



# Appendix B

## E-UTRA Band 4



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## 1 Effective (Isotropic) Radiated Power Output Data

Effective Isotropic Radiated Power of Transmitter (EIRP) for LTE BAND 4

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM1	1.4M	LCH	RB1#0	23.51	24.61	30.00	PASS
				RB1#2	23.58	24.68	30.00	PASS
				RB1#5	23.53	24.63	30.00	PASS
				RB3#0	23.58	24.68	30.00	PASS
				RB3#2	23.49	24.59	30.00	PASS
				RB3#3	23.62	24.72	30.00	PASS
				RB6#0	22.35	23.45	30.00	PASS
			MCH	RB1#0	23.27	24.37	30.00	PASS
				RB1#2	23.41	24.51	30.00	PASS
				RB1#5	23.61	24.71	30.00	PASS
				RB3#0	23.36	24.46	30.00	PASS
				RB3#2	23.68	24.78	30.00	PASS
				RB3#3	23.6	24.7	30.00	PASS
				RB6#0	22.4	23.5	30.00	PASS
			HCH	RB1#0	23.24	24.34	30.00	PASS
				RB1#2	23.33	24.43	30.00	PASS
				RB1#5	23.23	24.33	30.00	PASS
				RB3#0	23.59	24.69	30.00	PASS
				RB3#2	23.33	24.43	30.00	PASS
				RB3#3	23.52	24.62	30.00	PASS
				RB6#0	22.29	23.39	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	1.4M	LCH	RB1#0	22.14	23.24	30.00	PASS
				RB1#2	21.95	23.05	30.00	PASS
				RB1#5	21.83	22.93	30.00	PASS
				RB3#0	22.42	23.52	30.00	PASS
				RB3#2	22.43	23.53	30.00	PASS
				RB3#3	22.45	23.55	30.00	PASS
				RB6#0	21.36	22.46	30.00	PASS
			MCH	RB1#0	21.35	22.45	30.00	PASS
				RB1#2	21.98	23.08	30.00	PASS
				RB1#5	21.3	22.4	30.00	PASS
				RB3#0	21.91	23.01	30.00	PASS
				RB3#2	22.17	23.27	30.00	PASS
				RB3#3	22.05	23.15	30.00	PASS
				RB6#0	21.18	22.28	30.00	PASS
			HCH	RB1#0	21.7	22.8	30.00	PASS
				RB1#2	21.98	23.08	30.00	PASS
				RB1#5	21.99	23.09	30.00	PASS
				RB3#0	22.02	23.12	30.00	PASS
				RB3#2	22.27	23.37	30.00	PASS
				RB3#3	22.35	23.45	30.00	PASS
				RB6#0	21.4	22.5	30.00	PASS



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BAND4	LTE/TM1	3M	LCH	RB1#0	23.64	24.74	30.00	PASS
				RB1#7	23.71	24.81	30.00	PASS
				RB1#14	23.59	24.69	30.00	PASS
				RB8#0	22.44	23.54	30.00	PASS
				RB8#4	22.45	23.55	30.00	PASS
				RB8#7	22.49	23.59	30.00	PASS
				RB15#0	22.4	23.5	30.00	PASS
			MCH	RB1#0	23.22	24.32	30.00	PASS
				RB1#7	23.23	24.33	30.00	PASS
				RB1#14	23.21	24.31	30.00	PASS
				RB8#0	22.43	23.53	30.00	PASS
				RB8#4	22.38	23.48	30.00	PASS
				RB8#7	22.43	23.53	30.00	PASS
				RB15#0	22.33	23.43	30.00	PASS
			HCH	RB1#0	23.31	24.41	30.00	PASS
				RB1#7	23.71	24.81	30.00	PASS
				RB1#14	23.21	24.31	30.00	PASS
				RB8#0	22.4	23.5	30.00	PASS
				RB8#4	22.43	23.53	30.00	PASS
				RB8#7	22.36	23.46	30.00	PASS
				RB15#0	22.36	23.46	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	3M	LCH	RB1#0	21.52	22.62	30.00	PASS
				RB1#7	22.99	24.09	30.00	PASS
				RB1#14	22.04	23.14	30.00	PASS
				RB8#0	21.44	22.54	30.00	PASS
				RB8#4	21.43	22.53	30.00	PASS
				RB8#7	21.59	22.69	30.00	PASS
				RB15#0	21.39	22.49	30.00	PASS
			MCH	RB1#0	22.71	23.81	30.00	PASS
				RB1#7	22.49	23.59	30.00	PASS
				RB1#14	22.19	23.29	30.00	PASS
				RB8#0	21.18	22.28	30.00	PASS
				RB8#4	21.49	22.59	30.00	PASS
				RB8#7	21.34	22.44	30.00	PASS
				RB15#0	21.39	22.49	30.00	PASS
			HCH	RB1#0	22.38	23.48	30.00	PASS
				RB1#7	22.19	23.29	30.00	PASS
				RB1#14	22.42	23.52	30.00	PASS
				RB8#0	21.42	22.52	30.00	PASS
				RB8#4	21.48	22.58	30.00	PASS
				RB8#7	21.45	22.55	30.00	PASS
				RB15#0	21.51	22.61	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM1	5M	LCH	RB1#0	23.34	24.44	30.00	PASS
				RB1#13	23.56	24.66	30.00	PASS
				RB1#24	23.2	24.3	30.00	PASS
				RB12#0	22.43	23.53	30.00	PASS
				RB12#6	22.51	23.61	30.00	PASS
				RB12#13	22.62	23.72	30.00	PASS
				RB25#0	22.48	23.58	30.00	PASS
			MCH	RB1#0	23.27	24.37	30.00	PASS
				RB1#13	23.22	24.32	30.00	PASS
				RB1#24	23.02	24.12	30.00	PASS
				RB12#0	22.4	23.5	30.00	PASS
				RB12#6	22.36	23.46	30.00	PASS
				RB12#13	22.41	23.51	30.00	PASS
				RB25#0	22.37	23.47	30.00	PASS
			HCH	RB1#0	23.6	24.7	30.00	PASS
				RB1#13	23.49	24.59	30.00	PASS
				RB1#24	23.52	24.62	30.00	PASS
				RB12#0	22.53	23.63	30.00	PASS
				RB12#6	22.56	23.66	30.00	PASS
				RB12#13	22.46	23.56	30.00	PASS
				RB25#0	22.48	23.58	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	5M	LCH	RB1#0	21.86	22.96	30.00	PASS
				RB1#13	21.97	23.07	30.00	PASS
				RB1#24	22.27	23.37	30.00	PASS
				RB12#0	21.41	22.51	30.00	PASS
				RB12#6	21.41	22.51	30.00	PASS
				RB12#13	21.64	22.74	30.00	PASS
				RB25#0	21.51	22.61	30.00	PASS
			MCH	RB1#0	22.72	23.82	30.00	PASS
				RB1#13	21.47	22.57	30.00	PASS
				RB1#24	22.21	23.31	30.00	PASS
				RB12#0	21.24	22.34	30.00	PASS
				RB12#6	21.28	22.38	30.00	PASS
				RB12#13	21.24	22.34	30.00	PASS
				RB25#0	21.26	22.36	30.00	PASS
			HCH	RB1#0	21.63	22.73	30.00	PASS
				RB1#13	22.37	23.47	30.00	PASS
				RB1#24	22.18	23.28	30.00	PASS
				RB12#0	21.43	22.53	30.00	PASS
				RB12#6	21.46	22.56	30.00	PASS
				RB12#13	21.44	22.54	30.00	PASS
				RB25#0	21.43	22.53	30.00	PASS





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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM1	10M	LCH	RB1#0	23.38	24.48	30.00	PASS
				RB1#25	23.71	24.81	30.00	PASS
				RB1#49	23.5	24.6	30.00	PASS
				RB25#0	22.64	23.74	30.00	PASS
				RB25#13	22.61	23.71	30.00	PASS
				RB25#25	22.61	23.71	30.00	PASS
				RB50#0	22.69	23.79	30.00	PASS
			MCH	RB1#0	23.52	24.62	30.00	PASS
				RB1#25	23.45	24.55	30.00	PASS
				RB1#49	23.31	24.41	30.00	PASS
				RB25#0	22.53	23.63	30.00	PASS
				RB25#13	22.39	23.49	30.00	PASS
				RB25#25	22.45	23.55	30.00	PASS
				RB50#0	22.43	23.53	30.00	PASS
			HCH	RB1#0	23.5	24.6	30.00	PASS
				RB1#25	23.78	24.88	30.00	PASS
				RB1#49	23.63	24.73	30.00	PASS
				RB25#0	22.64	23.74	30.00	PASS
				RB25#13	22.56	23.66	30.00	PASS
				RB25#25	22.64	23.74	30.00	PASS
				RB50#0	22.65	23.75	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	10M	LCH	RB1#0	22.47	23.57	30.00	PASS
				RB1#25	23.29	24.39	30.00	PASS
				RB1#49	22.41	23.51	30.00	PASS
				RB25#0	21.49	22.59	30.00	PASS
				RB25#13	21.71	22.81	30.00	PASS
				RB25#25	21.59	22.69	30.00	PASS
				RB50#0	21.63	22.73	30.00	PASS
			MCH	RB1#0	21.56	22.66	30.00	PASS
				RB1#25	22.24	23.34	30.00	PASS
				RB1#49	22.01	23.11	30.00	PASS
				RB25#0	21.58	22.68	30.00	PASS
				RB25#13	21.59	22.69	30.00	PASS
				RB25#25	21.44	22.54	30.00	PASS
				RB50#0	21.32	22.42	30.00	PASS
			HCH	RB1#0	22.53	23.63	30.00	PASS
				RB1#25	22.83	23.93	30.00	PASS
				RB1#49	22.31	23.41	30.00	PASS
				RB25#0	21.76	22.86	30.00	PASS
				RB25#13	21.74	22.84	30.00	PASS
				RB25#25	21.43	22.53	30.00	PASS
				RB50#0	21.76	22.86	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM1	15M	LCH	RB1#0	23.59	24.69	30.00	PASS
				RB1#38	23.68	24.78	30.00	PASS
				RB1#74	23.43	24.53	30.00	PASS
				RB36#0	22.72	23.82	30.00	PASS
				RB36#18	22.73	23.83	30.00	PASS
				RB36#39	22.63	23.73	30.00	PASS
				RB75#0	22.56	23.66	30.00	PASS
			MCH	RB1#0	23.59	24.69	30.00	PASS
				RB1#38	23.45	24.55	30.00	PASS
				RB1#74	23.41	24.51	30.00	PASS
				RB36#0	22.58	23.68	30.00	PASS
				RB36#18	22.46	23.56	30.00	PASS
				RB36#39	22.5	23.6	30.00	PASS
				RB75#0	22.47	23.57	30.00	PASS
			HCH	RB1#0	23.71	24.81	30.00	PASS
				RB1#38	23.43	24.53	30.00	PASS
				RB1#74	23.55	24.65	30.00	PASS
				RB36#0	22.79	23.89	30.00	PASS
				RB36#18	22.72	23.82	30.00	PASS
				RB36#39	22.62	23.72	30.00	PASS
				RB75#0	22.61	23.71	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	15M	LCH	RB1#0	22.08	23.18	30.00	PASS
				RB1#38	22.55	23.65	30.00	PASS
				RB1#74	22.29	23.39	30.00	PASS
				RB36#0	21.55	22.65	30.00	PASS
				RB36#18	21.72	22.82	30.00	PASS
				RB36#39	21.49	22.59	30.00	PASS
				RB75#0	21.72	22.82	30.00	PASS
			MCH	RB1#0	22.01	23.11	30.00	PASS
				RB1#38	22.15	23.25	30.00	PASS
				RB1#74	21.95	23.05	30.00	PASS
				RB36#0	21.58	22.68	30.00	PASS
				RB36#18	21.42	22.52	30.00	PASS
				RB36#39	21.38	22.48	30.00	PASS
				RB75#0	21.46	22.56	30.00	PASS
			HCH	RB1#0	22.32	23.42	30.00	PASS
				RB1#38	22.66	23.76	30.00	PASS
				RB1#74	22.33	23.43	30.00	PASS
				RB36#0	21.73	22.83	30.00	PASS
				RB36#18	21.79	22.89	30.00	PASS
				RB36#39	21.7	22.8	30.00	PASS
				RB75#0	21.8	22.9	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM1	20M	LCH	RB1#0	23.24	24.34	30.00	PASS
				RB1#50	24.01	25.11	30.00	PASS
				RB1#99	23.39	24.49	30.00	PASS
				RB50#0	22.74	23.84	30.00	PASS
				RB50#25	22.71	23.81	30.00	PASS
				RB50#50	22.57	23.67	30.00	PASS
				RB100#0	22.59	23.69	30.00	PASS
			MCH	RB1#0	23.49	24.59	30.00	PASS
				RB1#50	23.5	24.6	30.00	PASS
				RB1#99	23.24	24.34	30.00	PASS
				RB50#0	22.6	23.7	30.00	PASS
				RB50#25	22.53	23.63	30.00	PASS
				RB50#50	22.43	23.53	30.00	PASS
				RB100#0	22.45	23.55	30.00	PASS
			HCH	RB1#0	23.45	24.55	30.00	PASS
				RB1#50	23.79	24.89	30.00	PASS
				RB1#99	23.59	24.69	30.00	PASS
				RB50#0	22.7	23.8	30.00	PASS
				RB50#25	22.74	23.84	30.00	PASS
				RB50#50	22.72	23.82	30.00	PASS
				RB100#0	22.78	23.88	30.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	20M	LCH	RB1#0	22.55	23.65	30.00	PASS
				RB1#50	22.88	23.98	30.00	PASS
				RB1#99	22.37	23.47	30.00	PASS
				RB50#0	21.83	22.93	30.00	PASS
				RB50#25	21.83	22.93	30.00	PASS
				RB50#50	21.6	22.7	30.00	PASS
				RB100#0	21.57	22.67	30.00	PASS
			MCH	RB1#0	22.97	24.07	30.00	PASS
				RB1#50	22.38	23.48	30.00	PASS
				RB1#99	22.4	23.5	30.00	PASS
				RB50#0	21.57	22.67	30.00	PASS
				RB50#25	21.58	22.68	30.00	PASS
				RB50#50	21.52	22.62	30.00	PASS
				RB100#0	21.55	22.65	30.00	PASS
			HCH	RB1#0	22.5	23.6	30.00	PASS
				RB1#50	23.1	24.2	30.00	PASS
				RB1#99	22.48	23.58	30.00	PASS
				RB50#0	21.81	22.91	30.00	PASS
				RB50#25	21.87	22.97	30.00	PASS
				RB50#50	21.68	22.78	30.00	PASS
				RB100#0	21.85	22.95	30.00	PASS

Note:

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

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

b: SGP=Signal Generator Level



## 2 Peak-to-Average Ratio

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
Band 4	TM1/20M	LCH	4.78	13	PASS
		MCH	4.78	13	PASS
		HCH	5.57	13	PASS
	TM2/20M	LCH	5.88	13	PASS
		MCH	5.86	13	PASS
		HCH	6.49	13	PASS

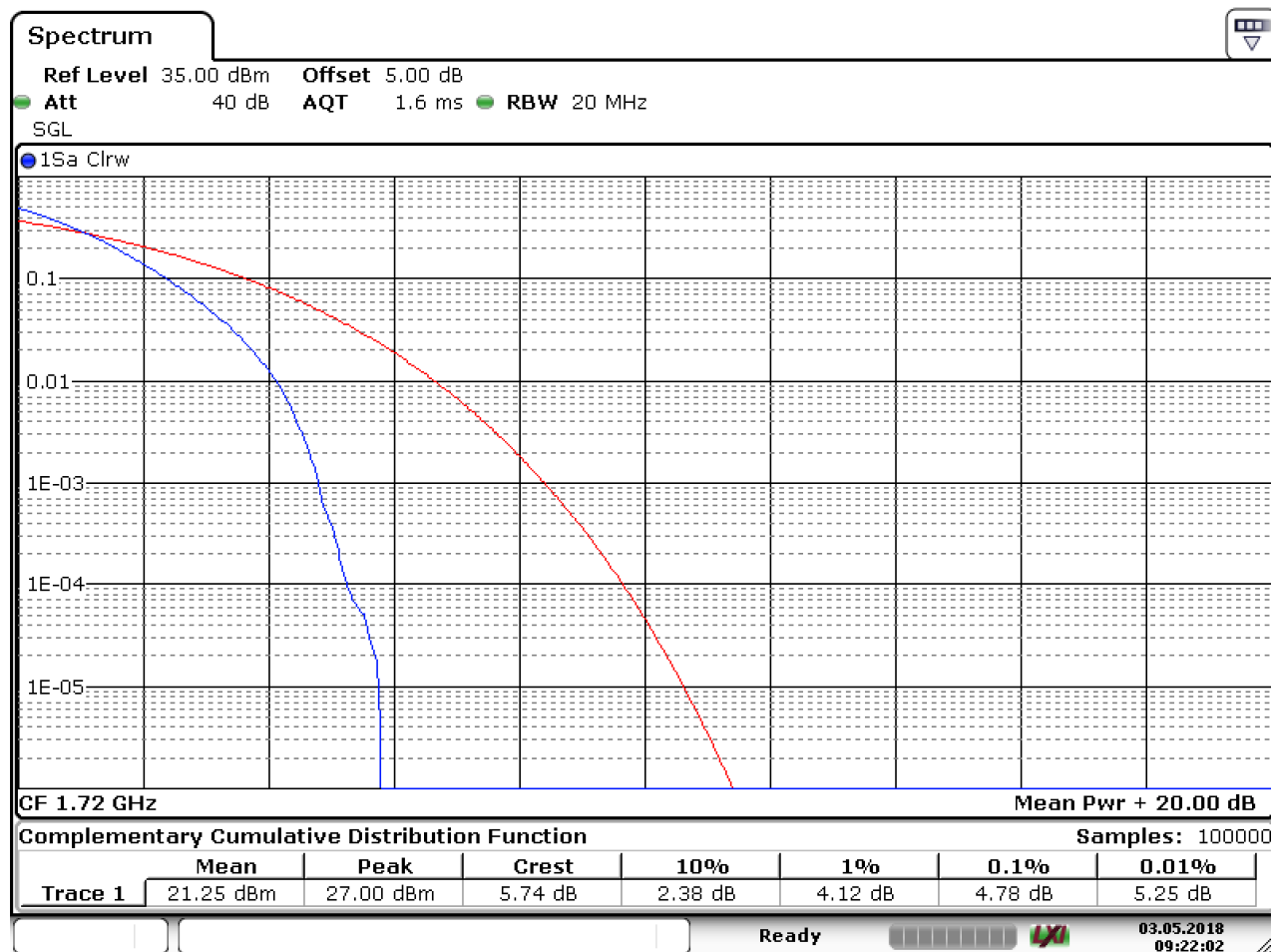
### Part II - Test Plots

## 2.1 For LTE

### 2.1.1 Test Band = LTE band4

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

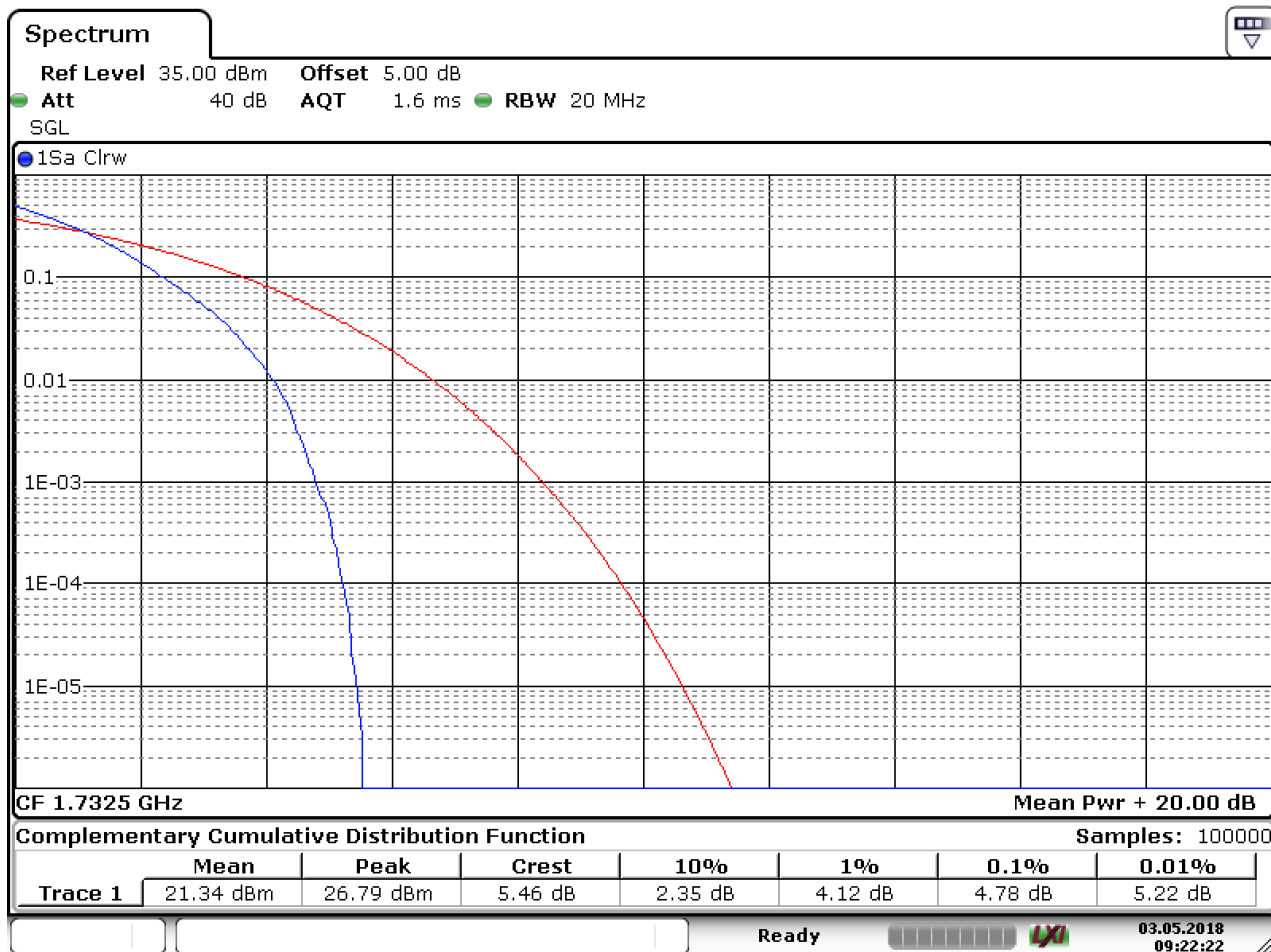
##### 2.1.1.1.1 Test Channel = LCH



Date: 3.MAY.2018 09:22:02



2.1.1.1.2 Test Channel = MCH

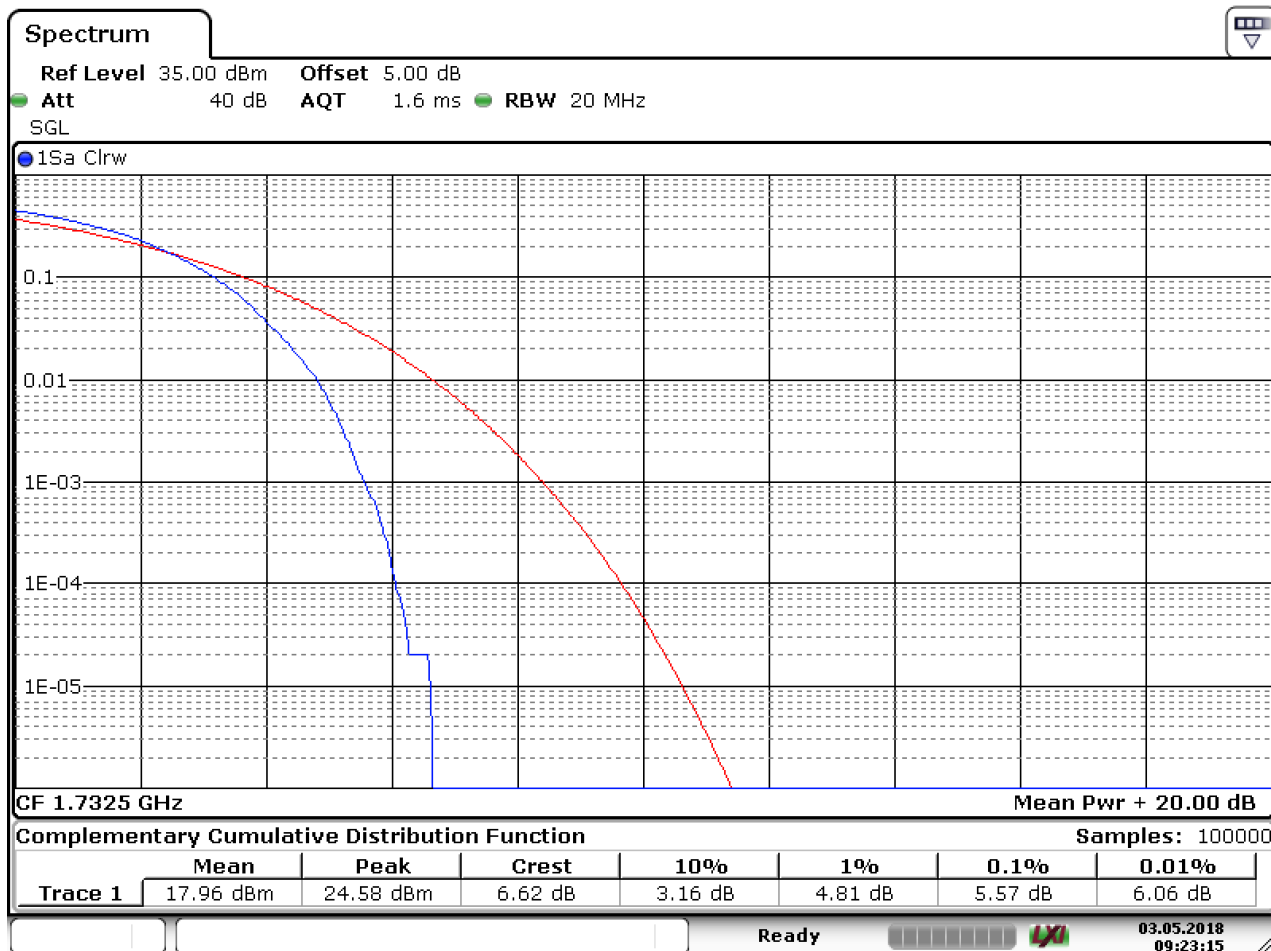


Date: 3.MAY.2018 09:22:23





2.1.1.1.3 Test Channel = HCH

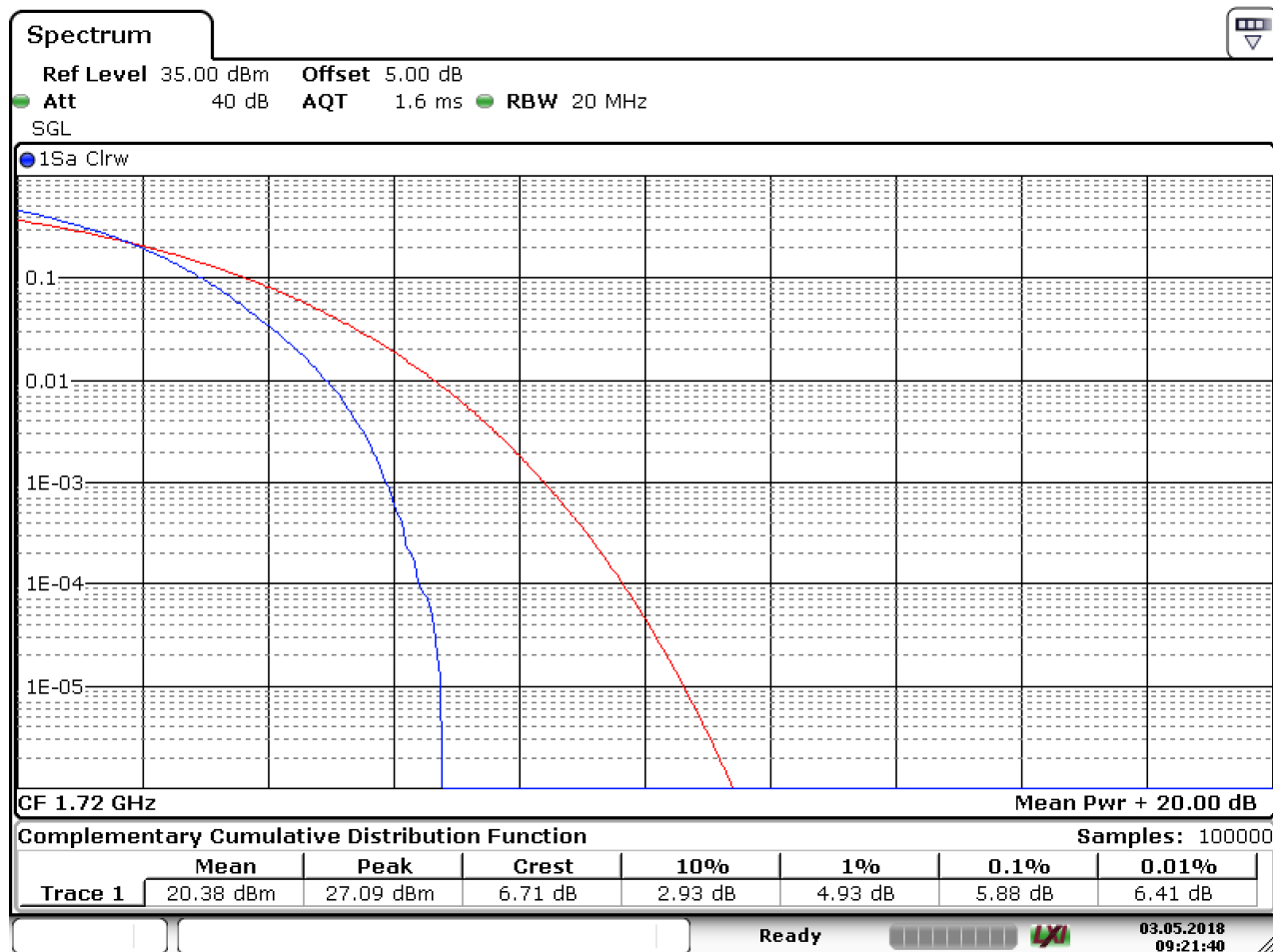


Date: 3.MAY.2018 09:23:15



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

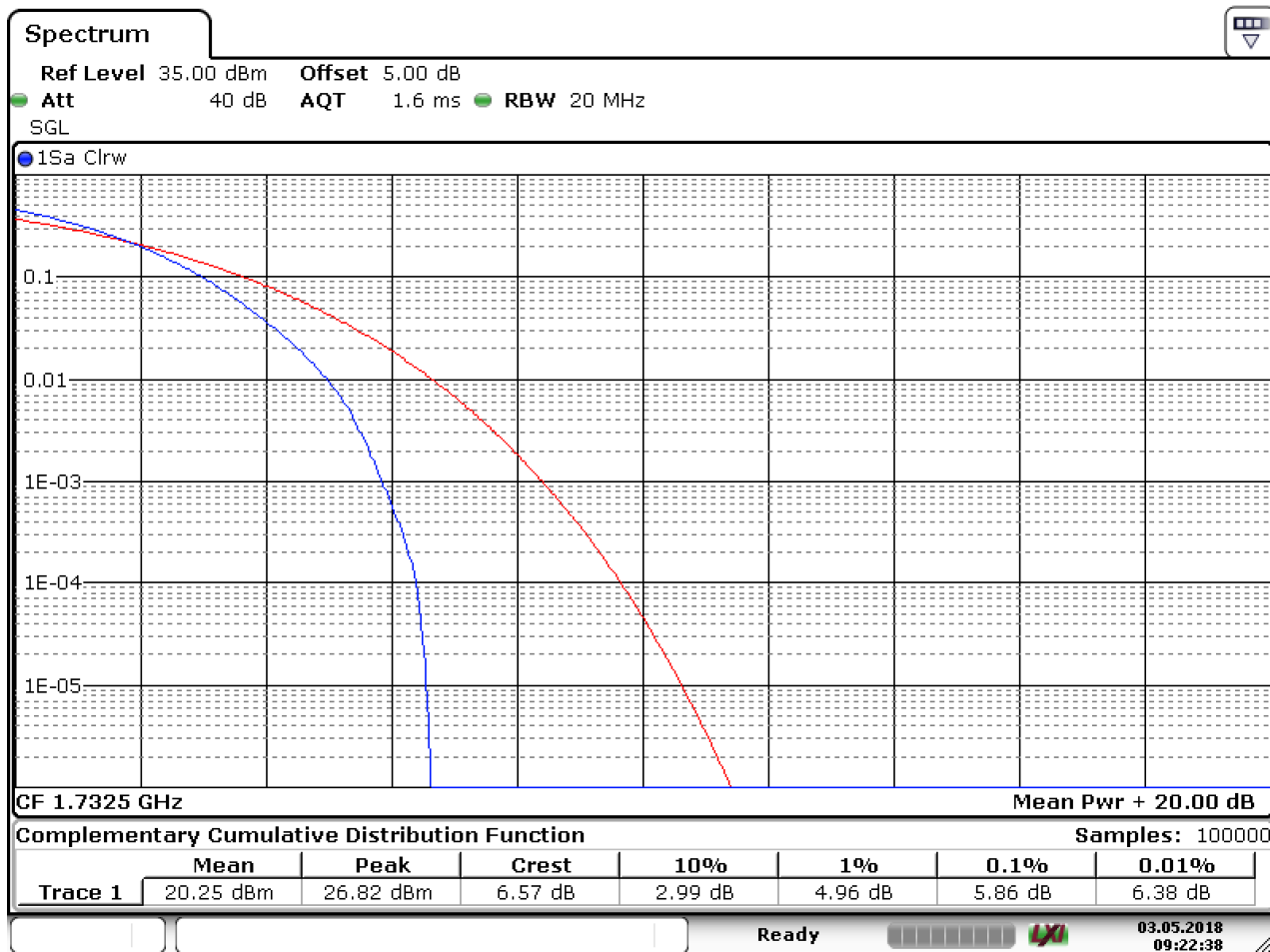
2.1.1.2.1 Test Channel = LCH



Date: 3.MAY.2018 09:21:40



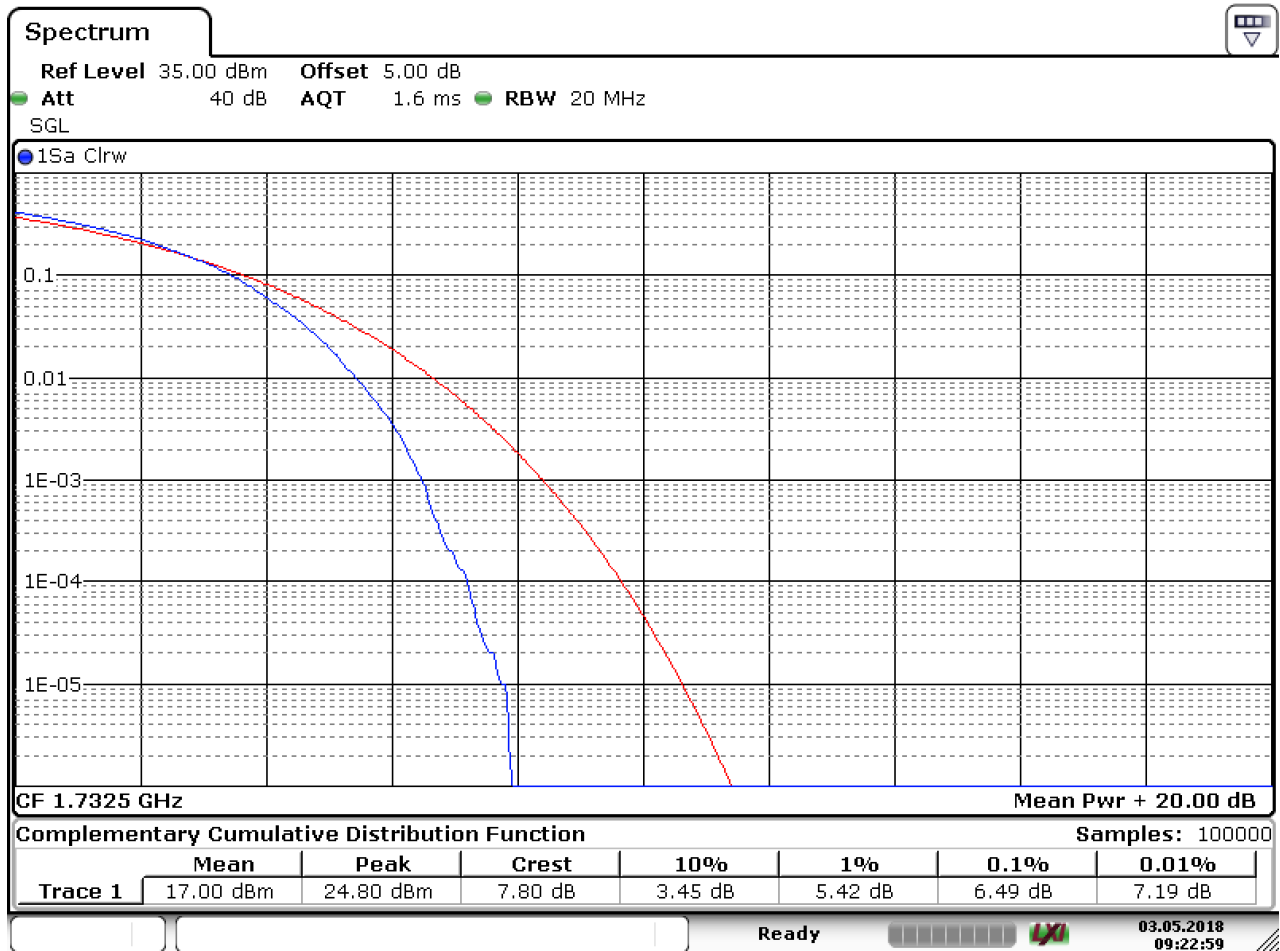
2.1.1.2.2 Test Channel = MCH



Date: 3.MAY.2018 09:22:39



2.1.1.2.3 Test Channel = HCH



Date: 3.MAY.2018 09:22:59

## 3 Modulation Characteristics

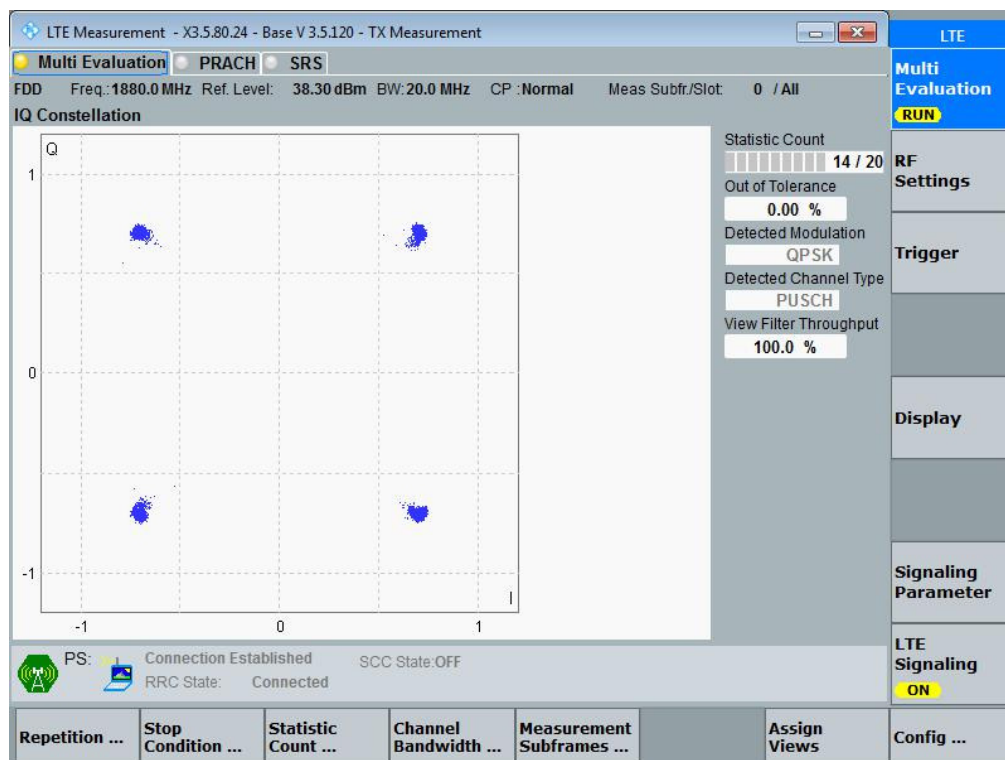
### Part I - Test Plots

### 3.1 For LTE

#### 3.1.1 Test Band = LTE band4

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

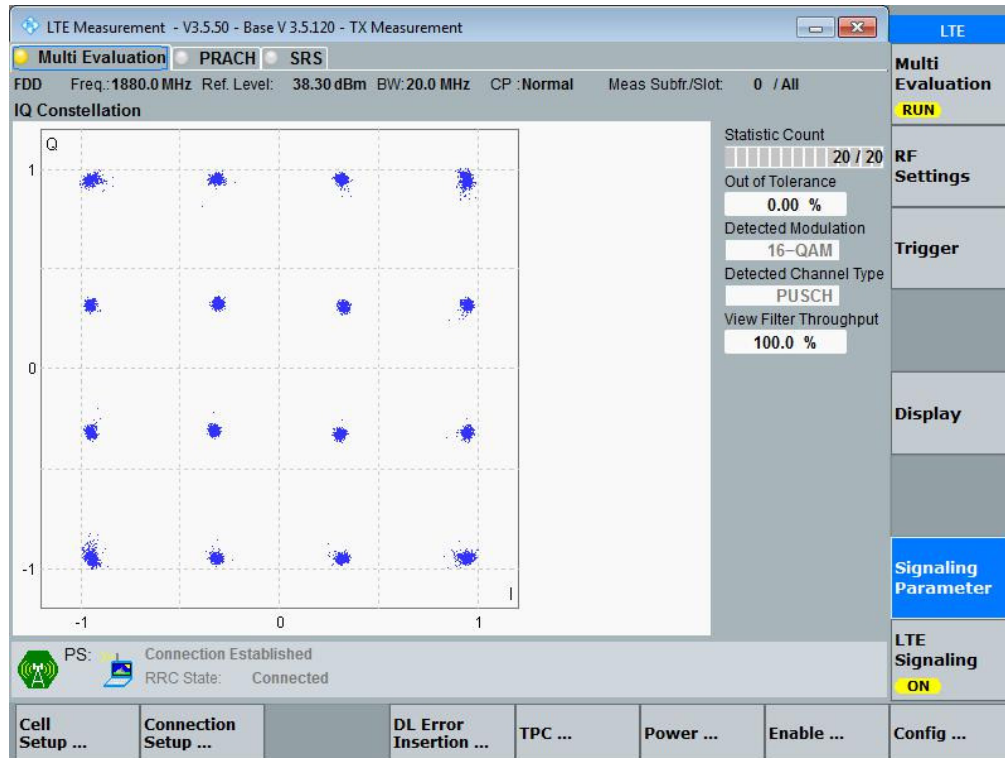
##### 3.1.1.1.1 Test Channel = MCH





### 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 4	TM1/1.4MHz	LCH	1.08	1.25	PASS
		MCH	1.08	1.23	PASS
		HCH	1.08	1.23	PASS
	TM2/1.4MHz	LCH	1.08	1.23	PASS
		MCH	1.08	1.22	PASS
		HCH	1.08	1.23	PASS
	TM1/ 3MHz	LCH	2.71	2.97	PASS
		MCH	2.72	2.96	PASS
		HCH	2.72	2.97	PASS
	TM2/3MHz	LCH	2.72	2.96	PASS
		MCH	2.72	2.96	PASS
		HCH	2.72	2.96	PASS
	TM1/ 5MHz	LCH	4.48	4.80	PASS
		MCH	4.48	4.80	PASS
		HCH	4.48	4.79	PASS
	TM2/ 5MHz	LCH	4.49	4.80	PASS
		MCH	4.48	4.80	PASS
		HCH	4.49	4.82	PASS
	TM1/10MHz	LCH	8.93	9.52	PASS
		MCH	8.93	9.51	PASS
		HCH	8.95	9.49	PASS
	TM2/ 10MHz	LCH	8.93	9.50	PASS
		MCH	8.93	9.47	PASS
		HCH	8.95	9.51	PASS
	TM1/ 15MHz	LCH	13.40	14.24	PASS
		MCH	13.40	14.21	PASS
		HCH	13.43	14.25	PASS
	TM2/ 15MHz	LCH	13.40	14.24	PASS
		MCH	13.40	14.21	PASS
		HCH	13.43	14.22	PASS
	TM1/ 20MHz	LCH	17.94	19.18	PASS
		MCH	17.90	19.19	PASS
		HCH	17.90	19.20	PASS
	TM2/ 20MHz	LCH	17.94	19.18	PASS
		MCH	17.90	19.19	PASS
		HCH	17.90	19.18	PASS

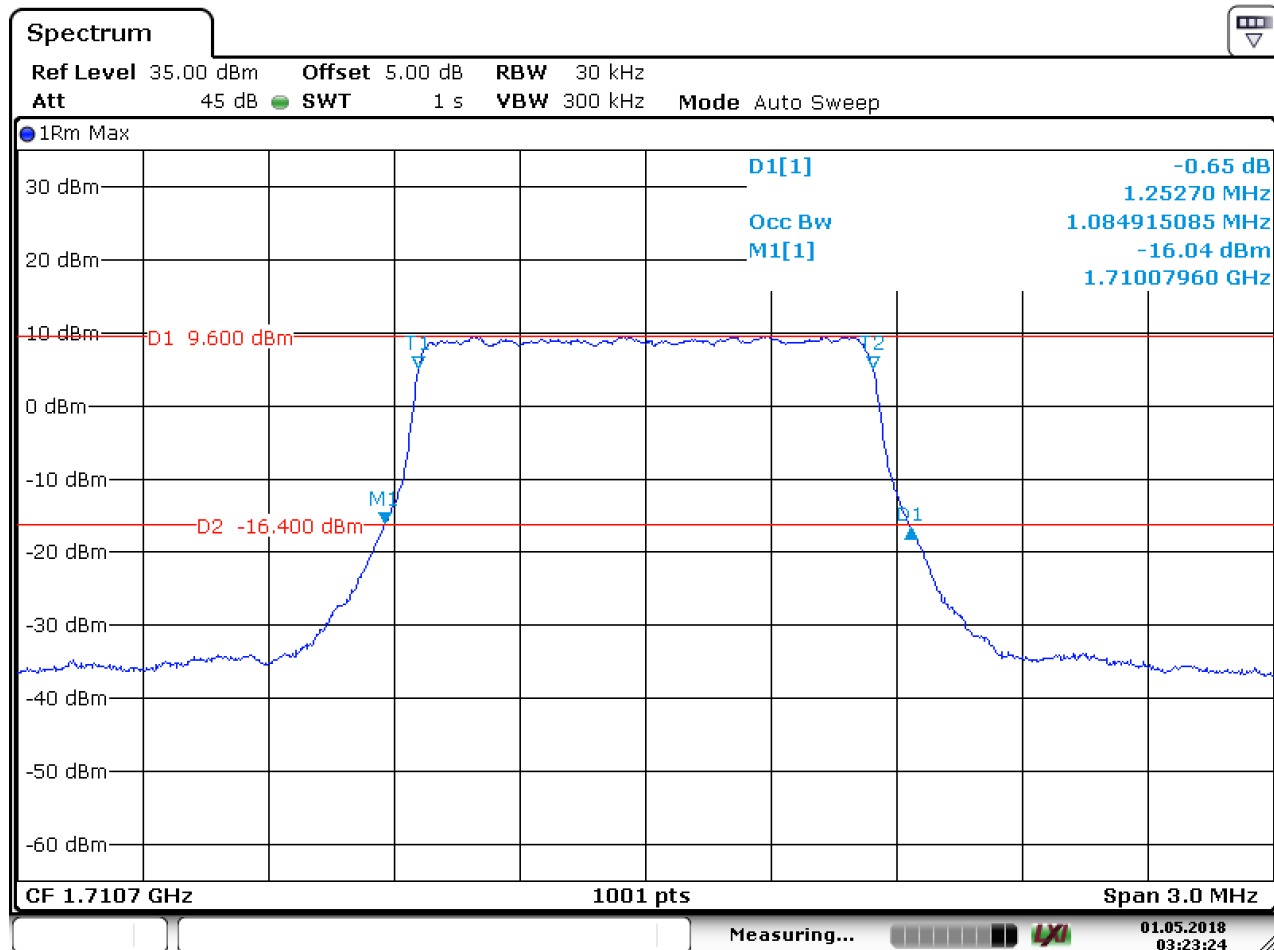


## 4.1 For LTE

### 4.1.1 Test Band = LTE band4

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

##### 4.1.1.1.1 Test Channel = LCH

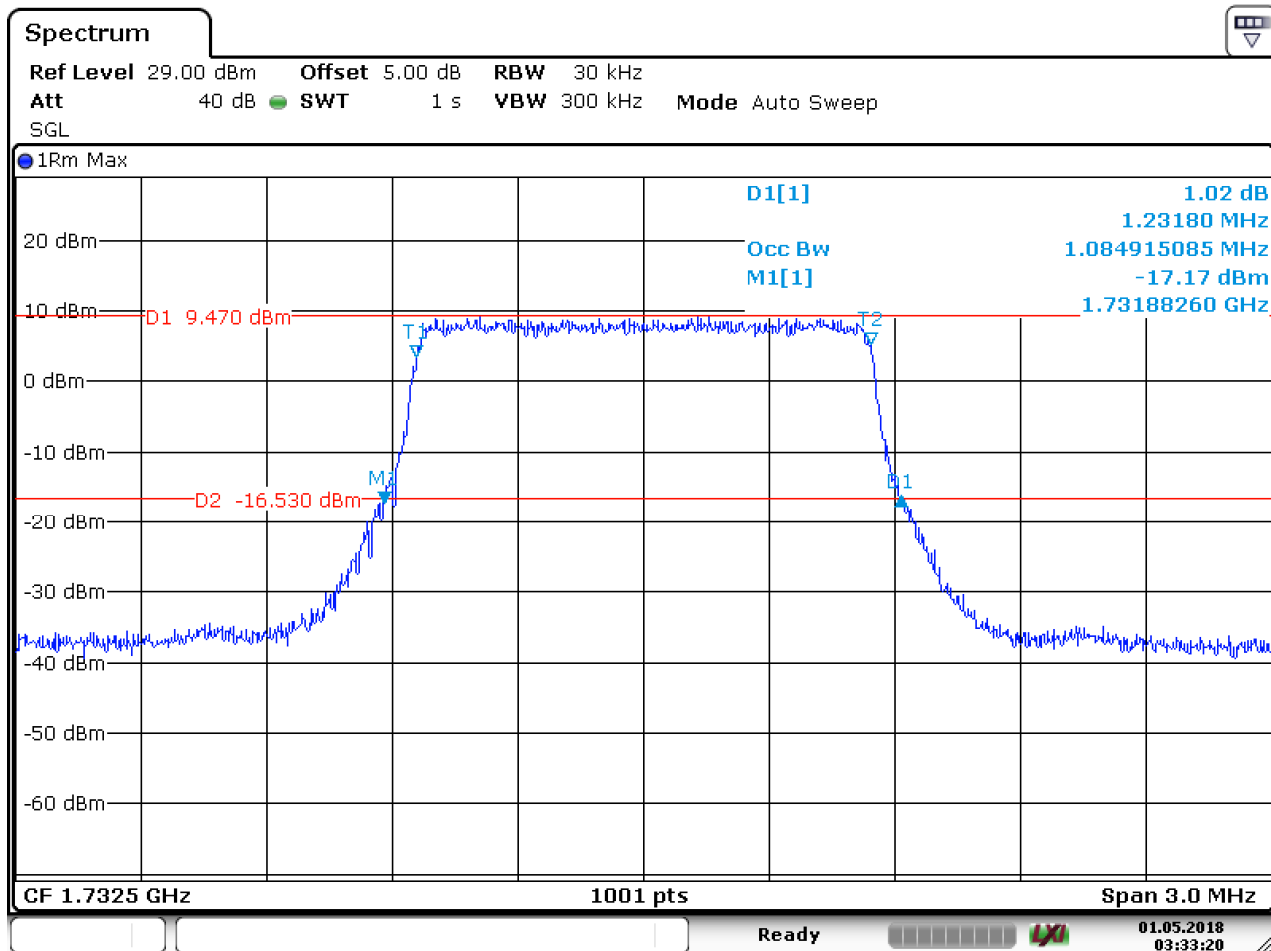


Date: 1.MAY.2018 03:23:25



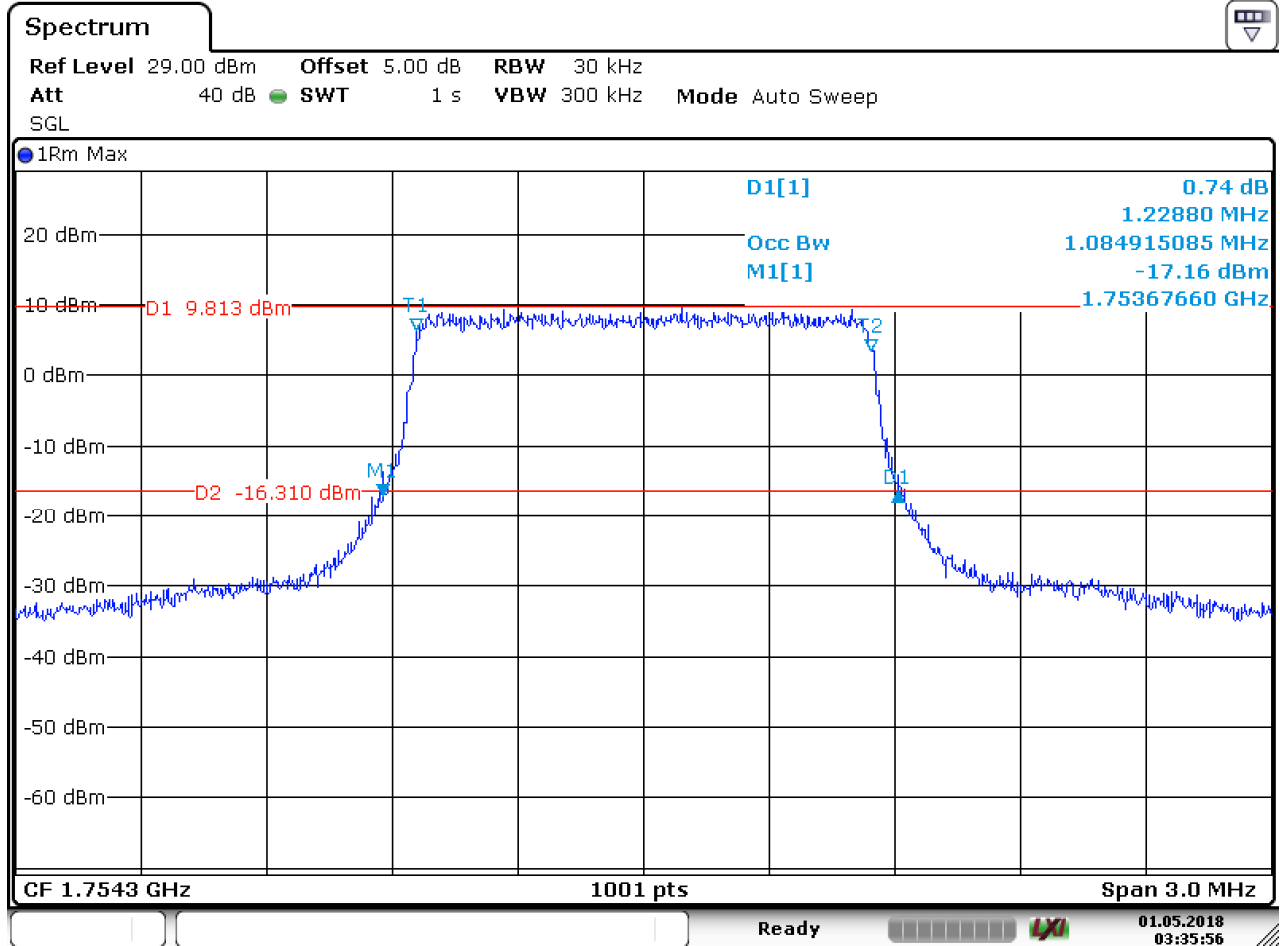


4.1.1.1.2 Test Channel = MCH



Date: 1.MAY.2018 03:33:20

#### 4.1.1.1.3 Test Channel = HCH

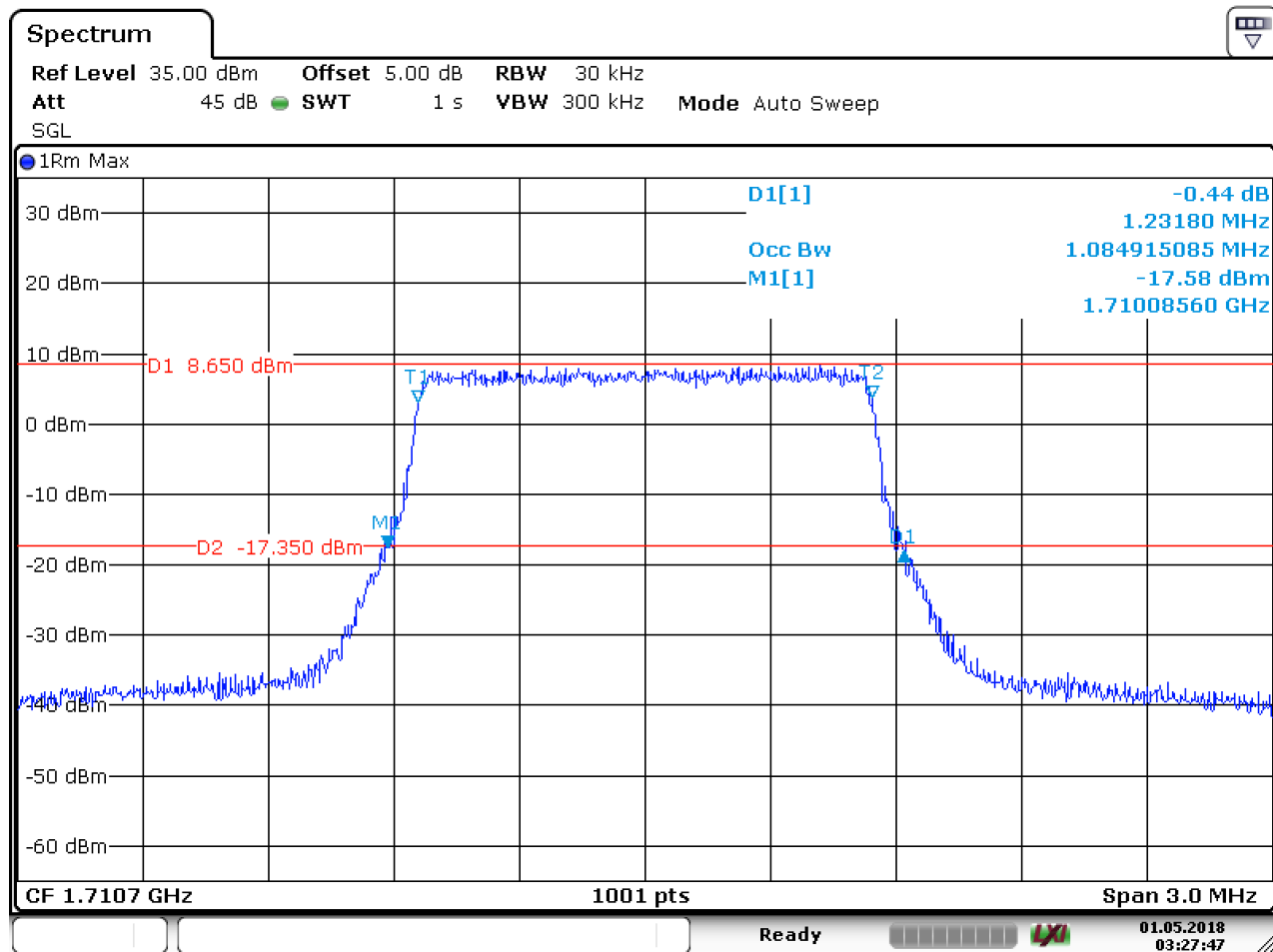


Date: 1.MAY.2018 03:35:57



4.1.1.2 Test Mode = LTE/TM2 1.4MHz

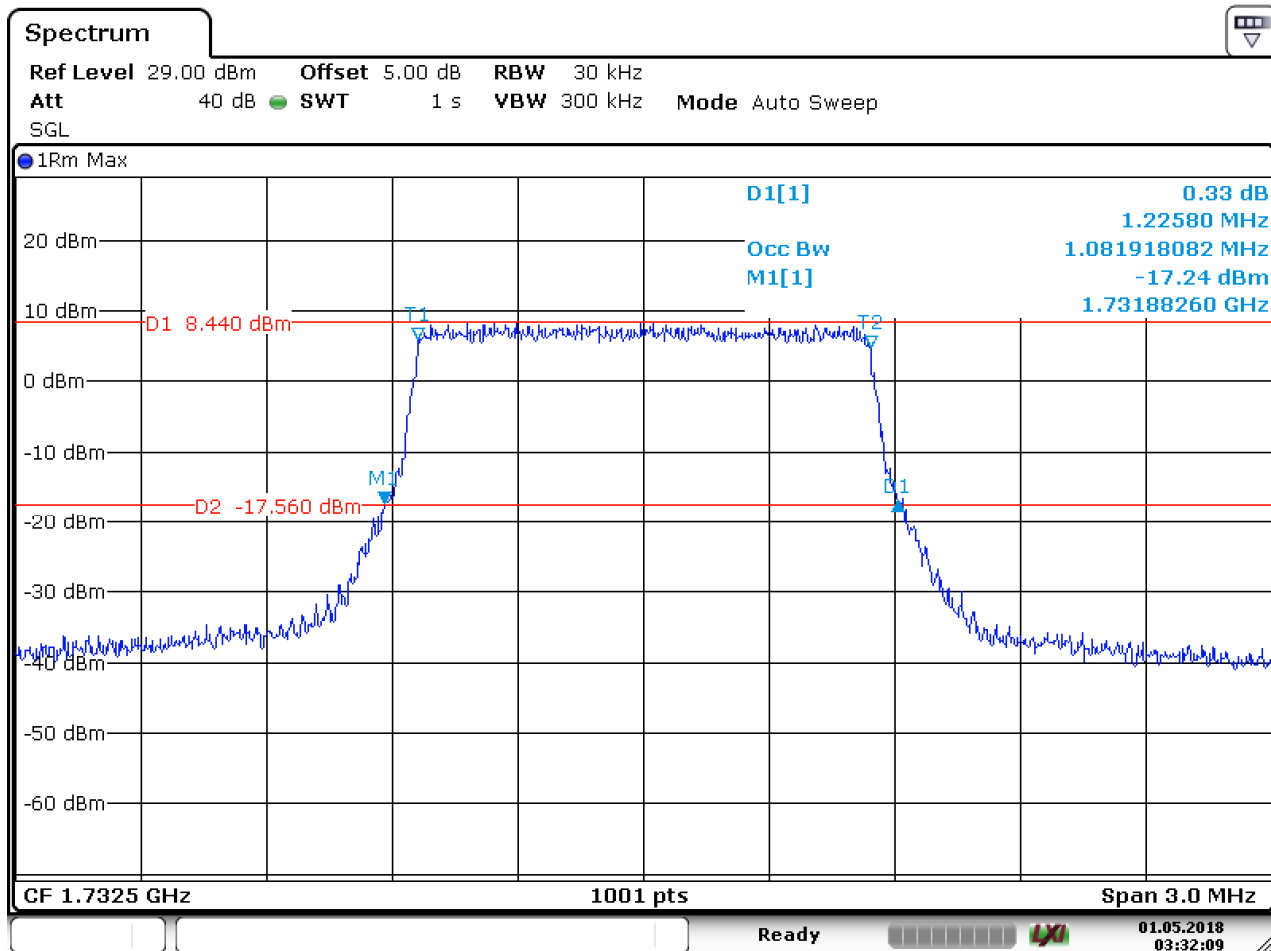
4.1.1.2.1 Test Channel = LCH



Date: 1.MAY.2018 03:27:47



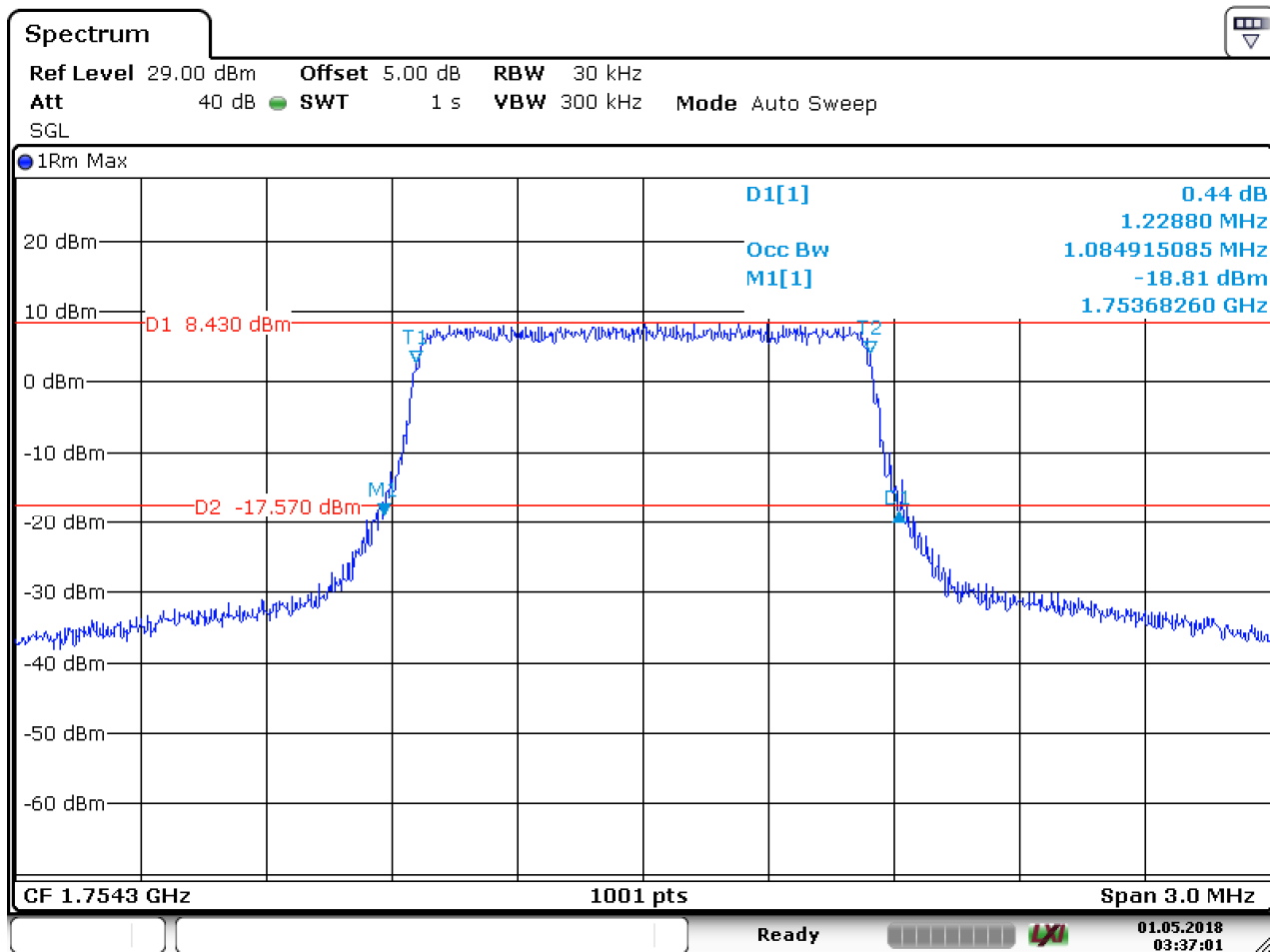
4.1.1.2.2 Test Channel = MCH



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



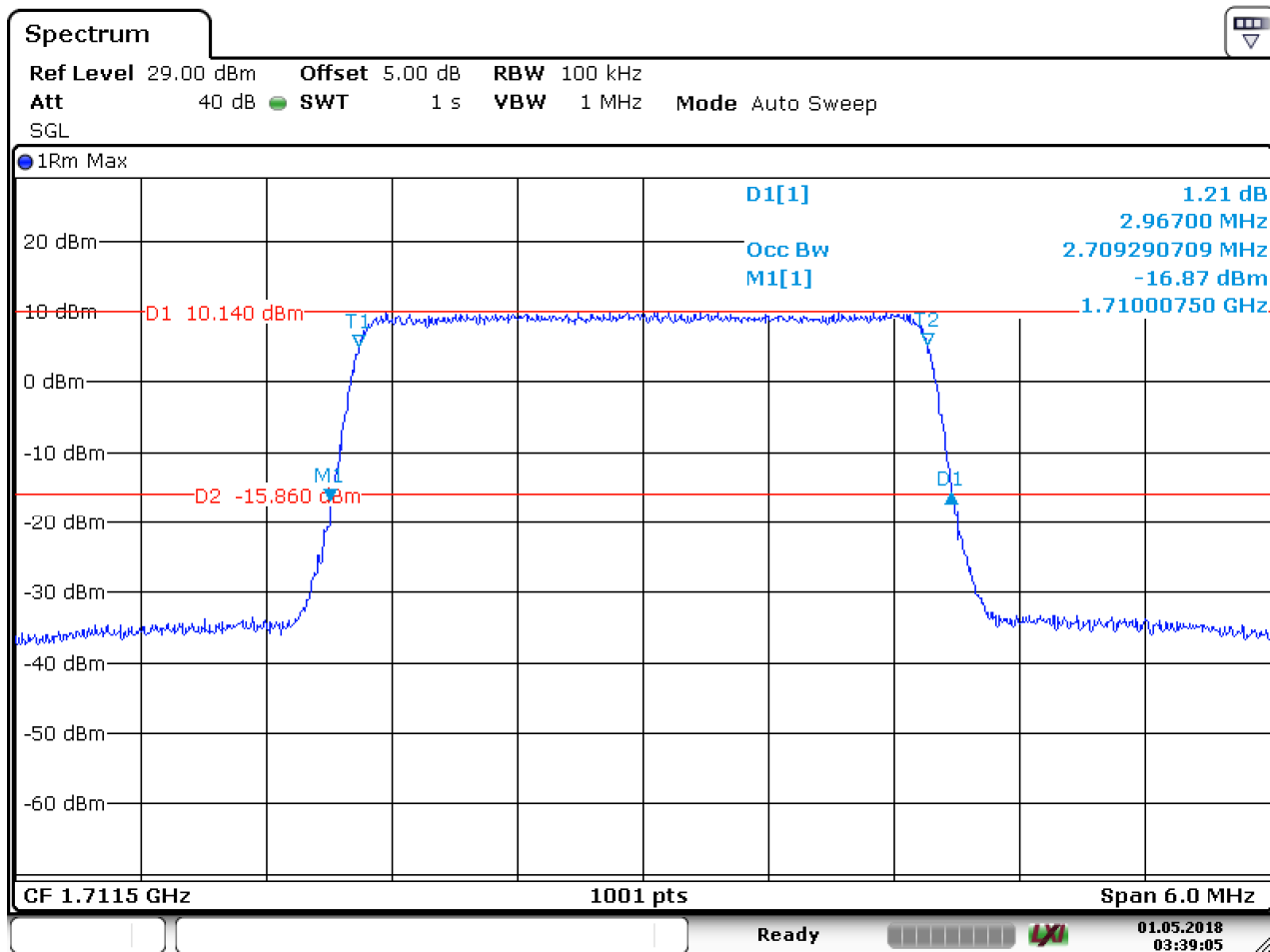
4.1.1.2.3 Test Channel = HCH



Date: 1.MAY.2018 03:37:01



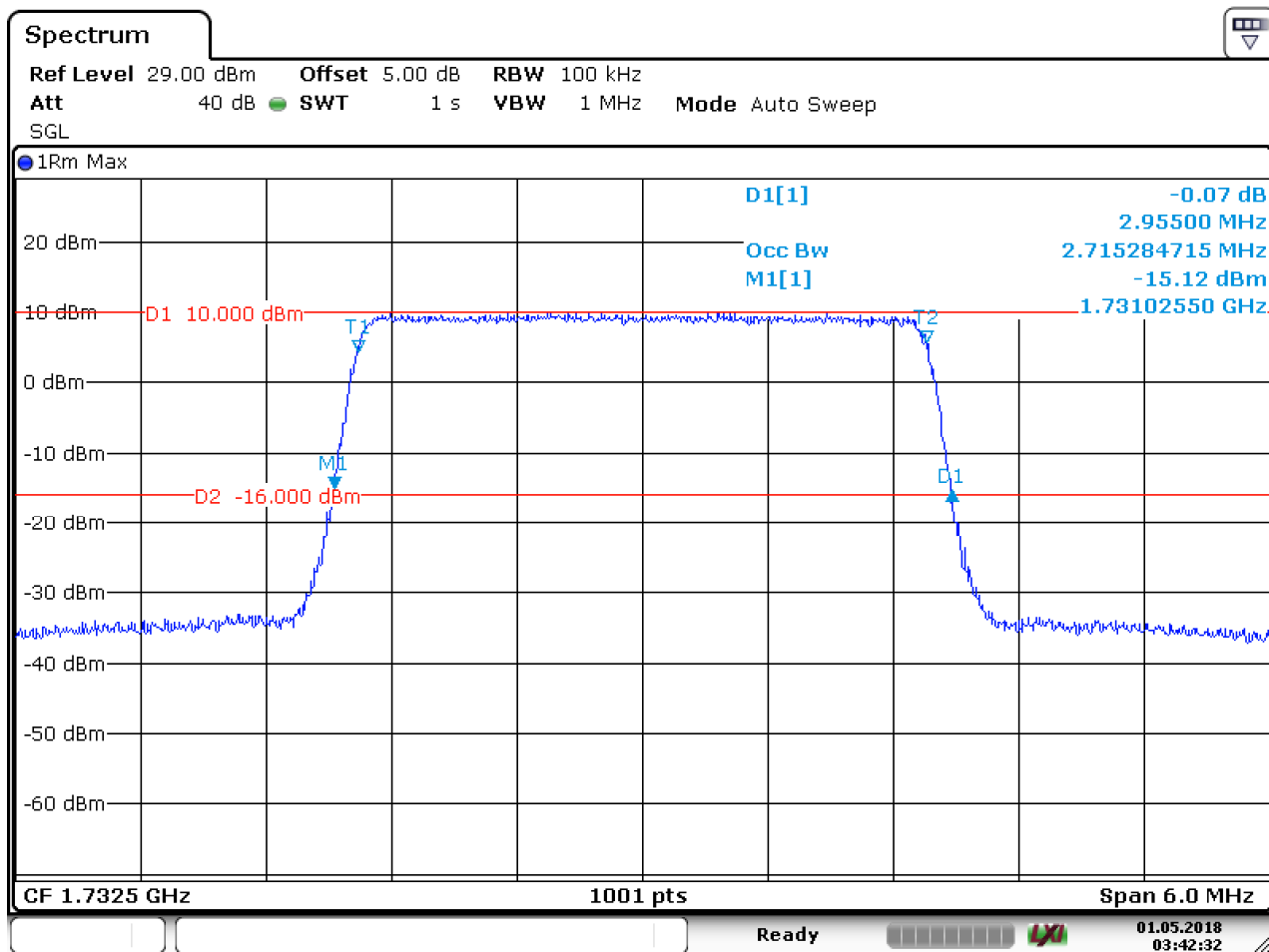
4.1.1.3 Test Mode = LTE/TM1 3MHz  
4.1.1.3.1 Test Channel = LCH



Date: 1.MAY.2018 03:39:05



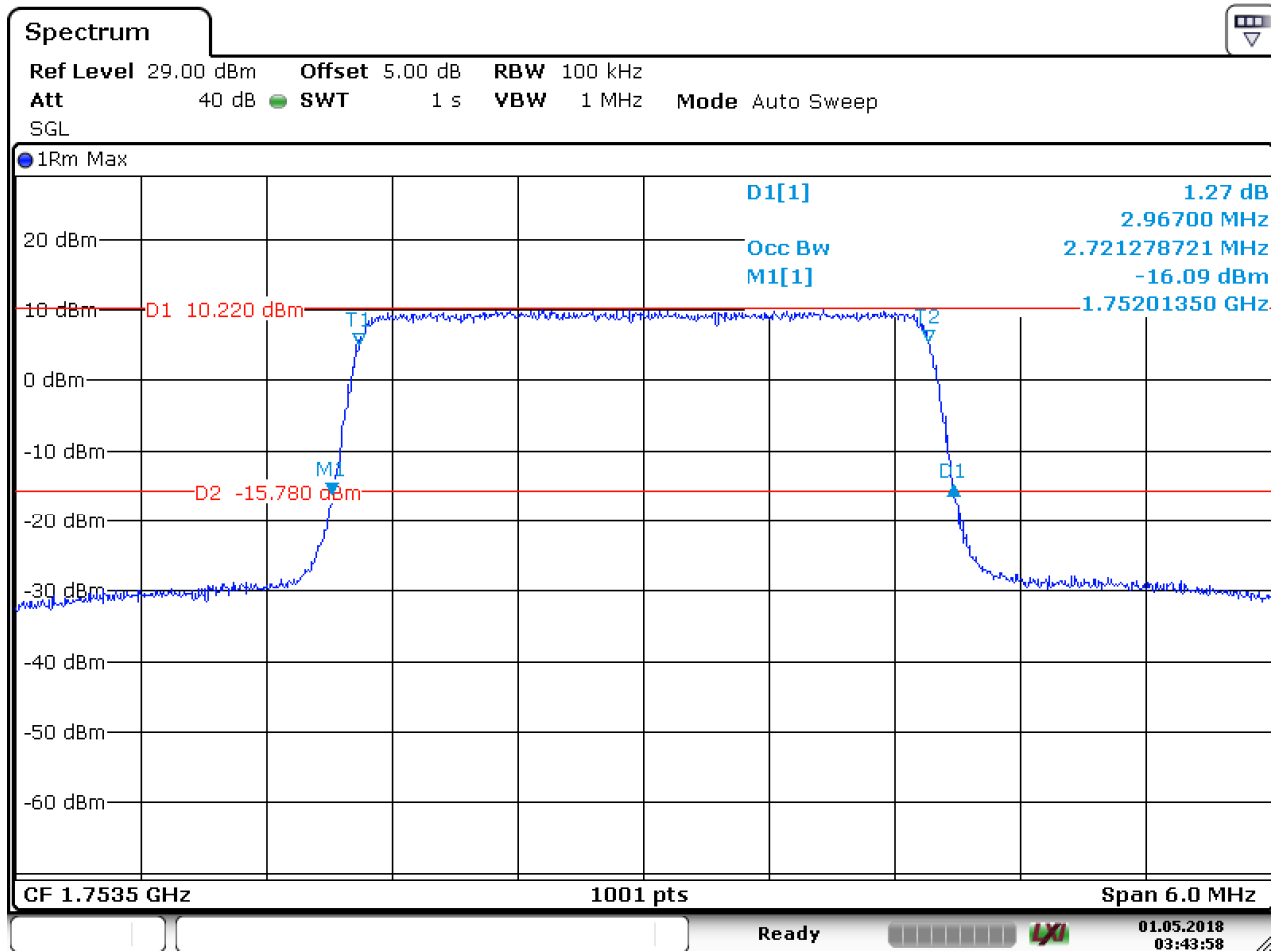
4.1.1.3.2 Test Channel = MCH



Date: 1.MAY.2018 03:42:33



4.1.1.3.3 Test Channel = HCH

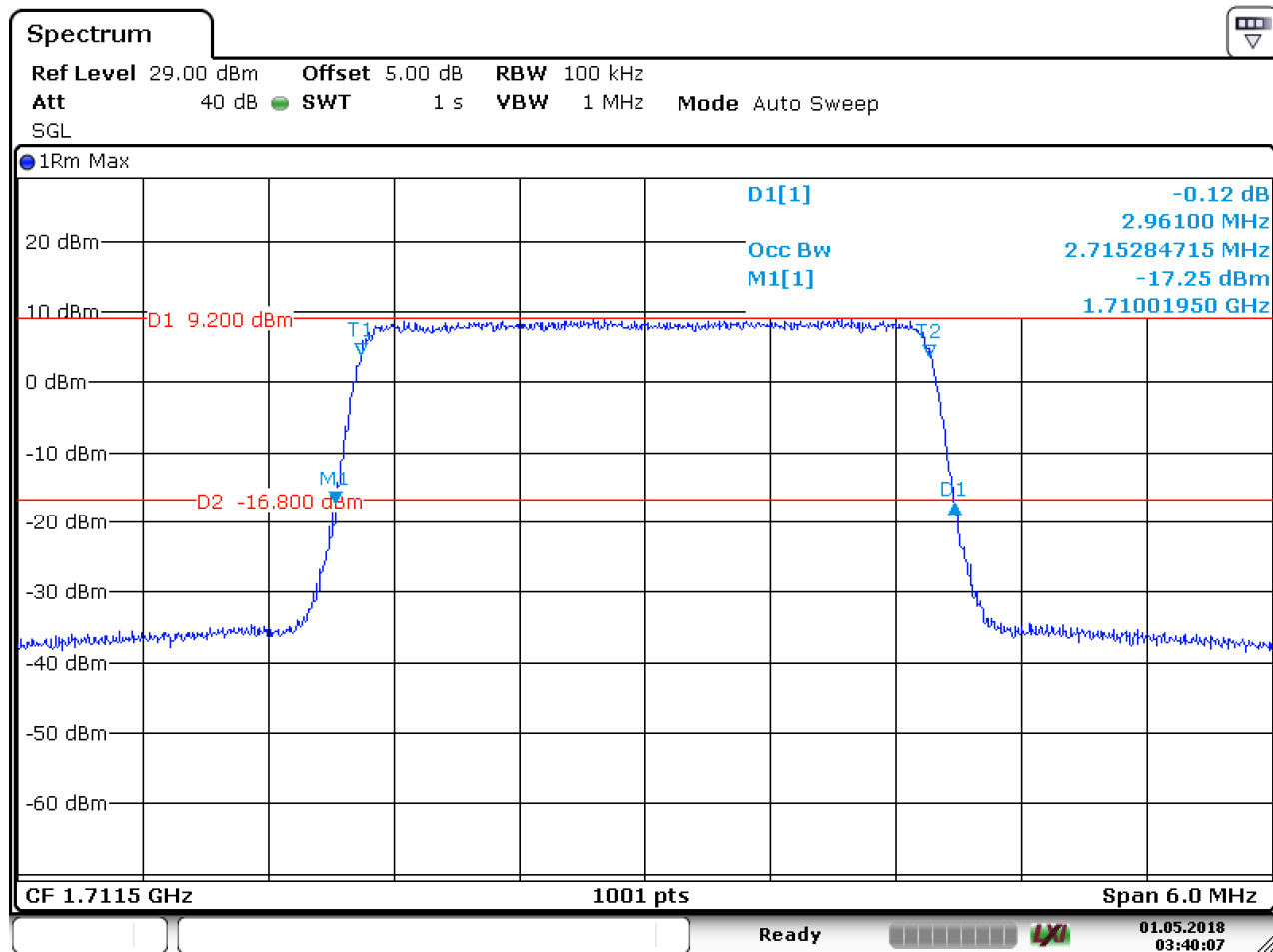


Date: 1.MAY.2018 03:43:58





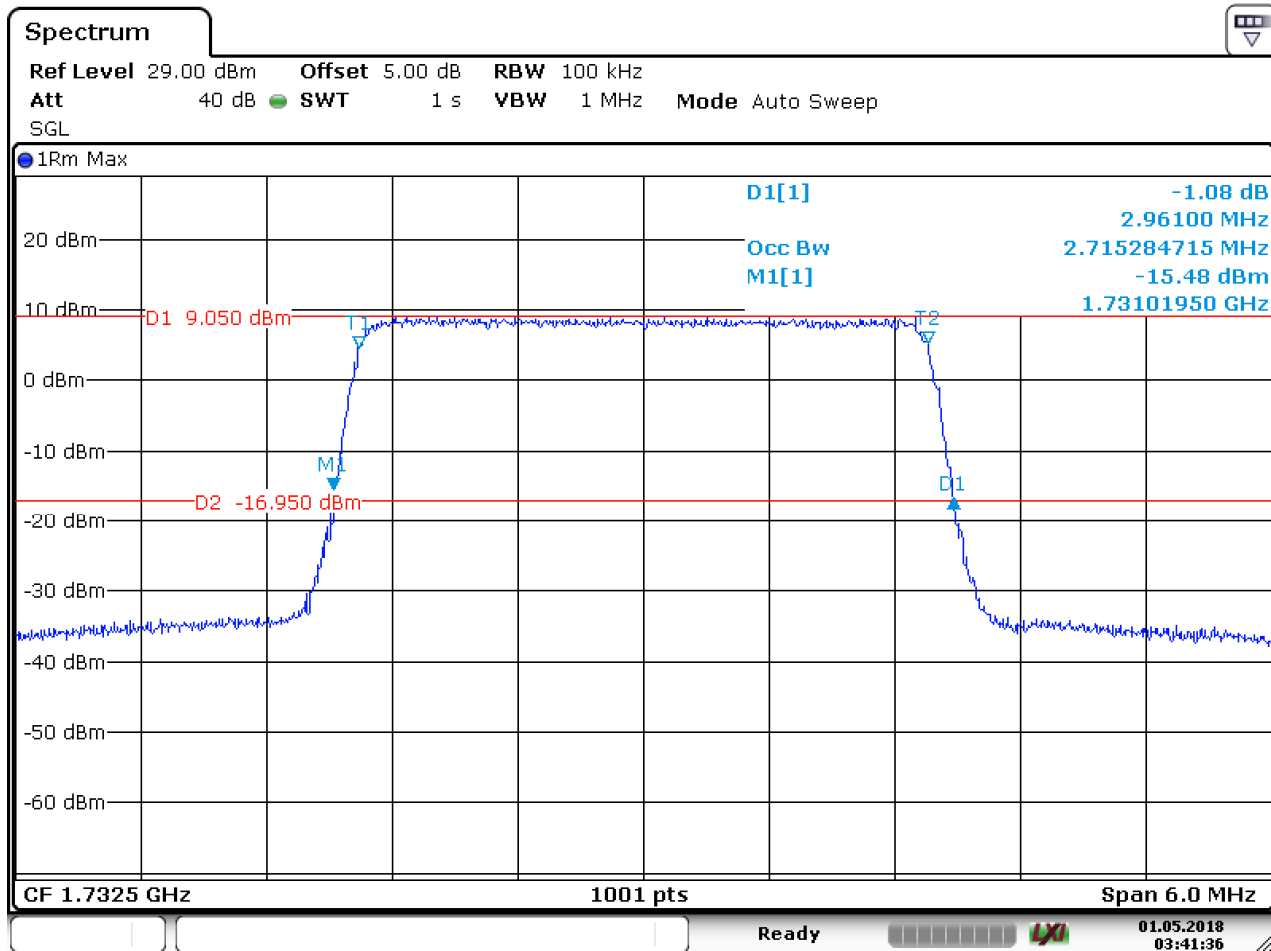
4.1.1.4 Test Mode = LTE/TM2 3MHz  
4.1.1.4.1 Test Channel = LCH



Date: 1.MAY.2018 03:40:08



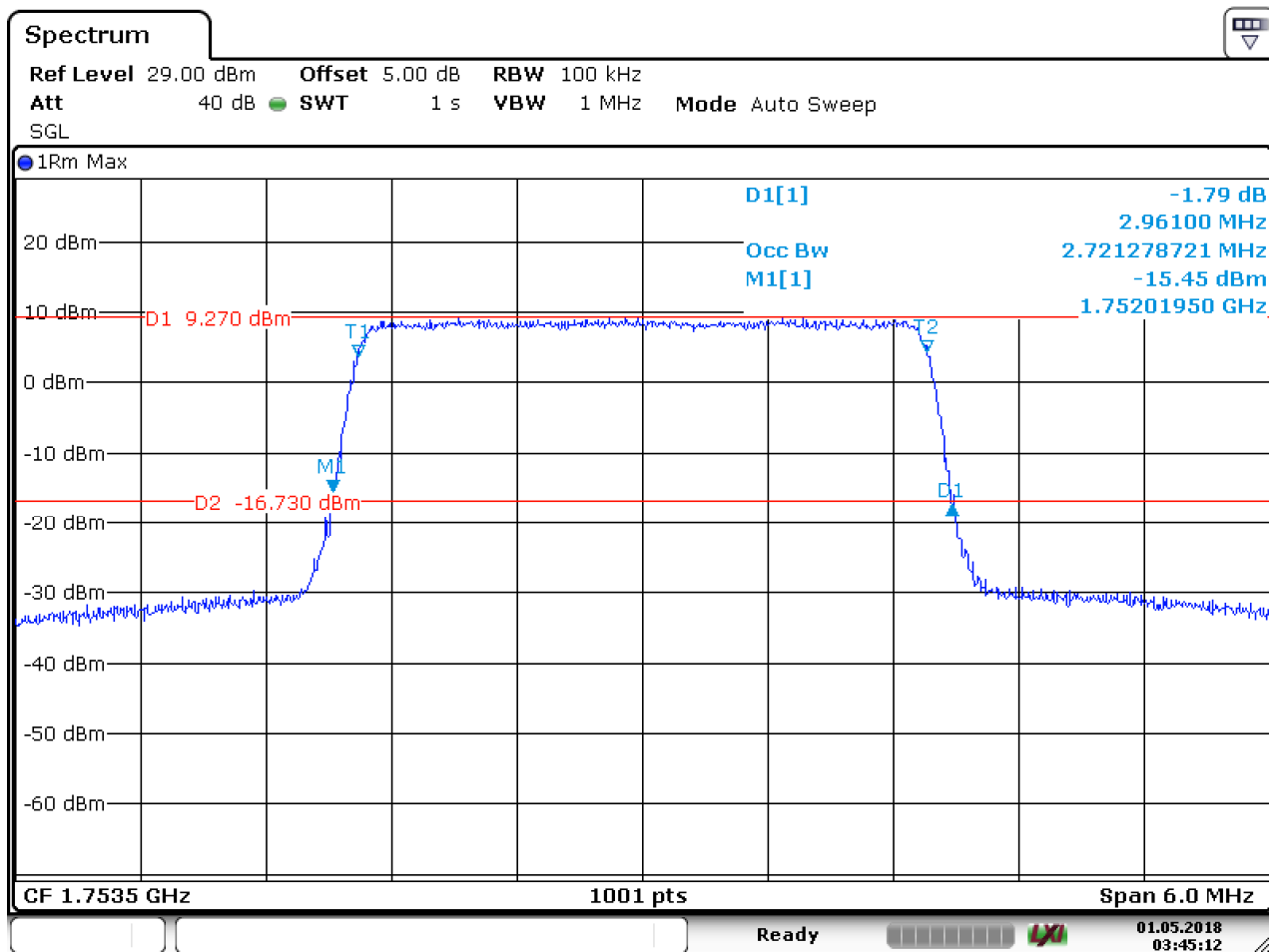
4.1.1.4.2 Test Channel = MCH



Date: 1.MAY.2018 03:41:35



4.1.1.4.3 Test Channel = HCH

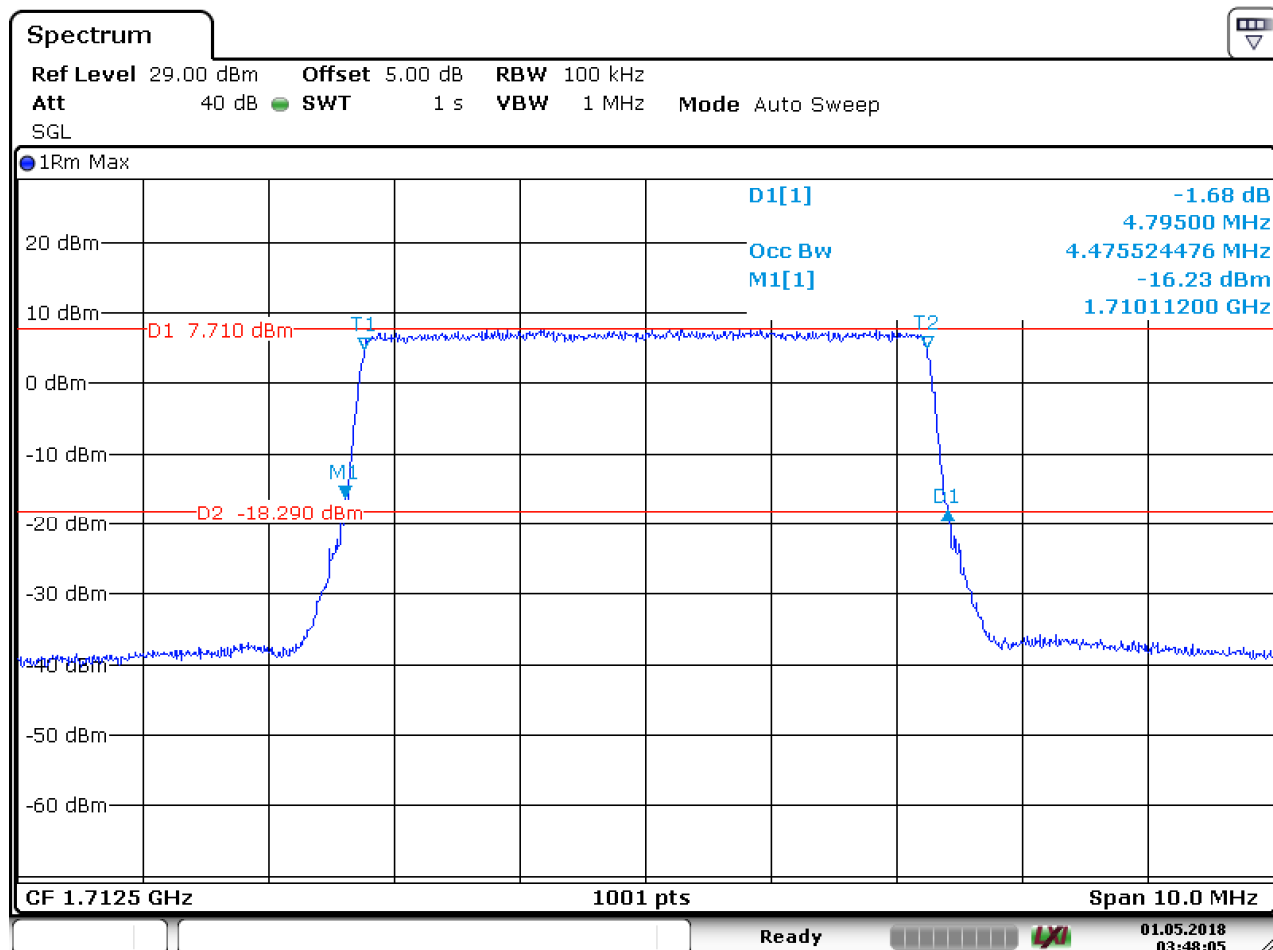


Date: 1.MAY.2018 03:45:11



4.1.1.5 Test Mode = LTE/TM1 5MHz

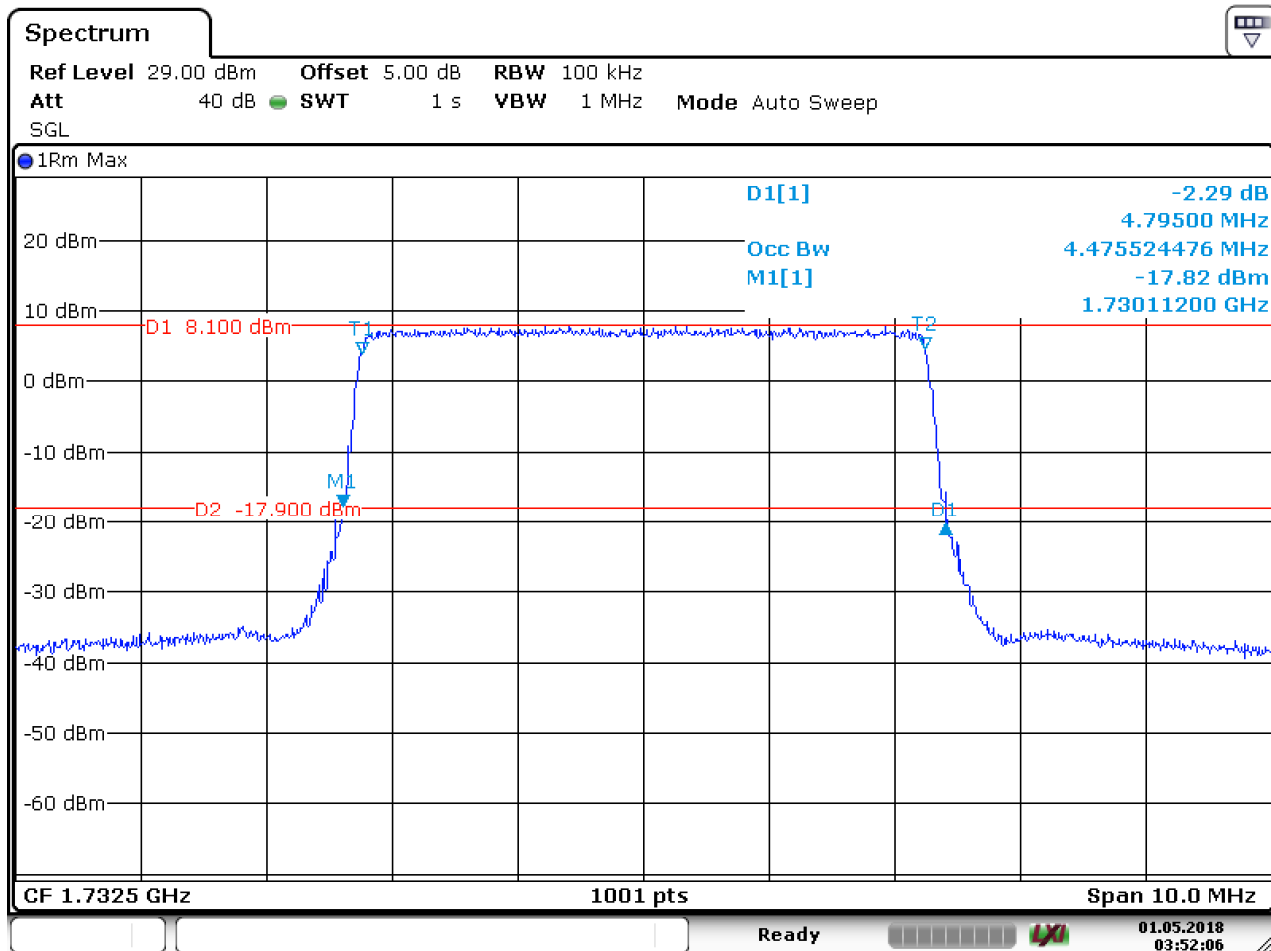
4.1.1.5.1 Test Channel = LCH



Date: 1.MAY.2018 03:48:06



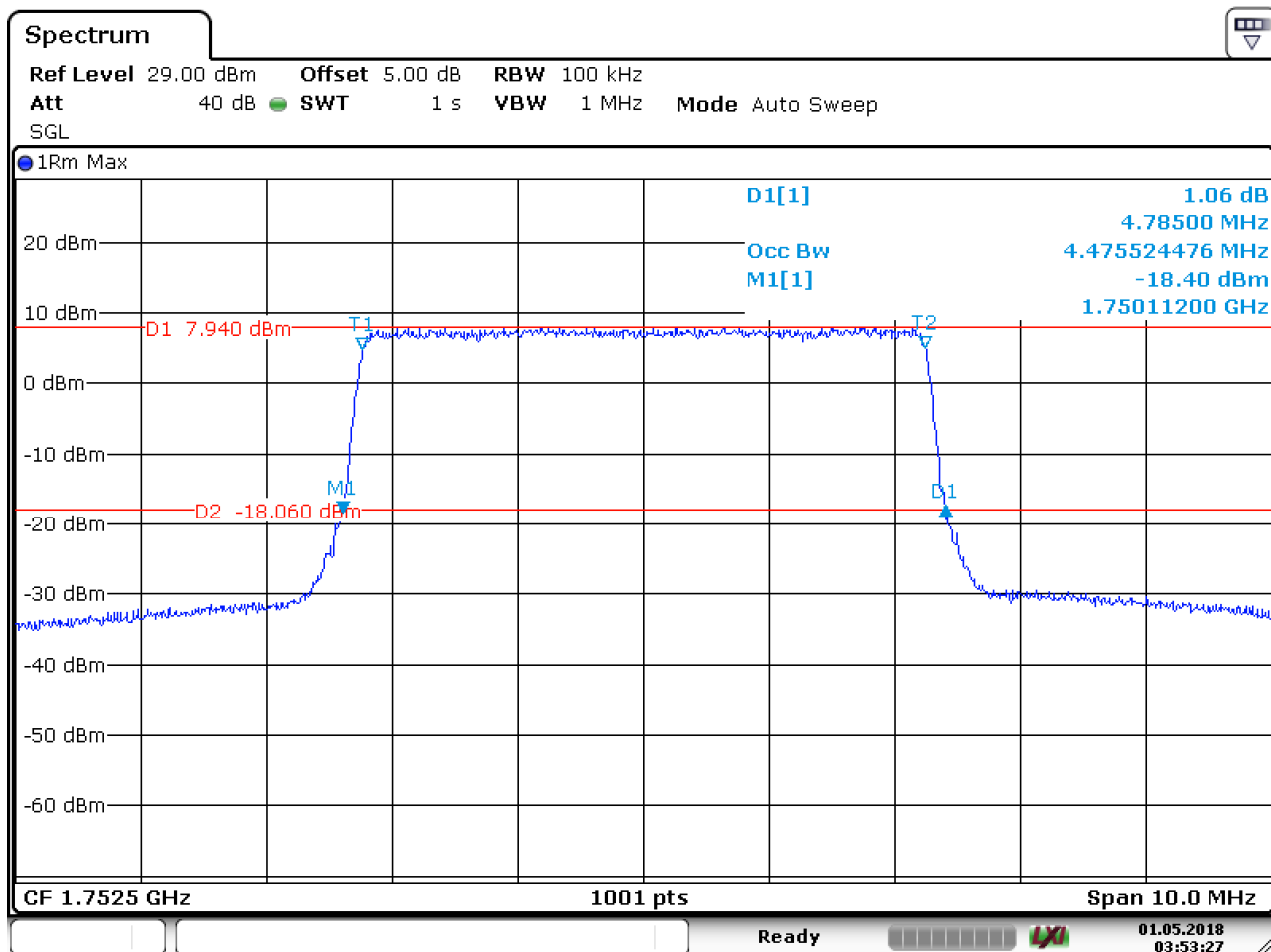
4.1.1.5.2 Test Channel = MCH



Date: 1.MAY.2018 03:52:07



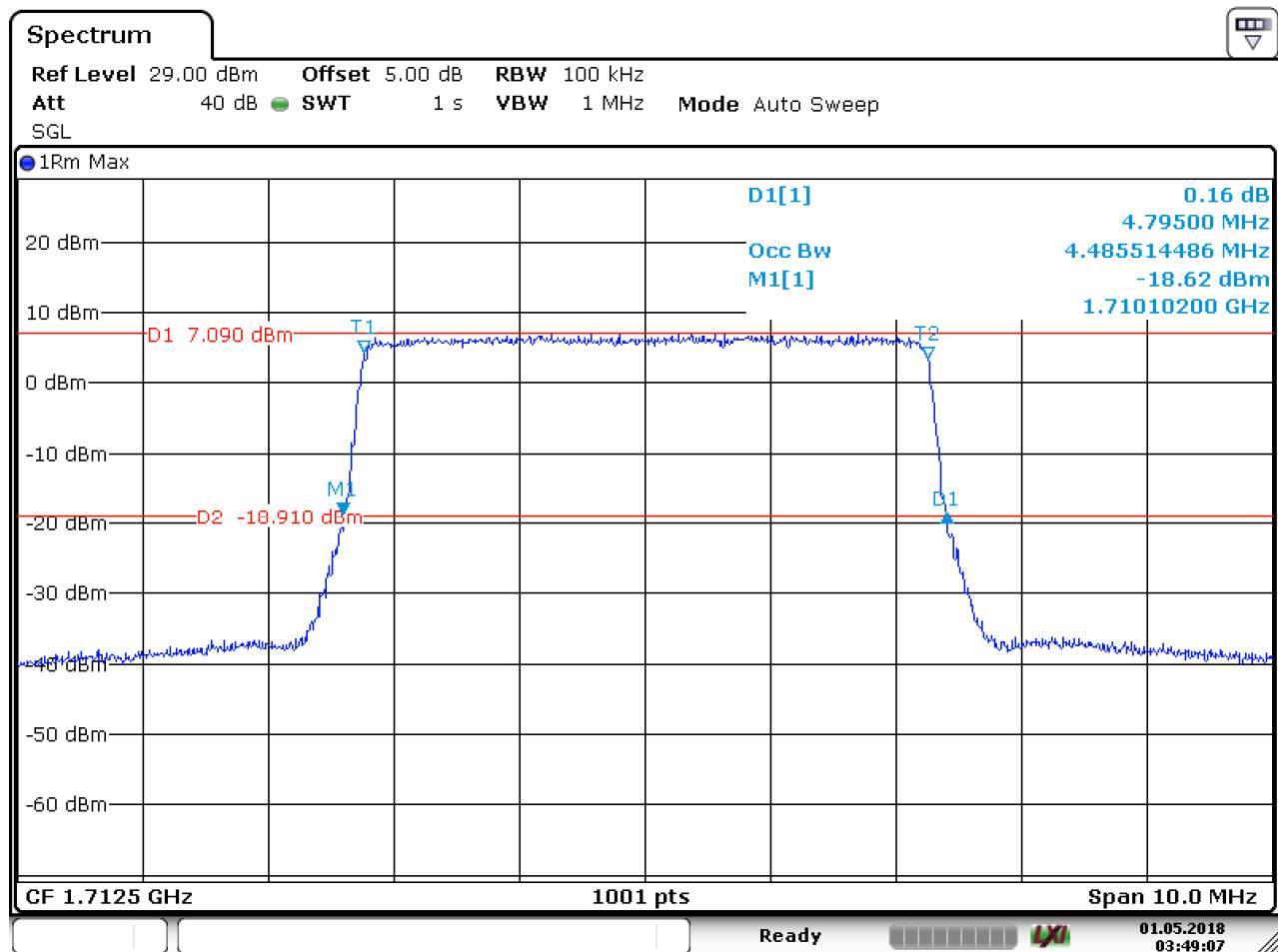
4.1.1.5.3 Test Channel = HCH



Date: 1.MAY.2018 03:53:28



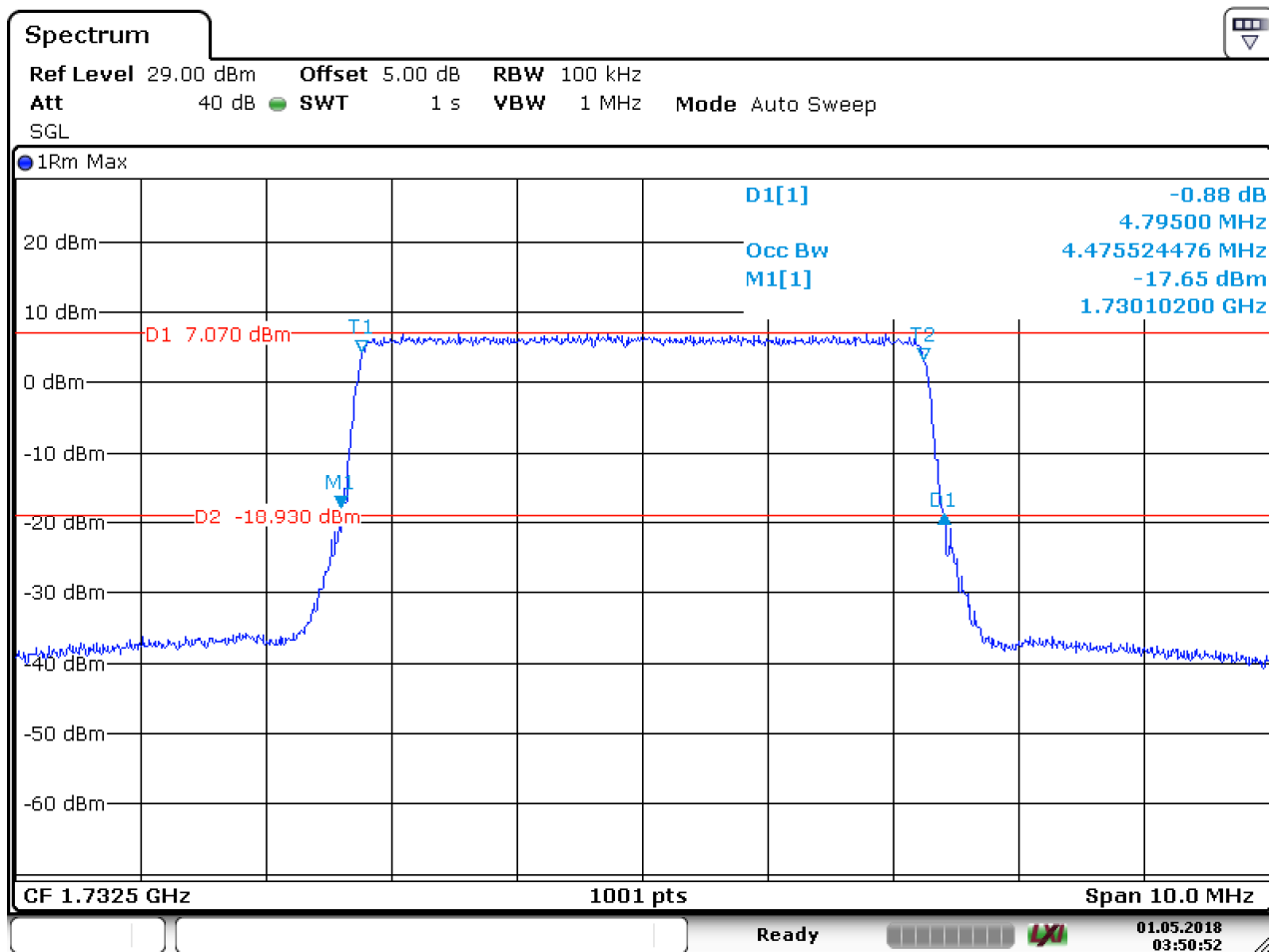
4.1.1.6 Test Mode = LTE/TM2 5MHz  
4.1.1.6.1 Test Channel = LCH



Date: 1.MAY.2018 03:49:08



4.1.1.6.2 Test Channel = MCH

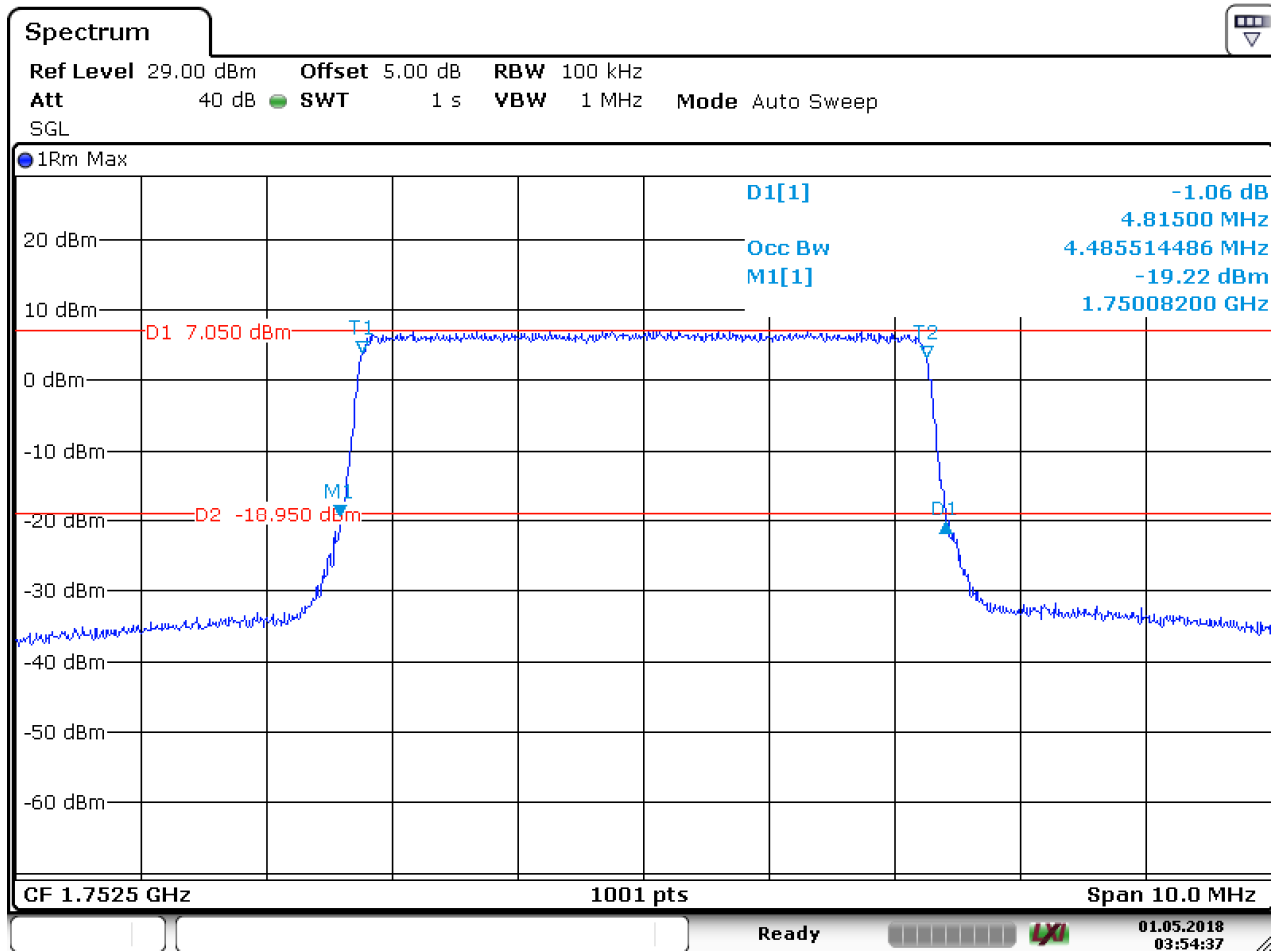


Date: 1.MAY.2018 03:50:53





4.1.1.6.3 Test Channel = HCH

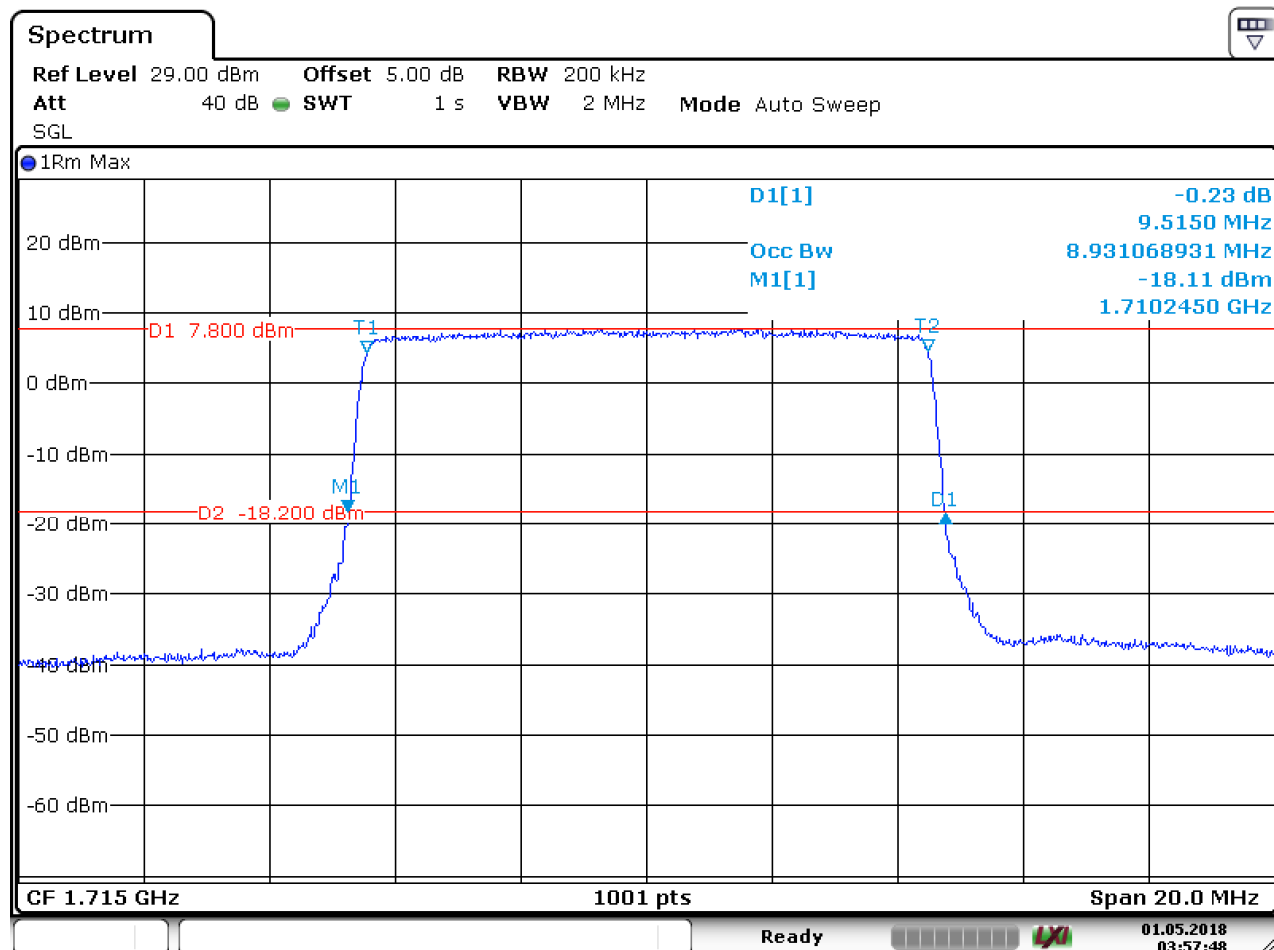


Date: 1.MAY.2018 03:54:38



4.1.1.7 Test Mode = LTE/TM1 10MHz

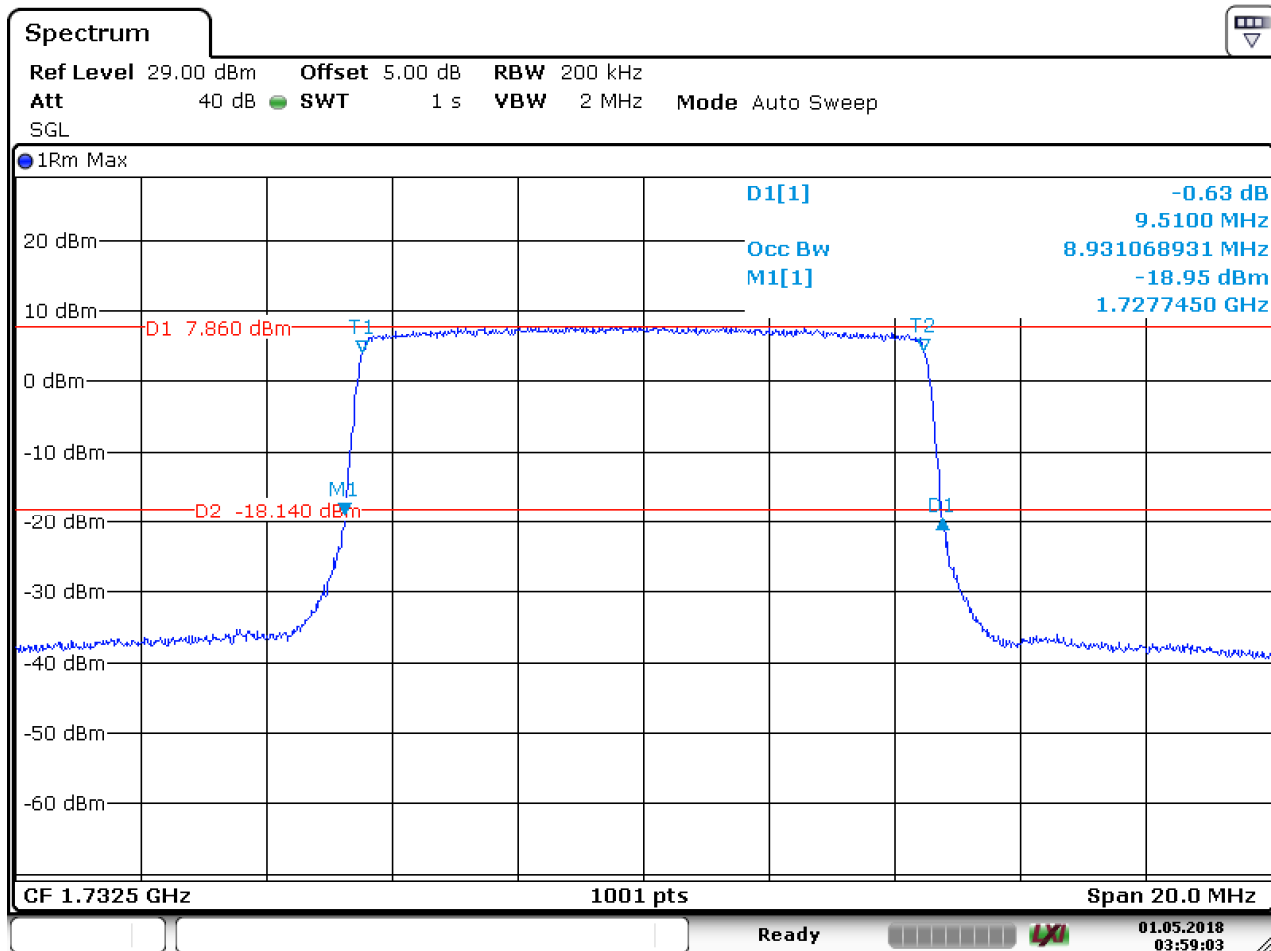
4.1.1.7.1 Test Channel = LCH



Date: 1.MAY.2018 03:57:48



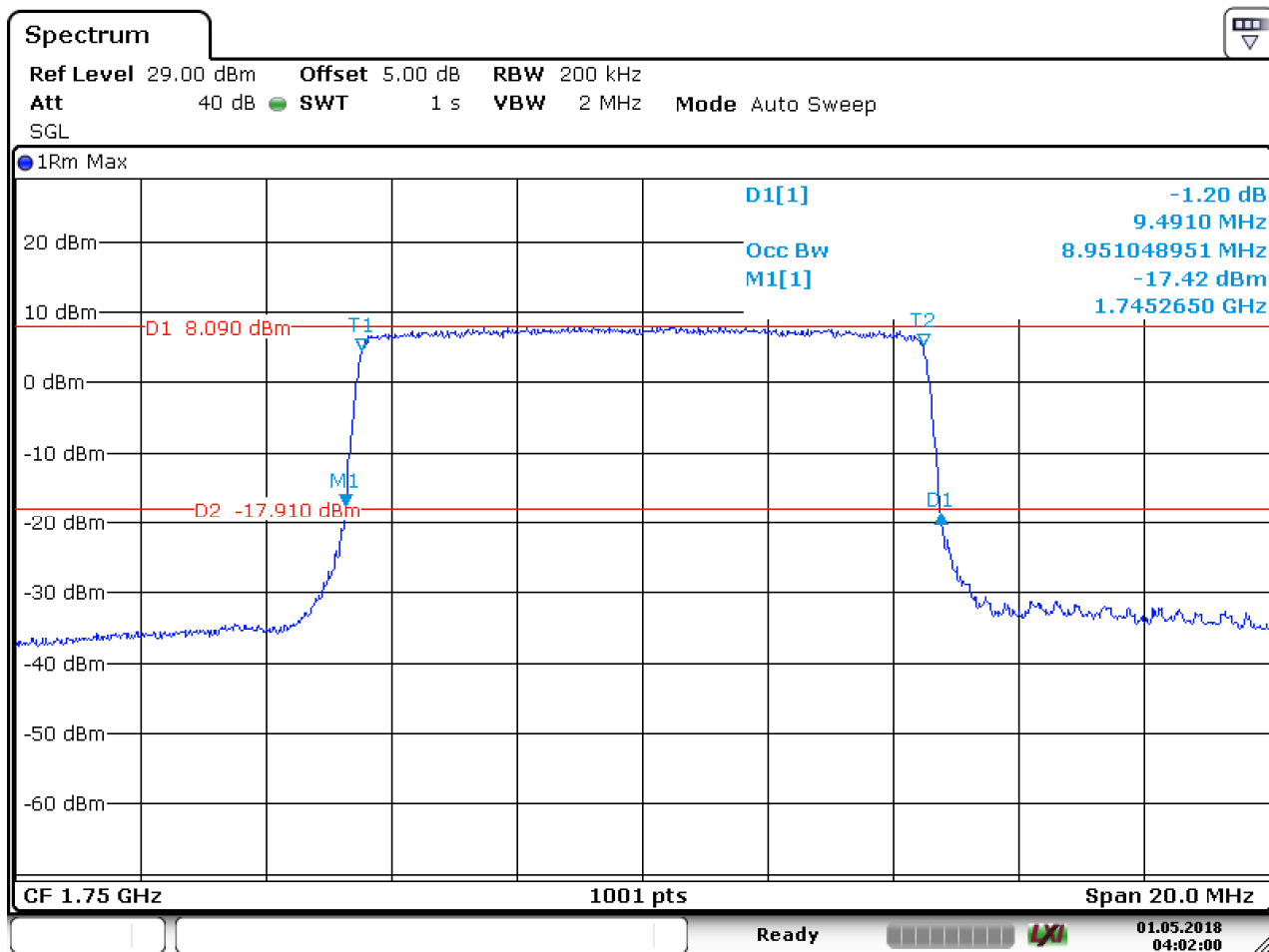
4.1.1.7.2 Test Channel = MCH



Date: 1.MAY.2018 03:59:04



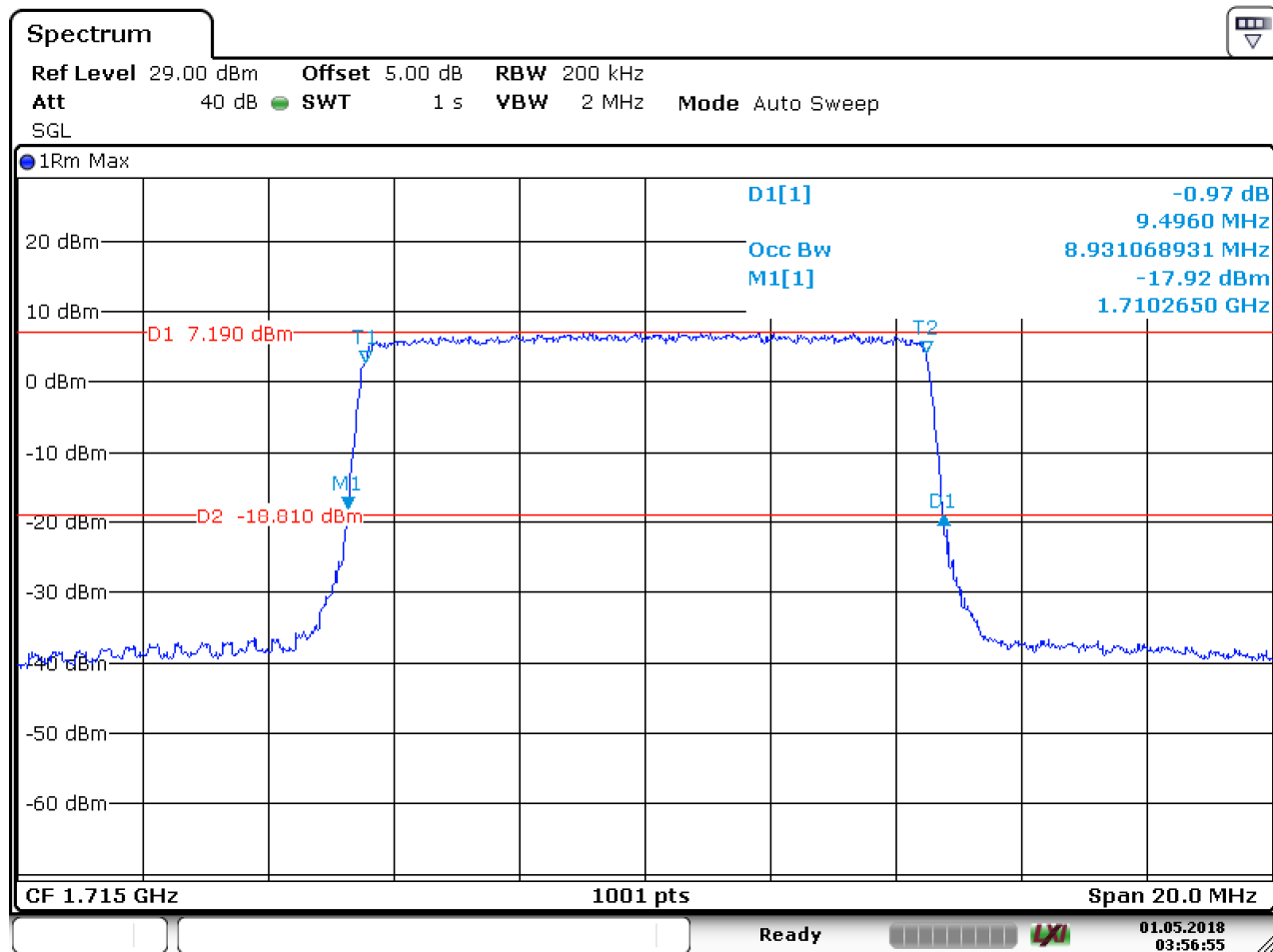
4.1.1.7.3 Test Channel = HCH



Date: 1.MAY.2018 04:02:01



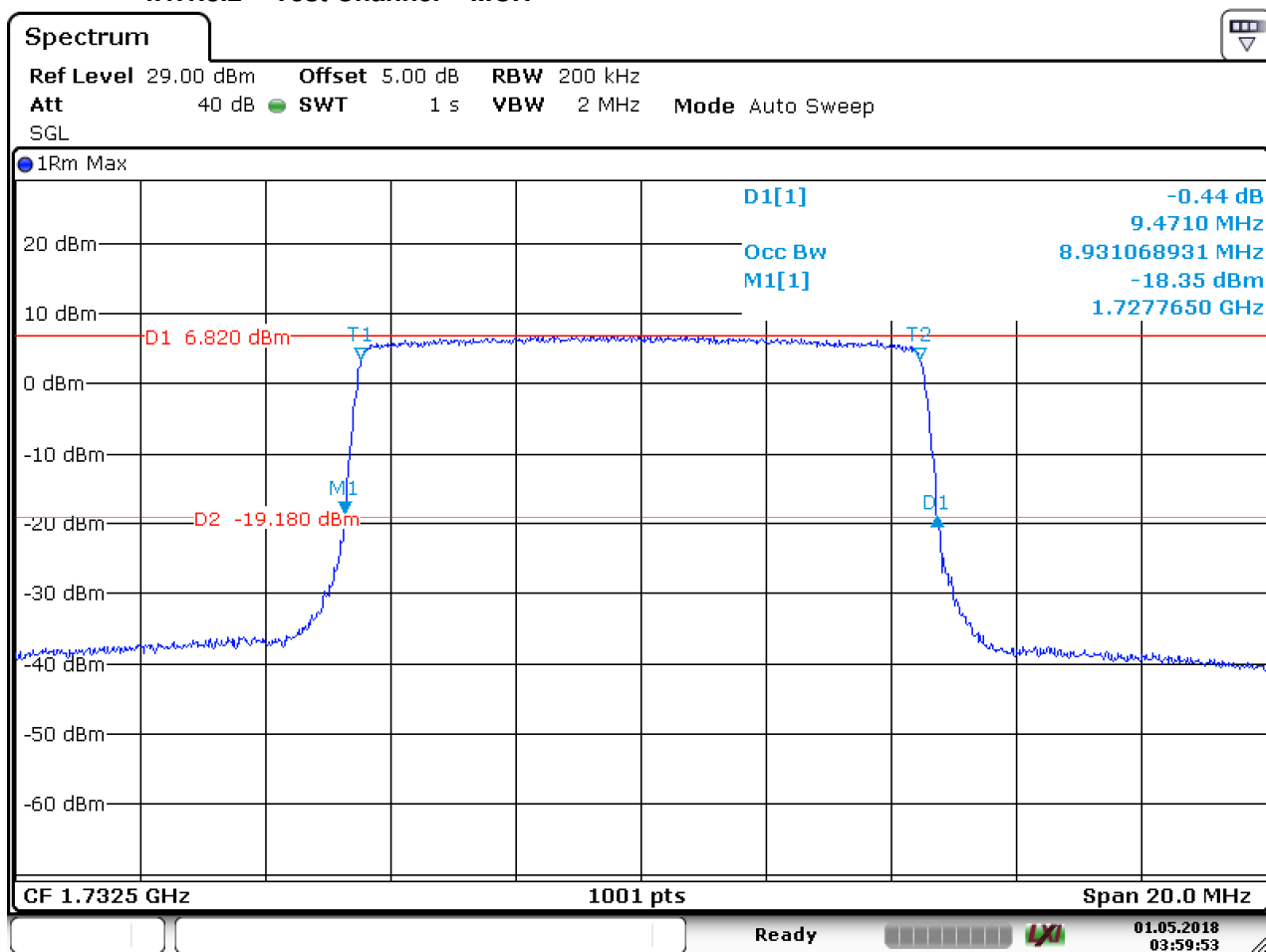
4.1.1.8 Test Mode = LTE/TM2 10MHz  
4.1.1.8.1 Test Channel = LCH



Date: 1.MAY.2018 03:56:56



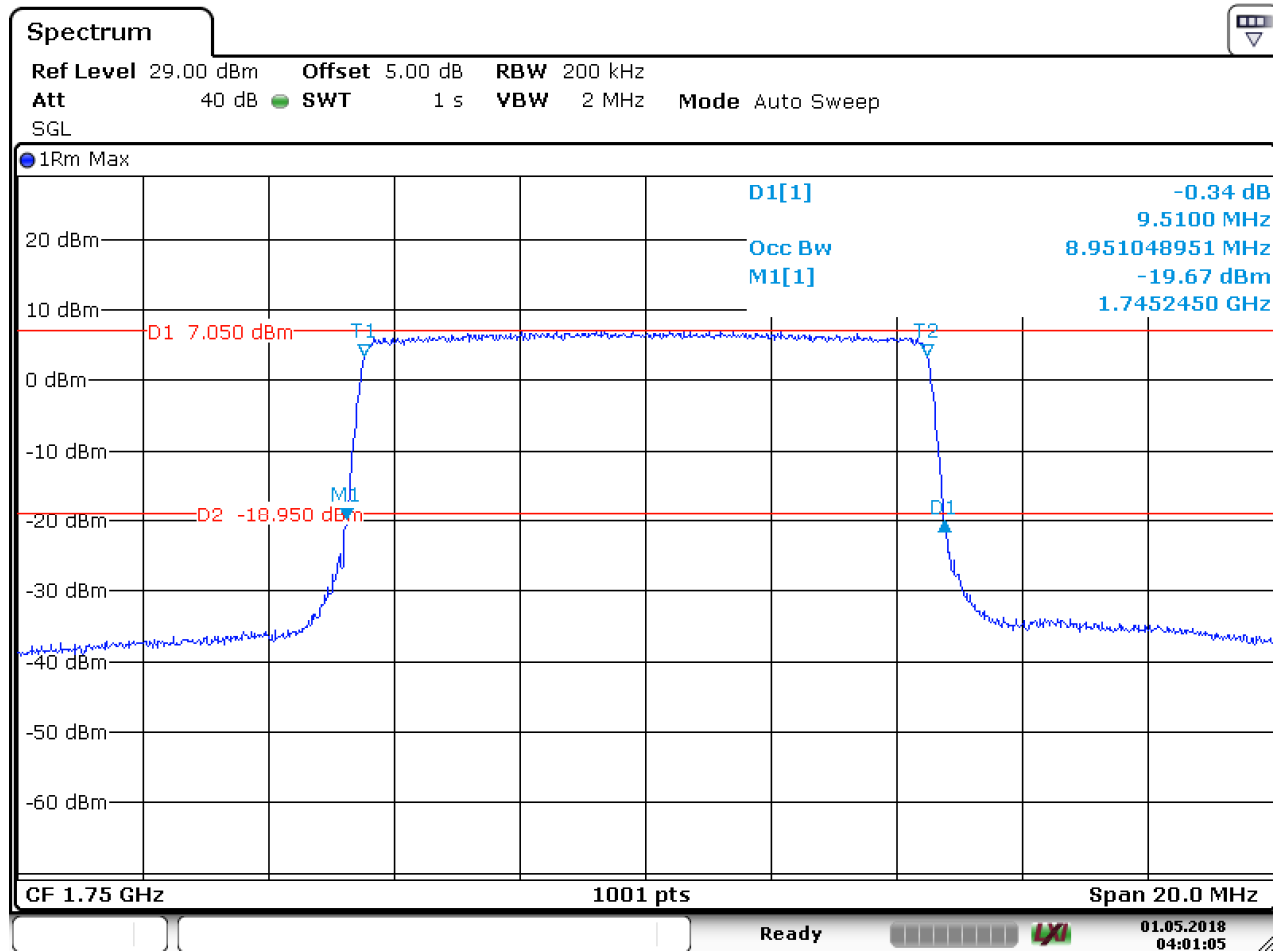
4.1.1.8.2 Test Channel = MCH



Date: 1.MAY.2018 03:59:53



4.1.1.8.3 Test Channel = HCH

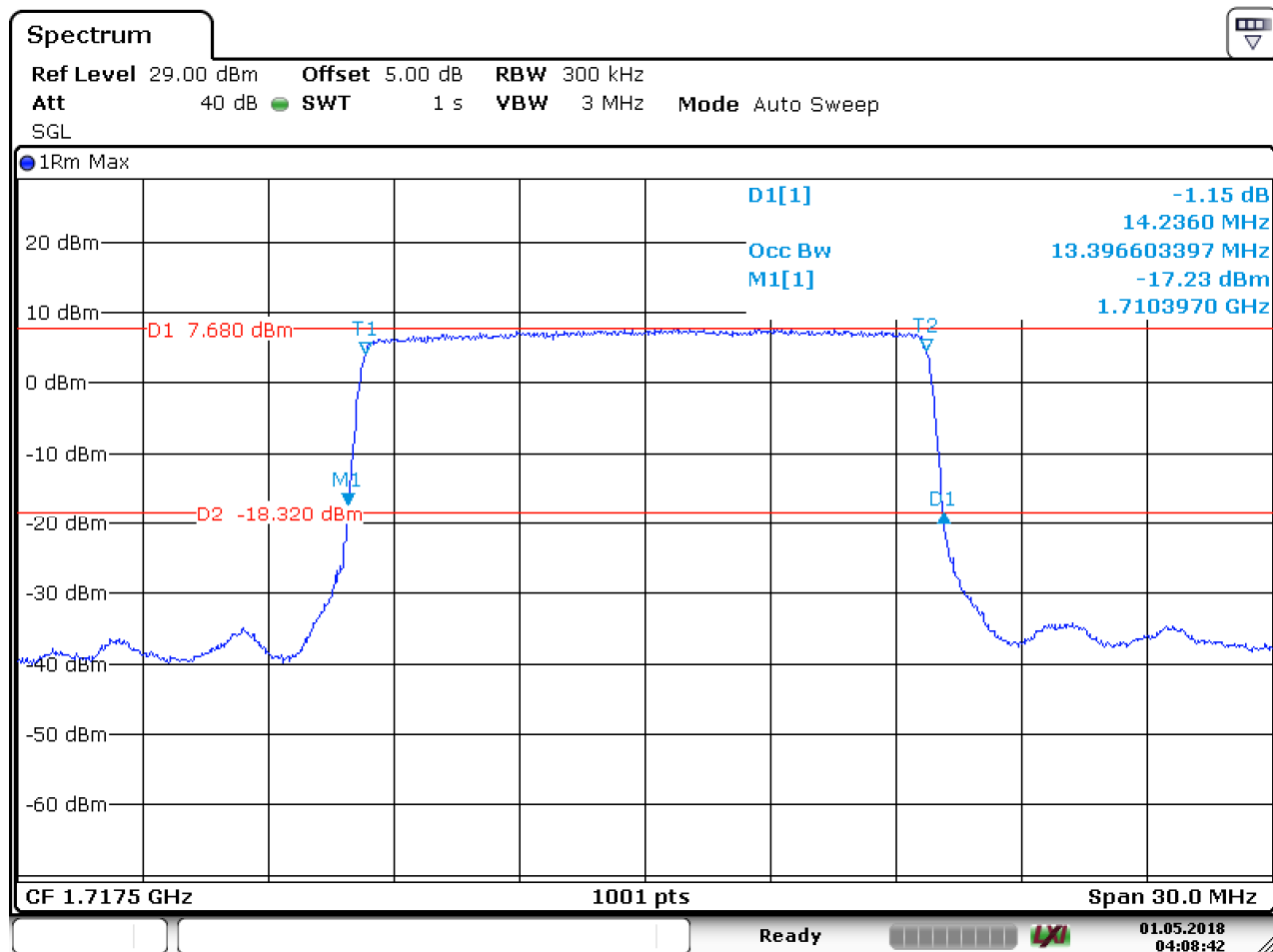


Date: 1.MAY.2018 04:01:05



4.1.1.9 Test Mode = LTE/TM1 15MHz

4.1.1.9.1 Test Channel = LCH

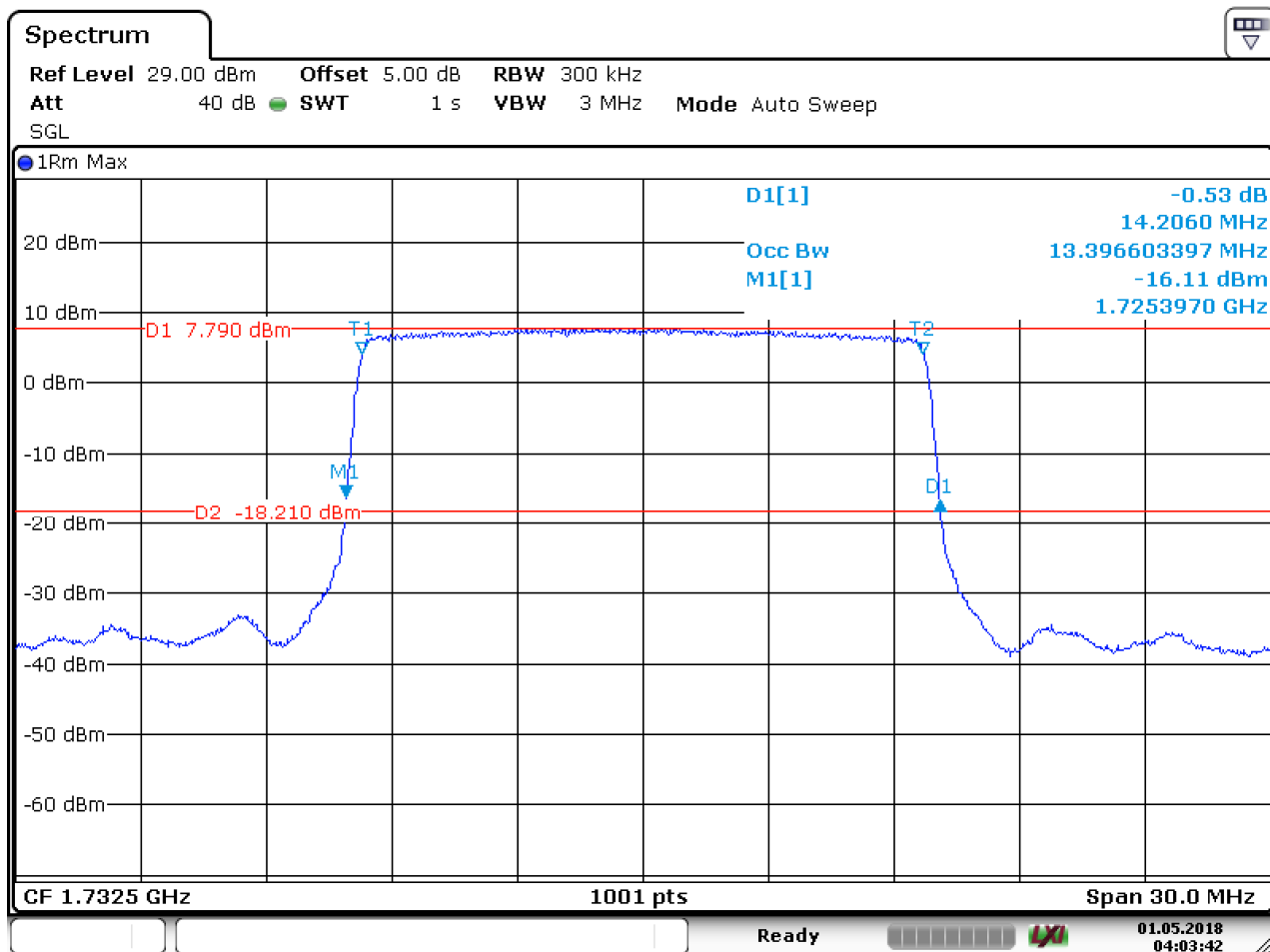


Date: 1.MAY.2018 04:08:42



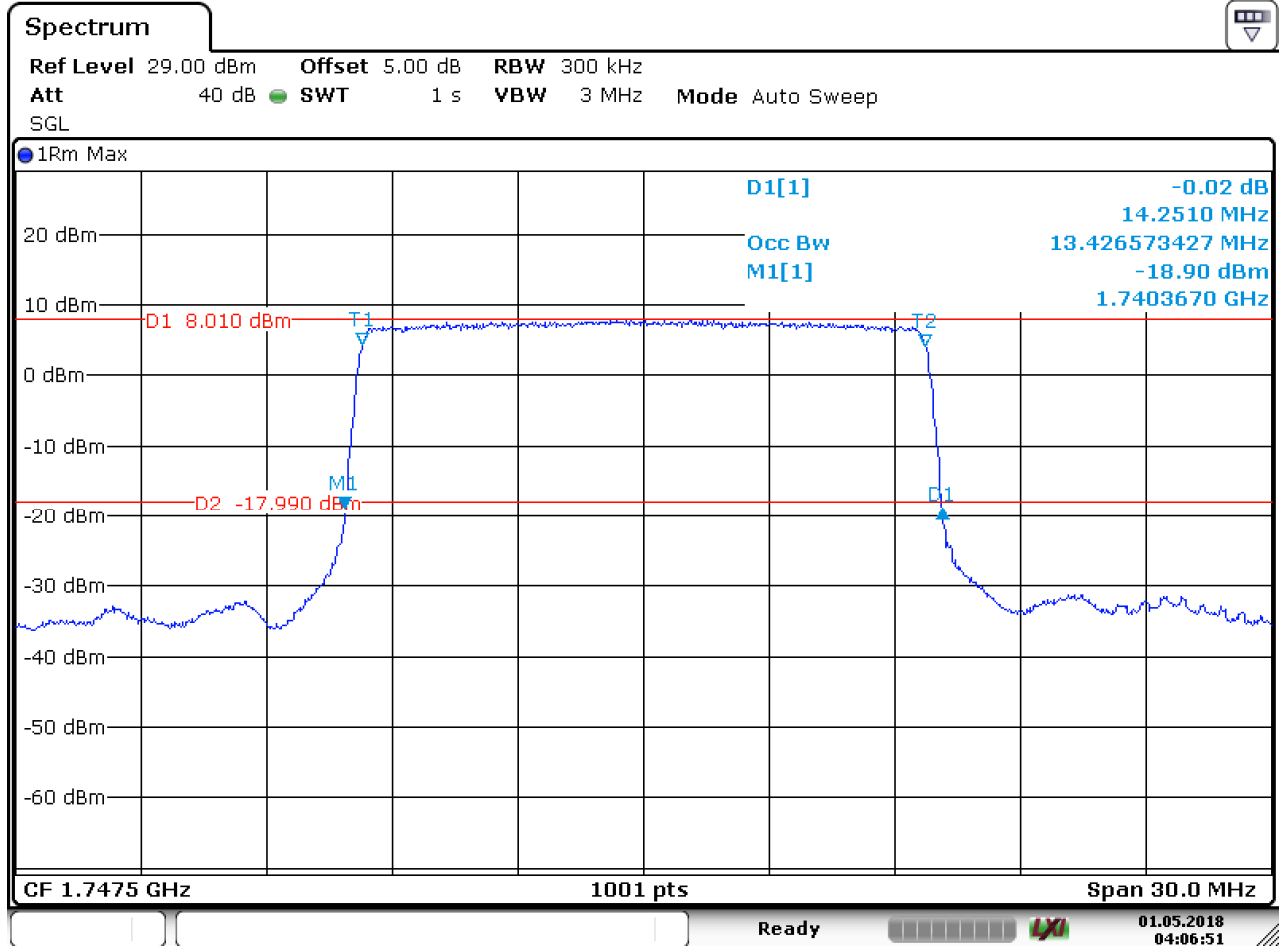


4.1.1.9.2 Test Channel = MCH



Date: 1.MAY.2018 04:03:43

#### 4.1.1.9.3 Test Channel = HCH

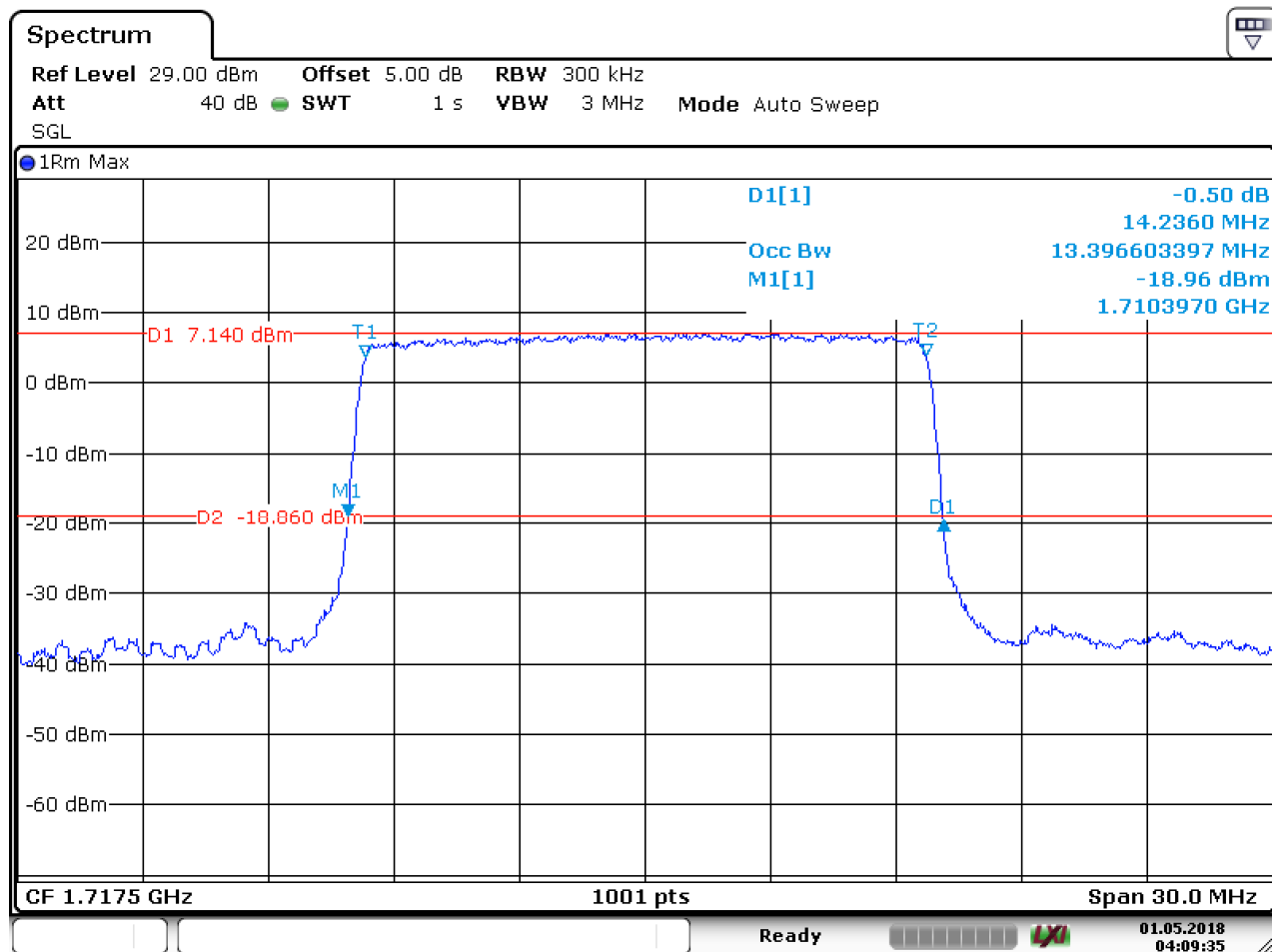


Date: 1.MAY.2018 04:06:52



4.1.1.10 Test Mode = LTE/TM2 15MHz

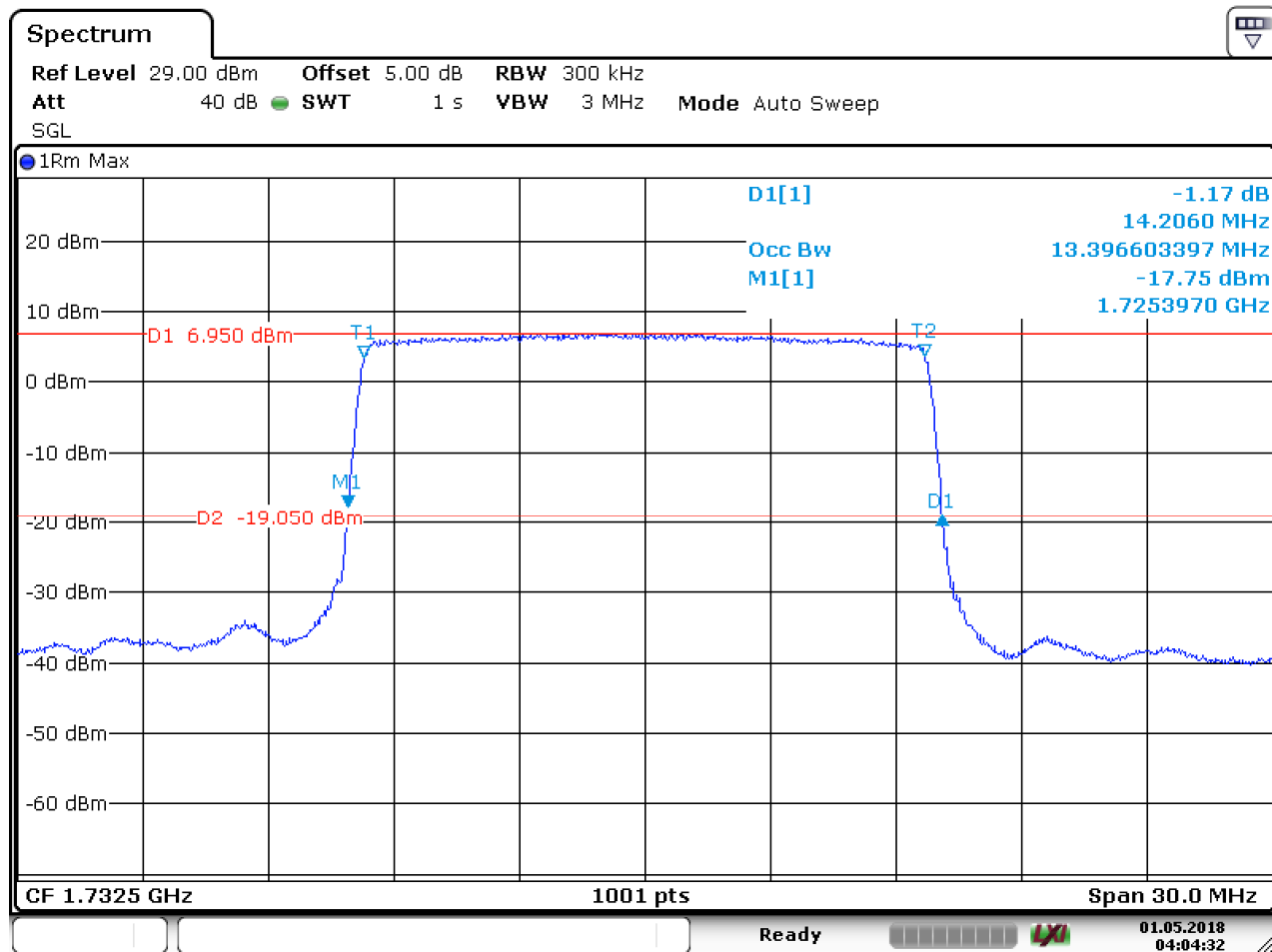
4.1.1.10.1 Test Channel = LCH



Date: 1.MAY.2018 04:09:35



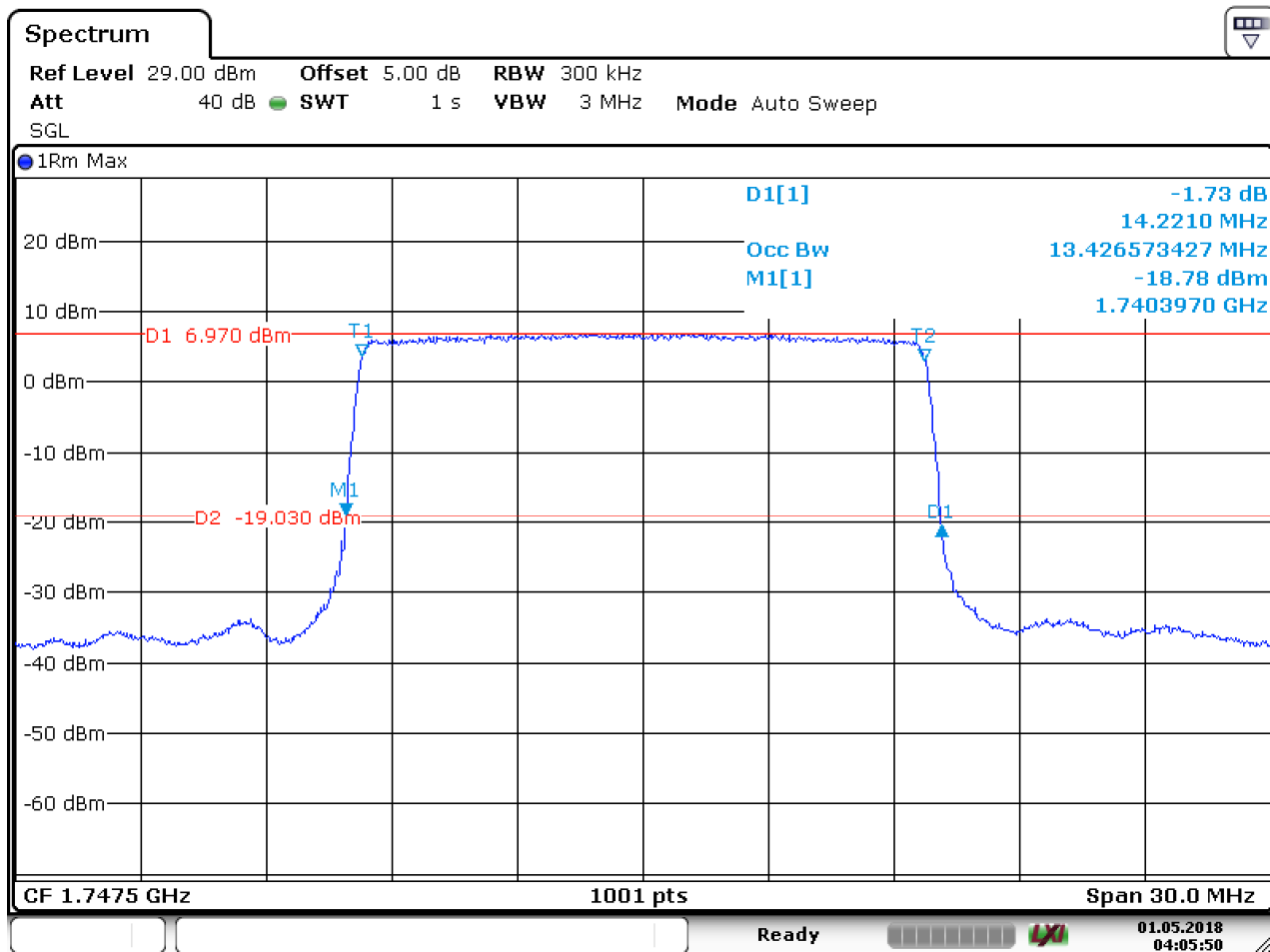
4.1.1.10.2 Test Channel = MCH



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



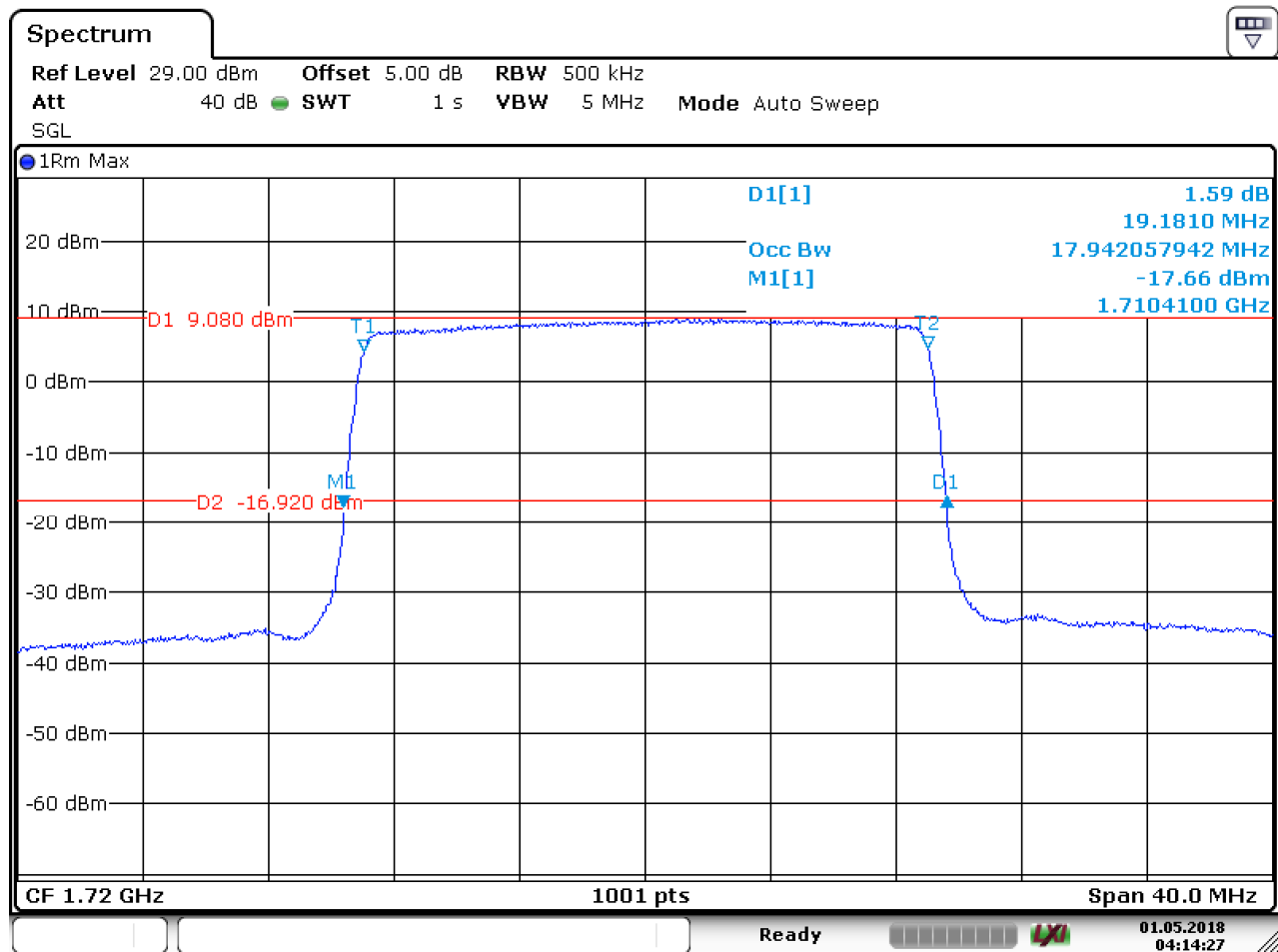
4.1.1.10.3 Test Channel = HCH



Date: 1.MAY.2018 04:05:50



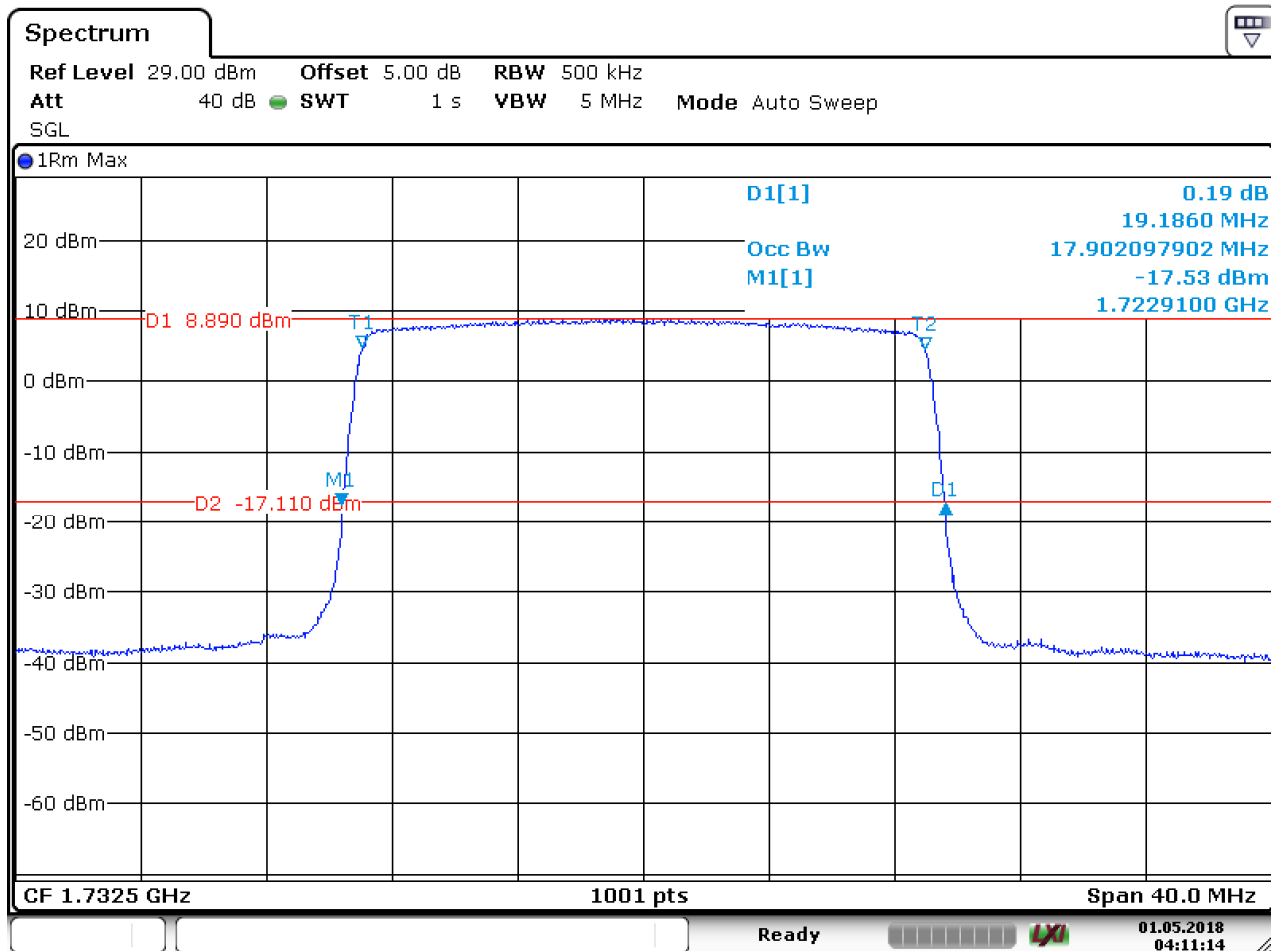
4.1.1.11 Test Mode = LTE/TM1 20MHz  
4.1.1.11.1 Test Channel = LCH



Date: 1.MAY.2018 04:14:27



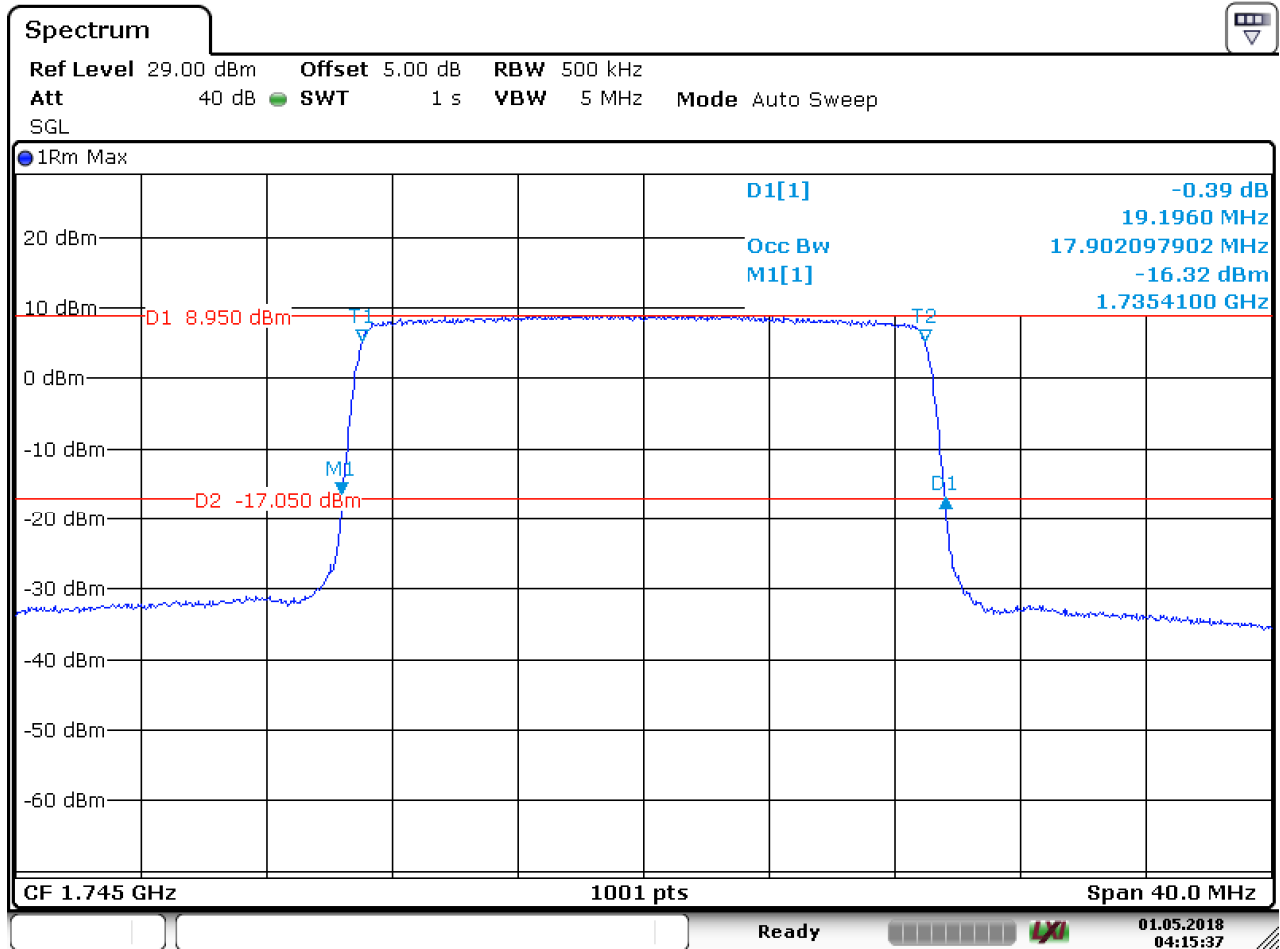
4.1.1.11.2 Test Channel = MCH



Date: 1.MAY.2018 04:11:15



4.1.1.11.3 Test Channel = HCH

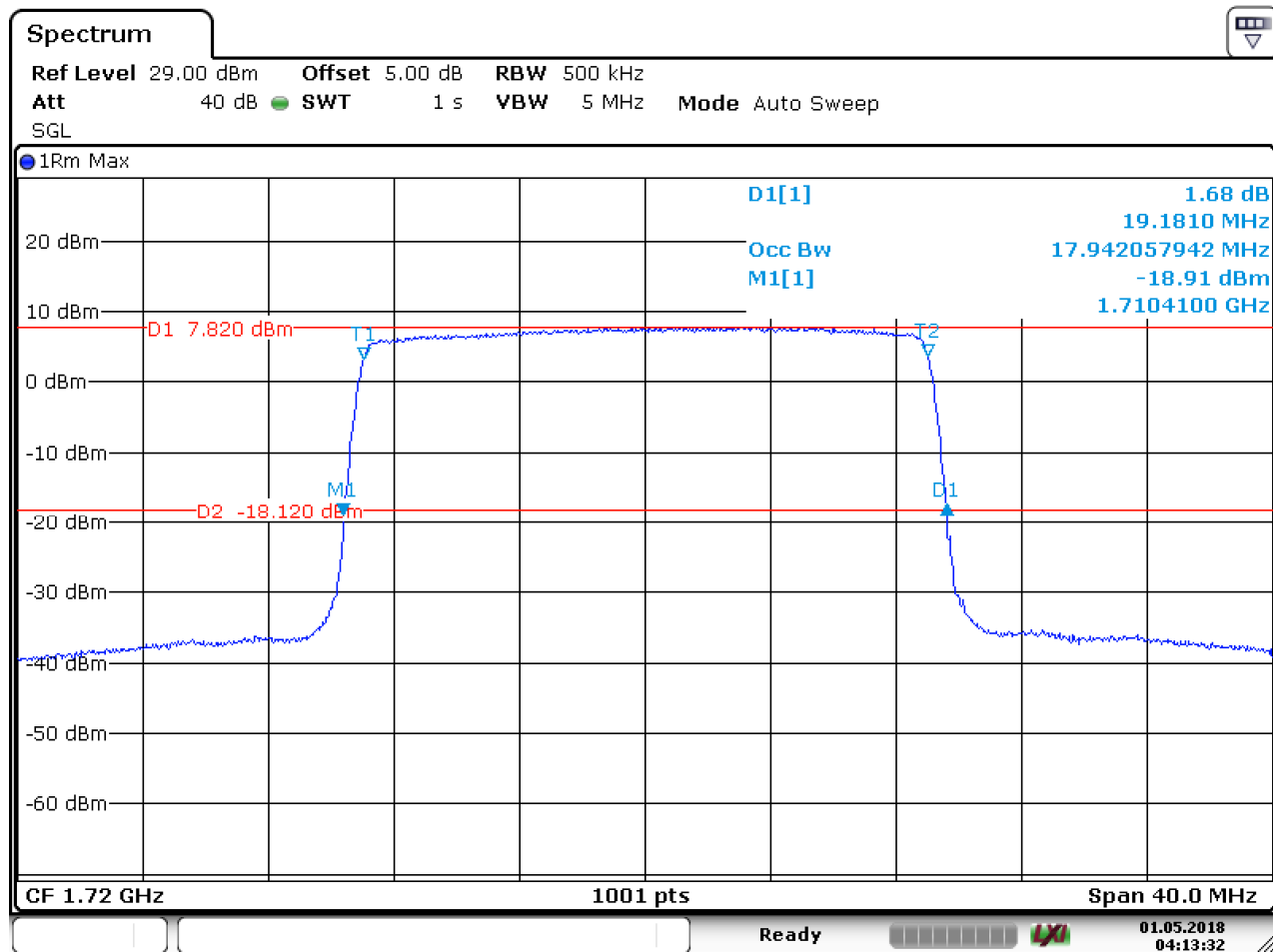


Date: 1.MAY.2018 04:15:37





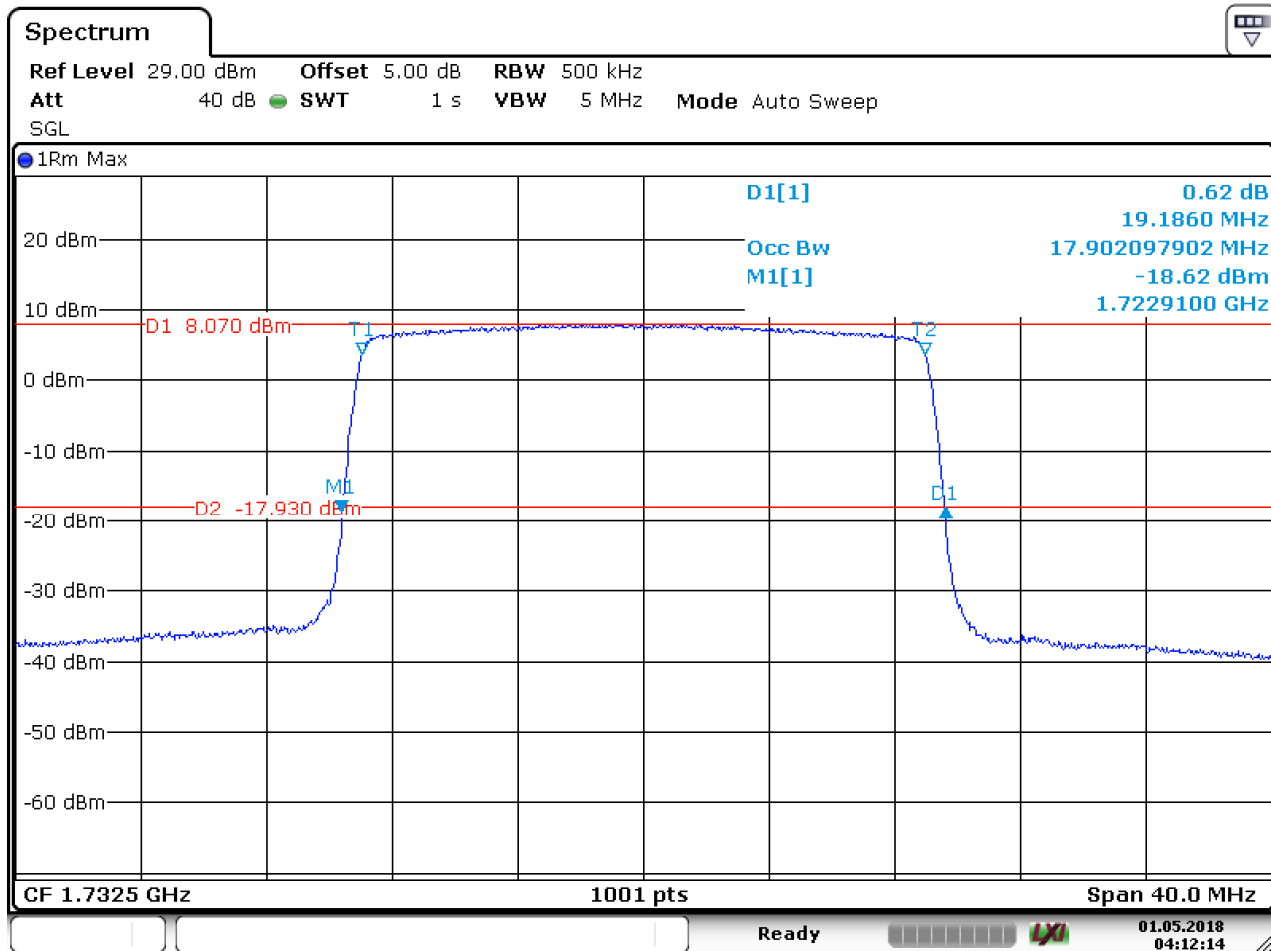
4.1.1.12 Test Mode = LTE/TM2 20MHz  
4.1.1.12.1 Test Channel = LCH



Date: 1.MAY.2018 04:13:32



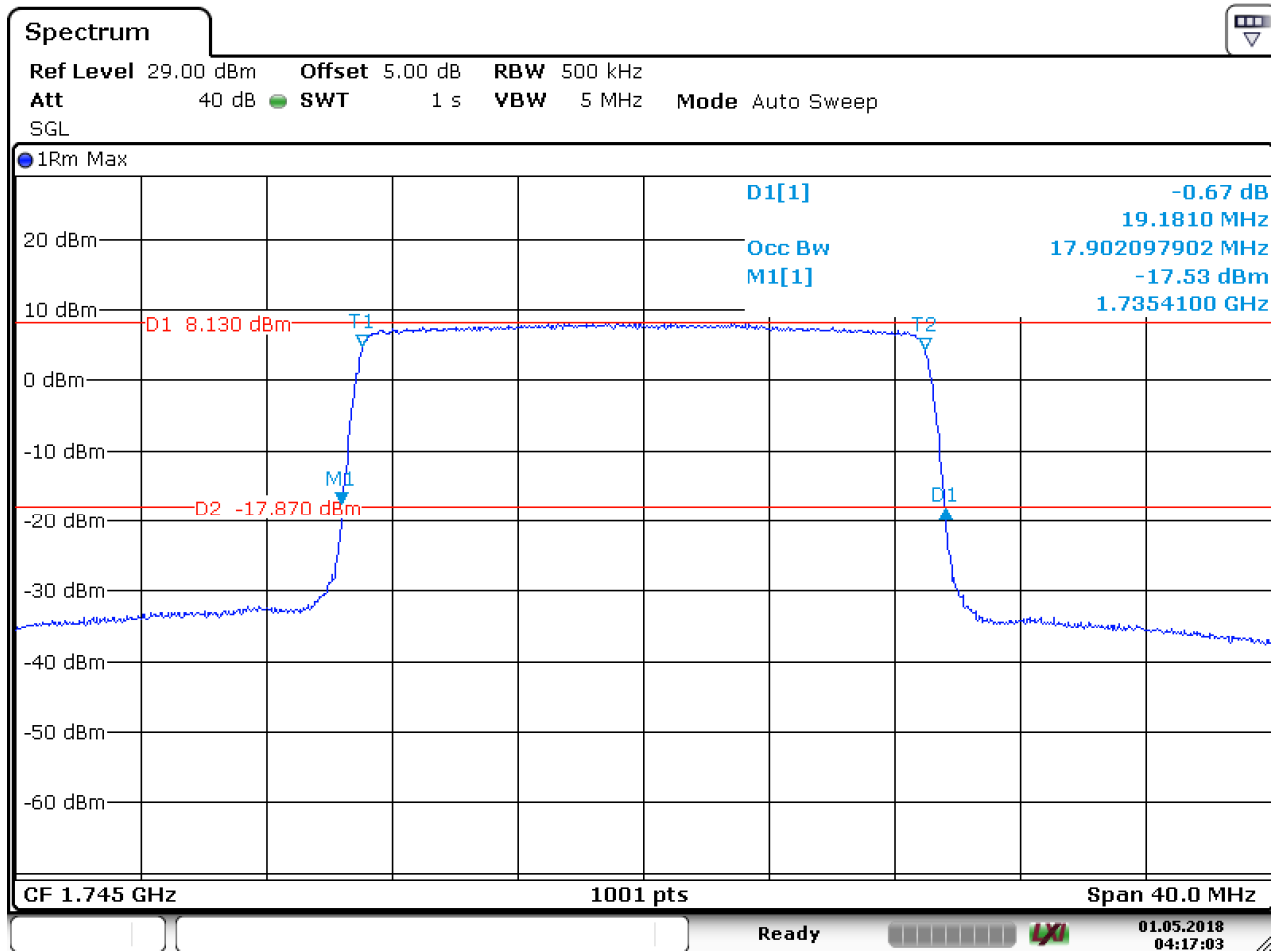
4.1.1.12.2 Test Channel = MCH



Date: 1.MAY.2018 04:12:14



4.1.1.12.3 Test Channel = HCH



Date: 1.MAY.2018 04:17:03

## 5 Band Edges Compliance

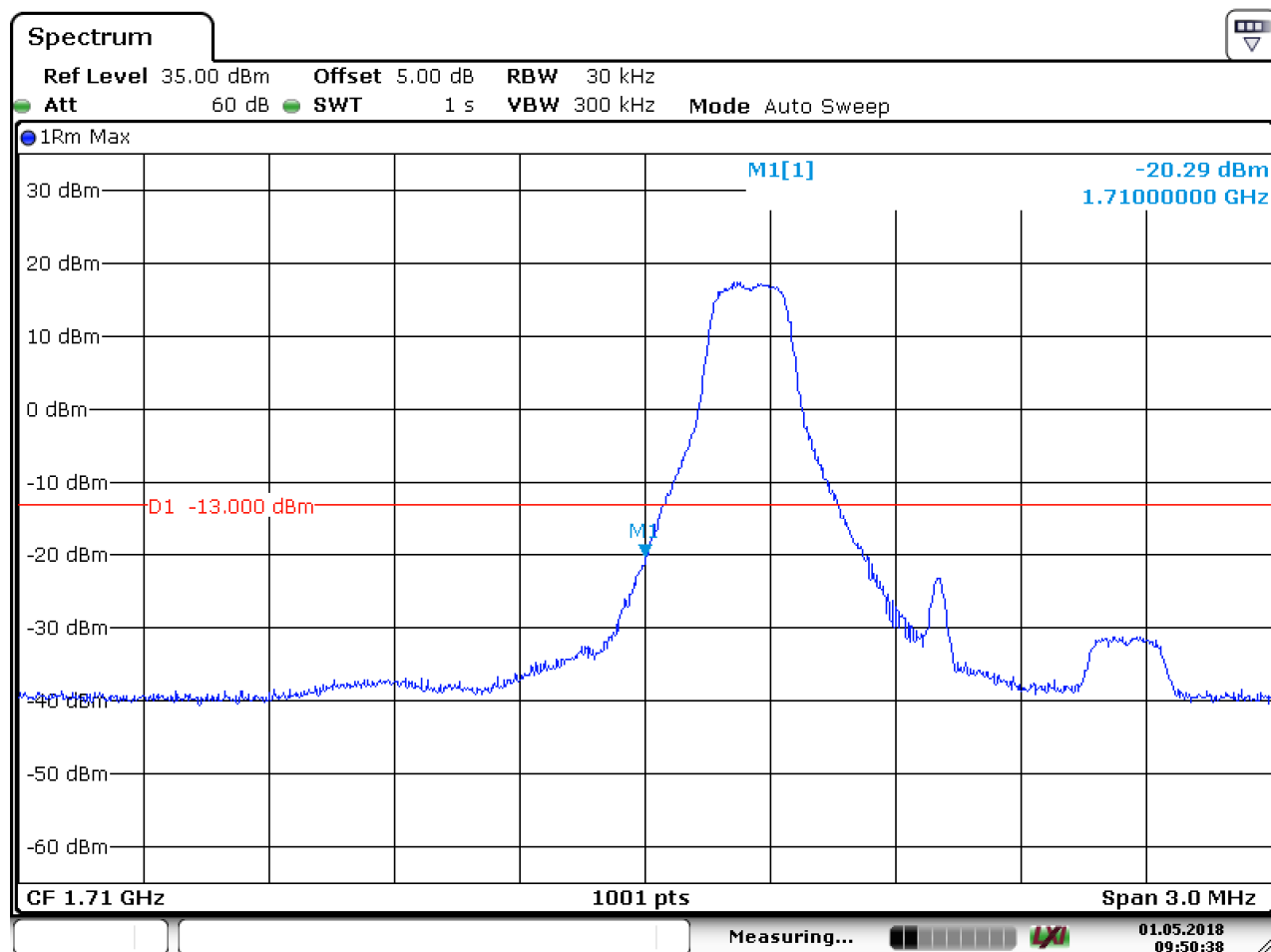
### 5.1 For LTE

#### 5.1.1 Test Band = LTE band4

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

##### 5.1.1.1.1 Test Channel = LCH

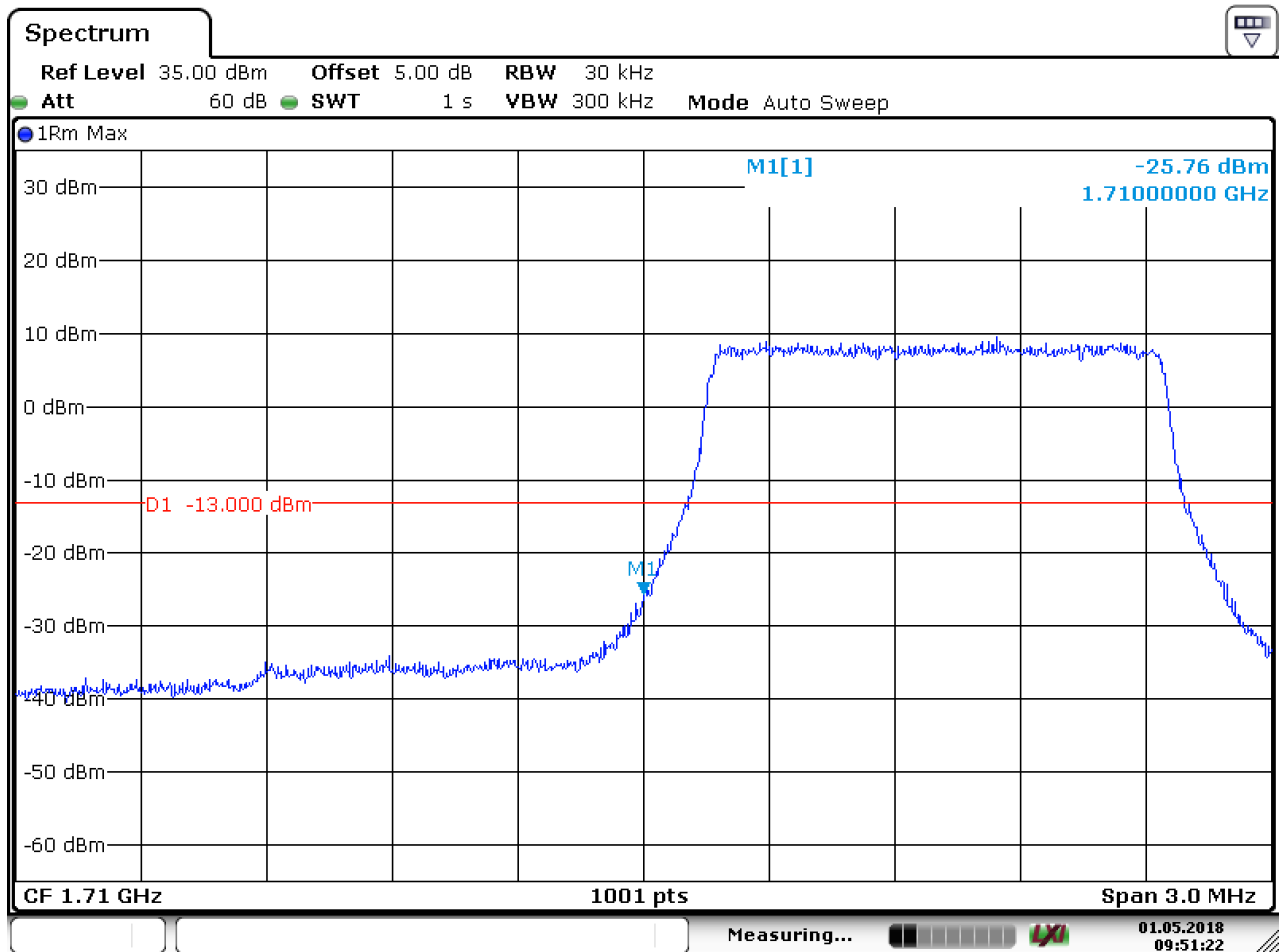
##### 5.1.1.1.1.1 Test RB=1RB



Date: 1.MAY.2018 09:50:39



5.1.1.1.1.2 Test RB=6RB

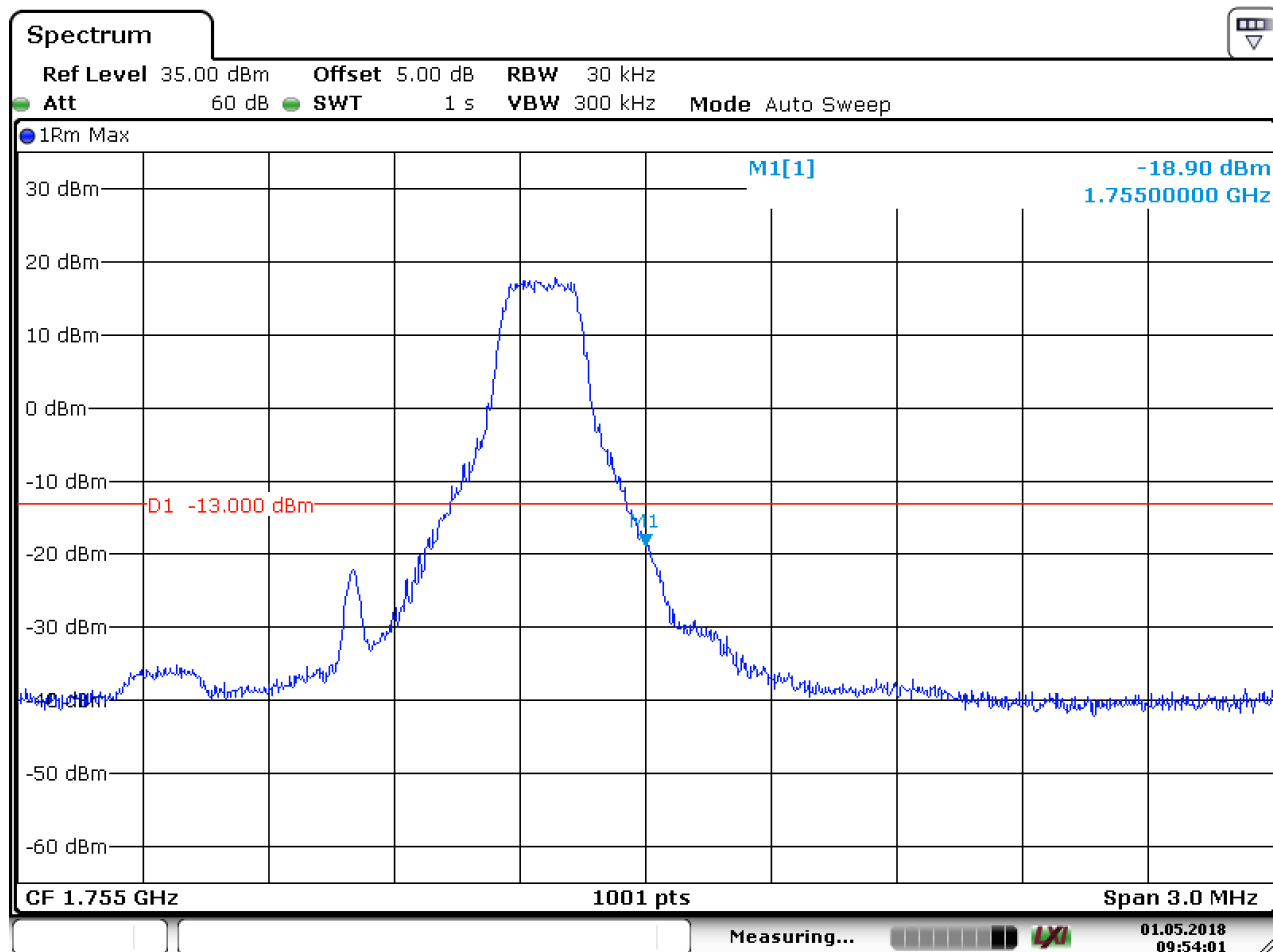


Date: 1.MAY.2018 09:51:22



5.1.1.1.2 Test Channel = HCH

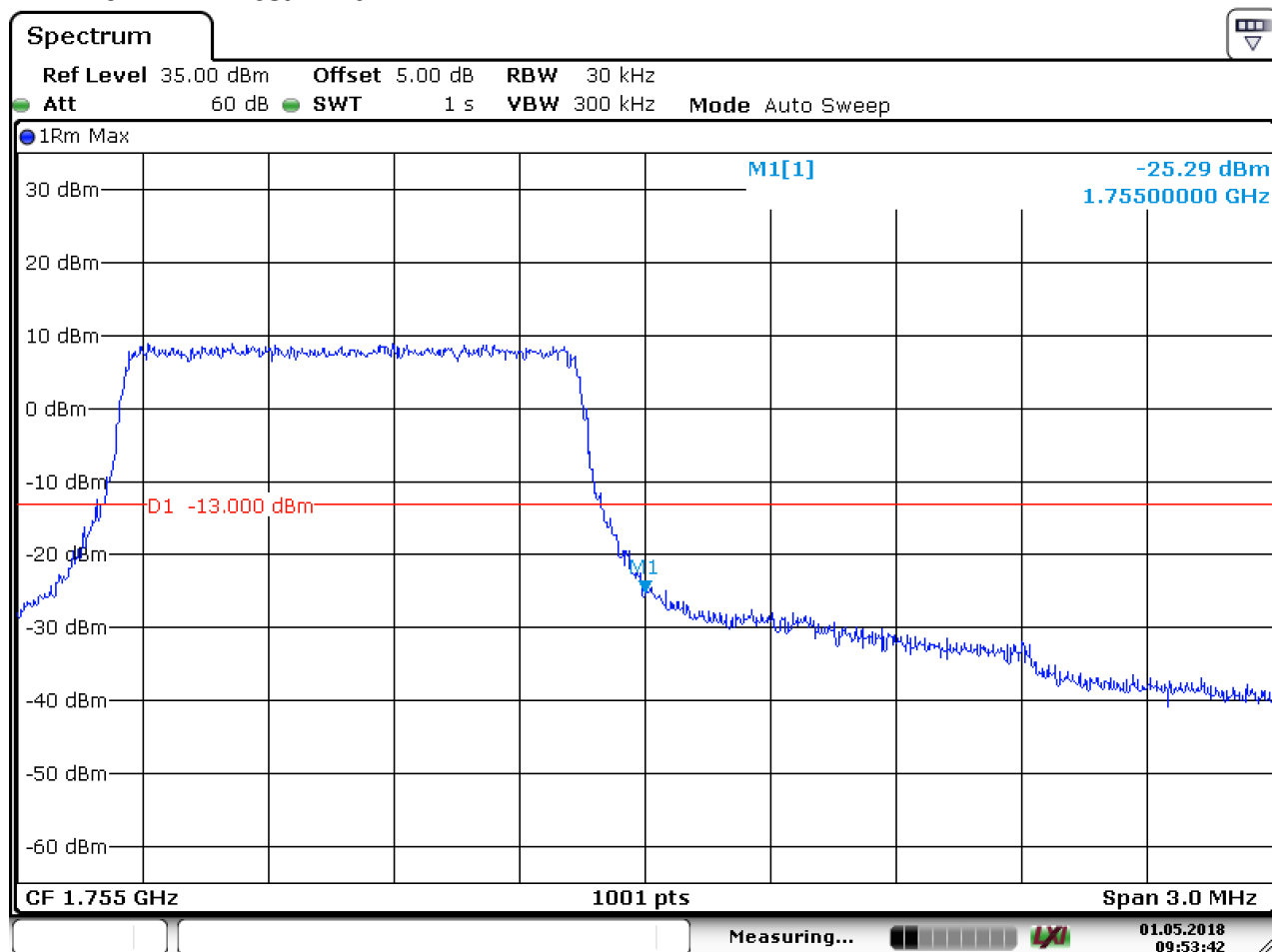
5.1.1.1.2.1 Test RB=1RB



Date: 1.MAY.2018 09:54:02



5.1.1.1.2.2 Test RB=6RB

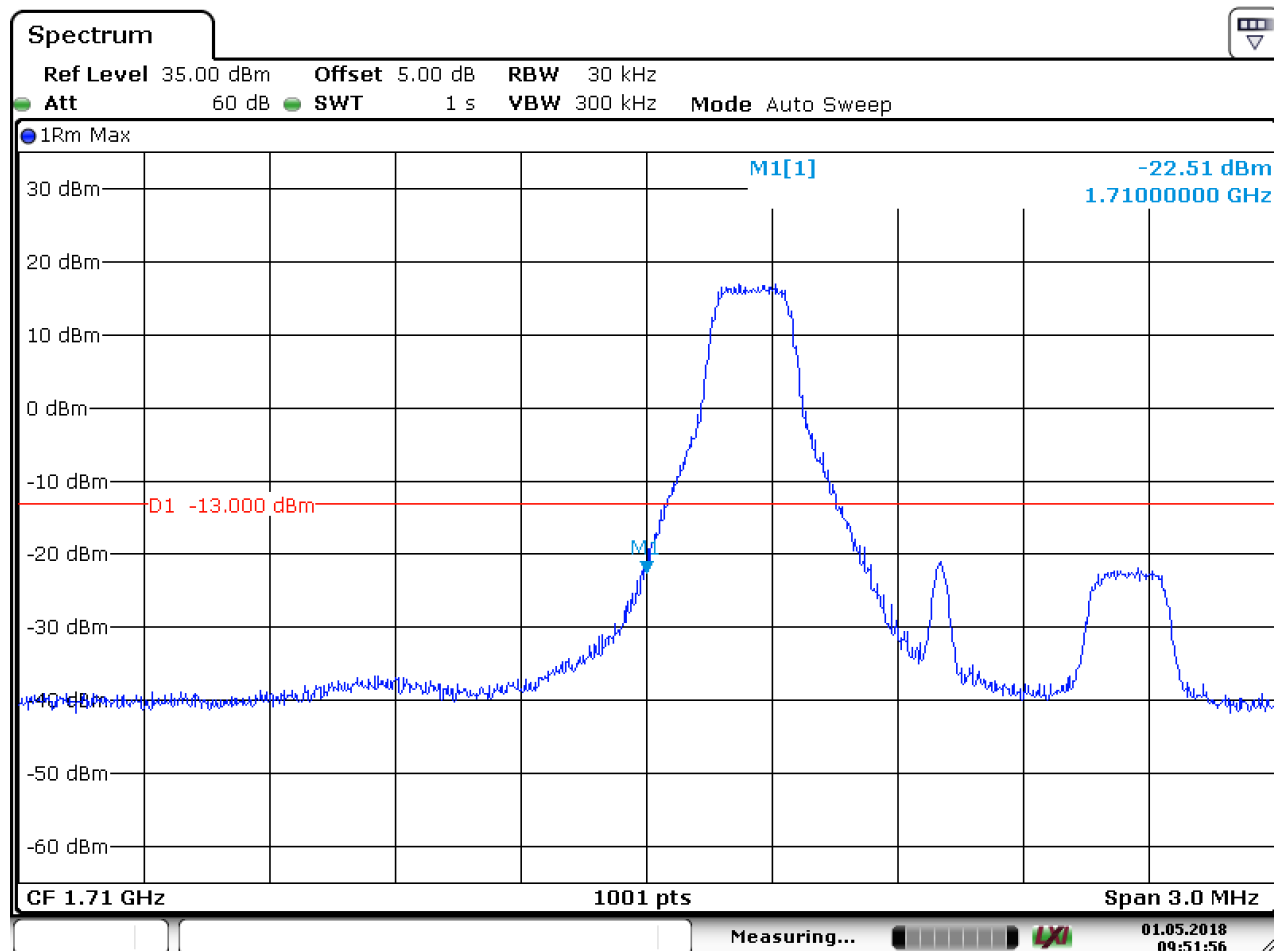


Date: 1.MAY.2018 09:53:43



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

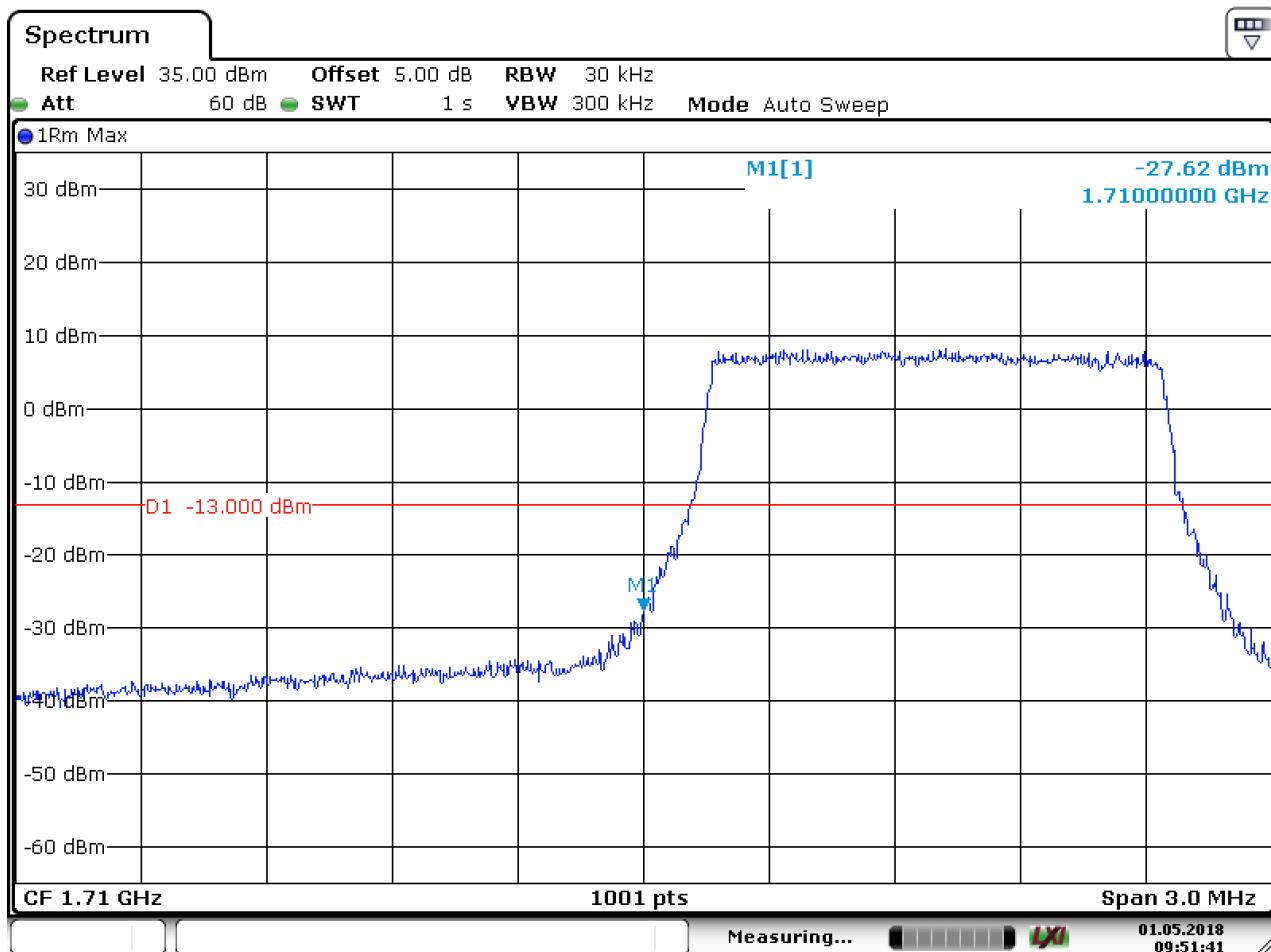


Date: 1.MAY.2018 09:51:56





5.1.1.2.1.2 Test RB=6RB

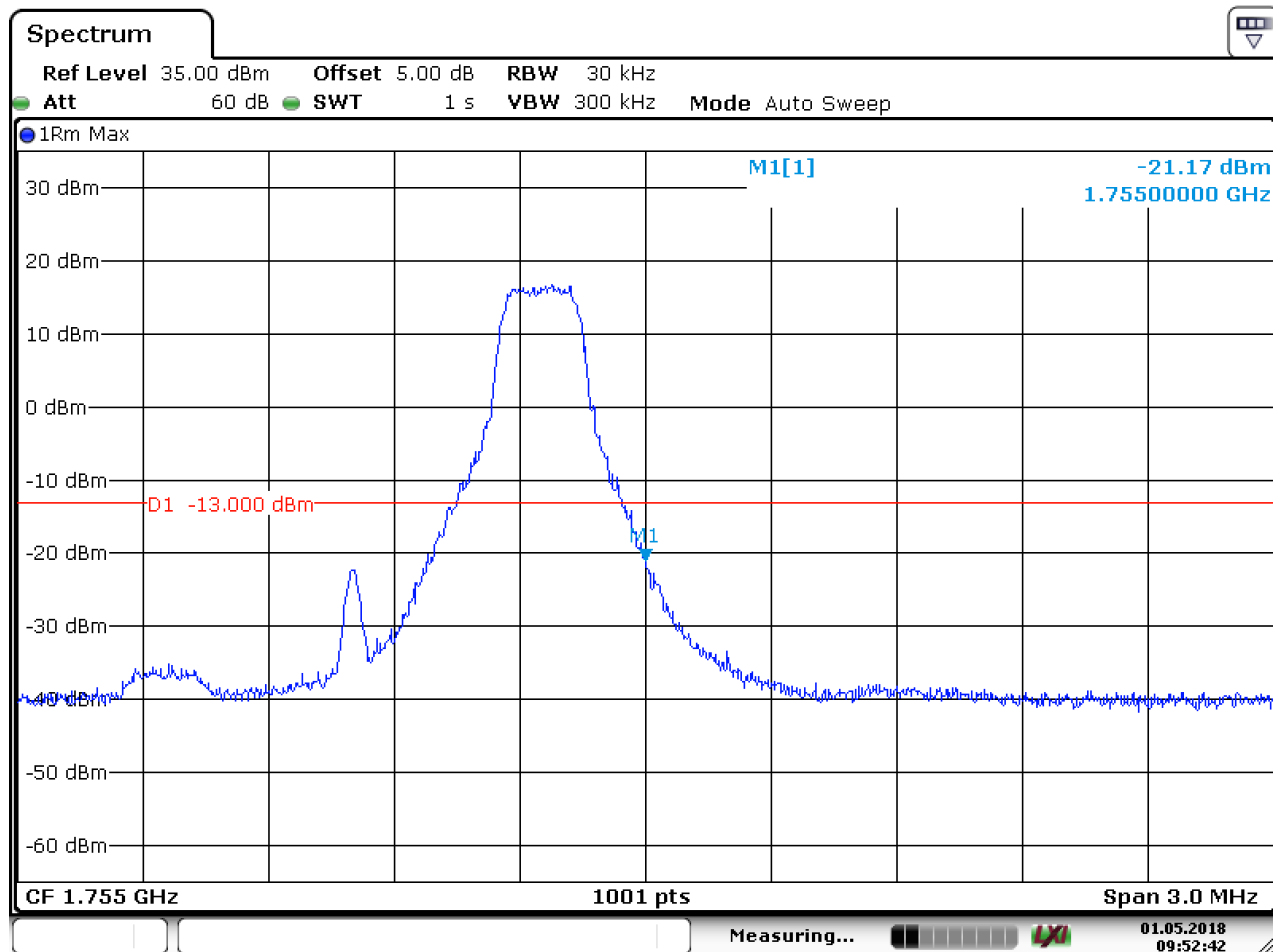


Date: 1.MAY.2018 09:51:41



5.1.1.2.2 Test Channel = HCH

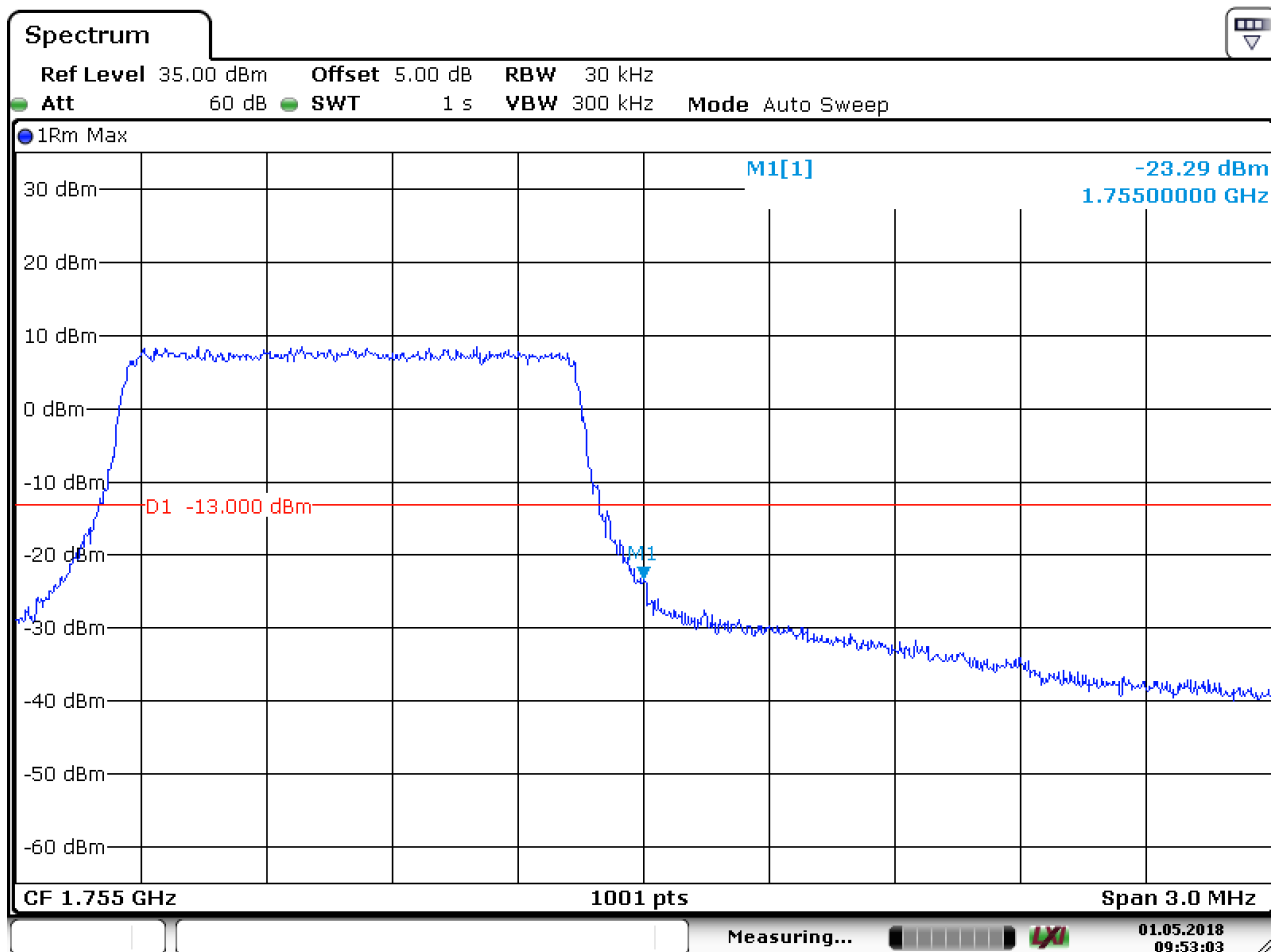
5.1.1.2.2.1 Test RB=1RB



Date: 1.MAY.2018 09:52:42



5.1.1.2.2.2 Test RB=6RB



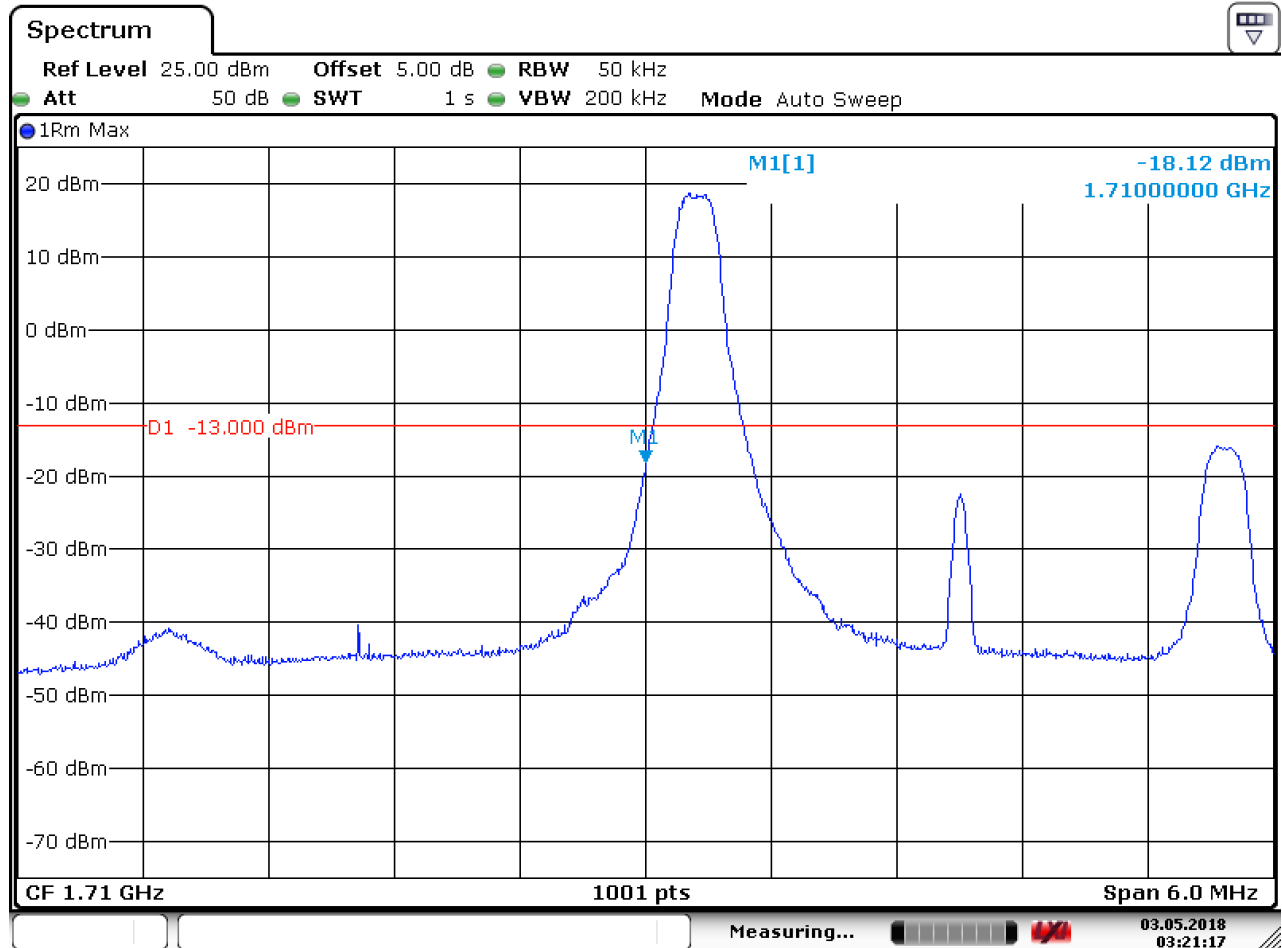
Date: 1.MAY.2018 09:53:04



5.1.1.3 Test Mode = LTE/TM1 3MHz

5.1.1.3.1 Test Channel = LCH

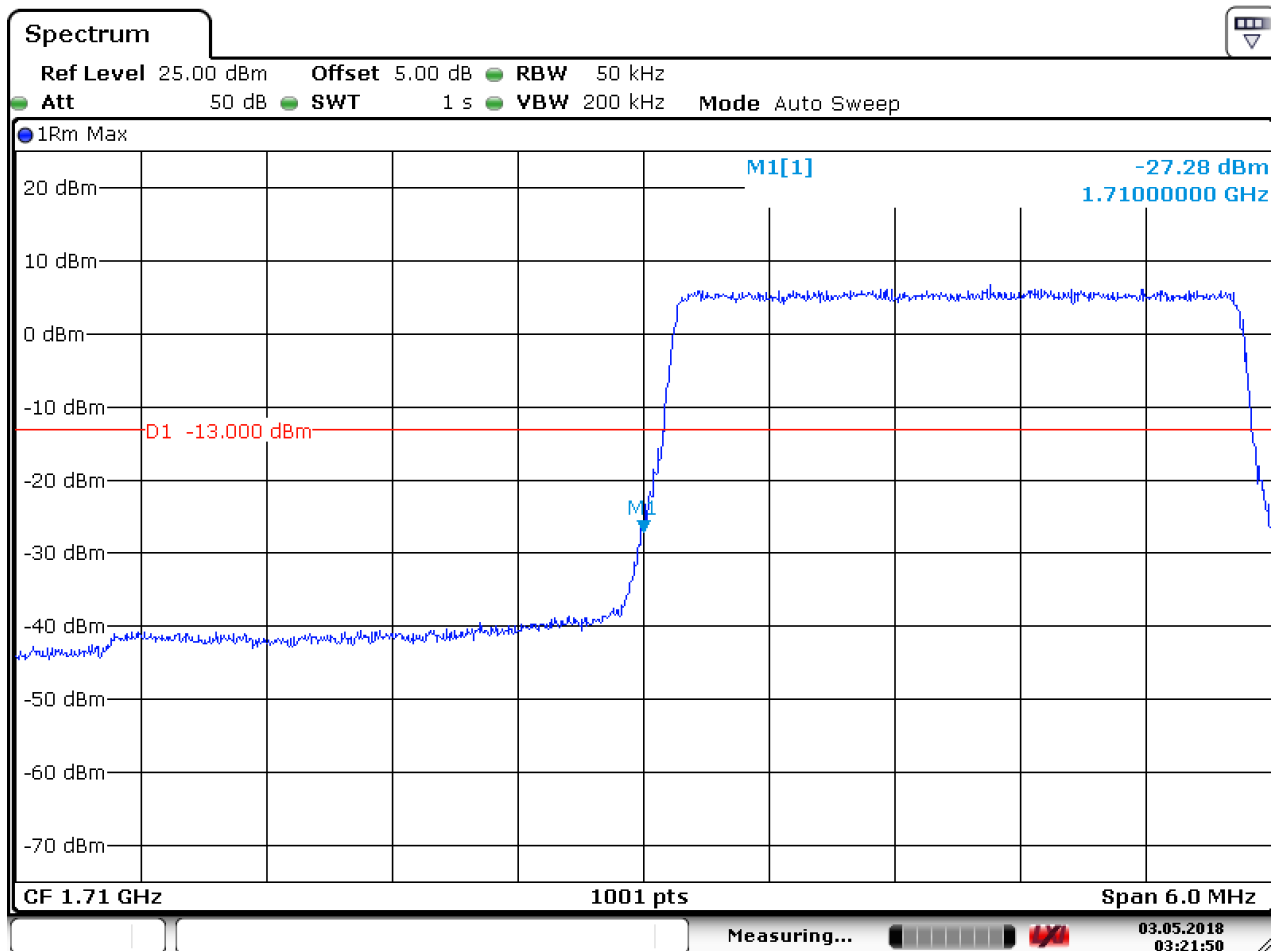
5.1.1.3.1.1 Test RB=1RB



Date: 3.MAY.2018 03:21:17



5.1.1.3.1.2 Test RB=15RB

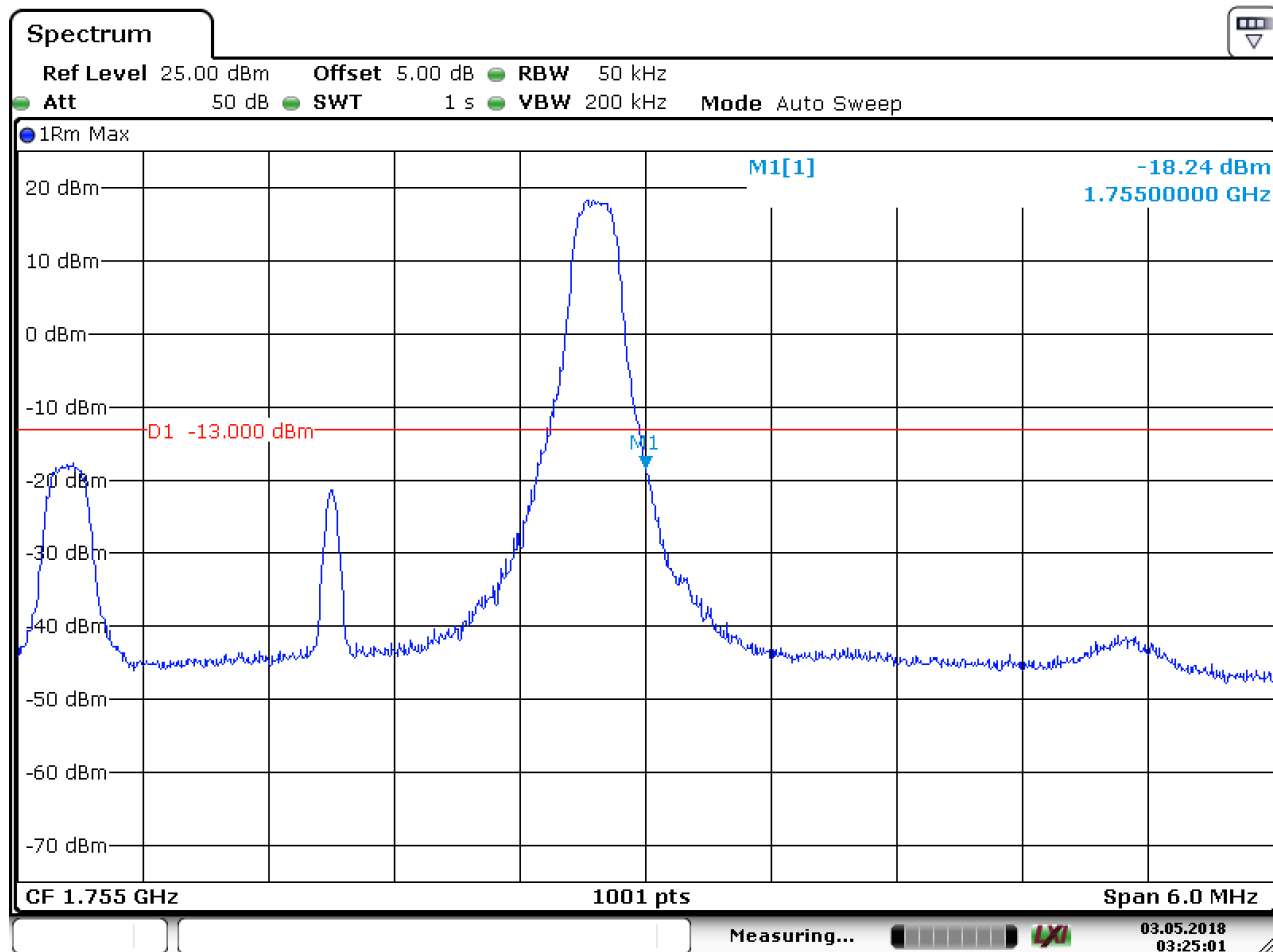


Date: 3.MAY.2018 03:21:50



5.1.1.3.2 Test Channel = HCH

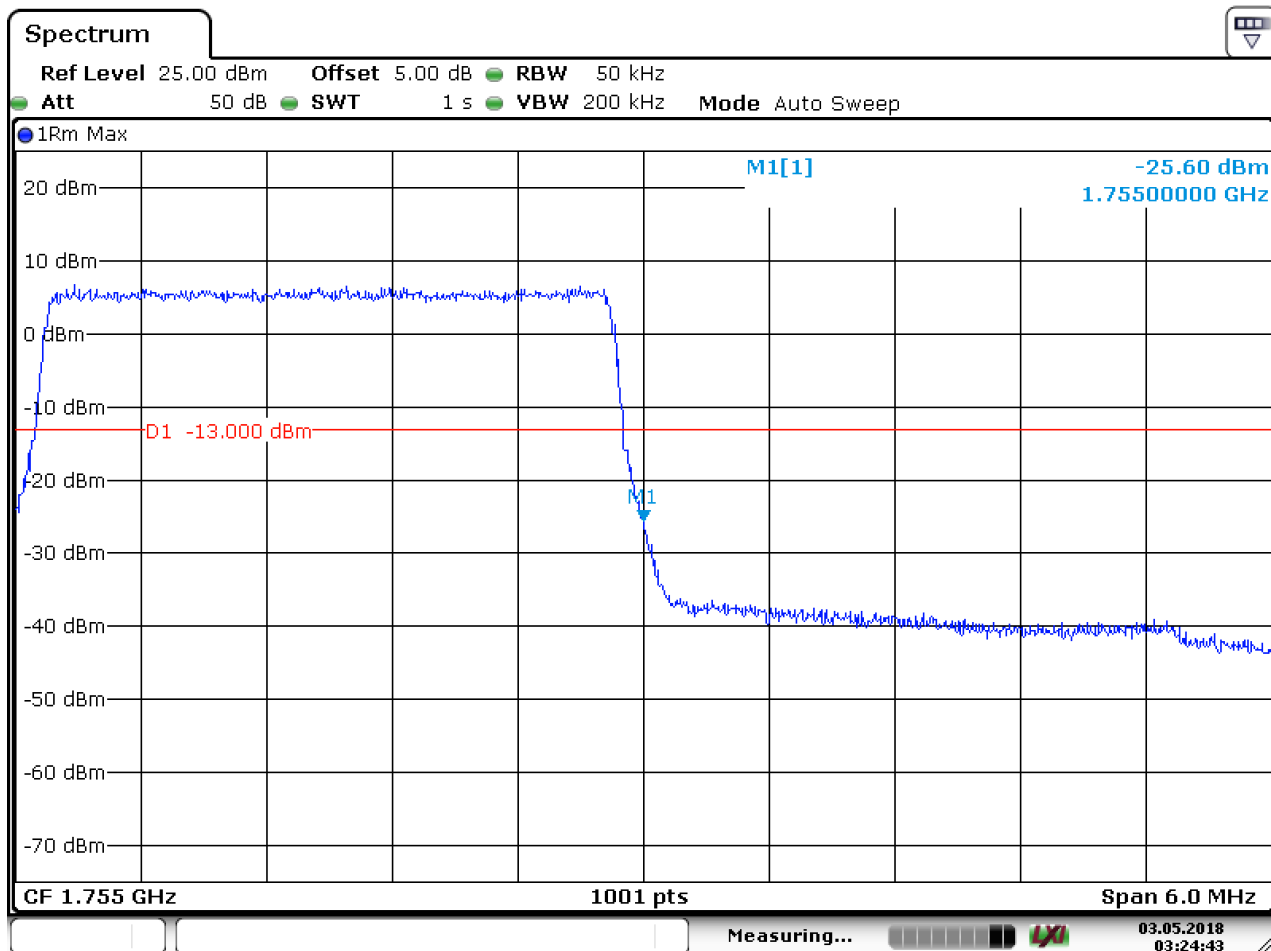
5.1.1.3.2.1 Test RB=1RB



Date: 3.MAY.2018 03:25:01



5.1.1.3.2.2 Test RB=15RB



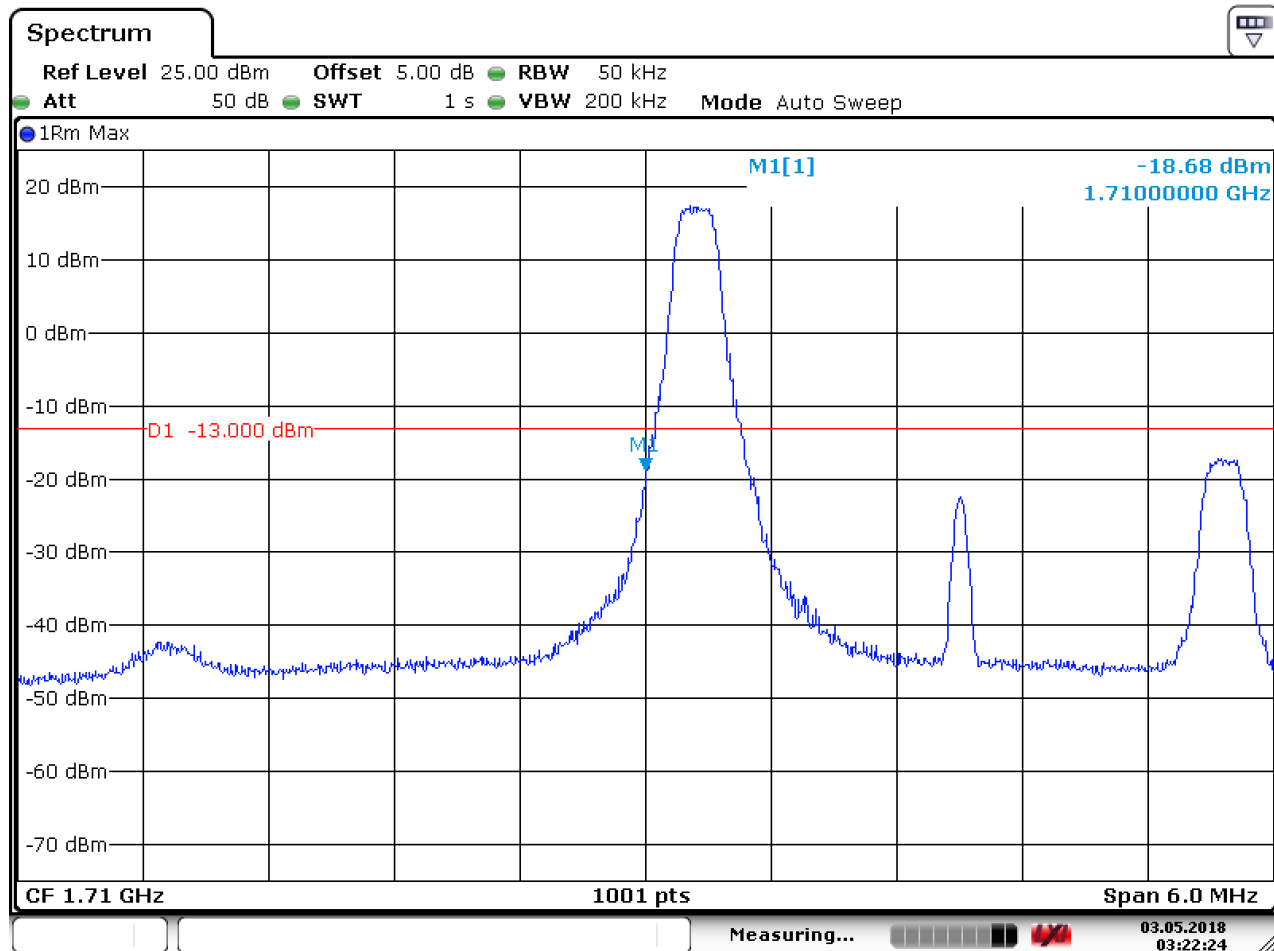
Date: 3.MAY.2018 03:24:43



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

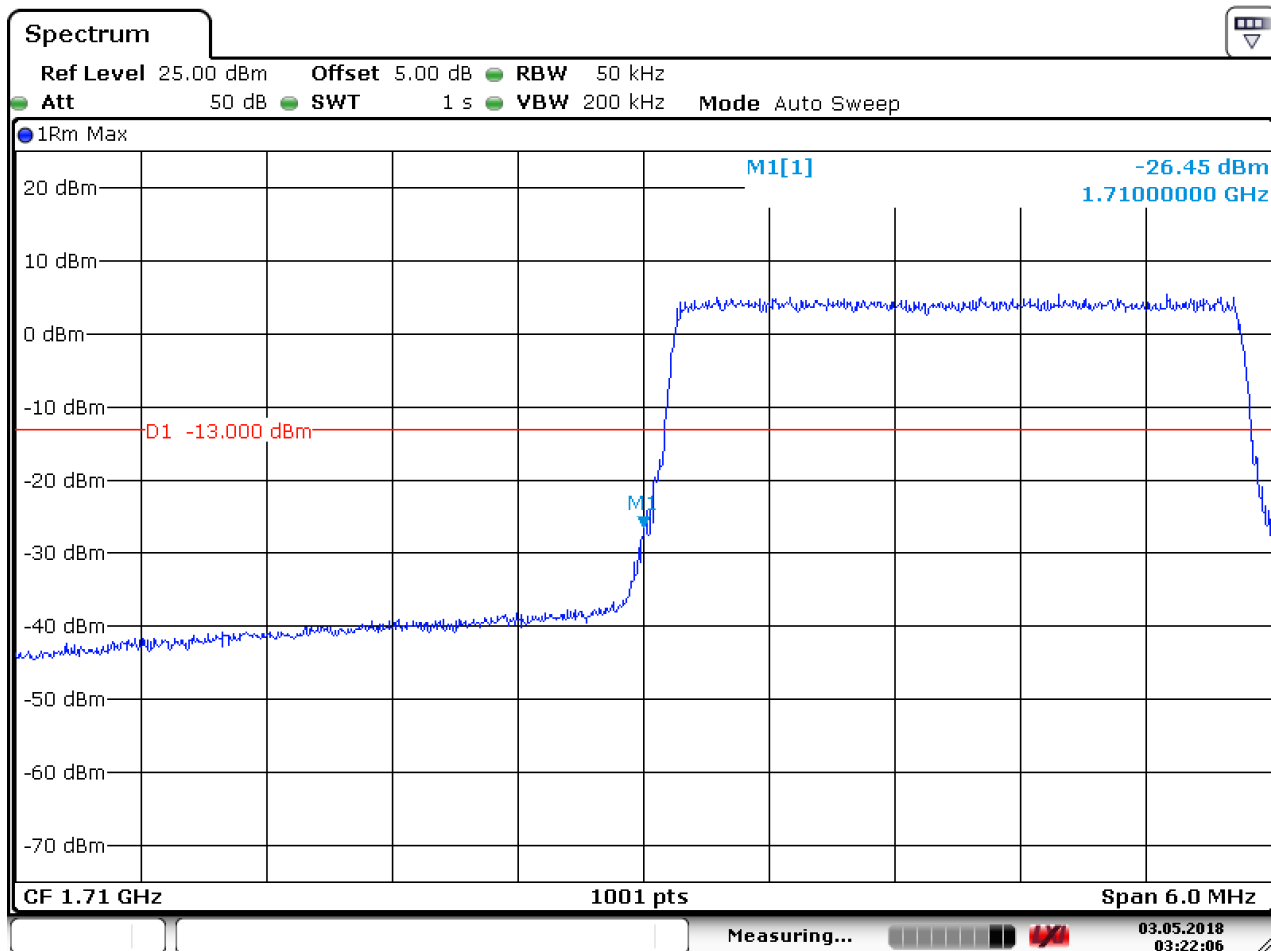


Date: 3.MAY.2018 03:22:24





5.1.1.4.1.2 Test RB=15RB

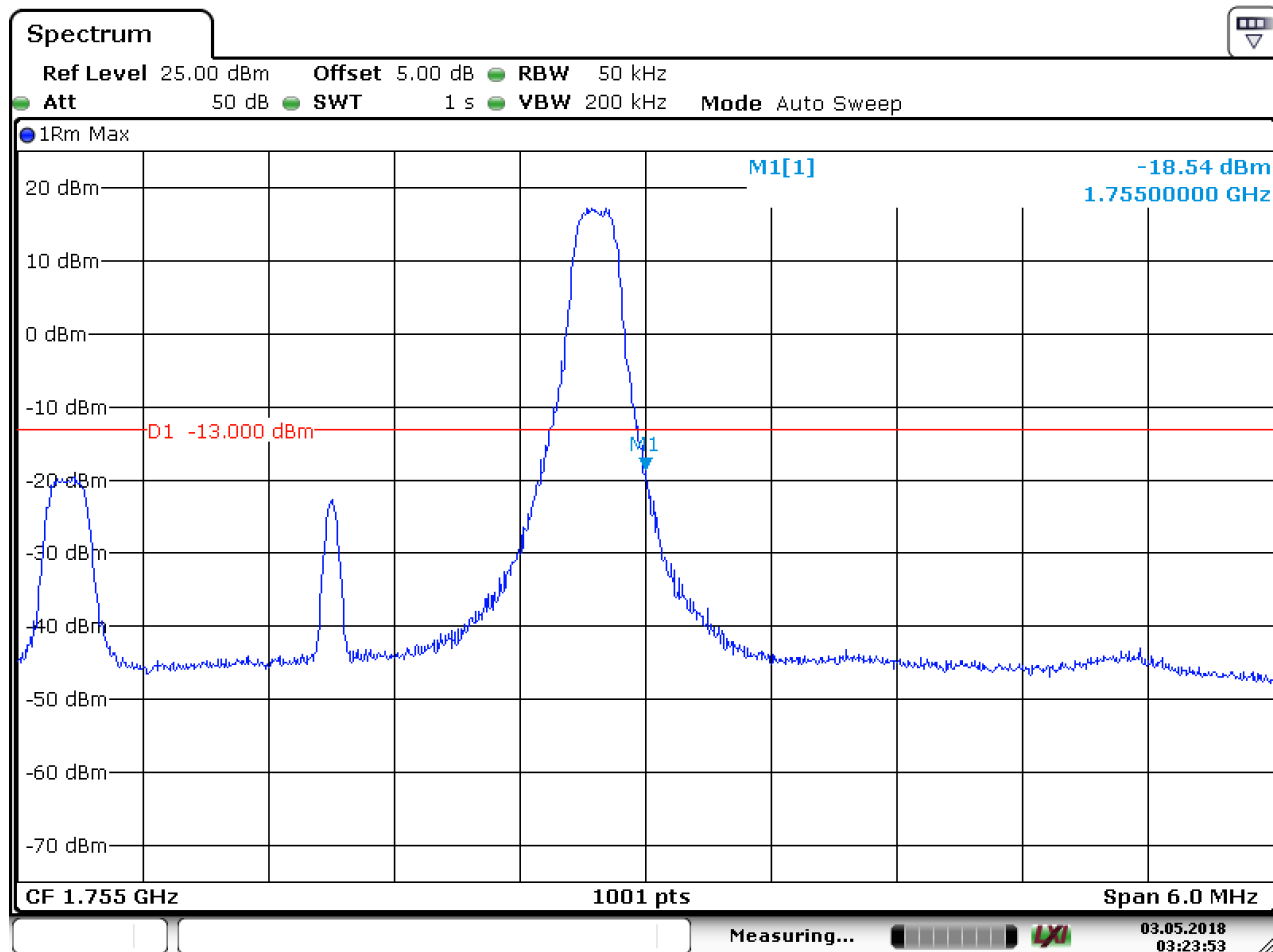


Date: 3.MAY.2018 03:22:06



5.1.1.4.2 Test Channel = HCH

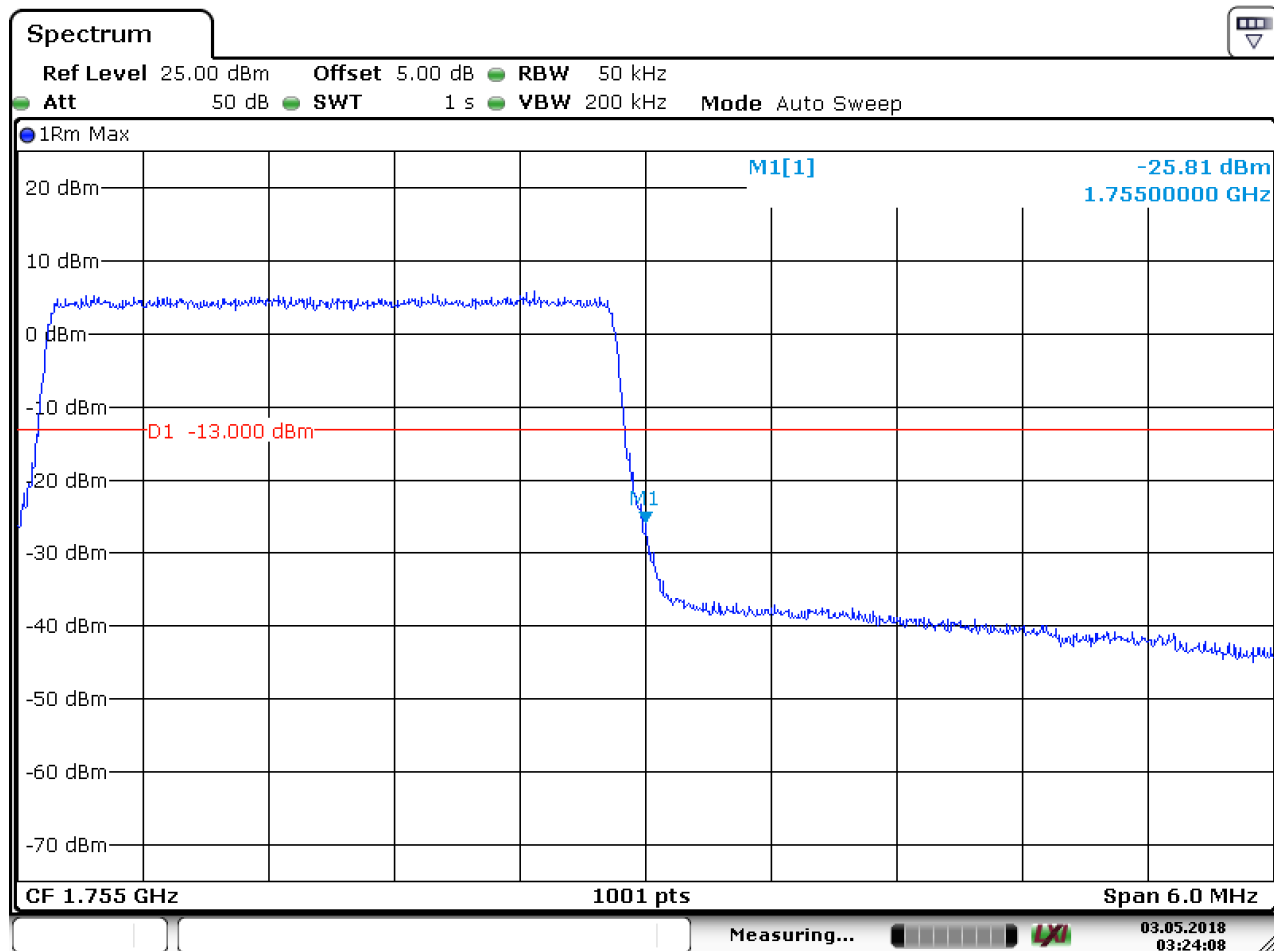
5.1.1.4.2.1 Test RB=1RB



Date: 3.MAY.2018 03:23:53



5.1.1.4.3 Test RB=15RB



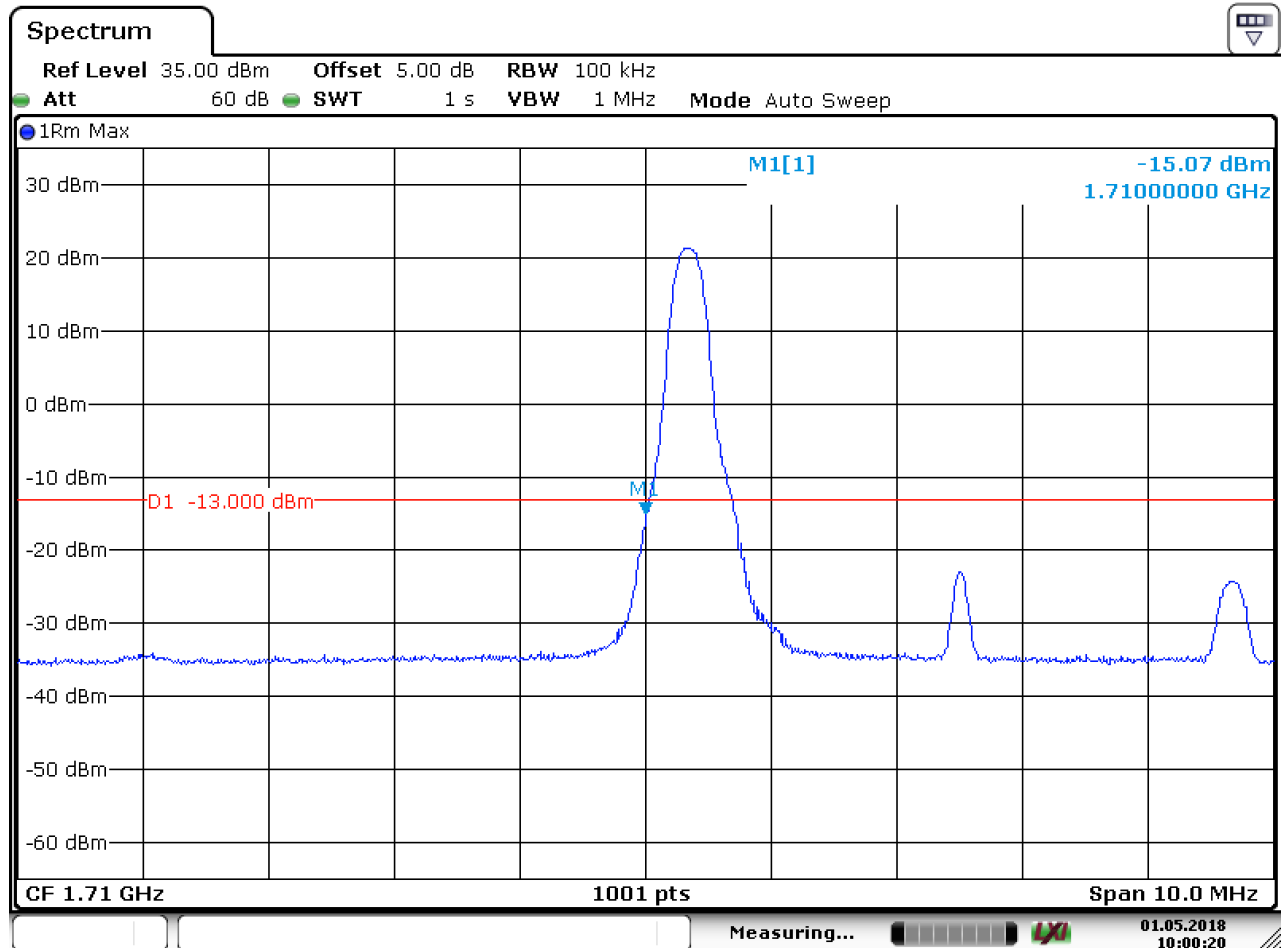
Date: 3.MAY.2018 03:24:09



5.1.1.5 Test Mode = LTE/TM1 5MHz

5.1.1.5.1 Test Channel = LCH

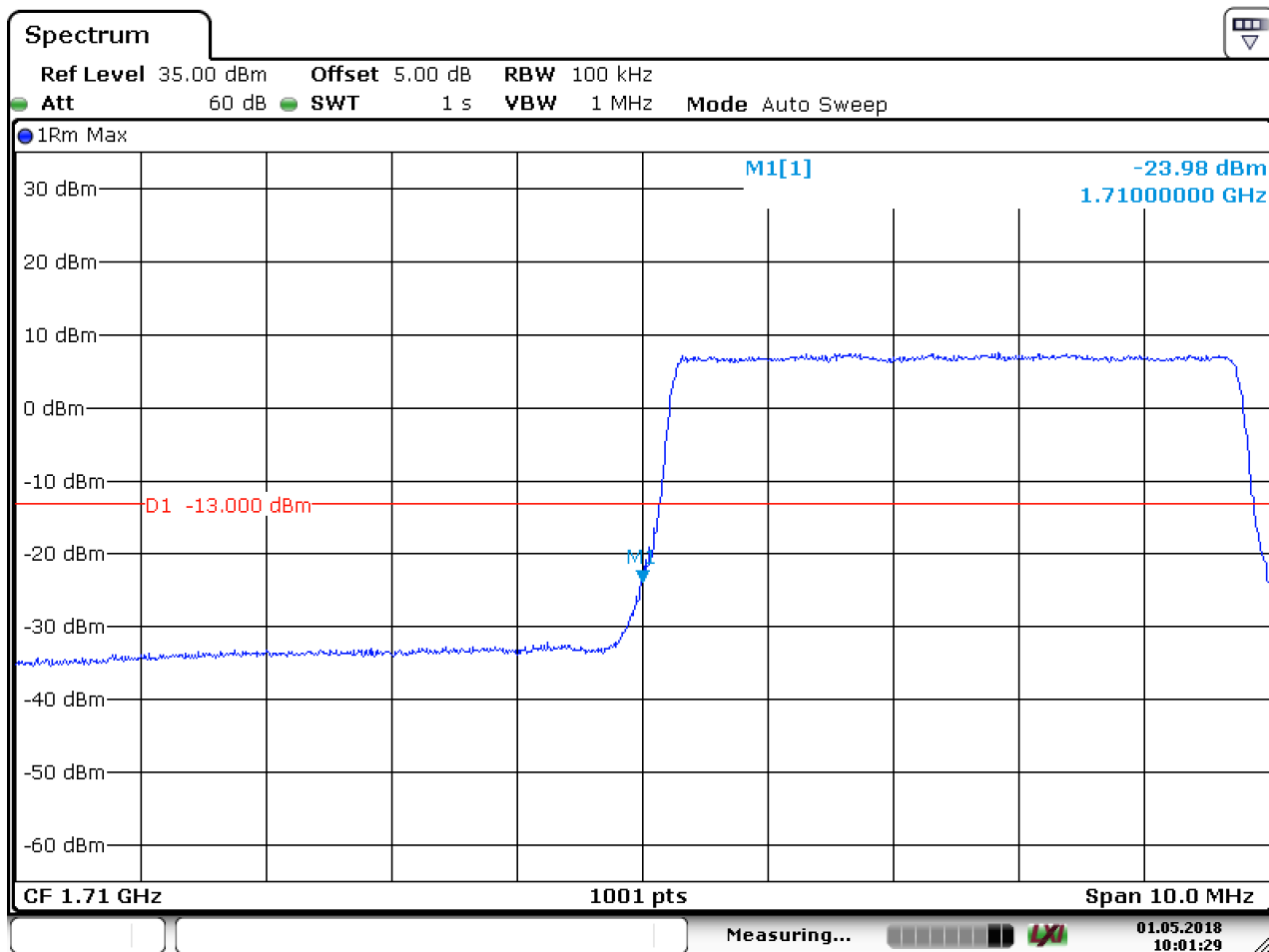
5.1.1.5.1.1 Test RB=1RB



Date: 1.MAY.2018 10:00:21



5.1.1.5.1.2 Test RB=25RB

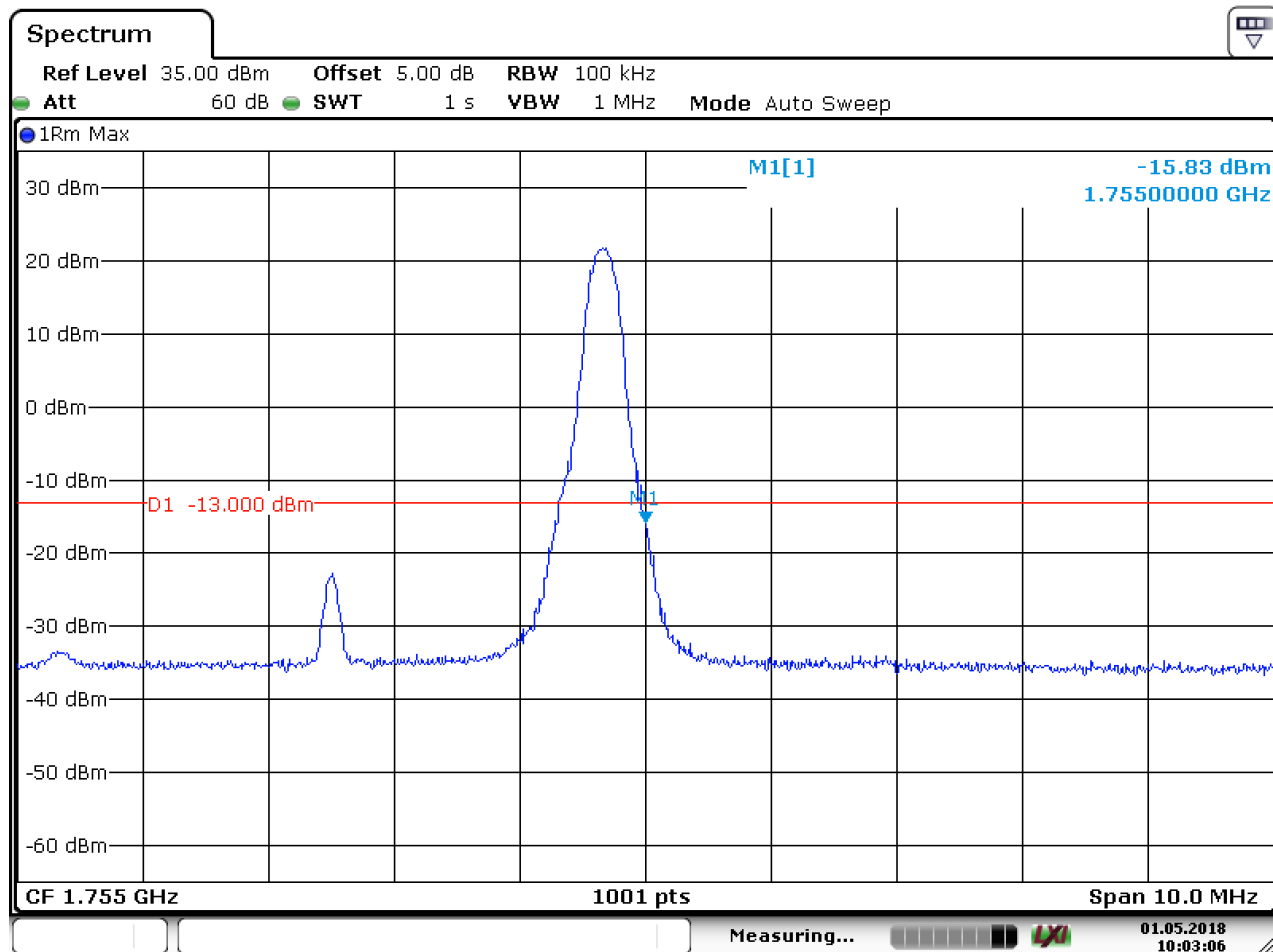


Date: 1.MAY.2018 10:01:30



5.1.1.5.2 est Channel = HCH

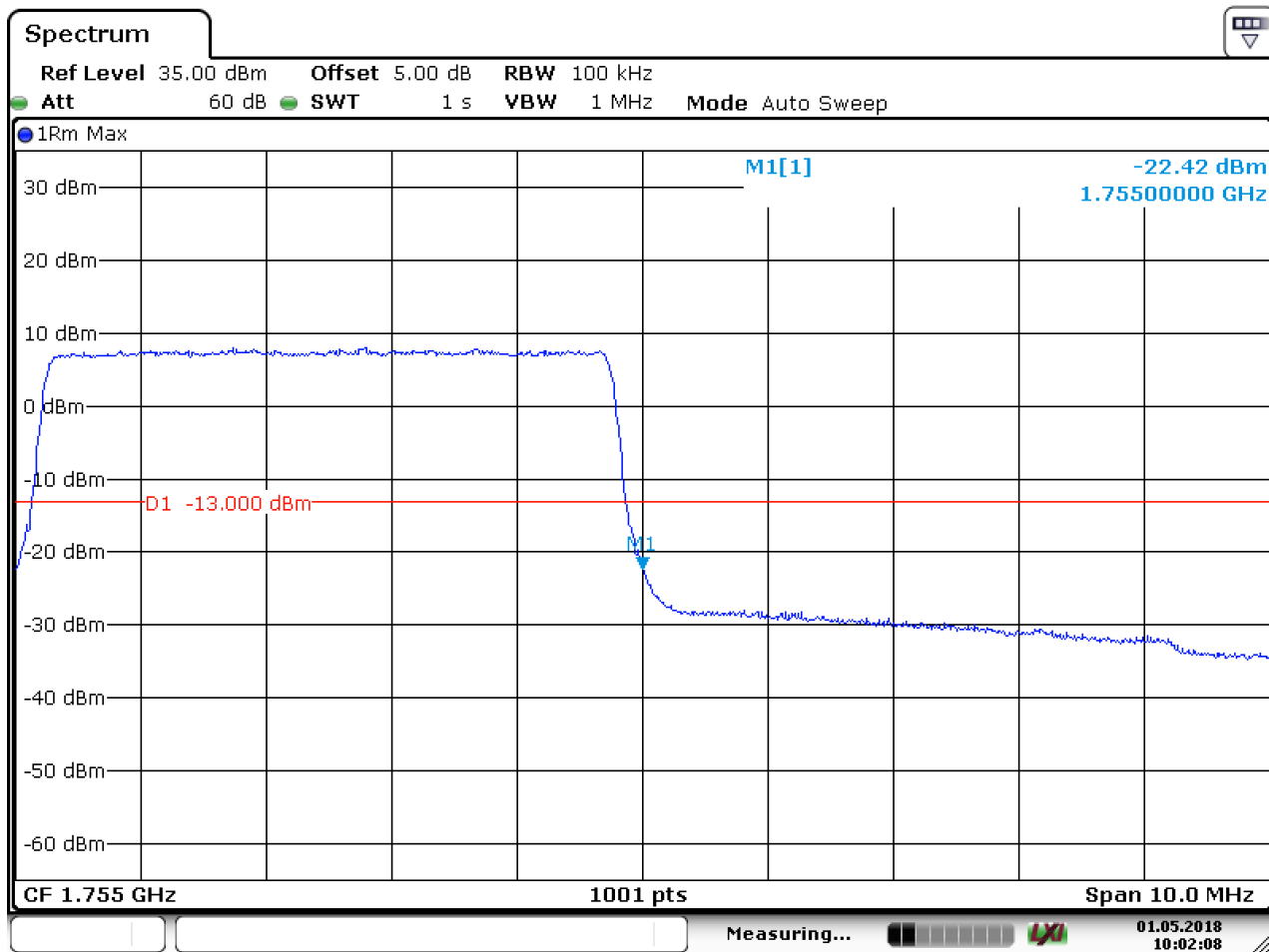
5.1.1.5.2.1 Test RB=1RB



Date: 1.MAY.2018 10:03:06



5.1.1.5.2.2 Test RB=25RB



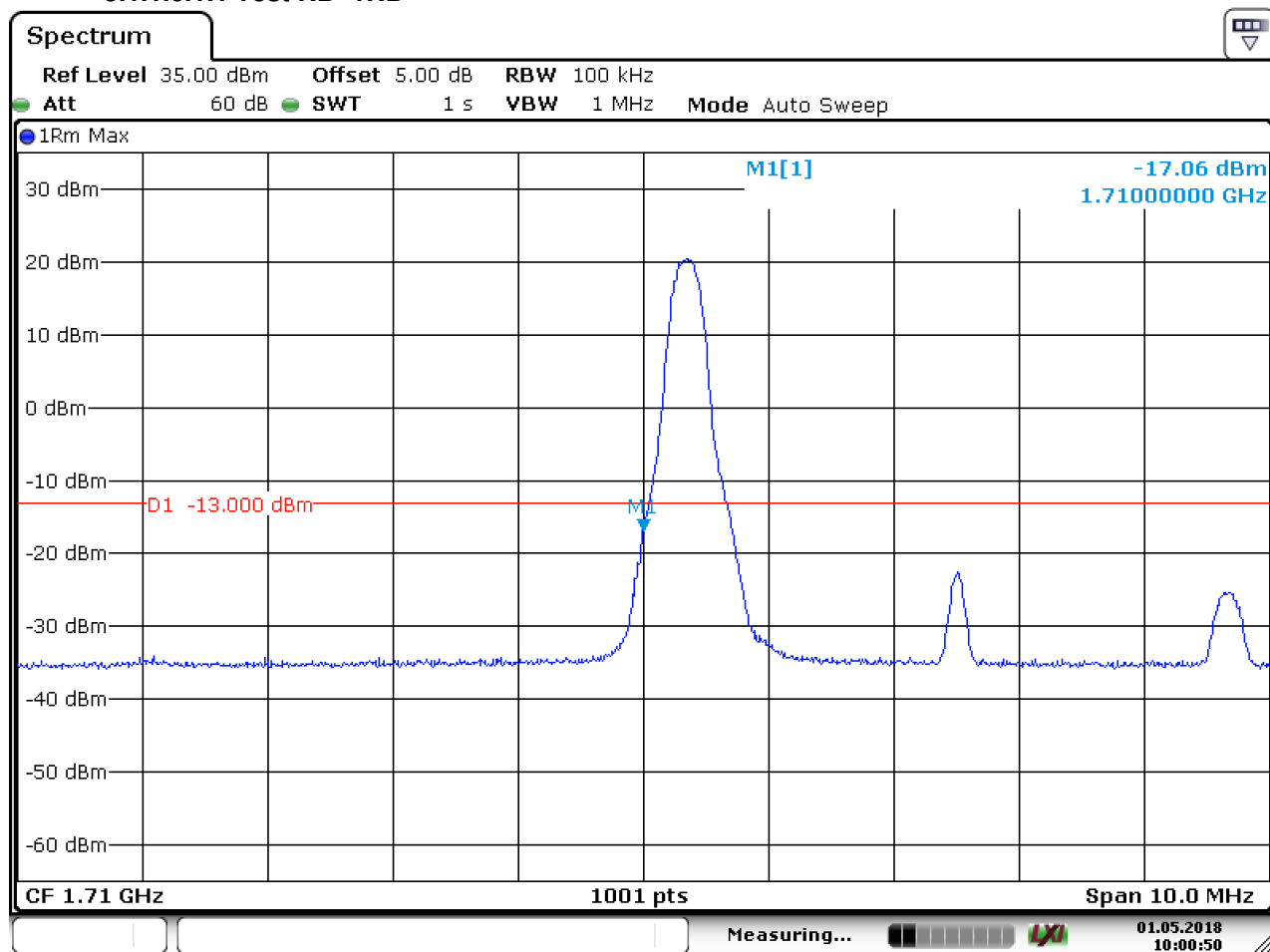
Date: 1.MAY.2018 10:02:09



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

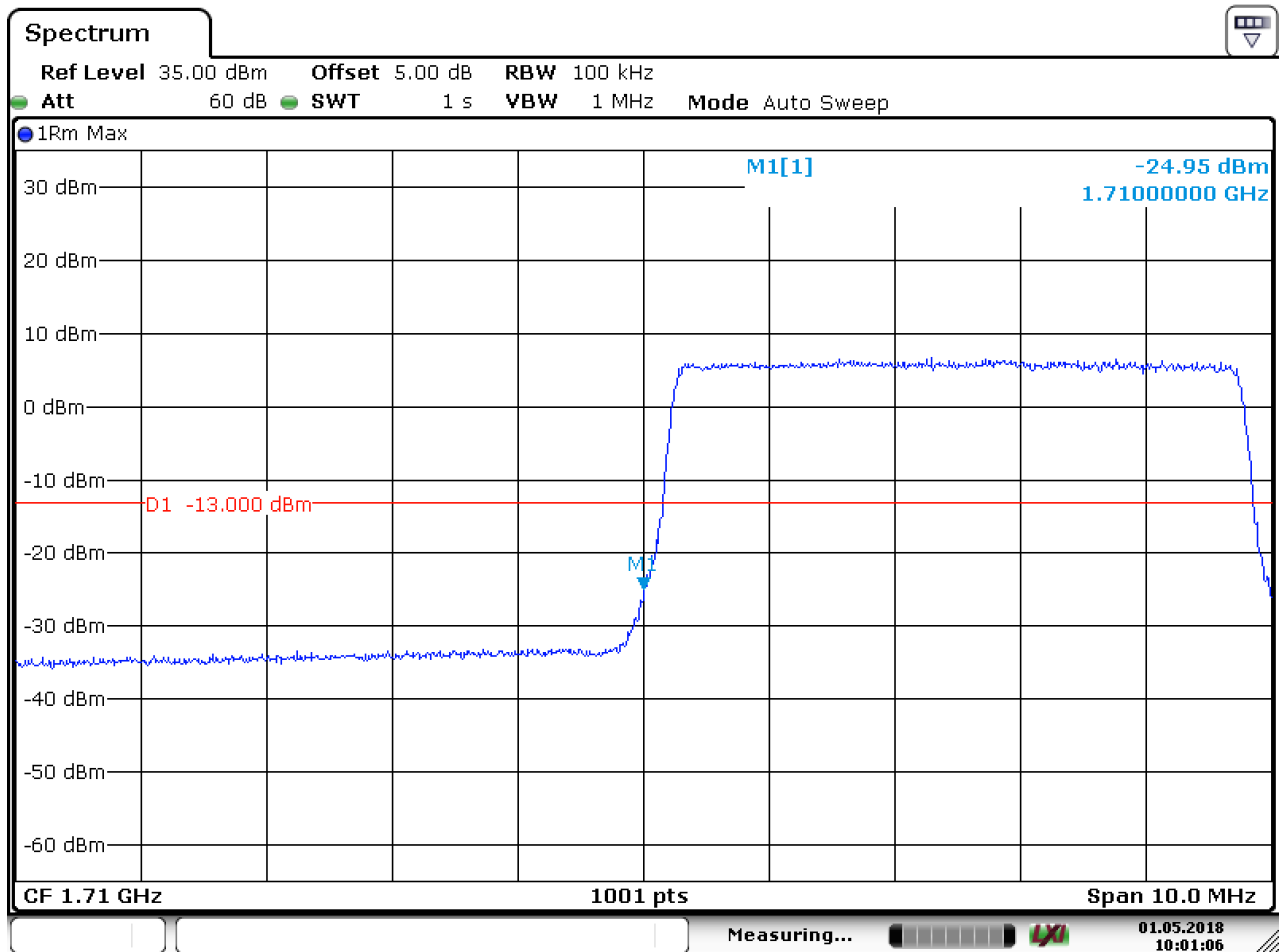


Date: 1.MAY.2018 10:00:51





5.1.1.6.1.2 Test RB=25RB

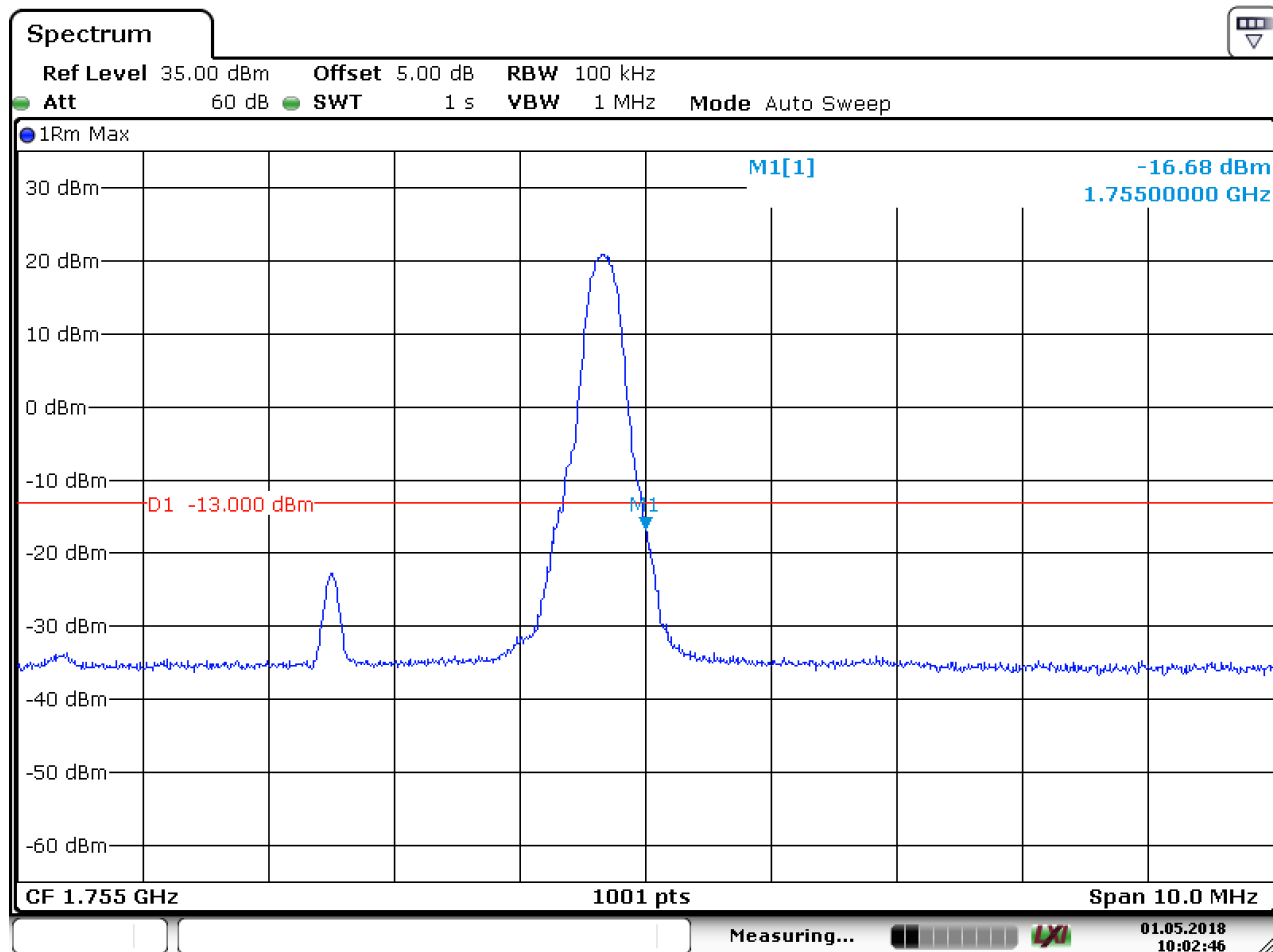


Date: 1.MAY.2018 10:01:07



5.1.1.6.2 Test Channel = HCH

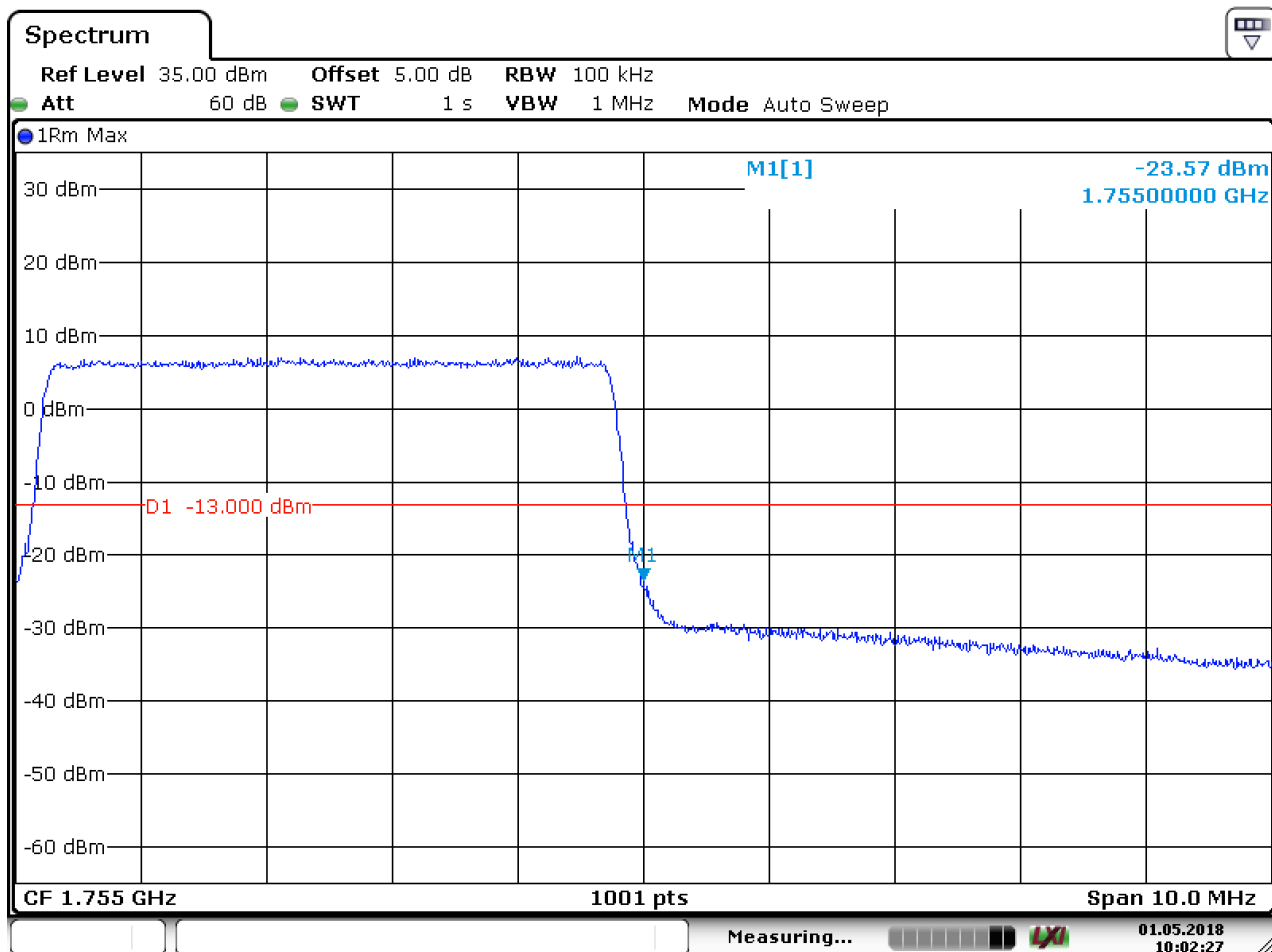
5.1.1.6.2.1 Test RB=1RB



Date: 1.MAY.2018 10:02:47



5.1.1.6.2.2 Test RB=25RB

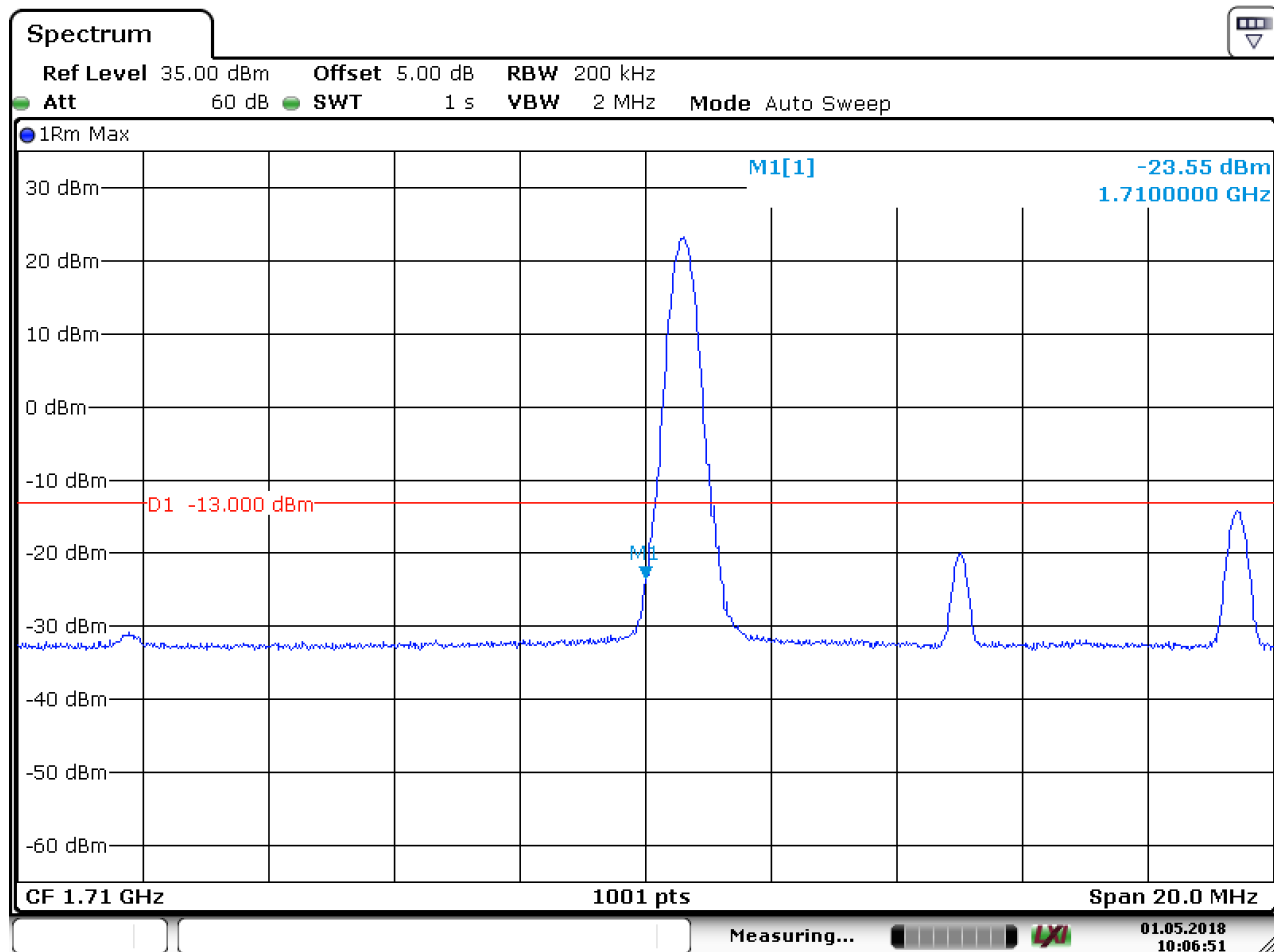


Date: 1.MAY.2018 10:02:28



5.1.1.7 Test Mode = LTE/TM1 10MHz  
5.1.1.7.1 Test Channel = LCH

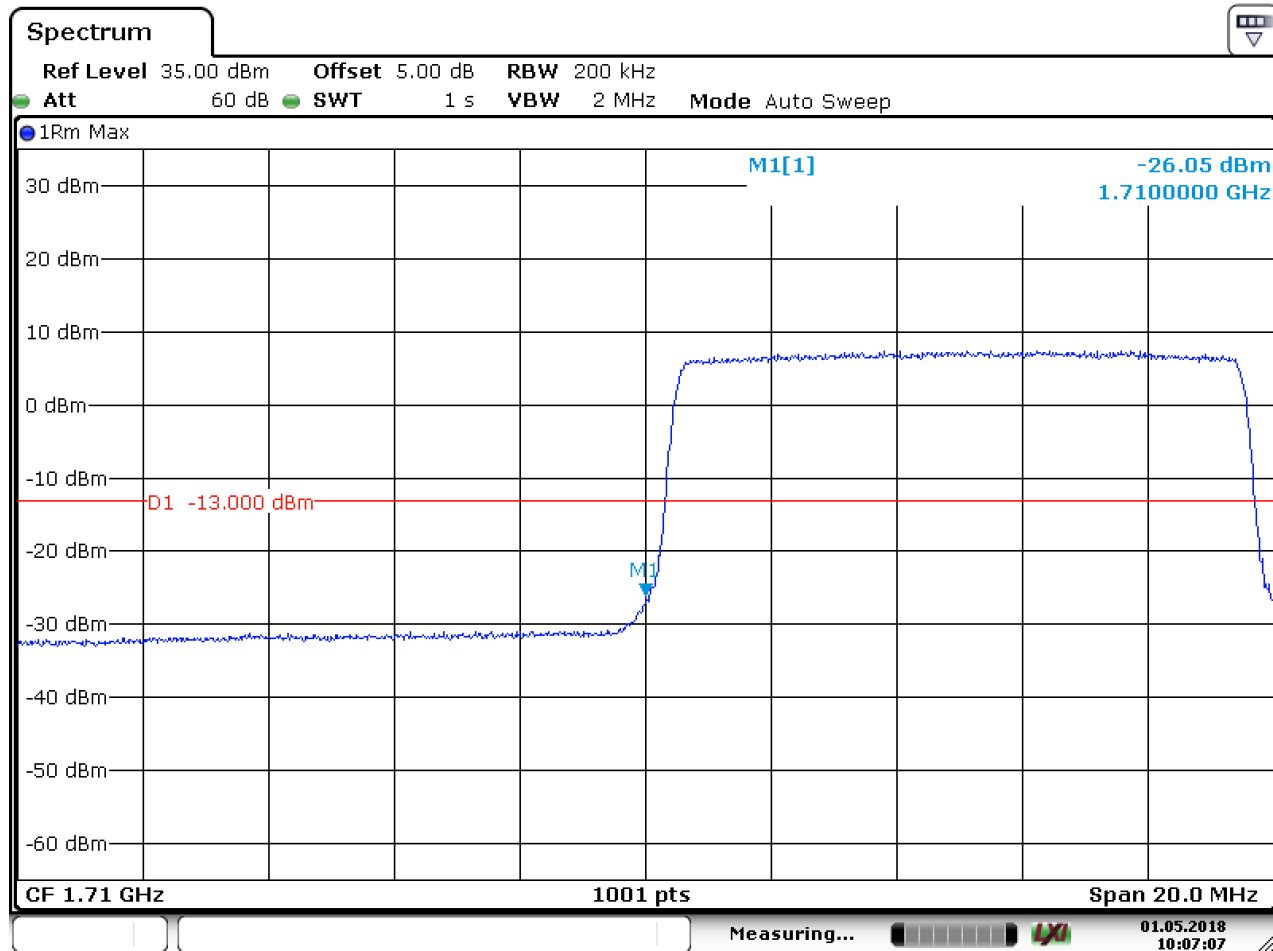
5.1.1.7.1.1 Test RB=1RB



Date: 1.MAY.2018 10:06:51



5.1.1.7.1.2 Test RB=50RB

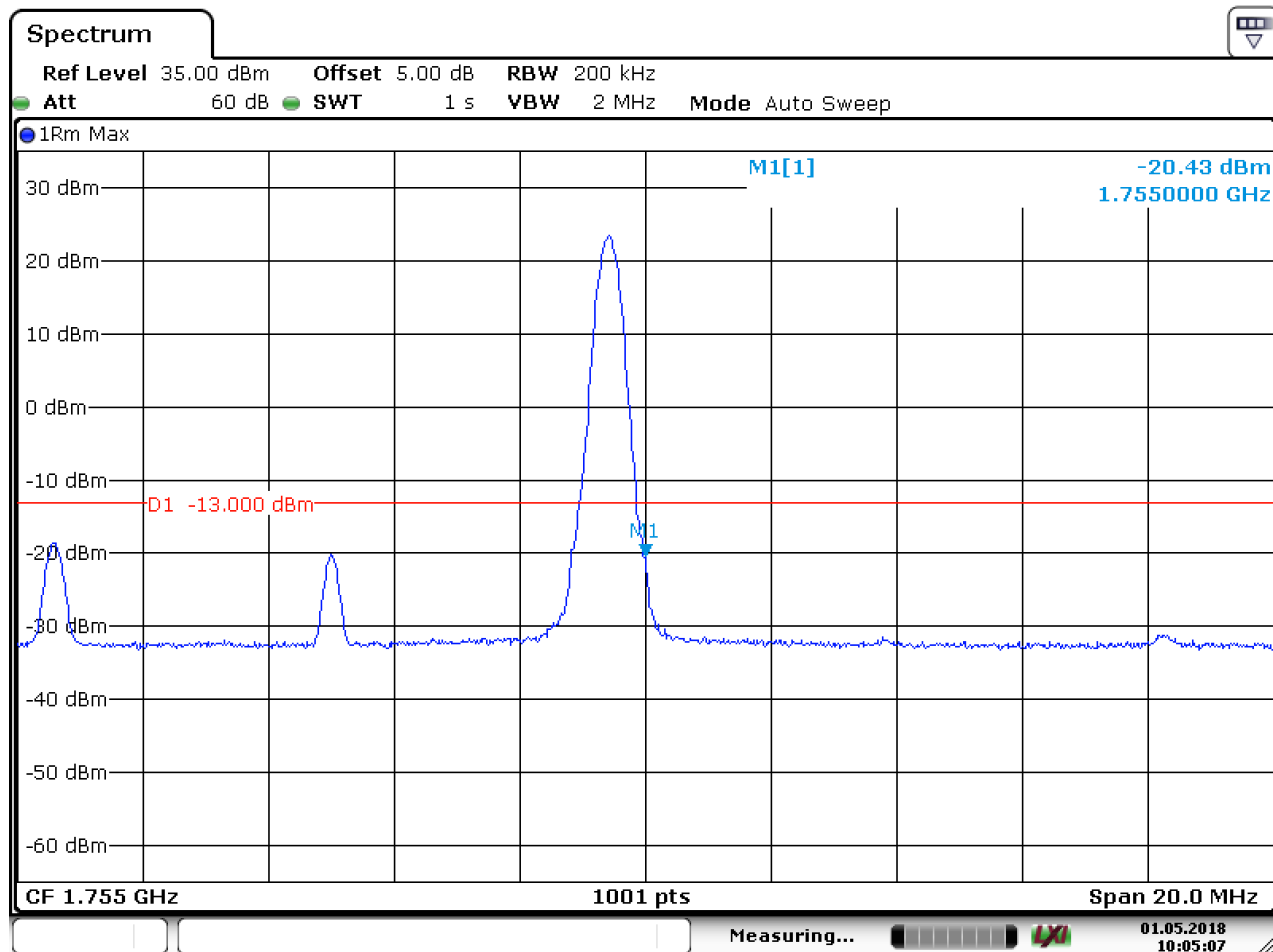


Date: 1.MAY.2018 10:07:07



5.1.1.7.2 Test Channel = HCH

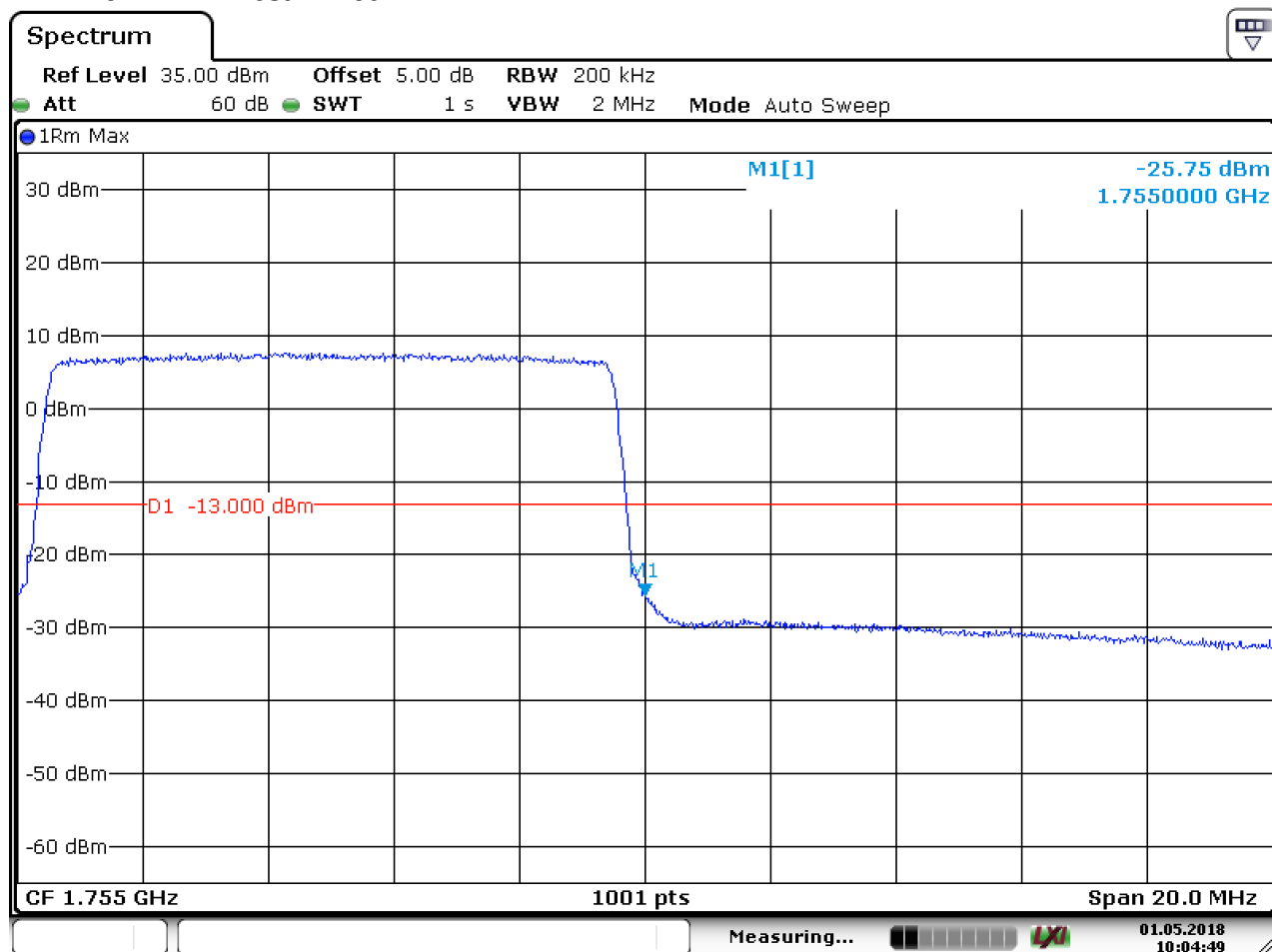
5.1.1.7.2.1 Test RB=1RB



Date: 1.MAY.2018 10:05:07



5.1.1.7.2.2 Test RB=50RB



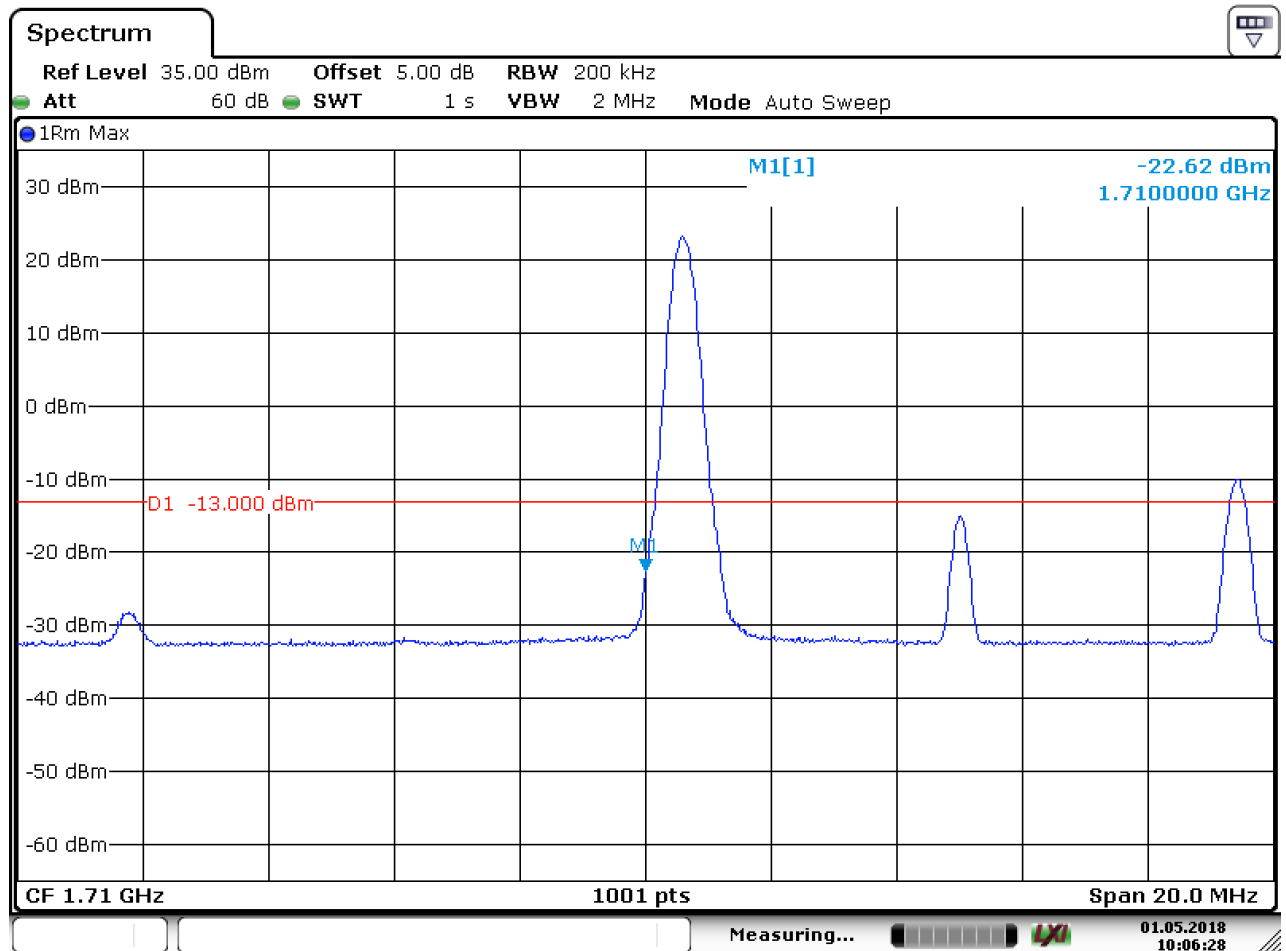
Date: 1.MAY.2018 10:04:50



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

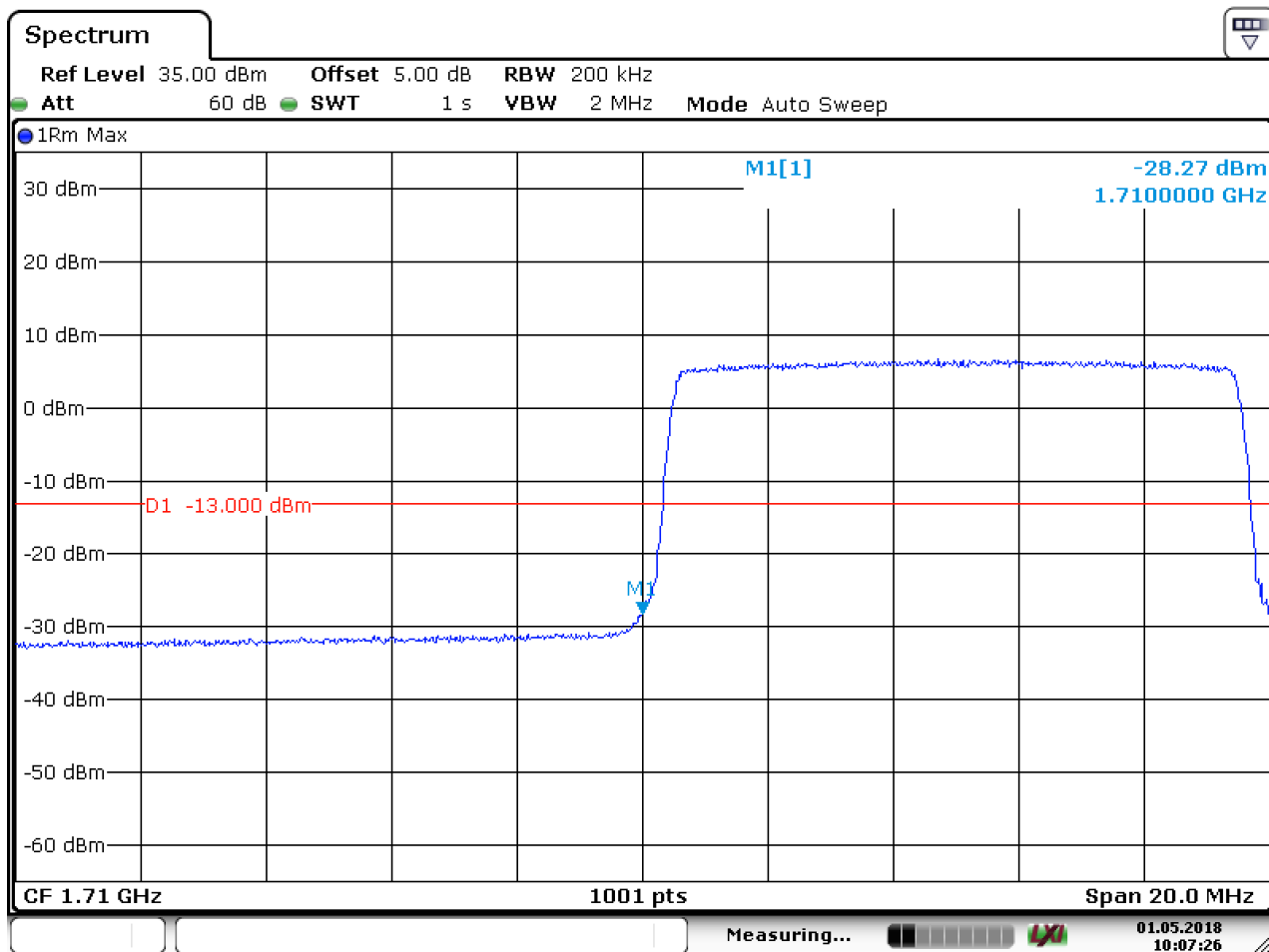


Date: 1.MAY.2018 10:06:28





5.1.1.8.1.2 Test RB=50RB

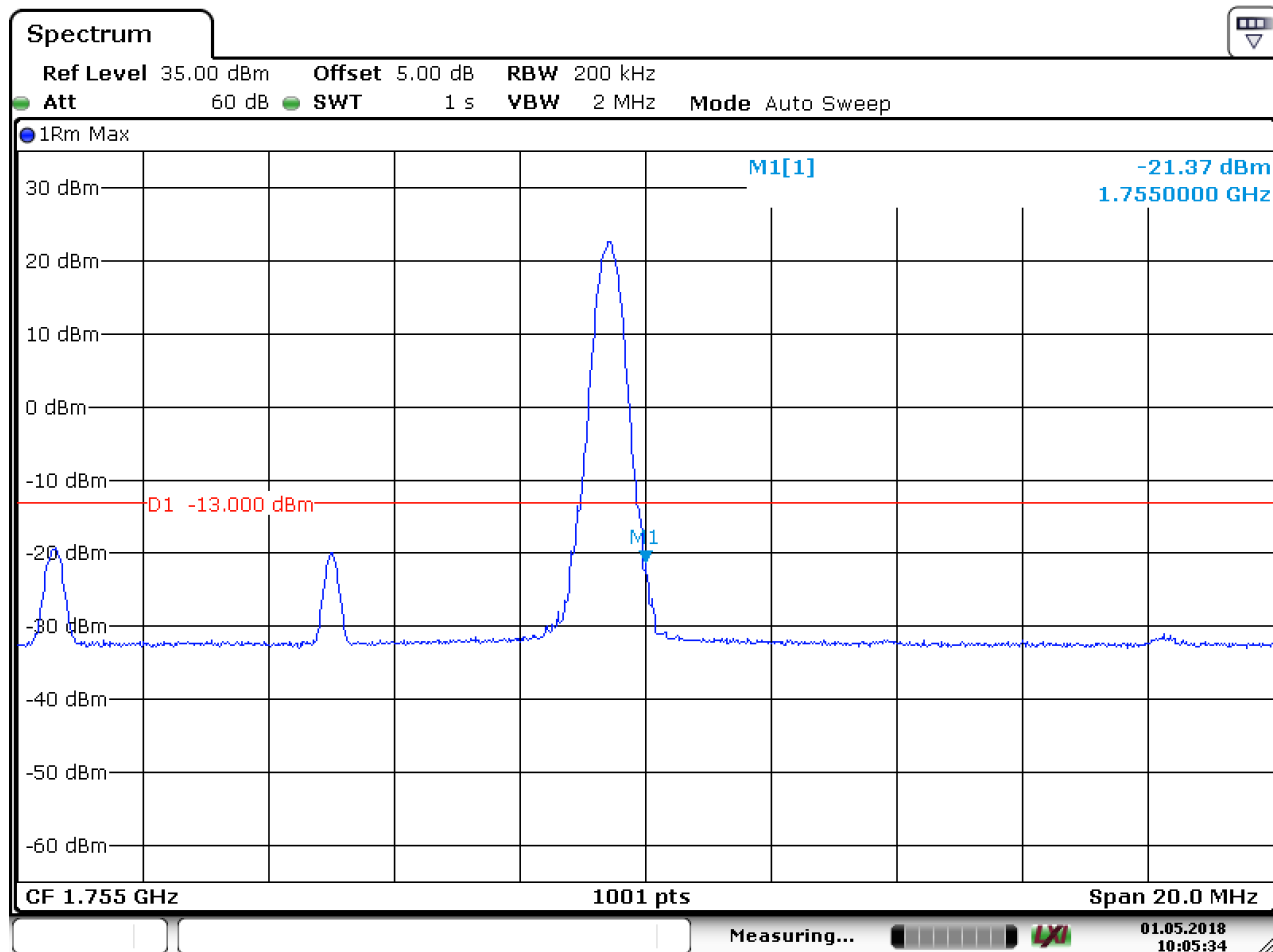


Date: 1.MAY.2018 10:07:27



5.1.1.8.2 Test Channel = HCH

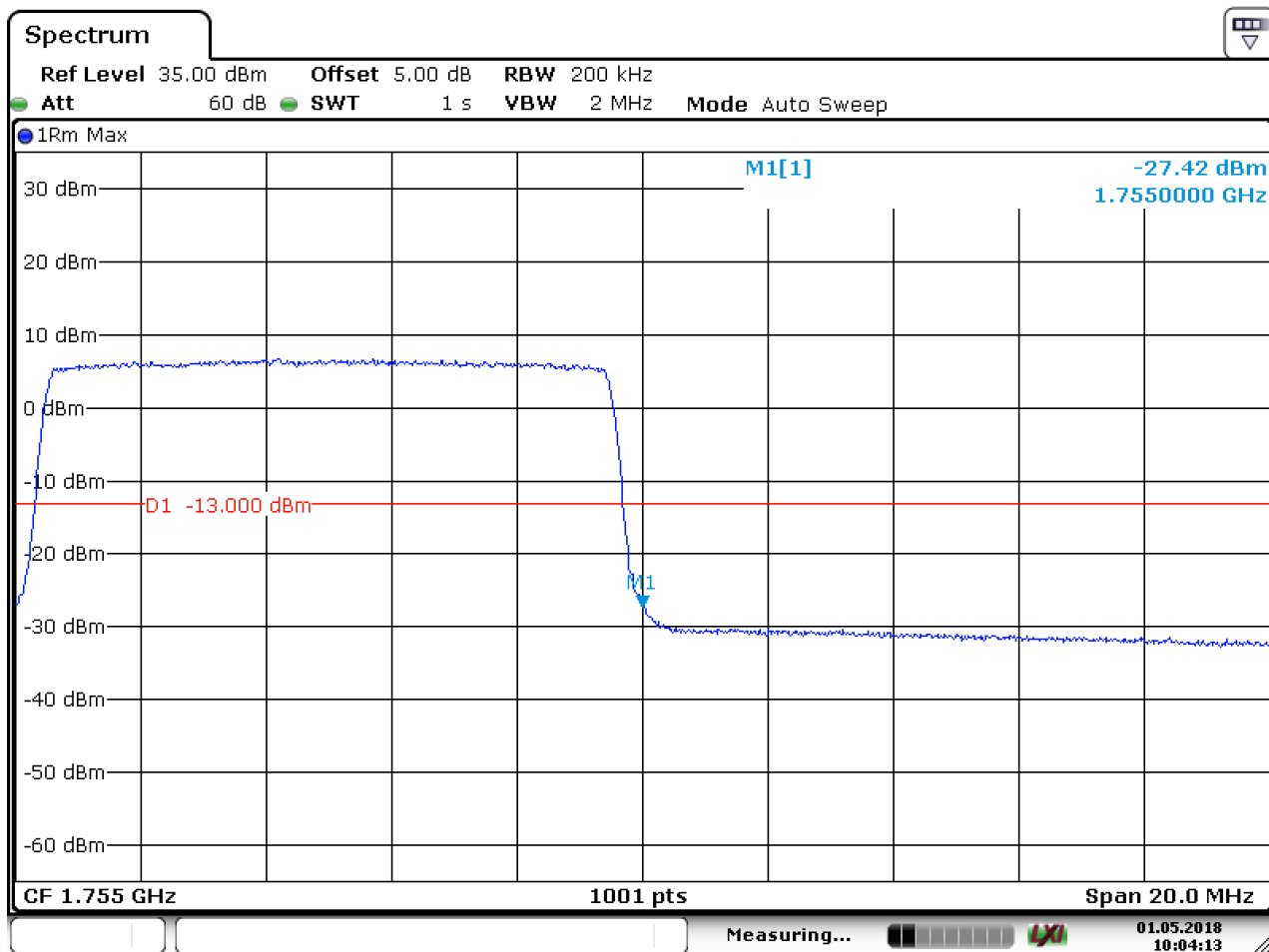
5.1.1.8.2.1 Test RB=1RB



Date: 1.MAY.2018 10:05:34



5.1.1.8.2.2 Test RB=50RB

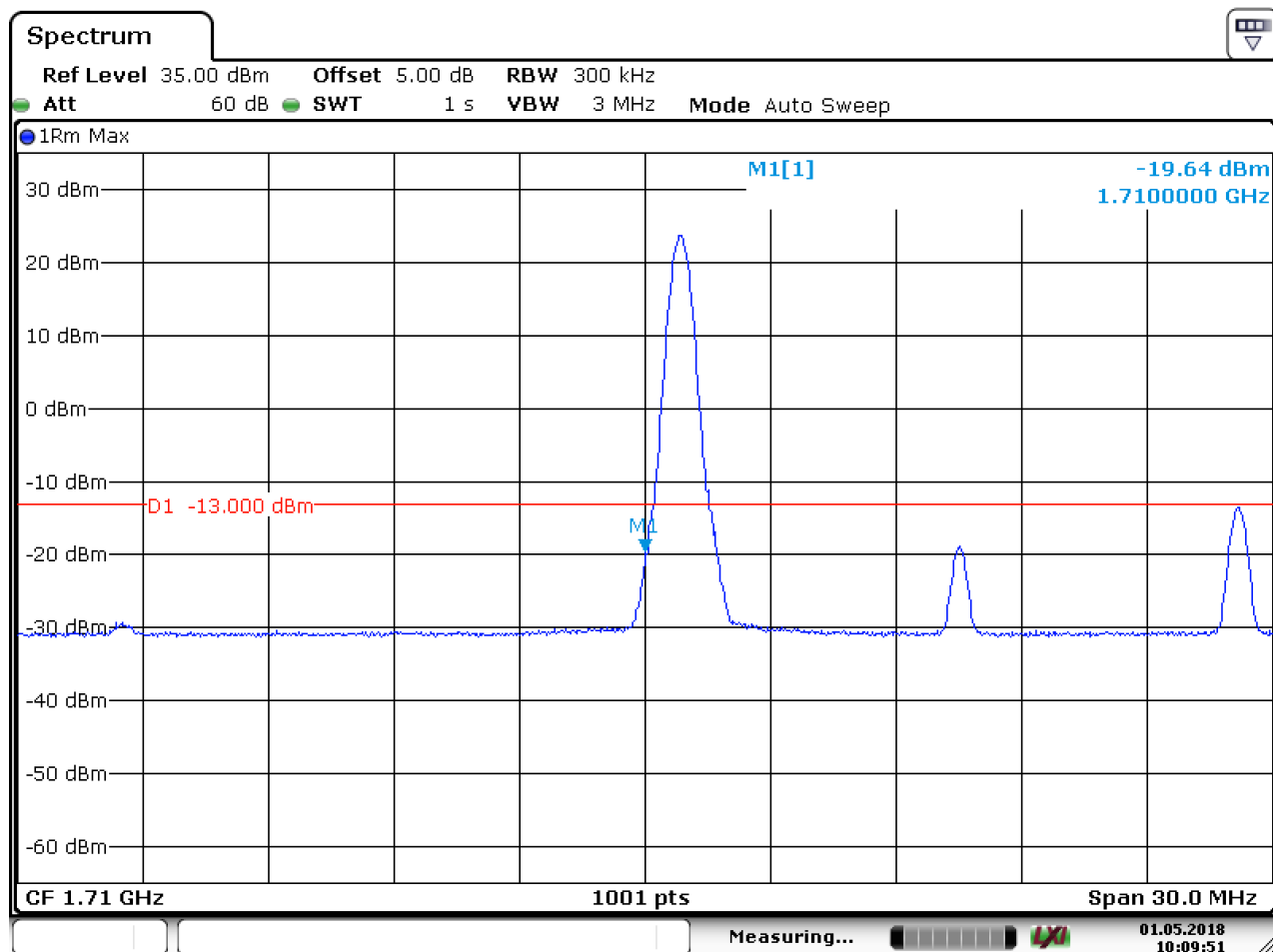


Date: 1.MAY.2018 10:04:13



5.1.1.9 Test Mode = LTE/TM1 15MHz  
5.1.1.9.1 Test Channel = LCH

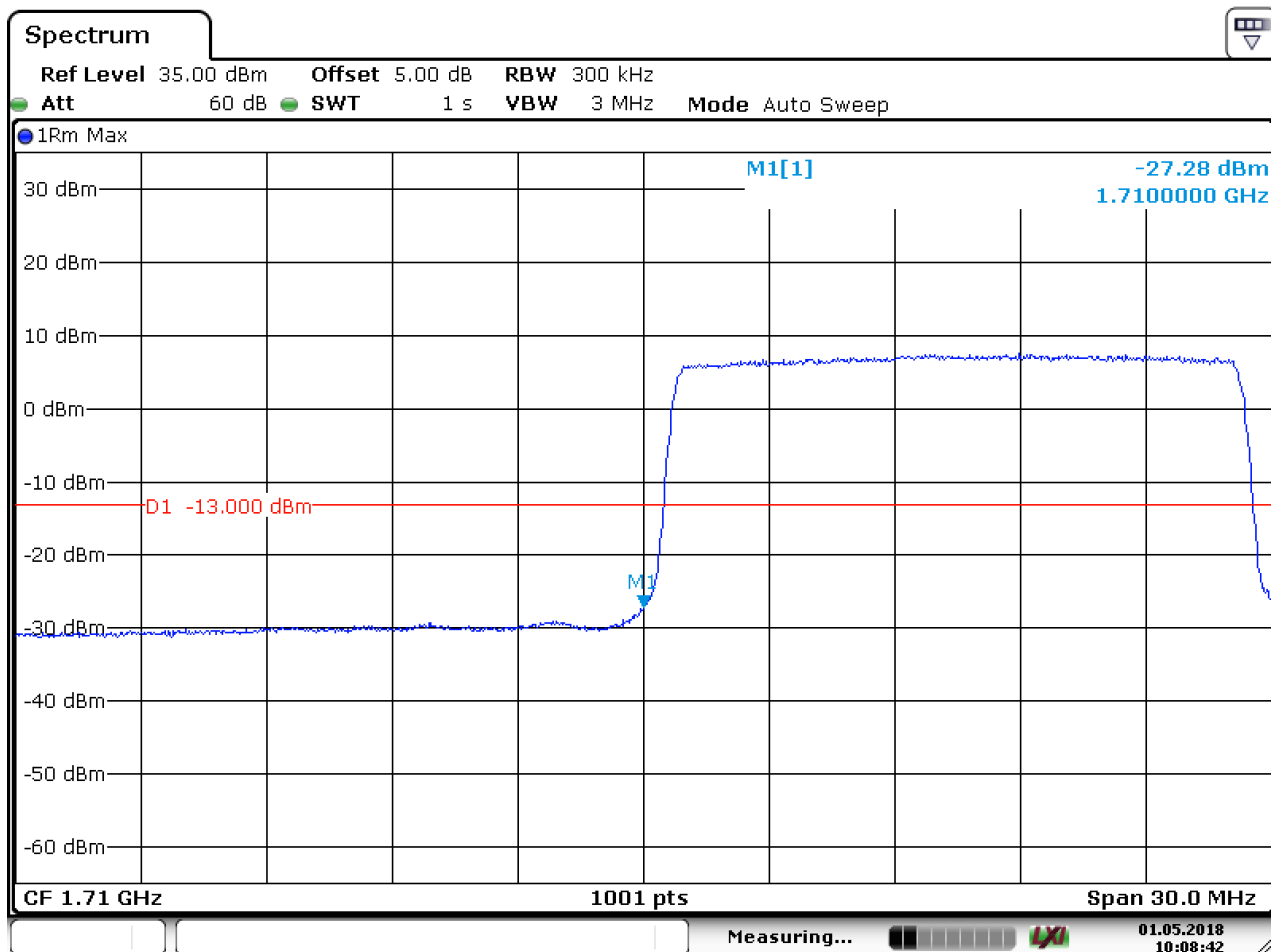
5.1.1.9.1.1 Test RB=1RB



Date: 1.MAY.2018 10:09:52



5.1.1.9.1.2 Test RB=75RB

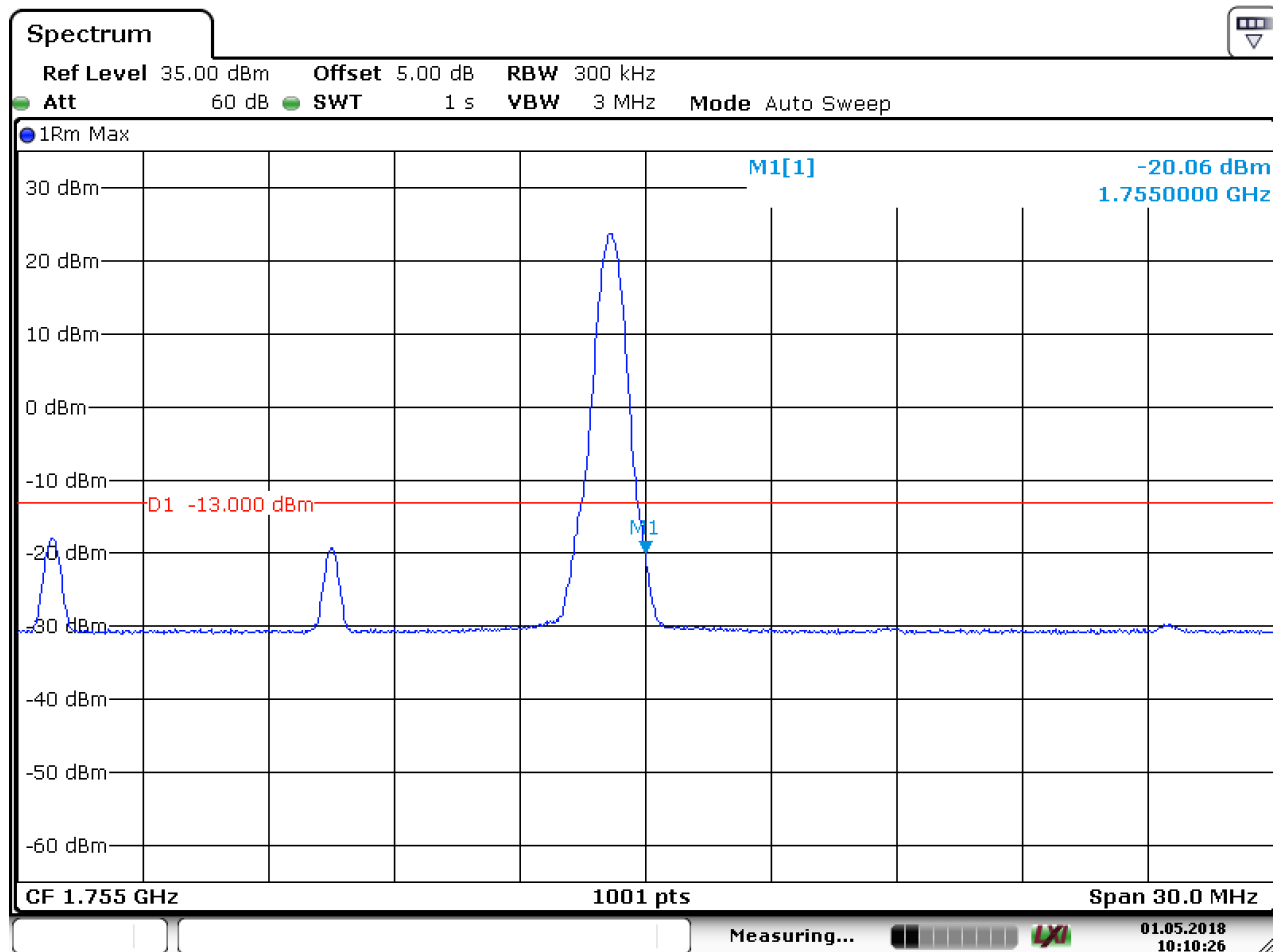


Date: 1.MAY.2018 10:08:43



5.1.1.9.2 Test Channel = HCH

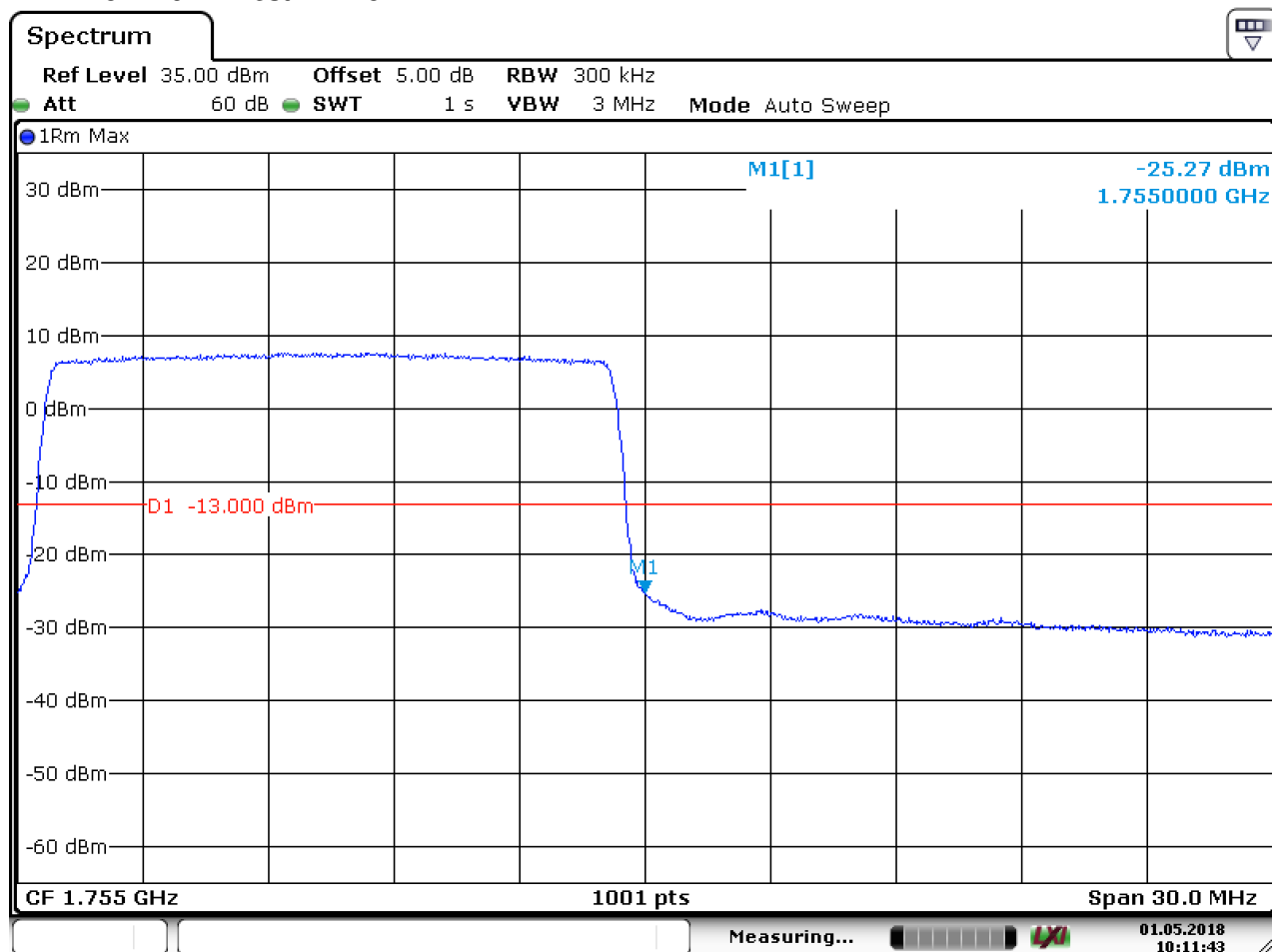
5.1.1.9.2.1 Test RB=1RB



Date: 1.MAY.2018 10:10:26



5.1.1.9.2.2 Test RB=75RB



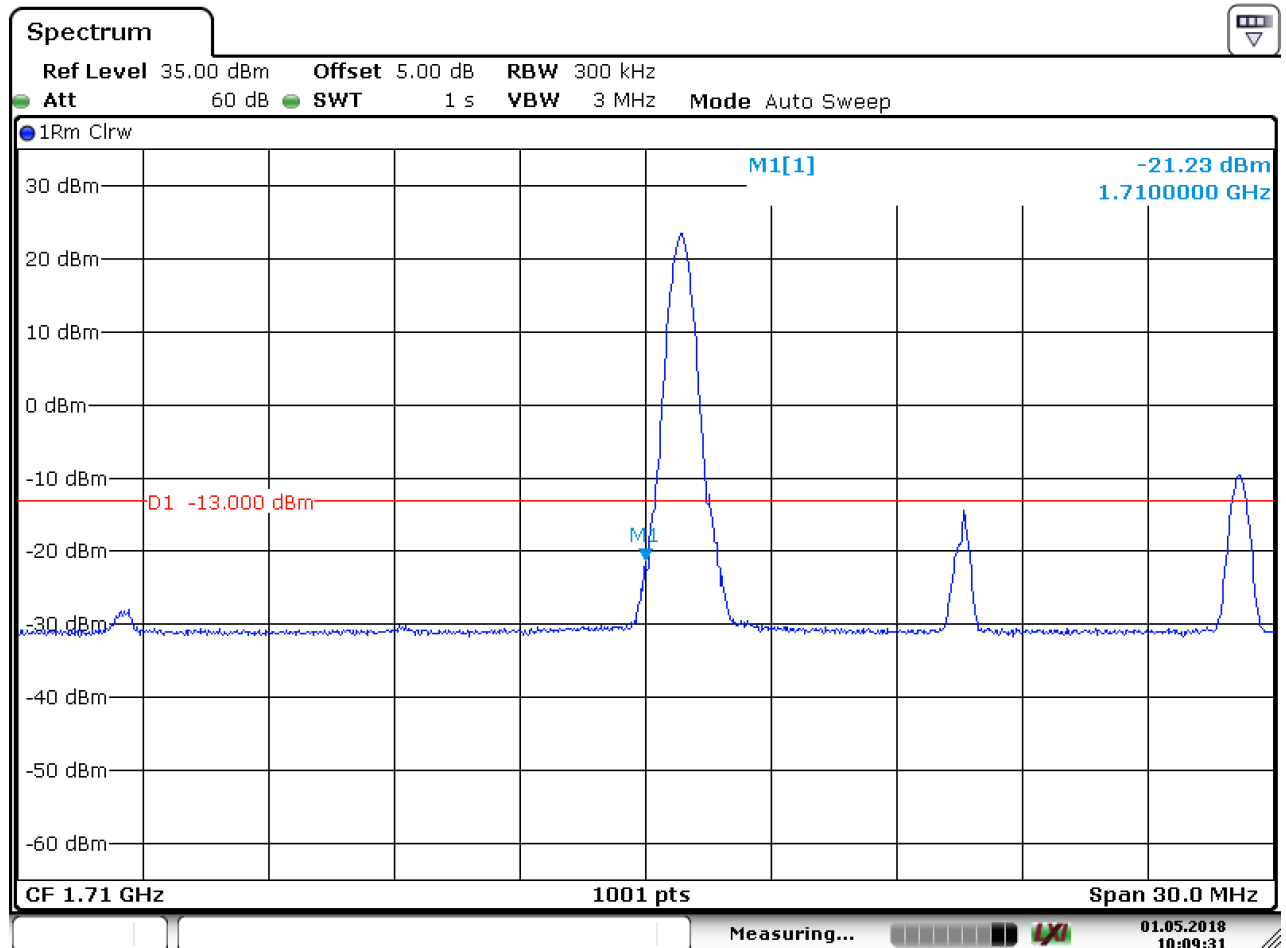
Date: 1.MAY.2018 10:11:43



5.1.1.10 Test Mode = LTE/TM2 15MHz

5.1.1.10.1 Test Channel = LCH

5.1.1.10.1.1 Test RB=1RB

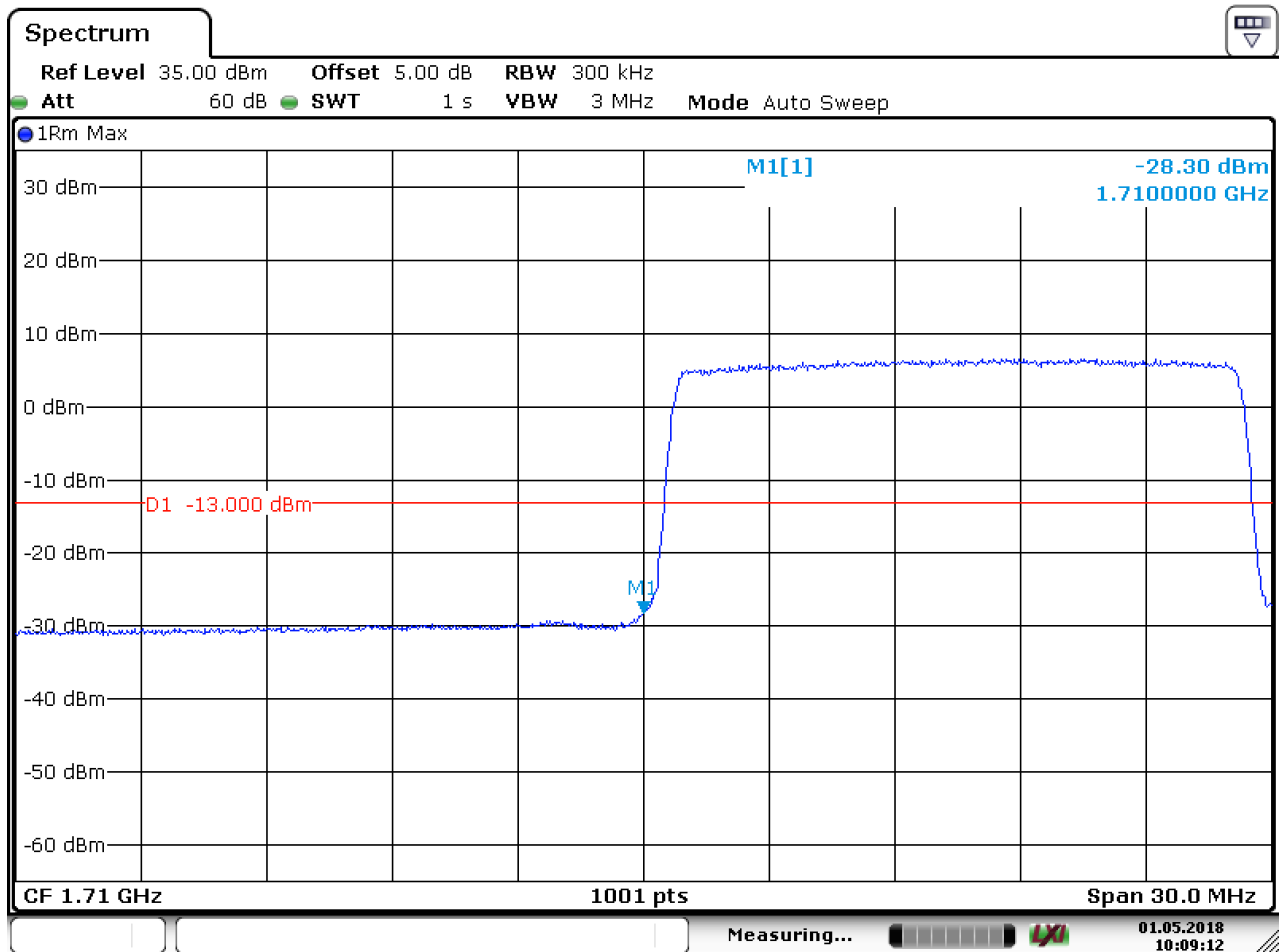


Date: 1.MAY.2018 10:09:31





5.1.1.10.1.2 Test RB=75RB

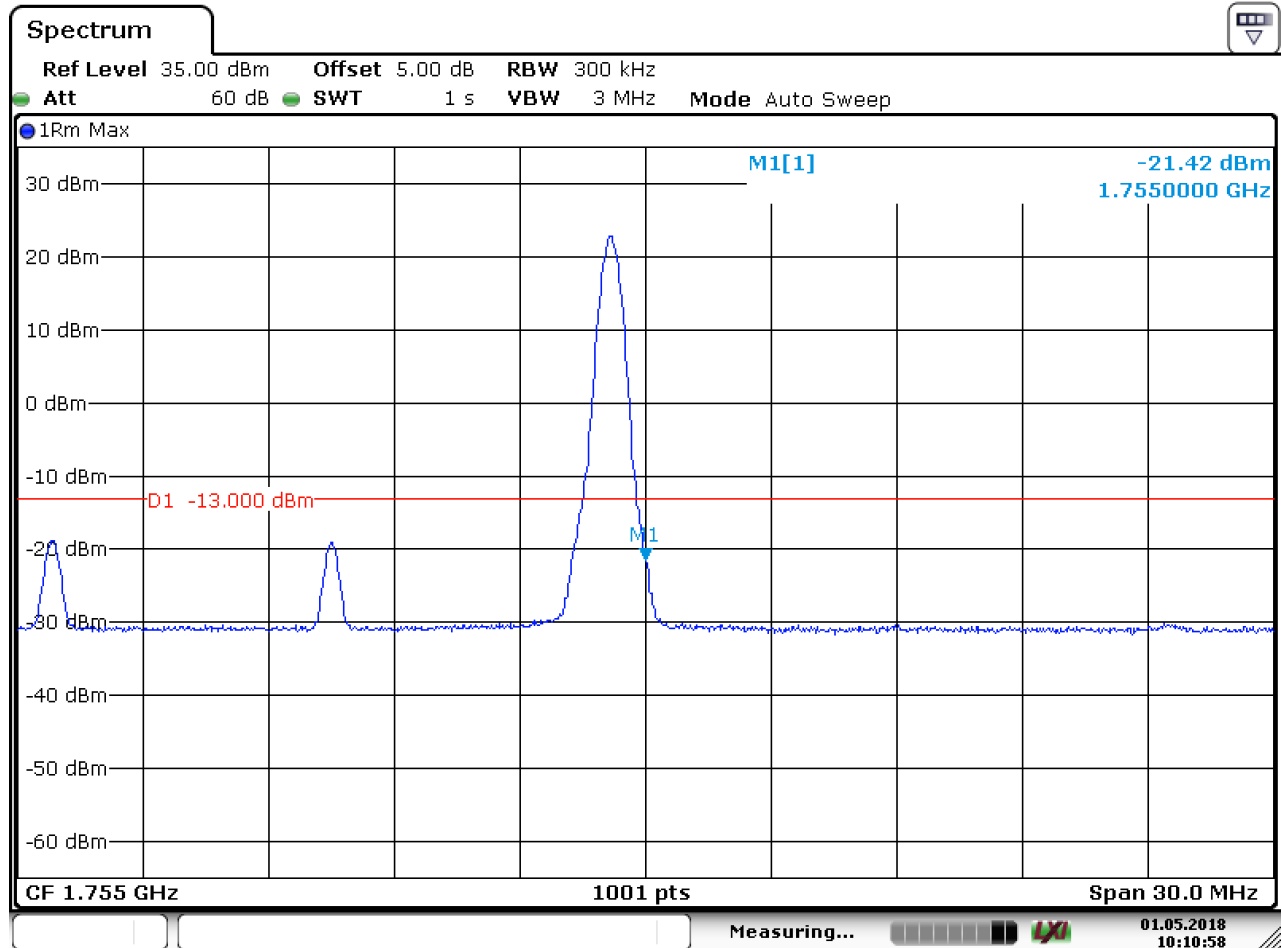


Date: 1.MAY.2018 10:09:12



5.1.1.10.2 Test Channel = HCH

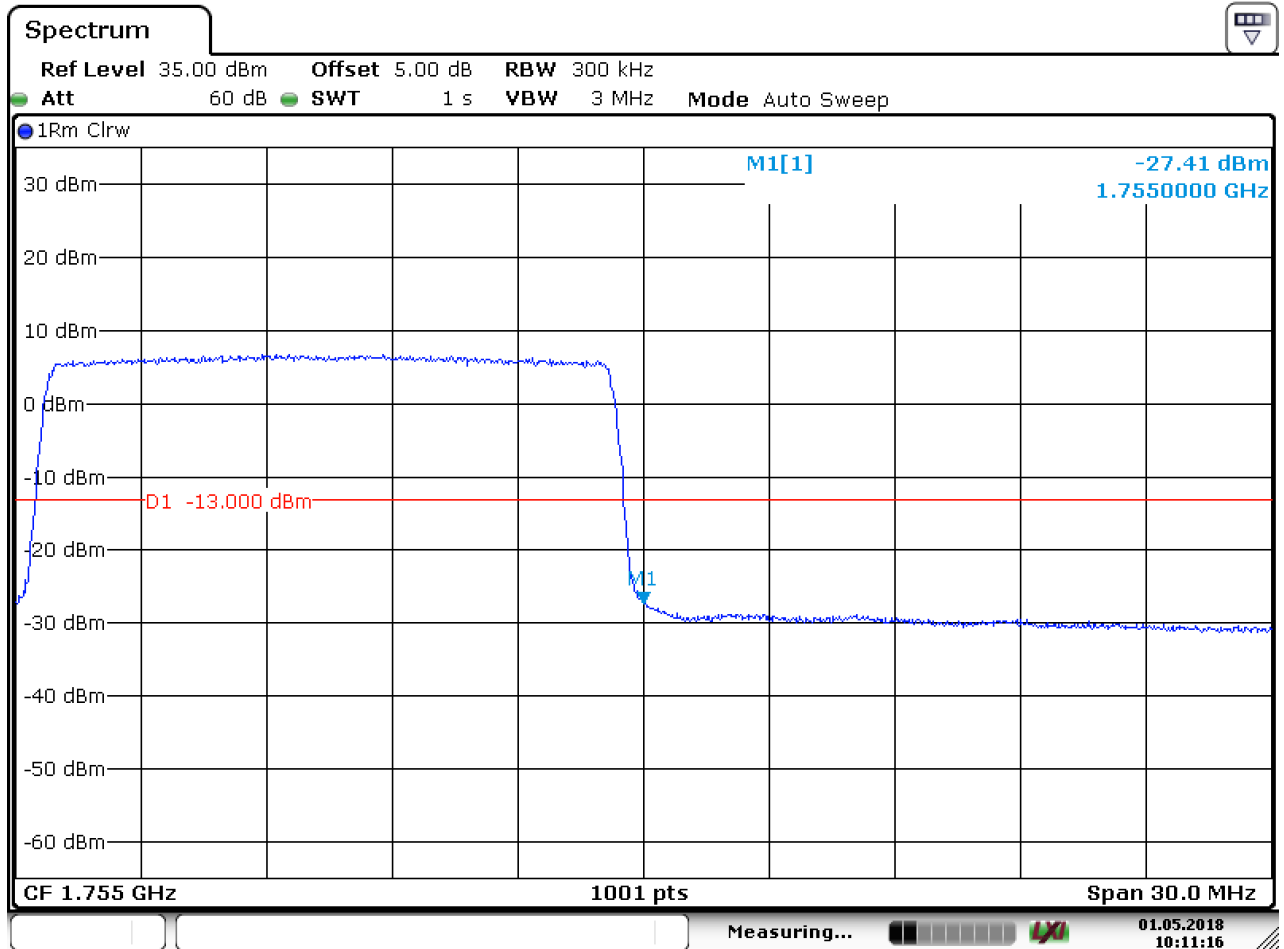
5.1.1.10.2.1 Test RB=1RB



Date: 1.MAY.2018 10:10:58



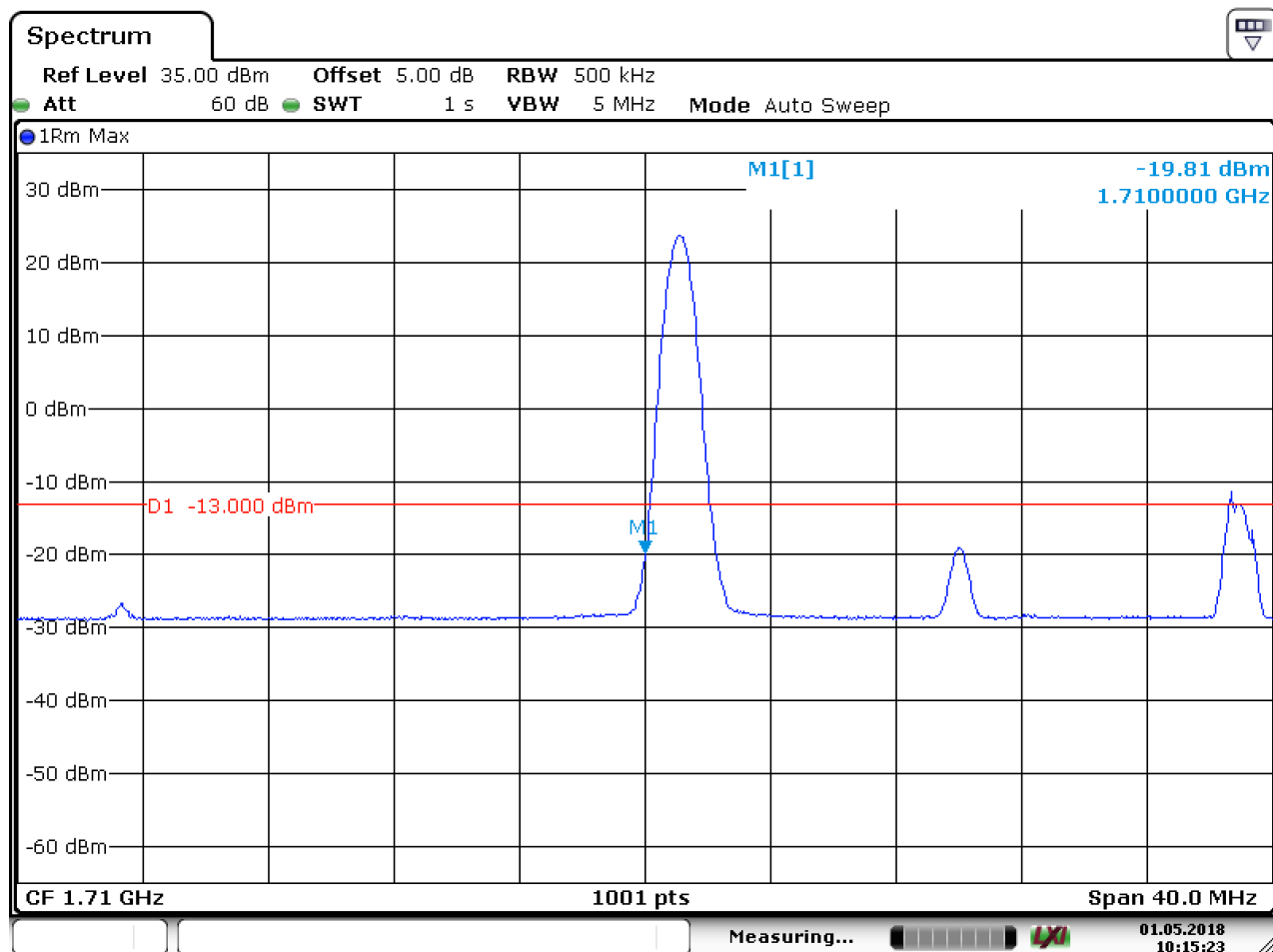
5.1.1.10.2.2 Test RB=75RB



Date: 1.MAY.2018 10:11:17



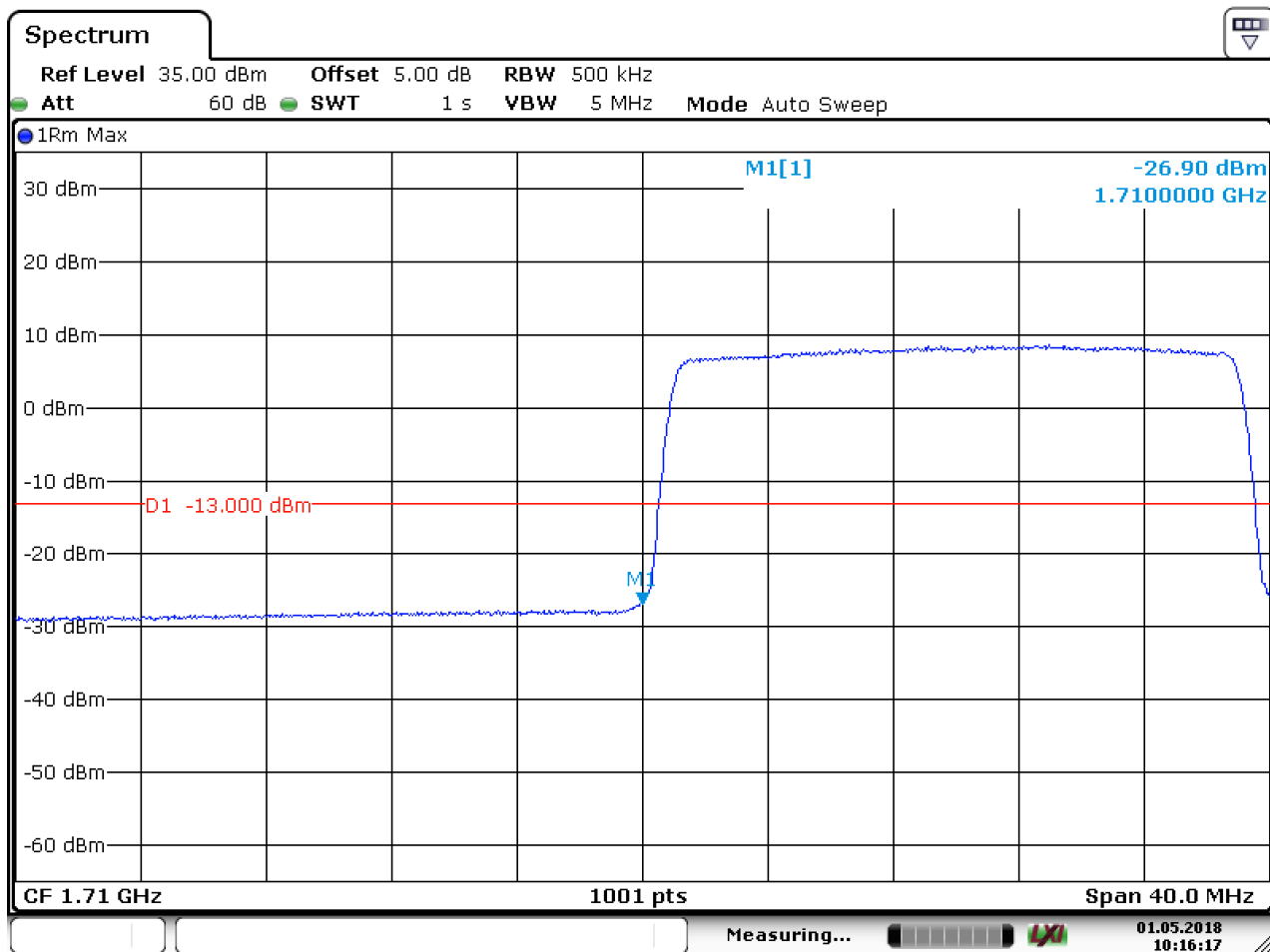
5.1.1.11 Test Mode = LTE/TM1 20MHz  
5.1.1.11.1 Test Channel = LCH  
5.1.1.11.1.1 Test RB=1RB



Date: 1.MAY.2018 10:15:23



5.1.1.11.1.2 Test RB=100RB

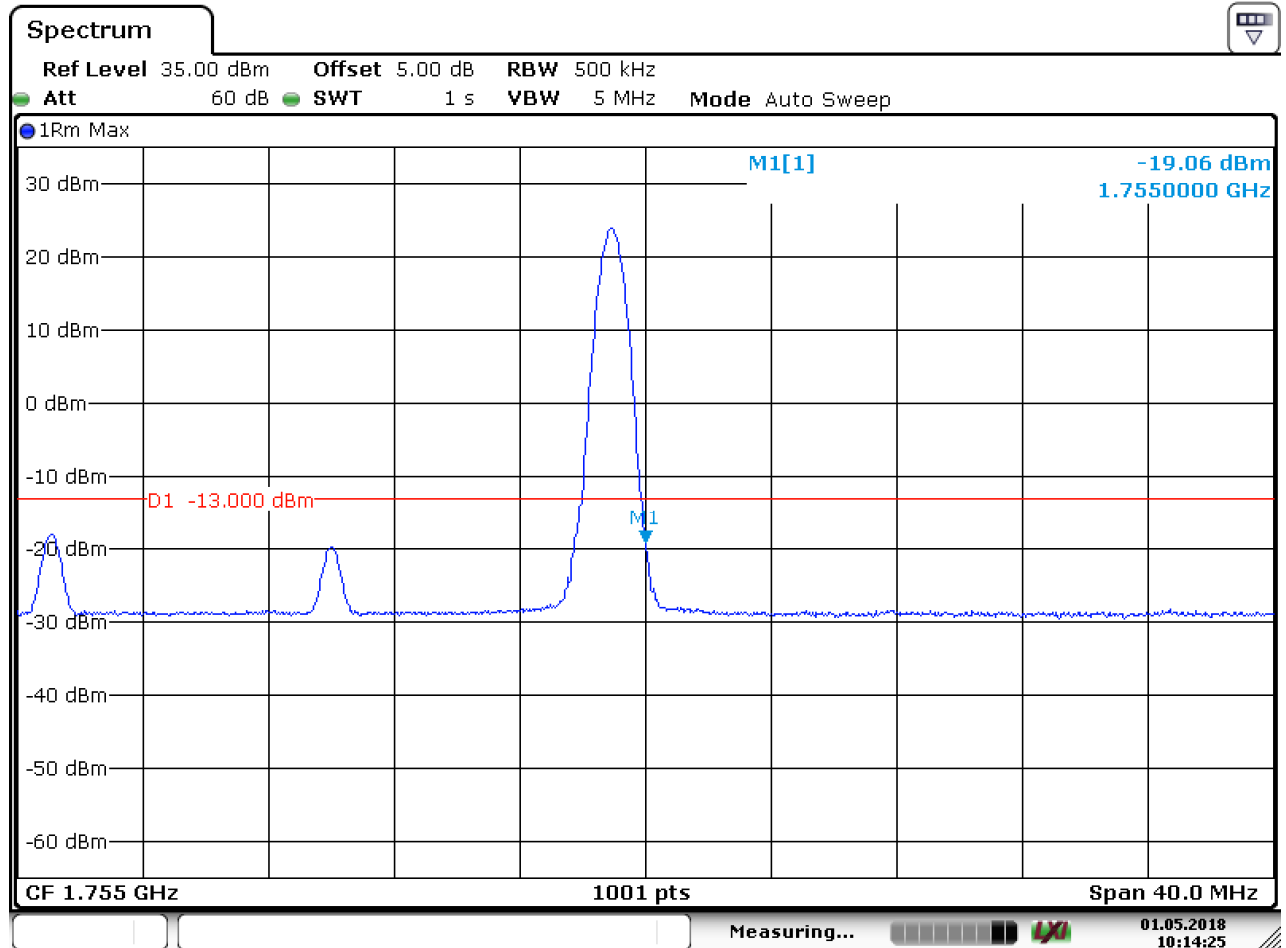


Date: 1.MAY.2018 10:16:17



5.1.1.11.2 Test Channel = HCH

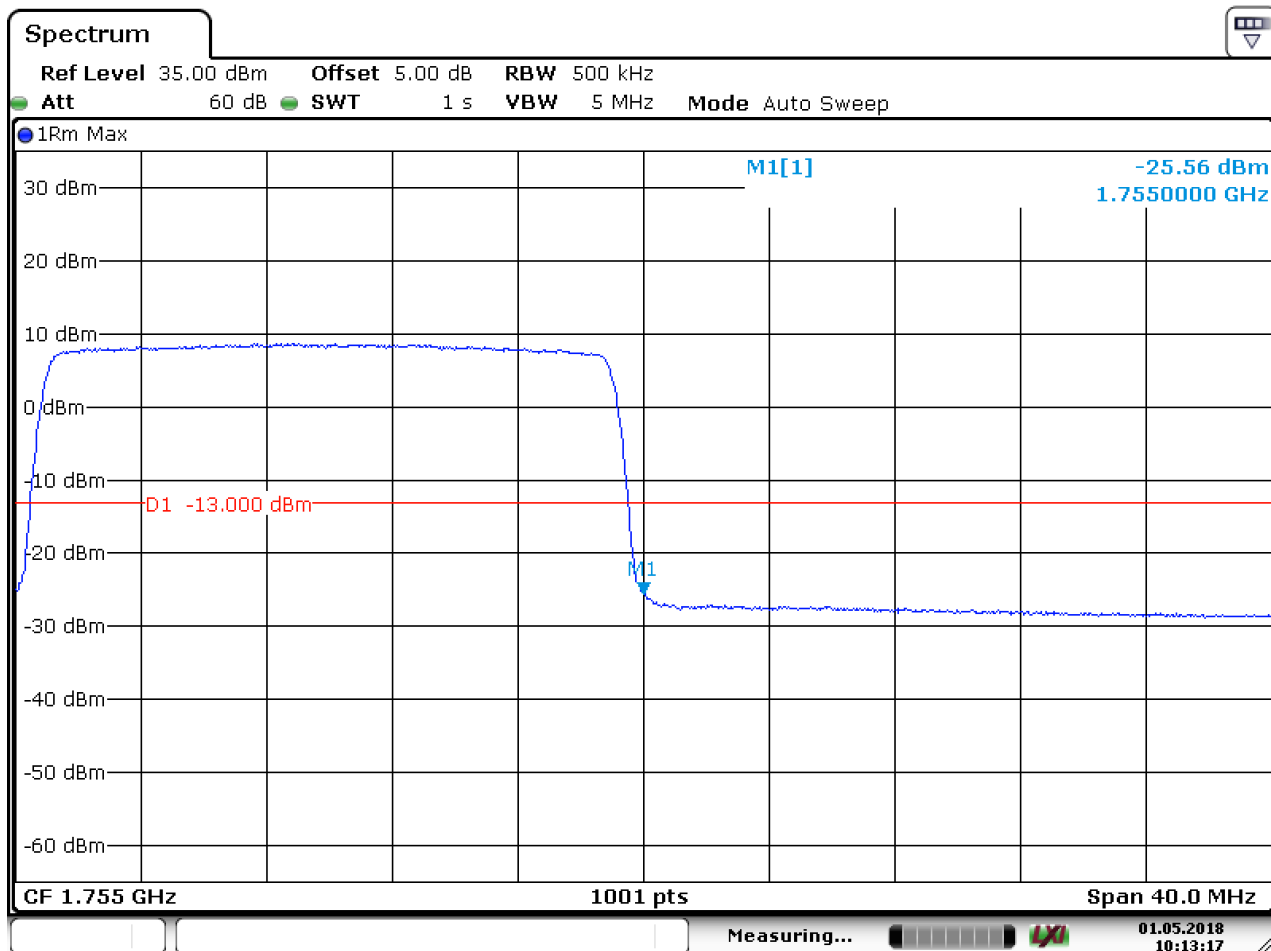
5.1.1.11.2.1 Test RB=1RB



Date: 1.MAY.2018 10:14:25



5.1.1.11.2.2 Test RB=100RB



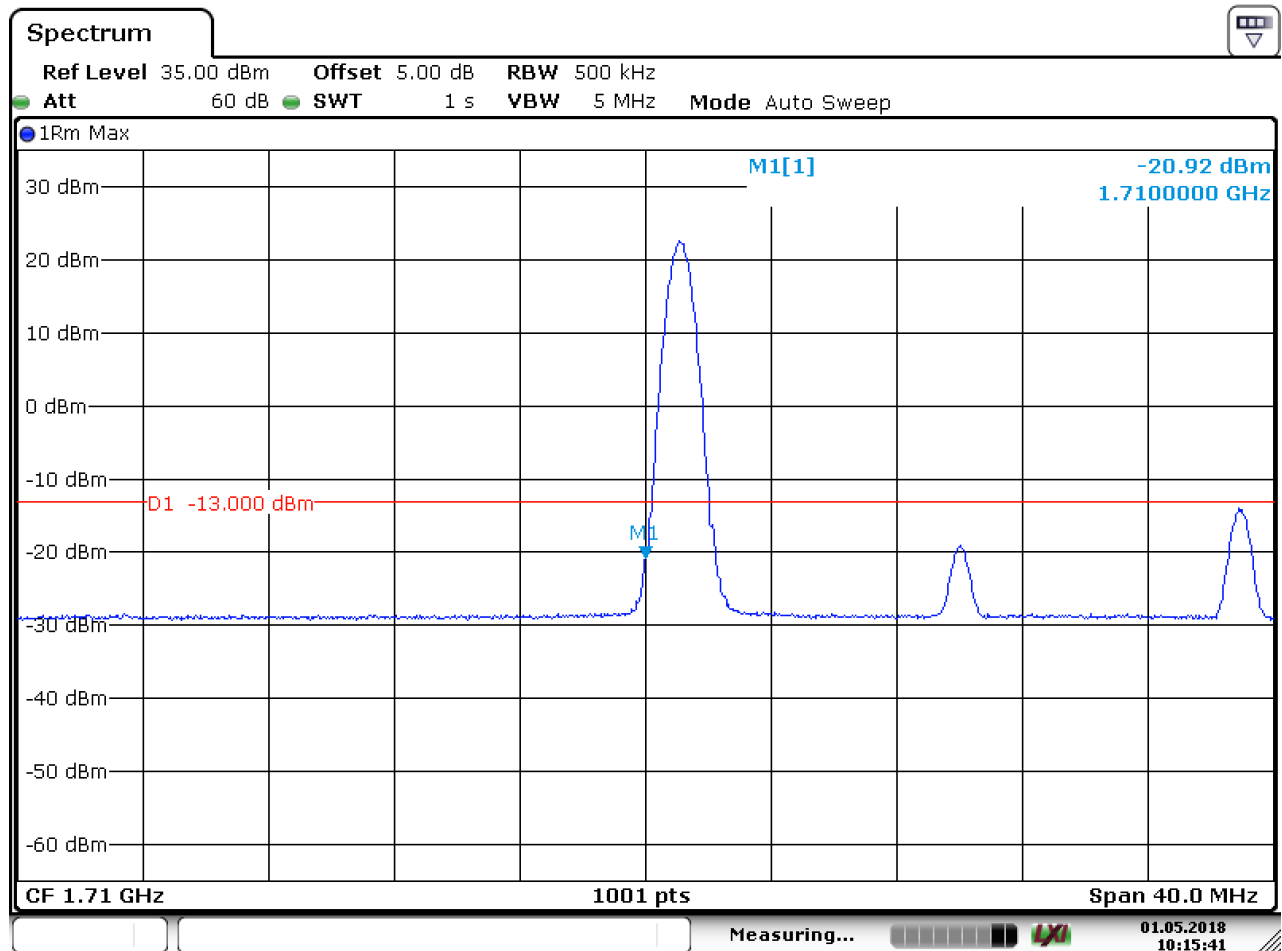
Date: 1.MAY.2018 10:13:18



5.1.1.12 Test Mode = LTE/TM2 20MHz

5.1.1.12.1 Test Channel = LCH

5.1.1.12.1.1 Test RB=1RB

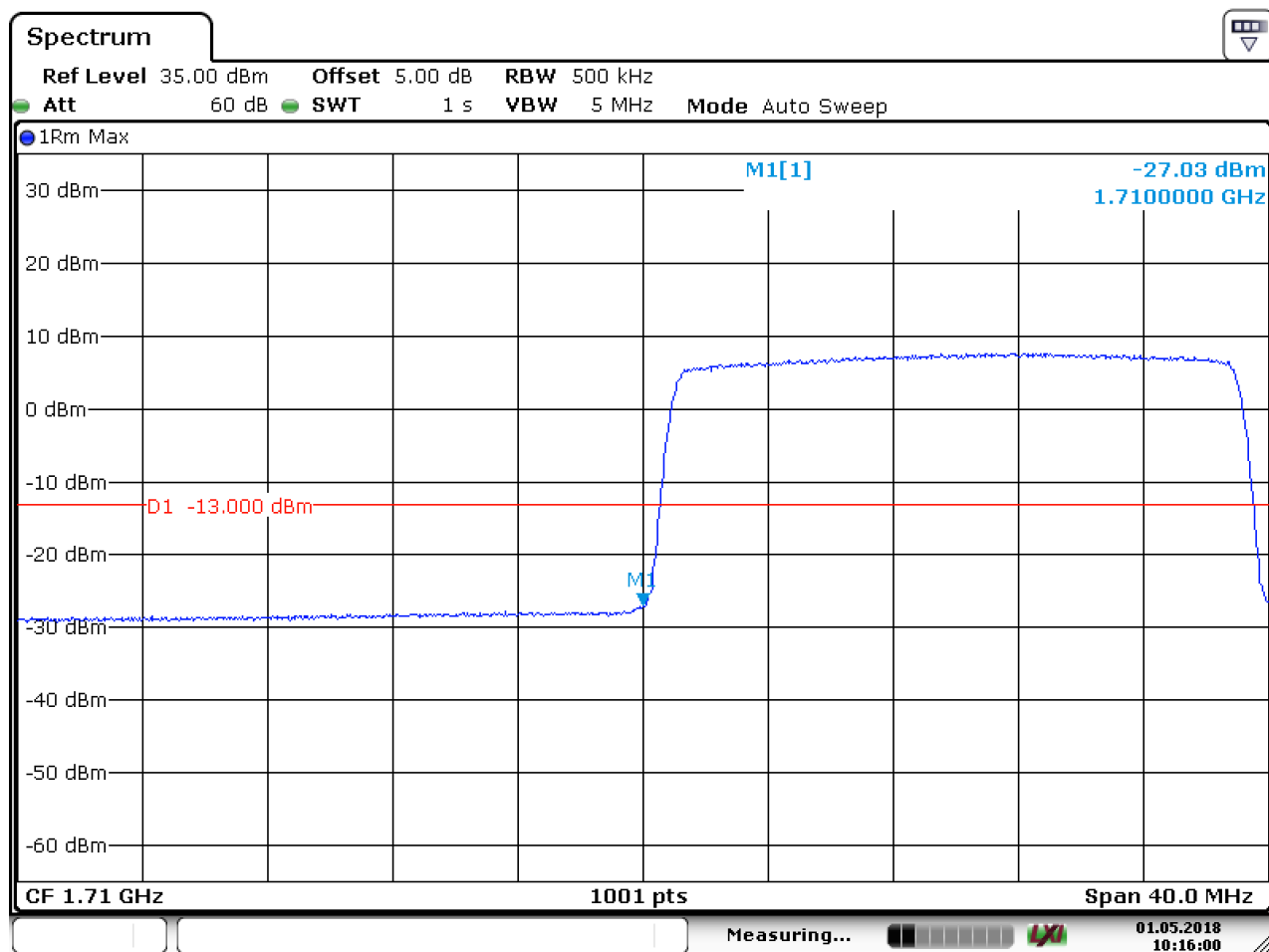


Date: 1.MAY.2018 10:15:42





5.1.12.1.2 Test RB=100RB

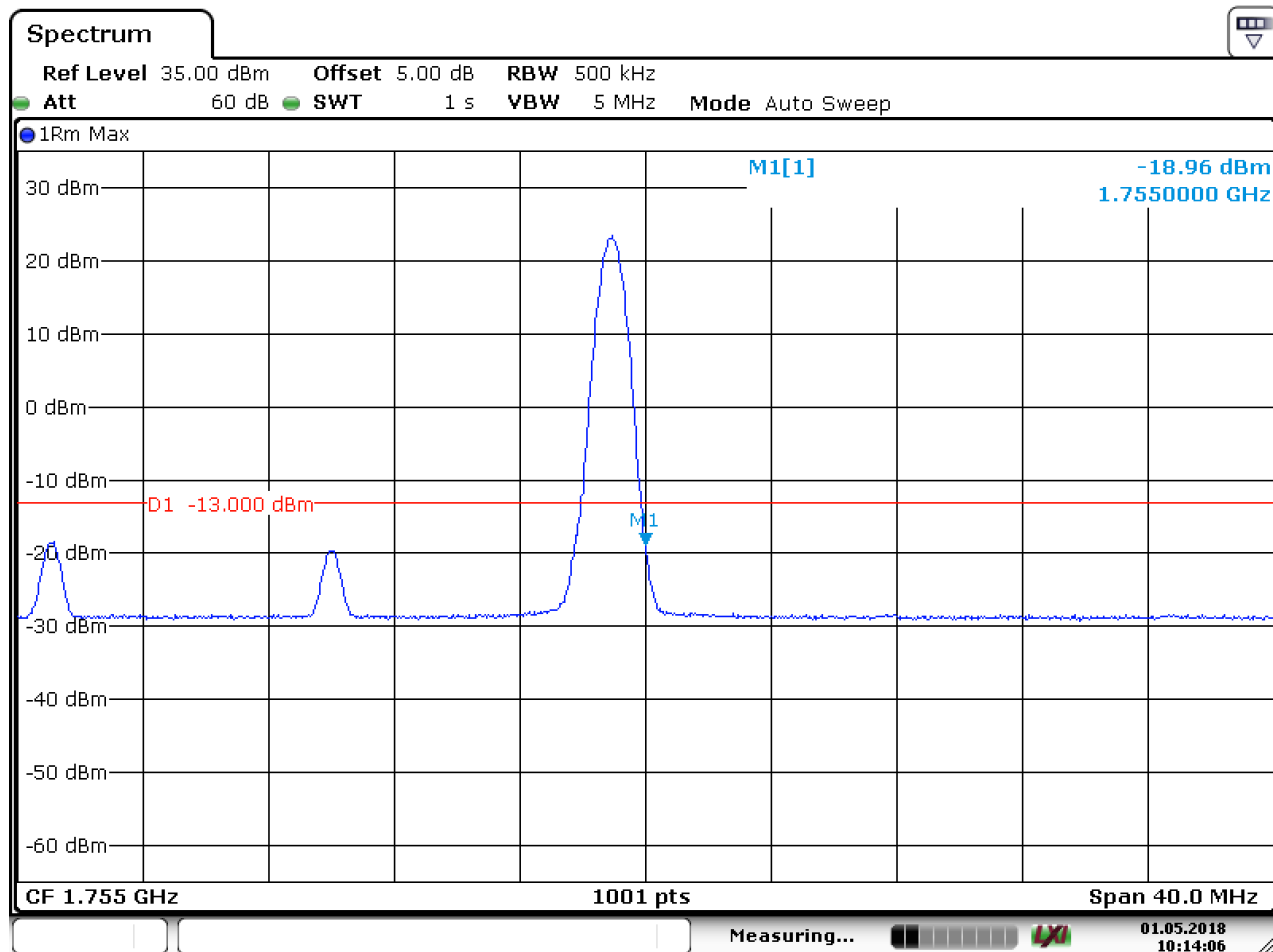


Date: 1.MAY.2018 10:16:00



5.1.1.12.2 Test Channel = HCH

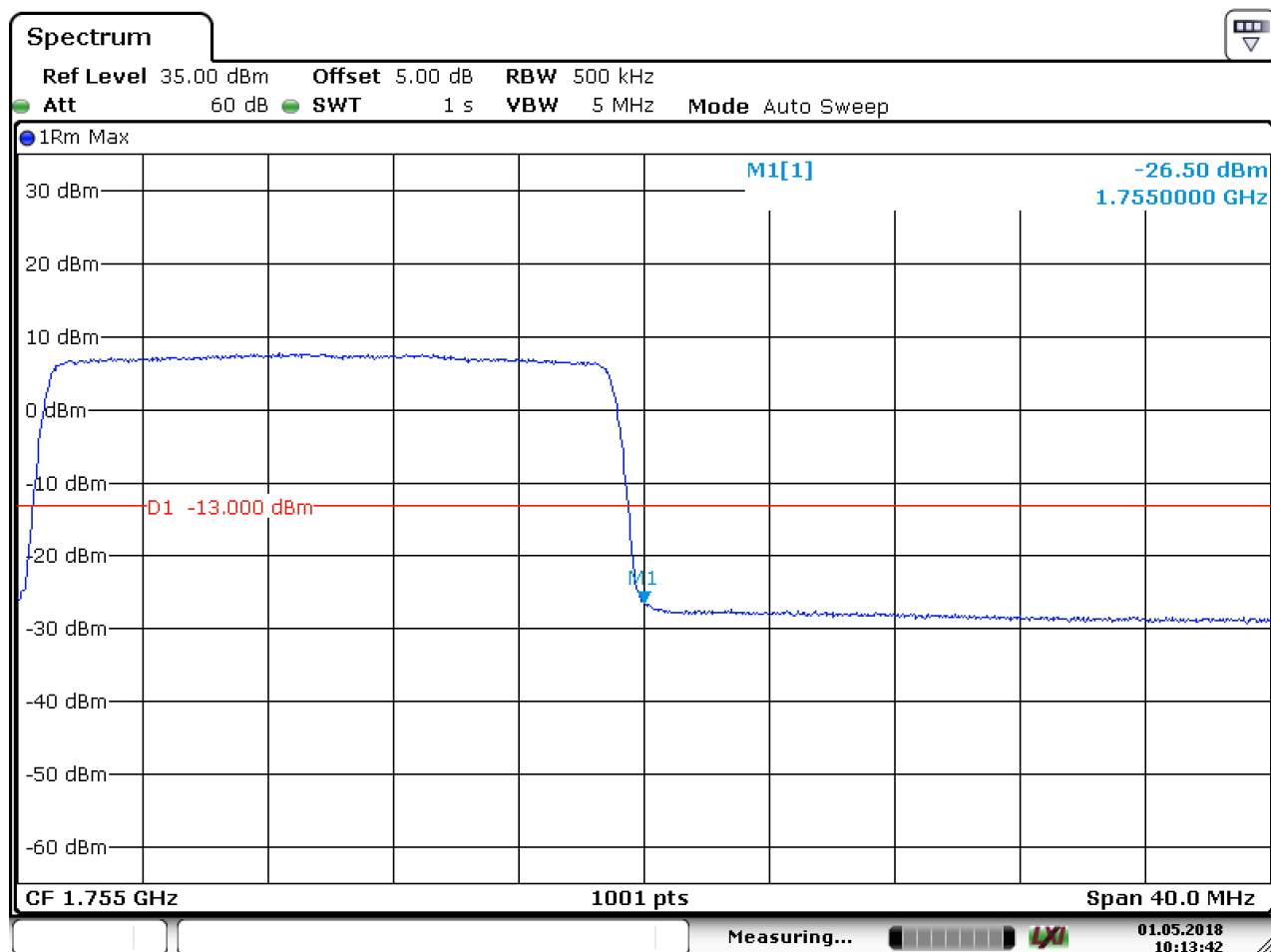
5.1.1.12.2.1 Test RB=1RB



Date: 1.MAY.2018 10:14:06



5.1.1.12.2.2 Test RB=100RB



Date: 1.MAY.2018 10:13:42

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

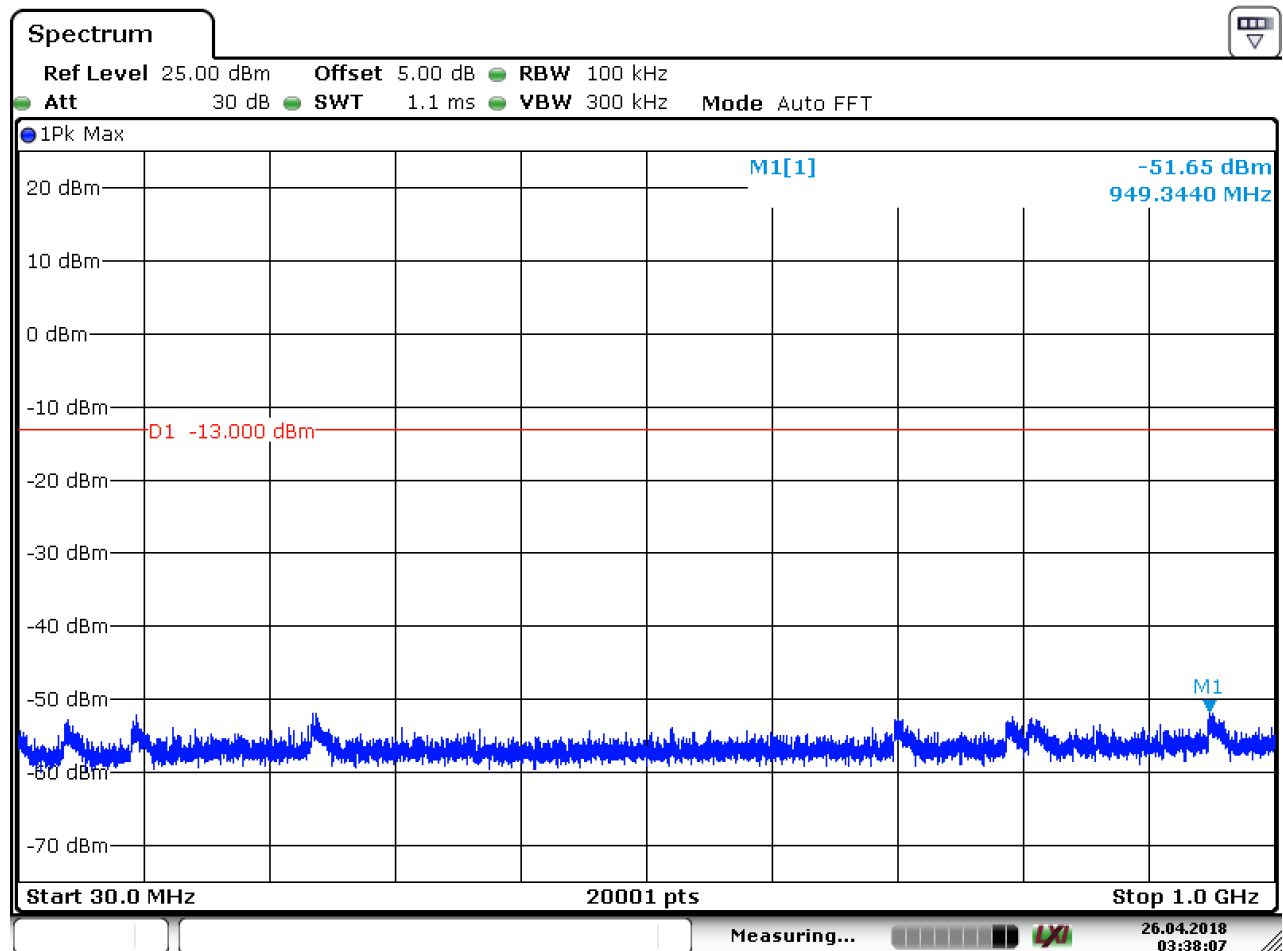
Part I - Test Plots

### 6.1 For LTE

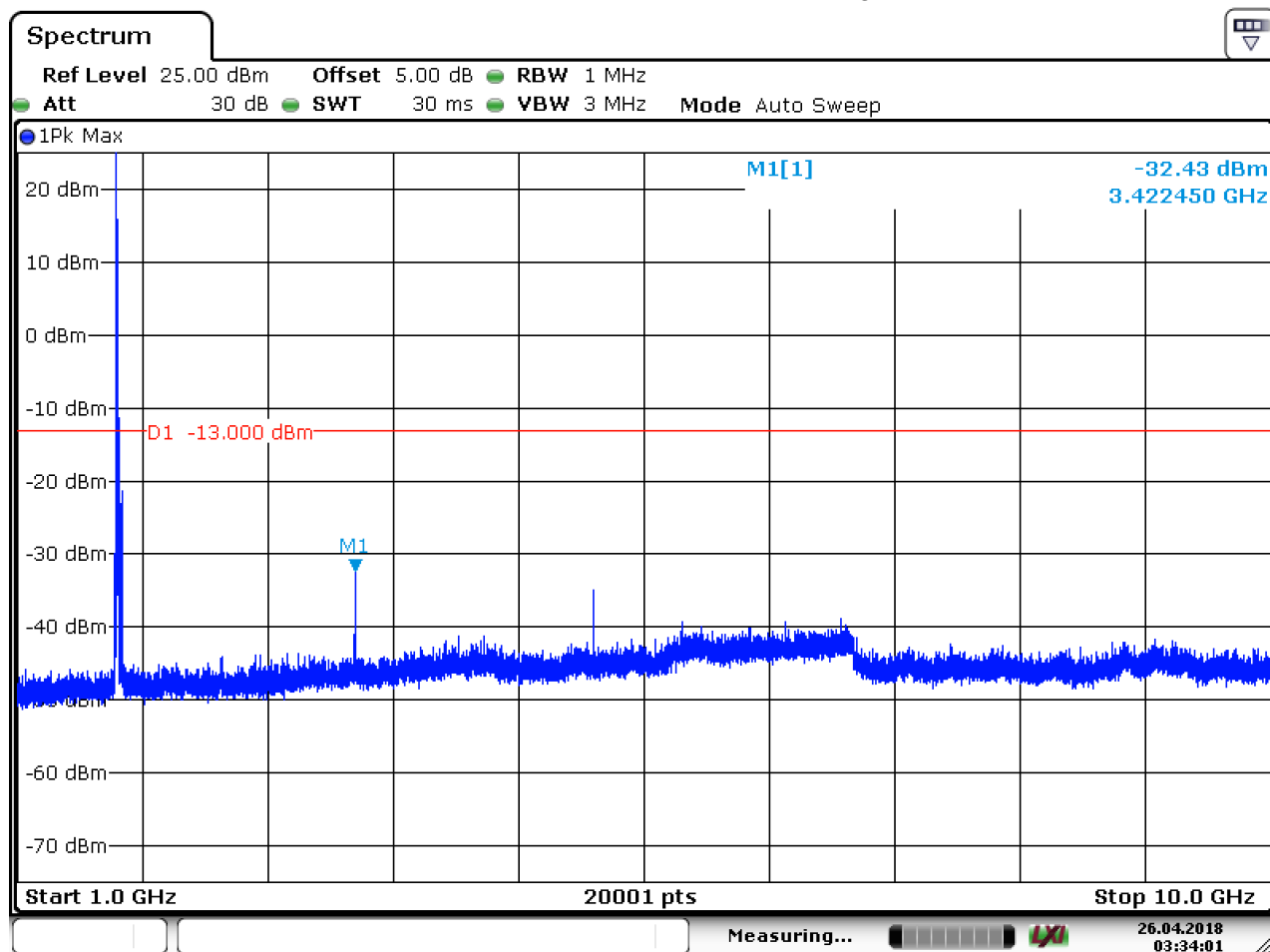
#### 6.1.1 Test Band = LTE band4

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

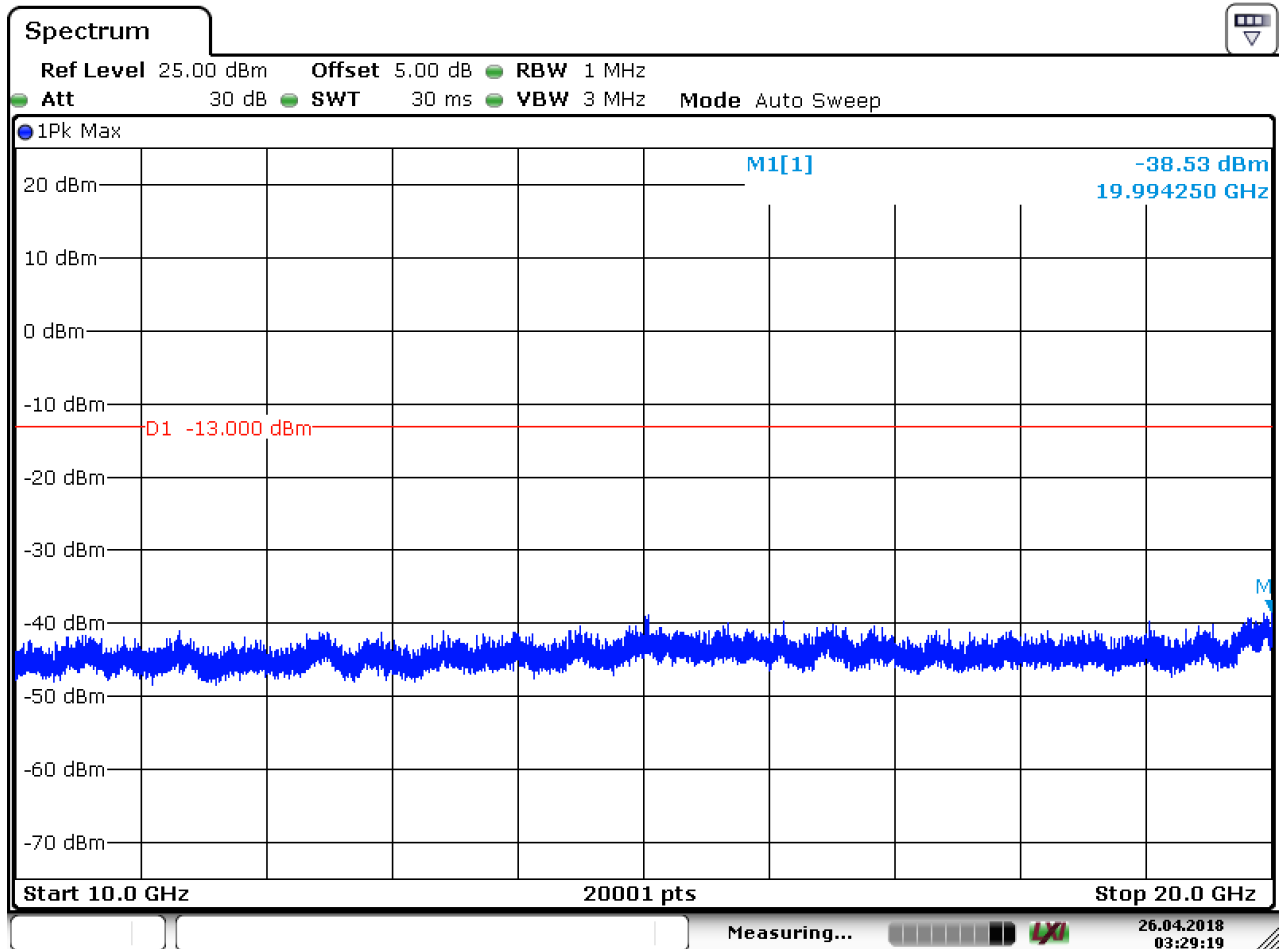
##### 6.1.1.1.1 Test Channel = LCH



Date: 26.APR.2018 03:38:07



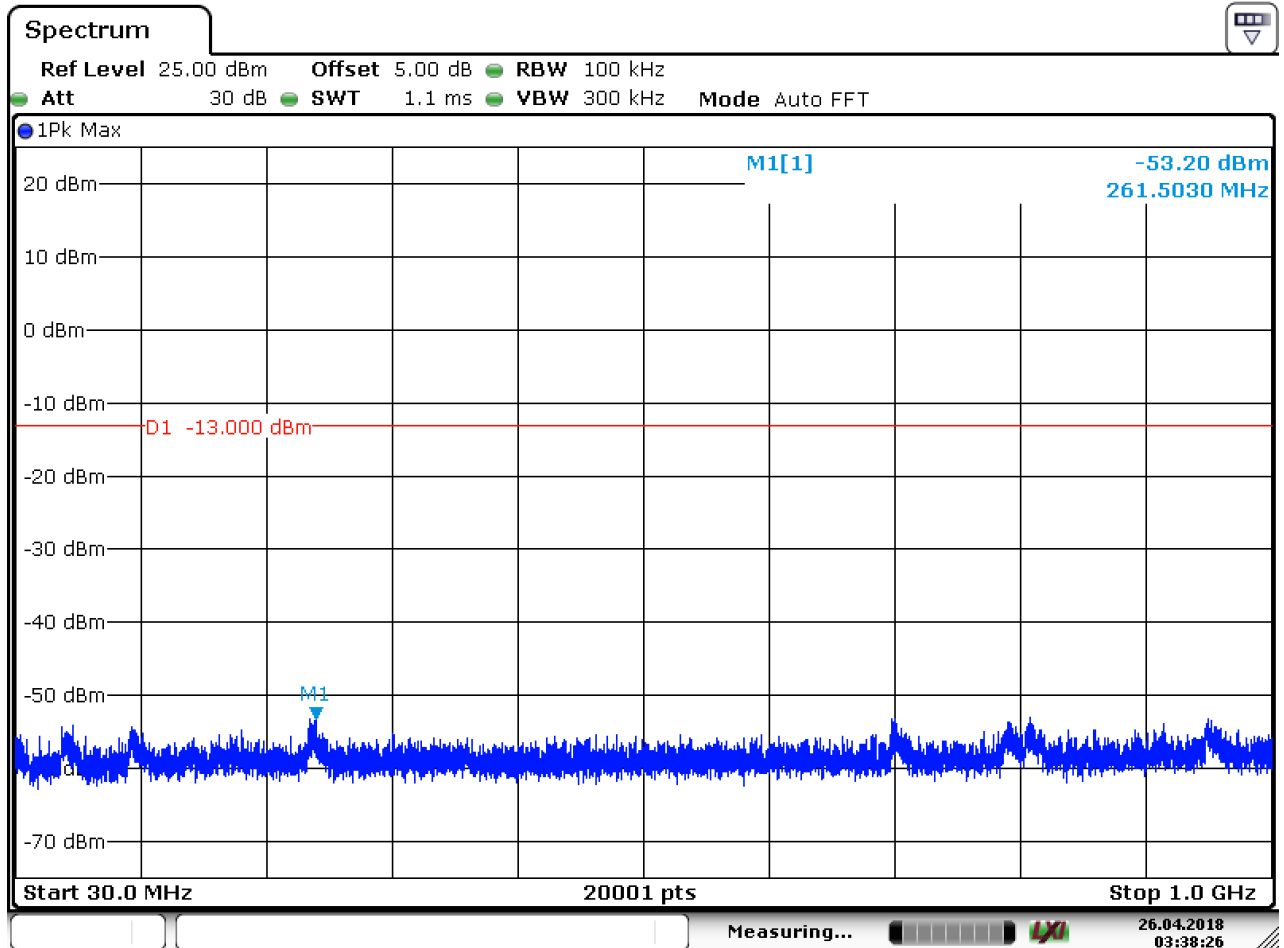
Date: 26.APR.2018 03:34:02



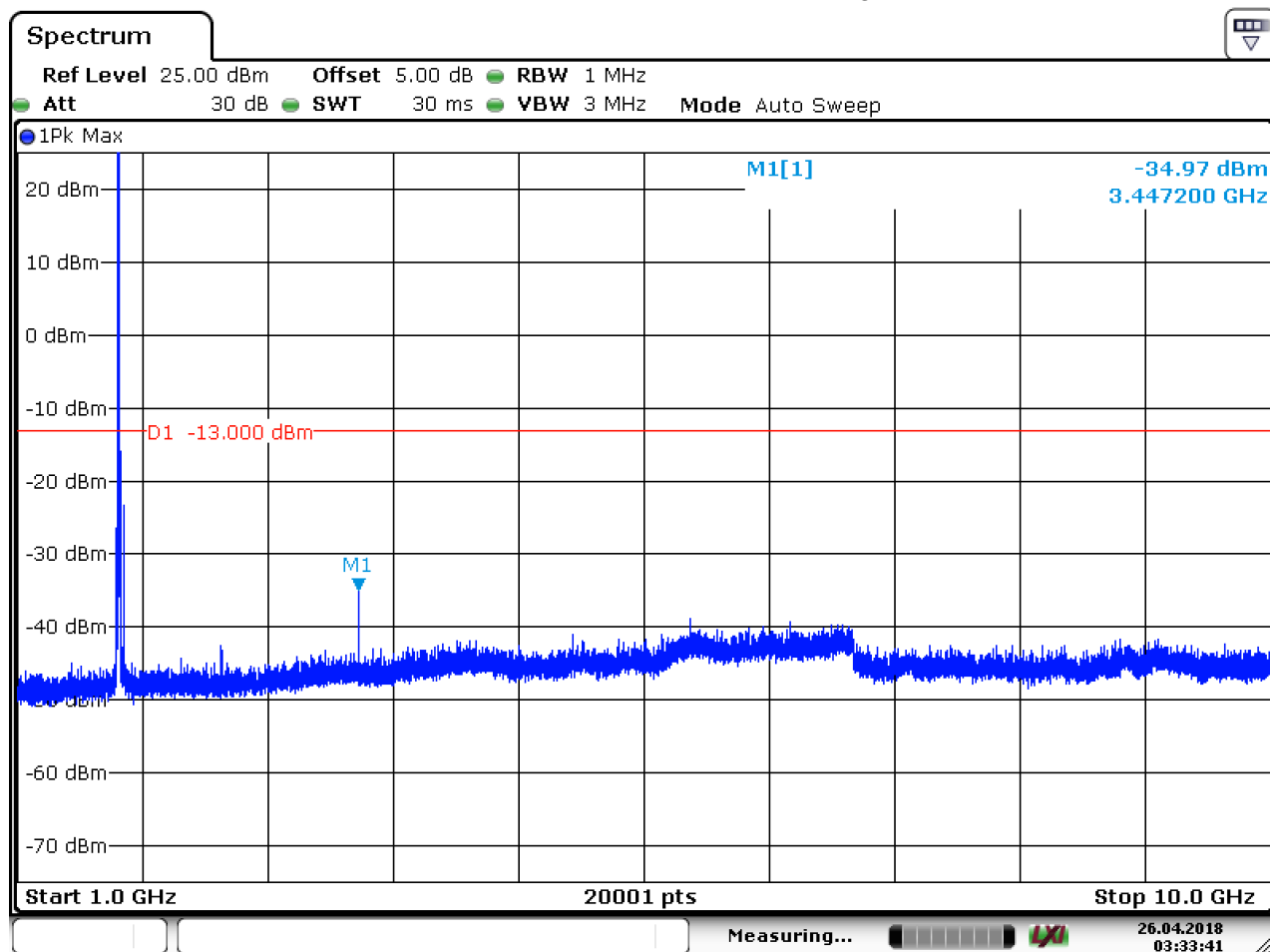
Date: 26.APR.2018 03:29:20



6.1.1.1.2 Test Channel = MCH

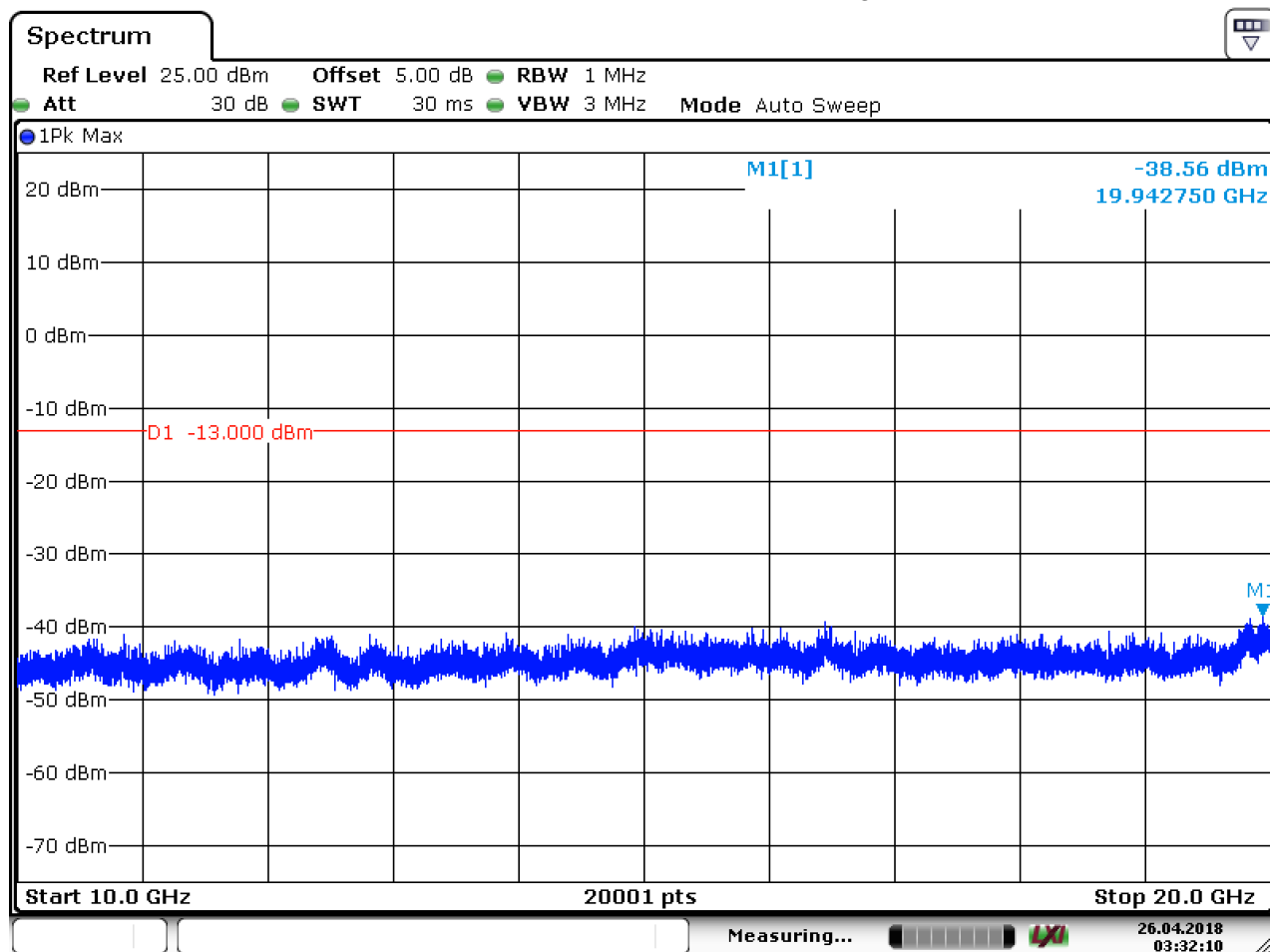


Date: 26.APR.2018 03:38:27



Date: 26.APR.2018 03:33:41

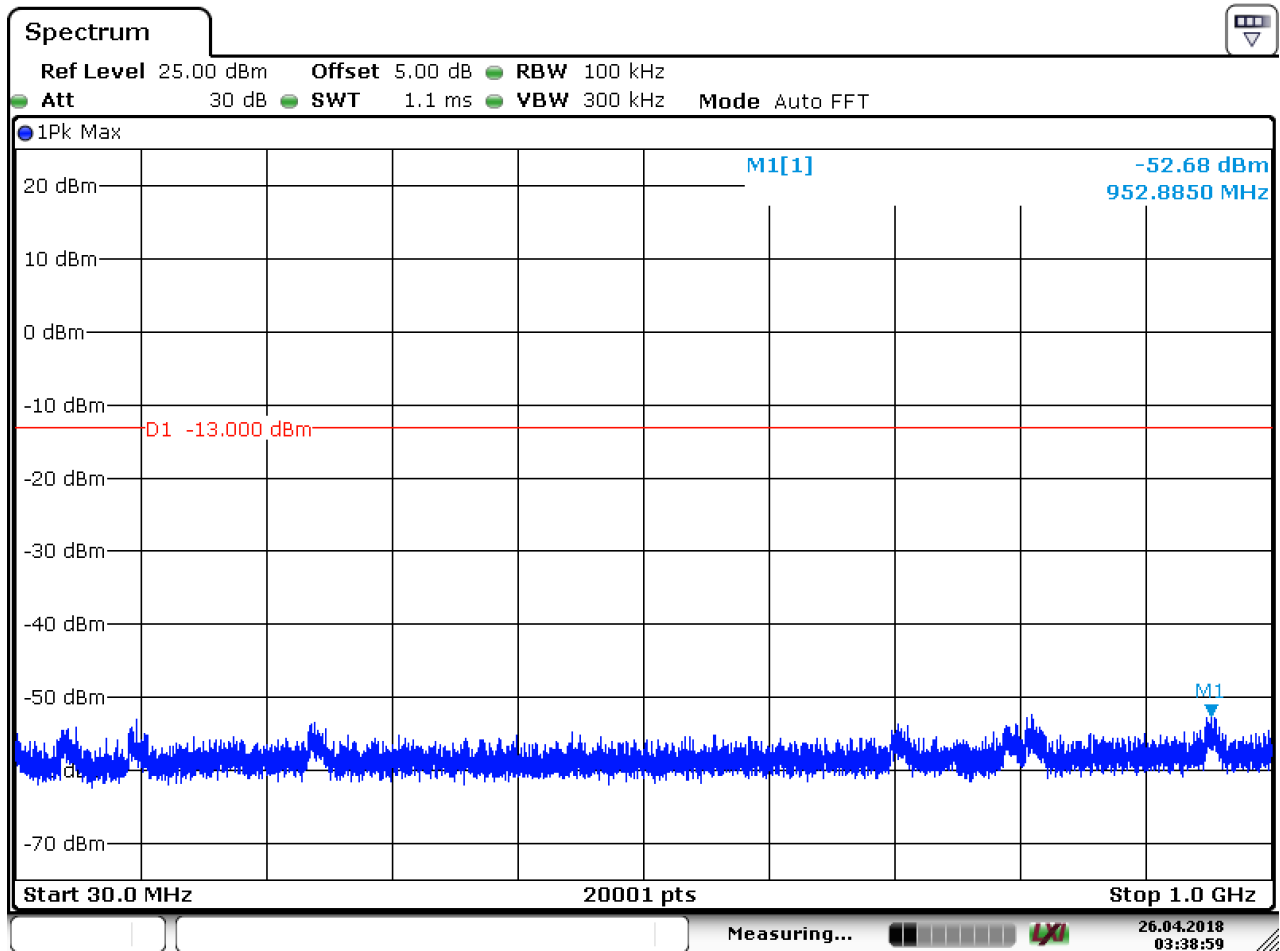




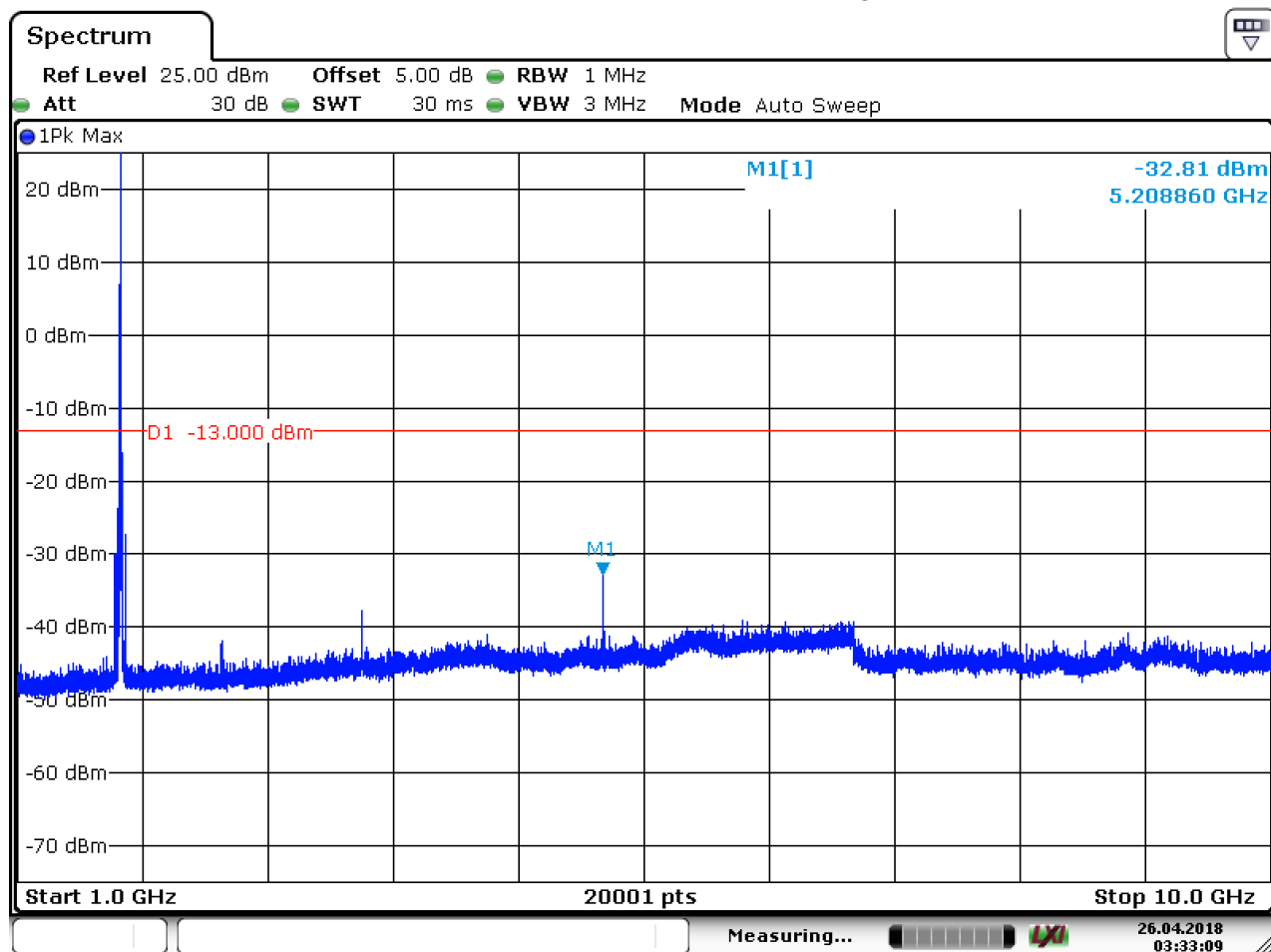
Date: 26.APR.2018 03:32:10



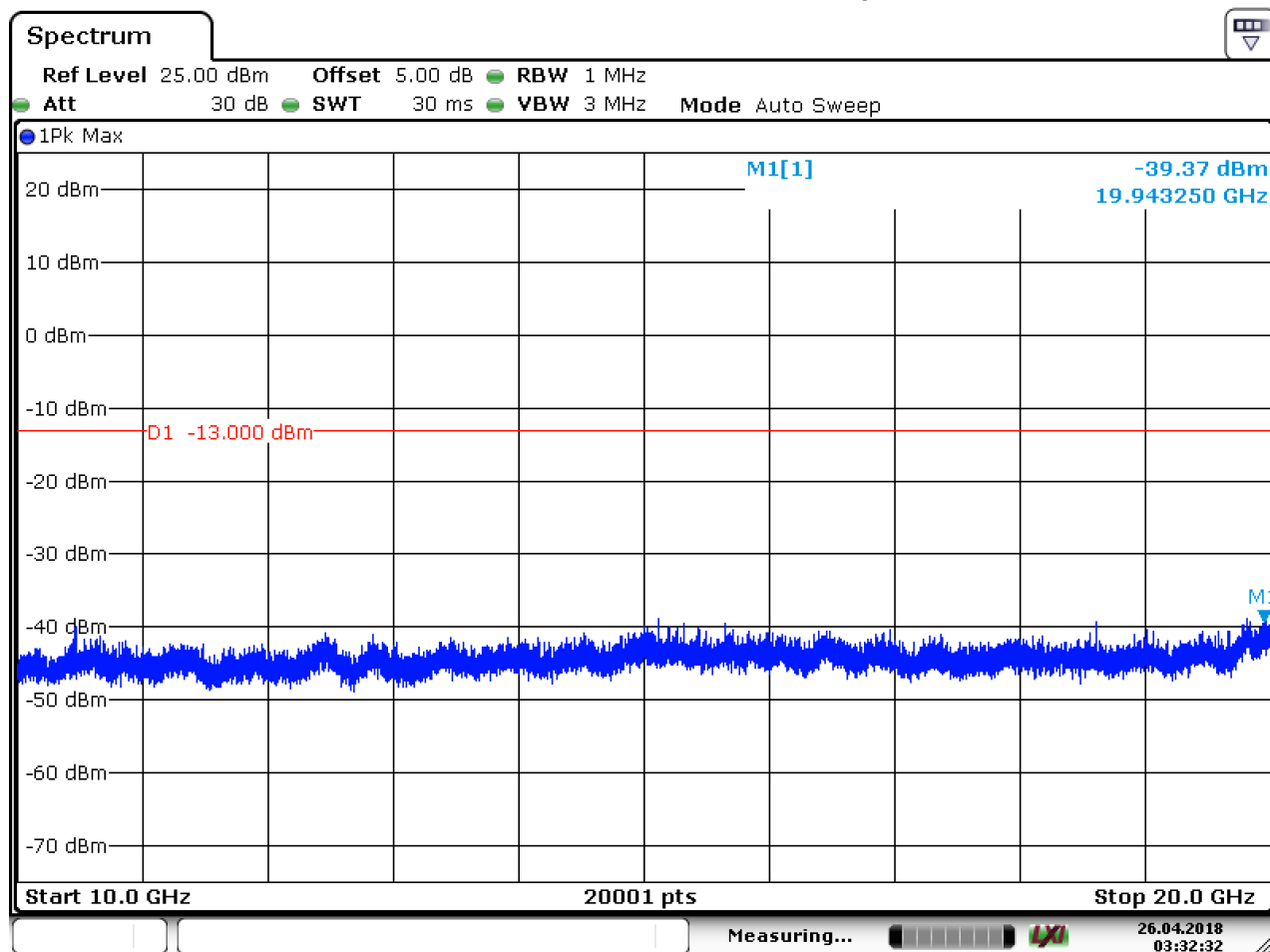
6.1.1.1.3 Test Channel = HCH



Date: 26.APR.2018 03:39:00



Date: 26.APR.2018 03:33:09



Date: 26.APR.2018 03:32:33



## 7 Field Strength of Spurious Radiation

### 7.1 For LTE

#### 7.1.1 Test Band = LTE band4

##### 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
63.900000	-82.35	-13.00	69.35	Vertical
144.000000	-70.12	-13.00	57.12	Vertical
288.000000	-79.65	-13.00	66.65	Vertical
3421.850000	-58.52	-13.00	45.52	Vertical
5132.975000	-54.76	-13.00	41.76	Vertical
8555.550000	-59.88	-13.00	46.88	Vertical
62.650000	-78.21	-13.00	65.21	Horizontal
144.000000	-73.41	-13.00	60.41	Horizontal
288.050000	-81.42	-13.00	68.42	Horizontal
3421.850000	-60.79	-13.00	47.79	Horizontal
5133.300000	-63.36	-13.00	50.36	Horizontal
8555.550000	-48.53	-13.00	35.53	Horizontal

###### 7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
72.300000	-77.01	-13.00	64.01	Vertical
144.000000	-70.59	-13.00	57.59	Vertical
288.000000	-78.23	-13.00	65.23	Vertical
3446.875000	-58.82	-13.00	45.82	Vertical
5170.675000	-61.78	-13.00	48.78	Vertical
8617.950000	-57.83	-13.00	44.83	Vertical
56.850000	-77.94	-13.00	64.94	Horizontal
144.000000	-74.29	-13.00	61.29	Horizontal
460.770833	-84.53	-13.00	71.53	Horizontal
3446.875000	-58.78	-13.00	45.78	Horizontal
5170.675000	-67.02	-13.00	54.02	Horizontal
8617.950000	-44.91	-13.00	31.91	Horizontal



**7.1.1.1.3 Test Channel = HCH**

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
63.200000	-82.68	-13.00	69.68	Vertical
144.000000	-69.56	-13.00	56.56	Vertical
288.000000	-77.65	-13.00	64.65	Vertical
3471.900000	-65.01	-13.00	52.01	Vertical
5208.050000	-49.12	-13.00	36.12	Vertical
8680.350000	-58.62	-13.00	45.62	Vertical
62.650000	-76.98	-13.00	63.98	Horizontal
144.000000	-73.58	-13.00	60.58	Horizontal
288.000000	-82.22	-13.00	69.22	Horizontal
3471.900000	-64.81	-13.00	51.81	Horizontal
5208.050000	-59.64	-13.00	46.64	Horizontal
8680.350000	-47.36	-13.00	34.36	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.
- 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
LTEband4	LTE/TM1 20MHz	LCH	TN	VL	-1.07	-0.00062	PASS
				VN	4.89	0.00284	PASS
				VH	-3.95	-0.00229	PASS
		MCH	TN	VL	-7.39	-0.00426	PASS
				VN	-0.86	-0.00050	PASS
				VH	7.97	0.00460	PASS
		HCH	TN	VL	-6.06	-0.00347	PASS
				VN	3.92	0.00225	PASS
				VH	0.29	0.00016	PASS
	LTE/TM2 20MHz	LCH	TN	VL	-1.48	-0.00086	PASS
				VN	-5.19	-0.00302	PASS
				VH	-2.79	-0.00162	PASS
		MCH	TN	VL	7.23	0.00417	PASS
				VN	-2.99	-0.00172	PASS
				VH	6.81	0.00393	PASS
		HCH	TN	VL	-0.46	-0.00027	PASS
				VN	3.39	0.00194	PASS
				VH	-1.07	-0.00062	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
LTEband4	LTE/TM1 20MHz	LCH	VN	-30	-3.46	-0.00201	PASS
				-20	5.41	0.00315	PASS
				-10	8.32	0.00484	PASS
				0	-8.21	-0.00477	PASS
				10	-8.47	-0.00492	PASS
				20	9.90	0.00576	PASS
				30	3.67	0.00214	PASS
				40	-7.91	-0.00460	PASS
				50	-9.32	-0.00542	PASS
		MCH	VN	-30	-0.46	-0.00026	PASS
				-20	-2.37	-0.00137	PASS
				-10	9.74	0.00562	PASS
				0	7.96	0.00460	PASS
				10	2.05	0.00119	PASS
				20	-8.66	-0.00500	PASS
				30	5.59	0.00323	PASS
				40	9.32	0.00538	PASS
				50	7.01	0.00405	PASS
		HCH	VN	-30	7.28	0.00417	PASS
				-20	-1.14	-0.00065	PASS
				-10	-2.82	-0.00162	PASS
				0	4.15	0.00238	PASS
				10	-5.41	-0.00310	PASS
				20	-6.76	-0.00387	PASS
				30	-5.75	-0.00330	PASS
				40	0.56	0.00032	PASS
				50	-0.02	-0.00001	PASS





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**Shenzhen Branch**

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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband4	LTE/TM2 20MHz	LCH	VN	-30	-0.50	-0.00027	PASS
				-20	-2.45	-0.00132	PASS
				-10	3.38	0.00182	PASS
				0	2.64	0.00142	PASS
				10	1.60	0.00086	PASS
				20	-0.23	-0.00012	PASS
				30	-0.44	-0.00024	PASS
				40	5.34	0.00287	PASS
				50	0.79	0.00042	PASS
		MCH	VN	-30	-3.80	-0.00202	PASS
				-20	-5.38	-0.00286	PASS
				-10	-7.29	-0.00388	PASS
				0	-4.32	-0.00230	PASS
				10	-0.34	-0.00018	PASS
				20	1.74	0.00093	PASS
				30	-3.64	-0.00194	PASS
				40	-2.62	-0.00139	PASS
				50	-3.91	-0.00208	PASS
		HCH	VN	-30	1.34	0.00071	PASS
				-20	-2.55	-0.00134	PASS
				-10	1.59	0.00084	PASS
				0	-3.73	-0.00196	PASS
				10	2.88	0.00152	PASS
				20	-1.47	-0.00077	PASS
				30	-2.59	-0.00136	PASS
				40	-4.33	-0.00228	PASS
				50	-7.60	-0.00400	PASS

The End