



Appendix B

Test Data for SZEM170100023101



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1 Effective (Isotropic) Radiated Power Output Data

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

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	1.4M	LCH	RB1#0	22.41	20.81	34.70	PASS
				RB1#2	22.45	20.85	34.70	PASS
				RB1#5	22.40	20.80	34.70	PASS
				RB3#0	22.42	20.82	34.70	PASS
				RB3#2	22.46	20.86	34.70	PASS
				RB3#3	22.41	20.81	34.70	PASS
				RB6#0	21.39	19.79	34.70	PASS
			MCH	RB1#0	22.42	20.82	34.70	PASS
				RB1#2	22.43	20.83	34.70	PASS
				RB1#5	22.42	20.82	34.70	PASS
				RB3#0	22.39	20.79	34.70	PASS
				RB3#2	22.41	20.81	34.70	PASS
				RB3#3	22.39	20.79	34.70	PASS
				RB6#0	21.36	19.76	34.70	PASS
			HCH	RB1#0	22.35	20.75	34.70	PASS
				RB1#2	22.41	20.81	34.70	PASS
				RB1#5	22.38	20.78	34.70	PASS
				RB3#0	22.36	20.76	34.70	PASS
				RB3#2	22.40	20.80	34.70	PASS
				RB3#3	22.39	20.79	34.70	PASS
				RB6#0	21.39	19.79	34.70	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	1.4M	LCH	RB1#0	21.58	19.98	34.70	PASS
				RB1#2	21.66	20.06	34.70	PASS
				RB1#5	21.58	19.98	34.70	PASS
				RB3#0	21.39	19.79	34.70	PASS
				RB3#2	21.49	19.89	34.70	PASS
				RB3#3	21.41	19.81	34.70	PASS
				RB6#0	20.44	18.84	34.70	PASS
			MCH	RB1#0	21.51	19.91	34.70	PASS
				RB1#2	21.59	19.99	34.70	PASS
				RB1#5	21.55	19.95	34.70	PASS
				RB3#0	21.40	19.80	34.70	PASS
				RB3#2	21.48	19.88	34.70	PASS
				RB3#3	21.38	19.78	34.70	PASS
				RB6#0	20.45	18.85	34.70	PASS
			HCH	RB1#0	21.54	19.94	34.70	PASS
				RB1#2	21.65	20.05	34.70	PASS
				RB1#5	21.50	19.90	34.70	PASS
				RB3#0	21.41	19.81	34.70	PASS
				RB3#2	21.44	19.84	34.70	PASS
				RB3#3	21.36	19.76	34.70	PASS
				RB6#0	20.46	18.86	34.70	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM3	1.4M	LCH	RB1#0	20.70	19.10	34.70	PASS
				RB1#2	20.77	19.17	34.70	PASS
				RB1#5	20.69	19.09	34.70	PASS
				RB3#0	20.65	19.05	34.70	PASS
				RB3#2	20.74	19.14	34.70	PASS
				RB3#3	20.63	19.03	34.70	PASS
				RB6#0	19.62	18.02	34.70	PASS
			MCH	RB1#0	20.96	19.36	34.70	PASS
				RB1#2	21.05	19.45	34.70	PASS
				RB1#5	20.98	19.38	34.70	PASS
				RB3#0	20.63	19.03	34.70	PASS
				RB3#2	20.64	19.04	34.70	PASS
				RB3#3	20.56	18.96	34.70	PASS
				RB6#0	19.66	18.06	34.70	PASS
			HCH	RB1#0	21.08	19.48	34.70	PASS
				RB1#2	21.14	19.54	34.70	PASS
				RB1#5	21.02	19.42	34.70	PASS
				RB3#0	20.71	19.11	34.70	PASS
				RB3#2	20.80	19.20	34.70	PASS
				RB3#3	20.69	19.09	34.70	PASS
				RB6#0	19.65	18.05	34.70	PASS

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BAND12	LTE/TM1	3M	LCH	RB1#0	22.46	20.86	34.70	PASS
				RB1#7	22.58	20.98	34.70	PASS
				RB1#14	22.44	20.84	34.70	PASS
				RB8#0	21.45	19.85	34.70	PASS
				RB8#4	21.49	19.89	34.70	PASS
				RB8#7	21.44	19.84	34.70	PASS
				RB15#0	21.47	19.87	34.70	PASS
			MCH	RB1#0	22.47	20.87	34.70	PASS
				RB1#7	22.58	20.98	34.70	PASS
				RB1#14	22.43	20.83	34.70	PASS
				RB8#0	21.47	19.87	34.70	PASS
				RB8#4	21.52	19.92	34.70	PASS
				RB8#7	21.43	19.83	34.70	PASS
				RB15#0	21.46	19.86	34.70	PASS
			HCH	RB1#0	22.46	20.86	34.70	PASS
				RB1#7	22.52	20.92	34.70	PASS
				RB1#14	22.42	20.82	34.70	PASS
				RB8#0	21.48	19.88	34.70	PASS
				RB8#4	21.51	19.91	34.70	PASS
				RB8#7	21.45	19.85	34.70	PASS
				RB15#0	21.47	19.87	34.70	PASS

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BAND12	LTE/TM2	3M	LCH	RB1#0	21.65	20.05	34.70	PASS
				RB1#7	21.80	20.20	34.70	PASS
				RB1#14	21.64	20.04	34.70	PASS
				RB8#0	20.53	18.93	34.70	PASS
				RB8#4	20.53	18.93	34.70	PASS
				RB8#7	20.52	18.92	34.70	PASS
				RB15#0	20.49	18.89	34.70	PASS
			MCH	RB1#0	21.65	20.05	34.70	PASS
				RB1#7	21.77	20.17	34.70	PASS
				RB1#14	21.59	19.99	34.70	PASS
				RB8#0	20.49	18.89	34.70	PASS
				RB8#4	20.54	18.94	34.70	PASS
				RB8#7	20.53	18.93	34.70	PASS
				RB15#0	20.47	18.87	34.70	PASS
			HCH	RB1#0	21.70	20.10	34.70	PASS
				RB1#7	21.81	20.21	34.70	PASS
				RB1#14	21.61	20.01	34.70	PASS
				RB8#0	20.53	18.93	34.70	PASS
				RB8#4	20.57	18.97	34.70	PASS
				RB8#7	20.51	18.91	34.70	PASS
				RB15#0	20.51	18.91	34.70	PASS

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BAND12	LTE/TM3	3M	LCH	RB1#0	20.85	19.25	34.70	PASS
				RB1#7	21.03	19.43	34.70	PASS
				RB1#14	20.82	19.22	34.70	PASS
				RB8#0	19.79	18.19	34.70	PASS
				RB8#4	19.78	18.18	34.70	PASS
				RB8#7	19.76	18.16	34.70	PASS
				RB15#0	19.75	18.15	34.70	PASS
			MCH	RB1#0	20.58	18.98	34.70	PASS
				RB1#7	20.64	19.04	34.70	PASS
				RB1#14	20.48	18.88	34.70	PASS
				RB8#0	19.76	18.16	34.70	PASS
				RB8#4	19.78	18.18	34.70	PASS
				RB8#7	19.72	18.12	34.70	PASS
				RB15#0	19.68	18.08	34.70	PASS
			HCH	RB1#0	21.19	19.59	34.70	PASS
				RB1#7	21.23	19.63	34.70	PASS
				RB1#14	21.12	19.52	34.70	PASS
				RB8#0	19.79	18.19	34.70	PASS
				RB8#4	19.78	18.18	34.70	PASS
				RB8#7	19.77	18.17	34.70	PASS
				RB15#0	19.72	18.12	34.70	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	5M	LCH	RB1#0	22.72	21.12	34.70	PASS
				RB1#13	22.70	21.10	34.70	PASS
				RB1#24	22.71	21.11	34.70	PASS
				RB12#0	21.78	20.18	34.70	PASS
				RB12#6	21.81	20.21	34.70	PASS
				RB12#13	21.78	20.18	34.70	PASS
				RB25#0	21.78	20.18	34.70	PASS
			MCH	RB1#0	22.70	21.10	34.70	PASS
				RB1#13	22.68	21.08	34.70	PASS
				RB1#24	22.68	21.08	34.70	PASS
				RB12#0	21.82	20.22	34.70	PASS
				RB12#6	21.84	20.24	34.70	PASS
				RB12#13	21.79	20.19	34.70	PASS
				RB25#0	21.79	20.19	34.70	PASS
			HCH	RB1#0	22.73	21.13	34.70	PASS
				RB1#13	22.81	21.21	34.70	PASS
				RB1#24	22.72	21.12	34.70	PASS
				RB12#0	21.84	20.24	34.70	PASS
				RB12#6	21.85	20.25	34.70	PASS
				RB12#13	21.82	20.22	34.70	PASS
				RB25#0	21.82	20.22	34.70	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	5M	LCH	RB1#0	21.95	20.35	34.70	PASS
				RB1#13	22.02	20.42	34.70	PASS
				RB1#24	21.95	20.35	34.70	PASS
				RB12#0	20.83	19.23	34.70	PASS
				RB12#6	20.83	19.23	34.70	PASS
				RB12#13	20.80	19.20	34.70	PASS
				RB25#0	20.82	19.22	34.70	PASS
			MCH	RB1#0	21.97	20.37	34.70	PASS
				RB1#13	21.98	20.38	34.70	PASS
				RB1#24	21.92	20.32	34.70	PASS
				RB12#0	20.81	19.21	34.70	PASS
				RB12#6	20.83	19.23	34.70	PASS
				RB12#13	20.80	19.20	34.70	PASS
				RB25#0	20.81	19.21	34.70	PASS
			HCH	RB1#0	22.00	20.40	34.70	PASS
				RB1#13	22.06	20.46	34.70	PASS
				RB1#24	21.91	20.31	34.70	PASS
				RB12#0	20.84	19.24	34.70	PASS
				RB12#6	20.88	19.28	34.70	PASS
				RB12#13	20.79	19.19	34.70	PASS
				RB25#0	20.83	19.23	34.70	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM3	5M	LCH	RB1#0	20.83	19.23	34.70	PASS
				RB1#13	20.74	19.14	34.70	PASS
				RB1#24	20.69	19.09	34.70	PASS
				RB12#0	19.73	18.13	34.70	PASS
				RB12#6	19.77	18.17	34.70	PASS
				RB12#13	19.71	18.11	34.70	PASS
				RB25#0	19.80	18.20	34.70	PASS
			MCH	RB1#0	20.78	19.18	34.70	PASS
				RB1#13	20.72	19.12	34.70	PASS
				RB1#24	20.69	19.09	34.70	PASS
				RB12#0	19.73	18.13	34.70	PASS
				RB12#6	19.78	18.18	34.70	PASS
				RB12#13	19.69	18.09	34.70	PASS
				RB25#0	19.73	18.13	34.70	PASS
			HCH	RB1#0	20.99	19.39	34.70	PASS
				RB1#13	21.01	19.41	34.70	PASS
				RB1#24	20.87	19.27	34.70	PASS
				RB12#0	19.74	18.14	34.70	PASS
				RB12#6	19.73	18.13	34.70	PASS
				RB12#13	19.67	18.07	34.70	PASS
				RB25#0	19.66	18.06	34.70	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	10M	LCH	RB1#0	22.63	21.03	34.70	PASS
				RB1#25	22.53	20.93	34.70	PASS
				RB1#49	22.31	20.71	34.70	PASS
				RB25#0	21.56	19.96	34.70	PASS
				RB25#13	21.51	19.91	34.70	PASS
				RB25#25	21.49	19.89	34.70	PASS
				RB50#0	21.50	19.90	34.70	PASS
			MCH	RB1#0	22.71	21.11	34.70	PASS
				RB1#25	22.55	20.95	34.70	PASS
				RB1#49	22.48	20.88	34.70	PASS
				RB25#0	21.73	20.13	34.70	PASS
				RB25#13	21.68	20.08	34.70	PASS
				RB25#25	21.61	20.01	34.70	PASS
				RB50#0	21.69	20.09	34.70	PASS
			HCH	RB1#0	22.84	21.24	34.70	PASS
				RB1#25	22.72	21.12	34.70	PASS
				RB1#49	22.68	21.08	34.70	PASS
				RB25#0	21.79	20.19	34.70	PASS
				RB25#13	21.78	20.18	34.70	PASS
				RB25#25	21.69	20.09	34.70	PASS
				RB50#0	21.74	20.14	34.70	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	10M	LCH	RB1#0	21.86	20.26	34.70	PASS
				RB1#25	21.72	20.12	34.70	PASS
				RB1#49	21.64	20.04	34.70	PASS
				RB25#0	20.61	19.01	34.70	PASS
				RB25#13	20.57	18.97	34.70	PASS
				RB25#25	20.52	18.92	34.70	PASS
				RB50#0	20.54	18.94	34.70	PASS
			MCH	RB1#0	22.19	20.59	34.70	PASS
				RB1#25	22.04	20.44	34.70	PASS
				RB1#49	21.99	20.39	34.70	PASS
				RB25#0	20.76	19.16	34.70	PASS
				RB25#13	20.75	19.15	34.70	PASS
				RB25#25	20.70	19.10	34.70	PASS
				RB50#0	20.72	19.12	34.70	PASS
			HCH	RB1#0	22.06	20.46	34.70	PASS
				RB1#25	21.97	20.37	34.70	PASS
				RB1#49	21.83	20.23	34.70	PASS
				RB25#0	20.84	19.24	34.70	PASS
				RB25#13	20.79	19.19	34.70	PASS
				RB25#25	20.75	19.15	34.70	PASS
				RB50#0	20.81	19.21	34.70	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM3	10M	LCH	RB1#0	21.26	19.66	34.70	PASS
				RB1#25	21.15	19.55	34.70	PASS
				RB1#49	21.11	19.51	34.70	PASS
				RB25#0	19.71	18.11	34.70	PASS
				RB25#13	19.74	18.14	34.70	PASS
				RB25#25	19.65	18.05	34.70	PASS
				RB50#0	19.68	18.08	34.70	PASS
			MCH	RB1#0	20.95	19.35	34.70	PASS
				RB1#25	20.82	19.22	34.70	PASS
				RB1#49	20.76	19.16	34.70	PASS
				RB25#0	19.69	18.09	34.70	PASS
				RB25#13	19.68	18.08	34.70	PASS
				RB25#25	19.61	18.01	34.70	PASS
				RB50#0	19.72	18.12	34.70	PASS
			HCH	RB1#0	20.68	19.08	34.70	PASS
				RB1#25	20.61	19.01	34.70	PASS
				RB1#49	20.56	18.96	34.70	PASS
				RB25#0	19.86	18.26	34.70	PASS
				RB25#13	19.84	18.24	34.70	PASS
				RB25#25	19.80	18.20	34.70	PASS
				RB50#0	19.79	18.19	34.70	PASS

Note:

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

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

b: SGP=Signal Generator Level

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

Detector: RMS

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2 Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
Band 12	TM1/20M	LCH	4.75	13	PASS
		MCH	4.70	13	PASS
		HCH	4.70	13	PASS
	TM2/20M	LCH	5.54	13	PASS
		MCH	5.59	13	PASS
		HCH	5.57	13	PASS
	TM3/20M	LCH	6.17	13	PASS
		MCH	6.20	13	PASS
		HCH	6.14	13	PASS



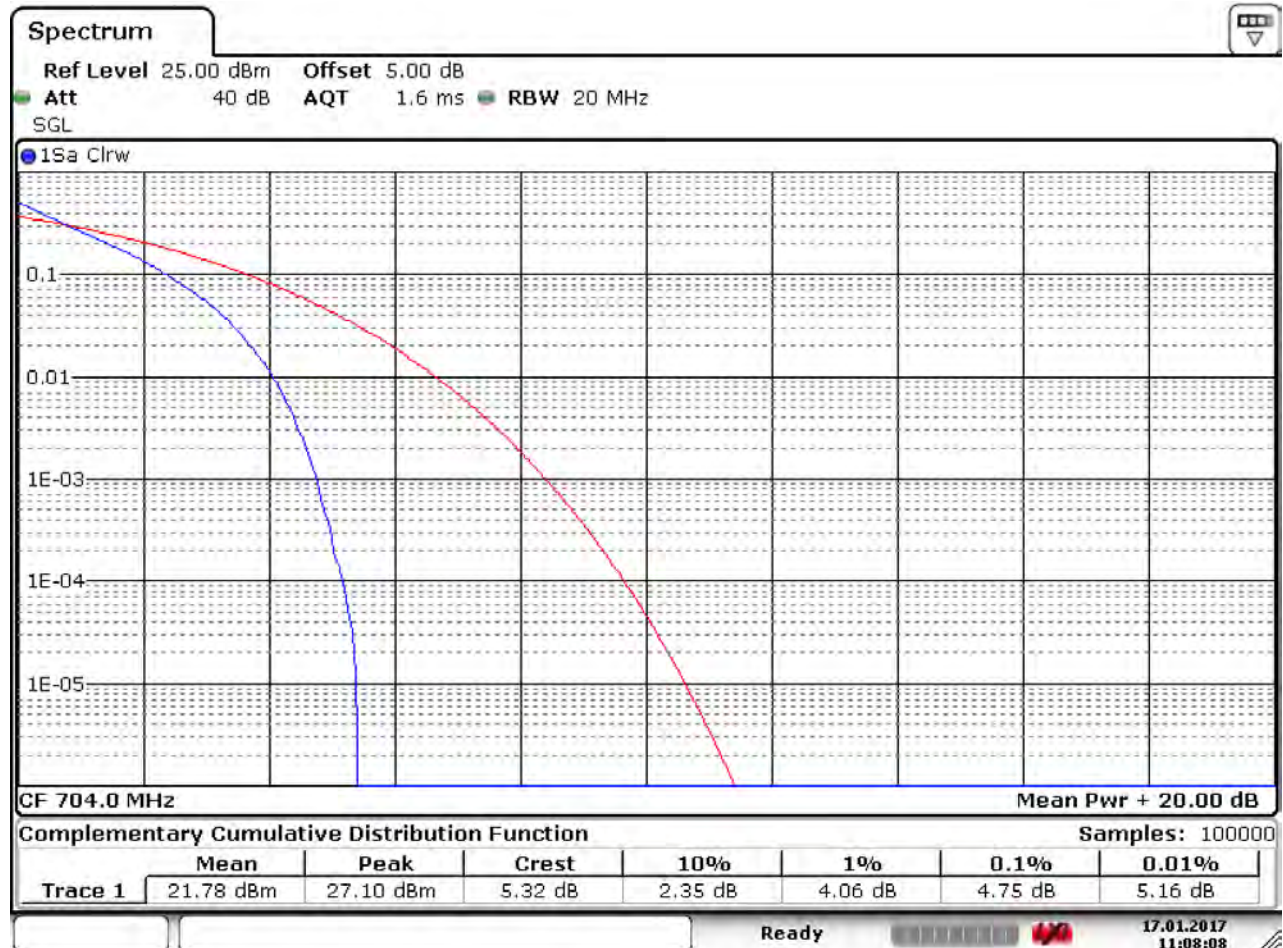
Part II - Test Plots

2.1 For LTE

2.1.1 Test Band = LTE band 12

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

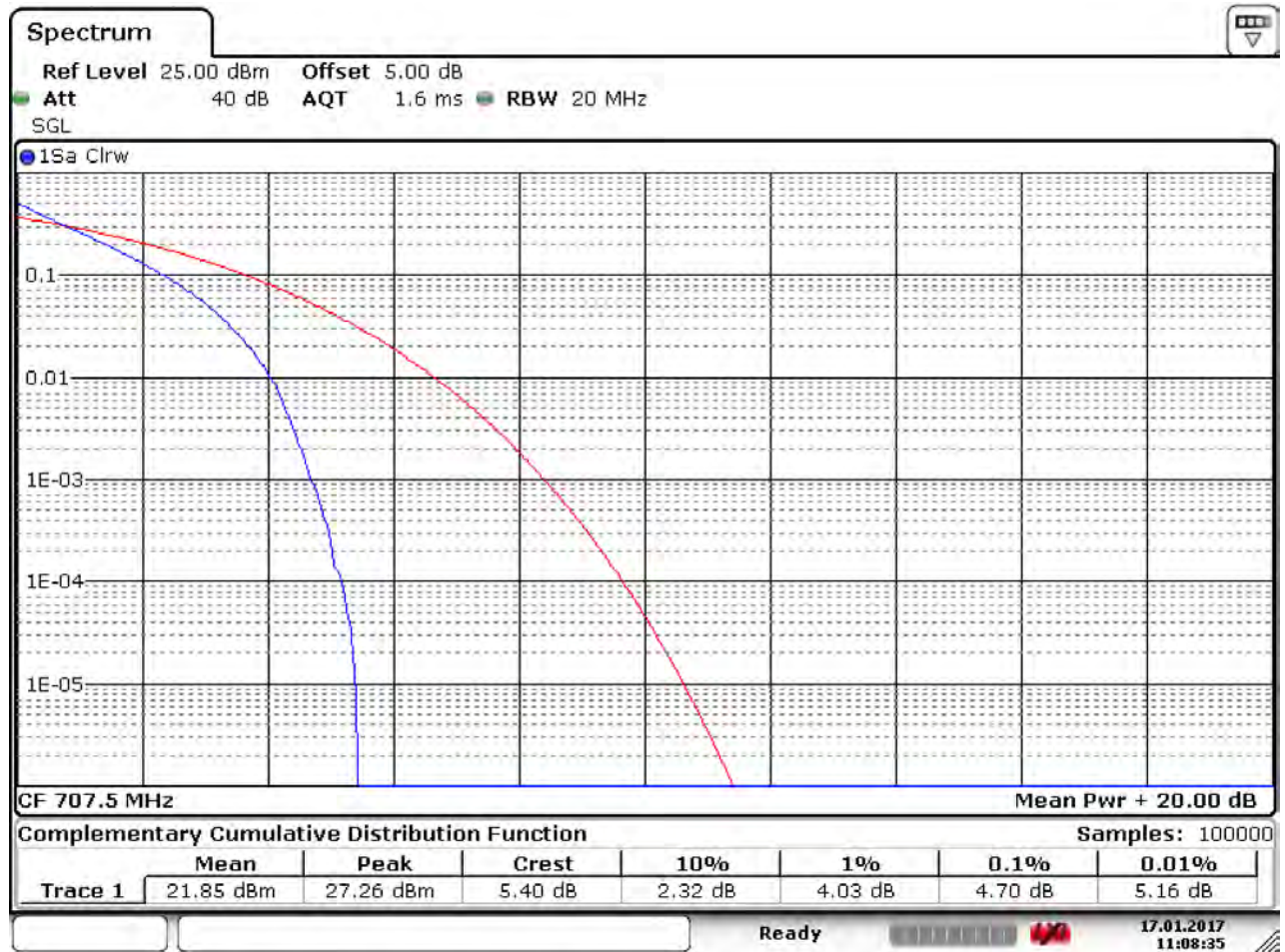
2.1.1.1.1 Test Channel = LCH



Date: 17.JAN.2017 11:08:08



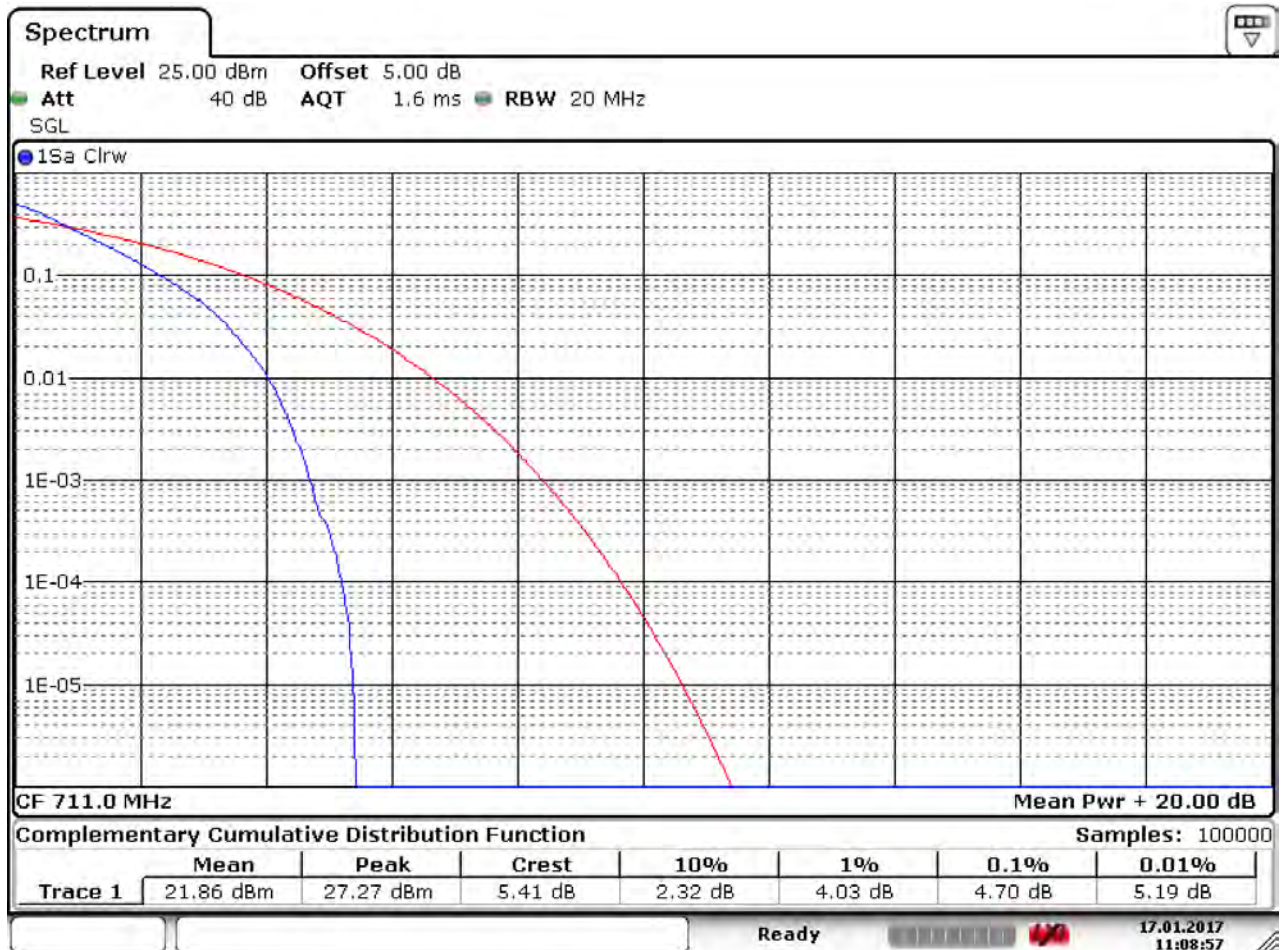
2.1.1.1.2 Test Channel = MCH



Date: 17.JAN.2017 11:08:35



2.1.1.1.3 Test Channel = HCH

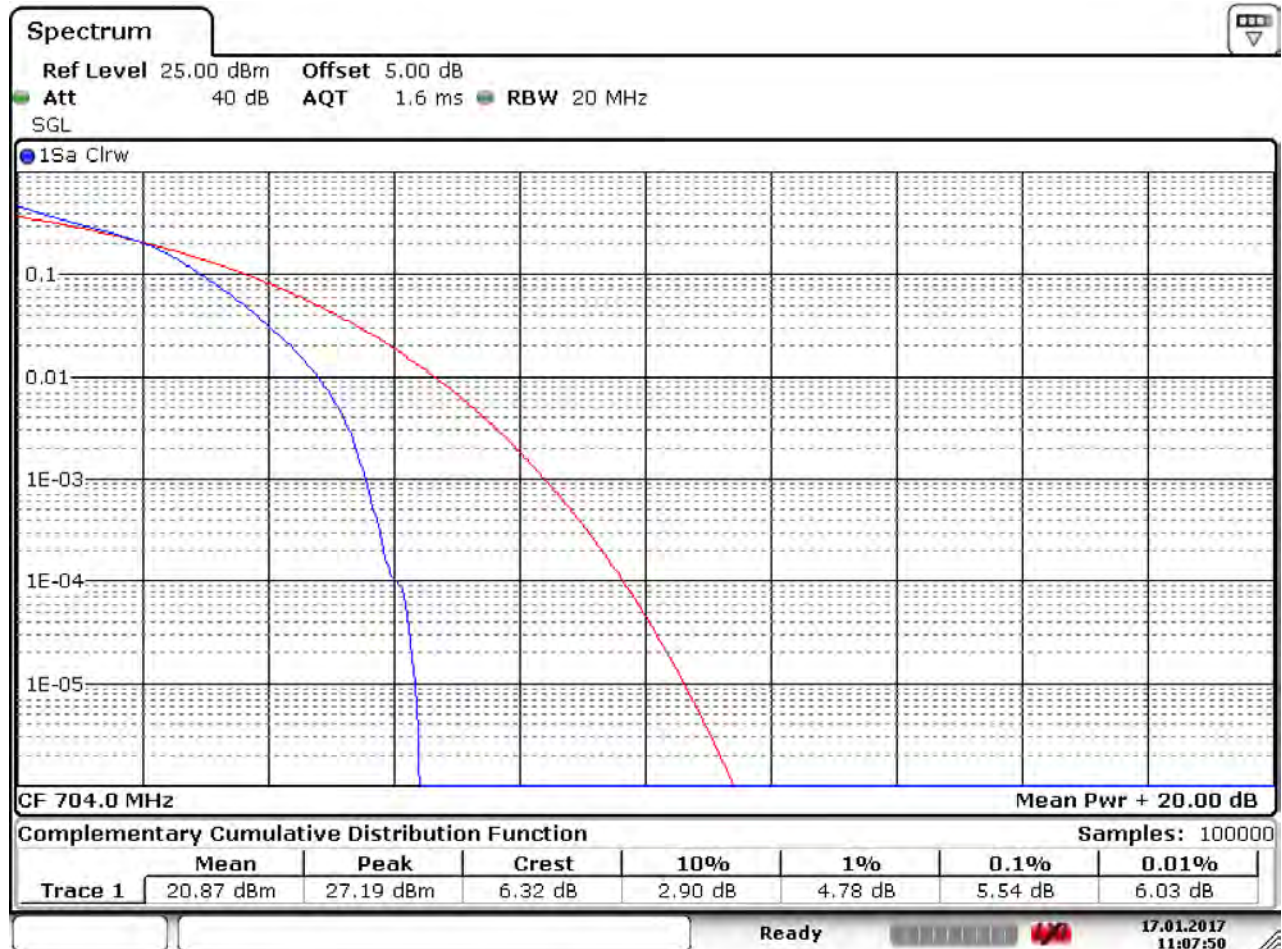


Date: 17.JAN.2017 11:08:58



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

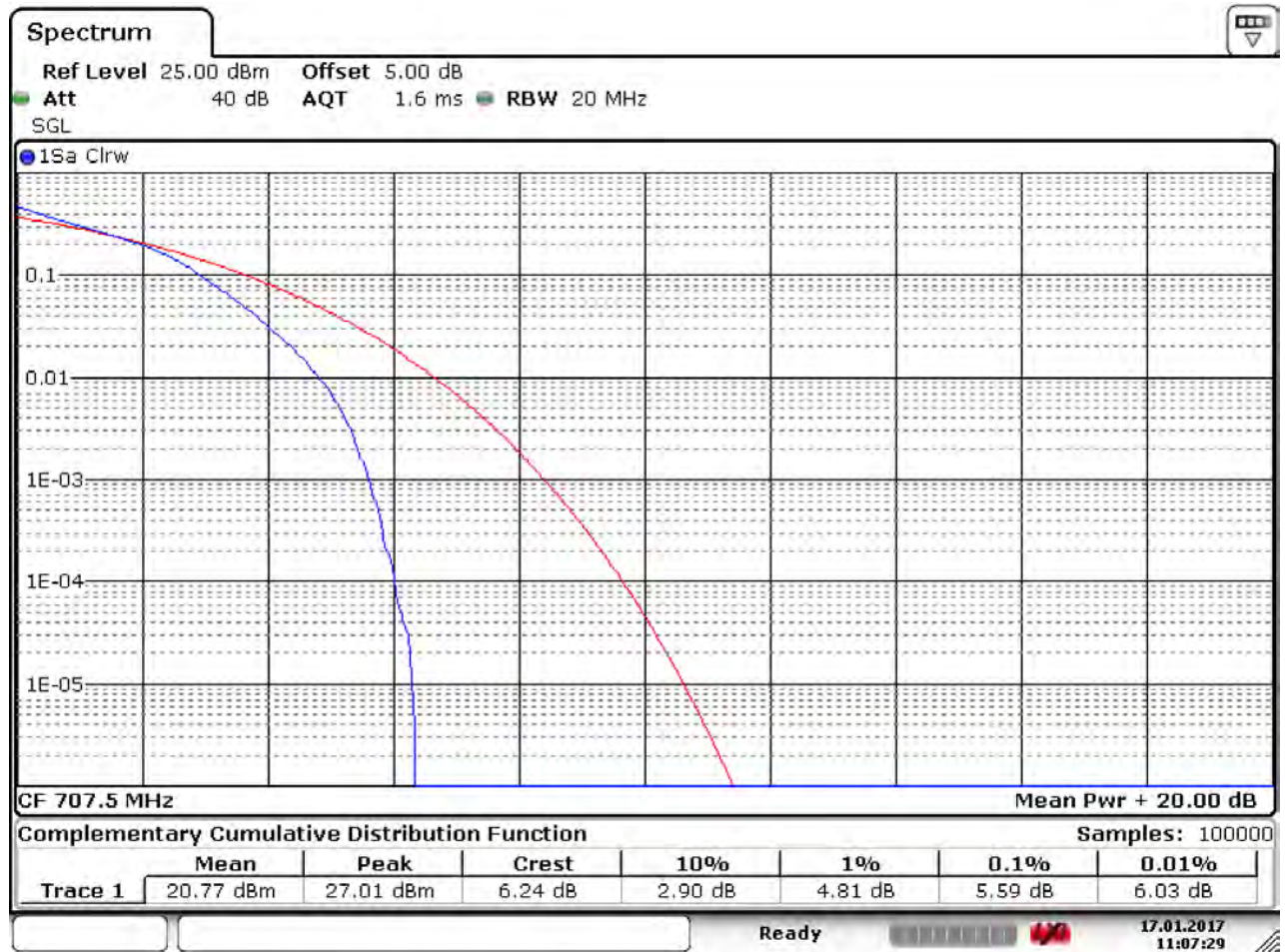
2.1.1.2.1 Test Channel = LCH



Date: 17.JAN.2017 11:07:51



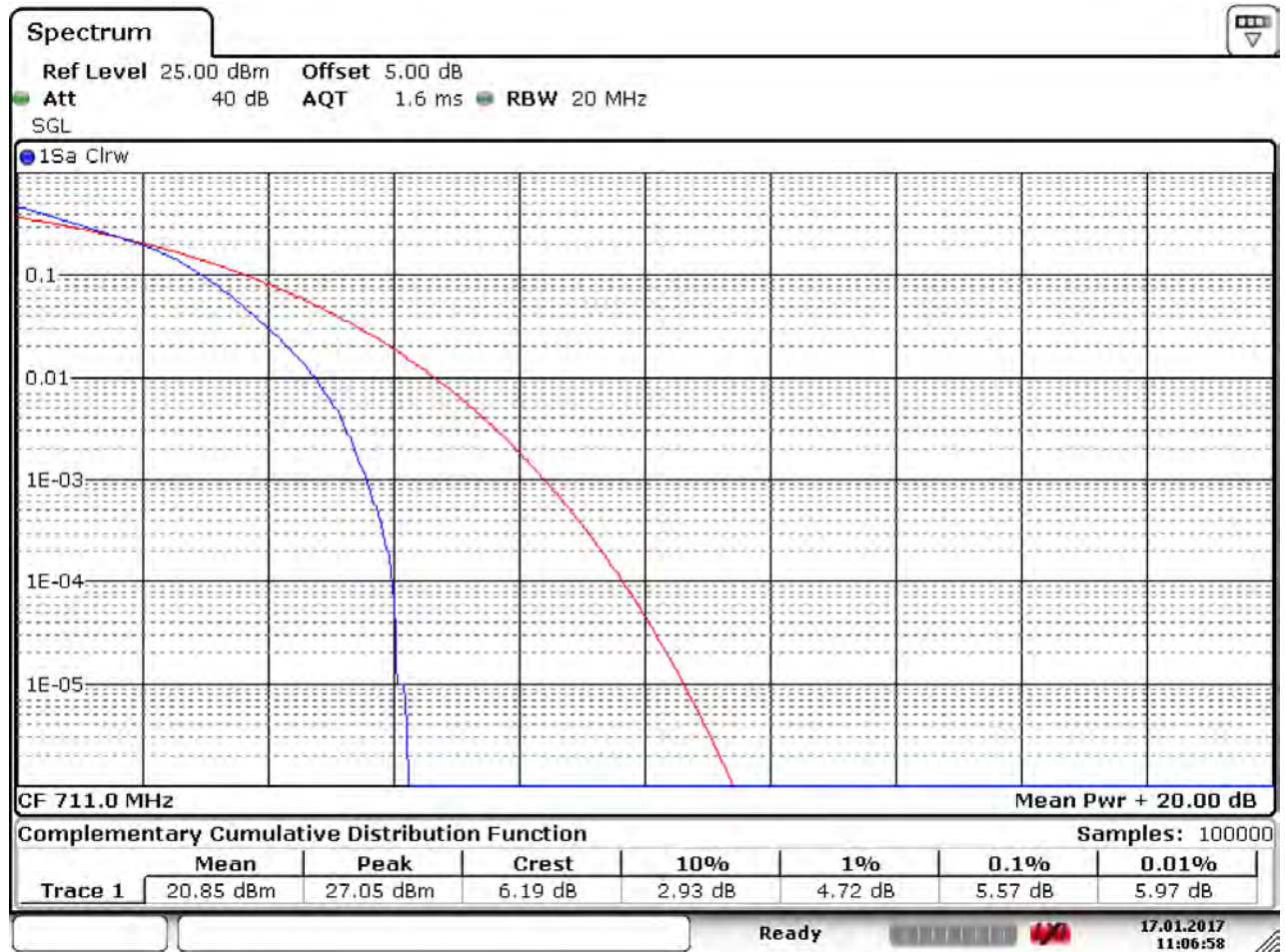
2.1.1.2.2 Test Channel = MCH



Date: 17.JAN.2017 11:07:30



2.1.1.2.3 Test Channel = HCH

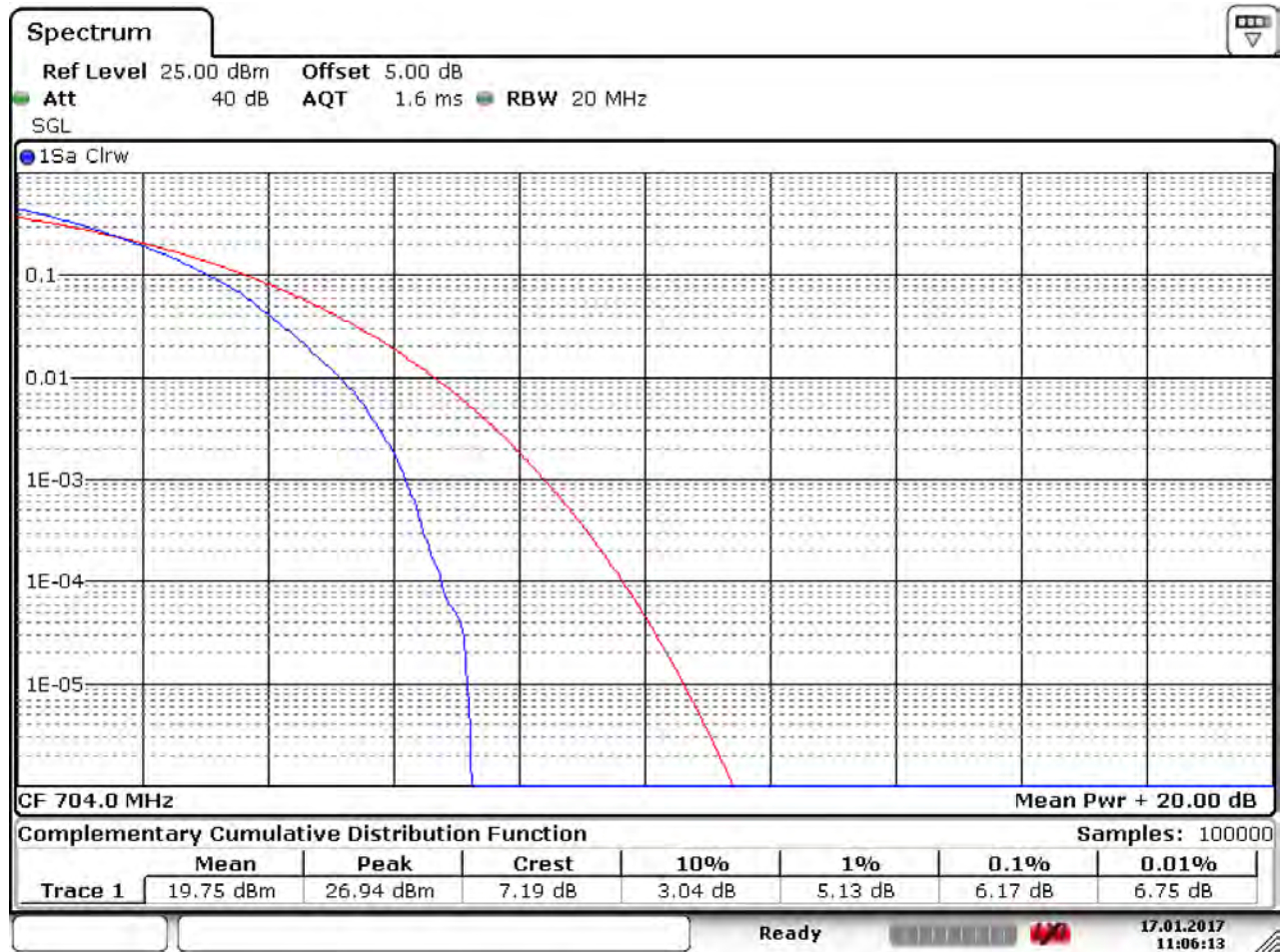


Date: 17.JAN.2017 11:06:59



2.1.1.3 Test Mode = LTE/TM3.Bandwidth=20MHz

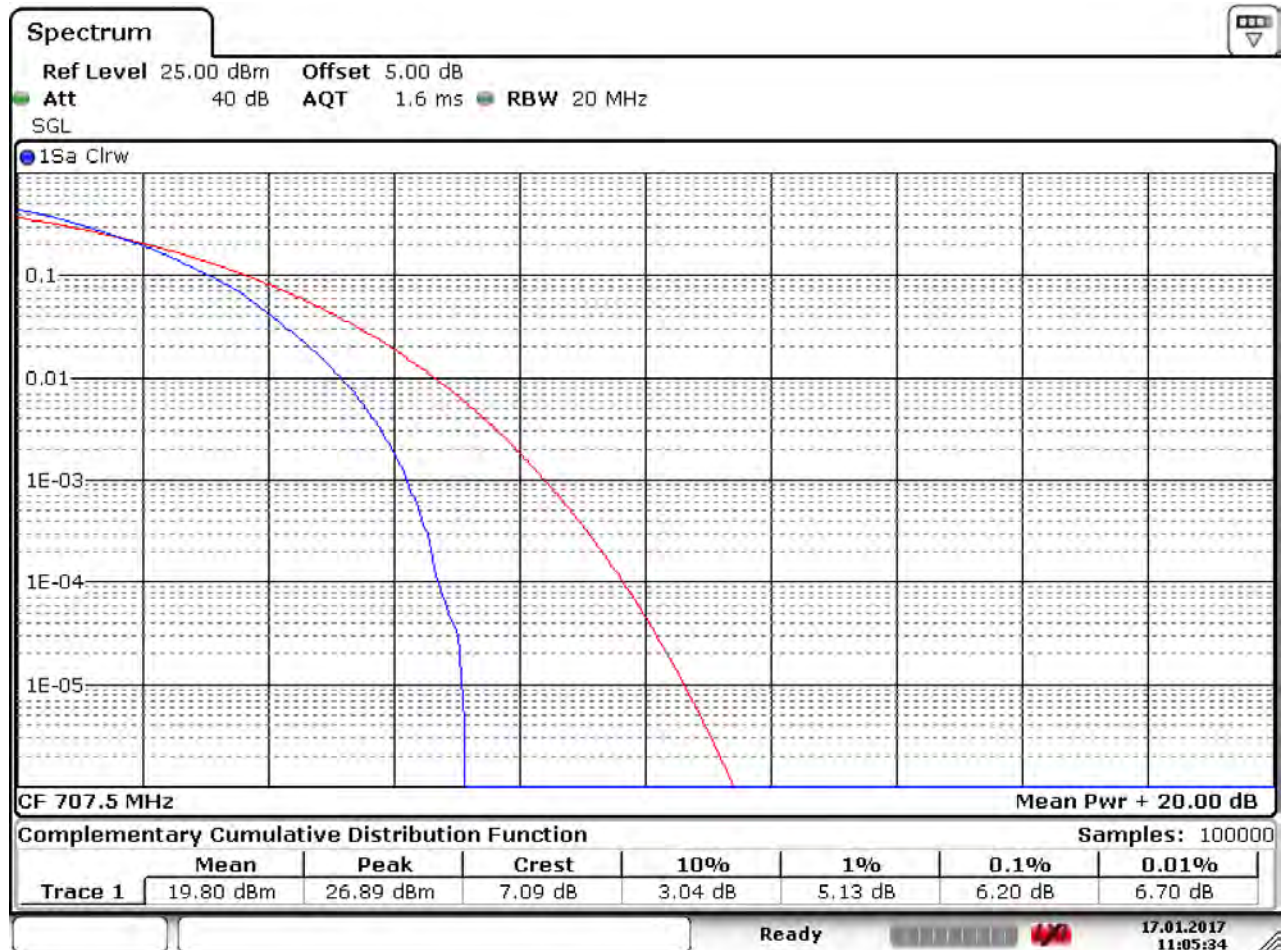
2.1.1.3.1 Test Channel = LCH



Date: 17.JAN.2017 11:06:13



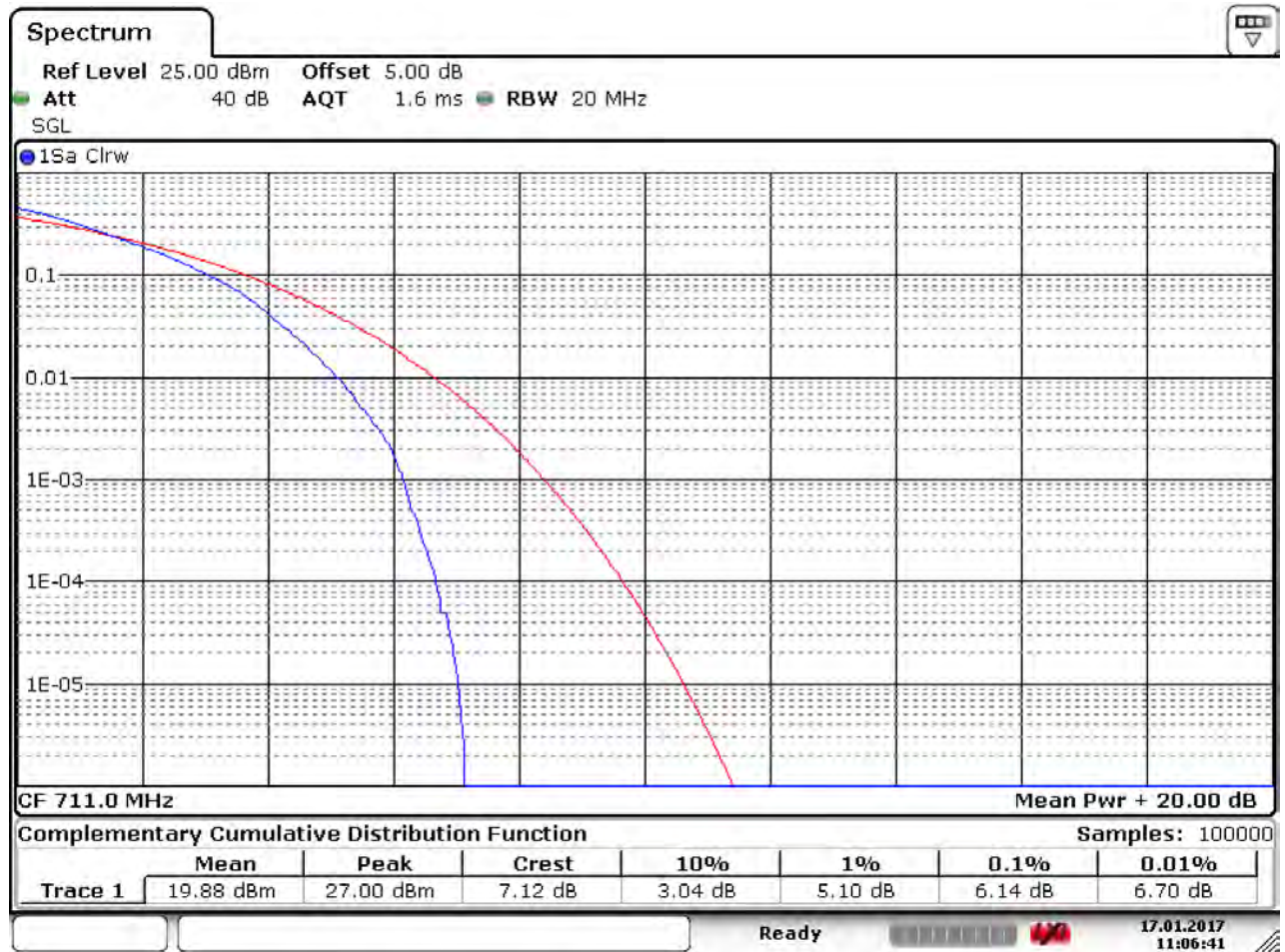
2.1.1.3.2 Test Channel = MCH



Date: 17.JAN.2017 11:05:34



2.1.1.3.3 Test Channel = HCH



Date: 17.JAN.2017 11:06:42



3 Modulation Characteristics

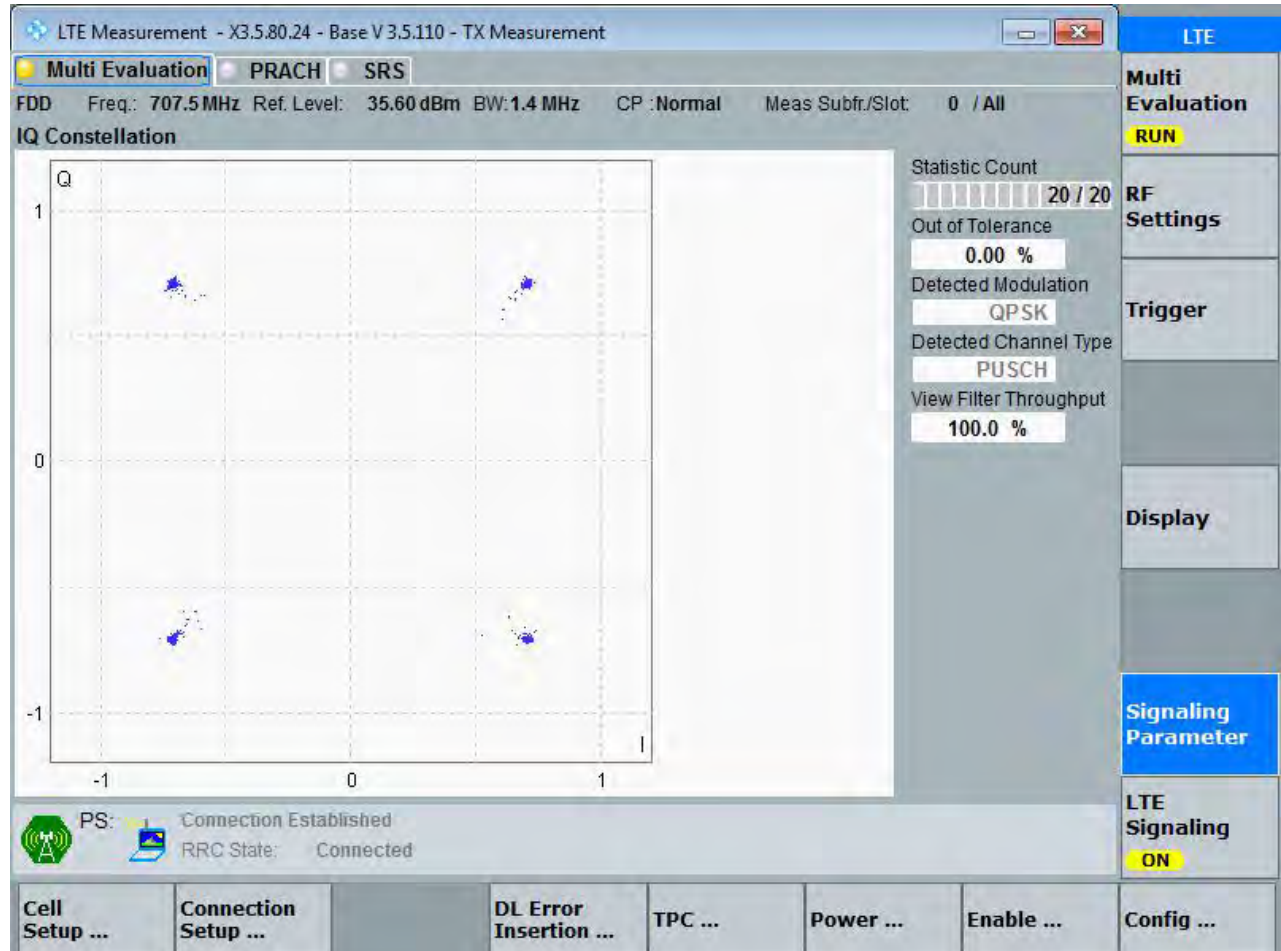
Part I - Test Plots

3.1 For LTE

3.1.1 Test Band = LTE band 12

3.1.1.1 Test Mode = LTE /TM1 1.4MHz

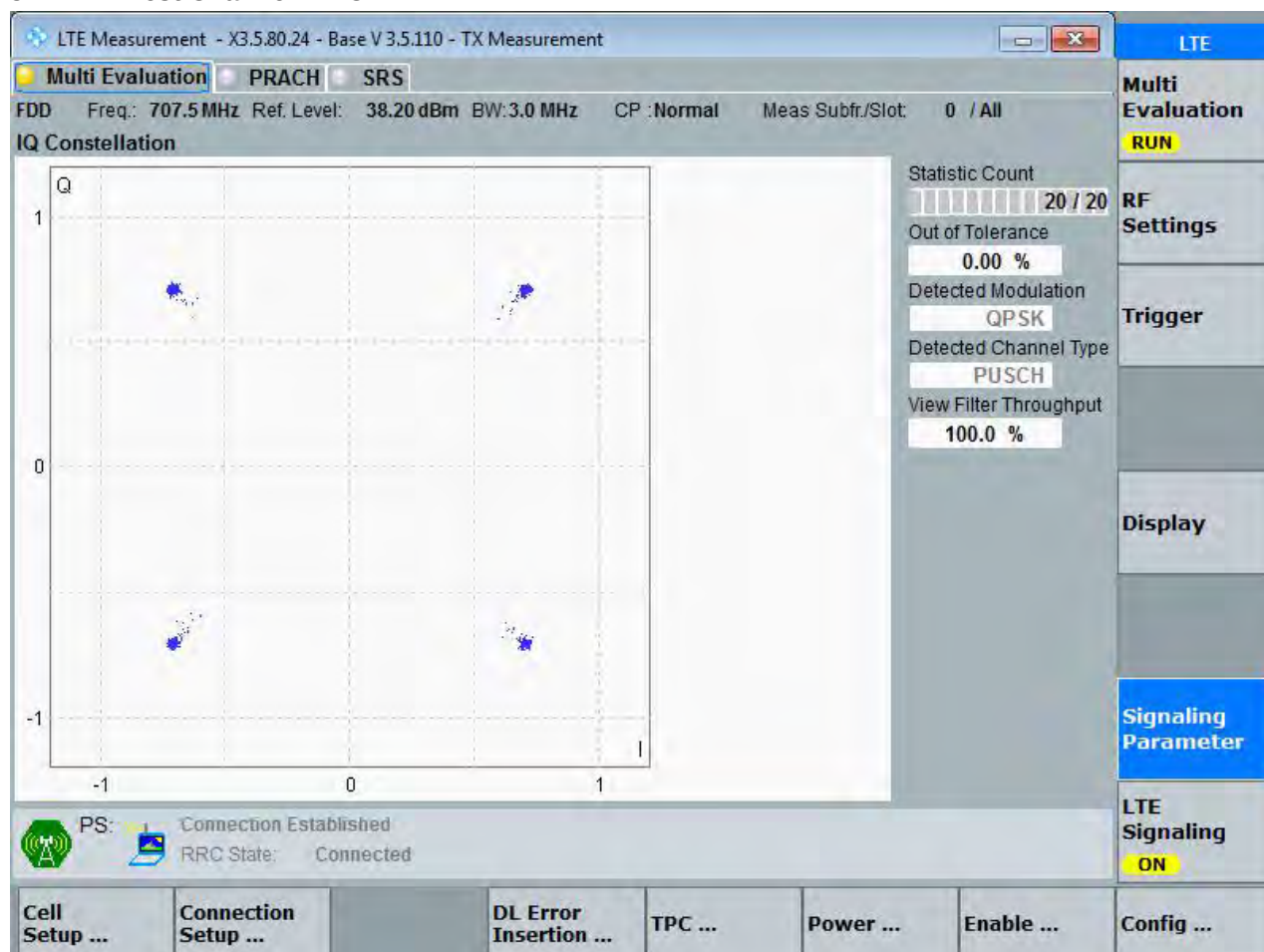
3.1.1.1.1 Test Channel = MCH





3.1.1.2 Test Mode = LTE /TM1 3MHz

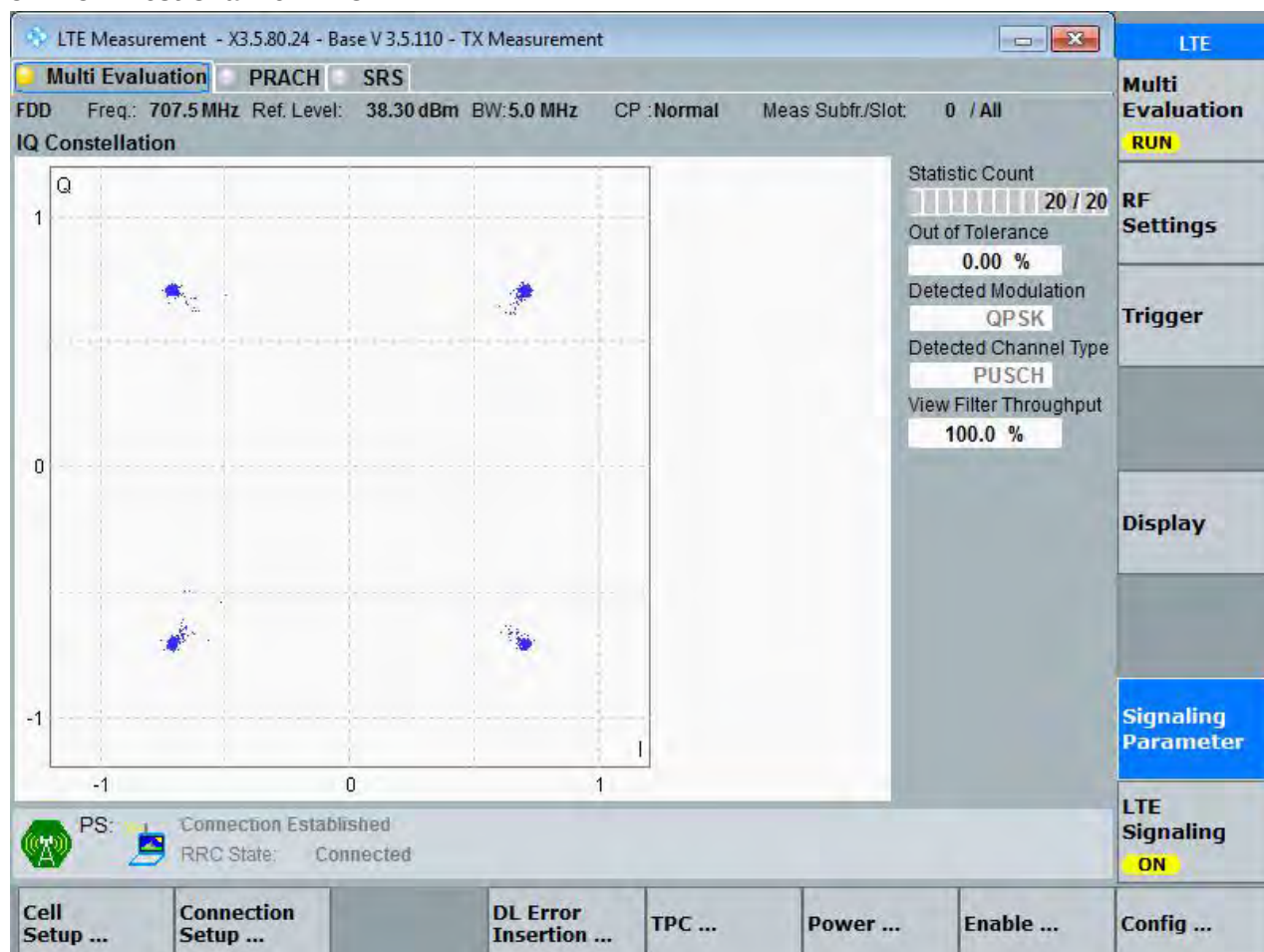
3.1.1.2.1 Test Channel = MCH





3.1.1.3 Test Mode = LTE /TM1 5MHz

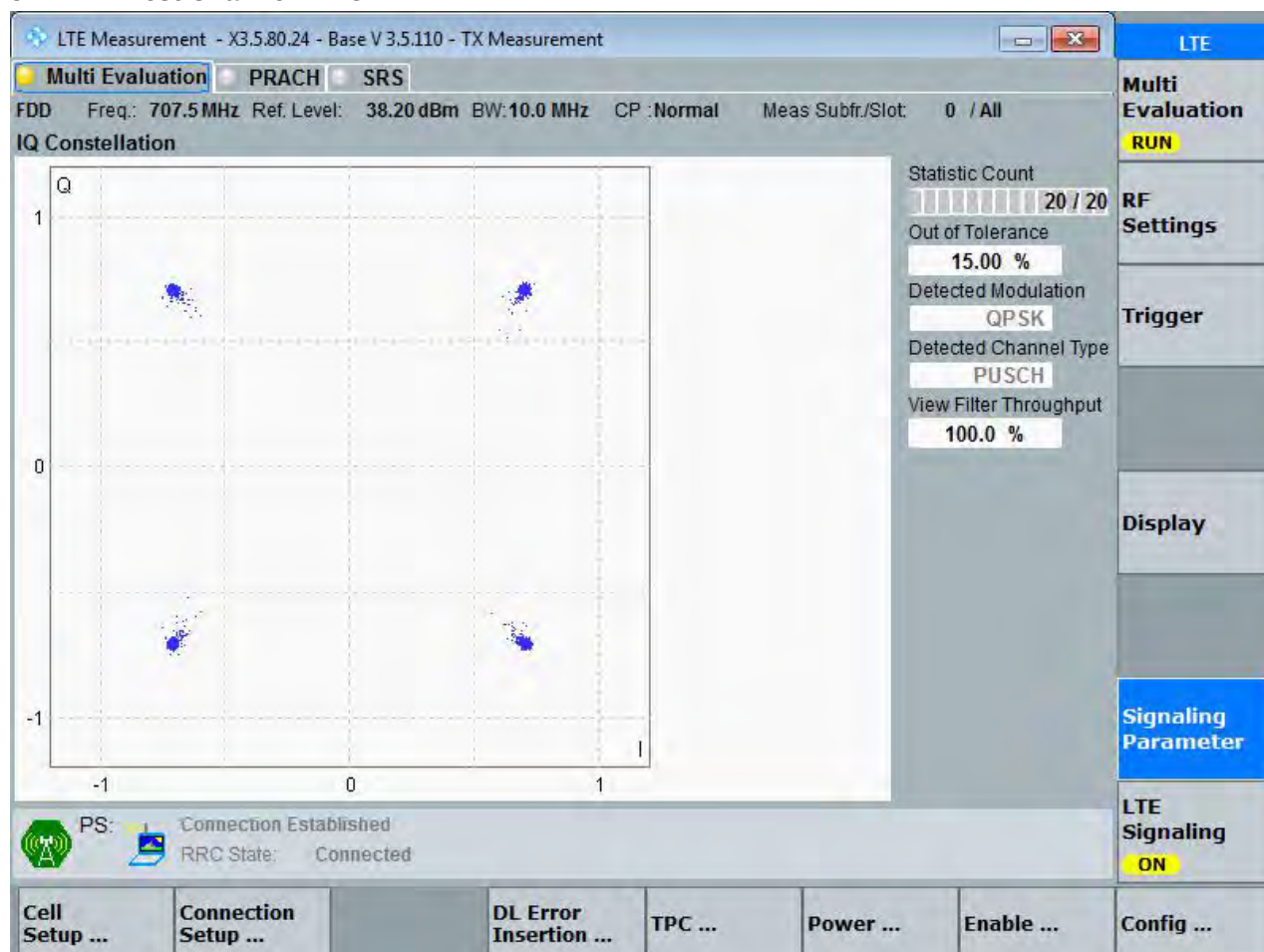
3.1.1.3.1 Test Channel = MCH





3.1.1.4 Test Mode = LTE /TM1 10MHz

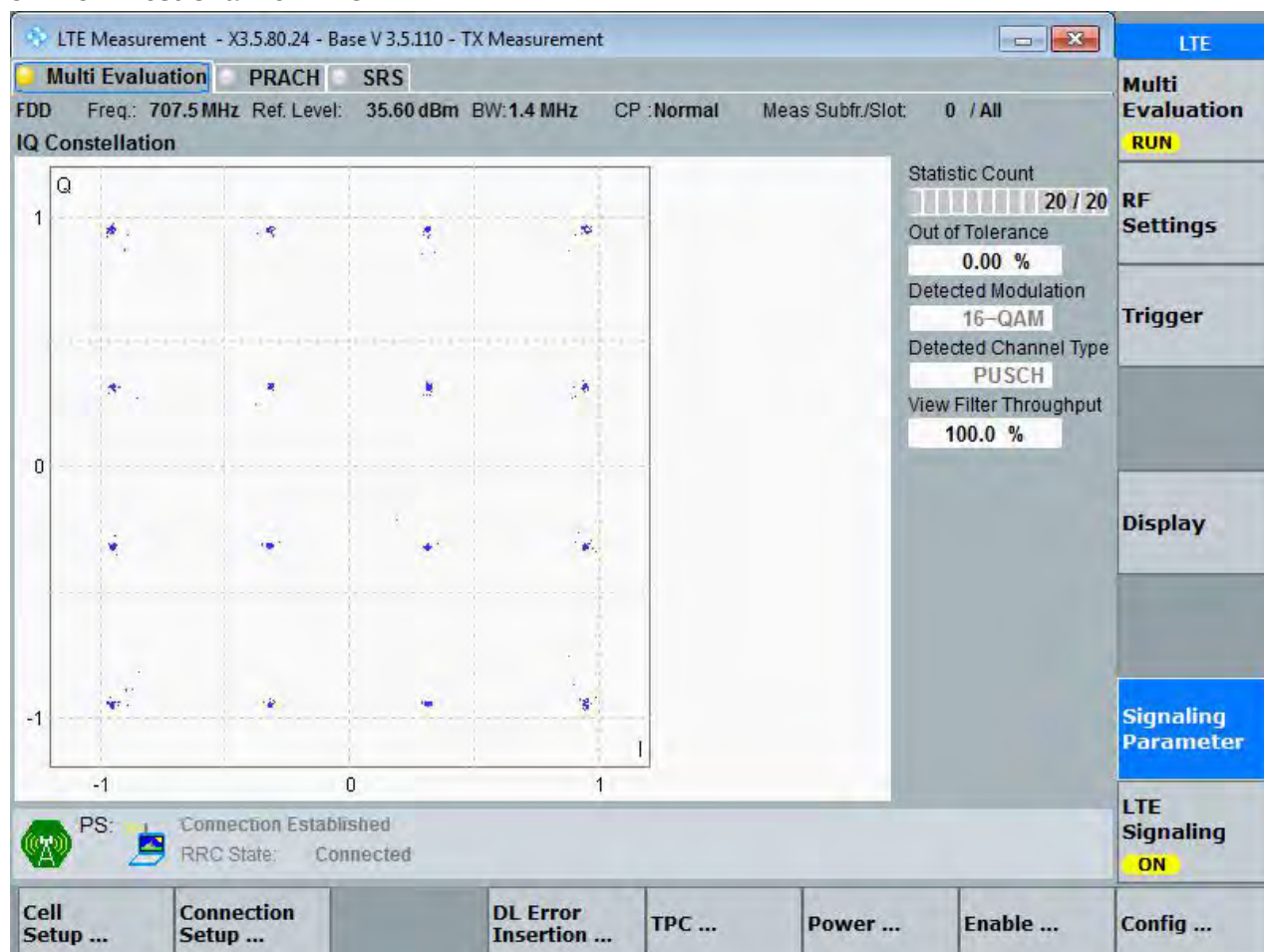
3.1.1.4.1 Test Channel = MCH





3.1.1.5 Test Mode = LTE /TM2 1.4MHz

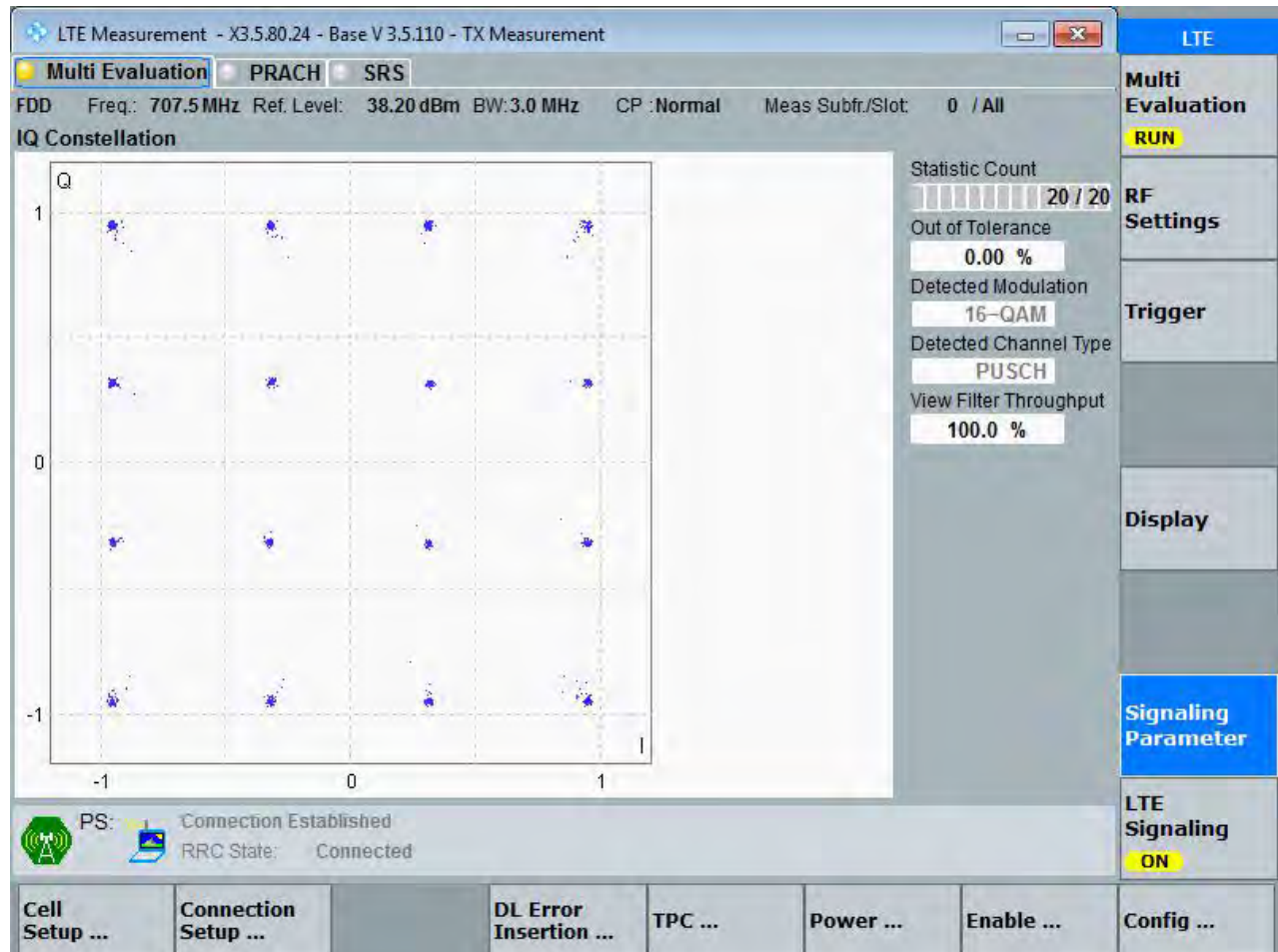
3.1.1.5.1 Test Channel = MCH





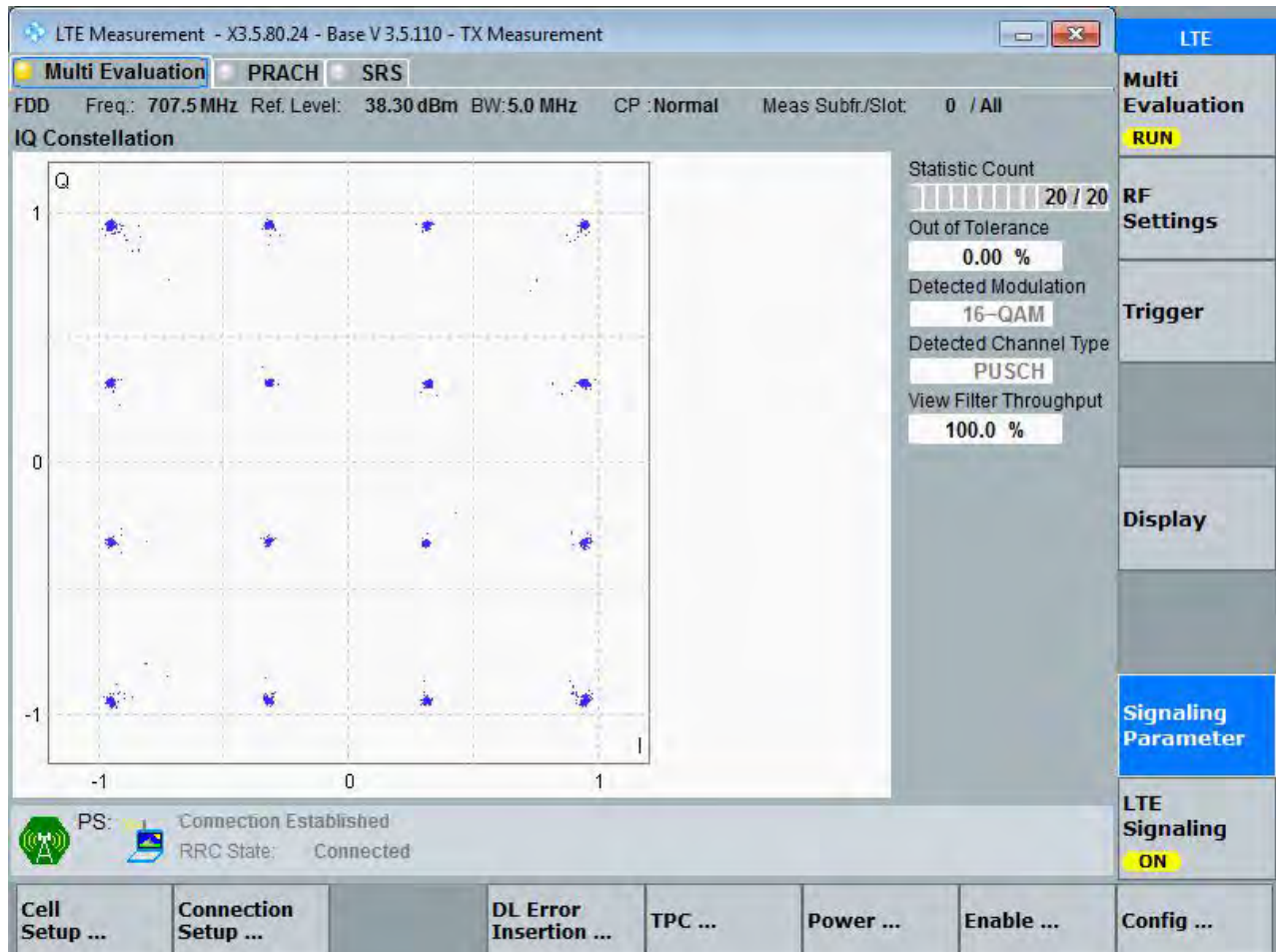
3.1.1.6 Test Mode = LTE /TM2 3MHz

3.1.1.6.1 Test Channel = MCH



3.1.1.7 Test Mode = LTE /TM2 5MHz

3.1.1.7.1 Test Channel = MCH

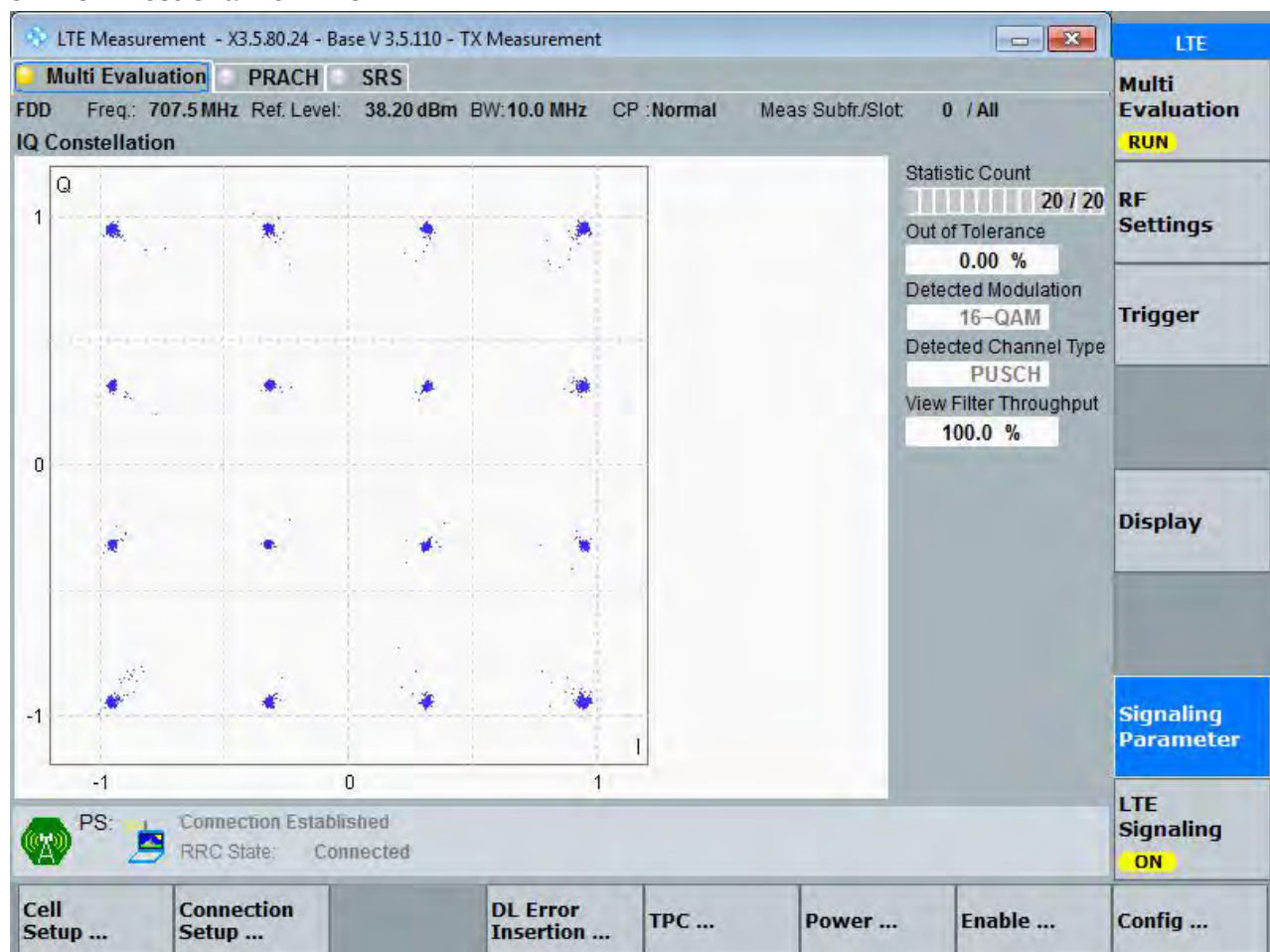


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3.1.1.8 Test Mode = LTE /TM2 10MHz

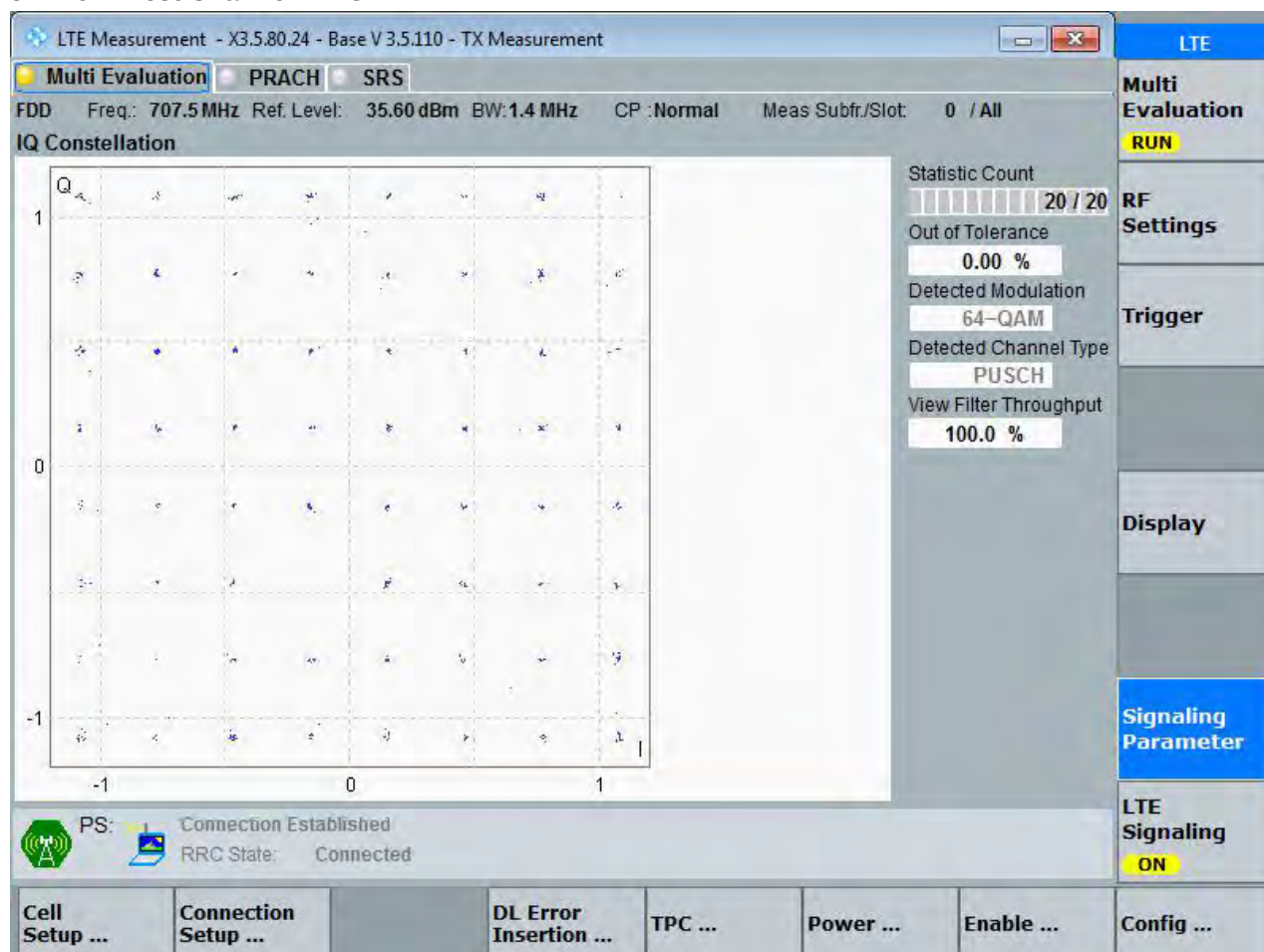
3.1.1.8.1 Test Channel = MCH





3.1.1.9 Test Mode = LTE /TM3 1.4MHz

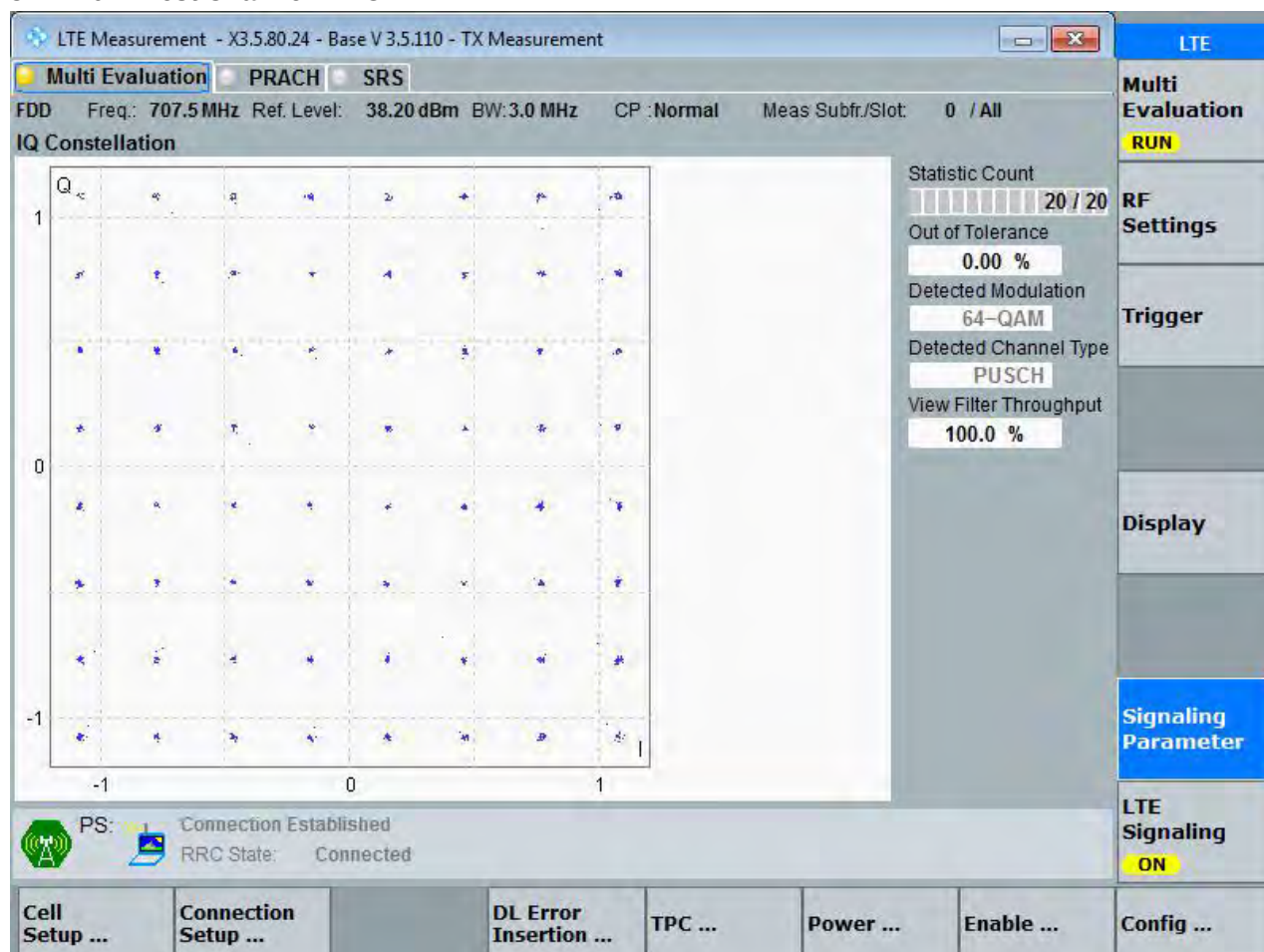
3.1.1.9.1 Test Channel = MCH





3.1.1.10 Test Mode = LTE /TM3 3MHz

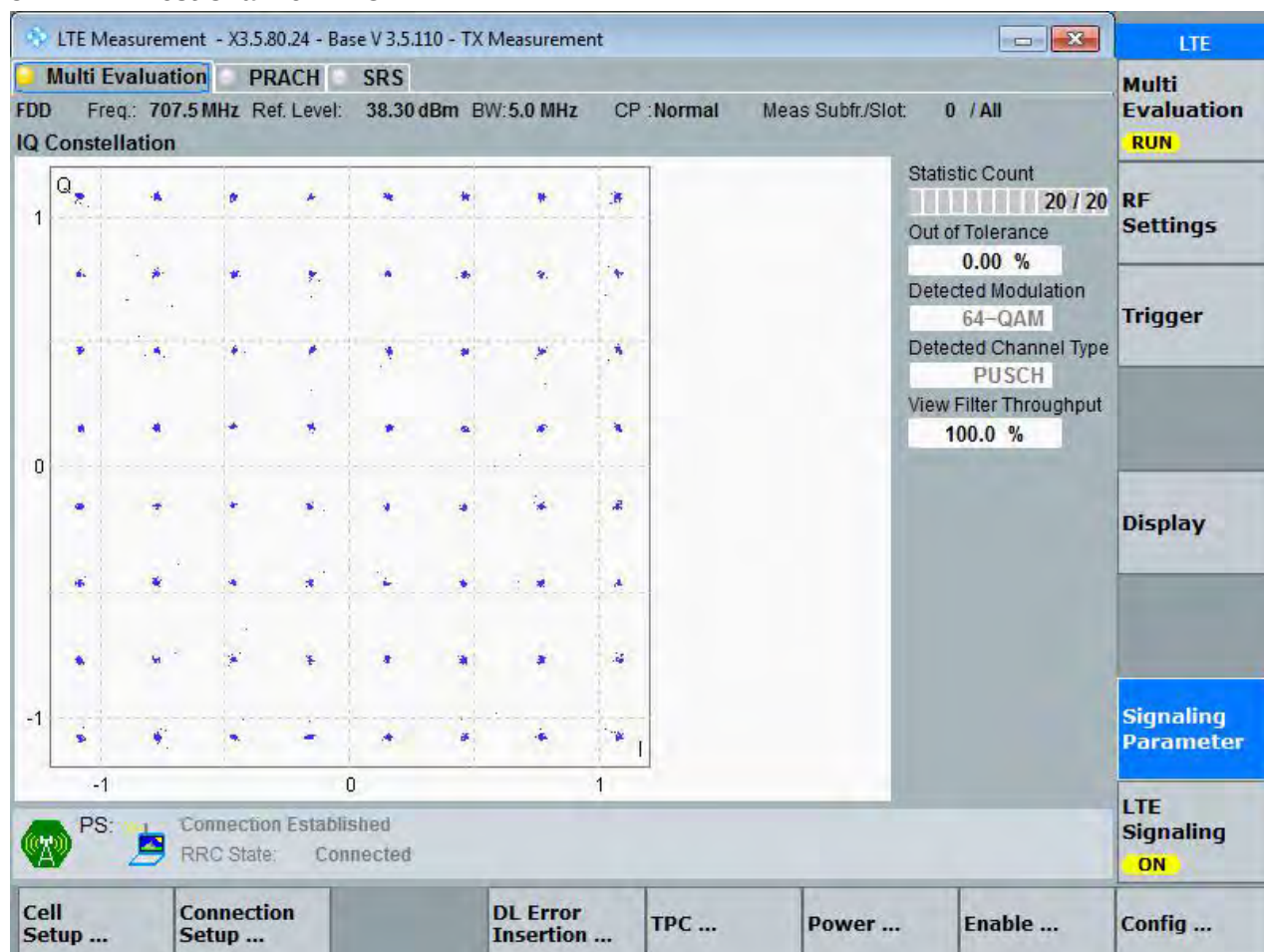
3.1.1.10.1 Test Channel = MCH





3.1.1.11 Test Mode = LTE /TM3 5MHz

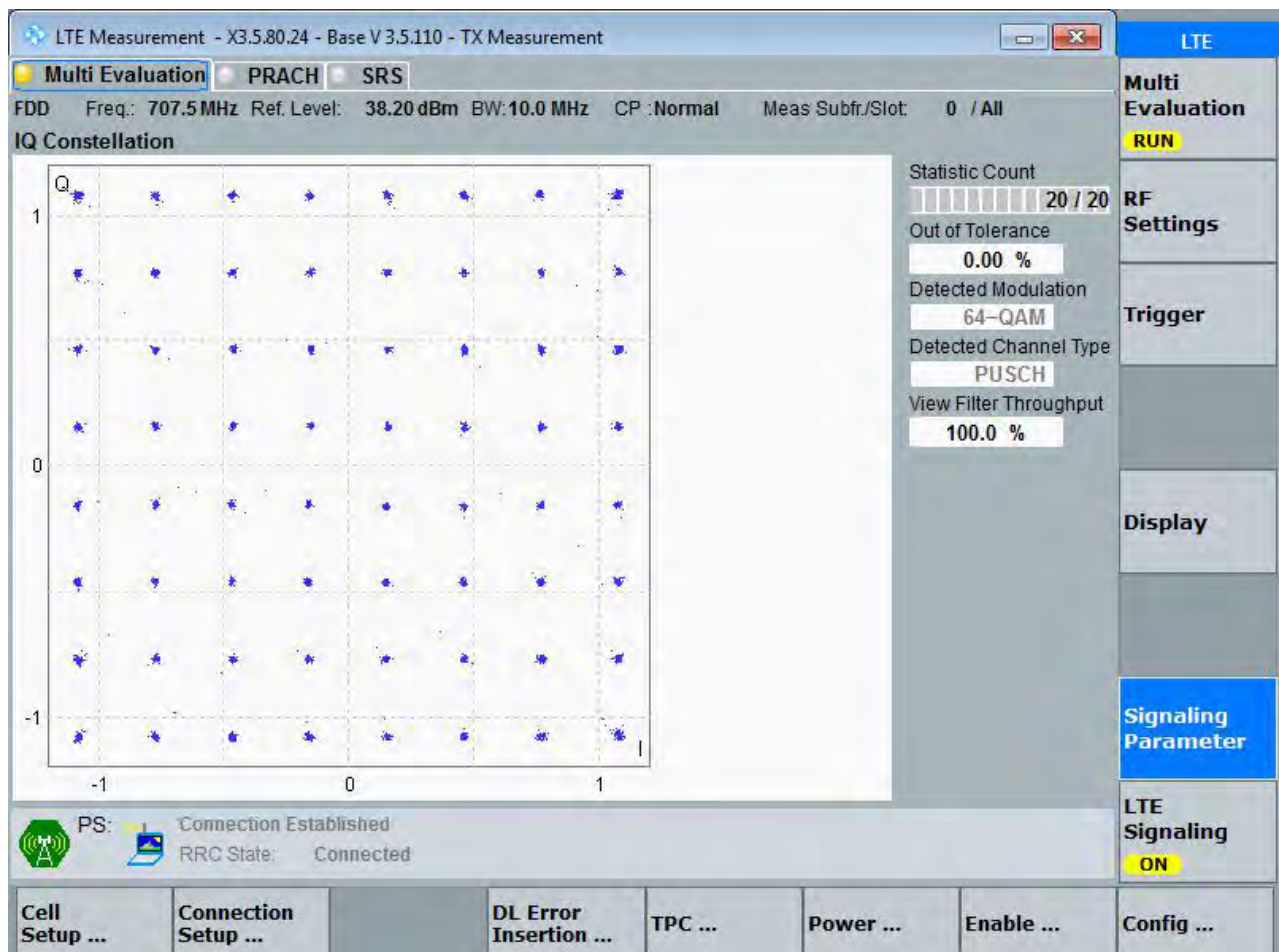
3.1.1.11.1 Test Channel = MCH





3.1.1.12 Test Mode = LTE /TM3 10MHz

3.1.1.12.1 Test Channel = MCH





4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band 12	TM1/1.4MHz	LCH	1.10	1.23	PASS
		MCH	1.09	1.24	PASS
		HCH	1.09	1.24	PASS
	TM2/1.4MHz	LCH	1.09	1.24	PASS
		MCH	1.09	1.24	PASS
		HCH	1.09	1.23	PASS
	TM3/1.4MHz	LCH	1.09	1.24	PASS
		MCH	1.09	1.23	PASS
		HCH	1.10	1.25	PASS
	TM1/3MHz	LCH	2.69	2.94	PASS
		MCH	2.69	2.93	PASS
		HCH	2.69	2.95	PASS
	TM2/3MHz	LCH	2.69	2.95	PASS
		MCH	2.68	2.96	PASS
		HCH	2.68	2.94	PASS
	TM3/3MHz	LCH	2.68	2.90	PASS
		MCH	2.69	2.93	PASS
		HCH	2.69	2.93	PASS
	TM1/5MHz	LCH	4.48	4.90	PASS
		MCH	4.49	4.90	PASS
		HCH	4.47	4.89	PASS
	TM2/5MHz	LCH	4.49	4.90	PASS
		MCH	4.48	4.86	PASS
		HCH	4.48	4.91	PASS
	TM3/5MHz	LCH	4.48	4.88	PASS
		MCH	4.47	4.87	PASS
		HCH	4.48	4.90	PASS
	TM1/10MHz	LCH	8.93	9.65	PASS
		MCH	8.93	9.67	PASS
		HCH	8.95	9.69	PASS
	TM2/10MHz	LCH	8.93	9.65	PASS

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Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
		MCH	8.93	9.65	PASS
		HCH	8.93	9.58	PASS
	TM3/10MHz	LCH	8.93	9.67	PASS
		MCH	8.95	9.69	PASS
		HCH	8.93	9.63	PASS

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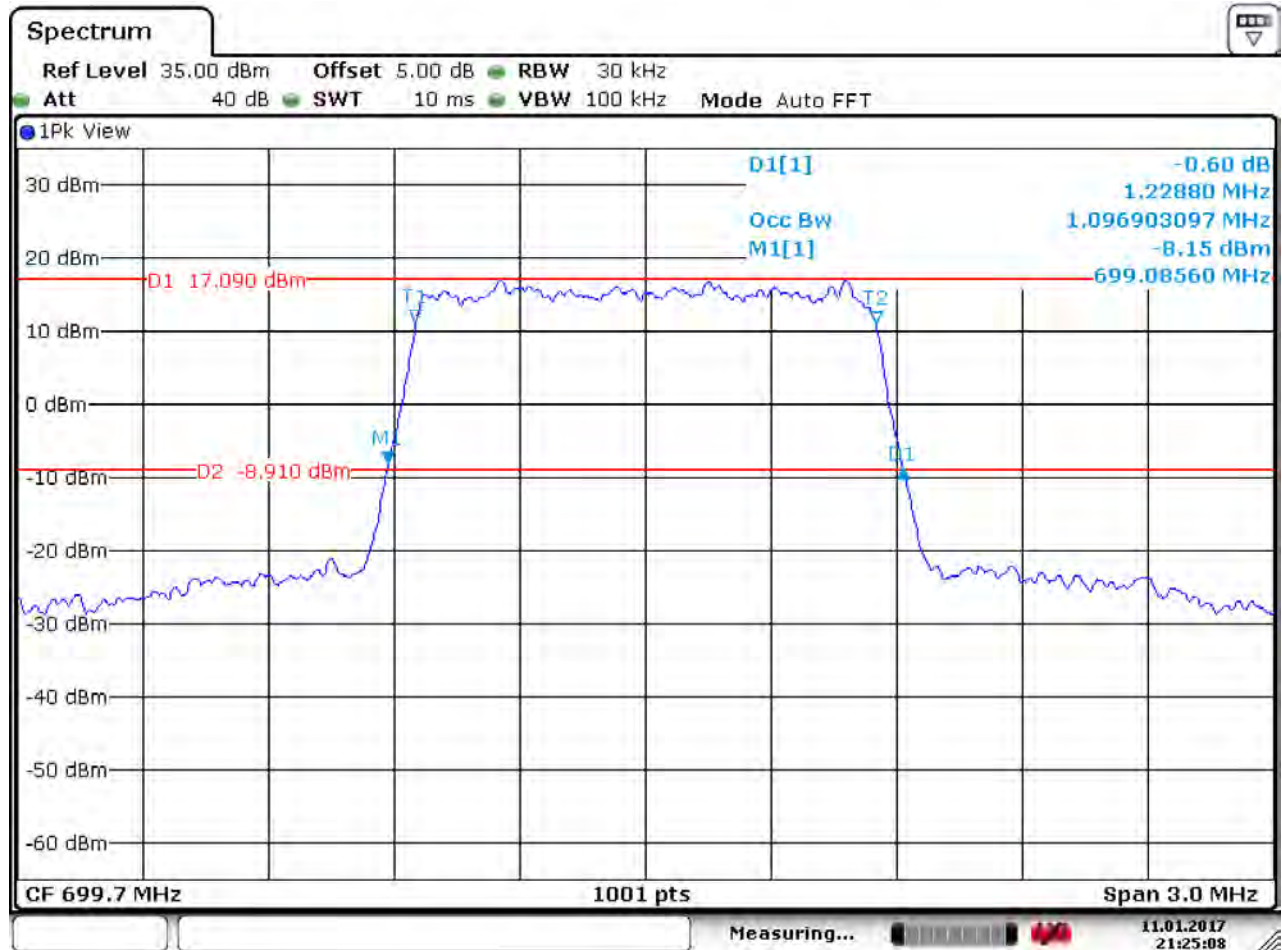


4.1 For LTE

4.1.1 Test Band = LTE band12

4.1.1.1 Test Mode = LTE/TM1 1.4MHz

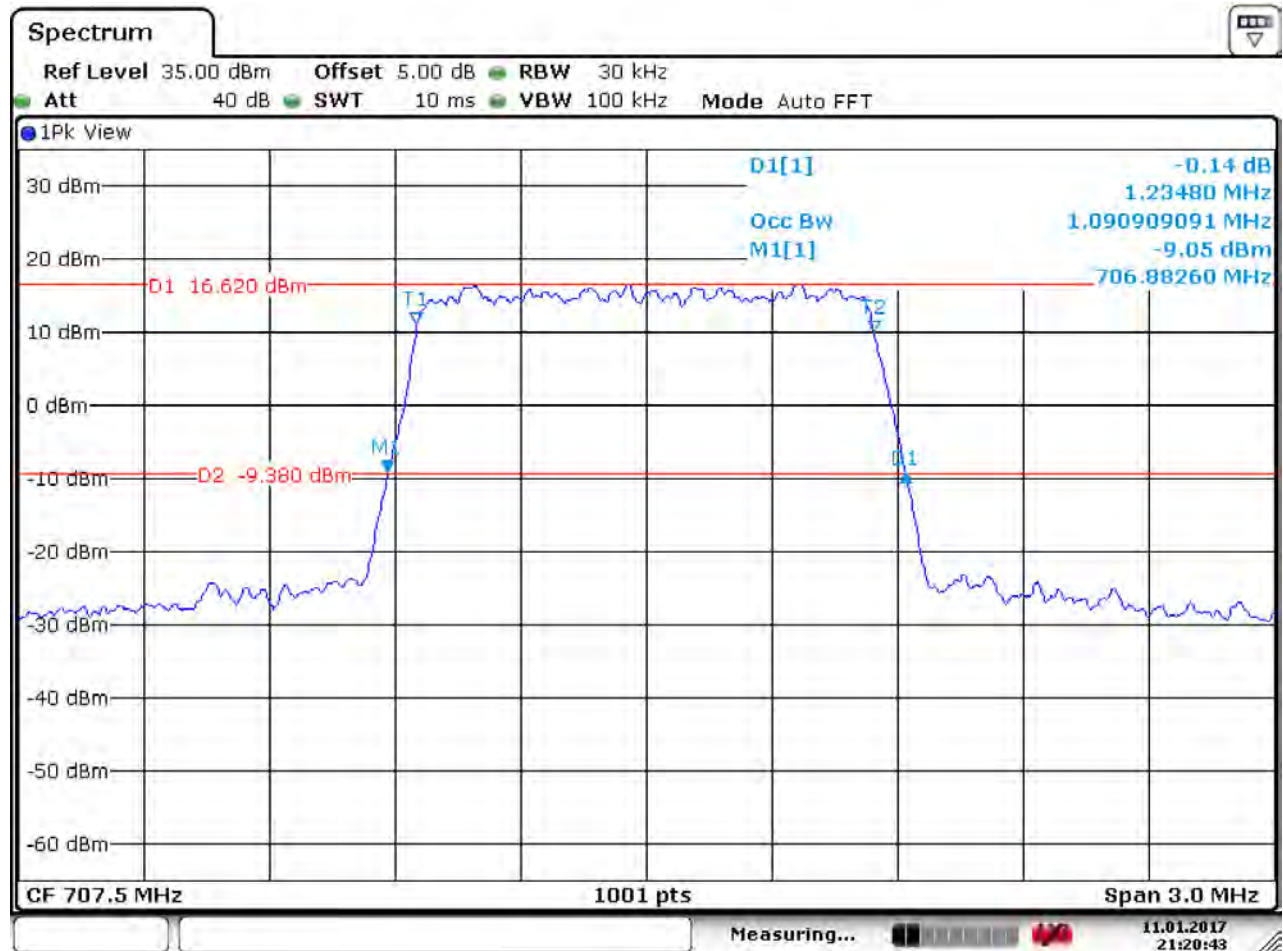
4.1.1.1.1 Test Channel = LCH



Date: 11.JAN.2017 21:25:08

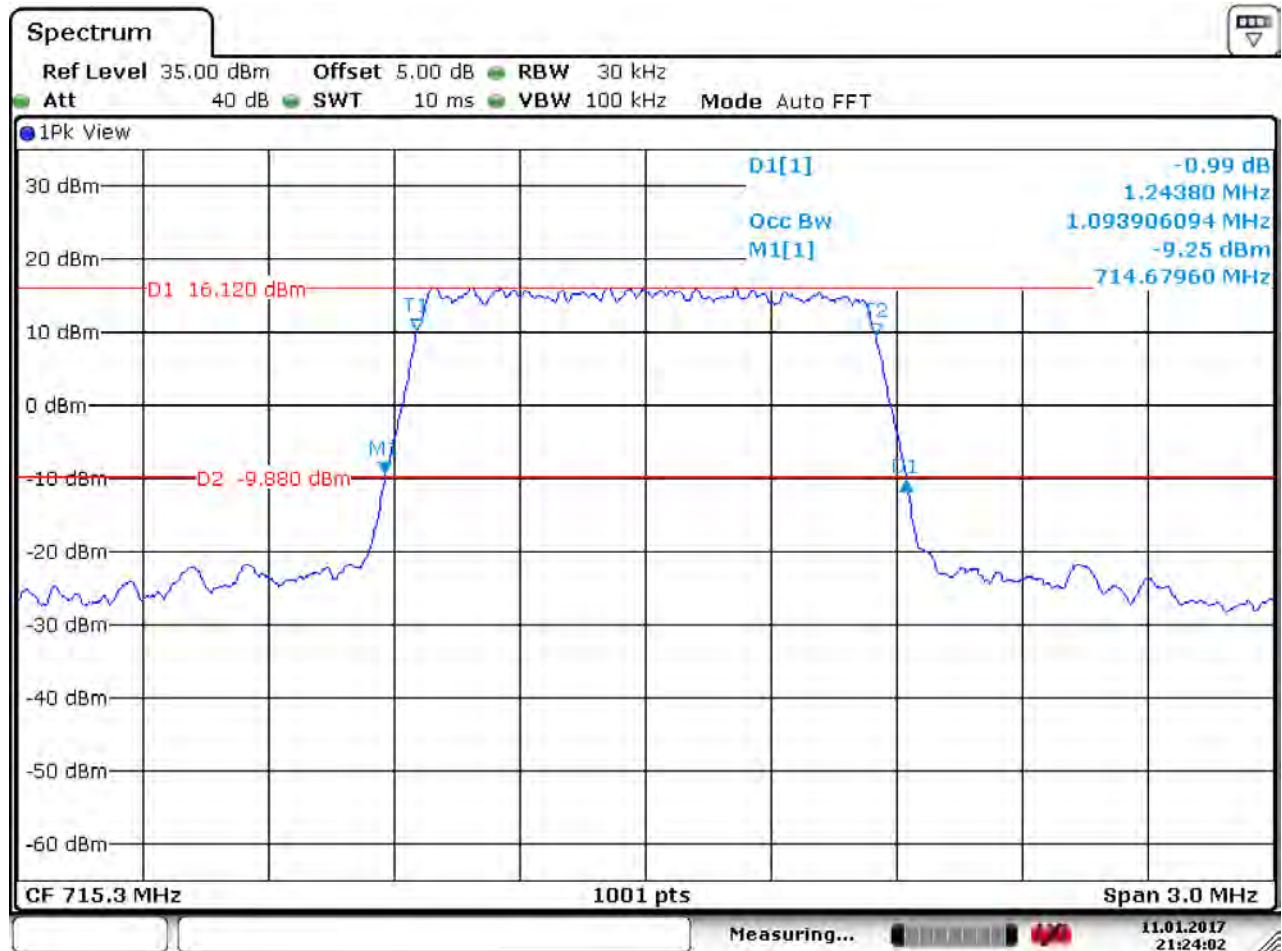


4.1.1.1.2 Test Channel = MCH



Date: 11.JAN.2017 21:20:43

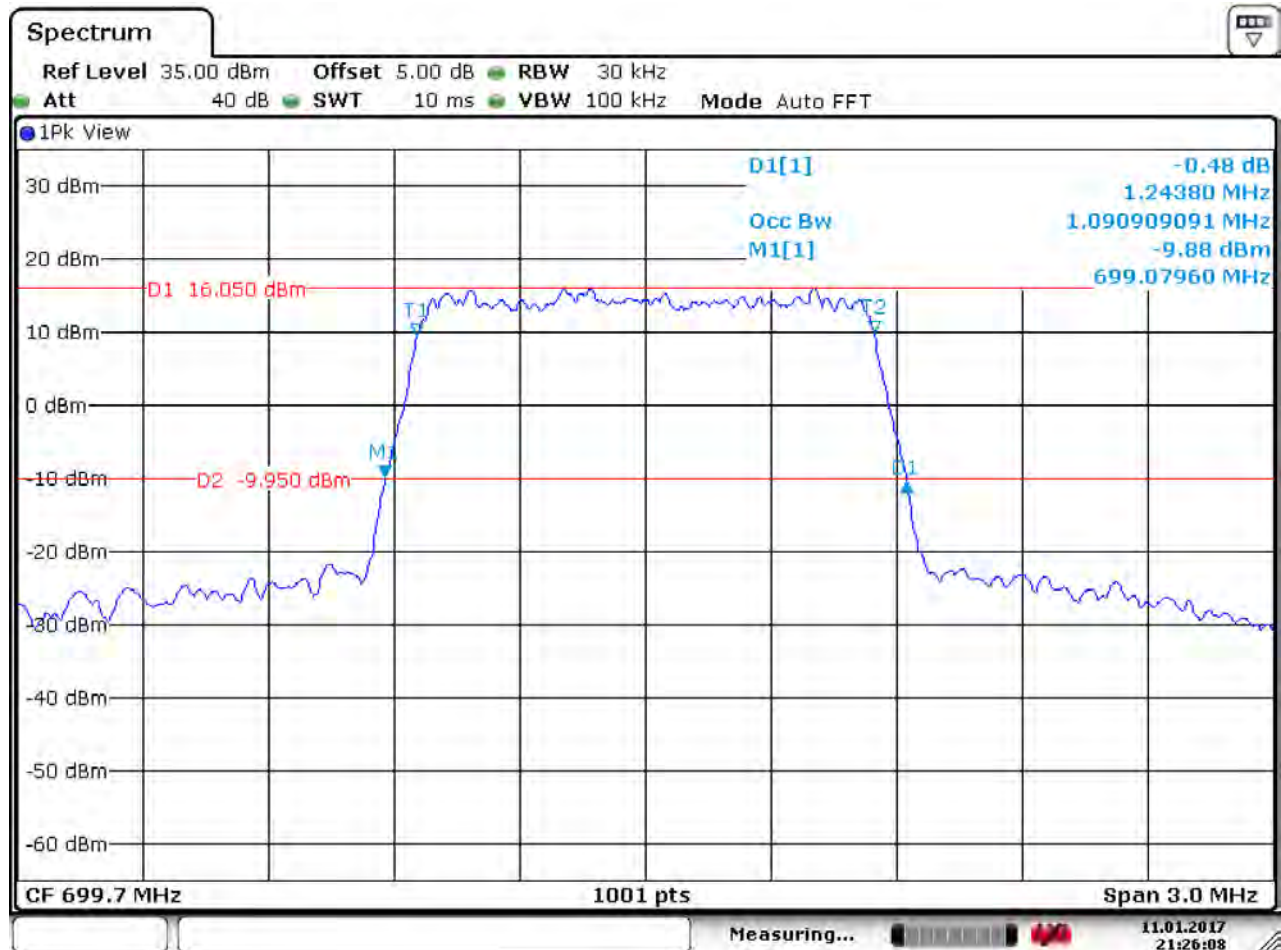
4.1.1.1.3 Test Channel = HCH



Date: 11.JAN.2017 21:24:03

4.1.1.2 Test Mode = LTE/TM2 1.4MHz

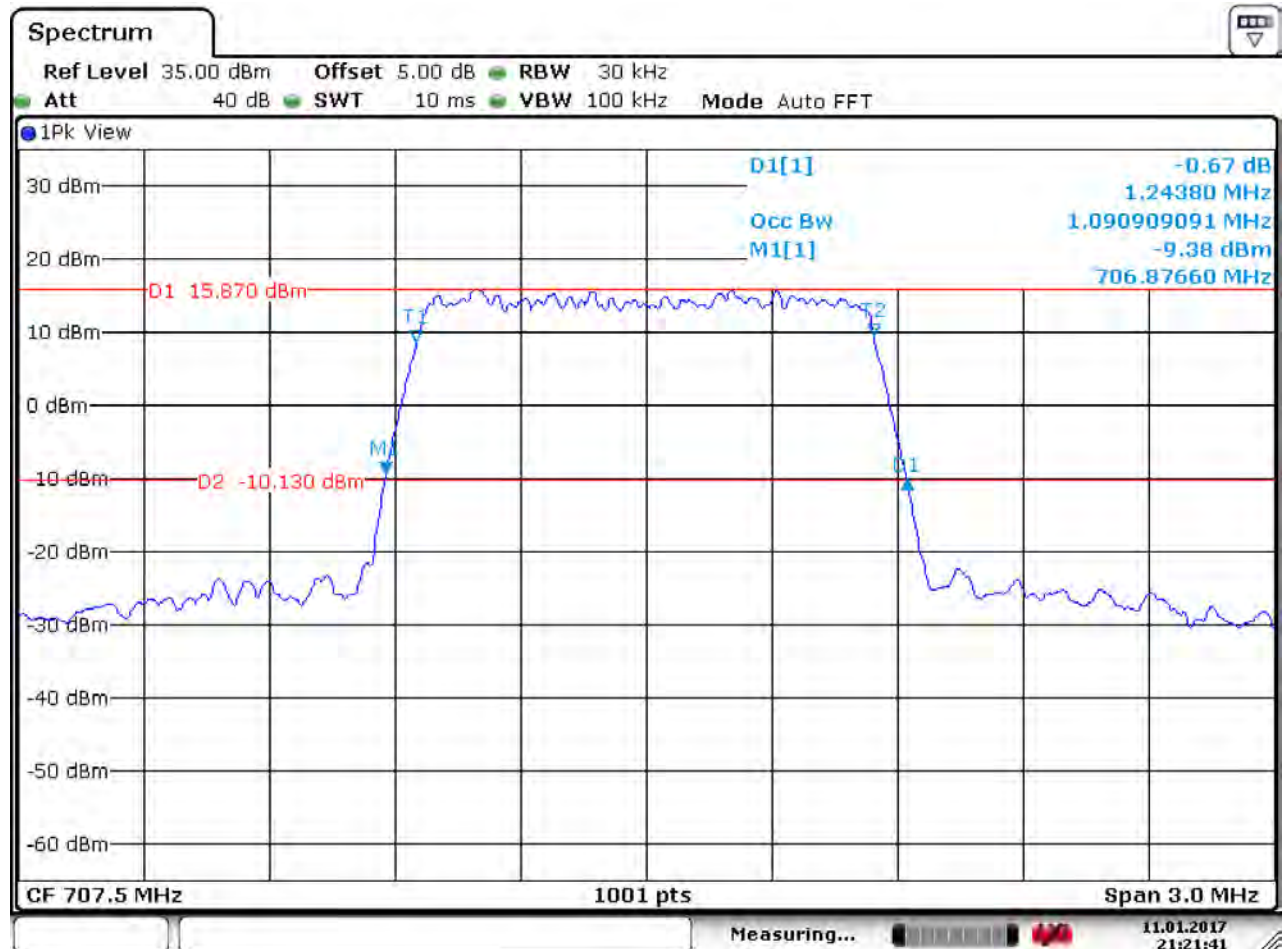
4.1.1.2.1 Test Channel = LCH



Date: 11.JAN.2017 21:26:09



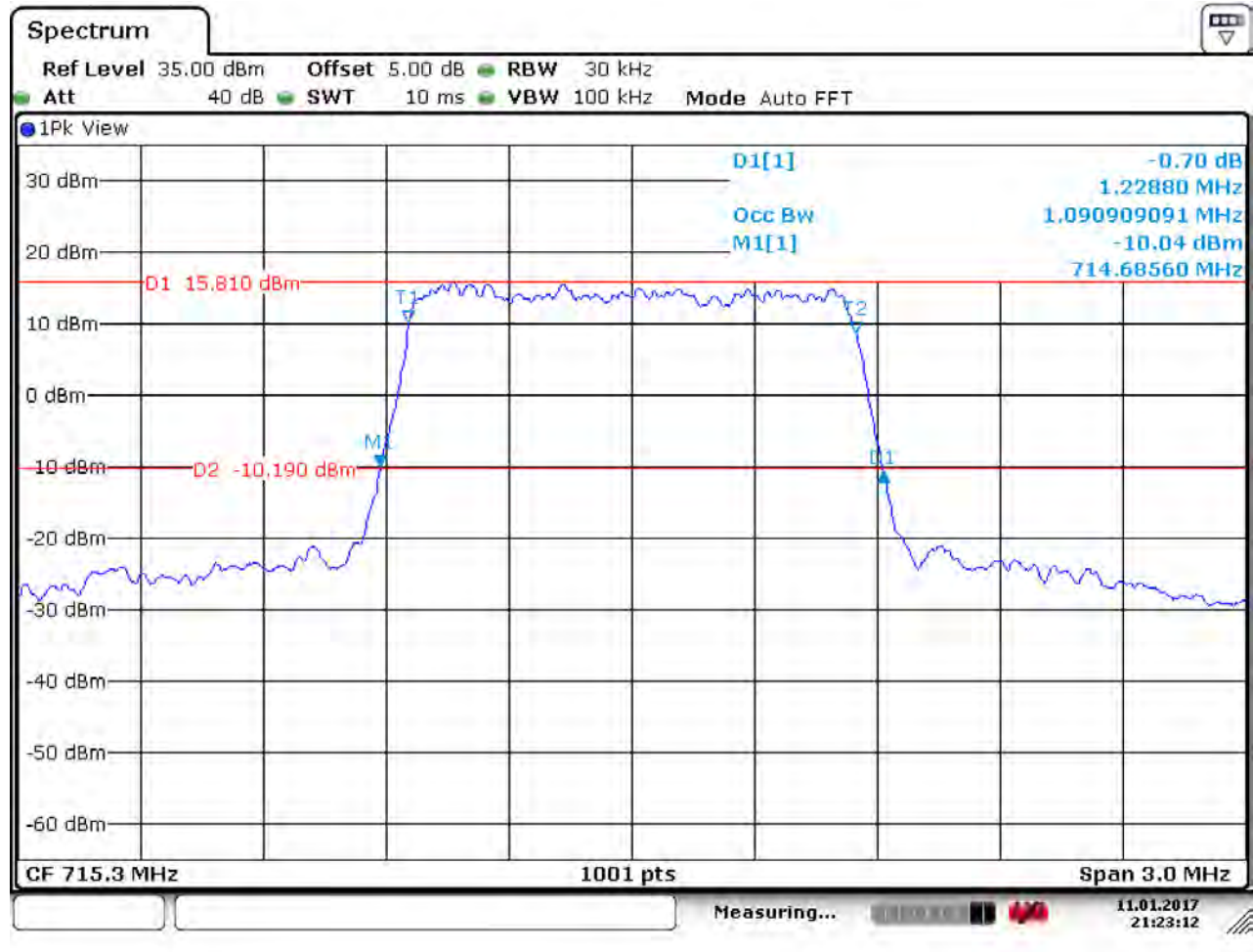
4.1.1.2.2 Test Channel = MCH



Date: 11.JAN.2017 21:21:42



4.1.1.2.3 Test Channel = HCH

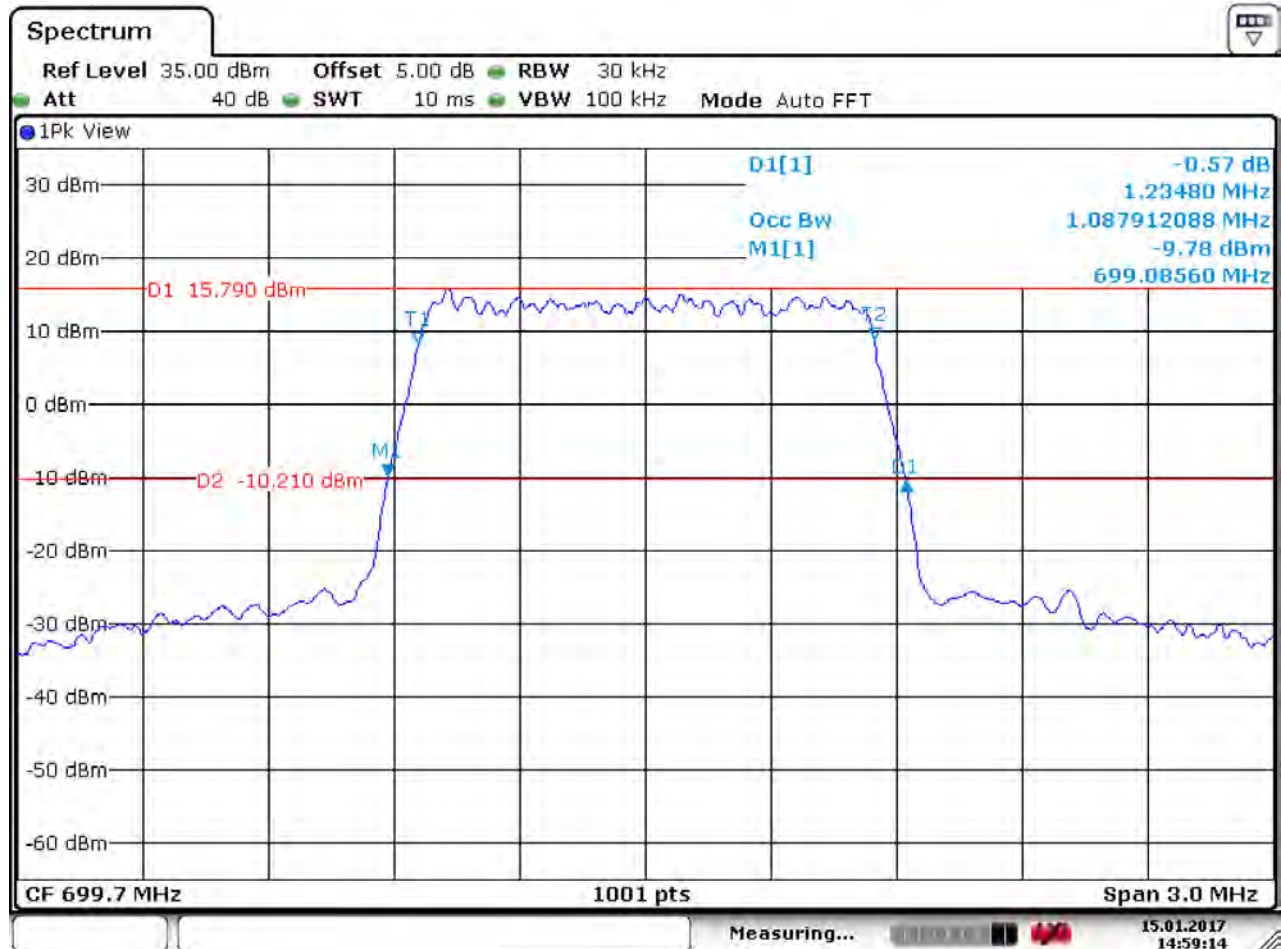


Date: 11.JAN.2017 21:23:12



4.1.1.3 Test Mode = LTE/TM3 1.4MHz

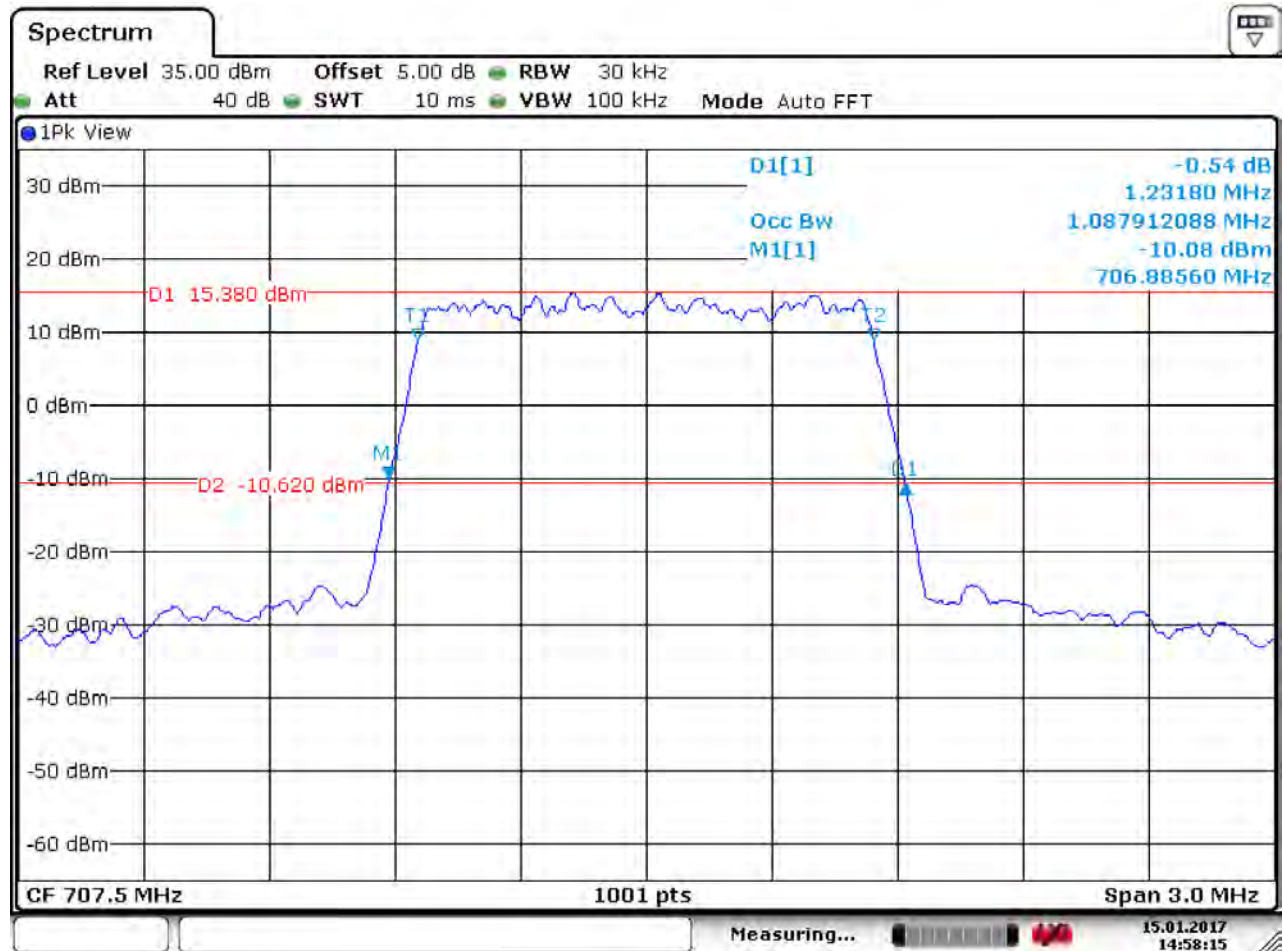
4.1.1.3.1 Test Channel = LCH



Date: 15.JAN.2017 14:59:14

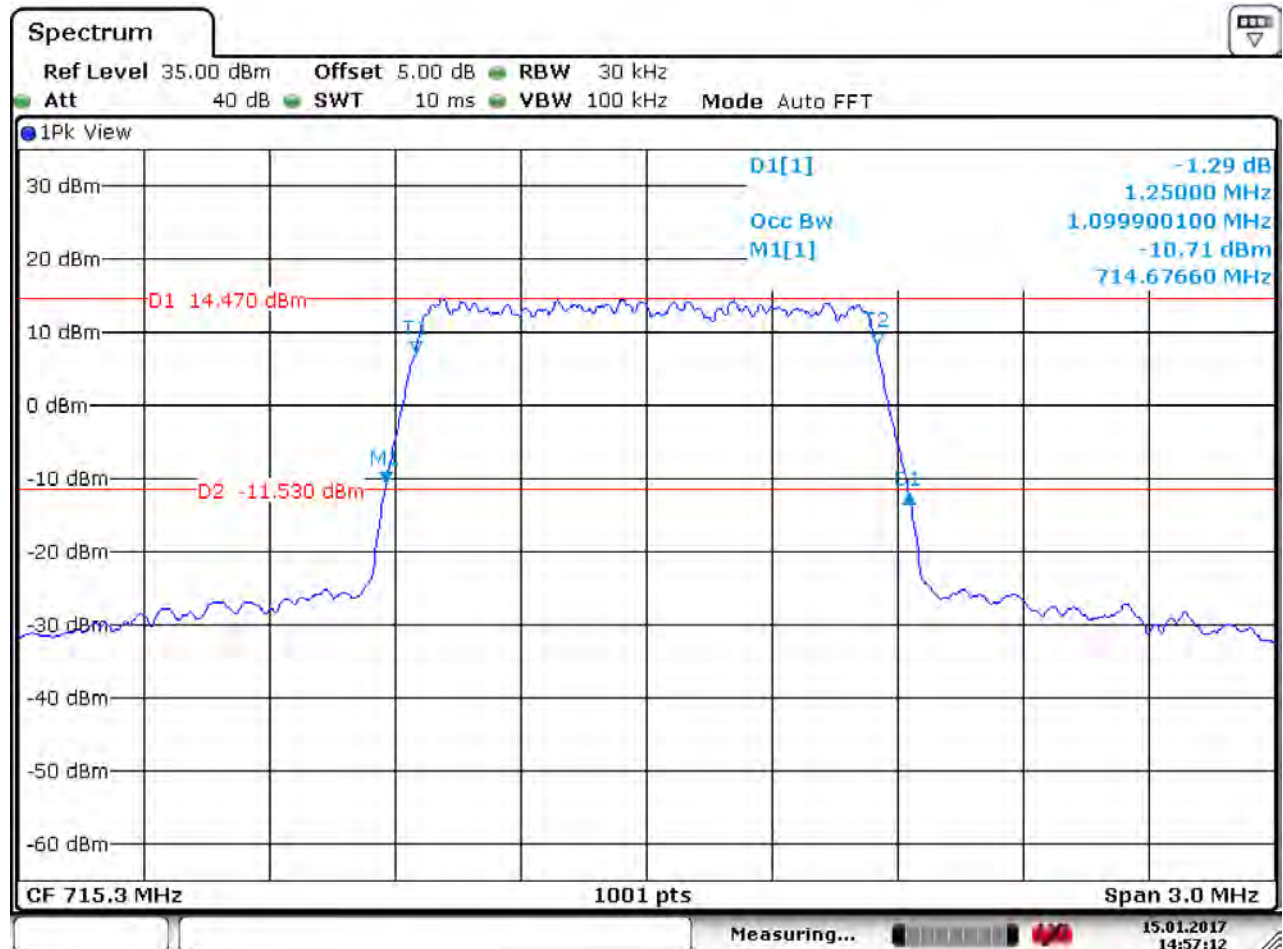


4.1.1.3.2 Test Channel = MCH



Date: 15.JAN.2017 14:58:16

4.1.1.3.3 Test Channel = HCH

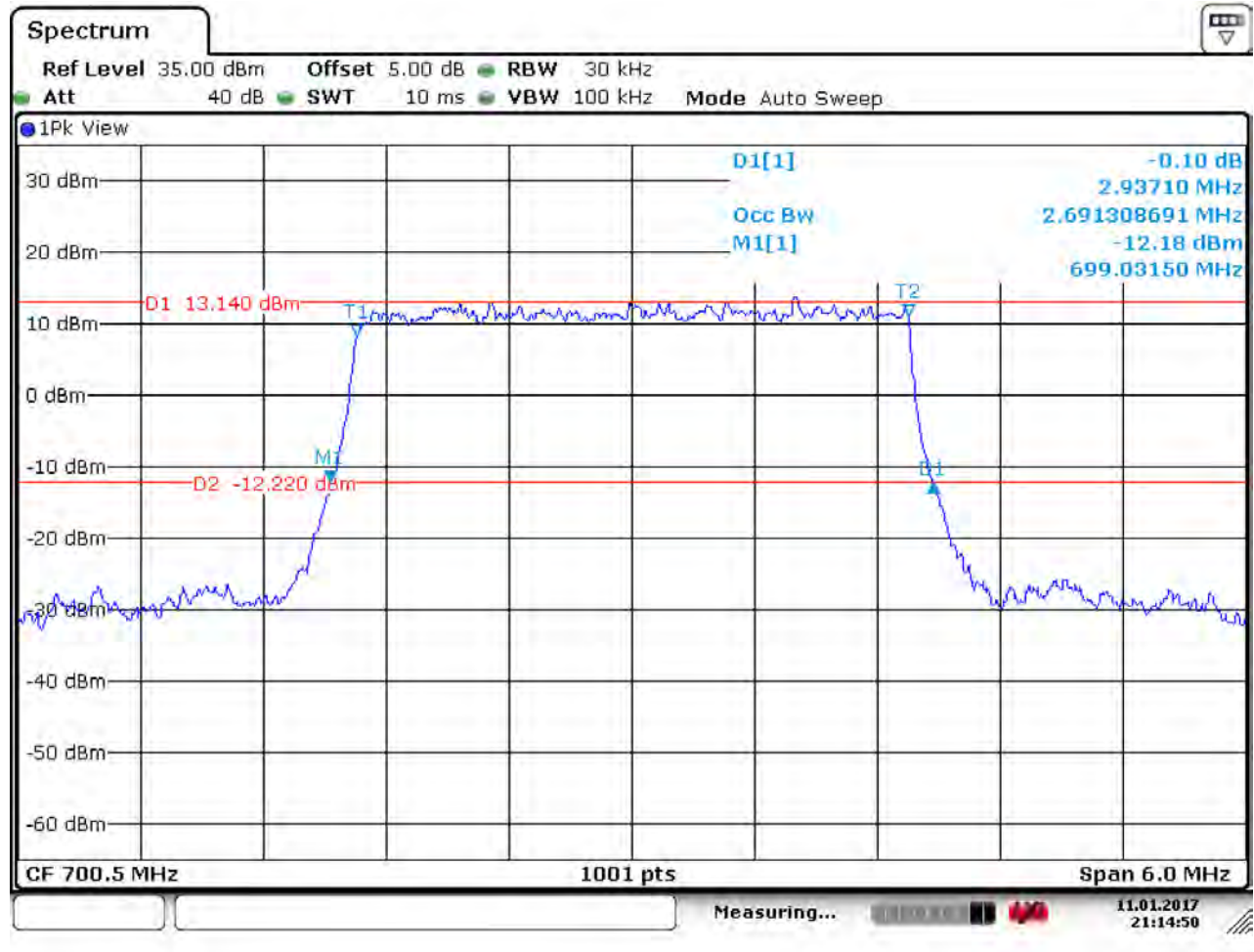


Date: 15.JAN.2017 14:57:13



4.1.1.4 Test Mode = LTE/TM1 3MHz

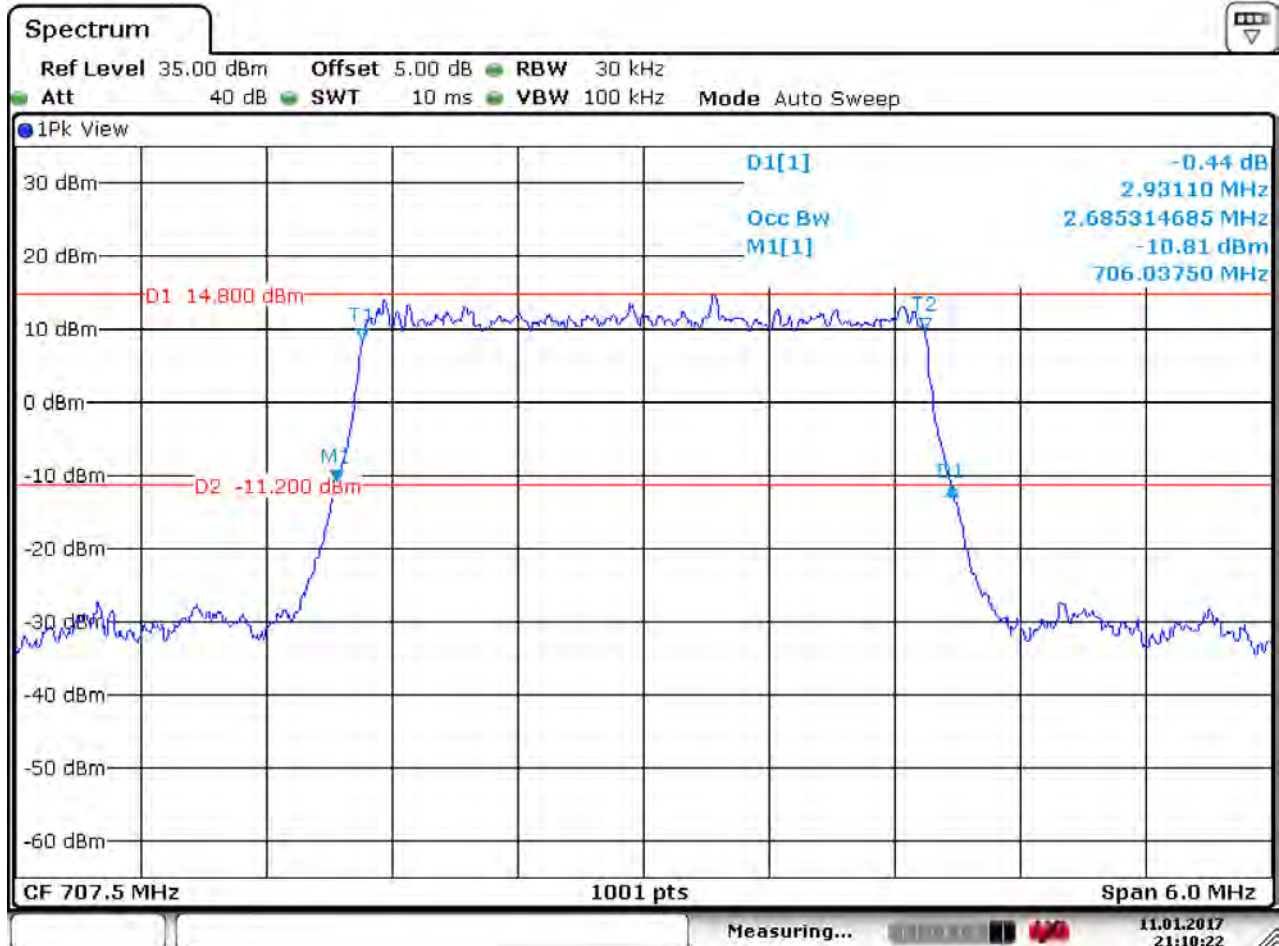
4.1.1.4.1 Test Channel = LCH



Date: 11.JAN.2017 21:14:51



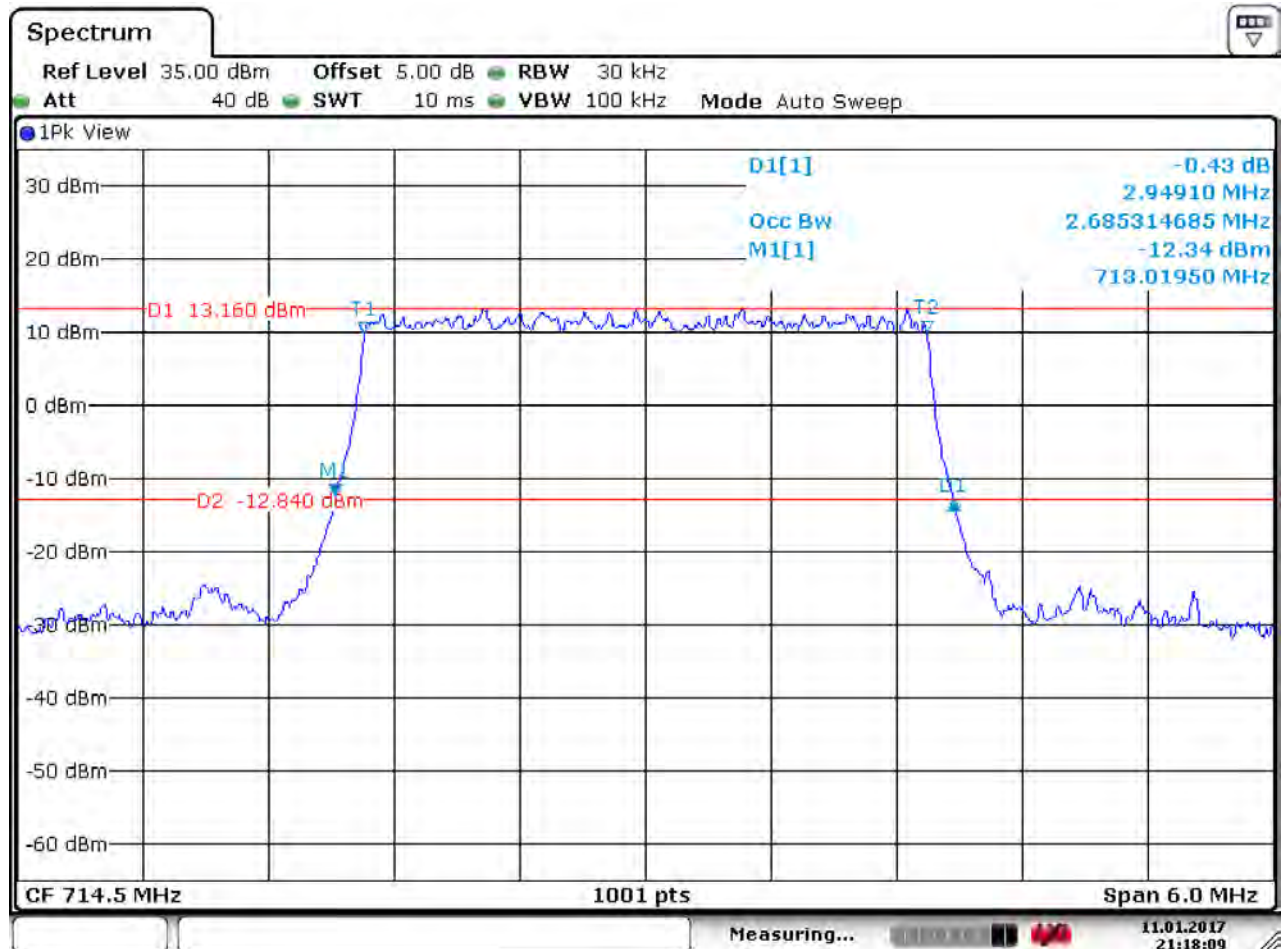
4.1.1.4.2 Test Channel = MCH



Date: 11.JAN.2017 21:10:22



4.1.1.4.3 Test Channel = HCH

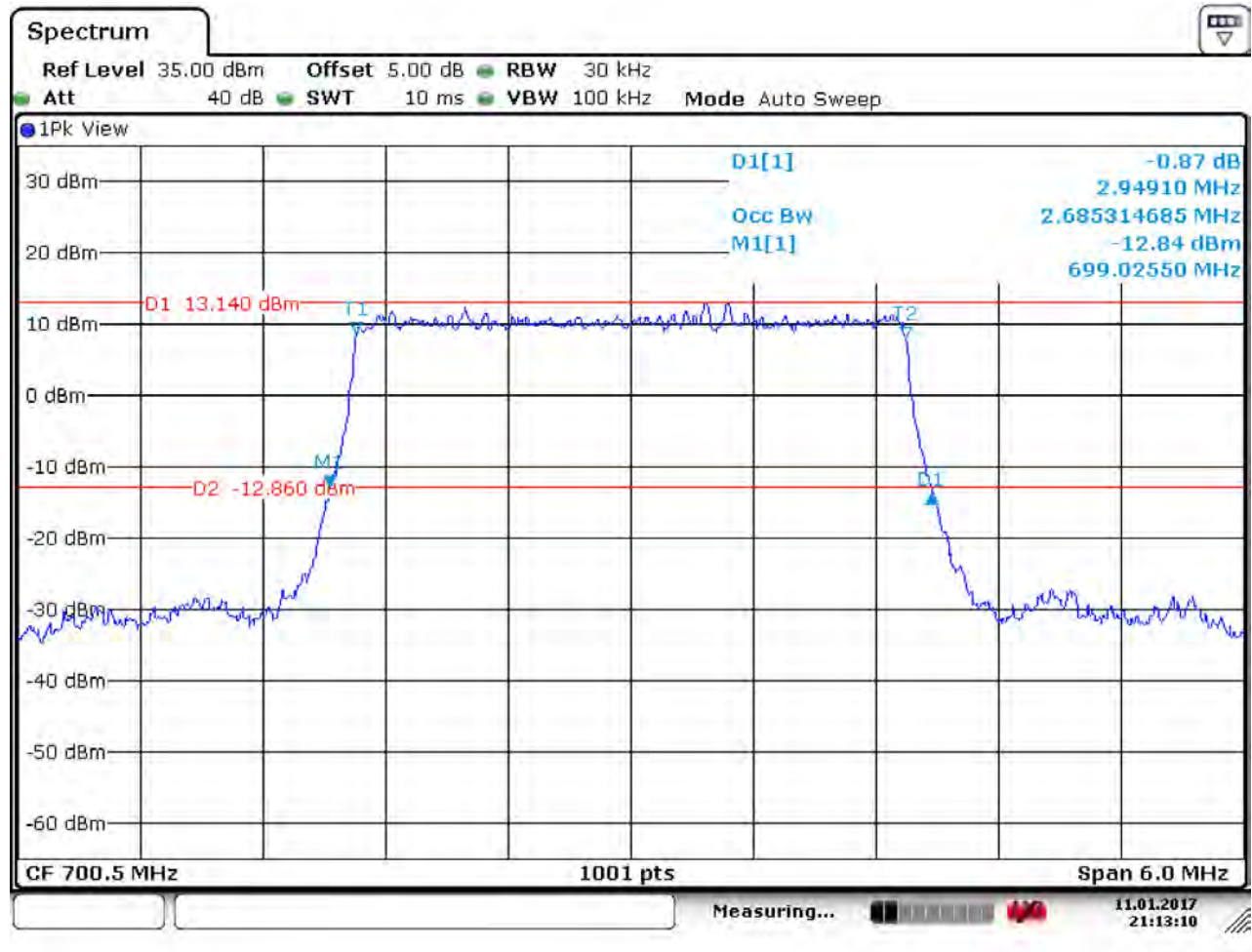


Date: 11.JAN.2017 21:18:10



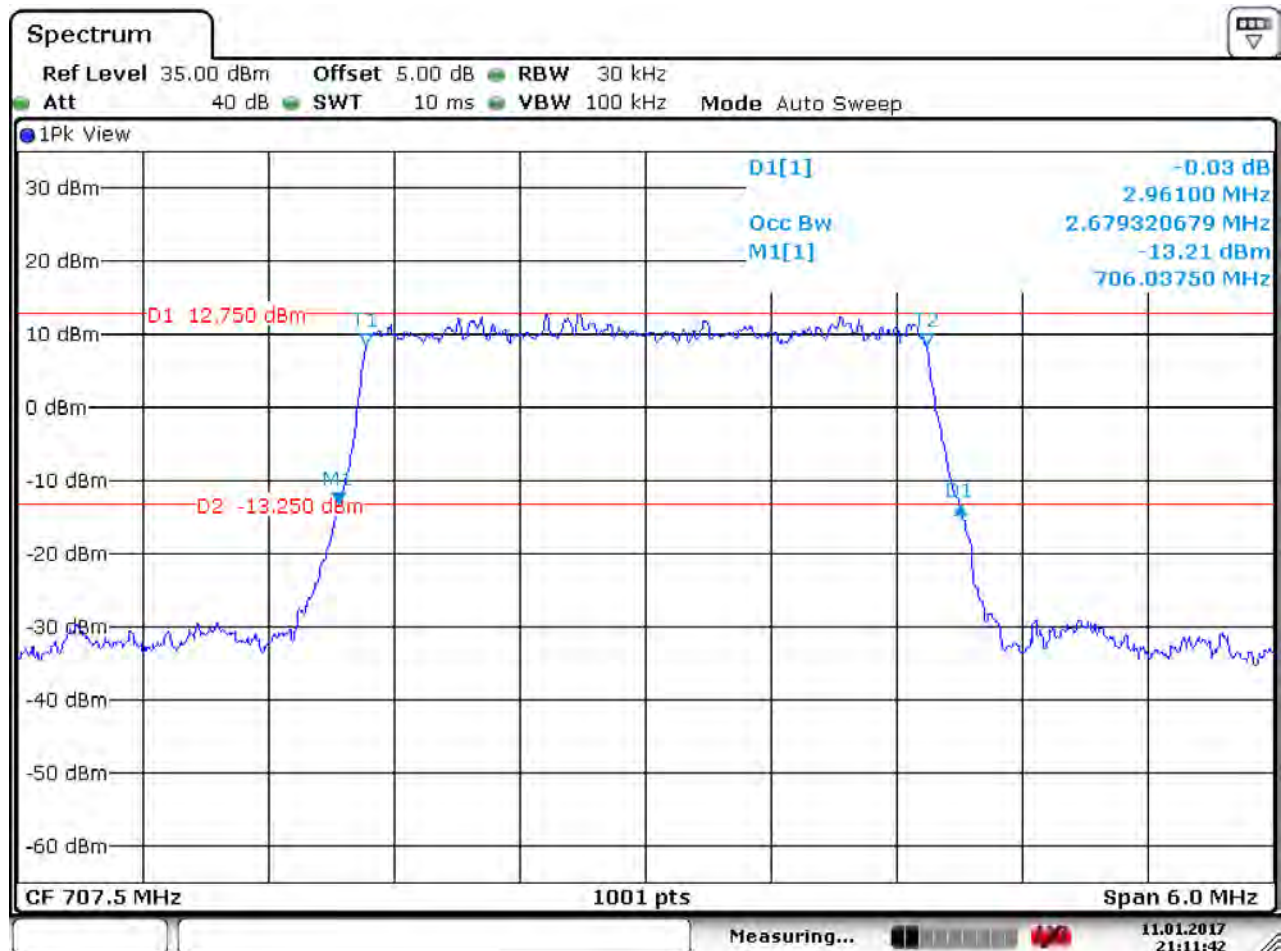
4.1.1.5 Test Mode = LTE/TM2 3MHz

4.1.1.5.1 Test Channel = LCH



Date: 11.JAN.2017 21:13:11

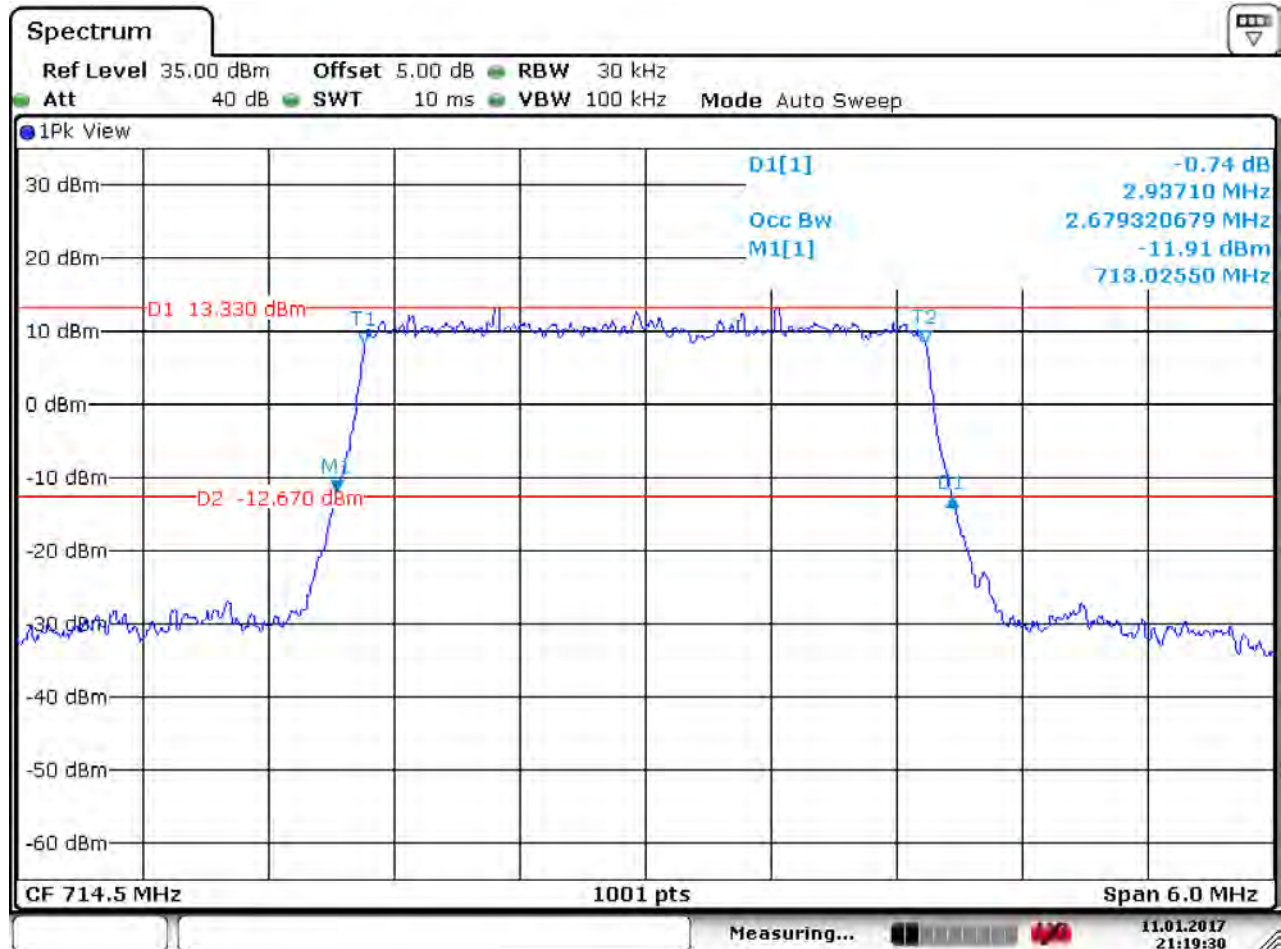
4.1.1.5.2 Test Channel = MCH



Date: 11.JAN.2017 21:11:43



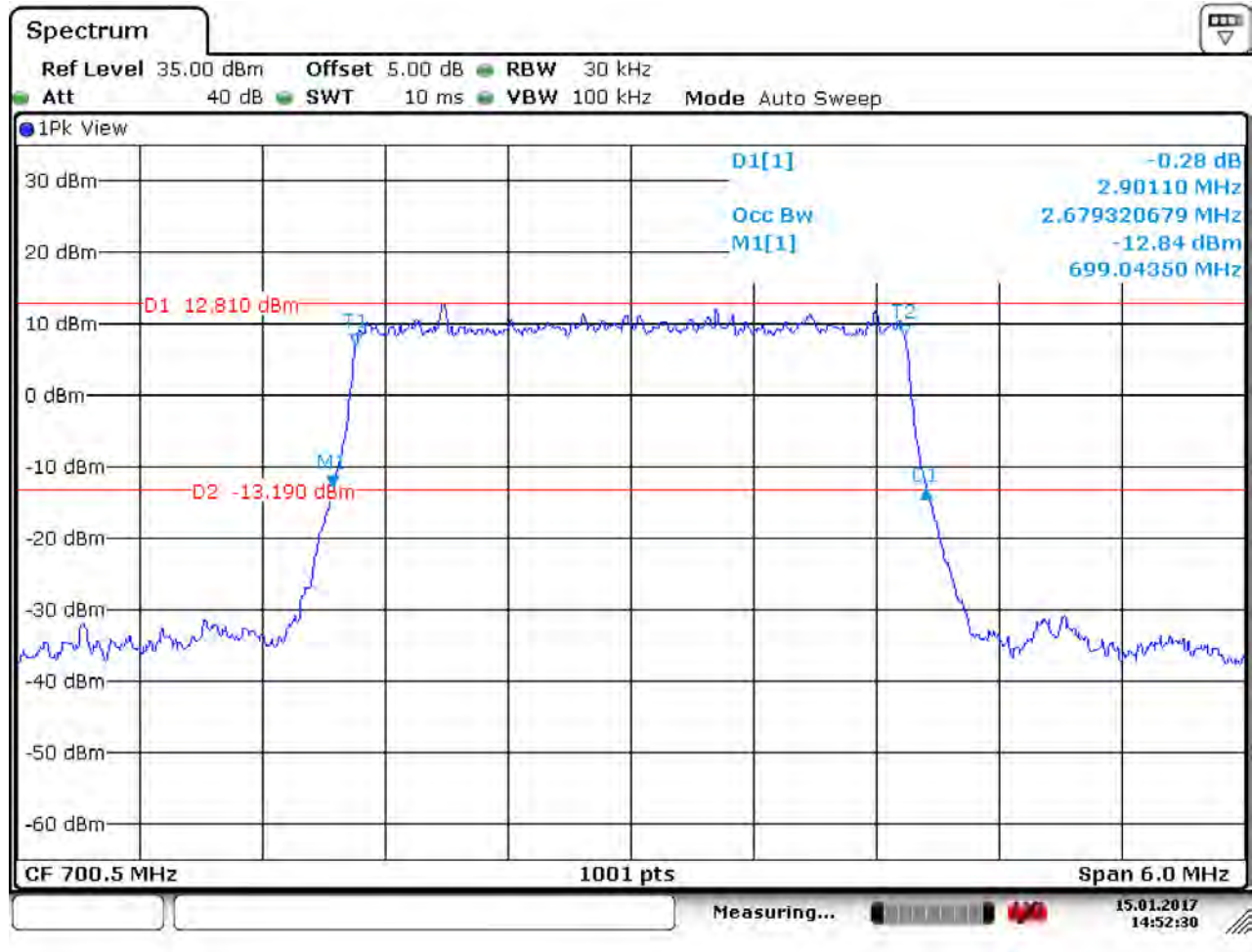
4.1.1.5.3 Test Channel = HCH



Date: 11.JAN.2017 21:19:30

4.1.1.6 Test Mode = LTE/TM3 3MHz

4.1.1.6.1 Test Channel = LCH

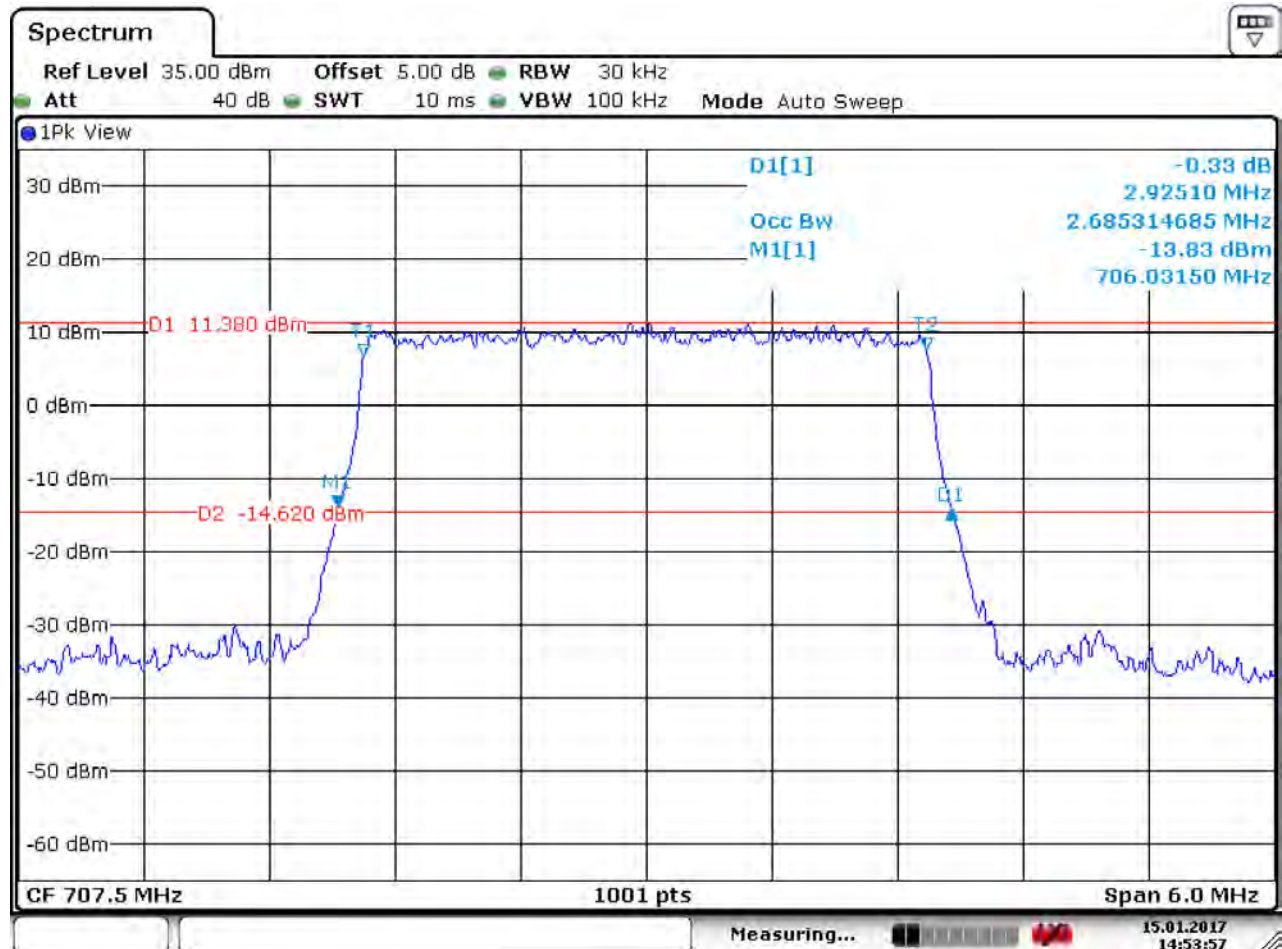


Date: 15.JAN.2017 14:52:31

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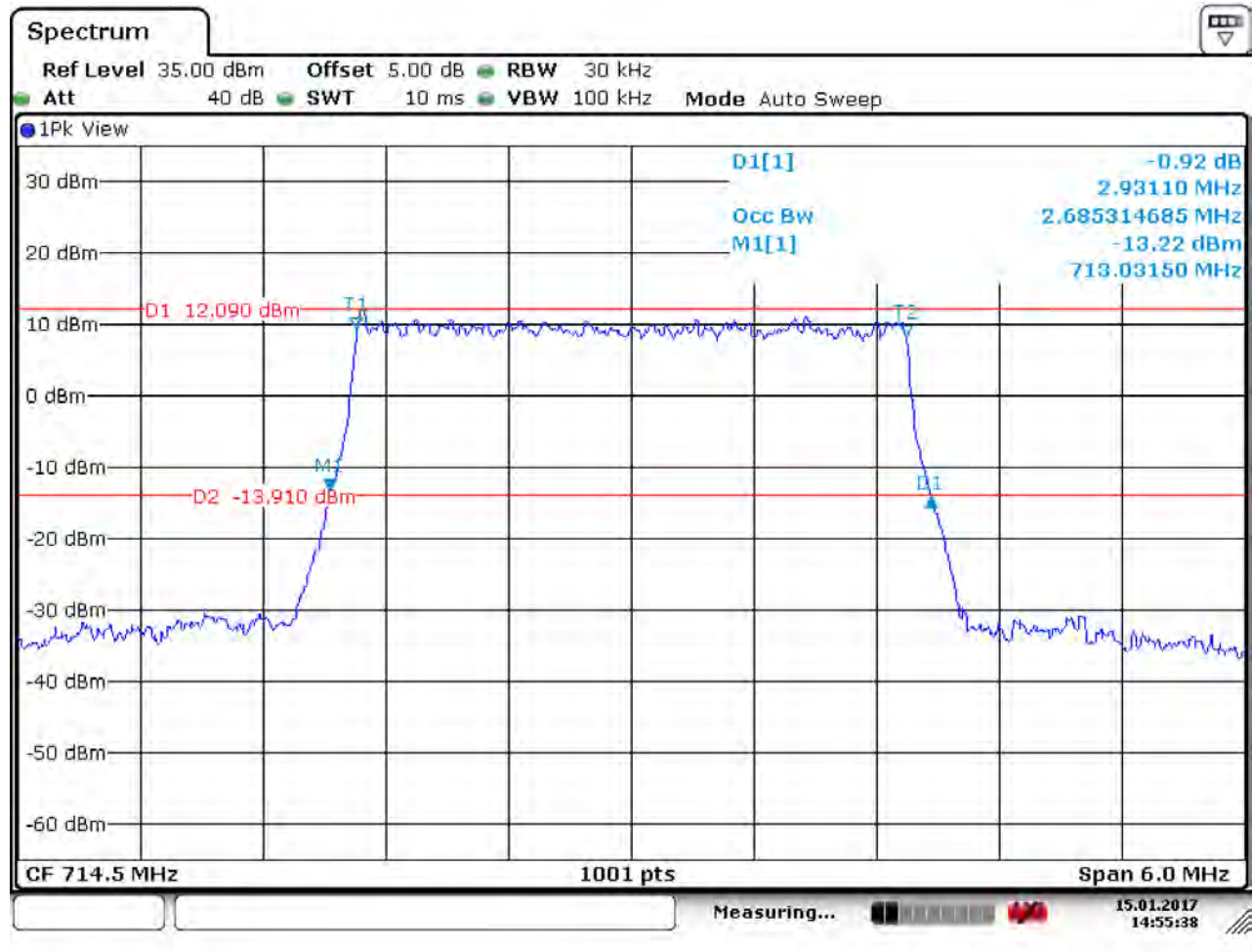
4.1.1.6.2 Test Channel =MCH



Date: 15.JAN.2017 14:53:57



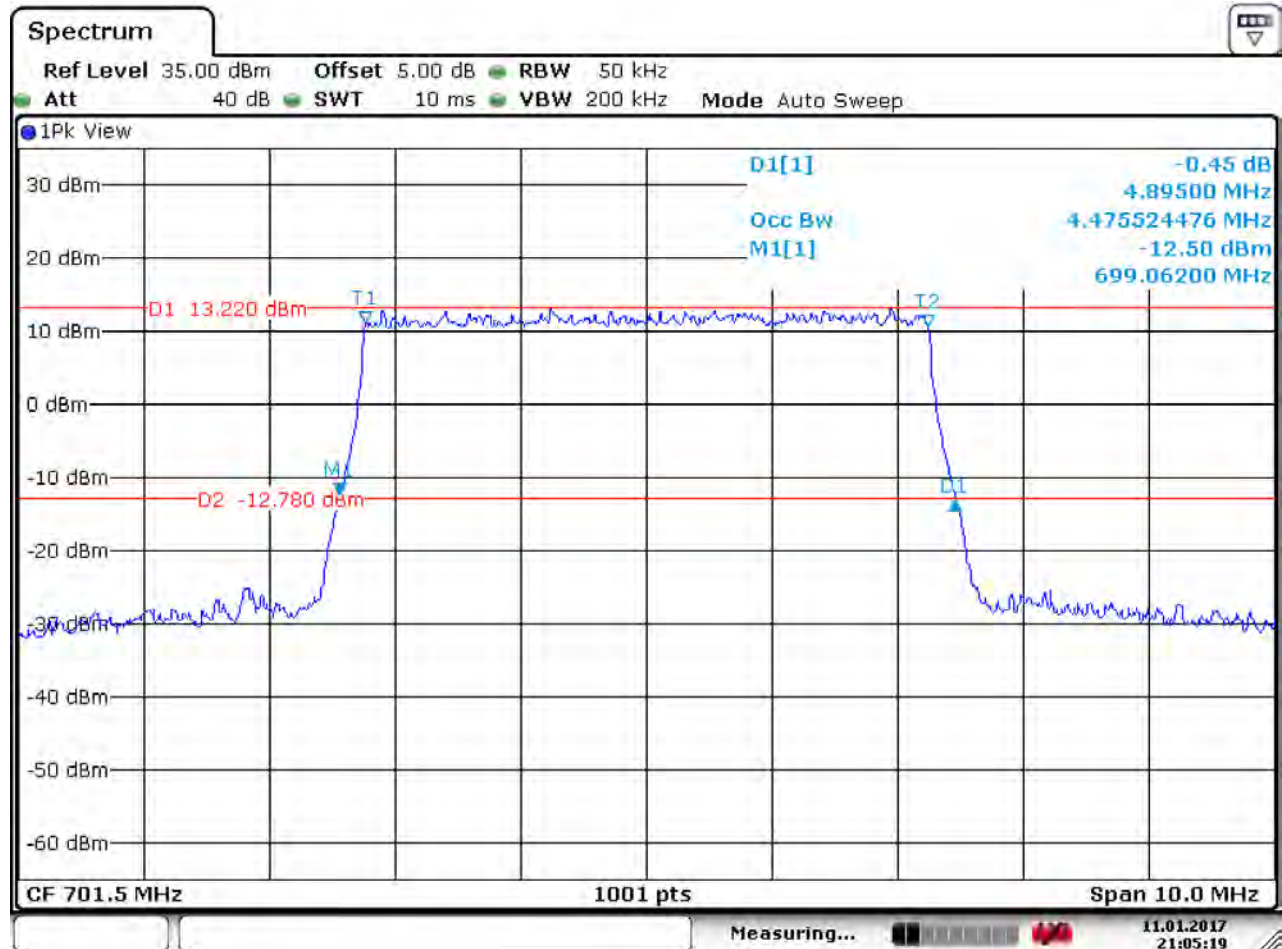
4.1.1.6.3 Test Channel = HCH



Date: 15.JAN.2017 14:55:39

4.1.1.7 Test Mode = LTE/TM1 5MHz

4.1.1.7.1 Test Channel = LCH

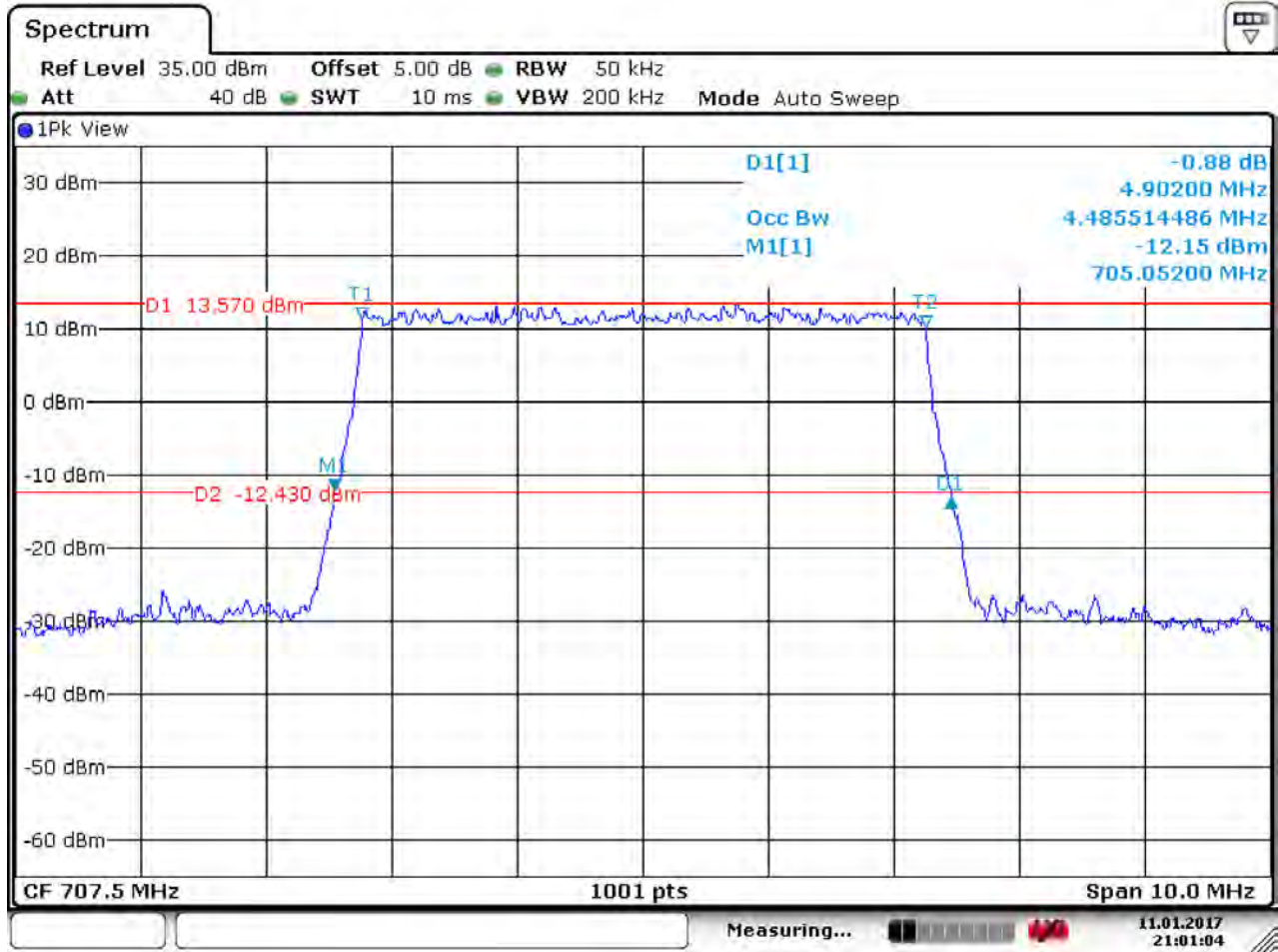


Date: 11.JAN.2017 21:05:19

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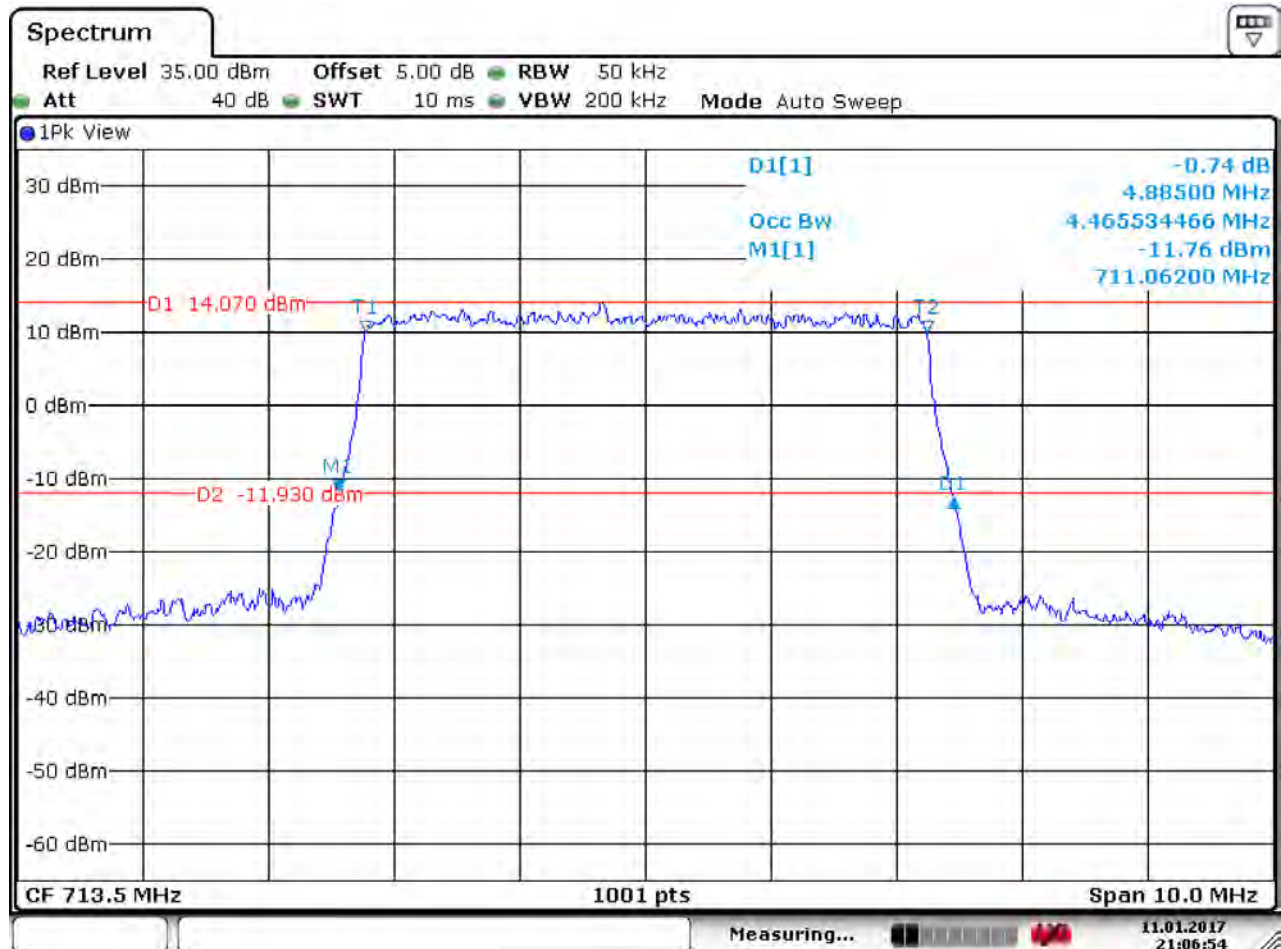


4.1.1.7.2 Test Channel = MCH



Date: 11.JAN.2017 21:01:04

4.1.1.7.3 Test Channel = HCH



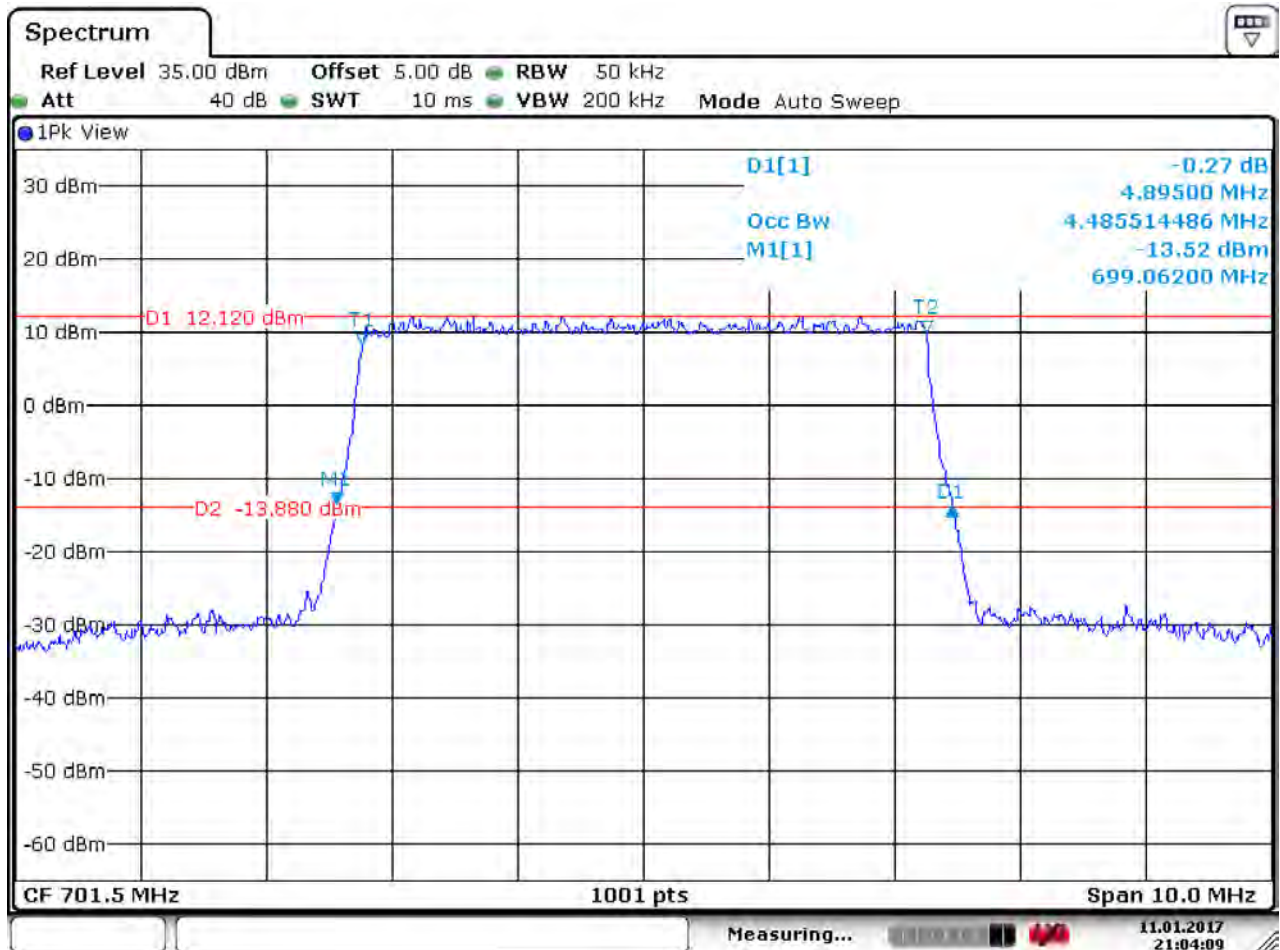
Date: 11.JAN.2017 21:06:54

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4.1.1.8 Test Mode = LTE/TM2 5MHz

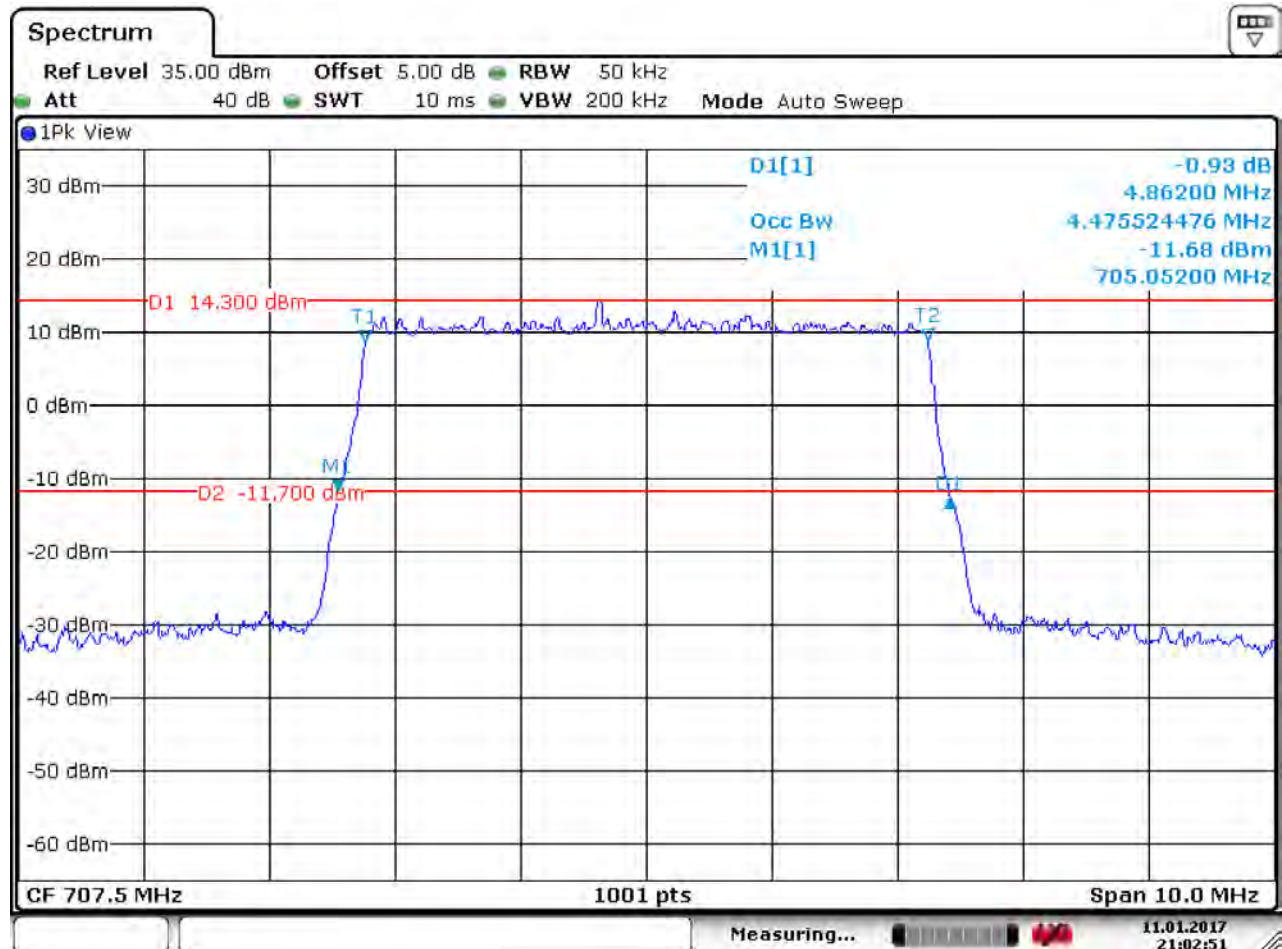
4.1.1.8.1 Test Channel = LCH



Date: 11.JAN.2017 21:04:09



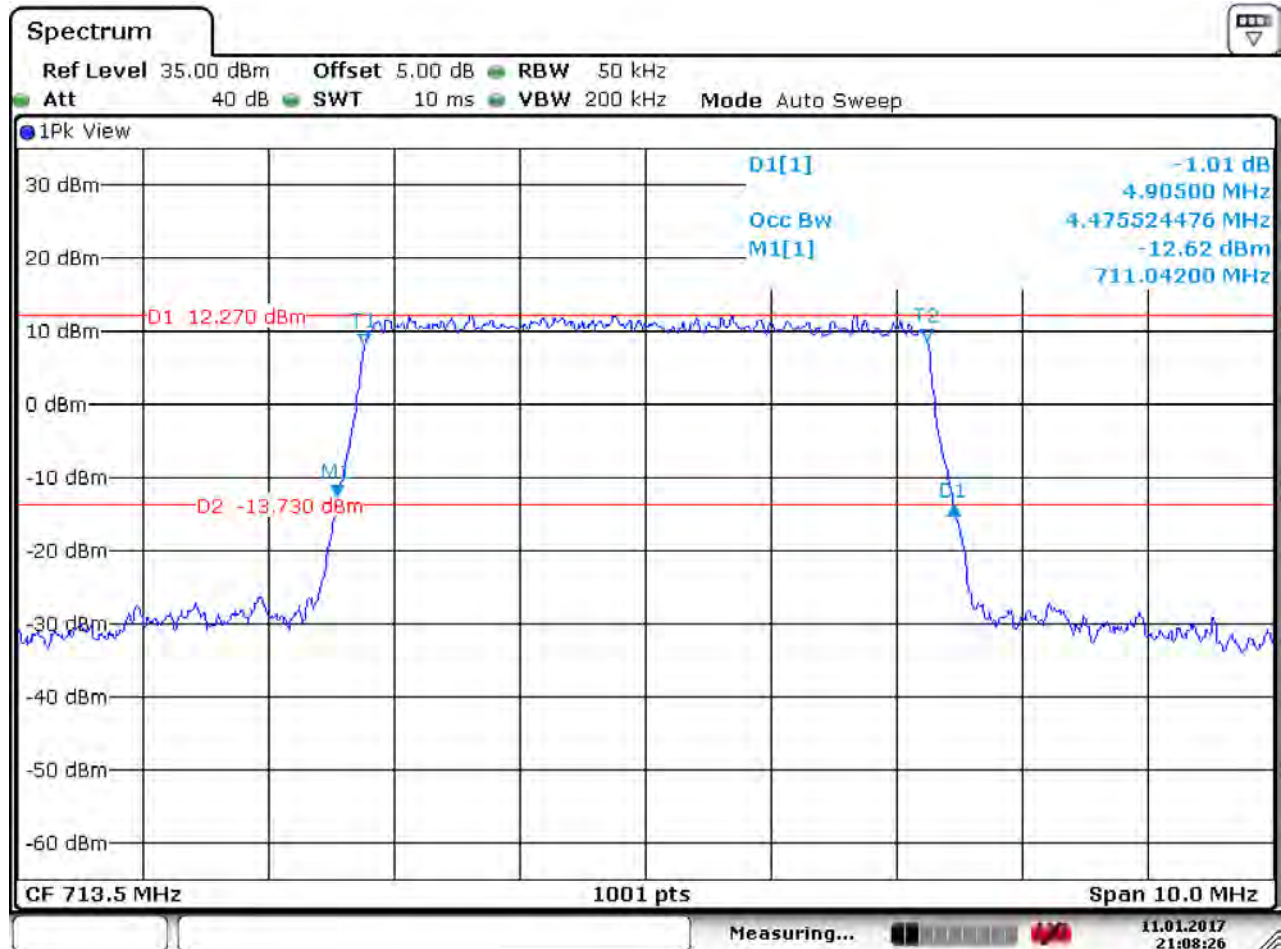
4.1.1.8.2 Test Channel = MCH



Date: 11.JAN.2017 21:02:51



4.1.1.8.3 Test Channel = HCH

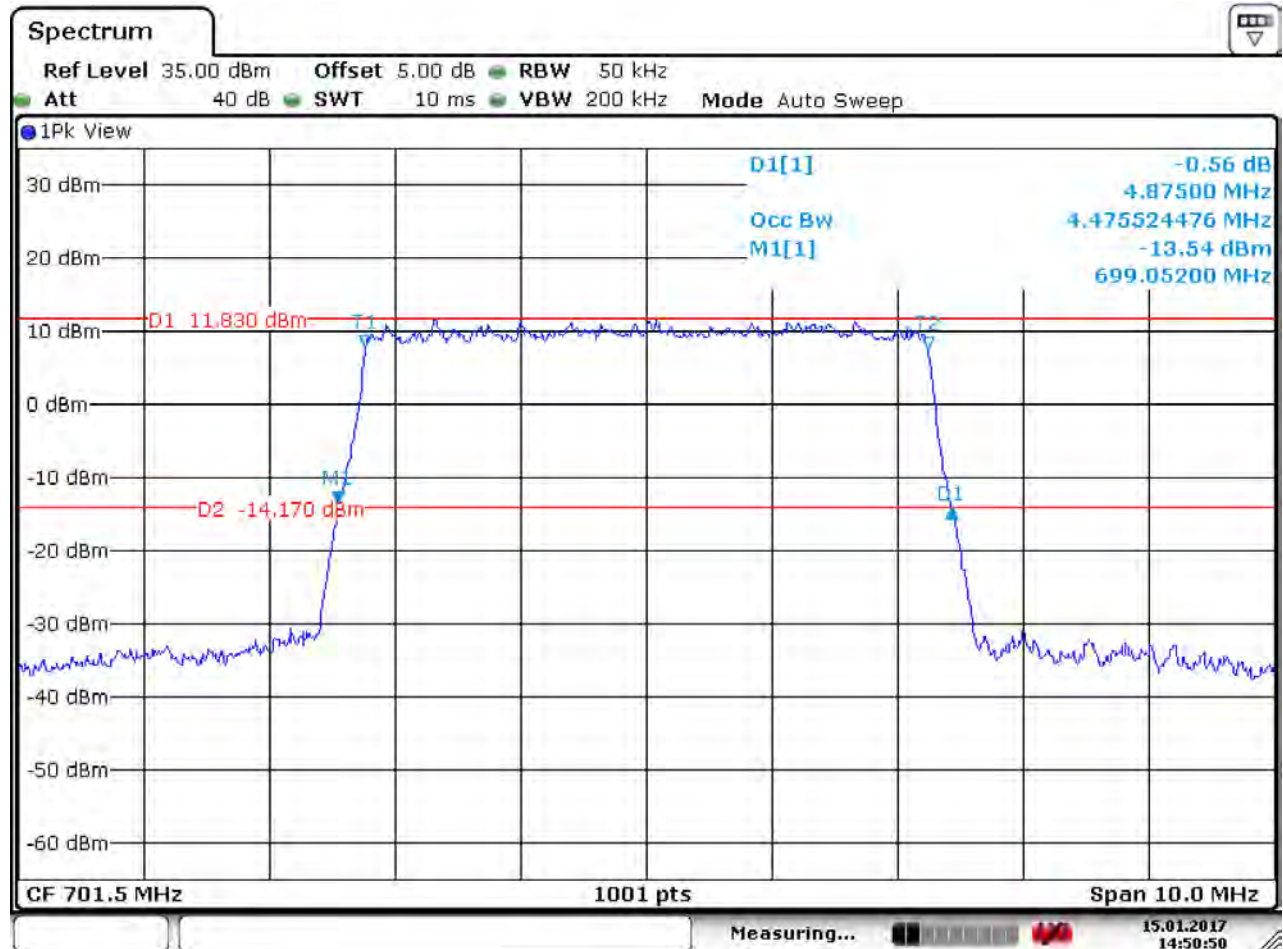


Date: 11.JAN.2017 21:08:26



4.1.1.9 Test Mode = LTE/TM3 5MHz

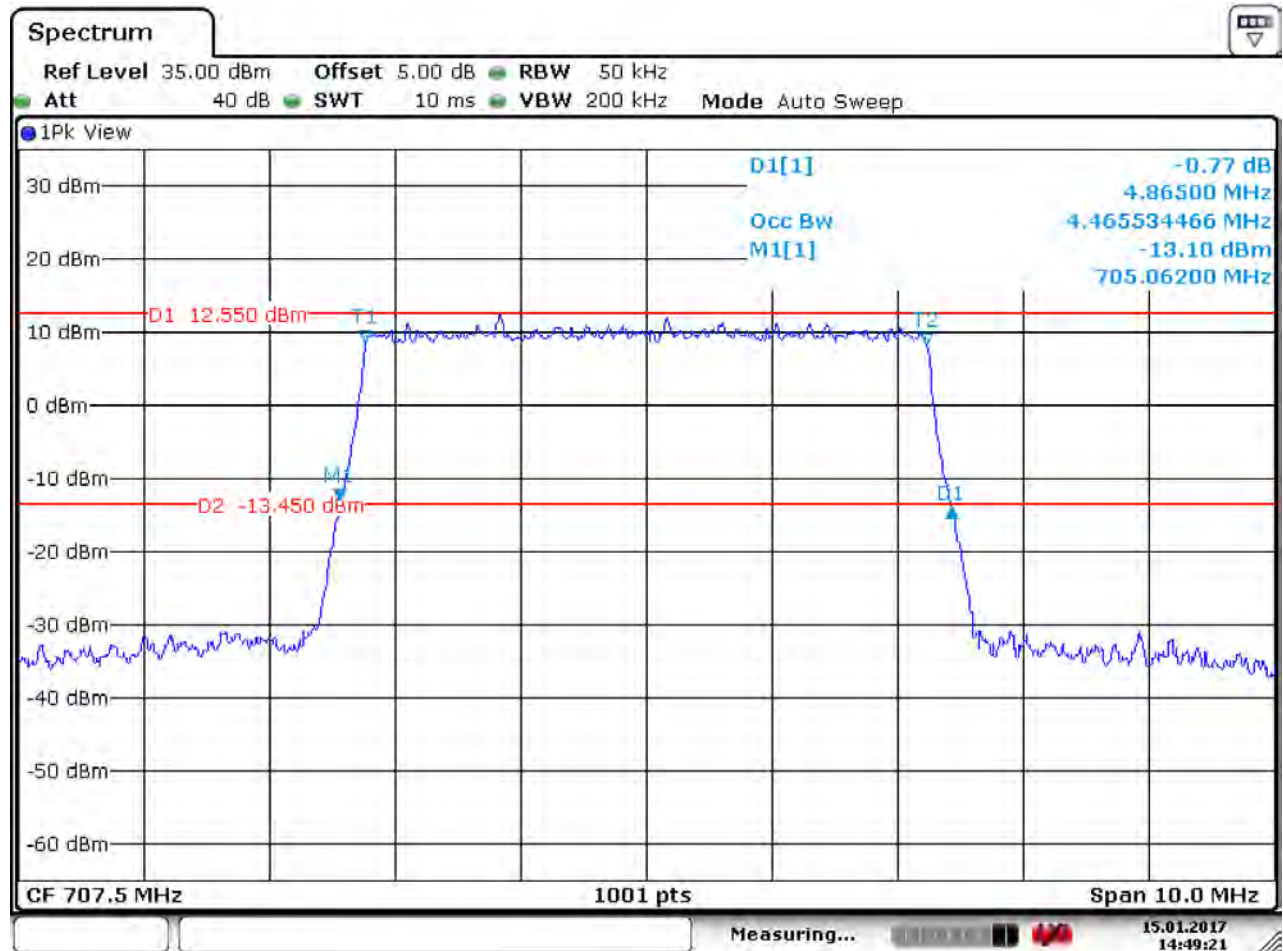
4.1.1.9.1 Test Channel = LCH



Date: 15.JAN.2017 14:50:51



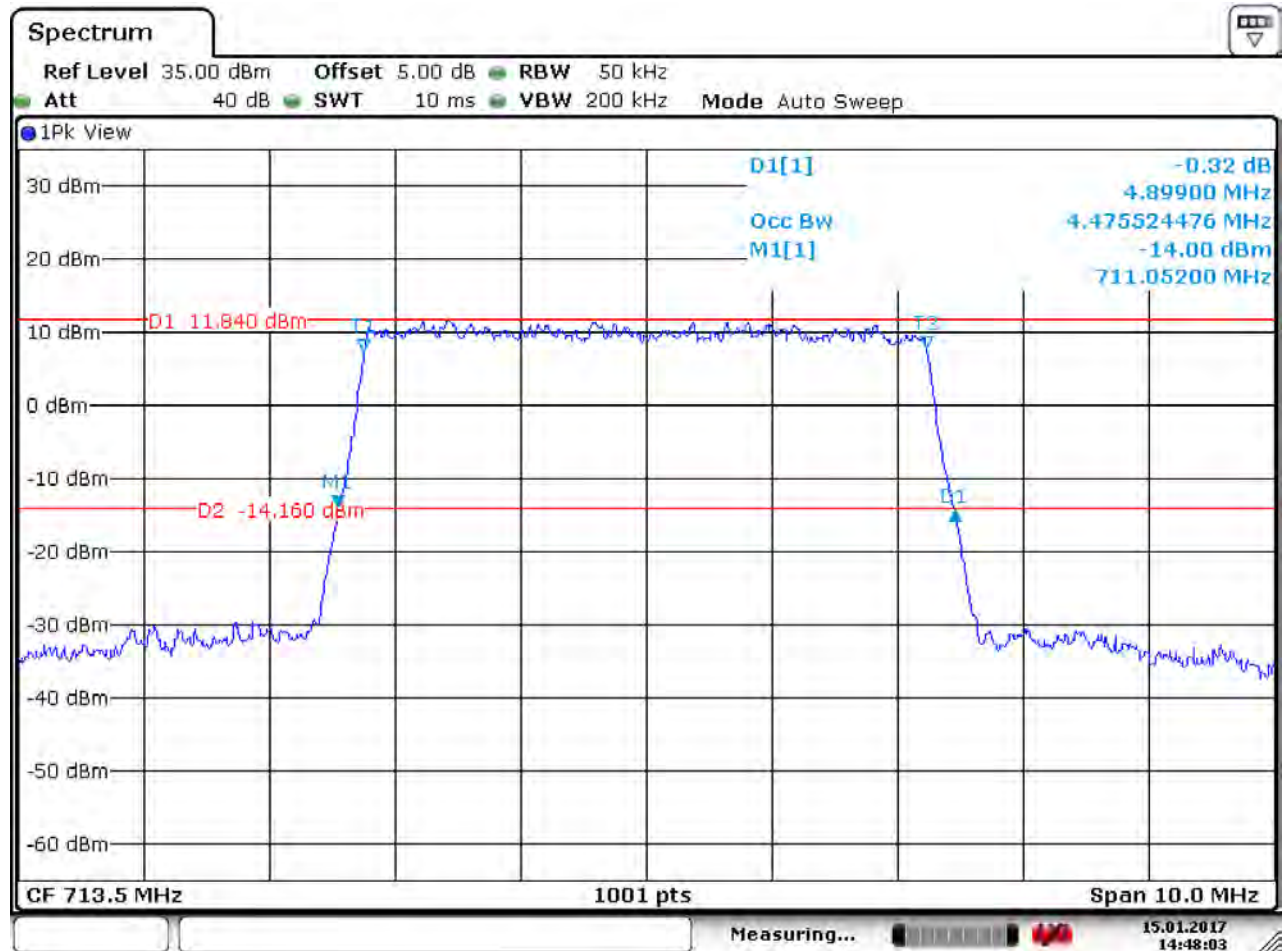
4.1.1.9.2 Test Channel = MCH



Date: 15.JAN.2017 14:49:21



4.1.1.9.3 Test Channel = HCH

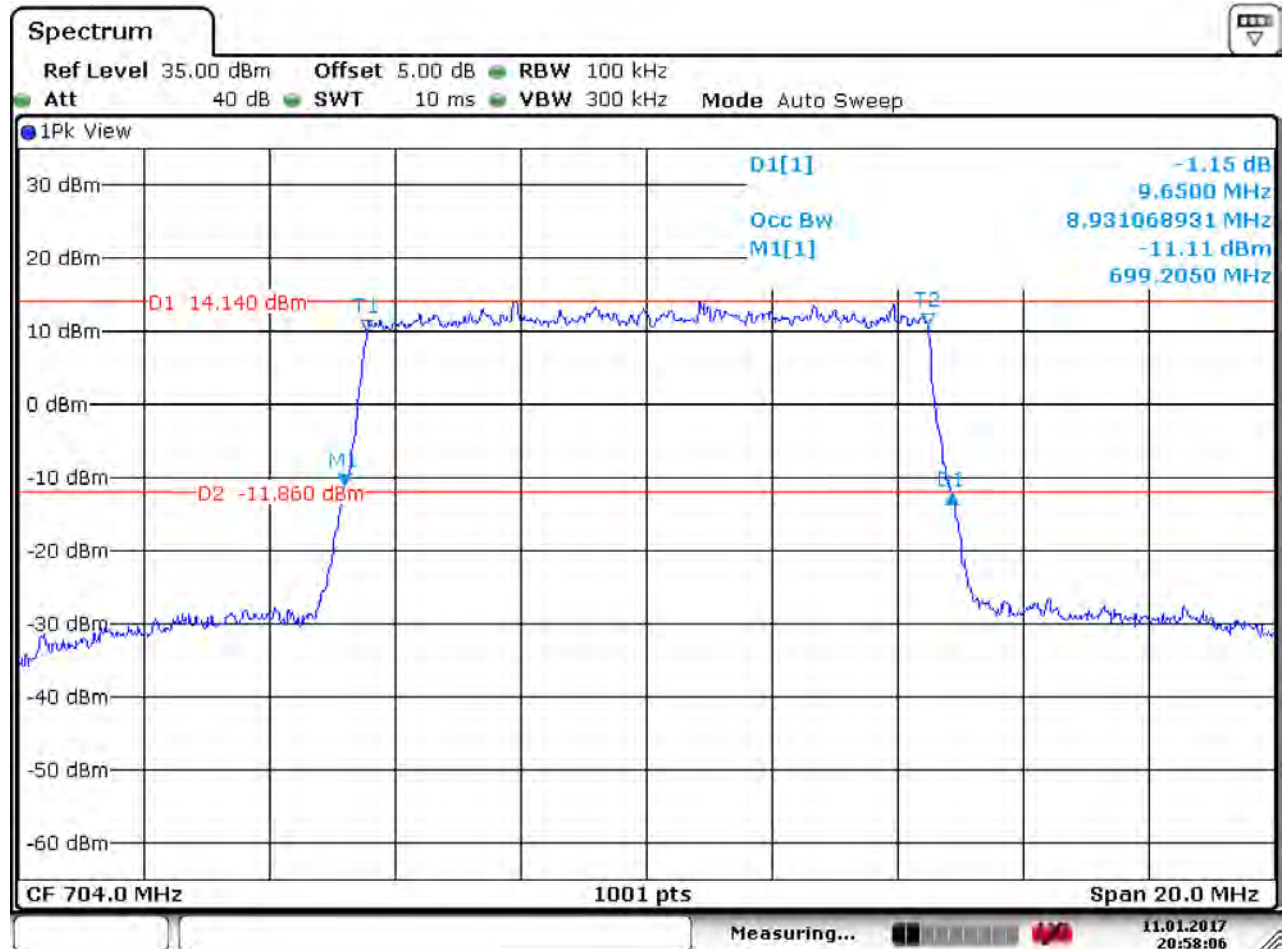


Date: 15.JAN.2017 14:48:03



4.1.1.10 Test Mode = LTE/TM1 10MHz

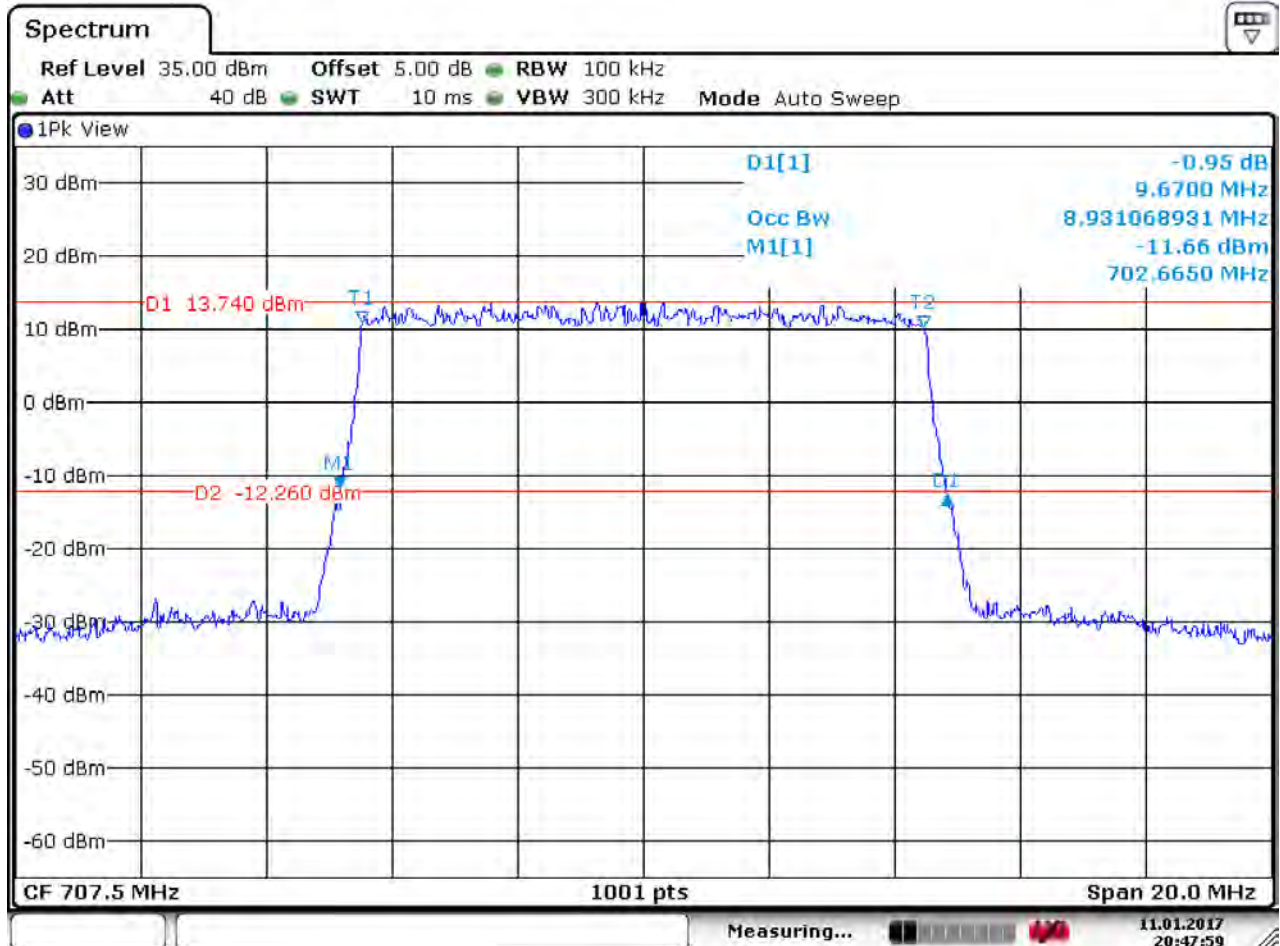
4.1.1.10.1 Test Channel = LCH



Date: 11.JAN.2017 20:58:06



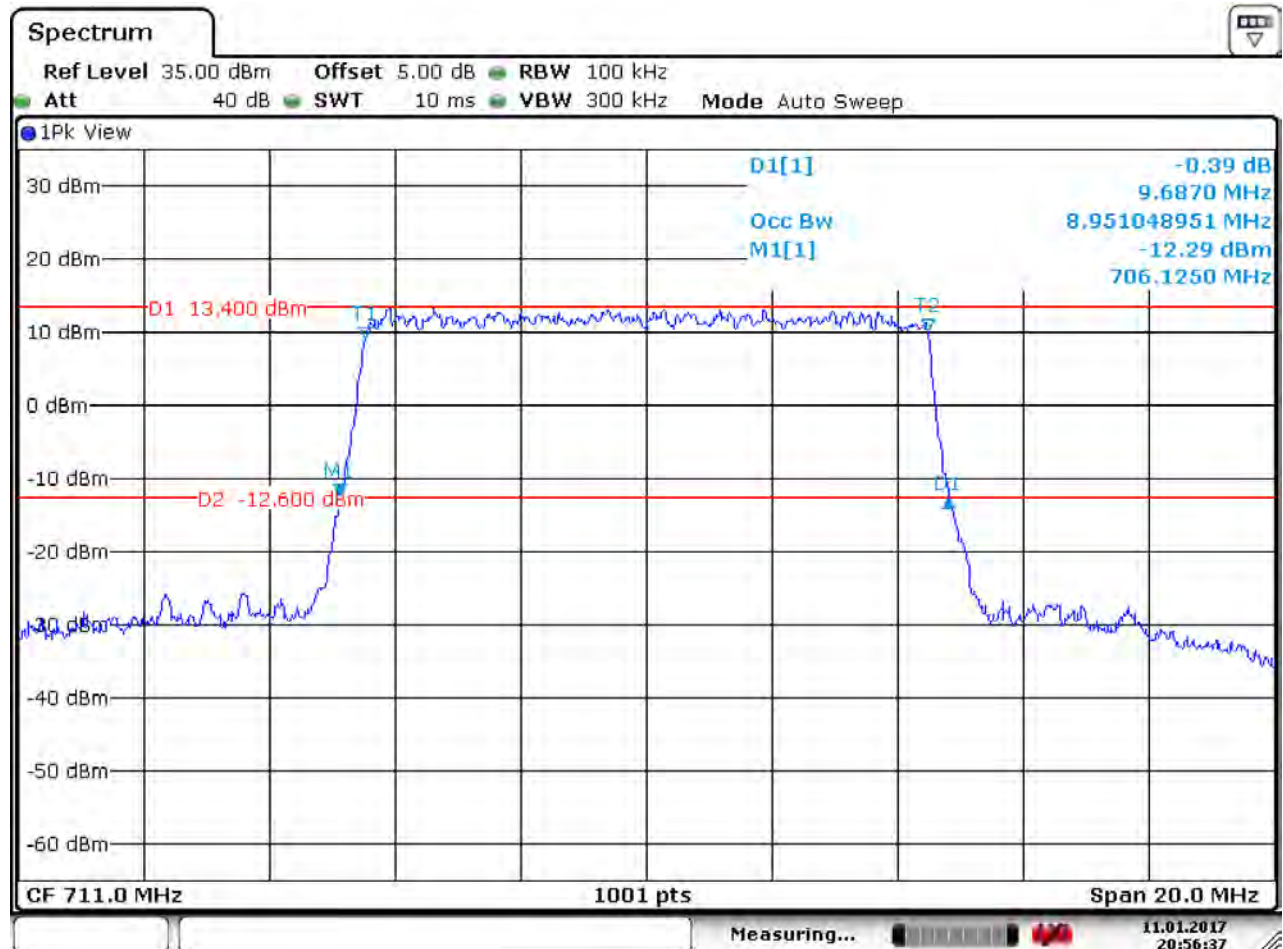
4.1.1.10.2 Test Channel = MCH



Date: 11.JAN.2017 20:47:59



4.1.1.10.3 Test Channel = HCH

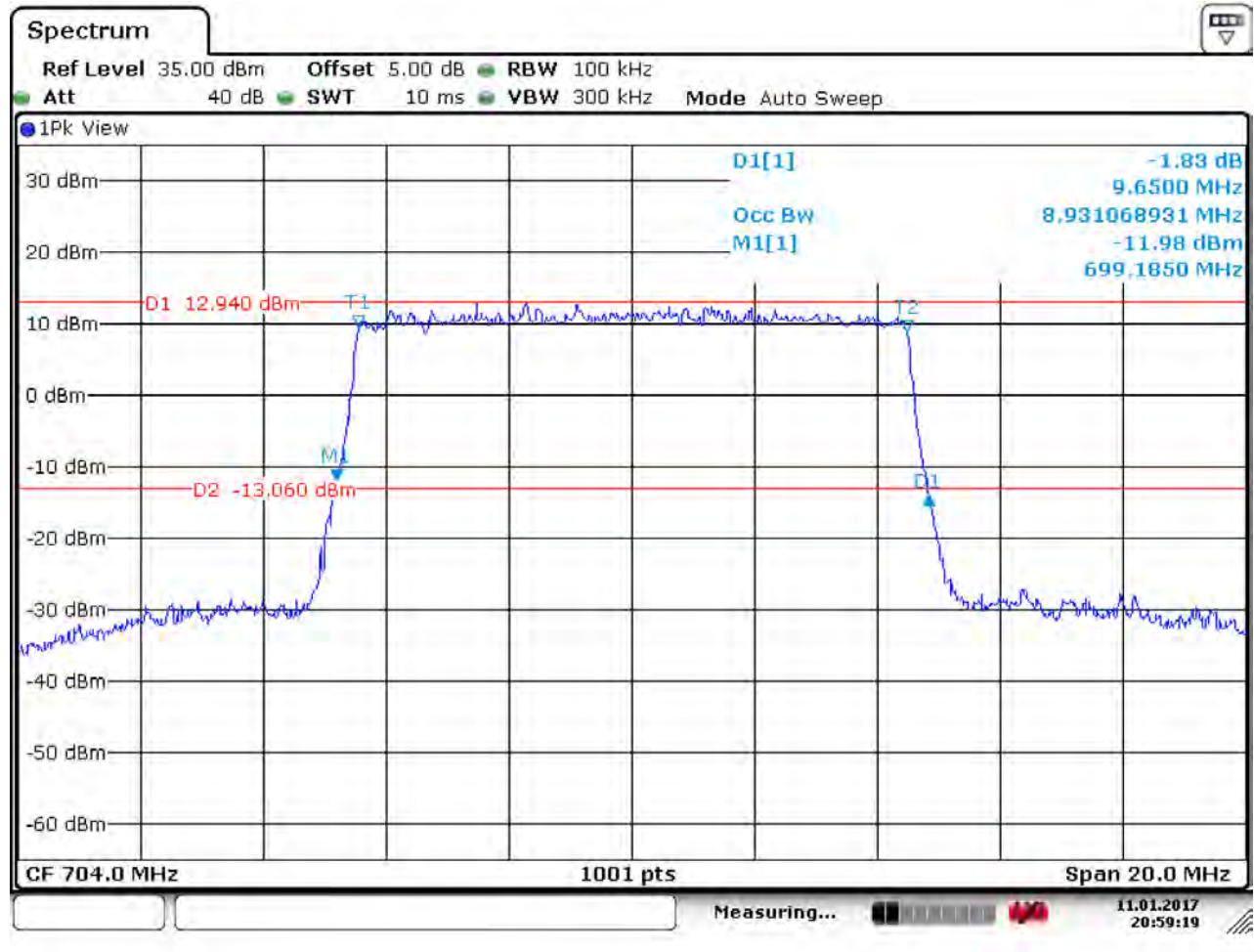


Date: 11.JAN.2017 20:56:37



4.1.1.11 Test Mode = LTE/TM2 10MHz

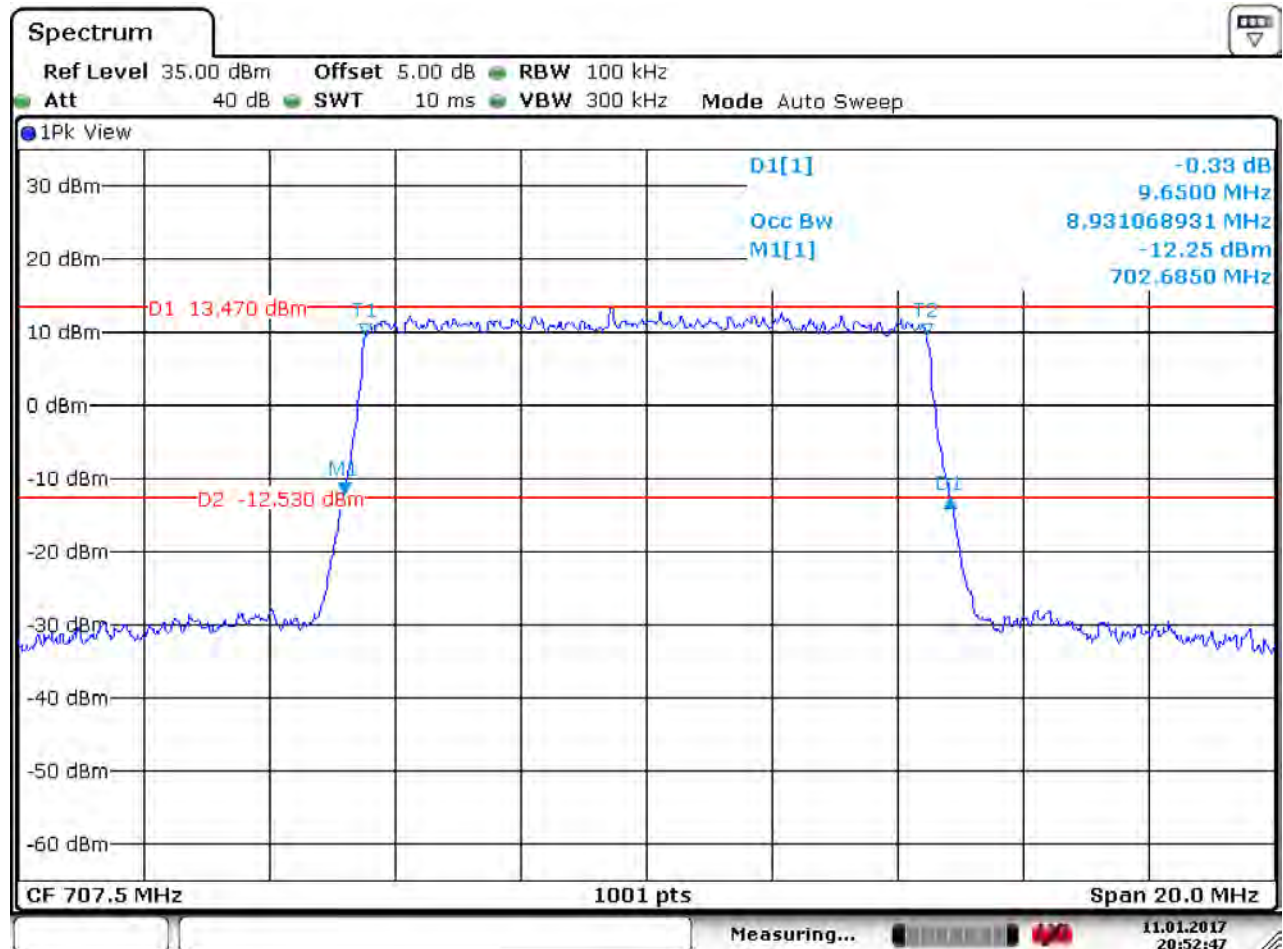
4.1.1.11.1 Test Channel = LCH



Date: 11.JAN.2017 20:59:19

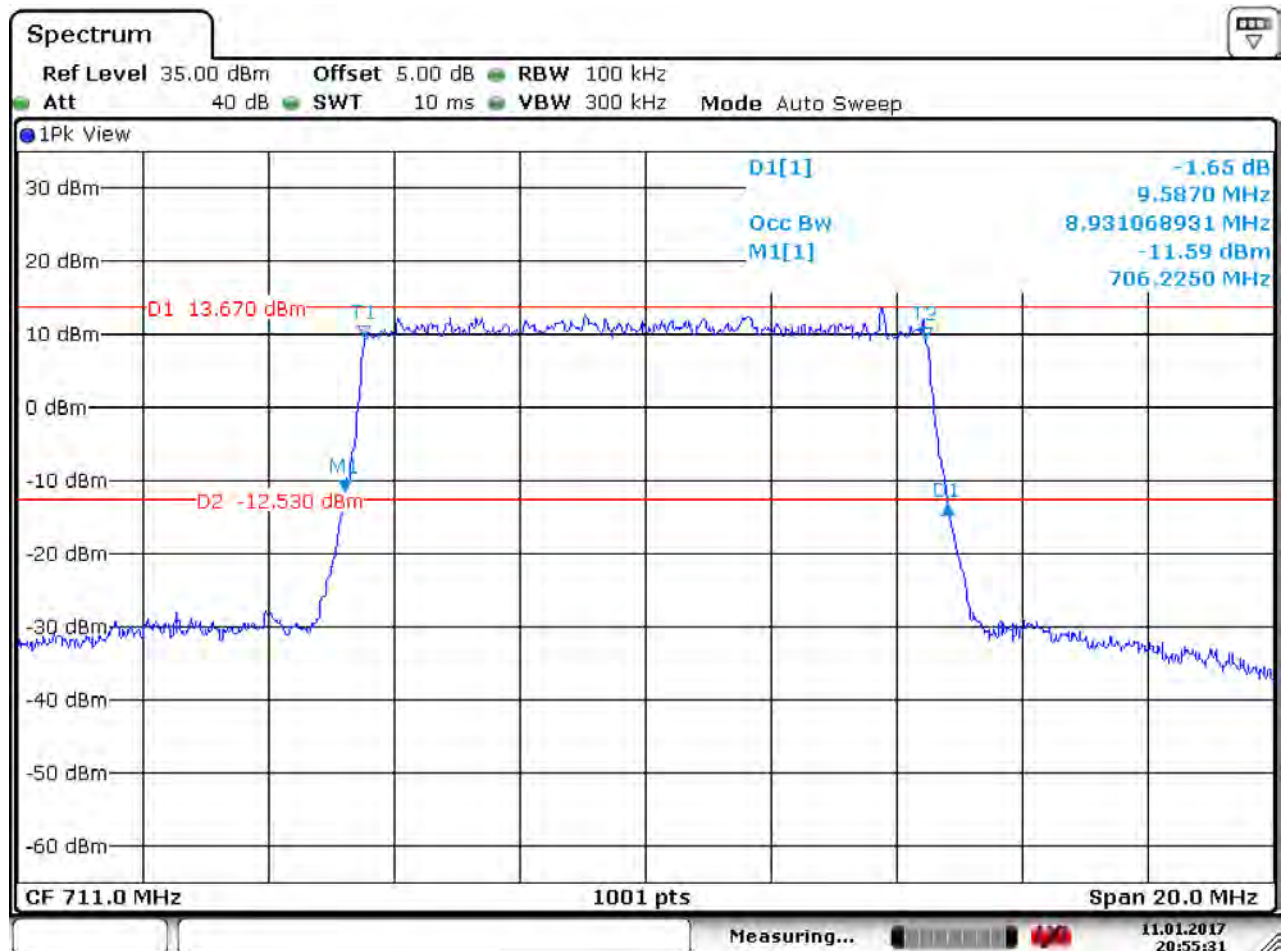


4.1.1.11.2 Test Channel = MCH



Date: 11.JAN.2017 20:52:48

4.1.1.11.3 Test Channel = HCH



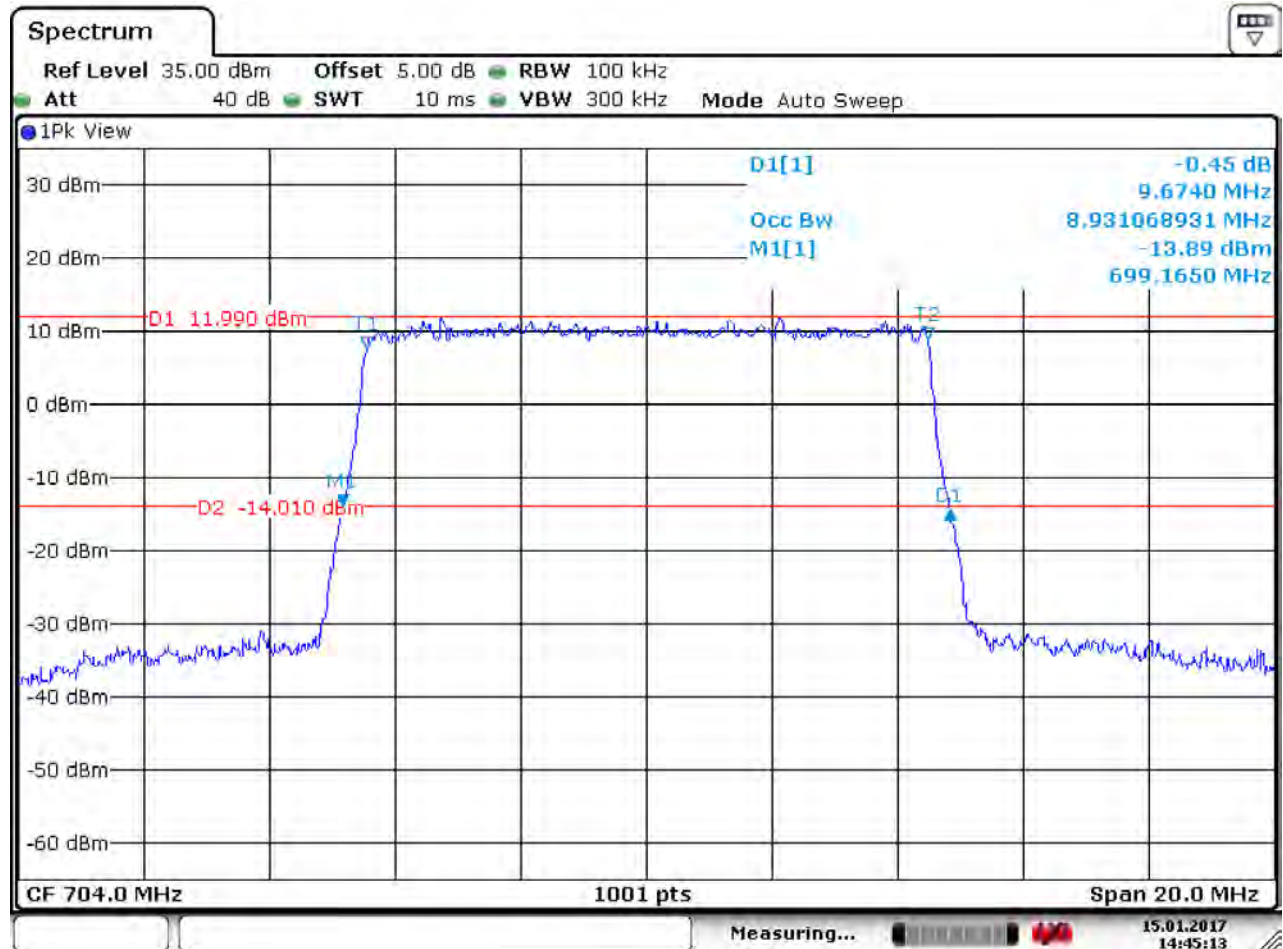
Date: 11.JAN.2017 20:55:31

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4.1.1.12 Test Mode = LTE/TM3 10MHz

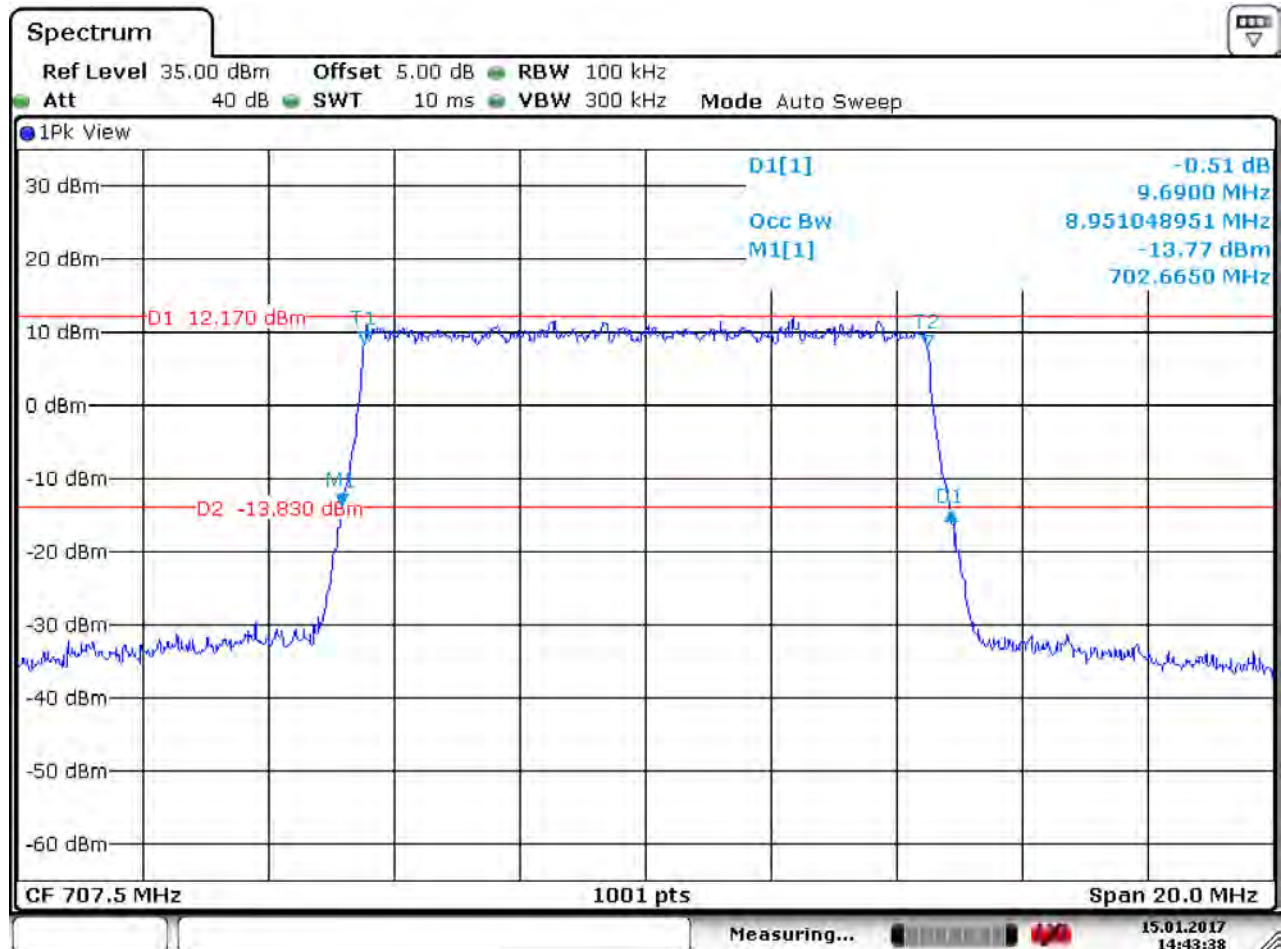
4.1.1.12.1 Test Channel = LCH



Date: 15.JAN.2017 14:45:14



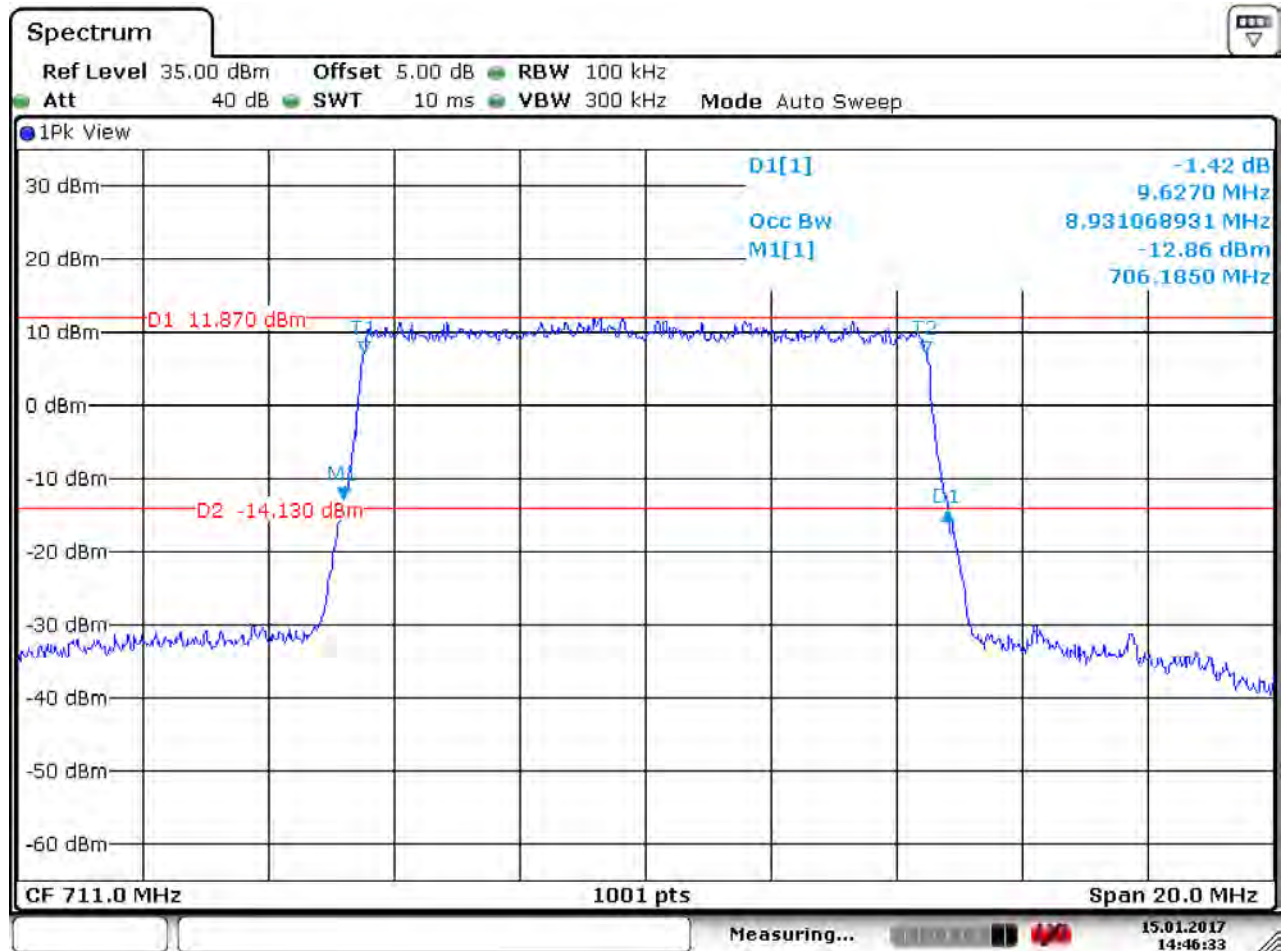
4.1.1.12.2 Test Channel = MCH



Date: 15.JAN.2017 14:43:39



4.1.1.12.3 Test Channel = HCH



Date: 15.JAN.2017 14:46:33



5 Band Edges Compliance

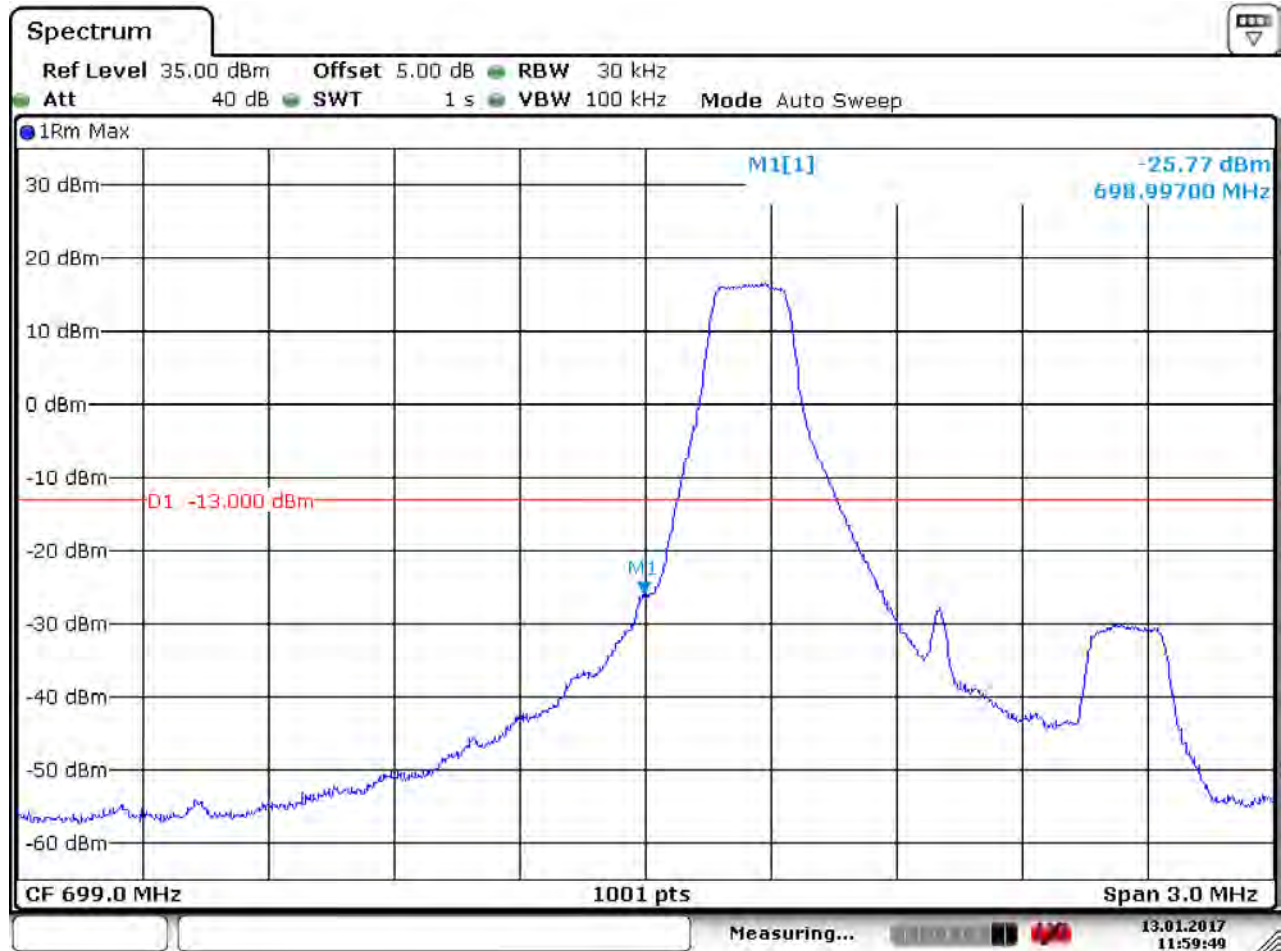
5.1 For LTE

5.1.1 Test Band = LTE band 12

5.1.1.1 Test Mode = LTE/TM1 1.4MHz

5.1.1.1.1 Test Channel = LCH

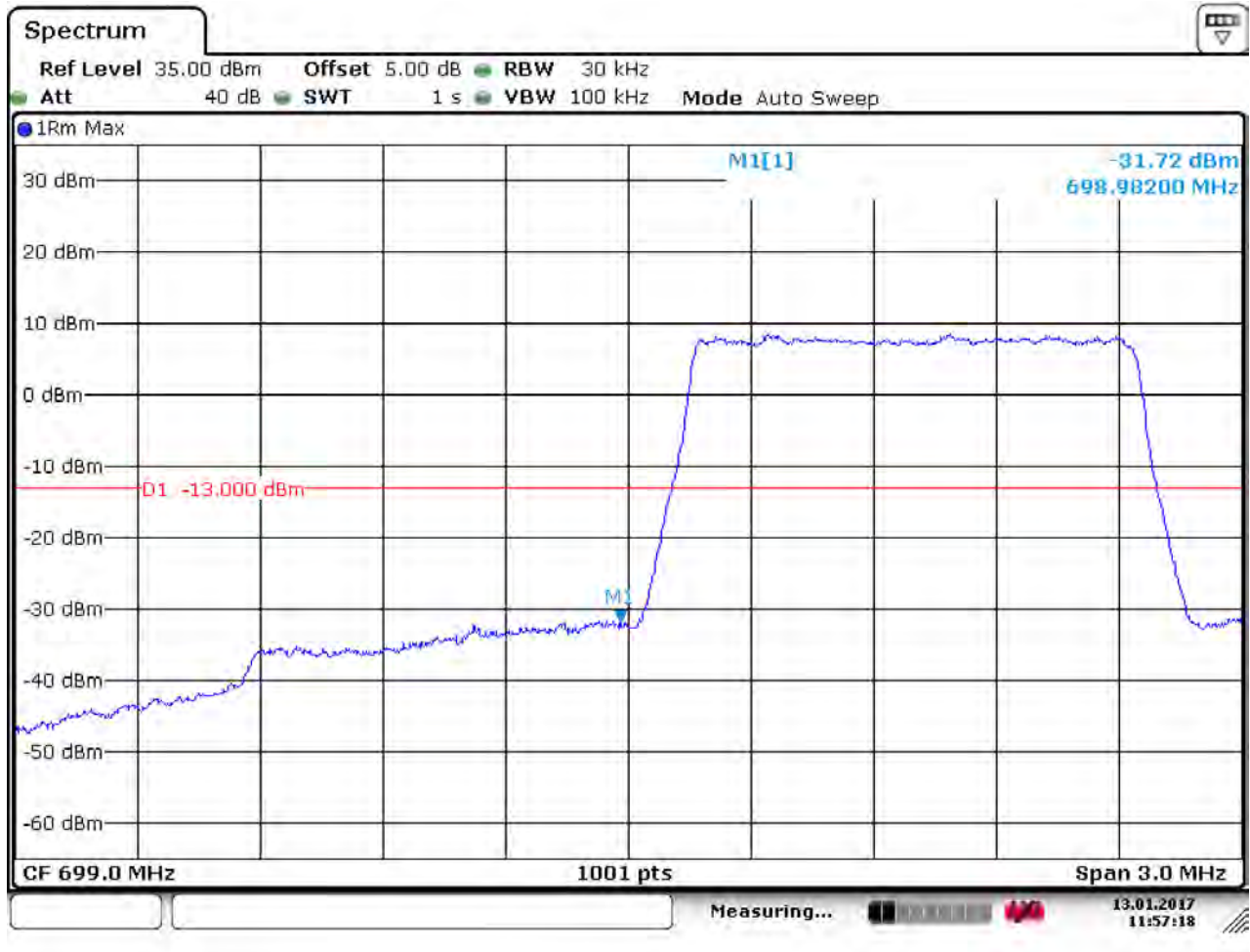
5.1.1.1.1.1 Test RB=1RB



Date: 13.JAN.2017 11:59:49



5.1.1.1.2 Test RB=6RB

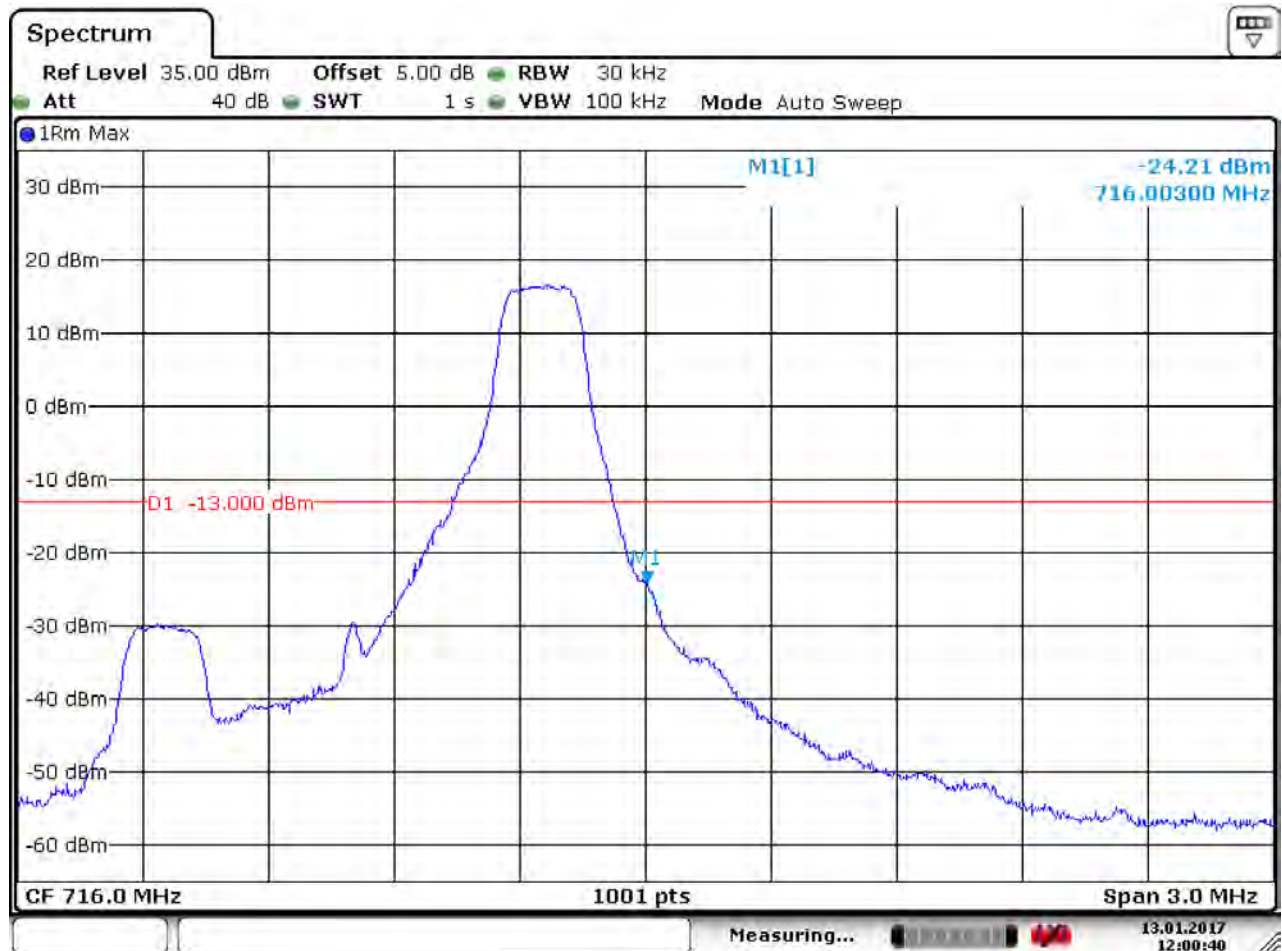


Date: 13.JAN.2017 11:57:18



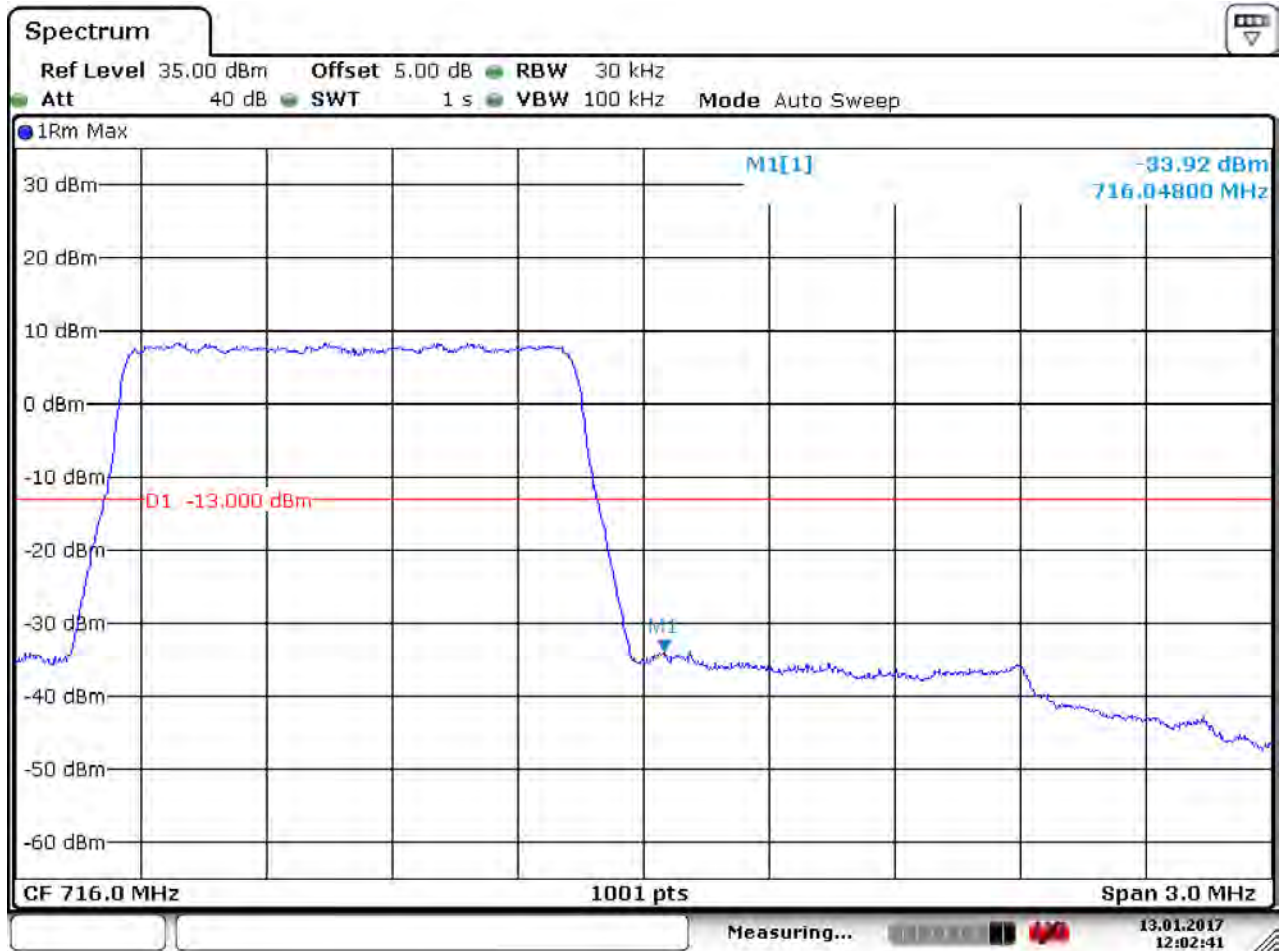
5.1.1.1.2 Test Channel = HCH

5.1.1.1.2.1 Test RB=1RB



Date: 13.JAN.2017 12:00:41

5.1.1.1.2.2 Test RB=6RB



Date: 13.JAN.2017 12:02:41

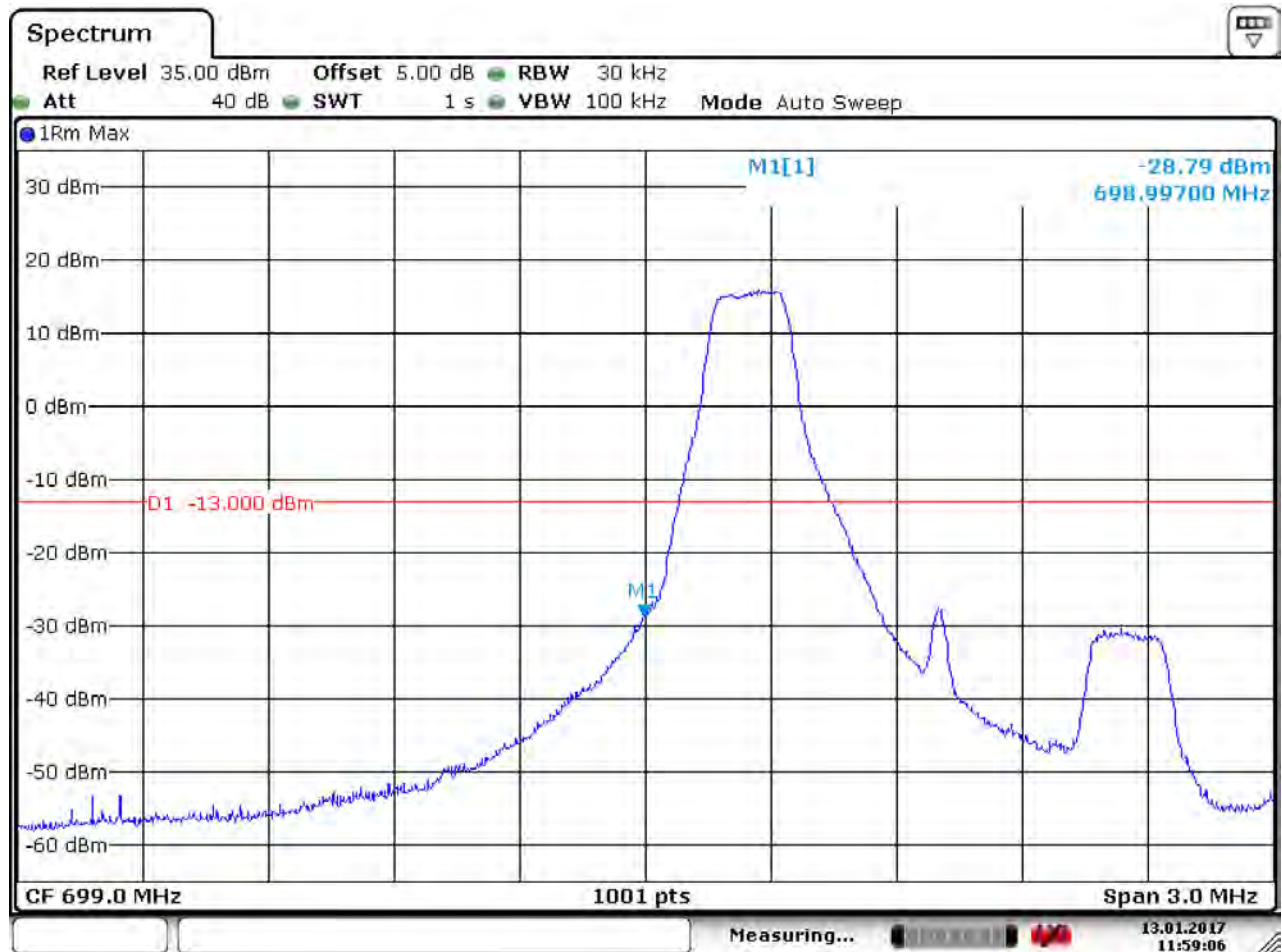
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5.1.1.2 Test Mode = LTE/TM2 1.4MHz

5.1.1.2.1 Test Channel = LCH

5.1.1.2.1.1 Test RB=1RB



Date: 13.JAN.2017 11:59:07



5.1.1.2.1.2 Test RB=6RB

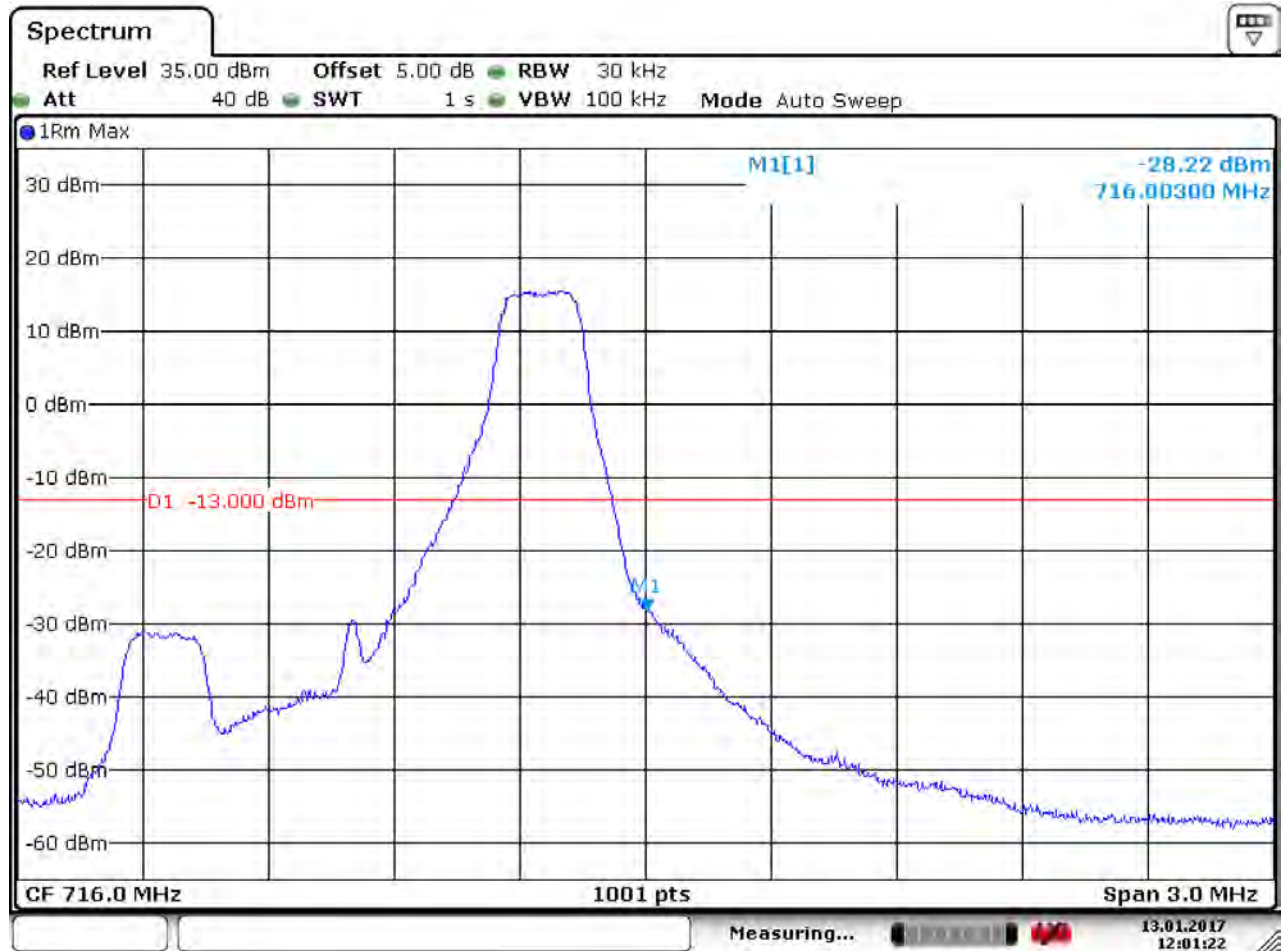


Date: 13.JAN.2017 11:58:32



5.1.1.2.2 Test Channel = HCH

5.1.1.2.2.1 Test RB=1RB



Date: 13.JAN.2017 12:01:22



5.1.1.2.2.2 Test RB=6RB



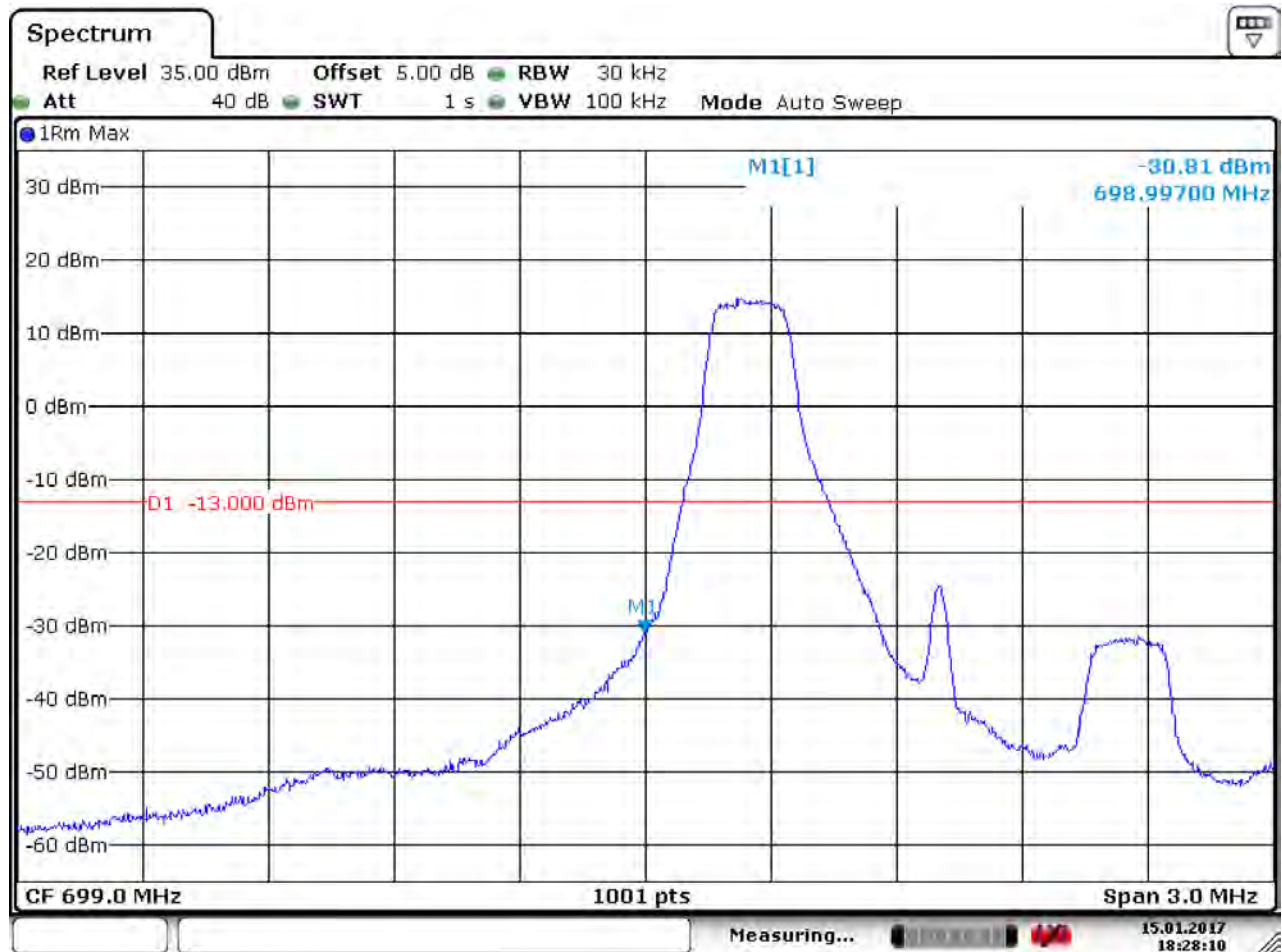
Date: 13.JAN.2017 12:02:07



5.1.1.3 Test Mode = LTE/TM3 1.4MHz

5.1.1.3.1 Test Channel = LCH

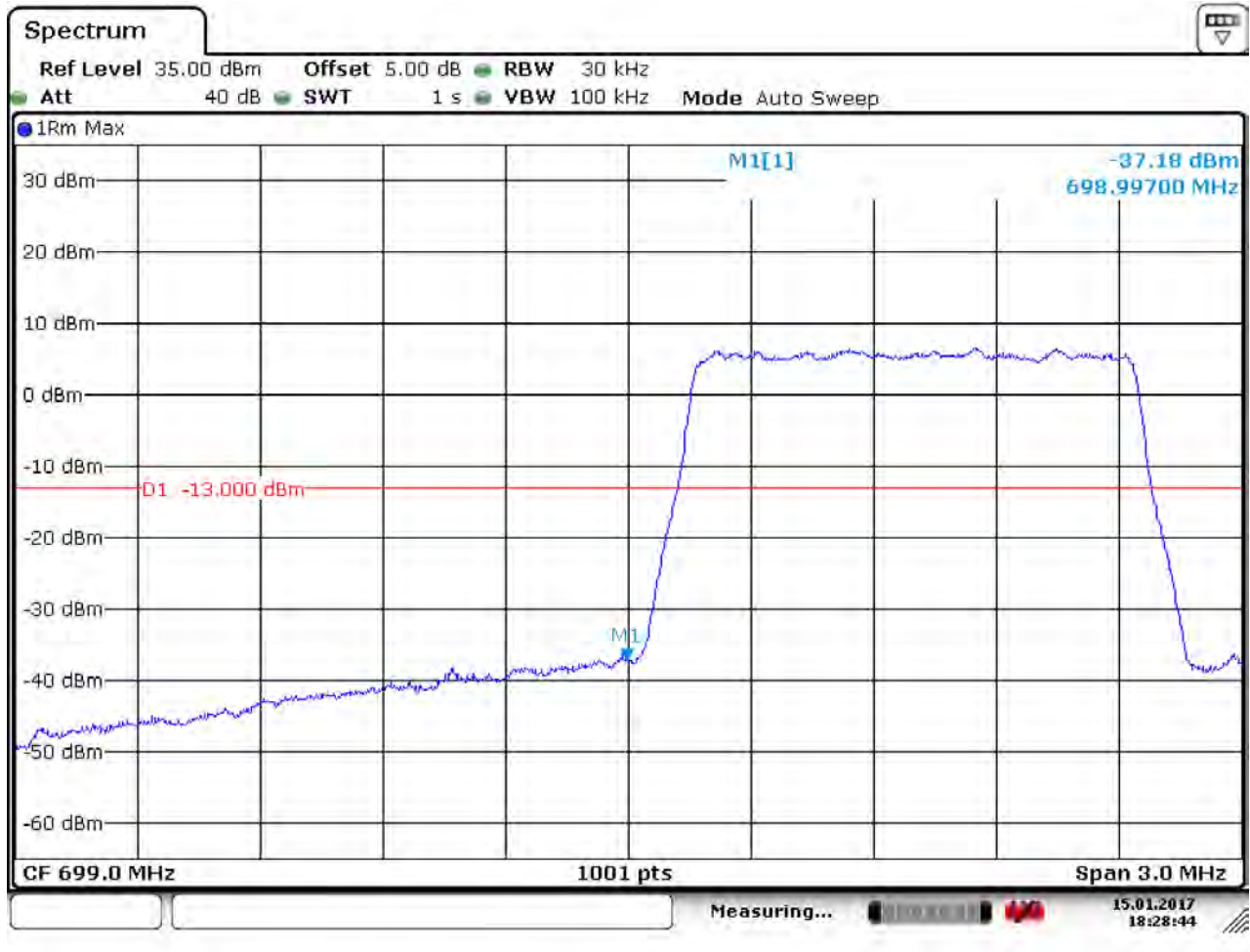
5.1.1.3.1.1 Test RB=1RB



Date: 15.JAN.2017 18:28:10



5.1.1.3.1.2 Test RB=6RB

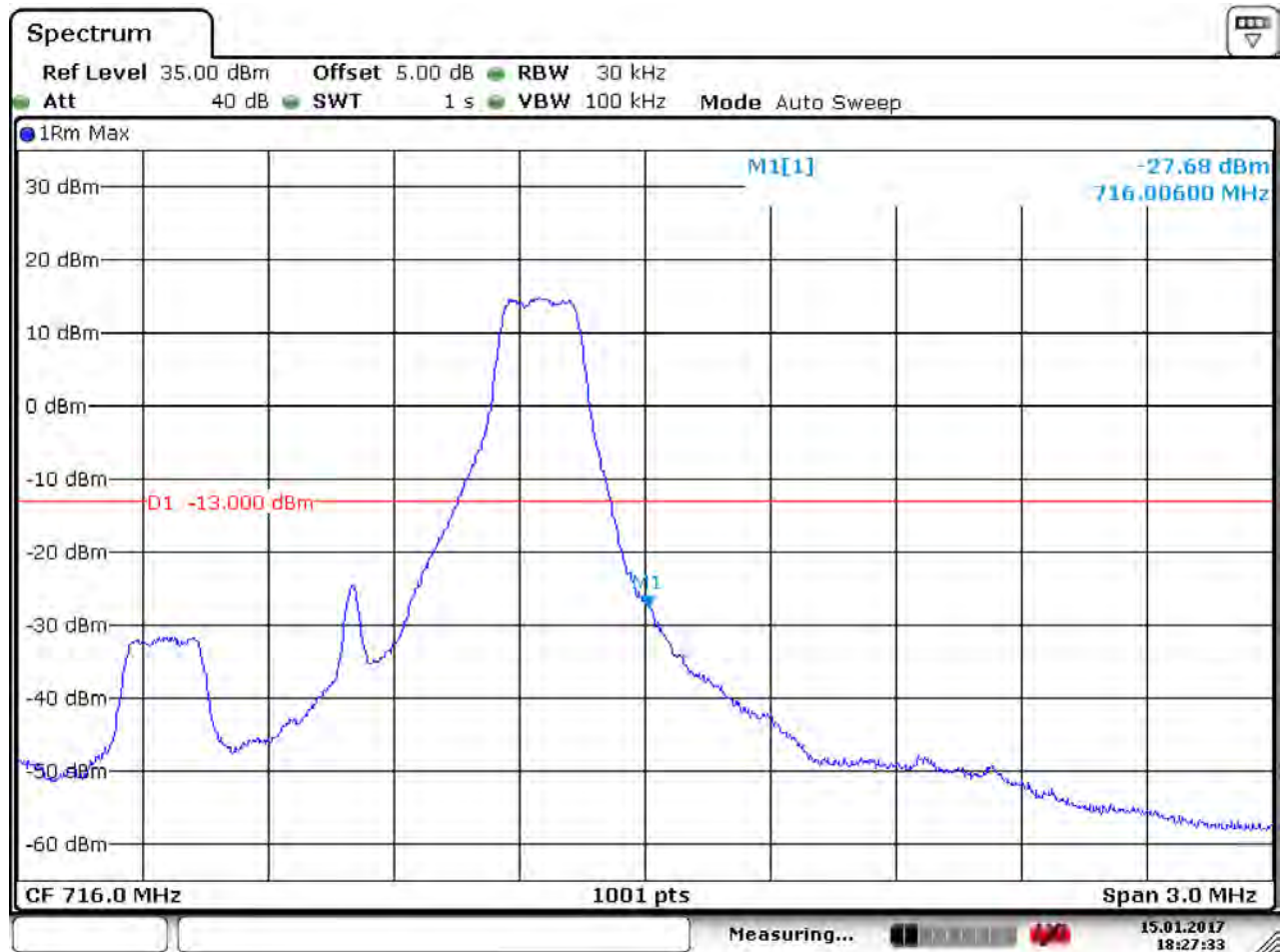


Date: 15 JAN 2017 18:28:43



5.1.1.3.2 Test Channel = HCH

5.1.1.3.2.1 Test RB=1RB



Date: 15 JAN 2017 18:27:33



5.1.1.3.2.2 Test RB=6RB



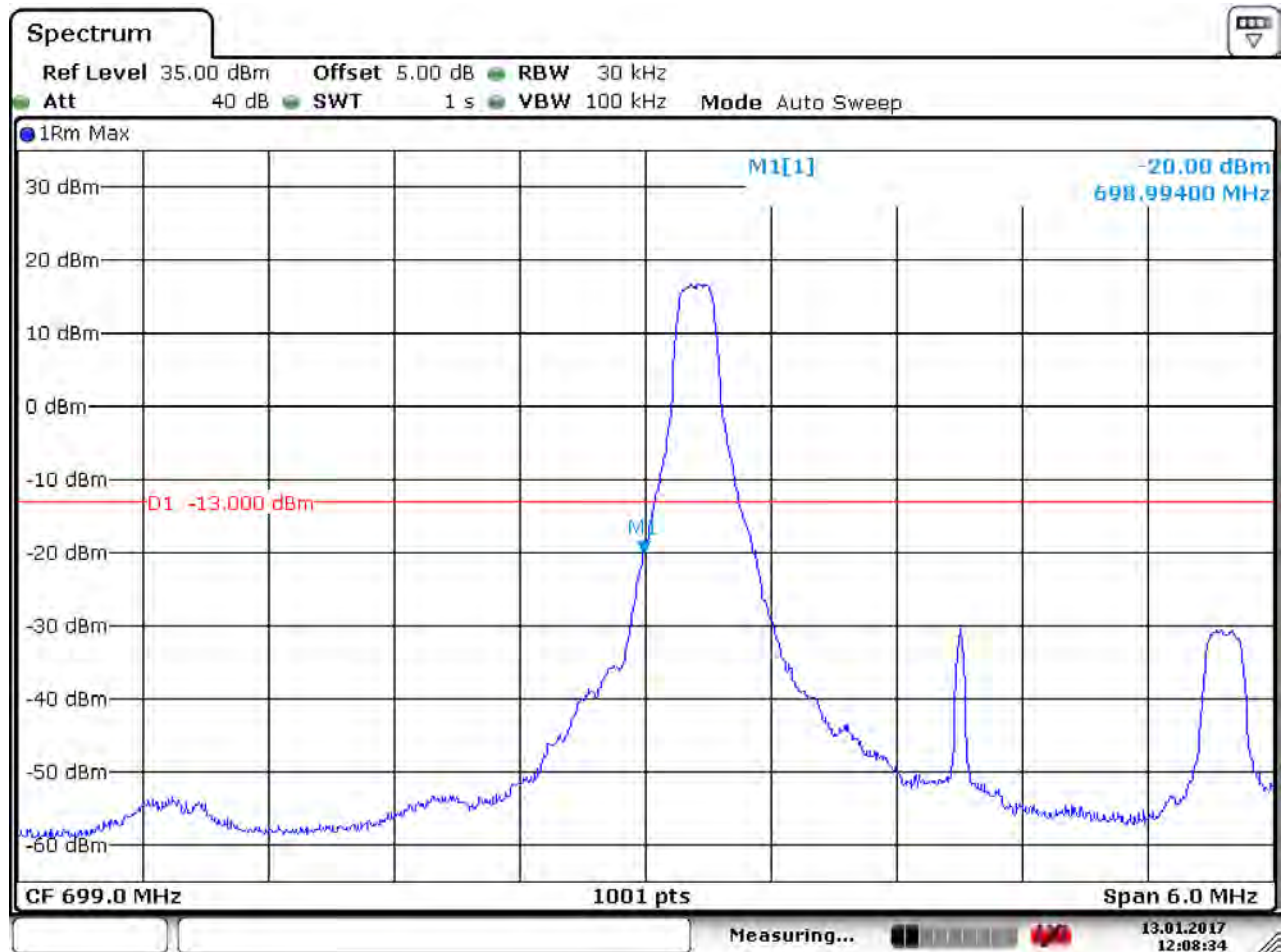
Date: 15 JAN 2017 18:26:55



5.1.1.4 Test Mode = LTE/TM1 3MHz

5.1.1.4.1 Test Channel = LCH

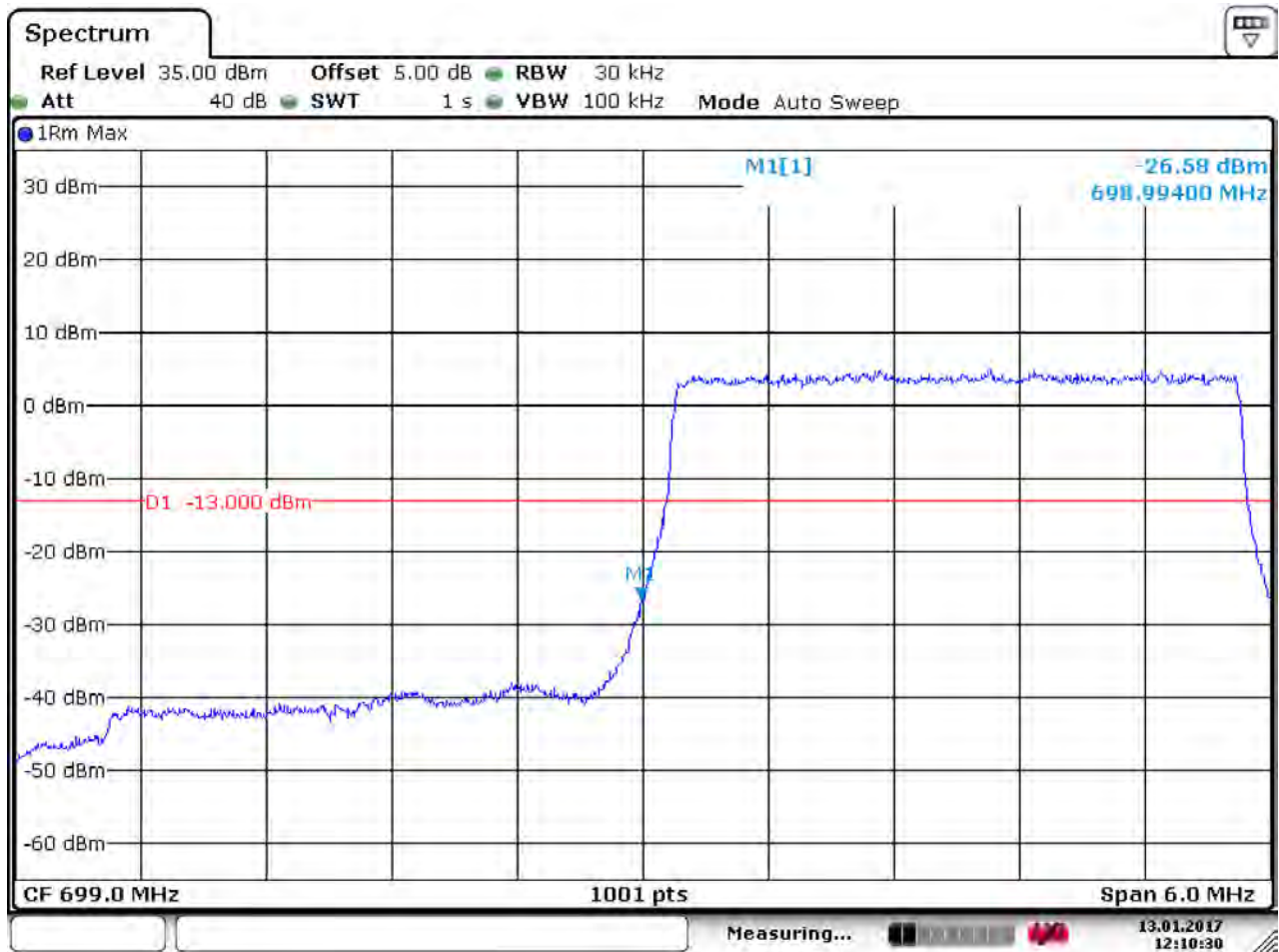
5.1.1.4.1.1 Test RB=1RB



Date: 13.JAN.2017 12:08:34



5.1.1.4.1.2 Test RB=15RB

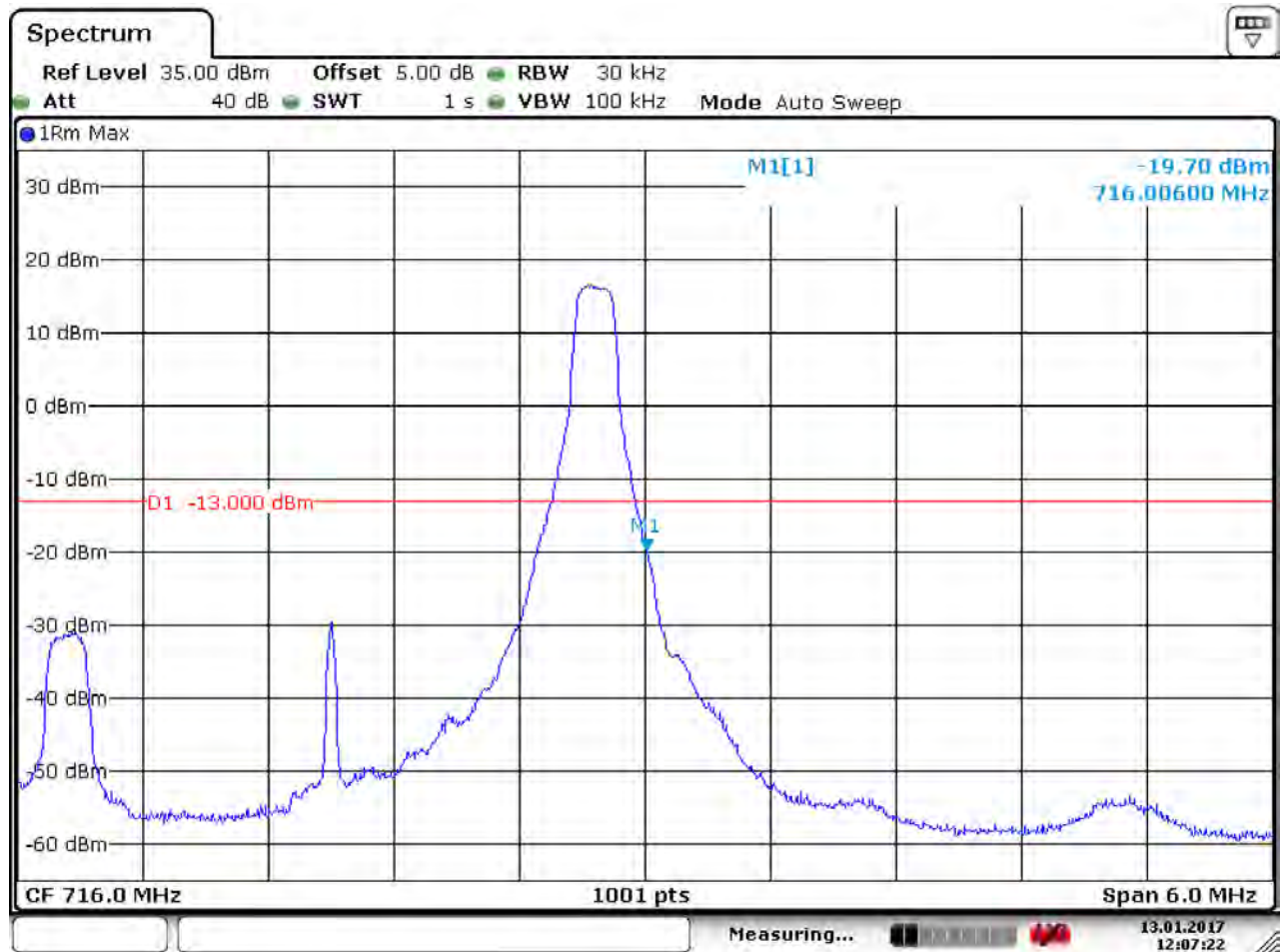


Date: 13.JAN.2017 12:10:30



5.1.1.4.2 Test Channel = HCH

5.1.1.4.2.1 Test RB=1RB



Date: 13.JAN.2017 12:07:22



5.1.1.4.2.2 Test RB=15RB



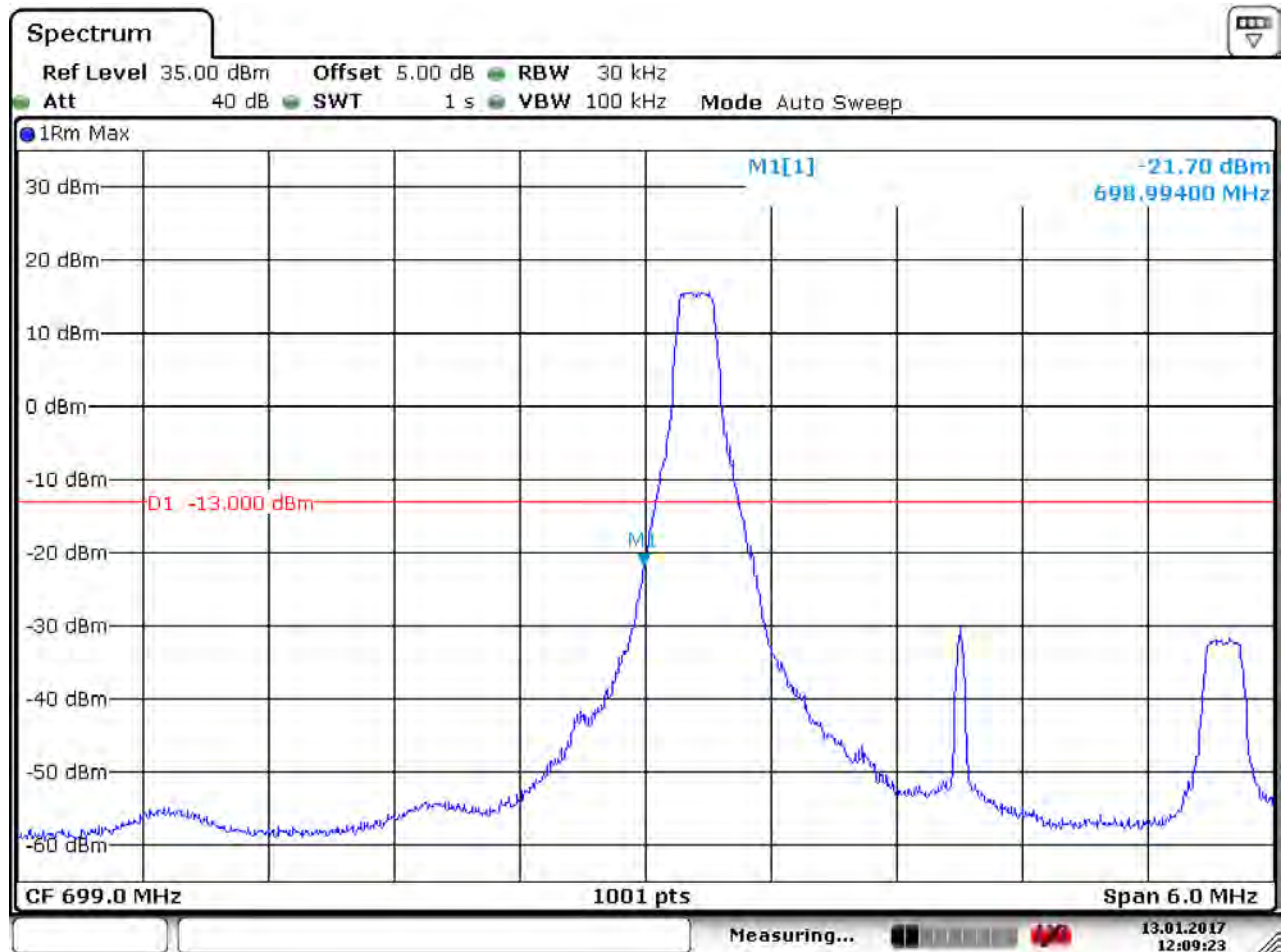
Date: 13.JAN.2017 12:05:02



5.1.1.5 Test Mode = LTE/TM2 3MHz

5.1.1.5.1 Test Channel = LCH

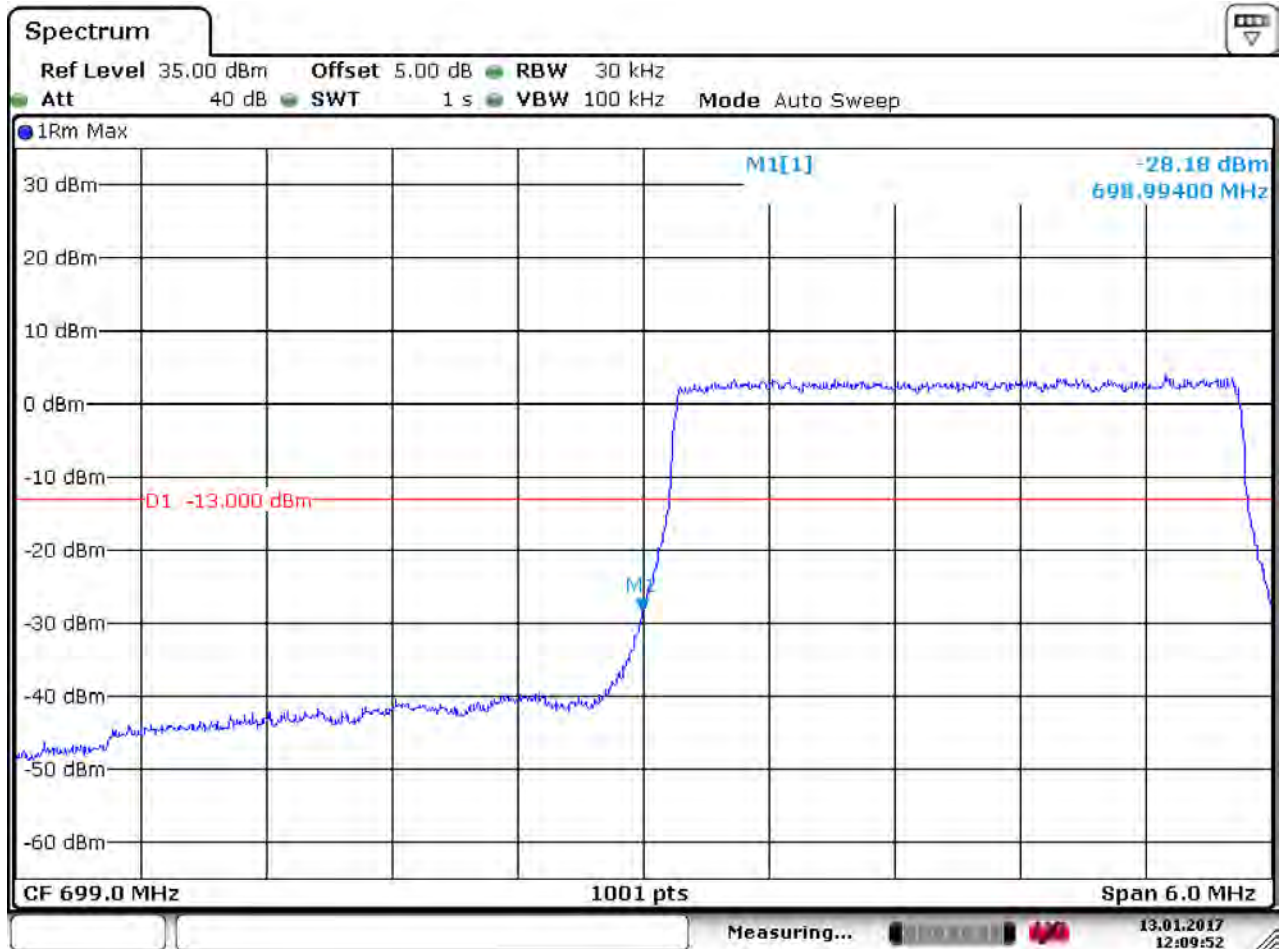
5.1.1.5.1.1 Test RB=1RB



Date: 13.JAN.2017 12:09:23



5.1.1.5.1.2 Test RB=15RB

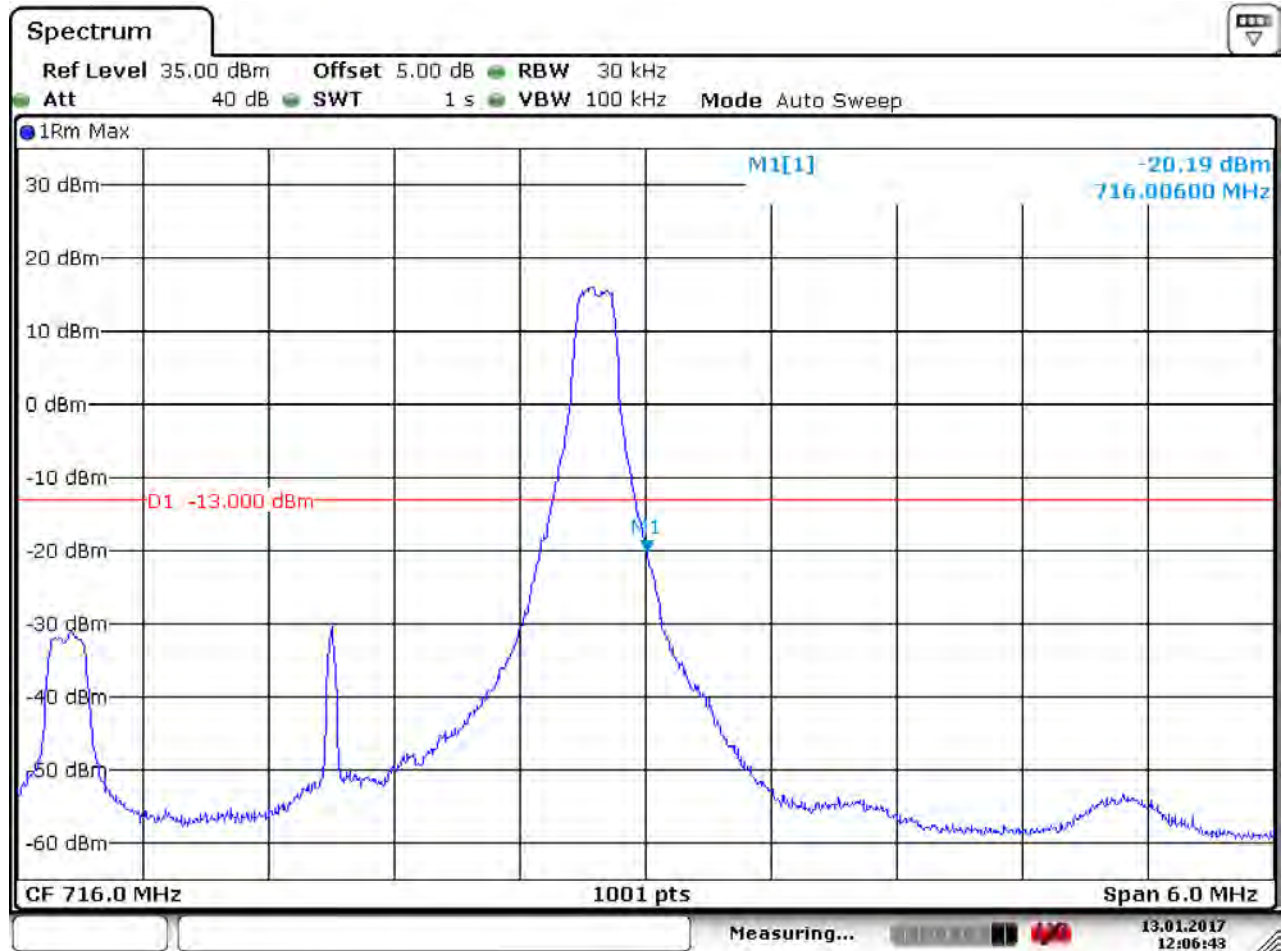


Date: 13.JAN.2017 12:09:52



5.1.1.5.2 Test Channel = HCH

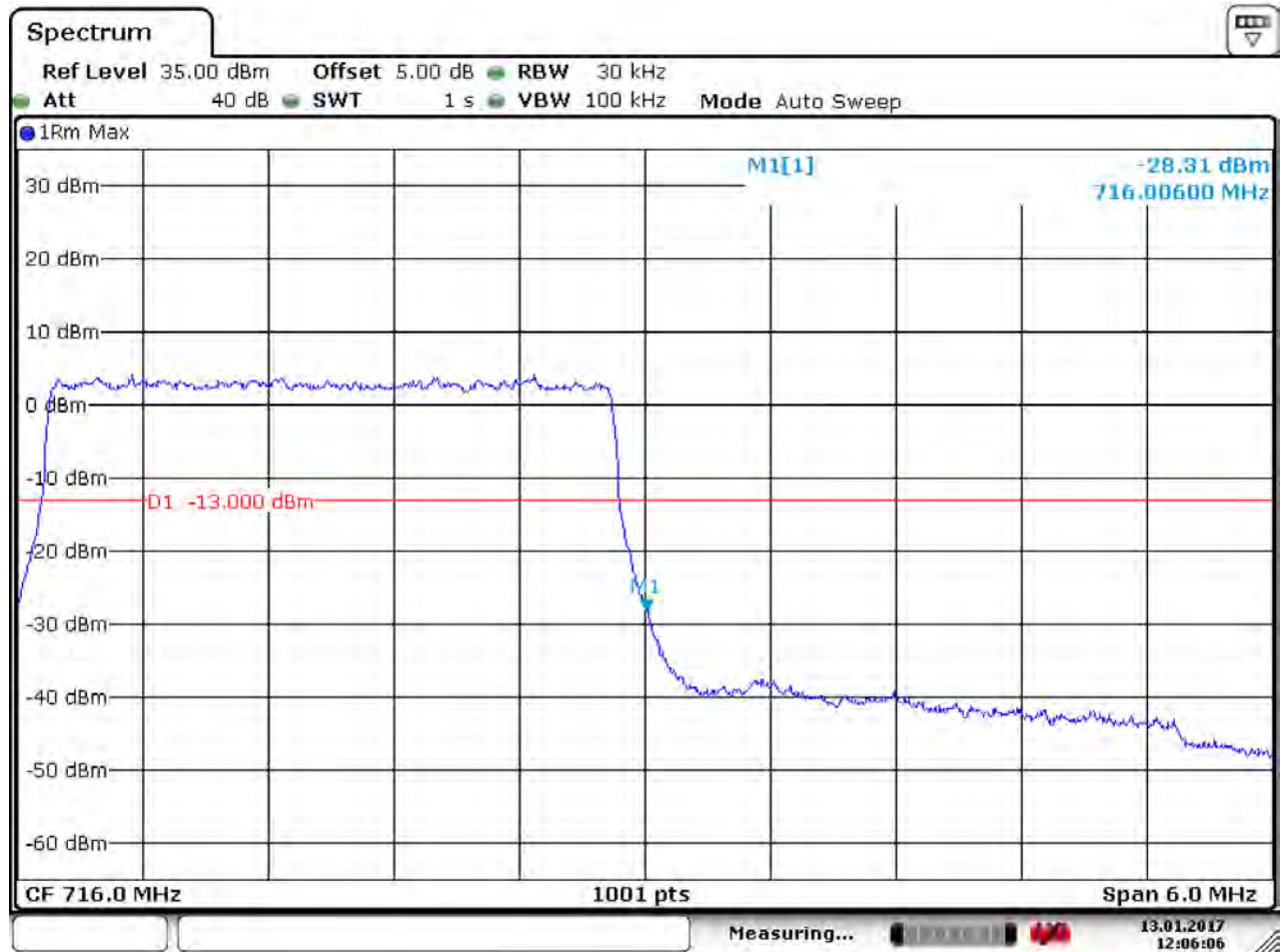
5.1.1.5.2.1 Test RB=1RB



Date: 13, JAN. 2017 12:06:43



5.1.1.5.3 Test RB=15RB



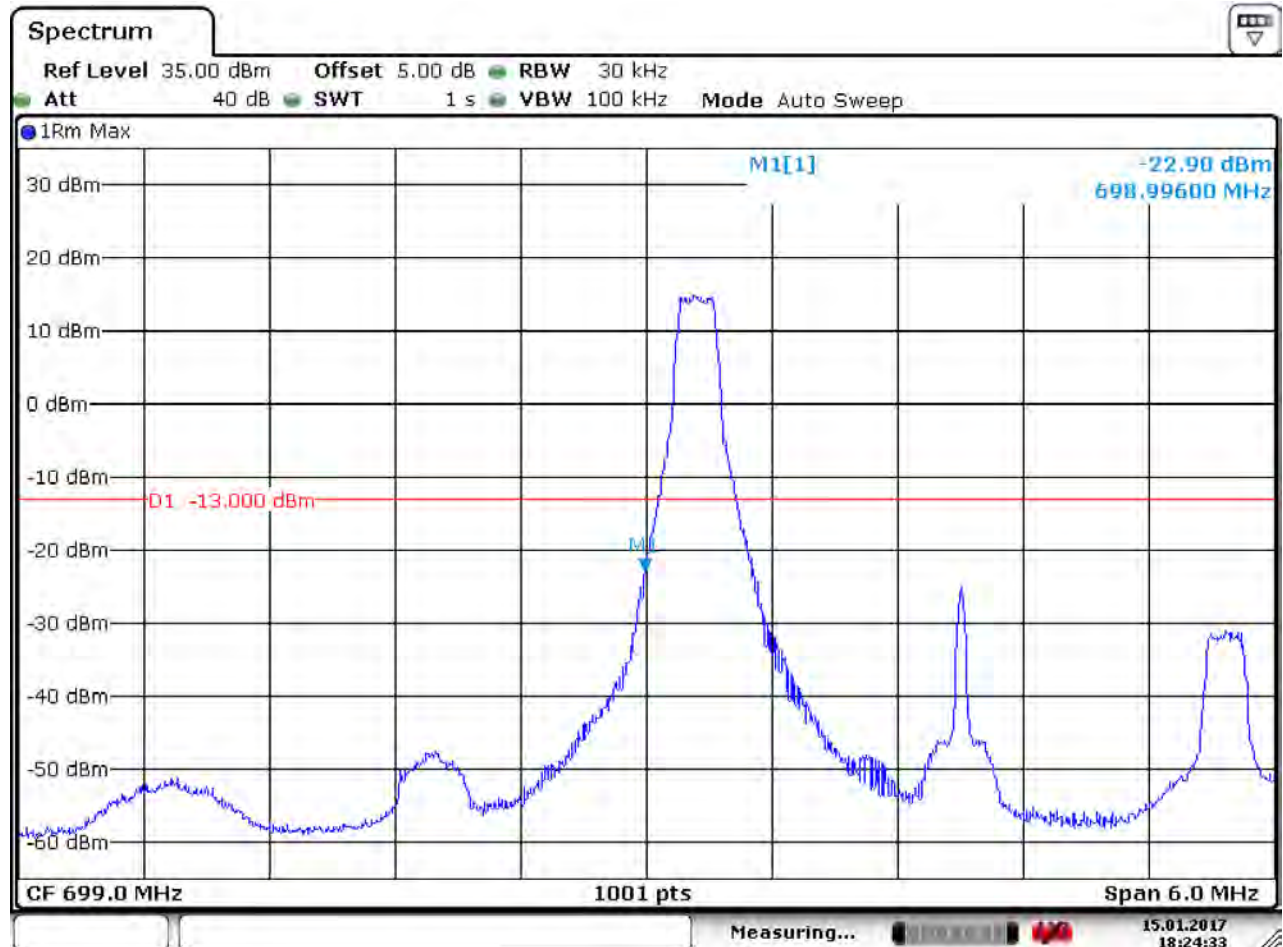
Date: 13 JAN 2017 12:06:06



5.1.1.6 Test Mode = LTE/TM3 3MHz

5.1.1.6.1 Test Channel = LCH

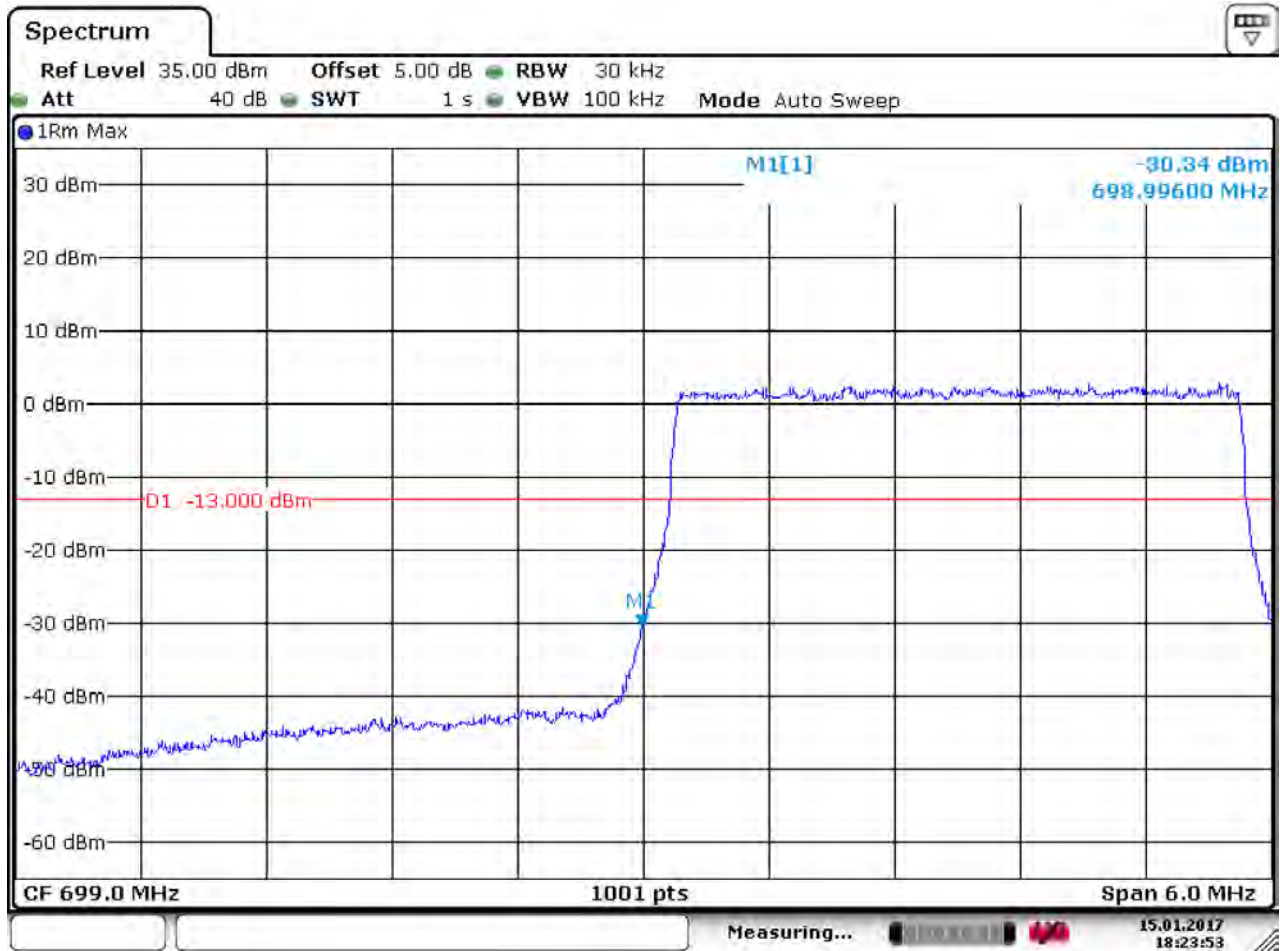
5.1.1.6.2 Test RB=1RB



Date: 15.JAN.2017 18:24:33



5.1.1.6.2.1 Test RB=15RB

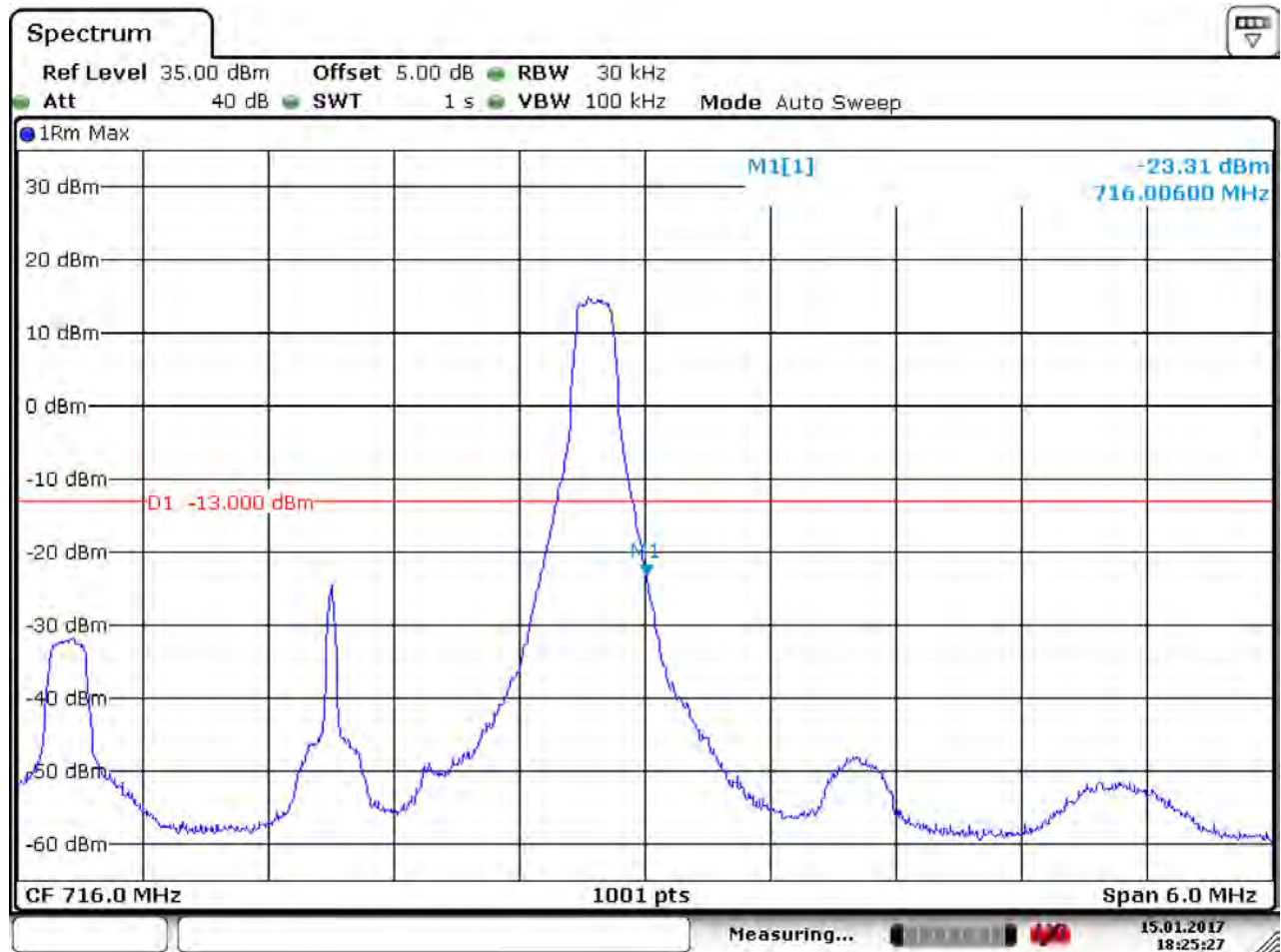


Date: 15.JAN.2017 18:23:52



5.1.1.6.3 Test Channel = HCH

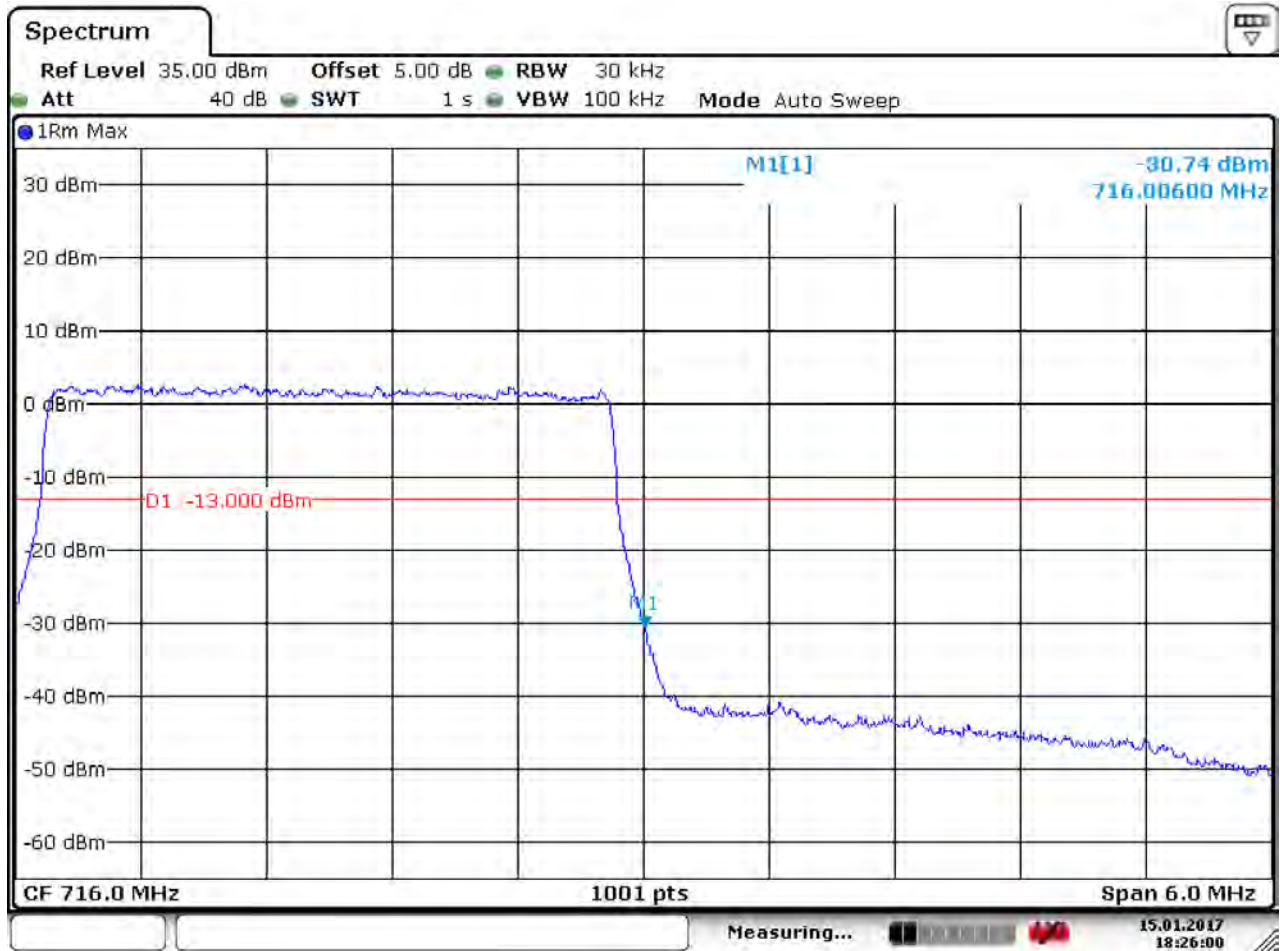
5.1.1.6.3.1 Test RB=1RB



Date: 15.JAN.2017 18:25:27



5.1.1.6.3.2 Test RB=15RB



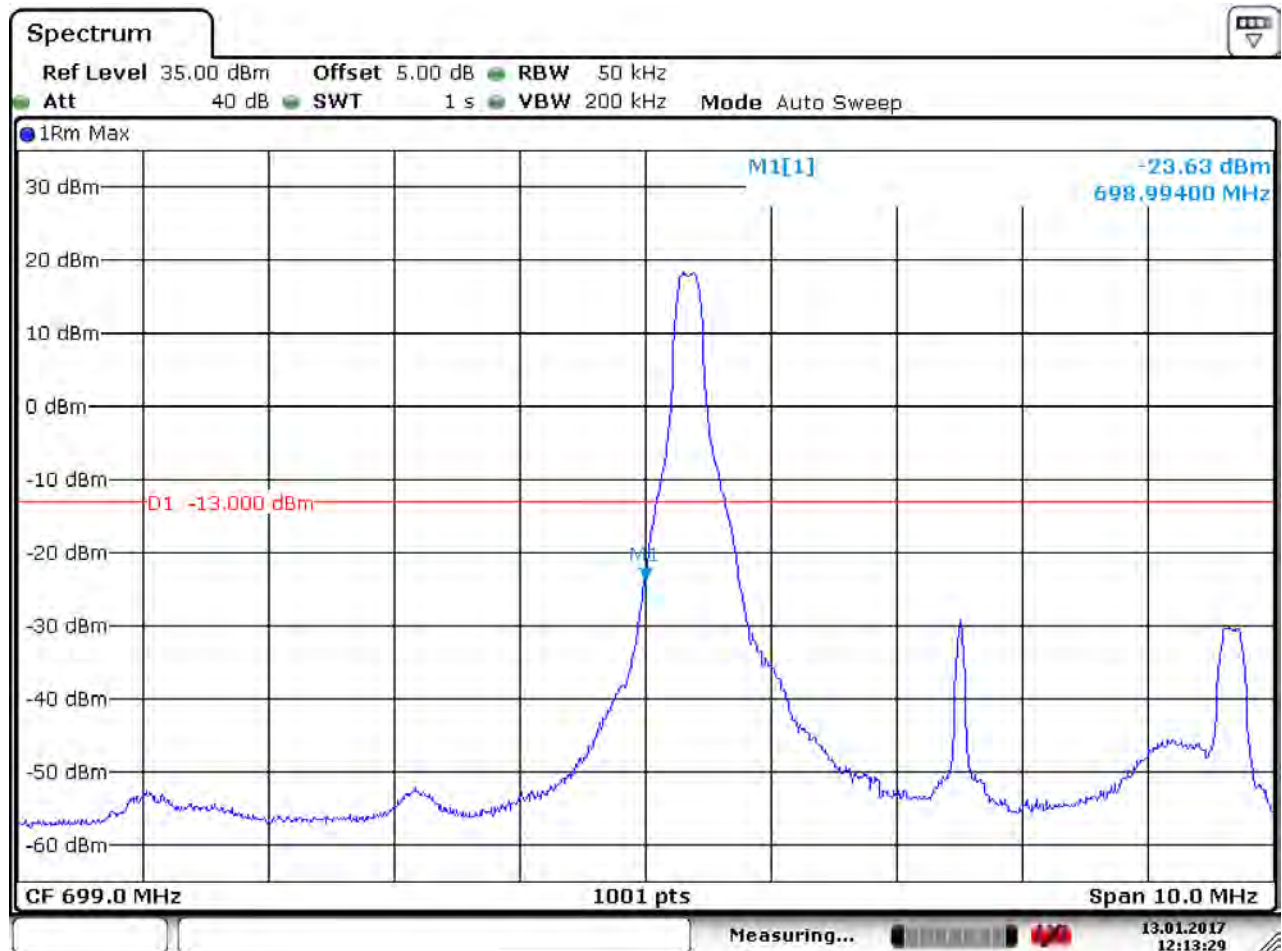
Date: 15.JAN.2017 18:26:01



5.1.1.7 Test Mode = LTE/TM1 5MHz

5.1.1.7.1 Test Channel = LCH

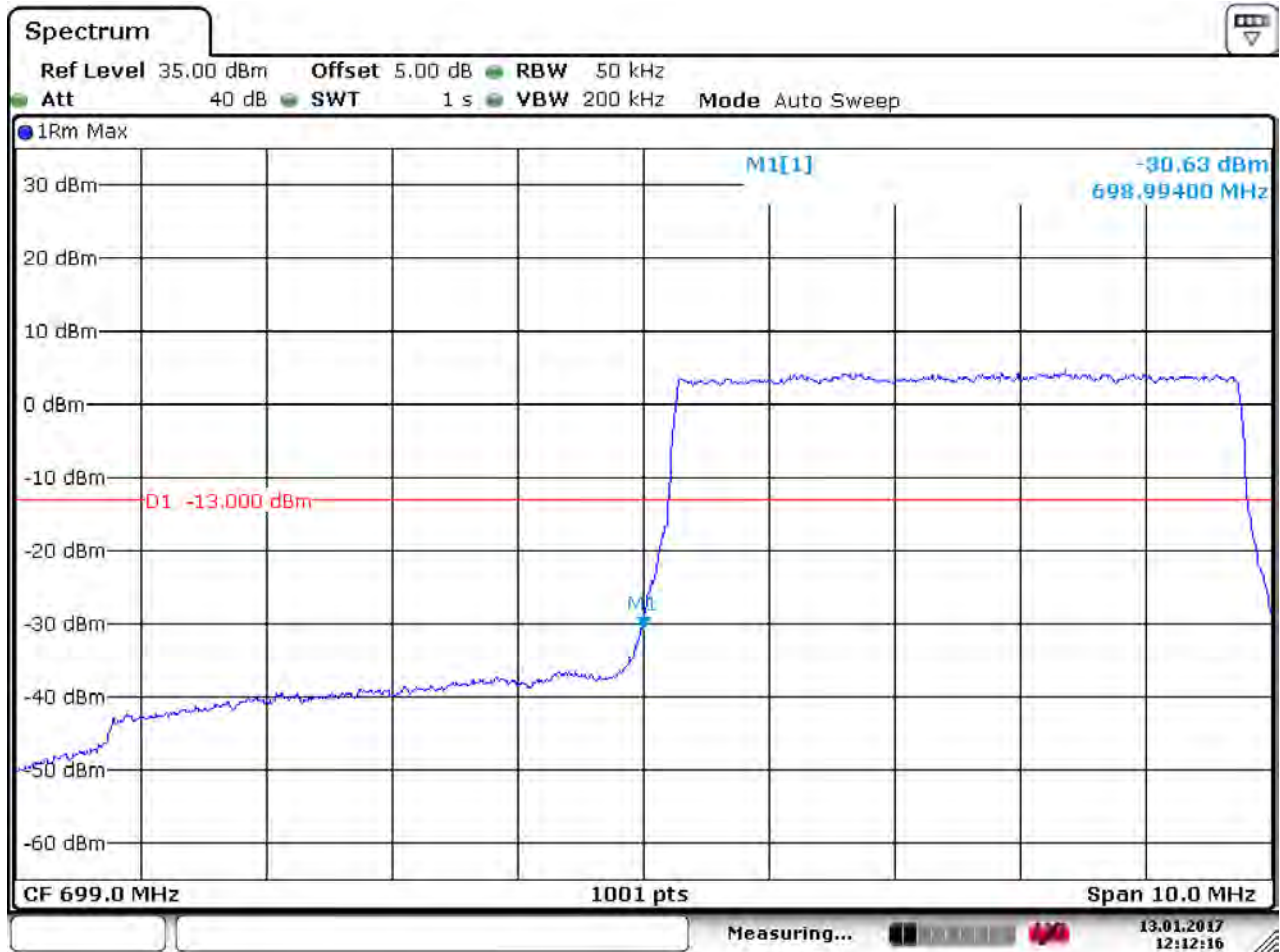
5.1.1.7.1.1 Test RB=1RB



Date: 13.JAN.2017 12:13:30



5.1.1.7.1.2 Test RB=25RB

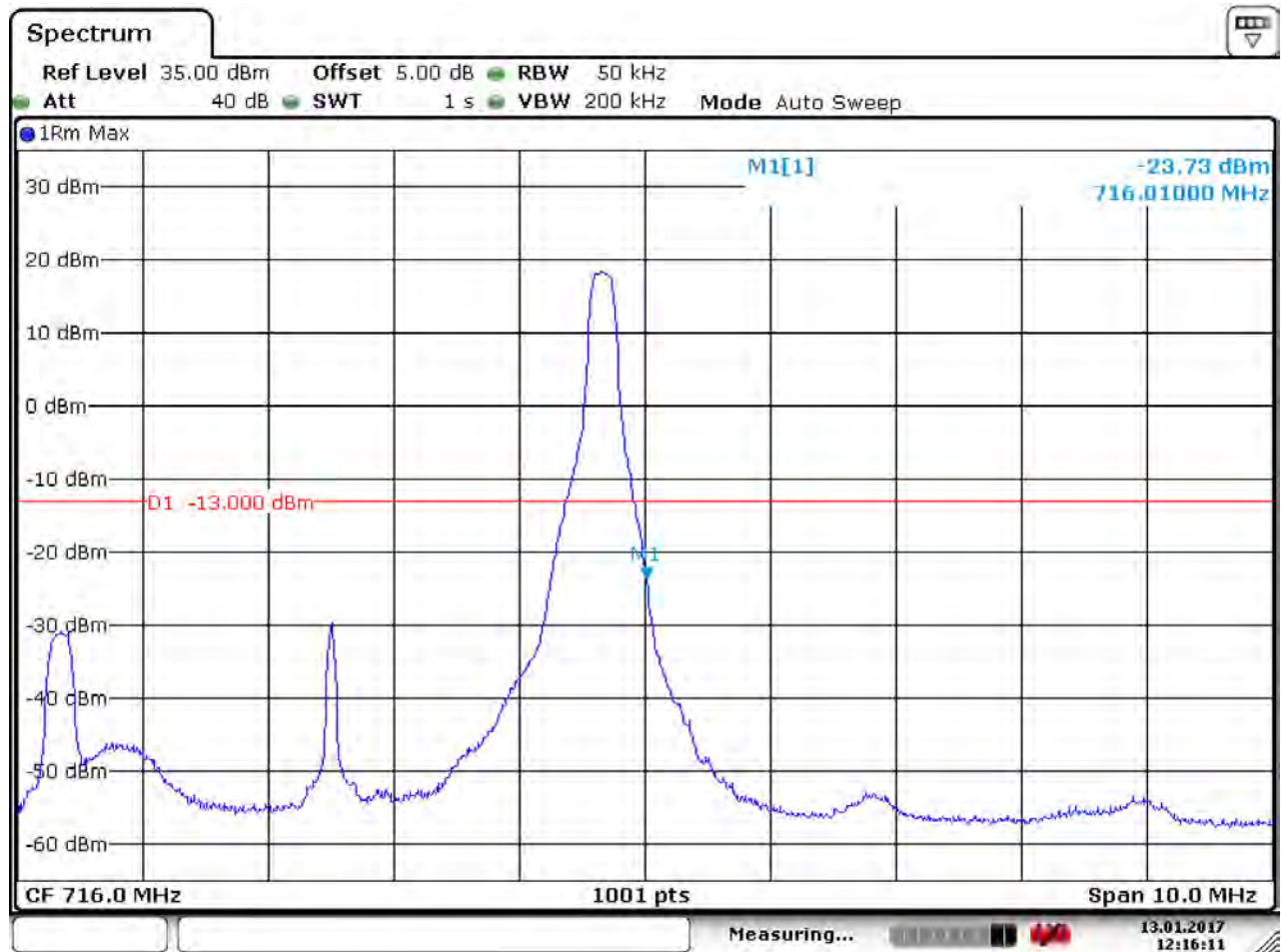


Date: 13.JAN.2017 12:12:16



5.1.1.7.2 Test Channel = HCH

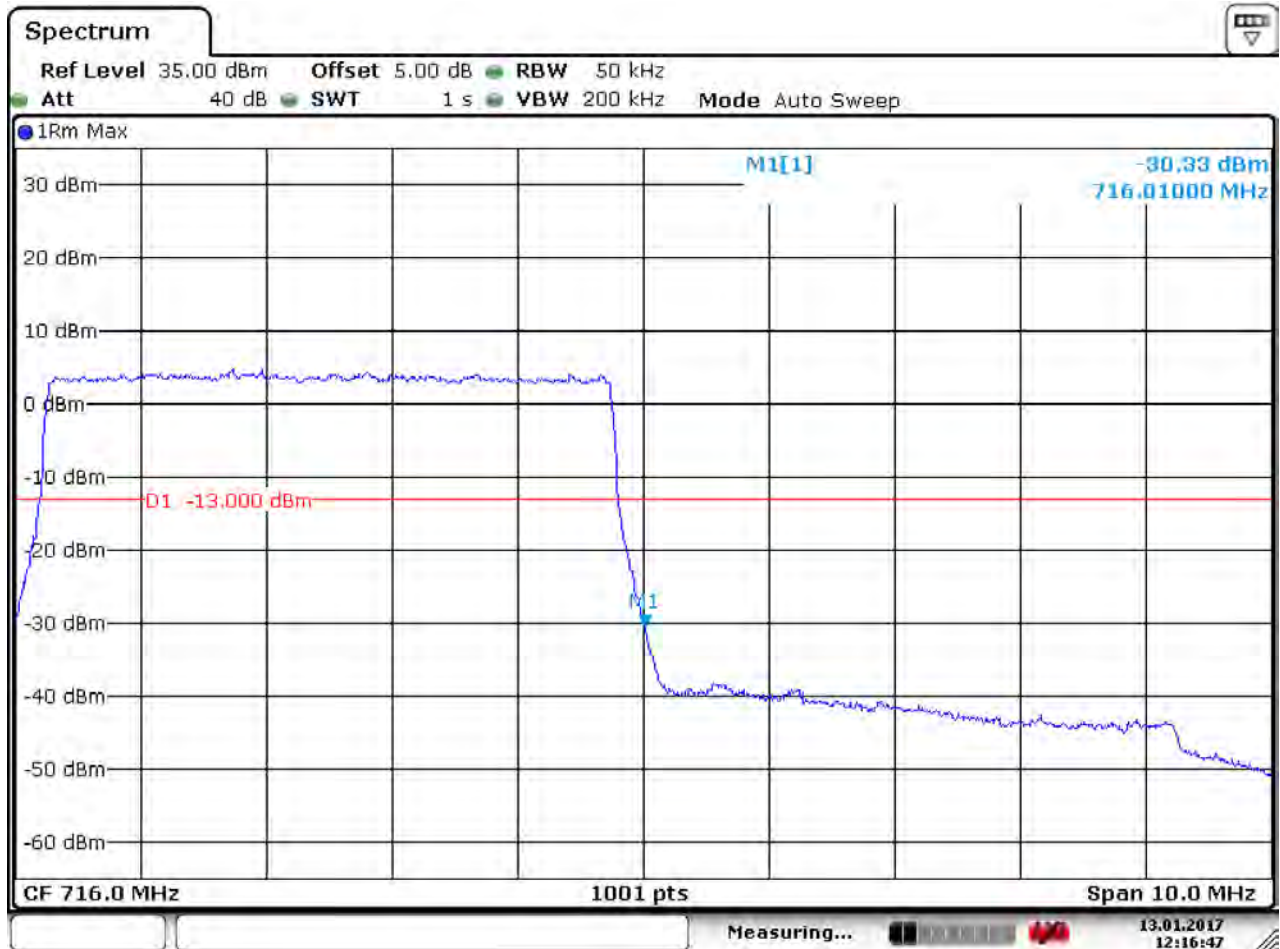
5.1.1.7.2.1 Test RB=1RB



Date: 13.JAN.2017 12:16:11



5.1.1.7.2.2 Test RB=25RB



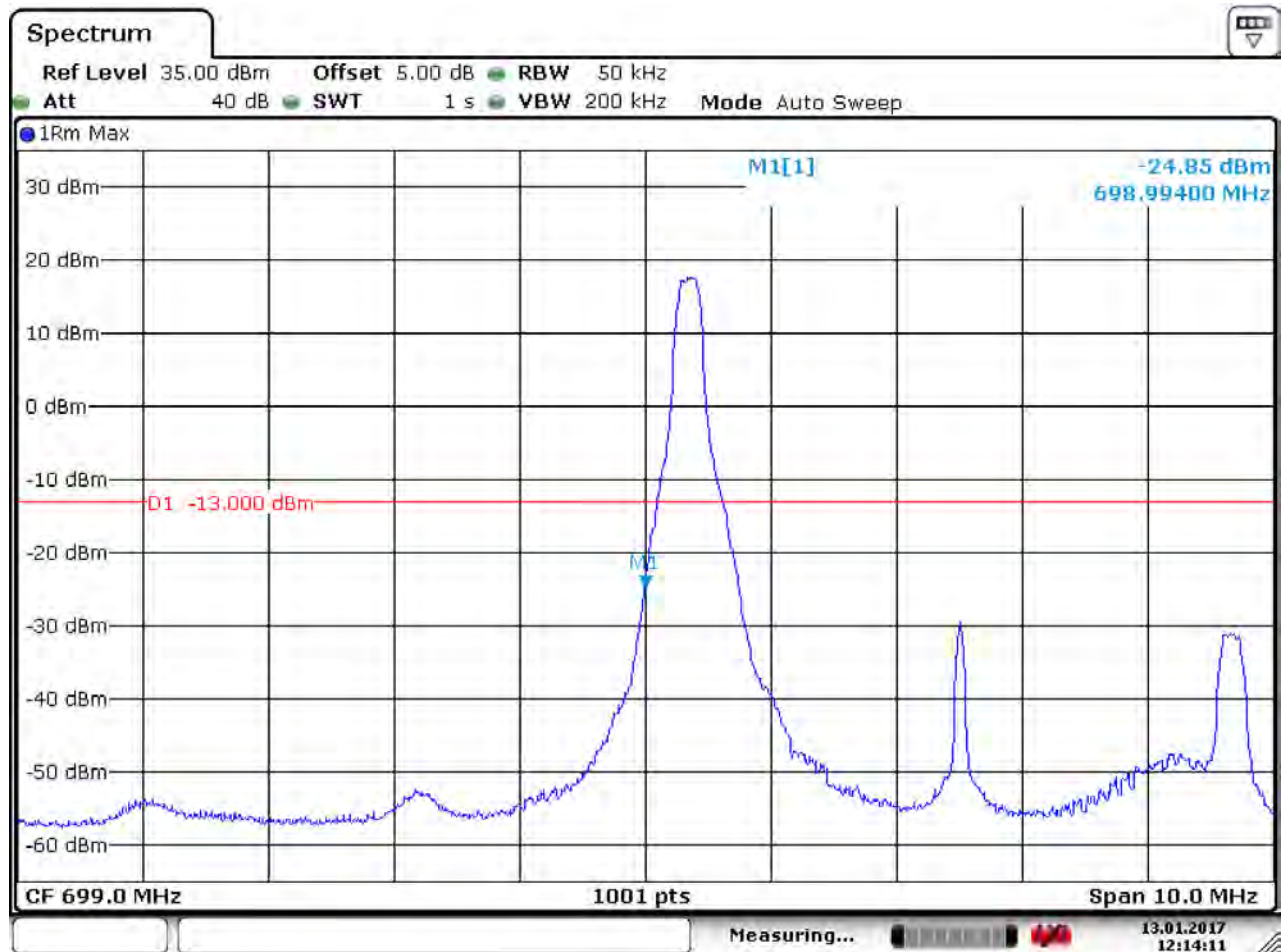
Date: 13.JAN.2017 12:16:47



5.1.1.8 Test Mode = LTE/TM2 5MHz

5.1.1.8.1 Test Channel = LCH

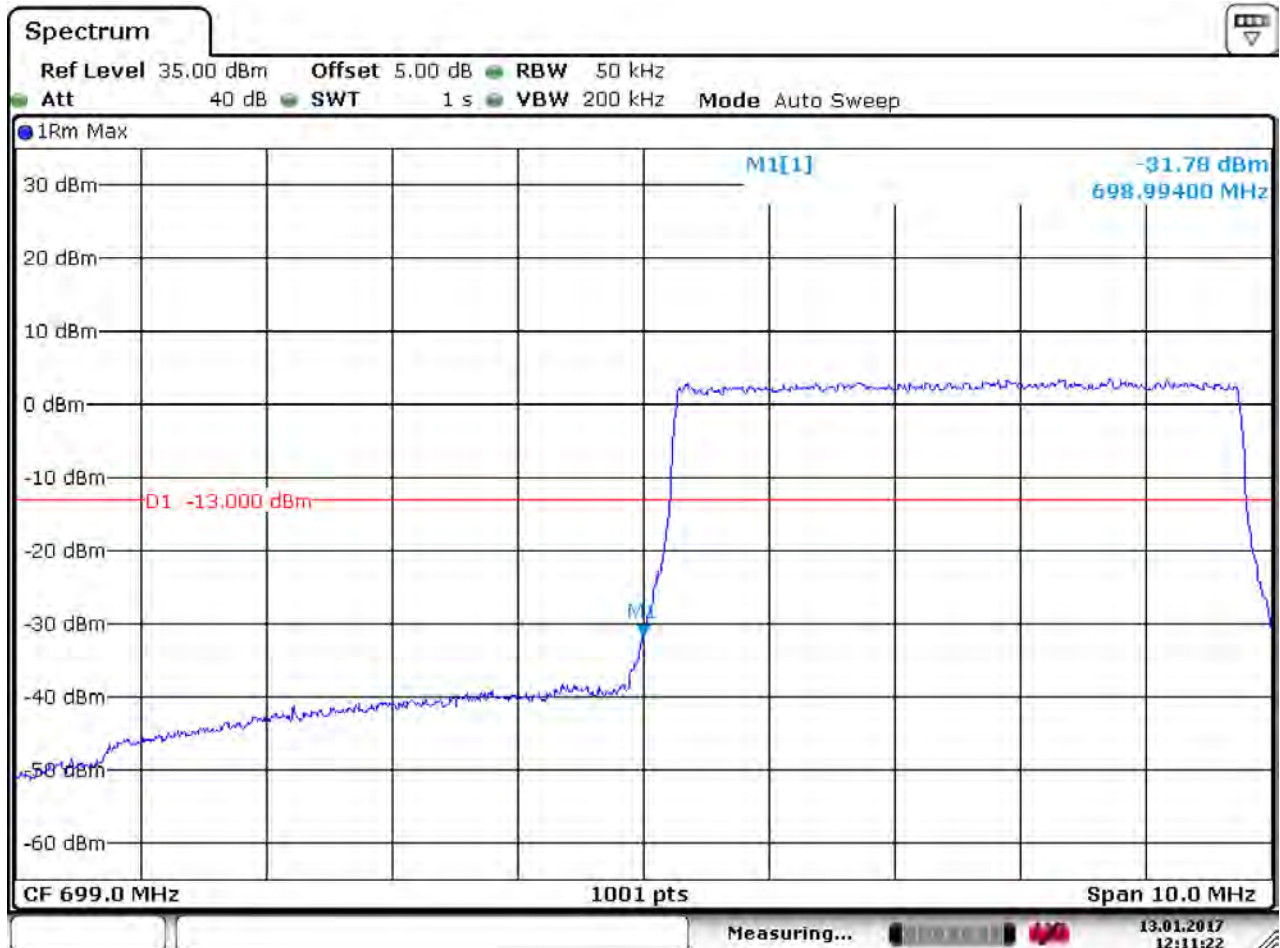
5.1.1.8.1.1 Test RB=1RB



Date: 13.JAN.2017 12:14:11



5.1.1.8.1.2 Test RB=25RB

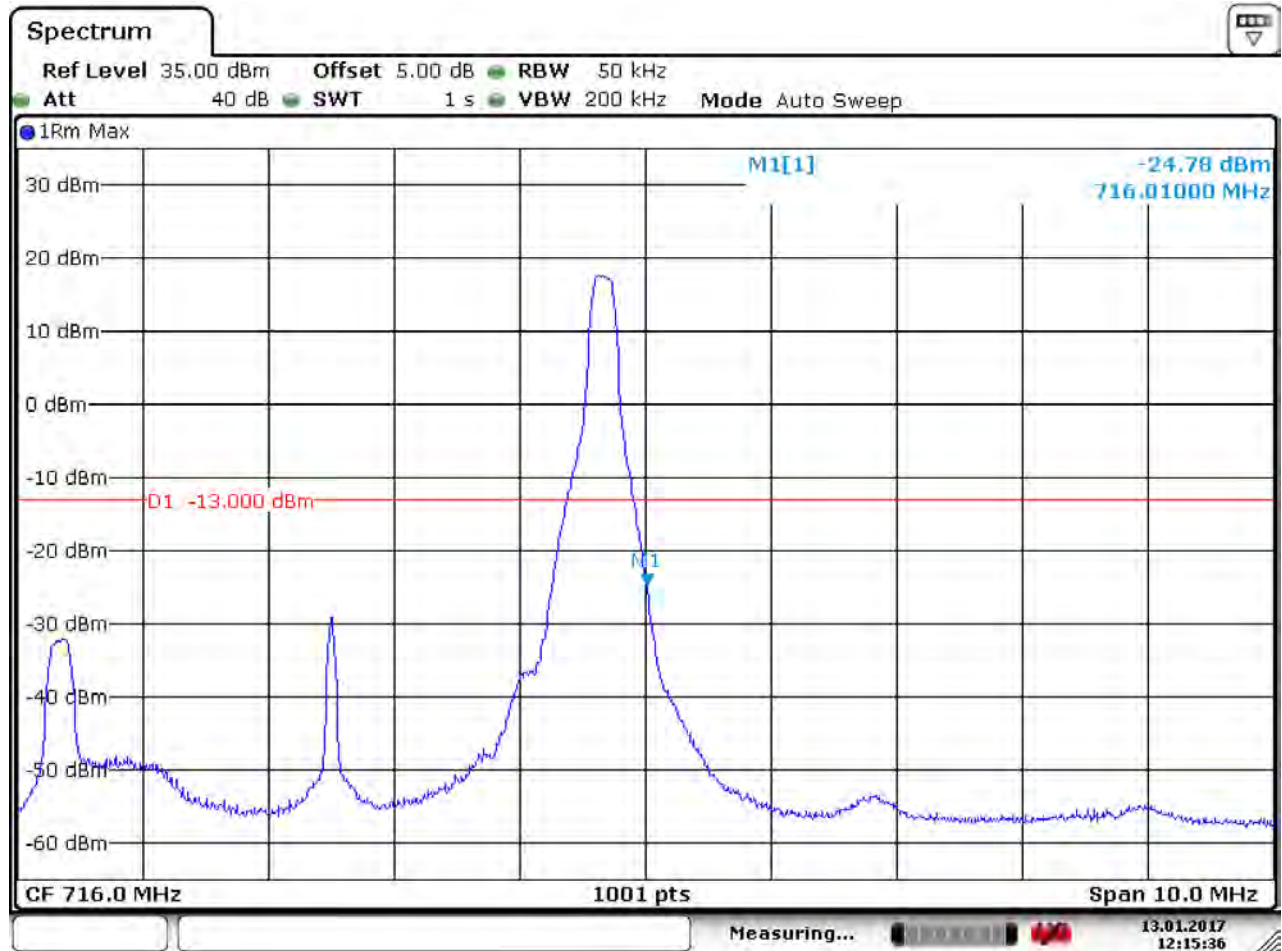


Date: 13.JAN.2017 12:11:22



5.1.1.8.2 Test Channel = HCH

5.1.1.8.2.1 Test RB=1RB



Date: 13.JAN.2017 12:15:36



5.1.1.8.2.2 Test RB=25RB



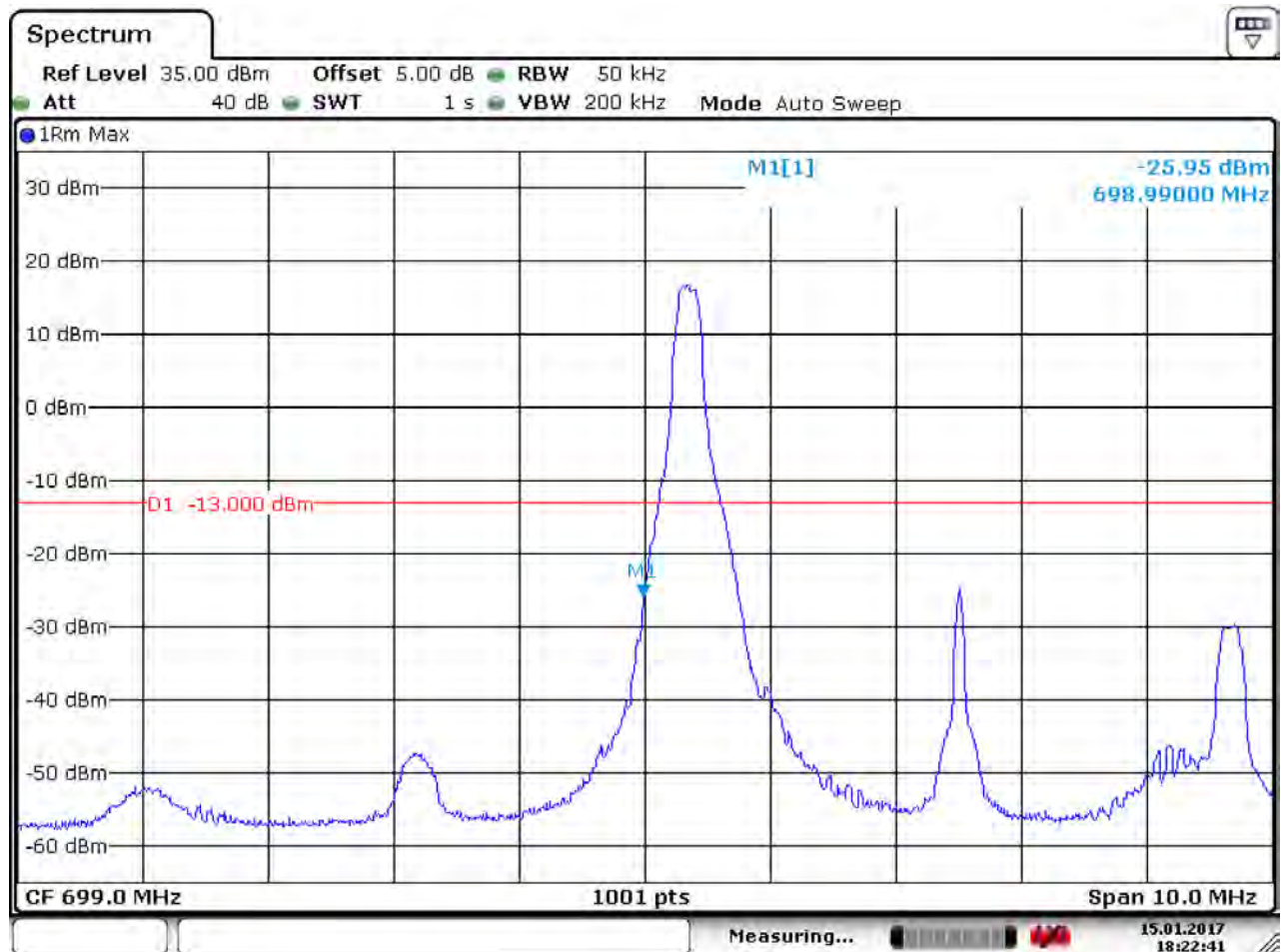
Date: 13.JAN.2017 12:17:17



5.1.1.9 Test Mode = LTE/TM3 5MHz

5.1.1.9.1 Test Channel = LCH

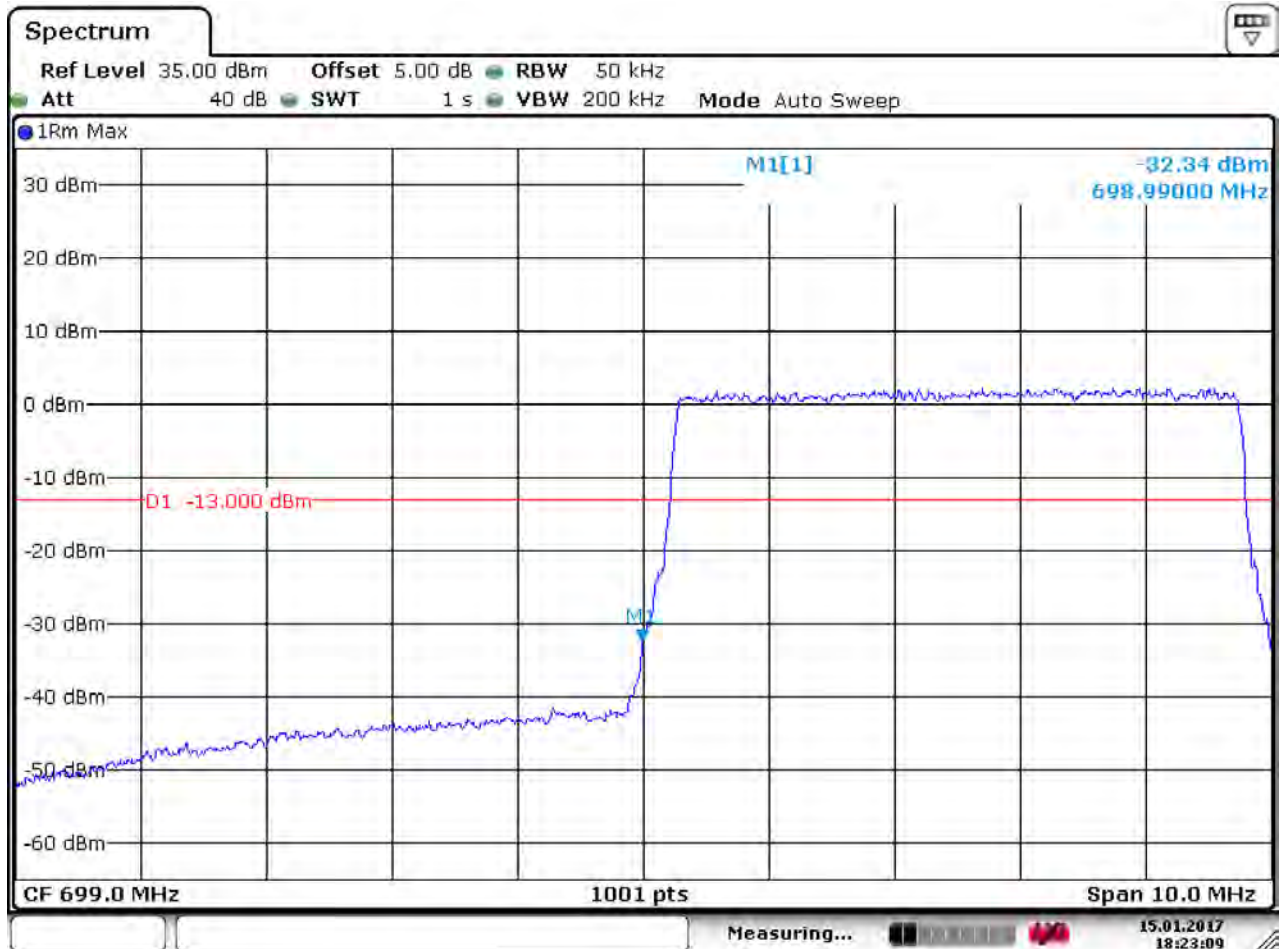
5.1.1.9.1.1 Test RB=1RB



Date: 15.JAN.2017 18:22:41



5.1.1.9.1.2 Test RB=25RB

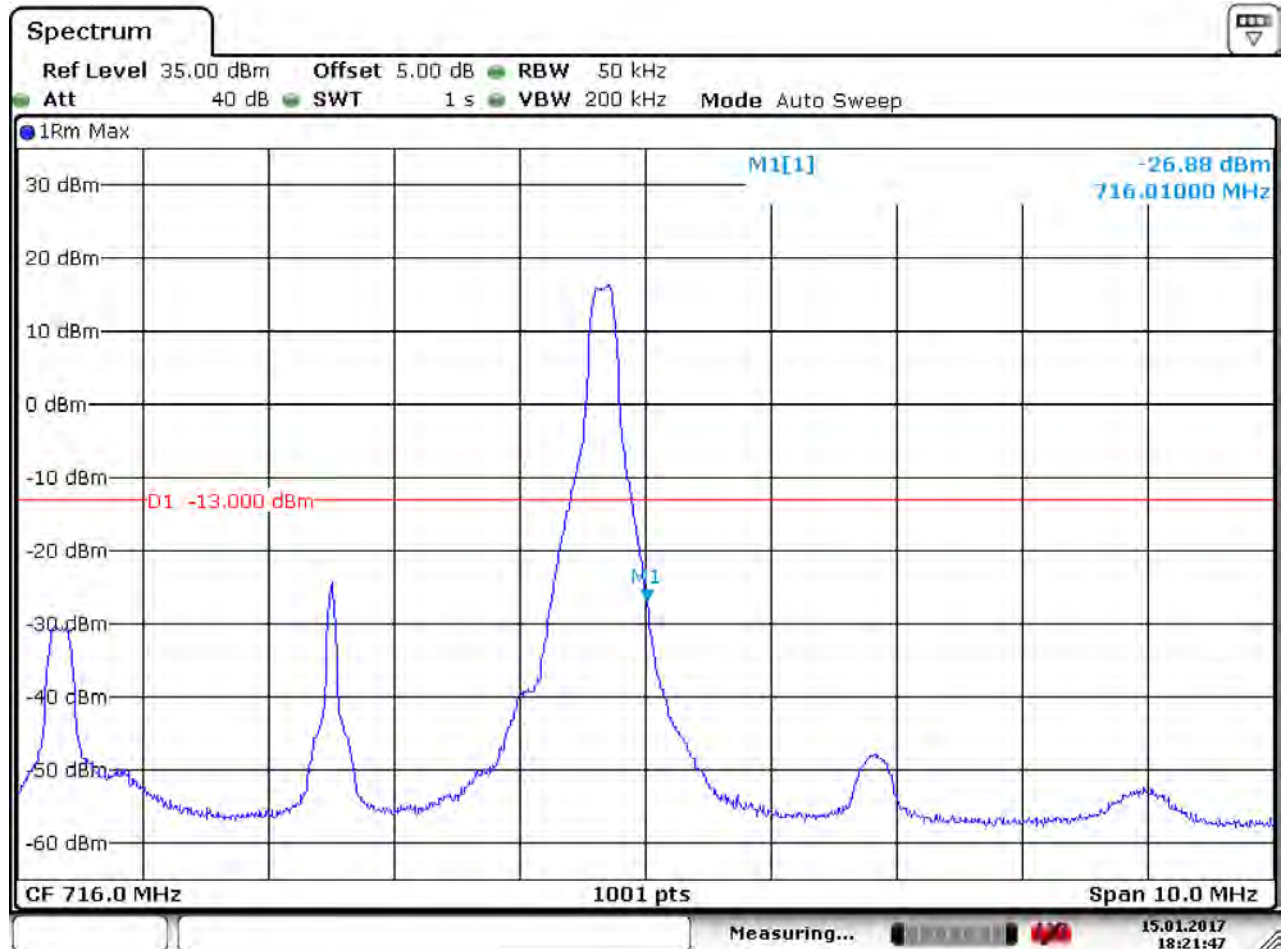


Date: 15.JAN.2017 18:23:09



5.1.1.9.2 Test Channel = HCH

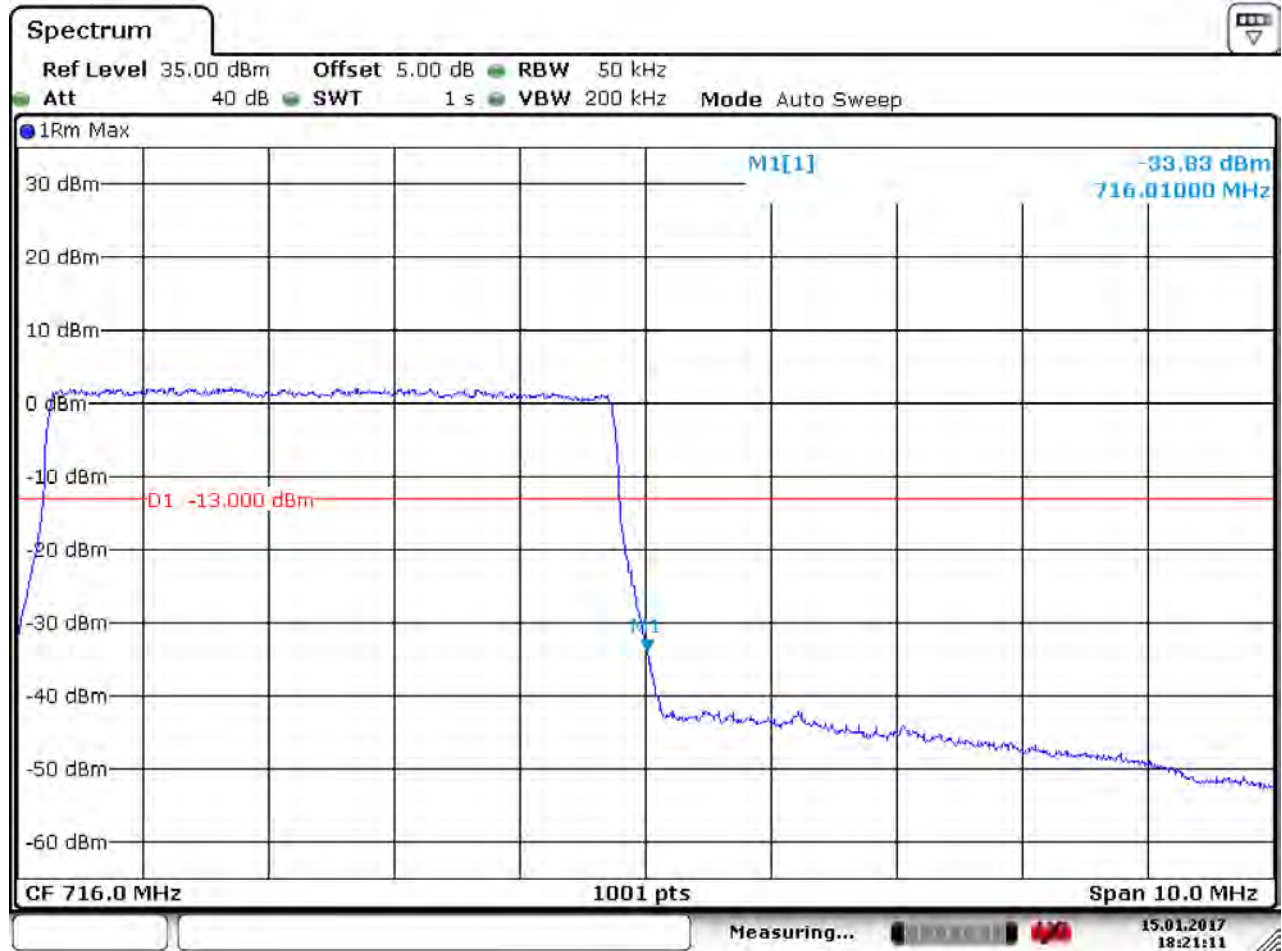
5.1.1.9.2.1 Test RB=1RB



Date: 15.JAN.2017 18:21:47



5.1.1.9.2.2 Test RB=25RB



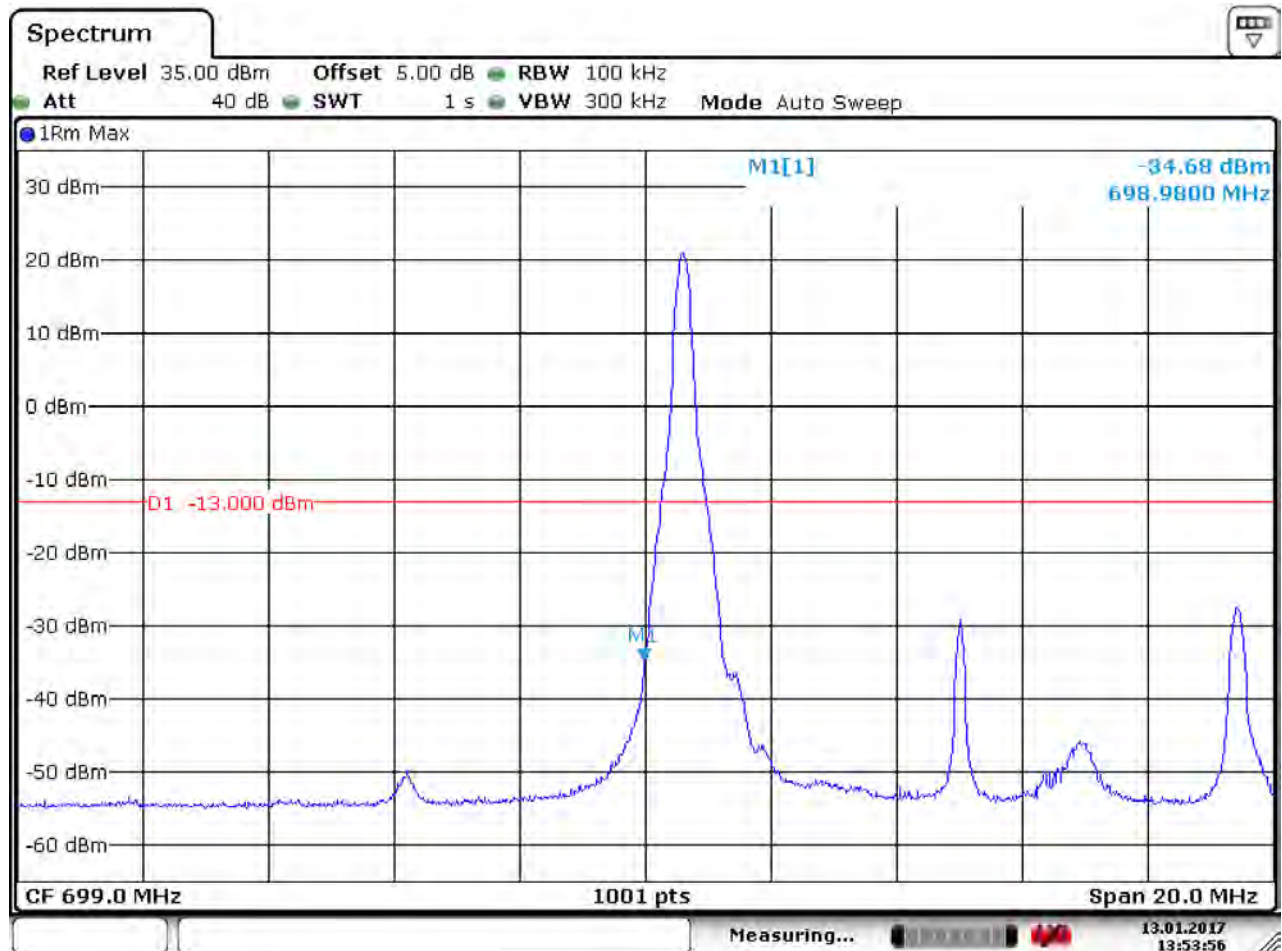
Date: 15 JAN 2017 18:21:12



5.1.1.10 Test Mode = LTE/TM1 10MHz

5.1.1.10.1 Test Channel = LCH

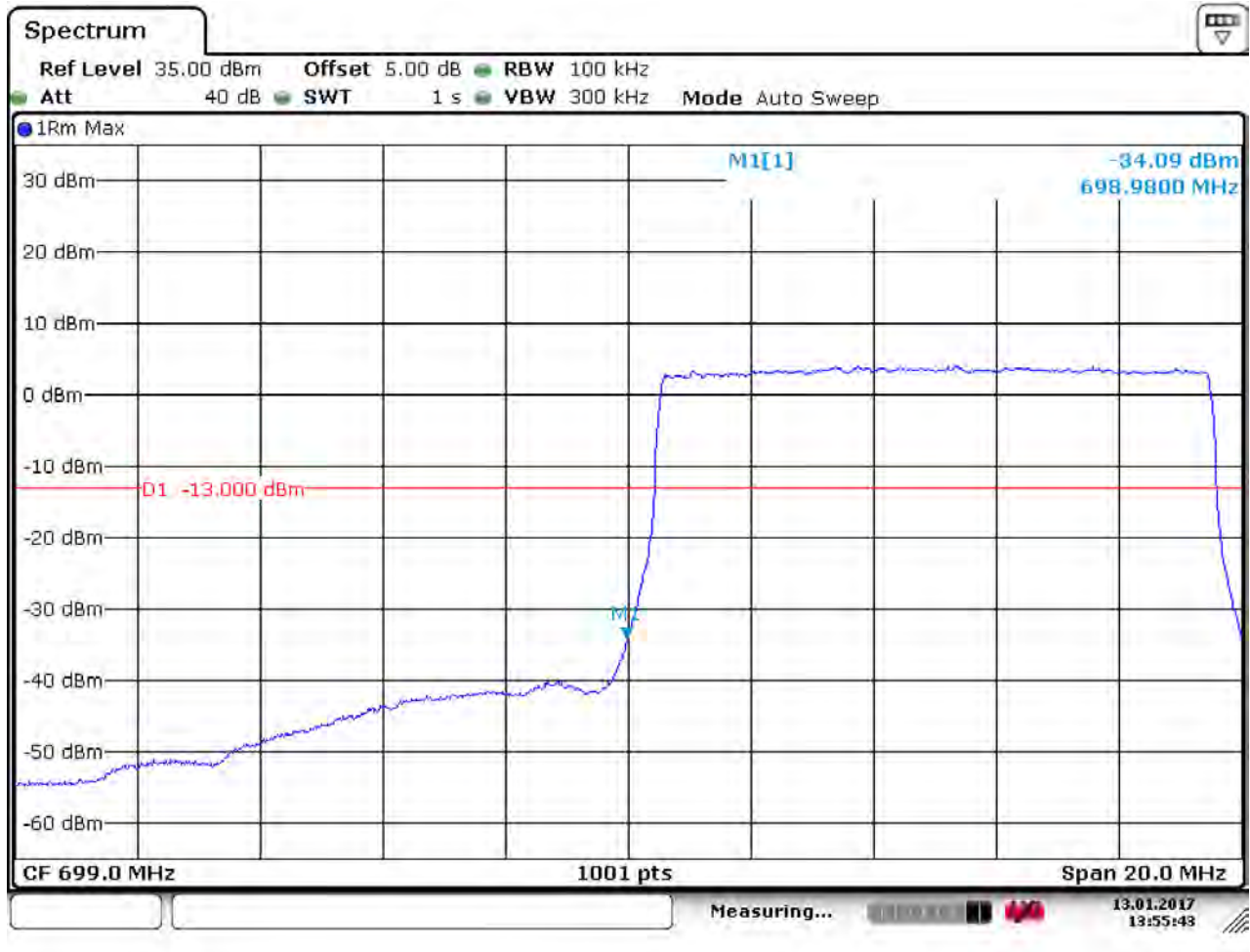
5.1.1.10.1.1 Test RB=1RB



Date: 13.JAN.2017 13:53:57



5.1.1.10.1.2 Test RB=50RB

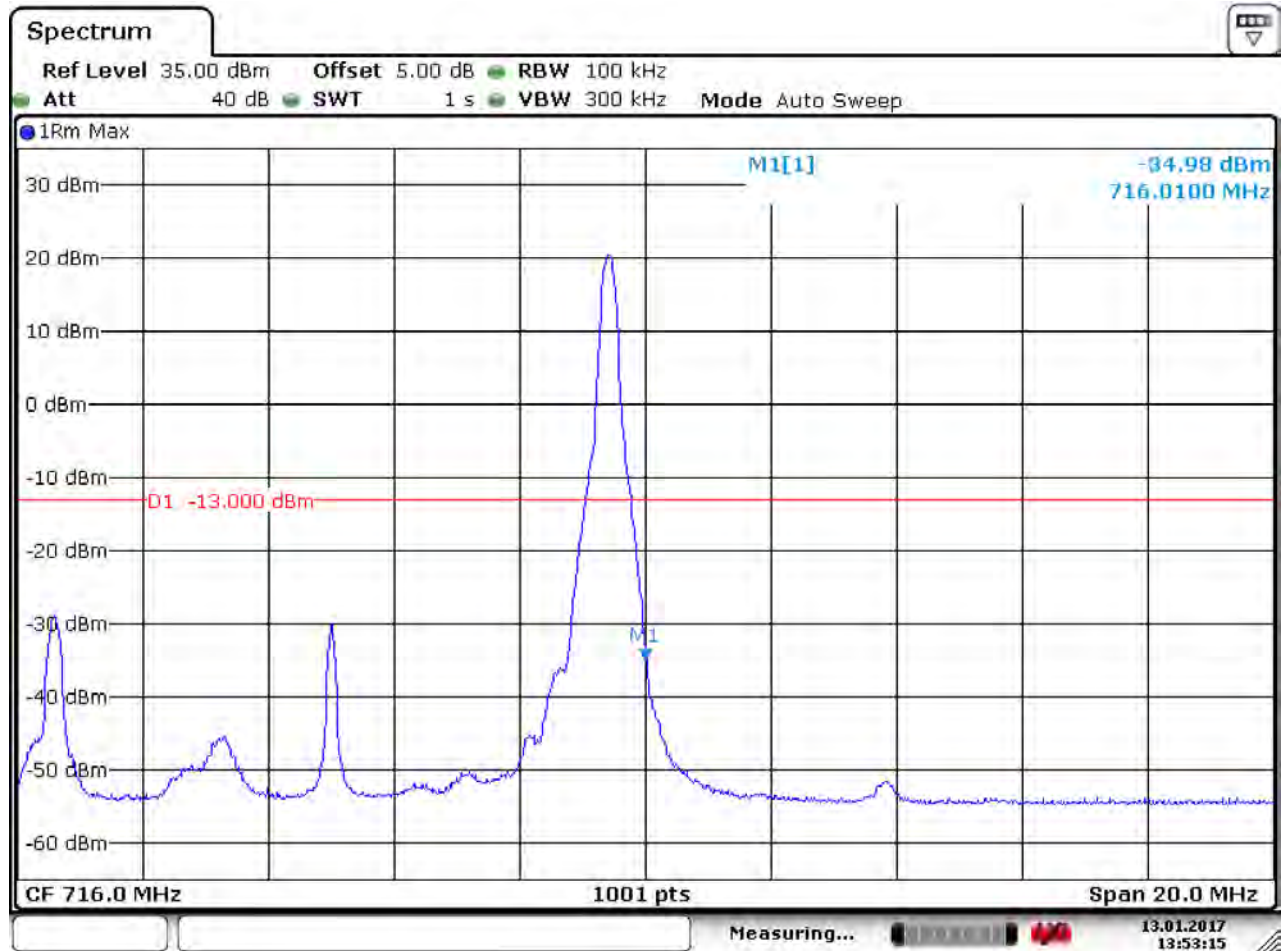


Date: 13.JAN.2017 13:55:43



5.1.1.10.2 Test Channel = HCH

5.1.1.10.2.1 Test RB=1RB



Date: 13 JAN 2017 13:53:15



5.1.1.10.2.2 Test RB=50RB



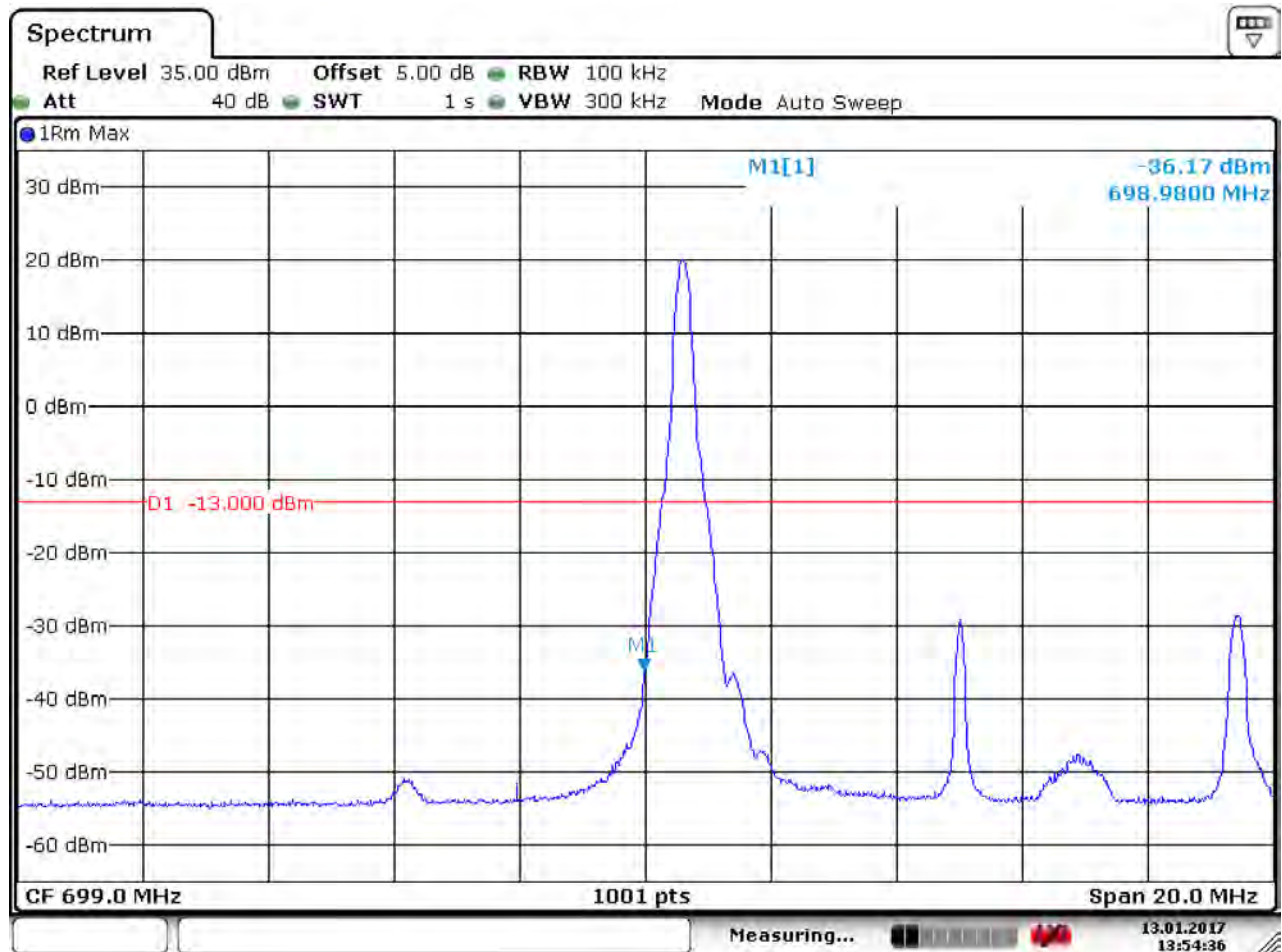
Date: 13.JAN.2017 12:18:10



5.1.1.11 Test Mode = LTE/TM2 10MHz

5.1.1.11.1 Test Channel = LCH

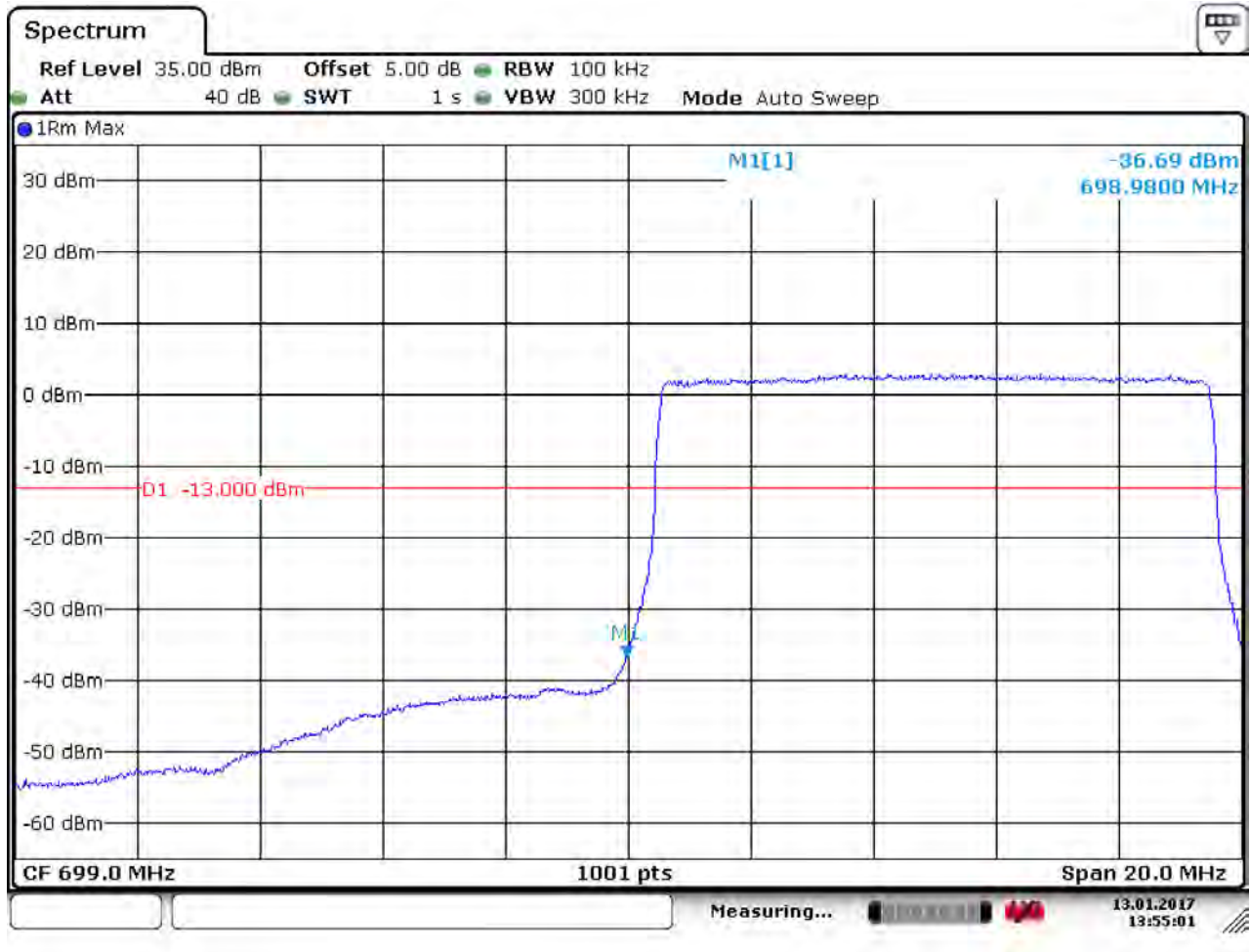
5.1.1.11.1.1 Test RB=1RB



Date: 13.JAN.2017 13:54:36



5.1.1.11.1.2 Test RB=50RB

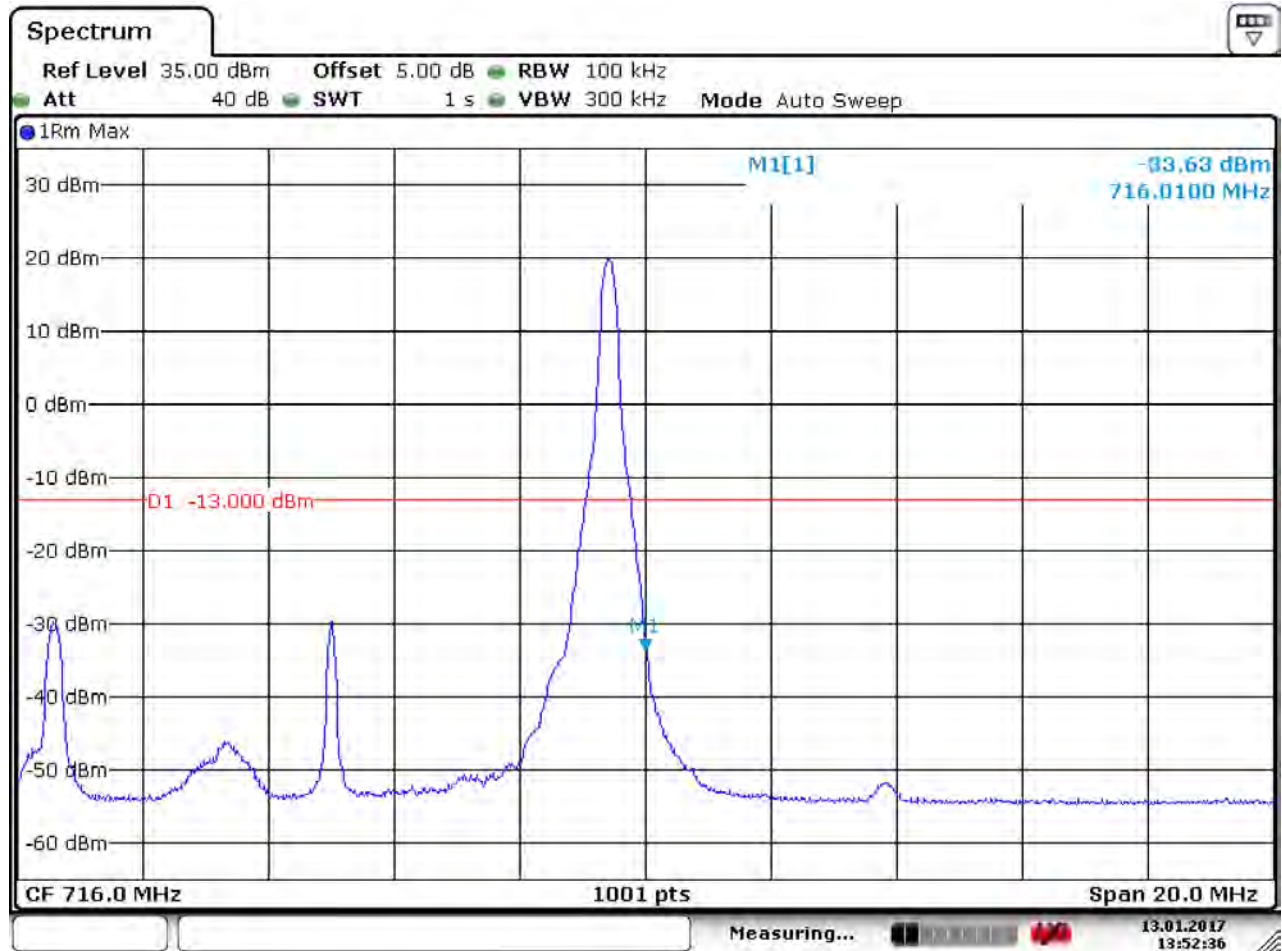


Date: 13.JAN.2017 13:55:02



5.1.1.11.2 Test Channel = HCH

5.1.1.11.2.1 Test RB=1RB



Date: 13 JAN 2017 13:52:36



5.1.1.11.2.2 Test RB=50RB



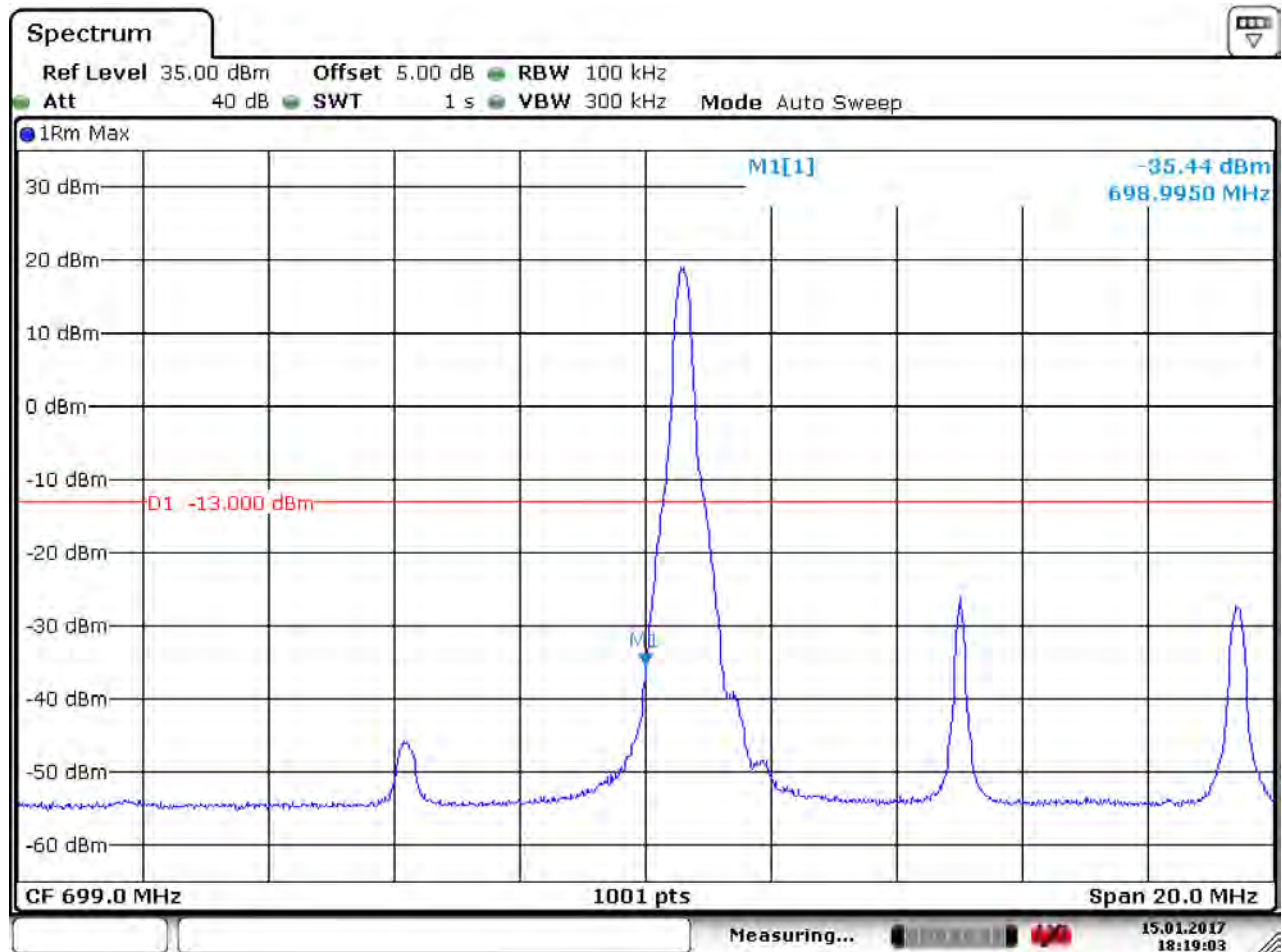
Date: 13.JAN.2017 12:20:27



5.1.1.12 Test Mode = LTE/TM3 10MHz

5.1.1.12.1 Test Channel = LCH

5.1.1.12.1.1 Test RB=1RB



Date: 15.JAN.2017 18:19:03



5.1.1.12.1.2 Test RB=50RB

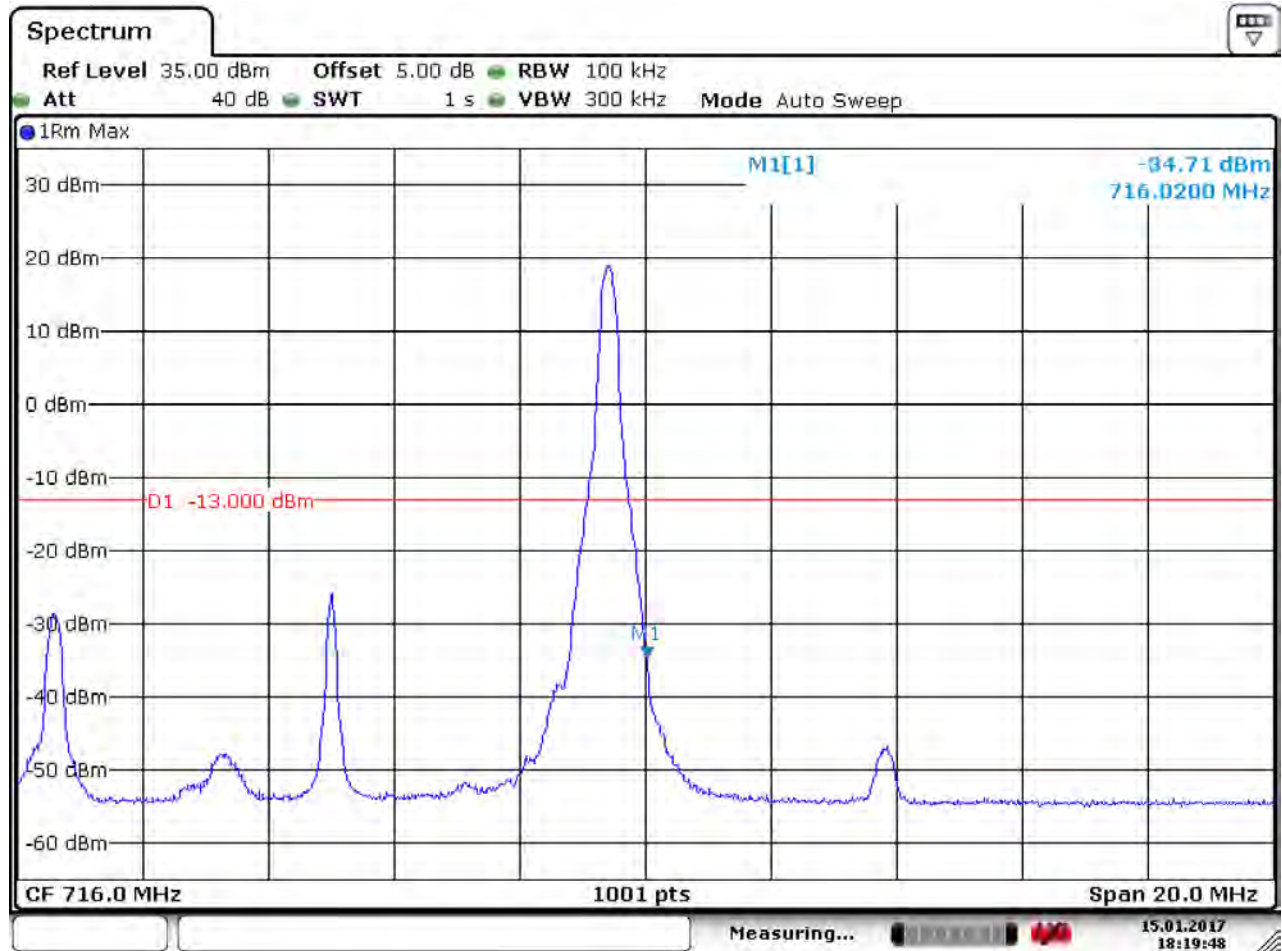


Date: 15.JAN.2017 18:18:16



5.1.1.12.2 Test Channel = HCH

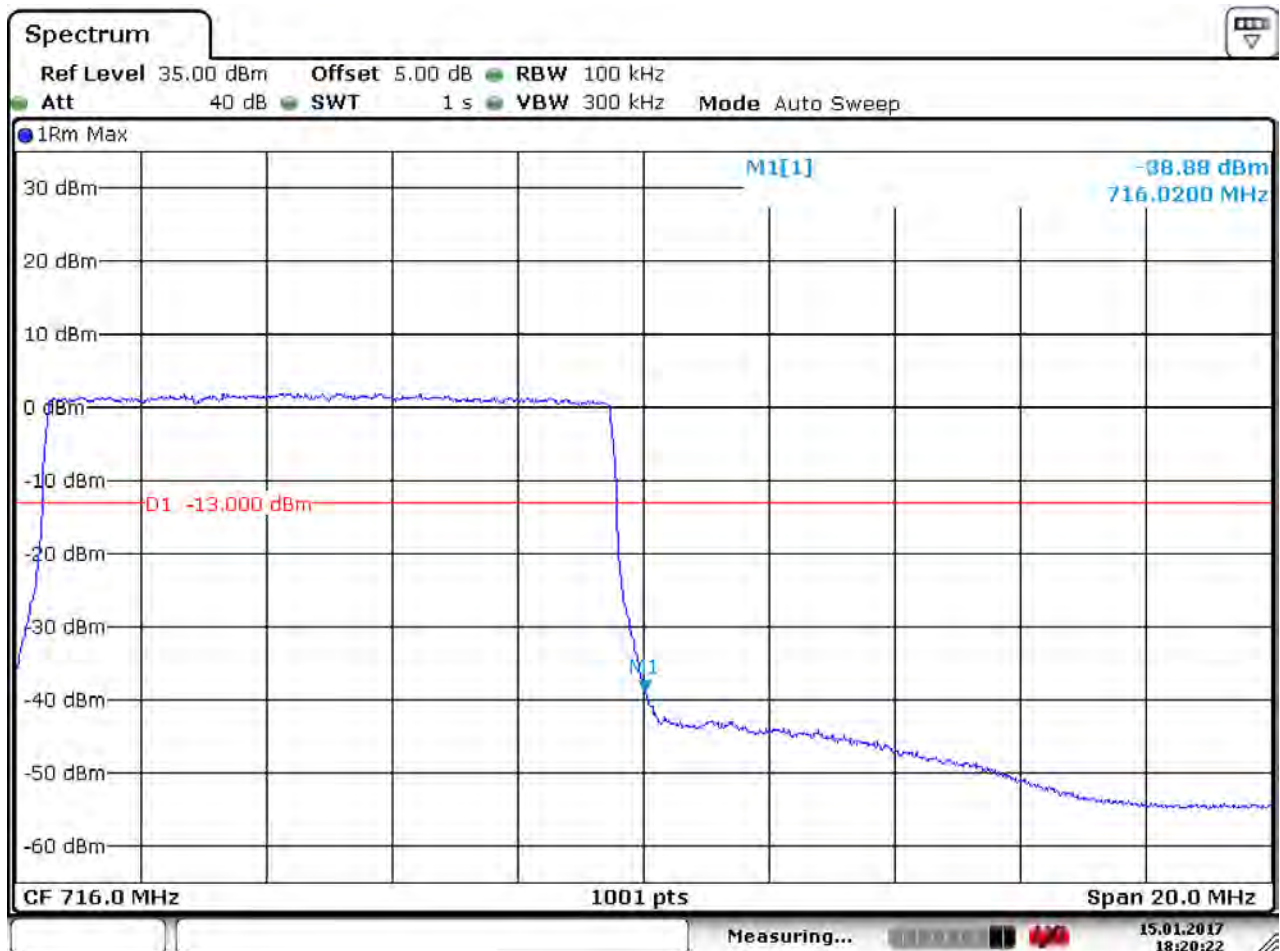
5.1.1.12.2.1 Test RB=1RB



Date: 15 JAN 2017 18:19:49



5.1.1.12.2.2 Test RB=50RB



Date: 15 JAN 2017 18:20:22

6 Spurious Emission at Antenna Terminal

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

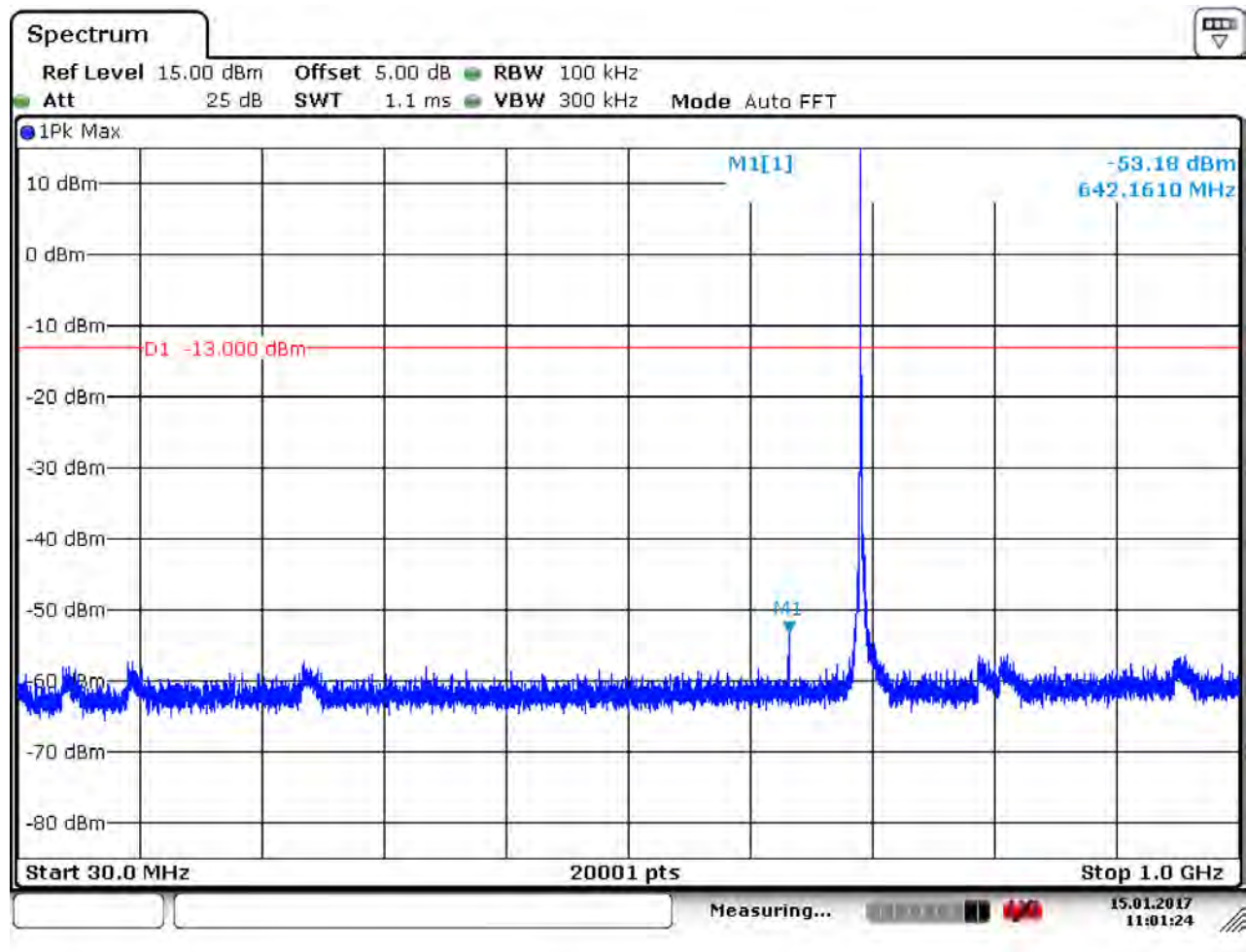
Part I - Test Plots

6.1 For LTE

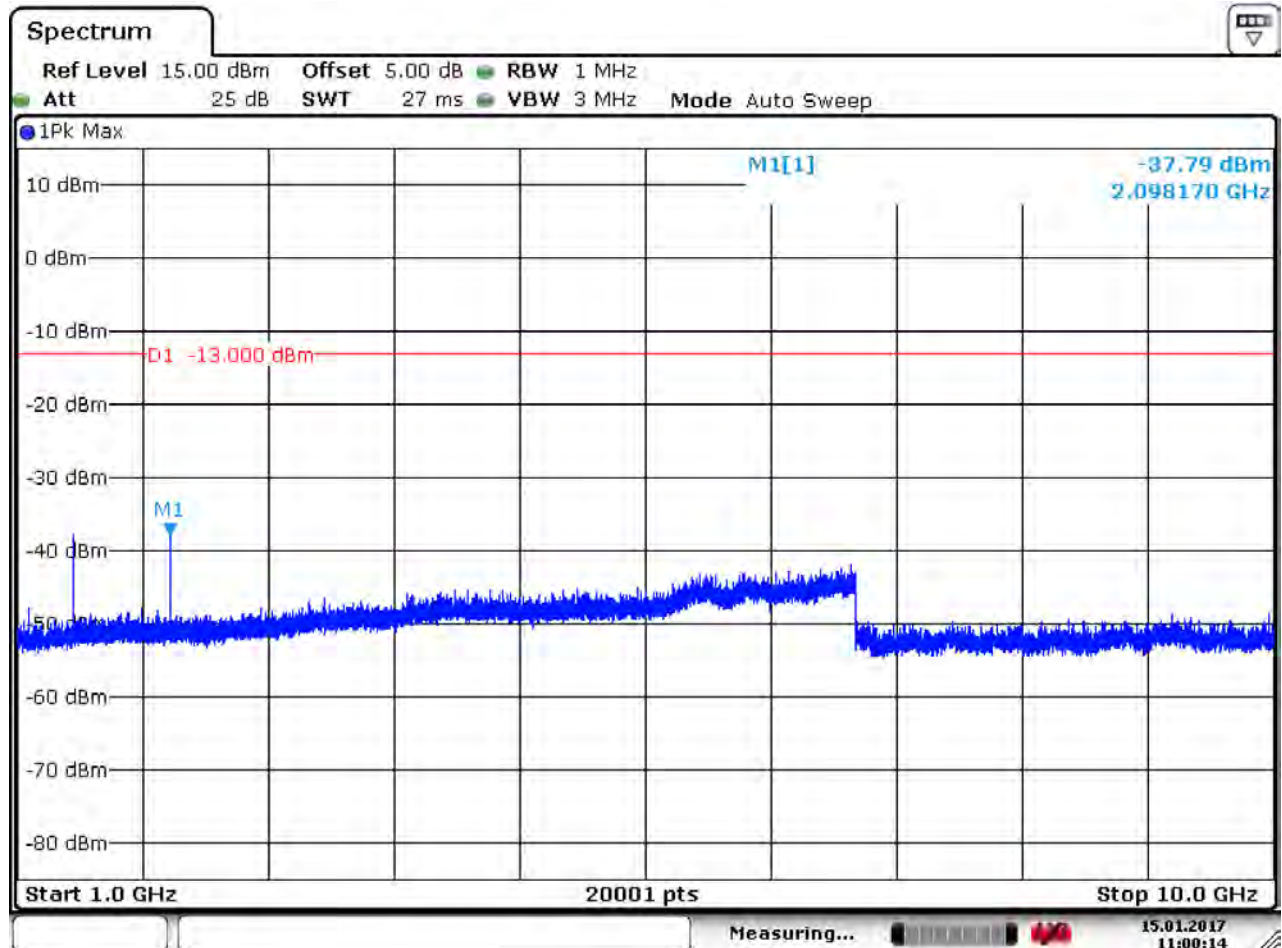
6.1.1 Test Band = LTE band 12

6.1.1.1 Test Mode = LTE / TM1 1.4MHz RB1#0

6.1.1.1.1 Test Channel = LCH



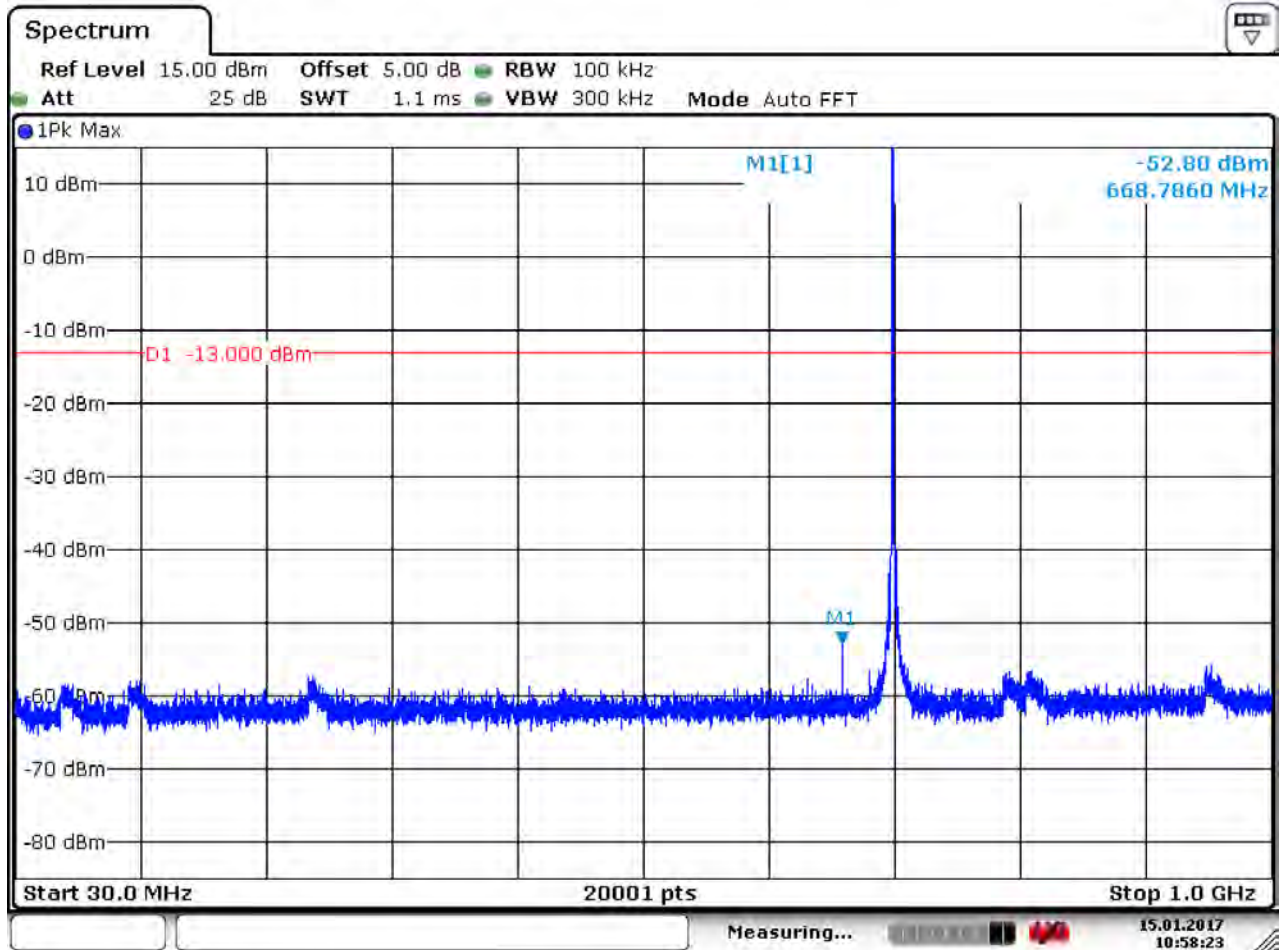
Date: 15.JAN.2017 11:01:24



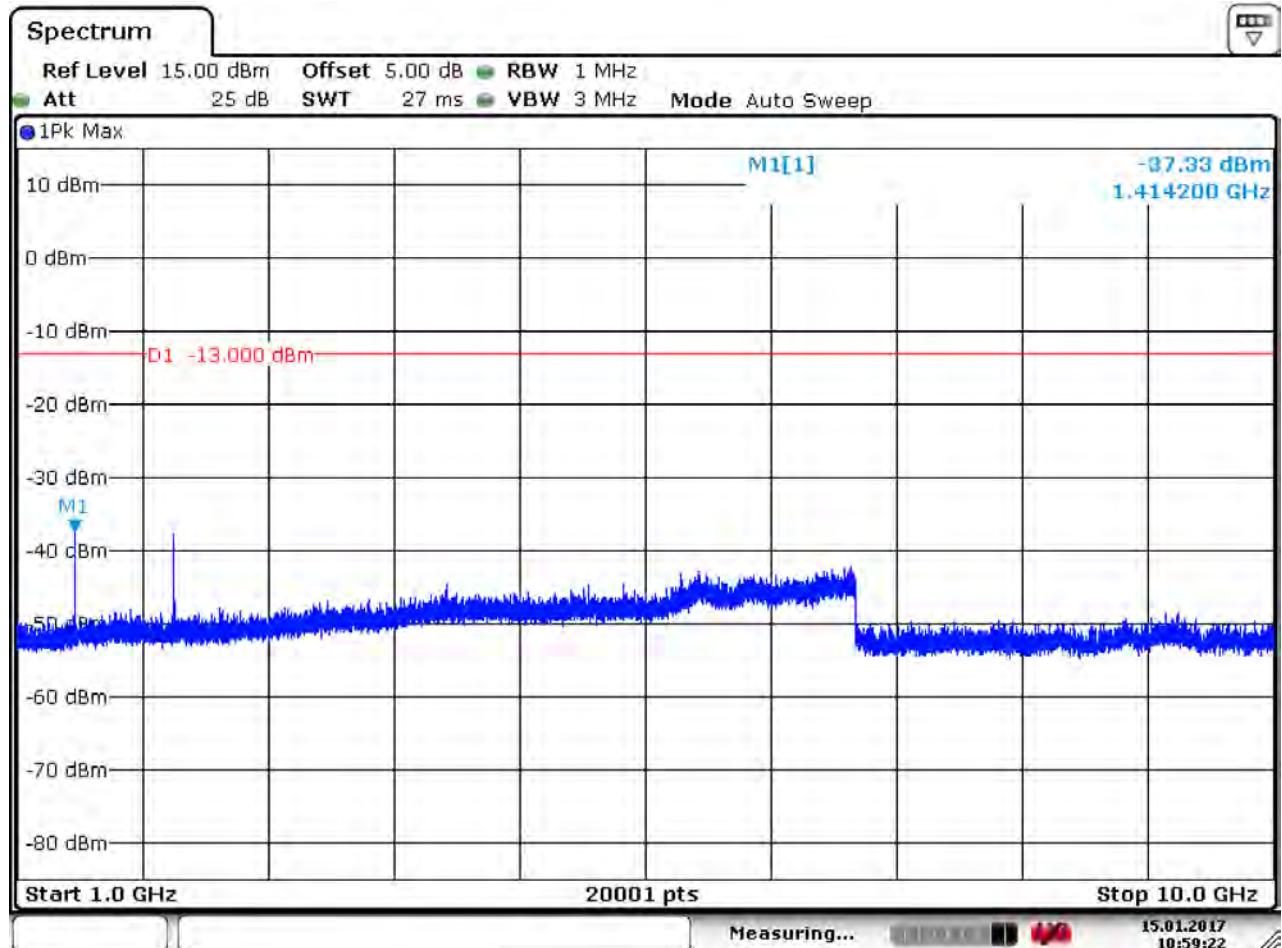
Date: 15.JAN.2017 11:00:14



6.1.1.1.2 Test Channel = MCH



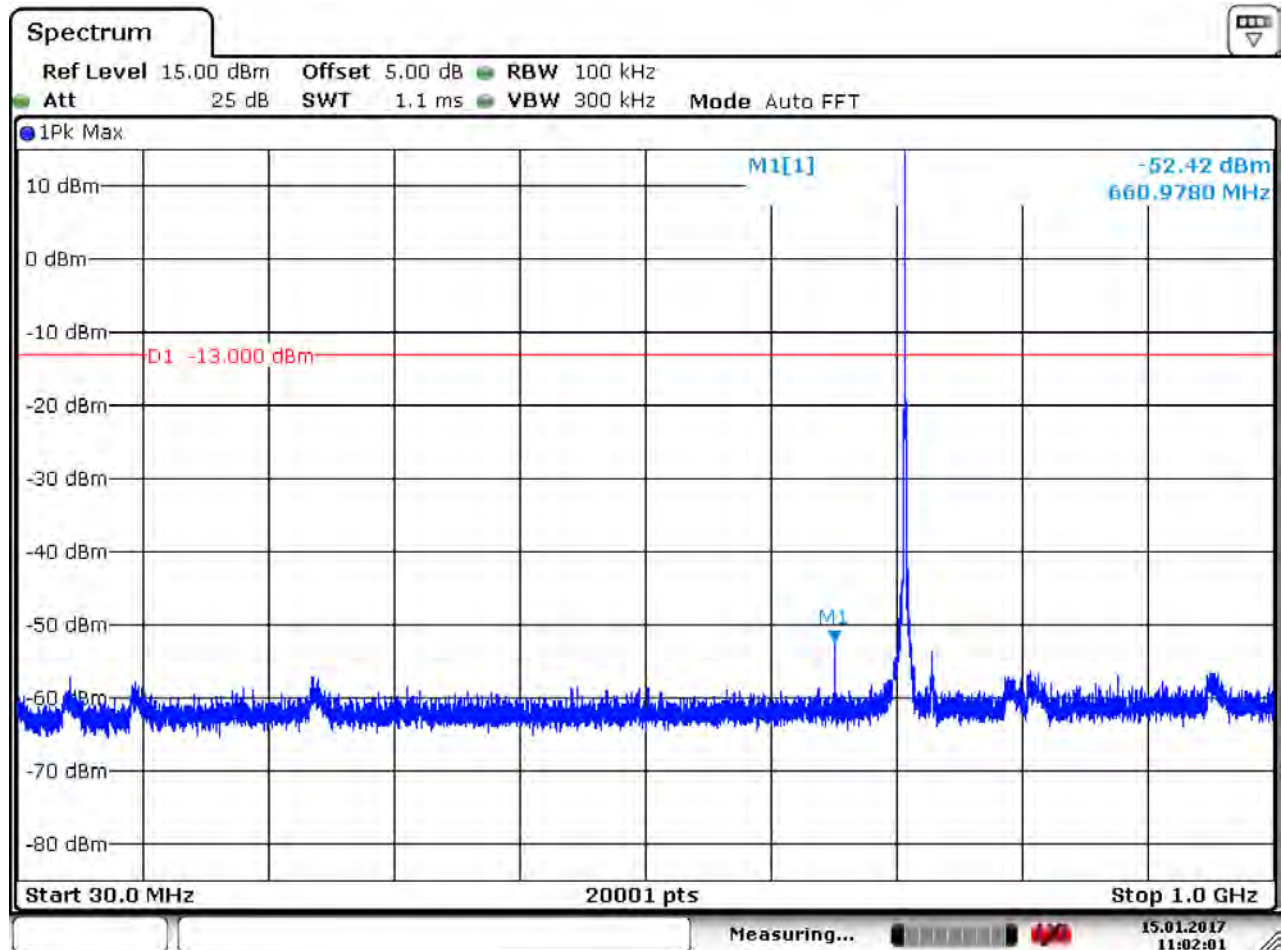
Date: 15.JAN.2017 10:58:23



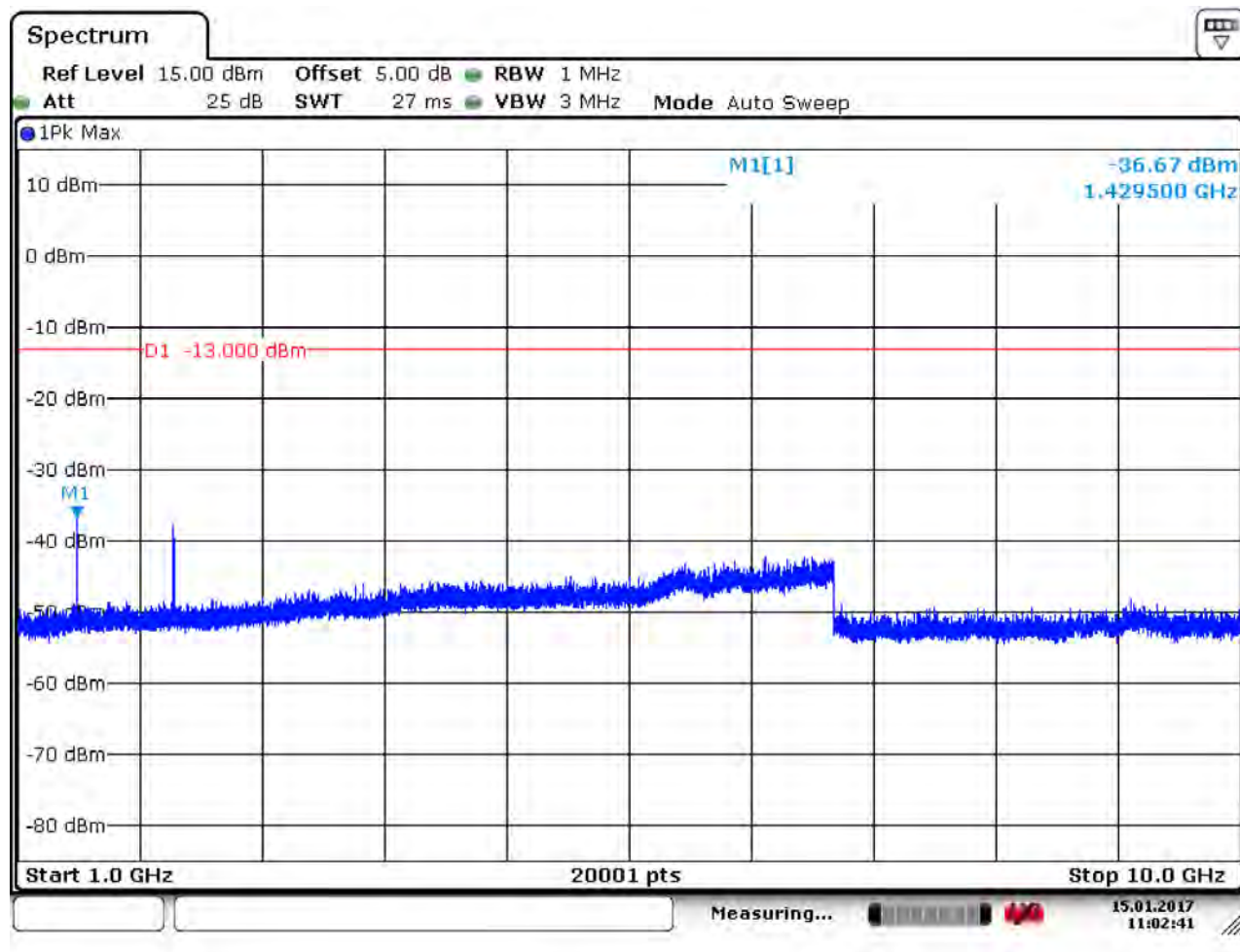
Date: 15.JAN.2017 10:59:23



6.1.1.1.3 Test Channel = HCH



Date: 15.JAN.2017 11:02:02

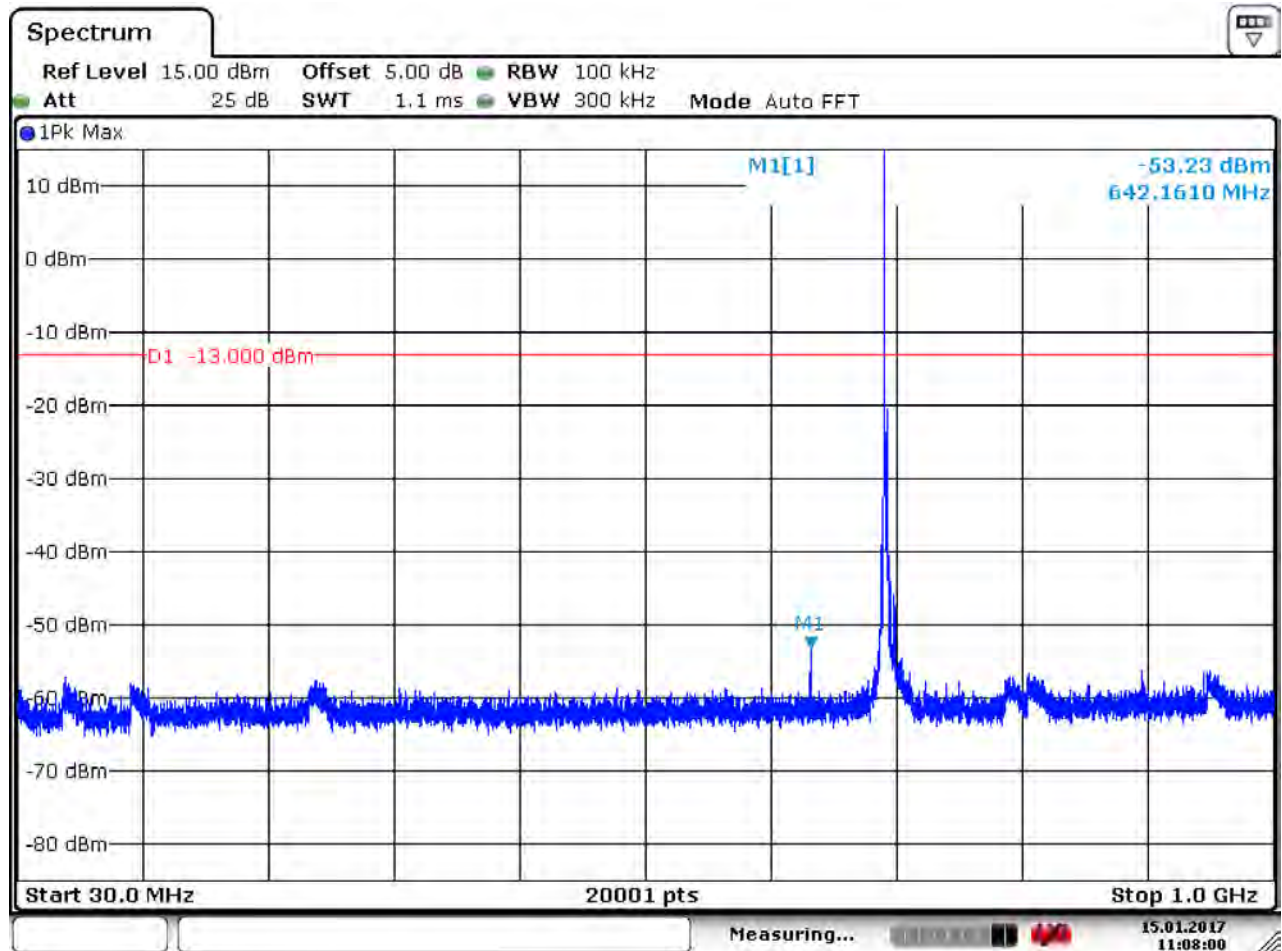


Date: 15.JAN.2017 11:02:42



6.1.1.2 Test Mode = LTE / TM1 3MHz RB1#0

6.1.1.2.1 Test Channel = LCH



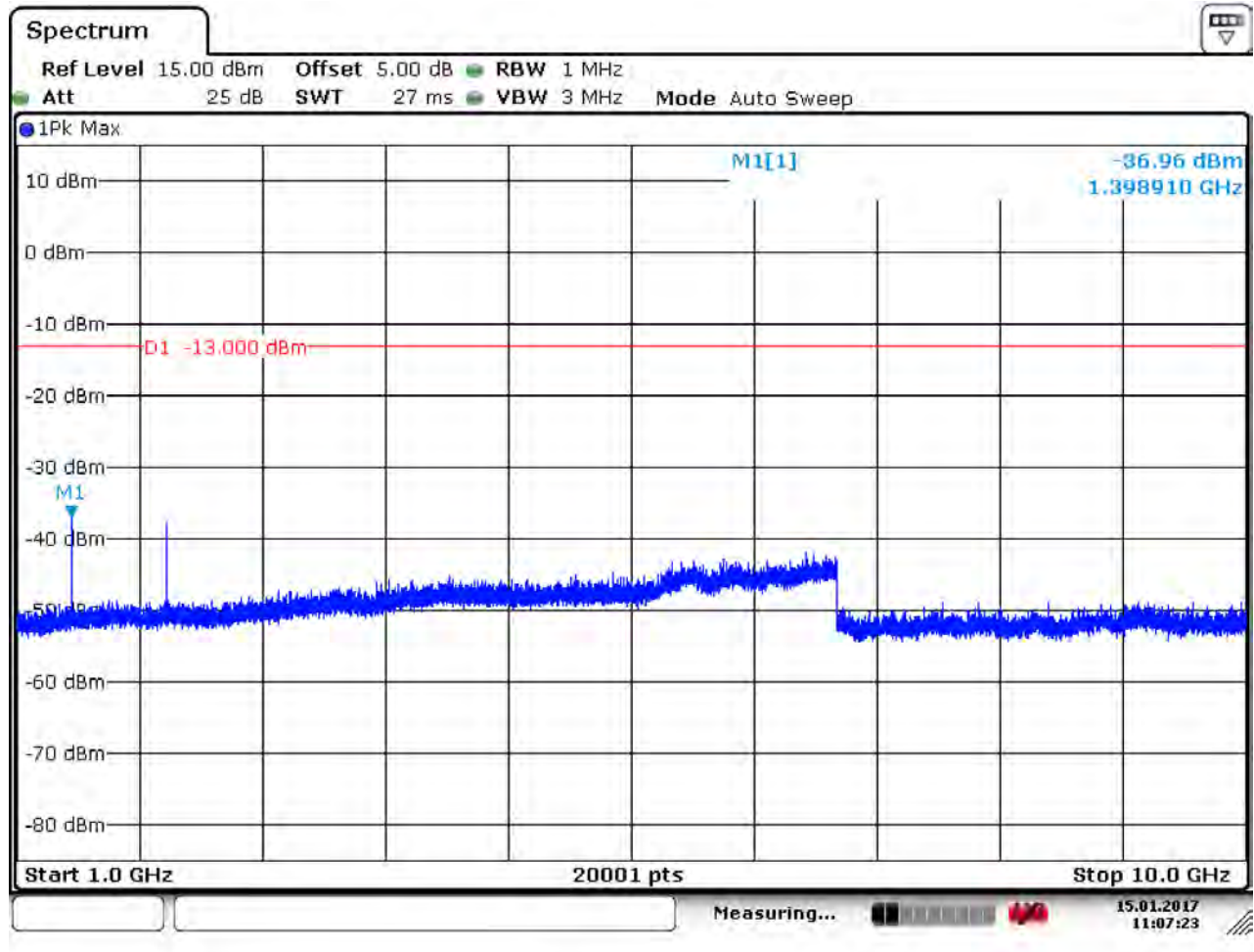
Date: 15.JAN.2017 11:08:01



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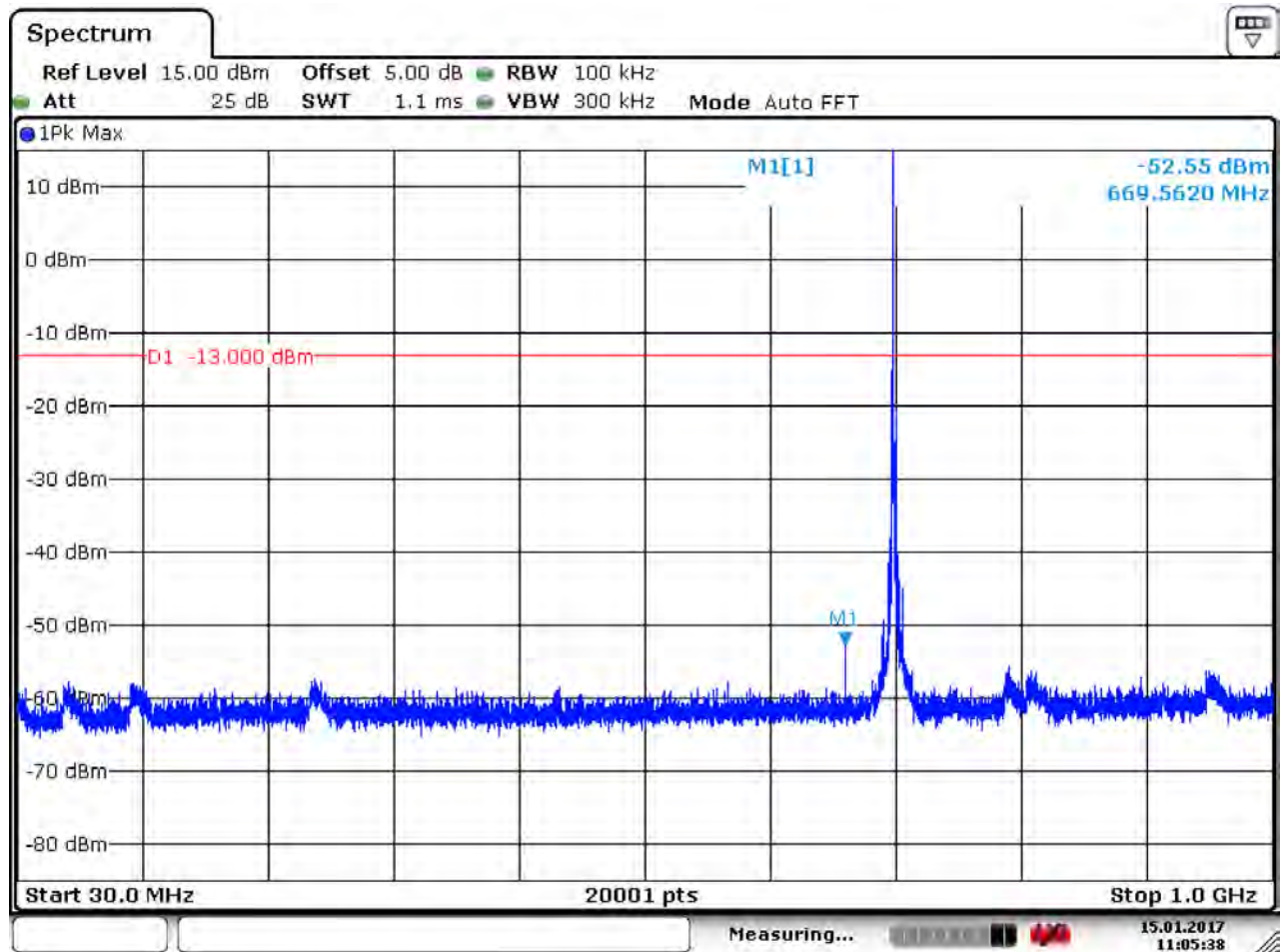


Date: 15.JAN.2017 11:07:23

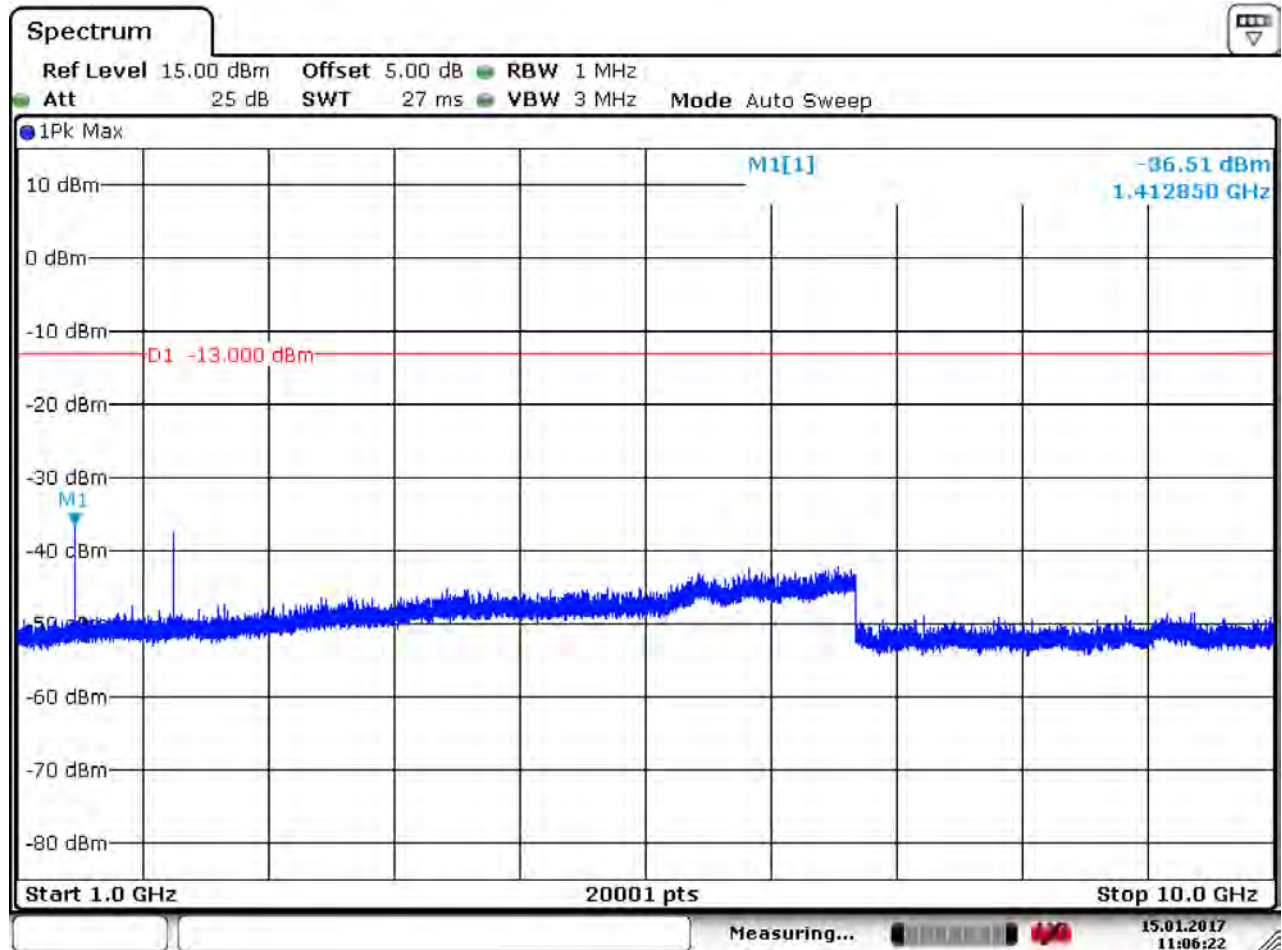
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6.1.1.2.2 Test Channel = MCH



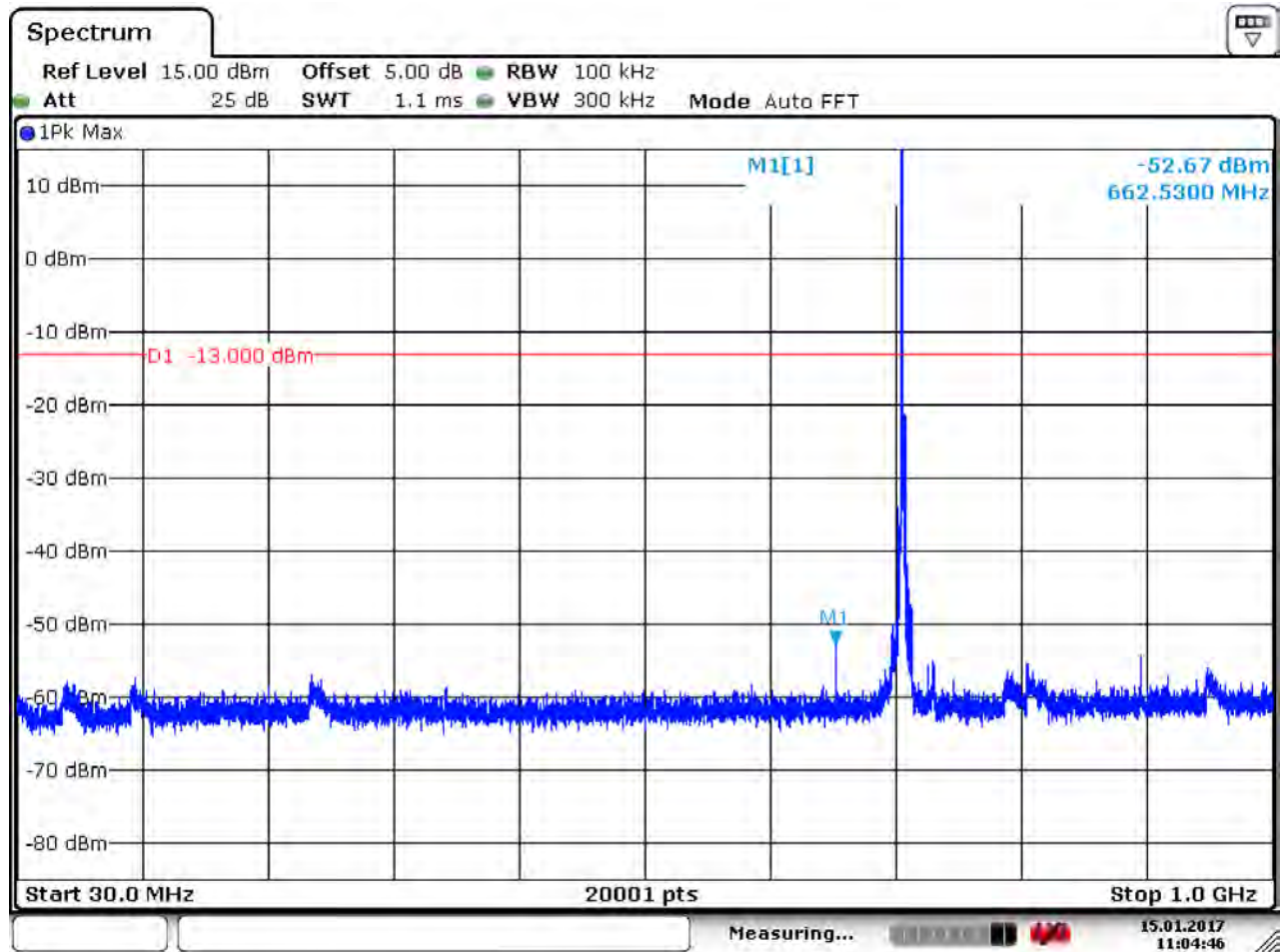
Date: 15.JAN.2017 11:05:39



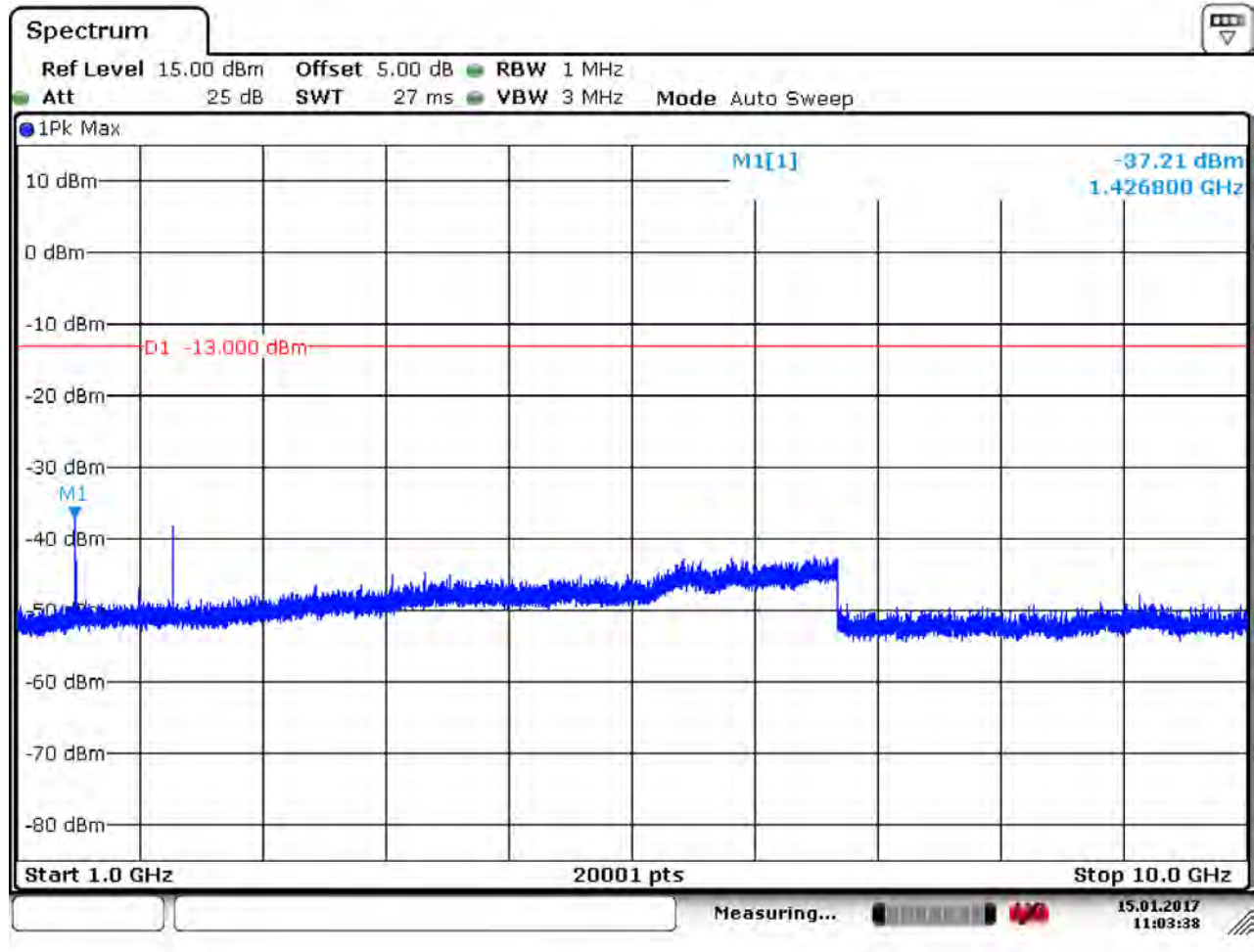
Date: 15.JAN.2017 11:06:22



6.1.1.2.3 Test Channel = HCH



Date: 15.JAN.2017 11:04:46

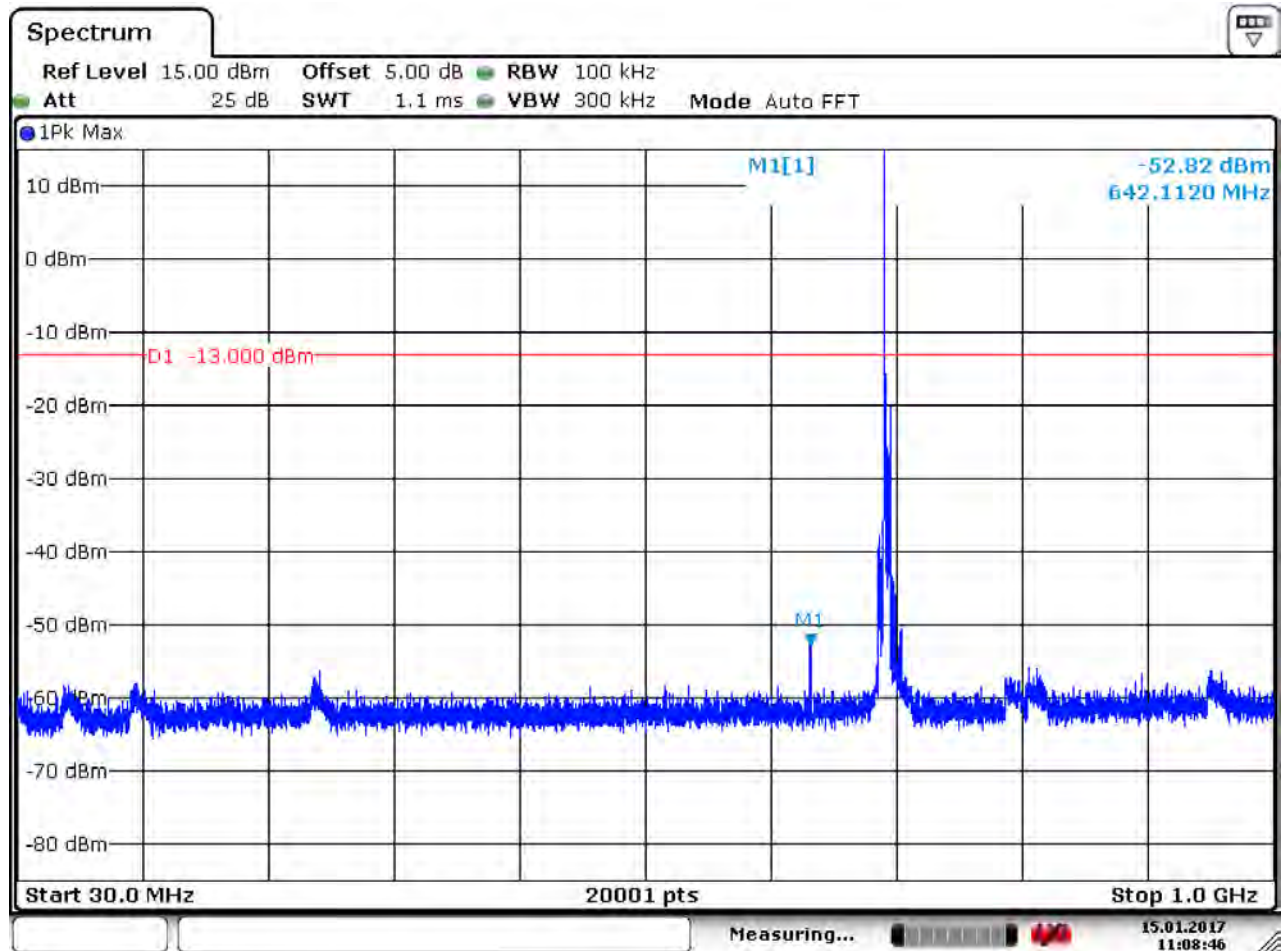


Date: 15.JAN.2017 11:03:38

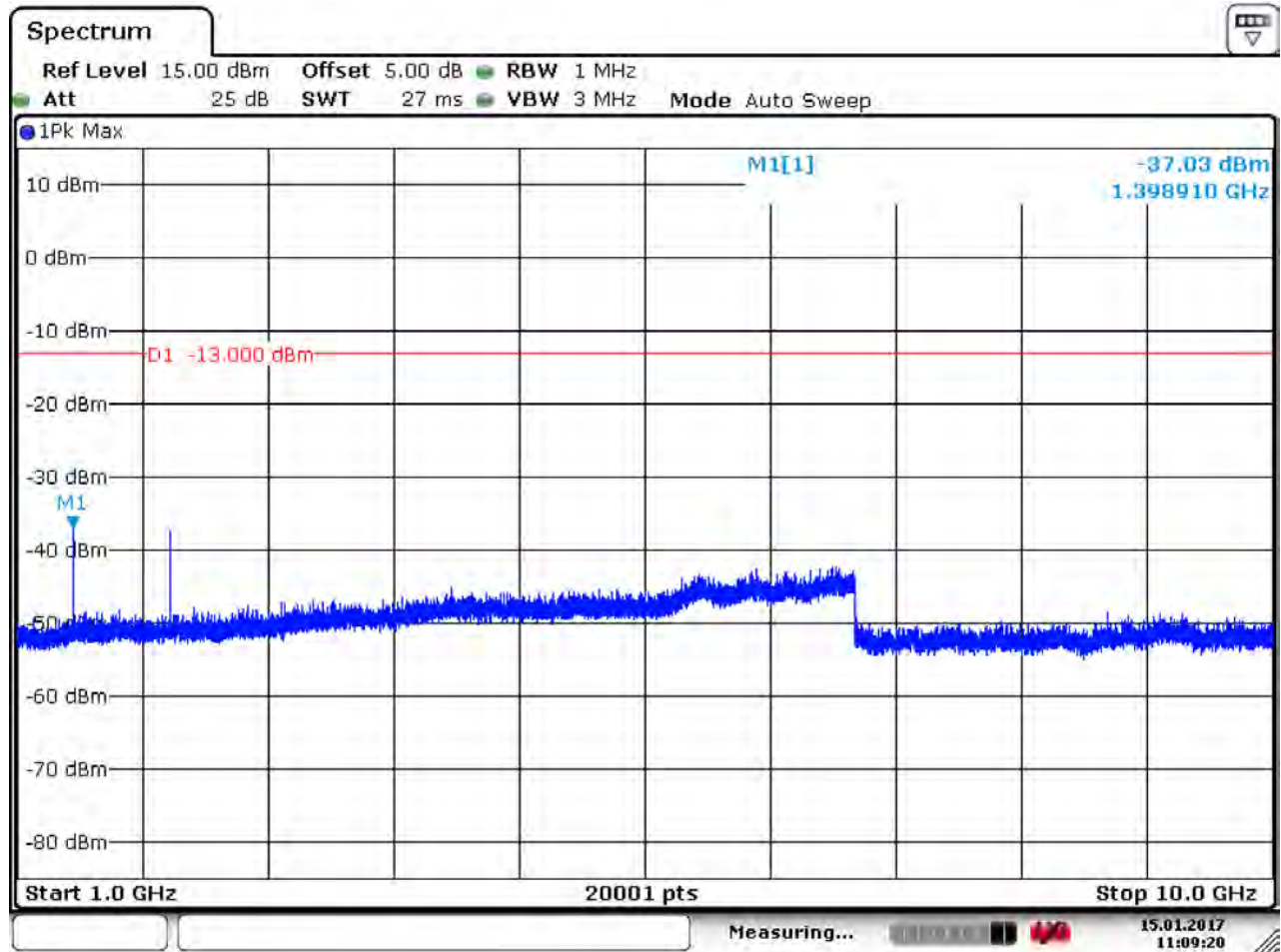


6.1.1.3 Test Mode = LTE / TM1 5MHz RB1#0

6.1.1.3.1 Test Channel = LCH



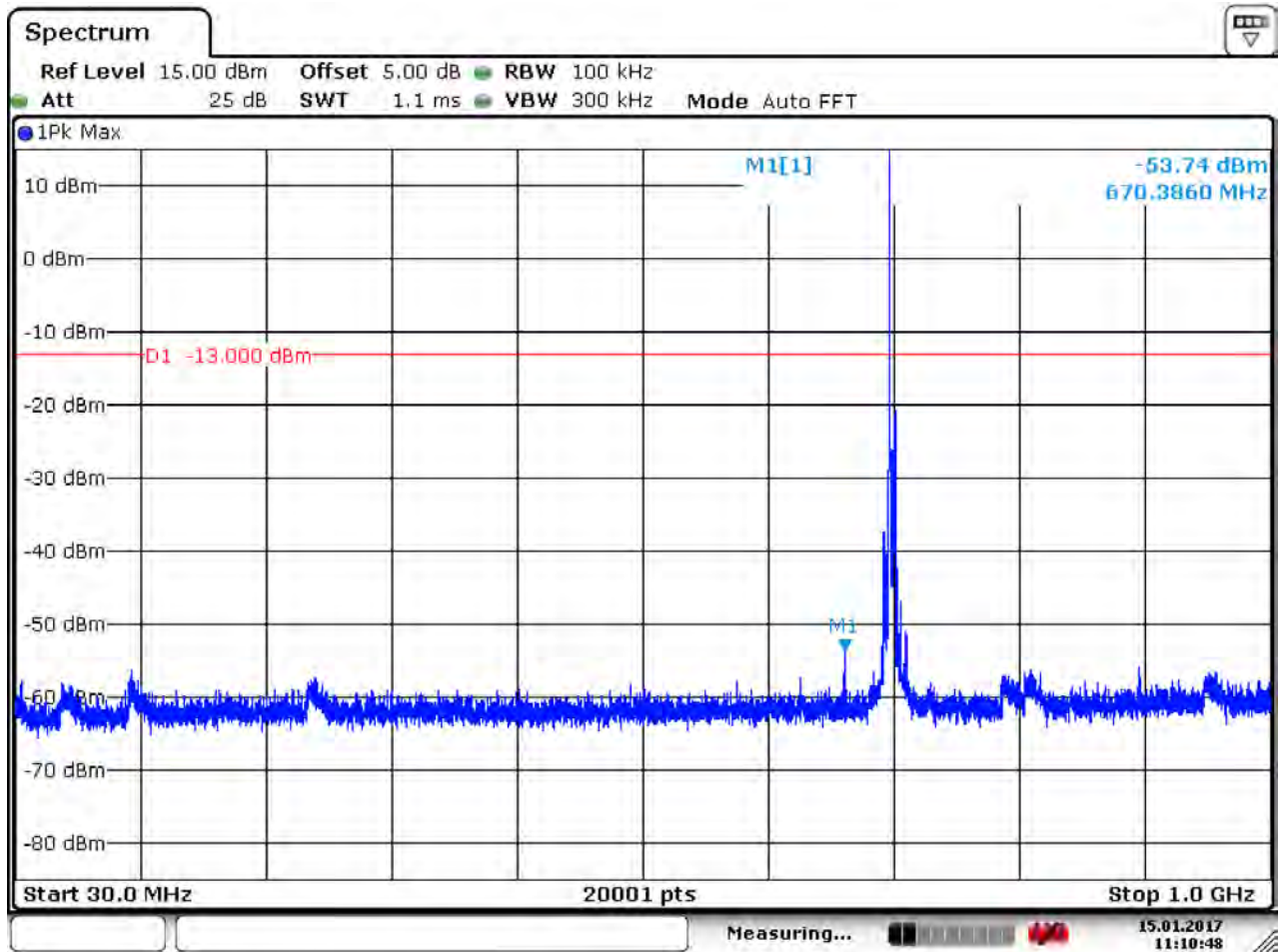
Date: 15.JAN.2017 11:08:47



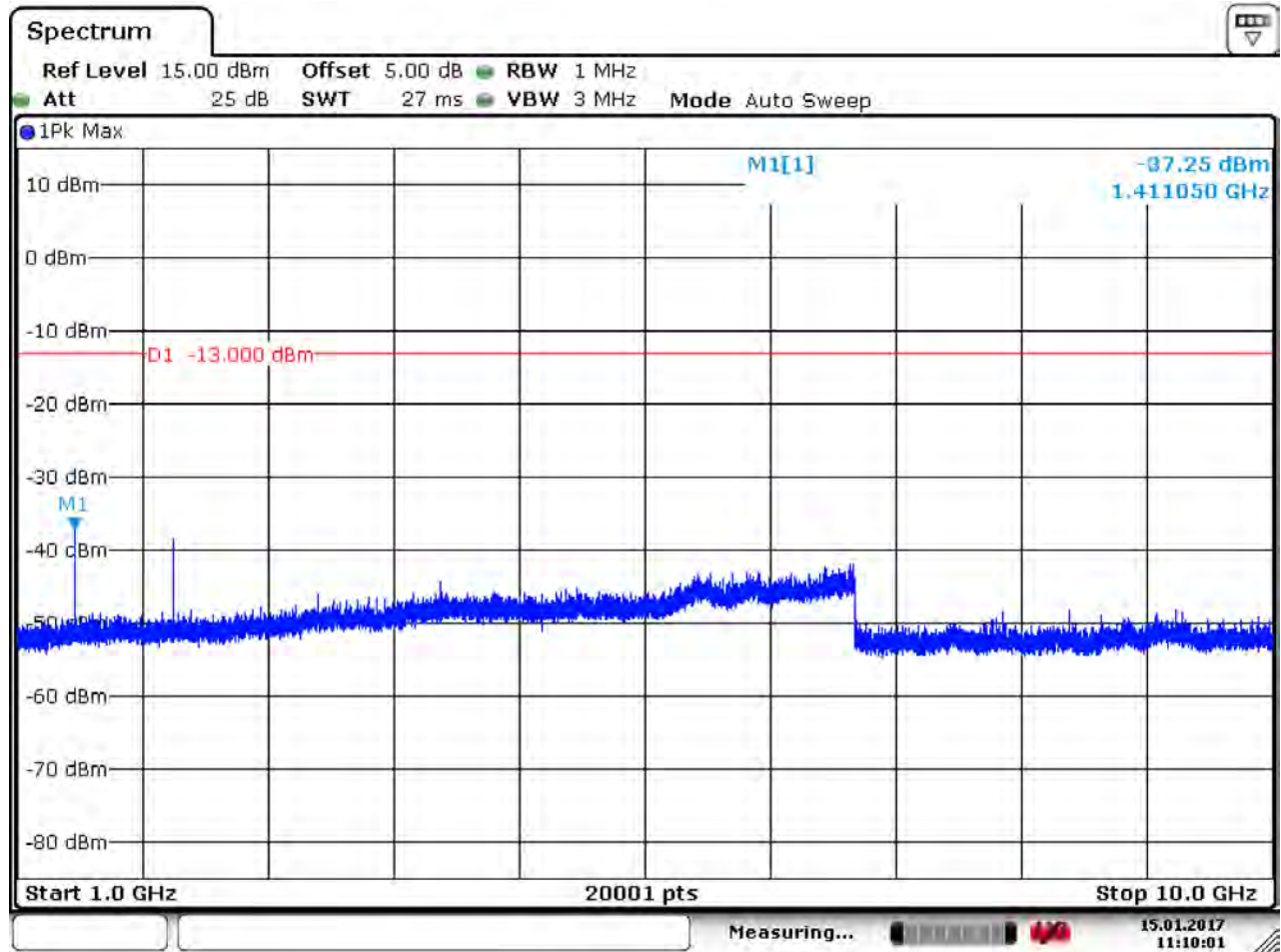
Date: 15.JAN.2017 11:09:21



6.1.1.3.2 Test Channel = MCH



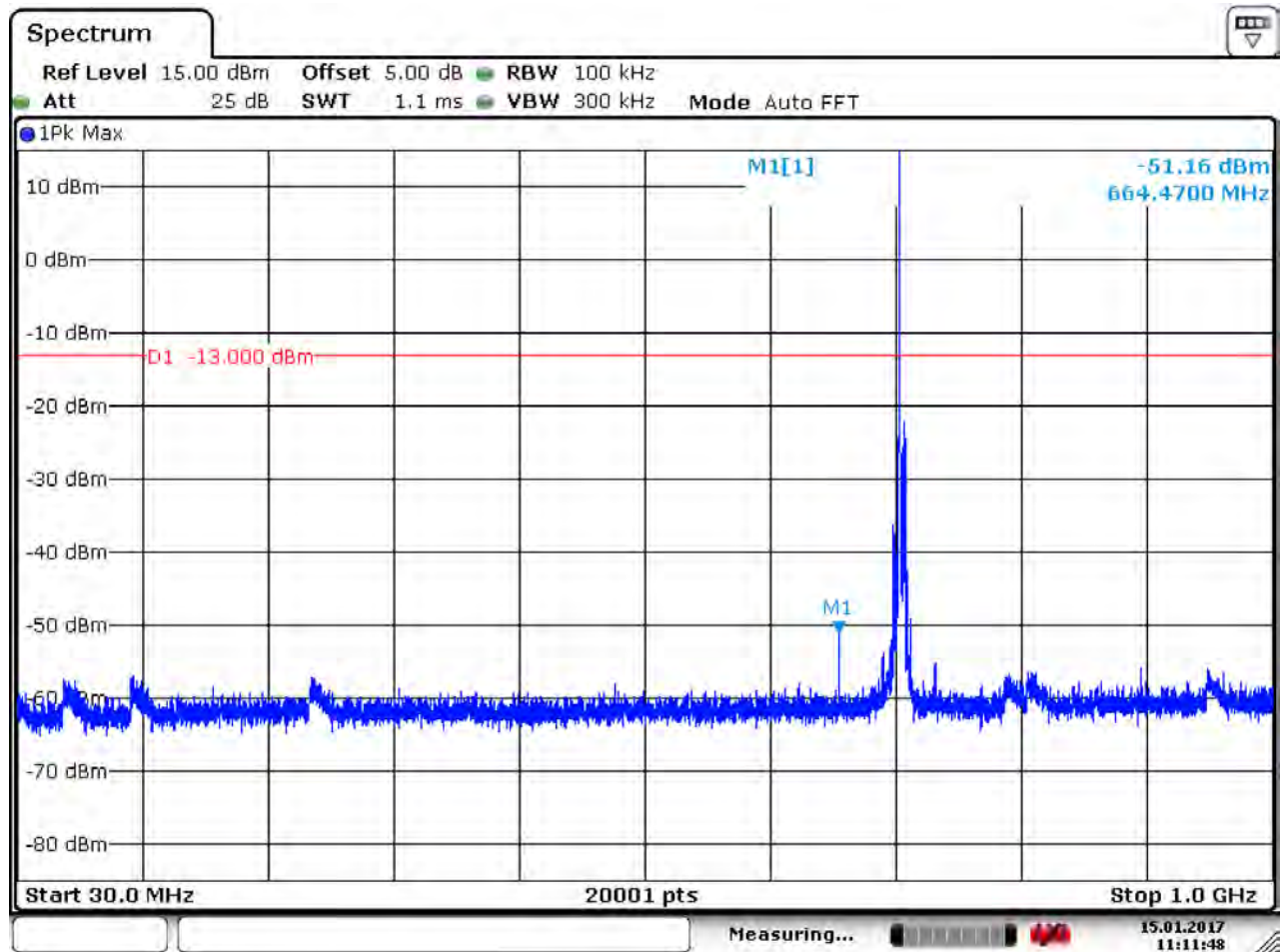
Date: 15.JAN.2017 11:10:48



Date: 15.JAN.2017 11:10:01



6.1.1.3.3 Test Channel = HCH



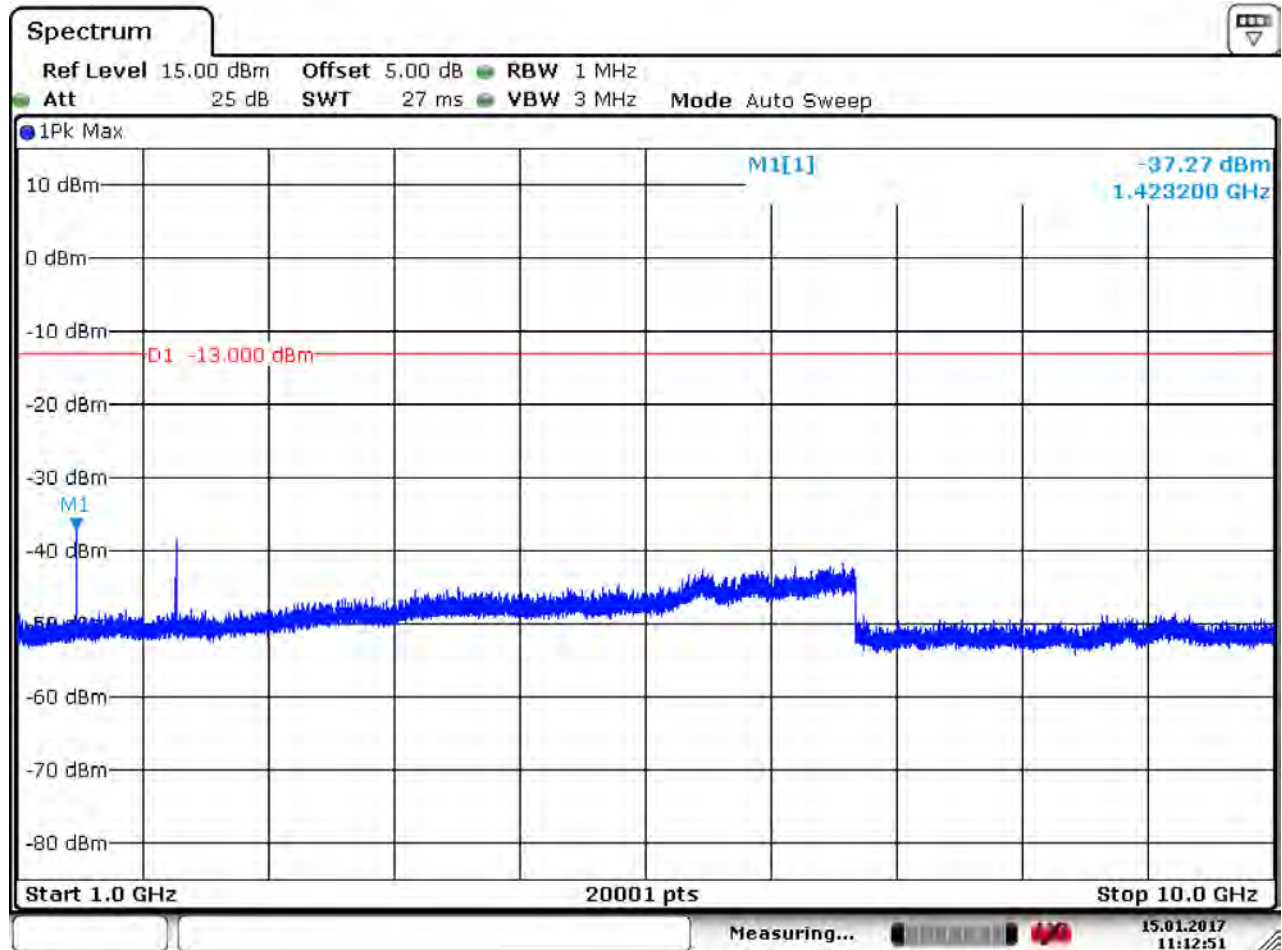
Date: 15.JAN.2017 11:11:49



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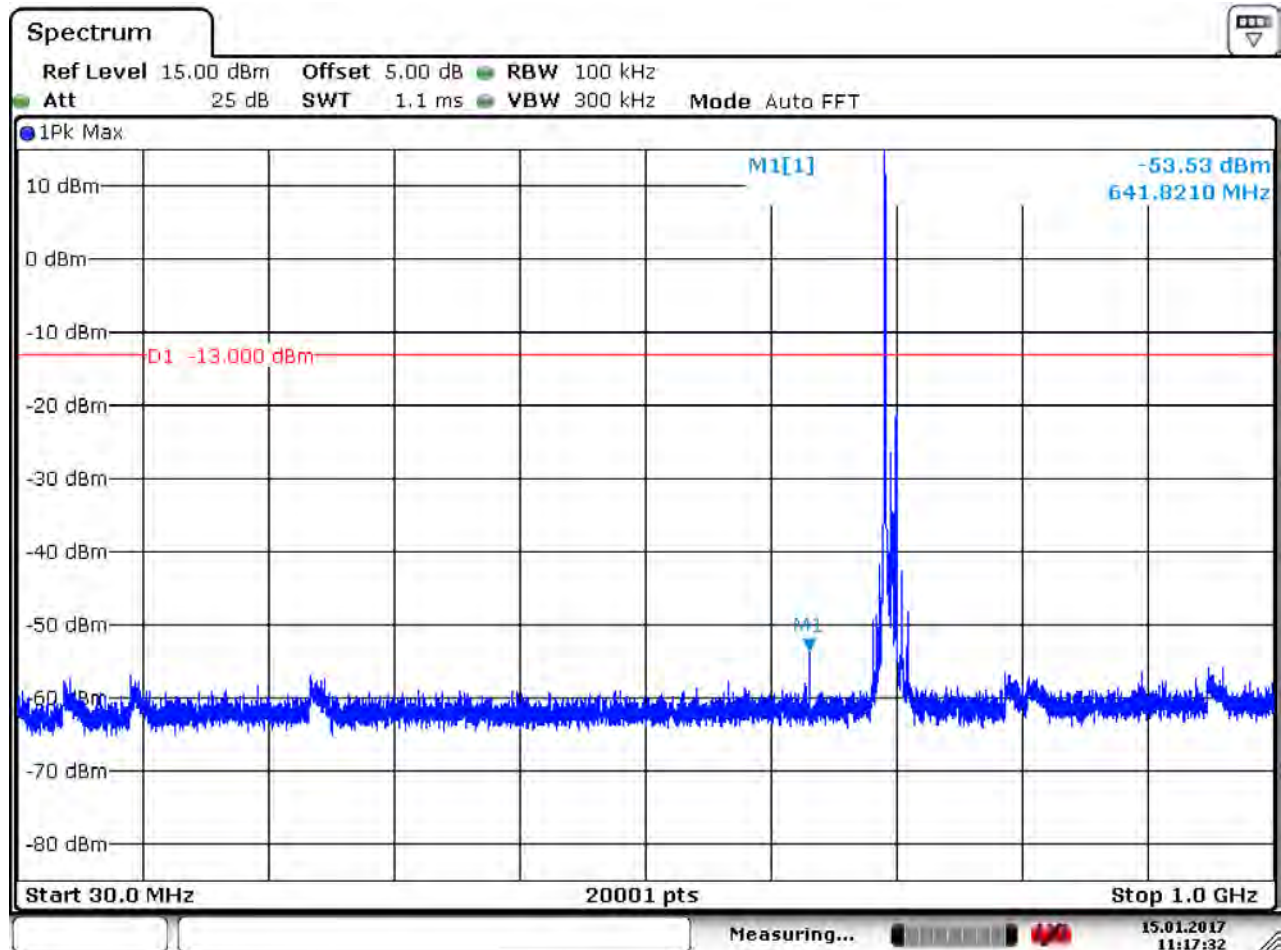
Date: 15.JAN.2017 11:12:51

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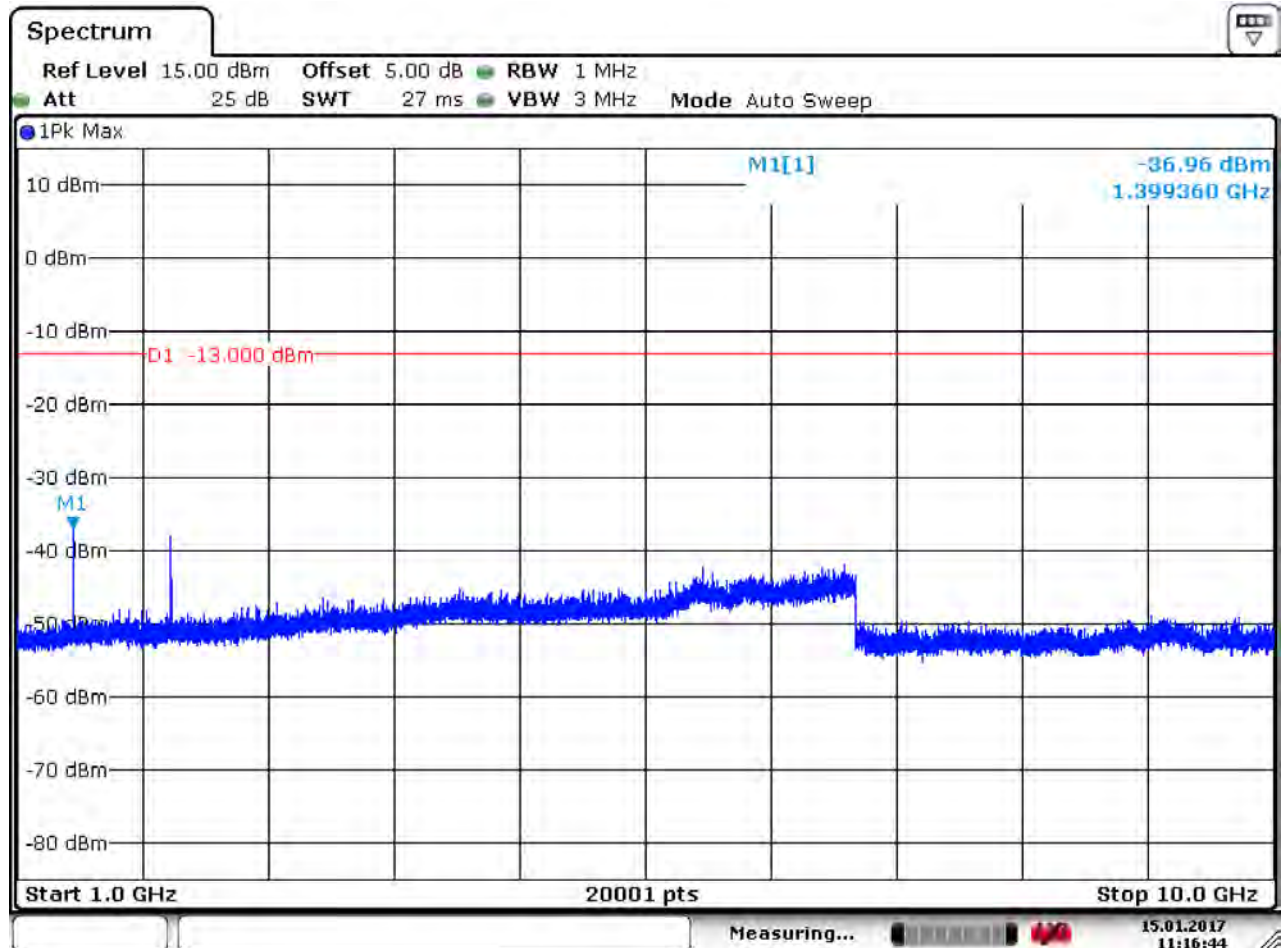


6.1.1.4 Test Mode = LTE / TM1 10MHz RB1#0

6.1.1.4.1 Test Channel = LCH



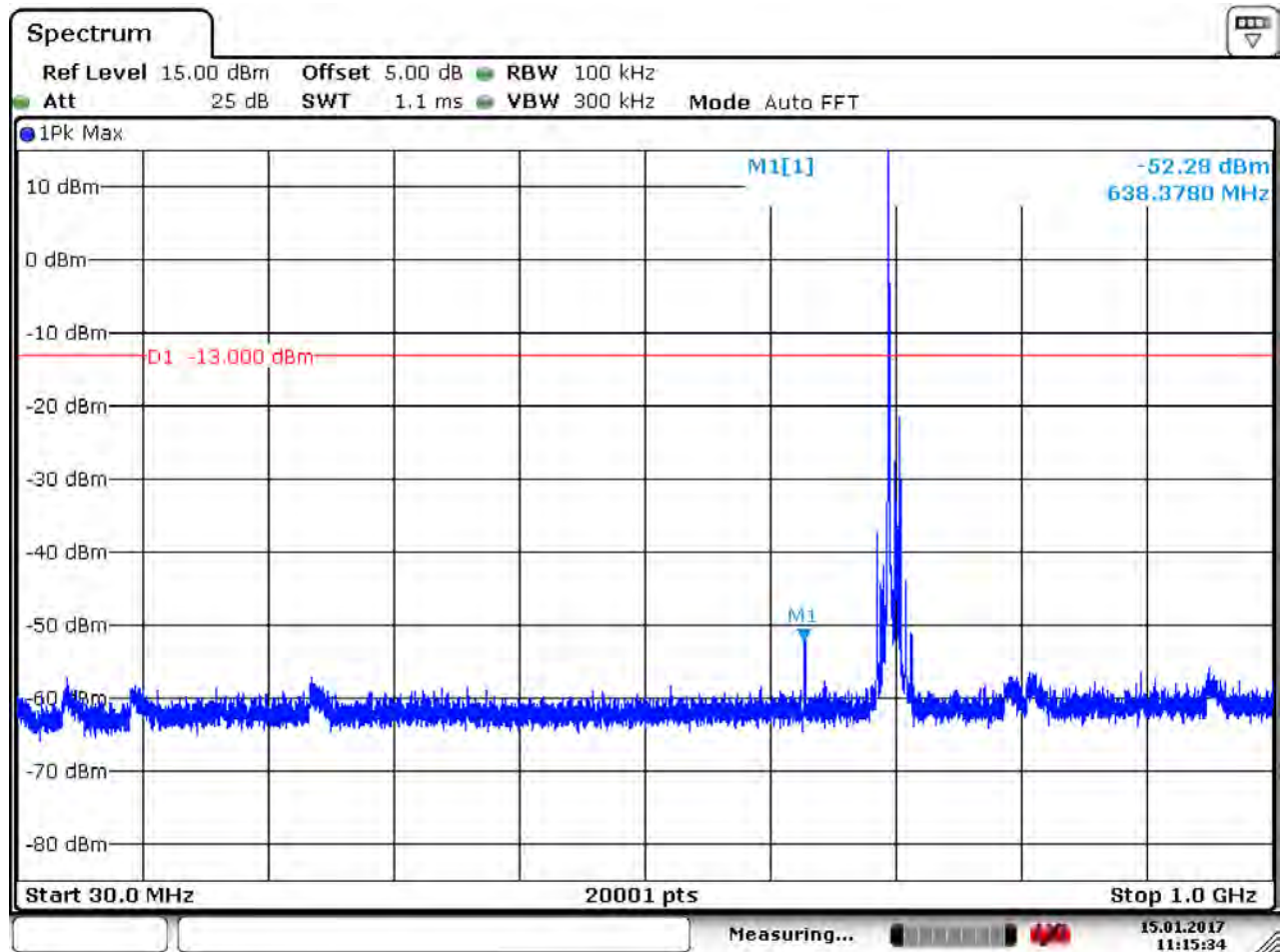
Date: 15.JAN.2017 11:17:32



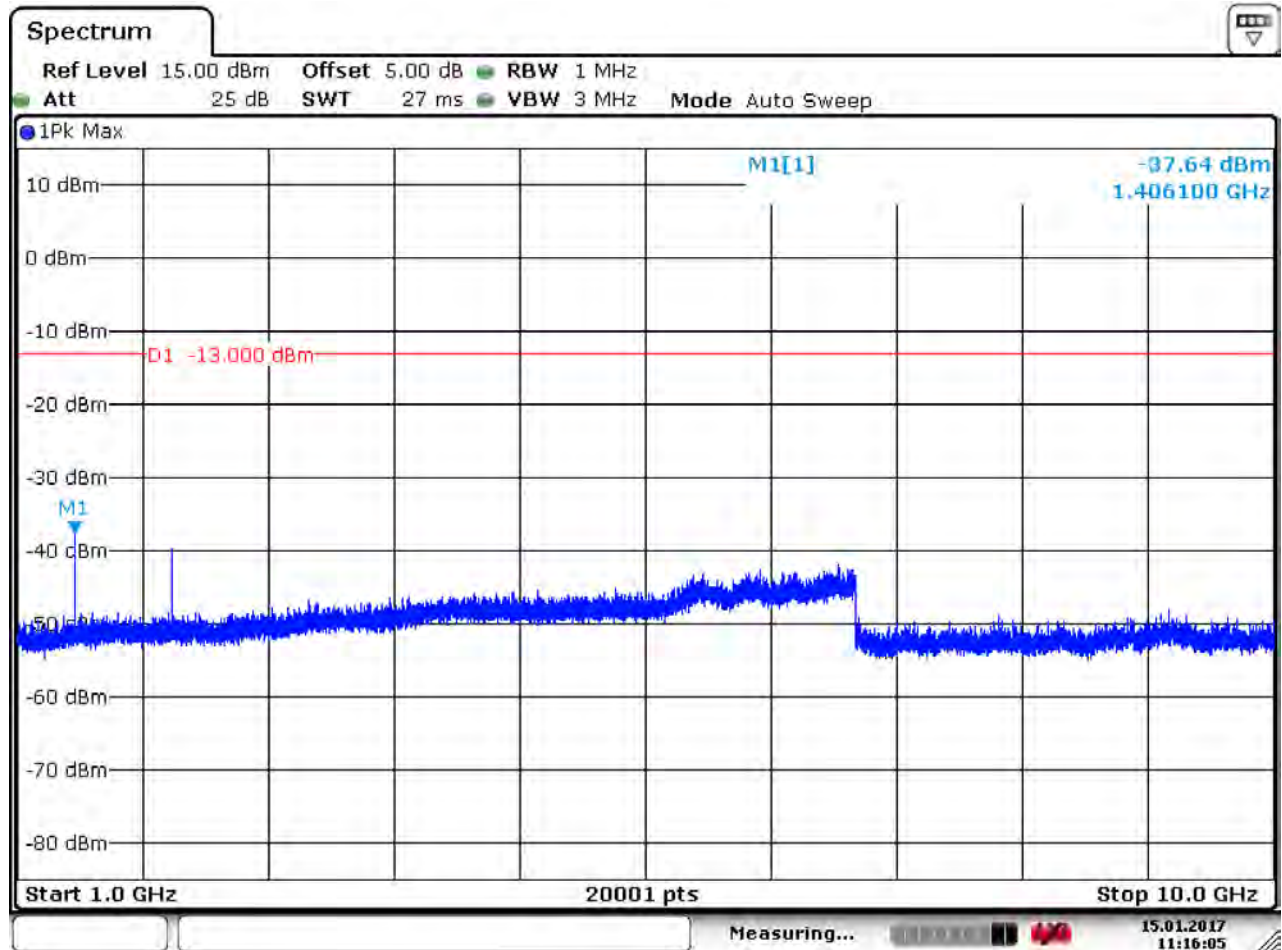
Date: 15.JAN.2017 11:16:44



6.1.1.4.2 Test Channel = MCH



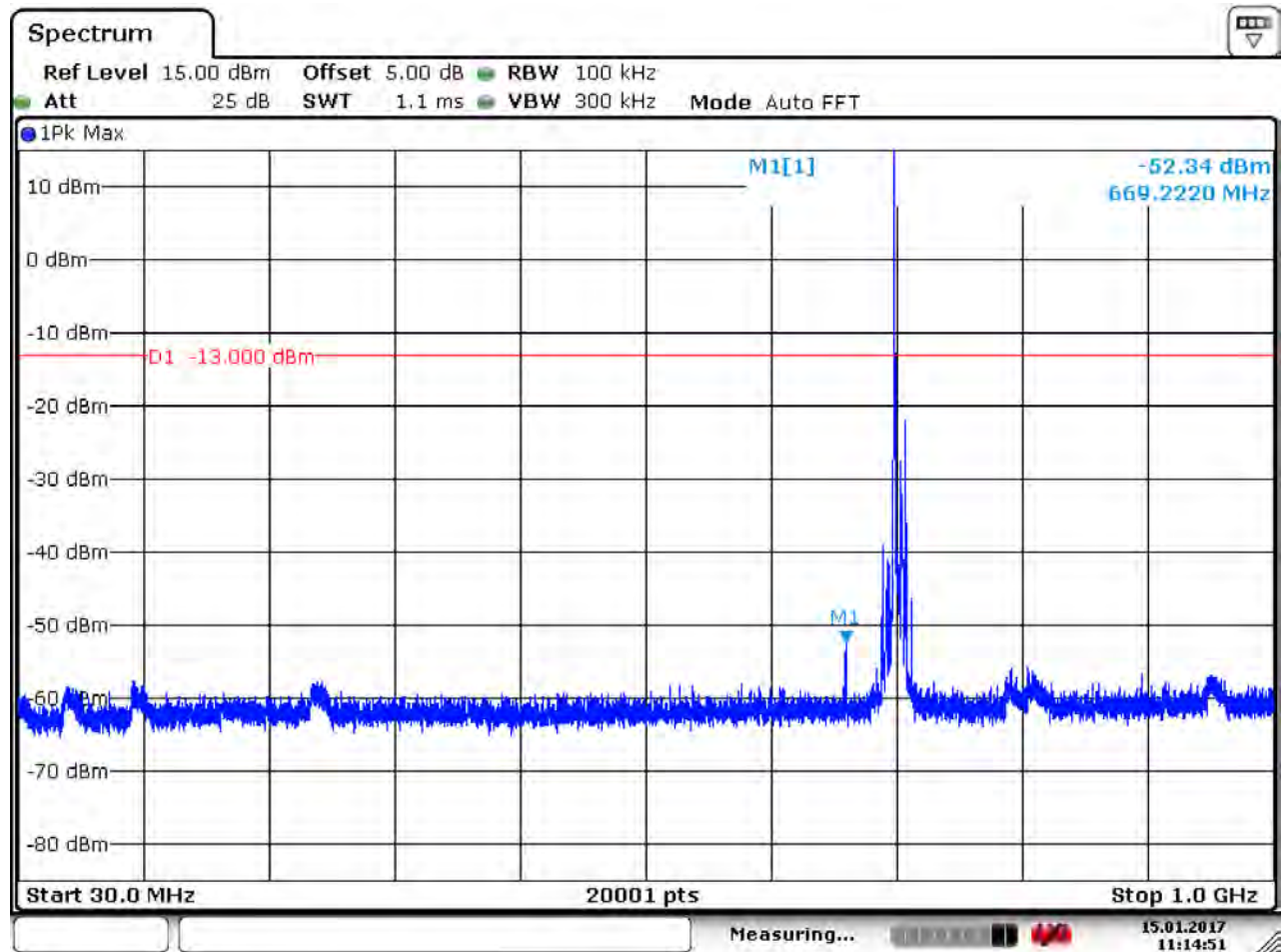
Date: 15.JAN.2017 11:15:34



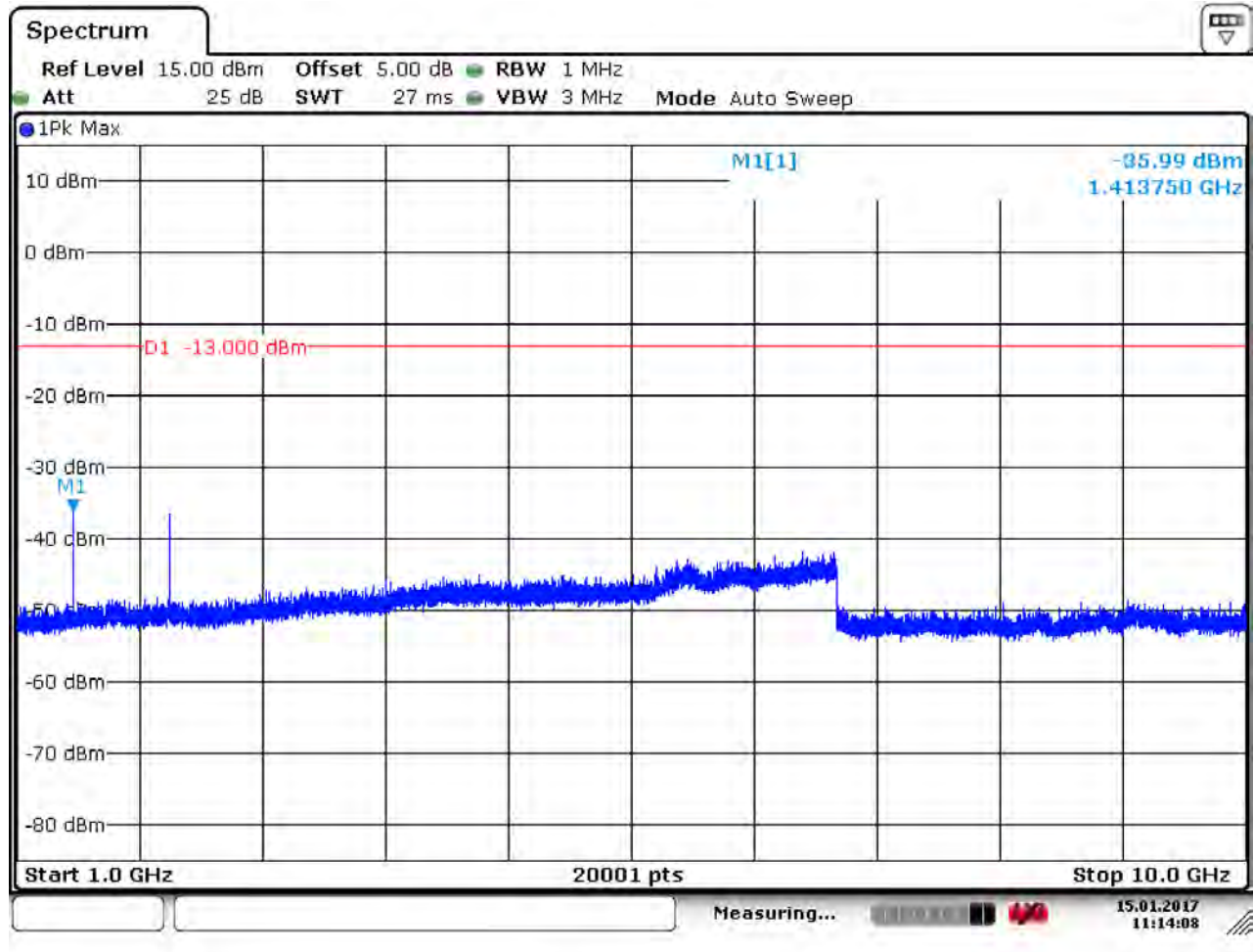
Date: 15.JAN.2017 11:16:05



6.1.1.4.3 Test Channel = HCH



Date: 15.JAN.2017 11:14:51



Date: 15.JAN.2017 11:14:08



7 Field Strength of Spurious Radiation

7.1 For LTE

7.1.1 Test Band = LTE band 12

7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1573.000	-66.34	-13.00	-53.34	Vertical
2320.000	-59.61	-13.00	-46.61	Vertical
4657.500	-68.03	-13.00	-55.03	Vertical
1276.000	-67.48	-13.00	-54.48	Horizontal
2488.000	-59.08	-13.00	-46.08	Horizontal
6510.000	-66.31	-13.00	-53.31	Horizontal

Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1155.000	-67.50	-13.00	-54.50	Vertical
2280.000	-59.42	-13.00	-46.42	Vertical
4852.500	-67.48	-13.00	-54.48	Vertical
1386.000	-67.63	-13.00	-54.63	Horizontal
2424.000	-58.95	-13.00	-45.95	Horizontal
5340.000	-67.69	-13.00	-54.69	Horizontal

7.1.1.1.2 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1650.000	-65.24	-13.00	-52.24	Vertical
4267.500	-67.86	-13.00	-54.86	Vertical
6900.000	-66.04	-13.00	-53.04	Vertical
1452.000	-66.50	-13.00	-53.50	Horizontal
2496.000	-59.21	-13.00	-46.21	Horizontal
5632.500	-67.40	-13.00	-54.40	Horizontal

NOTE:

- 1) All modes are tested, but the data presented above is the worst case. The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



8 Frequency Stability

8.1 Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE Band 12	LTE/TM1 10MHz	LCH	TN	VL	3.49	0.00496	PASS
				VN	1.84	0.00261	PASS
				VH	6.89	0.00979	PASS
		MCH	TN	VL	-1.16	-0.00164	PASS
				VN	1.03	0.00146	PASS
				VH	2.24	0.00316	PASS
		HCH	TN	VL	-3.64	-0.00512	PASS
				VN	-5.08	-0.00714	PASS
				VH	-5.51	-0.00776	PASS
	LTE/TM3 10MHz	LCH	TN	VL	-5.25	-0.00745	PASS
				VN	-3.32	-0.00471	PASS
				VH	2.69	0.00383	PASS
		MCH	TN	VL	-3.73	-0.00527	PASS
				VN	-3.86	-0.00546	PASS
				VH	1.49	0.00210	PASS
		HCH	TN	VL	1.33	0.00188	PASS
				VN	-0.92	-0.00130	PASS
				VH	-2.02	-0.00283	PASS
	LTE/TM3 10MHz	LCH	TN	VL	1.94	0.00275	PASS
				VN	-3.94	-0.00560	PASS
				VH	-1.01	-0.00143	PASS
		MCH	TN	VL	-3.85	-0.00544	PASS
				VN	-6.81	-0.00963	PASS
				VH	5.27	0.00745	PASS
		HCH	TN	VL	6.98	0.00981	PASS
				VN	-2.81	-0.00395	PASS
				VH	-6.30	-0.00886	PASS



8.2 Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE Band 12	LTE/TM1 10MHz	LCH	VN	-30	2.19	0.00311	PASS
				-20	6.70	0.00951	PASS
				-10	1.51	0.00215	PASS
				0	5.81	0.00825	PASS
				10	3.25	0.00461	PASS
				20	-2.65	-0.00376	PASS
				30	6.24	0.00887	PASS
				40	-0.84	-0.00120	PASS
				50	-2.08	-0.00295	PASS
		MCH	VN	-30	5.49	0.00777	PASS
				-20	-2.84	-0.00401	PASS
				-10	-6.74	-0.00953	PASS
				0	3.91	0.00552	PASS
				10	0.82	0.00116	PASS
				20	-0.63	-0.00089	PASS
				30	5.40	0.00763	PASS
				40	3.10	0.00439	PASS
				50	-6.75	-0.00955	PASS
		HCH	VN	-30	-5.28	-0.00742	PASS
				-20	0.51	0.00072	PASS
				-10	2.31	0.00324	PASS
				0	-1.56	-0.00220	PASS
				10	-5.27	-0.00741	PASS
				20	-1.77	-0.00248	PASS
				30	3.36	0.00472	PASS
				40	4.05	0.00570	PASS
				50	-5.53	-0.00778	PASS



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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE Band 12	LTE/TM2 10MHz	LCH	VN	-30	4.71	0.00670	PASS
				-20	1.63	0.00231	PASS
				-10	-1.30	-0.00185	PASS
				0	-6.55	-0.00930	PASS
				10	-5.60	-0.00795	PASS
				20	3.95	0.00561	PASS
				30	-1.76	-0.00250	PASS
				40	0.32	0.00046	PASS
				50	-1.57	-0.00224	PASS
		MCH	VN	-30	5.19	0.00734	PASS
				-20	6.03	0.00852	PASS
				-10	4.38	0.00619	PASS
				0	5.52	0.00780	PASS
				10	-5.34	-0.00755	PASS
				20	-2.23	-0.00315	PASS
				30	1.12	0.00158	PASS
				40	-3.89	-0.00550	PASS
				50	-3.04	-0.00429	PASS
		HCH	VN	-30	5.88	0.00828	PASS
				-20	-5.81	-0.00817	PASS
				-10	-2.67	-0.00376	PASS
				0	-3.14	-0.00442	PASS
				10	-6.58	-0.00925	PASS
				20	-2.06	-0.00290	PASS
				30	4.95	0.00696	PASS
				40	6.57	0.00924	PASS
				50	0.46	0.00065	PASS

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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE Band 12	LTE/TM3 10MHz	LCH	VN	-30	-2.01	-0.00286	PASS
				-20	4.58	0.00650	PASS
				-10	5.96	0.00847	PASS
				0	4.45	0.00632	PASS
				10	5.97	0.00849	PASS
				20	1.58	0.00225	PASS
				30	0.77	0.00109	PASS
				40	1.10	0.00157	PASS
				50	5.59	0.00795	PASS
		MCH	VN	-30	-6.26	-0.00885	PASS
				-20	0.23	0.00033	PASS
				-10	-5.61	-0.00792	PASS
				0	5.23	0.00740	PASS
				10	5.54	0.00783	PASS
				20	5.83	0.00824	PASS
				30	-3.80	-0.00538	PASS
				40	0.16	0.00023	PASS
				50	-1.32	-0.00187	PASS
		HCH	VN	-30	2.64	0.00372	PASS
				-20	-1.77	-0.00249	PASS
				-10	-5.05	-0.00710	PASS
				0	5.32	0.00749	PASS
				10	-3.55	-0.00500	PASS
				20	-3.56	-0.00501	PASS
				30	-2.08	-0.00293	PASS
				40	5.58	0.00785	PASS
				50	-2.05	-0.00289	PASS

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