



# 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	21.59	20.79	33.00	PASS
				RB1#2	21.50	20.70	33.00	PASS
				RB1#5	21.51	20.71	33.00	PASS
				RB3#0	21.62	20.82	33.00	PASS
				RB3#2	21.57	20.77	33.00	PASS
				RB3#3	21.50	20.70	33.00	PASS
				RB6#0	20.45	19.65	33.00	PASS
			MCH	RB1#0	21.75	20.95	33.00	PASS
				RB1#2	21.76	20.96	33.00	PASS
				RB1#5	21.67	20.87	33.00	PASS
				RB3#0	21.76	20.96	33.00	PASS
				RB3#2	21.75	20.95	33.00	PASS
				RB3#3	21.70	20.90	33.00	PASS
				RB6#0	20.75	19.95	33.00	PASS
			HCH	RB1#0	21.81	21.01	33.00	PASS
				RB1#2	21.82	21.02	33.00	PASS
				RB1#5	21.83	21.03	33.00	PASS
				RB3#0	21.83	21.03	33.00	PASS
				RB3#2	21.84	21.04	33.00	PASS
				RB3#3	21.82	21.02	33.00	PASS
				RB6#0	20.82	20.02	33.00	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	20.35	19.55	33.00	PASS
				RB1#2	20.41	19.61	33.00	PASS
				RB1#5	20.31	19.51	33.00	PASS
				RB3#0	20.39	19.59	33.00	PASS
				RB3#2	20.34	19.54	33.00	PASS
				RB3#3	20.41	19.61	33.00	PASS
				RB6#0	19.31	18.51	33.00	PASS
			MCH	RB1#0	20.63	19.83	33.00	PASS
				RB1#2	20.64	19.84	33.00	PASS
				RB1#5	20.46	19.66	33.00	PASS
				RB3#0	20.63	19.83	33.00	PASS
				RB3#2	20.63	19.83	33.00	PASS
				RB3#3	20.48	19.68	33.00	PASS
				RB6#0	19.50	18.70	33.00	PASS
			HCH	RB1#0	20.69	19.89	33.00	PASS
				RB1#2	20.66	19.86	33.00	PASS
				RB1#5	20.70	19.90	33.00	PASS
				RB3#0	20.70	19.90	33.00	PASS
				RB3#2	20.69	19.89	33.00	PASS
				RB3#3	20.70	19.90	33.00	PASS
				RB6#0	19.60	18.80	33.00	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	3M	LCH	RB1#0	21.52	20.72	33.00	PASS
				RB1#7	21.40	20.60	33.00	PASS
				RB1#14	21.42	20.62	33.00	PASS
				RB8#0	20.38	19.58	33.00	PASS
				RB8#4	20.29	19.49	33.00	PASS
				RB8#7	20.34	19.54	33.00	PASS
				RB15#0	20.33	19.53	33.00	PASS
			MCH	RB1#0	21.77	20.97	33.00	PASS
				RB1#7	21.65	20.85	33.00	PASS
				RB1#14	21.68	20.88	33.00	PASS
				RB8#0	20.64	19.84	33.00	PASS
				RB8#4	20.61	19.81	33.00	PASS
				RB8#7	20.54	19.74	33.00	PASS
				RB15#0	20.70	19.90	33.00	PASS
			HCH	RB1#0	21.70	20.90	33.00	PASS
				RB1#7	21.79	20.99	33.00	PASS
				RB1#14	21.79	20.99	33.00	PASS
				RB8#0	20.63	19.83	33.00	PASS
				RB8#4	20.70	19.90	33.00	PASS
				RB8#7	20.71	19.91	33.00	PASS
				RB15#0	20.76	19.96	33.00	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	20.35	19.55	33.00	PASS
				RB1#7	20.23	19.43	33.00	PASS
				RB1#14	20.25	19.45	33.00	PASS
				RB8#0	19.42	18.62	33.00	PASS
				RB8#4	19.31	18.51	33.00	PASS
				RB8#7	19.28	18.48	33.00	PASS
				RB15#0	19.25	18.45	33.00	PASS
			MCH	RB1#0	20.56	19.76	33.00	PASS
				RB1#7	20.43	19.63	33.00	PASS
				RB1#14	20.40	19.60	33.00	PASS
				RB8#0	19.58	18.78	33.00	PASS
				RB8#4	19.58	18.78	33.00	PASS
				RB8#7	19.50	18.70	33.00	PASS
				RB15#0	19.56	18.76	33.00	PASS
			HCH	RB1#0	20.46	19.66	33.00	PASS
				RB1#7	20.56	19.76	33.00	PASS
				RB1#14	20.63	19.83	33.00	PASS
				RB8#0	19.58	18.78	33.00	PASS
				RB8#4	19.71	18.91	33.00	PASS
				RB8#7	19.67	18.87	33.00	PASS
				RB15#0	19.65	18.85	33.00	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	21.60	20.80	33.00	PASS
				RB1#13	21.46	20.66	33.00	PASS
				RB1#24	21.49	20.69	33.00	PASS
				RB12#0	20.46	19.66	33.00	PASS
				RB12#6	20.39	19.59	33.00	PASS
				RB12#13	20.35	19.55	33.00	PASS
				RB25#0	20.32	19.52	33.00	PASS
			MCH	RB1#0	21.81	21.01	33.00	PASS
				RB1#13	21.66	20.86	33.00	PASS
				RB1#24	21.67	20.87	33.00	PASS
				RB12#0	20.73	19.93	33.00	PASS
				RB12#6	20.69	19.89	33.00	PASS
				RB12#13	20.57	19.77	33.00	PASS
				RB25#0	20.74	19.94	33.00	PASS
			HCH	RB1#0	21.65	20.85	33.00	PASS
				RB1#13	21.76	20.96	33.00	PASS
				RB1#24	21.81	21.01	33.00	PASS
				RB12#0	20.60	19.80	33.00	PASS
				RB12#6	20.68	19.88	33.00	PASS
				RB12#13	20.80	20.00	33.00	PASS
				RB25#0	20.66	19.86	33.00	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	20.40	19.60	33.00	PASS
				RB1#13	20.17	19.37	33.00	PASS
				RB1#24	20.28	19.48	33.00	PASS
				RB12#0	19.44	18.64	33.00	PASS
				RB12#6	19.34	18.54	33.00	PASS
				RB12#13	19.36	18.56	33.00	PASS
				RB25#0	19.37	18.57	33.00	PASS
			MCH	RB1#0	20.62	19.82	33.00	PASS
				RB1#13	20.48	19.68	33.00	PASS
				RB1#24	20.47	19.67	33.00	PASS
				RB12#0	19.63	18.83	33.00	PASS
				RB12#6	19.66	18.86	33.00	PASS
				RB12#13	19.54	18.74	33.00	PASS
				RB25#0	19.64	18.84	33.00	PASS
			HCH	RB1#0	20.41	19.61	33.00	PASS
				RB1#13	20.50	19.70	33.00	PASS
				RB1#24	20.69	19.89	33.00	PASS
				RB12#0	19.63	18.83	33.00	PASS
				RB12#6	19.64	18.84	33.00	PASS
				RB12#13	19.70	18.90	33.00	PASS
				RB25#0	19.59	18.79	33.00	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	21.62	20.82	33.00	PASS
				RB1#25	21.49	20.69	33.00	PASS
				RB1#49	21.50	20.70	33.00	PASS
				RB25#0	20.38	19.58	33.00	PASS
				RB25#13	20.34	19.54	33.00	PASS
				RB25#25	20.34	19.54	33.00	PASS
				RB50#0	20.32	19.52	33.00	PASS
			MCH	RB1#0	21.81	21.01	33.00	PASS
				RB1#25	21.67	20.87	33.00	PASS
				RB1#49	21.61	20.81	33.00	PASS
				RB25#0	20.72	19.92	33.00	PASS
				RB25#13	20.73	19.93	33.00	PASS
				RB25#25	20.60	19.80	33.00	PASS
				RB50#0	20.69	19.89	33.00	PASS
			HCH	RB1#0	21.58	20.78	33.00	PASS
				RB1#25	21.61	20.81	33.00	PASS
				RB1#49	21.83	21.03	33.00	PASS
				RB25#0	20.43	19.63	33.00	PASS
				RB25#13	20.54	19.74	33.00	PASS
				RB25#25	20.66	19.86	33.00	PASS
				RB50#0	20.55	19.75	33.00	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	20.39	19.59	33.00	PASS
				RB1#25	20.30	19.50	33.00	PASS
				RB1#49	20.33	19.53	33.00	PASS
				RB25#0	19.35	18.55	33.00	PASS
				RB25#13	19.38	18.58	33.00	PASS
				RB25#25	19.40	18.60	33.00	PASS
				RB50#0	19.38	18.58	33.00	PASS
			MCH	RB1#0	20.64	19.84	33.00	PASS
				RB1#25	20.45	19.65	33.00	PASS
				RB1#49	20.35	19.55	33.00	PASS
				RB25#0	19.65	18.85	33.00	PASS
				RB25#13	19.63	18.83	33.00	PASS
				RB25#25	19.54	18.74	33.00	PASS
				RB50#0	19.57	18.77	33.00	PASS
			HCH	RB1#0	20.36	19.56	33.00	PASS
				RB1#25	20.43	19.63	33.00	PASS
				RB1#49	20.70	19.90	33.00	PASS
				RB25#0	19.43	18.63	33.00	PASS
				RB25#13	19.52	18.72	33.00	PASS
				RB25#25	19.63	18.83	33.00	PASS
				RB50#0	19.52	18.72	33.00	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	21.63	20.83	33.00	PASS
				RB1#38	21.52	20.72	33.00	PASS
				RB1#74	21.74	20.94	33.00	PASS
				RB36#0	20.38	19.58	33.00	PASS
				RB36#18	20.41	19.61	33.00	PASS
				RB36#39	20.51	19.71	33.00	PASS
				RB75#0	20.37	19.57	33.00	PASS
			MCH	RB1#0	21.80	21.00	33.00	PASS
				RB1#38	21.71	20.91	33.00	PASS
				RB1#74	21.60	20.80	33.00	PASS
				RB36#0	20.70	19.90	33.00	PASS
				RB36#18	20.69	19.89	33.00	PASS
				RB36#39	20.44	19.64	33.00	PASS
				RB75#0	20.57	19.77	33.00	PASS
			HCH	RB1#0	21.67	20.87	33.00	PASS
				RB1#38	21.54	20.74	33.00	PASS
				RB1#74	21.80	21.00	33.00	PASS
				RB36#0	20.41	19.61	33.00	PASS
				RB36#18	20.41	19.61	33.00	PASS
				RB36#39	20.53	19.73	33.00	PASS
				RB75#0	20.47	19.67	33.00	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	20.43	19.63	33.00	PASS
				RB1#38	20.31	19.51	33.00	PASS
				RB1#74	20.57	19.77	33.00	PASS
				RB36#0	19.32	18.52	33.00	PASS
				RB36#18	19.35	18.55	33.00	PASS
				RB36#39	19.45	18.65	33.00	PASS
				RB75#0	19.38	18.58	33.00	PASS
			MCH	RB1#0	20.69	19.89	33.00	PASS
				RB1#38	20.49	19.69	33.00	PASS
				RB1#74	20.37	19.57	33.00	PASS
				RB36#0	19.66	18.86	33.00	PASS
				RB36#18	19.60	18.80	33.00	PASS
				RB36#39	19.42	18.62	33.00	PASS
				RB75#0	19.55	18.75	33.00	PASS
			HCH	RB1#0	20.48	19.68	33.00	PASS
				RB1#38	20.29	19.49	33.00	PASS
				RB1#74	20.70	19.90	33.00	PASS
				RB36#0	19.35	18.55	33.00	PASS
				RB36#18	19.35	18.55	33.00	PASS
				RB36#39	19.45	18.65	33.00	PASS
				RB75#0	19.50	18.70	33.00	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	21.59	20.79	33.00	PASS
				RB1#50	21.52	20.72	33.00	PASS
				RB1#99	21.57	20.77	33.00	PASS
				RB50#0	20.72	19.92	33.00	PASS
				RB50#25	20.54	19.74	33.00	PASS
				RB50#50	20.68	19.88	33.00	PASS
				RB100#0	20.59	19.79	33.00	PASS
			MCH	RB1#0	21.77	20.97	33.00	PASS
				RB1#50	21.71	20.91	33.00	PASS
				RB1#99	21.56	20.76	33.00	PASS
				RB50#0	20.79	19.99	33.00	PASS
				RB50#25	20.75	19.95	33.00	PASS
				RB50#50	20.48	19.68	33.00	PASS
				RB100#0	20.59	19.79	33.00	PASS
			HCH	RB1#0	21.86	21.06	33.00	PASS
				RB1#50	21.52	20.72	33.00	PASS
				RB1#99	21.64	20.84	33.00	PASS
				RB50#0	20.82	20.02	33.00	PASS
				RB50#25	20.39	19.59	33.00	PASS
				RB50#50	20.54	19.74	33.00	PASS
				RB100#0	20.56	19.76	33.00	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	20.46	19.66	33.00	PASS
				RB1#50	20.34	19.54	33.00	PASS
				RB1#99	20.58	19.78	33.00	PASS
				RB50#0	19.39	18.59	33.00	PASS
				RB50#25	19.44	18.64	33.00	PASS
				RB50#50	19.59	18.79	33.00	PASS
				RB100#0	19.48	18.68	33.00	PASS
			MCH	RB1#0	20.69	19.89	33.00	PASS
				RB1#50	20.49	19.69	33.00	PASS
				RB1#99	20.39	19.59	33.00	PASS
				RB50#0	19.65	18.85	33.00	PASS
				RB50#25	19.59	18.79	33.00	PASS
				RB50#50	19.42	18.62	33.00	PASS
				RB100#0	19.59	18.79	33.00	PASS
			HCH	RB1#0	20.46	19.66	33.00	PASS
				RB1#50	20.34	19.54	33.00	PASS
				RB1#99	20.63	19.83	33.00	PASS
				RB50#0	19.51	18.71	33.00	PASS
				RB50#25	19.36	18.56	33.00	PASS
				RB50#50	19.47	18.67	33.00	PASS
				RB100#0	19.49	18.69	33.00	PASS

Note:

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

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

b: SGP=Signal Generator Level

c: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS



## 2 Peak-to-Average Ratio

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
Band 2	TM1/20M	LCH	4.23	13	PASS
		MCH	4.41	13	PASS
		HCH	4.38	13	PASS
	TM2/20M	LCH	5.10	13	PASS
		MCH	5.45	13	PASS
		HCH	5.25	13	PASS





## Part II - Test Plots

### 2.1 For LTE

#### 2.1.1 Test Band = LTE band4

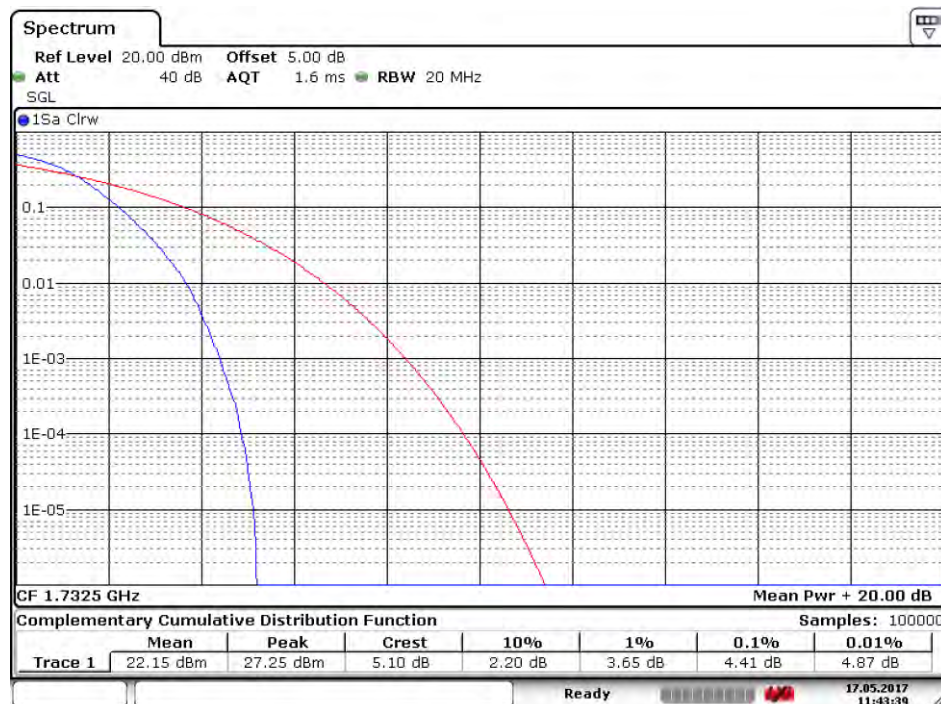
##### 2.1.1.1 Test Mode = LTE/TM1.Bandwidth=20MHz

##### 2.1.1.1.1 Test Channel = LCH



Date: 17.MAY.2017 11:44:12

##### 2.1.1.1.2 Test Channel = MCH

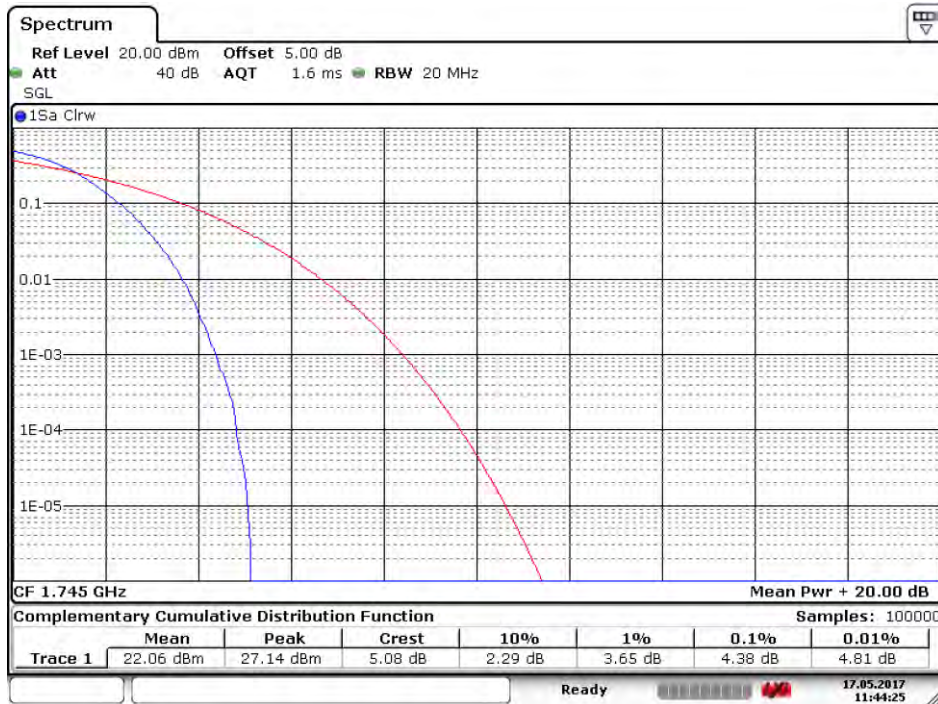


Date: 17.MAY.2017 11:43:39





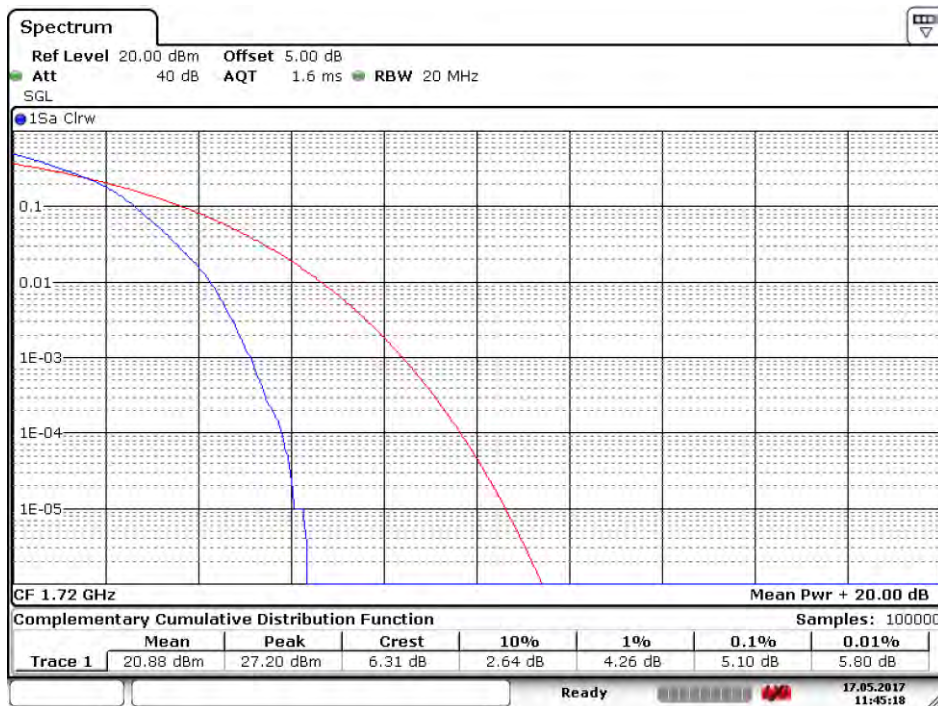
2.1.1.1.3 Test Channel = HCH



Date: 17.MAY.2017 11:44:25

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

2.1.1.2.1 Test Channel = LCH



Date: 17.MAY.2017 11:45:18



2.1.1.2.2 Test Channel = MCH



Date: 17.MAY.2017 11:45:04

2.1.1.2.3 Test Channel = HCH



Date: 17.MAY.2017 11:44:41



### 3 Modulation Characteristics

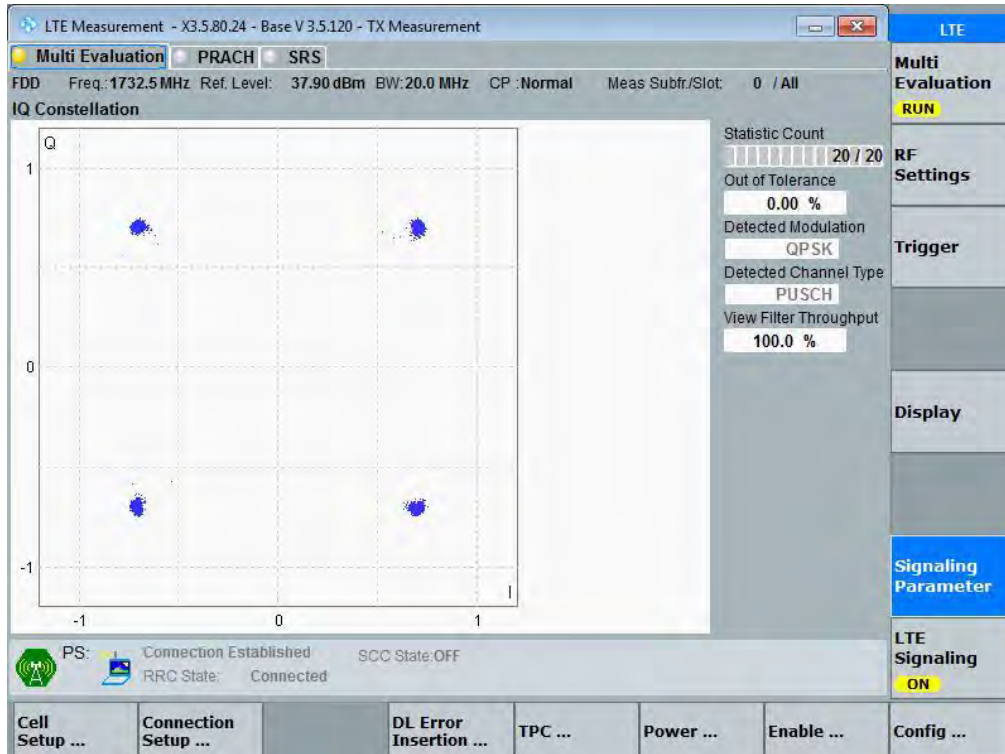
#### Part I - Test Plots

#### 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

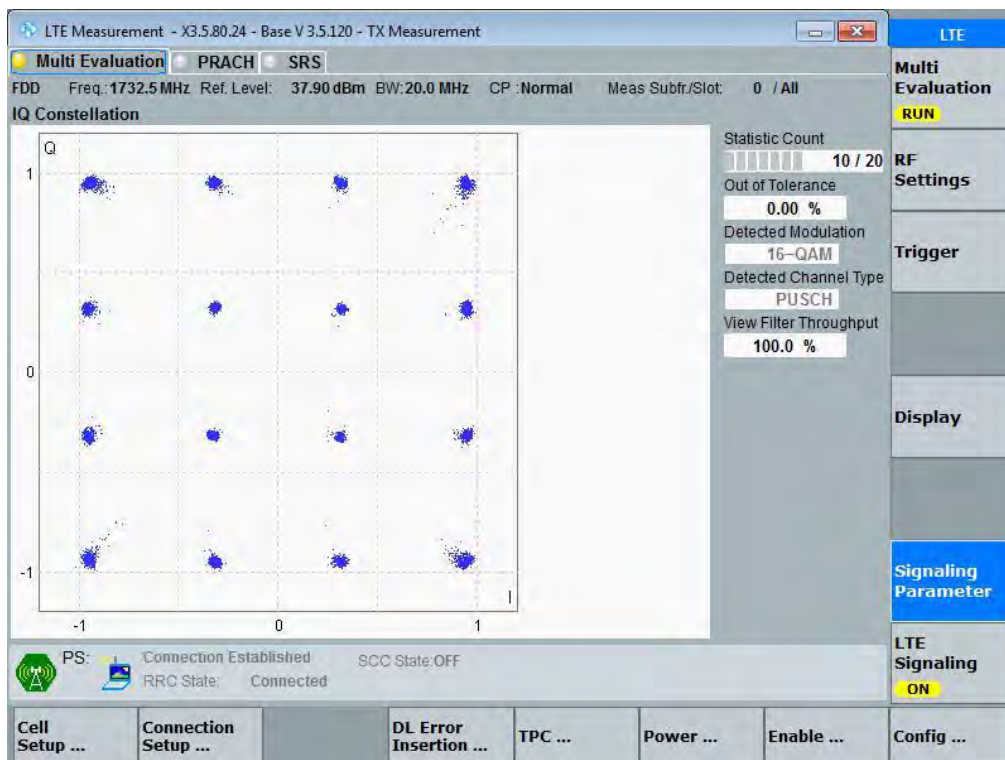






3.1.1.2 Test Mode = LTE /TM2 20MHz

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	1.11	1.94	PASS
		MCH	1.11	1.33	PASS
		HCH	1.11	2.00	PASS
	TM2/1.4MHz	LCH	1.10	1.34	PASS
		MCH	1.10	1.32	PASS
		HCH	1.11	1.57	PASS
	TM1/ 3MHz	LCH	2.70	3.03	PASS
		MCH	2.69	2.93	PASS
		HCH	2.70	3.25	PASS
	TM2/3MHz	LCH	2.69	3.02	PASS
		MCH	2.69	2.97	PASS
		HCH	2.70	3.06	PASS
	TM1/ 5MHz	LCH	4.50	5.02	PASS
		MCH	4.49	4.95	PASS
		HCH	4.49	6.48	PASS
	TM2/ 5MHz	LCH	4.50	5.56	PASS
		MCH	4.47	4.92	PASS
		HCH	4.50	5.94	PASS
	TM1/10MHz	LCH	8.97	9.85	PASS
		MCH	8.95	9.85	PASS
		HCH	8.97	12.85	PASS
	TM2/ 10MHz	LCH	8.97	9.87	PASS
		MCH	8.93	9.59	PASS
		HCH	8.99	10.79	PASS
	TM1/ 15MHz	LCH	13.55	17.35	PASS
		MCH	13.46	14.78	PASS
		HCH	13.61	18.58	PASS
	TM2/ 15MHz	LCH	13.58	19.69	PASS
		MCH	13.46	14.69	PASS
		HCH	13.58	16.27	PASS
	TM1/ 20MHz	LCH	17.98	21.50	PASS
		MCH	17.82	19.18	PASS
		HCH	17.90	19.56	PASS
	TM2/ 20MHz	LCH	18.02	27.13	PASS
		MCH	17.82	19.30	PASS
		HCH	17.90	19.52	PASS

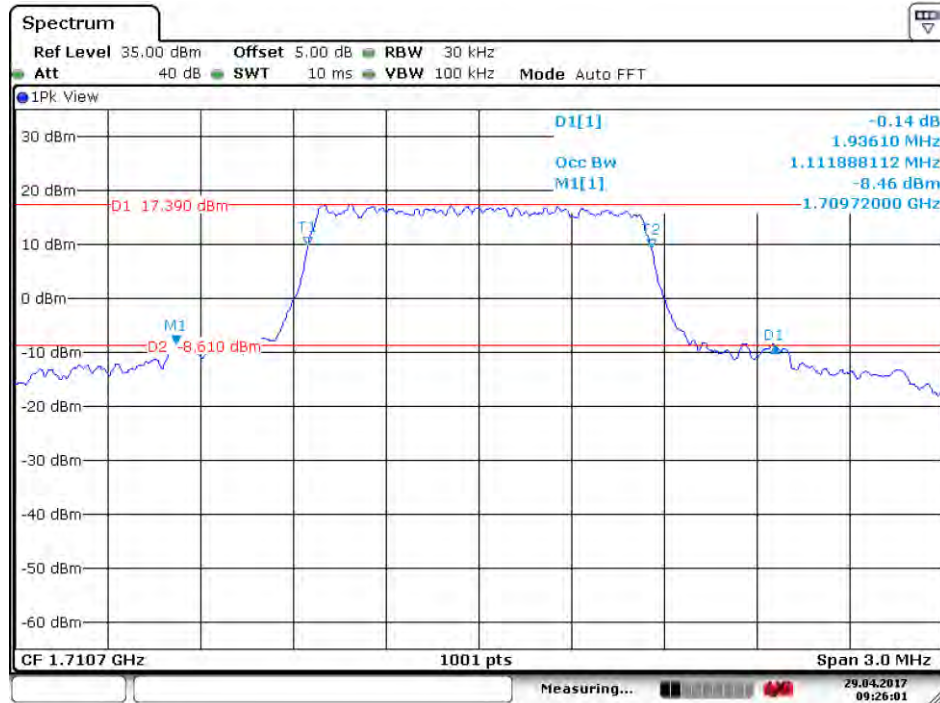


## 4.1 For LTE

### 4.1.1 Test Band = LTE band4

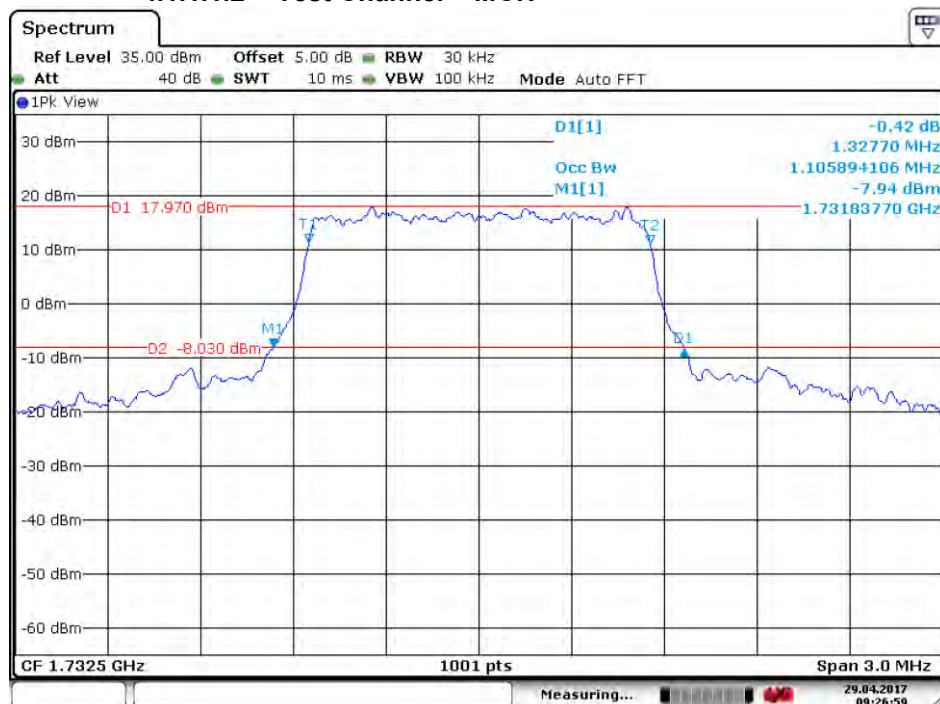
#### 4.1.1.1 Test Mode = LTE/TM1 1.4MHz

##### 4.1.1.1.1 Test Channel = LCH



Date: 29.APR.2017 09:26:01

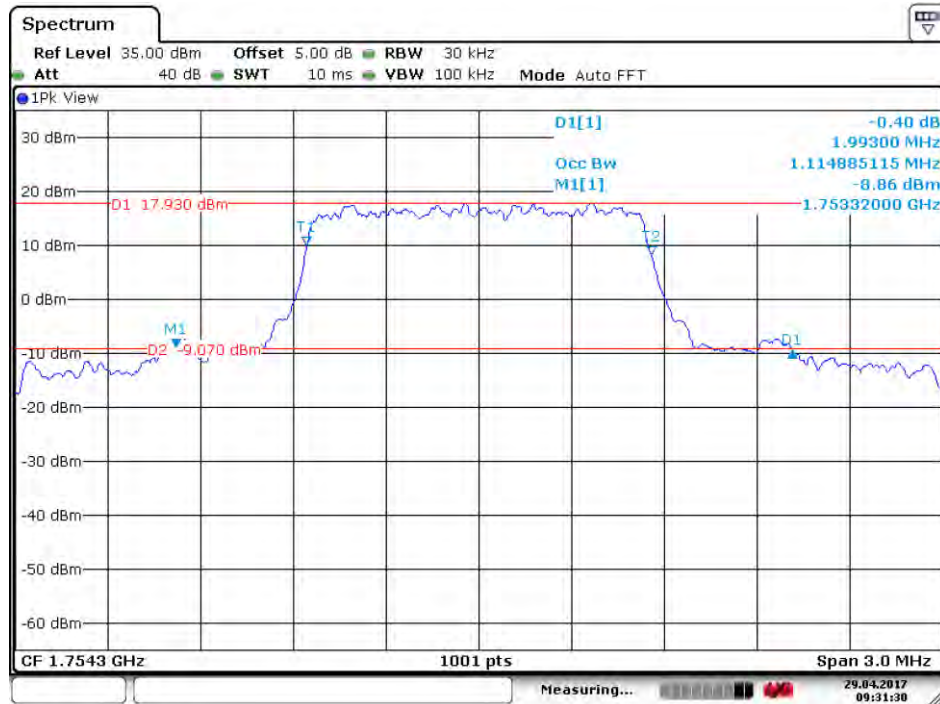
##### 4.1.1.1.2 Test Channel = MCH



Date: 29.APR.2017 09:26:59



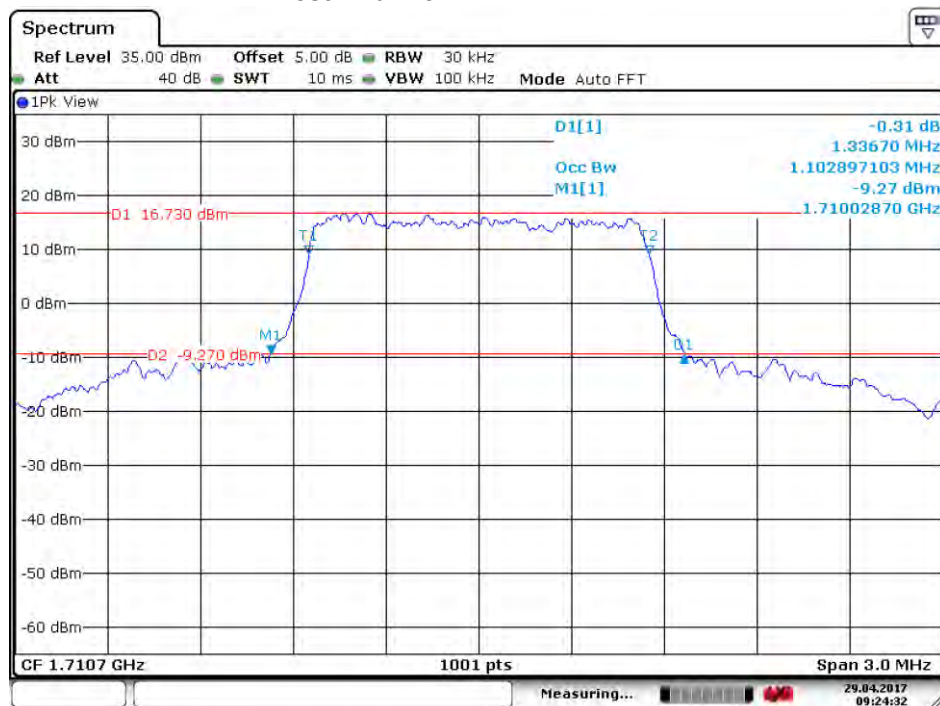
#### 4.1.1.1.3 Test Channel = HCH



Date: 29.APR.2017 09:31:31

#### 4.1.1.2 Test Mode = LTE/TM2 1.4MHz

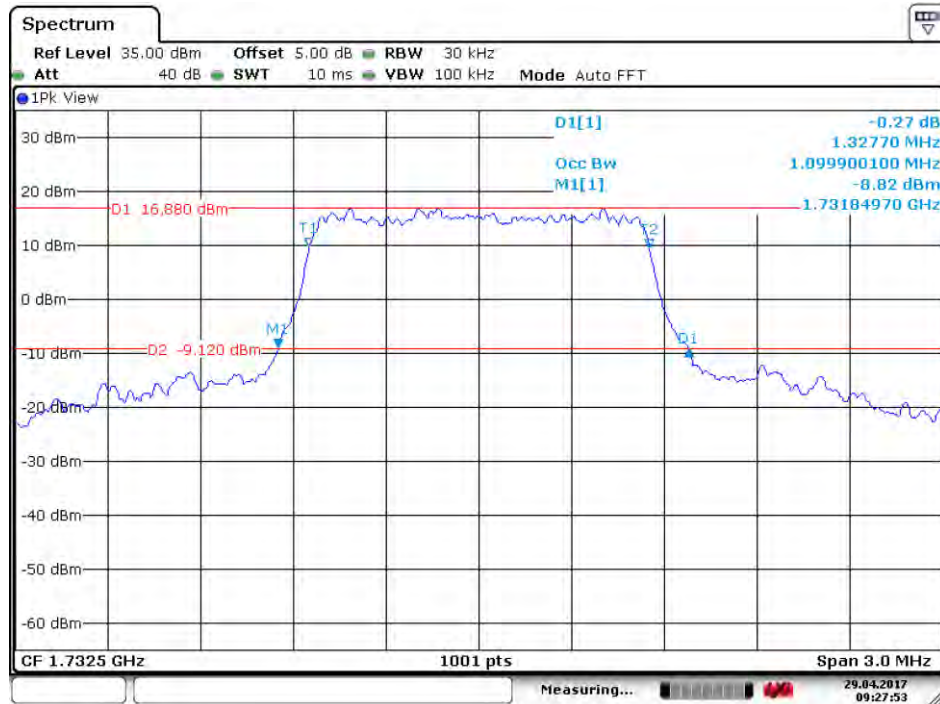
##### 4.1.1.2.1 Test Channel = LCH



Date: 29.APR.2017 09:24:32

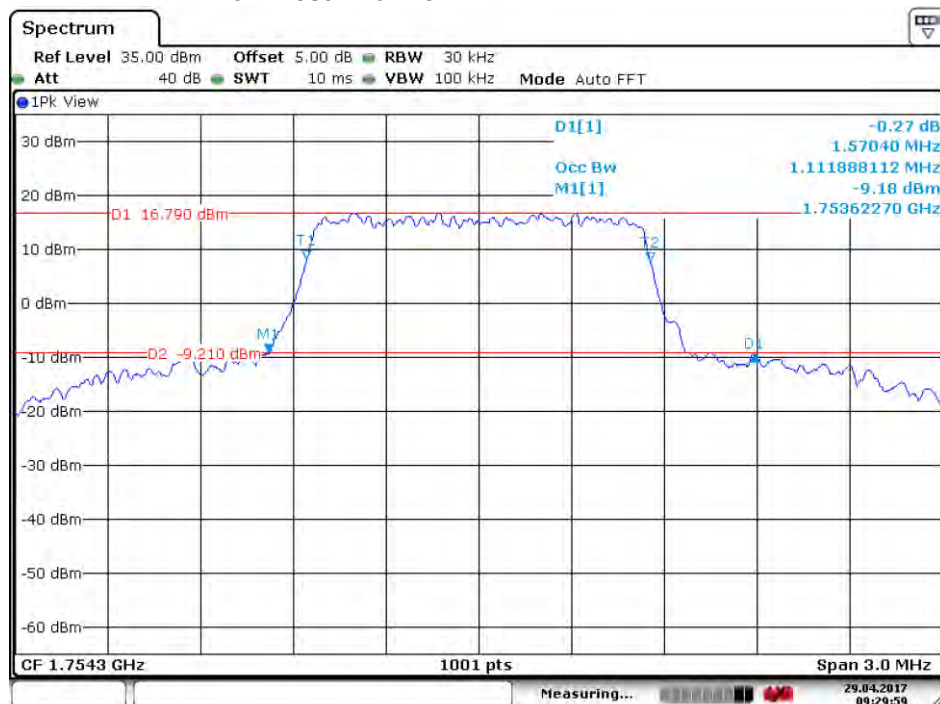


#### 4.1.1.2.2 Test Channel = MCH



Date: 29.APR.2017 09:27:54

#### 4.1.1.2.3 Test Channel = HCH

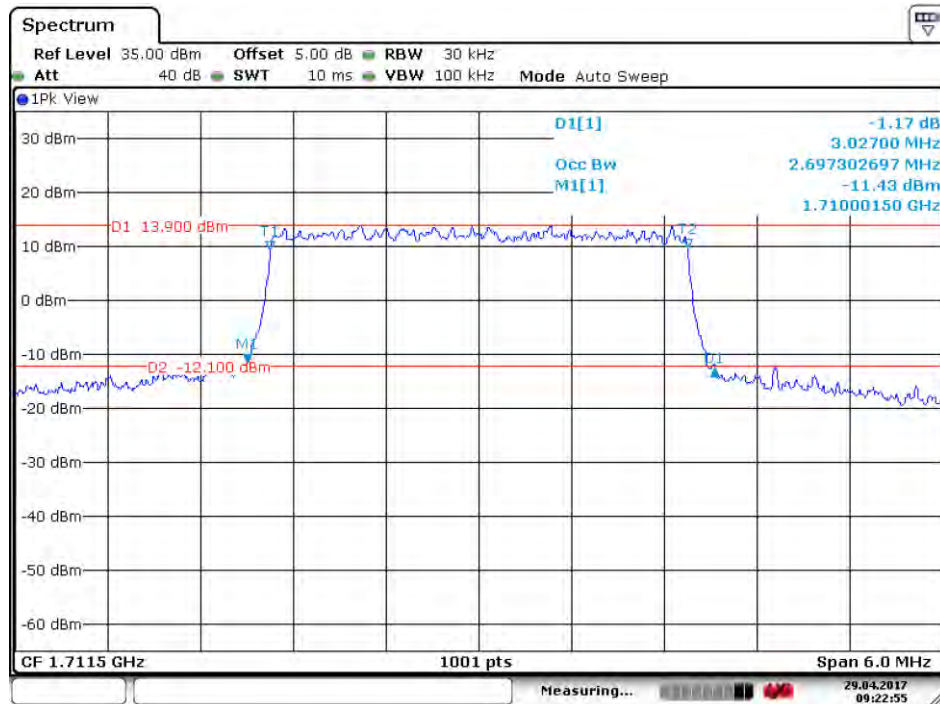


Date: 29.APR.2017 09:29:59



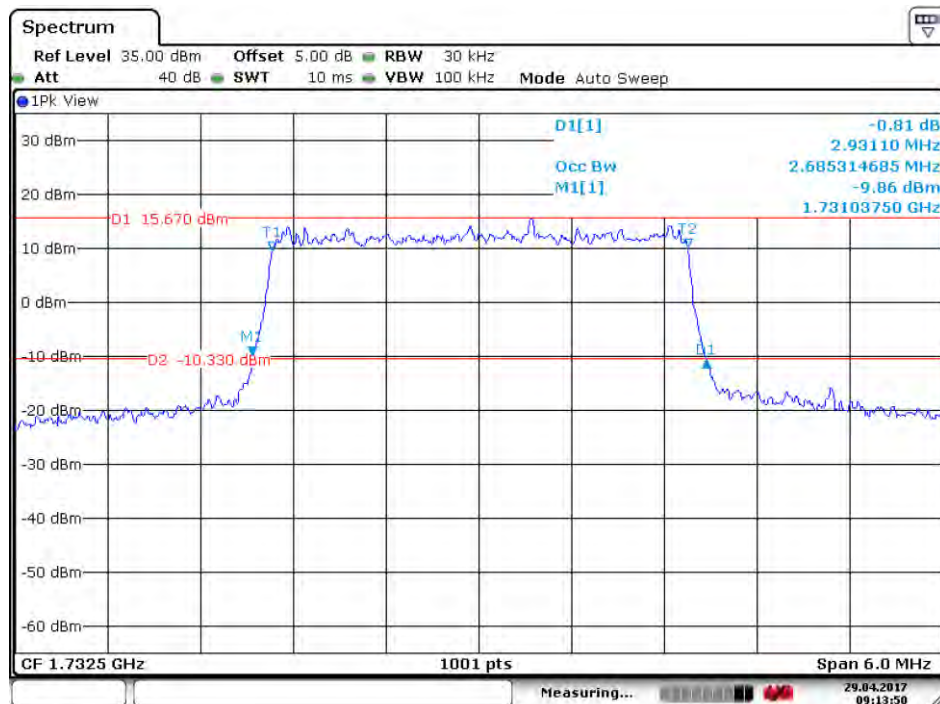
#### 4.1.1.3 Test Mode = LTE/TM1 3MHz

#### 4.1.1.3.1 Test Channel = LCH



Date: 29.APR.2017 09:22:56

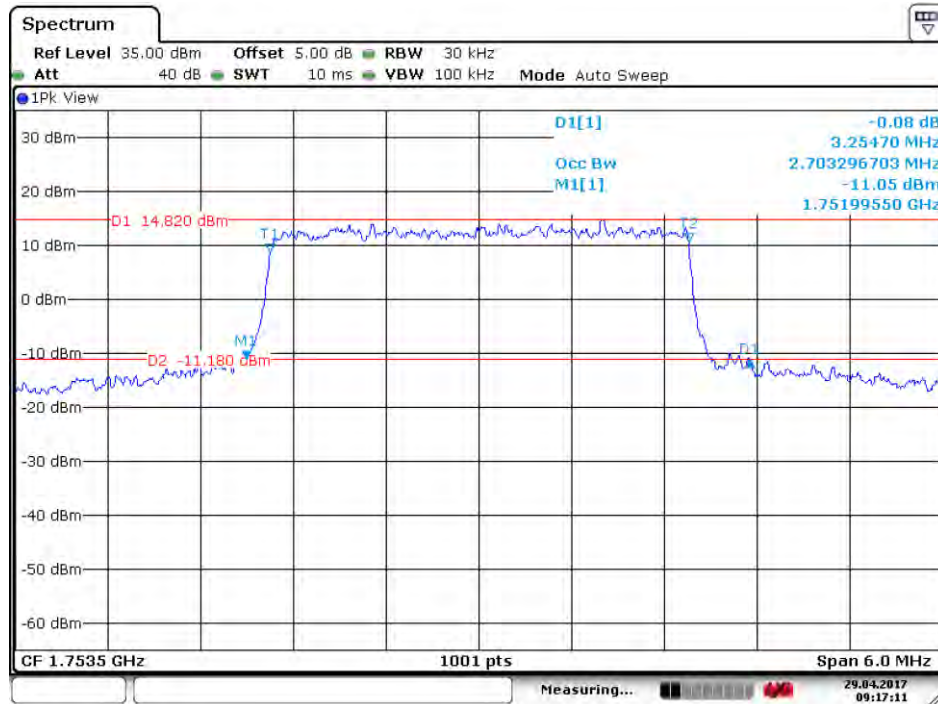
#### 4.1.1.3.2 Test Channel = MCH



Date: 29.APR.2017 09:13:50



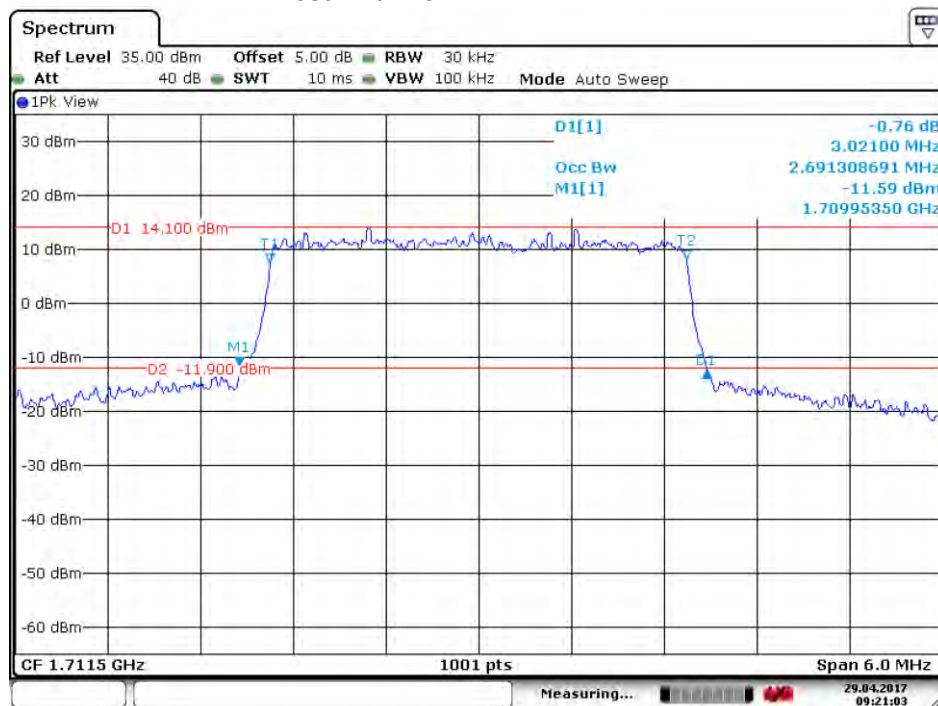
#### 4.1.1.3.3 Test Channel = HCH



Date: 29.APR.2017 09:17:11

#### 4.1.1.4 Test Mode = LTE/TM2 3MHz

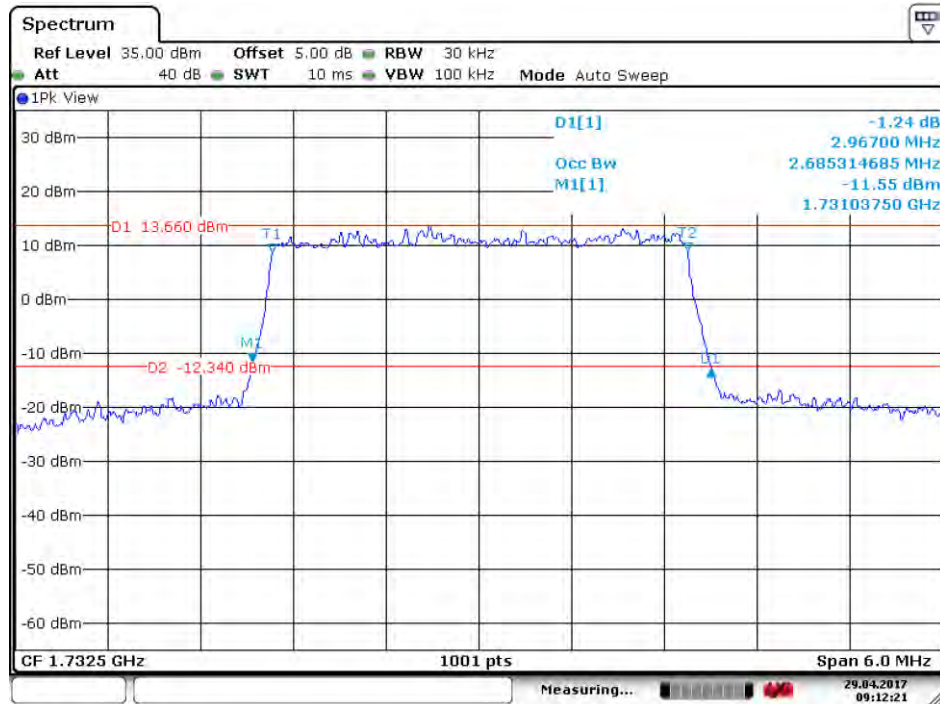
##### 4.1.1.4.1 Test Channel = LCH



Date: 29.APR.2017 09:21:04

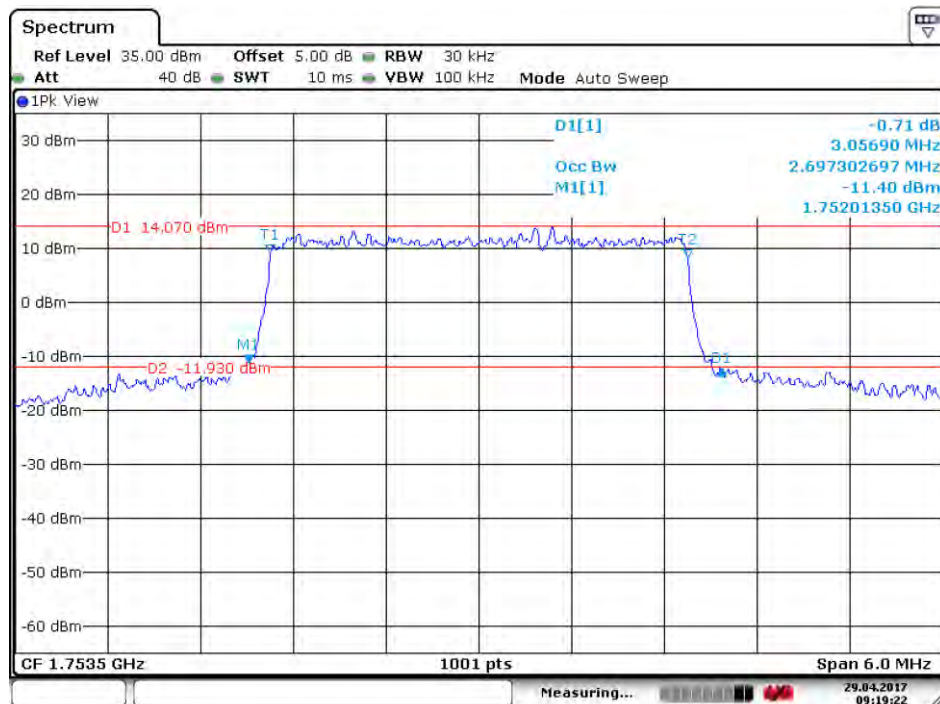


4.1.1.4.2 Test Channel = MCH



Date: 29.APR.2017 09:12:21

4.1.1.4.3 Test Channel = HCH



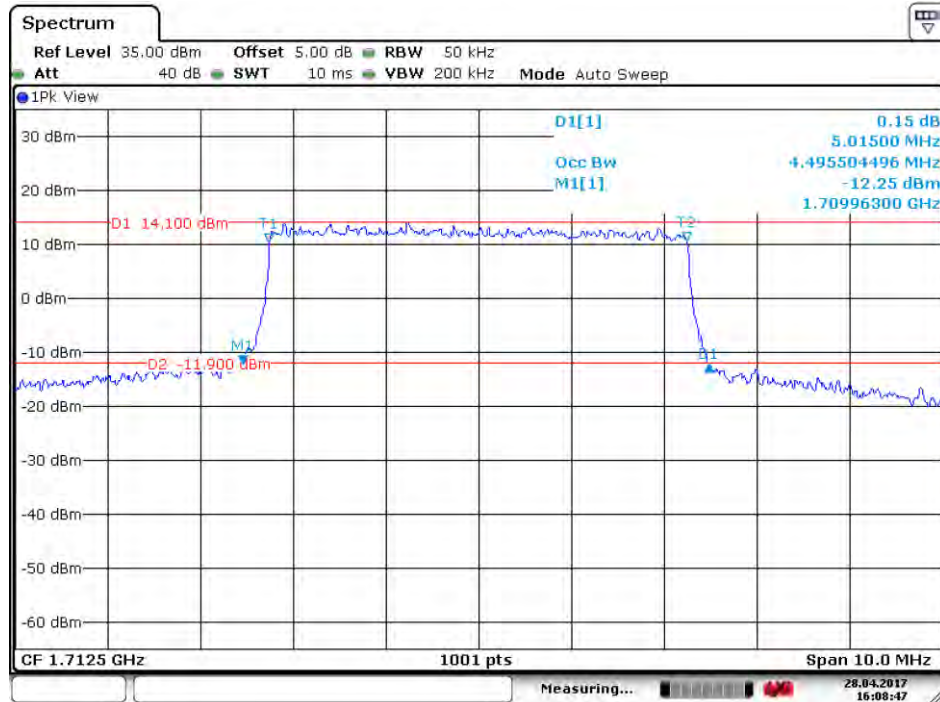
Date: 29.APR.2017 09:19:23





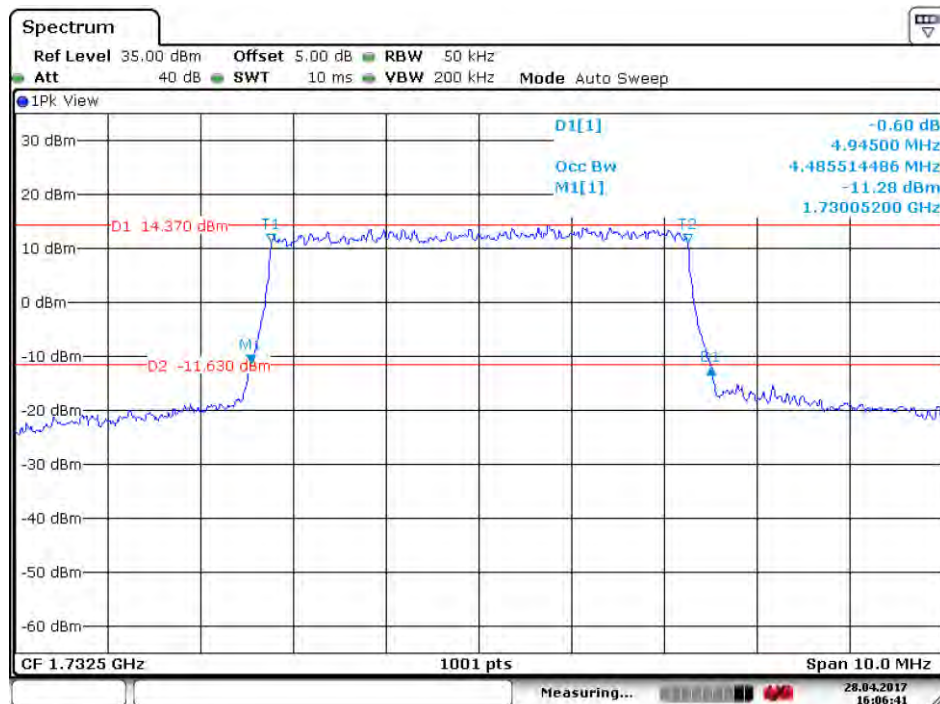
4.1.1.5 Test Mode = LTE/TM1 5MHz

4.1.1.5.1 Test Channel = LCH



Date: 28.APR.2017 16:08:47

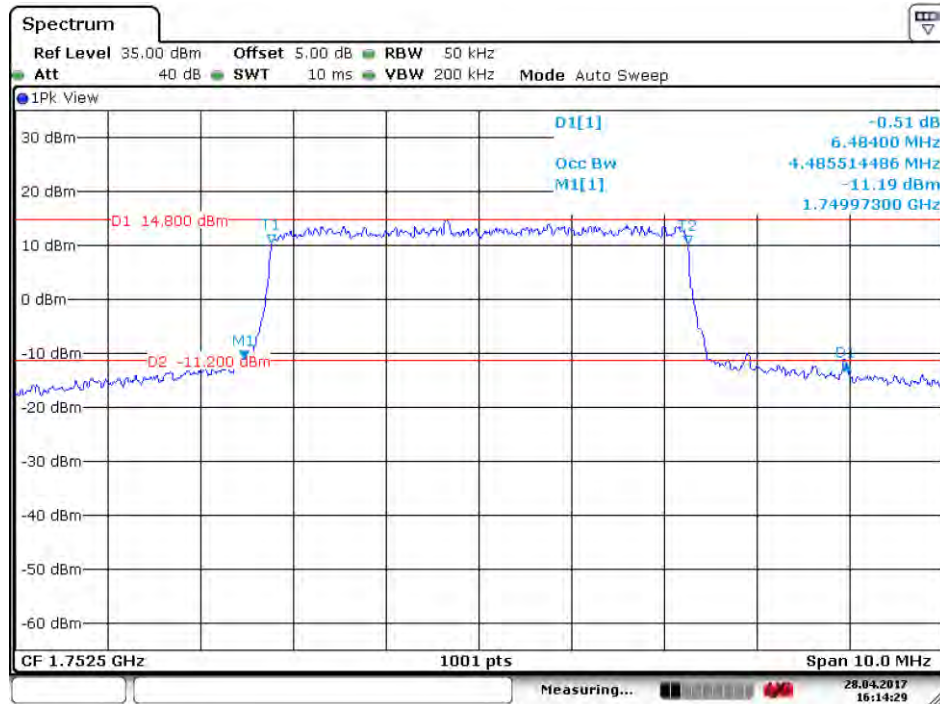
4.1.1.5.2 Test Channel = MCH



Date: 28.APR.2017 16:06:41



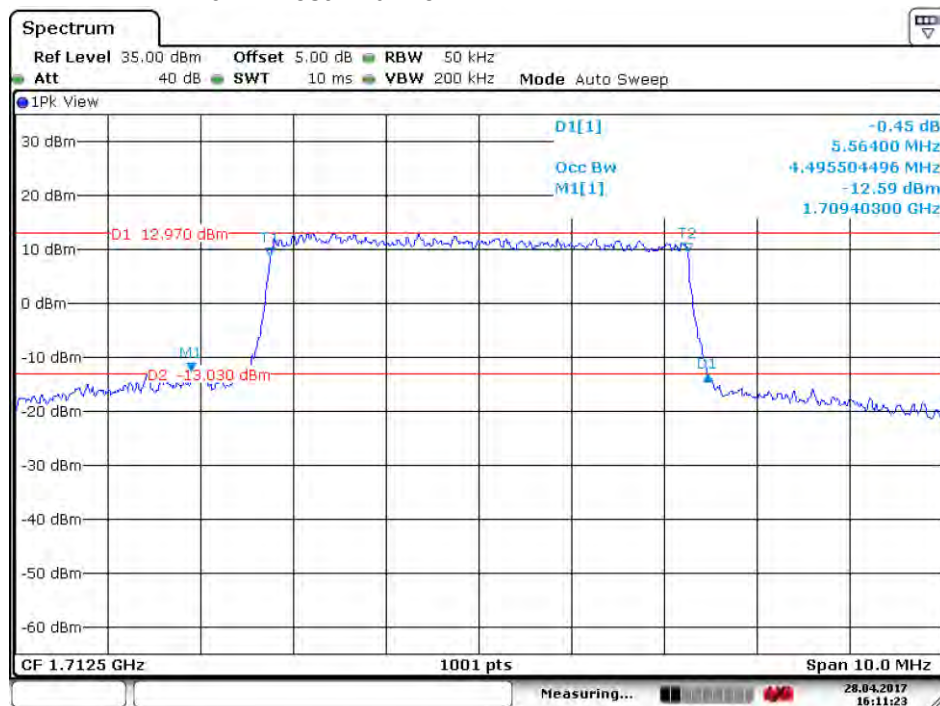
#### 4.1.1.5.3 Test Channel = HCH



Date: 28.APR.2017 16:14:30

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

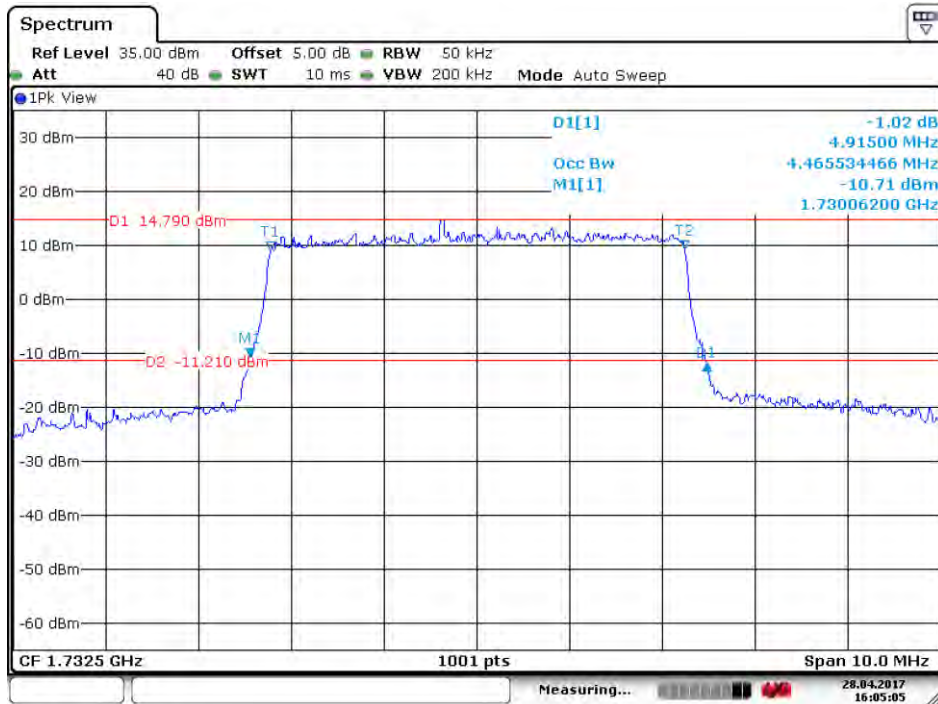
##### 4.1.1.6.1 Test Channel = LCH



Date: 28.APR.2017 16:11:23

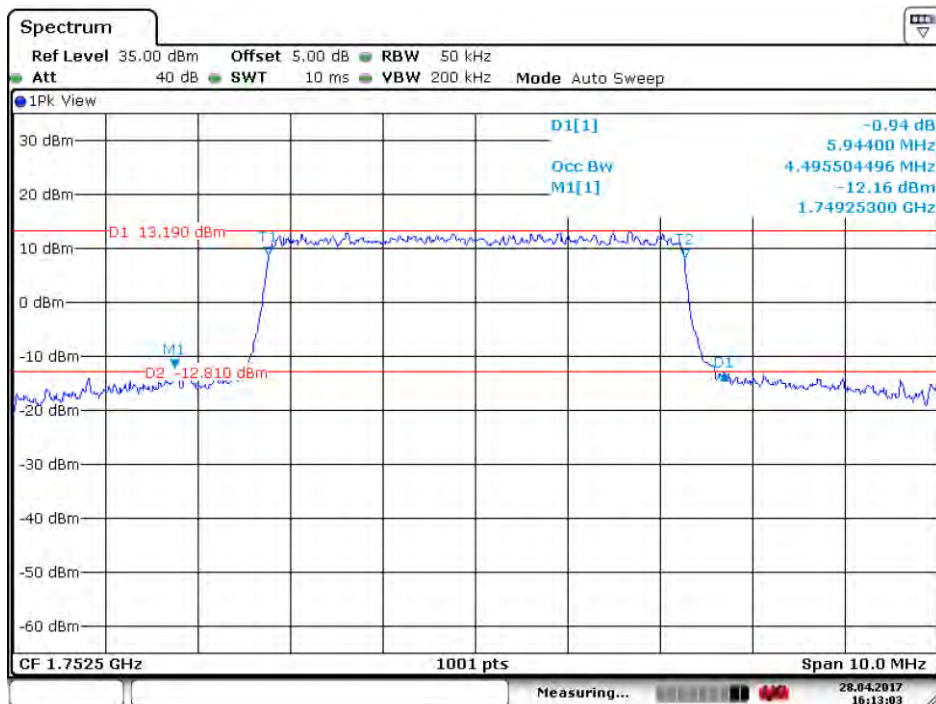


4.1.1.6.2 Test Channel = MCH



Date: 28.APR.2017 16:05:06

4.1.1.6.3 Test Channel = HCH



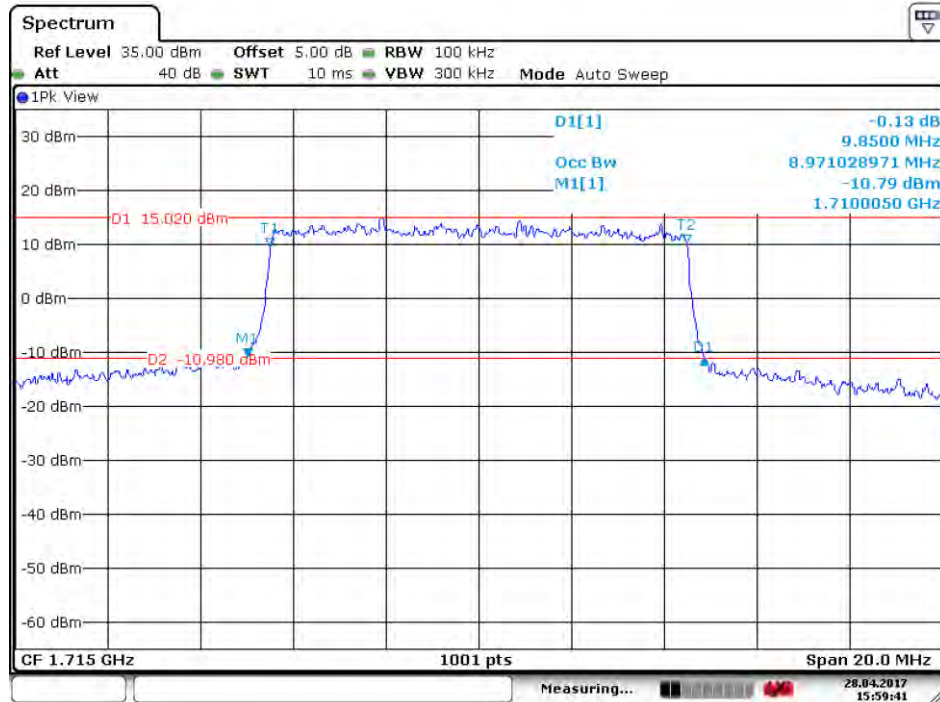
Date: 28.APR.2017 16:13:03





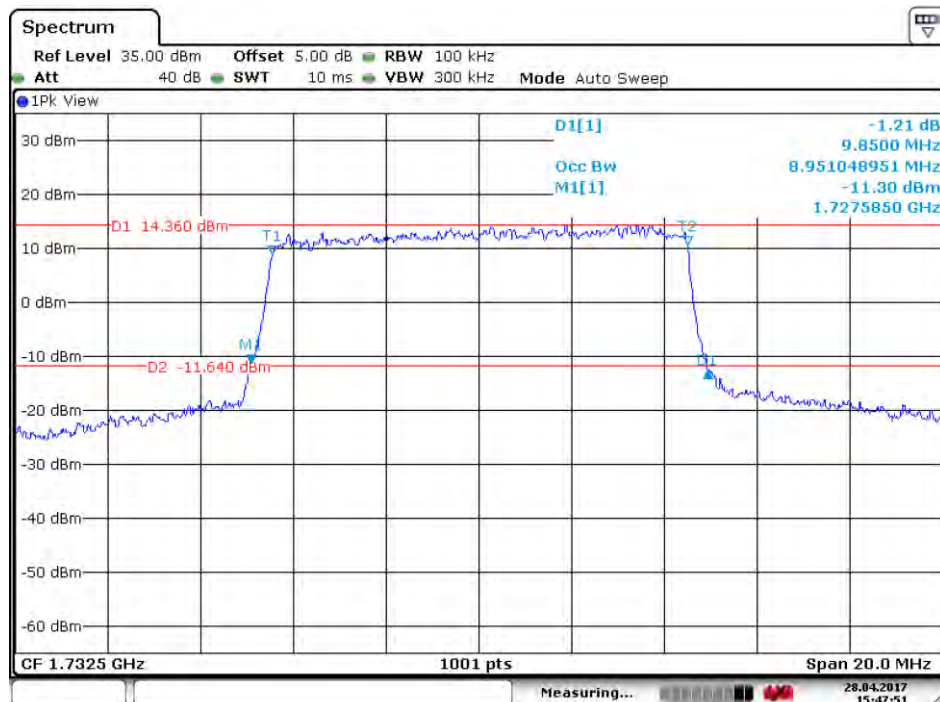
#### 4.1.1.7 Test Mode = LTE/TM1 10MHz

##### 4.1.1.7.1 Test Channel = LCH



Date: 28.APR.2017 15:59:41

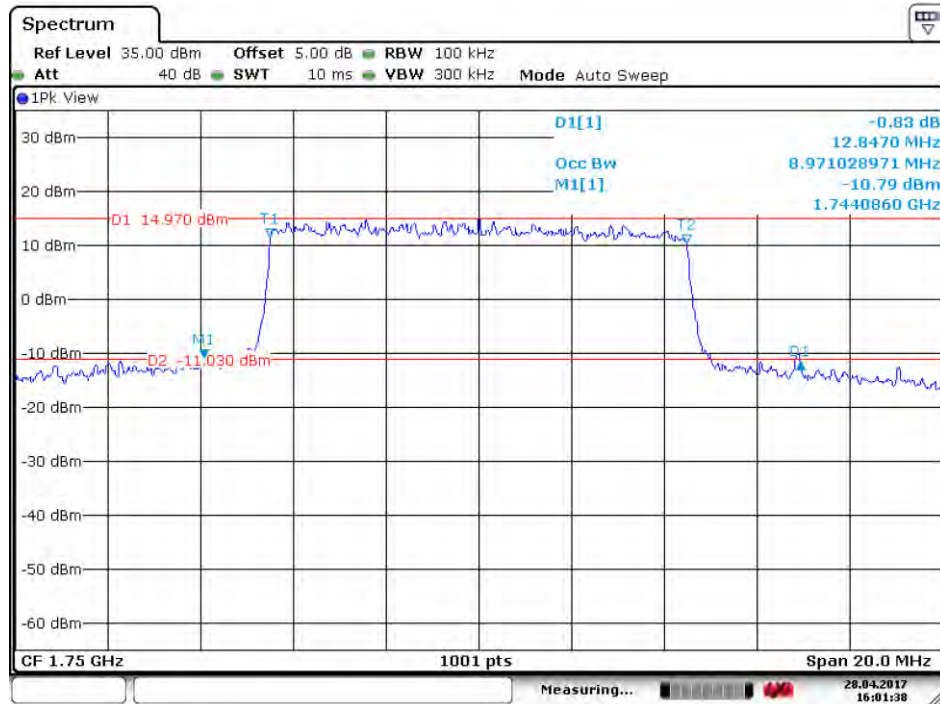
##### 4.1.1.7.2 Test Channel = MCH



Date: 28.APR.2017 15:47:52



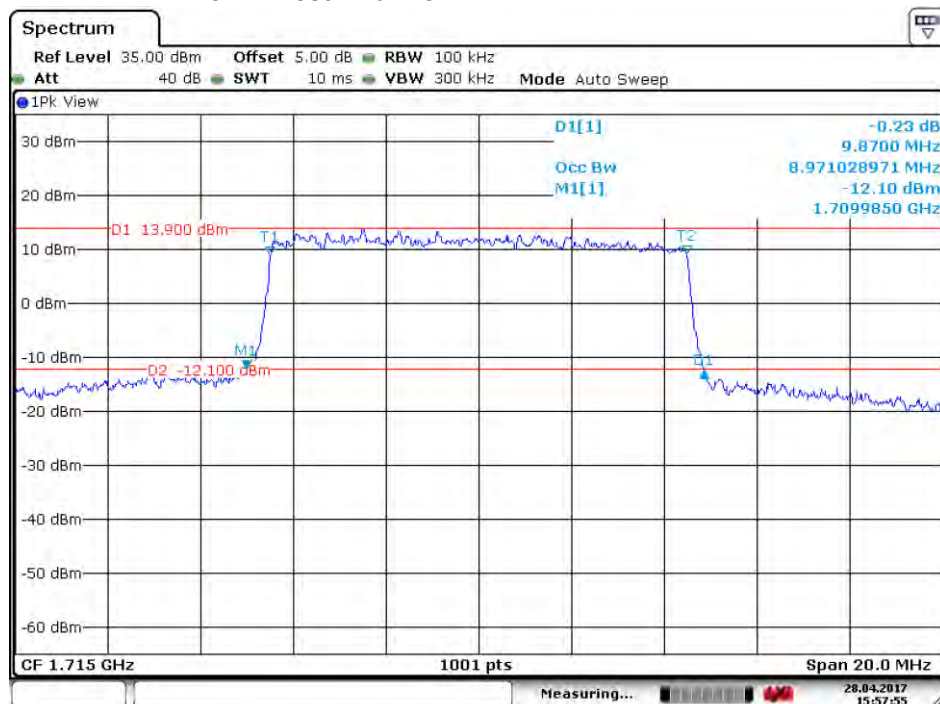
#### 4.1.1.7.3 Test Channel = HCH



Date: 28.APR.2017 16:01:38

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

##### 4.1.1.8.1 Test Channel = LCH

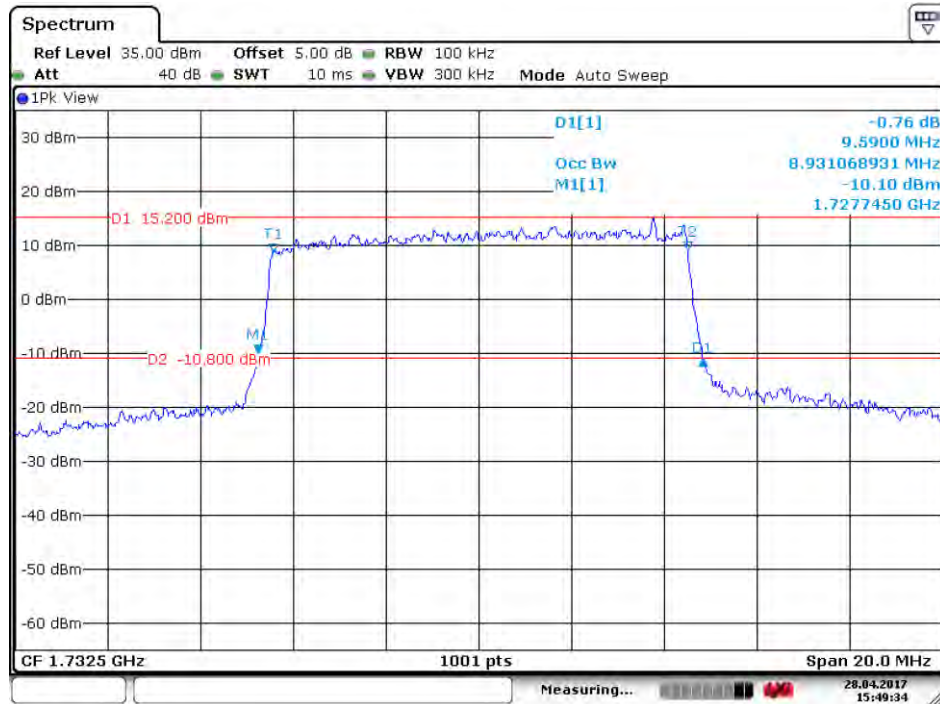


Date: 28.APR.2017 15:57:55



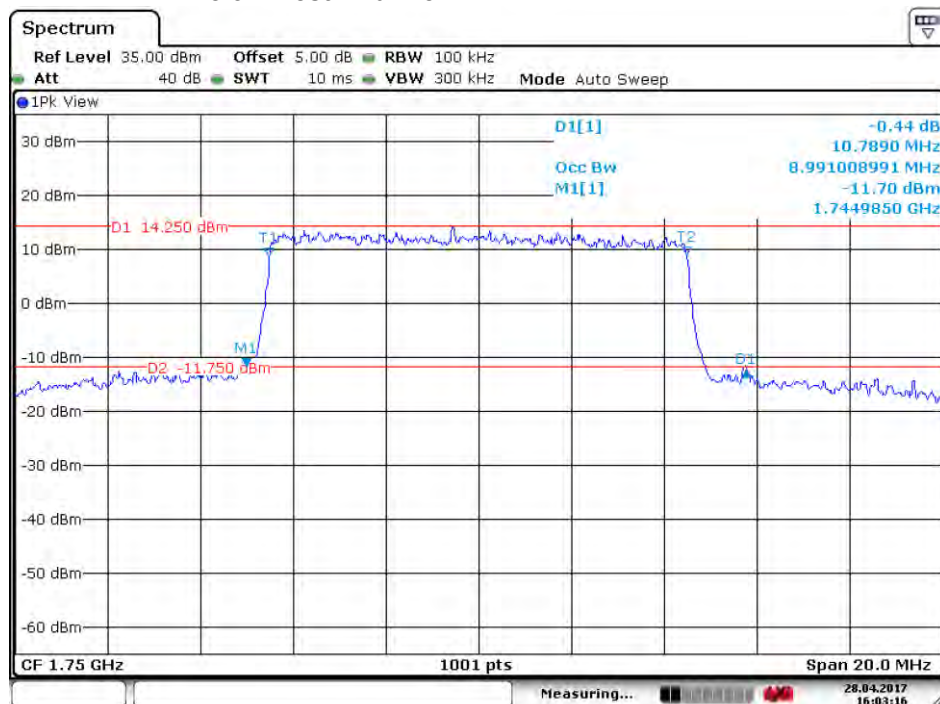


#### 4.1.1.8.2 Test Channel = MCH



Date: 28.APR.2017 15:49:34

#### 4.1.1.8.3 Test Channel = HCH

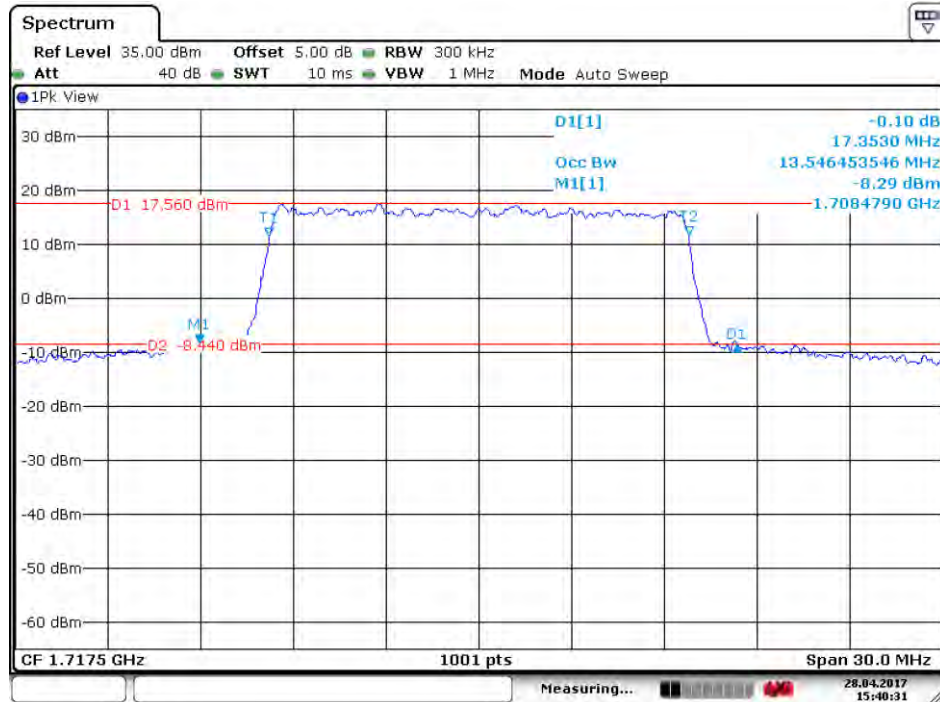


Date: 28.APR.2017 16:03:17



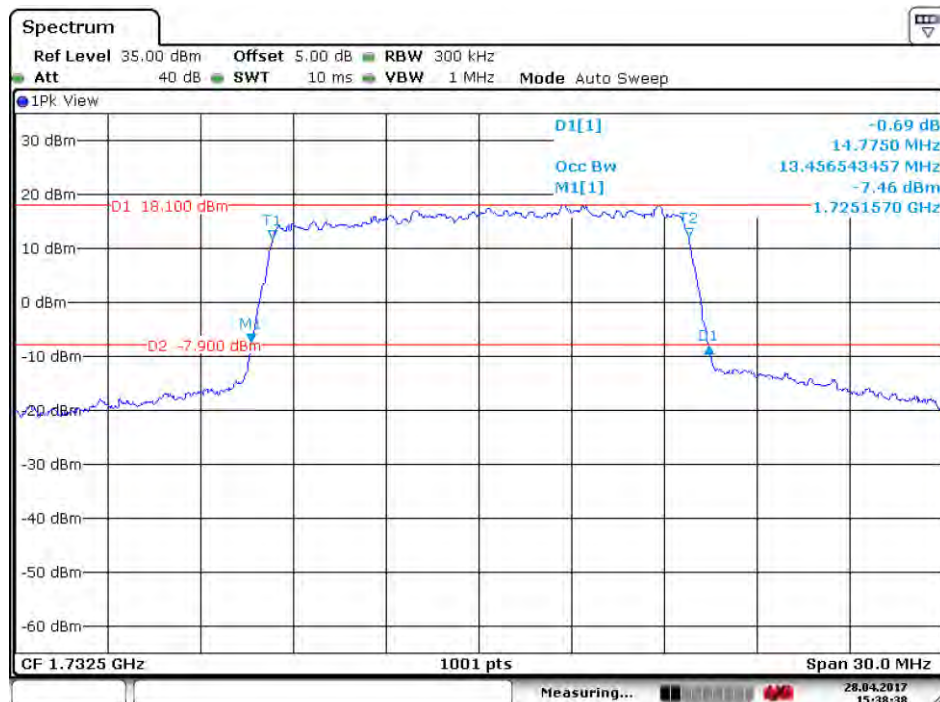
4.1.1.9 Test Mode = LTE/TM1 15MHz

4.1.1.9.1 Test Channel = LCH



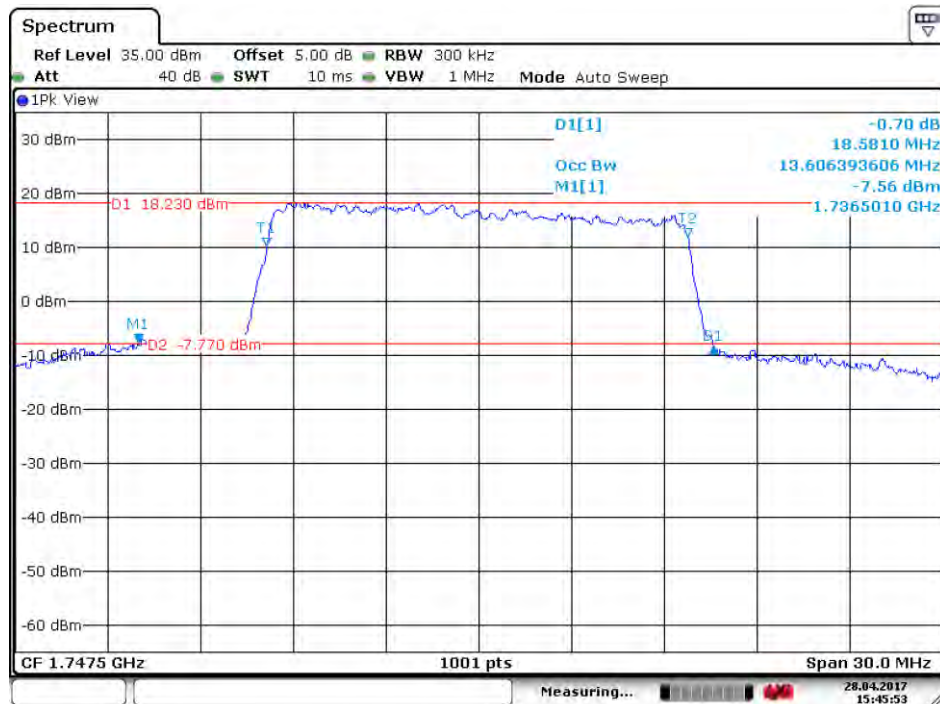
Date: 28.APR.2017 15:40:32

4.1.1.9.2 Test Channel = MCH



Date: 28.APR.2017 15:38:38

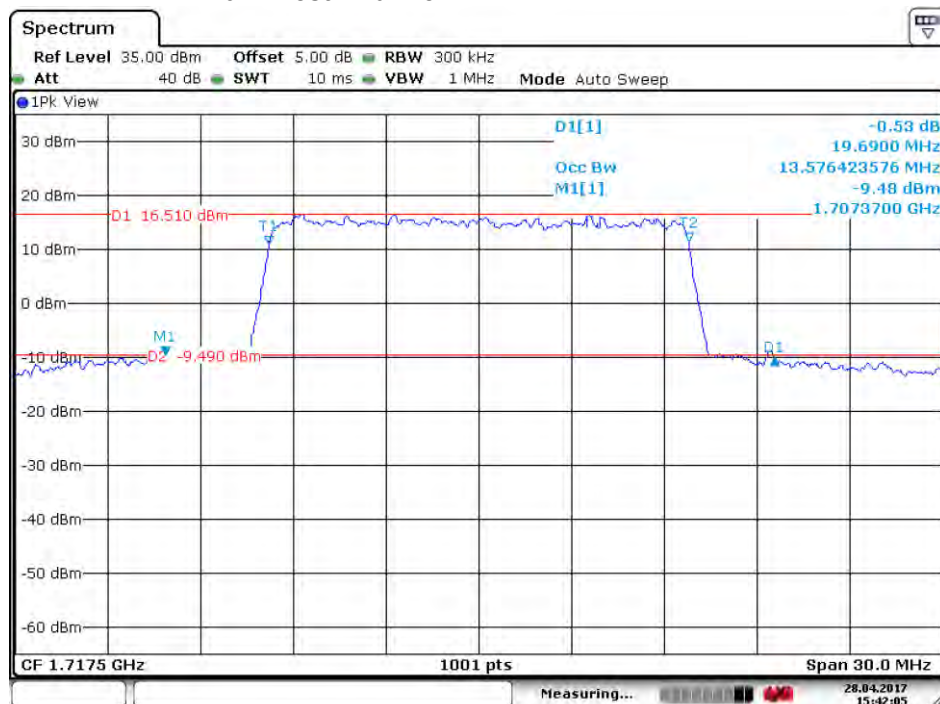
#### 4.1.1.9.3 Test Channel = HCH



Date: 28 APR 2017 15:45:53

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

#### 4.1.1.10.1 Test Channel = LCH

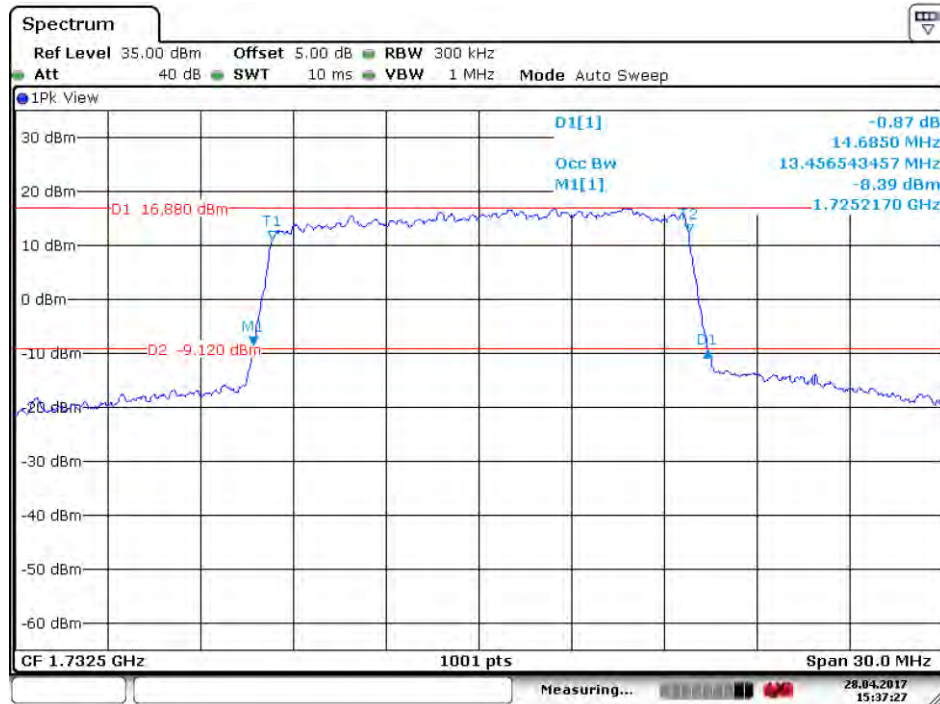


Date: 28 APR 2017 15:42:05



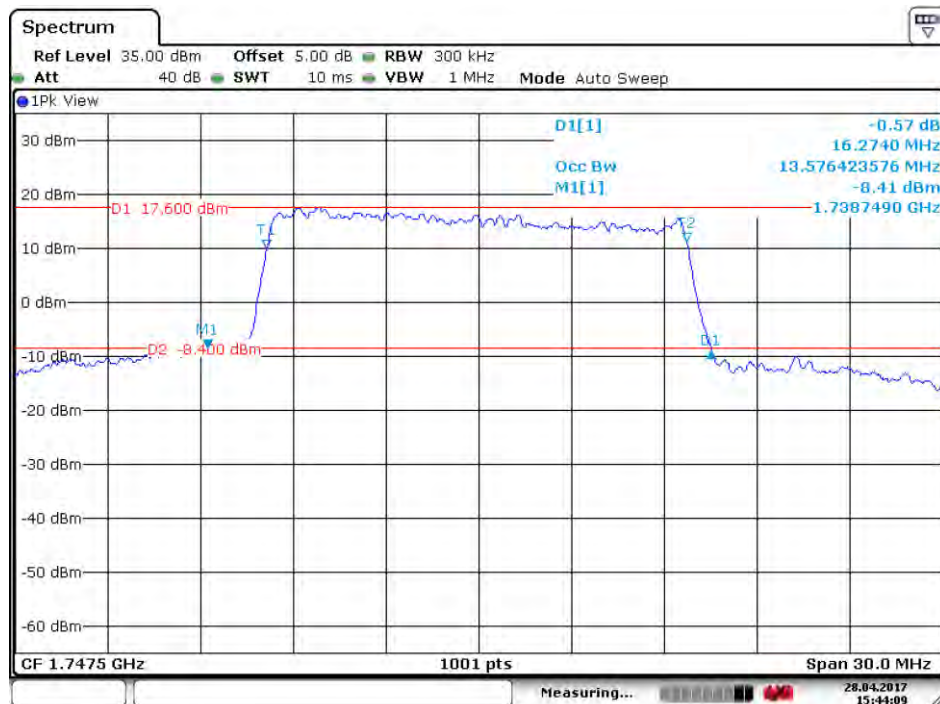


#### 4.1.1.10.2 Test Channel = MCH



Date: 28.APR.2017 15:37:27

#### 4.1.1.10.3 Test Channel = HCH

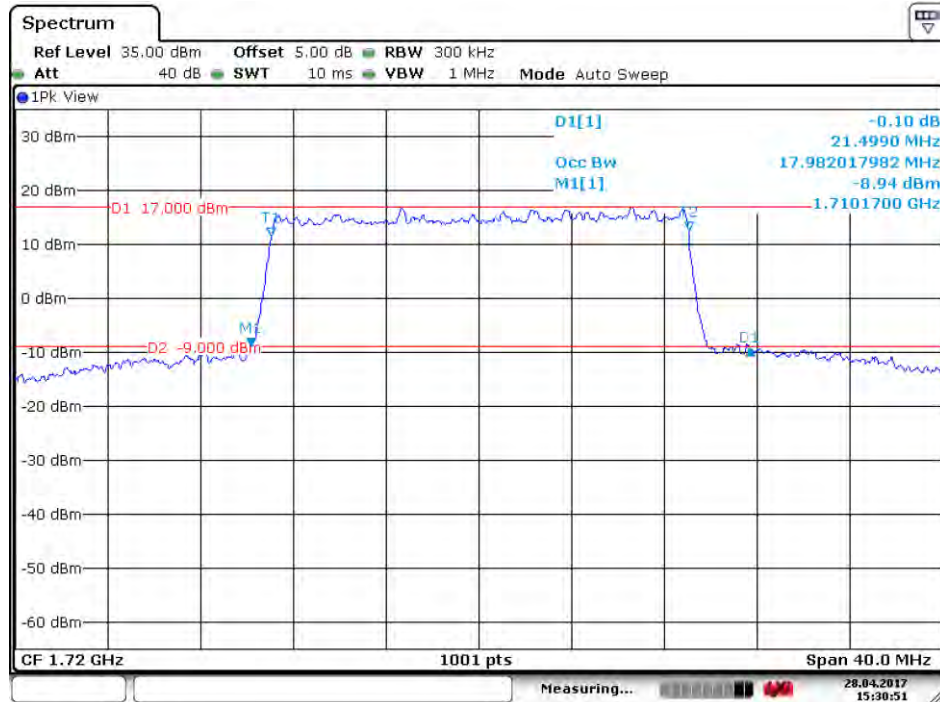


Date: 28.APR.2017 15:44:10



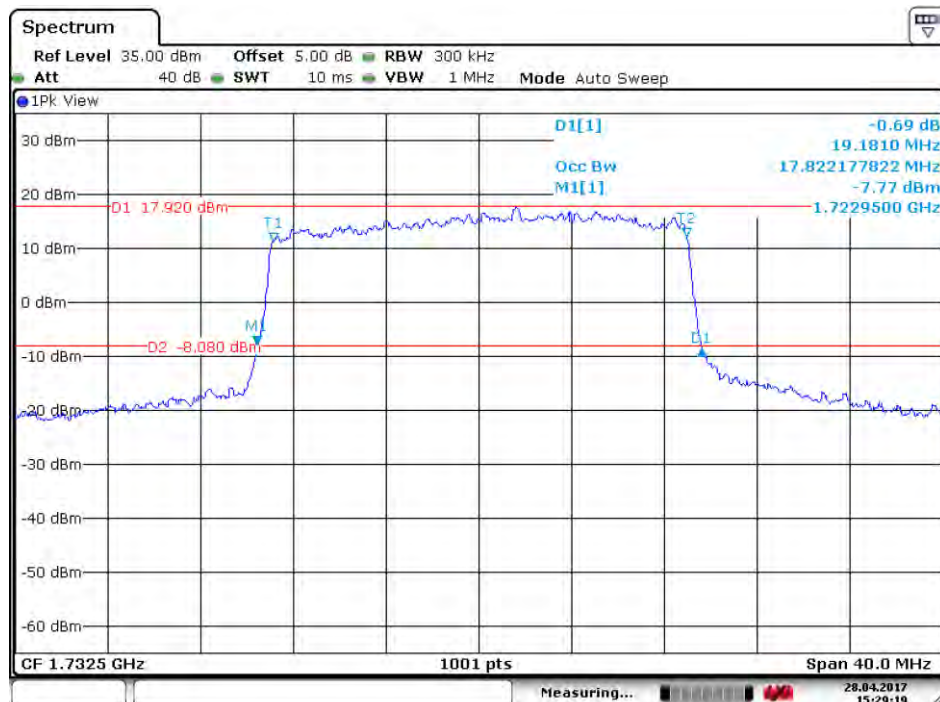
#### 4.1.1.11 Test Mode = LTE/TM1 20MHz

##### 4.1.1.11.1 Test Channel = LCH



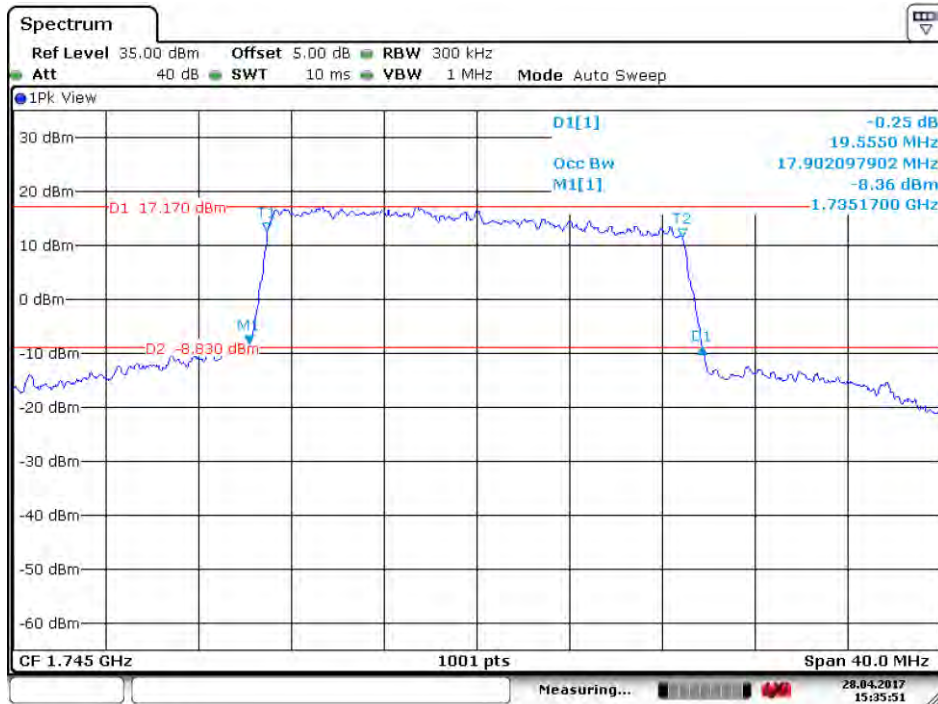
Date: 28.APR.2017 15:30:52

##### 4.1.1.11.2 Test Channel = MCH



Date: 28.APR.2017 15:29:19

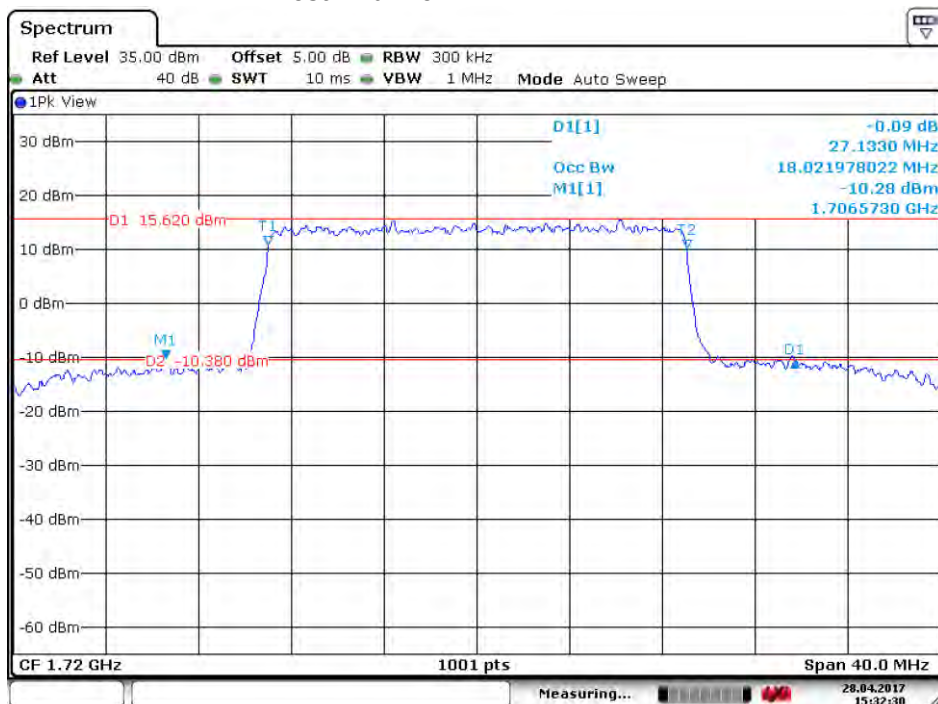
#### 4.1.1.11.3 Test Channel = HCH



Date: 28.APR.2017 15:35:51

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

#### 4.1.1.12.1 Test Channel = LCH

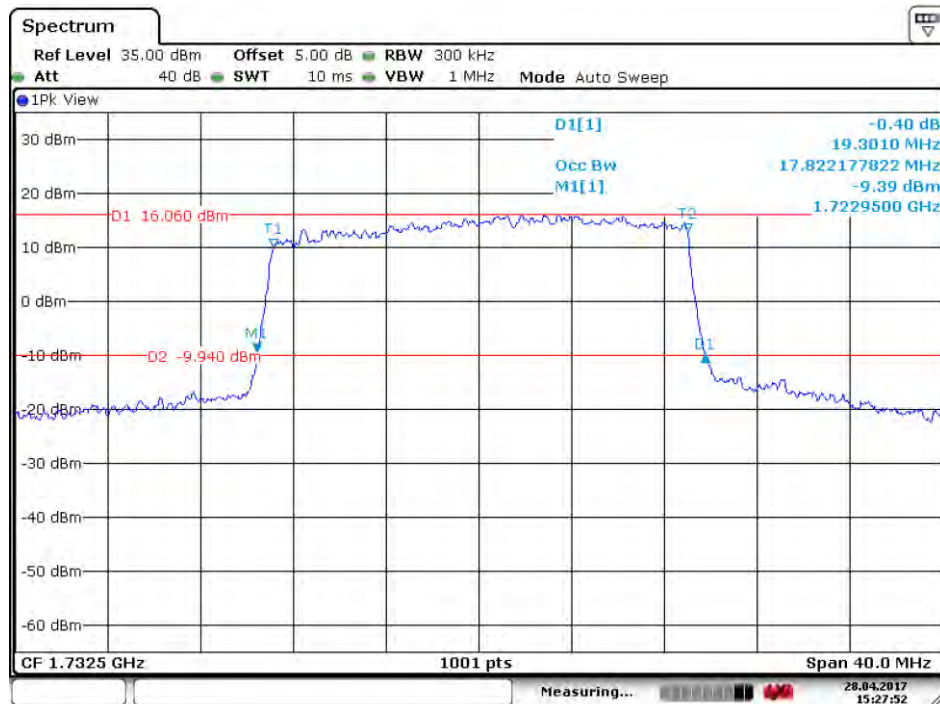


Date: 28.APR.2017 15:32:31



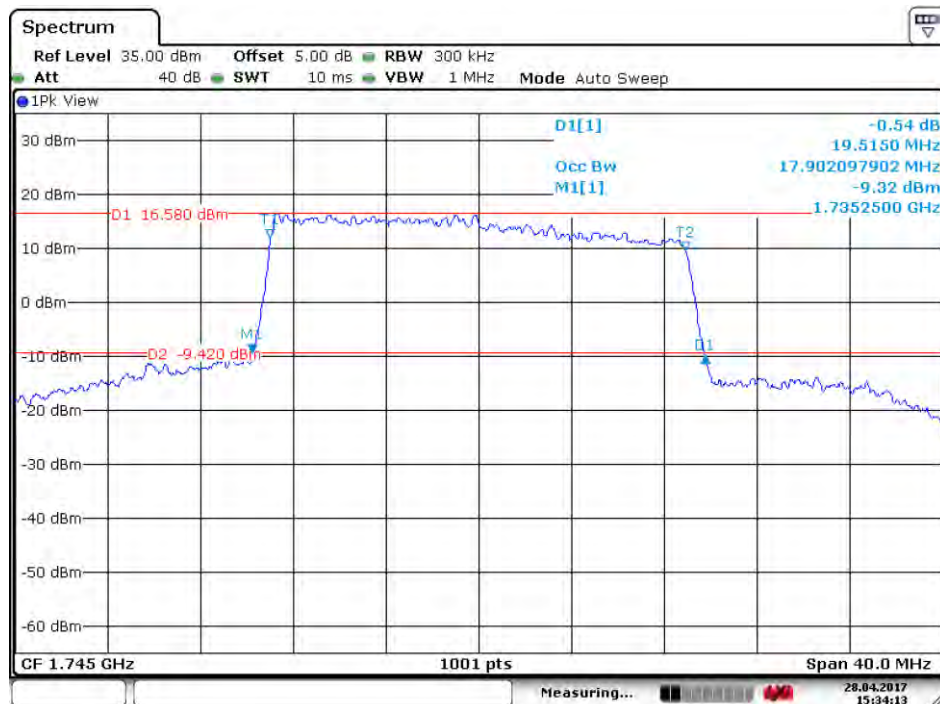


#### 4.1.1.12.2 Test Channel = MCH



Date: 28.APR.2017 15:27:52

#### 4.1.1.12.3 Test Channel = HCH



Date: 28.APR.2017 15:34:13



## 5 Band Edges Compliance

Part I –

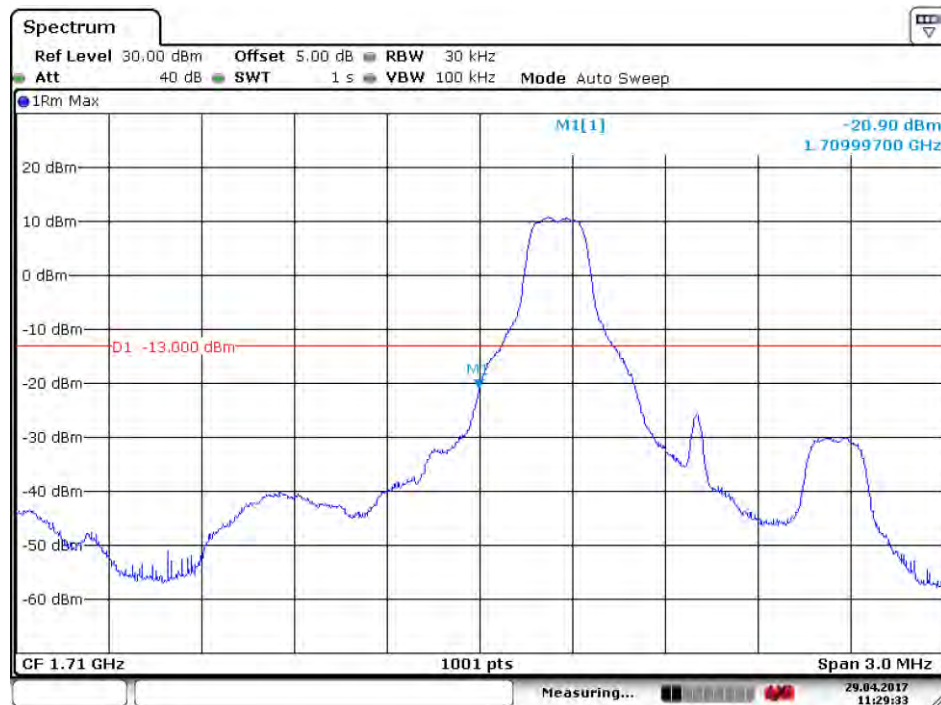
### 5.1 For LTE

#### 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

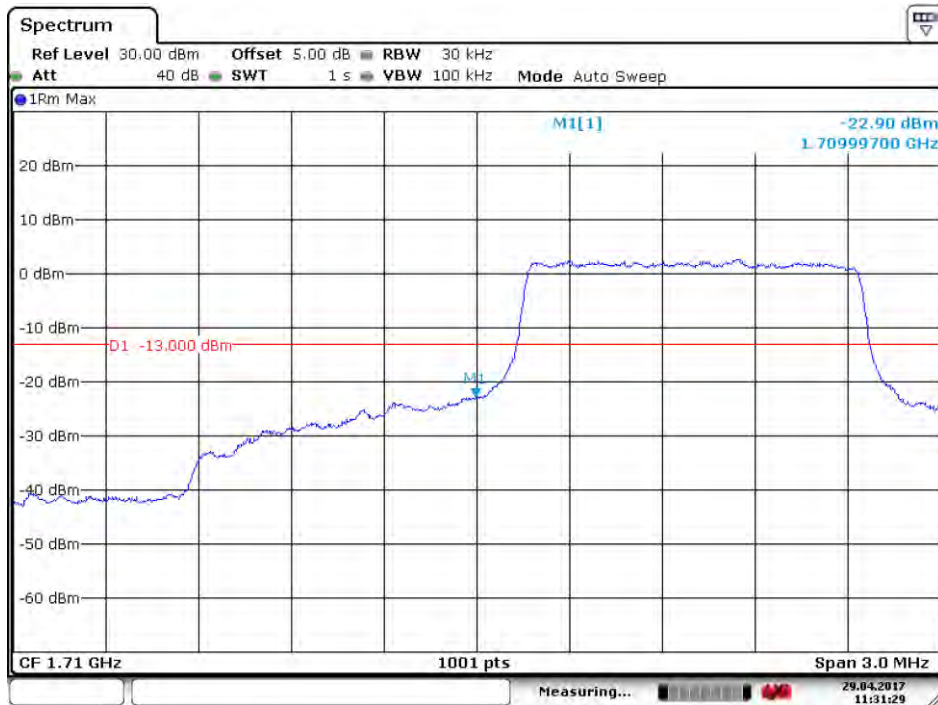


Date: 29.APR.2017 11:29:34





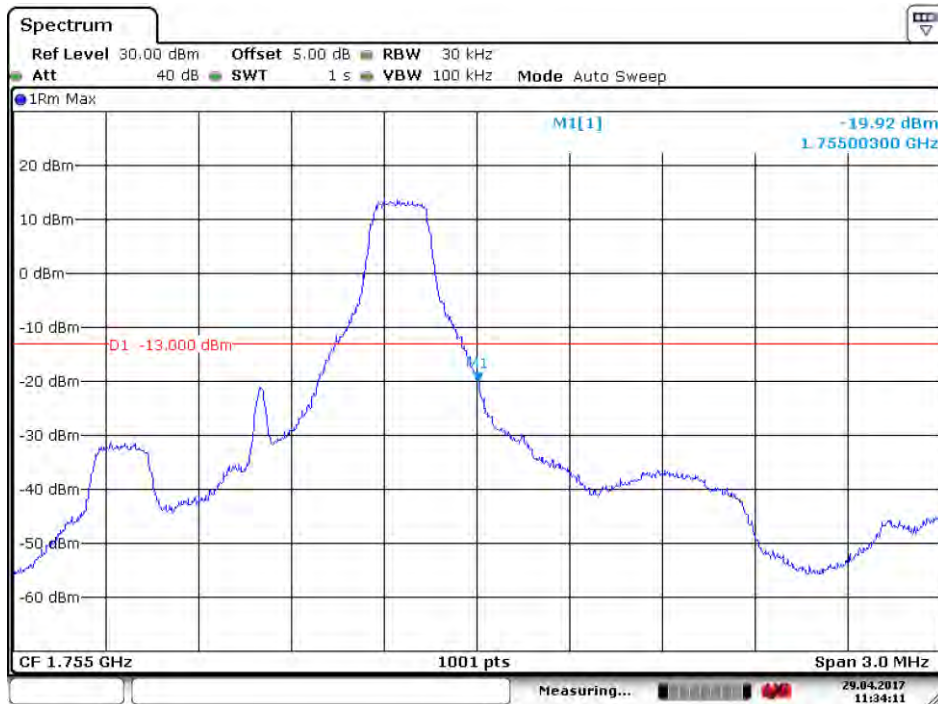
5.1.1.1.2 Test RB=6RB



Date: 29.APR.2017 11:31:29

5.1.1.1.2 Test Channel = HCH

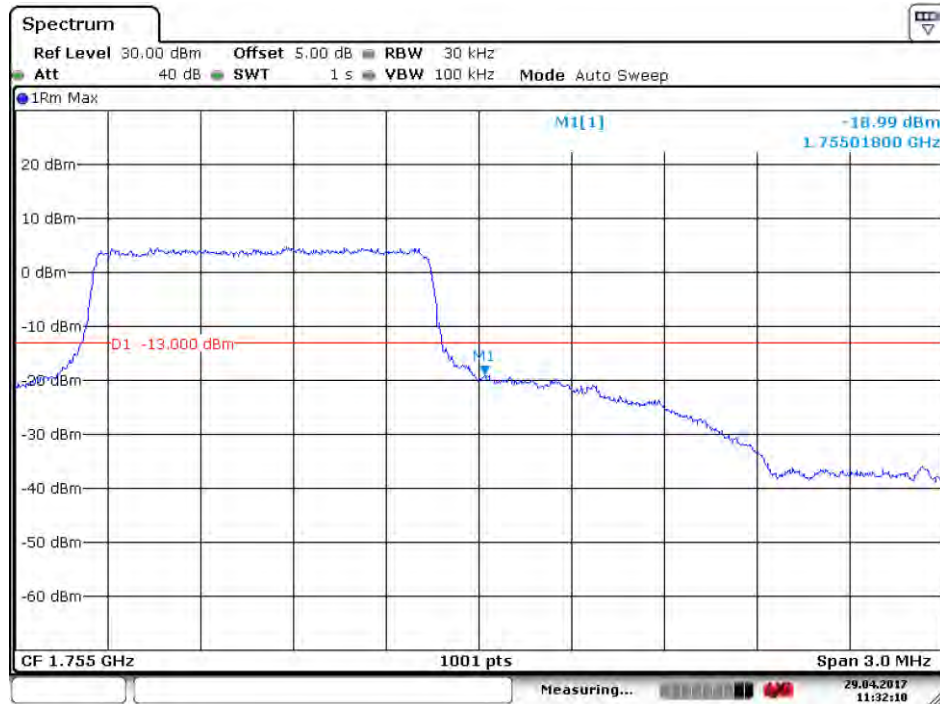
5.1.1.1.2.1 Test RB=1RB



Date: 29.APR.2017 11:34:11



5.1.1.1.2.2 Test RB=6RB

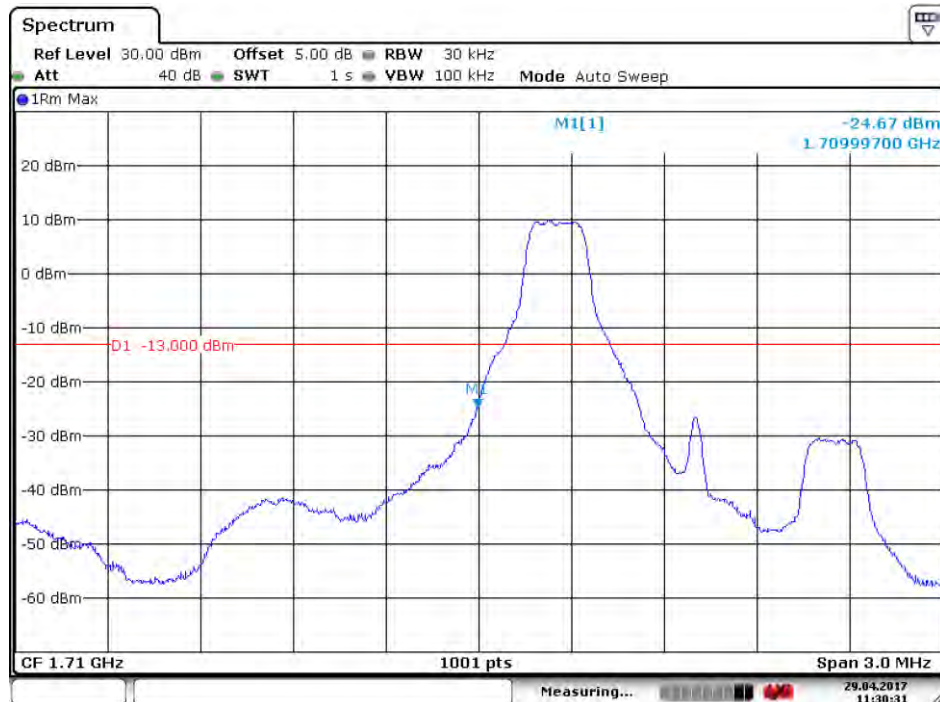


Date: 29.APR.2017 11:32:11

5.1.1.2 Test Mode = LTE/TM2 1.4MHz

5.1.1.2.1 Test Channel = LCH

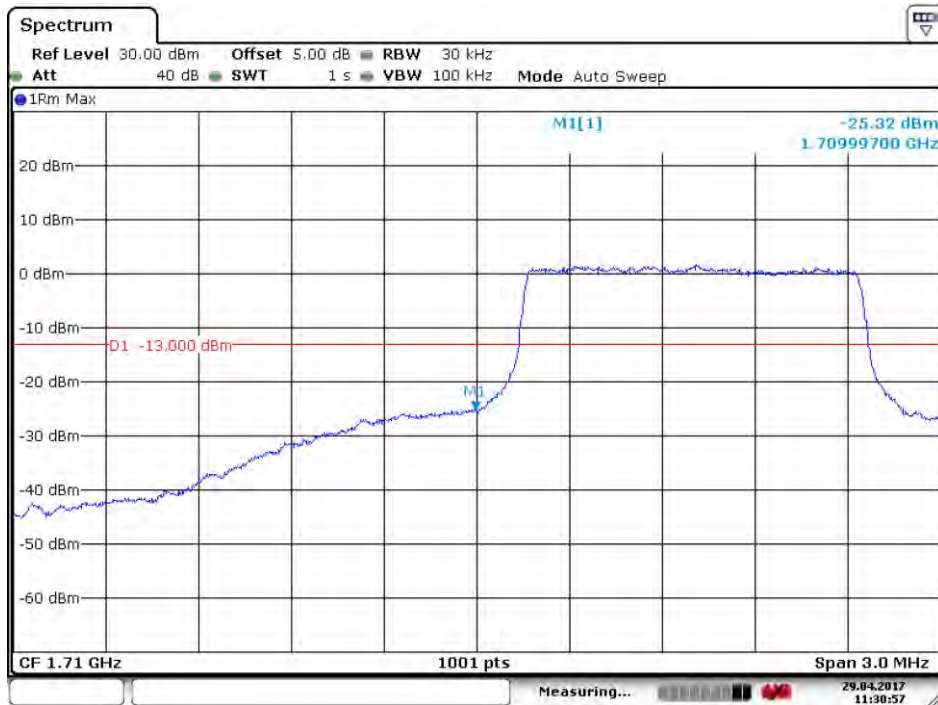
5.1.1.2.1.1 Test RB=1RB



Date: 29.APR.2017 11:30:31



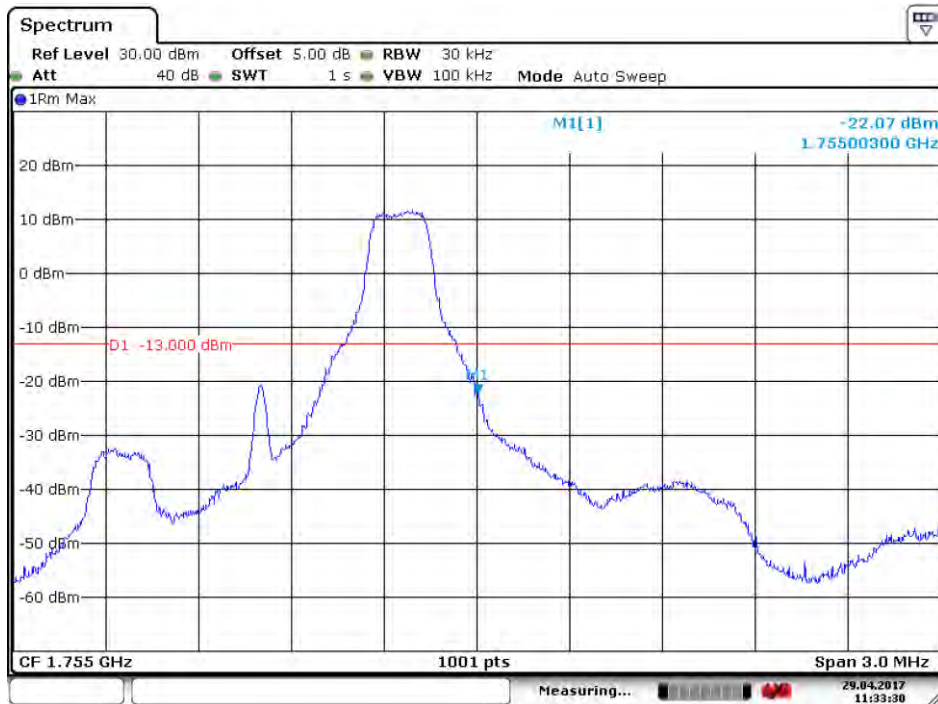
#### 5.1.1.2.1.2 Test RB=6RB



Date: 29.APR.2017 11:30:58

#### 5.1.1.2.2 Test Channel = HCH

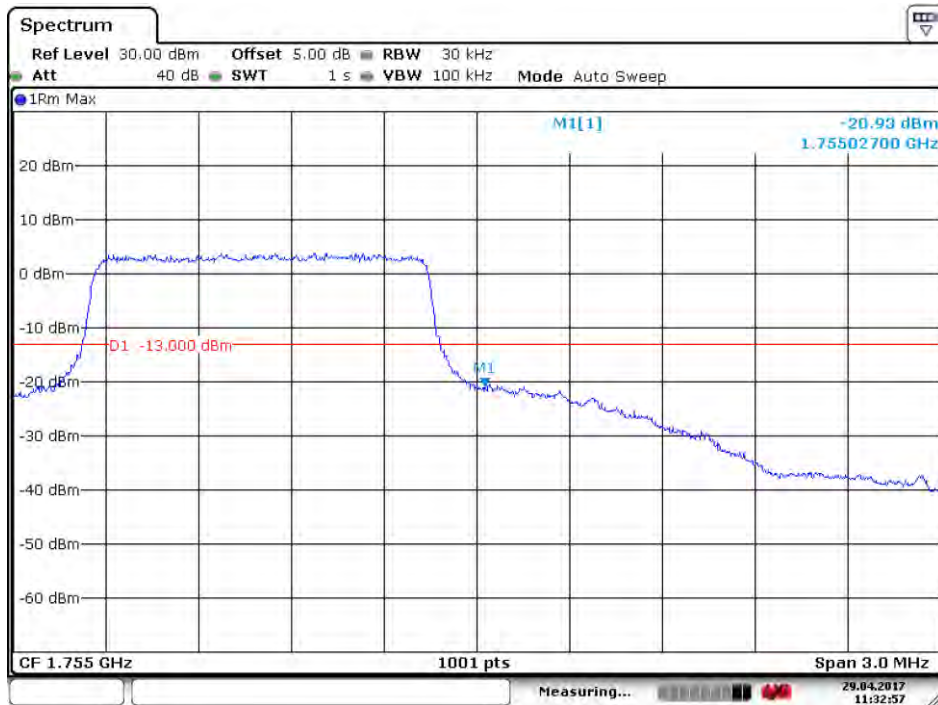
##### 5.1.1.2.2.1 Test RB=1RB



Date: 29.APR.2017 11:33:30



#### 5.1.1.2.2 Test RB=6RB

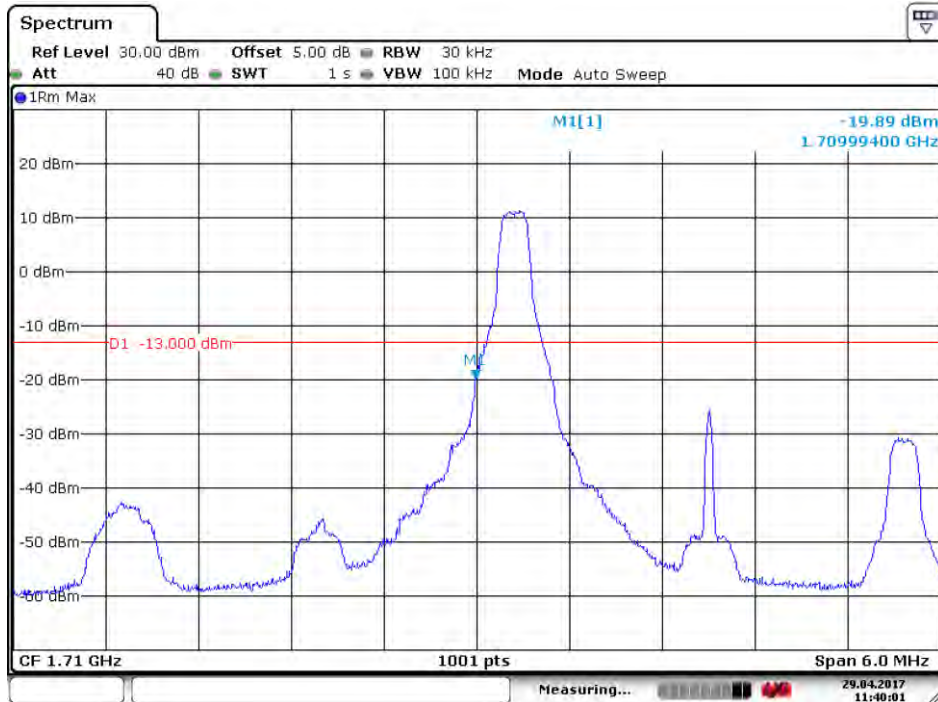


Date: 29.APR.2017 11:32:57

#### 5.1.1.3 Test Mode = LTE/TM1 3MHz

##### 5.1.1.3.1 Test Channel = LCH

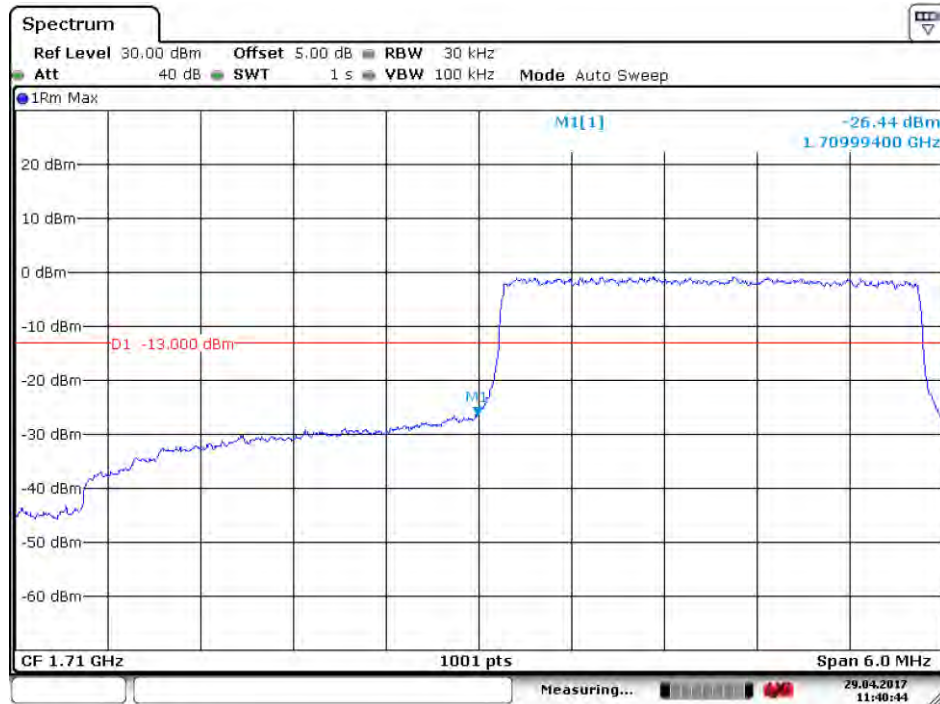
##### 5.1.1.3.1.1 Test RB=1RB



Date: 29.APR.2017 11:40:02



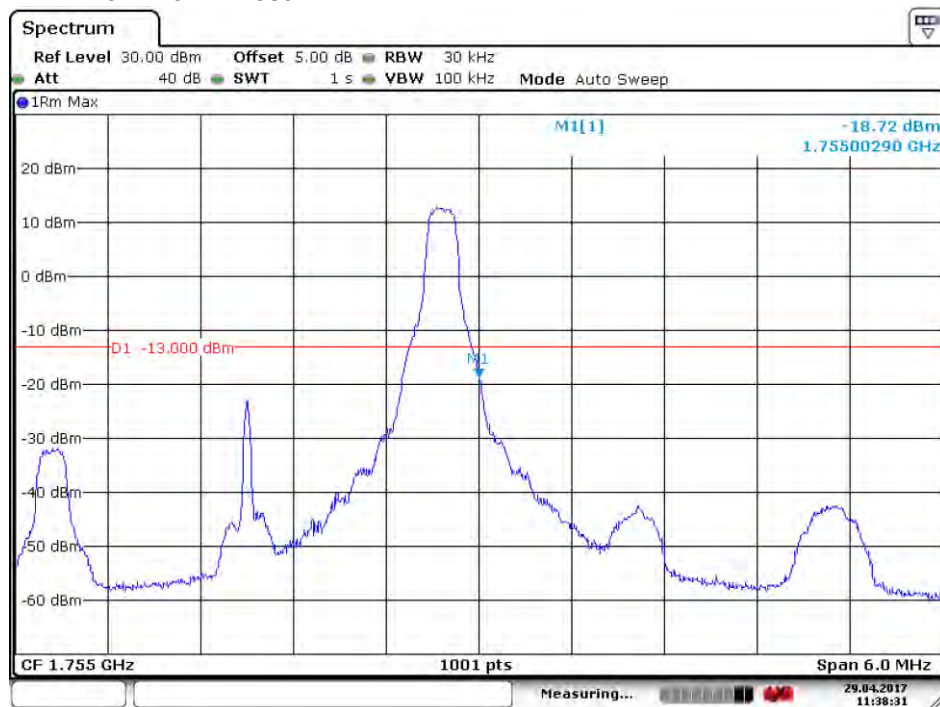
#### 5.1.1.3.1.2 Test RB=15RB



Date: 29.APR.2017 11:40:44

#### 5.1.1.3.2 Test Channel = HCH

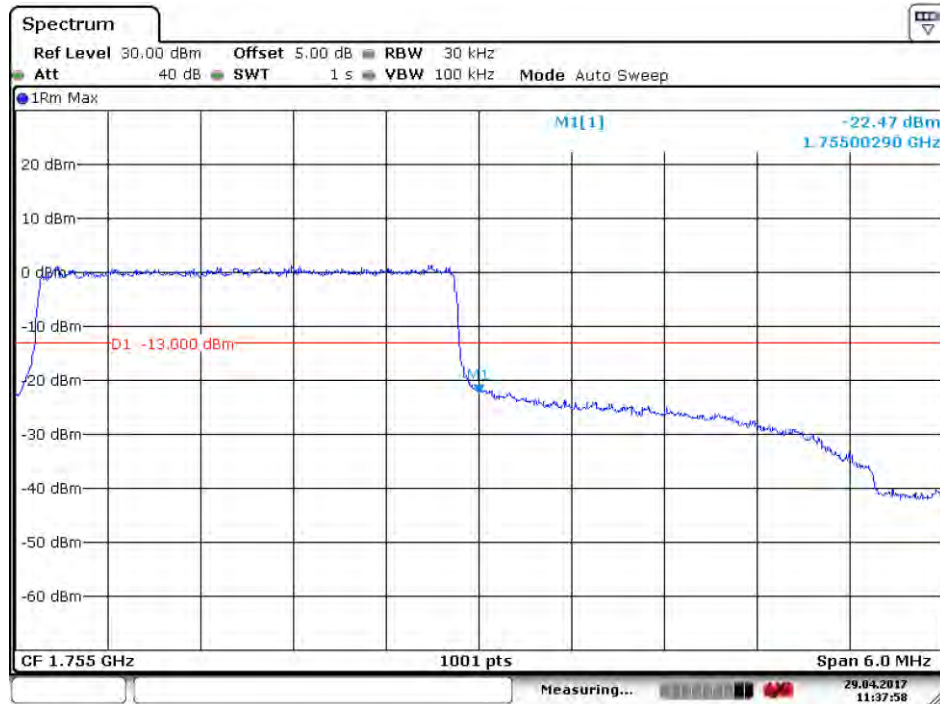
##### 5.1.1.3.2.1 Test RB=1RB



Date: 29.APR.2017 11:38:31



#### 5.1.1.3.2.2 Test RB=15RB

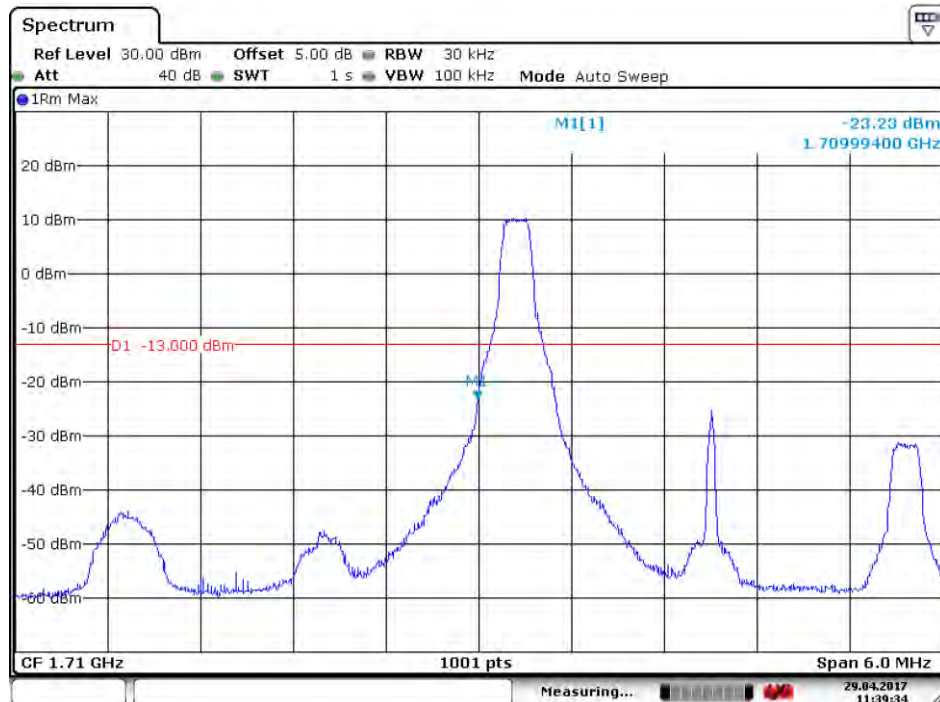


Date: 29.APR.2017 11:37:59

#### 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

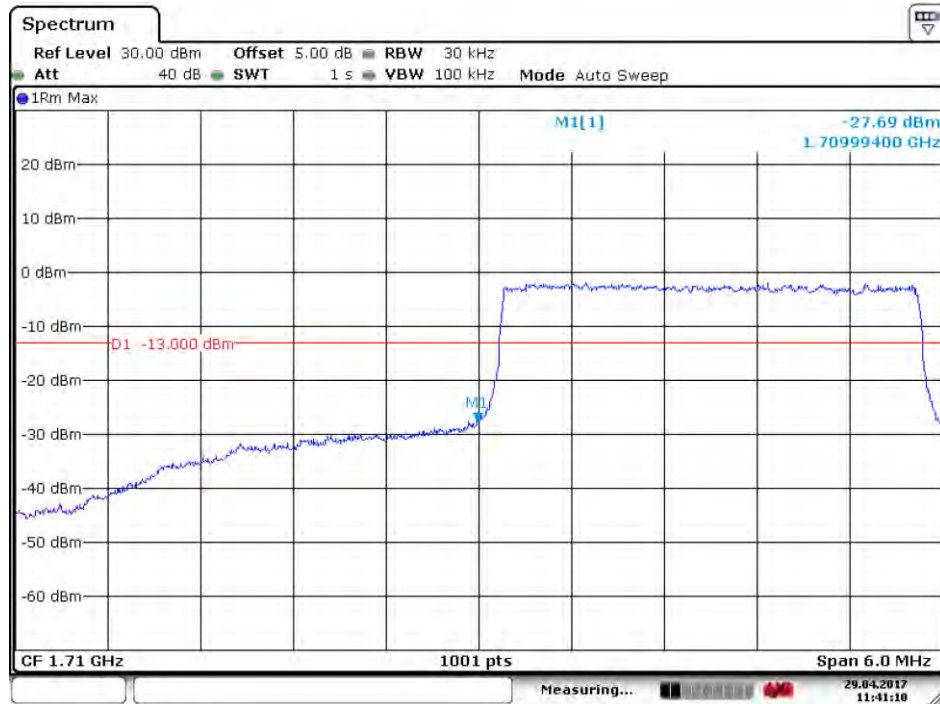


Date: 29.APR.2017 11:39:34





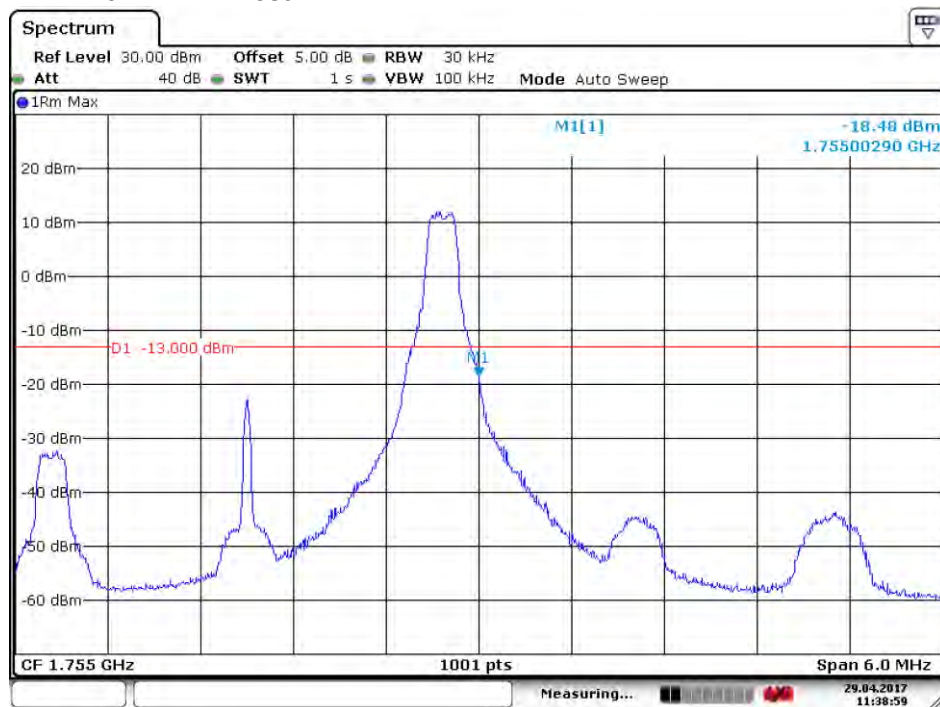
#### 5.1.1.4.1.2 Test RB=15RB



Date: 29.APR.2017 11:41:10

#### 5.1.1.4.2 Test Channel = HCH

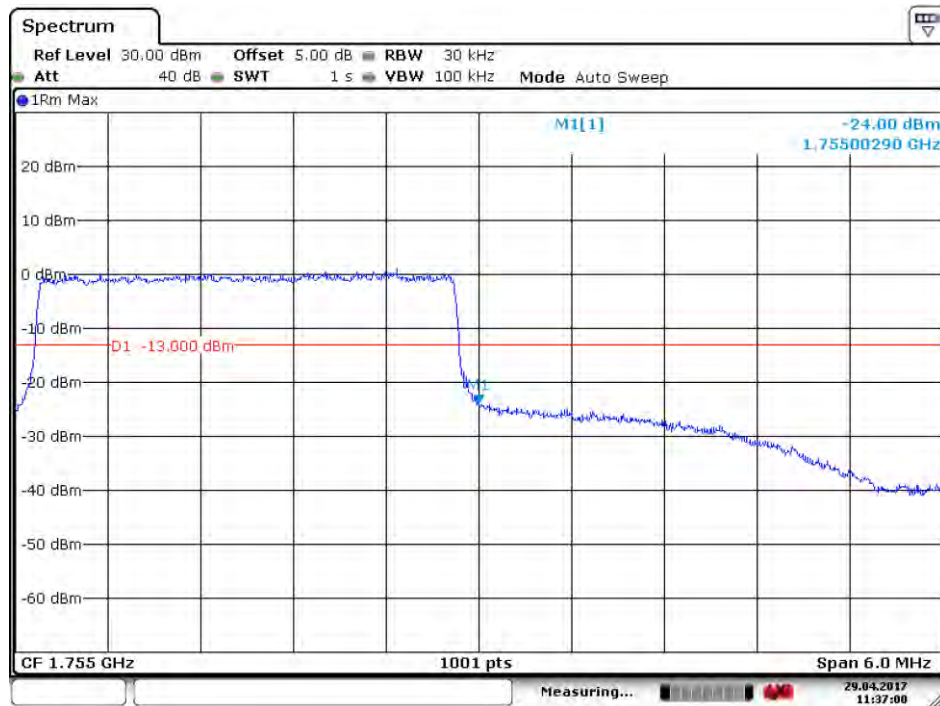
##### 5.1.1.4.2.1 Test RB=1RB



Date: 29.APR.2017 11:39:00



#### 5.1.1.4.3 Test RB=15RB

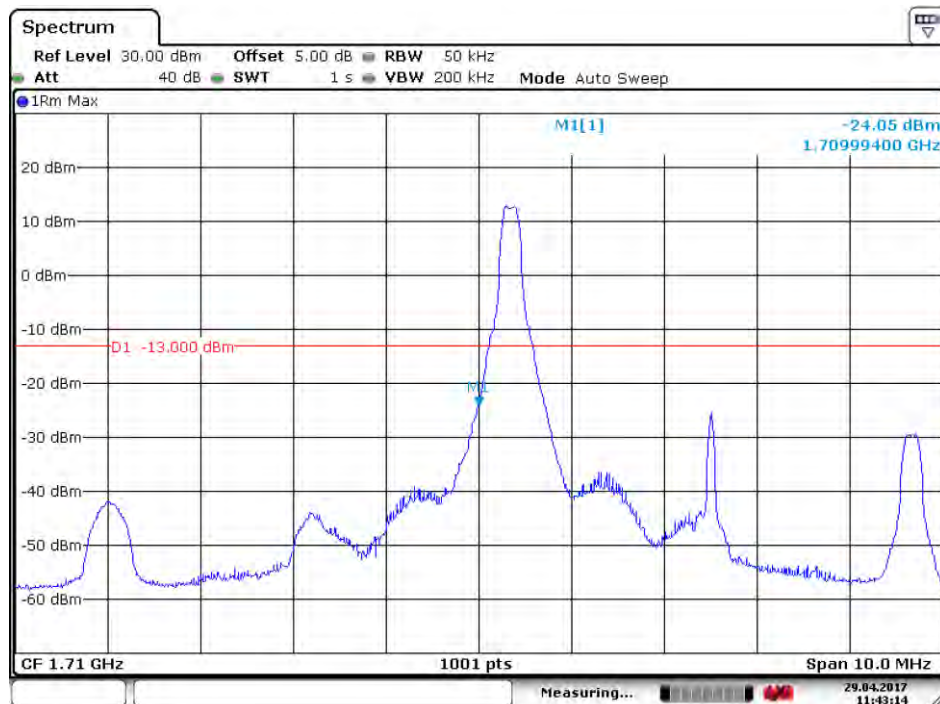


Date: 29.APR.2017 11:37:00

#### 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

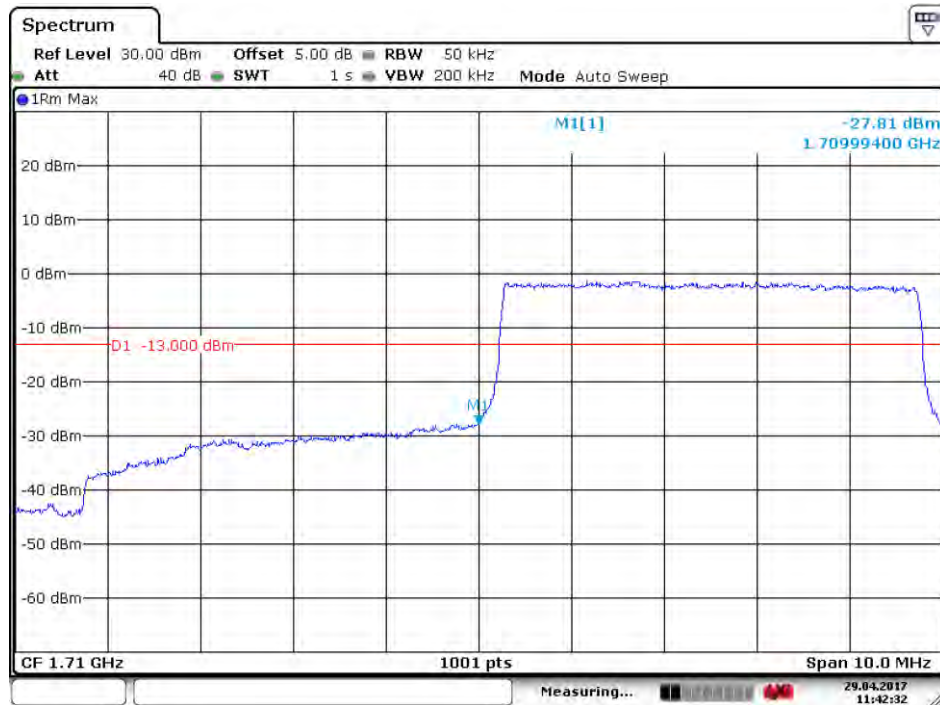


Date: 29.APR.2017 11:43:14





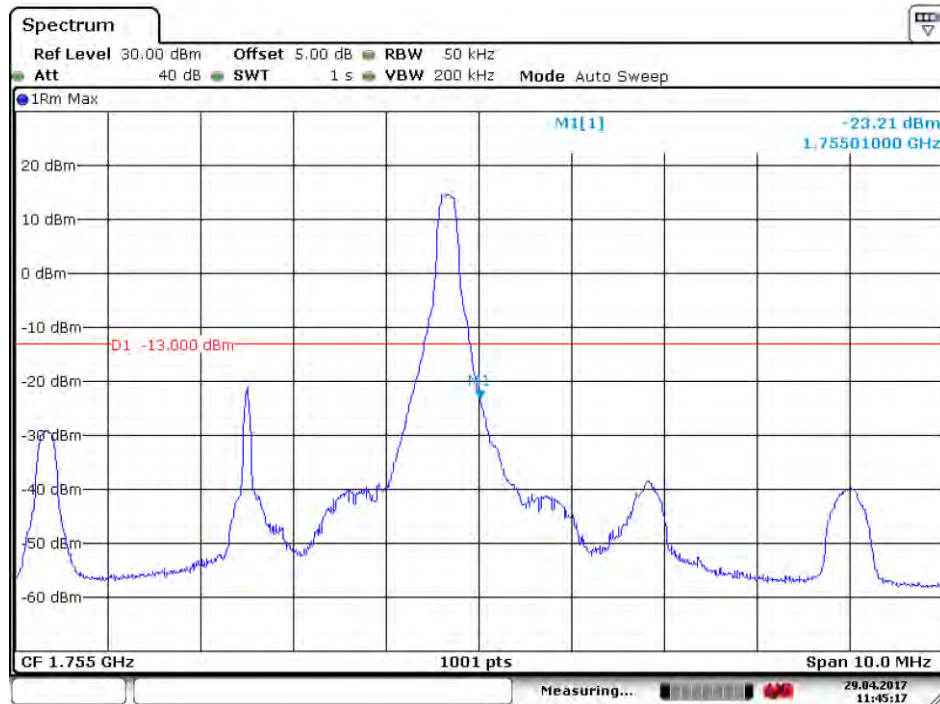
#### 5.1.1.5.1.2 Test RB=25RB



Date: 29. APR. 2017 11:42:32

#### 5.1.1.5.2 Test Channel = HCH

##### 5.1.1.5.2.1 Test RB=1RB



Date: 29. APR. 2017 11:45:18



#### 5.1.1.5.2.2 Test RB=25RB

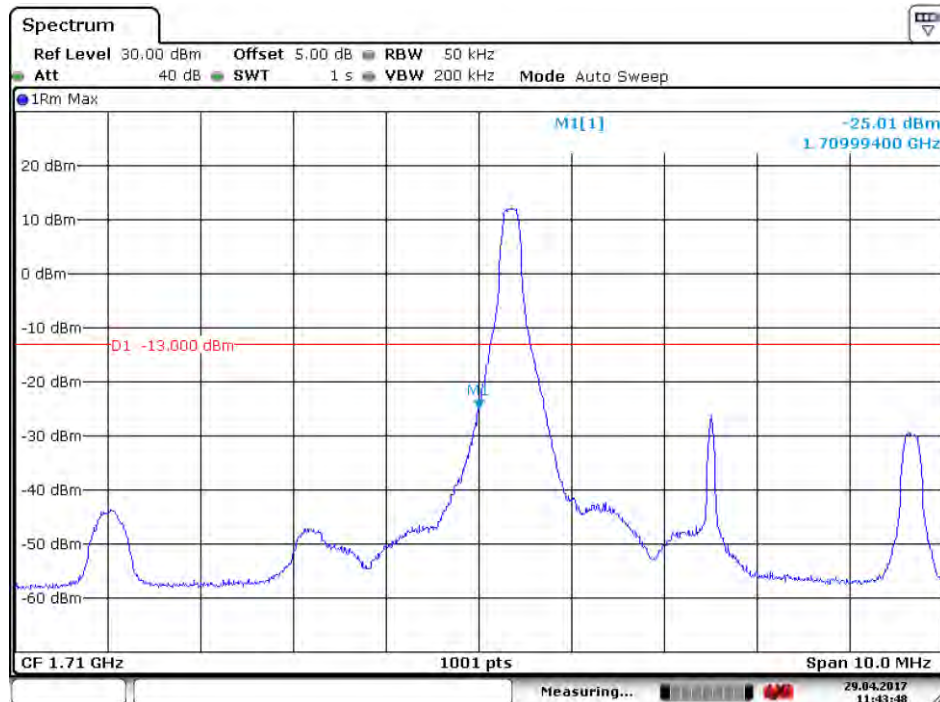


Date: 29.APR.2017 11:45:52

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

##### 5.1.1.6.1 Test Channel = LCH

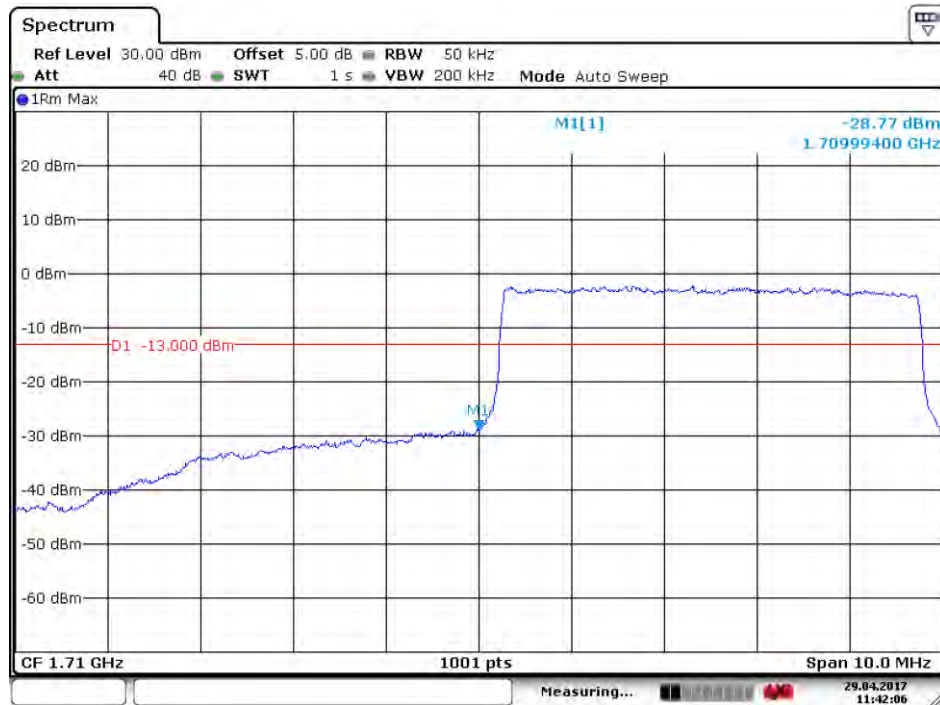
#### 5.1.1.6.1.1 Test RB=1RB



Date: 29.APR.2017 11:43:49



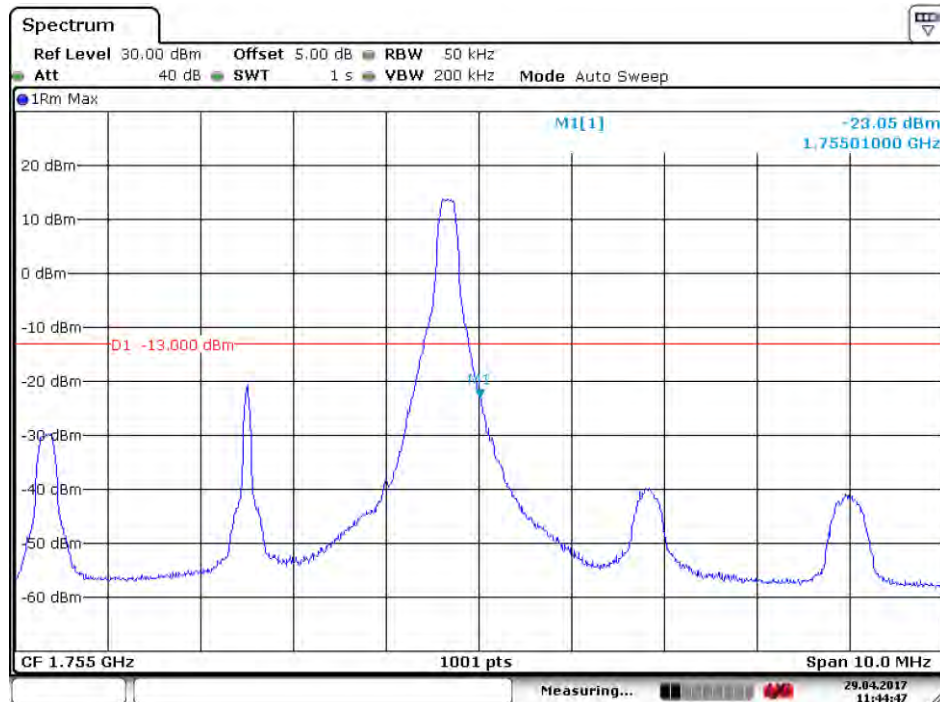
#### 5.1.1.6.1.2 Test RB=25RB



Date: 29. APR. 2017 11:42:06

#### 5.1.1.6.2 Test Channel = HCH

##### 5.1.1.6.2.1 Test RB=1RB



Date: 29. APR. 2017 11:44:47



#### 5.1.1.6.2.2 Test RB=25RB

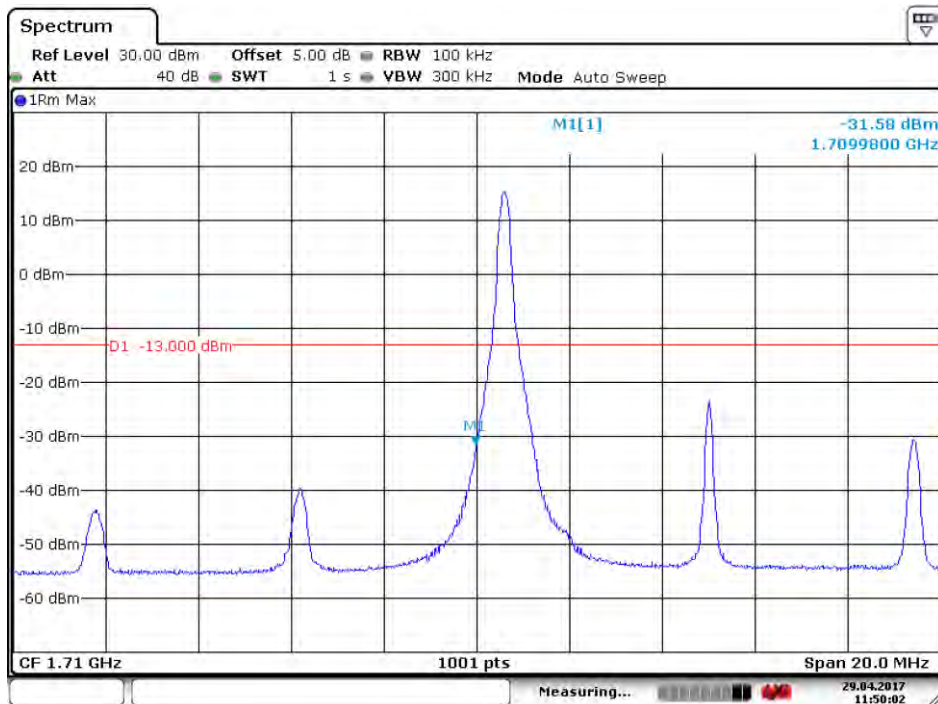


Date: 29.APR.2017 11:46:53

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

##### 5.1.1.7.1 Test Channel = LCH

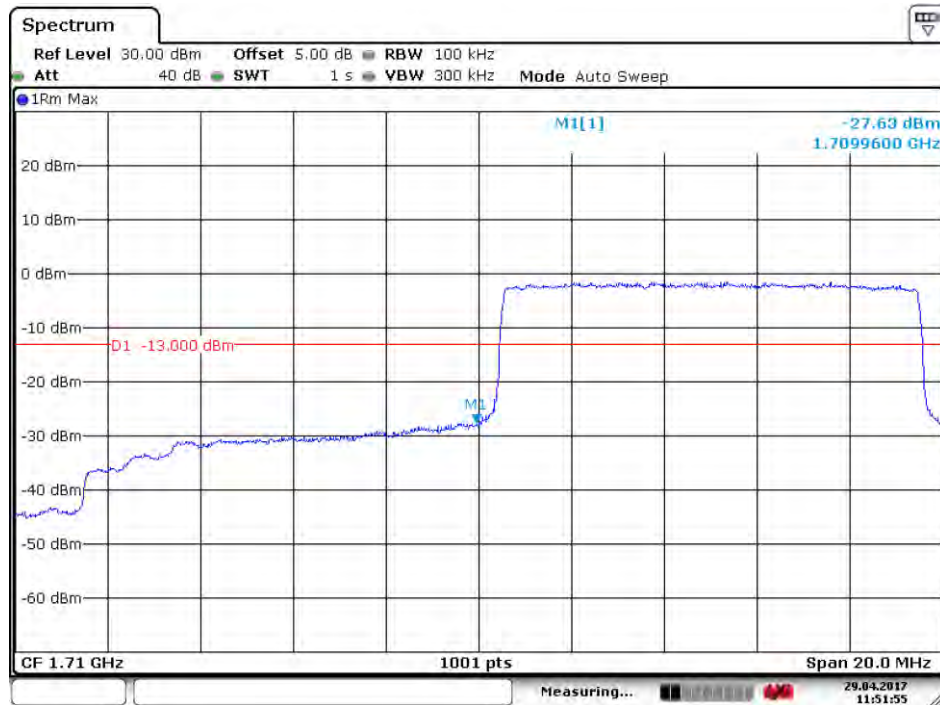
##### 5.1.1.7.1.1 Test RB=1RB



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



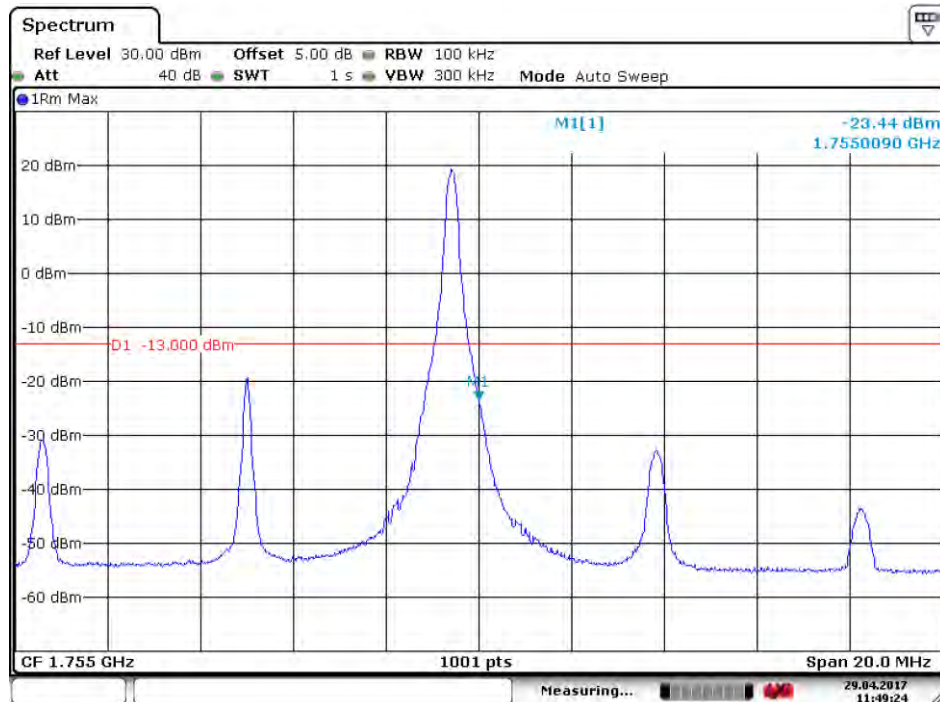
#### 5.1.1.7.1.2 Test RB=50RB



Date: 29.APR.2017 11:51:55

#### 5.1.1.7.2 Test Channel = HCH

##### 5.1.1.7.2.1 Test RB=1RB



Date: 29.APR.2017 11:49:24





#### 5.1.1.7.2.2 Test RB=50RB

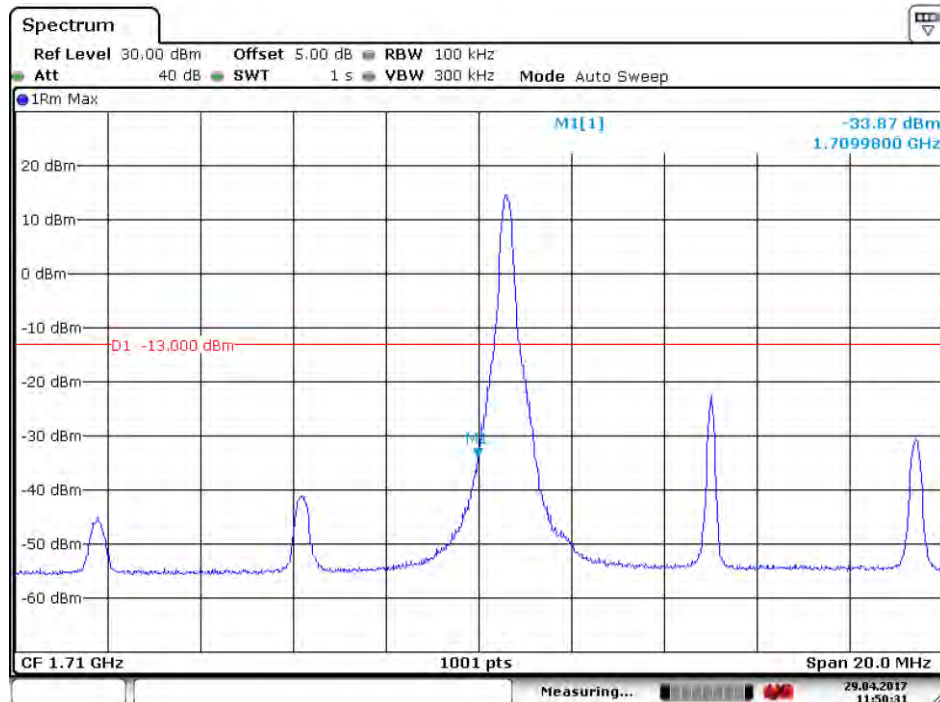


Date: 29.APR.2017 11:47:53

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

##### 5.1.1.8.1 Test Channel = LCH

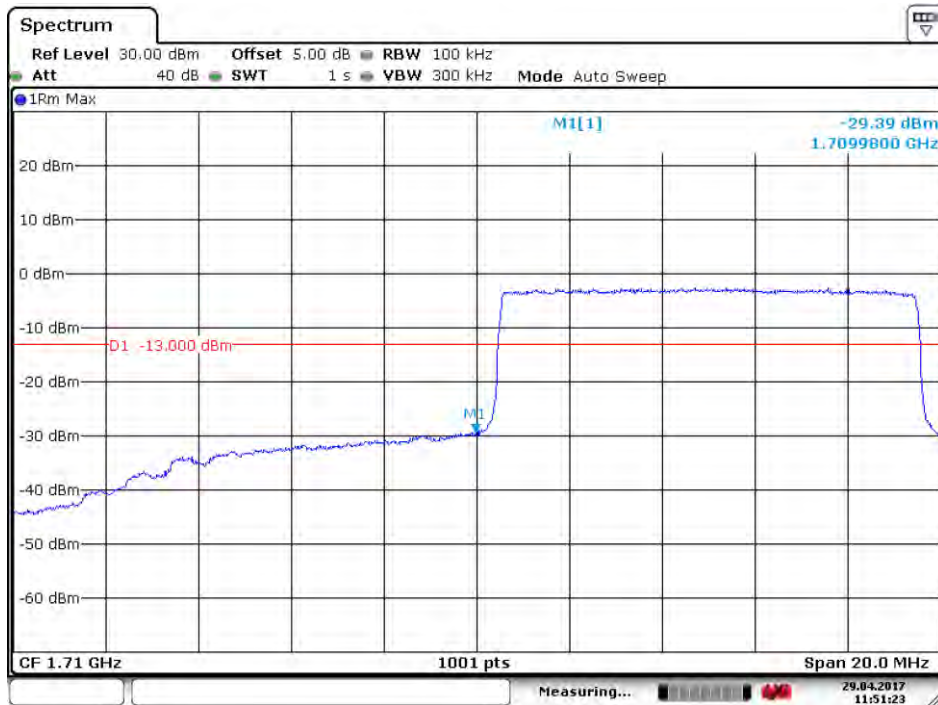
#### 5.1.1.8.1.1 Test RB=1RB



Date: 29.APR.2017 11:50:31



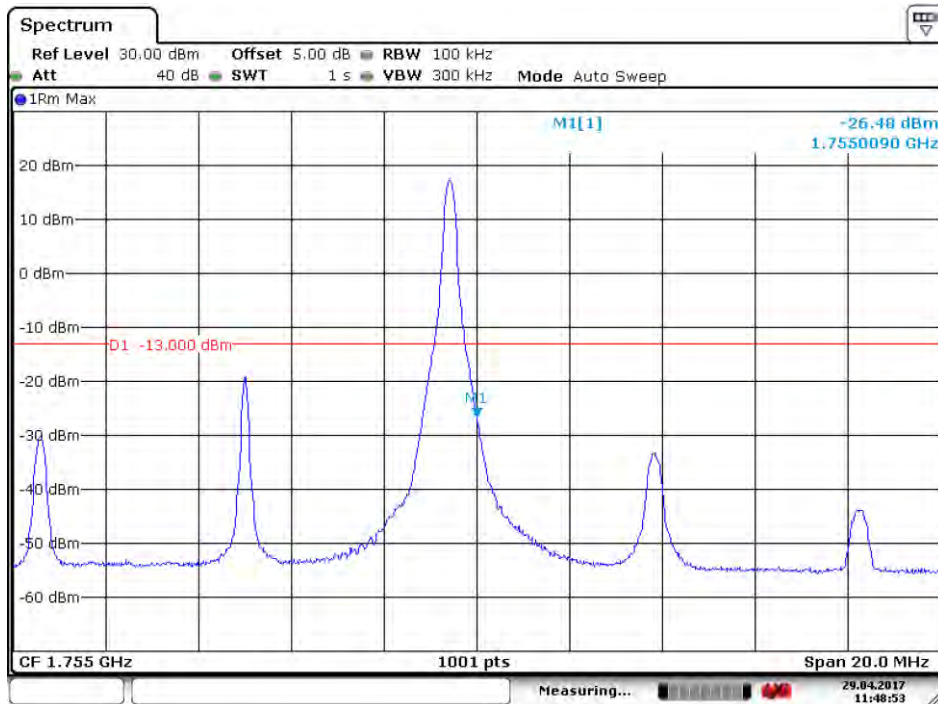
#### 5.1.1.8.1.2 Test RB=50RB



Date: 29.APR.2017 11:51:24

#### 5.1.1.8.2 Test Channel = HCH

##### 5.1.1.8.2.1 Test RB=1RB



Date: 29.APR.2017 11:48:54



#### 5.1.1.8.2.2 Test RB=50RB

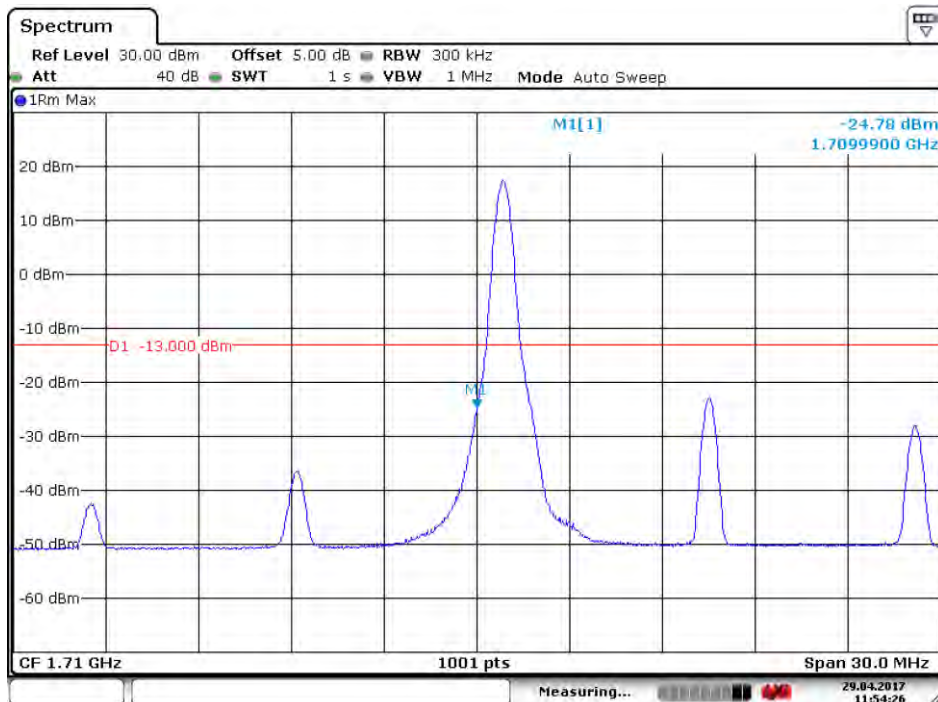


Date: 29.APR.2017 11:48:24

#### 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

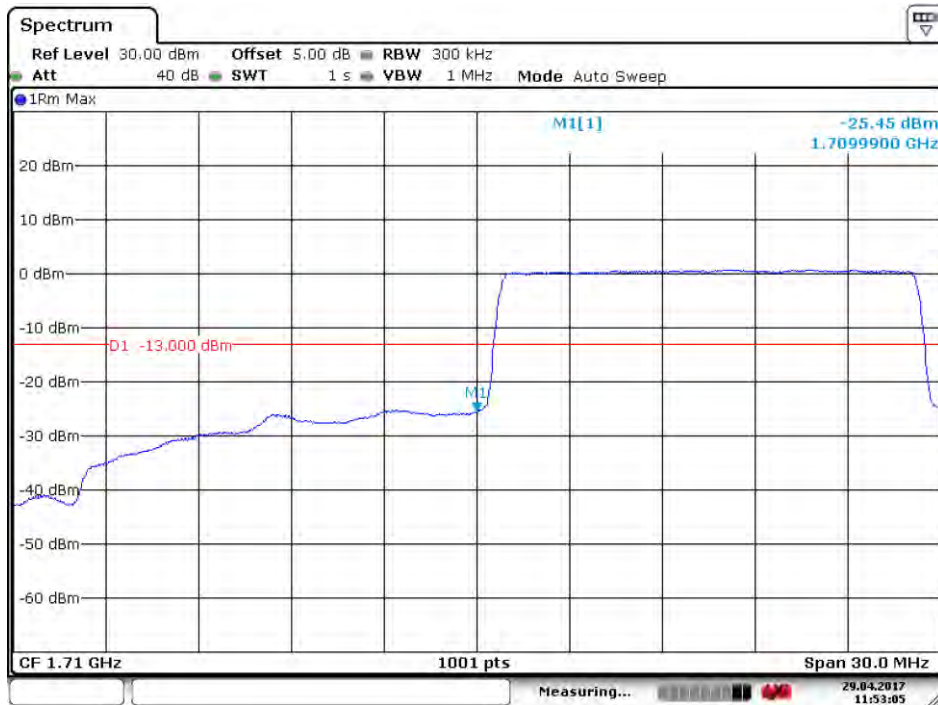


Date: 29.APR.2017 11:54:26





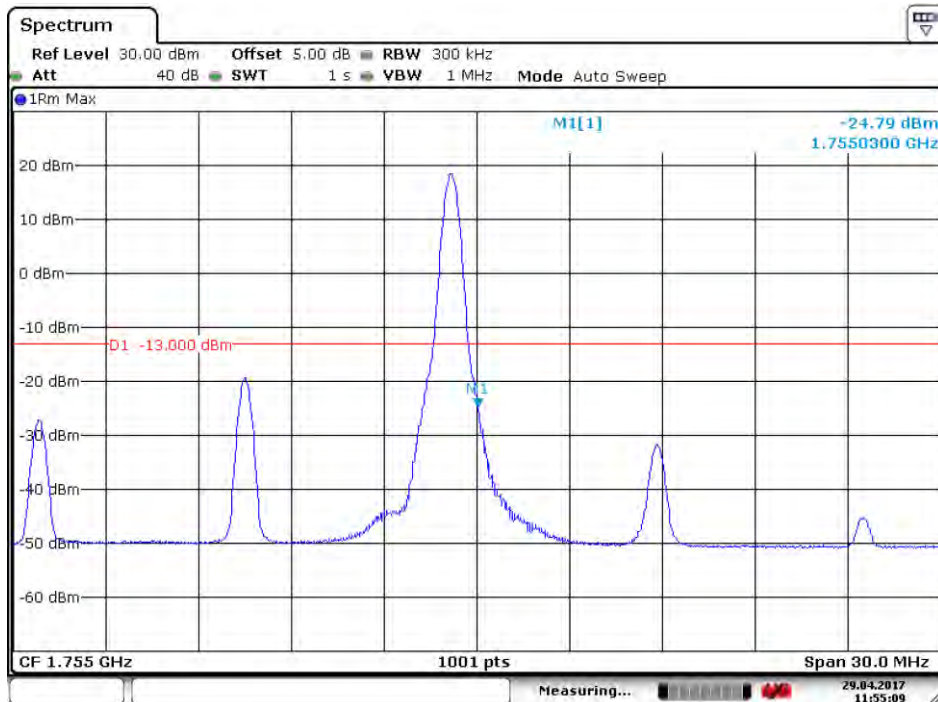
#### 5.1.1.9.1.2 Test RB=75RB



Date: 29. APR. 2017 11:53:05

#### 5.1.1.9.2 Test Channel = HCH

##### 5.1.1.9.2.1 Test RB=1RB



Date: 29. APR. 2017 11:55:10



#### 5.1.1.9.2.2 Test RB=75RB

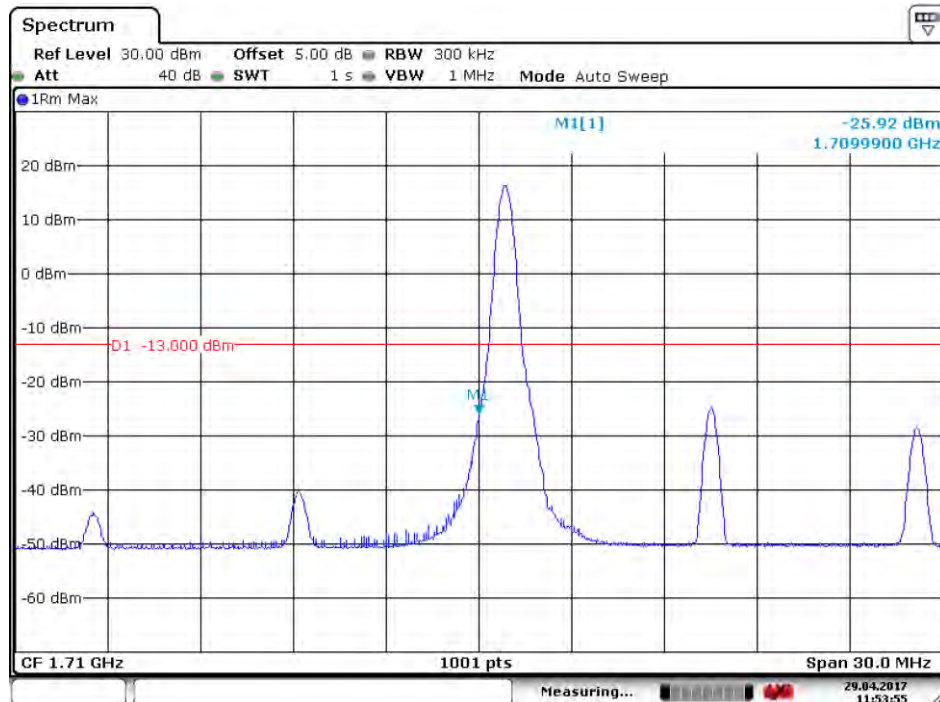


Date: 29.APR.2017 11:56:22

#### 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

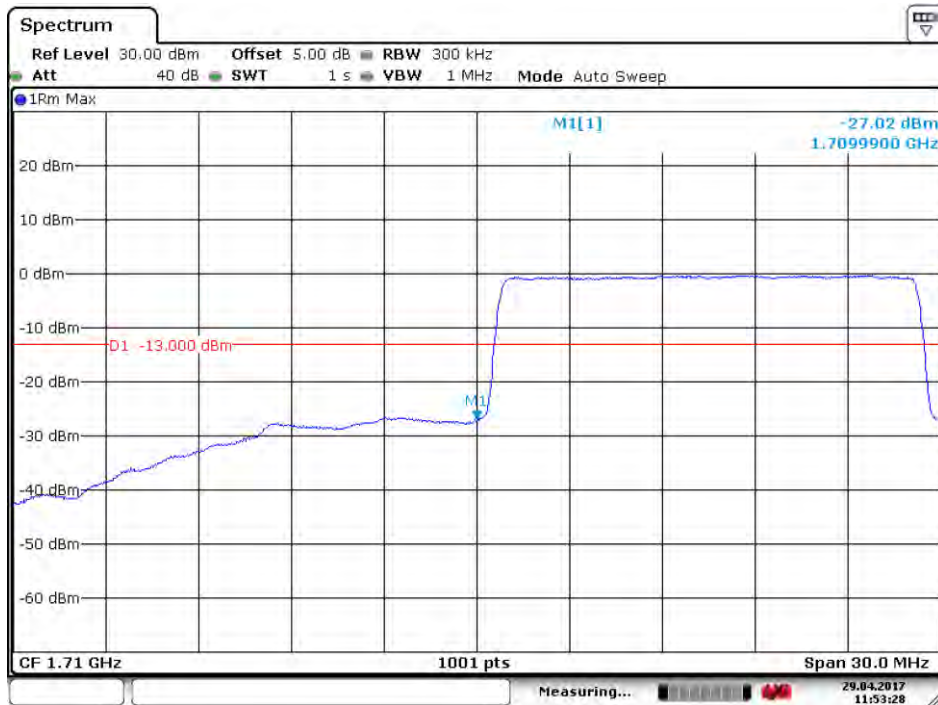


Date: 29.APR.2017 11:53:55





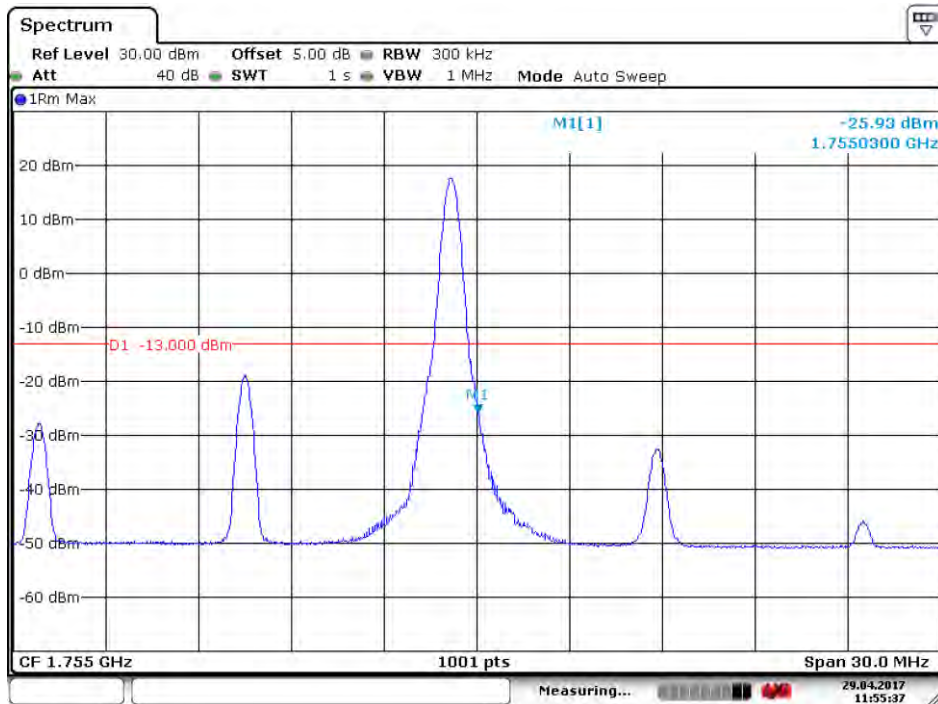
5.1.1.10.1.2 Test RB=75RB



Date: 29. APR. 2017 11:53:28

5.1.1.10.2 Test Channel = HCH

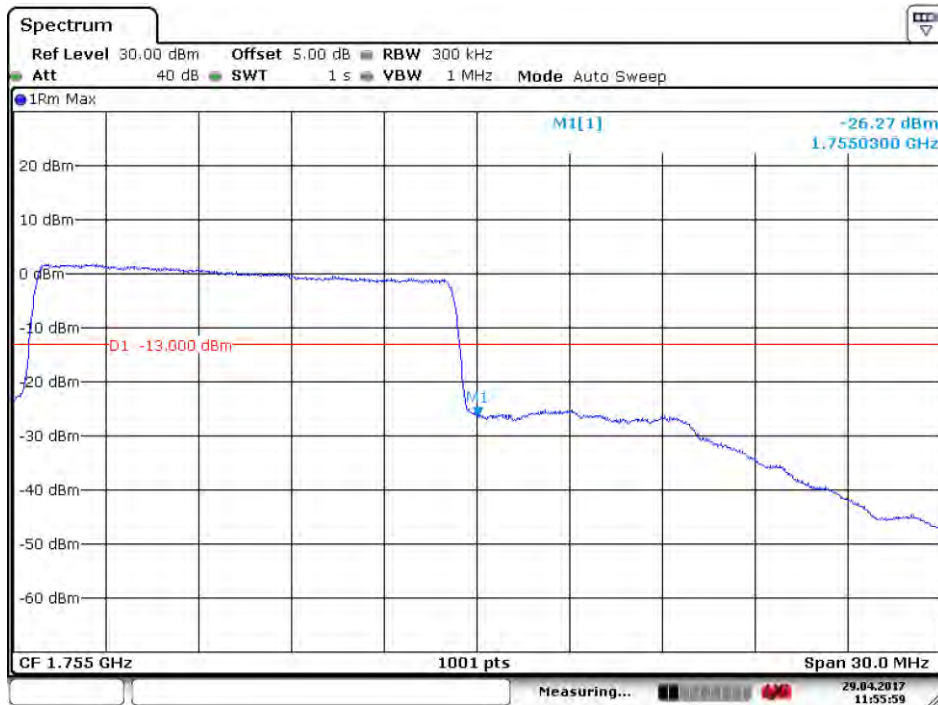
5.1.1.10.2.1 Test RB=1RB



Date: 29. APR. 2017 11:55:38



#### 5.1.1.10.2 Test RB=75RB

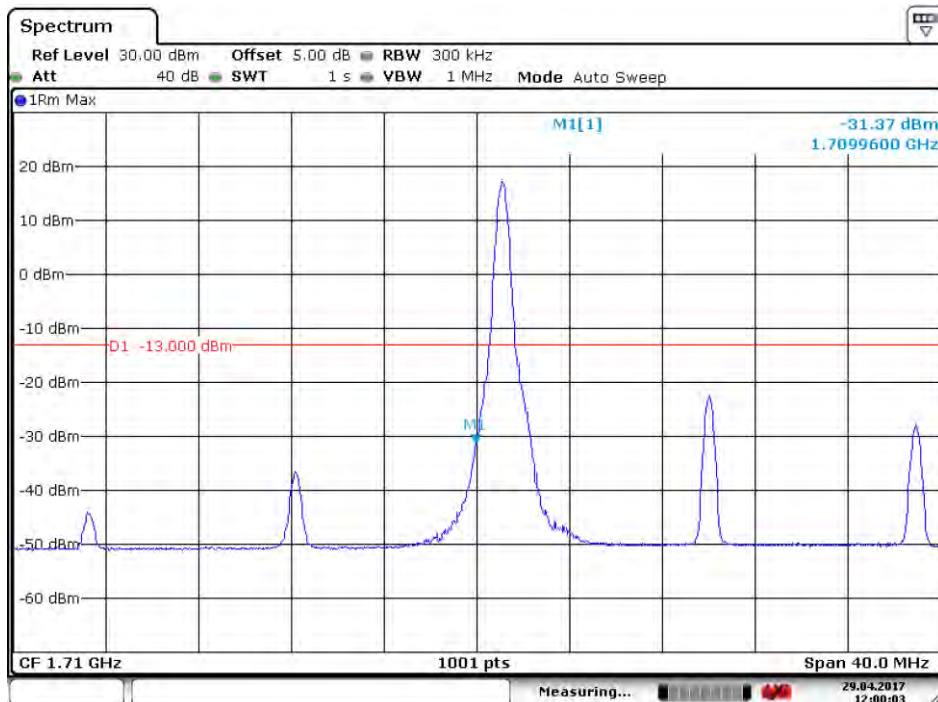


Date: 29.APR.2017 11:55:59

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

##### 5.1.1.11.1 Test Channel = LCH

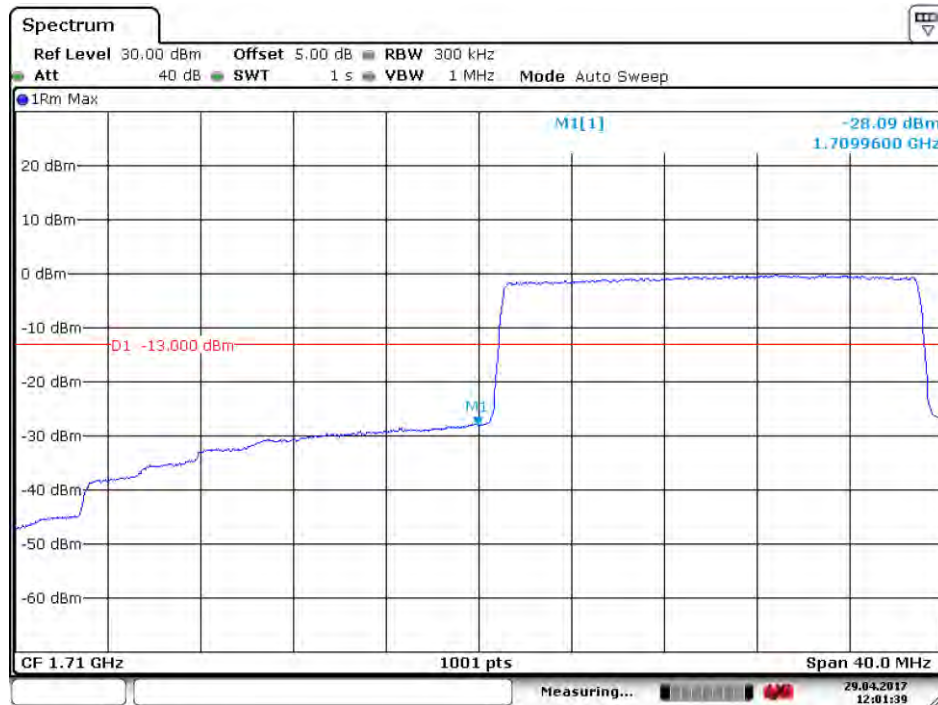
##### 5.1.1.11.1.1 Test RB=1RB



Date: 29.APR.2017 12:00:03



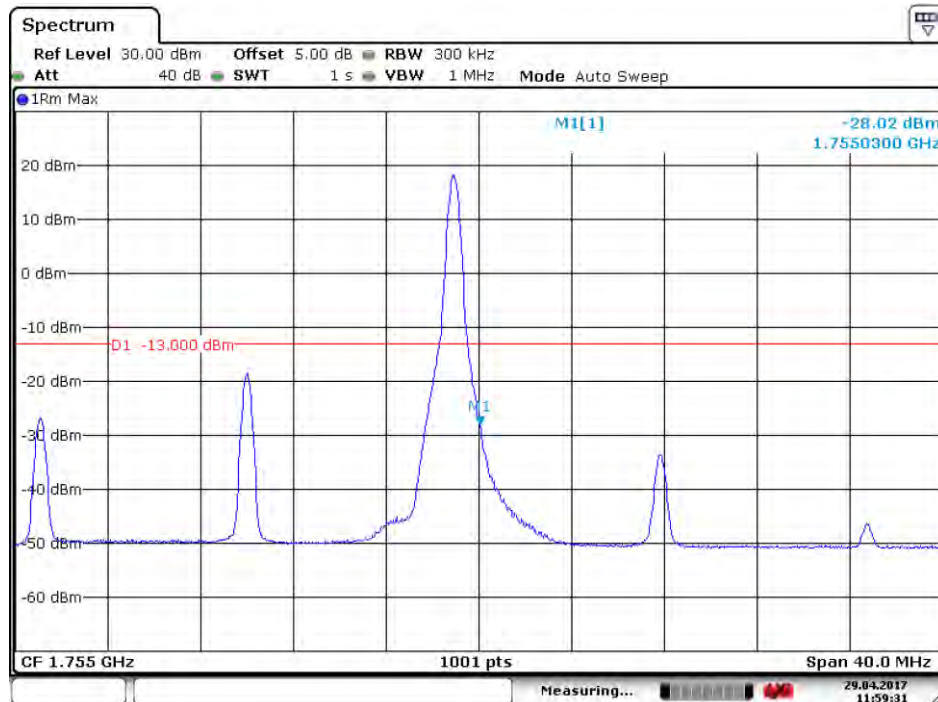
5.1.1.11.2 Test RB=100RB



Date: 29.APR.2017 12:01:40

5.1.1.11.2 Test Channel = HCH

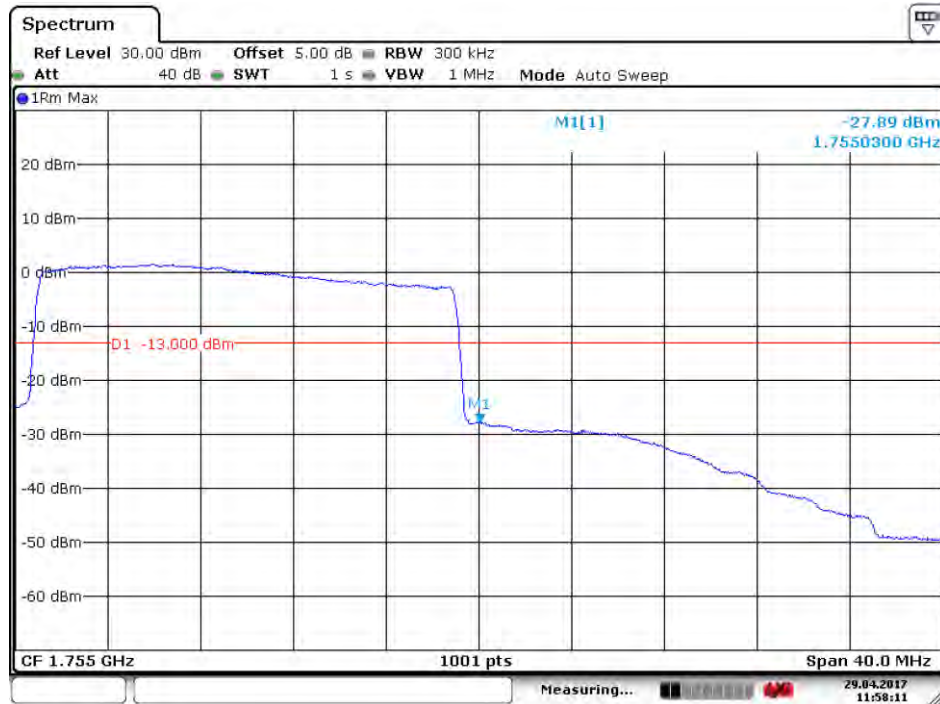
5.1.1.11.2.1 Test RB=1RB



Date: 29.APR.2017 11:59:32



5.1.1.11.2.2 Test RB=100RB

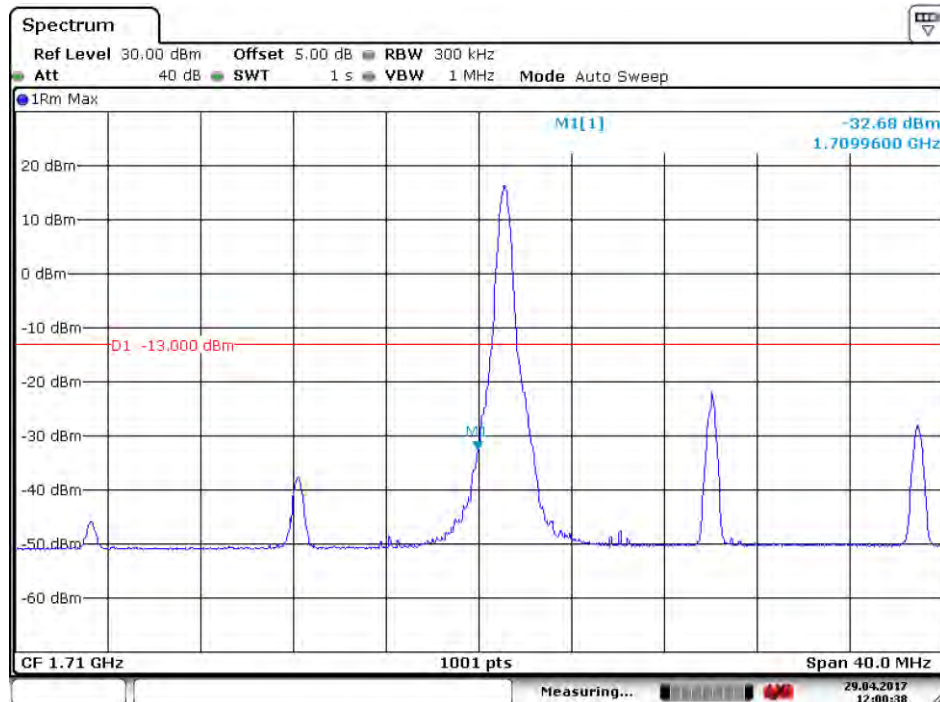


Date: 29.APR.2017 11:58:11

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

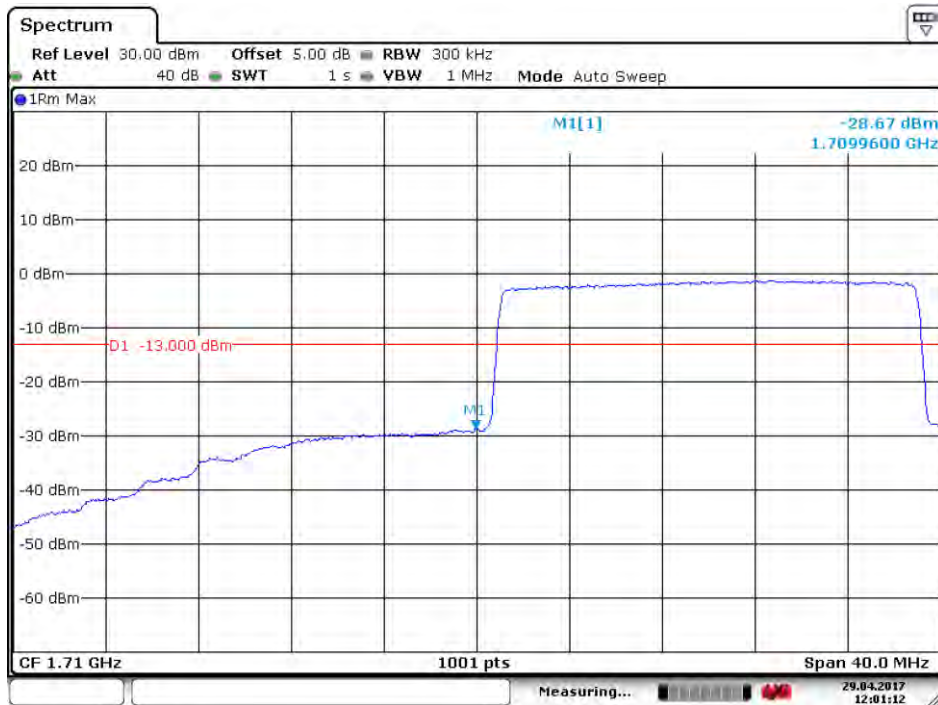


Date: 29.APR.2017 12:00:38





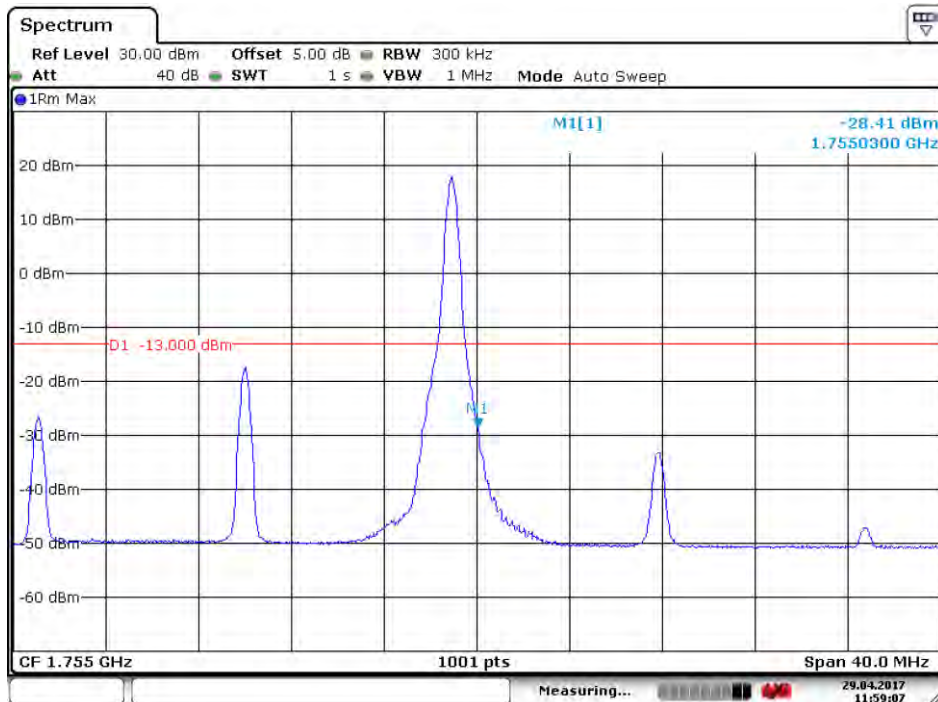
5.1.1.12.1.2 Test RB=100RB



Date: 29.APR.2017 12:01:13

5.1.1.12.2 Test Channel = HCH

5.1.1.12.2.1 Test RB=1RB

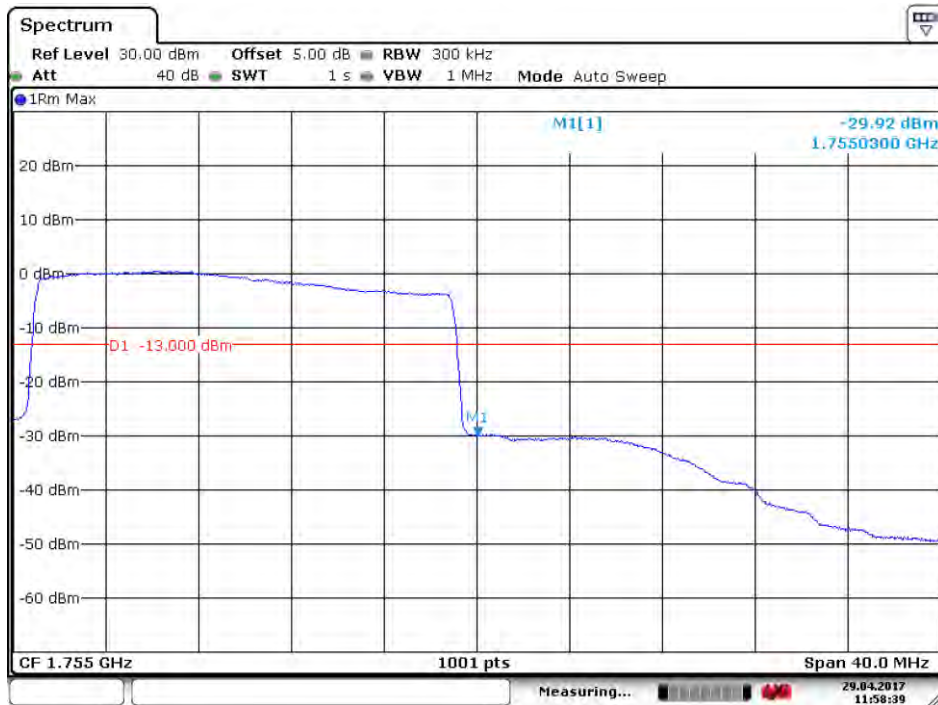


Date: 29.APR.2017 11:59:07





5.1.1.12.2.2 Test RB=100RB



Date: 29.APR.2017 11:58:39



## 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.

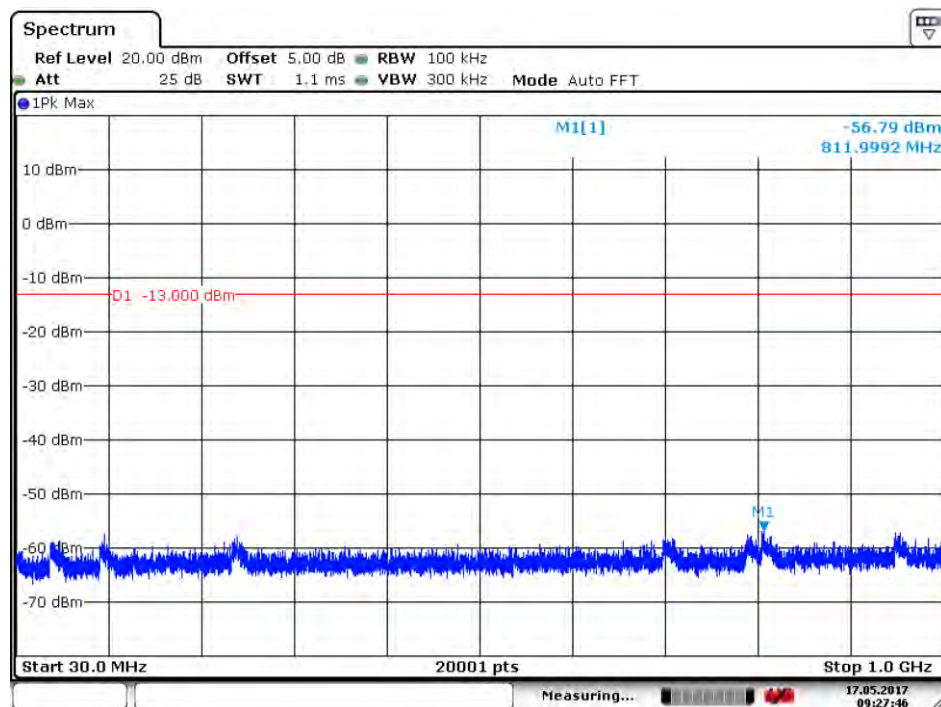
Part I - Test Plots

### 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



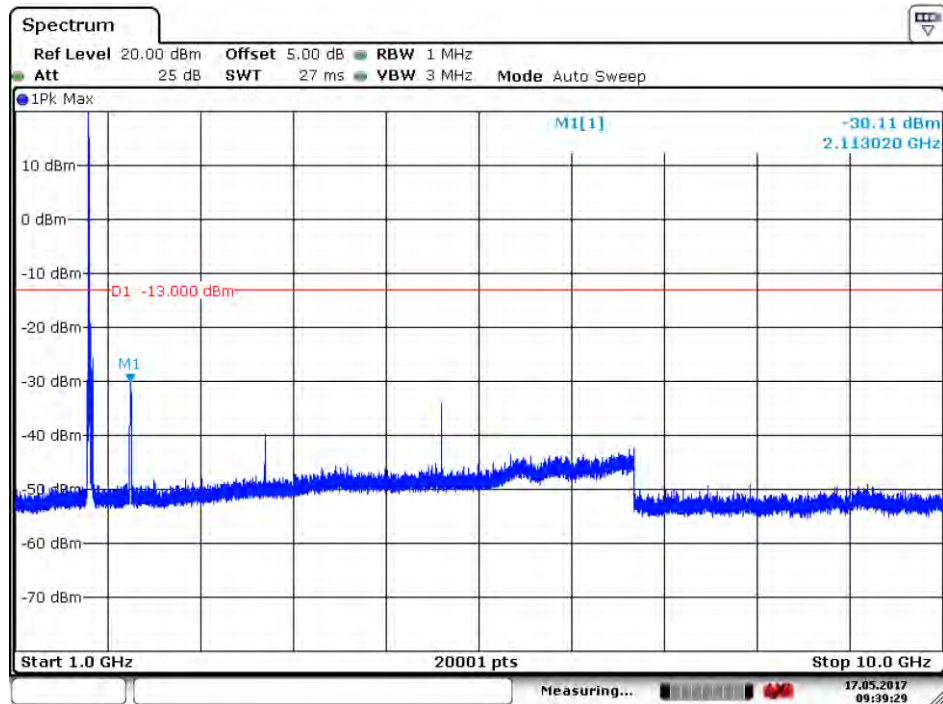
Date: 17.MAY.2017 09:27:47



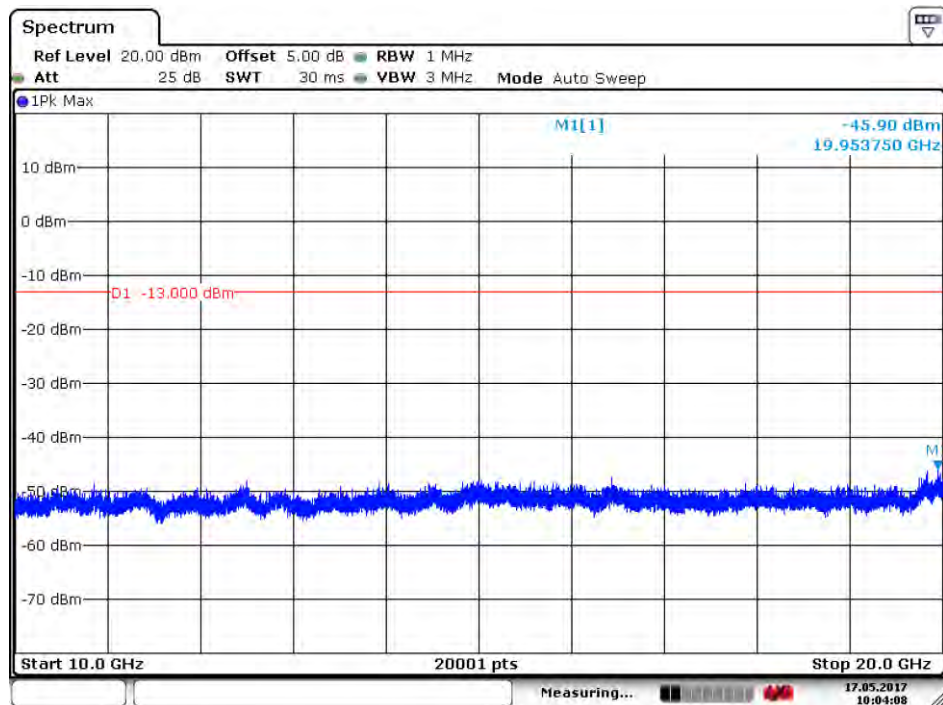
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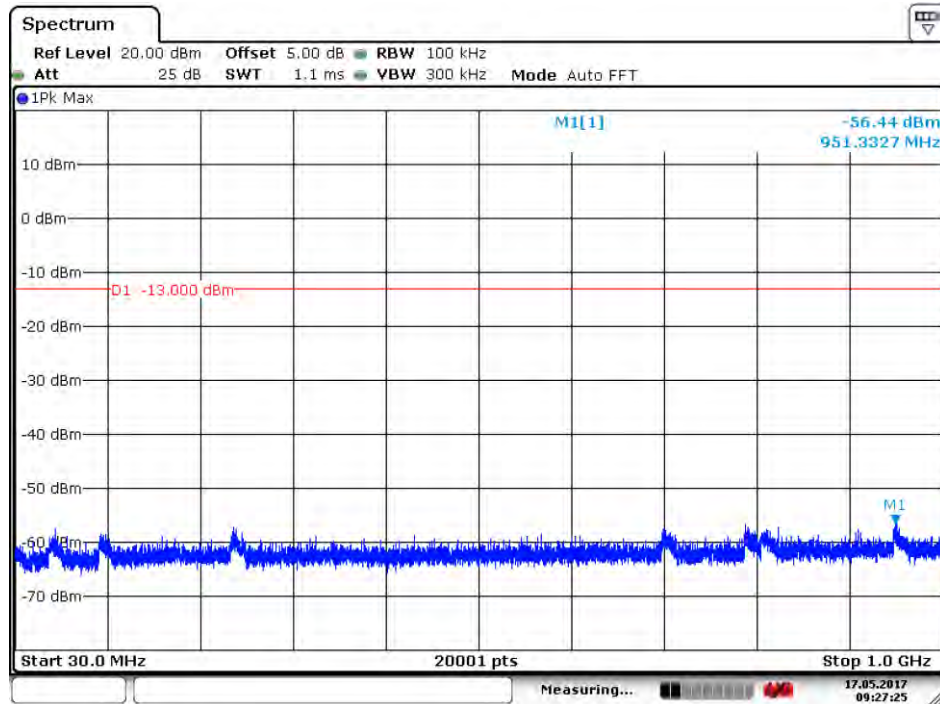
Date: 17.MAY.2017 09:39:30



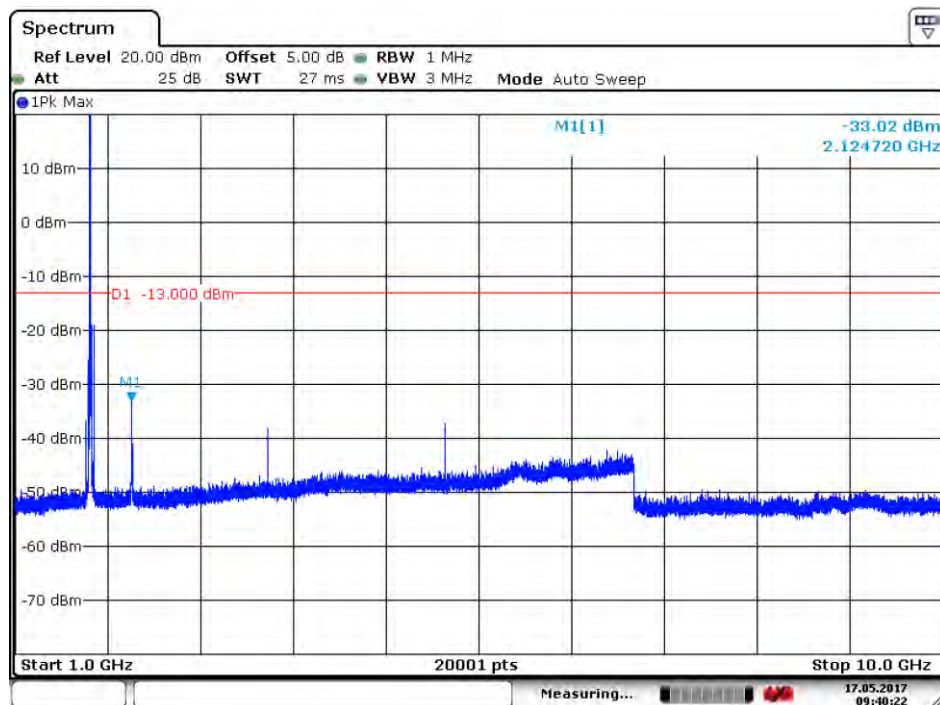
Date: 17.MAY.2017 10:04:08



6.1.1.1.2 Test Channel = MCH

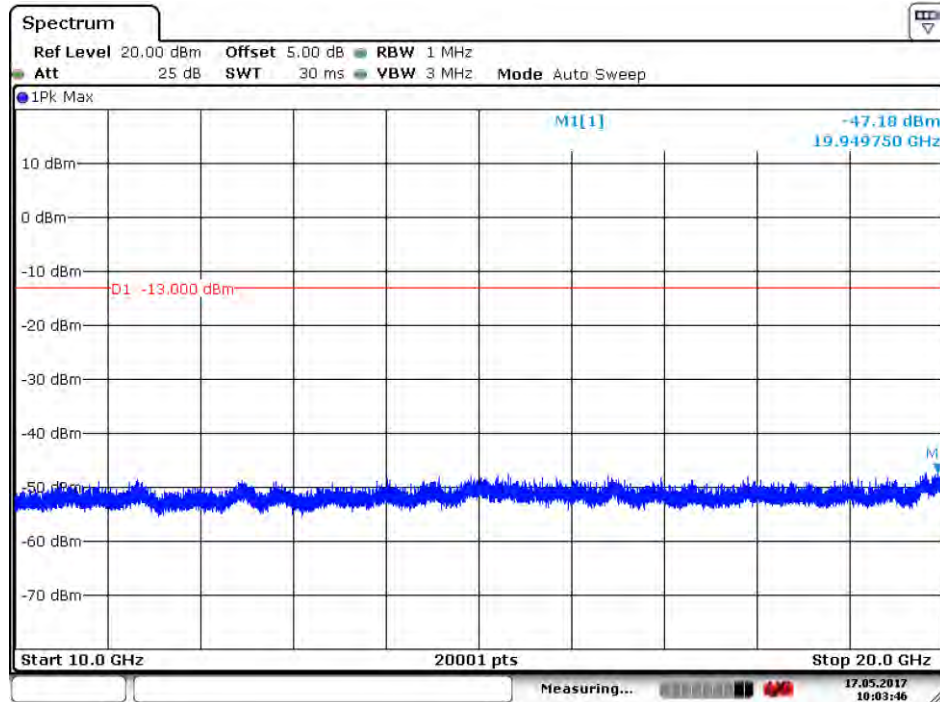


Date: 17.MAY.2017 09:27:26



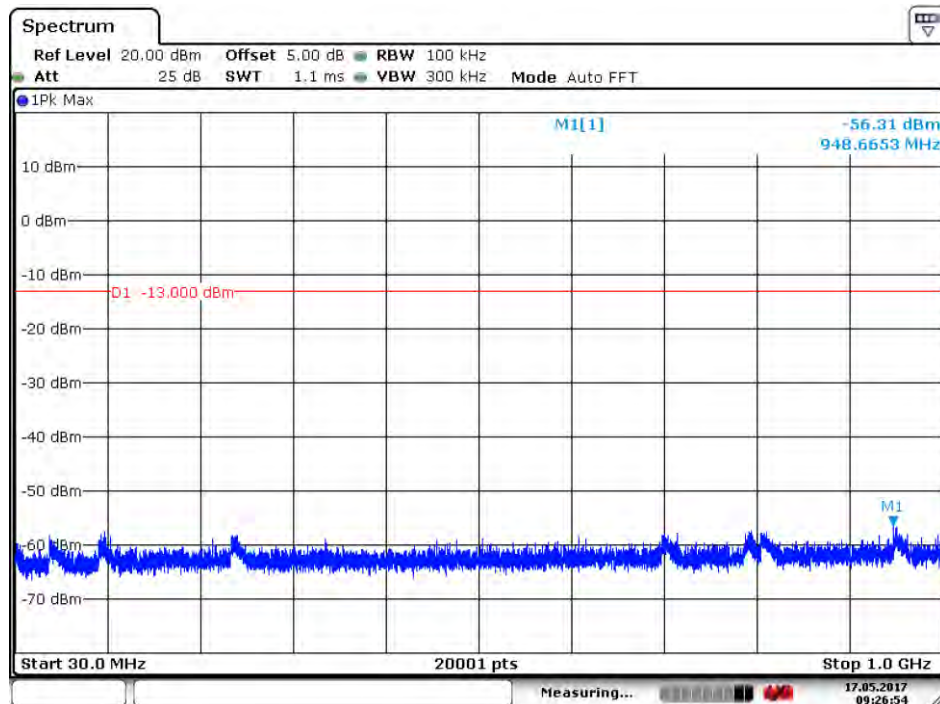
Date: 17.MAY.2017 09:40:23





Date: 17.MAY.2017 10:03:46

#### 6.1.1.1.3 Test Channel = HCH



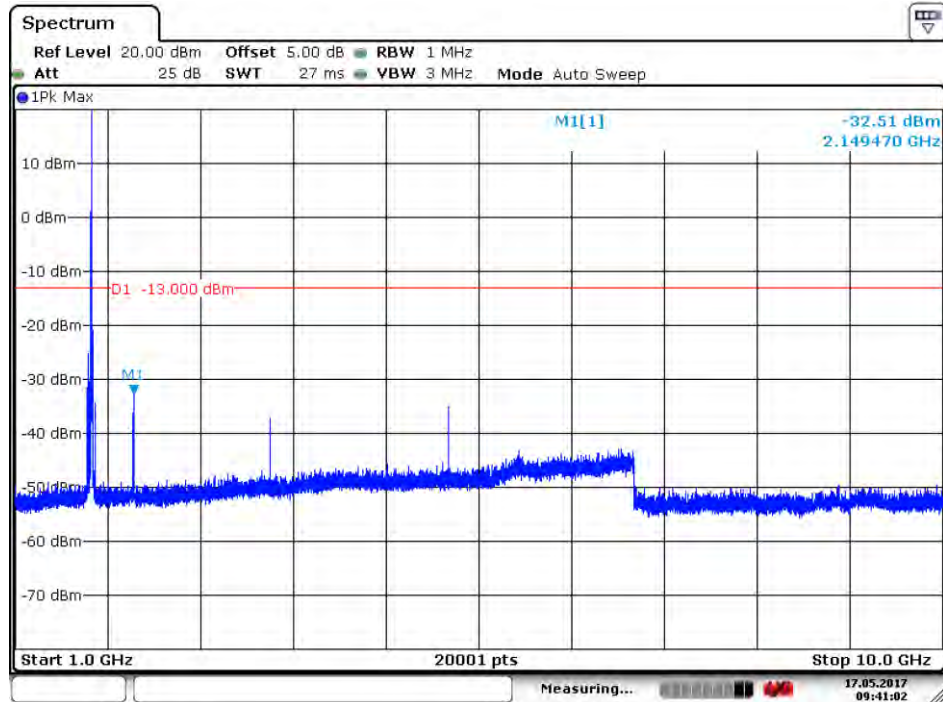
Date: 17.MAY.2017 09:26:54



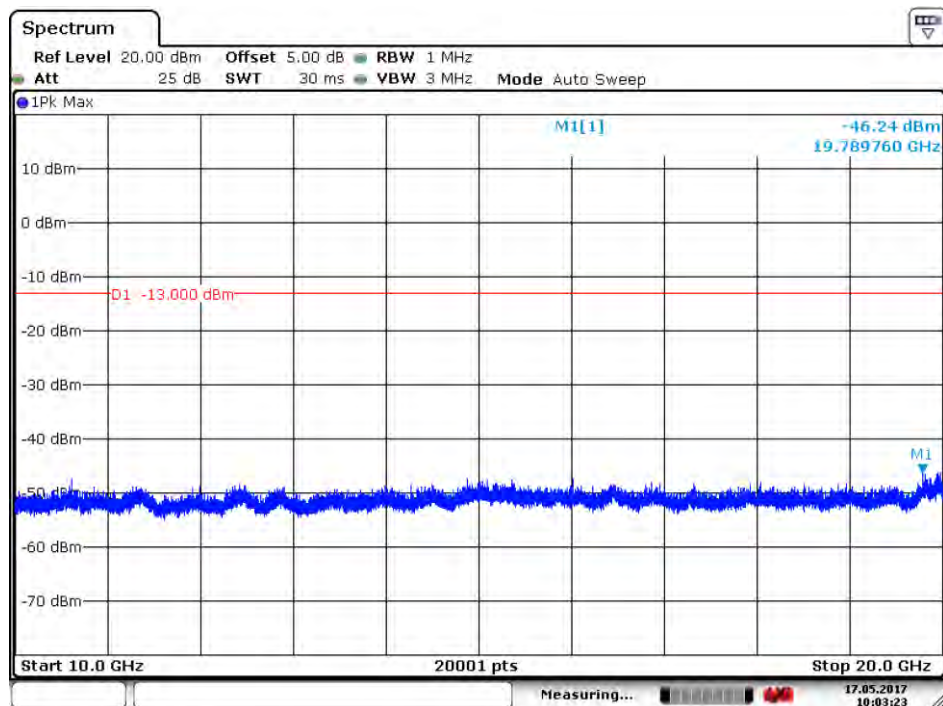
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Date: 17.MAY.2017 09:41:02



Date: 17.MAY.2017 10:03:23



## 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
1298.000	-66.55	-13.00	-53.55	Vertical
4267.500	-66.79	-13.00	-53.79	Vertical
5632.500	-66.08	-13.00	-53.08	Vertical
1529.000	-65.80	-13.00	-52.80	Horizontal
4365.000	-67.08	-13.00	-54.08	Horizontal
5437.500	-66.73	-13.00	-53.73	Horizontal

###### 7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1749.000	-63.73	-13.00	-50.73	Vertical
4462.500	-67.16	-13.00	-54.16	Vertical
6607.500	-64.78	-13.00	-51.78	Vertical
1837.000	-62.71	-13.00	-49.71	Horizontal
2816.000	-56.62	-13.00	-43.62	Horizontal
6315.000	-65.39	-13.00	-52.39	Horizontal

###### 7.1.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1210.000	-65.93	-13.00	-52.93	Vertical
4462.500	-67.13	-13.00	-54.13	Vertical
6607.500	-64.75	-13.00	-51.75	Vertical
1309.000	-67.46	-13.00	-54.46	Horizontal
3975.000	-67.63	-13.00	-54.63	Horizontal
6510.000	-65.23	-13.00	-52.23	Horizontal

#### NOTE:

- 1) The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



## 8 Frequency Stability

### 8.1 Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband4	LTE/TM1 20MHz	LCH	TN	VL	-4.43	-0.00258	PASS
				VN	2.46	0.00143	PASS
				VH	-7.73	-0.00449	PASS
		MCH	TN	VL	1.49	0.00086	PASS
				VN	-2.84	-0.00164	PASS
				VH	2.63	0.00152	PASS
		HCH	TN	VL	-6.56	-0.00376	PASS
				VN	-5.17	-0.00296	PASS
				VH	-0.79	-0.00045	PASS
	LTE/TM2 20MHz	LCH	TN	VL	-4.20	-0.00244	PASS
				VN	-2.95	-0.00172	PASS
				VH	-5.16	-0.00300	PASS
		MCH	TN	VL	4.56	0.00263	PASS
				VN	-2.80	-0.00162	PASS
				VH	2.59	0.00149	PASS
		HCH	TN	VL	-3.08	-0.00177	PASS
				VN	-6.61	-0.00379	PASS
				VH	3.44	0.00197	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	-5.40	-0.00314	PASS
				-20	-1.34	-0.00078	PASS
				-10	2.38	0.00138	PASS
				0	5.72	0.00333	PASS
				10	1.65	0.00096	PASS
				20	4.11	0.00239	PASS
				30	-3.31	-0.00192	PASS
				40	-0.79	-0.00046	PASS
				50	2.52	0.00147	PASS
		MCH	VN	-30	-4.80	-0.00277	PASS
				-20	-5.95	-0.00343	PASS
				-10	-7.49	-0.00432	PASS
				0	-5.62	-0.00324	PASS
				10	-4.04	-0.00233	PASS
				20	-9.94	-0.00574	PASS
				30	-5.66	-0.00327	PASS
				40	-4.62	-0.00267	PASS
				50	-6.92	-0.00399	PASS
		HCH	VN	-30	3.54	0.00203	PASS
				-20	-4.49	-0.00257	PASS
				-10	1.53	0.00088	PASS
				0	-3.83	-0.00219	PASS
				10	2.60	0.00149	PASS
				20	-1.57	-0.00090	PASS
				30	-7.66	-0.00439	PASS
				40	-5.43	-0.00311	PASS
				50	-3.24	-0.00186	PASS



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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	-1.50	-0.00087	PASS
				-20	-2.45	-0.00142	PASS
				-10	3.38	0.00197	PASS
				0	2.64	0.00153	PASS
				10	1.60	0.00093	PASS
				20	-0.23	-0.00013	PASS
				30	-3.41	-0.00198	PASS
				40	5.34	0.00310	PASS
				50	4.79	0.00278	PASS
		MCH	VN	-30	-3.36	-0.00194	PASS
				-20	-5.38	-0.00311	PASS
				-10	-7.29	-0.00421	PASS
				0	-4.32	-0.00249	PASS
				10	-0.34	-0.00020	PASS
				20	1.74	0.00100	PASS
				30	-5.64	-0.00326	PASS
				40	-2.62	-0.00151	PASS
				50	-3.91	-0.00226	PASS
		HCH	VN	-30	4.34	0.00249	PASS
				-20	-2.55	-0.00146	PASS
				-10	1.59	0.00091	PASS
				0	-3.73	-0.00214	PASS
				10	4.88	0.00280	PASS
				20	-1.47	-0.00084	PASS
				30	-3.59	-0.00206	PASS
				40	-4.33	-0.00248	PASS
				50	-7.20	-0.00413	PASS

The End