Appendix B

E-UTRA Band 12

CONTENT

1   Effective (Isotropic) Radiated Power Output Data

Effective Radiated Power of Transmitter (ERP) for LTE BAND 12

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	1.4M	LCH	RB1#0	21.16	20.16	38.45	PASS
				RB1#2	21.17	20.17	38.45	PASS
				RB1#5	21.15	20.15	38.45	PASS
				RB3#0	21.16	20.16	38.45	PASS
				RB3#2	21.14	20.14	38.45	PASS
				RB3#3	21.15	20.15	38.45	PASS
				RB6#0	20.31	19.31	38.45	PASS
			MCH	RB1#0	20.98	19.98	38.45	PASS
				RB1#2	20.93	19.93	38.45	PASS
				RB1#5	21.03	20.03	38.45	PASS
				RB3#0	20.96	19.96	38.45	PASS
				RB3#2	21.02	20.02	38.45	PASS
				RB3#3	21.05	20.05	38.45	PASS
				RB6#0	20.17	19.17	38.45	PASS
			HCH	RB1#0	20.91	19.91	38.45	PASS
				RB1#2	20.88	19.88	38.45	PASS
				RB1#5	20.89	19.89	38.45	PASS
				RB3#0	20.9	19.90	38.45	PASS
				RB3#2	20.91	19.91	38.45	PASS
				RB3#3	20.9	19.90	38.45	PASS
				RB6#0	19.98	18.98	38.45	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	1.4M	LCH	RB1#0	20.16	19.16	38.45	PASS
				RB1#2	20.14	19.14	38.45	PASS
				RB1#5	20.22	19.22	38.45	PASS
				RB3#0	20.19	19.19	38.45	PASS
				RB3#2	20.17	19.17	38.45	PASS
				RB3#3	20.22	19.22	38.45	PASS
				RB6#0	19.22	18.22	38.45	PASS
			MCH	RB1#0	19.92	18.92	38.45	PASS
				RB1#2	19.93	18.93	38.45	PASS
				RB1#5	20.02	19.02	38.45	PASS
				RB3#0	19.95	18.95	38.45	PASS
				RB3#2	20.05	19.05	38.45	PASS
				RB3#3	20.07	19.07	38.45	PASS
				RB6#0	19.06	18.06	38.45	PASS
			HCH	RB1#0	19.88	18.88	38.45	PASS
				RB1#2	19.89	18.89	38.45	PASS
				RB1#5	19.9	18.90	38.45	PASS
				RB3#0	19.9	18.90	38.45	PASS
				RB3#2	19.91	18.91	38.45	PASS
				RB3#3	19.92	18.92	38.45	PASS
				RB6#0	18.92	17.92	38.45	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	3M	LCH	RB1#0	21.17	20.17	38.45	PASS
				RB1#7	21.15	20.15	38.45	PASS
				RB1#14	21.09	20.09	38.45	PASS
				RB8#0	20.26	19.26	38.45	PASS
				RB8#4	20.21	19.21	38.45	PASS
				RB8#7	20.15	19.15	38.45	PASS
				RB15#0	20.26	19.26	38.45	PASS
			MCH	RB1#0	20.89	19.89	38.45	PASS
				RB1#7	20.98	19.98	38.45	PASS
				RB1#14	21.03	20.03	38.45	PASS
				RB8#0	19.96	18.96	38.45	PASS
				RB8#4	20.05	19.05	38.45	PASS
				RB8#7	20.06	19.06	38.45	PASS
				RB15#0	20.1	19.10	38.45	PASS
			HCH	RB1#0	20.93	19.93	38.45	PASS
				RB1#7	20.88	19.88	38.45	PASS
				RB1#14	20.89	19.89	38.45	PASS
				RB8#0	19.98	18.98	38.45	PASS
				RB8#4	19.95	18.95	38.45	PASS
				RB8#7	19.97	18.97	38.45	PASS
				RB15#0	19.98	18.98	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	3M	LCH	RB1#0	20.16	19.16	38.45	PASS
				RB1#7	20.1	19.10	38.45	PASS
				RB1#14	20.1	19.10	38.45	PASS
				RB8#0	19.27	18.27	38.45	PASS
				RB8#4	19.27	18.27	38.45	PASS
				RB8#7	19.21	18.21	38.45	PASS
				RB15#0	19.22	18.22	38.45	PASS
			MCH	RB1#0	19.86	18.86	38.45	PASS
				RB1#7	19.97	18.97	38.45	PASS
				RB1#14	20.01	19.01	38.45	PASS
				RB8#0	19.01	18.01	38.45	PASS
				RB8#4	19.1	18.10	38.45	PASS
				RB8#7	19.11	18.11	38.45	PASS
				RB15#0	19.07	18.07	38.45	PASS
			HCH	RB1#0	19.86	18.86	38.45	PASS
				RB1#7	19.85	18.85	38.45	PASS
				RB1#14	19.88	18.88	38.45	PASS
				RB8#0	19.06	18.06	38.45	PASS
				RB8#4	19.02	18.02	38.45	PASS
				RB8#7	18.99	17.99	38.45	PASS
				RB15#0	18.98	17.98	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	5M	LCH	RB1#0	21.14	20.14	38.45	PASS
				RB1#13	21.09	20.09	38.45	PASS
				RB1#24	20.86	19.86	38.45	PASS
				RB12#0	20.22	19.22	38.45	PASS
				RB12#6	20.11	19.11	38.45	PASS
				RB12#13	20.07	19.07	38.45	PASS
				RB25#0	20.05	19.05	38.45	PASS
			MCH	RB1#0	20.89	19.89	38.45	PASS
				RB1#13	21.01	20.01	38.45	PASS
				RB1#24	21.01	20.01	38.45	PASS
				RB12#0	19.94	18.94	38.45	PASS
				RB12#6	20.12	19.12	38.45	PASS
				RB12#13	20.12	19.12	38.45	PASS
				RB25#0	20.13	19.13	38.45	PASS
			HCH	RB1#0	20.94	19.94	38.45	PASS
				RB1#13	20.9	19.90	38.45	PASS
				RB1#24	20.9	19.90	38.45	PASS
				RB12#0	20.01	19.01	38.45	PASS
				RB12#6	19.96	18.96	38.45	PASS
				RB12#13	19.98	18.98	38.45	PASS
				RB25#0	20	19.00	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	5M	LCH	RB1#0	20.16	19.16	38.45	PASS
				RB1#13	20	19.00	38.45	PASS
				RB1#24	19.77	18.77	38.45	PASS
				RB12#0	19.23	18.23	38.45	PASS
				RB12#6	19.19	18.19	38.45	PASS
				RB12#13	19.12	18.12	38.45	PASS
				RB25#0	19.09	18.09	38.45	PASS
			MCH	RB1#0	19.85	18.85	38.45	PASS
				RB1#13	19.94	18.94	38.45	PASS
				RB1#24	19.97	18.97	38.45	PASS
				RB12#0	19.02	18.02	38.45	PASS
				RB12#6	19.15	18.15	38.45	PASS
				RB12#13	19.16	18.16	38.45	PASS
				RB25#0	19.09	18.09	38.45	PASS
			HCH	RB1#0	19.91	18.91	38.45	PASS
				RB1#13	19.88	18.88	38.45	PASS
				RB1#24	19.9	18.90	38.45	PASS
				RB12#0	19.03	18.03	38.45	PASS
				RB12#6	19.02	18.02	38.45	PASS
				RB12#13	19.05	18.05	38.45	PASS
				RB25#0	19.02	18.02	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	10M	LCH	RB1#0	21.17	20.17	38.45	PASS
				RB1#25	20.92	19.92	38.45	PASS
				RB1#49	21.12	20.12	38.45	PASS
				RB25#0	20.1	19.10	38.45	PASS
				RB25#13	20.01	19.01	38.45	PASS
				RB25#25	20.19	19.19	38.45	PASS
				RB50#0	20.04	19.04	38.45	PASS
			MCH	RB1#0	20.88	19.88	38.45	PASS
				RB1#25	21.02	20.02	38.45	PASS
				RB1#49	21.08	20.08	38.45	PASS
				RB25#0	19.96	18.96	38.45	PASS
				RB25#13	20.09	19.09	38.45	PASS
				RB25#25	20.11	19.11	38.45	PASS
				RB50#0	20.11	19.11	38.45	PASS
			HCH	RB1#0	20.89	19.89	38.45	PASS
				RB1#25	20.98	19.98	38.45	PASS
				RB1#49	21.06	20.06	38.45	PASS
				RB25#0	20.09	19.09	38.45	PASS
				RB25#13	20.01	19.01	38.45	PASS
				RB25#25	20.1	19.10	38.45	PASS
				RB50#0	20.1	19.10	38.45	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	10M	LCH	RB1#0	20.14	19.14	38.45	PASS
				RB1#25	19.9	18.90	38.45	PASS
				RB1#49	20.1	19.10	38.45	PASS
				RB25#0	19.06	18.06	38.45	PASS
				RB25#13	19.03	18.03	38.45	PASS
				RB25#25	19.18	18.18	38.45	PASS
				RB50#0	19.08	18.08	38.45	PASS
			MCH	RB1#0	19.84	18.84	38.45	PASS
				RB1#25	20	19.00	38.45	PASS
				RB1#49	20.01	19.01	38.45	PASS
				RB25#0	18.99	17.99	38.45	PASS
				RB25#13	19.11	18.11	38.45	PASS
				RB25#25	19.14	18.14	38.45	PASS
				RB50#0	19.12	18.12	38.45	PASS
			HCH	RB1#0	19.86	18.86	38.45	PASS
				RB1#25	19.95	18.95	38.45	PASS
				RB1#49	20	19.00	38.45	PASS
				RB25#0	19.11	18.11	38.45	PASS
				RB25#13	19.13	18.13	38.45	PASS
				RB25#25	19.1	18.10	38.45	PASS
				RB50#0	19.06	18.06	38.45	PASS

Note:

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

ERP [dBm] = SGP [dBm] – Cable Loss [dB] + 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 12	TM1/10M	LCH	4.87	13	PASS
		MCH	4.90	13	PASS
		HCH	4.43	13	PASS
	TM2/10M	LCH	5.74	13	PASS
		MCH	5.57	13	PASS
		HCH	5.28	13	PASS

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Part Ⅱ - Test Plots

2.1 For LTE

2.1.1 Test Band = LTE band12

2.1.1.1 Test Mode = LTE/TM1.Bandwidth=10MHz

2.1.1.1.1 Test Channel = LCH

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.05 dBm	27.32 dBm	5.27 dB	2.61 dB	4.26 dB	4.87 dB	5.16 dB
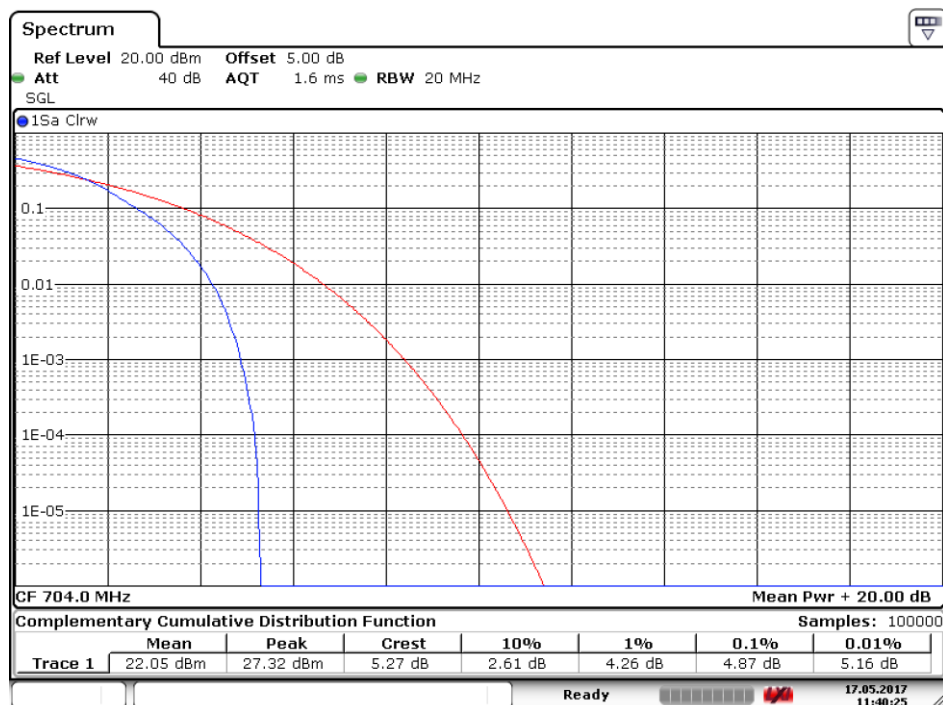
Date: 17.MAY.2017 11:40:25

2.1.1.1.2 Test Channel = MCH

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.20 dBm	27.95 dBm	5.75 dB	2.43 dB	4.00 dB	4.90 dB	5.45 dB
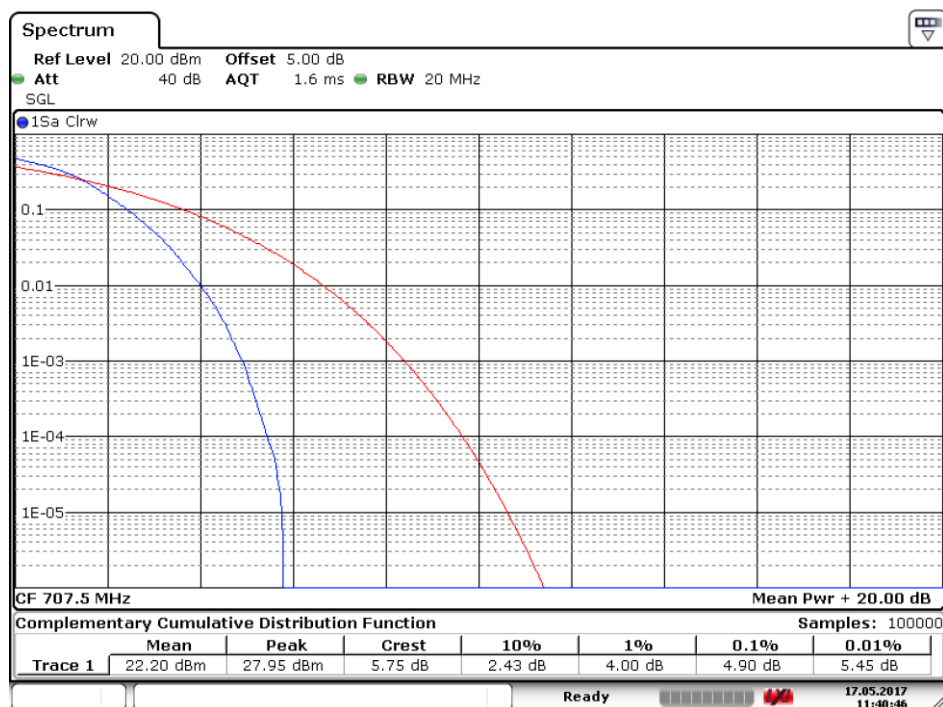
Date: 17.MAY.2017 11:40:46

2.1.1.1.3   Test Channel = HCH

Spectrum							
Ref Level 20.00 dBm	Offset 5.00 dB						
Att 40 dB	AQT 1.6 ms	RBW 20 MHz					
SGL							

● 1Sa Clrw

CF 711.0 MHz — Mean Pwr + 20.00 dB

Complementary Cumulative Distribution Function — Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.16 dBm	27.40 dBm	5.24 dB	2.26 dB	3.57 dB	4.43 dB	4.99 dB

Ready   17.05.2017 11:39:41
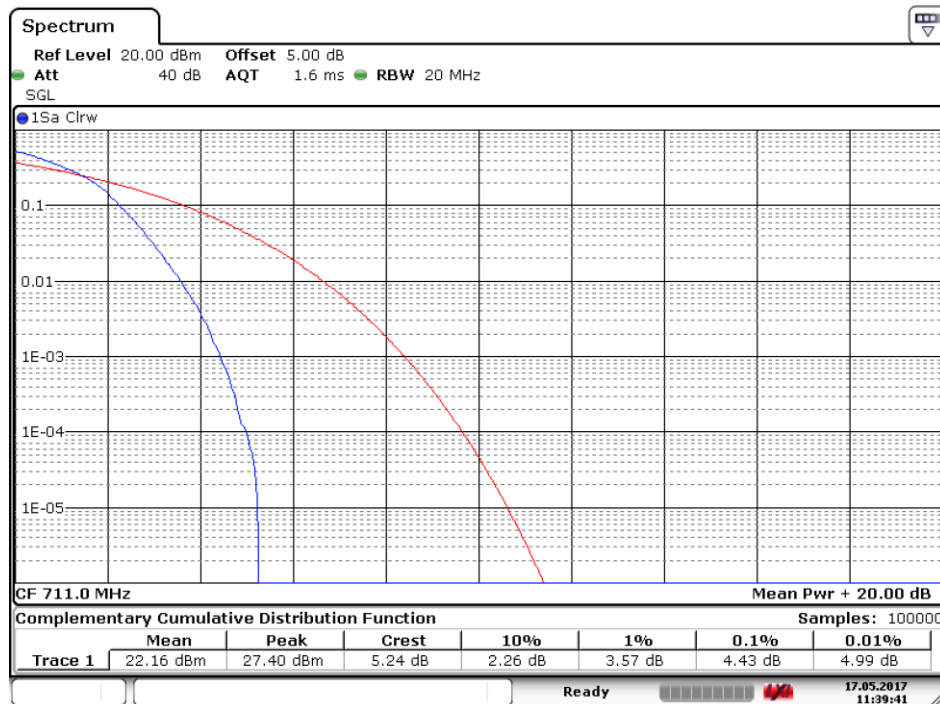
Date: 17.MAY.2017 11:39:41

2.1.1.2   Test Mode = LTE/TM2.Bandwidth=10MHz

2.1.1.2.1   Test Channel = LCH

Spectrum							
Ref Level 20.00 dBm	Offset 5.00 dB						
Att 40 dB	AQT 1.6 ms	RBW 20 MHz					
SGL							

● 1Sa Clrw

CF 704.0 MHz — Mean Pwr + 20.00 dB

Complementary Cumulative Distribution Function — Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	21.04 dBm	27.51 dBm	6.47 dB	3.13 dB	4.87 dB	5.74 dB	6.23 dB

Ready   17.05.2017 11:41:21
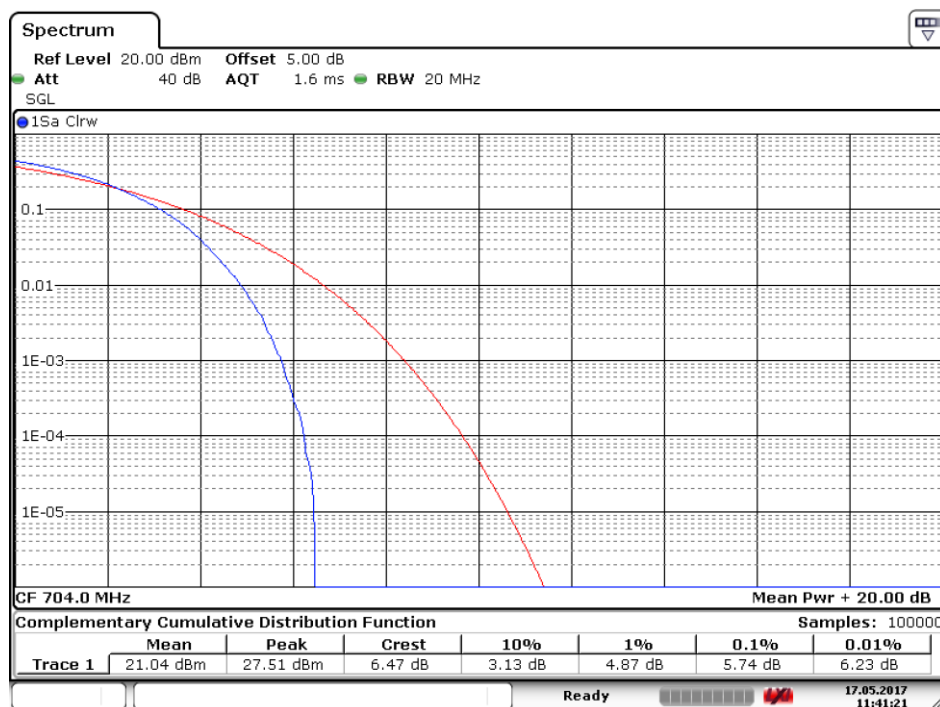
Date: 17.MAY.2017 11:41:22

2.1.1.2.2 Test Channel = MCH

Spectrum							
Ref Level 20.00 dBm	Offset 5.00 dB						
Att 40 dB	AQT 1.6 ms	RBW 20 MHz					

CF 707.5 MHz — Mean Pwr + 20.00 dB

Complementary Cumulative Distribution Function — Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	21.20 dBm	27.88 dBm	6.68 dB	2.99 dB	4.58 dB	5.57 dB	6.14 dB

Ready 17.05.2017 11:41:02
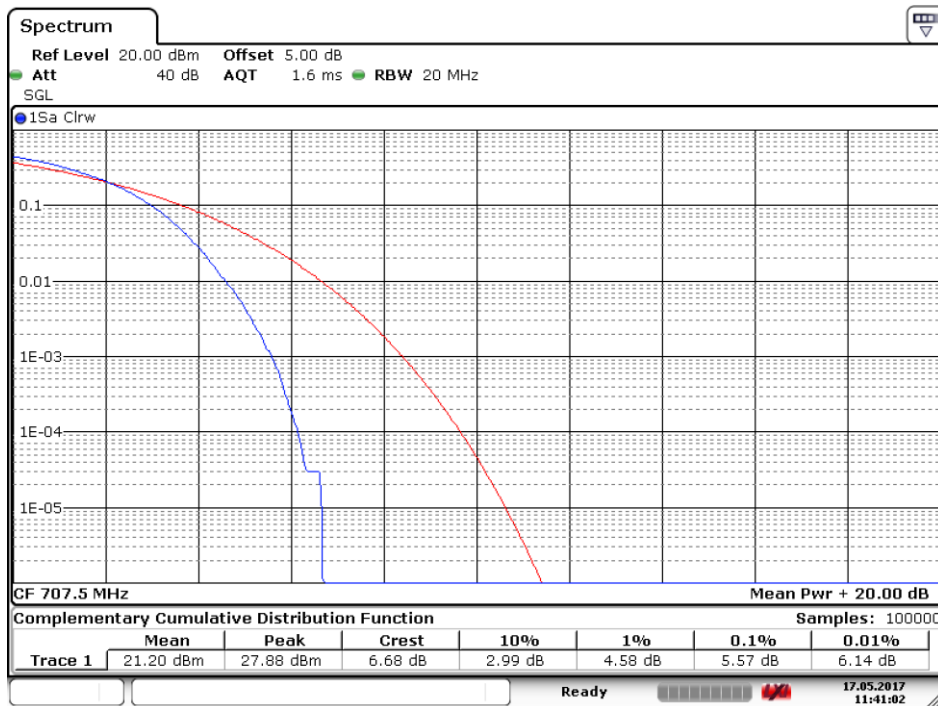
Date: 17.MAY.2017 11:41:02

2.1.1.2.3 Test Channel = HCH

Spectrum							
Ref Level 20.00 dBm	Offset 5.00 dB						
Att 40 dB	AQT 1.6 ms	RBW 20 MHz					

CF 704.0 MHz — Mean Pwr + 20.00 dB

Complementary Cumulative Distribution Function — Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	19.90 dBm	26.14 dBm	6.24 dB	2.96 dB	4.32 dB	5.28 dB	6.03 dB

Ready 17.05.2017 11:41:38

Date: 17.MAY.2017 11:41:38

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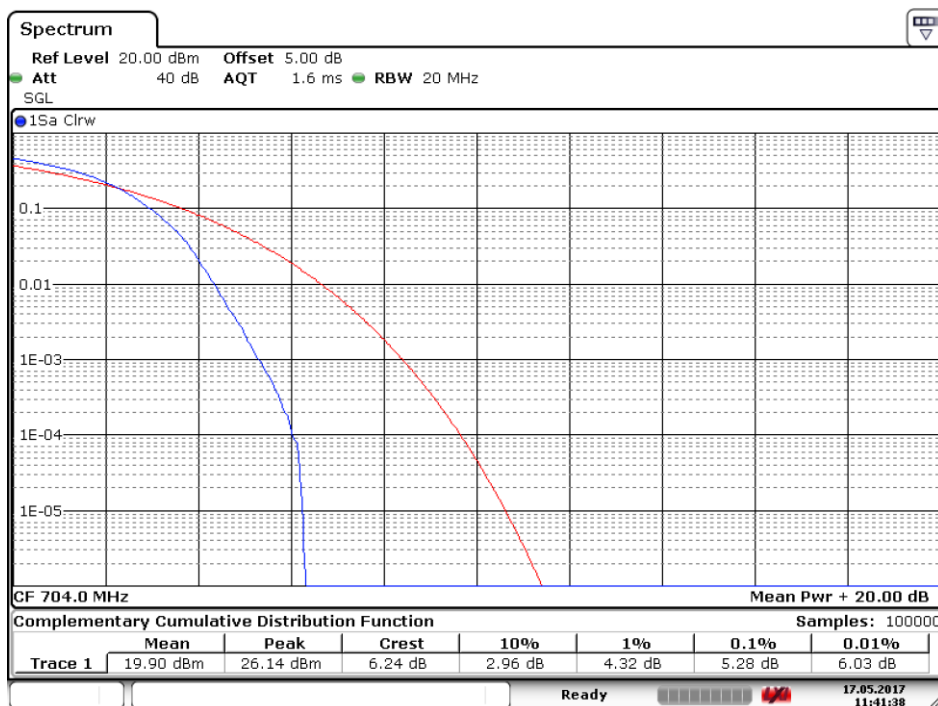
3   Modulation Characteristics

3.1 For LTE

3.1.1 Test Band = LTE band12

3.1.1.1   Test Mode = LTE /TM1 10MHz

3.1.1.1.1   Test Channel = MCH
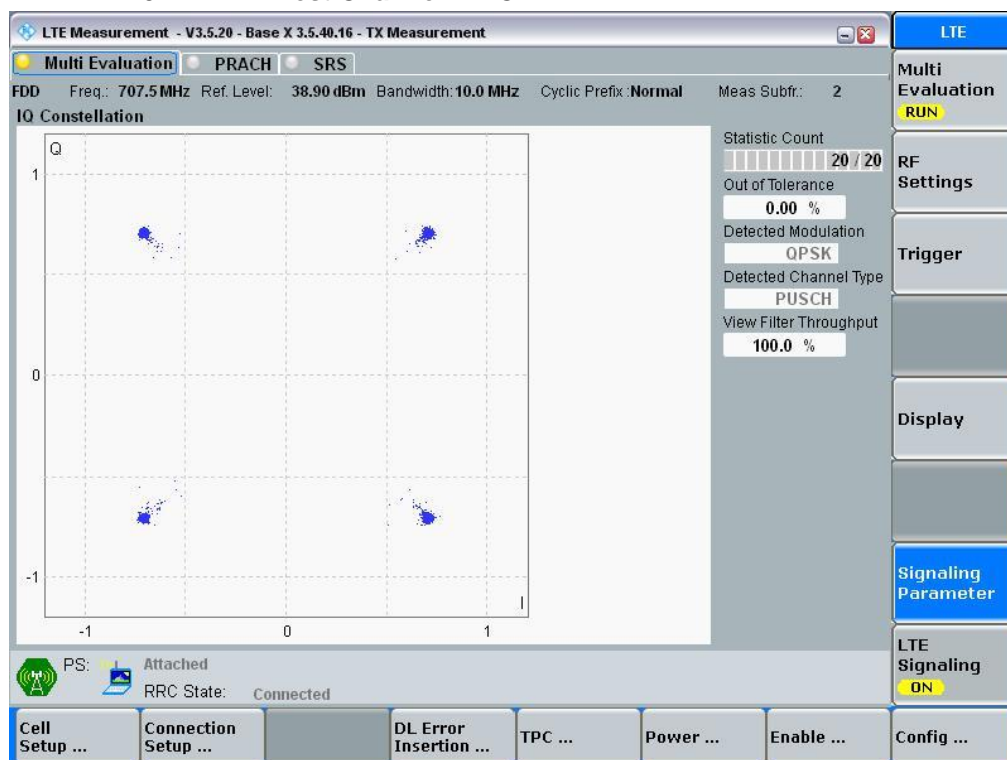
3.1.1.2   Test Mode = LTE /TM2 10MHz

3.1.1.2.1   Test Channel = MCH
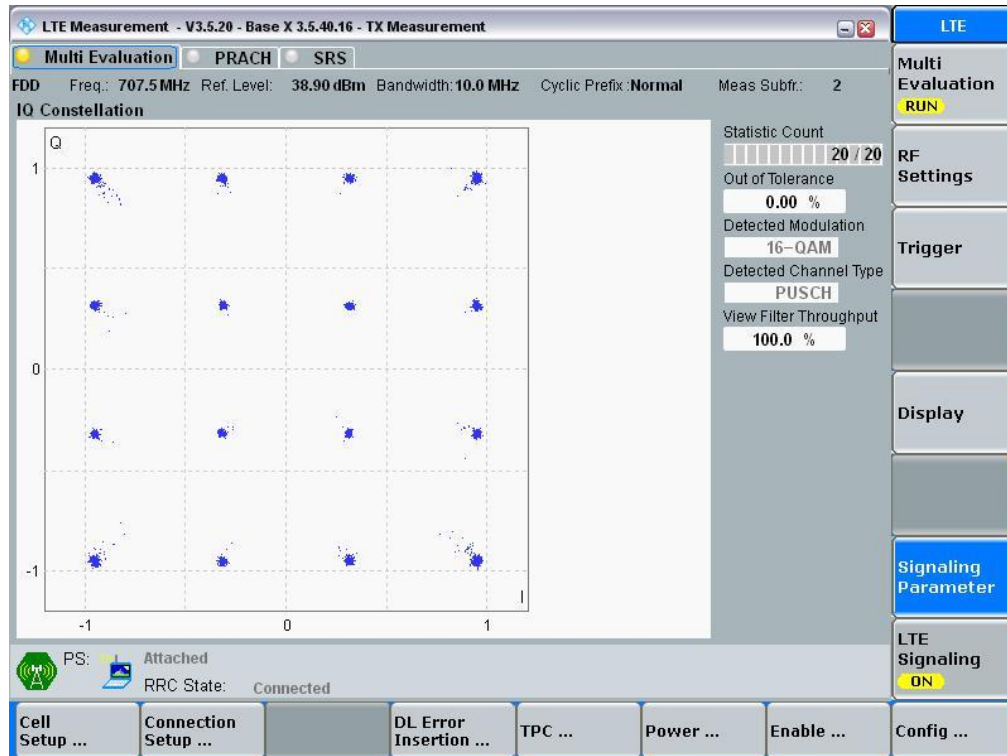
4   Bandwidth

Part Ⅰ - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band 12	TM1/1.4MHz	LCH	1.12	2.06	PASS
		MCH	1.11	1.35	PASS
		HCH	1.11	1.29	PASS
	TM2/1.4MHz	LCH	1.12	1.83	PASS
		MCH	1.10	1.33	PASS
		HCH	1.10	1.30	PASS
	TM1/ 3MHz	LCH	2.70	3.42	PASS
		MCH	2.69	2.93	PASS
		HCH	2.69	2.96	PASS
	TM2/3MHz	LCH	2.69	3.29	PASS
		MCH	2.69	2.97	PASS
		HCH	2.69	2.95	PASS
	TM1/ 5MHz	LCH	4.49	4.96	PASS
		MCH	4.51	5.59	PASS
		HCH	4.49	4.97	PASS
	TM2/ 5MHz	LCH	4.50	5.10	PASS
		MCH	4.50	5.04	PASS
		HCH	4.50	4.94	PASS
	TM1/10MHz	LCH	9.01	10.01	PASS
		MCH	9.01	10.07	PASS
		HCH	8.87	9.55	PASS
	TM2/ 10MHz	LCH	9.01	9.77	PASS
		MCH	8.97	9.57	PASS
		HCH	8.87	9.53	PASS

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PartⅡ –Test Plots

4.1 For LTE

4.1.1 Test Band = LTE band12

4.1.1.1   Test Mode = LTE/TM1 1.4MHz

4.1.1.1.1   Test Channel = LCH
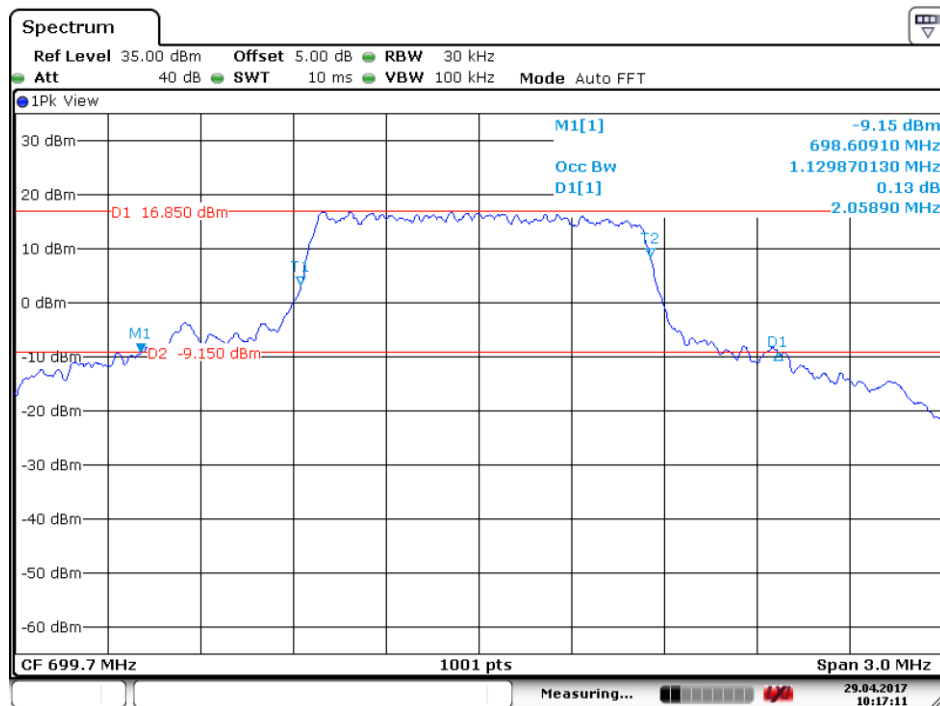
Date: 29.APR.2017 10:17:11

4.1.1.1.2   Test Channel = MCH
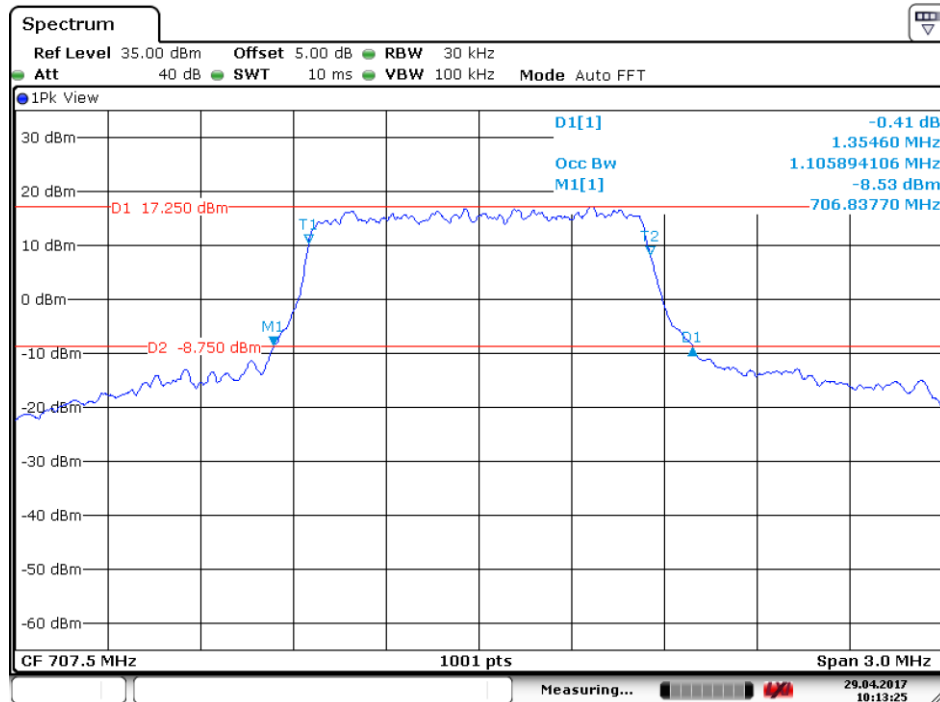
Date: 29.APR.2017 10:13:25

4.1.1.1.3   Test Channel = HCH
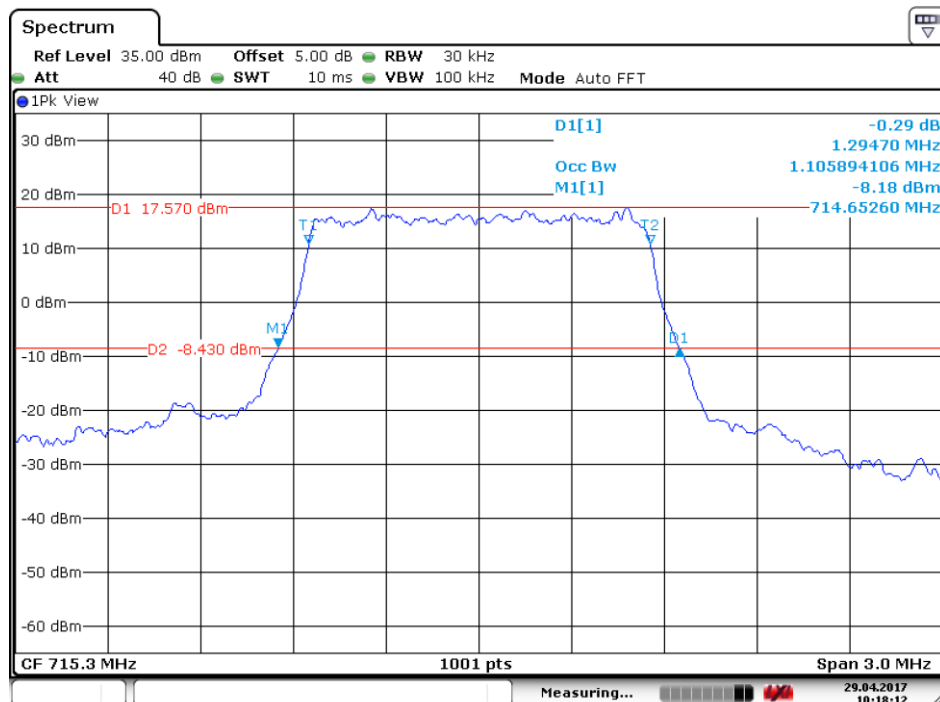
Date: 29.APR.2017 10:18:12

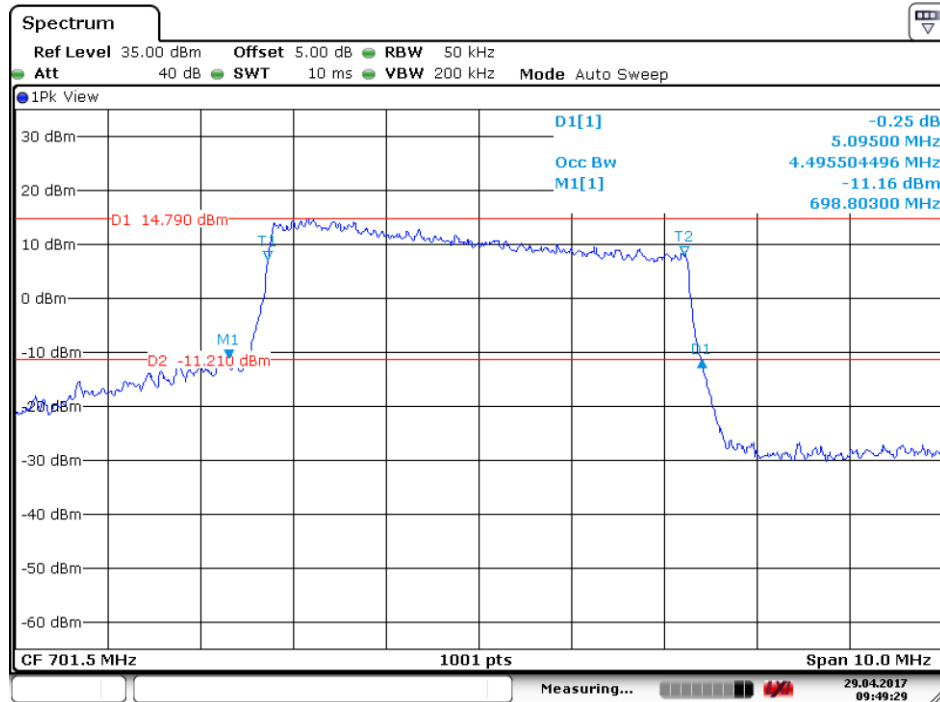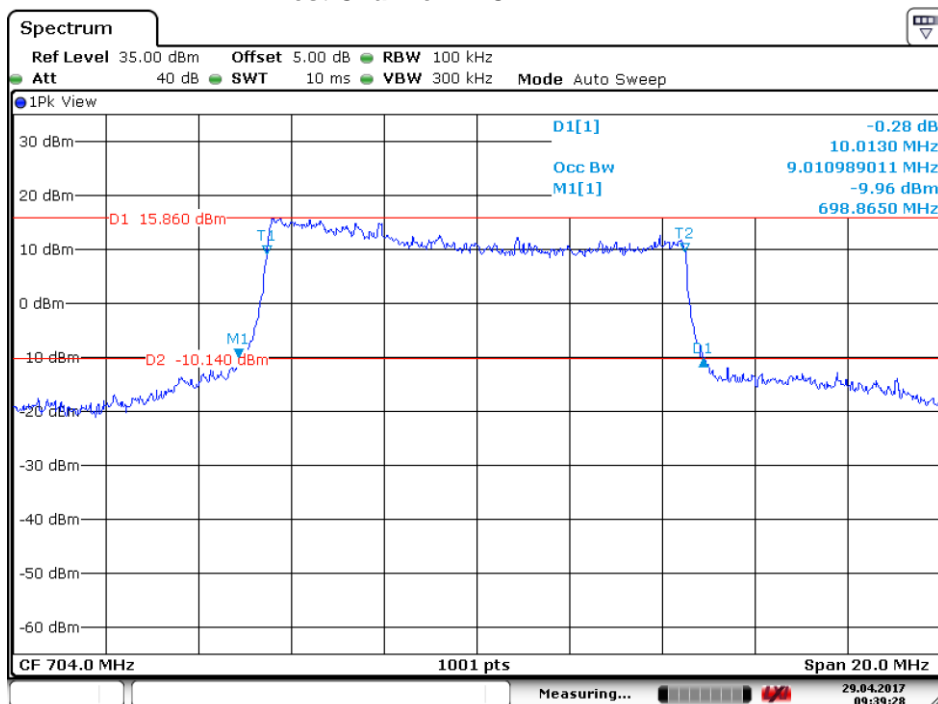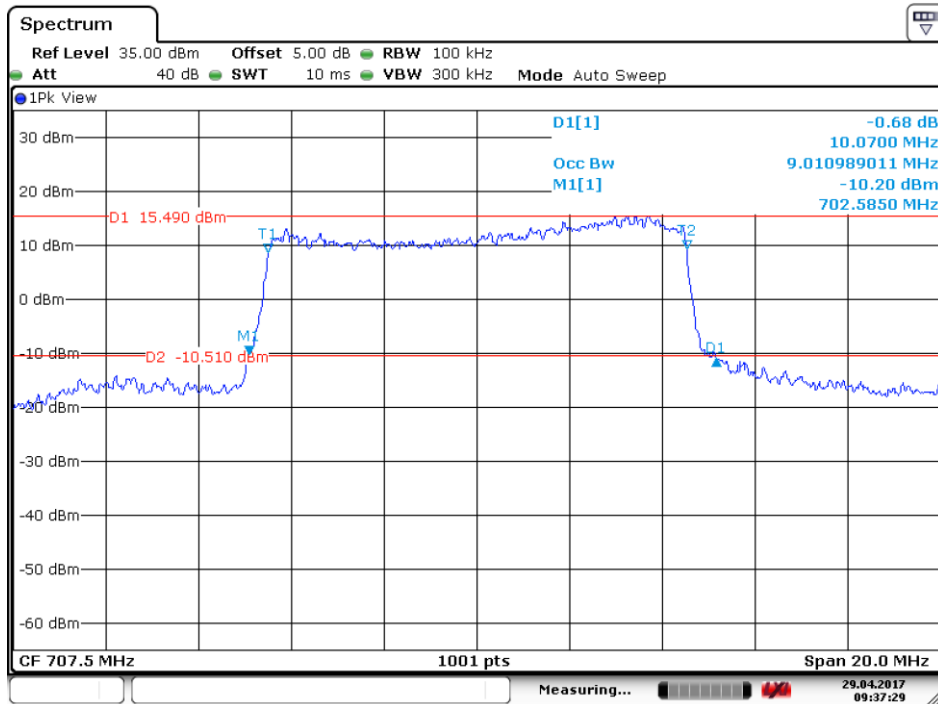## 4.1.1.2   Test Mode = LTE/TM2 1.4MHz

4.1.1.2.1   Test Channel = LCH

Spectrum

Ref Level 35.00 dBm	Offset 5.00 dB	RBW 30 kHz			
Att 40 dB	SWT 10 ms	VBW 100 kHz	Mode Auto FFT		

1Pk View

D1[1]   -0.28 dB
                  1.82520 MHz
Occ Bw   1.117882118 MHz
M1[1]   -9.39 dBm
                  698.57010 MHz

D1 16.500 dBm

D2 -9.500 dBm

CF 699.7 MHz   1001 pts   Span 3.0 MHz

Measuring...   29.04.2017 10:15:48
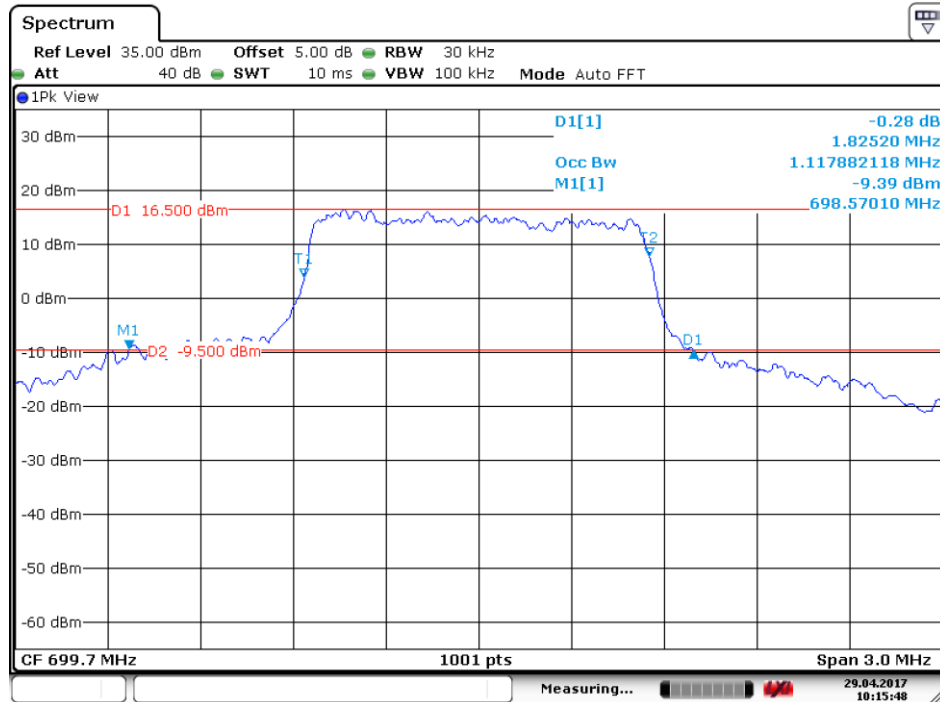
Date: 29.APR.2017 10:15:48

4.1.1.2.2   Test Channel = MCH

Spectrum

Ref Level 35.00 dBm	Offset 5.00 dB	RBW 30 kHz			
Att 40 dB	SWT 10 ms	VBW 100 kHz	Mode Auto FFT		

1Pk View

D1[1]   -0.82 dB
                  1.32770 MHz
Occ Bw   1.102897103 MHz
M1[1]   -9.90 dBm
                  706.84070 MHz

D1 15.930 dBm

D2 -10.070 dBm

CF 707.5 MHz   1001 pts   Span 3.0 MHz

Measuring...   29.04.2017 10:14:34
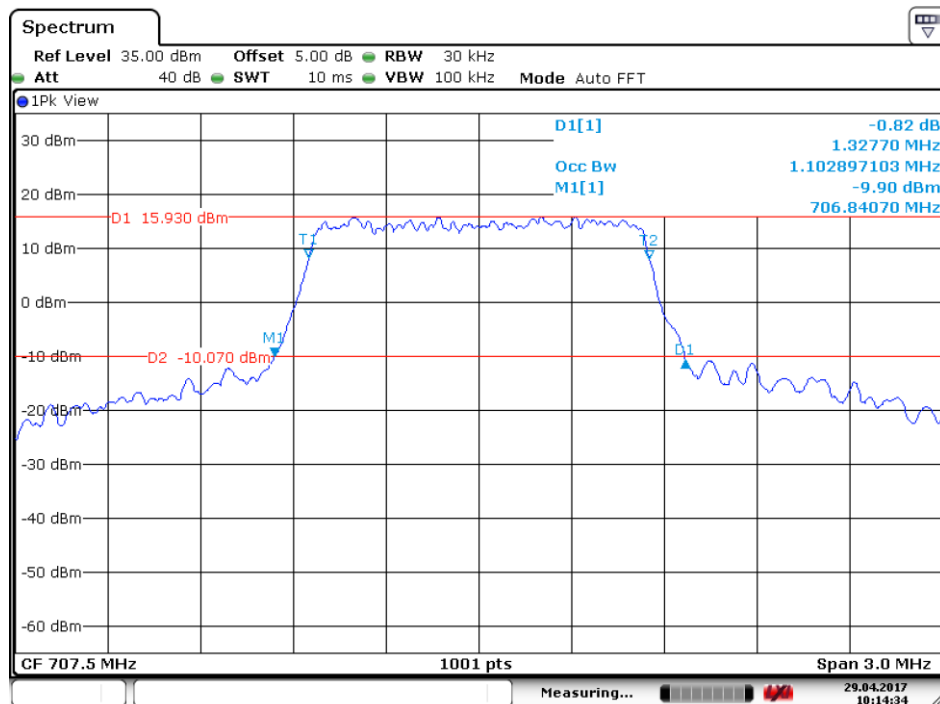
Date: 29.APR.2017 10:14:35

4.1.1.2.3 Test Channel = HCH
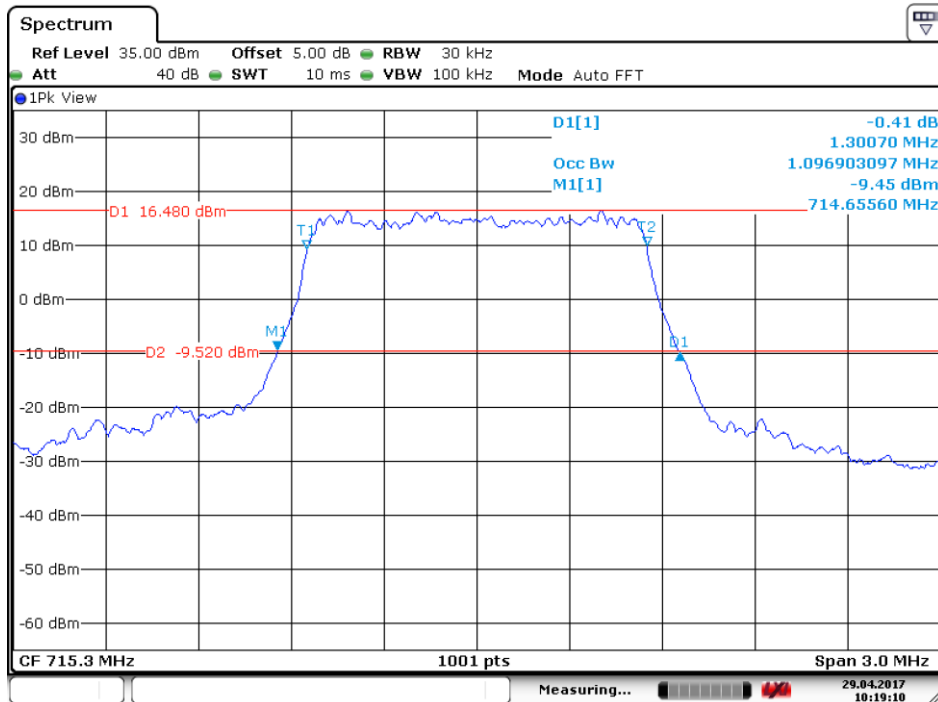
Date: 29.APR.2017 10:19:11

4.1.1.3 Test Mode = LTE/TM1 3MHz

4.1.1.3.1 Test Channel = LCH
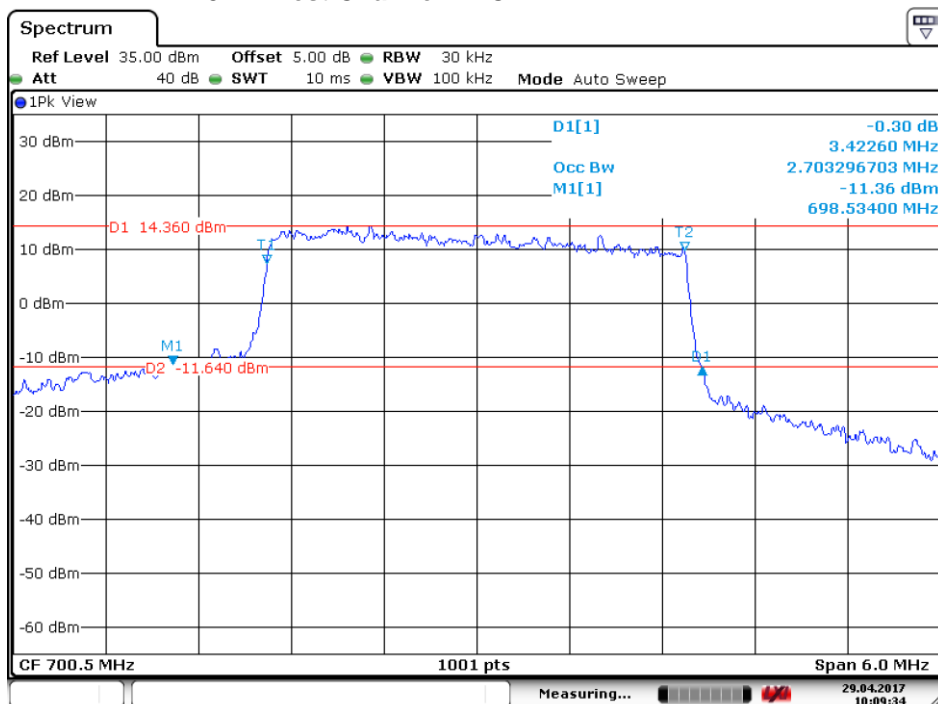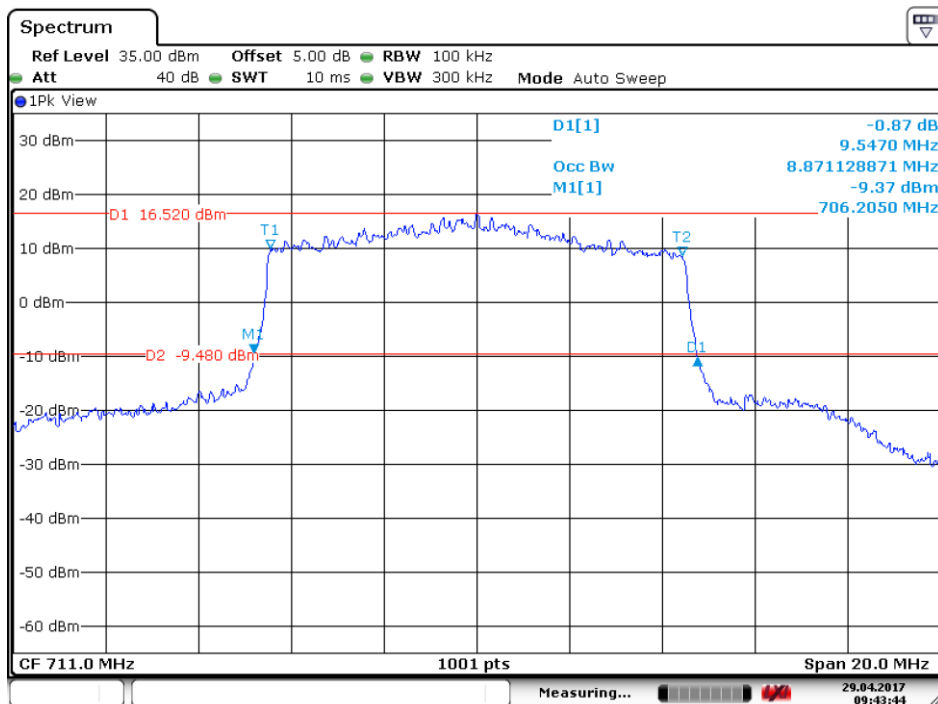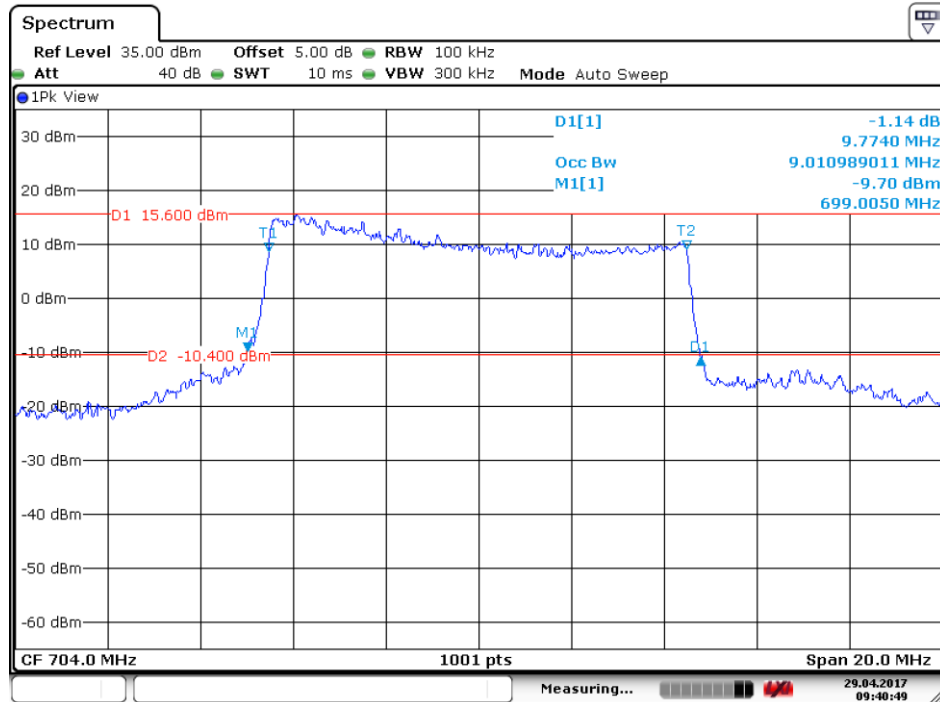

Date: 29.APR.2017 10:09:34

4.1.1.3.2   Test Channel = MCH
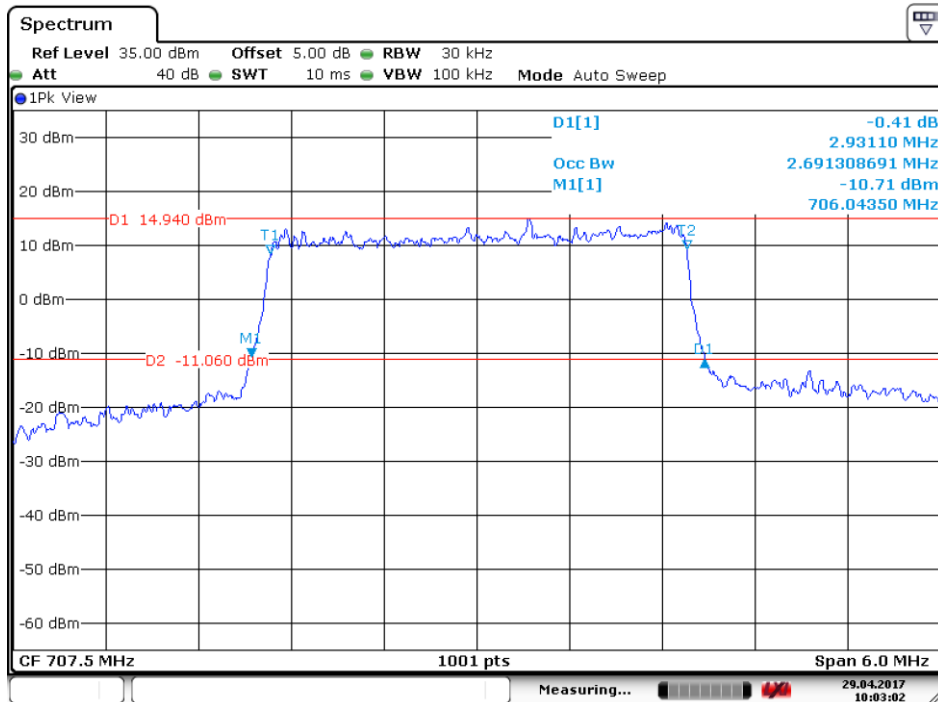
Date: 29.APR.2017 10:03:02

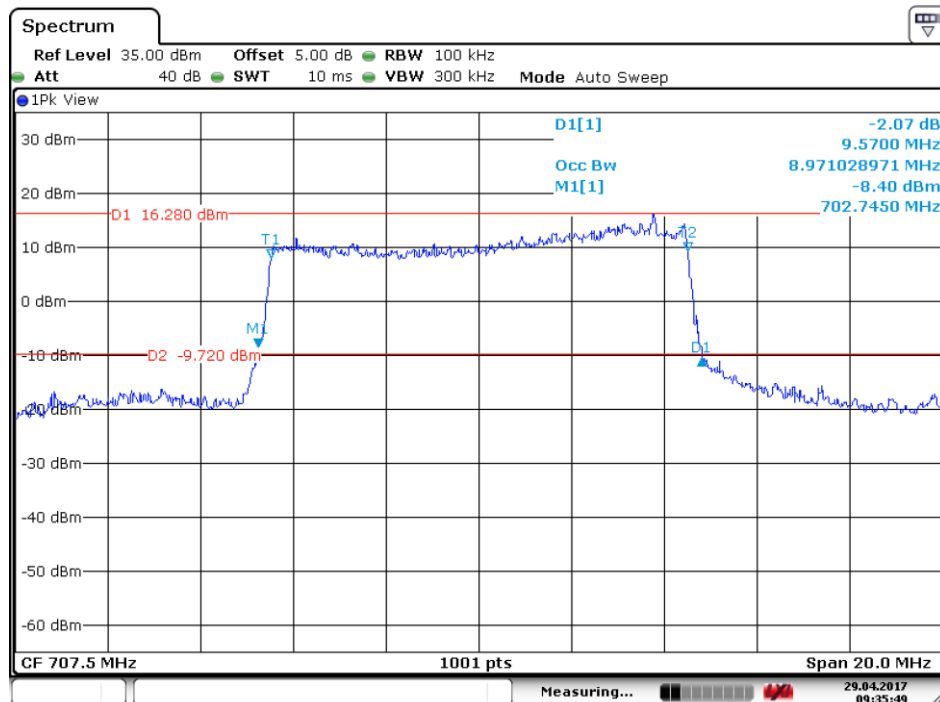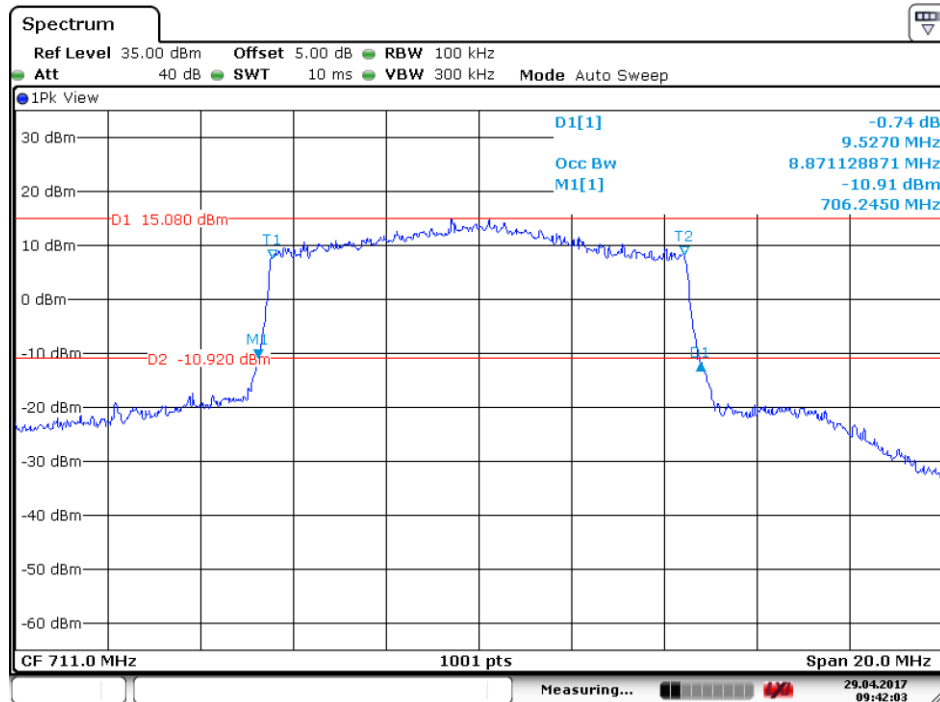### 4.1.1.3.3   Test Channel = HCH
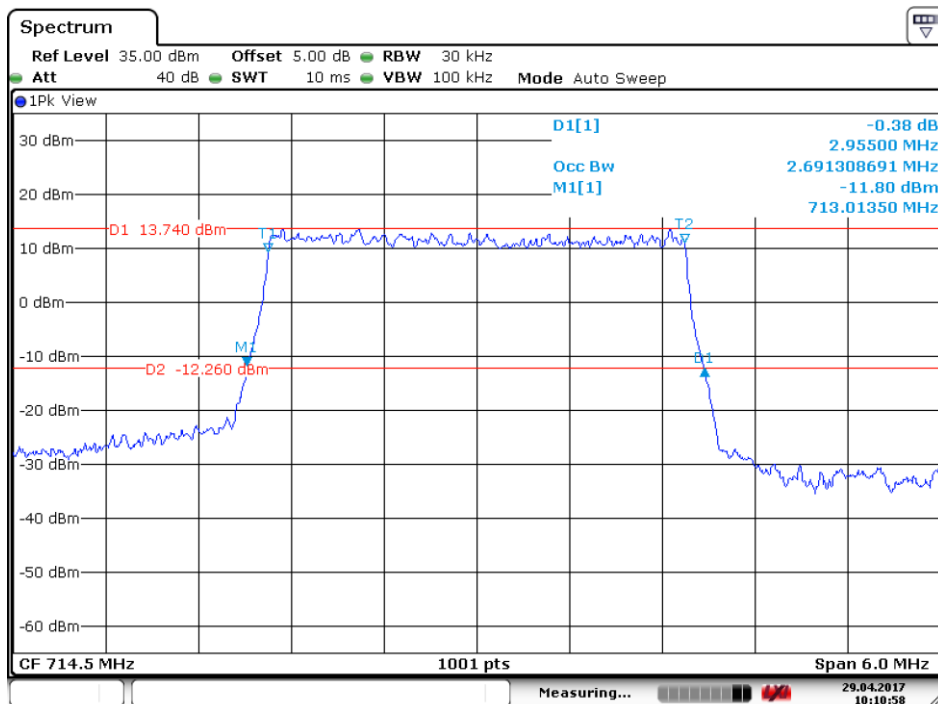
Date: 29.APR.2017 10:10:59

4.1.1.4 Test Mode = LTE/TM2 3MHz

4.1.1.4.1 Test Channel = LCH
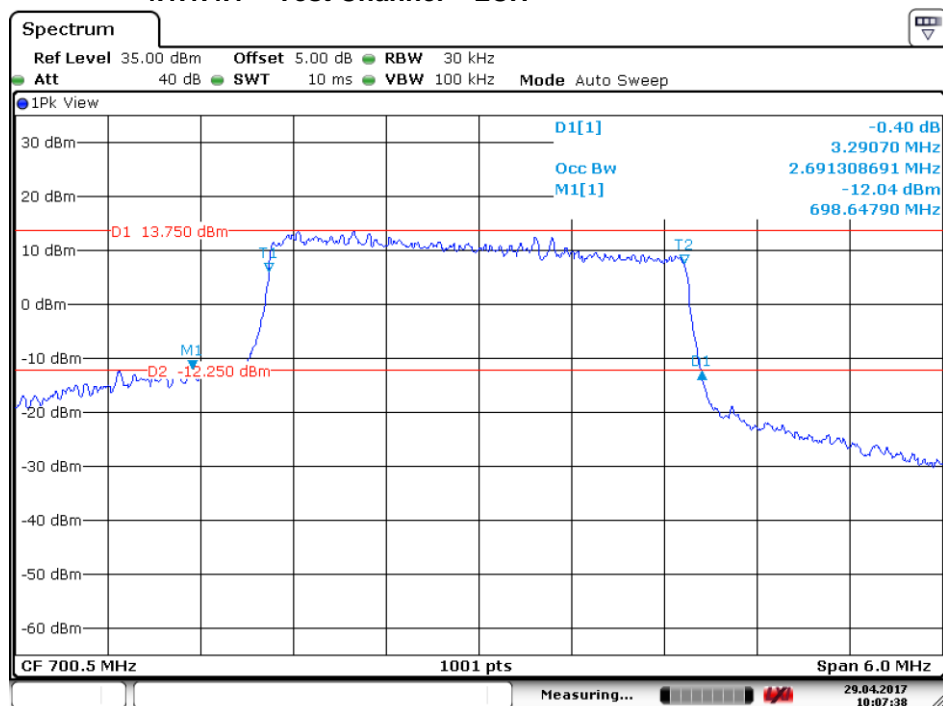
Date: 29.APR.2017 10:07:38

4.1.1.4.2 Test Channel = MCH
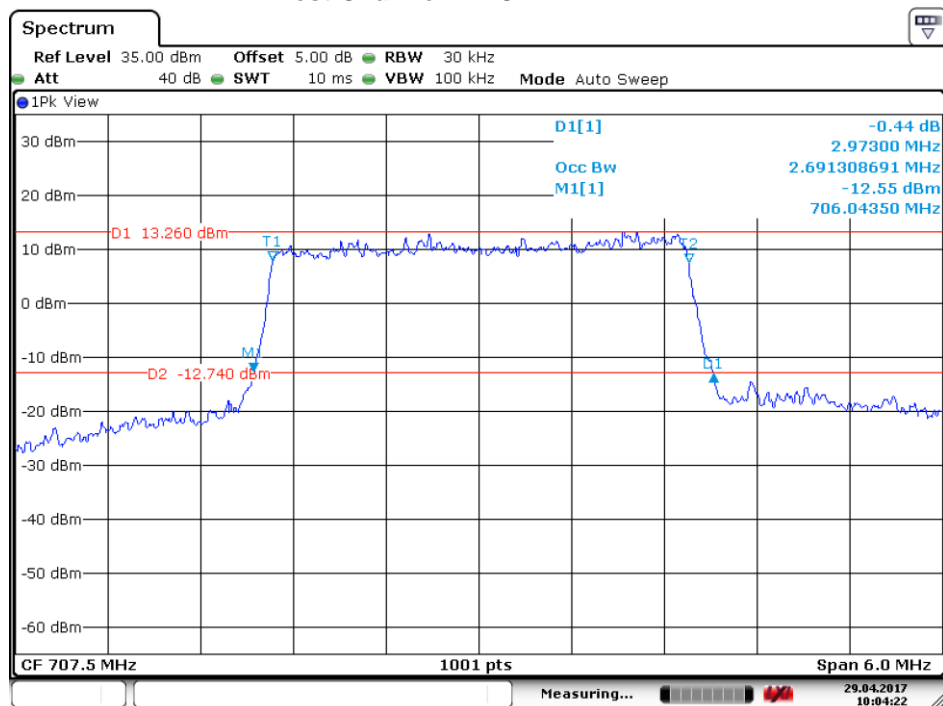
Date: 29.APR.2017 10:04:22

4.1.1.4.3   Test Channel = HCH
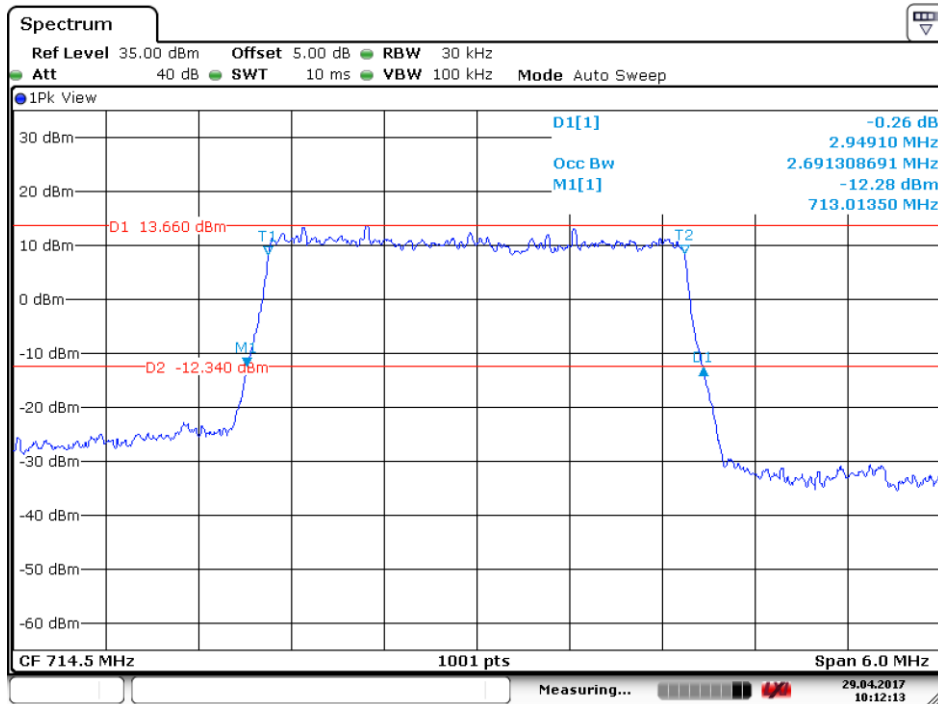
Date: 29.APR.2017 10:12:14

4.1.1.5   Test Mode = LTE/TM1 5MHz

4.1.1.5.1   Test Channel = LCH

Date: 29.APR.2017 09:58:29

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4.1.1.5.2 Test Channel = MCH

Spectrum

Ref Level 35.00 dBm   Offset 5.00 dB ● RBW 50 kHz
● Att   40 dB ● SWT   10 ms ● VBW 200 kHz   Mode Auto Sweep
● 1Pk View

D1[1]   -0.79 dB
                            5.59400 MHz
Occ Bw   4.505494505 MHz
M1[1]   -11.07 dBm
                          705.06200 MHz

D1 14.190 dBm
D2 -11.810 dBm

CF 707.5 MHz   1001 pts   Span 10.0 MHz

Measuring...   29.04.2017 09:45:58
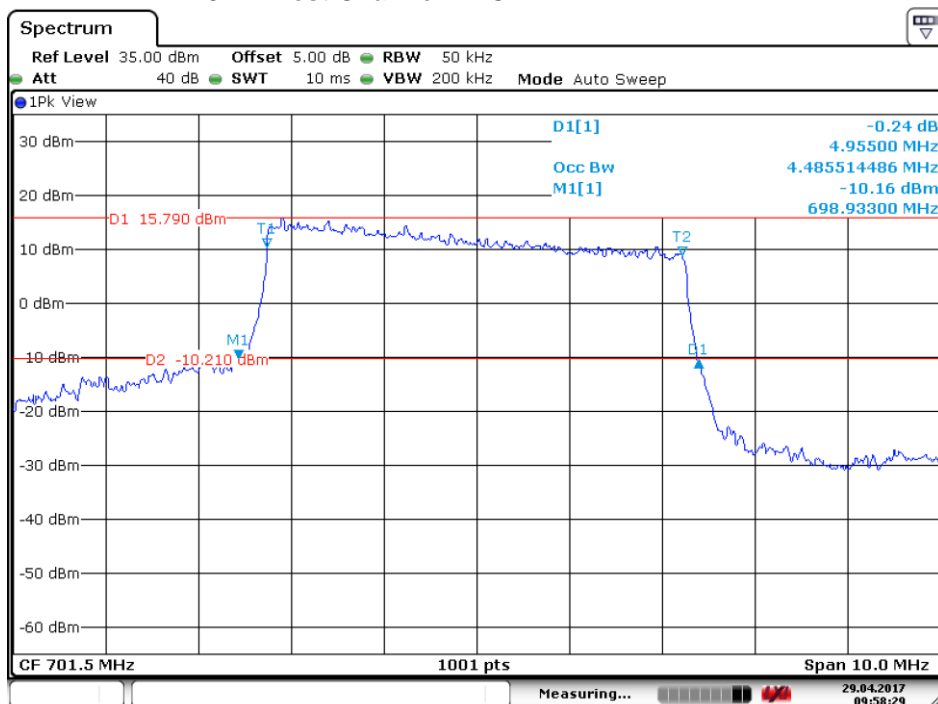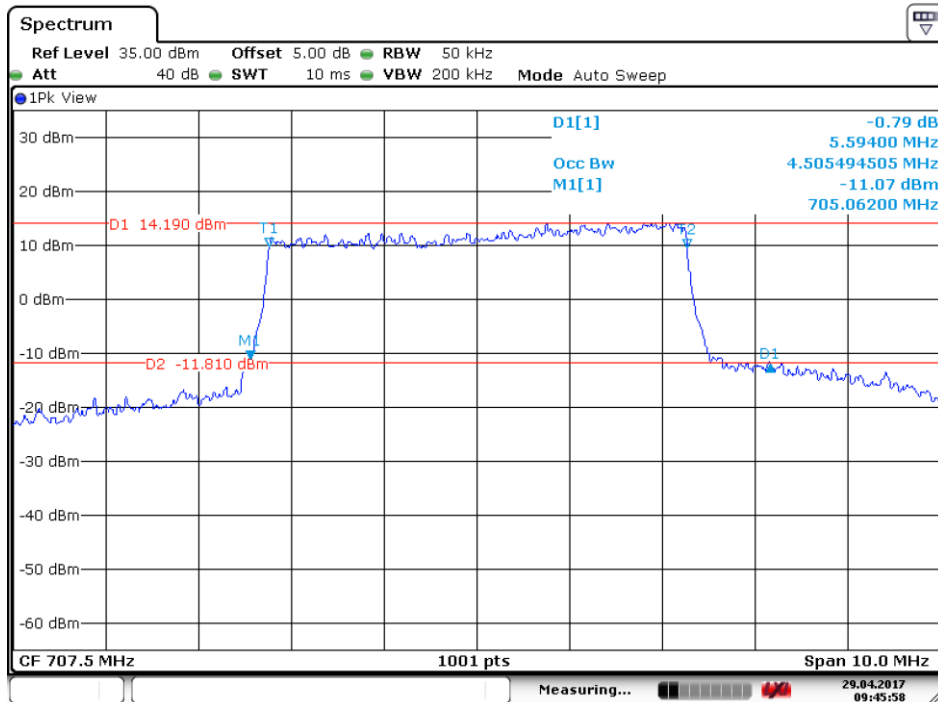
Date: 29.APR.2017 09:45:59

4.1.1.5.3 Test Channel = HCH

Spectrum

Ref Level 35.00 dBm   Offset 5.00 dB ● RBW 50 kHz
● Att   40 dB ● SWT   10 ms ● VBW 200 kHz   Mode Auto Sweep
● 1Pk View

D1[1]   -0.78 dB
                            4.96500 MHz
Occ Bw   4.485514486 MHz
M1[1]   -10.07 dBm
                          710.97300 MHz

D1 15.170 dBm
D2 -10.830 dBm

CF 713.5 MHz   1001 pts   Span 10.0 MHz

Measuring...   29.04.2017 10:00:13

Date: 29.APR.2017 10:00:14

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
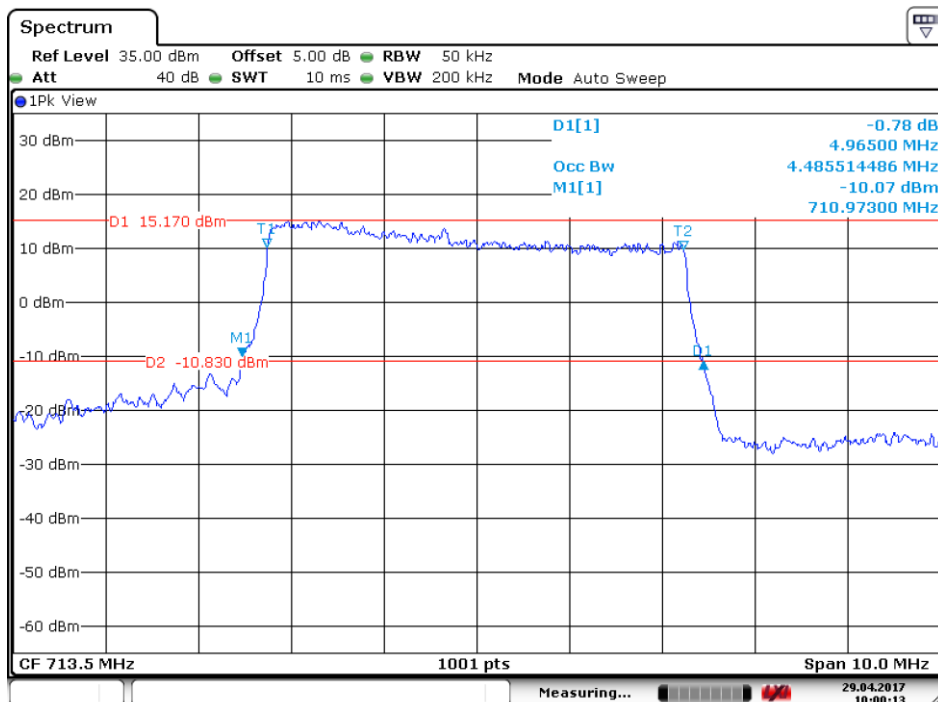
4.1.1.6   Test Mode = LTE/TM2 5MHz

4.1.1.6.1   Test Channel = LCH

Date: 29.APR.2017 09:49:30

4.1.1.6.2   Test Channel = MCH
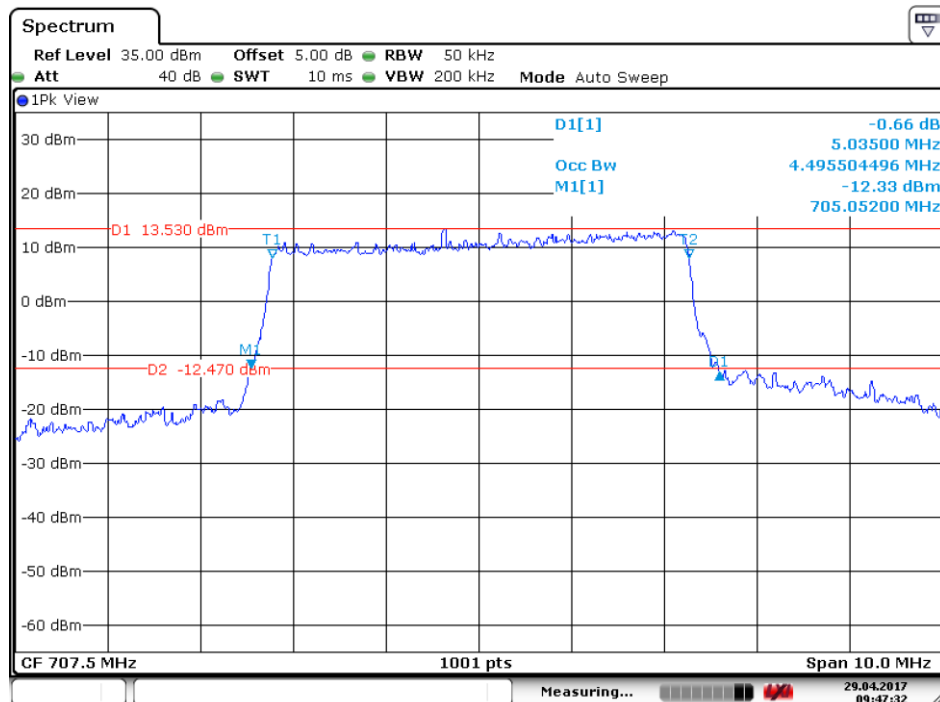
Date: 29.APR.2017 09:47:32

4.1.1.6.3   Test Channel = HCH
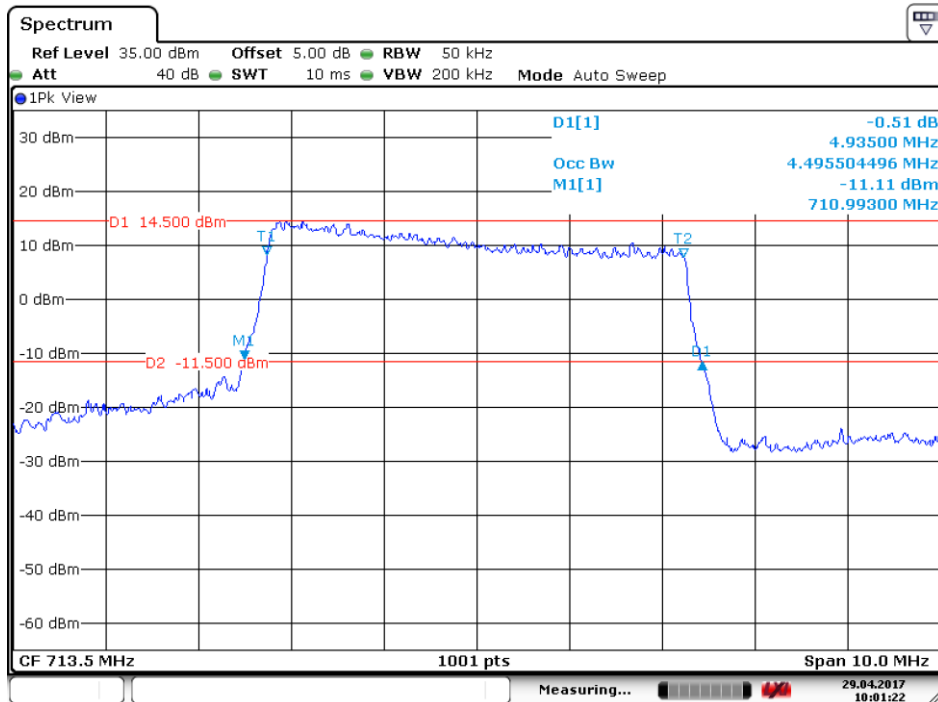
Date: 29.APR.2017 10:01:22

4.1.1.7   Test Mode = LTE/TM1 10MHz

4.1.1.7.1   Test Channel = LCH

Date: 29.APR.2017 09:39:28

4.1.1.7.2   Test Channel = MCH

Date: 29.APR.2017 09:37:30

4.1.1.7.3   Test Channel = HCH

Date: 29.APR.2017 09:43:44

4.1.1.8   Test Mode = LTE/TM2 10MHz

4.1.1.8.1   Test Channel = LCH

Date: 29.APR.2017 09:40:50

4.1.1.8.2   Test Channel = MCH

Date: 29.APR.2017 09:35:50

4.1.1.8.3   Test Channel = HCH

Date: 29.APR.2017 09:42:03

5   Band Edges Compliance

5.1 For LTE

5.1.1 Test Band = LTE band12

5.1.1.1   Test Mode = LTE/TM1 1.4MHz

5.1.1.1.1   Test Channel = LCH

5.1.1.1.1.1 Test RB=1RB

Date: 29.APR.2017 11:26:37

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
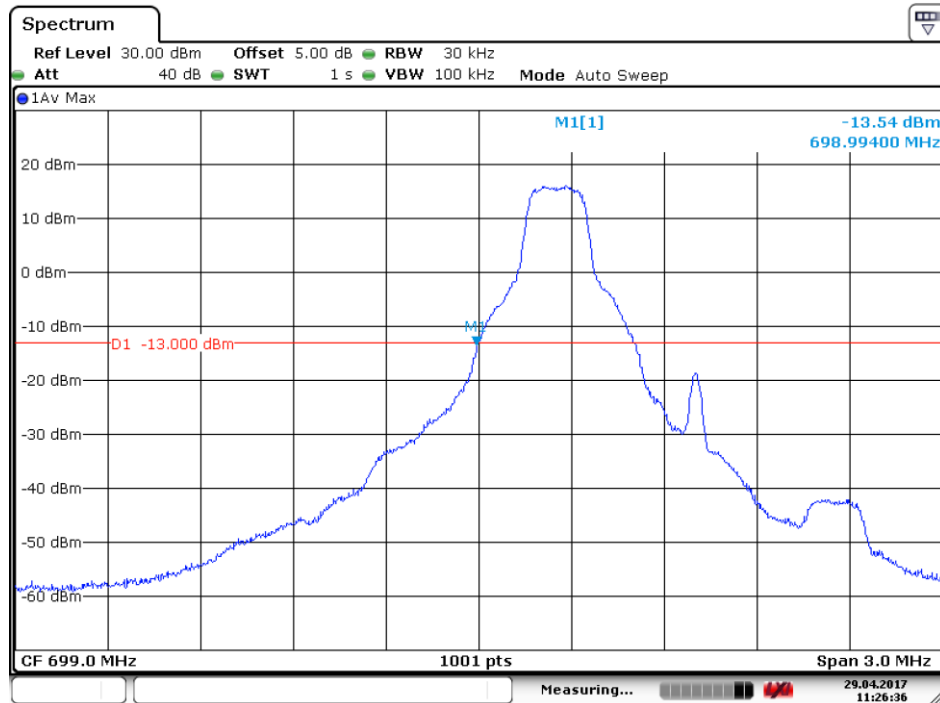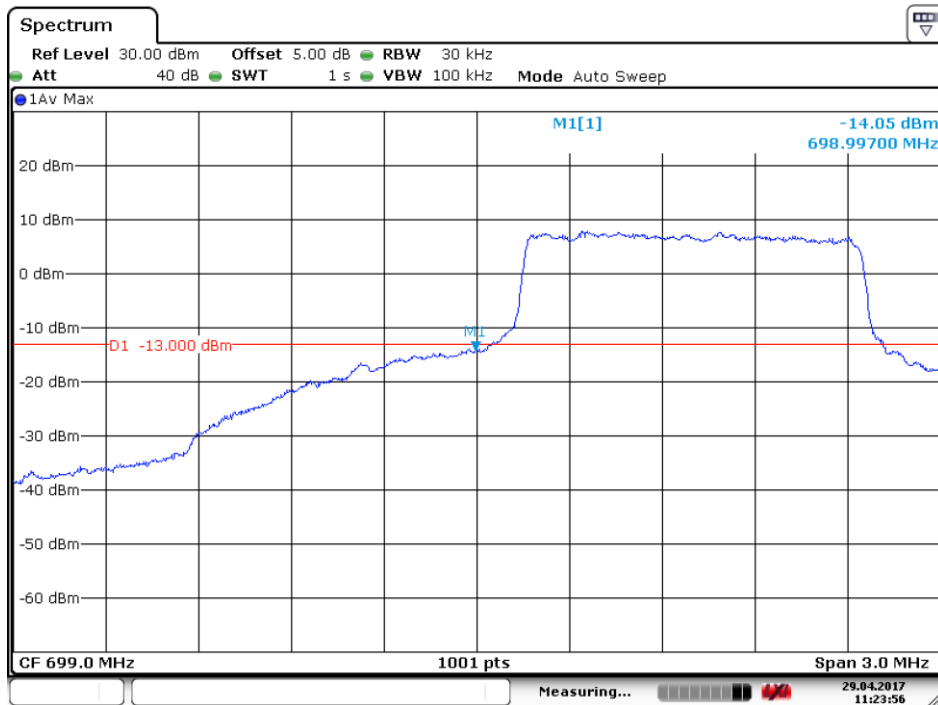
5.1.1.1.1.2 Test RB=6RB

Date: 29.APR.2017 11:23:56

5.1.1.1.2   Test Channel = HCH

5.1.1.1.2.1 Test RB=1RB
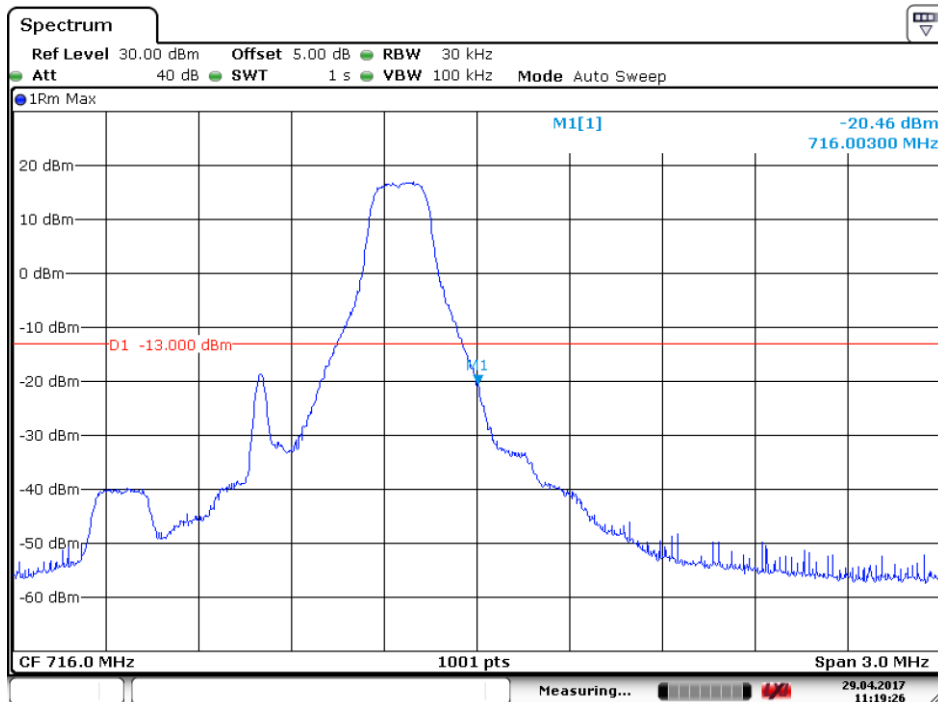
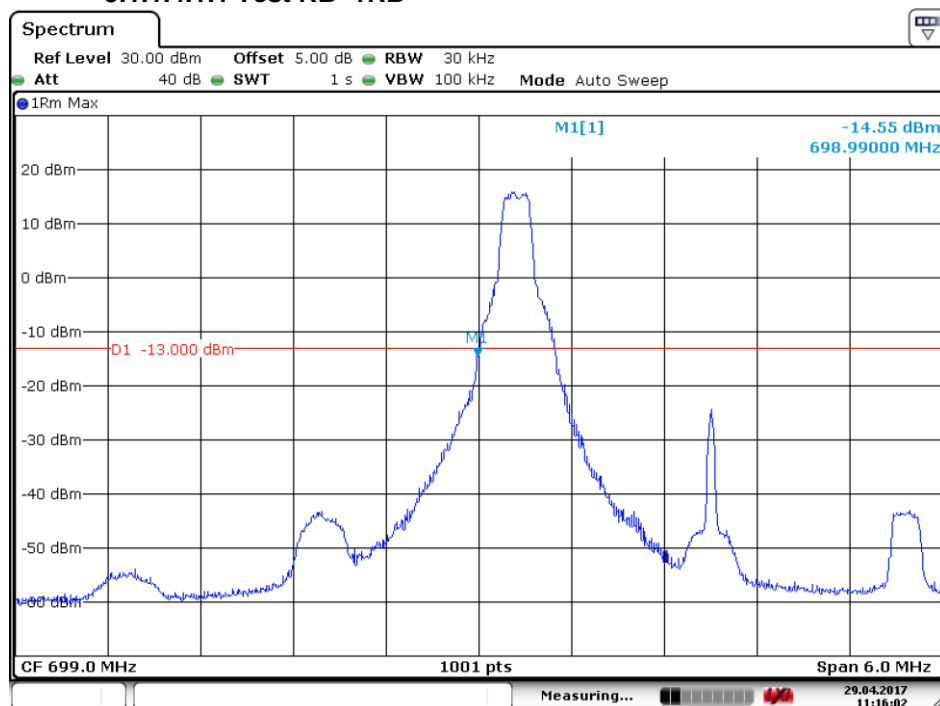Date: 29.APR.2017 11:19:26

5.1.1.1.2.2 Test RB=6RB
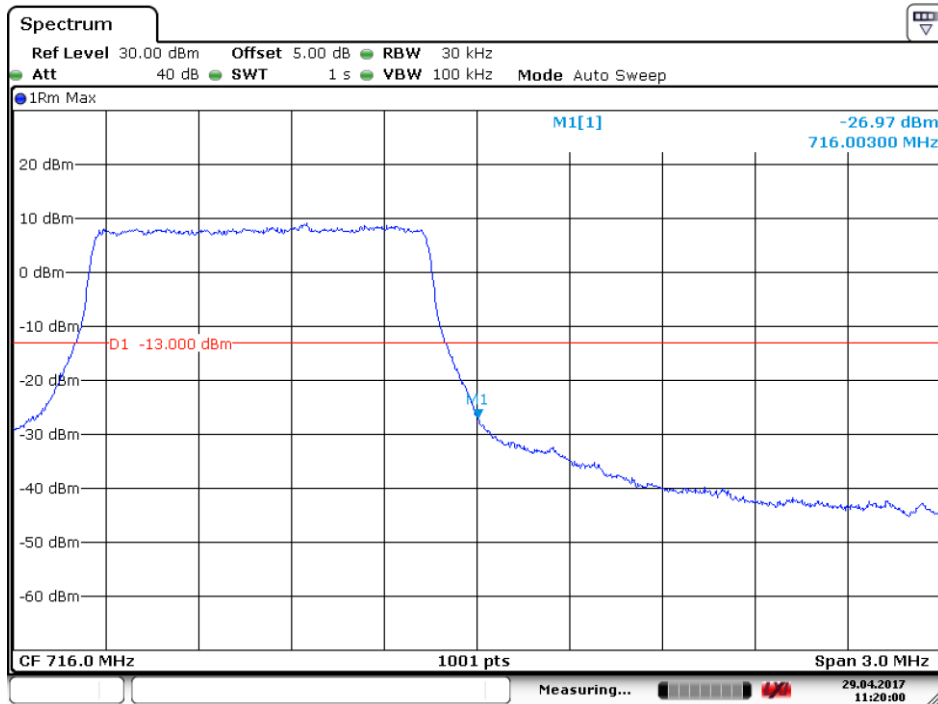
Date: 29.APR.2017 11:20:01

5.1.1.2   Test Mode = LTE/TM2 1.4MHz

5.1.1.2.1   Test Channel = LCH

5.1.1.2.1.1 Test RB=1RB
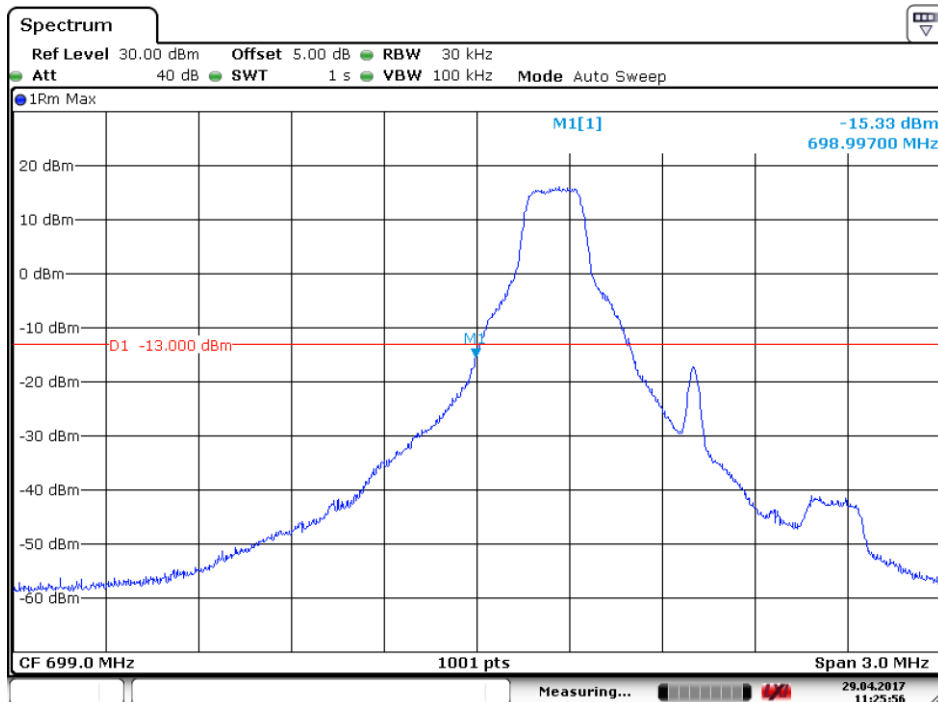
Date: 29.APR.2017 11:25:56

5.1.1.2.1.2 Test RB=6RB
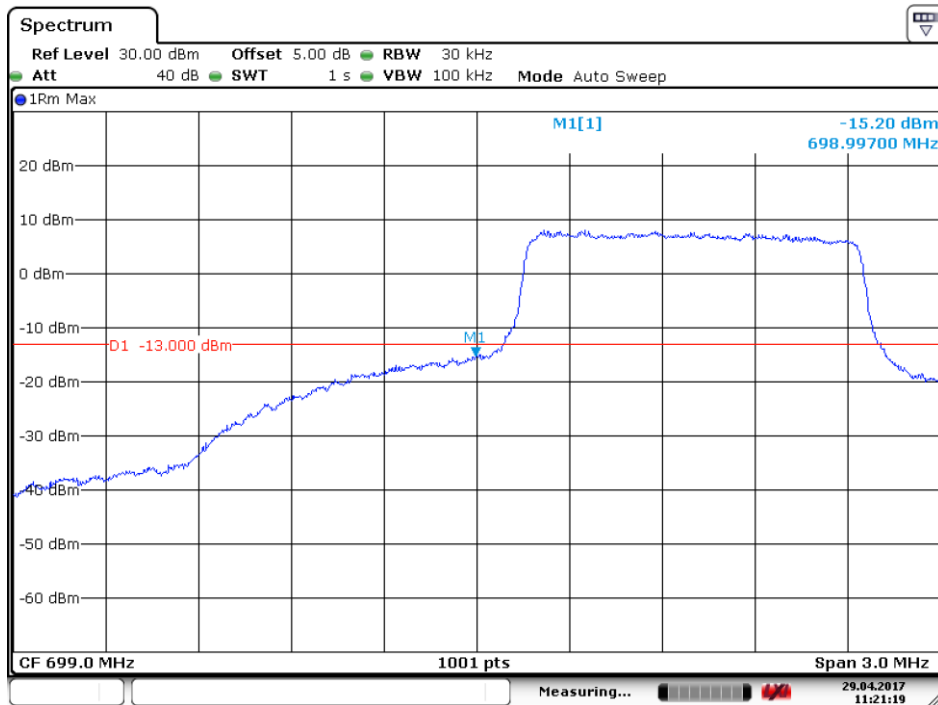
Date: 29.APR.2017 11:21:20

5.1.1.2.2   Test Channel = HCH

5.1.1.2.2.1 Test RB=1RB
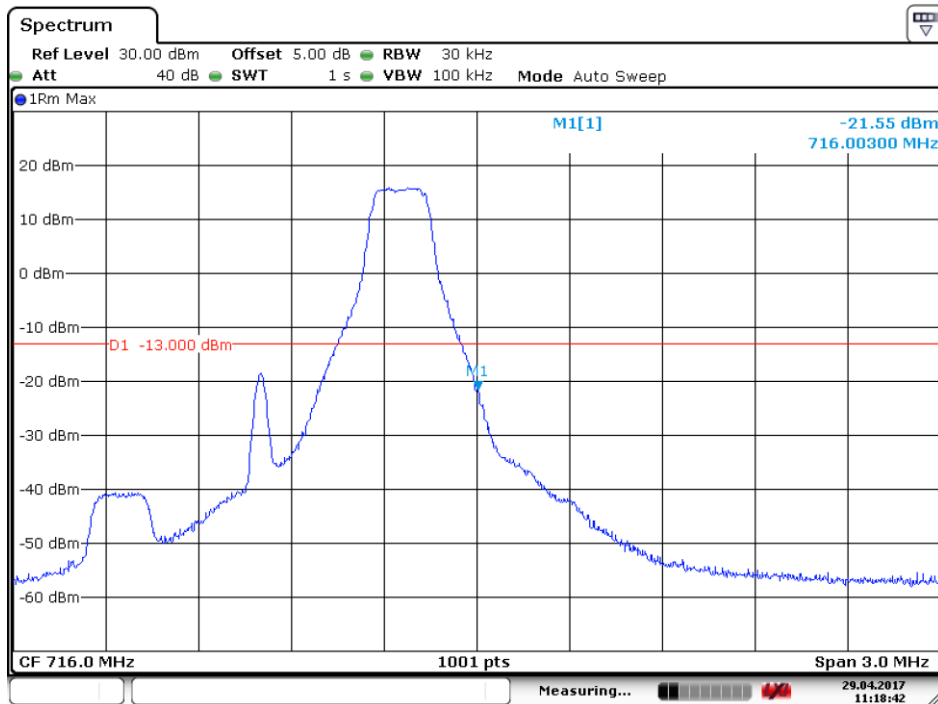
Date: 29.APR.2017 11:18:42

5.1.1.2.2.2 Test RB=6RB
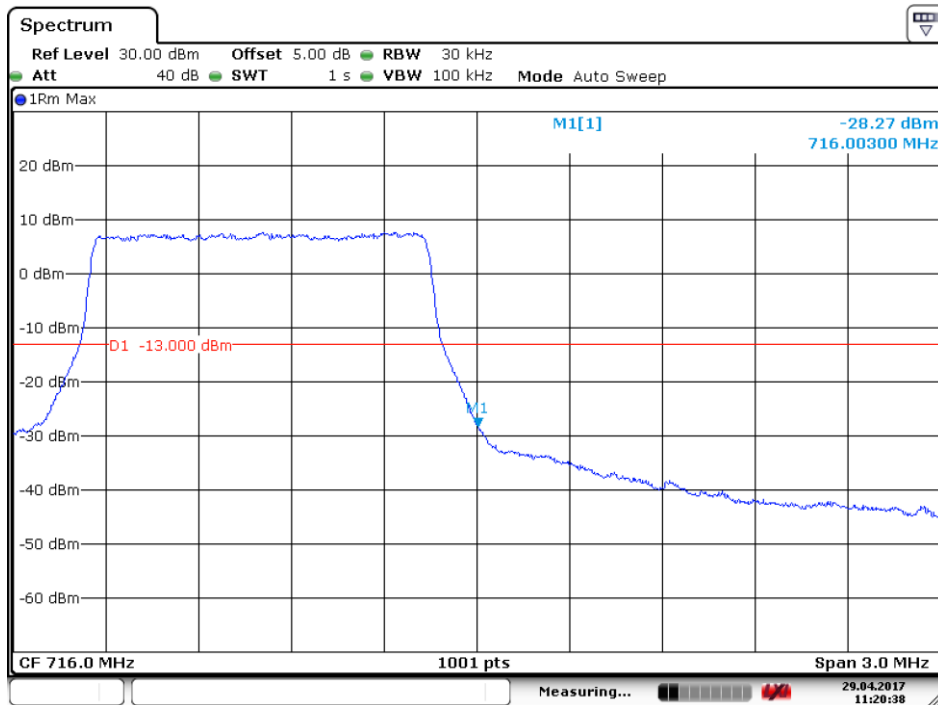
Date: 29.APR.2017 11:20:38

5.1.1.3 Test Mode = LTE/TM1 3MHz

5.1.1.3.1 Test Channel = LCH
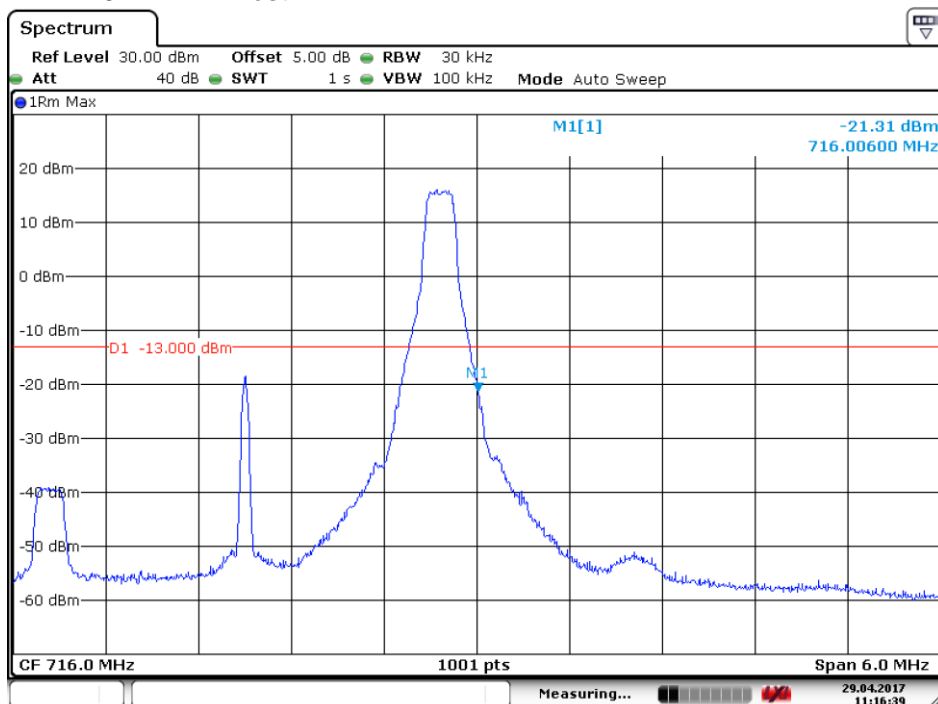
5.1.1.3.1.1 Test RB=1RB
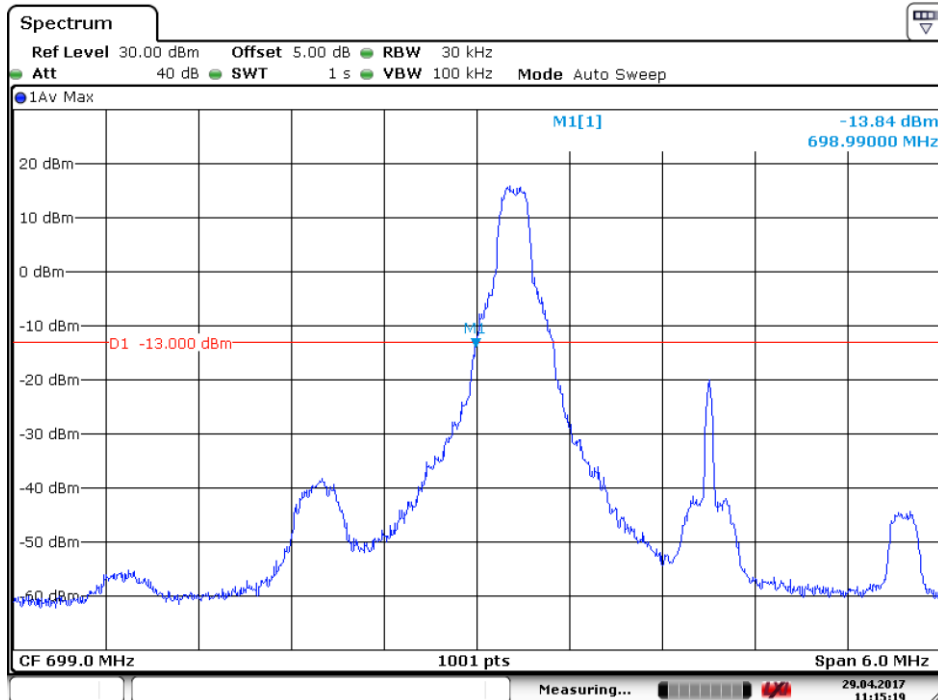
Date: 29.APR.2017 11:15:19

5.1.1.3.1.2 Test RB=15RB
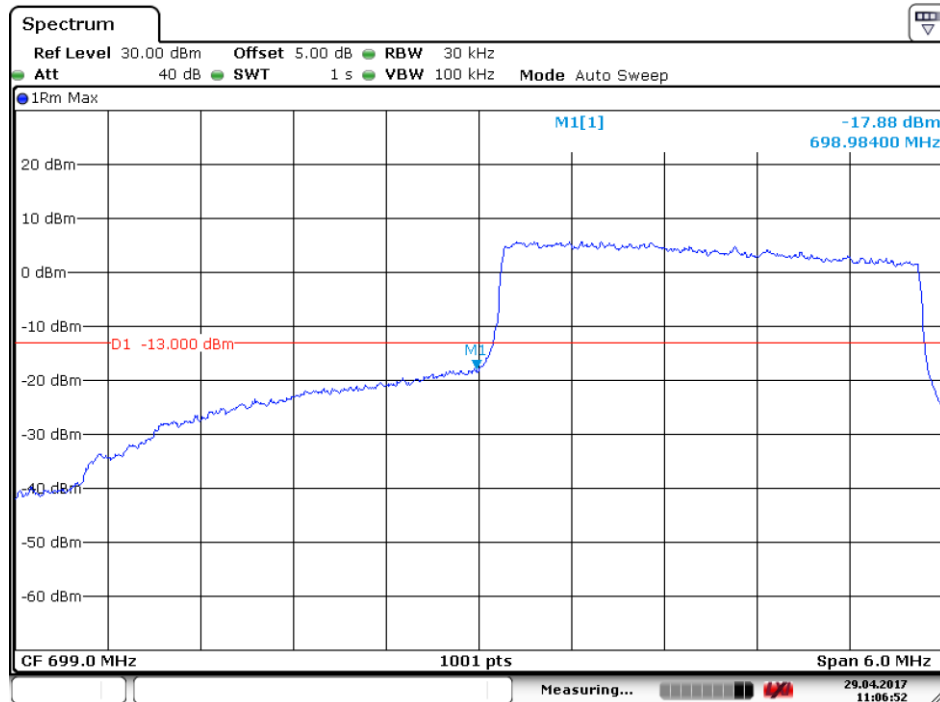
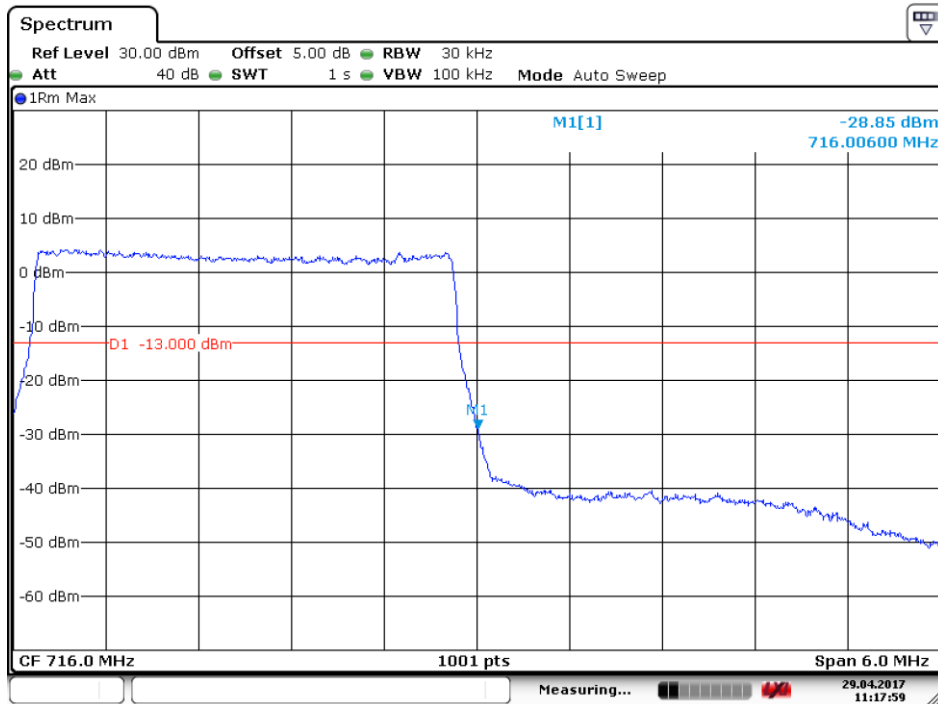Date: 29.APR.2017 11:06:53

5.1.1.3.2　　Test Channel = HCH

5.1.1.3.2.1 Test RB=1RB
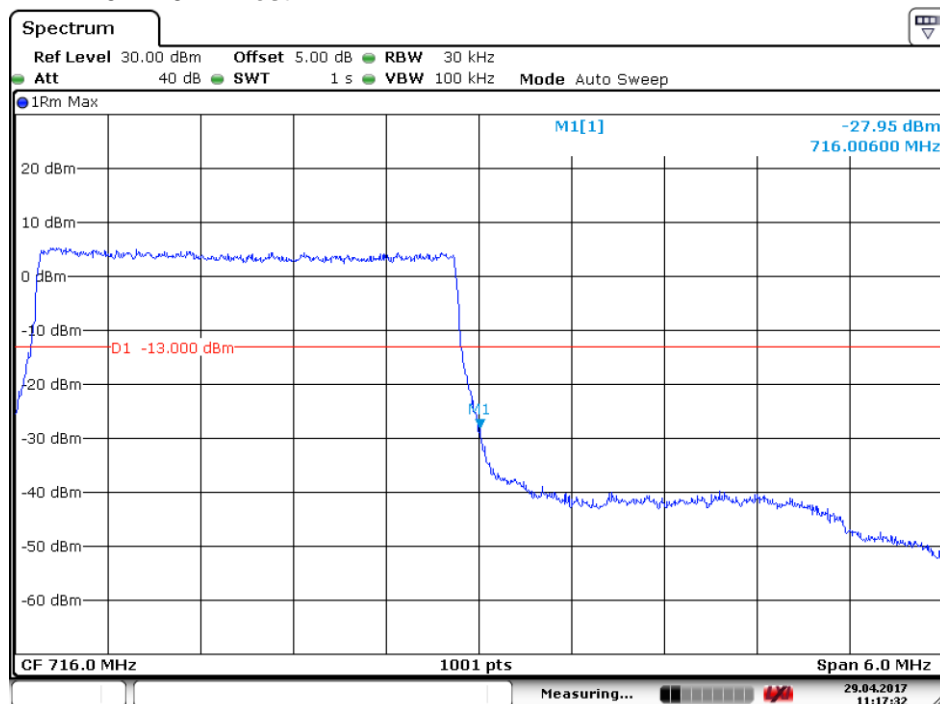
Date: 29.APR.2017 11:17:32

5.1.1.3.2.2 Test RB=15RB
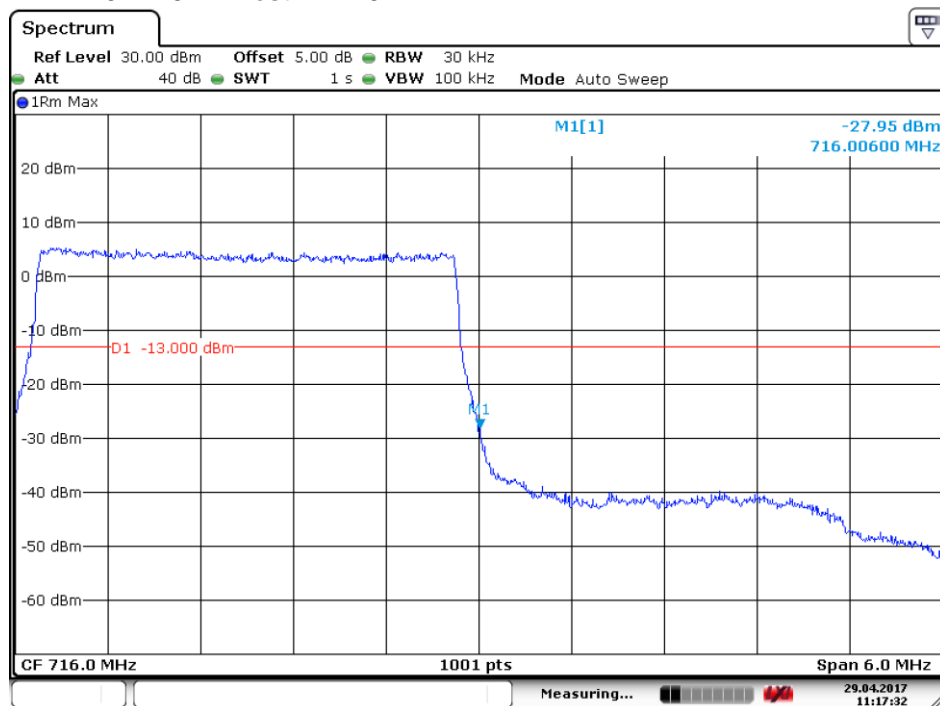
Date: 29.APR.2017 11:17:32

5.1.1.4 Test Mode = LTE/TM2 3MHz

5.1.1.4.1 Test Channel = LCH

5.1.1.4.1.1 Test RB=1RB

Date: 29.APR.2017 11:16:02

5.1.1.4.1.2 Test RB=15RB
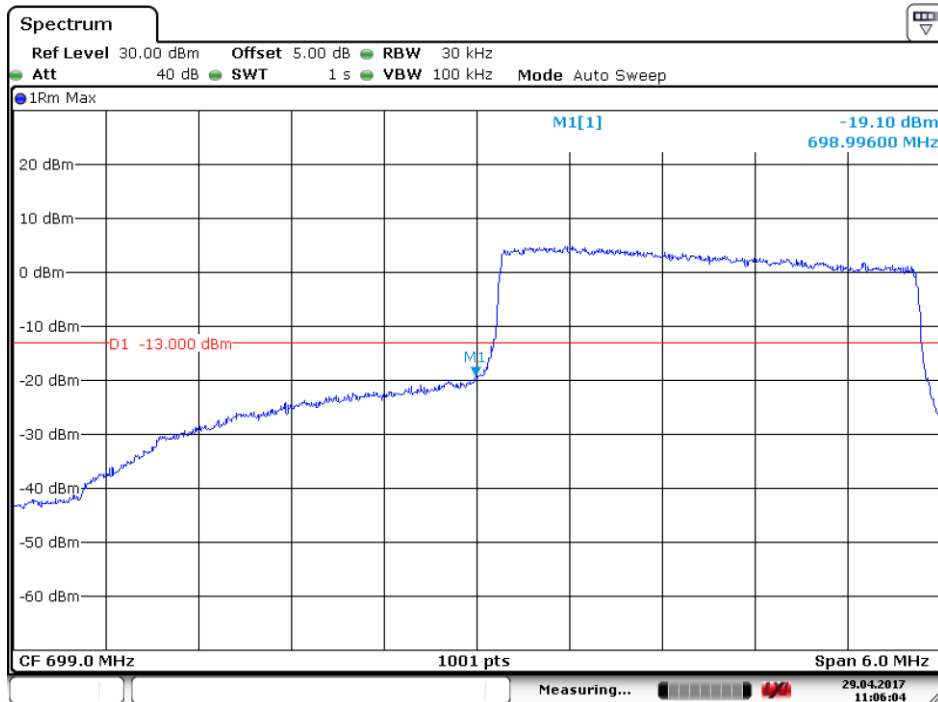
Date: 29.APR.2017 11:06:05

5.1.1.4.2   Test Channel = HCH

5.1.1.4.2.1 Test RB=1RB

Date: 29.APR.2017 11:16:39

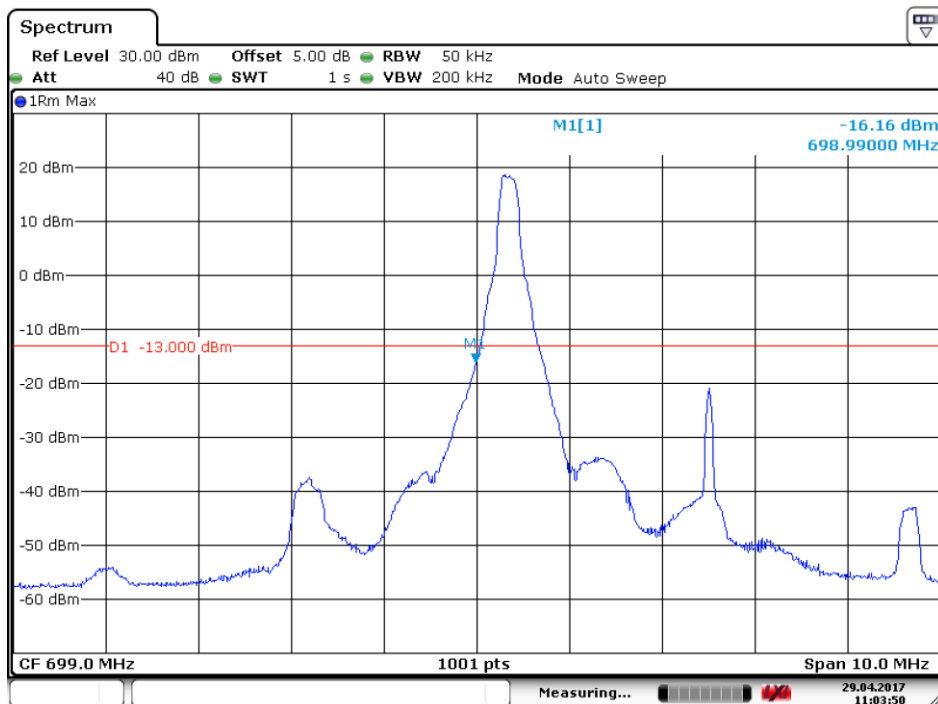### 5.1.1.4.3   Test RB=15RB

Date: 29.APR.2017 11:17:59

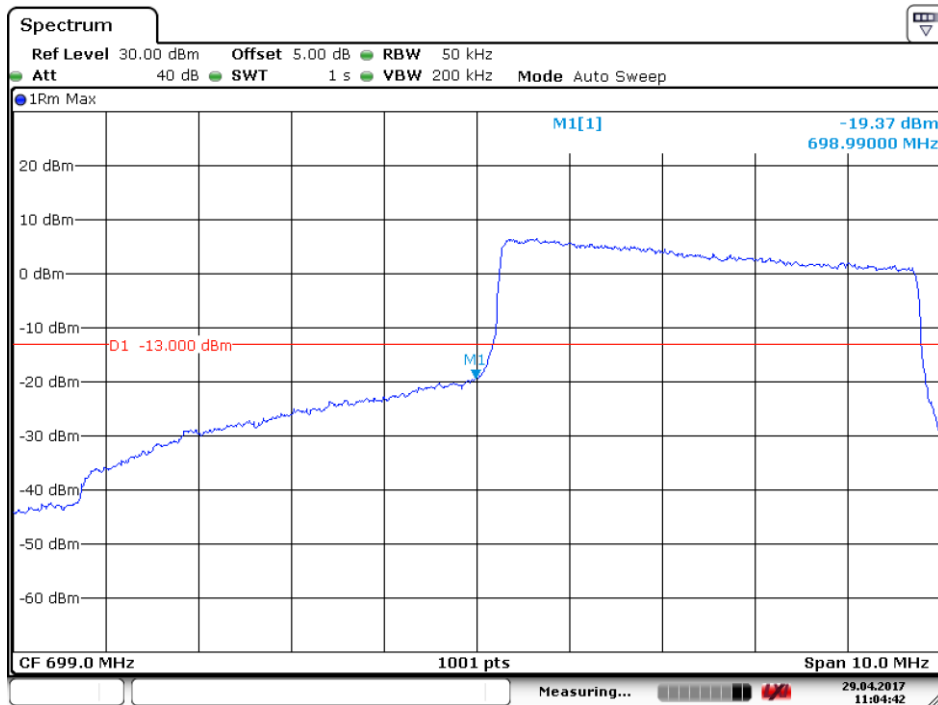## 5.1.1.5   Test Mode = LTE/TM1 5MHz

5.1.1.5.1   Test Channel = LCH

5.1.1.5.1.1 Test RB=1RB

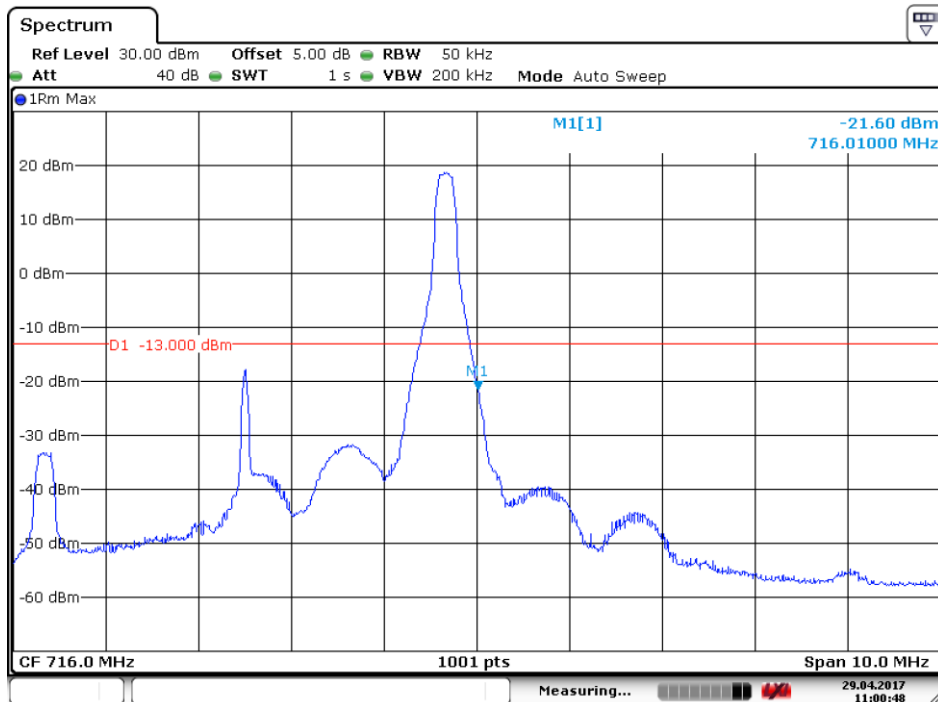
Date: 29.APR.2017 11:03:50

5.1.1.5.1.2 Test RB=25RB

Date: 29.APR.2017 11:04:42
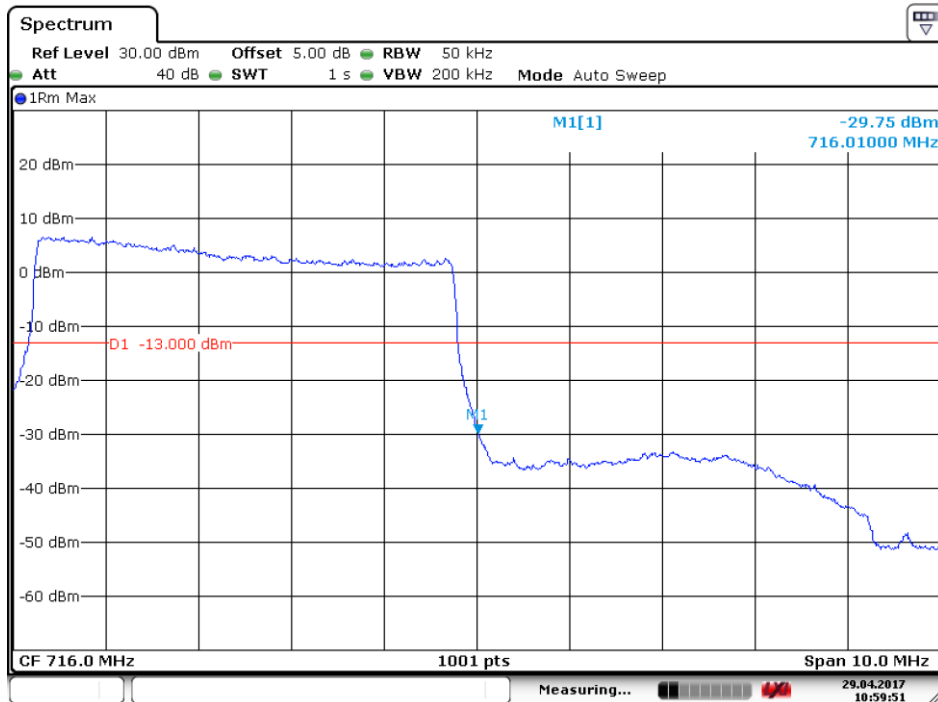
5.1.1.5.2   Test Channel = HCH

5.1.1.5.2.1 Test RB=1RB

Date: 29.APR.2017 11:00:49

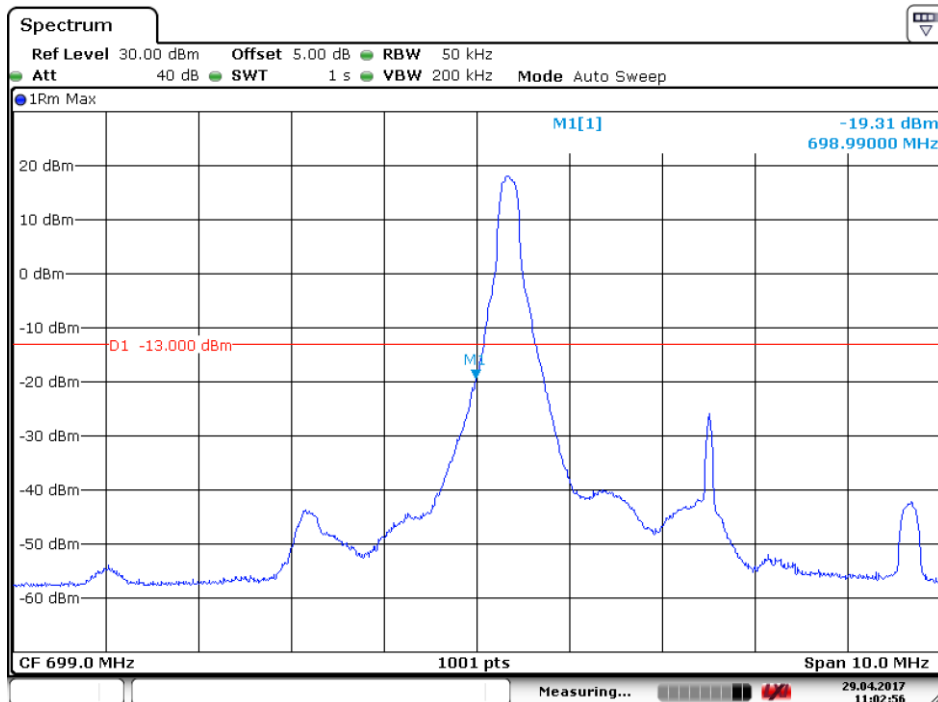### 5.1.1.5.2.2 Test RB=25RB

Date: 29.APR.2017 10:59:51

5.1.1.6   Test Mode = LTE/TM2 5MHz

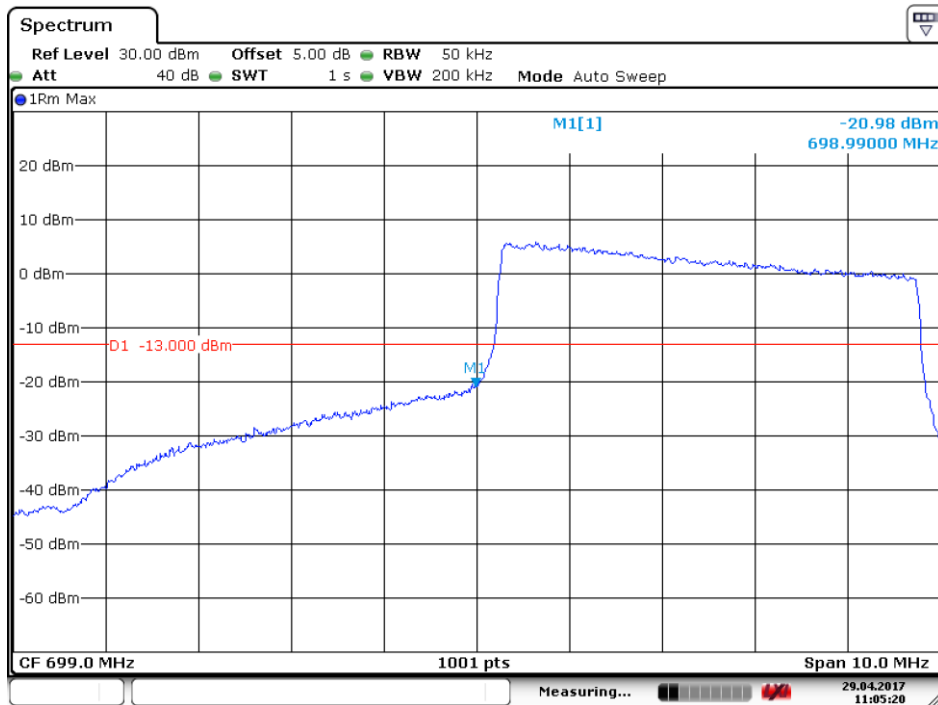### 5.1.1.6.1   Test Channel = LCH

5.1.1.6.1.1 Test RB=1RB

Date: 29.APR.2017 11:02:57

5.1.1.6.1.2 Test RB=25RB

Date: 29.APR.2017 11:05:20

5.1.1.6.2 Test Channel = HCH

5.1.1.6.2.1 Test RB=1RB

Date: 29.APR.2017 11:01:40

5.1.1.6.2.2 Test RB=25RB

Date: 29.APR.2017 10:59:11

5.1.1.7   Test Mode = LTE/TM1 10MHz

5.1.1.7.1   Test Channel = LCH

5.1.1.7.1.1 Test RB=1RB
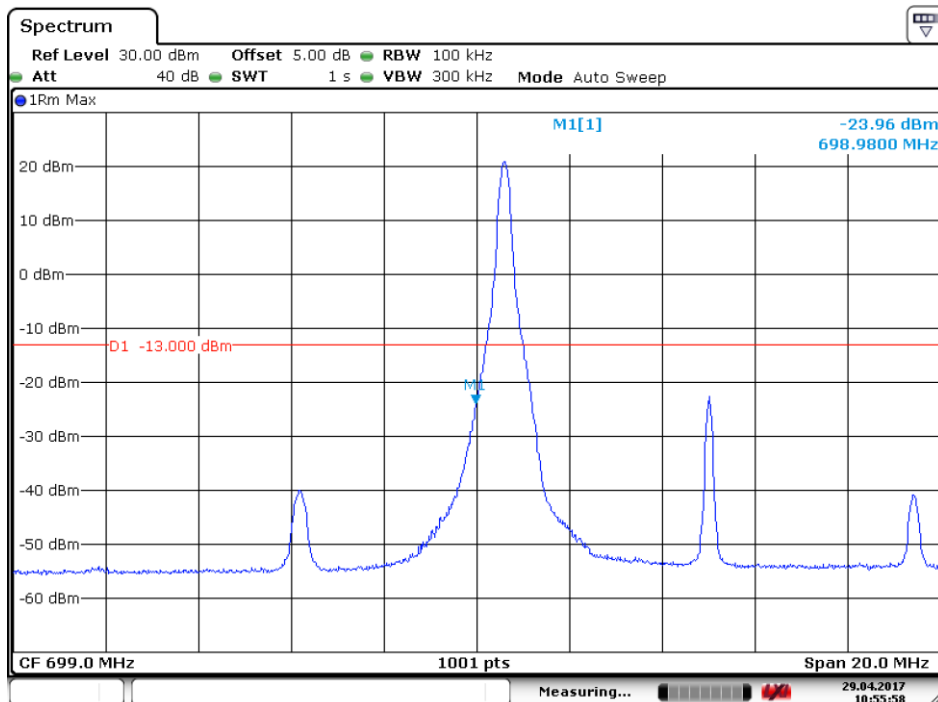
Date: 29.APR.2017 10:55:59

5.1.1.7.1.2 Test RB=50RB

Date: 29.APR.2017 10:53:06

5.1.1.7.2   Test Channel = HCH

5.1.1.7.2.1 Test RB=1RB

Date: 29.APR.2017 10:56:43

5.1.1.7.2.2 Test RB=50RB
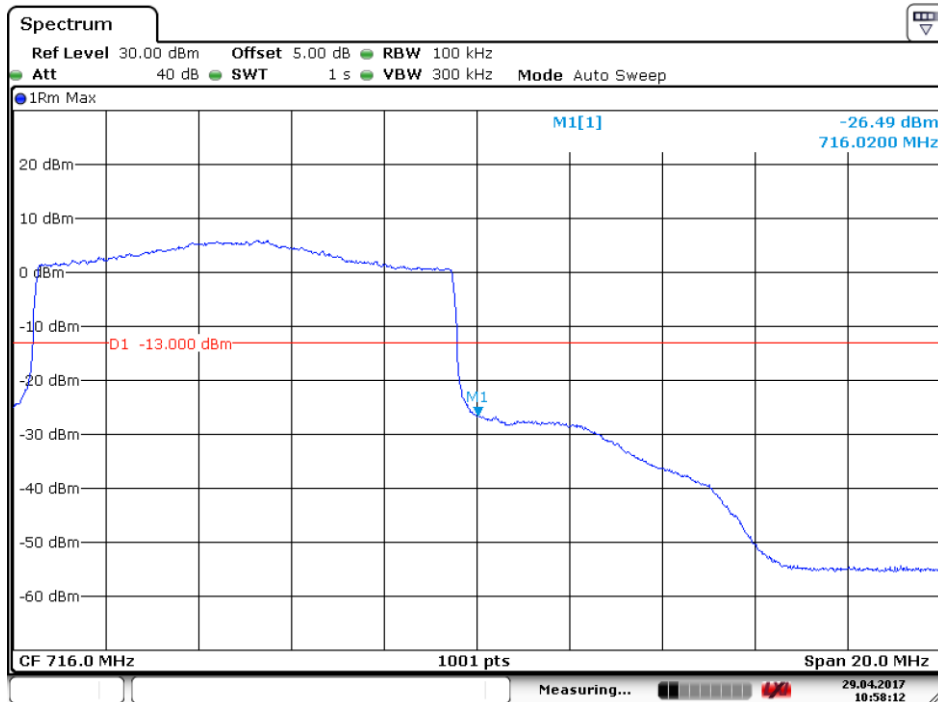
Date: 29.APR.2017 10:58:12

5.1.1.8   Test Mode = LTE/TM2 10MHz

5.1.1.8.1   Test Channel = LCH
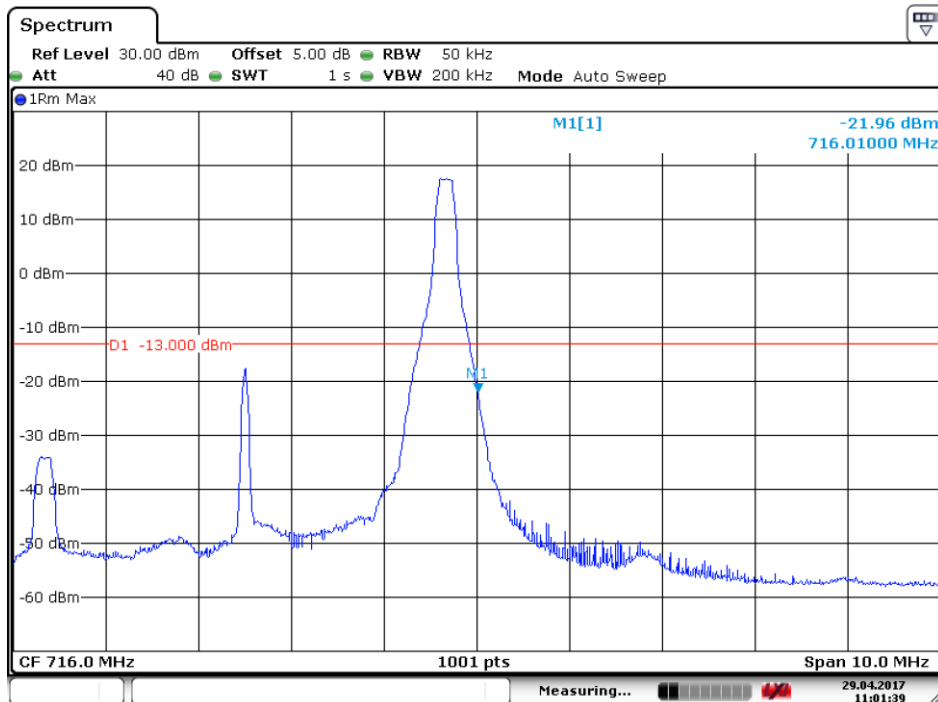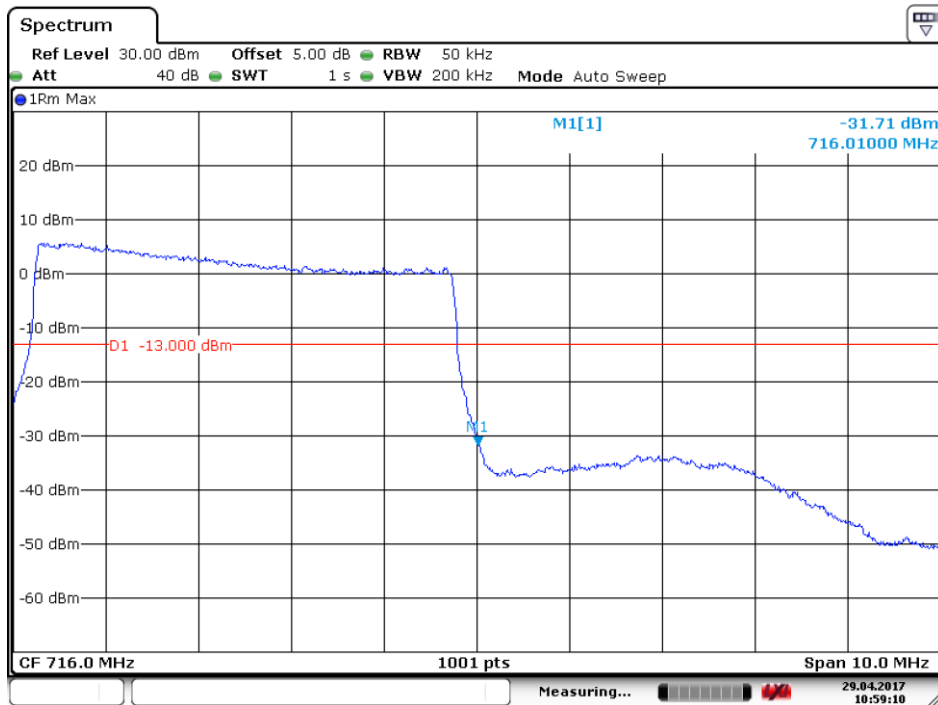
5.1.1.8.1.1 Test RB=1RB
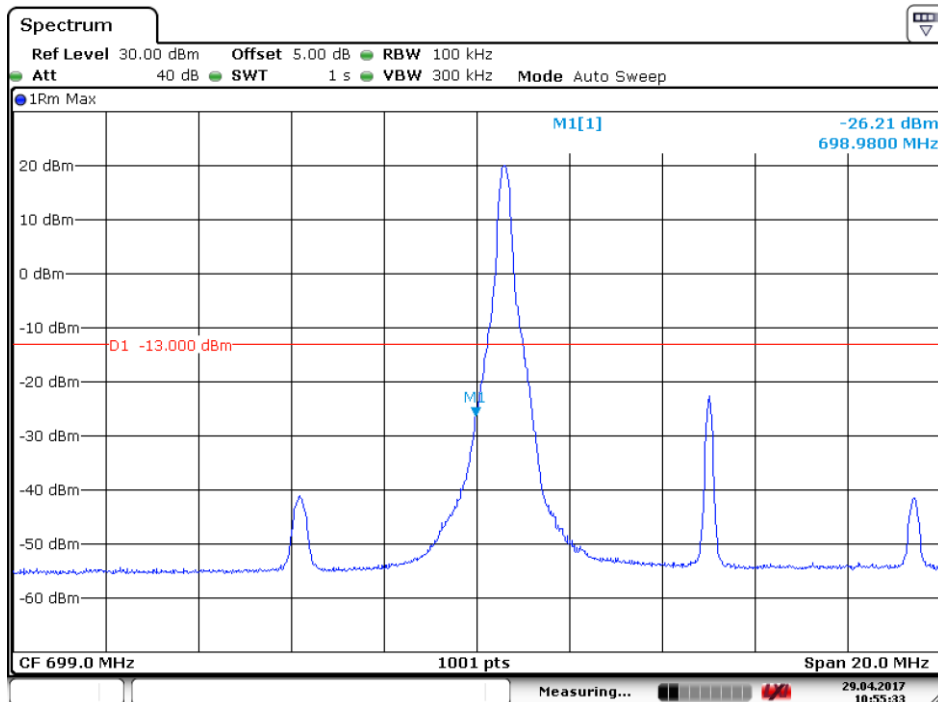
Date: 29.APR.2017 10:55:33

5.1.1.8.1.2 Test RB=50RB
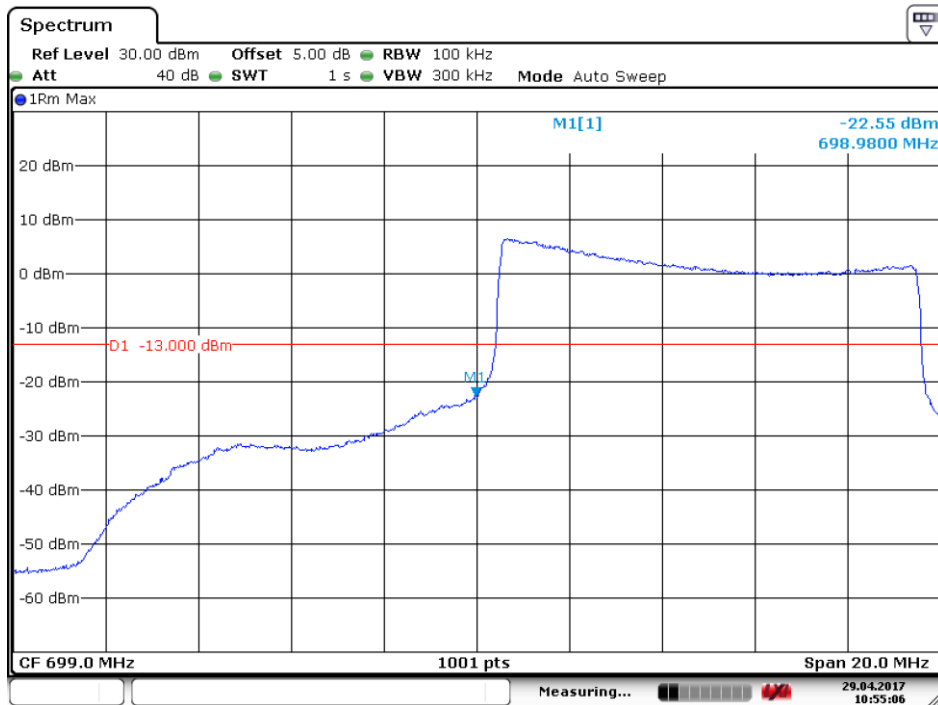
Date: 29.APR.2017 10:55:07

5.1.1.8.2 Test Channel = HCH
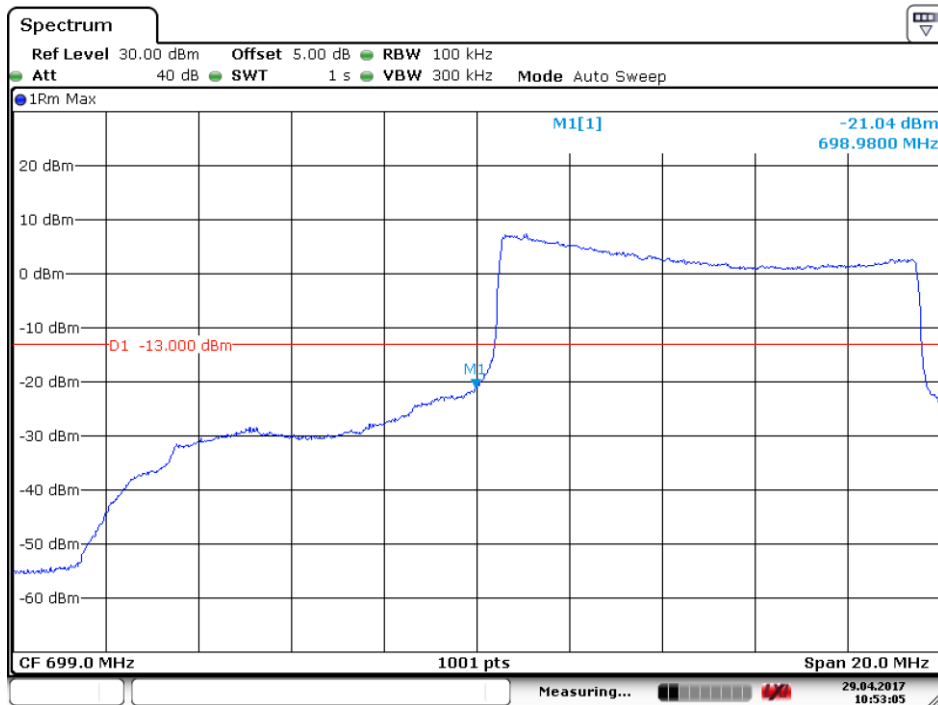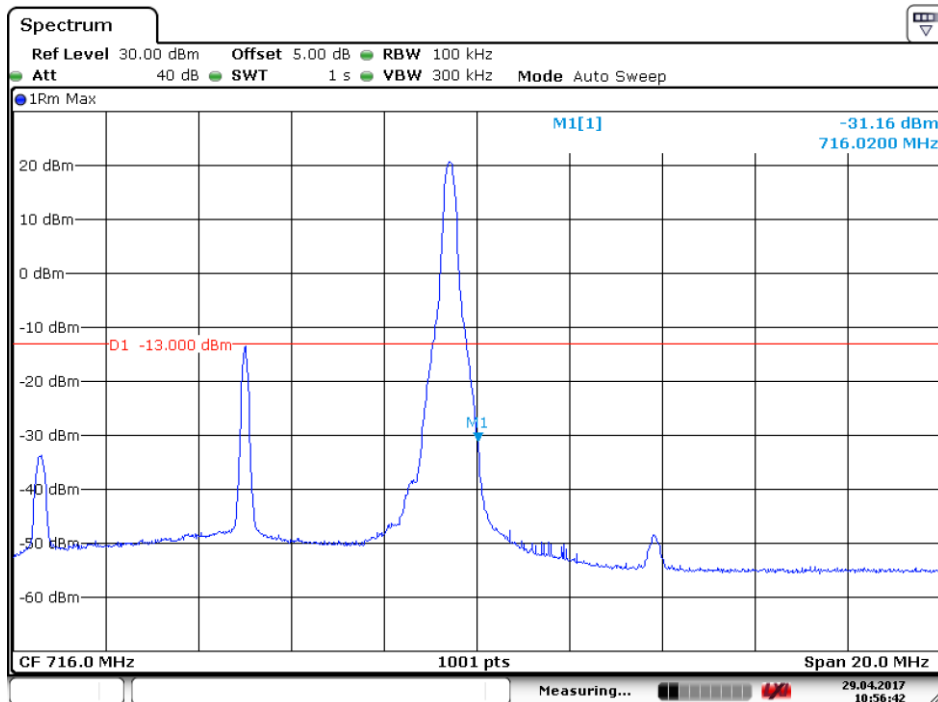
5.1.1.8.2.1 Test RB=1RB

Date: 29.APR.2017 10:57:06

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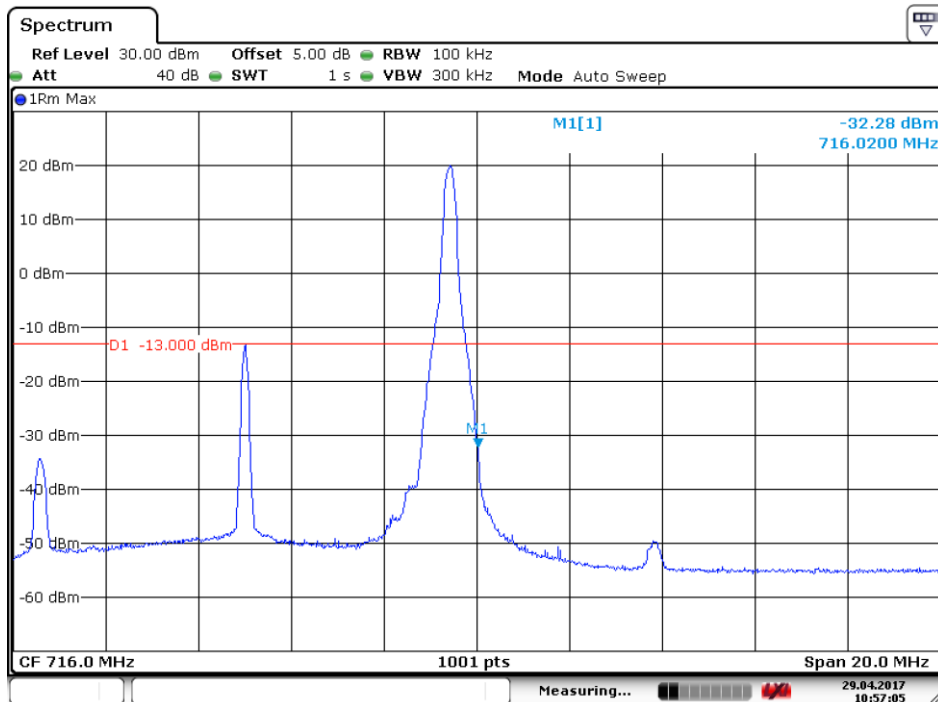
5.1.1.8.2.2 Test RB=50RB
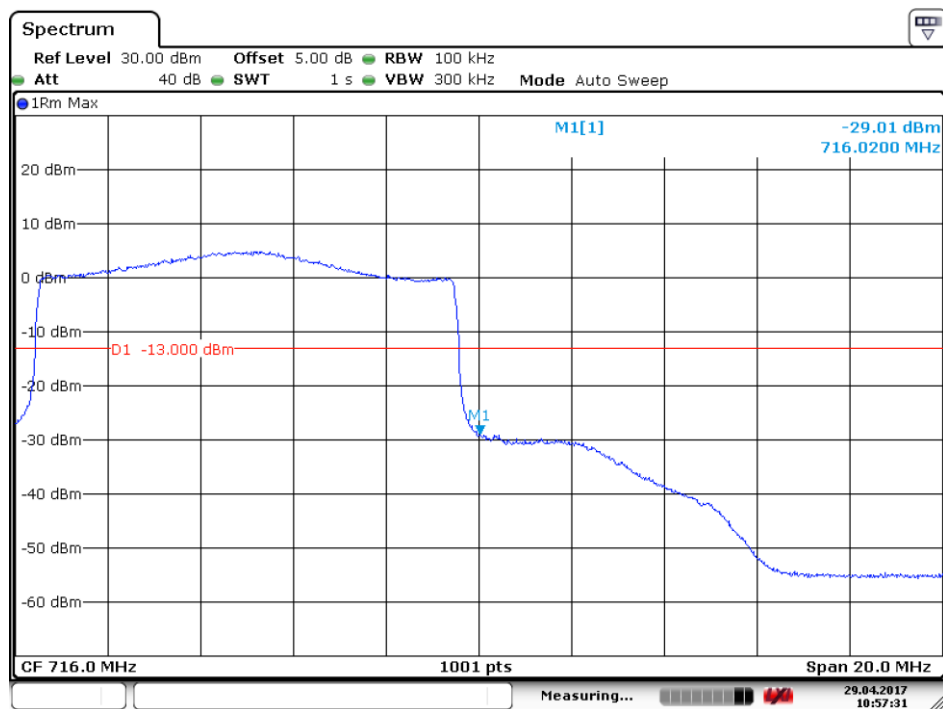
Date: 29.APR.2017 10:57:31

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 band12

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

6.1.1.1.1 Test Channel = LCH

Date: 17.MAY.2017 11:36:30

Spectrum

| Ref Level 20.00 dBm | Offset 5.00 dB | RBW 1 MHz |
| Att 25 dB | SWT 27 ms | VBW 3 MHz | Mode Auto Sweep |

●1Pk Max

M1[1]   -40.72 dBm
                          2.099070 GHz

10 dBm

0 dBm

-10 dBm
D1 -13.000 dBm

-20 dBm

-30 dBm

-40 dBm   M1

-50 dBm

-60 dBm

-70 dBm

Start 1.0 GHz   20001 pts   Stop 10.0 GHz

Measuring...   17.05.2017 11:37:12
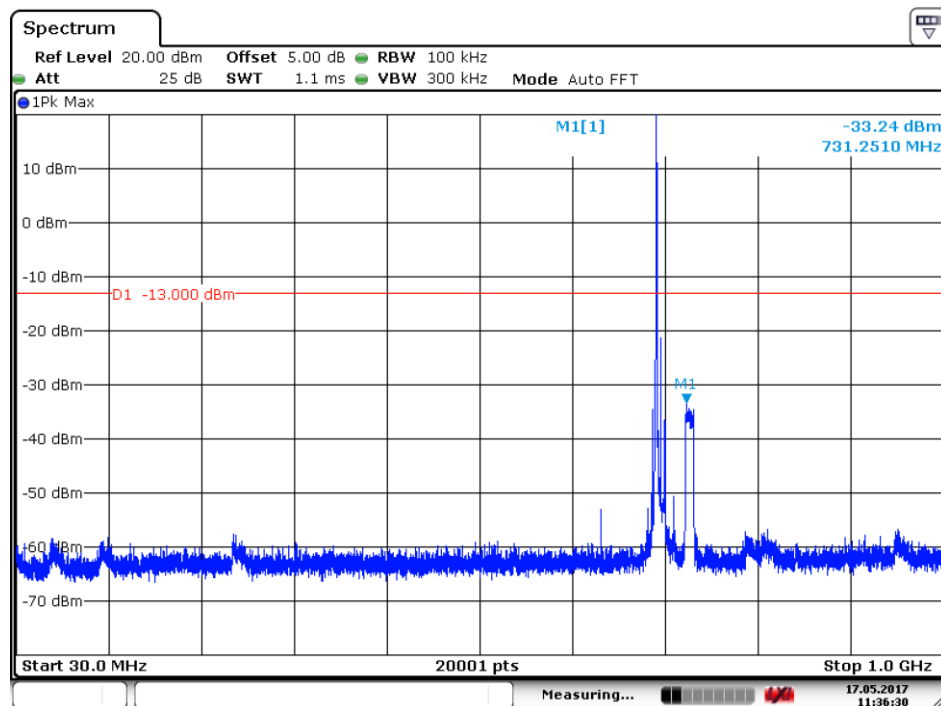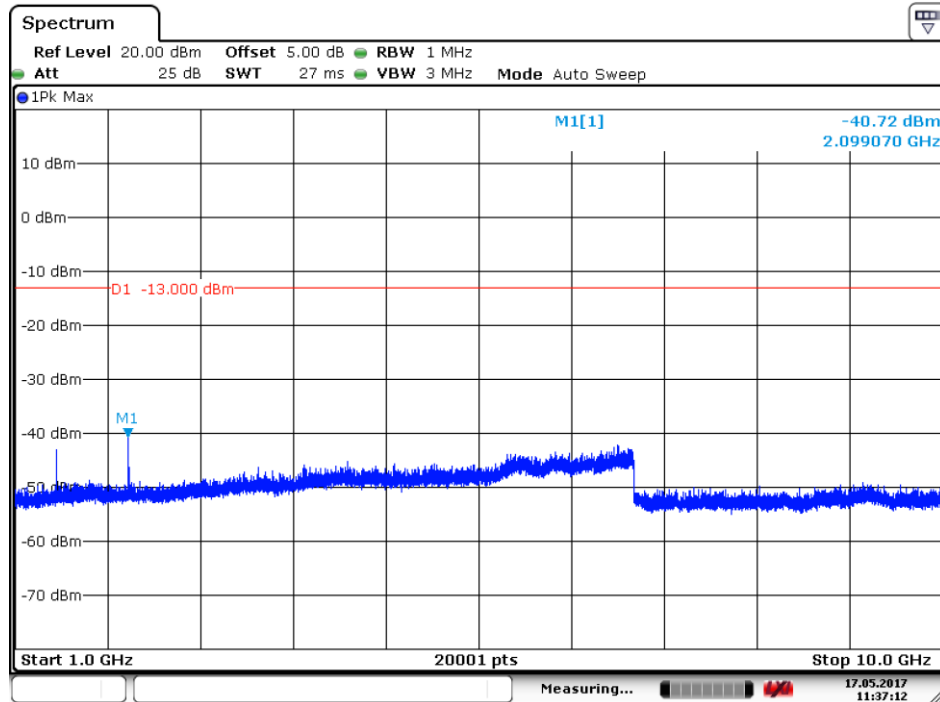
Date: 17.MAY.2017 11:37:13

6.1.1.1.2   Test Channel = MCH

Spectrum

| Ref Level 20.00 dBm | Offset 5.00 dB | RBW 100 kHz |
| Att 25 dB | SWT 1.1 ms | VBW 300 kHz | Mode Auto FFT |

●1Pk Max

M1[1]   -34.05 dBm
                          739.1560 MHz

10 dBm

0 dBm

-10 dBm
D1 -13.000 dBm

-20 dBm

-30 dBm   M1

-40 dBm

-50 dBm

-60 dBm

-70 dBm

Start 30.0 MHz   20001 pts   Stop 1.0 GHz

Measuring...   17.05.2017 11:35:45
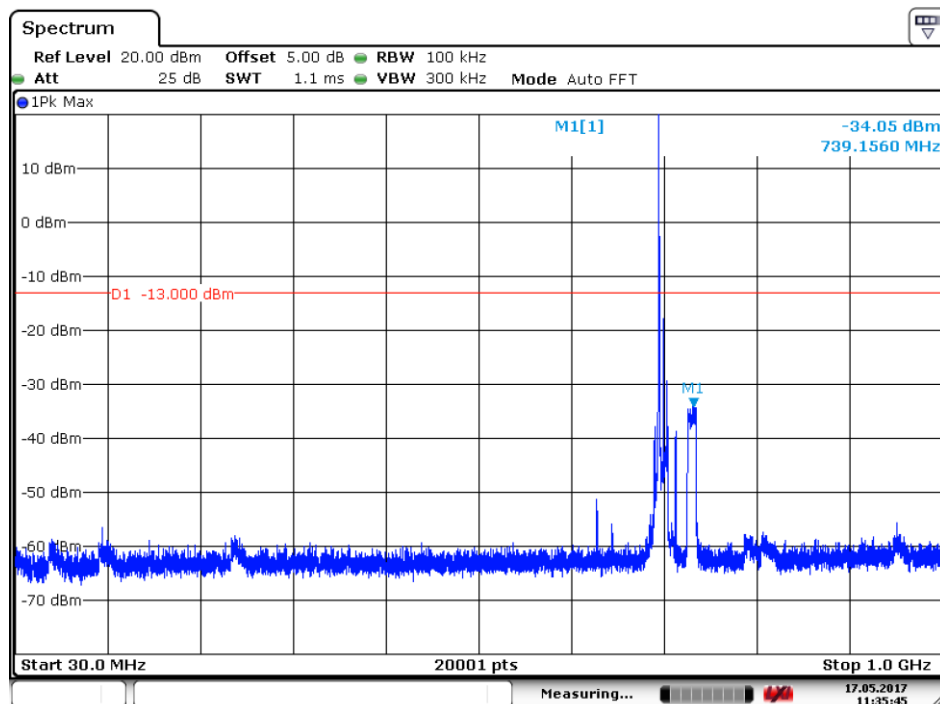
Date: 17.MAY.2017 11:35:45
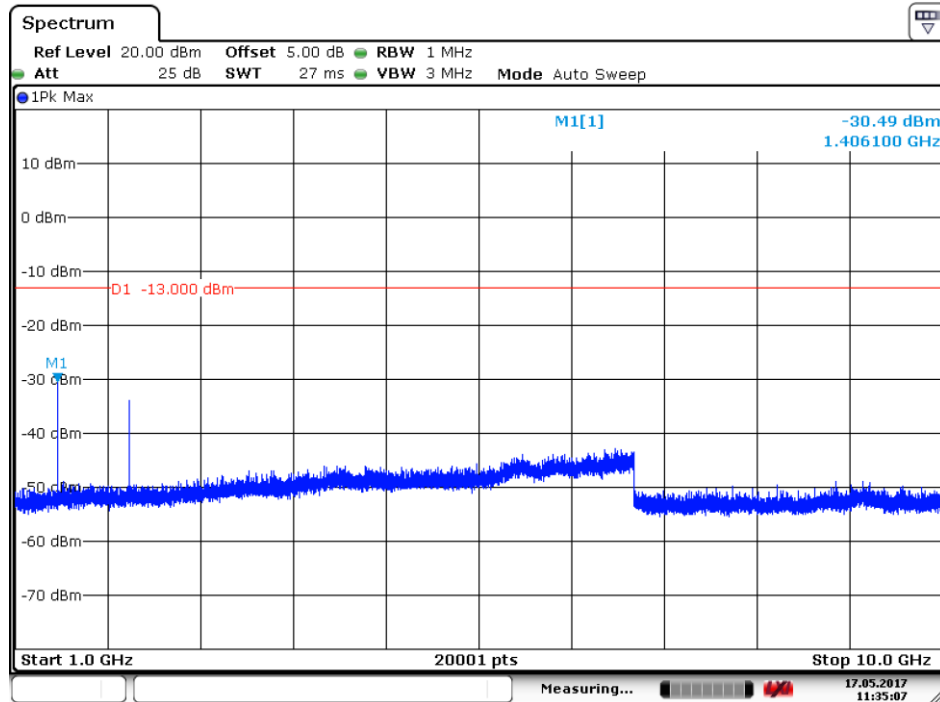
Date: 17.MAY.2017 11:35:08

6.1.1.1.3　Test Channel = HCH
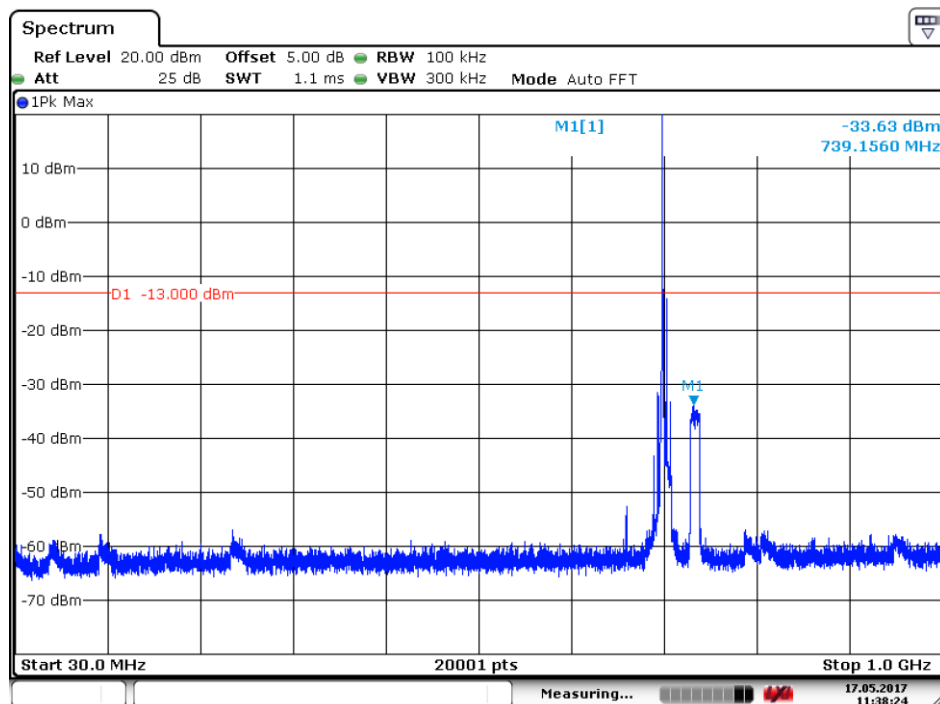
Date: 17.MAY.2017 11:38:25

Spectrum

Ref Level 20.00 dBm   Offset 5.00 dB   RBW 1 MHz
Att   25 dB   SWT   27 ms   VBW 3 MHz   Mode Auto Sweep

1Pk Max

M1[1]   -31.03 dBm
                               1.413300 GHz

D1 -13.000 dBm

Start 1.0 GHz   20001 pts   Stop 10.0 GHz

Measuring...   17.05.2017
                    11:38:00
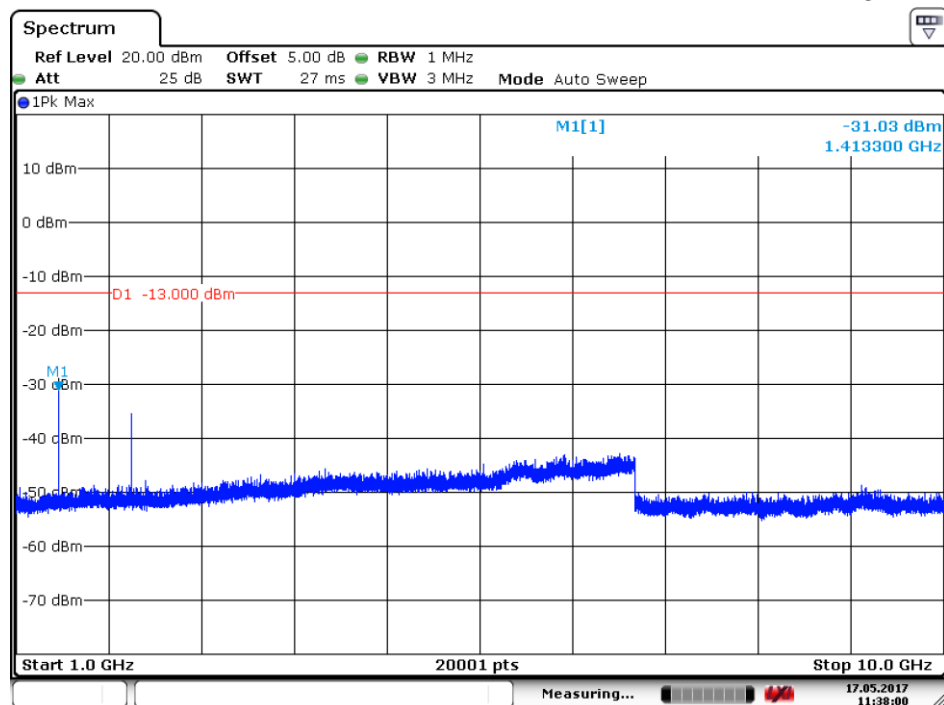
Date: 17.MAY.2017 11:38:00

7   Field Strength of Spurious Radiation

7.1 For LTE

7.1.1 Test Band = LTE band12

7.1.1.1.1   Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1485.000	-66.29	-13.00	-53.29	Vertical
4462.500	-67.10	-13.00	-54.10	Vertical
6315.000	-65.09	-13.00	-52.09	Vertical
1276.000	-67.05	-13.00	-54.05	Horizontal
4950.000	-66.04	-13.00	-53.04	Horizontal
7972.500	-63.53	-13.00	-50.53	Horizontal

7.1.1.1.2   Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1650.000	-64.84	-13.00	-51.84	Vertical
4170.000	-66.99	-13.00	-53.99	Vertical
6217.500	-64.75	-13.00	-51.75	Vertical
1364.000	-67.46	-13.00	-54.46	Horizontal
1892.000	-59.03	-13.00	-46.03	Horizontal
6217.500	-65.01	-13.00	-52.01	Horizontal

7.1.1.1.3   Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1507.000	-66.33	-13.00	-53.33	Vertical
4462.500	-67.06	-13.00	-54.06	Vertical
7972.500	-63.51	-13.00	-50.51	Vertical
1463.000	-65.92	-13.00	-52.92	Horizontal
5145.000	-66.37	-13.00	-53.37	Horizontal
7875.000	-63.48	-13.00	-50.48	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.

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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 band12	LTE/TM1 10MHz	LCH	TN	VL	-3.66	-0.00520	PASS
				VN	1.42	0.00202	PASS
				VH	-5.23	-0.00743	PASS
		MCH	TN	VL	-1.56	-0.00220	PASS
				VN	-2.80	-0.00396	PASS
				VH	4.72	0.00667	PASS
		HCH	TN	VL	-5.30	-0.00745	PASS
				VN	-4.90	-0.00689	PASS
				VH	-3.28	-0.00461	PASS
	LTE/TM2 10MHz	LCH	TN	VL	-4.70	-0.00668	PASS
				VN	-3.13	-0.00445	PASS
				VH	-5.15	-0.00732	PASS
		MCH	TN	VL	1.20	0.00170	PASS
				VN	-3.89	-0.00550	PASS
				VH	1.63	0.00230	PASS
		HCH	TN	VL	-2.01	-0.00283	PASS
				VN	-3.17	-0.00446	PASS
				VH	5.14	0.00723	PASS

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8.2 Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band12	LTE/TM1 10MHz	LCH	VN	-30	-4.30	-0.00611	PASS
				-20	-2.28	-0.00324	PASS
				-10	-2.87	-0.00408	PASS
				0	1.20	0.00170	PASS
				10	5.22	0.00741	PASS
				20	3.59	0.00510	PASS
				30	-2.68	-0.00381	PASS
				40	-1.70	-0.00241	PASS
				50	-6.02	-0.00855	PASS
		MCH	VN	-30	-5.24	-0.00741	PASS
				-20	-5.20	-0.00735	PASS
				-10	-3.32	-0.00469	PASS
				0	-1.55	-0.00219	PASS
				10	-1.27	-0.00180	PASS
				20	-2.89	-0.00408	PASS
				30	-3.09	-0.00437	PASS
				40	-4.82	-0.00681	PASS
				50	-5.36	-0.00758	PASS
		HCH	VN	-30	-6.26	-0.00880	PASS
				-20	-3.24	-0.00456	PASS
				-10	1.69	0.00238	PASS
				0	-2.40	-0.00338	PASS
				10	4.44	0.00624	PASS
				20	-0.32	-0.00045	PASS
				30	-5.45	-0.00767	PASS
				40	-4.30	-0.00605	PASS
				50	-3.88	-0.00546	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band12	LTE/TM2 10MHz	LCH	VN	-30	-3.65	-0.00518	PASS
				-20	-2.42	-0.00344	PASS
				-10	1.23	0.00175	PASS
				0	2.41	0.00342	PASS
				10	1.77	0.00251	PASS
				20	-0.83	-0.00118	PASS
				30	-3.02	-0.00429	PASS
				40	2.27	0.00322	PASS
				50	-4.88	-0.00693	PASS
		MCH	VN	-30	-3.36	-0.00475	PASS
				-20	-2.64	-0.00373	PASS
				-10	-2.15	-0.00304	PASS
				0	-1.83	-0.00259	PASS
				10	-0.79	-0.00112	PASS
				20	1.23	0.00174	PASS
				30	-2.24	-0.00317	PASS
				40	-6.78	-0.00958	PASS
				50	-5.13	-0.00725	PASS
		HCH	VN	-30	-3.03	-0.00426	PASS
				-20	-4.60	-0.00647	PASS
				-10	5.09	0.00716	PASS
				0	-3.48	-0.00489	PASS
				10	2.76	0.00388	PASS
				20	-0.99	-0.00139	PASS
				30	-3.46	-0.00487	PASS
				40	-4.72	-0.00664	PASS
				50	-4.33	-0.00609	PASS

The End