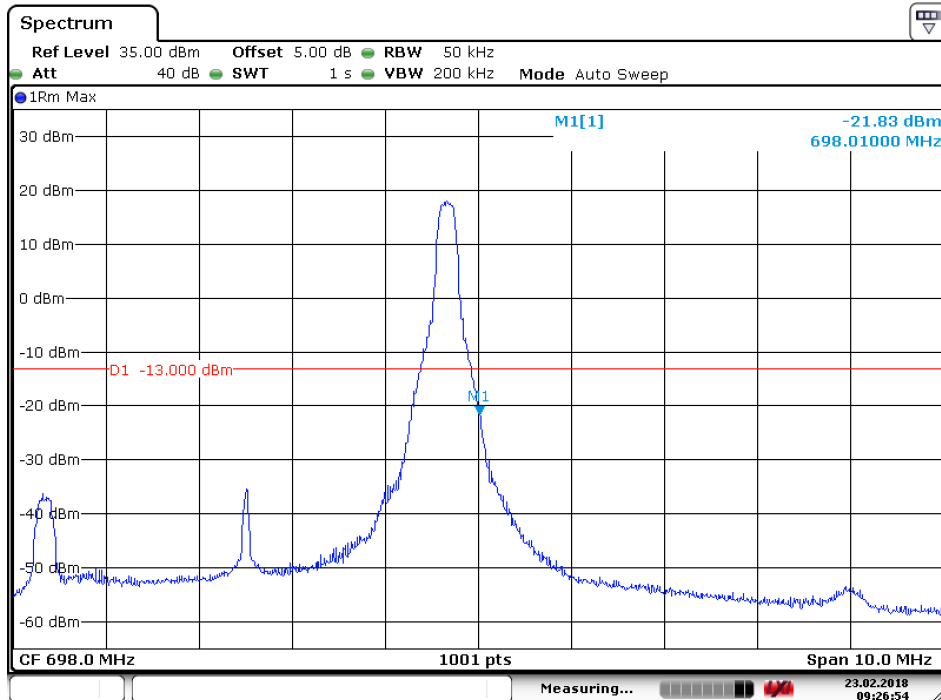
#### 5.1.1.2.1.2 Test RB=25RB



Date: 23.FEB.2018 09:29:00

#### 5.1.1.2.2 Test Channel = HCH

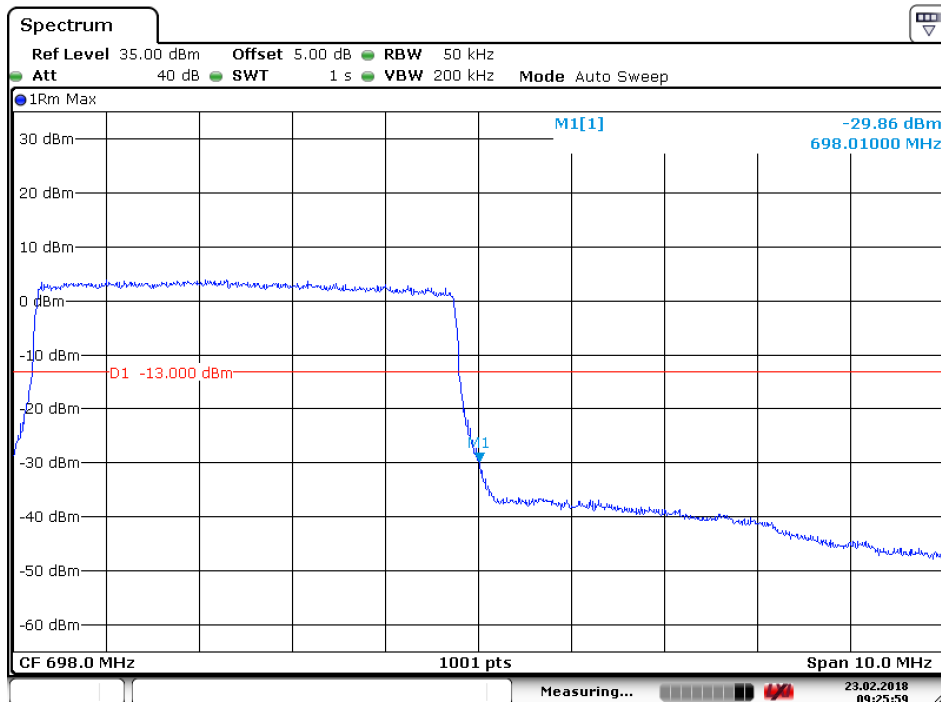
##### 5.1.1.2.2.1 Test RB=1RB



Date: 23.FEB.2018 09:26:54



#### 5.1.1.2.2 Test RB=25RB

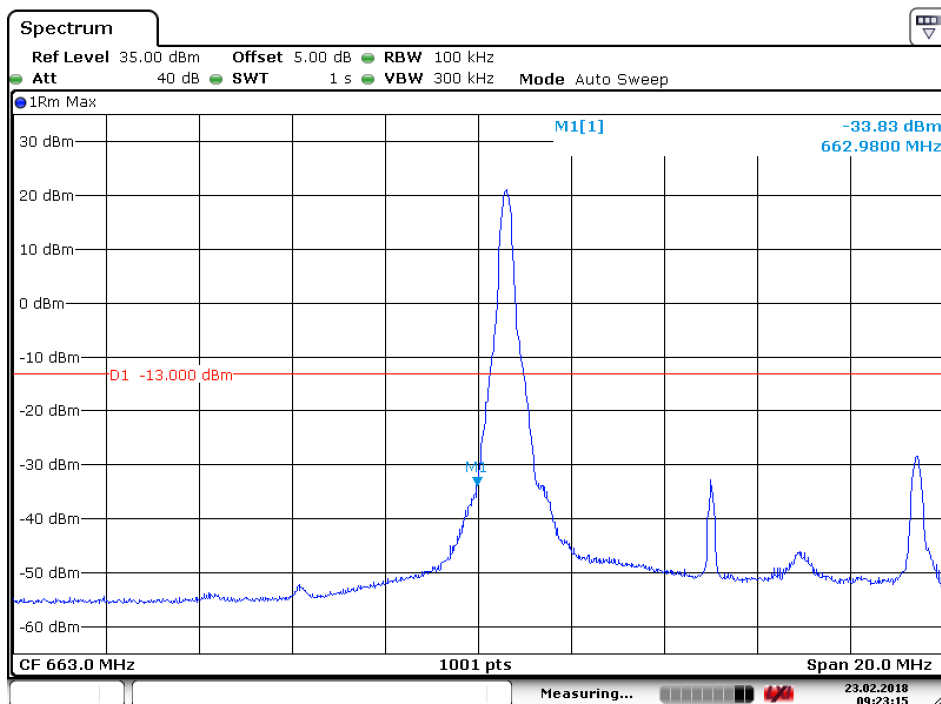


Date: 23.FEB.2018 09:25:59

#### 5.1.1.3 Test Mode = LTE/TM1 10MHz

##### 5.1.1.3.1 Test Channel = LCH

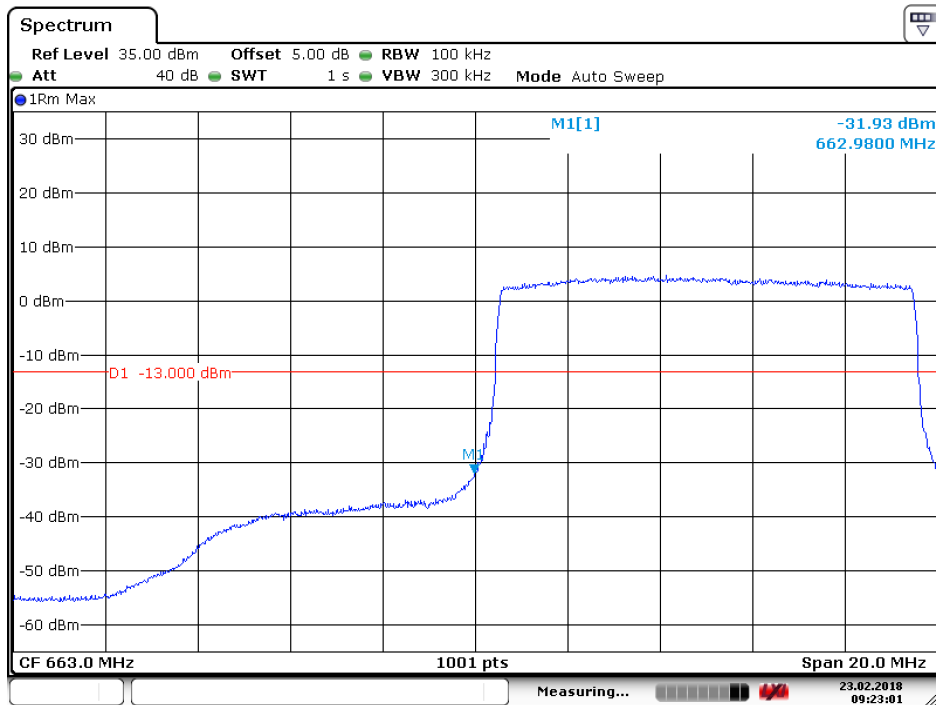
##### 5.1.1.3.1.1 Test RB=1RB



Date: 23.FEB.2018 09:23:15



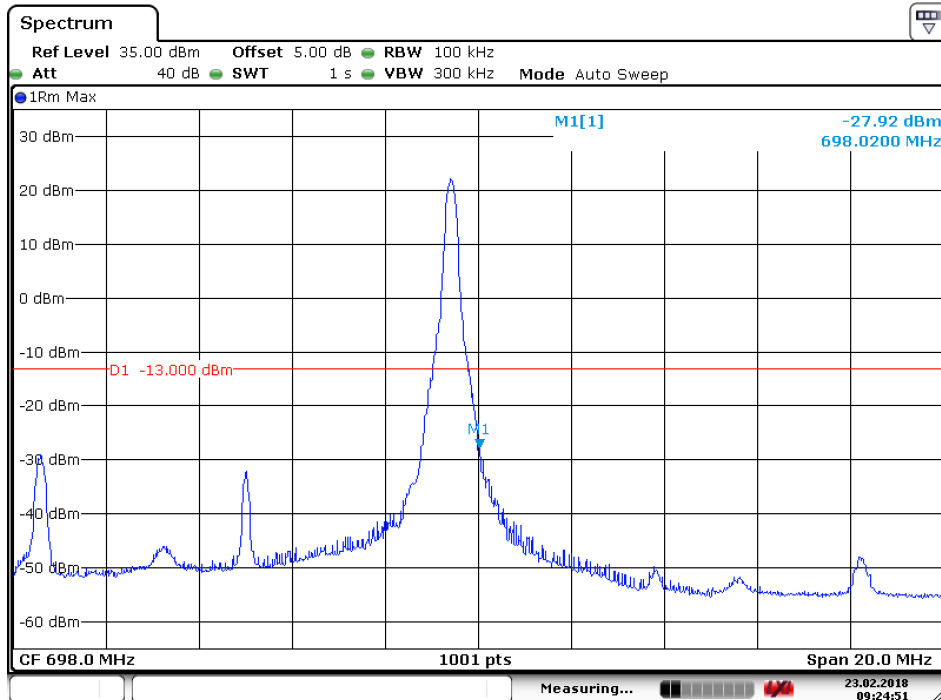
#### 5.1.1.3.1.2 Test RB=50RB



Date: 23.FEB.2018 09:23:01

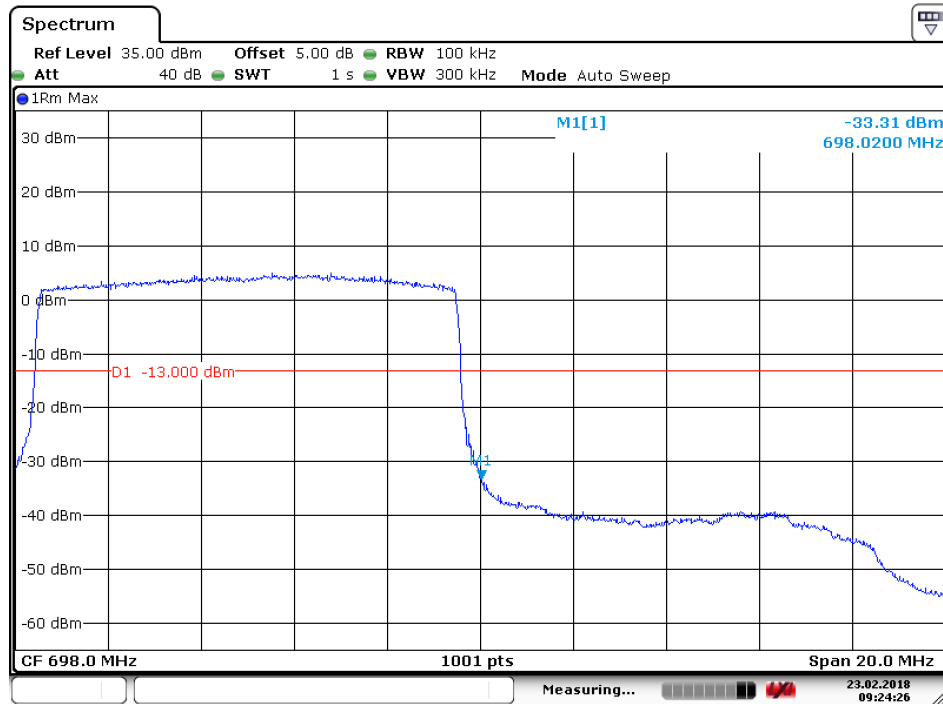
#### 5.1.1.3.2 Test Channel = HCH

##### 5.1.1.3.2.1 Test RB=1RB



Date: 23.FEB.2018 09:24:51

#### 5.1.1.3.2.2 Test RB=50RB

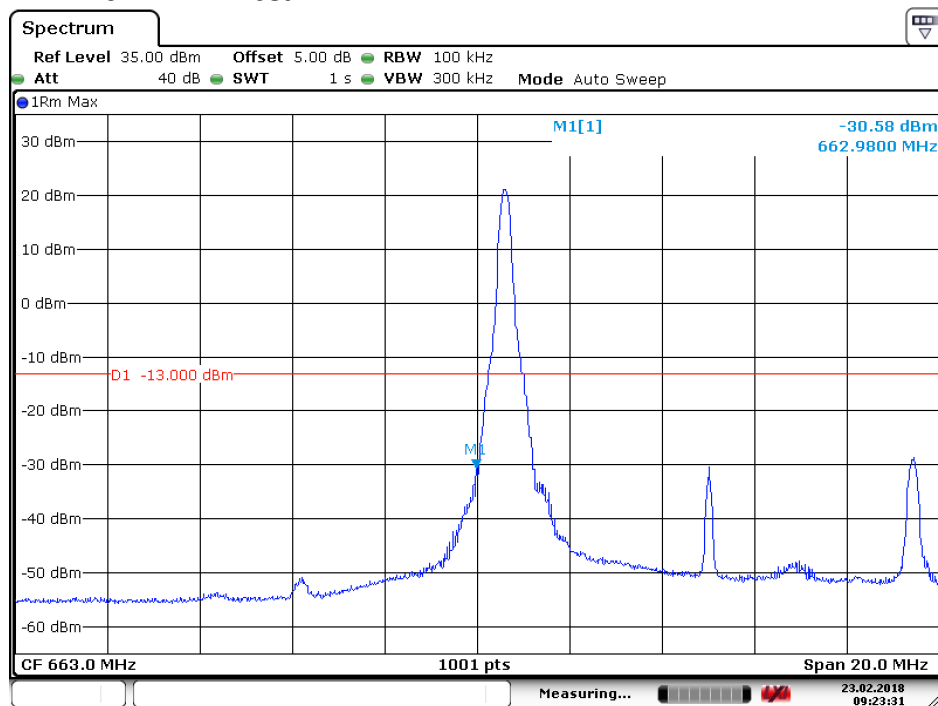


Date: 23.FEB.2018 09:24:26

#### 5.1.1.4 Test Mode = LTE/TM2 10MHz

##### 5.1.1.4.1 Test Channel = LCH

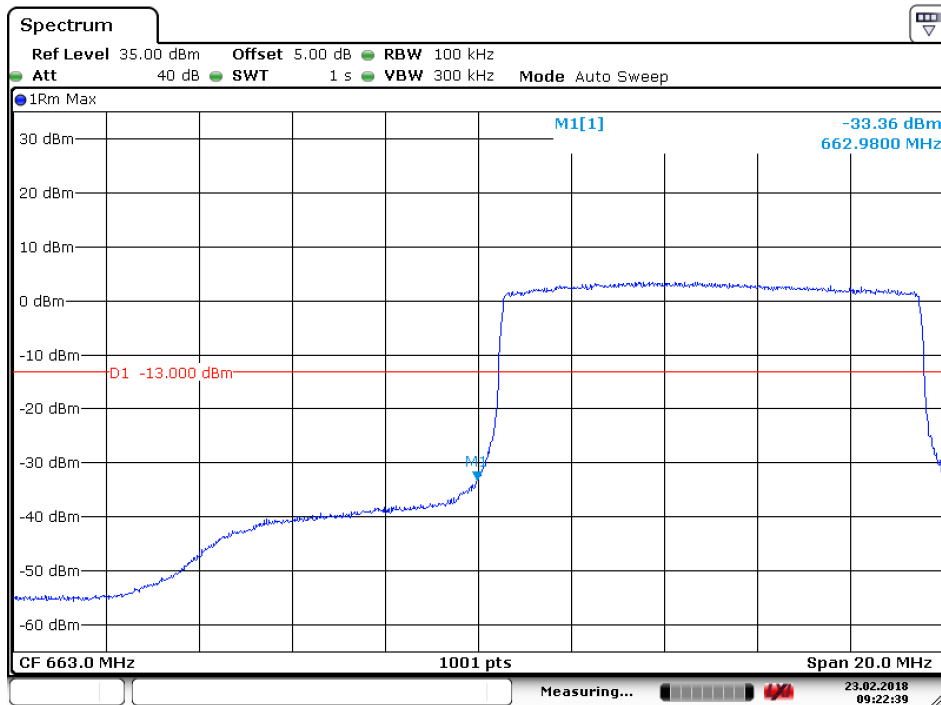
##### 5.1.1.4.1.1 Test RB=1RB



Date: 23.FEB.2018 09:23:32



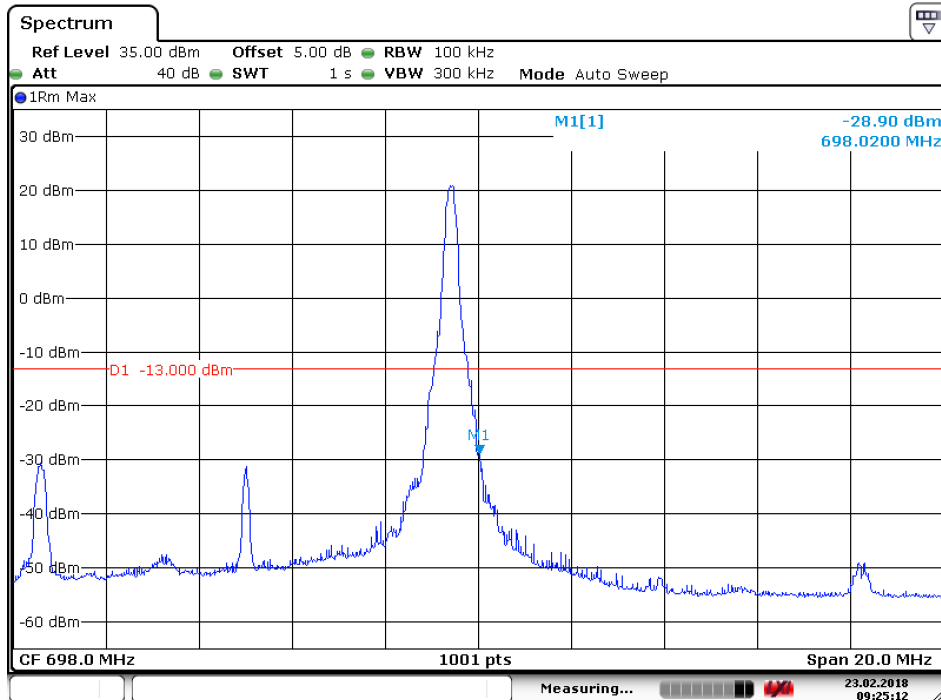
#### 5.1.1.4.1.2 Test RB=50RB



Date: 23.FEB.2018 09:22:40

#### 5.1.1.4.2 Test Channel = HCH

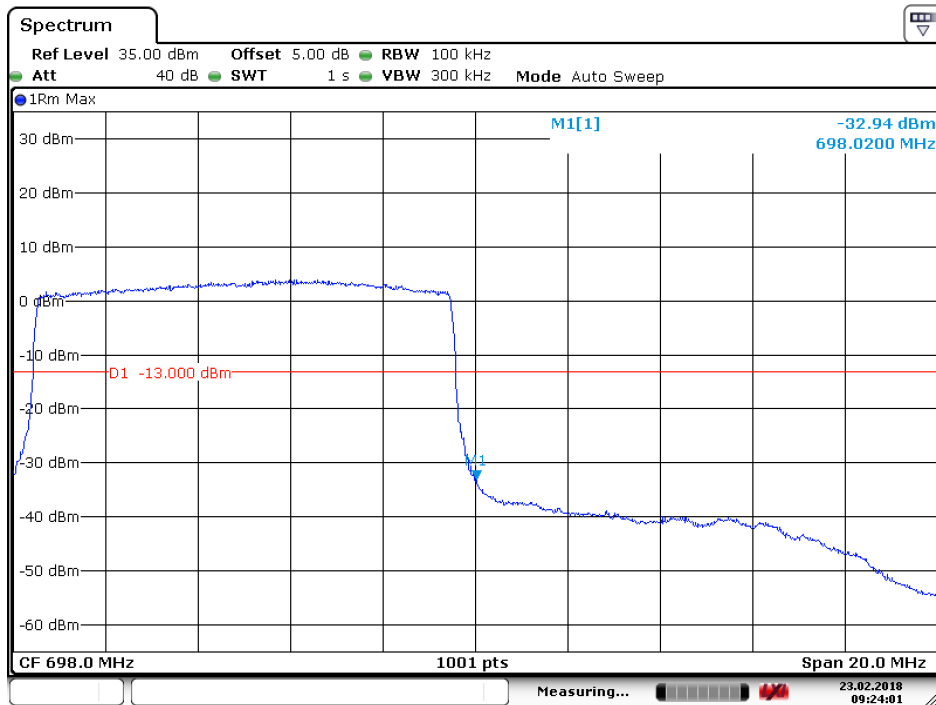
##### 5.1.1.4.2.1 Test RB=1RB



Date: 23.FEB.2018 09:25:13



#### 5.1.1.4.2.2 Test RB=50RB

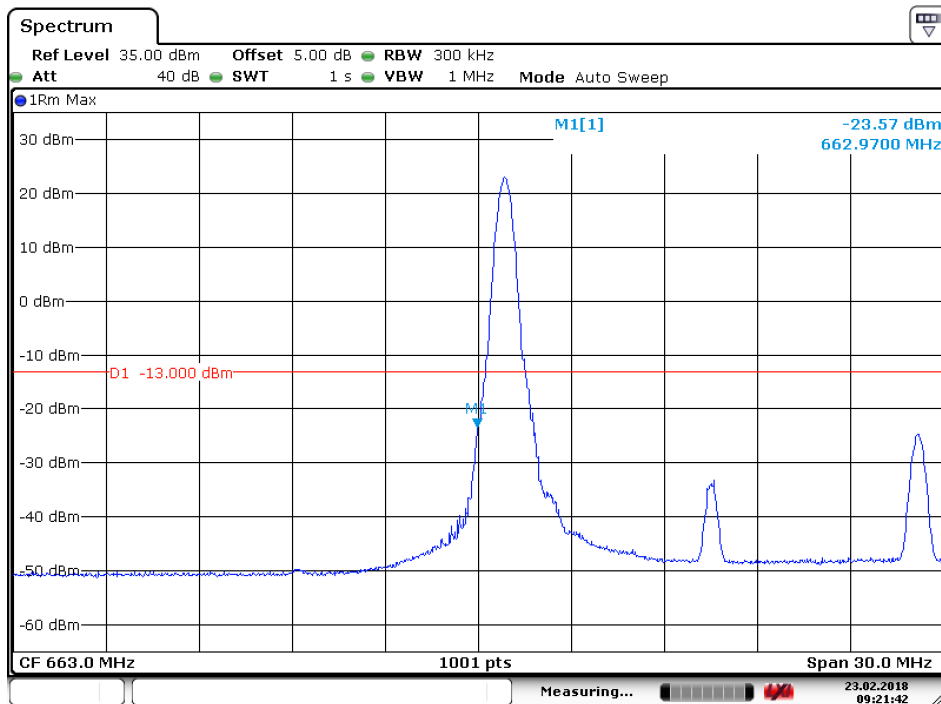


Date: 23.FEB.2018 09:24:02

#### 5.1.1.5 Test Mode = LTE/TM1 15MHz

##### 5.1.1.5.1 Test Channel = LCH

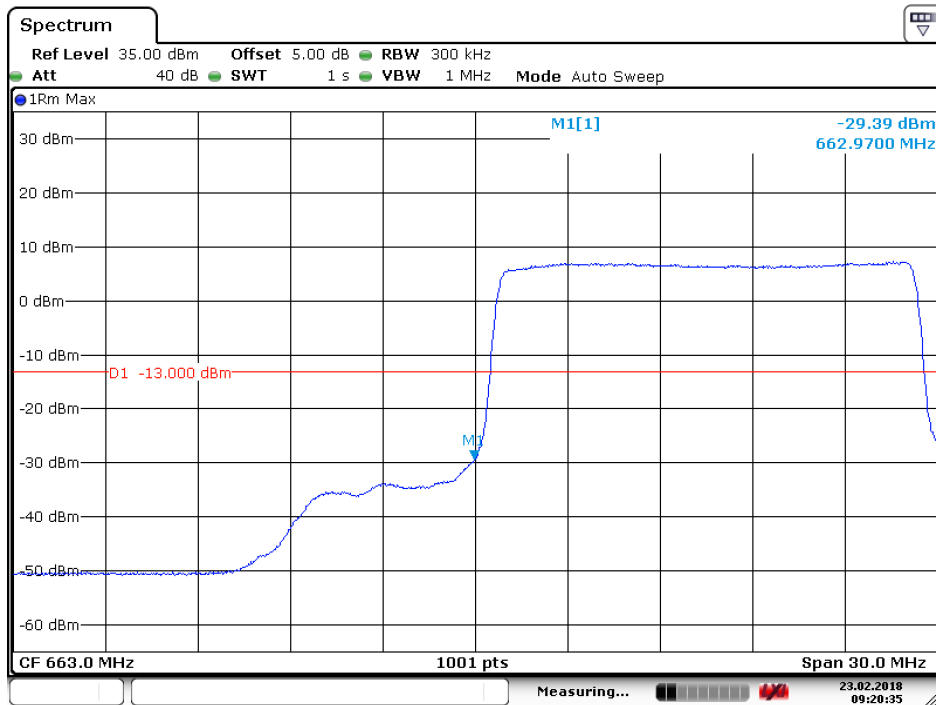
##### 5.1.1.5.1.1 Test RB=1RB



Date: 23.FEB.2018 09:21:42



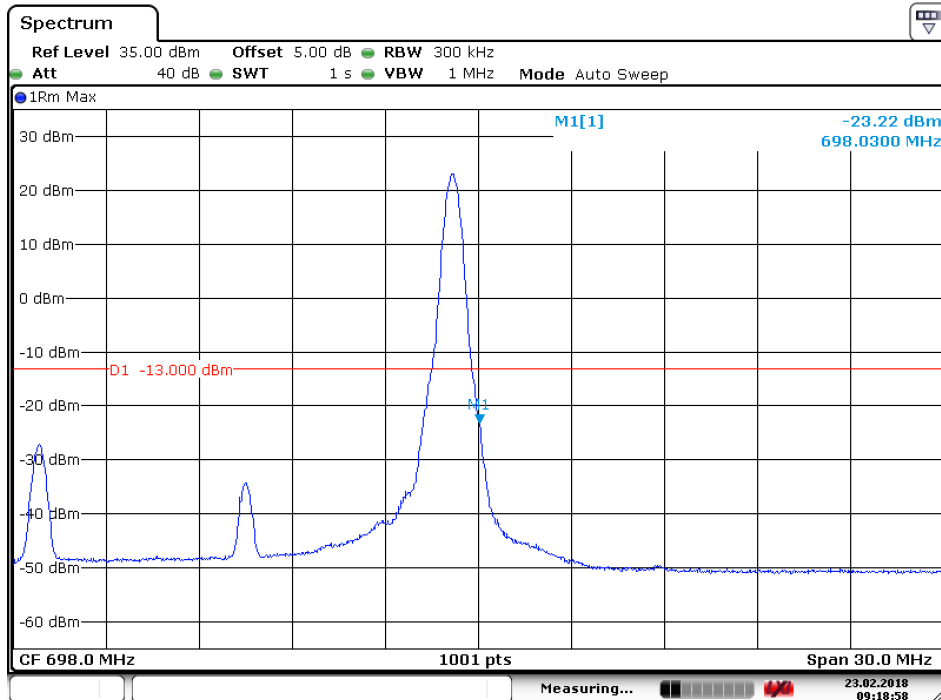
#### 5.1.1.5.1.2 Test RB=75RB



Date: 23.FEB.2018 09:20:35

#### 5.1.1.5.2 Test Channel = HCH

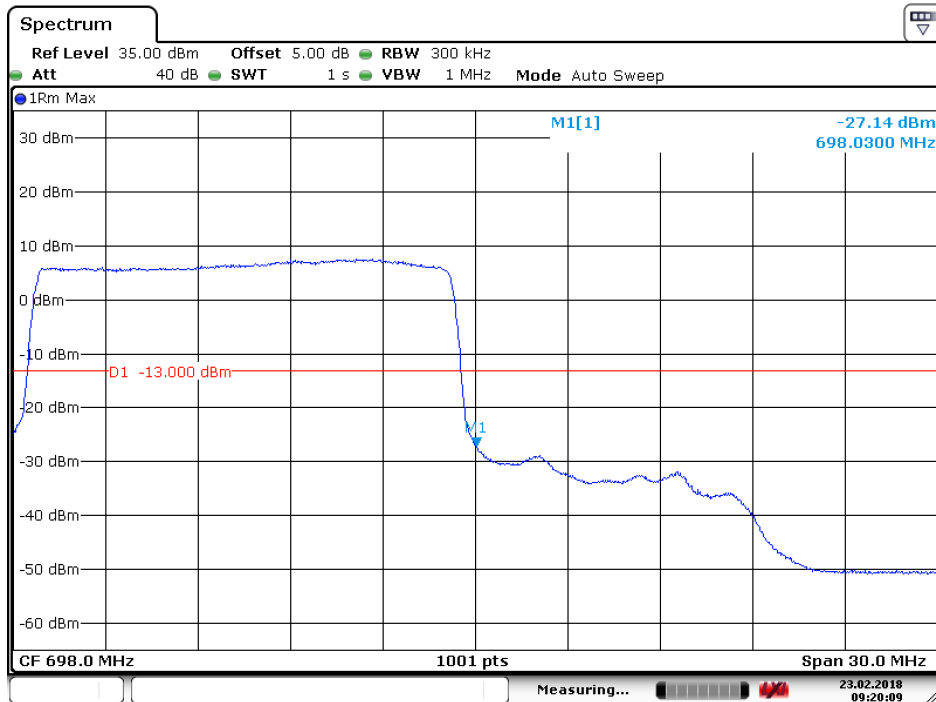
##### 5.1.1.5.2.1 Test RB=1RB



Date: 23.FEB.2018 09:18:58



#### 5.1.1.5.2.2 Test RB=75RB

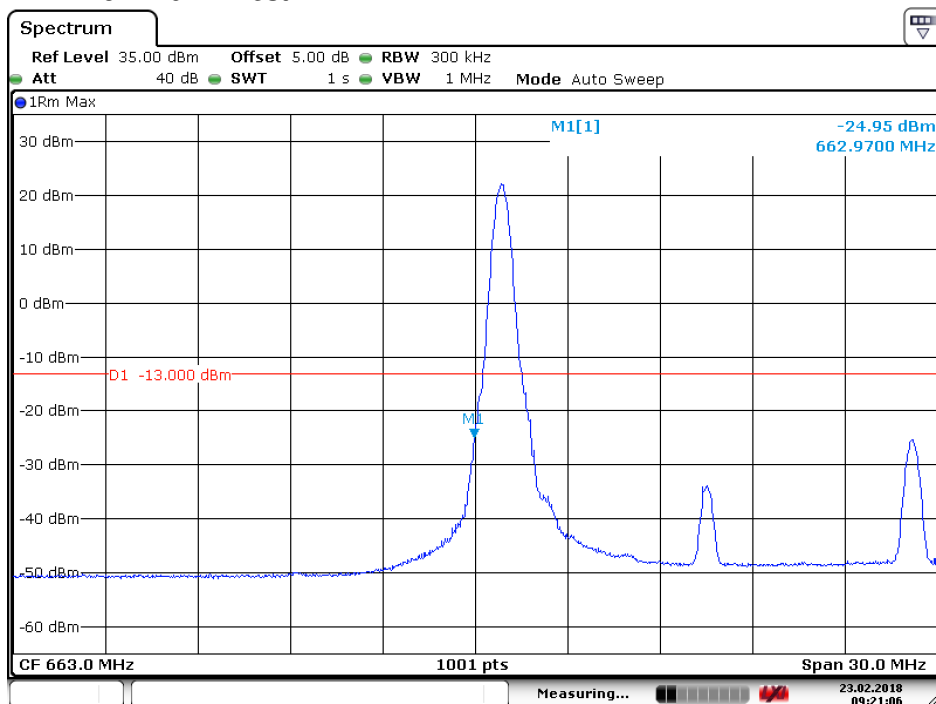


Date: 23.FEB.2018 09:20:10

#### 5.1.1.6 Test Mode = LTE/TM2 15MHz

#### 5.1.1.6.1 Test Channel = LCH

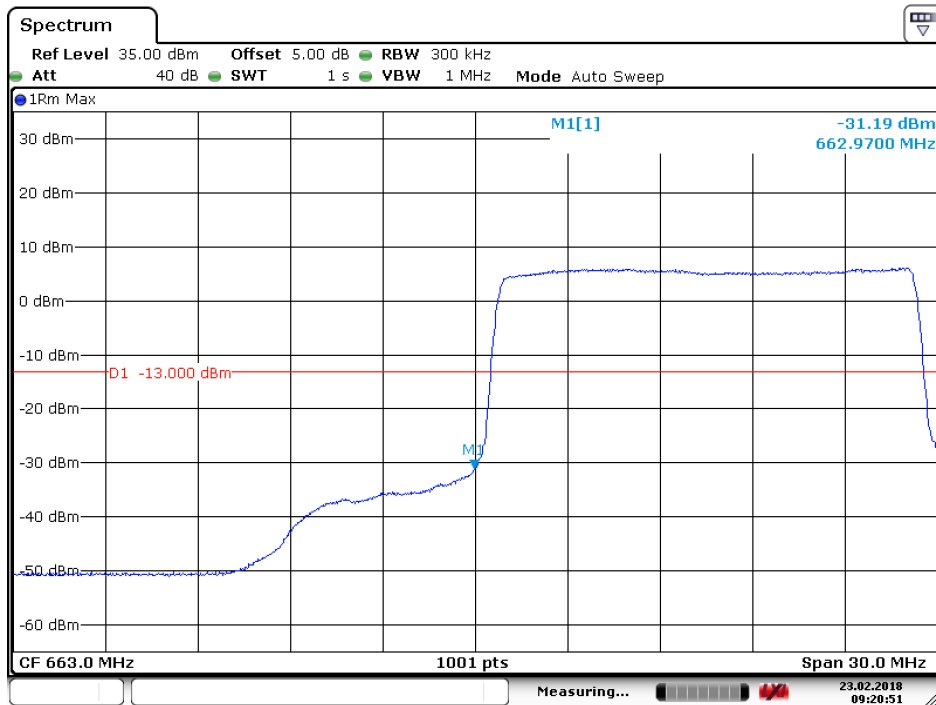
#### 5.1.1.6.1.1 Test RB=1RB



Date: 23.FEB.2018 09:21:06



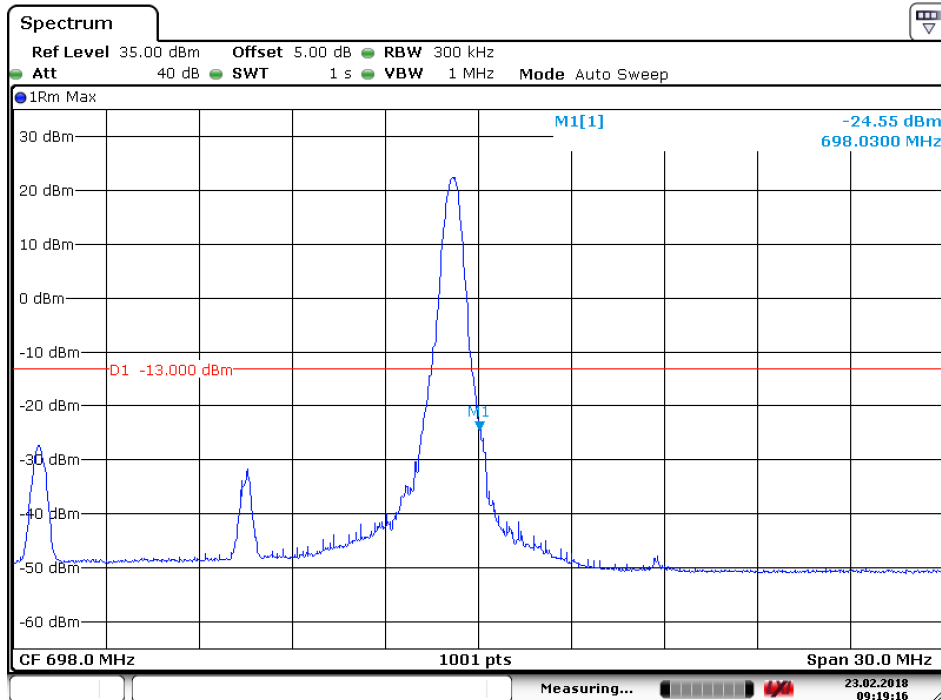
#### 5.1.1.6.1.2 Test RB=75RB



Date: 23.FEB.2018 09:20:52

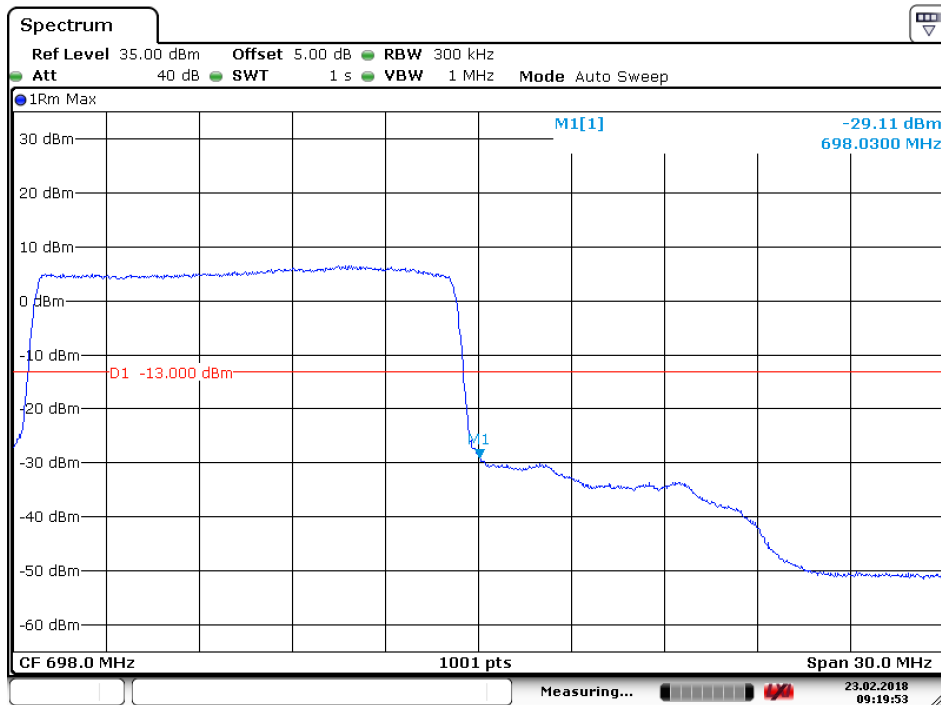
#### 5.1.1.6.2 Test Channel = HCH

##### 5.1.1.6.2.1 Test RB=1RB



Date: 23.FEB.2018 09:19:16

#### 5.1.1.6.2.2 Test RB=75RB

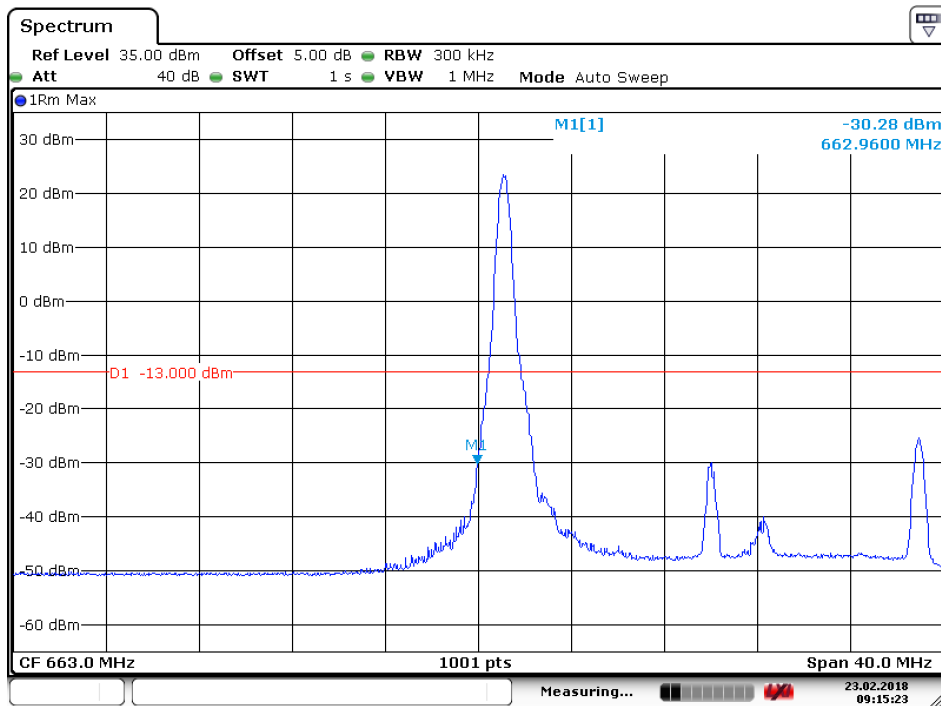


Date: 23.FEB.2018 09:19:54

#### 5.1.1.7 Test Mode = LTE/TM1 20MHz

##### 5.1.1.7.1 Test Channel = LCH

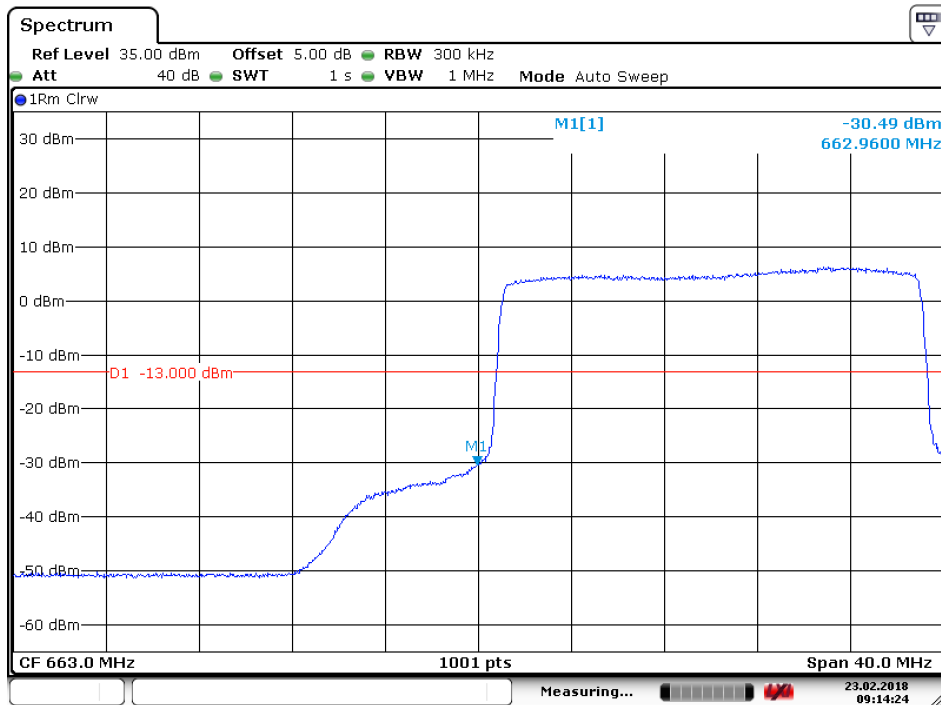
##### 5.1.1.7.1.1 Test RB=1RB



Date: 23.FEB.2018 09:15:24



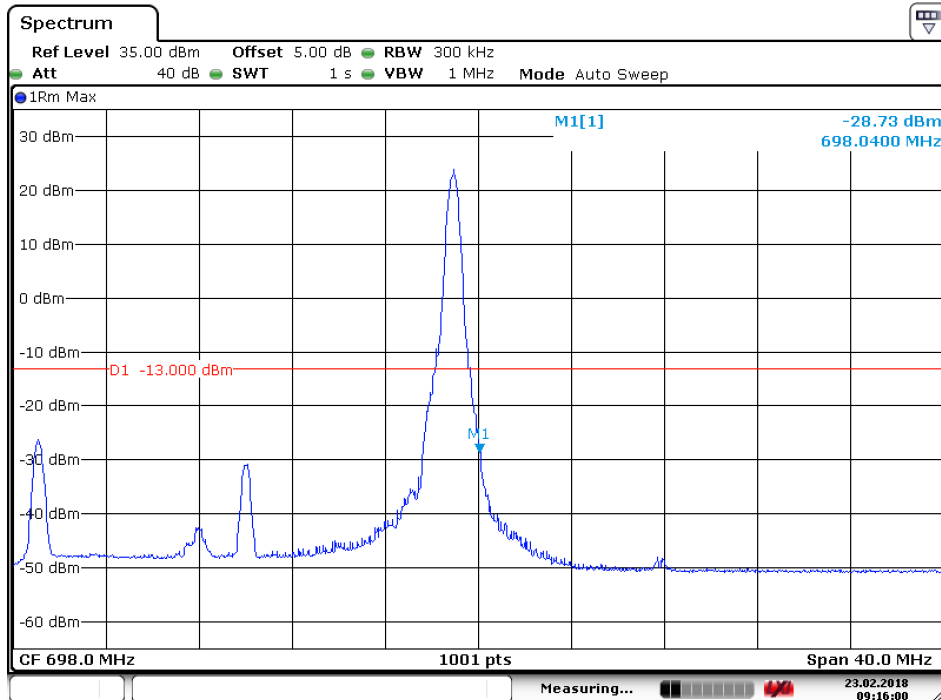
#### 5.1.1.7.1.2 Test RB=100RB



Date: 23.FEB.2018 09:14:24

#### 5.1.1.7.2 Test Channel = HCH

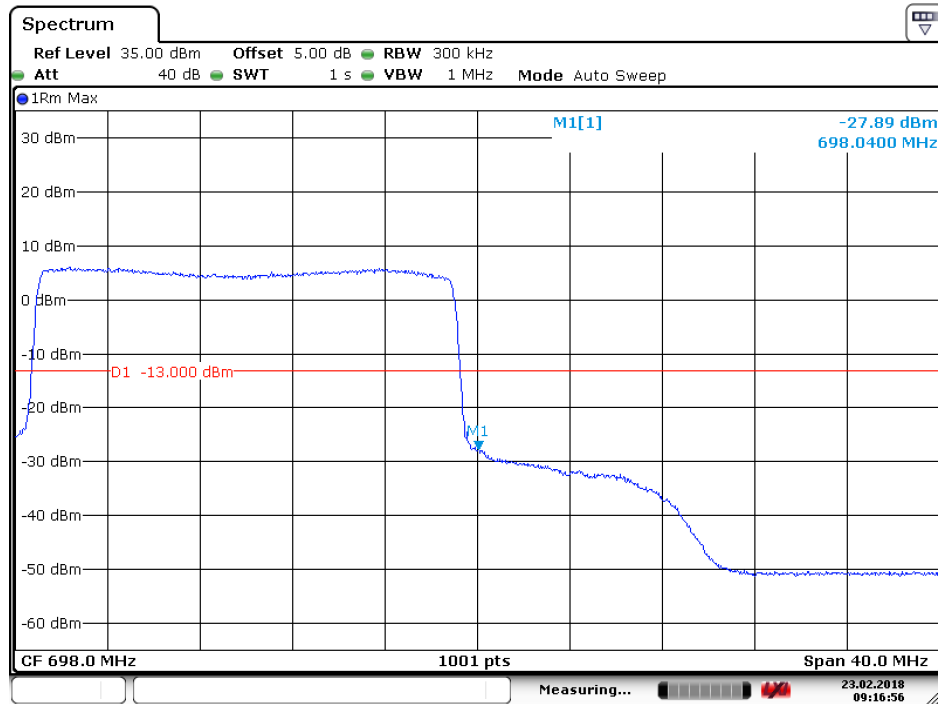
##### 5.1.1.7.2.1 Test RB=1RB



Date: 23.FEB.2018 09:16:01



#### 5.1.1.7.2.2 Test RB=100RB

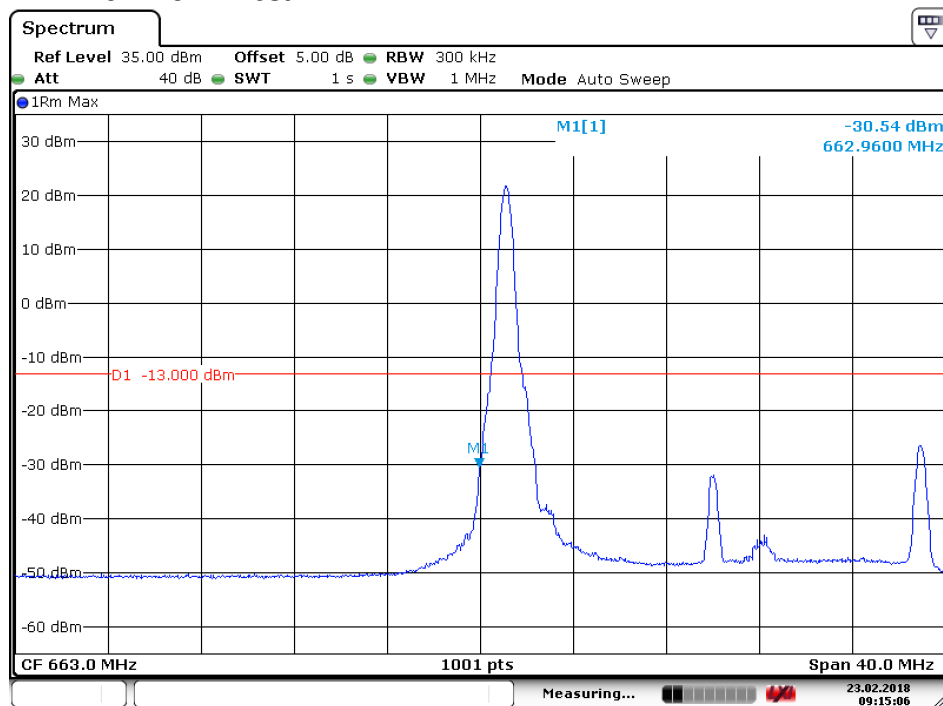


Date: 23.FEB.2018 09:16:56

#### 5.1.1.8 Test Mode = LTE/TM2 20MHz

##### 5.1.1.8.1 Test Channel = LCH

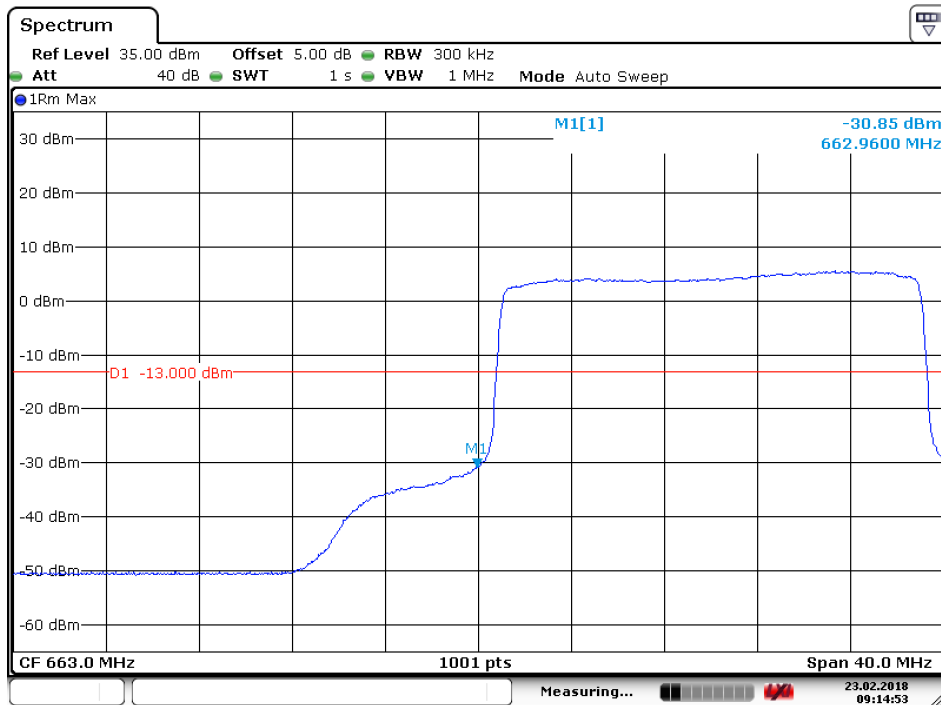
##### 5.1.1.8.1.1 Test RB=1RB



Date: 23.FEB.2018 09:15:07



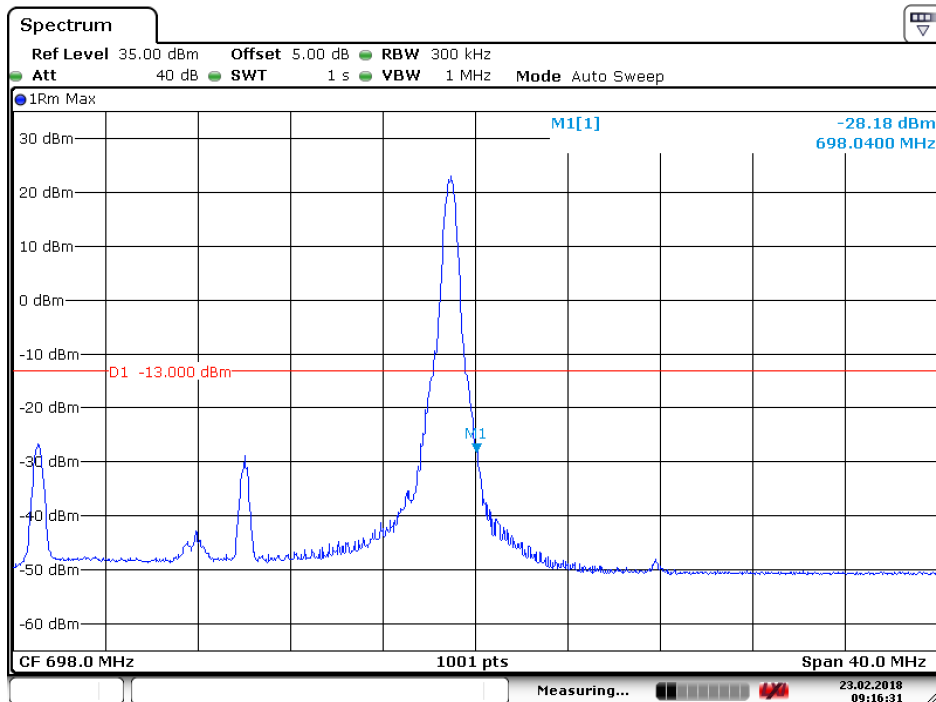
#### 5.1.1.8.1.2 Test RB=100RB



Date: 23.FEB.2018 09:14:53

#### 5.1.1.8.2 Test Channel = HCH

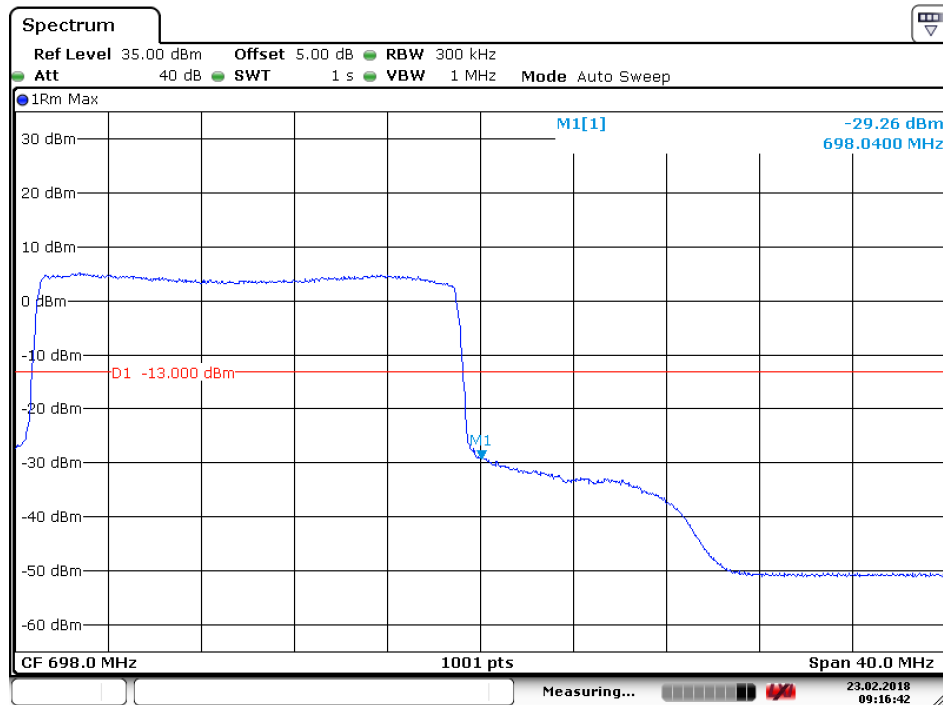
##### 5.1.1.8.2.1 Test RB=1RB



Date: 23.FEB.2018 09:16:31



5.1.1.8.2.2 Test RB=100RB



Date: 23.FEB.2018 09:16:43

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

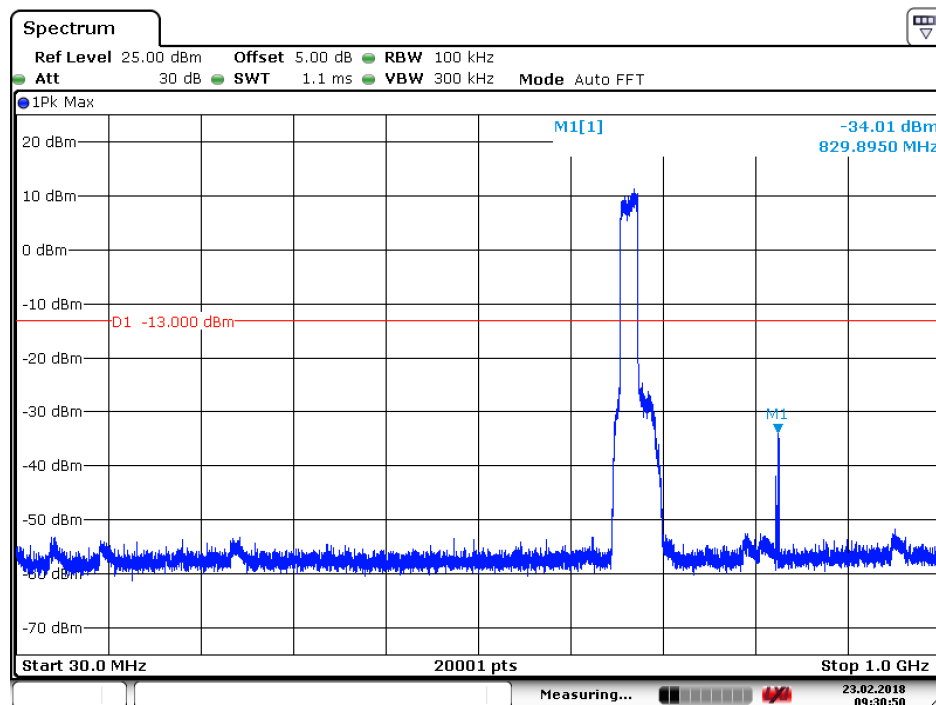
Part I - Test Plots

### 6.1 For LTE

#### 6.1.1 Test Band = LTE band71

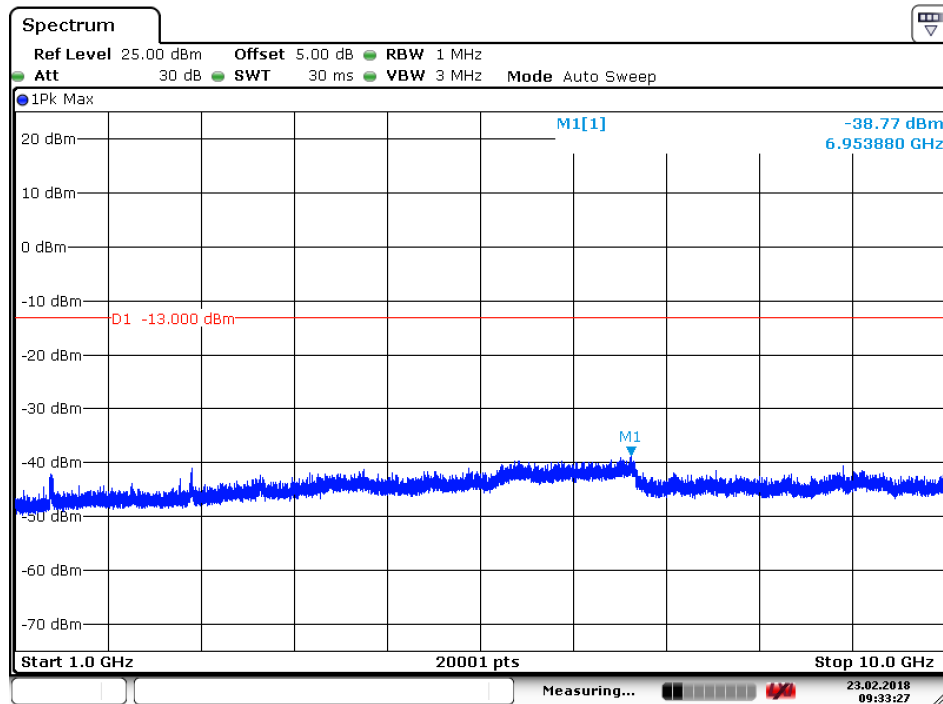
##### 6.1.1.1 Test Mode = LTE / TM1 20MHz RB1#0

##### 6.1.1.1.1 Test Channel = LCH



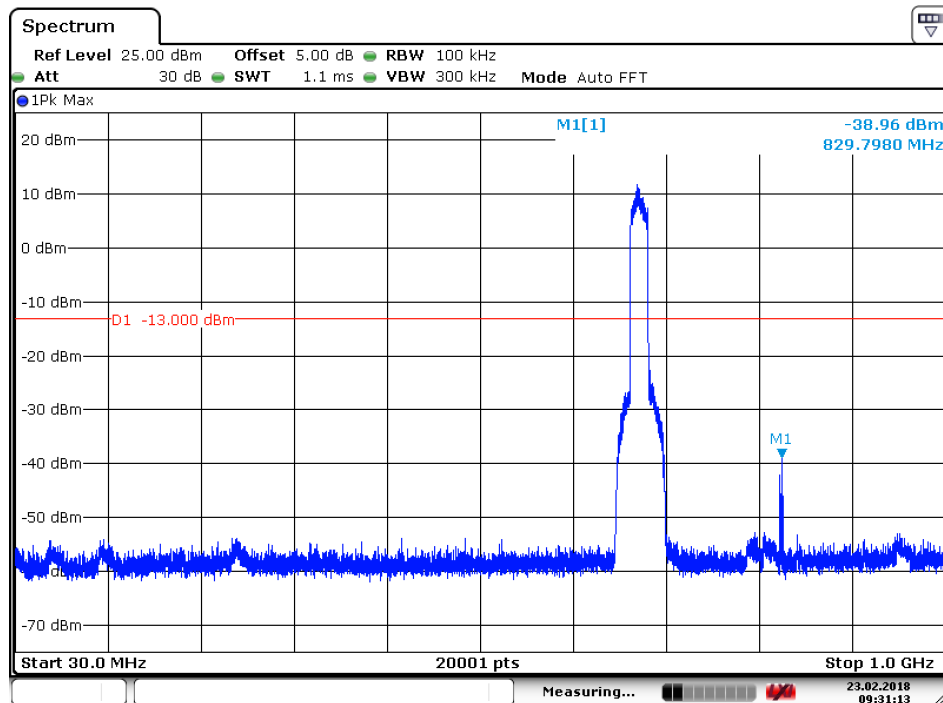
Date: 23.FEB.2018 09:30:50



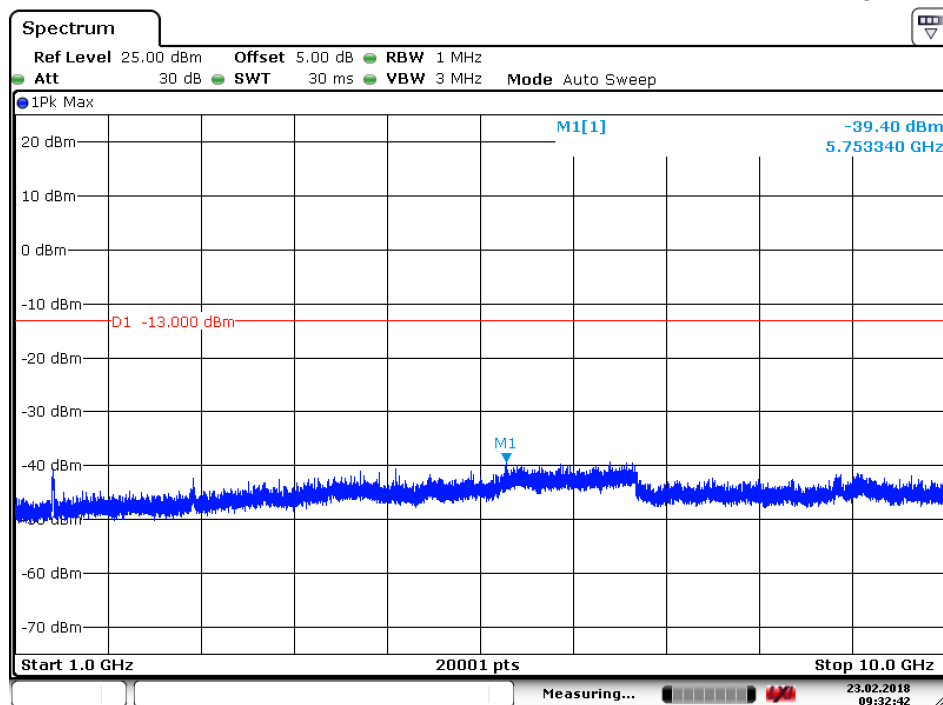


Date: 23.FEB.2018 09:33:28

#### 6.1.1.1.2 Test Channel = MCH

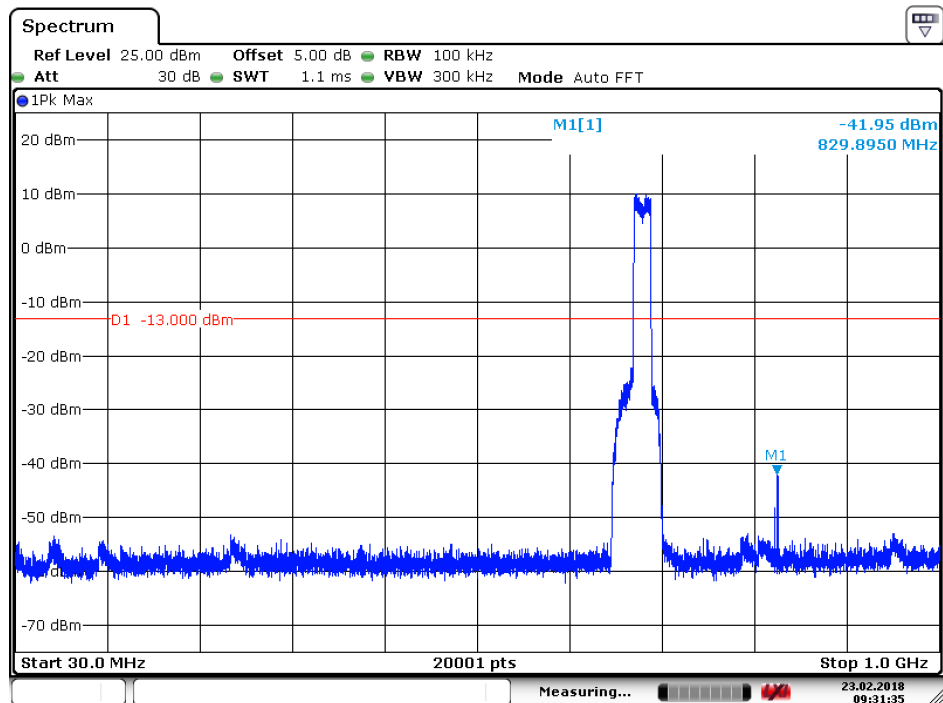


Date: 23.FEB.2018 09:31:14

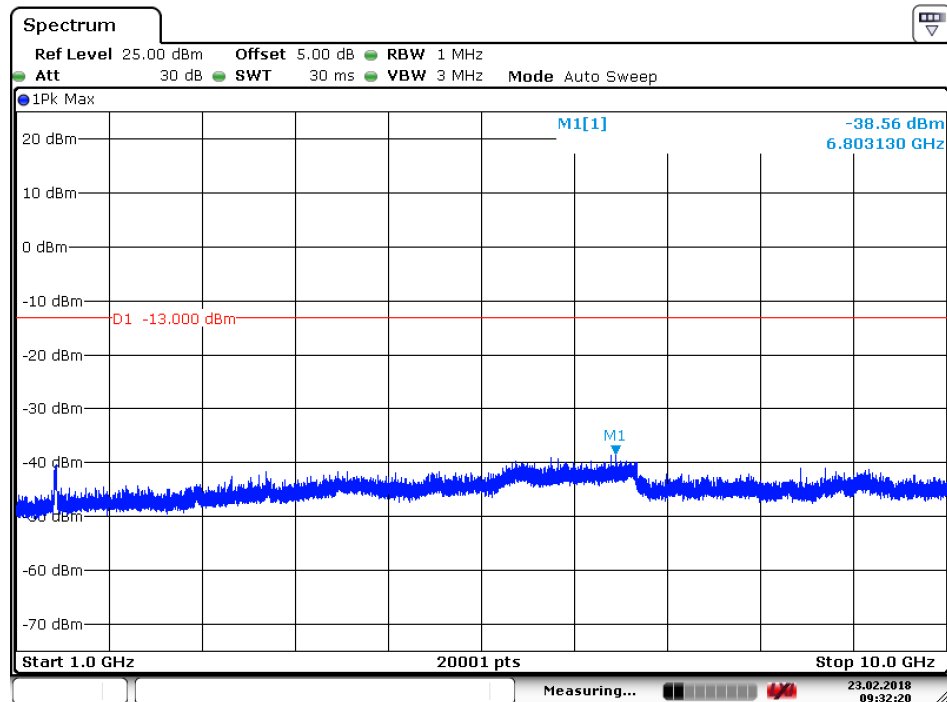


Date: 23.FEB.2018 09:32:42

#### 6.1.1.1.3 Test Channel = HCH



Date: 23.FEB.2018 09:31:35



Date: 23.FEB.2018 09:32:21



## 7 Field Strength of Spurious Radiation

### 7.1 For LTE

#### 7.1.1 Test Band = LTE band71

##### 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
1247.500000	-66.62	-13.00	53.62	Vertical
3443.625000	-68.95	-13.00	55.95	Vertical
4254.175000	-67.10	-13.00	54.10	Vertical
4889.875000	-66.70	-13.00	53.70	Vertical
6485.950000	-64.83	-13.00	51.83	Vertical
7240.275000	-64.71	-13.00	51.71	Vertical
1200.500000	-67.01	-13.00	54.01	Horizontal
1765.000000	-64.10	-13.00	51.10	Horizontal
2291.500000	-59.41	-13.00	46.41	Horizontal
2651.000000	-58.10	-13.00	45.10	Horizontal
4822.600000	-66.66	-13.00	53.66	Horizontal
6042.975000	-65.23	-13.00	52.23	Horizontal

###### 7.1.1.1.1 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1455.000000	-66.73	-13.00	53.73	Vertical
2401.000000	-59.22	-13.00	46.22	Vertical
2711.500000	-57.56	-13.00	44.56	Vertical
4057.225000	-67.84	-13.00	54.84	Vertical
5935.075000	-65.54	-13.00	52.54	Vertical
6915.925000	-64.80	-13.00	51.80	Vertical
1397.000000	-67.46	-13.00	54.46	Horizontal
1706.500000	-64.48	-13.00	51.48	Horizontal
2591.500000	-58.49	-13.00	45.49	Horizontal
4287.975000	-66.93	-13.00	53.93	Horizontal
5521.025000	-66.67	-13.00	53.67	Horizontal
7244.500000	-64.84	-13.00	51.84	Horizontal



**7.1.1.1.1 Test Channel = HCH**

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1283.000000	-66.66	-13.00	53.66	Vertical
1694.000000	-64.48	-13.00	51.48	Vertical
2475.500000	-58.85	-13.00	45.85	Vertical
3870.025000	-68.20	-13.00	55.20	Vertical
5382.575000	-66.72	-13.00	53.72	Vertical
7029.350000	-64.85	-13.00	51.85	Vertical
1200.500000	-67.07	-13.00	54.07	Horizontal
1623.500000	-65.58	-13.00	52.58	Horizontal
2679.000000	-57.72	-13.00	44.72	Horizontal
3812.500000	-68.18	-13.00	55.18	Horizontal
4842.750000	-66.70	-13.00	53.70	Horizontal
7244.500000	-64.81	-13.00	51.81	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
LTEband71	LTE/TM1 20MHz	LCH	TN	VL	-4.55	-0.00676	PASS
				VN	2.46	0.00366	PASS
				VH	-7.73	-0.01149	PASS
		MCH	TN	VL	1.49	0.00219	PASS
				VN	-2.84	-0.00417	PASS
				VH	2.63	0.00386	PASS
		HCH	TN	VL	-6.56	-0.00953	PASS
				VN	-5.17	-0.00751	PASS
				VH	-3.99	-0.00580	PASS
	LTE/TM2 20MHz	LCH	TN	VL	-4.28	-0.00636	PASS
				VN	-2.95	-0.00438	PASS
				VH	-5.16	-0.00767	PASS
		MCH	TN	VL	1.56	0.00229	PASS
				VN	-2.80	-0.00411	PASS
				VH	2.59	0.00381	PASS
		HCH	TN	VL	-3.08	-0.00448	PASS
				VN	-8.56	-0.01244	PASS
				VH	-4.60	-0.00669	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
LTEband71	LTE/TM1 20MHz	LCH	VN	-30	-3.40	-0.00505	PASS
				-20	-1.34	-0.00199	PASS
				-10	2.38	0.00354	PASS
				0	1.75	0.00260	PASS
				10	4.65	0.00691	PASS
				20	0.11	0.00016	PASS
				30	-0.31	-0.00046	PASS
				40	-2.14	-0.00318	PASS
				50	0.59	0.00088	PASS
		MCH	VN	-30	-7.80	-0.01146	PASS
				-20	-5.95	-0.00874	PASS
				-10	-7.49	-0.01101	PASS
				0	-5.62	-0.00826	PASS
				10	-4.04	-0.00594	PASS
				20	-9.94	-0.01461	PASS
				30	-5.66	-0.00832	PASS
				40	-4.62	-0.00679	PASS
				50	-6.92	-0.01017	PASS
		HCH	VN	-30	0.54	0.00078	PASS
				-20	-1.49	-0.00217	PASS
				-10	1.53	0.00222	PASS
				0	-2.83	-0.00411	PASS
				10	2.60	0.00378	PASS
				20	-0.57	-0.00083	PASS
				30	-2.66	-0.00387	PASS
				40	-5.43	-0.00789	PASS
				50	-4.90	-0.00712	PASS



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

Report No.: SZEM171201298701

Page: 56 of 56

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband71	LTE/TM2 20MHz	LCH	VN	-30	-2.50	-0.00371	PASS
				-20	-2.45	-0.00364	PASS
				-10	3.38	0.00502	PASS
				0	2.64	0.00392	PASS
				10	1.60	0.00238	PASS
				20	-0.23	-0.00034	PASS
				30	-0.44	-0.00065	PASS
				40	5.34	0.00793	PASS
				50	0.79	0.00117	PASS
		MCH	VN	-30	-3.80	-0.00558	PASS
				-20	-5.38	-0.00791	PASS
				-10	-7.29	-0.01071	PASS
				0	-4.32	-0.00635	PASS
				10	-0.34	-0.00050	PASS
				20	1.74	0.00256	PASS
				30	-3.64	-0.00535	PASS
				40	-2.62	-0.00385	PASS
				50	-3.91	-0.00575	PASS
		HCH	VN	-30	1.34	0.00195	PASS
				-20	-2.55	-0.00371	PASS
				-10	1.59	0.00231	PASS
				0	-3.73	-0.00542	PASS
				10	2.88	0.00419	PASS
				20	-1.47	-0.00214	PASS
				30	-2.59	-0.00376	PASS
				40	-4.33	-0.00629	PASS
				50	-3.60	-0.00523	PASS

The End