



# Appendix B

## E-UTRA Band 5



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# 1 Effective (Isotropic) Radiated Power Output Data

Effective Radiated Power of Transmitter (ERP) for LTE BAND 5

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM1	1.4M	LCH	RB1#0	23.18	21.83	38.45	PASS
				RB1#2	23.14	21.79	38.45	PASS
				RB1#5	23.05	21.7	38.45	PASS
				RB3#0	23.31	21.96	38.45	PASS
				RB3#2	23.4	22.05	38.45	PASS
				RB3#3	23.33	21.98	38.45	PASS
				RB6#0	22.27	20.92	38.45	PASS
			MCH	RB1#0	23.22	21.87	38.45	PASS
				RB1#2	23.23	21.88	38.45	PASS
				RB1#5	23.24	21.89	38.45	PASS
				RB3#0	23.38	22.03	38.45	PASS
				RB3#2	23.23	21.88	38.45	PASS
				RB3#3	23.27	21.92	38.45	PASS
				RB6#0	22.15	20.8	38.45	PASS
			HCH	RB1#0	23.08	21.73	38.45	PASS
				RB1#2	23.3	21.95	38.45	PASS
				RB1#5	23.11	21.76	38.45	PASS
				RB3#0	23.31	21.96	38.45	PASS
				RB3#2	23.26	21.91	38.45	PASS
				RB3#3	23.34	21.99	38.45	PASS
				RB6#0	22.13	20.78	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
BAND5	LTE/TM2	1.4M	LCH	RB1#0	22.61	21.26	38.45	PASS
				RB1#2	22.18	20.83	38.45	PASS
				RB1#5	22.36	21.01	38.45	PASS
				RB3#0	22.2	20.85	38.45	PASS
				RB3#2	22.55	21.2	38.45	PASS
				RB3#3	22.32	20.97	38.45	PASS
				RB6#0	21.11	19.76	38.45	PASS
			MCH	RB1#0	22.5	21.15	38.45	PASS
				RB1#2	22.7	21.35	38.45	PASS
				RB1#5	22.2	20.85	38.45	PASS
				RB3#0	22.34	20.99	38.45	PASS
				RB3#2	22.34	20.99	38.45	PASS
				RB3#3	22.36	21.01	38.45	PASS
				RB6#0	21.1	19.75	38.45	PASS
			HCH	RB1#0	21.79	20.44	38.45	PASS
				RB1#2	21.45	20.1	38.45	PASS
				RB1#5	21.53	20.18	38.45	PASS
				RB3#0	22.28	20.93	38.45	PASS
				RB3#2	22.11	20.76	38.45	PASS
				RB3#3	22.03	20.68	38.45	PASS
				RB6#0	21.06	19.71	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
BAND5	LTE/TM1	3M	LCH	RB1#0	23.36	22.01	38.45	PASS
				RB1#7	23.67	22.32	38.45	PASS
				RB1#14	23.45	22.1	38.45	PASS
				RB8#0	22.18	20.83	38.45	PASS
				RB8#4	22.27	20.92	38.45	PASS
				RB8#7	22.27	20.92	38.45	PASS
				RB15#0	22.23	20.88	38.45	PASS
			MCH	RB1#0	22.96	21.61	38.45	PASS
				RB1#7	23.19	21.84	38.45	PASS
				RB1#14	23.1	21.75	38.45	PASS
				RB8#0	22.26	20.91	38.45	PASS
				RB8#4	22.28	20.93	38.45	PASS
				RB8#7	22.23	20.88	38.45	PASS
				RB15#0	22.25	20.9	38.45	PASS
			HCH	RB1#0	23.05	21.7	38.45	PASS
				RB1#7	23.05	21.7	38.45	PASS
				RB1#14	23.02	21.67	38.45	PASS
				RB8#0	22.29	20.94	38.45	PASS
				RB8#4	22.15	20.8	38.45	PASS
				RB8#7	22.28	20.93	38.45	PASS
				RB15#0	22.24	20.89	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
BAND5	LTE/TM2	3M	LCH	RB1#0	22.43	21.08	38.45	PASS
				RB1#7	22.11	20.76	38.45	PASS
				RB1#14	21.56	20.21	38.45	PASS
				RB8#0	21.33	19.98	38.45	PASS
				RB8#4	21.48	20.13	38.45	PASS
				RB8#7	21.5	20.15	38.45	PASS
				RB15#0	21.25	19.9	38.45	PASS
			MCH	RB1#0	21.38	20.03	38.45	PASS
				RB1#7	22.09	20.74	38.45	PASS
				RB1#14	21.35	20	38.45	PASS
				RB8#0	21.22	19.87	38.45	PASS
				RB8#4	21.35	20	38.45	PASS
				RB8#7	21.11	19.76	38.45	PASS
				RB15#0	21.32	19.97	38.45	PASS
			HCH	RB1#0	22.51	21.16	38.45	PASS
				RB1#7	22.09	20.74	38.45	PASS
				RB1#14	21.46	20.11	38.45	PASS
				RB8#0	21.28	19.93	38.45	PASS
				RB8#4	21.29	19.94	38.45	PASS
				RB8#7	21.33	19.98	38.45	PASS
				RB15#0	21.29	19.94	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
BAND5	LTE/TM1	5M	LCH	RB1#0	23.2	21.85	38.45	PASS
				RB1#13	23.54	22.19	38.45	PASS
				RB1#24	23.31	21.96	38.45	PASS
				RB12#0	22.21	20.86	38.45	PASS
				RB12#6	22.36	21.01	38.45	PASS
				RB12#13	22.27	20.92	38.45	PASS
				RB25#0	22.28	20.93	38.45	PASS
			MCH	RB1#0	22.99	21.64	38.45	PASS
				RB1#13	23.33	21.98	38.45	PASS
				RB1#24	23.26	21.91	38.45	PASS
				RB12#0	22.23	20.88	38.45	PASS
				RB12#6	22.26	20.91	38.45	PASS
				RB12#13	22.17	20.82	38.45	PASS
				RB25#0	22.25	20.9	38.45	PASS
			HCH	RB1#0	23.01	21.66	38.45	PASS
				RB1#13	23.26	21.91	38.45	PASS
				RB1#24	23.2	21.85	38.45	PASS
				RB12#0	22.1	20.75	38.45	PASS
				RB12#6	22.41	21.06	38.45	PASS
				RB12#13	22.2	20.85	38.45	PASS
				RB25#0	22.25	20.9	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
BAND5	LTE/TM2	5M	LCH	RB1#0	21.33	19.98	38.45	PASS
				RB1#13	22.23	20.88	38.45	PASS
				RB1#24	21.95	20.6	38.45	PASS
				RB12#0	21.11	19.76	38.45	PASS
				RB12#6	21.1	19.75	38.45	PASS
				RB12#13	21.25	19.9	38.45	PASS
				RB25#0	21.31	19.96	38.45	PASS
			MCH	RB1#0	22.42	21.07	38.45	PASS
				RB1#13	21.54	20.19	38.45	PASS
				RB1#24	21.86	20.51	38.45	PASS
				RB12#0	21.02	19.67	38.45	PASS
				RB12#6	21.23	19.88	38.45	PASS
				RB12#13	21.18	19.83	38.45	PASS
				RB25#0	21.21	19.86	38.45	PASS
			HCH	RB1#0	21.96	20.61	38.45	PASS
				RB1#13	21.46	20.11	38.45	PASS
				RB1#24	21.13	19.78	38.45	PASS
				RB12#0	20.99	19.64	38.45	PASS
				RB12#6	21.09	19.74	38.45	PASS
				RB12#13	21.45	20.1	38.45	PASS
				RB25#0	21.37	20.02	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
BAND5	LTE/TM1	10M	LCH	RB1#0	23	21.65	38.45	PASS
				RB1#25	23.5	22.15	38.45	PASS
				RB1#49	23.31	21.96	38.45	PASS
				RB25#0	22.29	20.94	38.45	PASS
				RB25#13	22.29	20.94	38.45	PASS
				RB25#25	22.2	20.85	38.45	PASS
				RB50#0	22.25	20.9	38.45	PASS
			MCH	RB1#0	23.12	21.77	38.45	PASS
				RB1#25	23.6	22.25	38.45	PASS
				RB1#49	23.35	22	38.45	PASS
				RB25#0	22.29	20.94	38.45	PASS
				RB25#13	22.32	20.97	38.45	PASS
				RB25#25	22.37	21.02	38.45	PASS
				RB50#0	22.26	20.91	38.45	PASS
			HCH	RB1#0	23.06	21.71	38.45	PASS
				RB1#25	23.06	21.71	38.45	PASS
				RB1#49	23.05	21.7	38.45	PASS
				RB25#0	22	20.65	38.45	PASS
				RB25#13	22.17	20.82	38.45	PASS
				RB25#25	22.12	20.77	38.45	PASS
				RB50#0	22.28	20.93	38.45	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM2	10M	LCH	RB1#0	22.3	20.95	38.45	PASS
				RB1#25	22.5	21.15	38.45	PASS
				RB1#49	21.95	20.6	38.45	PASS
				RB25#0	21.17	19.82	38.45	PASS
				RB25#13	21.38	20.03	38.45	PASS
				RB25#25	21.34	19.99	38.45	PASS
				RB50#0	21.3	19.95	38.45	PASS
			MCH	RB1#0	21.71	20.36	38.45	PASS
				RB1#25	21.69	20.34	38.45	PASS
				RB1#49	21.03	19.68	38.45	PASS
				RB25#0	21.26	19.91	38.45	PASS
				RB25#13	21.53	20.18	38.45	PASS
				RB25#25	21.46	20.11	38.45	PASS
				RB50#0	21.33	19.98	38.45	PASS
			HCH	RB1#0	21.17	19.82	38.45	PASS
				RB1#25	21.86	20.51	38.45	PASS
				RB1#49	21.76	20.41	38.45	PASS
				RB25#0	21.43	20.08	38.45	PASS
				RB25#13	21.23	19.88	38.45	PASS
				RB25#25	21.23	19.88	38.45	PASS
				RB50#0	21.34	19.99	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



## 2 Peak-to-Average Ratio

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
Band 5	TM1/10M	LCH	4.72	13	PASS
		MCH	4.64	13	PASS
		HCH	4.72	13	PASS
	TM2/10M	LCH	5.68	13	PASS
		MCH	5.51	13	PASS
		HCH	5.68	13	PASS

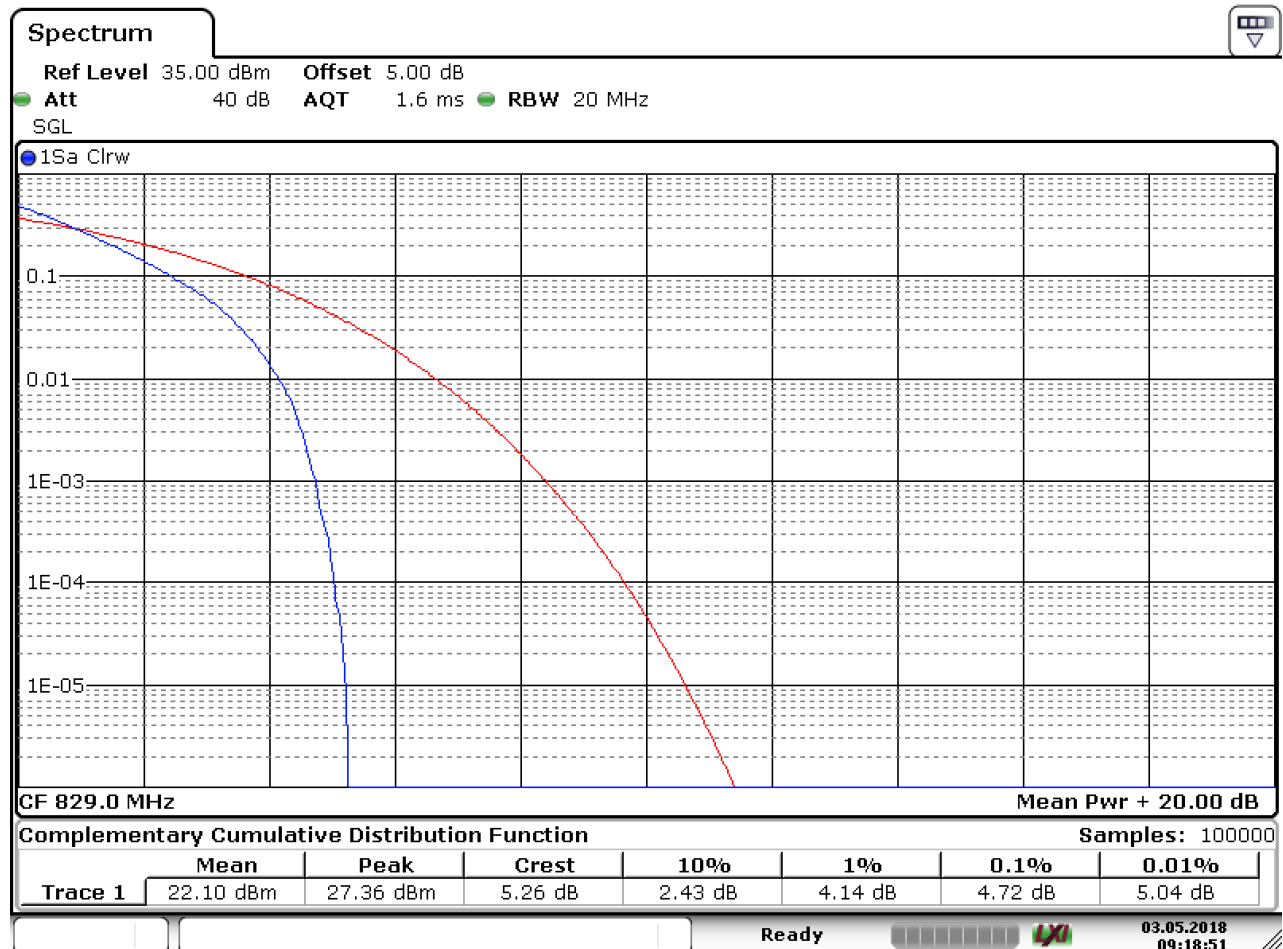
### Part II - Test Plots

## 2.1 For LTE

### 2.1.1 Test Band = LTE band5

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

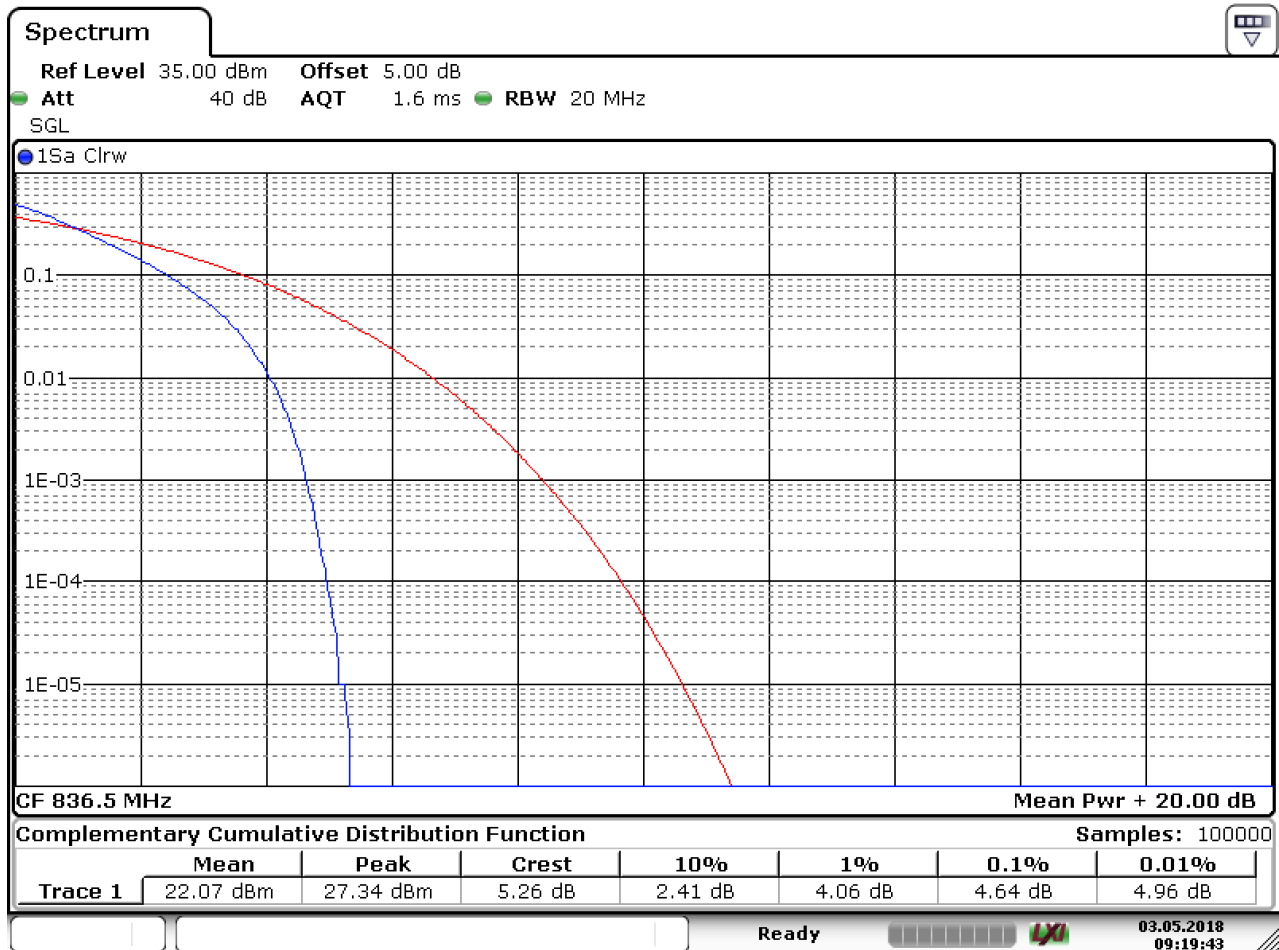
##### 2.1.1.1.1 Test Channel = LCH



Date: 3.MAY.2018 09:18:52



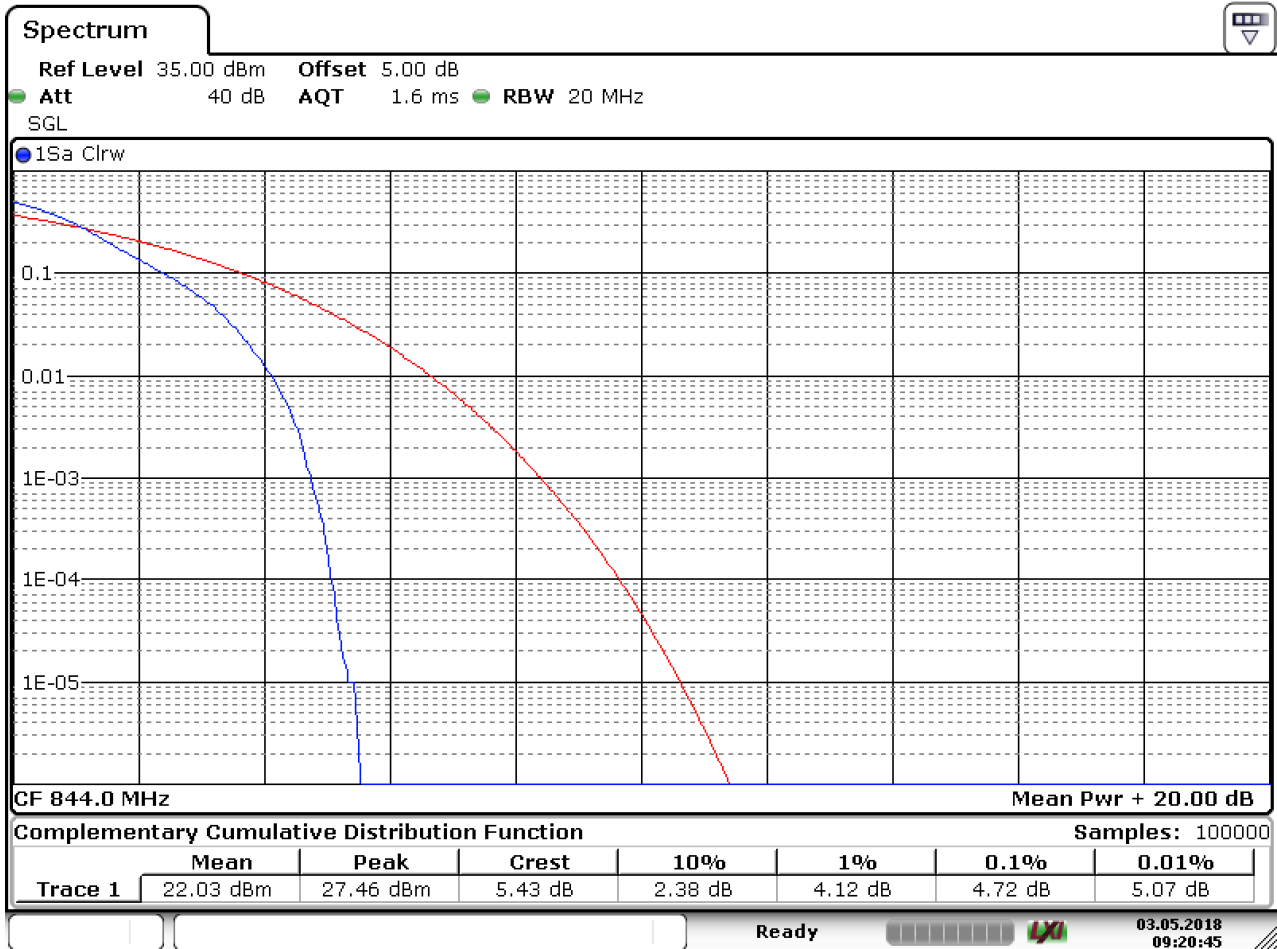
2.1.1.1.2 Test Channel = MCH



Date: 3.MAY.2018 09:19:44



2.1.1.1.3 Test Channel = HCH

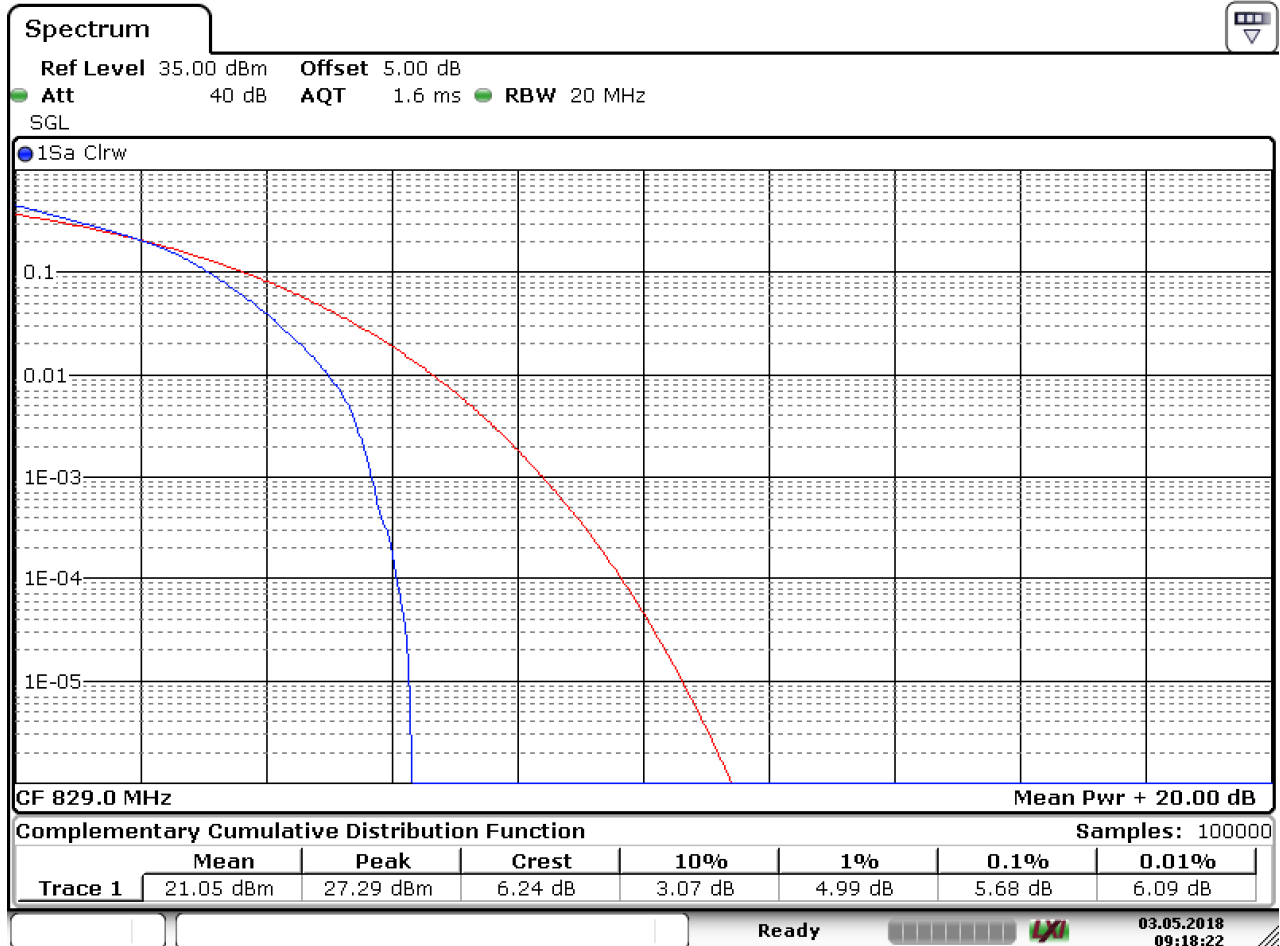


Date: 3.MAY.2018 09:20:46



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

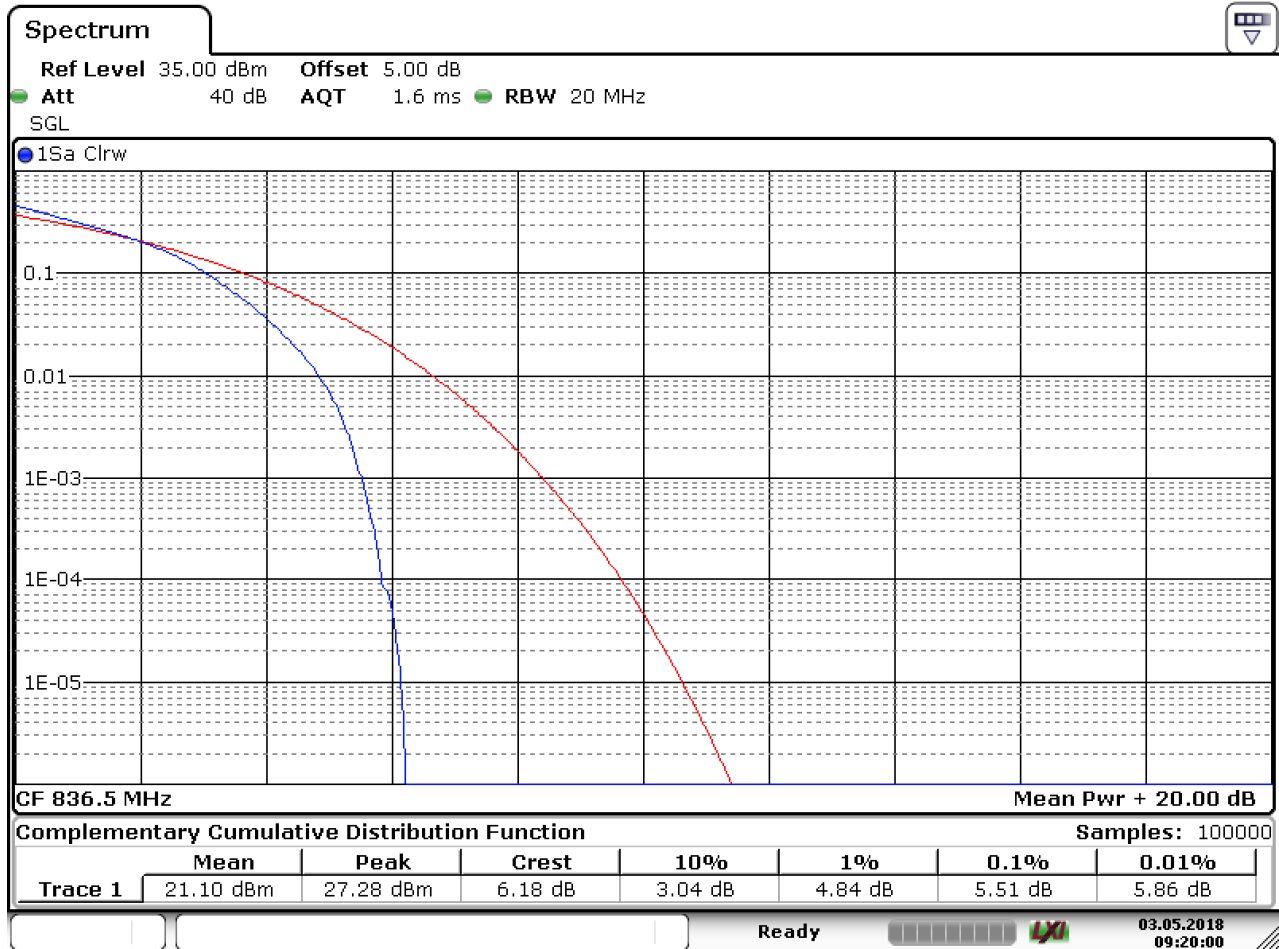
2.1.1.2.1 Test Channel = LCH



Date: 3.MAY.2018 09:18:22



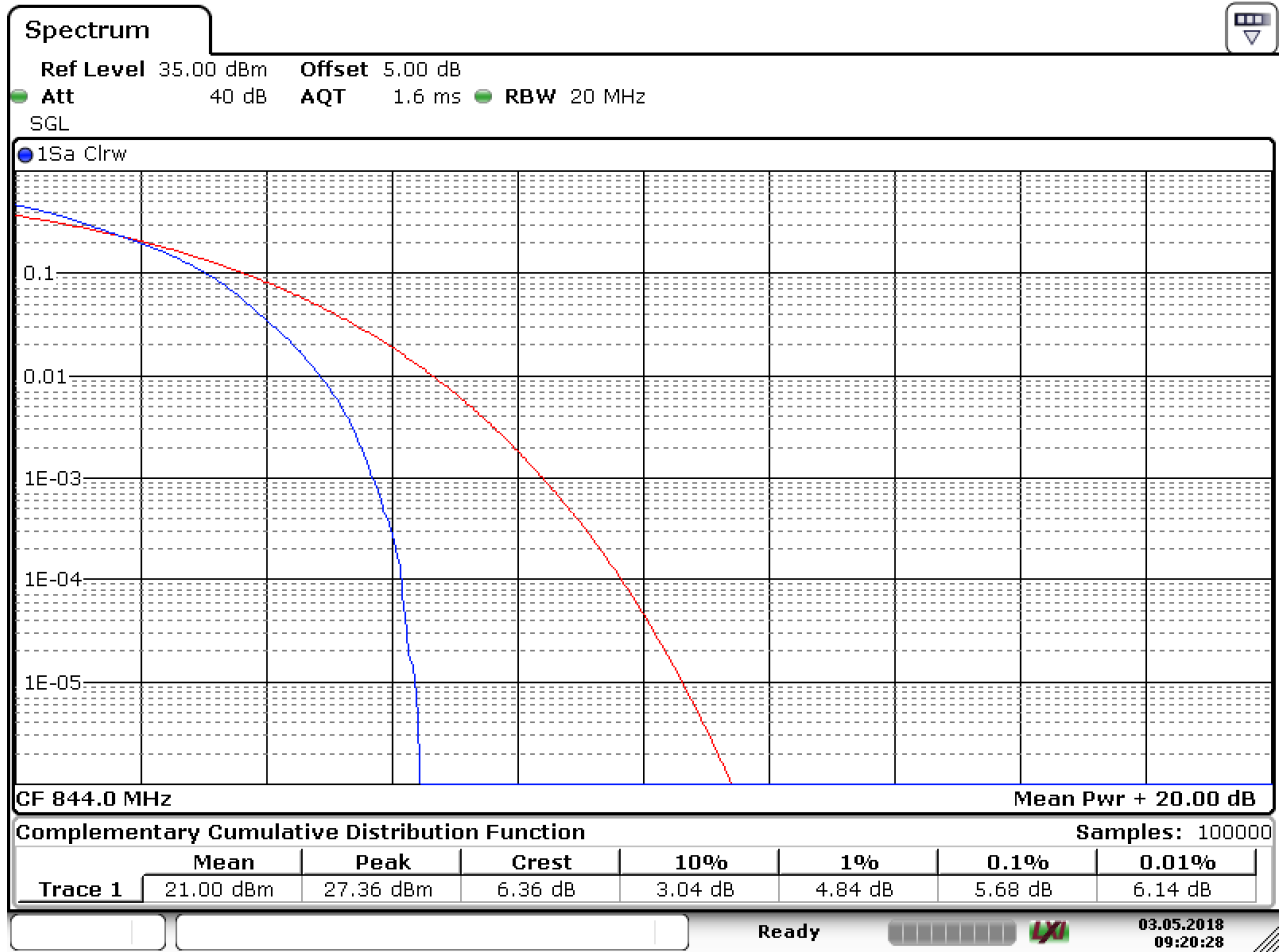
2.1.1.2.2 Test Channel = MCH



Date: 3.MAY.2018 09:20:01



2.1.1.2.3 Test Channel = HCH



Date: 3.MAY.2018 09:20:28



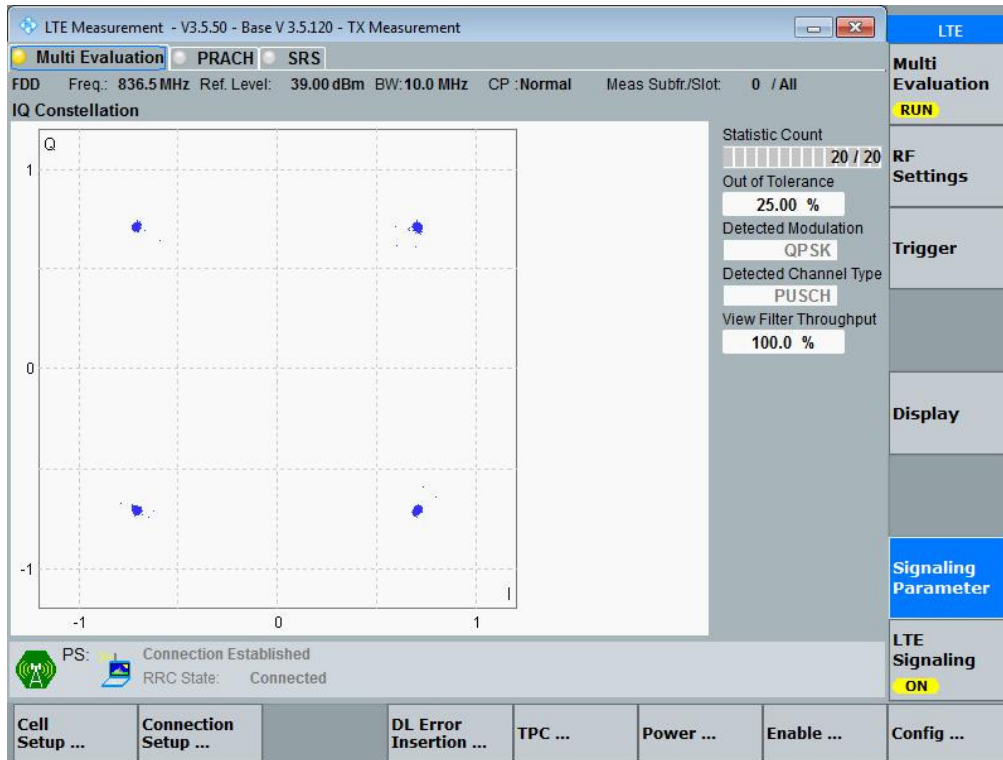
### 3 Modulation Characteristics

#### 3.1 For LTE

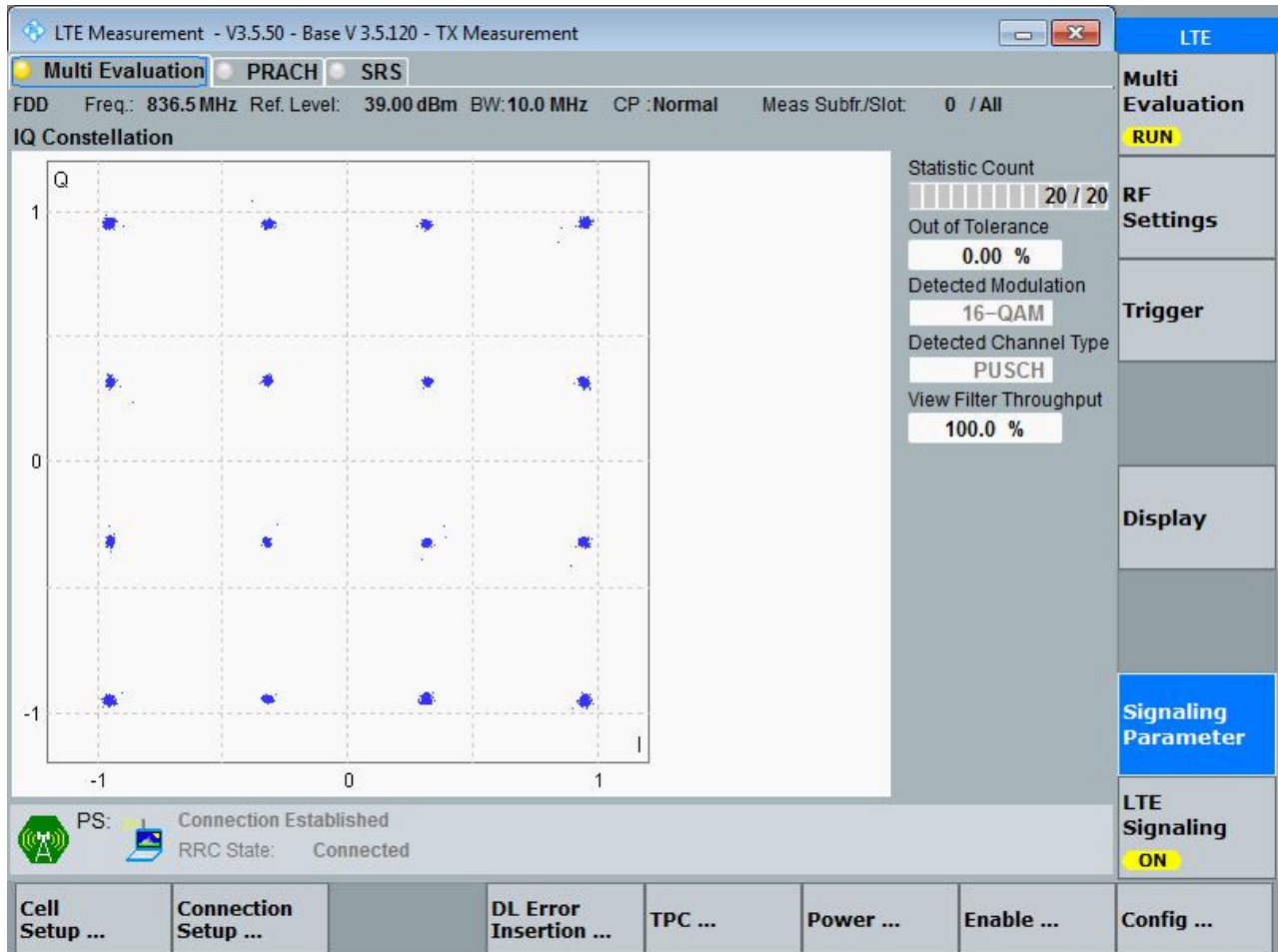
##### 3.1.1 Test Band = LTE band5

##### 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**



The screenshot displays the 'LTE Measurement' software interface. The main window shows an 'IQ Constellation' plot with a grid from -1 to 1 on both axes, displaying 16 blue dots representing the 16-QAM modulation. To the right of the plot is a 'Statistic Count' section with a progress bar at 20/20, 'Out of Tolerance' at 0.00%, 'Detected Modulation' as 16-QAM, 'Detected Channel Type' as PUSCH, and 'View Filter Throughput' at 100.0%. The interface includes a top menu bar with 'Multi Evaluation', 'PRACH', and 'SRS' options. Below the plot, it shows 'PS: Connection Established' and 'RRC State: Connected'. The bottom of the window features a toolbar with buttons for 'Cell Setup ...', 'Connection Setup ...', 'DL Error Insertion ...', 'TPC ...', 'Power ...', 'Enable ...', and 'Config ...'. On the far right, a vertical sidebar contains buttons for 'LTE', 'Multi Evaluation', 'RF Settings', 'Trigger', 'Display', 'Signaling Parameter', and 'LTE Signaling' (which is currently 'ON').



## 4 Bandwidth

### Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band 5	TM1/1.4MHz	LCH	1.08	1.24	PASS
		MCH	1.08	1.24	PASS
		HCH	1.09	1.23	PASS
	TM2/1.4MHz	LCH	1.08	1.24	PASS
		MCH	1.08	1.23	PASS
		HCH	1.08	1.23	PASS
	TM1/ 3MHz	LCH	2.72	2.96	PASS
		MCH	2.72	2.98	PASS
		HCH	2.72	2.96	PASS
	TM2/3MHz	LCH	2.72	2.96	PASS
		MCH	2.72	2.96	PASS
		HCH	2.71	2.96	PASS
	TM1/ 5MHz	LCH	4.48	4.81	PASS
		MCH	4.49	4.83	PASS
		HCH	4.47	4.81	PASS
	TM2/ 5MHz	LCH	4.50	4.80	PASS
		MCH	4.49	4.80	PASS
		HCH	4.47	4.81	PASS
	TM1/10MHz	LCH	8.93	9.51	PASS
		MCH	8.93	9.50	PASS
		HCH	8.93	9.49	PASS
	TM2/ 10MHz	LCH	8.93	9.53	PASS
		MCH	8.93	9.50	PASS
		HCH	8.93	9.49	PASS



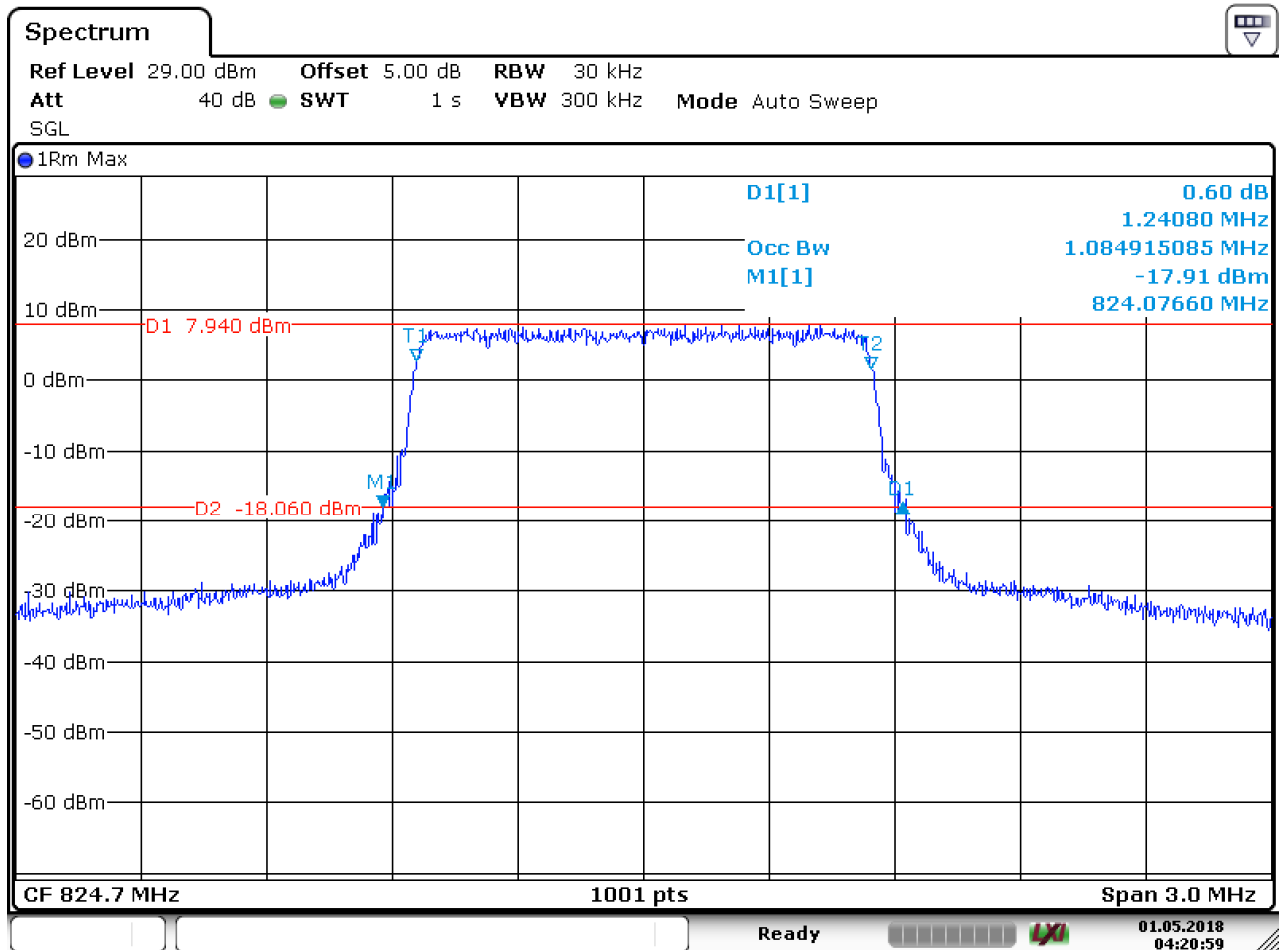
Part II –Test Plots

4.1 For LTE

4.1.1 Test Band = LTE band5

4.1.1.1 Test Mode = LTE/TM1 1.4MHz

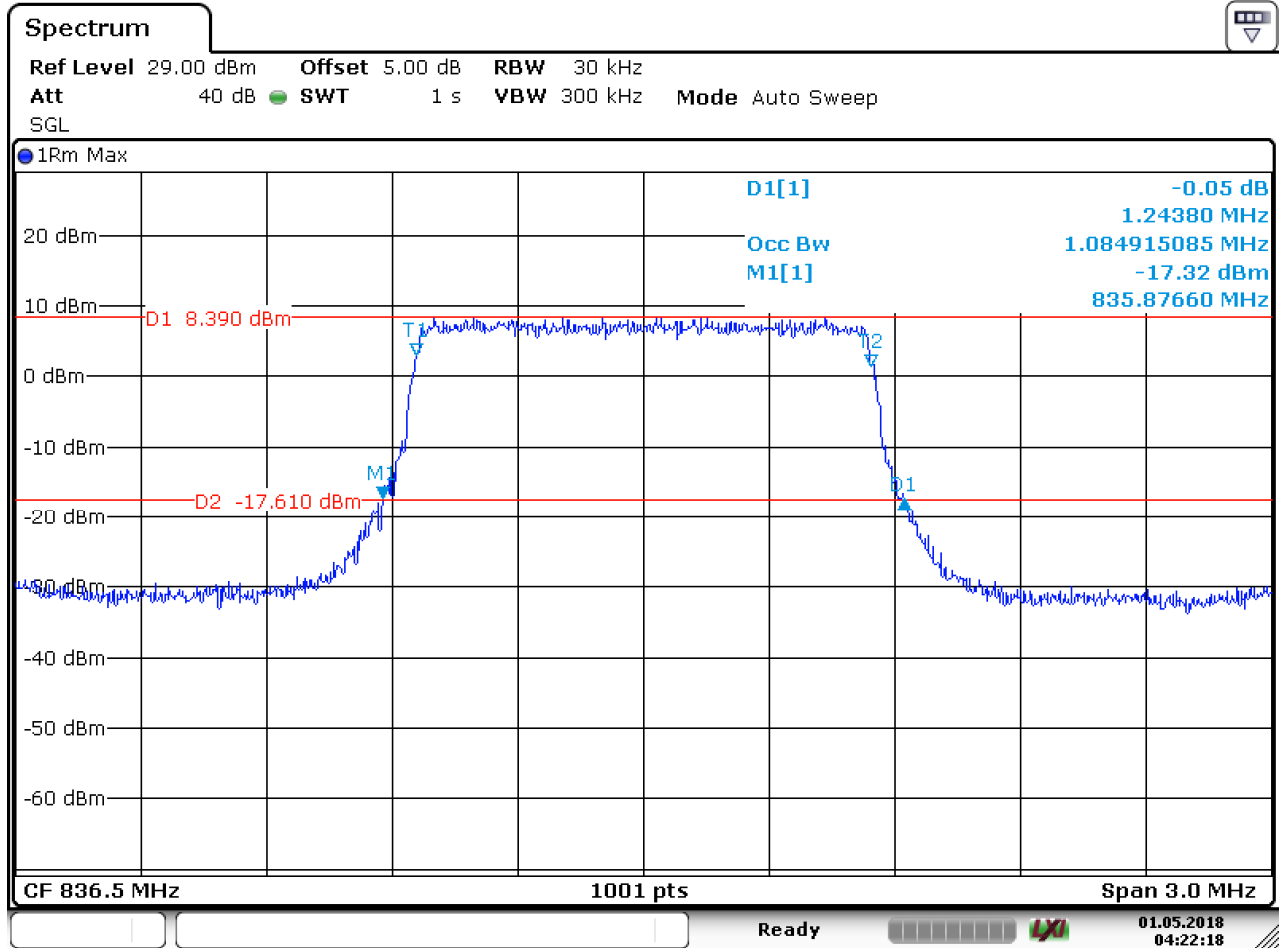
4.1.1.1.1 Test Channel = LCH



Date: 1.MAY.2018 04:21:00

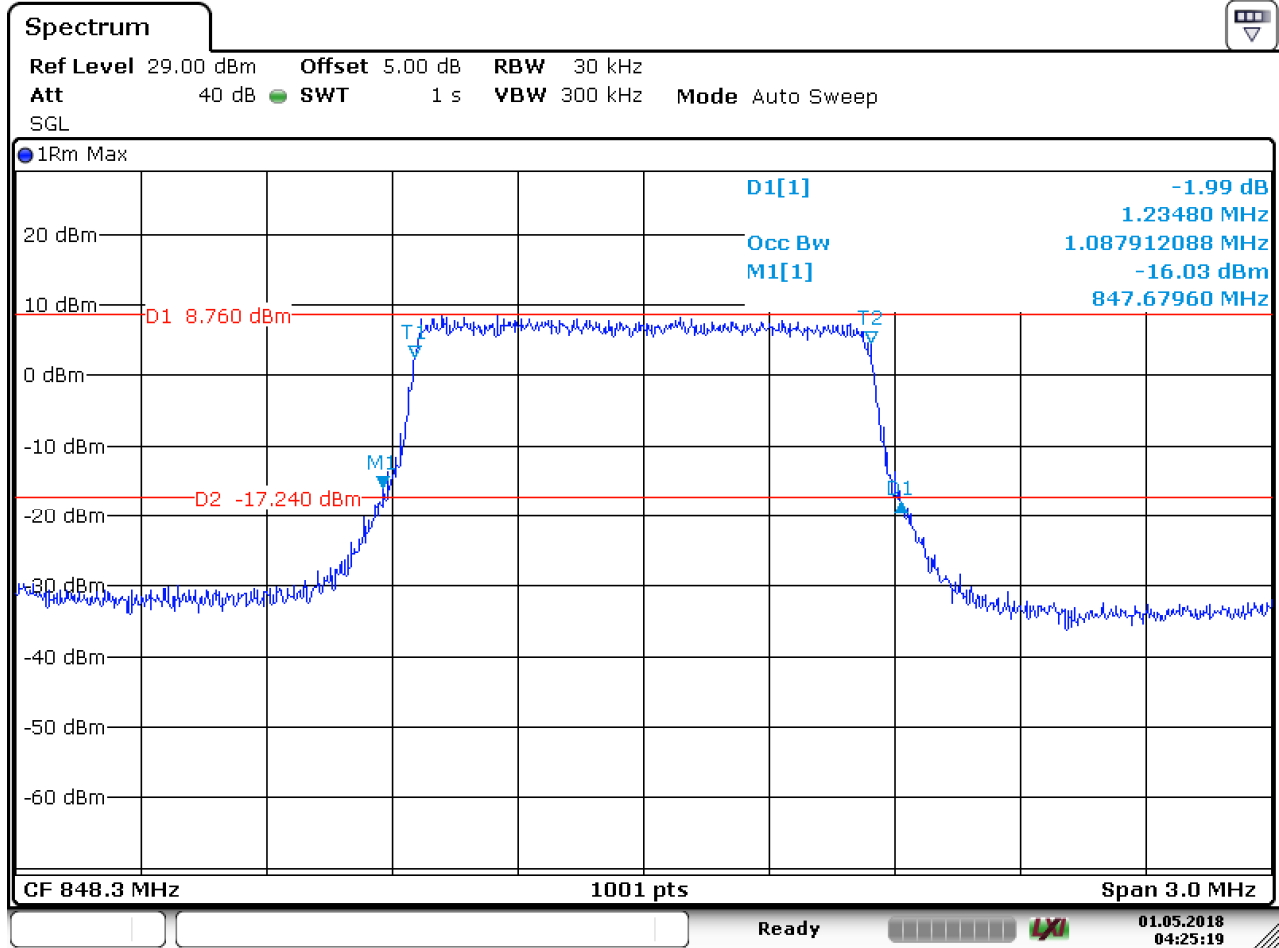


4.1.1.1.2 Test Channel = MCH



Date: 1.MAY.2018 04:22:18

**4.1.1.1.3 Test Channel = HCH**

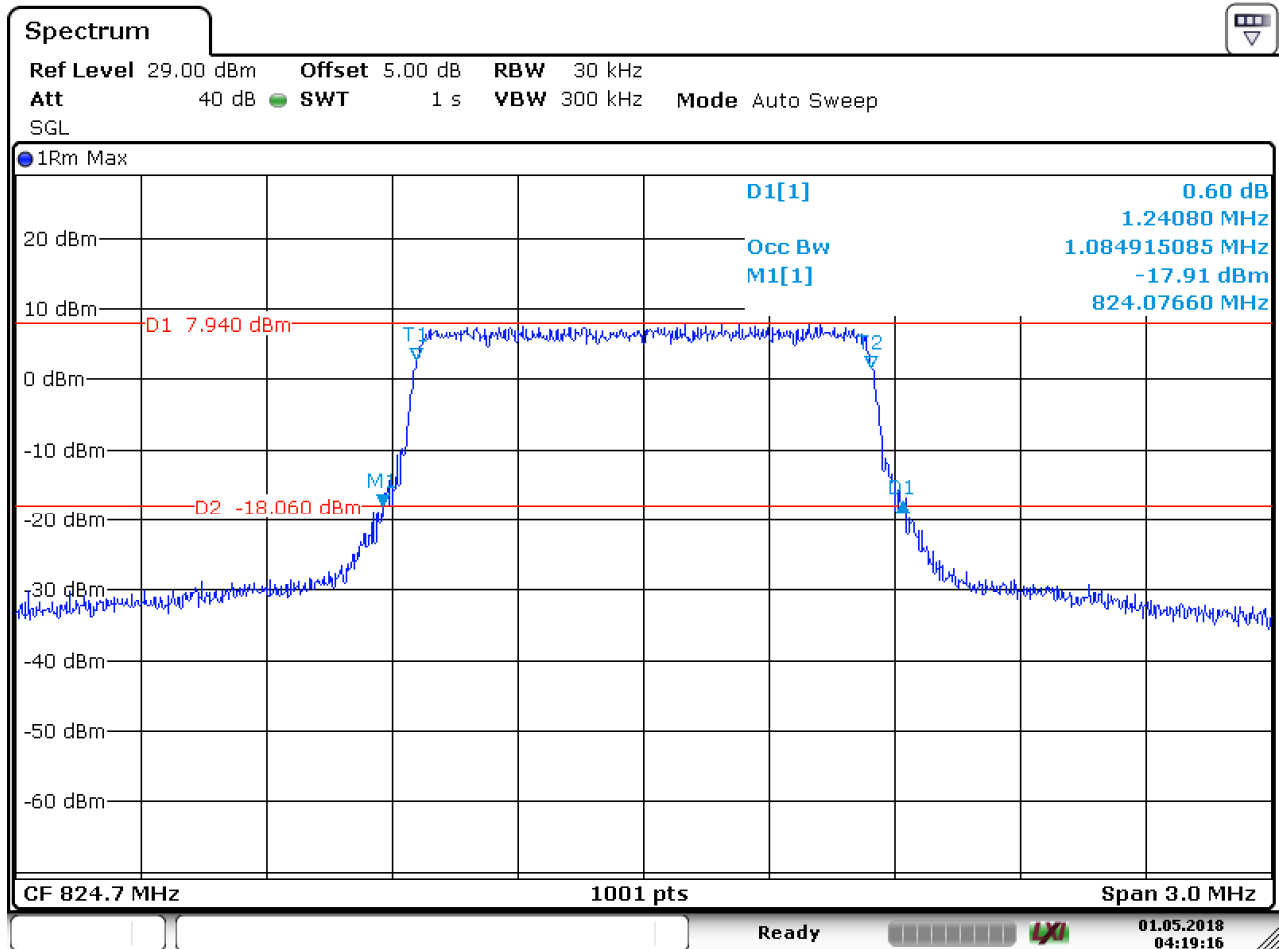


Date: 1.MAY.2018 04:25:19



4.1.1.2 Test Mode = LTE/TM2 1.4MHz

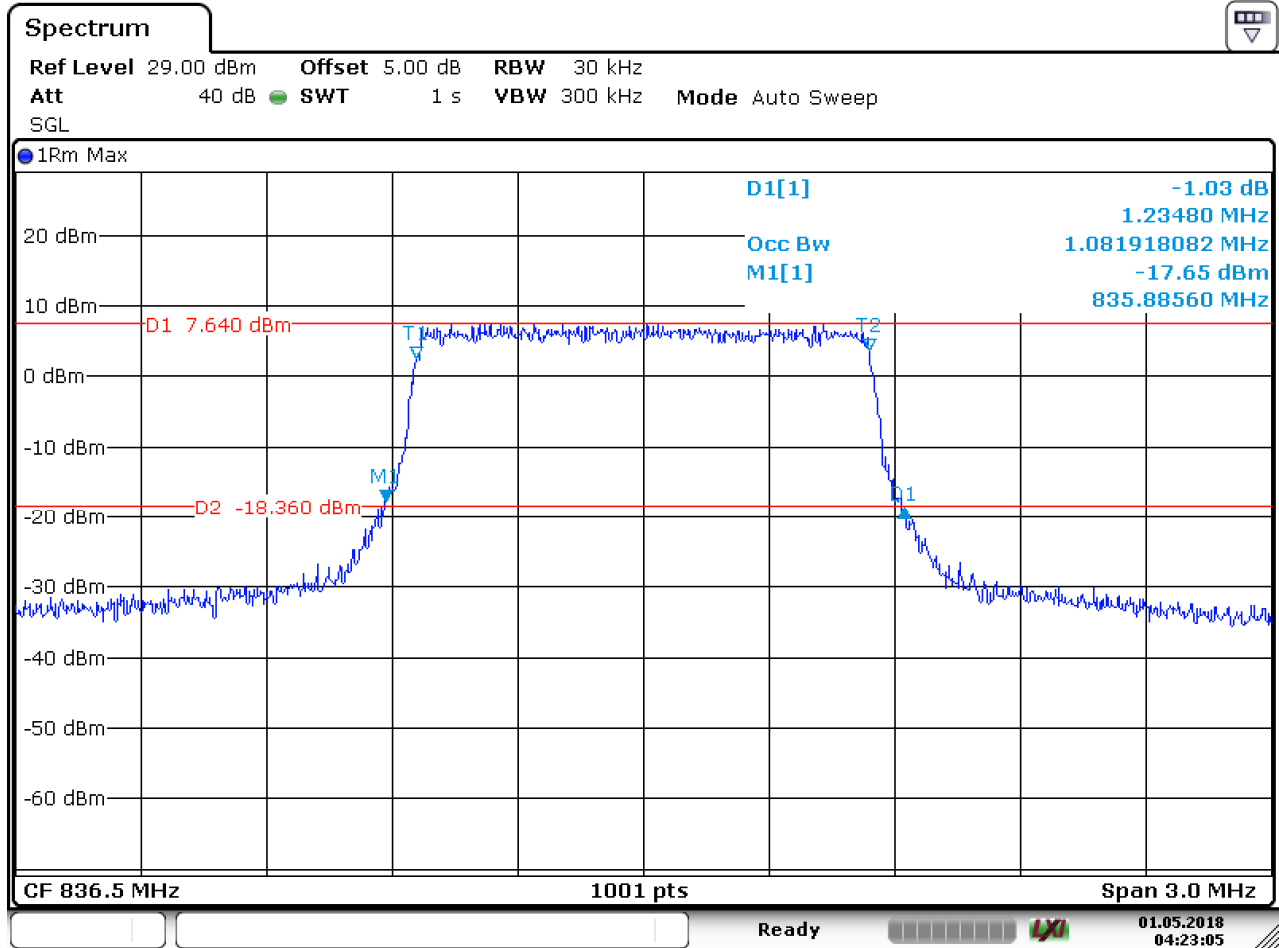
4.1.1.2.1 Test Channel = LCH



Date: 1.MAY.2018 04:19:16



4.1.1.2.2 Test Channel = MCH

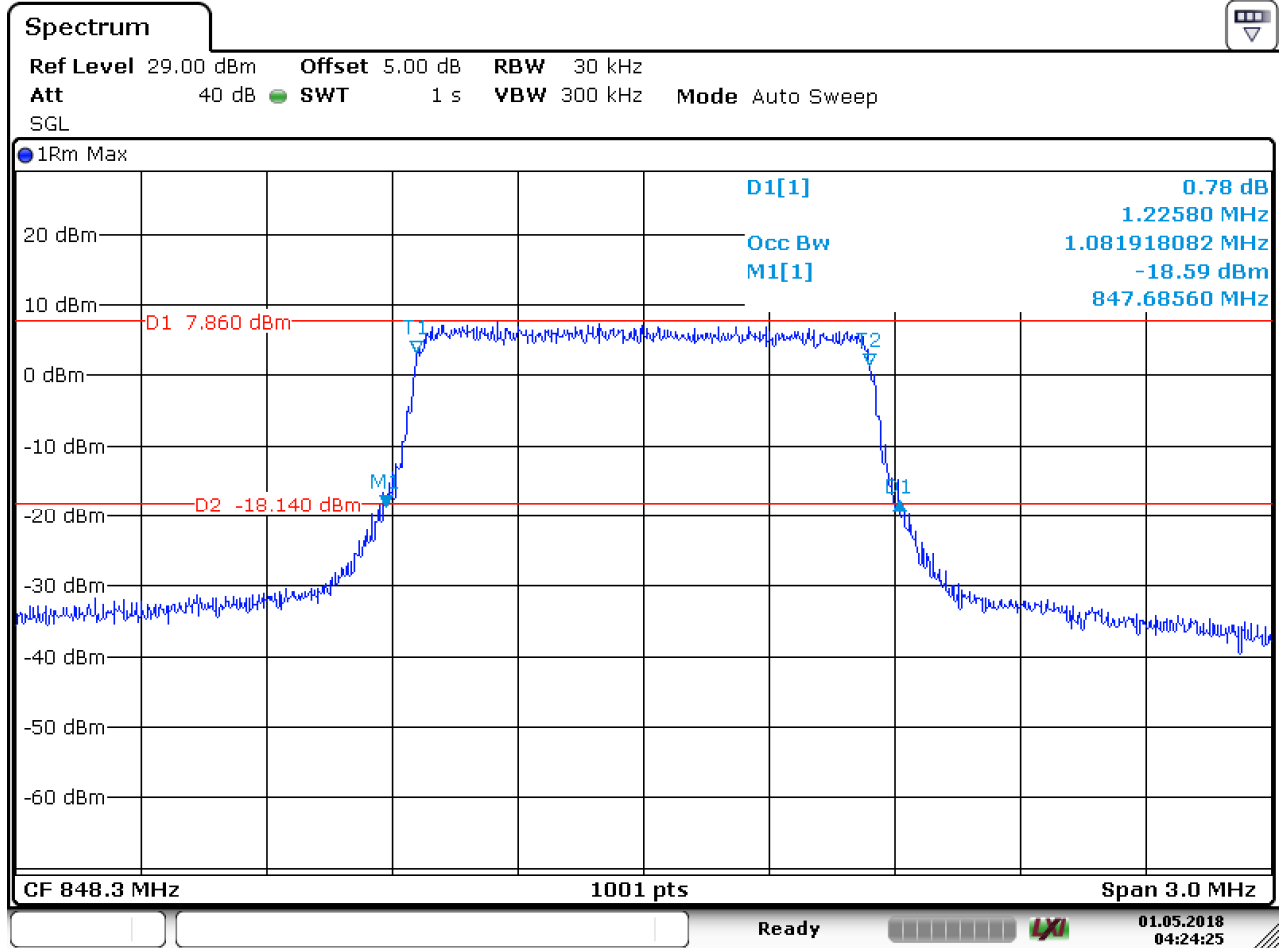


Date: 1.MAY.2018 04:23:05





4.1.1.2.3 Test Channel = HCH

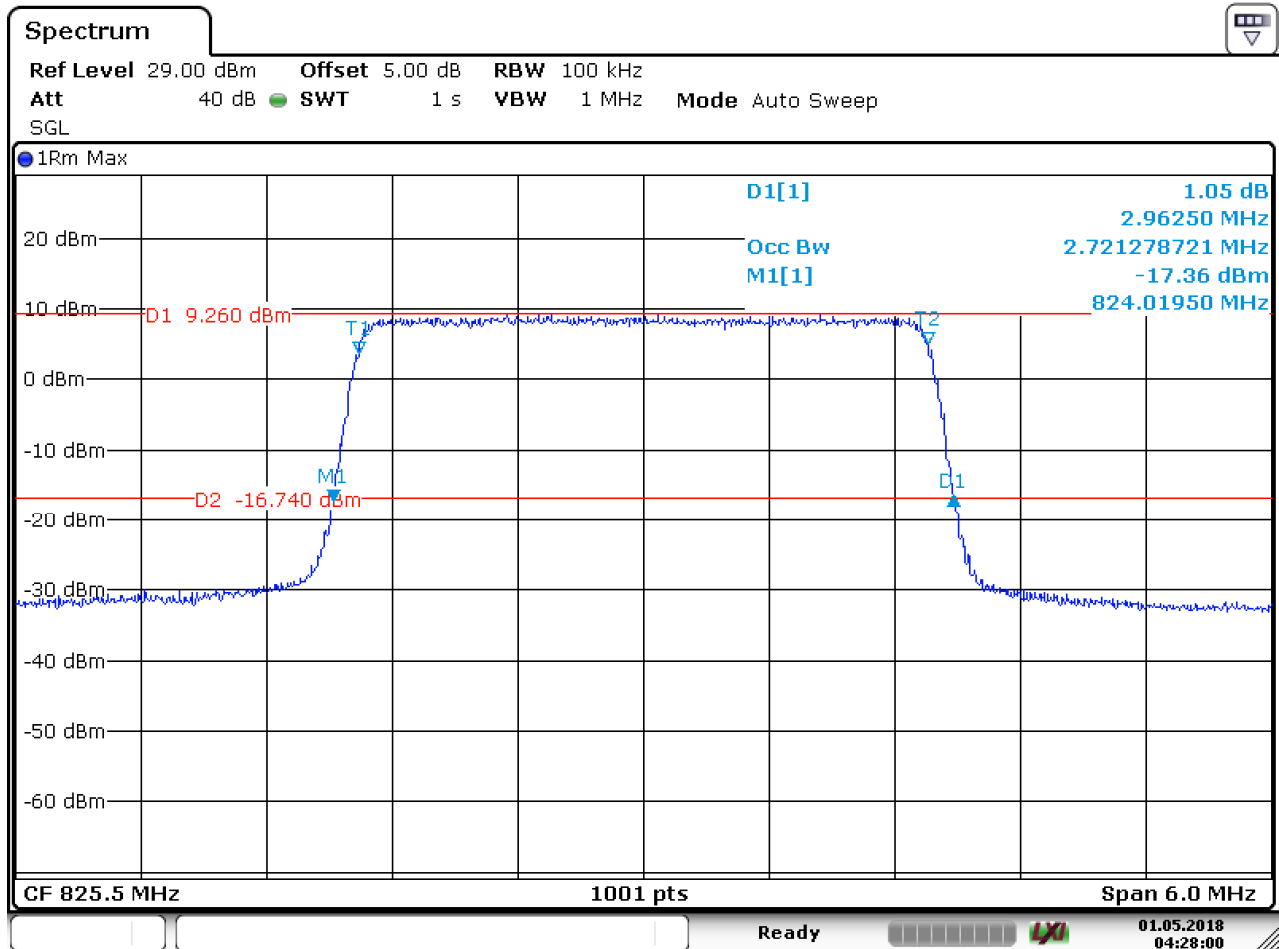


Date: 1.MAY.2018 04:24:25



4.1.1.3 Test Mode = LTE/TM1 3MHz

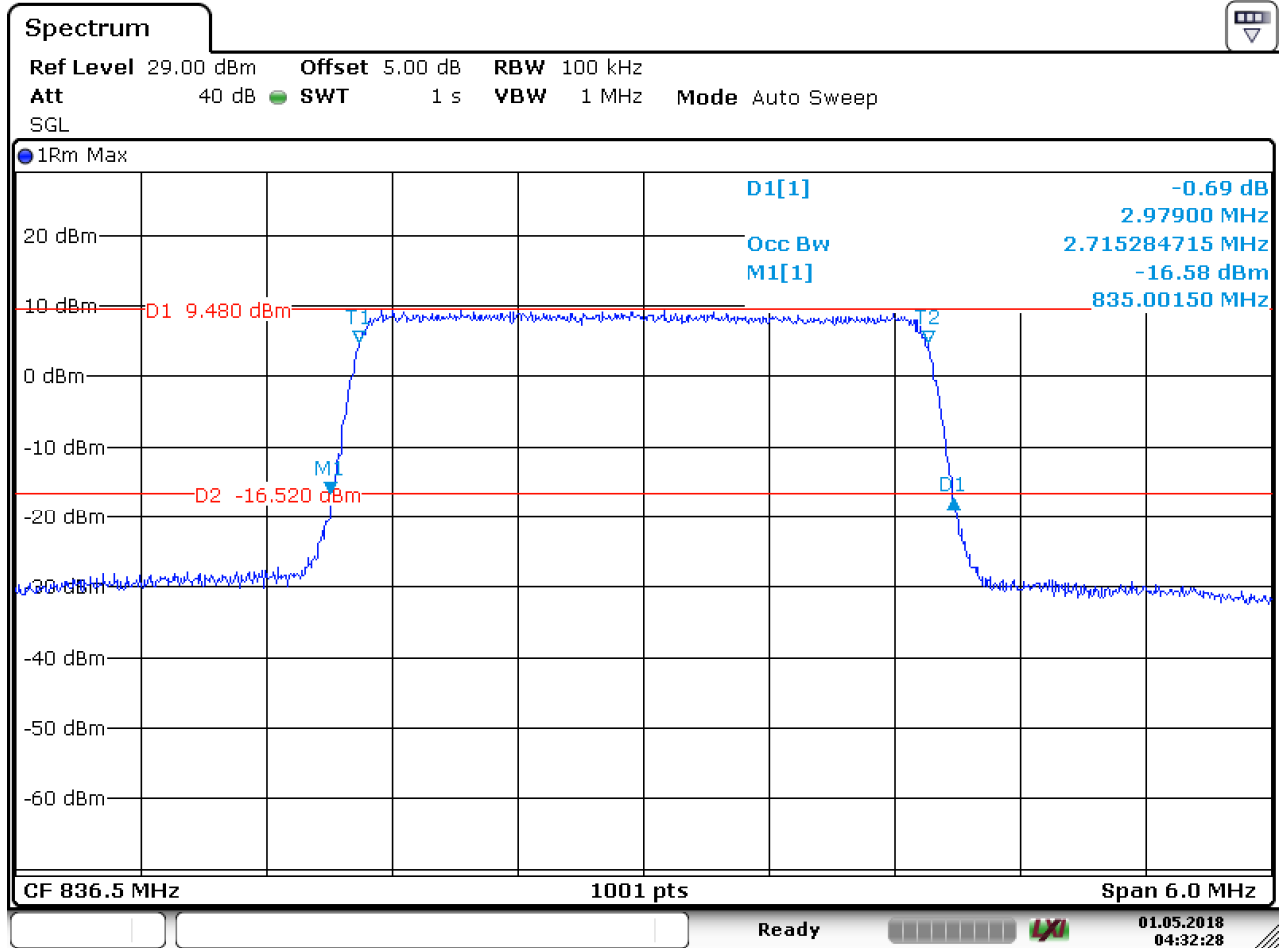
4.1.1.3.1 Test Channel = LCH



Date: 1.MAY.2018 04:28:01

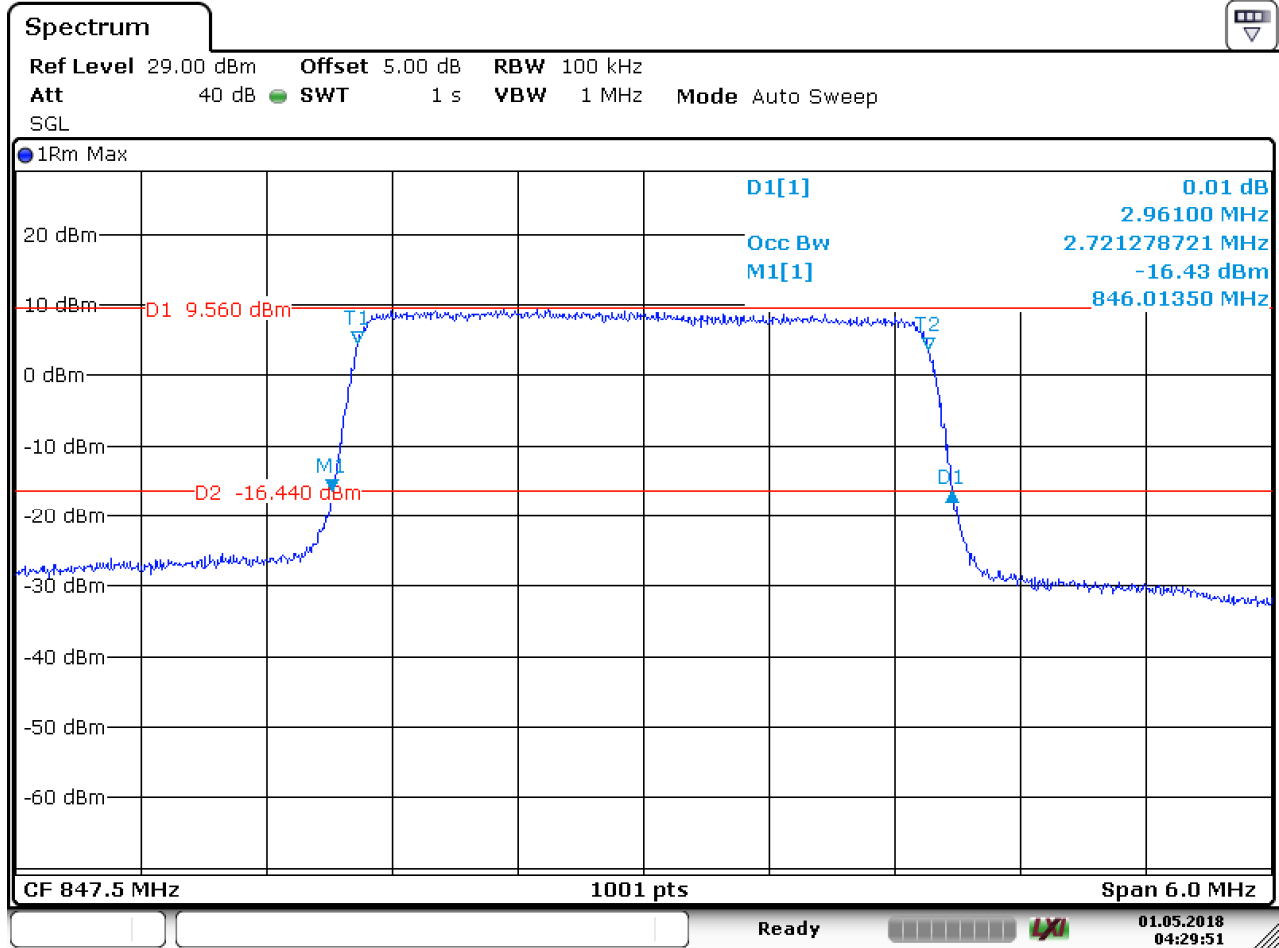


4.1.1.3.2 Test Channel = MCH



Date: 1.MAY.2018 04:32:28

**4.1.1.3.3 Test Channel = HCH**

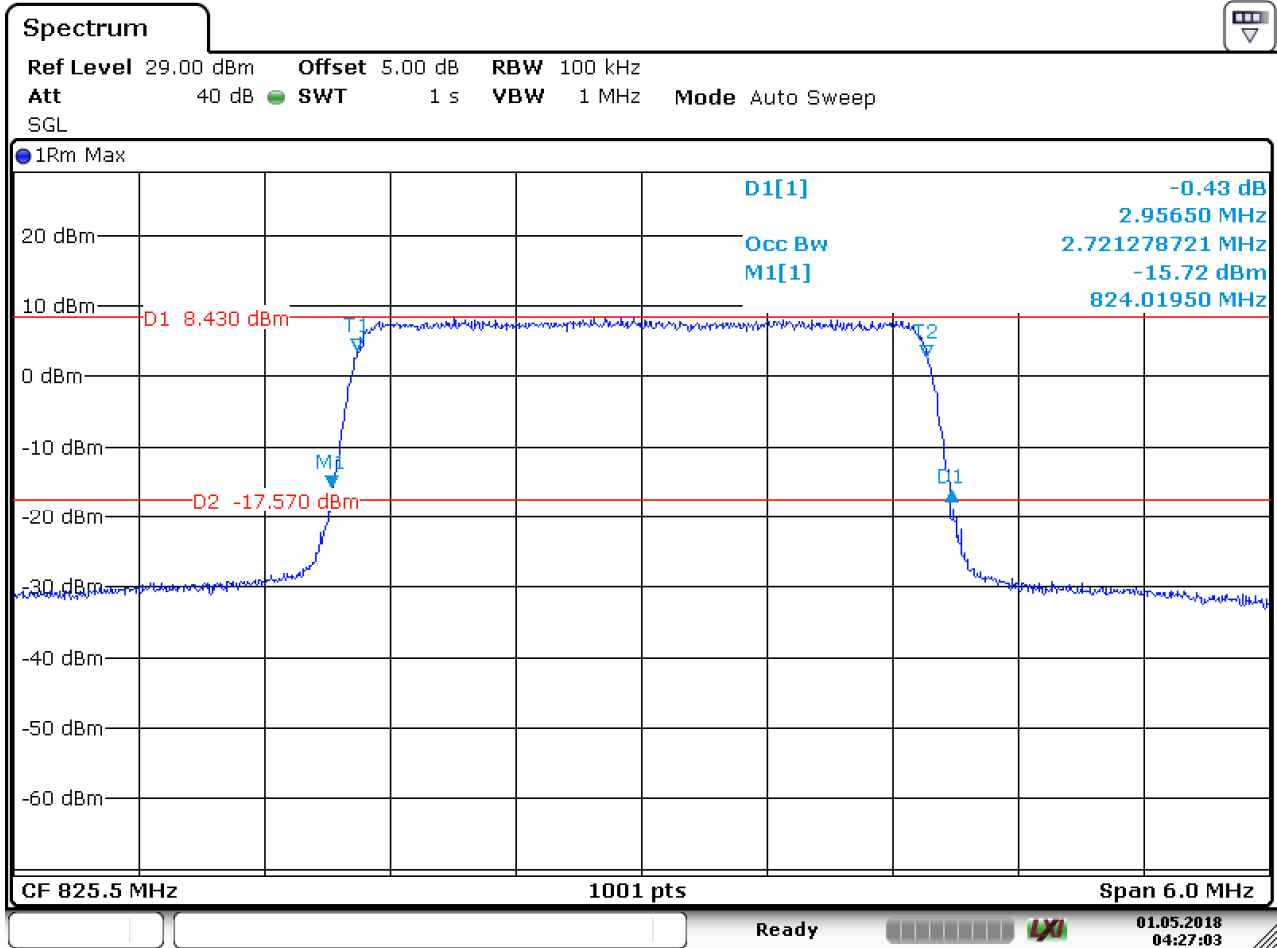


Date: 1.MAY.2018 04:29:51



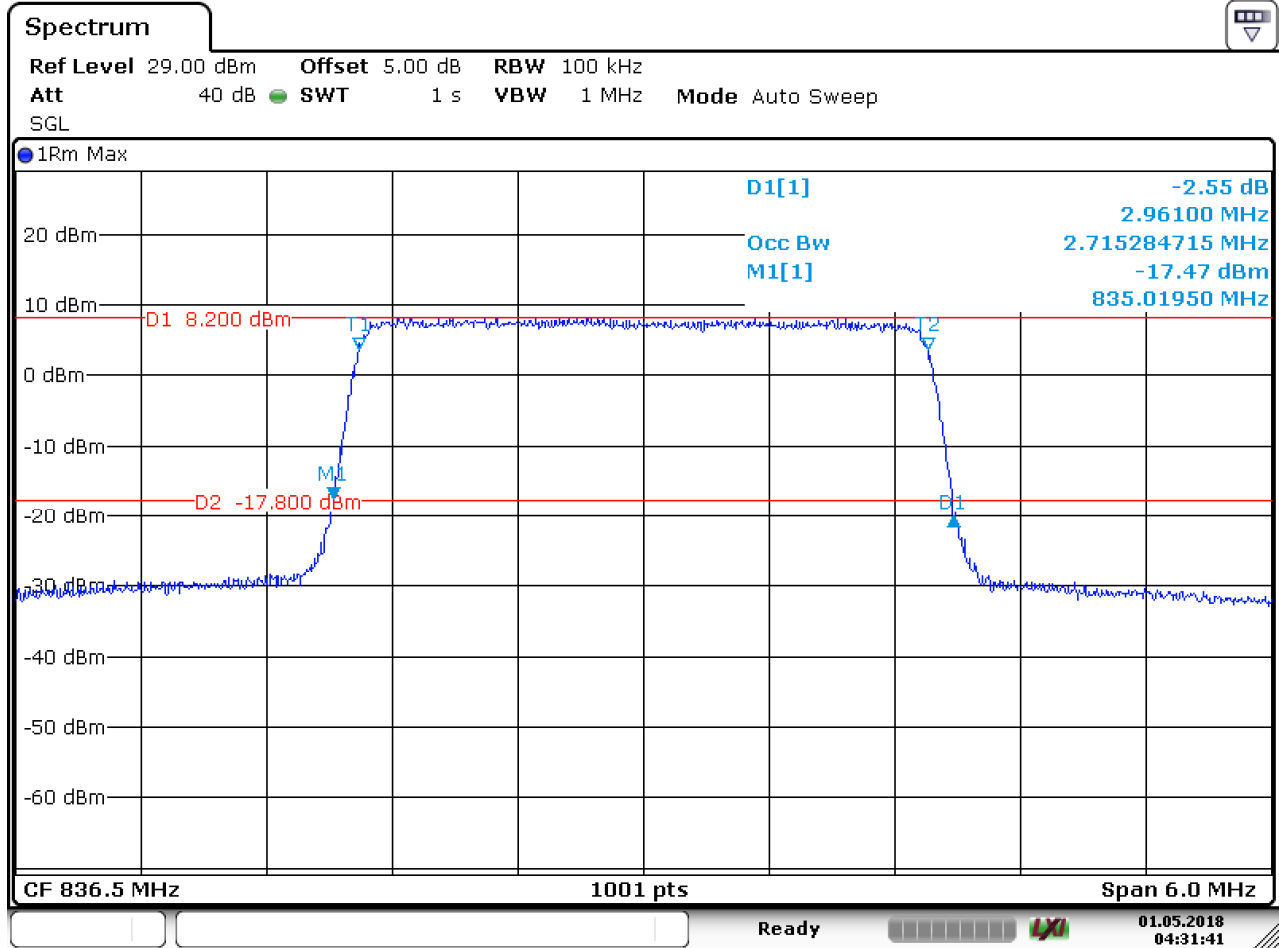
4.1.1.4 Test Mode = LTE/TM2 3MHz

4.1.1.4.1 Test Channel = LCH



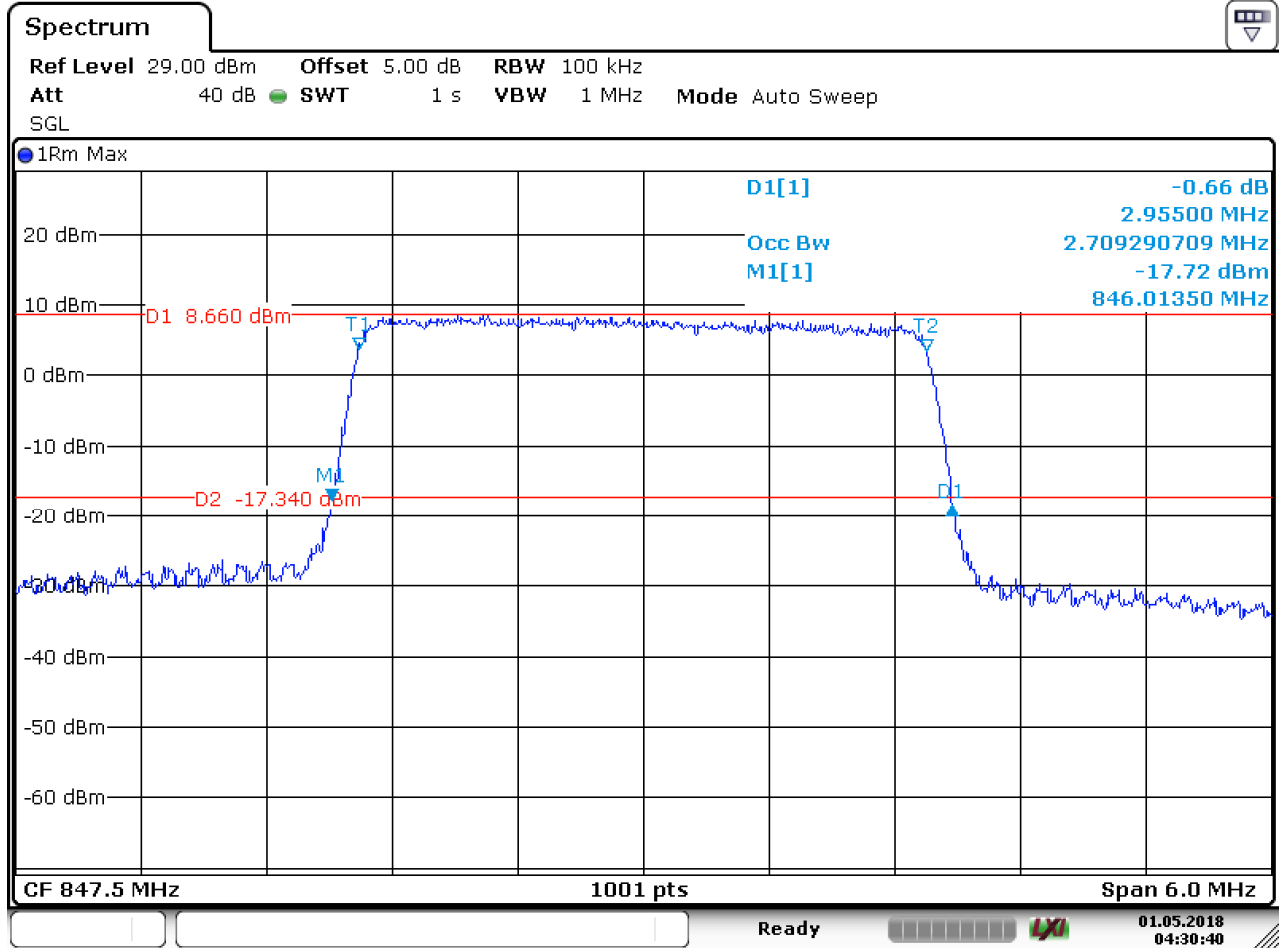
Date: 1.MAY.2018 04:27:04

**4.1.1.4.2 Test Channel = MCH**



Date: 1.MAY.2018 04:31:41

**4.1.1.4.3 Test Channel = HCH**

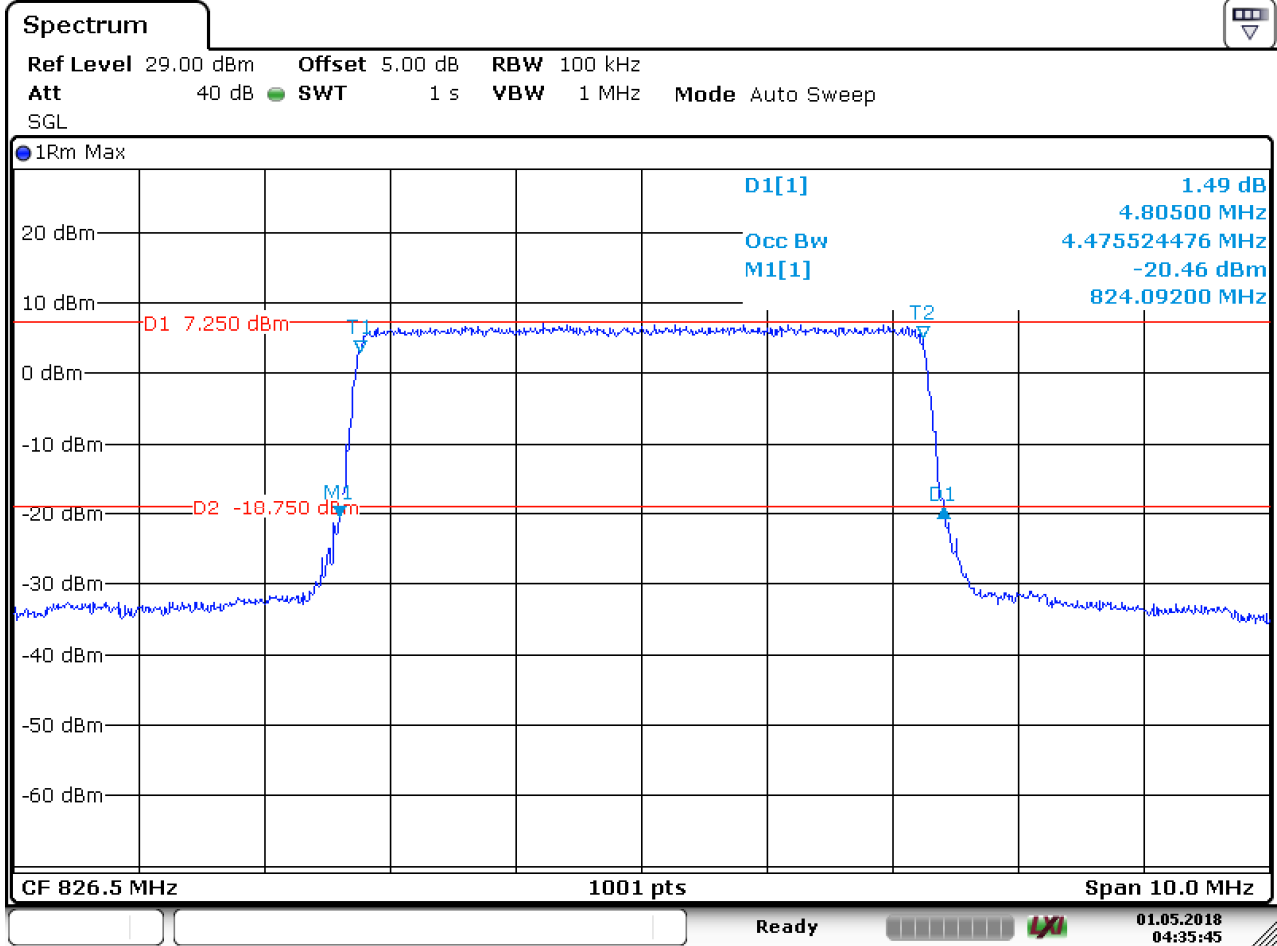


Date: 1.MAY.2018 04:30:41



4.1.1.5 Test Mode = LTE/TM1 5MHz

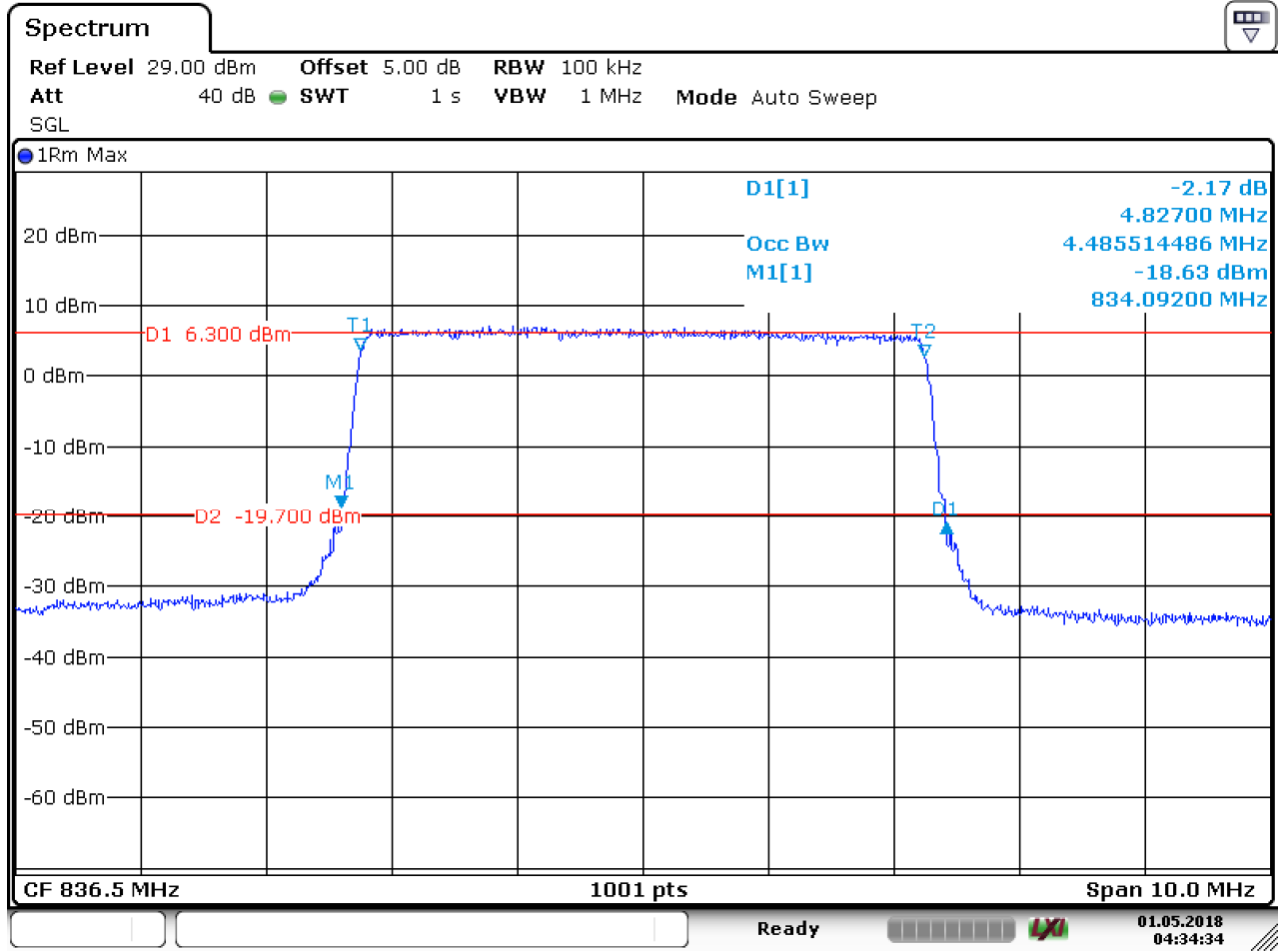
4.1.1.5.1 Test Channel = LCH



Date: 1.MAY.2018 04:35:46



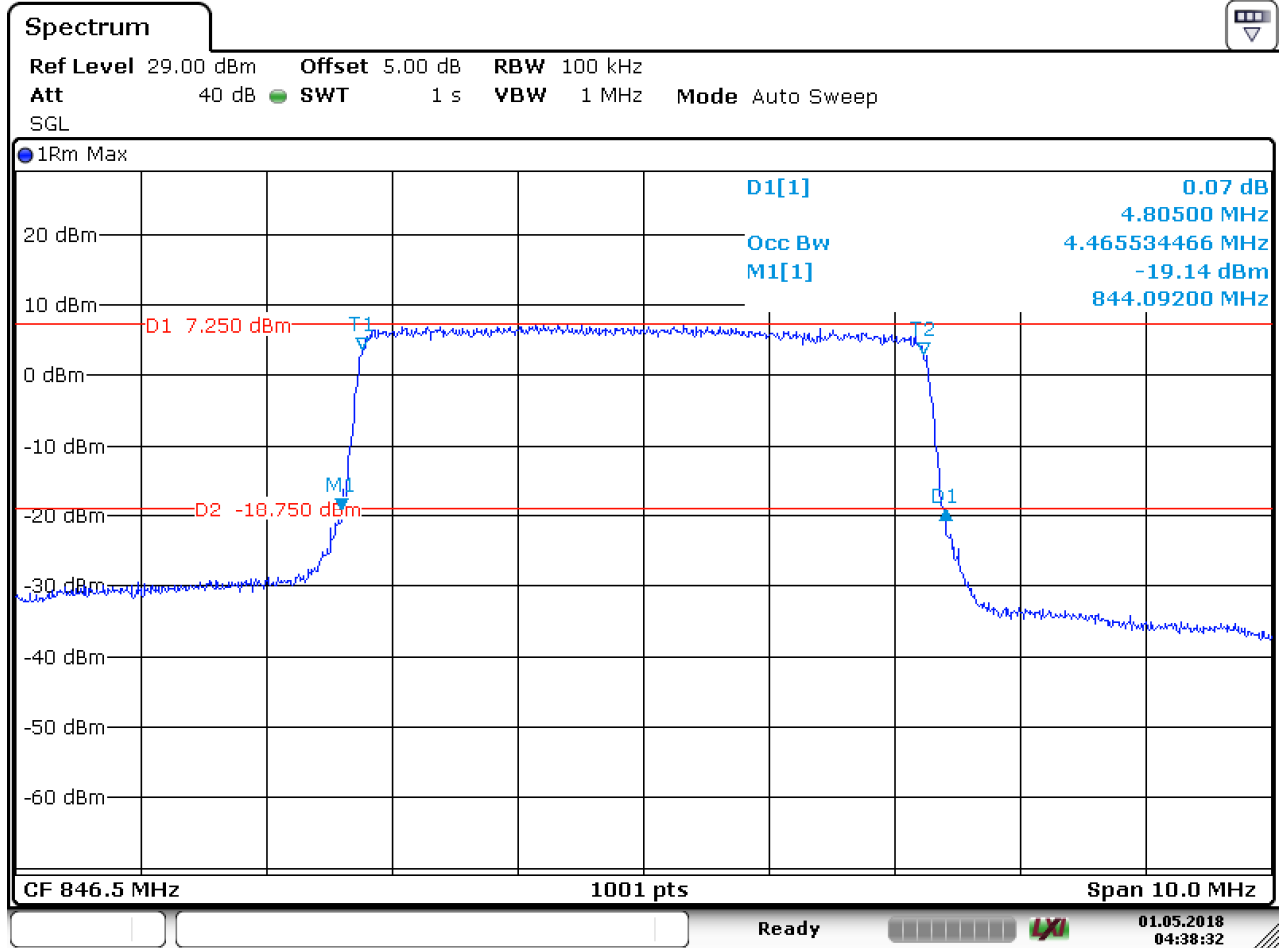
### 4.1.1.5.2 Test Channel = MCH



Date: 1.MAY.2018 04:34:35



4.1.1.5.3 Test Channel = HCH

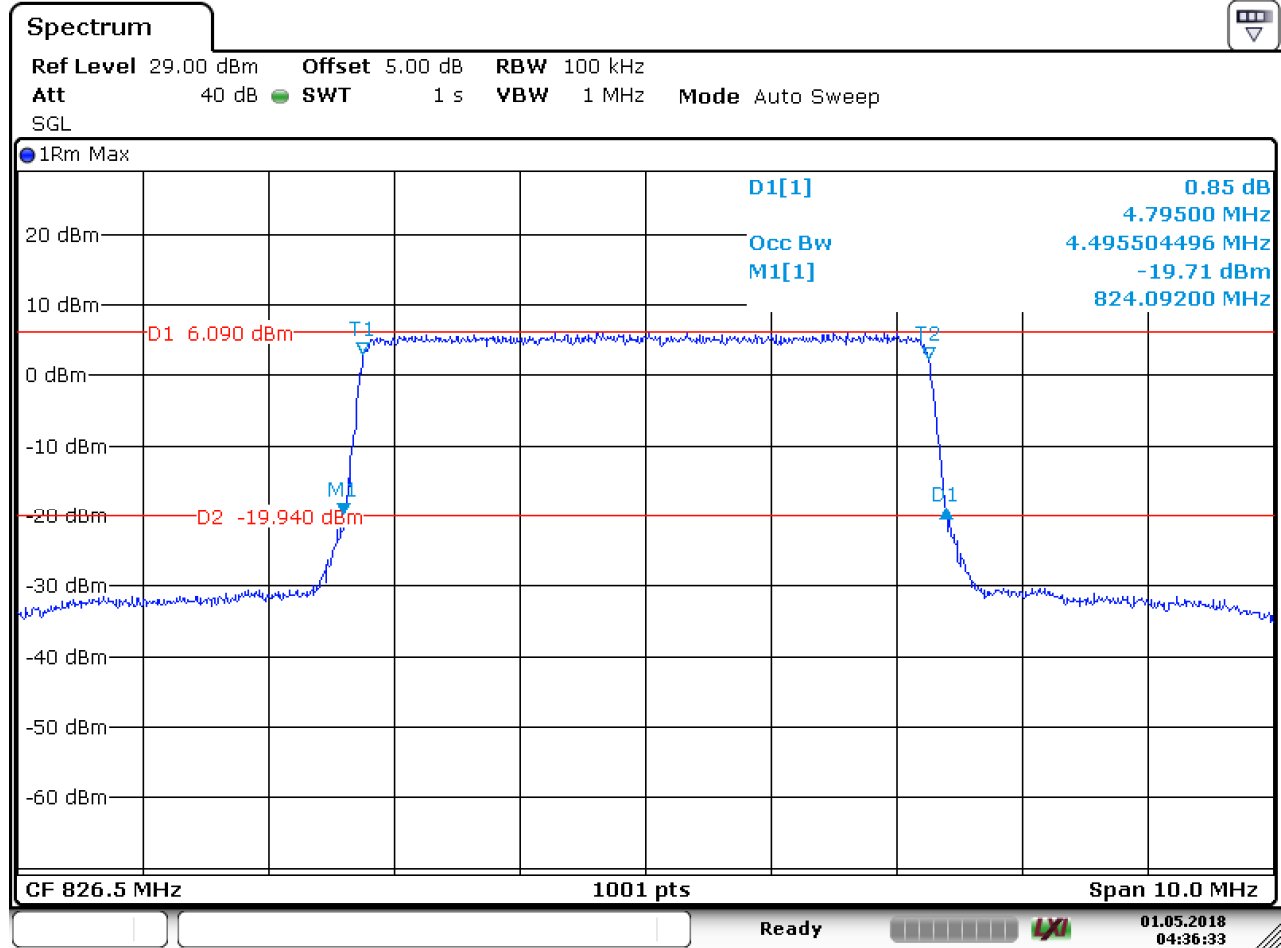


Date: 1.MAY.2018 04:38:32



4.1.1.6 Test Mode = LTE/TM2 5MHz

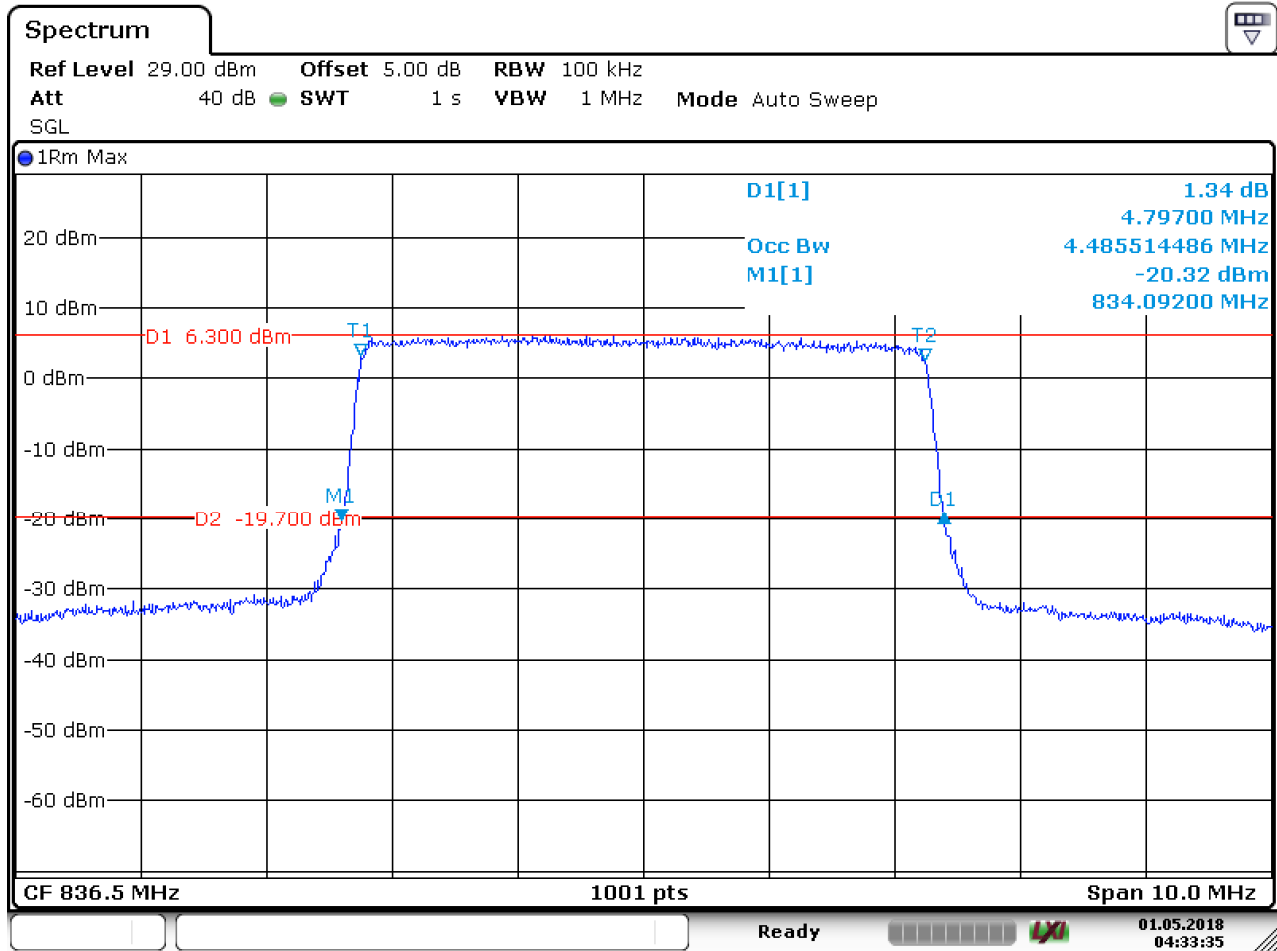
4.1.1.6.1 Test Channel = LCH



Date: 1.MAY.2018 04:36:34



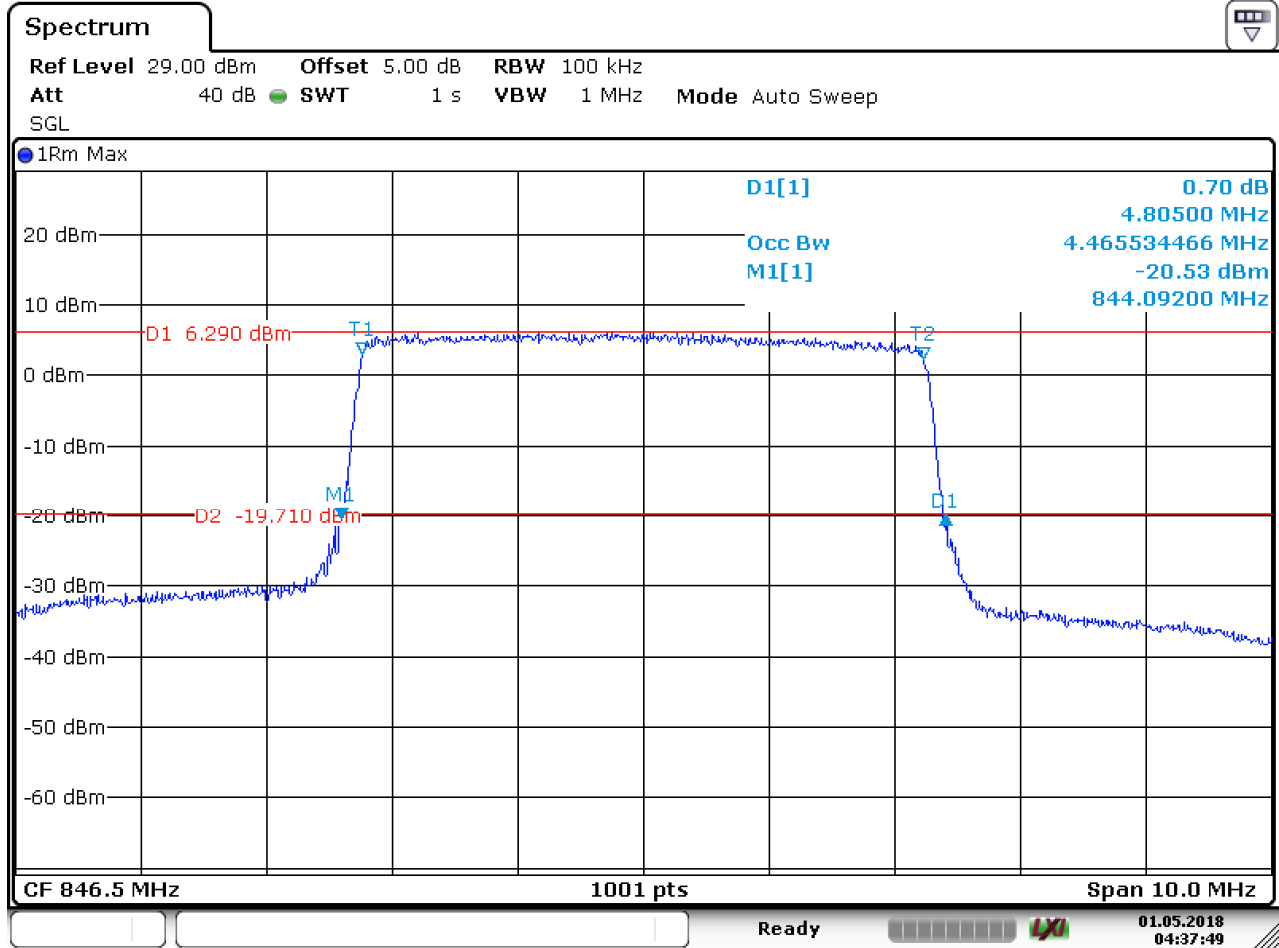
4.1.1.6.2 Test Channel = MCH



Date: 1.MAY.2018 04:33:35



4.1.1.6.3 Test Channel = HCH

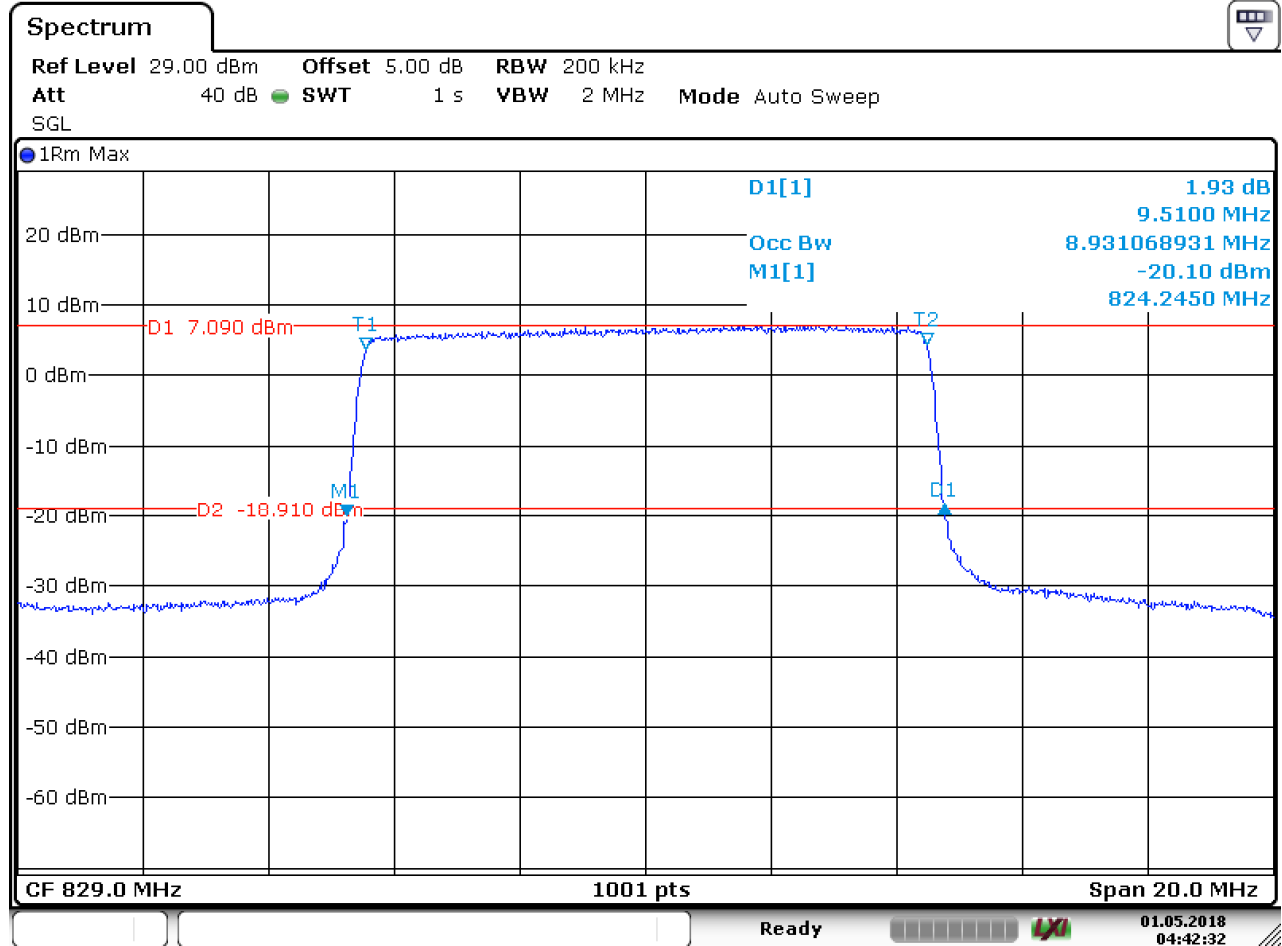


Date: 1.MAY.2018 04:37:50



4.1.1.7 Test Mode = LTE/TM1 10MHz

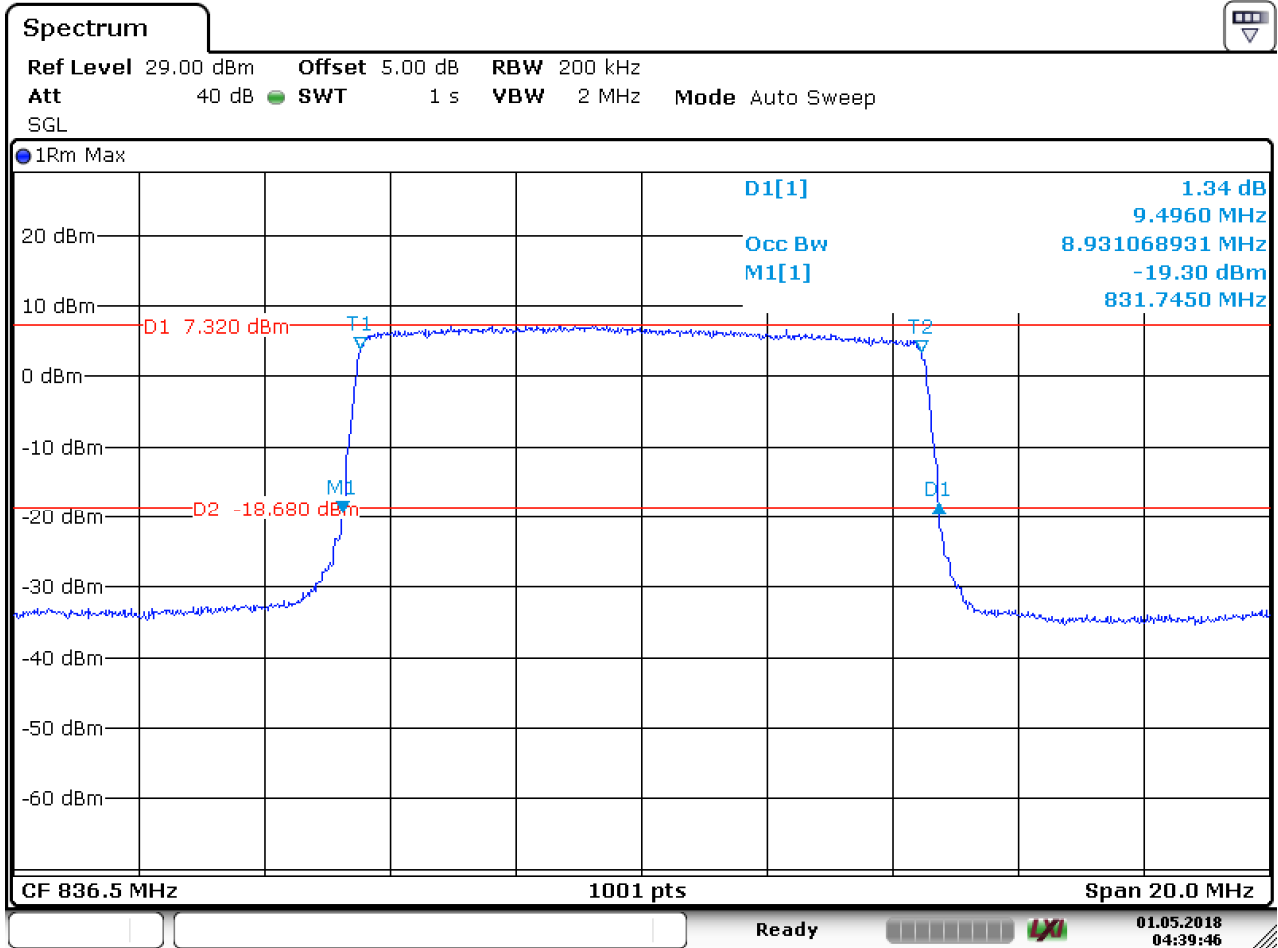
4.1.1.7.1 Test Channel = LCH



Date: 1.MAY.2018 04:42:33

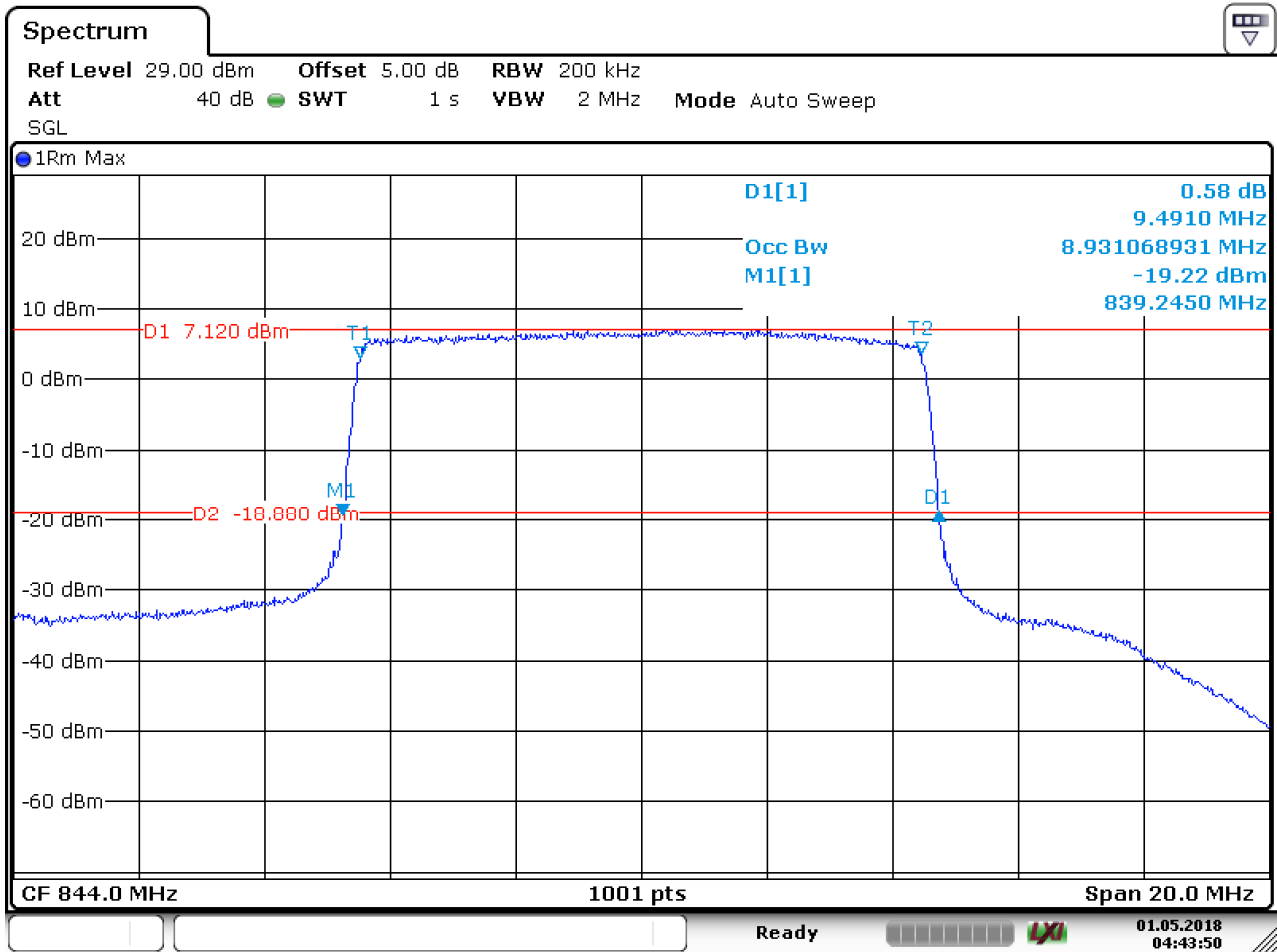


4.1.1.7.2 Test Channel = MCH



Date: 1.MAY.2018 04:39:46

4.1.1.7.3 Test Channel = HCH



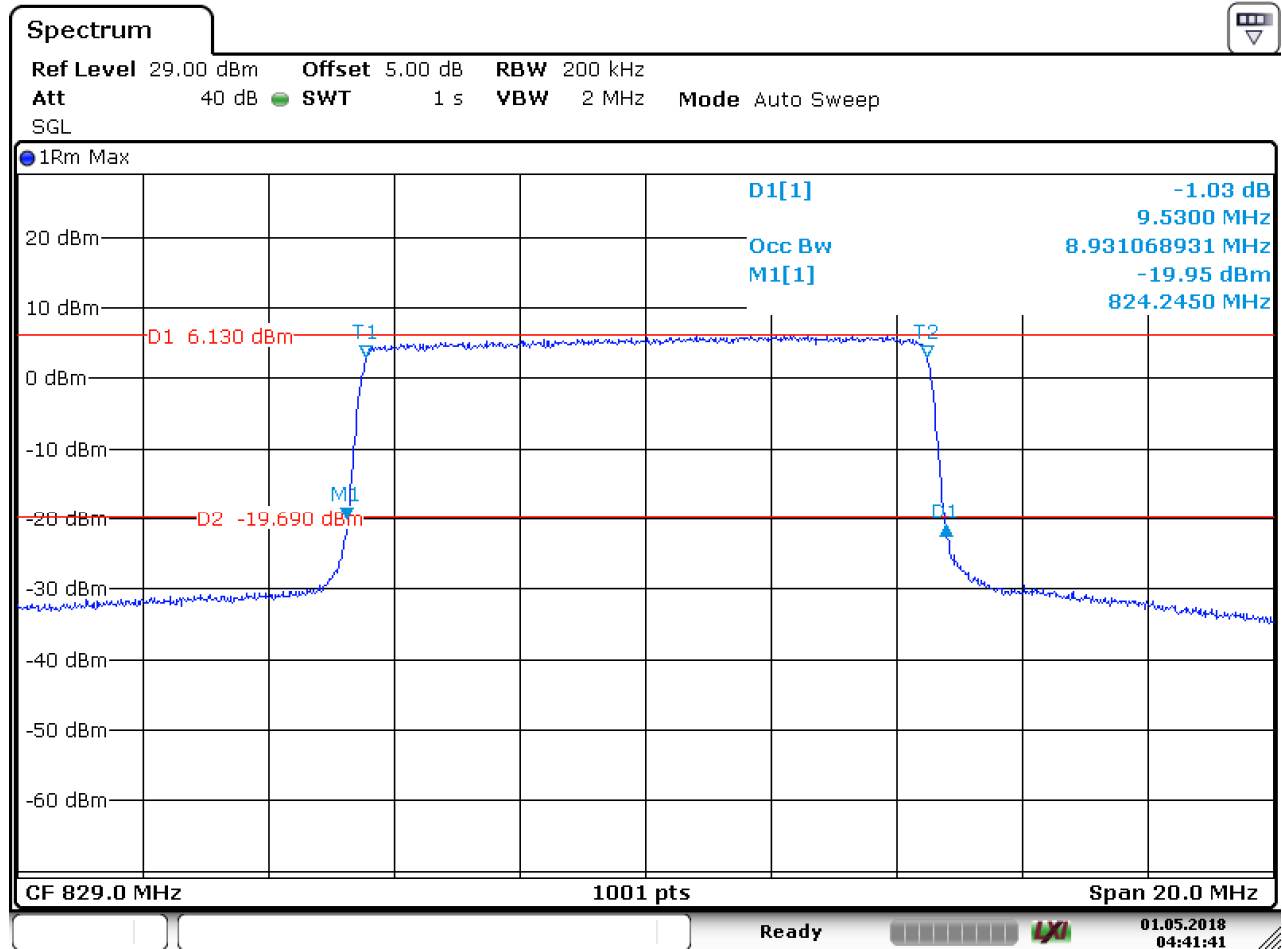
Date: 1.MAY.2018 04:43:51





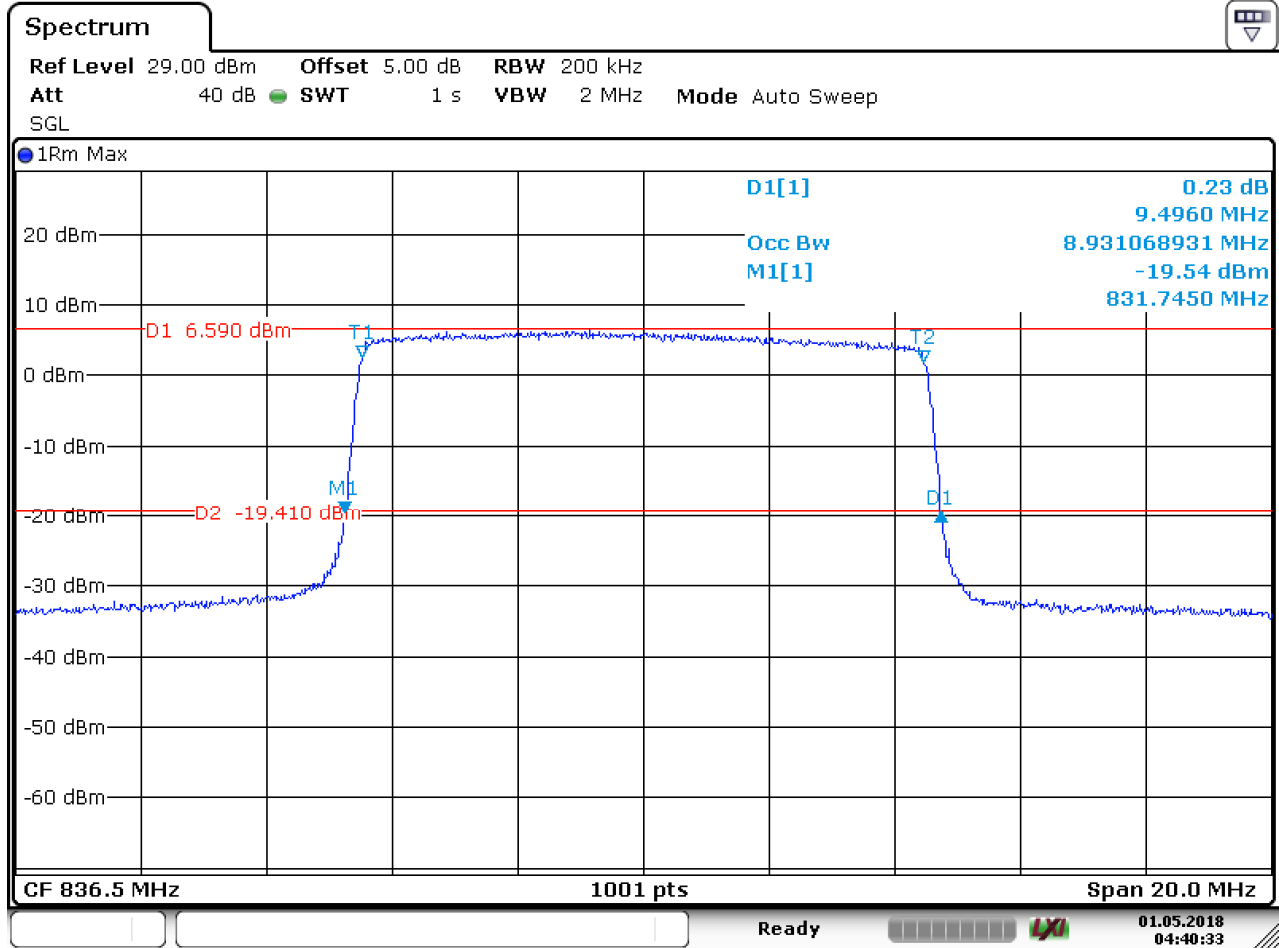
4.1.1.8 Test Mode = LTE/TM2 10MHz

4.1.1.8.1 Test Channel = LCH



Date: 1.MAY.2018 04:41:41

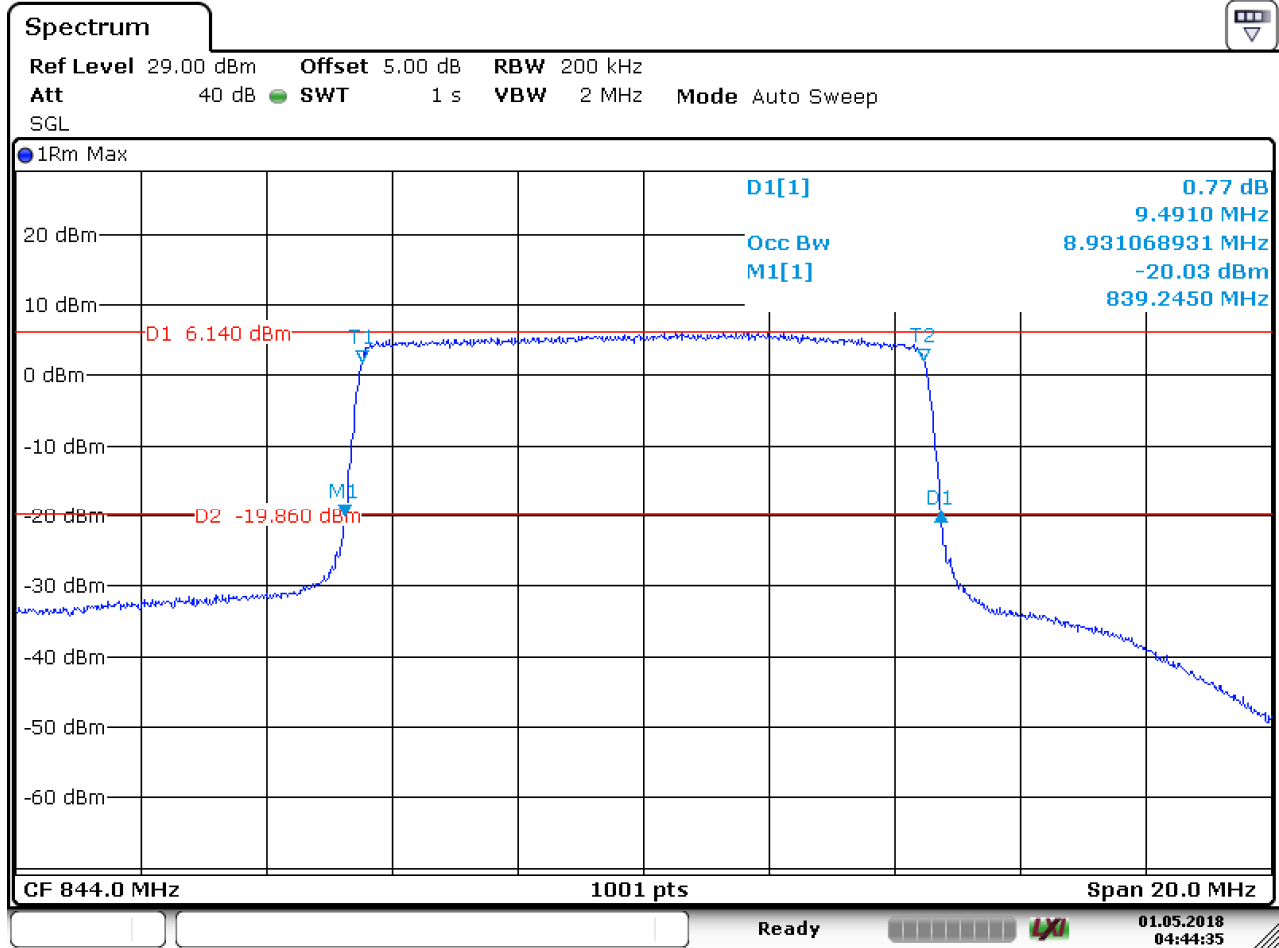
**4.1.1.8.2 Test Channel = MCH**



Date: 1.MAY.2018 04:40:34



4.1.1.8.3 Test Channel = HCH



Date: 1.MAY.2018 04:44:35

## 5 Band Edges Compliance

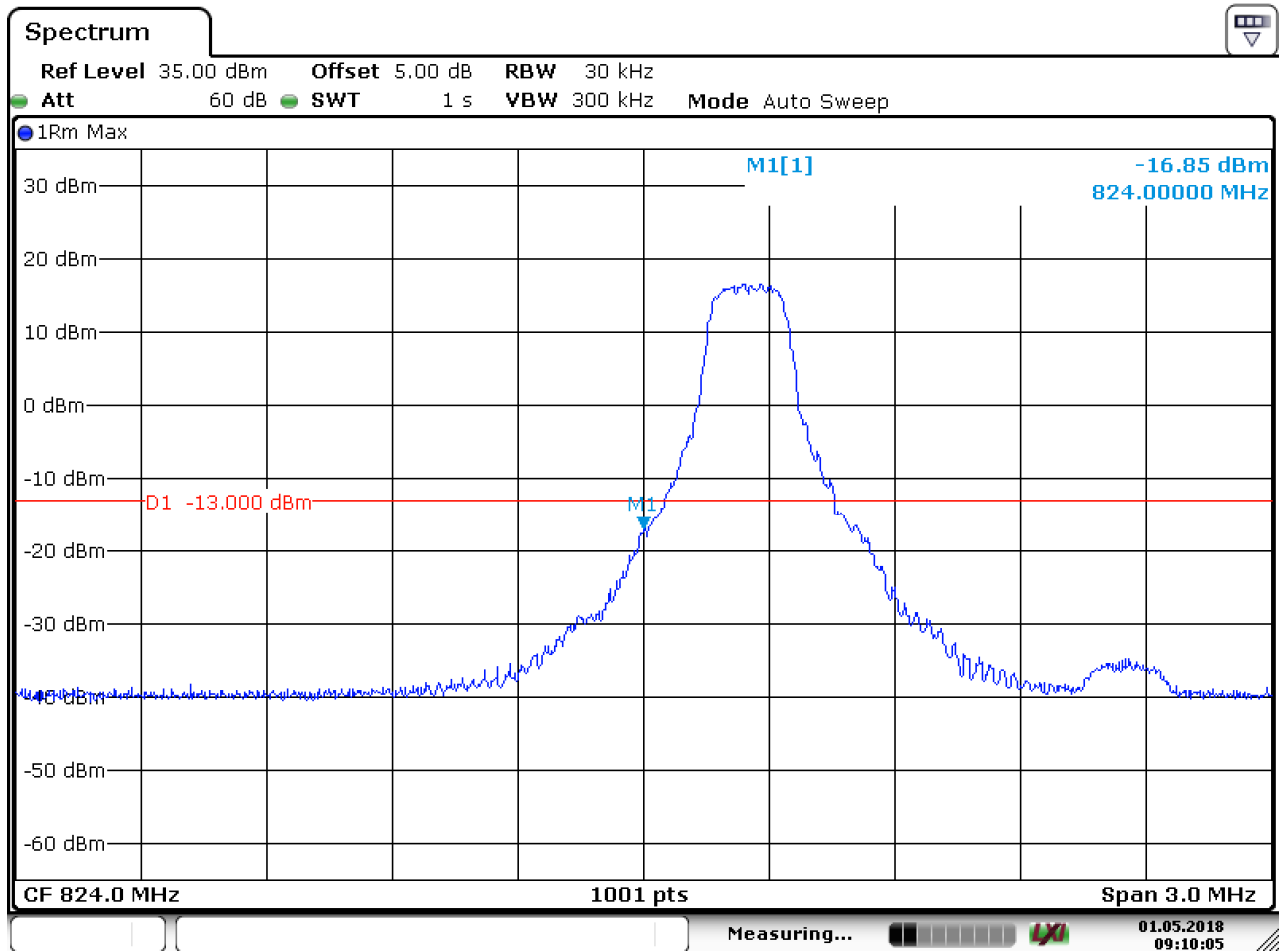
### 5.1 For LTE

#### 5.1.1 Test Band = LTE band5

##### 5.1.1.1 Test Mode = LTE/TM1 1.4MHz

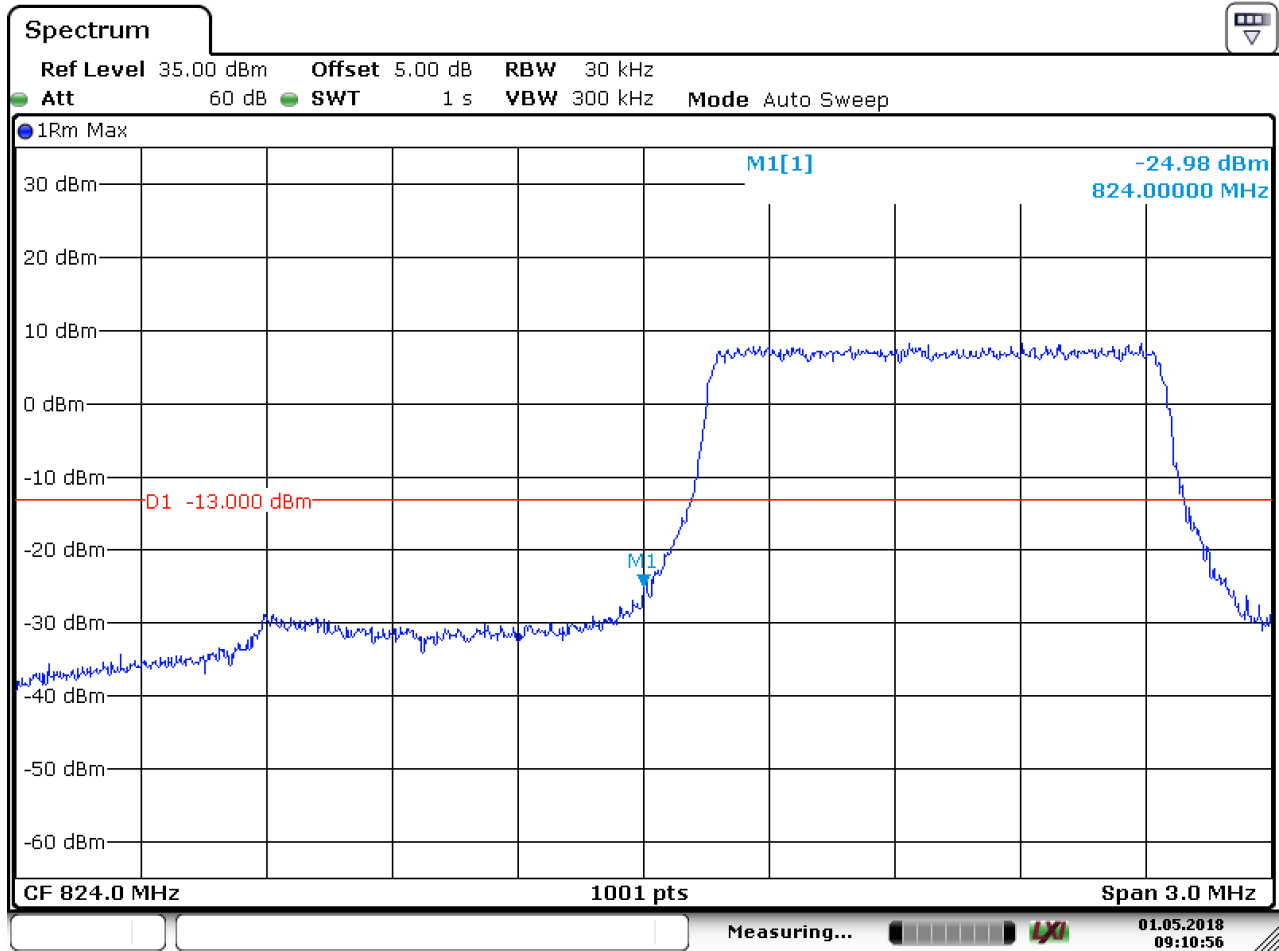
##### 5.1.1.1.1 Test Channel = LCH

##### 5.1.1.1.1.1 Test RB=1RB



Date: 1.MAY.2018 09:10:05

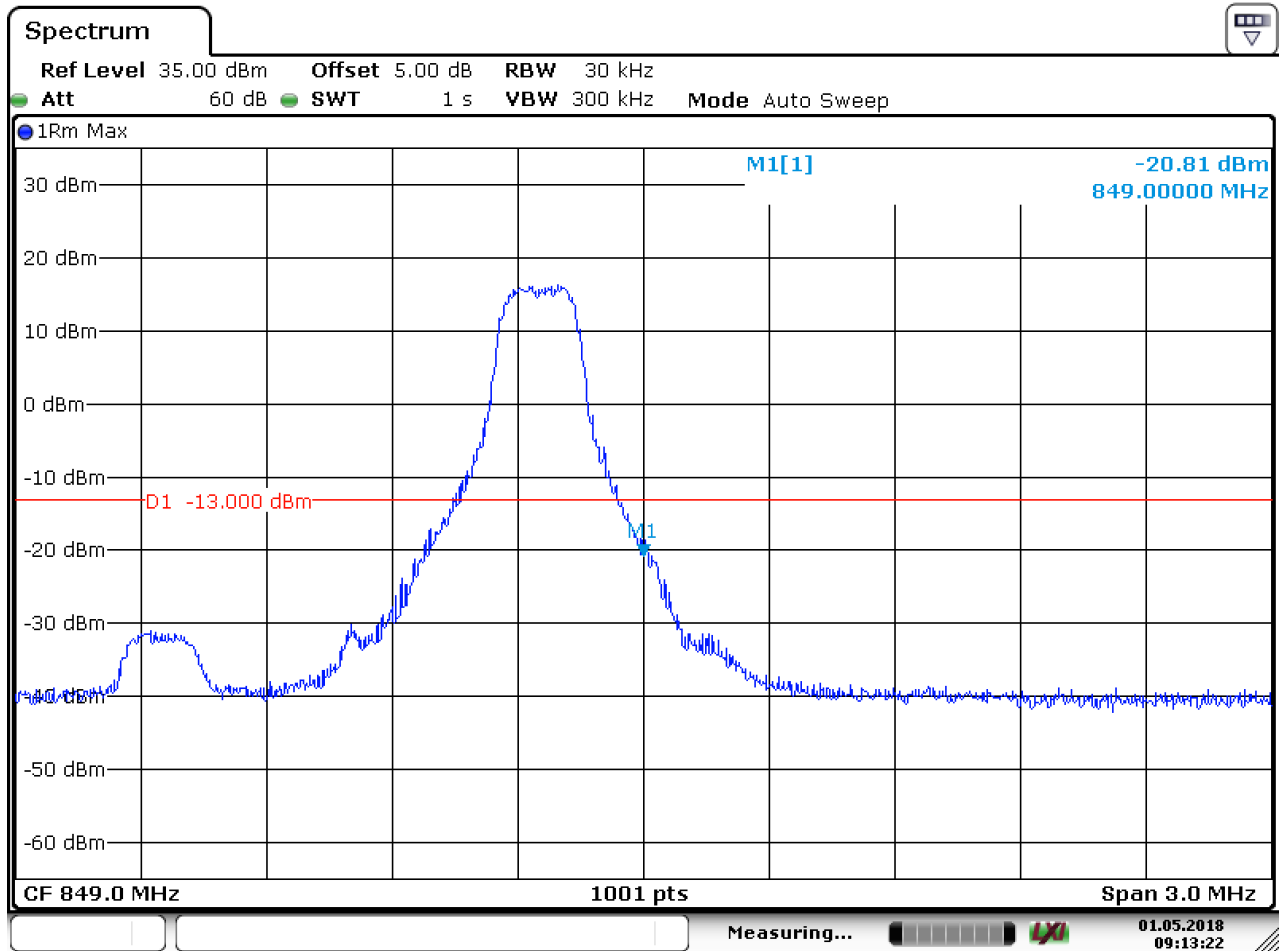
**5.1.1.1.2 Test RB=6RB**



Date: 1.MAY.2018 09:10:57

**5.1.1.1.2 Test Channel = HCH**

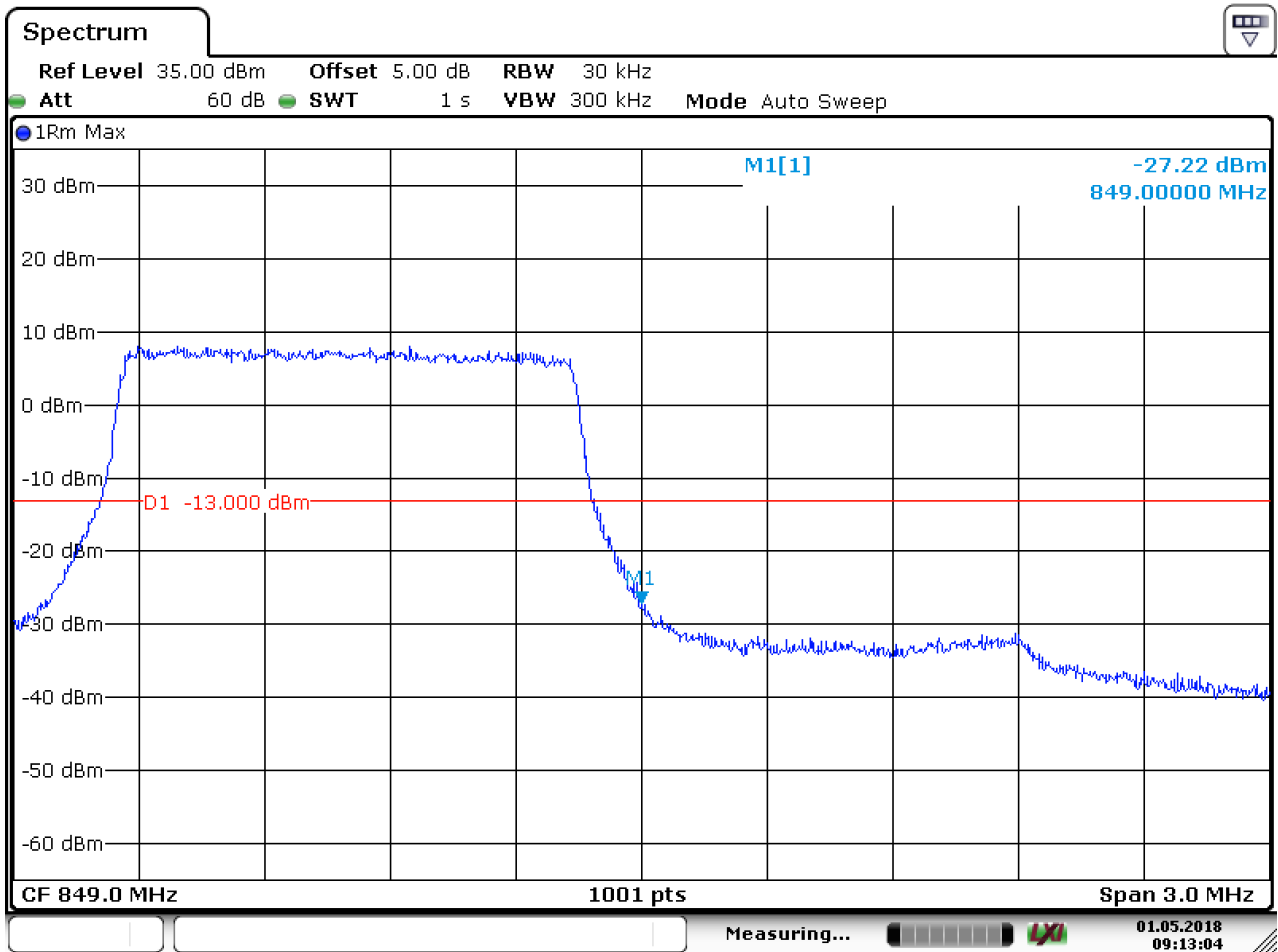
**5.1.1.1.2.1 Test RB=1RB**



Date: 1.MAY.2018 09:13:22



5.1.1.1.2.2 Test RB=6RB



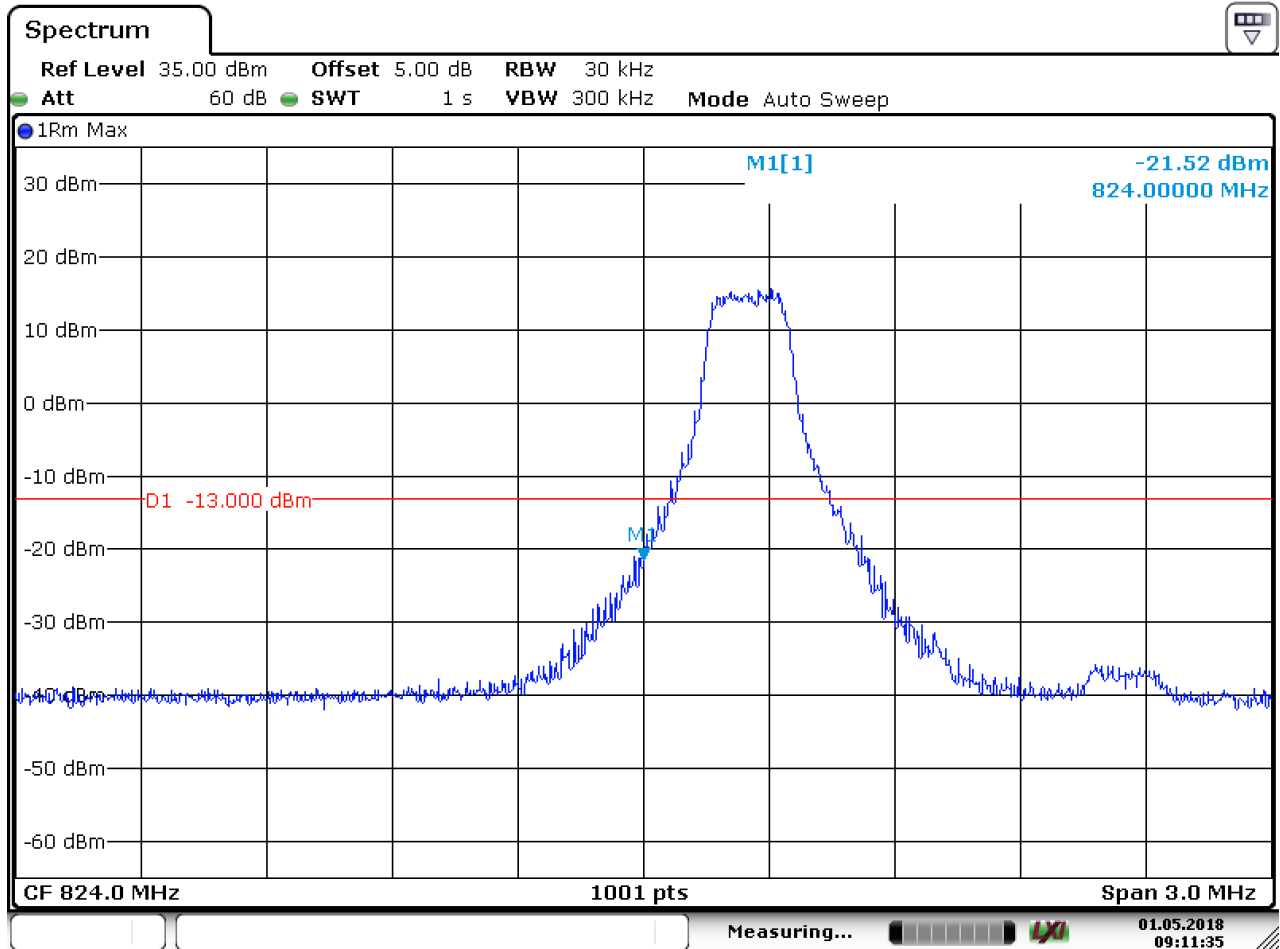
Date: 1.MAY.2018 09:13:05



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

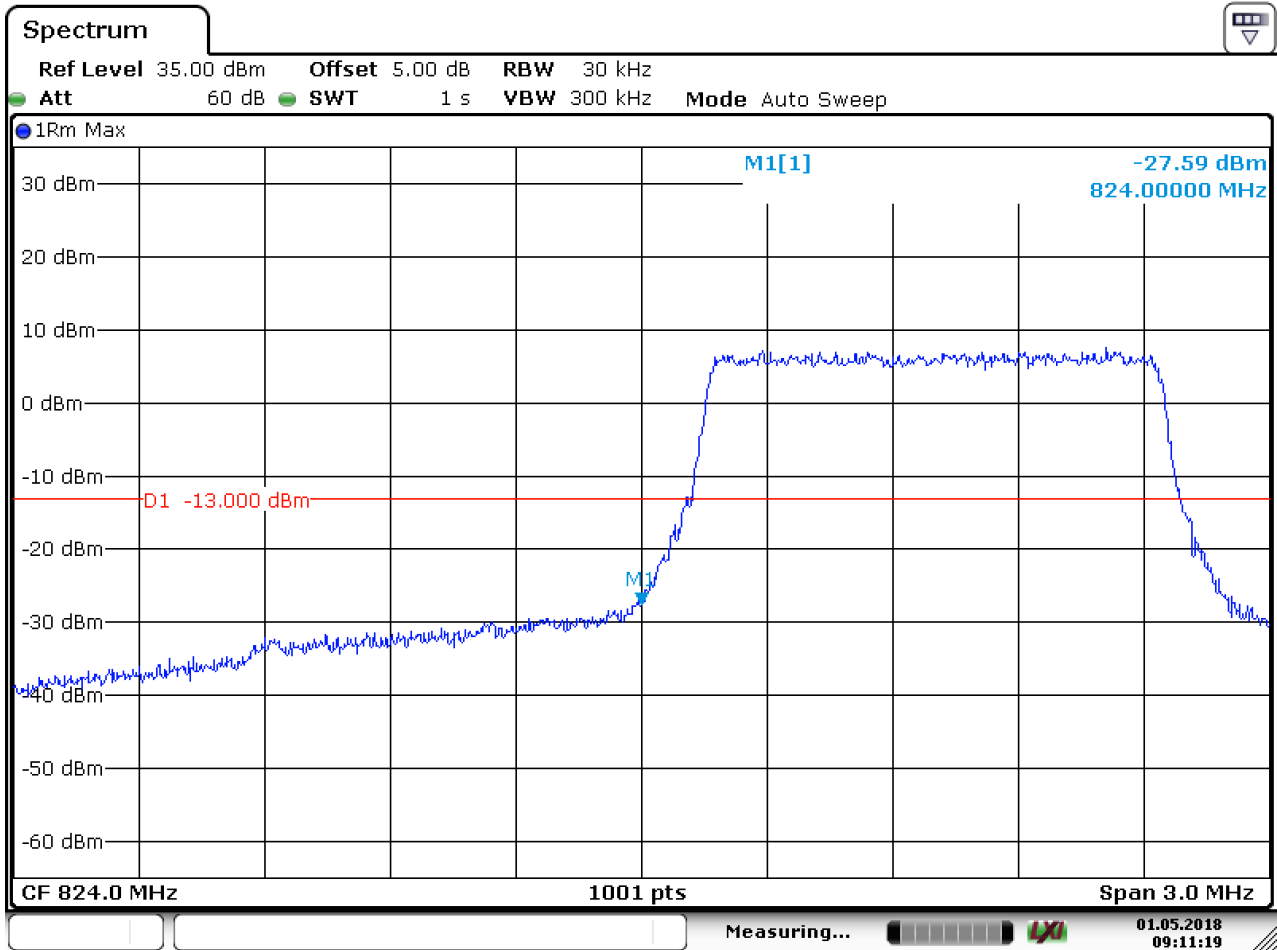


Date: 1.MAY.2018 09:11:35





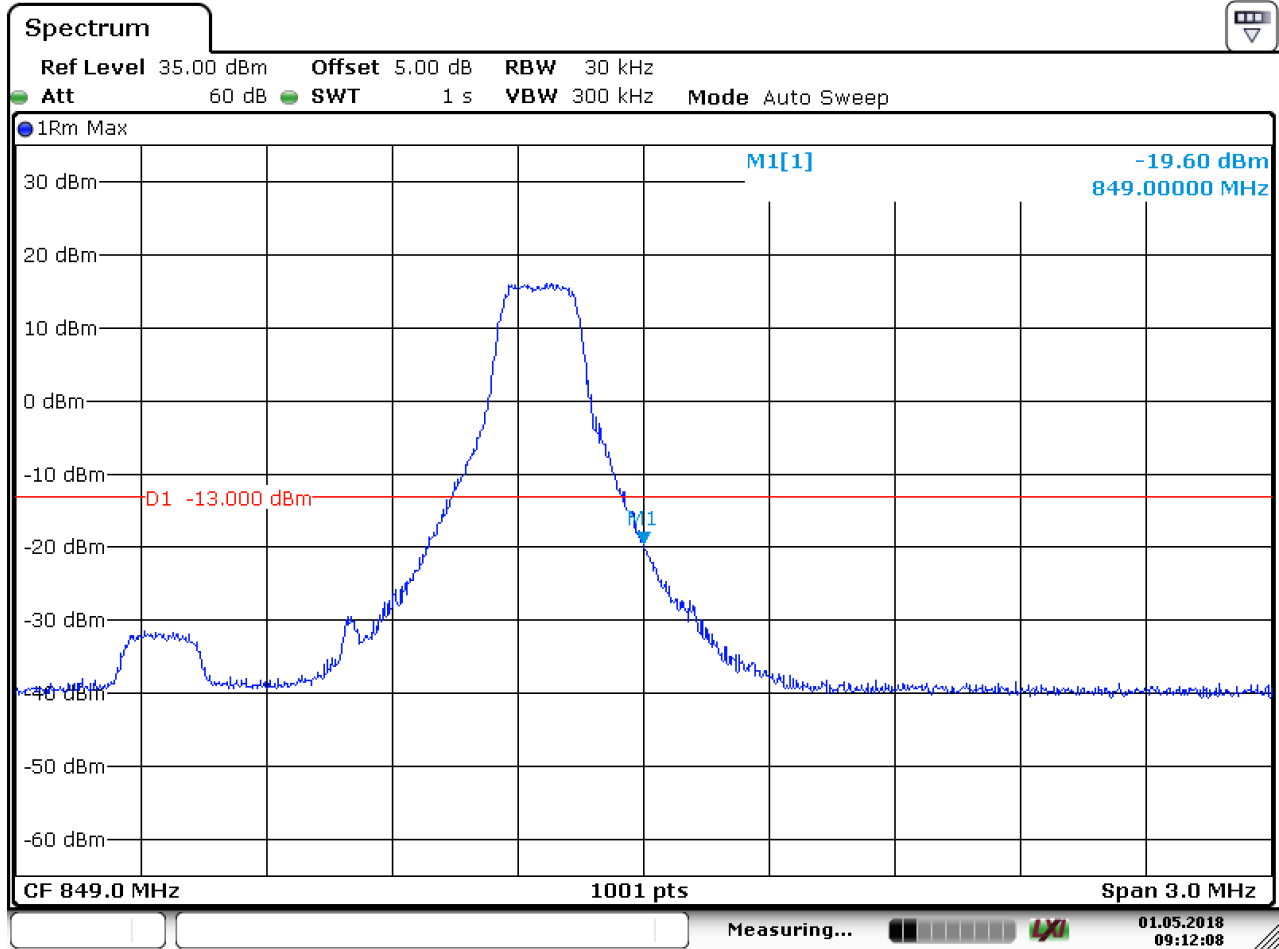
5.1.1.2.1.2 Test RB=6RB



Date: 1.MAY.2018 09:11:19

**5.1.1.2.2 Test Channel = HCH**

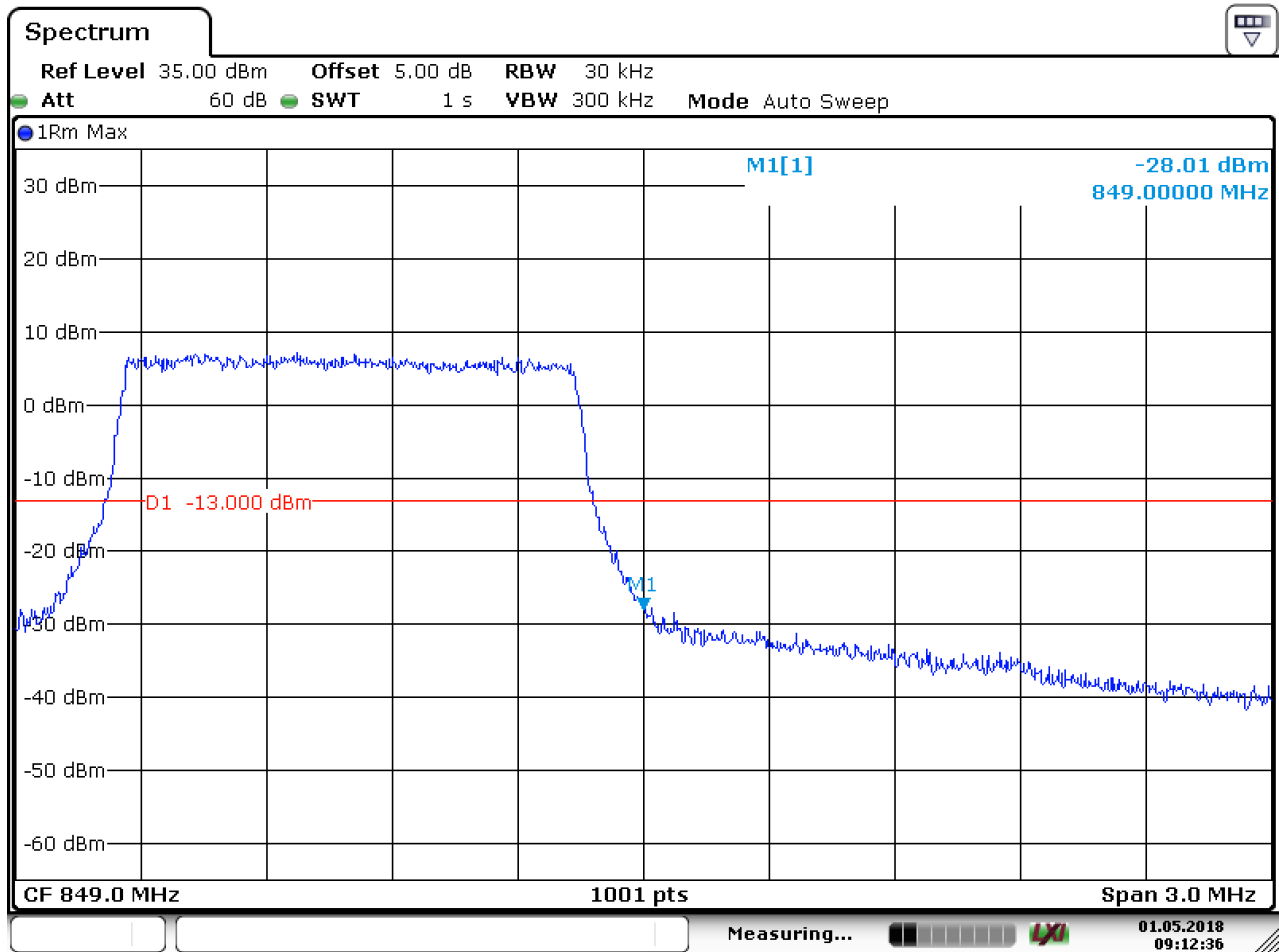
**5.1.1.2.2.1 Test RB=1RB**



Date: 1.MAY.2018 09:12:09



5.1.1.2.2.2 Test RB=6RB



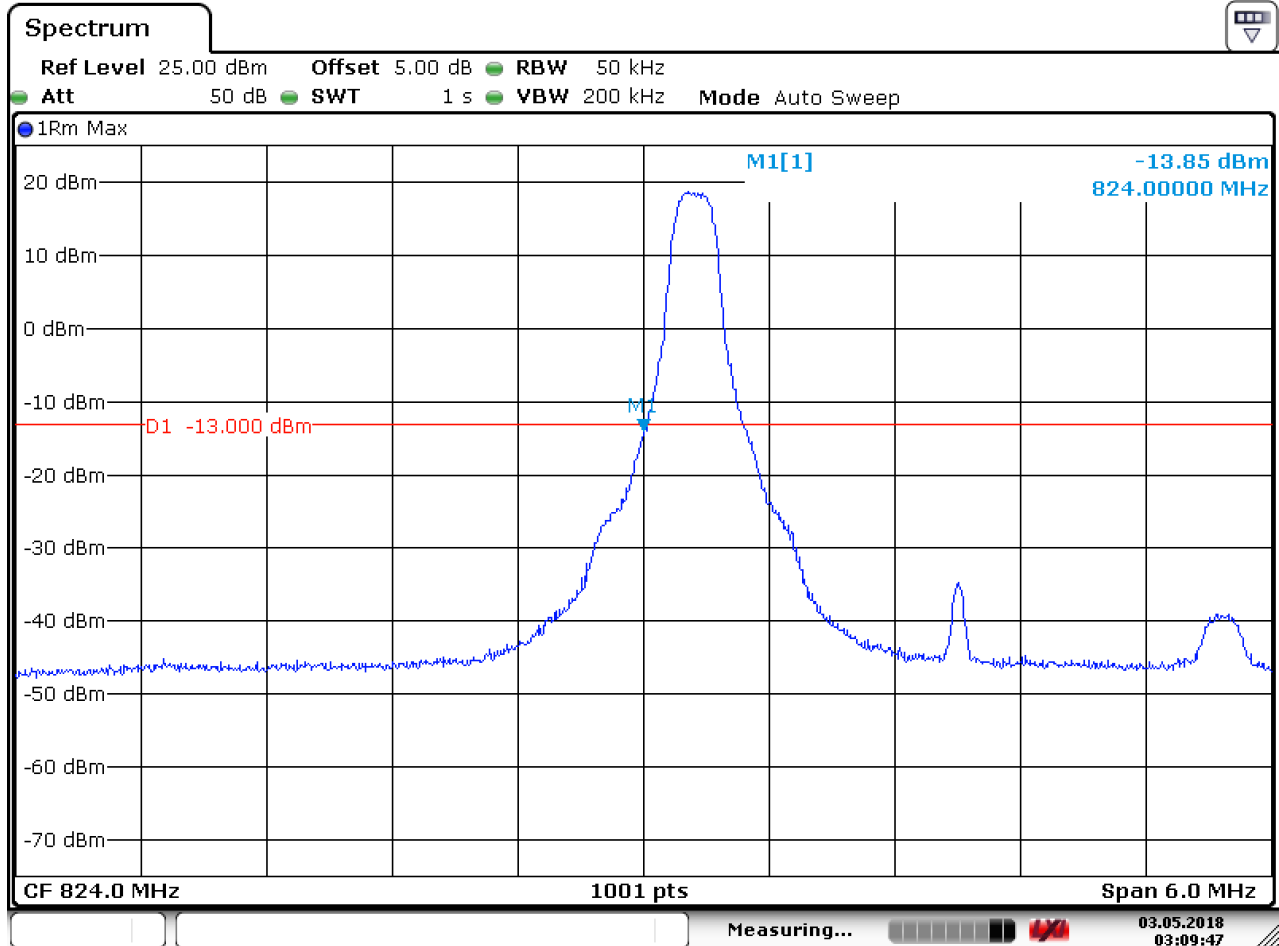
Date: 1.MAY.2018 09:12:36



5.1.1.3 Test Mode = LTE/TM1 3MHz

5.1.1.3.1 Test Channel = LCH

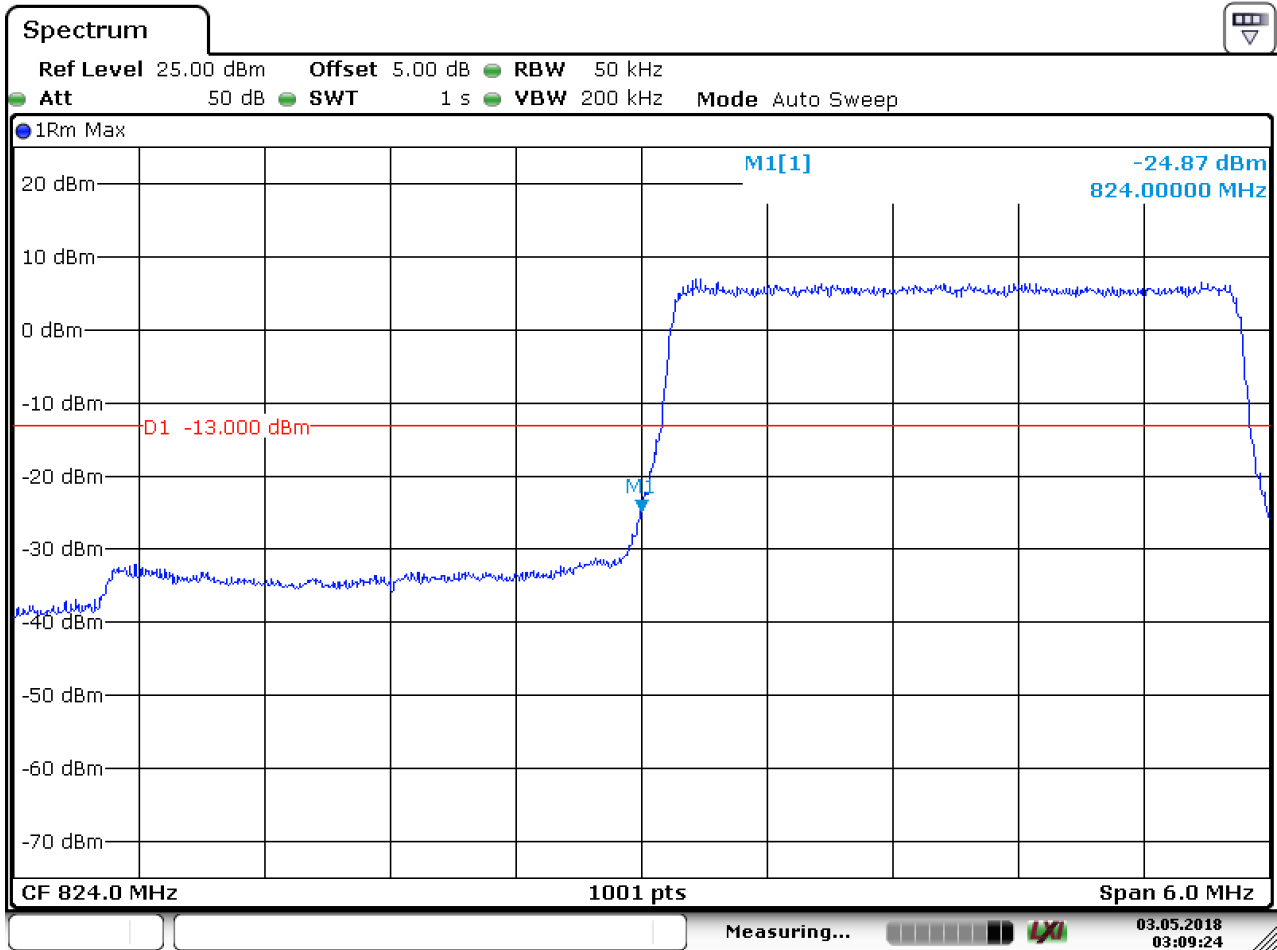
5.1.1.3.1.1 Test RB=1RB



Date: 3.MAY.2018 03:09:48



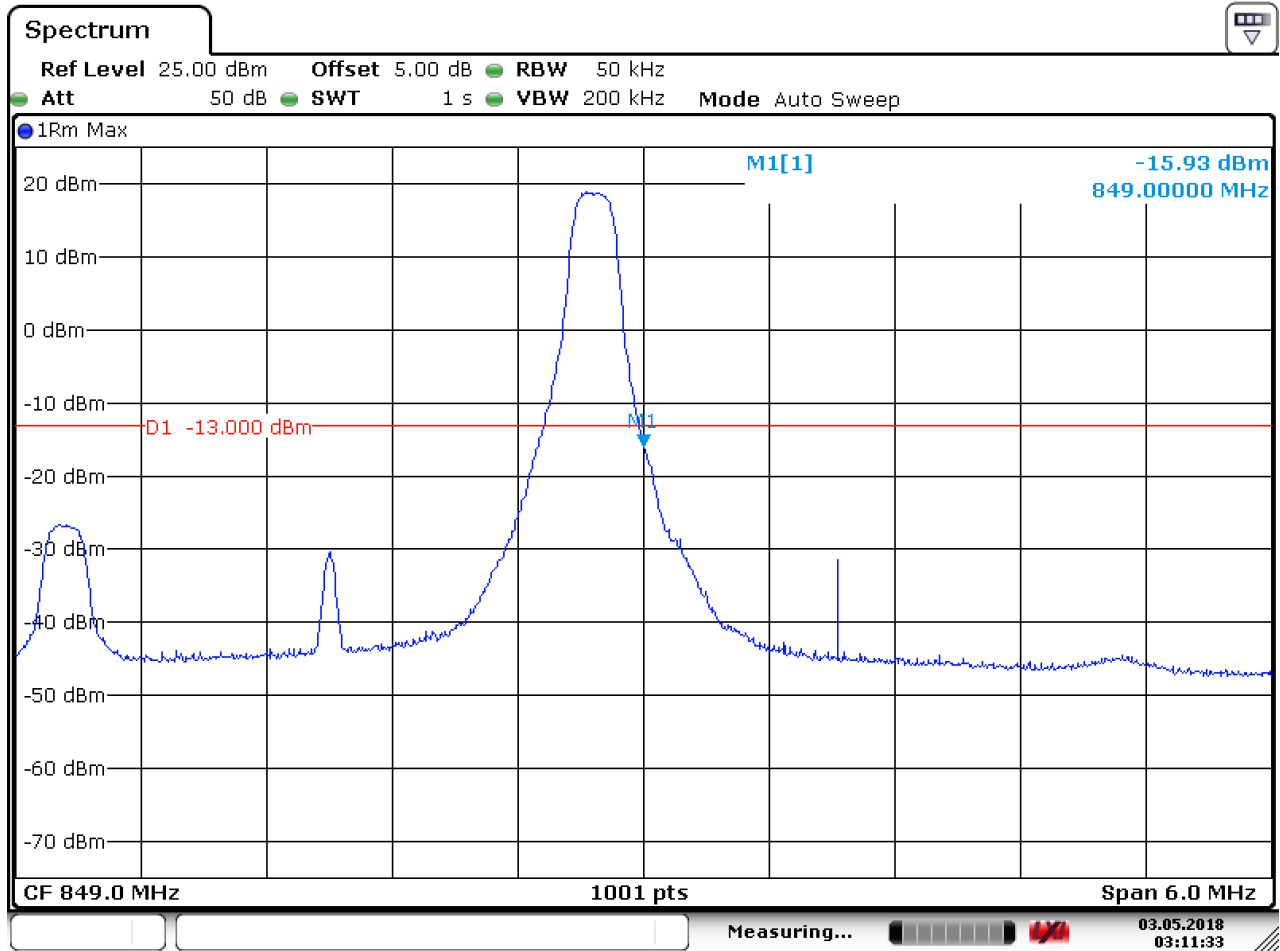
5.1.1.3.1.2 Test RB=15RB



Date: 3.MAY.2018 03:09:24

**5.1.1.3.2 Test Channel = HCH**

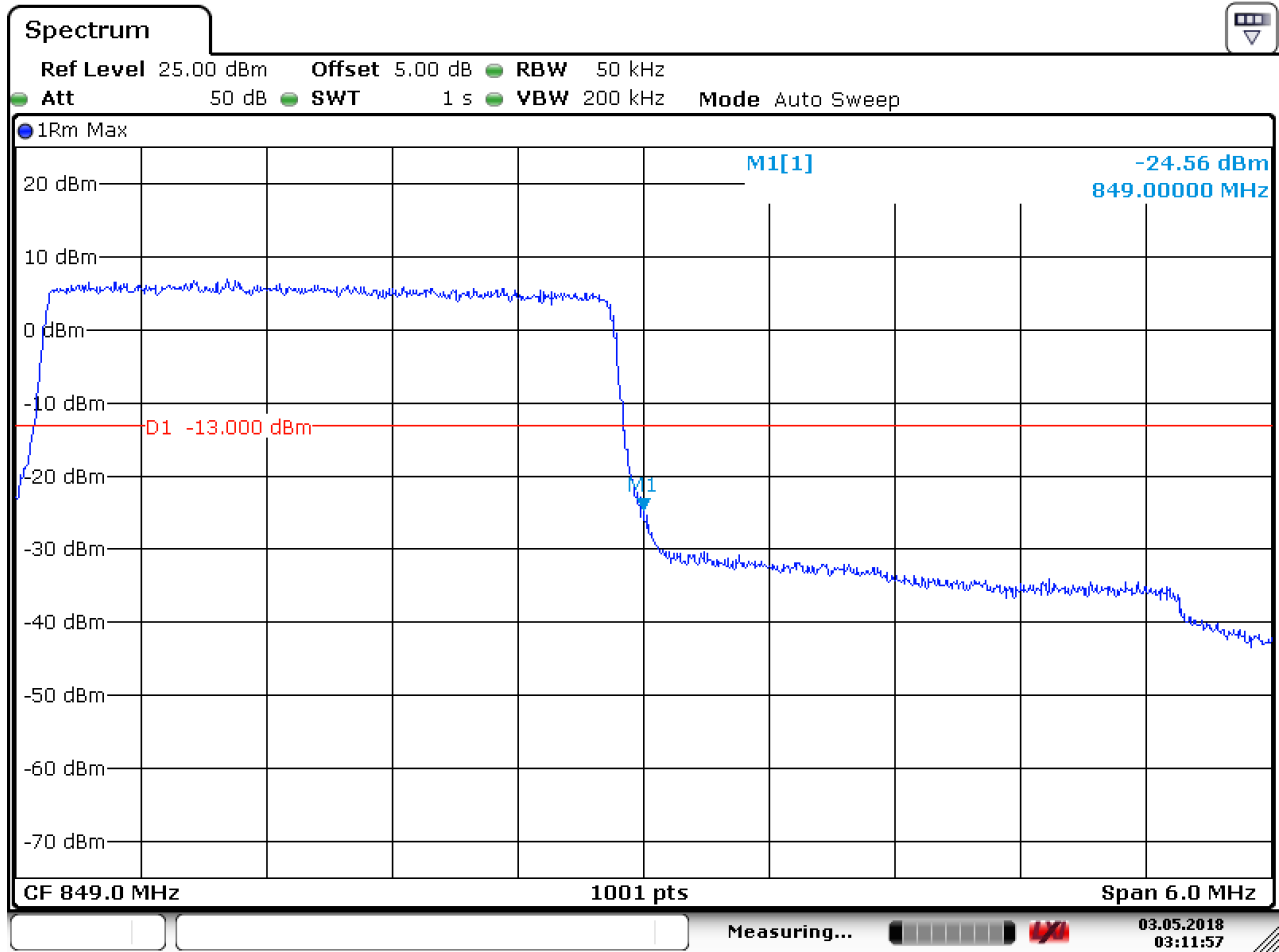
**5.1.1.3.2.1 Test RB=1RB**



Date: 3.MAY.2018 03:11:33



5.1.1.3.2.2 Test RB=15RB

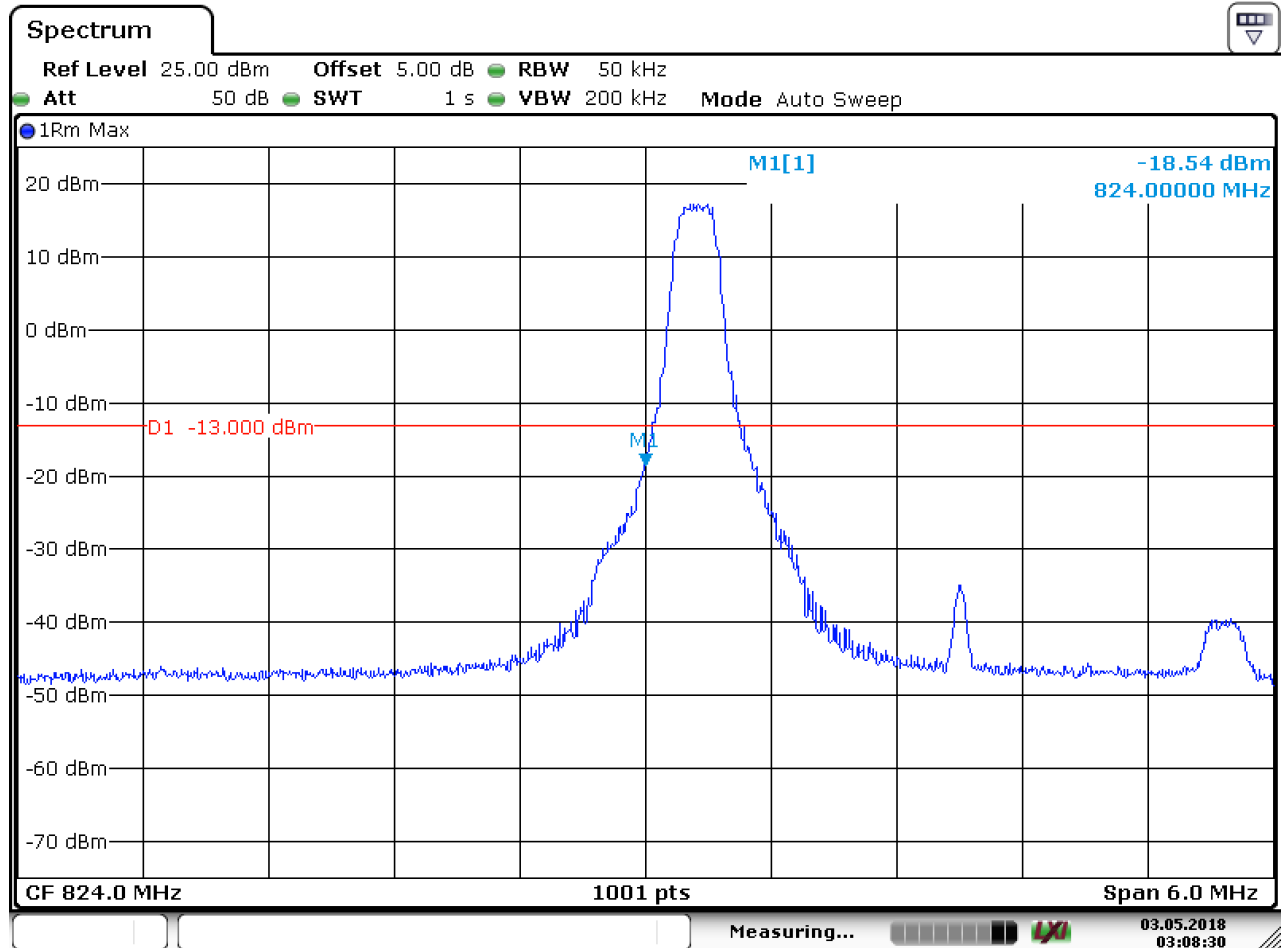


Date: 3.MAY.2018 03:11:57

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

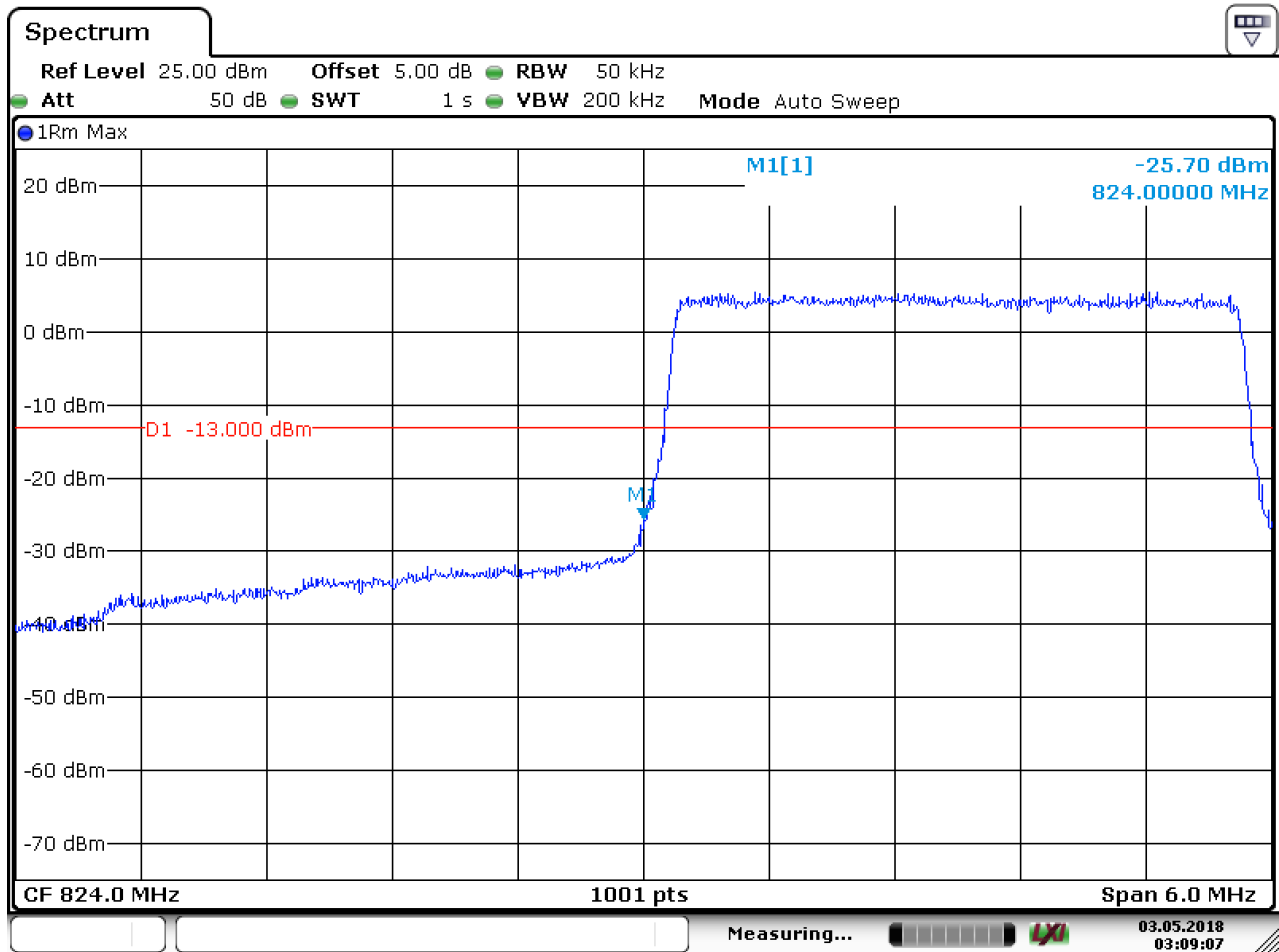


Date: 3.MAY.2018 03:08:30





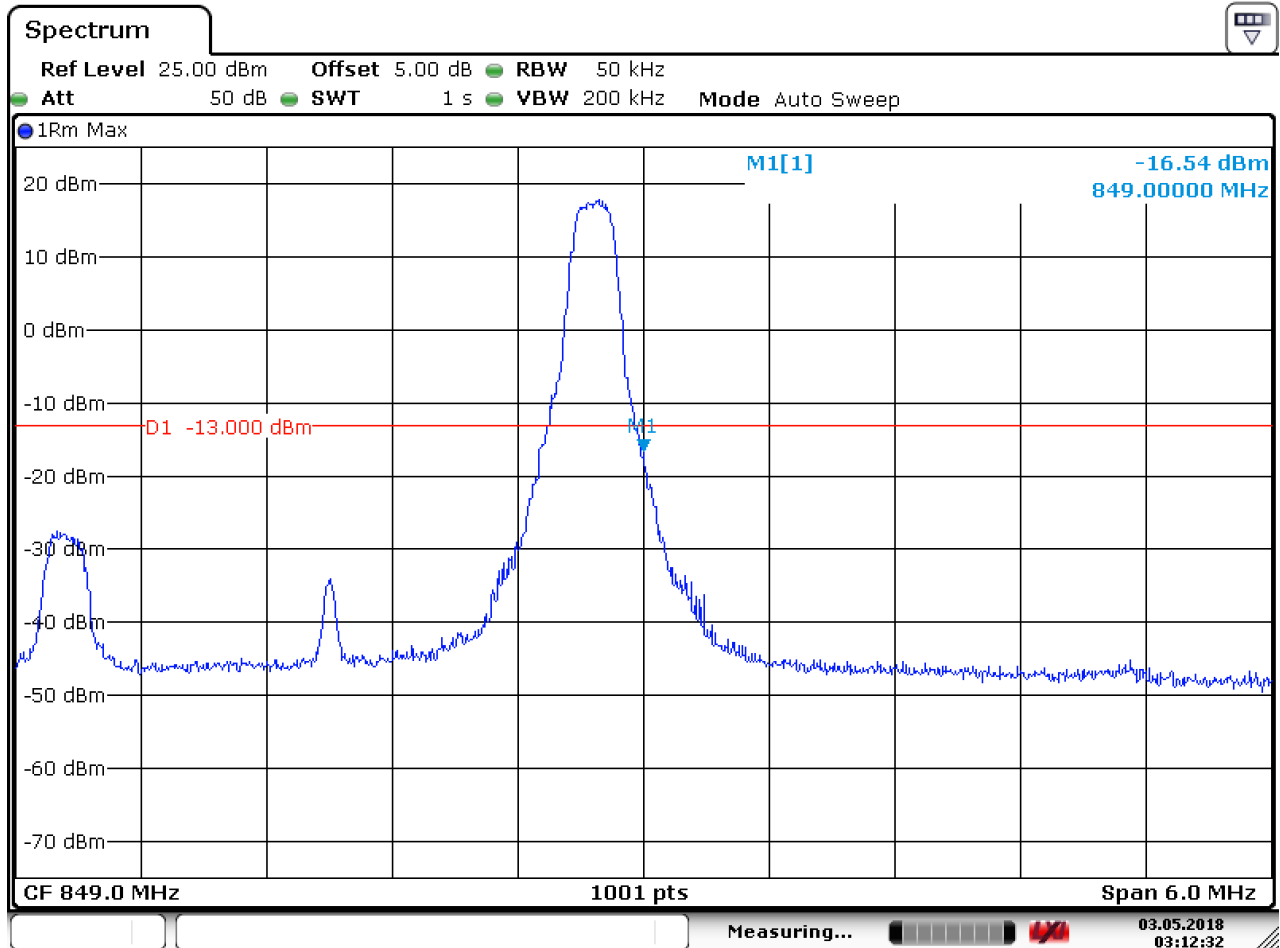
5.1.1.4.1.2 Test RB=15RB



Date: 3.MAY.2018 03:09:06

**5.1.1.4.2 Test Channel = HCH**

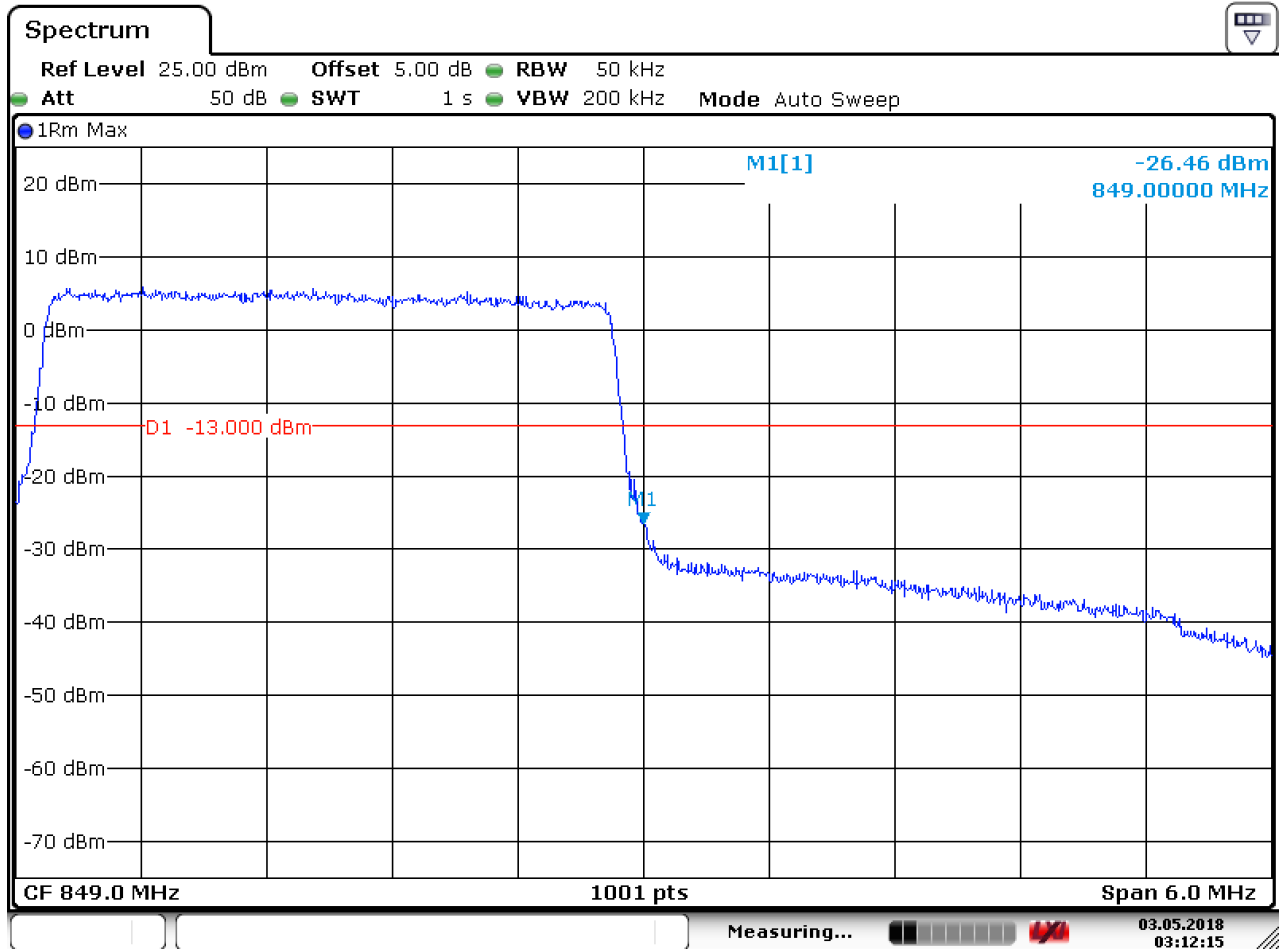
**5.1.1.4.2.1 Test RB=1RB**



Date: 3.MAY.2018 03:12:33



5.1.1.4.3 Test RB=15RB

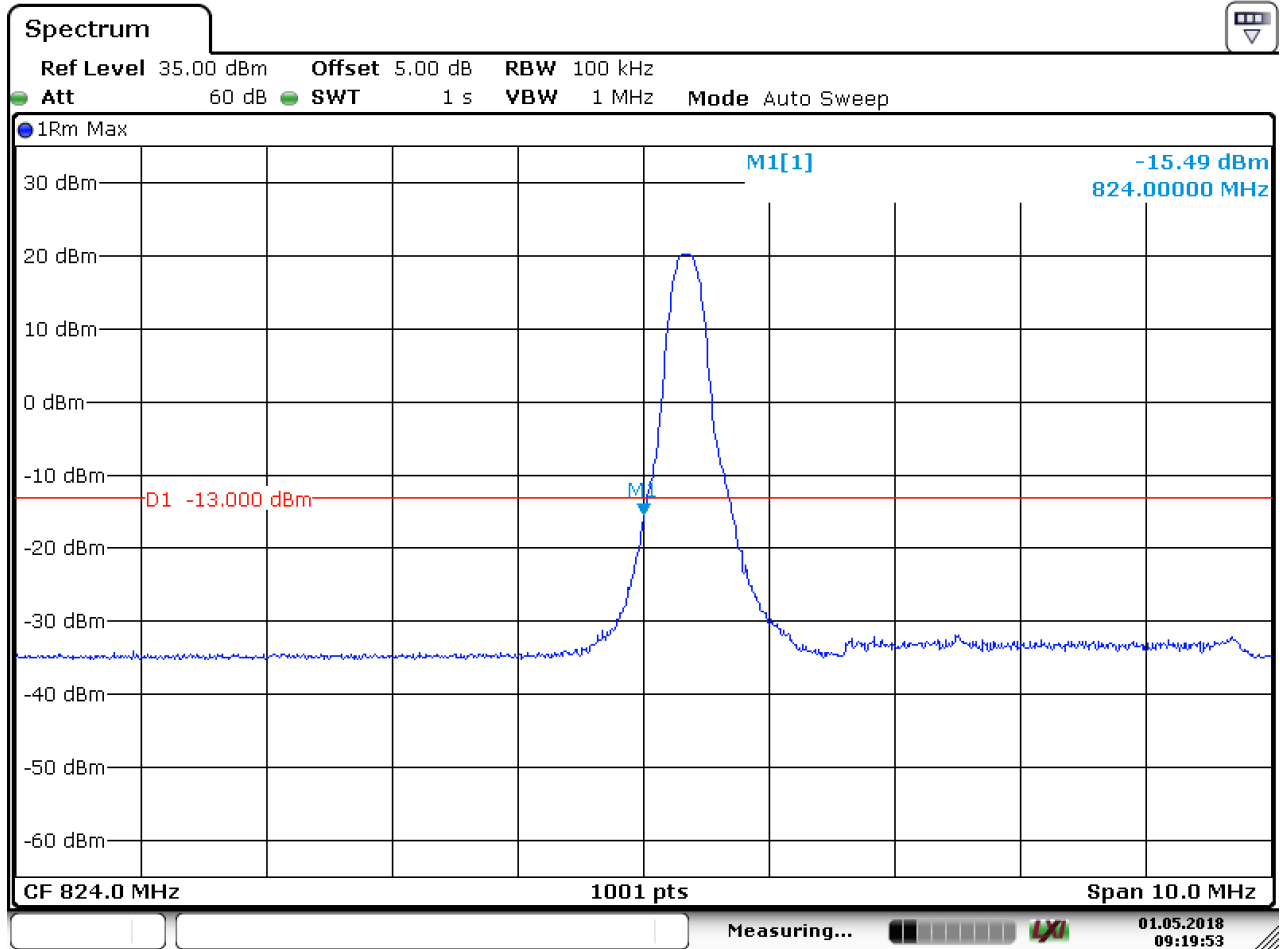


Date: 3.MAY.2018 03:12:15

**5.1.1.5 Test Mode = LTE/TM1 5MHz**

**5.1.1.5.1 Test Channel = LCH**

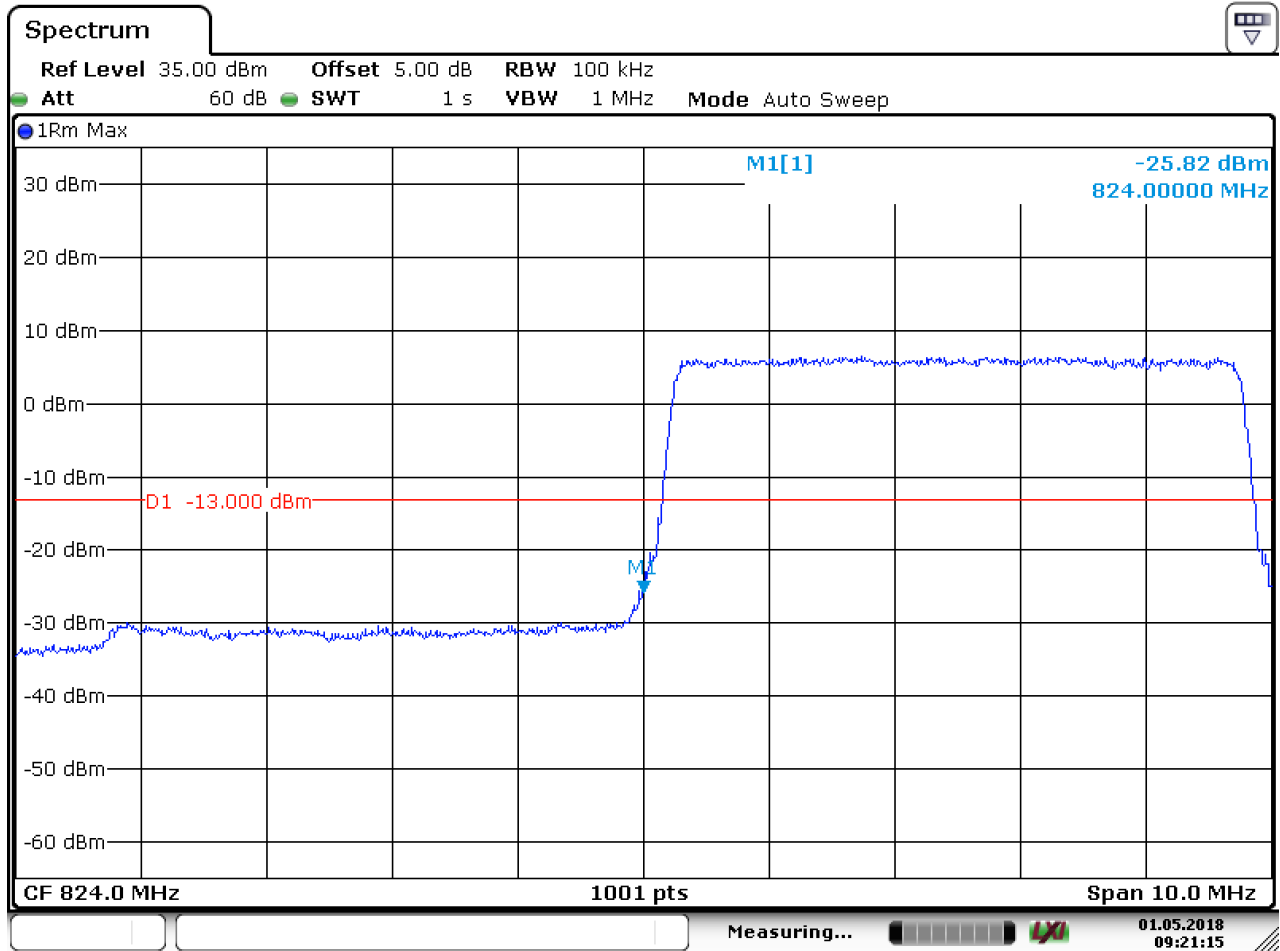
**5.1.1.5.1.1 Test RB=1RB**



Date: 1.MAY.2018 09:19:53



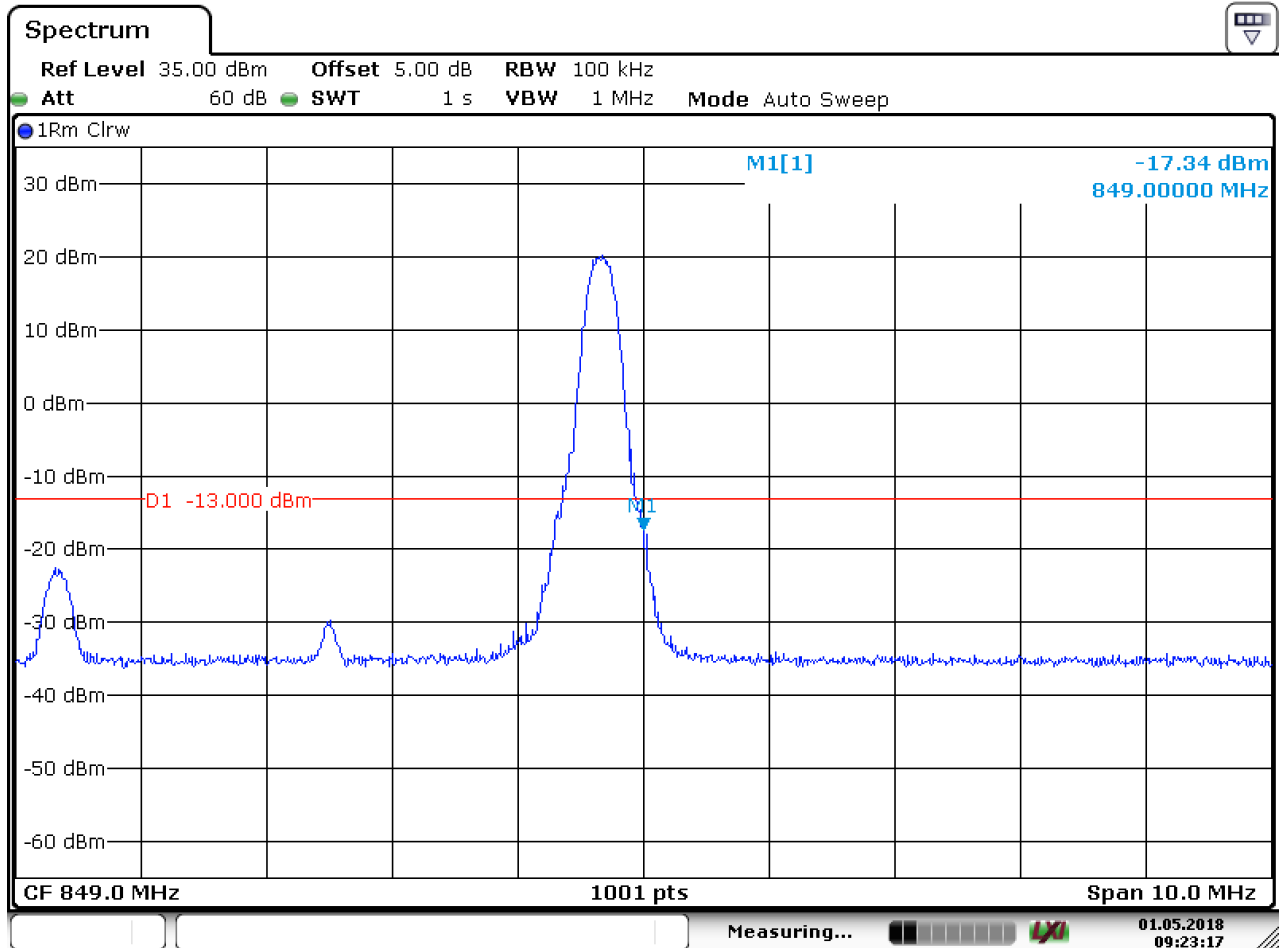
5.1.1.5.1.2 Test RB=25RB



Date: 1.MAY.2018 09:21:16

**5.1.1.5.2 Test Channel = HCH**

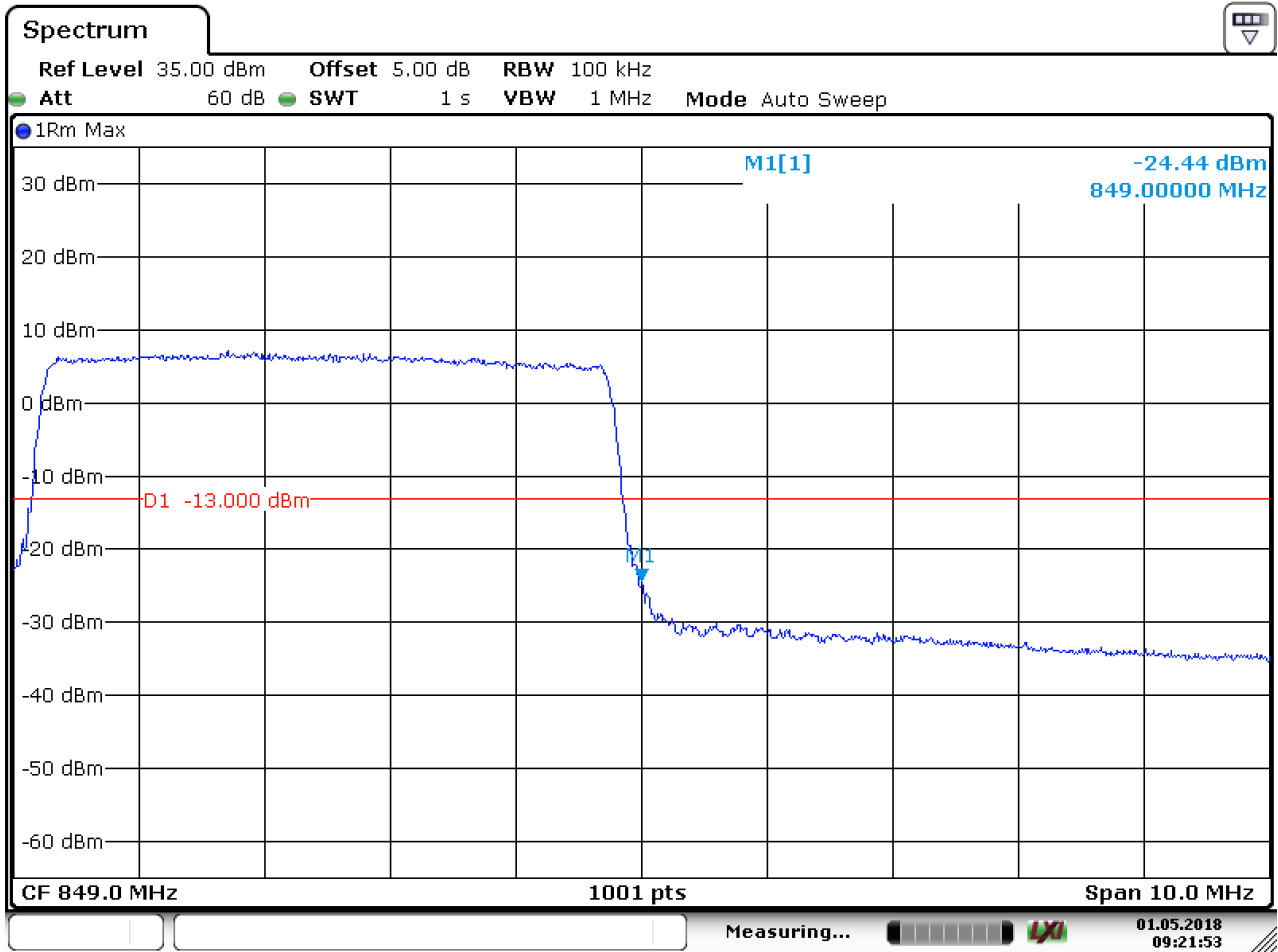
**5.1.1.5.2.1 Test RB=1RB**



Date: 1.MAY.2018 09:23:17



5.1.1.5.2.2 Test RB=25RB



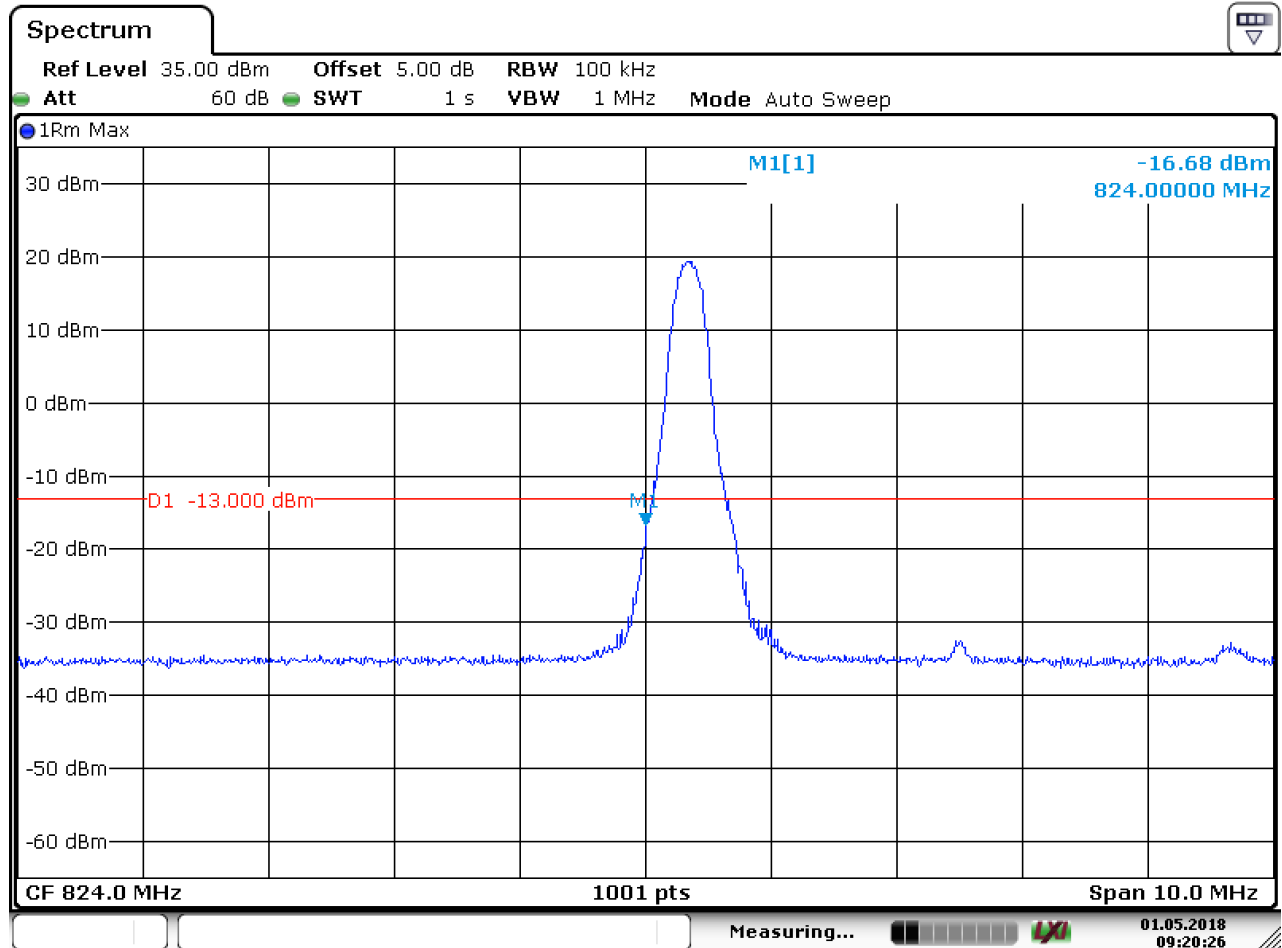
Date: 1.MAY.2018 09:21:53



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

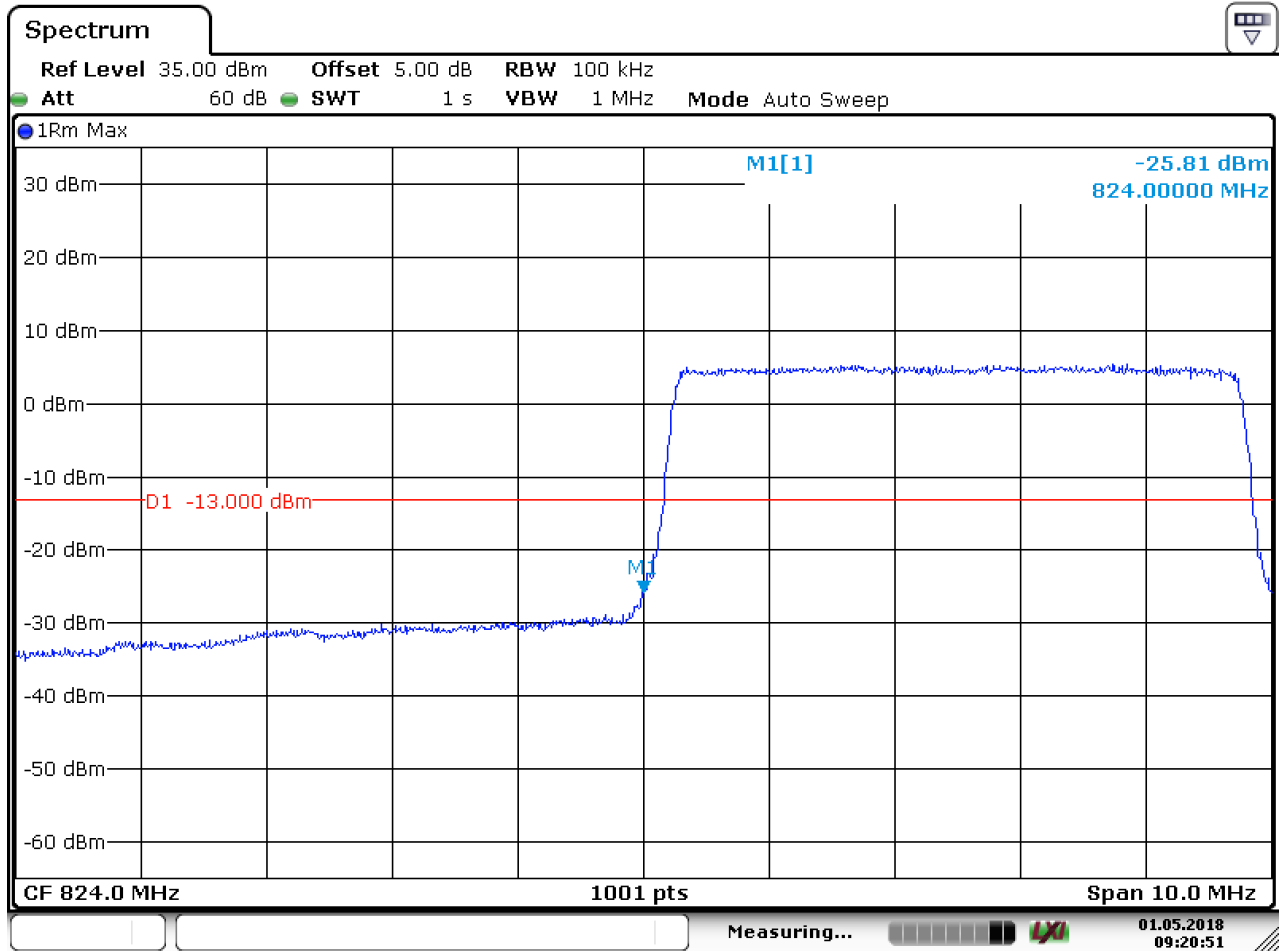


Date: 1.MAY.2018 09:20:26





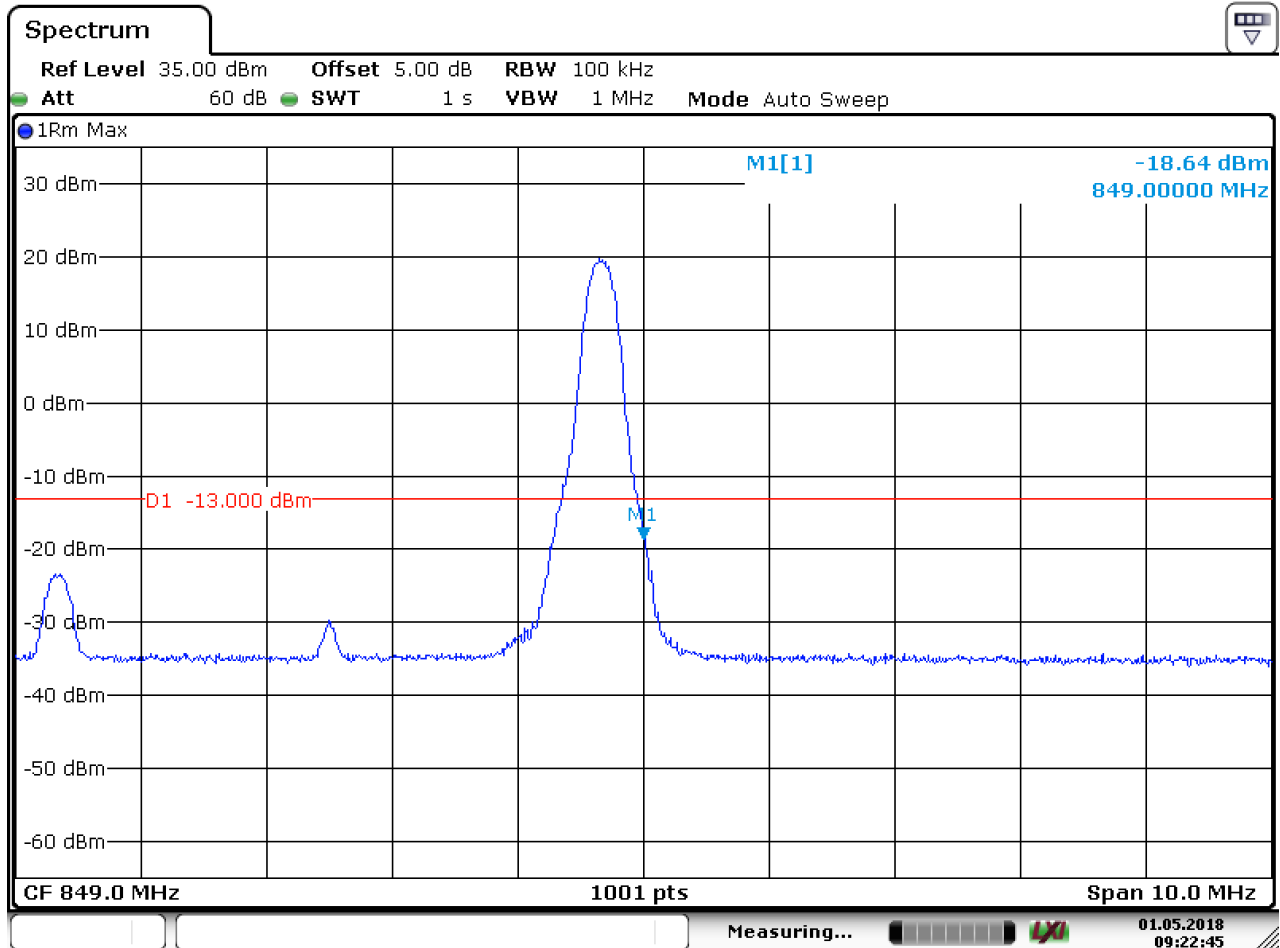
5.1.1.6.1.2 Test RB=25RB



Date: 1.MAY.2018 09:20:51

**5.1.1.6.2 Test Channel = HCH**

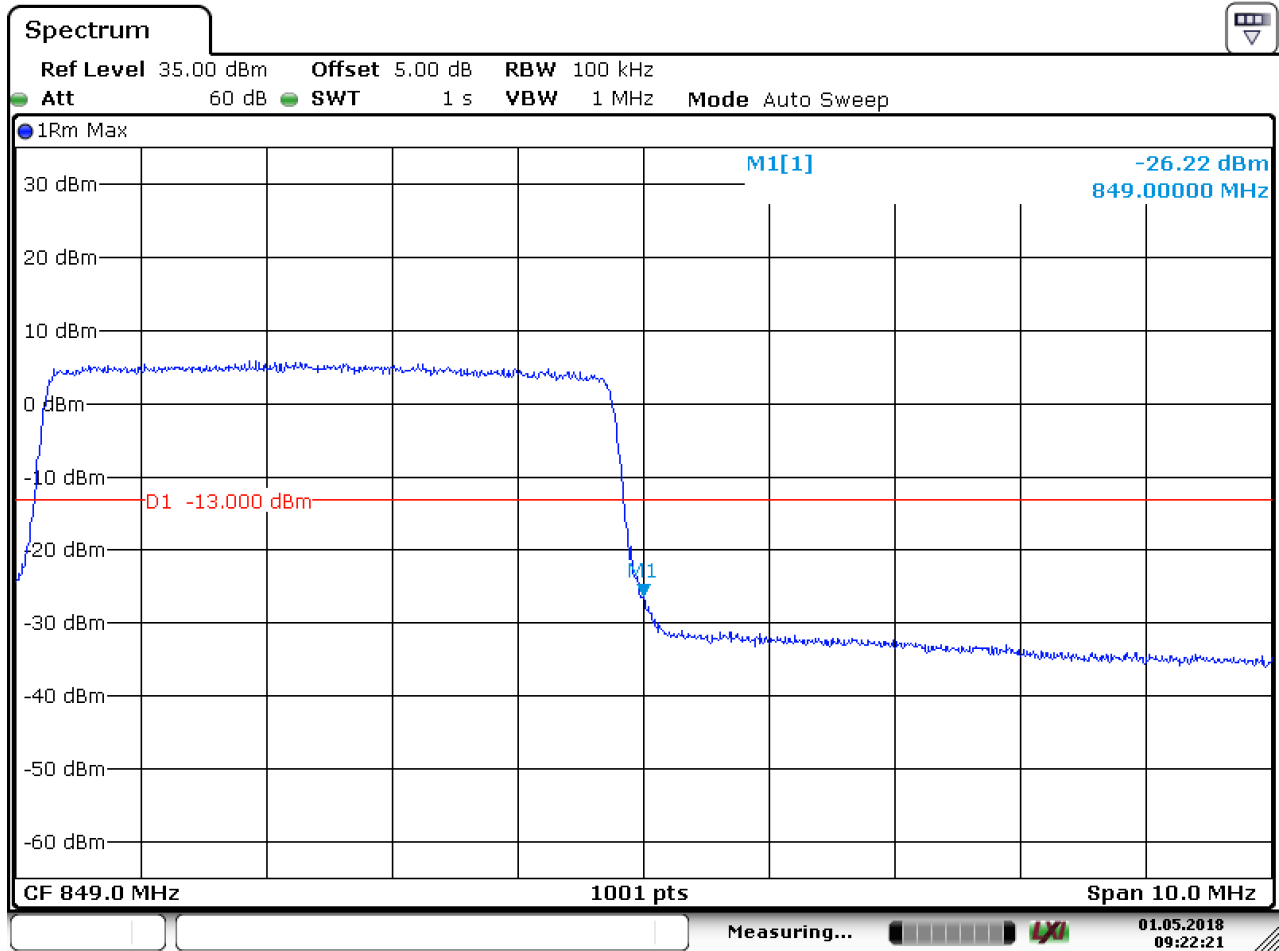
**5.1.1.6.2.1 Test RB=1RB**



Date: 1.MAY.2018 09:22:46



5.1.1.6.2.2 Test RB=25RB



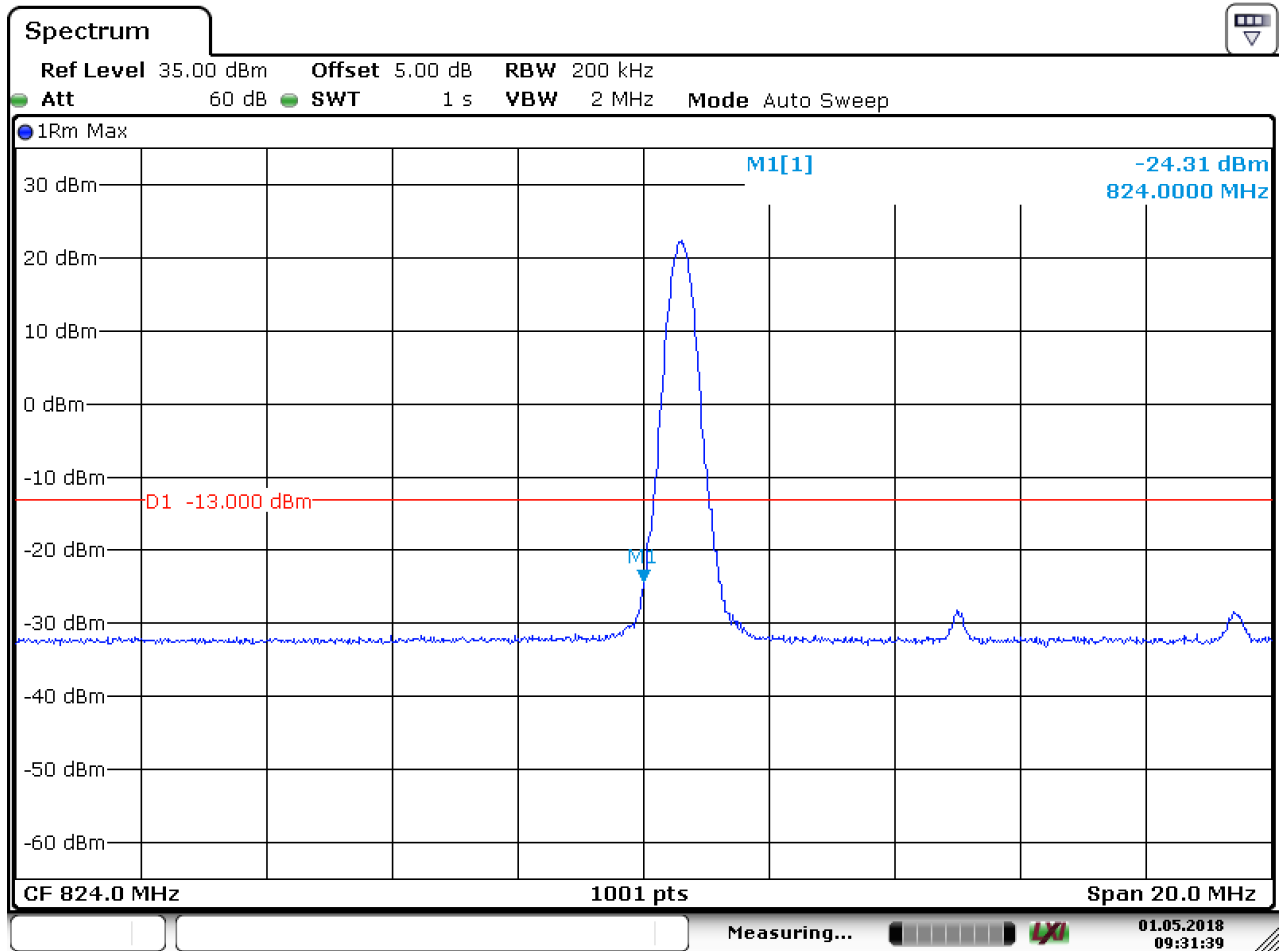
Date: 1.MAY.2018 09:22:21



5.1.1.7 Test Mode = LTE/TM1 10MHz

5.1.1.7.1 Test Channel = LCH

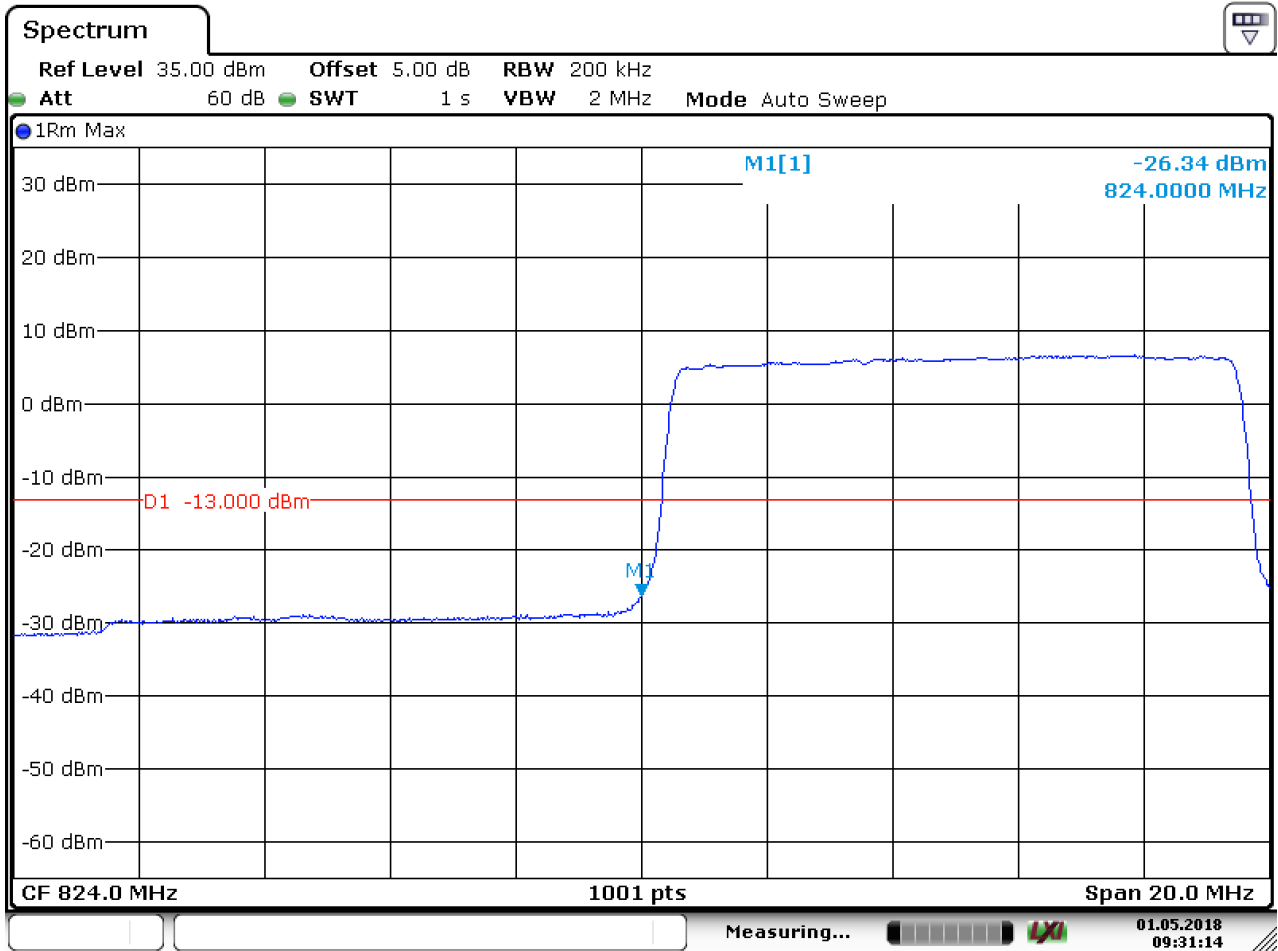
5.1.1.7.1.1 Test RB=1RB



Date: 1.MAY.2018 09:31:39



5.1.1.7.1.2 Test RB=50RB

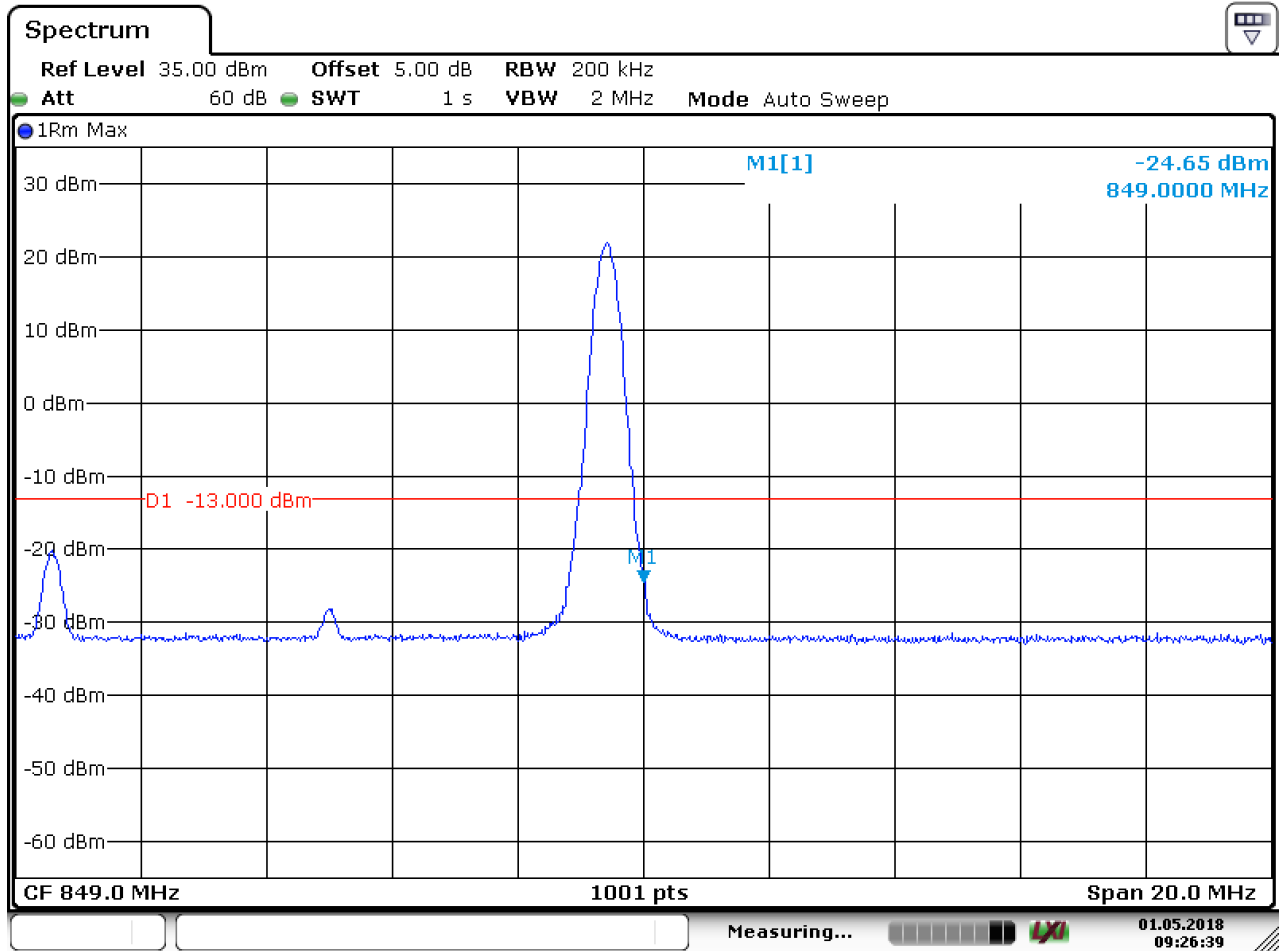


Date: 1.MAY.2018 09:31:15



5.1.1.7.2 Test Channel = HCH

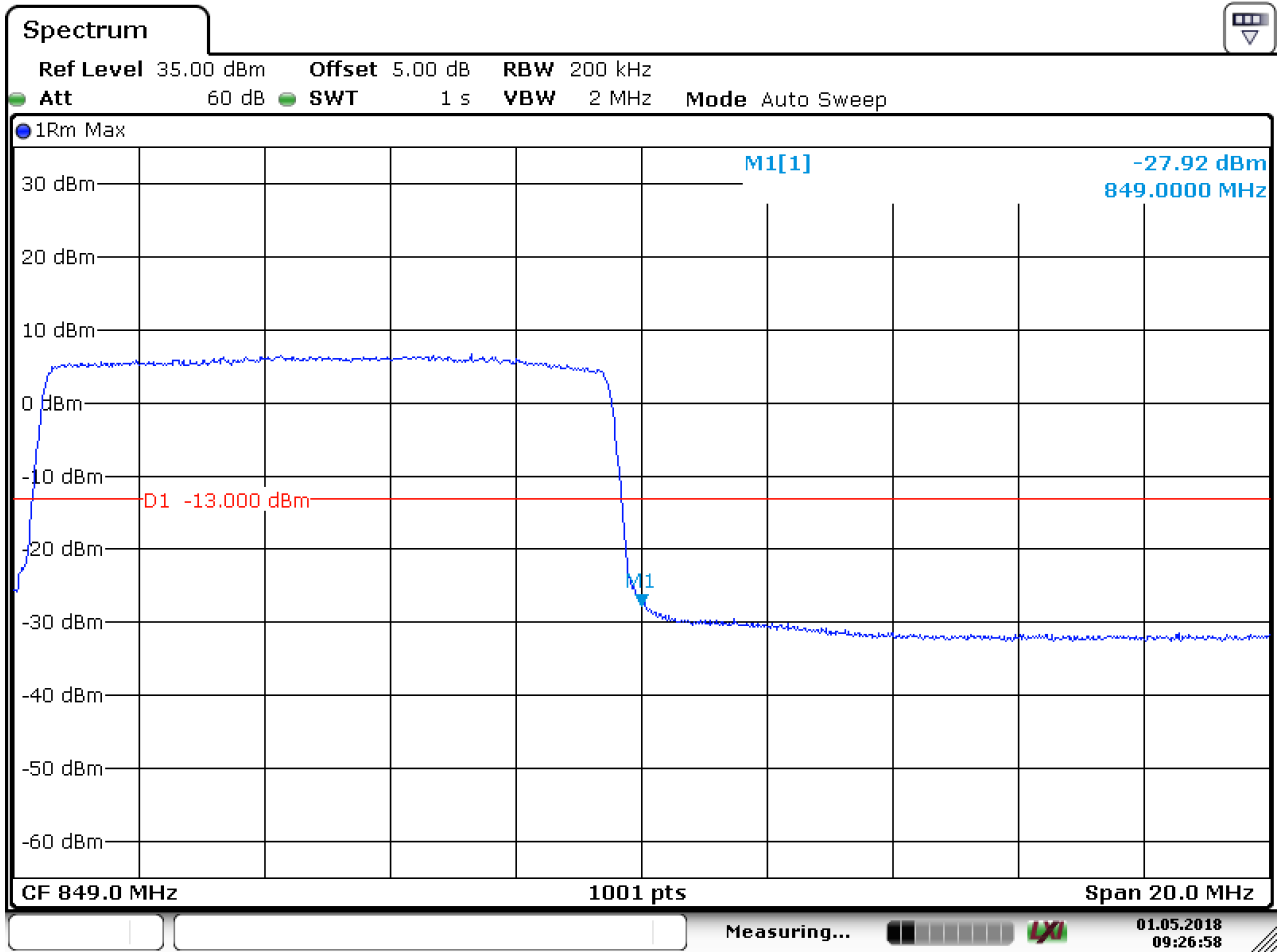
5.1.1.7.2.1 Test RB=1RB



Date: 1.MAY.2018 09:26:39



5.1.1.7.2.2 Test RB=50RB

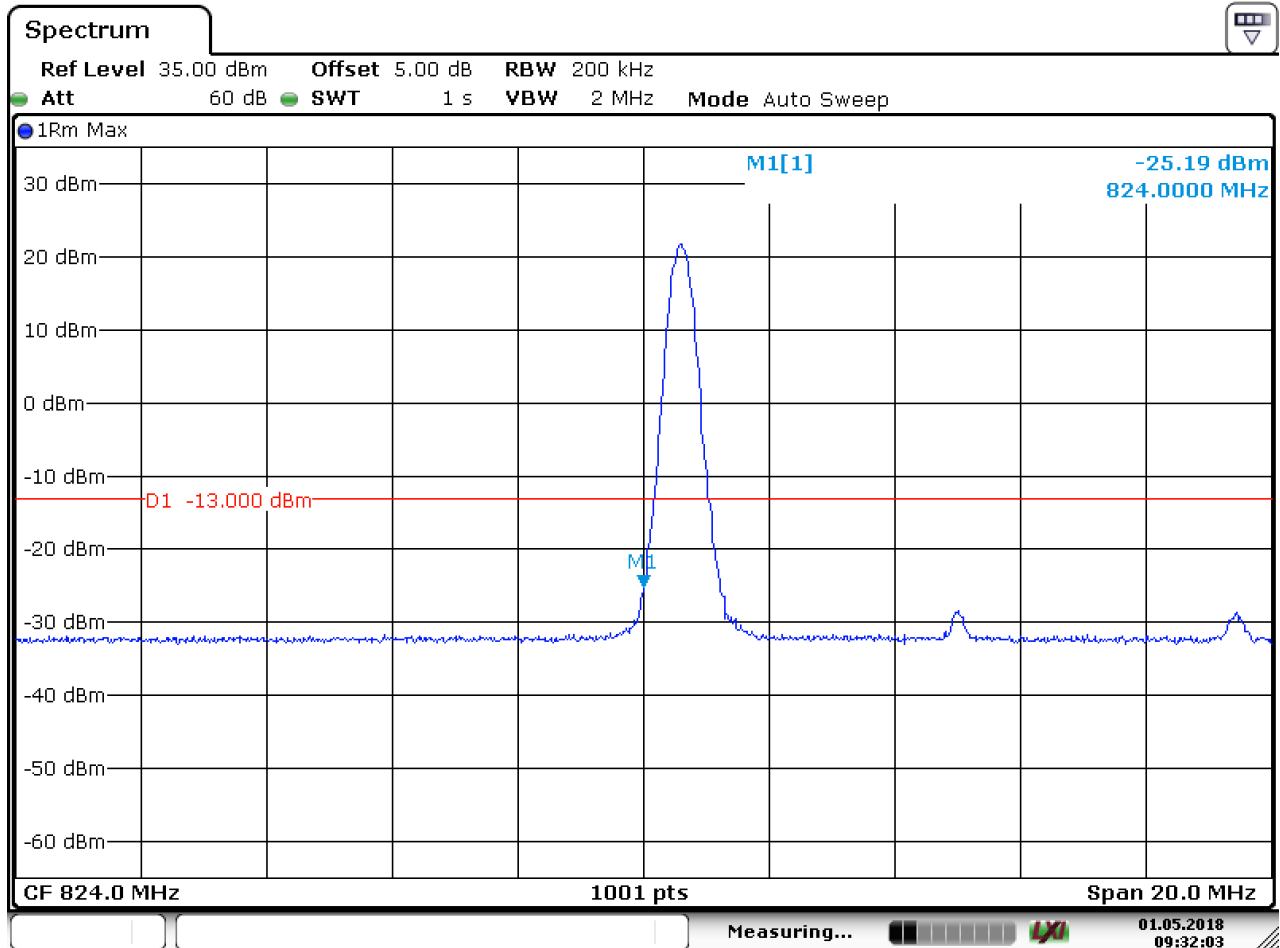


Date: 1.MAY.2018 09:26:58

**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**

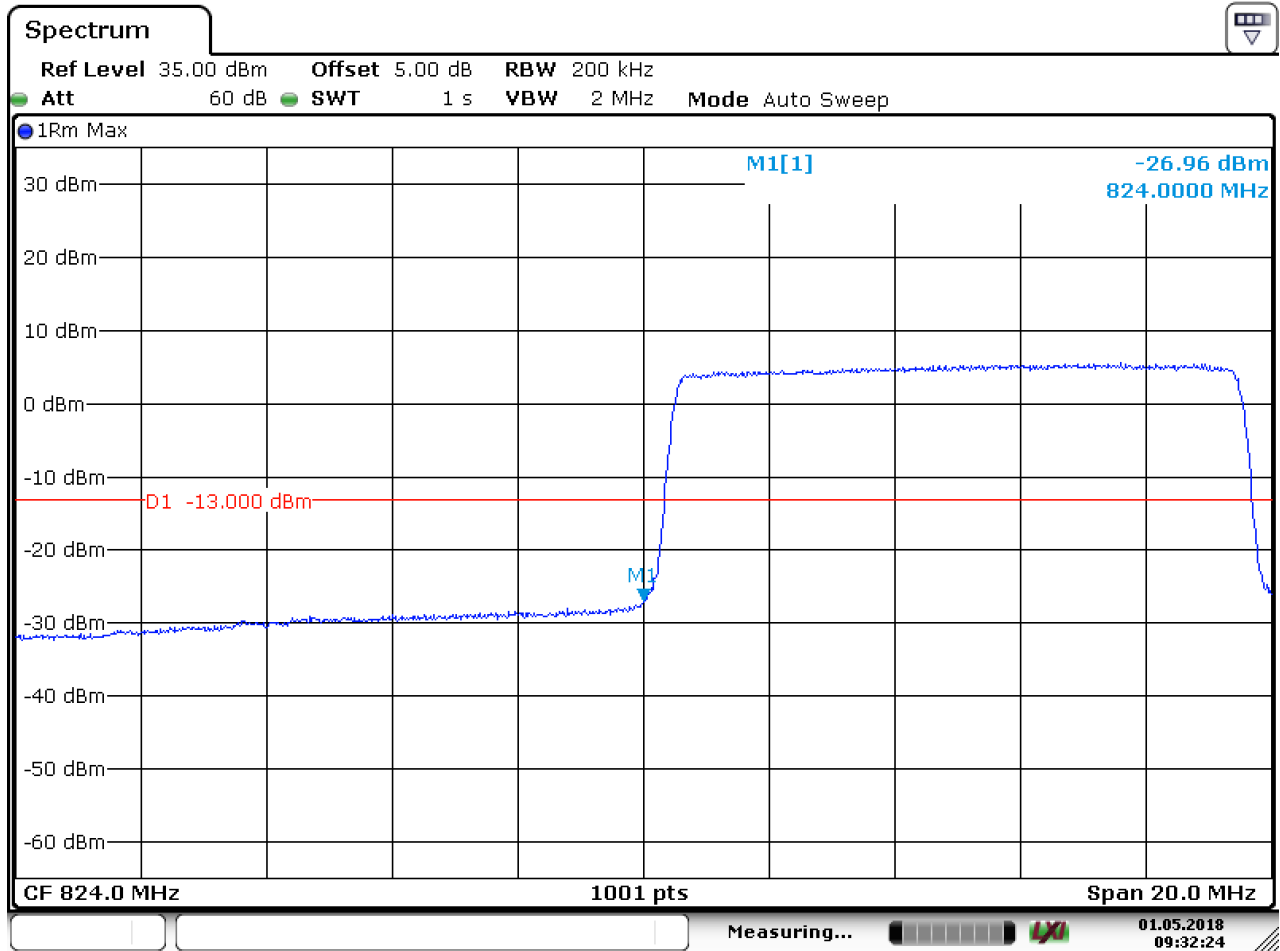


Date: 1.MAY.2018 09:32:03





5.1.1.8.1.2 Test RB=50RB

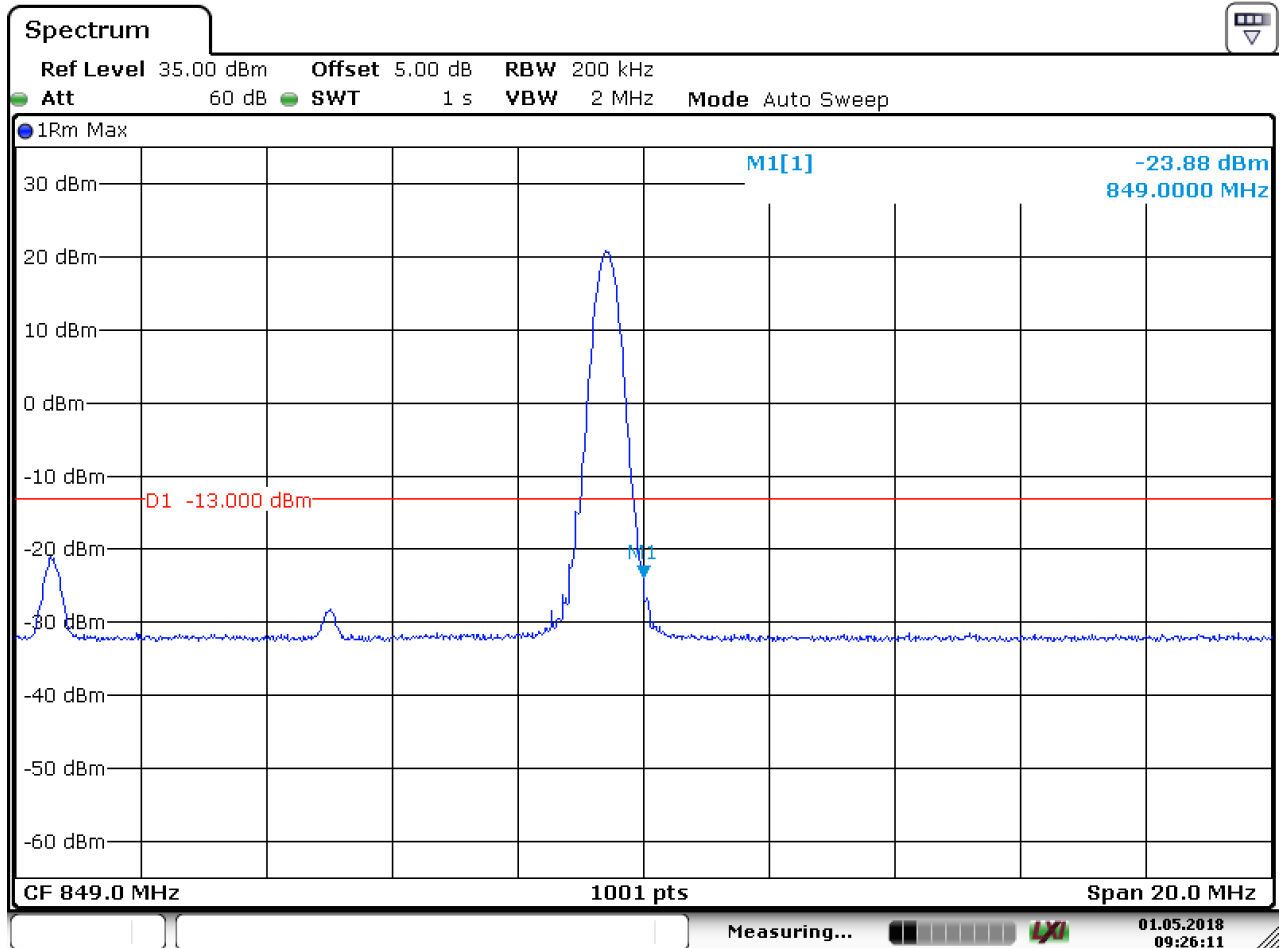


Date: 1.MAY.2018 09:32:24



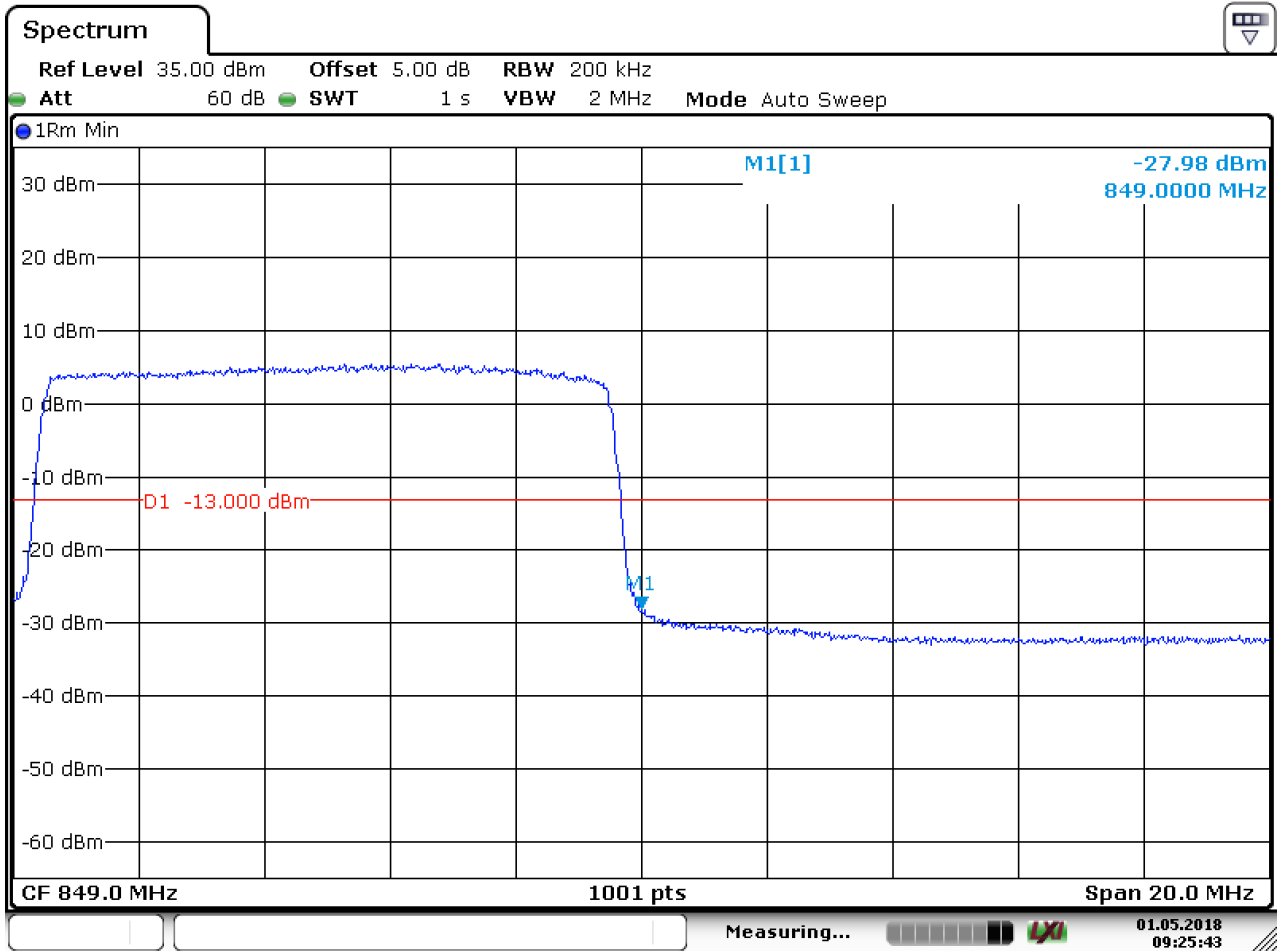
5.1.1.8.2 Test Channel = HCH

5.1.1.8.2.1 Test RB=1RB



Date: 1.MAY.2018 09:26:11

**5.1.1.8.2.2 Test RB=50RB**



Date: 1.MAY.2018 09:25:43

## 6 Spurious Emission at Antenna Terminal

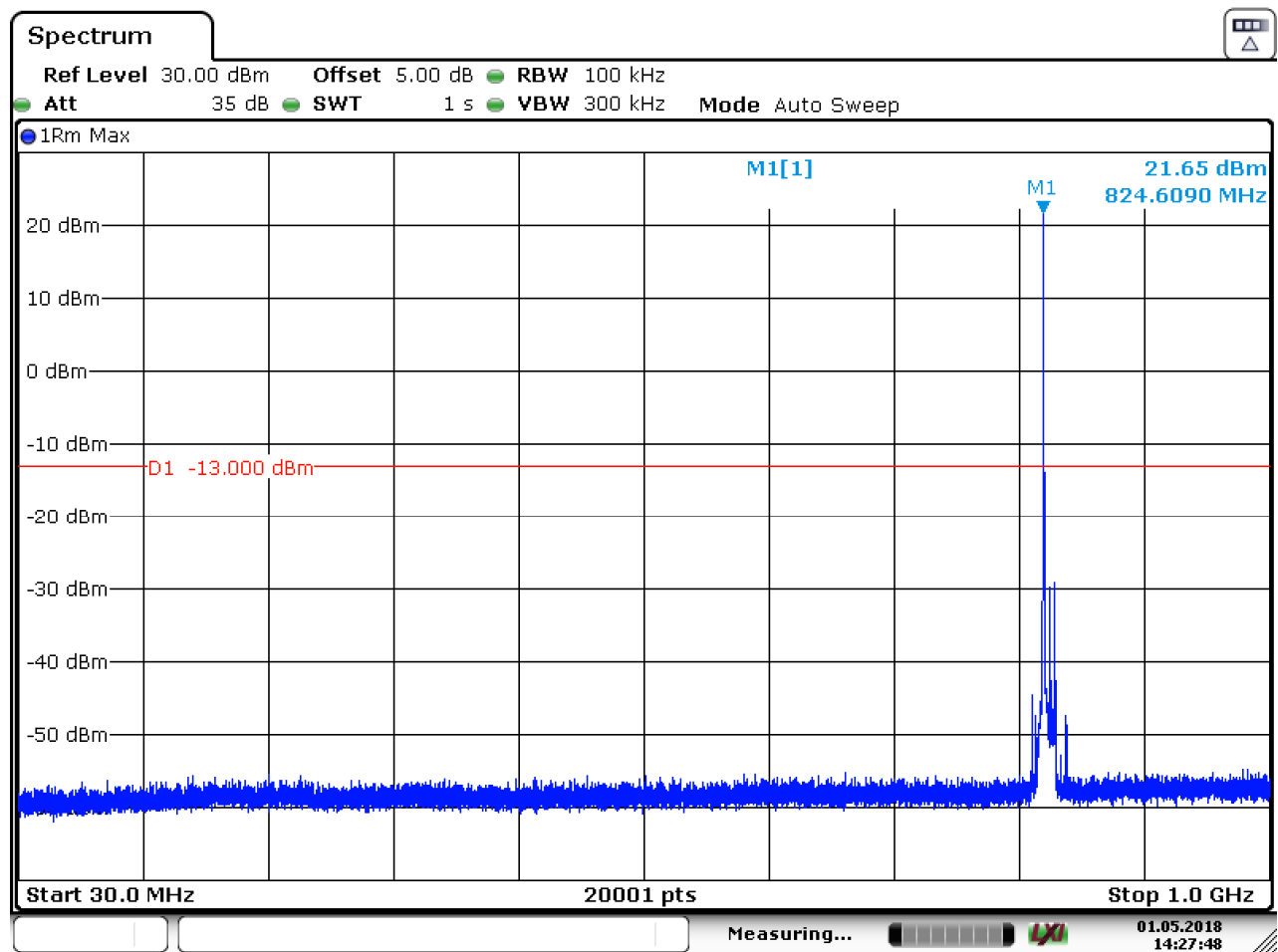
NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =  $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Part I - Test Plots

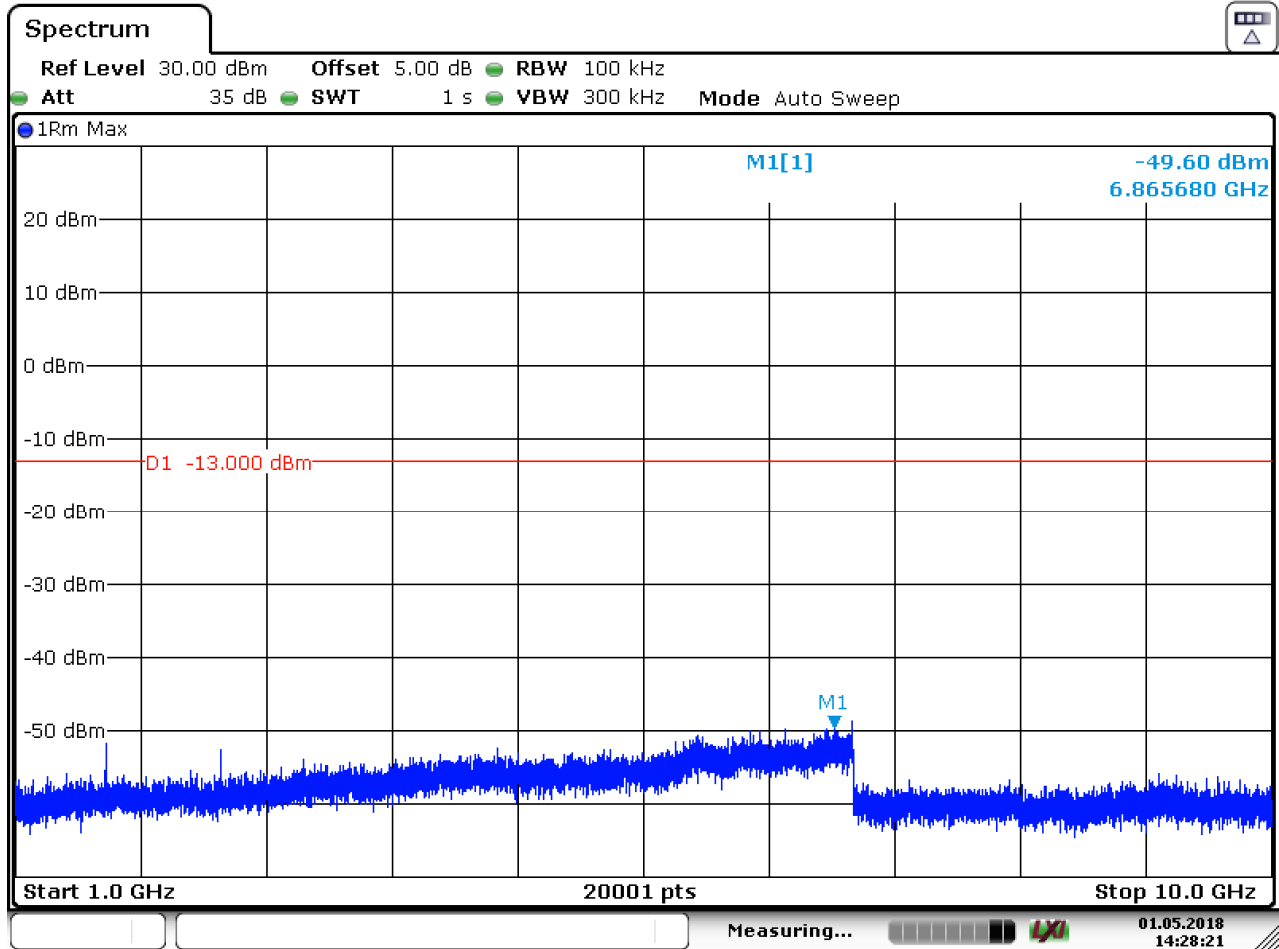
### 6.1 For LTE

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

6.1.1.1.1 Test Channel = LCH

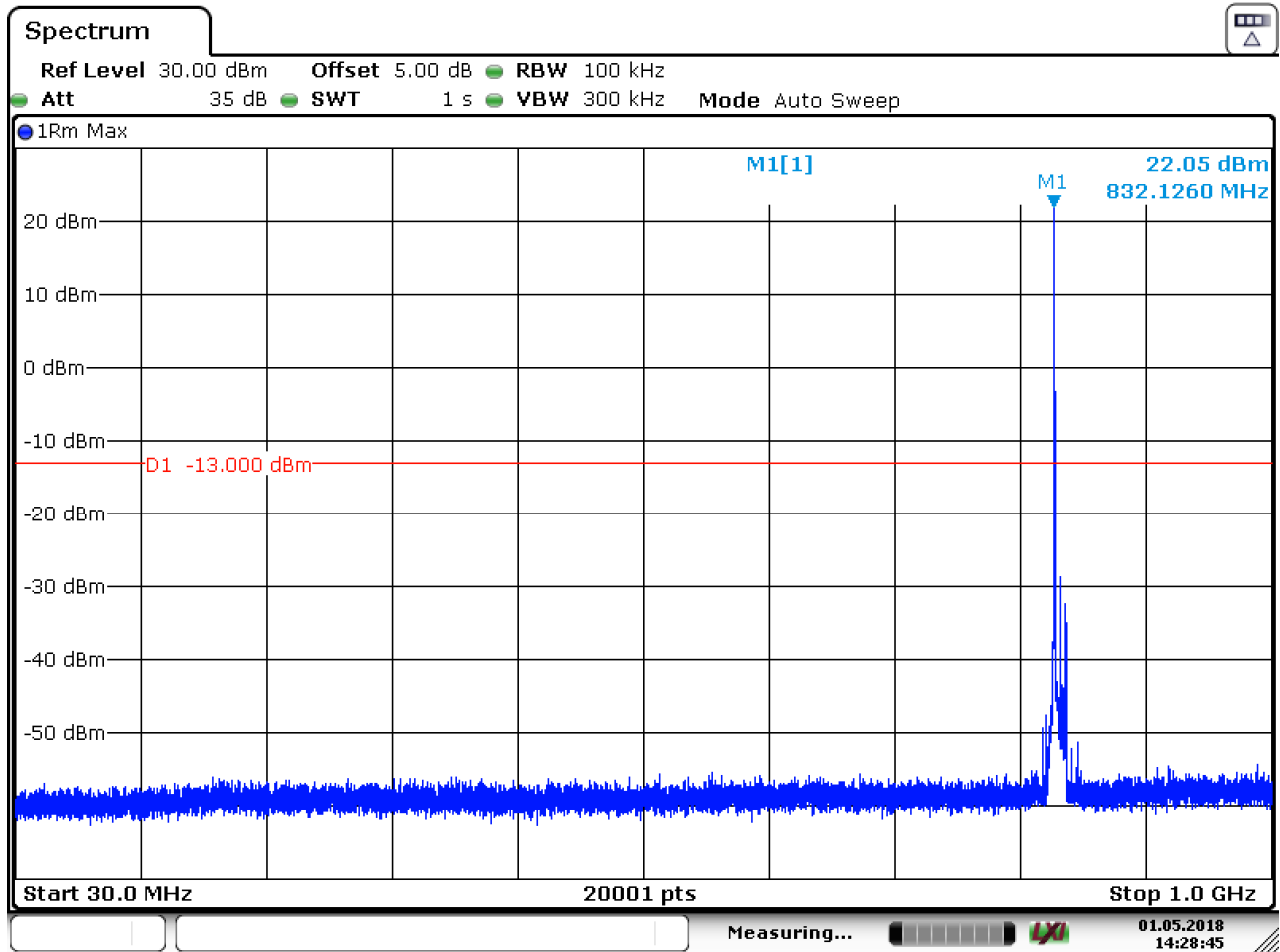


Date: 1.MAY.2018 14:27:48

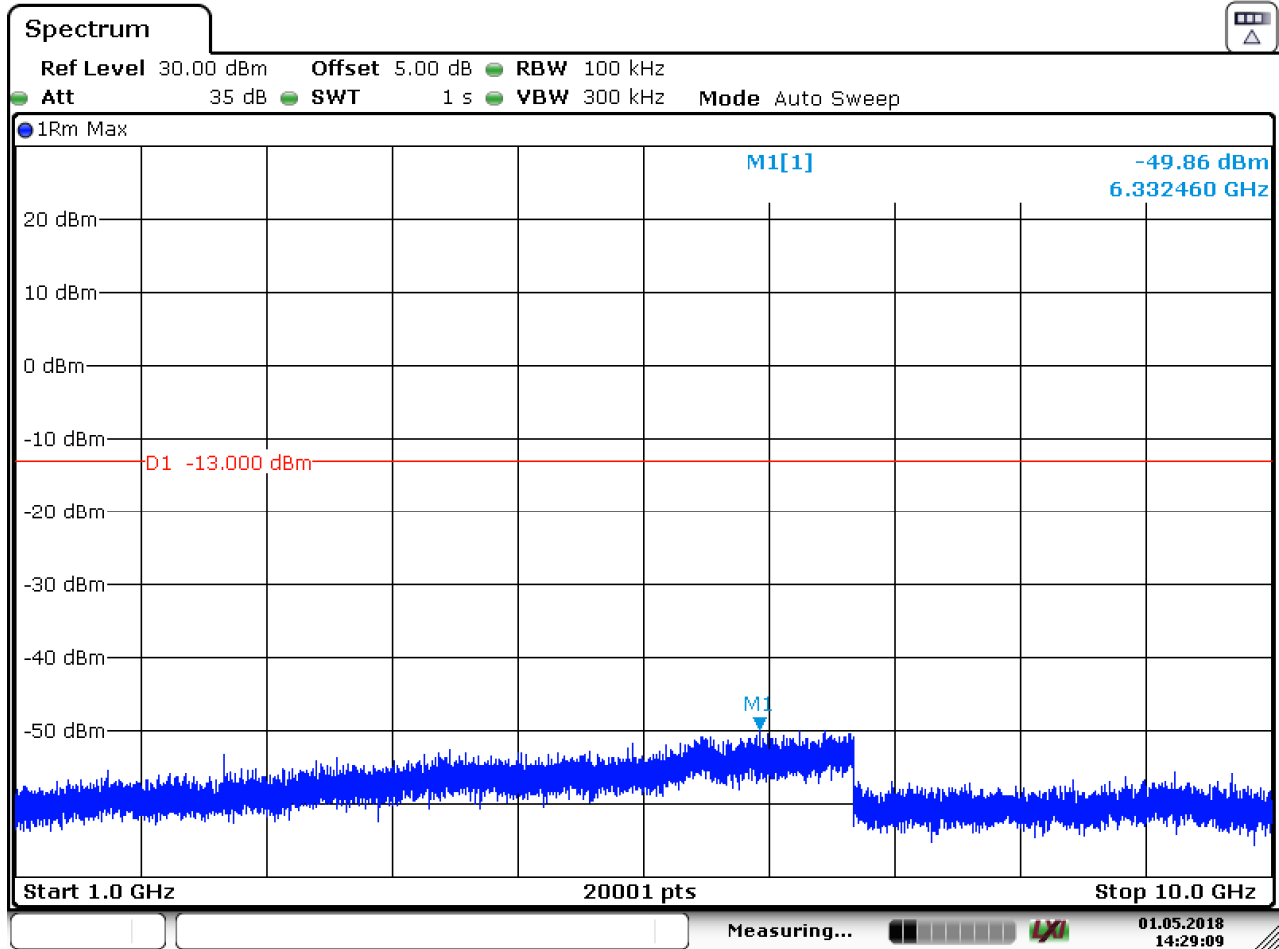


Date: 1.MAY.2018 14:28:21

6.1.1.1.2 Test Channel = MCH



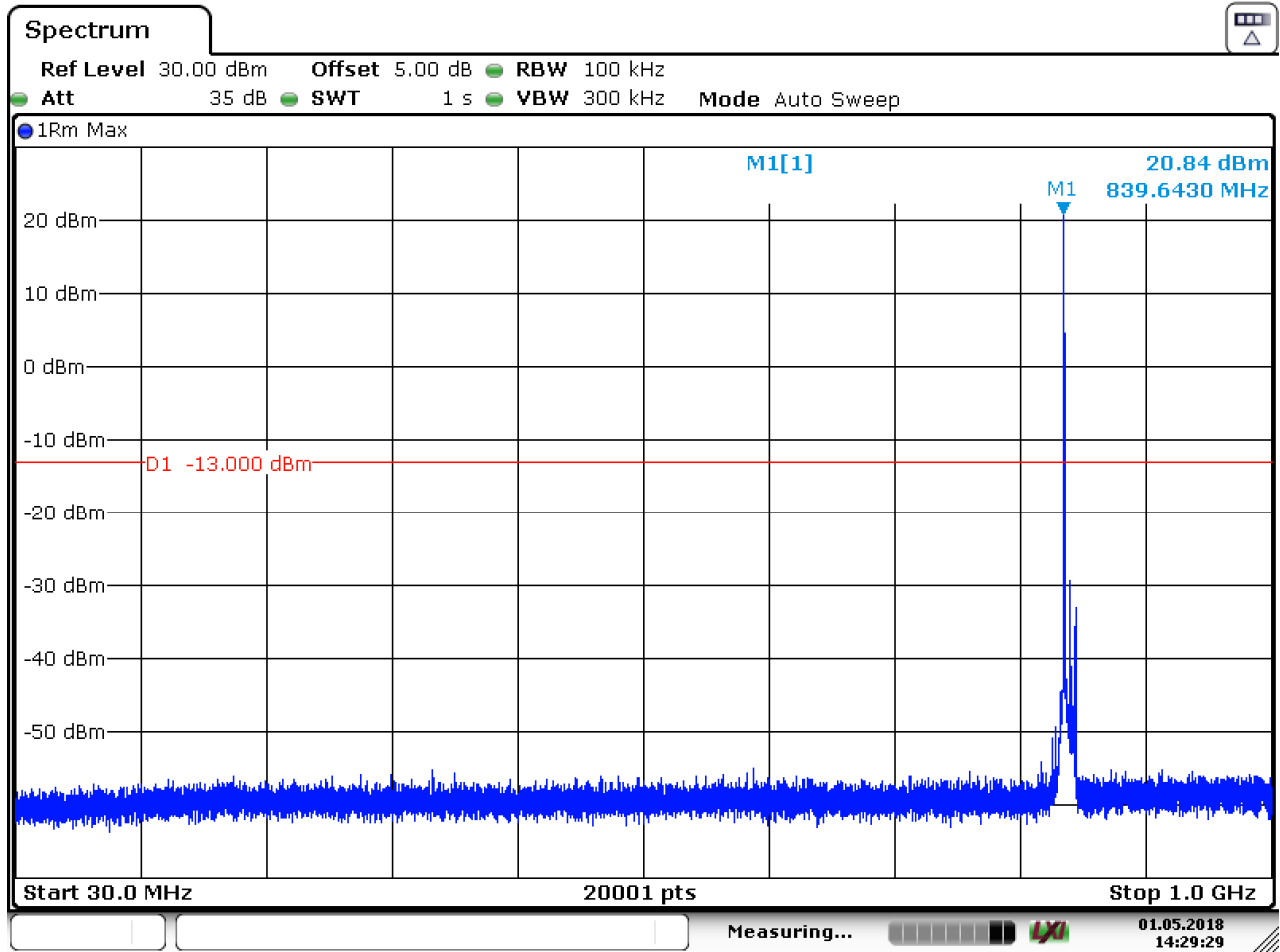
Date: 1.MAY.2018 14:28:45



Date: 1.MAY.2018 14:29:10

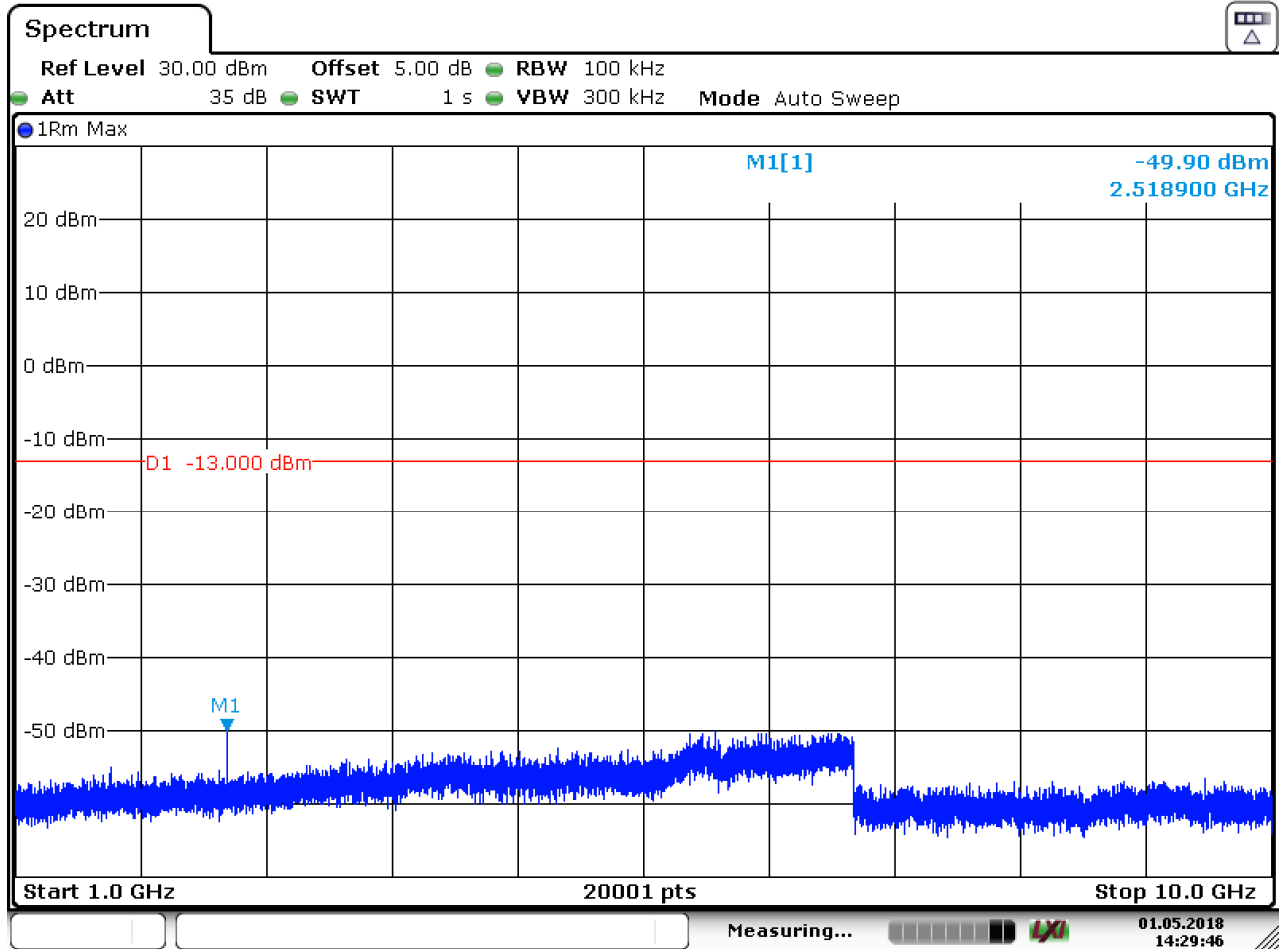


6.1.1.1.3 Test Channel = HCH



Date: 1.MAY.2018 14:29:29





Date: 1.MAY.2018 14:29:46



## 7 Field Strength of Spurious Radiation

### 7.1 For LTE

#### 7.1.1 Test Band = LTE band5

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

##### 7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
72.000000	-74.58	-13.00	61.58	Vertical
144.006667	-74.66	-13.00	61.66	Vertical
1649.000000	-60.64	-13.00	47.64	Vertical
2474.000000	-55.58	-13.00	42.58	Vertical
3298.350000	-66.17	-13.00	53.17	Vertical
9070.350000	-61.85	-13.00	48.85	Vertical
61.920000	-77.67	-13.00	64.67	Horizontal
144.006667	-76.69	-13.00	63.69	Horizontal
1649.000000	-60.93	-13.00	47.93	Horizontal
2473.500000	-55.22	-13.00	42.22	Horizontal
4947.400000	-65.45	-13.00	52.45	Horizontal
9070.350000	-55.02	-13.00	42.02	Horizontal

##### 7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
72.560000	-76.13	-13.00	63.13	Vertical
144.006667	-70.57	-13.00	57.57	Vertical
1664.000000	-54.17	-13.00	41.17	Vertical
2496.000000	-53.94	-13.00	40.94	Vertical
3328.250000	-65.03	-13.00	52.03	Vertical
4992.250000	-65.94	-13.00	52.94	Vertical
62.760000	-77.58	-13.00	64.58	Horizontal
144.006667	-76.92	-13.00	63.92	Horizontal
1664.000000	-58.07	-13.00	45.07	Horizontal
2496.000000	-50.95	-13.00	37.95	Horizontal
3328.250000	-66.87	-13.00	53.87	Horizontal
4992.250000	-65.09	-13.00	52.09	Horizontal



**7.1.1.1.3 Test Channel = HCH**

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
72.000000	-74.90	-13.00	61.90	Vertical
144.006667	-72.71	-13.00	59.71	Vertical
1679.000000	-60.13	-13.00	47.13	Vertical
2518.500000	-54.63	-13.00	41.63	Vertical
3358.150000	-65.82	-13.00	52.82	Vertical
5037.425000	-65.87	-13.00	52.87	Vertical
56.413333	-77.72	-13.00	64.72	Horizontal
144.006667	-76.42	-13.00	63.42	Horizontal
1679.000000	-62.44	-13.00	49.44	Horizontal
2518.500000	-51.04	-13.00	38.04	Horizontal
3358.150000	-67.88	-13.00	54.88	Horizontal
5037.425000	-65.13	-13.00	52.13	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.
- 2) We have tested all modulation and all Bandwidth, but only the worst case data presented in this report

## 8 Frequency Stability

### 8.1 Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band5	LTE/TM1 10MHz	LCH	TN	VL	-3.93	-0.00450	PASS
				VN	-2.07	-0.00237	PASS
				VH	-6.66	-0.00761	PASS
		MCH	TN	VL	-0.31	-0.00035	PASS
				VN	-3.25	-0.00369	PASS
				VH	3.40	0.00385	PASS
		HCH	TN	VL	0.07	0.00008	PASS
				VN	3.12	0.00351	PASS
				VH	8.23	0.00926	PASS
	LTE/TM2 10MHz	LCH	TN	VL	6.93	0.00792	PASS
				VN	-8.80	-0.01006	PASS
				VH	-8.90	-0.01019	PASS
		MCH	TN	VL	1.07	0.00121	PASS
				VN	5.32	0.00604	PASS
				VH	8.69	0.00985	PASS
		HCH	TN	VL	2.90	0.00326	PASS
				VN	-0.67	-0.00075	PASS
				VH	9.81	0.01103	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
LTE band5	LTE/TM1 10MHz	LCH	VN	-30	0.40	0.00045	PASS
				-20	-7.97	-0.00911	PASS
				-10	-4.17	-0.00477	PASS
				0	-2.60	-0.00298	PASS
				10	-8.16	-0.00933	PASS
				20	-3.71	-0.00424	PASS
				30	6.69	0.00765	PASS
				40	4.17	0.00477	PASS
				50	-1.28	-0.00147	PASS
		MCH	VN	-30	-3.21	-0.00364	PASS
				-20	0.12	0.00014	PASS
				-10	-3.59	-0.00407	PASS
				0	0.03	0.00003	PASS
				10	7.67	0.00870	PASS
				20	7.90	0.00896	PASS
				30	-3.43	-0.00389	PASS
				40	9.76	0.01107	PASS
				50	-6.01	-0.00682	PASS
		HCH	VN	-30	-6.62	-0.00744	PASS
				-20	4.45	0.00501	PASS
				-10	5.62	0.00632	PASS
				0	7.78	0.00875	PASS
				10	9.41	0.01059	PASS
				20	0.10	0.00011	PASS
				30	-8.73	-0.00982	PASS
				40	4.74	0.00533	PASS
				50	8.43	0.00949	PASS



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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band5	LTE/TM2 10MHz	LCH	VN	-30	0.58	0.00066	PASS
				-20	-9.58	-0.01096	PASS
				-10	8.66	0.00991	PASS
				0	-3.44	-0.00394	PASS
				10	1.16	0.00133	PASS
				20	9.27	0.01061	PASS
				30	-0.55	-0.00063	PASS
				40	0.96	0.00110	PASS
				50	-6.00	-0.00686	PASS
		MCH	VN	-30	-1.50	-0.00170	PASS
				-20	1.43	0.00162	PASS
				-10	-5.21	-0.00591	PASS
				0	2.08	0.00236	PASS
				10	0.41	0.00046	PASS
				20	4.72	0.00536	PASS
				30	-6.03	-0.00684	PASS
				40	0.87	0.00098	PASS
				50	0.82	0.00093	PASS
		HCH	VN	-30	-4.64	-0.00522	PASS
				-20	5.72	0.00643	PASS
				-10	-0.21	-0.00024	PASS
				0	5.17	0.00581	PASS
				10	3.06	0.00344	PASS
				20	8.88	0.00999	PASS
				30	3.18	0.00358	PASS
				40	6.39	0.00719	PASS
				50	-0.07	-0.00008	PASS

The End