



Appendix B

Test Data for SZEM161201085001RG



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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	22.39	22.39	30.00	PASS
				RB1#2	22.48	22.48	30.00	PASS
				RB1#5	22.37	22.37	30.00	PASS
				RB3#0	21.41	21.41	30.00	PASS
				RB3#2	21.45	21.45	30.00	PASS
				RB3#3	21.48	21.48	30.00	PASS
			MCH	RB6#0	21.47	21.47	30.00	PASS
				RB1#0	22.44	22.44	30.00	PASS
				RB1#2	22.53	22.53	30.00	PASS
				RB1#5	22.45	22.45	30.00	PASS
				RB3#0	21.46	21.46	30.00	PASS
				RB3#2	21.44	21.44	30.00	PASS
			HCH	RB3#3	21.46	21.46	30.00	PASS
				RB6#0	21.44	21.44	30.00	PASS
				RB1#0	22.49	22.49	30.00	PASS
				RB1#2	22.57	22.57	30.00	PASS
				RB1#5	22.51	22.51	30.00	PASS
				RB3#0	21.43	21.43	30.00	PASS
				RB3#2	21.47	21.47	30.00	PASS
				RB3#3	21.41	21.41	30.00	PASS
				RB6#0	21.46	21.46	30.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	1.4M	LCH	RB1#0	21.47	21.47	30.00	PASS
				RB1#2	21.47	21.47	30.00	PASS
				RB1#5	21.45	21.45	30.00	PASS
				RB3#0	21.45	21.45	30.00	PASS
				RB3#2	21.40	21.40	30.00	PASS
				RB3#3	21.41	21.41	30.00	PASS
				RB6#0	20.51	20.51	30.00	PASS
			MCH	RB1#0	21.45	21.45	30.00	PASS
				RB1#2	21.45	21.45	30.00	PASS
				RB1#5	21.45	21.45	30.00	PASS
				RB3#0	21.48	21.48	30.00	PASS
				RB3#2	21.48	21.48	30.00	PASS
				RB3#3	21.49	21.49	30.00	PASS
				RB6#0	20.57	20.57	30.00	PASS
			HCH	RB1#0	21.40	21.40	30.00	PASS
				RB1#2	21.41	21.41	30.00	PASS
				RB1#5	21.42	21.42	30.00	PASS
				RB3#0	21.46	21.46	30.00	PASS
				RB3#2	21.44	21.44	30.00	PASS
				RB3#3	21.46	21.46	30.00	PASS
				RB6#0	20.56	20.56	30.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM1	3M	LCH	RB1#0	22.49	22.49	30.00	PASS
				RB1#7	22.48	22.48	30.00	PASS
				RB1#14	22.45	22.45	30.00	PASS
				RB8#0	21.41	21.41	30.00	PASS
				RB8#4	21.49	21.49	30.00	PASS
				RB8#7	21.47	21.47	30.00	PASS
				RB15#0	21.49	21.49	30.00	PASS
			MCH	RB1#0	22.48	22.48	30.00	PASS
				RB1#7	22.43	22.43	30.00	PASS
				RB1#14	22.44	22.44	30.00	PASS
				RB8#0	21.41	21.41	30.00	PASS
				RB8#4	21.41	21.41	30.00	PASS
				RB8#7	21.48	21.48	30.00	PASS
				RB15#0	21.40	21.40	30.00	PASS
			HCH	RB1#0	22.41	22.41	30.00	PASS
				RB1#7	22.44	22.44	30.00	PASS
				RB1#14	22.49	22.49	30.00	PASS
				RB8#0	21.48	21.48	30.00	PASS
				RB8#4	21.43	21.43	30.00	PASS
				RB8#7	21.43	21.43	30.00	PASS
				RB15#0	21.44	21.44	30.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	3M	LCH	RB1#0	21.48	21.48	30.00	PASS
				RB1#7	21.45	21.45	30.00	PASS
				RB1#14	21.41	21.41	30.00	PASS
				RB8#0	20.62	20.62	30.00	PASS
				RB8#4	20.59	20.59	30.00	PASS
				RB8#7	20.58	20.58	30.00	PASS
				RB15#0	20.56	20.56	30.00	PASS
			MCH	RB1#0	21.46	21.46	30.00	PASS
				RB1#7	21.44	21.44	30.00	PASS
				RB1#14	21.45	21.45	30.00	PASS
				RB8#0	20.73	20.73	30.00	PASS
				RB8#4	20.71	20.71	30.00	PASS
				RB8#7	20.70	20.70	30.00	PASS
				RB15#0	20.67	20.67	30.00	PASS
			HCH	RB1#0	21.41	21.41	30.00	PASS
				RB1#7	21.43	21.43	30.00	PASS
				RB1#14	21.49	21.49	30.00	PASS
				RB8#0	20.66	20.66	30.00	PASS
				RB8#4	20.66	20.66	30.00	PASS
				RB8#7	20.69	20.69	30.00	PASS
				RB15#0	20.65	20.65	30.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM1	5M	LCH	RB1#0	22.48	22.48	30.00	PASS
				RB1#13	22.48	22.48	30.00	PASS
				RB1#24	22.41	22.41	30.00	PASS
				RB12#0	21.46	21.46	30.00	PASS
				RB12#6	21.44	21.44	30.00	PASS
				RB12#13	21.42	21.42	30.00	PASS
				RB25#0	21.49	21.49	30.00	PASS
			MCH	RB1#0	22.46	22.46	30.00	PASS
				RB1#13	22.49	22.49	30.00	PASS
				RB1#24	22.40	22.40	30.00	PASS
				RB12#0	21.43	21.43	30.00	PASS
				RB12#6	21.44	21.44	30.00	PASS
				RB12#13	21.43	21.43	30.00	PASS
				RB25#0	21.49	21.49	30.00	PASS
			HCH	RB1#0	22.44	22.44	30.00	PASS
				RB1#13	22.45	22.45	30.00	PASS
				RB1#24	22.42	22.42	30.00	PASS
				RB12#0	21.41	21.41	30.00	PASS
				RB12#6	21.40	21.40	30.00	PASS
				RB12#13	21.42	21.42	30.00	PASS
				RB25#0	21.49	21.49	30.00	PASS

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BAND4	LTE/TM2	5M	LCH	RB1#0	21.49	21.49	30.00	PASS
				RB1#13	21.44	21.44	30.00	PASS
				RB1#24	21.46	21.46	30.00	PASS
				RB12#0	20.61	20.61	30.00	PASS
				RB12#6	20.59	20.59	30.00	PASS
				RB12#13	20.58	20.58	30.00	PASS
				RB25#0	20.56	20.56	30.00	PASS
			MCH	RB1#0	21.45	21.45	30.00	PASS
				RB1#13	21.49	21.49	30.00	PASS
				RB1#24	21.40	21.40	30.00	PASS
				RB12#0	20.68	20.68	30.00	PASS
				RB12#6	20.70	20.70	30.00	PASS
				RB12#13	20.67	20.67	30.00	PASS
				RB25#0	20.65	20.65	30.00	PASS
			HCH	RB1#0	21.46	21.46	30.00	PASS
				RB1#13	21.49	21.49	30.00	PASS
				RB1#24	21.48	21.48	30.00	PASS
				RB12#0	20.65	20.65	30.00	PASS
				RB12#6	20.65	20.65	30.00	PASS
				RB12#13	20.66	20.66	30.00	PASS
				RB25#0	20.62	20.62	30.00	PASS

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BAND4	LTE/TM1	10M	LCH	RB1#0	22.47	22.47	30.00	PASS
				RB1#25	22.38	22.38	30.00	PASS
				RB1#49	22.34	22.34	30.00	PASS
				RB25#0	21.46	21.46	30.00	PASS
				RB25#13	21.44	21.44	30.00	PASS
				RB25#25	21.41	21.41	30.00	PASS
				RB50#0	21.48	21.48	30.00	PASS
			MCH	RB1#0	22.48	22.48	30.00	PASS
				RB1#25	22.45	22.45	30.00	PASS
				RB1#49	22.44	22.44	30.00	PASS
				RB25#0	21.49	21.49	30.00	PASS
				RB25#13	21.40	21.40	30.00	PASS
				RB25#25	21.40	21.40	30.00	PASS
				RB50#0	21.42	21.42	30.00	PASS
			HCH	RB1#0	22.41	22.41	30.00	PASS
				RB1#25	22.40	22.40	30.00	PASS
				RB1#49	22.43	22.43	30.00	PASS
				RB25#0	21.45	21.45	30.00	PASS
				RB25#13	21.44	21.44	30.00	PASS
				RB25#25	21.43	21.43	30.00	PASS
				RB50#0	21.40	21.40	30.00	PASS

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BAND4	LTE/TM2	10M	LCH	RB1#0	21.46	21.46	30.00	PASS
				RB1#25	21.48	21.48	30.00	PASS
				RB1#49	21.44	21.44	30.00	PASS
				RB25#0	20.48	20.48	30.00	PASS
				RB25#13	20.43	20.43	30.00	PASS
				RB25#25	20.43	20.43	30.00	PASS
				RB50#0	20.48	20.48	30.00	PASS
			MCH	RB1#0	21.48	21.48	30.00	PASS
				RB1#25	21.49	21.49	30.00	PASS
				RB1#49	21.44	21.44	30.00	PASS
				RB25#0	20.52	20.52	30.00	PASS
				RB25#13	20.52	20.52	30.00	PASS
				RB25#25	20.49	20.49	30.00	PASS
				RB50#0	20.54	20.54	30.00	PASS
			HCH	RB1#0	21.48	21.48	30.00	PASS
				RB1#25	21.45	21.45	30.00	PASS
				RB1#49	21.41	21.41	30.00	PASS
				RB25#0	20.46	20.46	30.00	PASS
				RB25#13	20.44	20.44	30.00	PASS
				RB25#25	20.43	20.43	30.00	PASS
				RB50#0	20.50	20.50	30.00	PASS

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BAND4	LTE/TM1	15M	LCH	RB1#0	22.44	22.44	30.00	PASS
				RB1#38	22.34	22.34	30.00	PASS
				RB1#74	22.32	22.32	30.00	PASS
				RB36#0	21.46	21.46	30.00	PASS
				RB36#18	21.41	21.41	30.00	PASS
				RB36#39	21.39	21.39	30.00	PASS
				RB75#0	21.43	21.43	30.00	PASS
			MCH	RB1#0	22.43	22.43	30.00	PASS
				RB1#38	22.43	22.43	30.00	PASS
				RB1#74	22.39	22.39	30.00	PASS
				RB36#0	21.49	21.49	30.00	PASS
				RB36#18	21.48	21.48	30.00	PASS
				RB36#39	21.49	21.49	30.00	PASS
				RB75#0	21.46	21.46	30.00	PASS
			HCH	RB1#0	22.42	22.42	30.00	PASS
				RB1#38	22.33	22.33	30.00	PASS
				RB1#74	22.40	22.40	30.00	PASS
				RB36#0	21.45	21.45	30.00	PASS
				RB36#18	21.44	21.44	30.00	PASS
				RB36#39	21.40	21.40	30.00	PASS
				RB75#0	21.44	21.44	30.00	PASS

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BAND4	LTE/TM2	15M	LCH	RB1#0	21.47	21.47	30.00	PASS
				RB1#38	21.46	21.46	30.00	PASS
				RB1#74	21.45	21.45	30.00	PASS
				RB36#0	20.48	20.48	30.00	PASS
				RB36#18	20.44	20.44	30.00	PASS
				RB36#39	20.42	20.42	30.00	PASS
				RB75#0	20.45	20.45	30.00	PASS
			MCH	RB1#0	21.44	21.44	30.00	PASS
				RB1#38	21.48	21.48	30.00	PASS
				RB1#74	21.42	21.42	30.00	PASS
				RB36#0	20.51	20.51	30.00	PASS
				RB36#18	20.52	20.52	30.00	PASS
				RB36#39	20.52	20.52	30.00	PASS
				RB75#0	20.50	20.50	30.00	PASS
			HCH	RB1#0	21.45	21.45	30.00	PASS
				RB1#38	21.43	21.43	30.00	PASS
				RB1#74	21.41	21.41	30.00	PASS
				RB36#0	20.49	20.49	30.00	PASS
				RB36#18	20.45	20.45	30.00	PASS
				RB36#39	20.44	20.44	30.00	PASS
				RB75#0	20.44	20.44	30.00	PASS

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**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM161201085001

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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	22.61	22.61	30.00	PASS
				RB1#50	22.41	22.41	30.00	PASS
				RB1#99	22.45	22.45	30.00	PASS
				RB50#0	21.41	21.41	30.00	PASS
				RB50#25	21.38	21.38	30.00	PASS
				RB50#50	21.43	21.43	30.00	PASS
				RB100#0	21.42	21.42	30.00	PASS
			MCH	RB1#0	22.59	22.59	30.00	PASS
				RB1#50	22.54	22.54	30.00	PASS
				RB1#99	22.55	22.55	30.00	PASS
				RB50#0	21.45	21.45	30.00	PASS
				RB50#25	21.44	21.44	30.00	PASS
				RB50#50	21.47	21.47	30.00	PASS
				RB100#0	21.47	21.47	30.00	PASS
			HCH	RB1#0	22.65	22.65	30.00	PASS
				RB1#50	22.51	22.51	30.00	PASS
				RB1#99	22.56	22.56	30.00	PASS
				RB50#0	21.54	21.54	30.00	PASS
				RB50#25	21.45	21.45	30.00	PASS
				RB50#50	21.49	21.49	30.00	PASS
				RB100#0	21.46	21.46	30.00	PASS

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**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM161201085001
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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
BAND4	LTE/TM2	20M	LCH	RB1#0	22.04	22.04	30.00	PASS
				RB1#50	21.87	21.87	30.00	PASS
				RB1#99	21.74	21.74	30.00	PASS
				RB50#0	20.43	20.43	30.00	PASS
				RB50#25	20.36	20.36	30.00	PASS
				RB50#50	20.40	20.40	30.00	PASS
				RB100#0	20.38	20.38	30.00	PASS
			MCH	RB1#0	21.65	21.65	30.00	PASS
				RB1#50	21.75	21.75	30.00	PASS
				RB1#99	22.01	22.01	30.00	PASS
				RB50#0	20.48	20.48	30.00	PASS
				RB50#25	20.46	20.46	30.00	PASS
				RB50#50	20.43	20.43	30.00	PASS
				RB100#0	20.43	20.43	30.00	PASS
			HCH	RB1#0	21.80	21.80	30.00	PASS
				RB1#50	21.63	21.63	30.00	PASS
				RB1#99	21.69	21.69	30.00	PASS
				RB50#0	20.45	20.45	30.00	PASS
				RB50#25	20.39	20.39	30.00	PASS
				RB50#50	20.45	20.45	30.00	PASS
				RB100#0	20.47	20.47	30.00	PASS

Note:

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

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

b: SGP=Signal Generator Level

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 4	TM1/20M	LCH	4.96	13	PASS
		MCH	4.99	13	PASS
		HCH	5.04	13	PASS
	TM2/20M	LCH	5.86	13	PASS
		MCH	5.83	13	PASS
		HCH	5.86	13	PASS



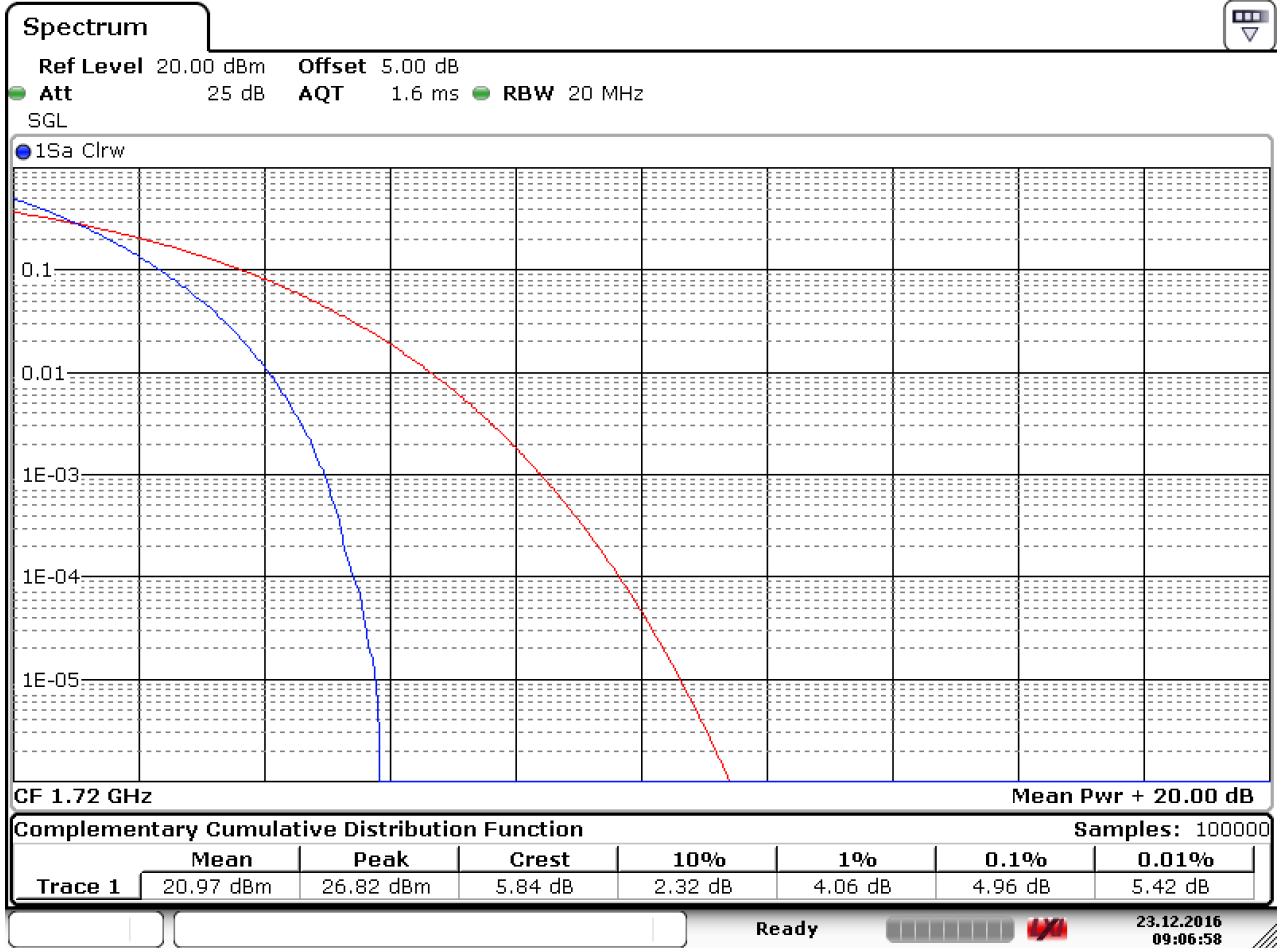
Part II - Test Plots

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

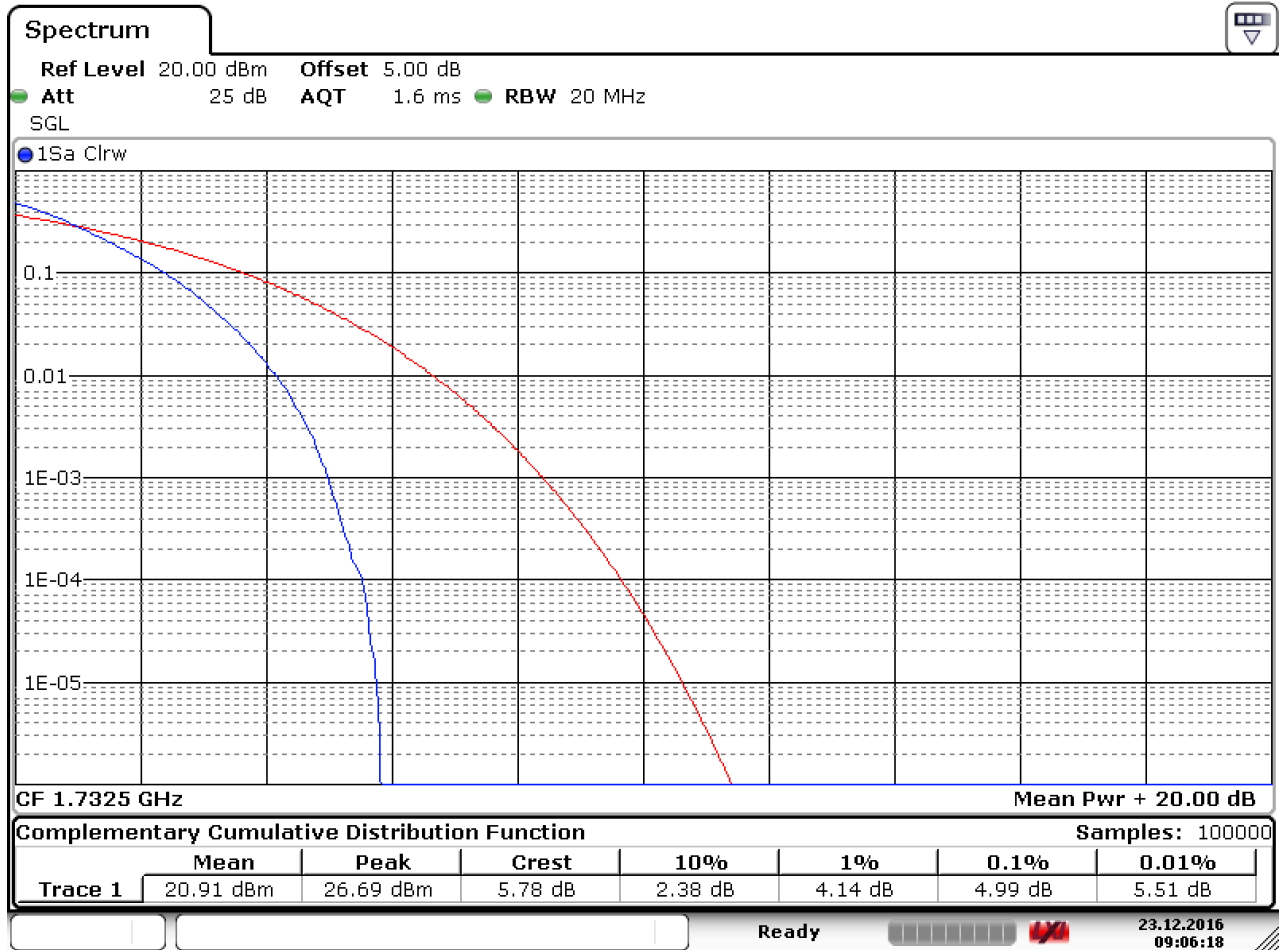


Date: 23.DEC.2016 09:06:58

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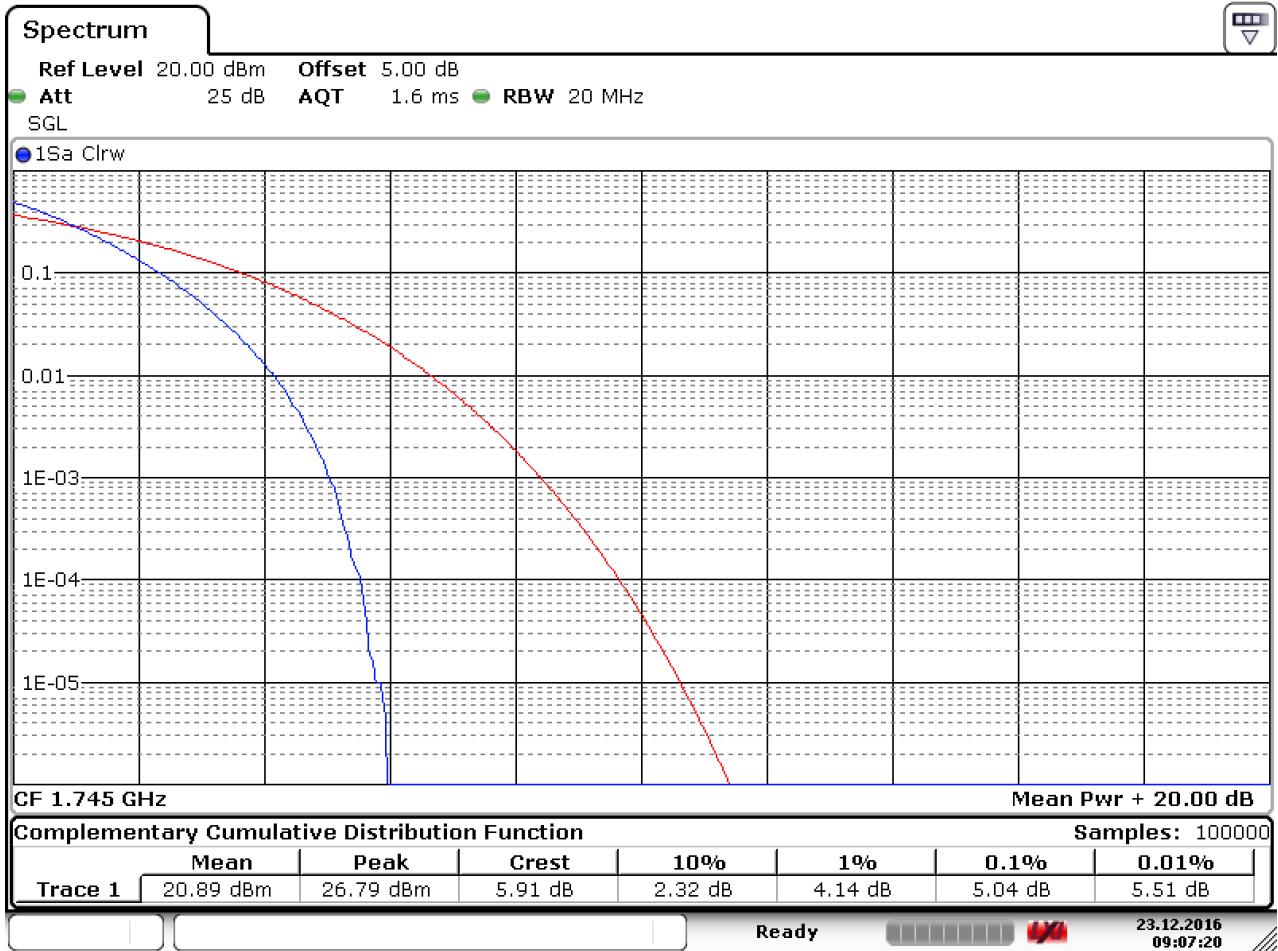
2.1.1.1.2 Test Channel = MCH



Date: 23.DEC.2016 09:06:19



2.1.1.1.3 Test Channel = HCH



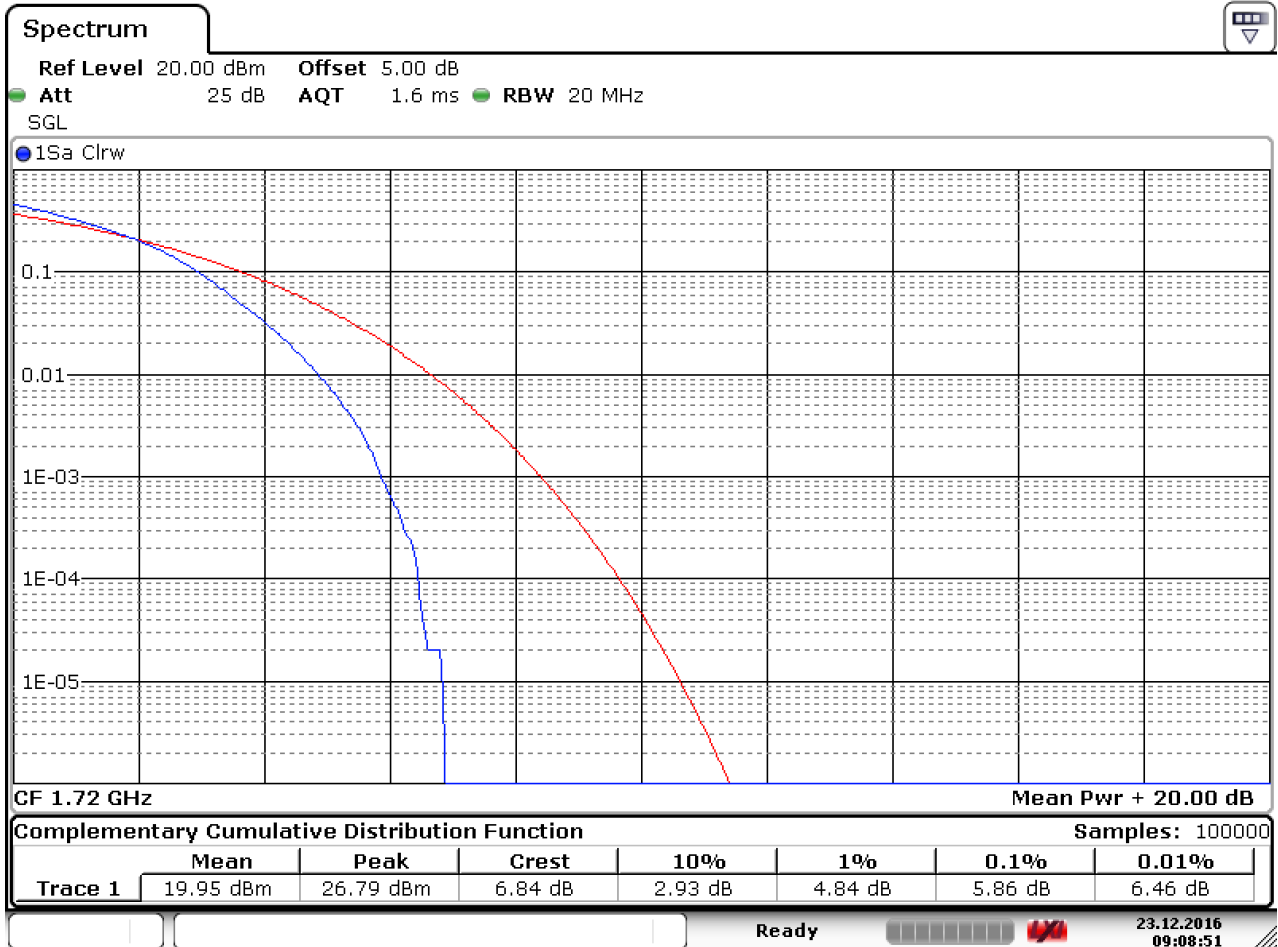
Date: 23.DEC.2016 09:07:20

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

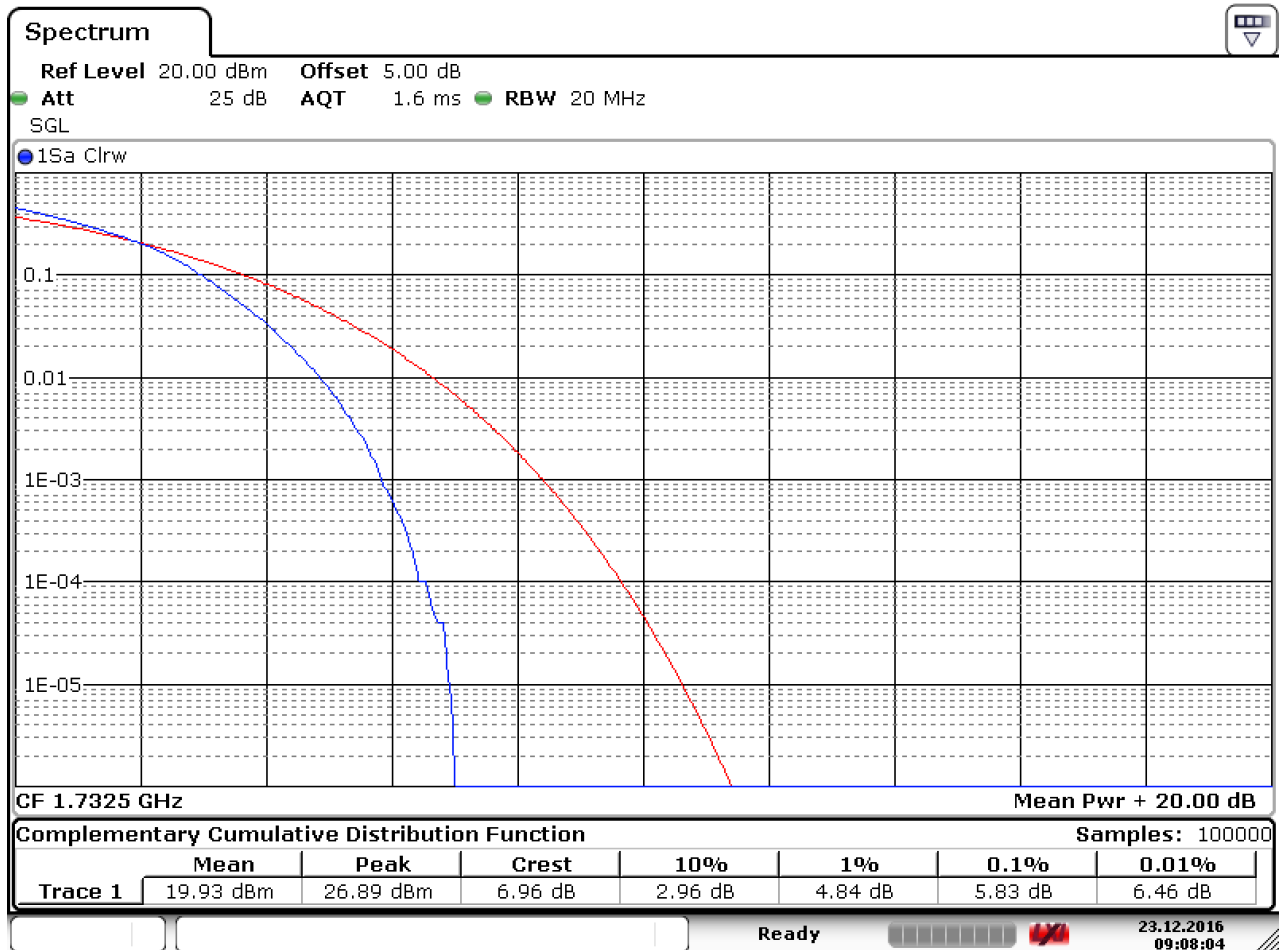
2.1.1.2.1 Test Channel = LCH



Date: 23.DEC.2016 09:08:52



2.1.1.2.2 Test Channel = MCH

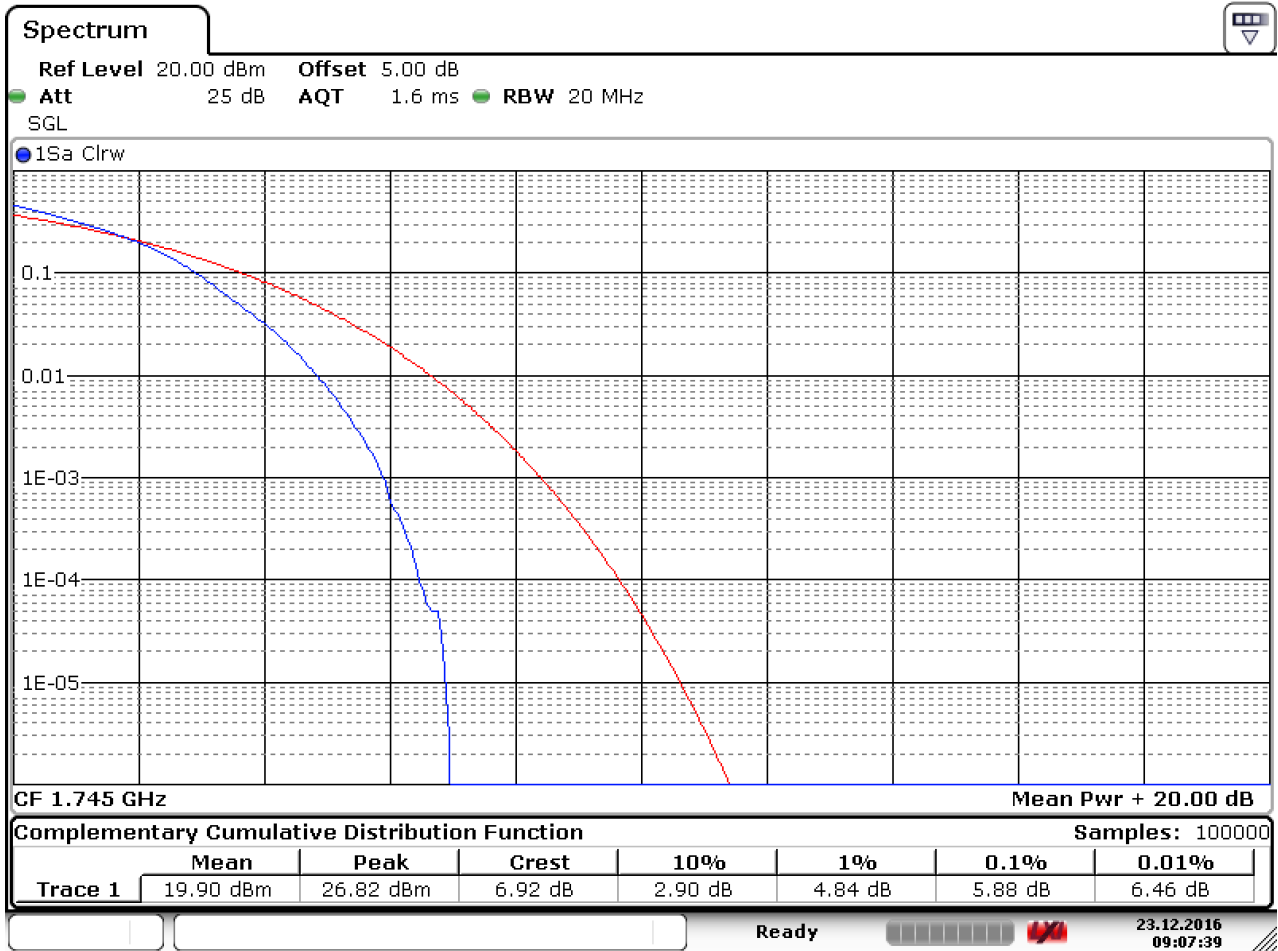


Date: 23.DEC.2016 09:08:05

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2.1.1.2.3 Test Channel = HCH



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3 Modulation Characteristics

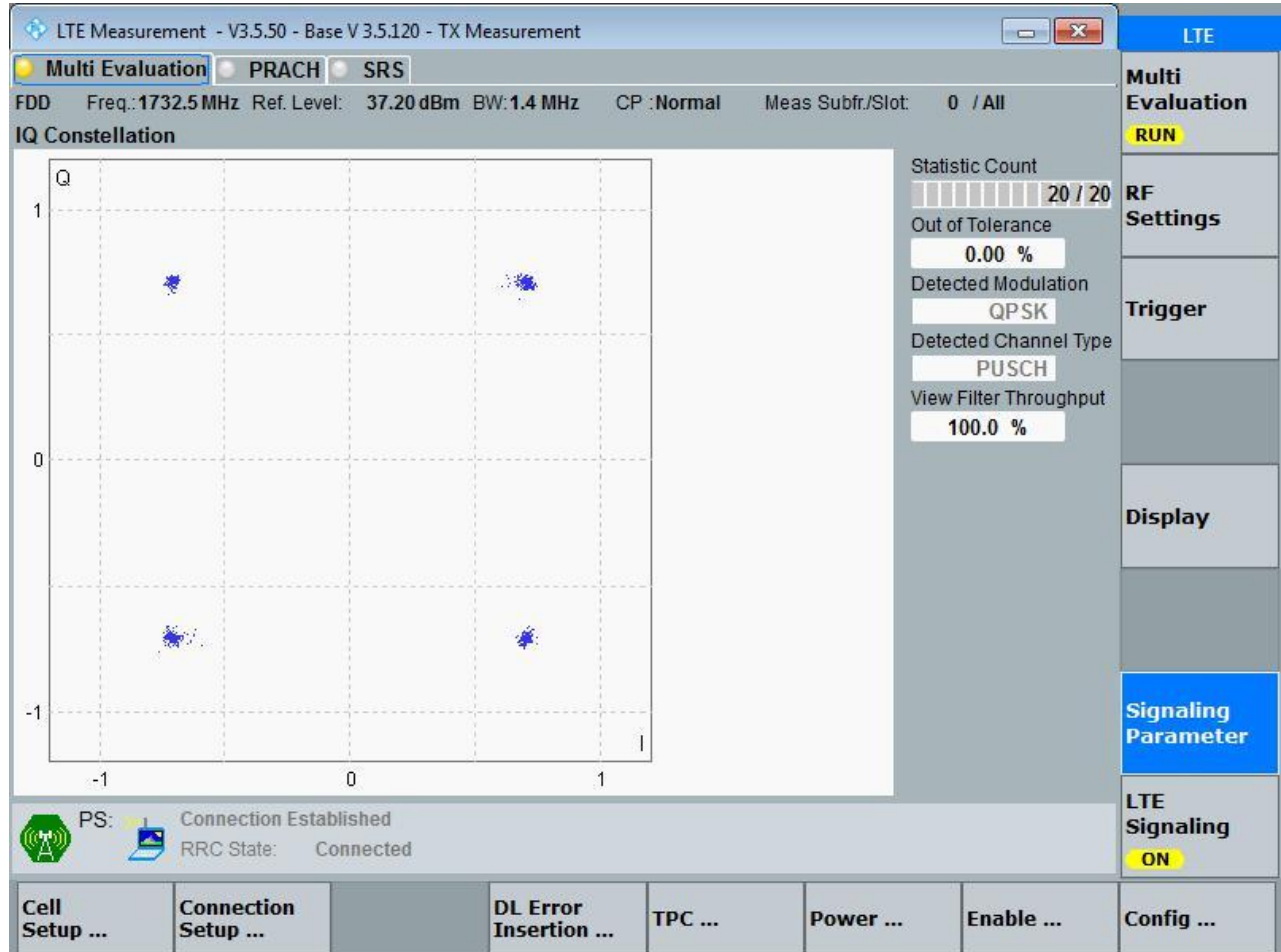
Part I - Test Plots

3.1 For LTE

3.1.1 Test Band = LTE band4

3.1.1.1 Test Mode = LTE /TM1 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

The screenshot displays the 'LTE Measurement' software interface. The main window title is 'LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement'. The interface is divided into several sections:

- Top Bar:** Shows 'Multi Evaluation' (selected), 'PRACH', and 'SRS' tabs. Below this, it displays 'FDD', 'Freq.: 1732.5 MHz', 'Ref. Level: 38.20 dBm', 'BW: 3.0 MHz', 'CP: Normal', and 'Meas Subfr./Slot: 0 / All'.
- IQ Constellation:** A central plot showing four clusters of blue dots in a square pattern, representing QPSK modulation. The axes are labeled 'Q' (vertical) and 'I' (horizontal), both ranging from -1 to 1.
- Right Panel:** Contains several controls:
 - Statistic Count:** A progress bar showing 20 / 20.
 - Out of Tolerance:** A field showing 0.00 %.
 - Detected Modulation:** A dropdown menu showing 'QPSK'.
 - Detected Channel Type:** A dropdown menu showing 'PUSCH'.
 - View Filter Throughput:** A field showing 100.0 %.
- Bottom Bar:** Shows 'PS: Connection Established' and 'RRC State: Connected'.
- Bottom Navigation:** A row of buttons: 'Cell Setup ...', 'Connection Setup ...', 'DL Error Insertion ...', 'TPC ...', 'Power ...', 'Enable ...', and 'Config ...'.
- Right Sidebar:** A vertical menu with buttons: 'LTE' (blue), 'Multi Evaluation' (grey), 'RUN' (yellow), 'RF Settings' (grey), 'Trigger' (grey), 'Display' (grey), 'Signaling Parameter' (blue), 'LTE Signaling' (grey), and 'ON' (yellow).



3.1.1.3 Test Mode = LTE /TM1 5MHz
3.1.1.3.1 Test Channel = MCH

The screenshot displays the 'LTE Measurement' software interface. The main window title is 'LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement'. The interface is divided into several sections:

- Top Bar:** Shows 'Multi Evaluation' (selected), 'PRACH', and 'SRS' tabs. Below this, it displays 'FDD', 'Freq.: 1732.5 MHz', 'Ref. Level: 38.10 dBm', 'BW: 5.0 MHz', 'CP: Normal', and 'Meas Subfr./Slot: 0 / All'.
- IQ Constellation:** A central plot showing four clusters of blue dots in a square pattern, representing QPSK modulation. The axes are labeled 'Q' (vertical) and 'I' (horizontal), both ranging from -1 to 1.
- Right Panel:** Contains several controls:
 - 'Statistic Count' bar: 20 / 20
 - 'Out of Tolerance': 0.00 %
 - 'Detected Modulation': QPSK
 - 'Detected Channel Type': PUSCH
 - 'View Filter Throughput': 100.0 %
- Bottom Bar:** Shows 'PS: Connection Established' and 'RRC State: Connected'.
- Bottom Navigation:** A row of buttons: 'Cell Setup ...', 'Connection Setup ...', 'DL Error Insertion ...', 'TPC ...', 'Power ...', 'Enable ...', and 'Config ...'.
- Right Sidebar:** A vertical menu with buttons: 'LTE', 'Multi Evaluation', 'RUN', 'RF Settings', 'Trigger', 'Display', 'Signaling Parameter', and 'LTE Signaling ON'.



3.1.1.4 Test Mode = LTE /TM1 10MHz

3.1.1.4.1 Test Channel = MCH

The screenshot displays the 'LTE Measurement' software interface. The main window title is 'LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement'. The interface is divided into several sections:

- Top Bar:** Shows 'Multi Evaluation' (selected), 'PRACH', and 'SRS' tabs. Below this, it displays 'FDD', 'Freq.: 1732.5 MHz', 'Ref. Level: 38.10 dBm', 'BW: 10.0 MHz', 'CP: Normal', and 'Meas Subfr./Slot: 0 / All'.
- IQ Constellation:** A central plot showing four clusters of blue dots in a square pattern, representing QPSK modulation. The axes are labeled 'Q' (vertical) and 'I' (horizontal), both ranging from -1 to 1.
- Statistics Panel (Right):** Contains a 'Statistic Count' bar (20 / 20), 'Out of Tolerance' at 40.00%, 'Detected Modulation' as QPSK, 'Detected Channel Type' as PUSCH, and 'View Filter Throughput' at 100.0%.
- Bottom Status Bar:** Shows 'PS: Connection Established' and 'RRC State: Connected'.
- Right Sidebar:** A vertical menu with buttons for 'LTE', 'Multi Evaluation', 'RUN', 'RF Settings', 'Trigger', 'Display', 'Signaling Parameter', and 'LTE Signaling ON'.
- Bottom Control Bar:** A row of buttons: 'Cell Setup ...', 'Connection Setup ...', 'DL Error Insertion ...', 'TPC ...', 'Power ...', 'Enable ...', and 'Config ...'.



3.1.1.5 Test Mode = LTE /TM1 15MHz

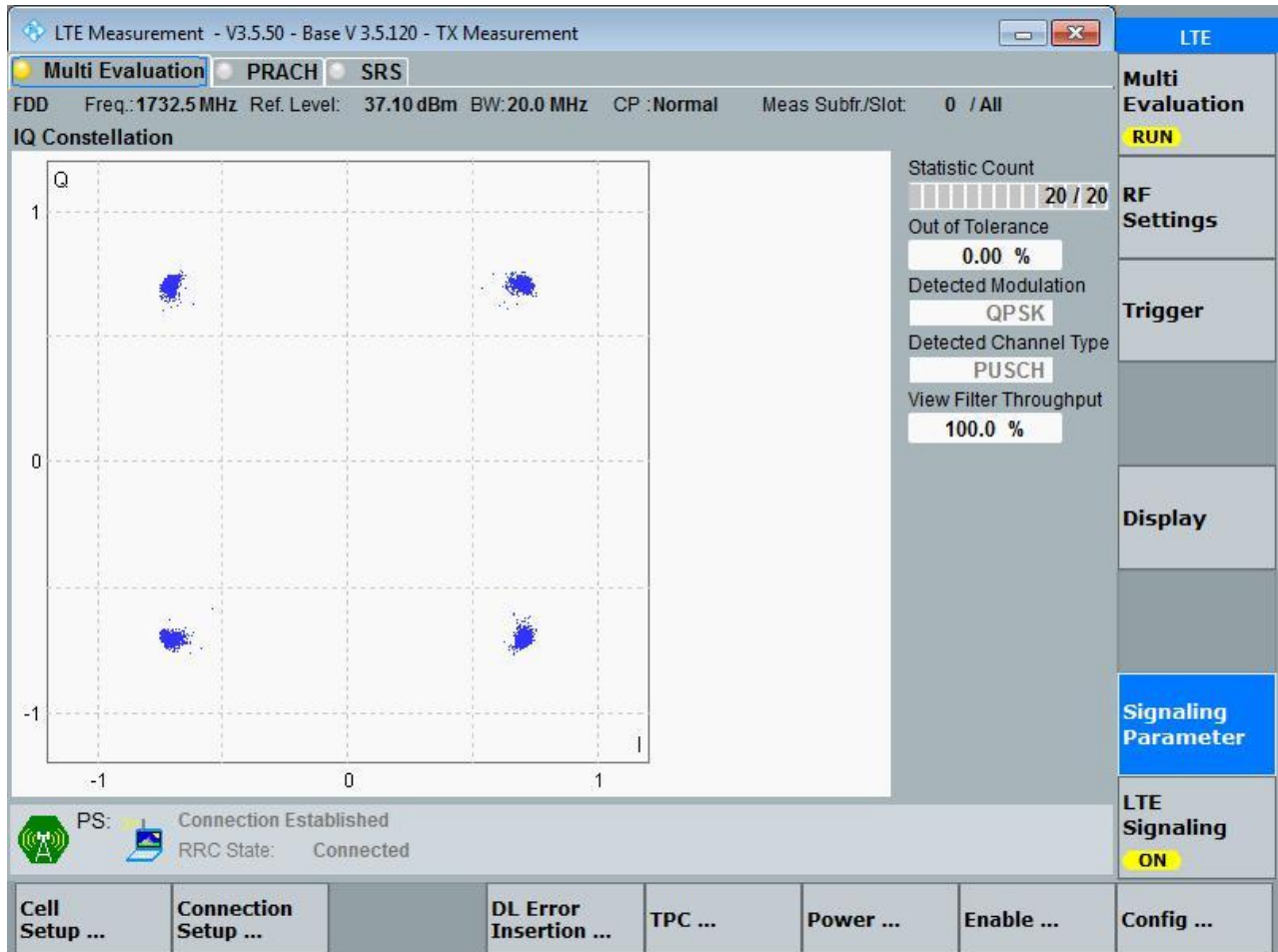
3.1.1.5.1 Test Channel = MCH

The screenshot displays the 'LTE Measurement' software interface. The main window is titled 'LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement'. It features a 'Multi Evaluation' tab and a 'PRACH' radio button. The status bar shows 'FDD Freq.: 1732.5 MHz Ref. Level: 38.20 dBm BW: 15.0 MHz CP: Normal Meas Subfr./Slot: 0 / All'. The 'IQ Constellation' plot shows a QPSK signal with four clusters of points in a square arrangement. The right-hand side contains a 'Statistic Count' section with a progress bar at 20/20, 'Out of Tolerance' set to 10.00%, 'Detected Modulation' as QPSK, 'Detected Channel Type' as PUSCH, and 'View Filter Throughput' at 100.0%. A vertical toolbar on the right includes buttons for 'LTE', 'Multi Evaluation', 'RUN', 'RF Settings', 'Trigger', 'Display', 'Signaling Parameter', and 'LTE Signaling ON'. The bottom status bar shows 'PS: Connection Established' and 'RRC State: Connected'. A bottom navigation bar contains buttons for 'Cell Setup ...', 'Connection Setup ...', 'DL Error Insertion ...', 'TPC ...', 'Power ...', 'Enable ...', and 'Config ...'.



3.1.1.6 Test Mode = LTE /TM1 20MHz

3.1.1.6.1 Test Channel = MCH





3.1.1.7 Test Mode = LTE /TM2 1.4MHz

3.1.1.7.1 Test Channel = MCH

The screenshot displays the LTE Measurement software interface. The main window is titled "LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement". It features a "Multi Evaluation" tab and a "PRACH" radio button. The interface shows the following parameters: FDD, Freq.: 1732.5 MHz, Ref. Level: 37.20 dBm, BW: 1.4 MHz, CP: Normal, and Meas Subfr./Slot: 0 / All. The "IQ Constellation" plot shows a 16-QAM constellation with points clustered around the center. The right sidebar contains several sections: "Multi Evaluation" with a "RUN" button, "RF Settings", "Trigger", "Display", "Signaling Parameter" (highlighted in blue), and "LTE Signaling" (ON). The bottom status bar shows "PS: Connection Established" and "RRC State: Connected".



3.1.1.8 Test Mode = LTE /TM2 3MHz

3.1.1.8.1 Test Channel = MCH

The screenshot displays the 'LTE Measurement' software interface. The main window title is 'LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement'. The interface is divided into several sections:

- Top Bar:** Shows 'Multi Evaluation' (selected), 'PRACH', and 'SRS' tabs. Below this, it displays 'FDD', 'Freq.: 1732.5 MHz', 'Ref. Level: 38.20 dBm', 'BW: 3.0 MHz', 'CP: Normal', and 'Meas Subfr./Slot: 0 / All'.
- IQ Constellation Plot:** A scatter plot with 'Q' on the vertical axis and 'I' on the horizontal axis, both ranging from -1 to 1. The plot shows a 16-QAM constellation with 16 distinct clusters of points.
- Statistics Panel:** Located on the right side of the plot area, it includes:
 - Statistic Count: 20 / 20
 - Out of Tolerance: 0.00 %
 - Detected Modulation: 16-QAM
 - Detected Channel Type: PUSCH
 - View Filter Throughput: 100.0 %
- Right-Hand Side Panel:** A vertical sidebar with buttons for 'LTE', 'Multi Evaluation', 'RUN', 'RF Settings', 'Trigger', 'Display', 'Signaling Parameter', and 'LTE Signaling ON'.
- Bottom Status Bar:** Shows 'PS: Connection Established' and 'RRC State: Connected'. Below this is a row of buttons: 'Cell Setup ...', 'Connection Setup ...', 'DL Error Insertion ...', 'TPC ...', 'Power ...', 'Enable ...', and 'Config ...'.



3.1.1.9 Test Mode = LTE /TM2 5MHz

3.1.1.9.1 Test Channel = MCH

The screenshot displays the 'LTE Measurement' software interface. The main window title is 'LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement'. The interface is divided into several sections:

- Top Bar:** Shows 'Multi Evaluation' (selected), 'PRACH', and 'SRS' tabs. Below this, it displays 'FDD', 'Freq.: 1732.5 MHz', 'Ref. Level: 38.10 dBm', 'BW: 5.0 MHz', 'CP: Normal', and 'Meas Subfr./Slot: 0 / All'.
- IQ Constellation:** A central plot showing a 16-QAM constellation with points clustered around a grid. The axes are labeled 'Q' (vertical) and 'I' (horizontal), ranging from -1 to 1.
- Statistics Panel:** Located on the right, it includes:
 - Statistic Count: 20 / 20
 - Out of Tolerance: 0.00 %
 - Detected Modulation: 16-QAM
 - Detected Channel Type: PUSCH
 - View Filter Throughput: 100.0 %
- Right Sidebar:** Contains several control buttons: 'LTE' (blue), 'Multi Evaluation' (grey), 'RUN' (yellow), 'RF Settings' (grey), 'Trigger' (grey), 'Display' (grey), 'Signaling Parameter' (blue), and 'LTE Signaling ON' (yellow).
- Bottom Status Bar:** Shows 'PS: Connection Established' and 'RRC State: Connected'. Below this is a row of buttons: 'Cell Setup ...', 'Connection Setup ...', 'DL Error Insertion ...', 'TPC ...', 'Power ...', 'Enable ...', and 'Config ...'.



3.1.1.10 Test Mode = LTE /TM2 10MHz

3.1.1.10.1 Test Channel = MCH

The screenshot displays the LTE Measurement software interface. The main window is titled "LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement". It features a "Multi Evaluation" tab and a "PRACH" radio button. The status bar shows "FDD Freq.: 1732.5 MHz Ref. Level: 38.10 dBm BW: 10.0 MHz CP: Normal Meas Subfr./Slot: 0 / All". The "IQ Constellation" plot shows a 4x4 grid of points, indicating 16-QAM modulation. The right sidebar contains several sections: "Multi Evaluation" with a "RUN" button, "RF Settings" with "Out of Tolerance" at 0.00%, "Detected Modulation" as 16-QAM, and "Detected Channel Type" as PUSCH; "Trigger" with "View Filter Throughput" at 100.0%; "Display"; "Signaling Parameter" with a blue button; and "LTE Signaling" with an "ON" button. The bottom status bar shows "PS: Connection Established" and "RRC State: Connected". The bottom navigation bar includes buttons for "Cell Setup ...", "Connection Setup ...", "DL Error Insertion ...", "TPC ...", "Power ...", "Enable ...", and "Config ...".



3.1.1.11 Test Mode = LTE /TM2 15MHz

3.1.1.11.1 Test Channel = MCH

The screenshot displays the LTE Measurement software interface. The main window is titled "LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement". It features a "Multi Evaluation" tab and a "PRACH" radio button. The interface shows the following parameters: FDD, Freq.: 1732.5 MHz, Ref. Level: 38.20 dBm, BW: 15.0 MHz, CP: Normal, Meas Subfr./Slot: 0 / All. The "IQ Constellation" plot shows a 16-QAM constellation with points clustered around the center. The "Statistic Count" is 20 / 20, "Out of Tolerance" is 0.00 %, "Detected Modulation" is 16-QAM, "Detected Channel Type" is PUSCH, and "View Filter Throughput" is 100.0 %. The interface also includes a "PS: Connection Established" status bar and a "RRC State: Connected" indicator. The bottom of the interface has a navigation bar with buttons for "Cell Setup ...", "Connection Setup ...", "DL Error Insertion ...", "TPC ...", "Power ...", "Enable ...", and "Config ...".



3.1.1.12 Test Mode = LTE /TM2 20MHz

3.1.1.12.1 Test Channel = MCH

The screenshot displays the LTE Measurement software interface. The main window is titled "LTE Measurement - V3.5.50 - Base V 3.5.120 - TX Measurement". It features a "Multi Evaluation" tab and a "PRACH" radio button. The interface shows the following parameters: FDD, Freq.: 1732.5 MHz, Ref. Level: 37.10 dBm, BW: 20.0 MHz, CP: Normal, Meas Subfr./Slot: 0 / All. The "IQ Constellation" plot shows a 16-QAM constellation with 16 clusters of blue dots arranged in a 4x4 grid. The axes are labeled "Q" (vertical) and "I" (horizontal), both ranging from -1 to 1. To the right of the plot, the "Statistic Count" is 11 / 20, "Out of Tolerance" is 0.00 %, "Detected Modulation" is 16-QAM, "Detected Channel Type" is PUSCH, and "View Filter Throughput" is 100.0 %. The interface also includes a "PS: Connection Established" status bar and an "RRC State: Connected" indicator. The bottom of the interface has a navigation bar with buttons for "Cell Setup ...", "Connection Setup ...", "DL Error Insertion ...", "TPC ...", "Power ...", "Enable ...", and "Config ...". On the right side, there is a vertical toolbar with buttons for "LTE", "Multi Evaluation", "RUN", "RF Settings", "Trigger", "Display", "Signaling Parameter", and "LTE Signaling ON".



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	1.09	1.27	PASS
		MCH	1.10	1.27	PASS
		HCH	1.10	1.28	PASS
	TM2/1.4MHz	LCH	1.10	1.29	PASS
		MCH	1.10	1.27	PASS
		HCH	1.09	1.27	PASS
	TM1/ 3MHz	LCH	2.69	2.90	PASS
		MCH	2.69	2.91	PASS
		HCH	2.69	2.93	PASS
	TM2/ 3MHz	LCH	2.69	2.91	PASS
		MCH	2.69	2.94	PASS
		HCH	2.68	2.91	PASS
	TM1/ 5MHz	LCH	4.50	4.97	PASS
		MCH	4.50	4.98	PASS
		HCH	4.48	4.95	PASS
	TM2/ 5MHz	LCH	4.49	4.99	PASS
		MCH	4.49	4.95	PASS
		HCH	4.50	5.00	PASS
	TM1/ 10MHz	LCH	8.93	9.71	PASS
		MCH	8.97	9.80	PASS
		HCH	8.93	9.75	PASS
	TM2/ 10MHz	LCH	8.95	9.73	PASS
		MCH	8.95	9.70	PASS
		HCH	8.93	9.71	PASS
TM1/ 15MHz	LCH	13.46	14.87	PASS	
	MCH	13.52	14.95	PASS	
	HCH	13.49	14.96	PASS	
TM2/ 15MHz	LCH	13.52	14.90	PASS	
	MCH	13.52	14.83	PASS	
	HCH	13.52	14.87	PASS	
TM1/ 20MHz	LCH	17.90	19.42	PASS	
	MCH	17.94	19.46	PASS	
	HCH	17.94	19.72	PASS	

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**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM161201085001

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Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
	TM2/ 20MHz	LCH	17.90	19.58	PASS
		MCH	17.98	19.42	PASS
		HCH	17.94	19.60	PASS

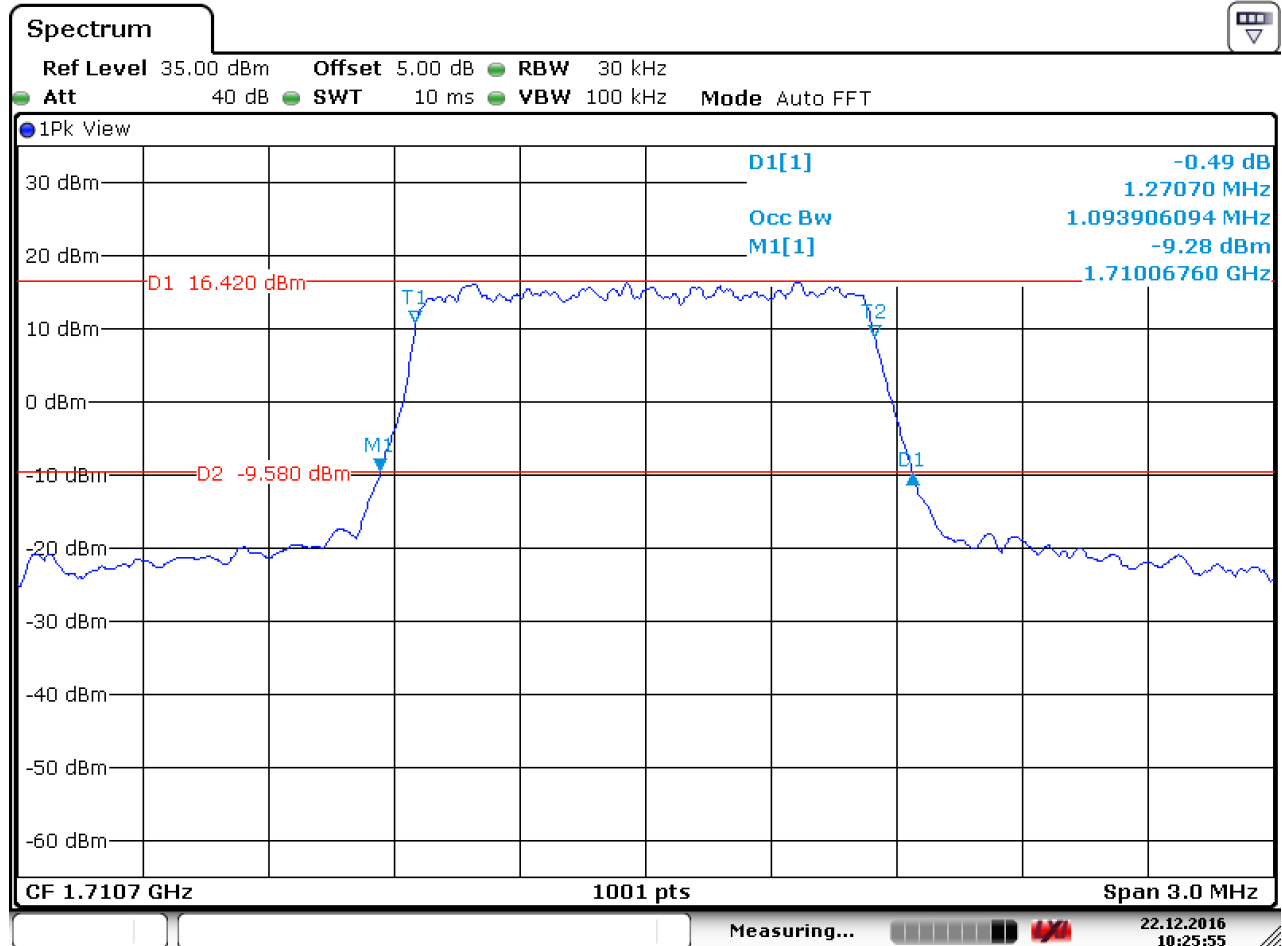
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4.1 For LTE

4.1.1 Test Band = LTE band4

4.1.1.1 Test Mode = LTE/TM1 1.4MHz

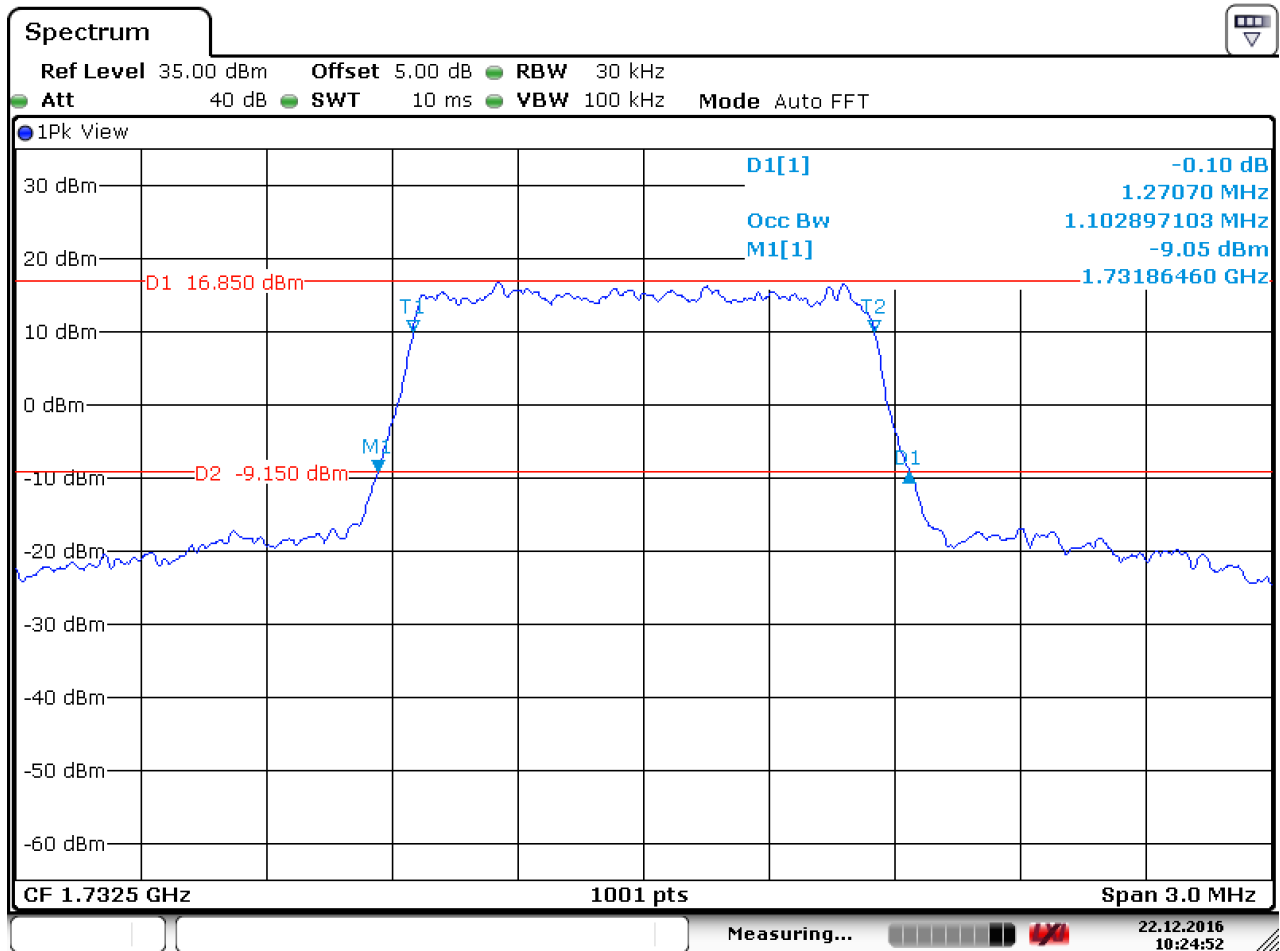
4.1.1.1.1 Test Channel = LCH



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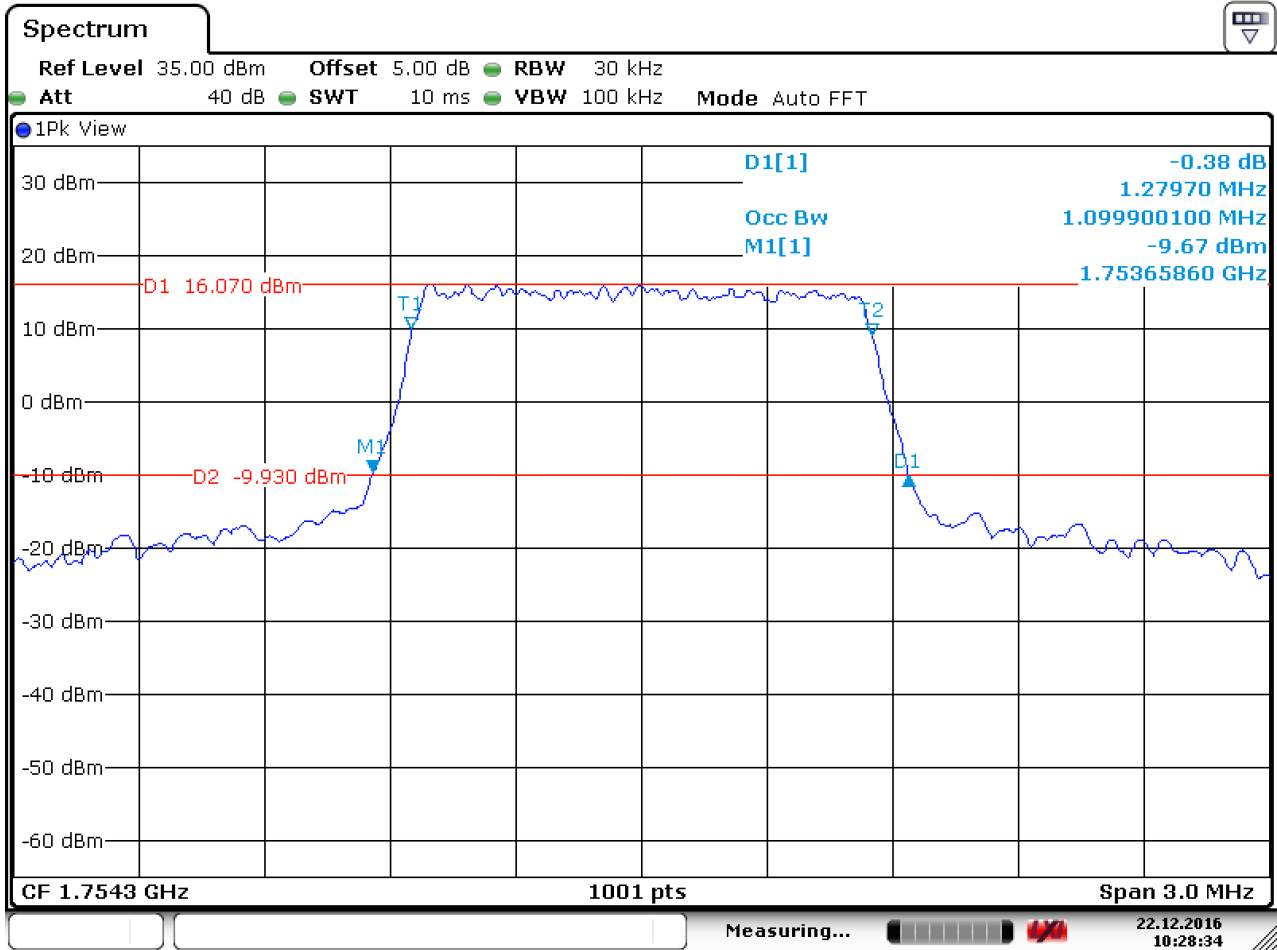
4.1.1.1.2 Test Channel = MCH



Date: 22.DEC.2016 10:24:52



4.1.1.1.3 Test Channel = HCH

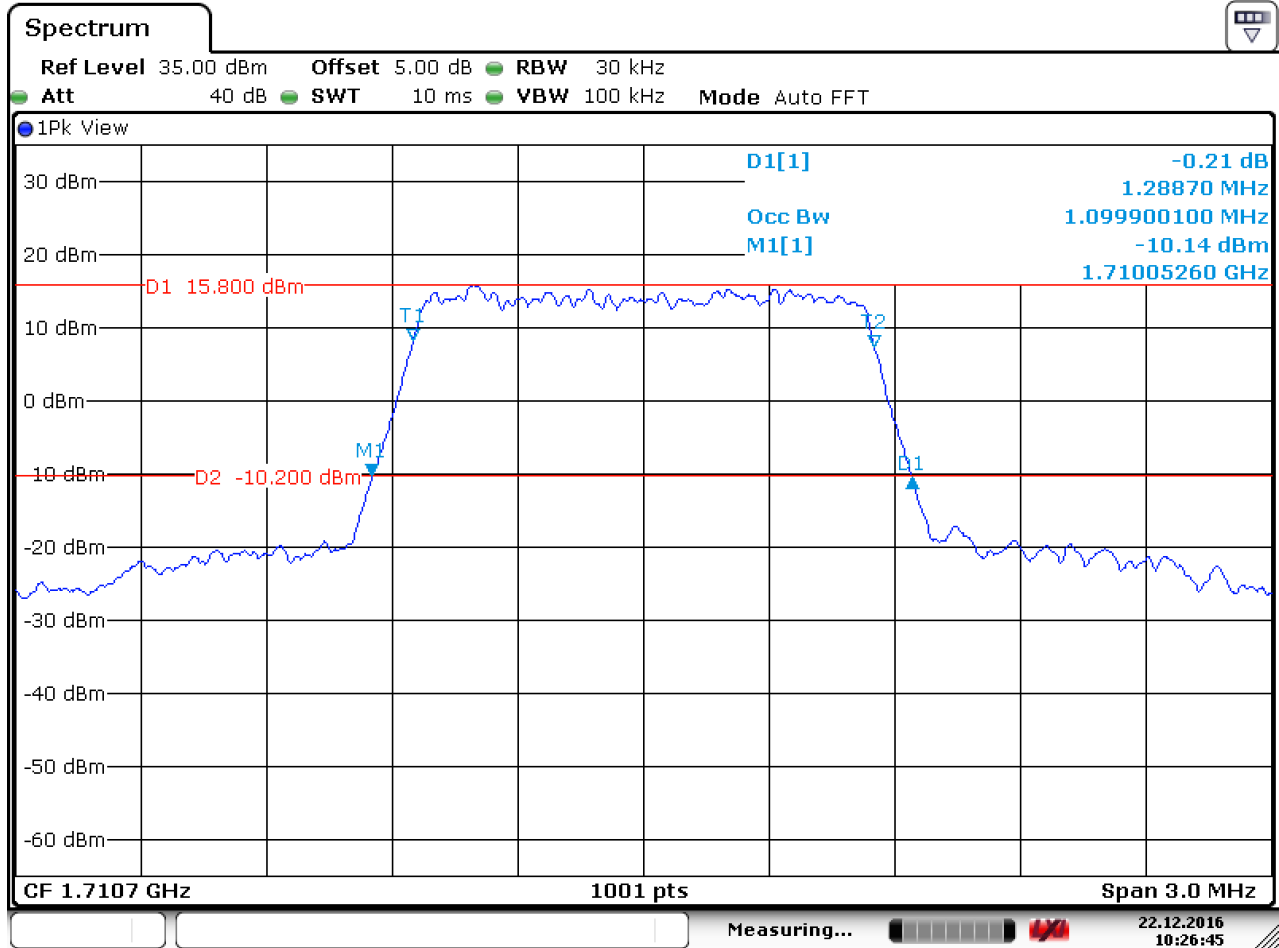


Date: 22.DEC.2016 10:28:35



4.1.1.2 Test Mode = LTE/TM2 1.4MHz

4.1.1.2.1 Test Channel = LCH

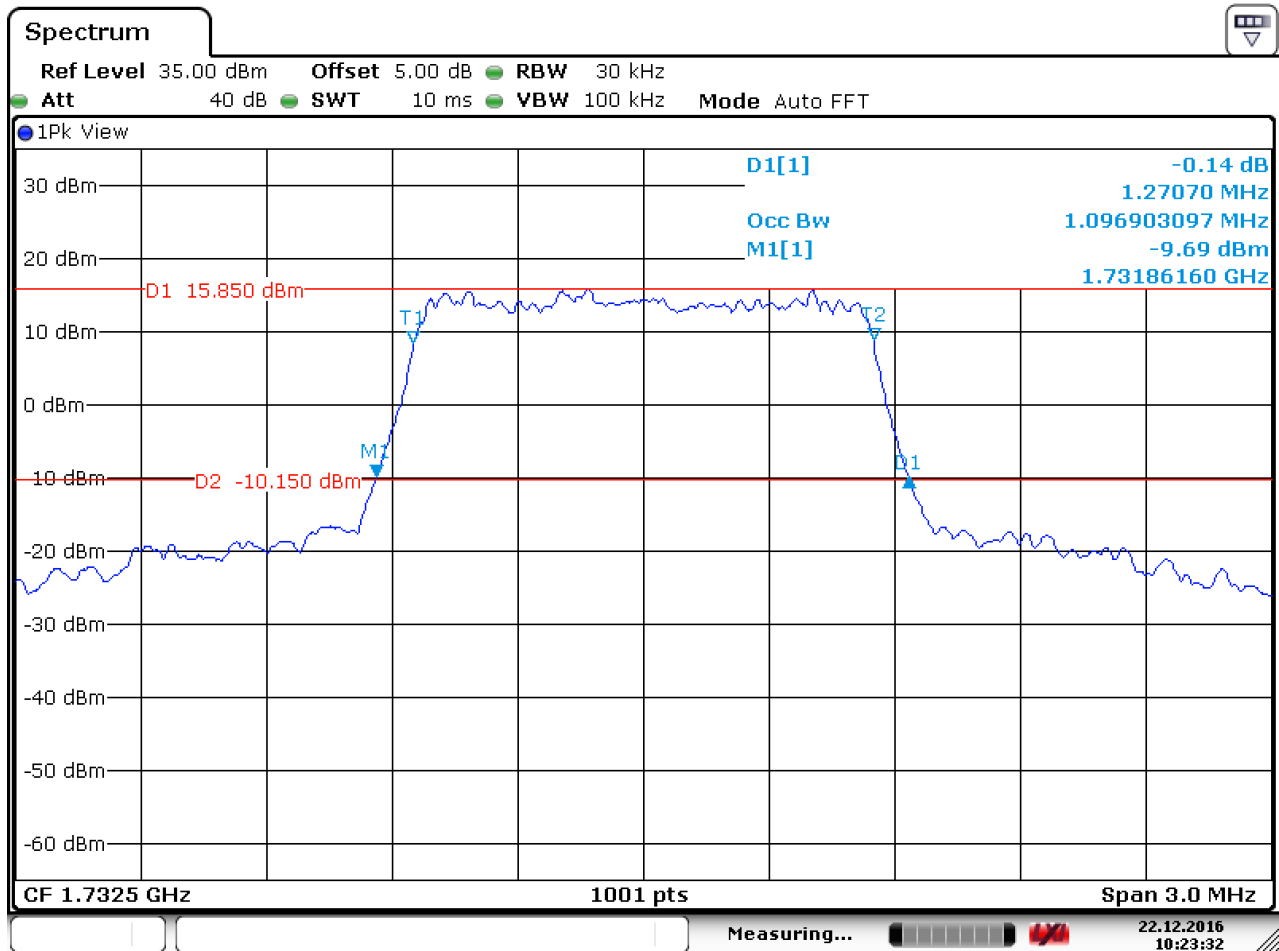


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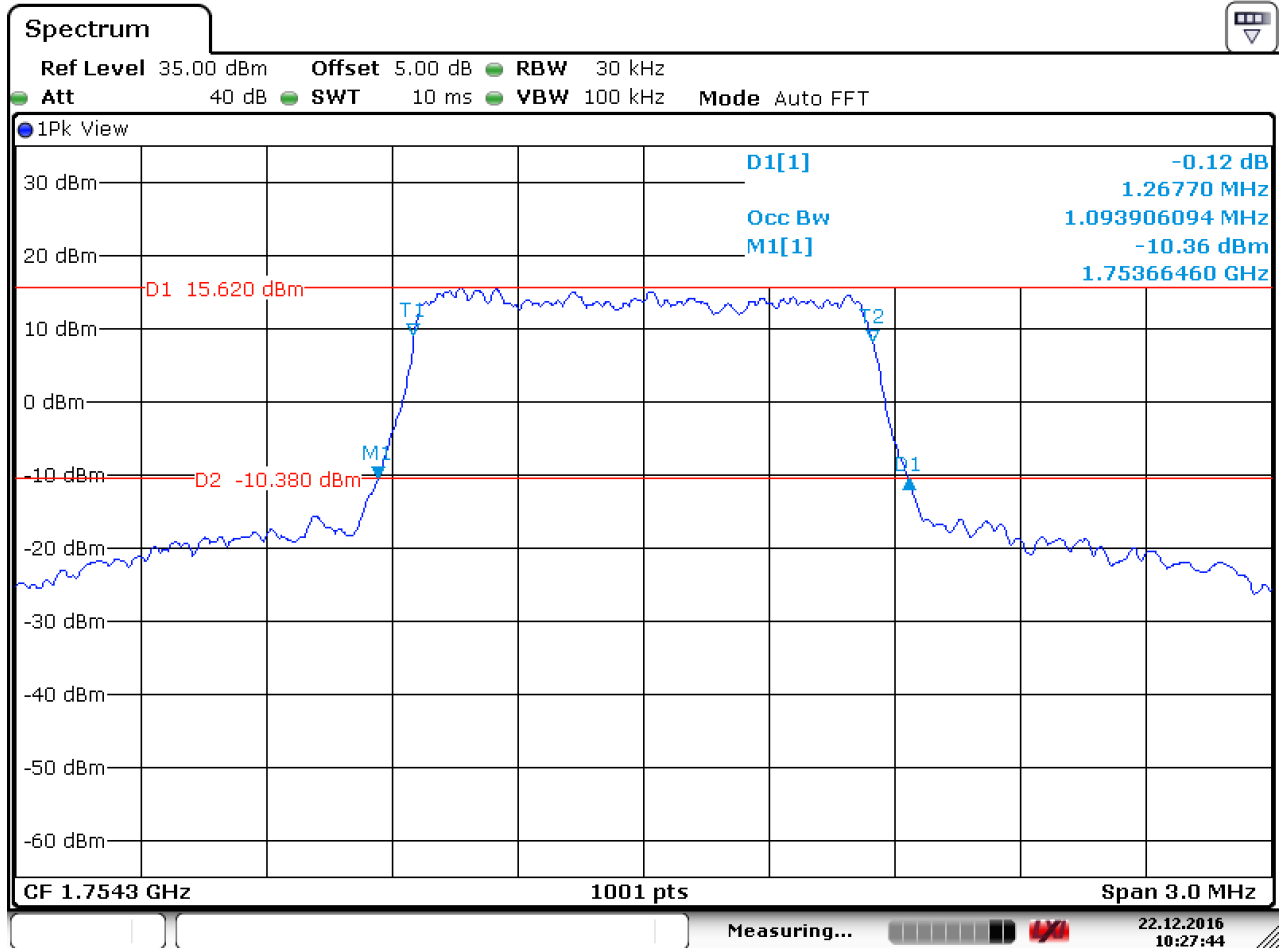
4.1.1.2.2 Test Channel = MCH



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4.1.1.2.3 Test Channel = HCH



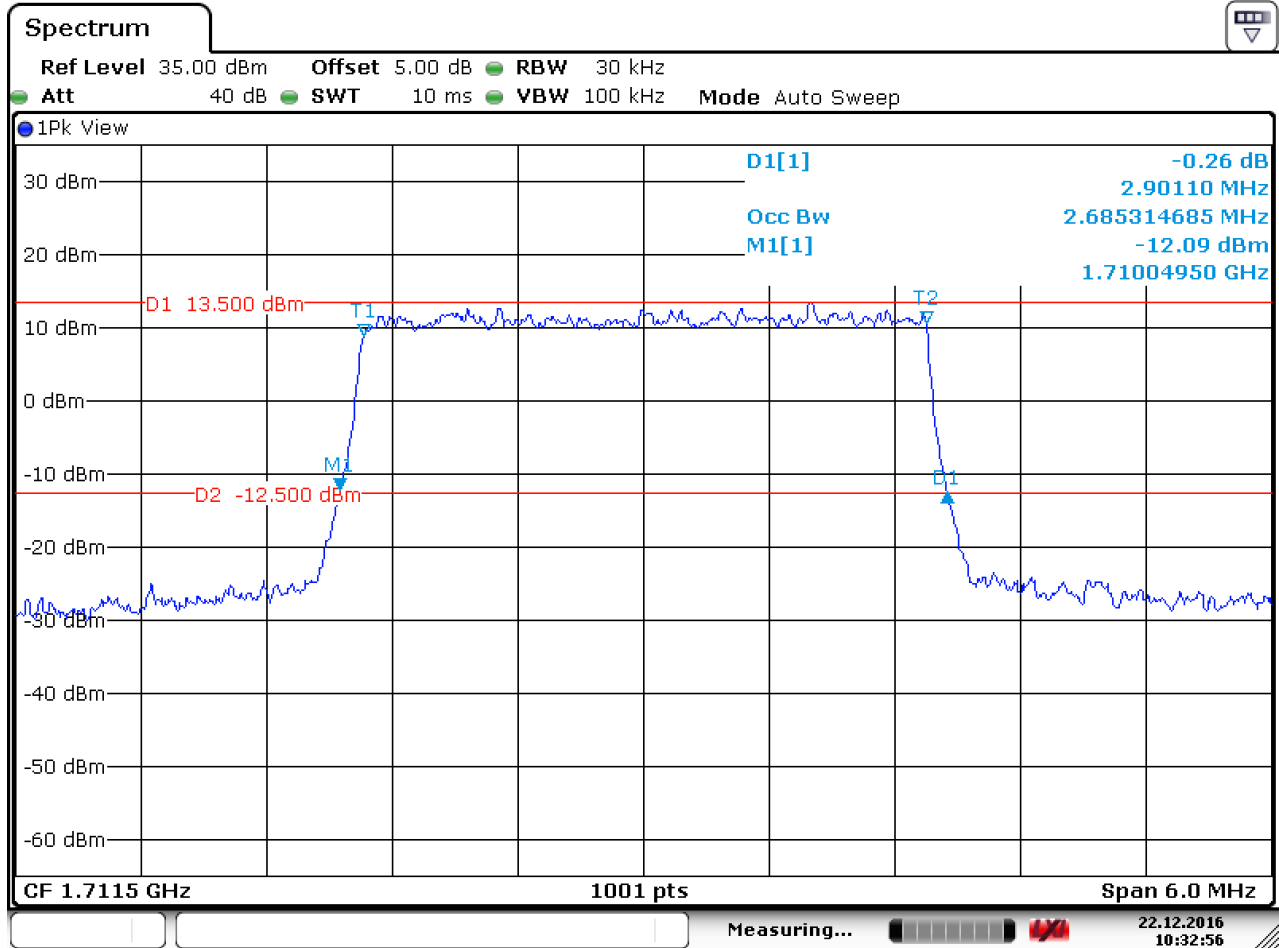
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4.1.1.3 Test Mode = LTE/TM1 3MHz

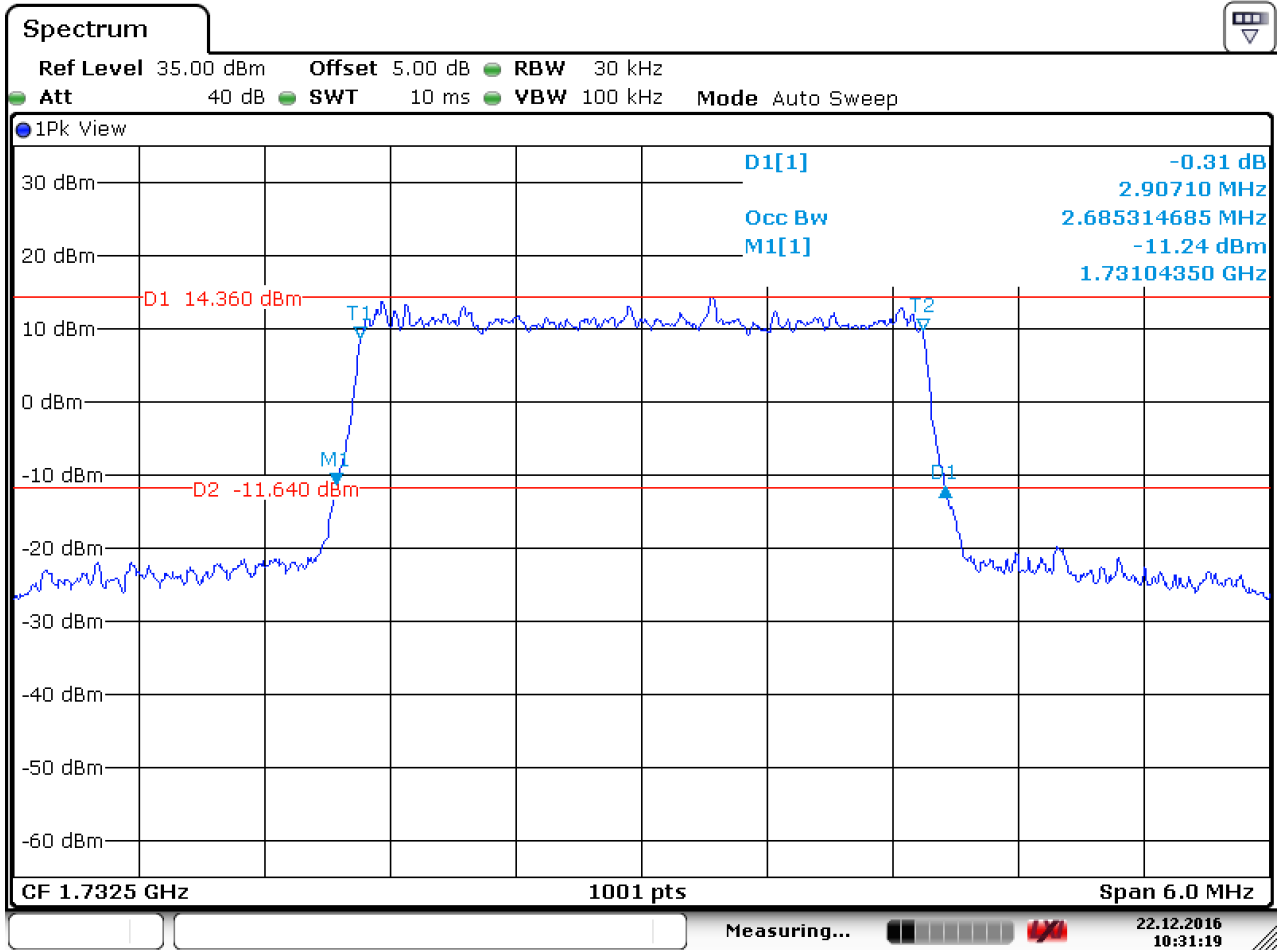
4.1.1.3.1 Test Channel = LCH



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4.1.1.3.2 Test Channel = MCH

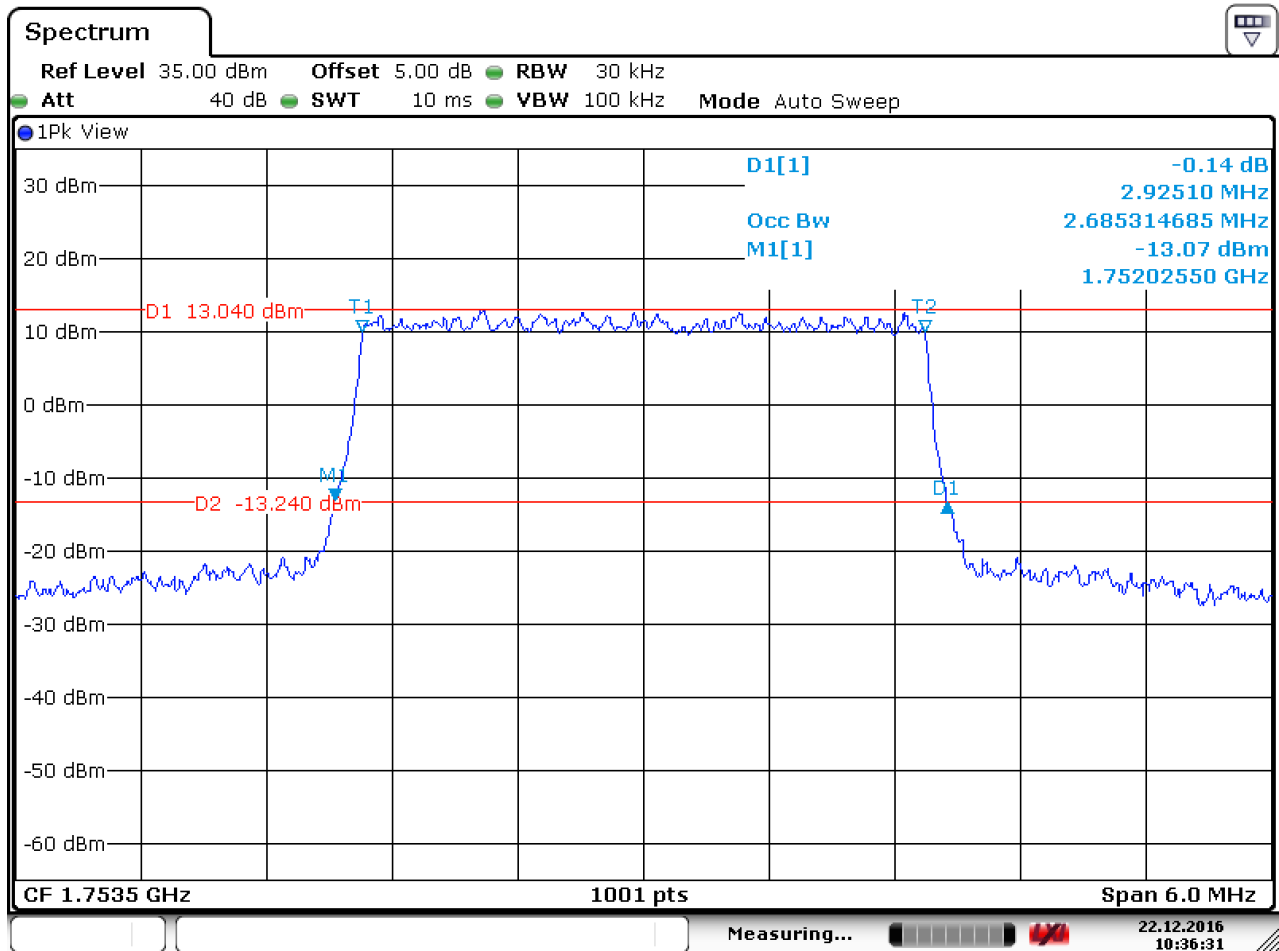


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4.1.1.3.3 Test Channel = HCH



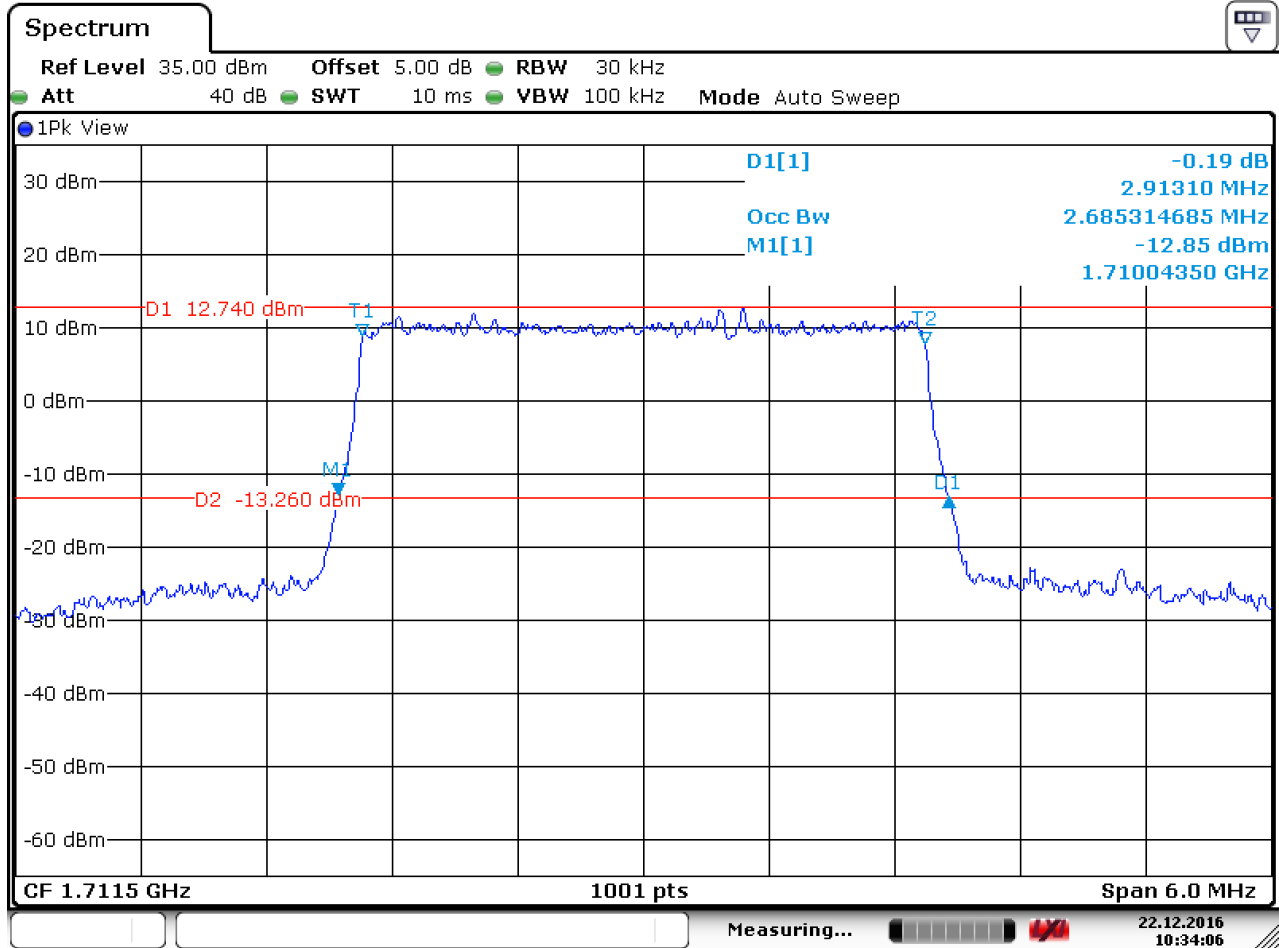
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4.1.1.4 Test Mode = LTE/TM2 3MHz

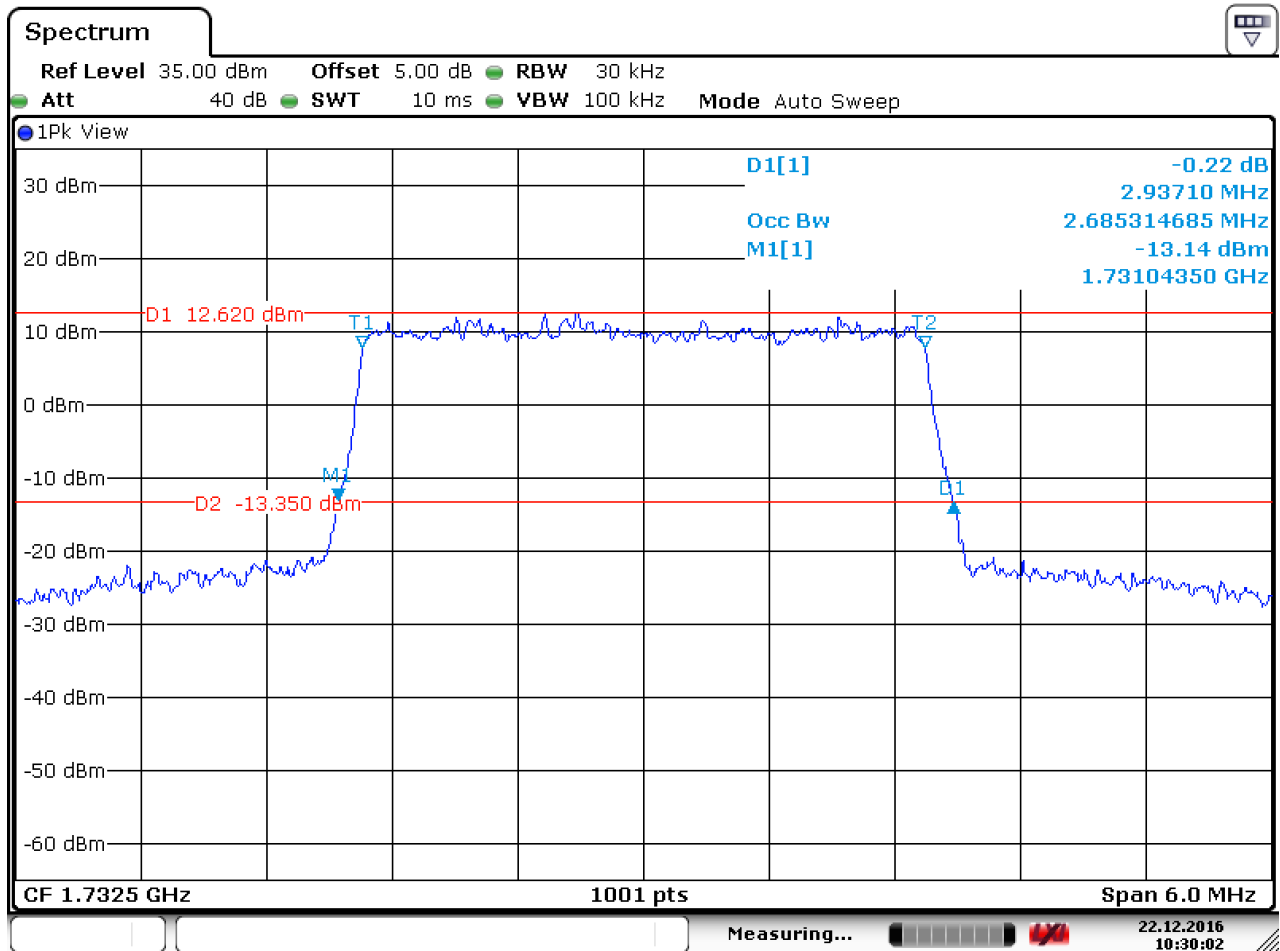
4.1.1.4.1 Test Channel = LCH



Date: 22.DEC.2016 10:34:07



4.1.1.4.2 Test Channel = MCH

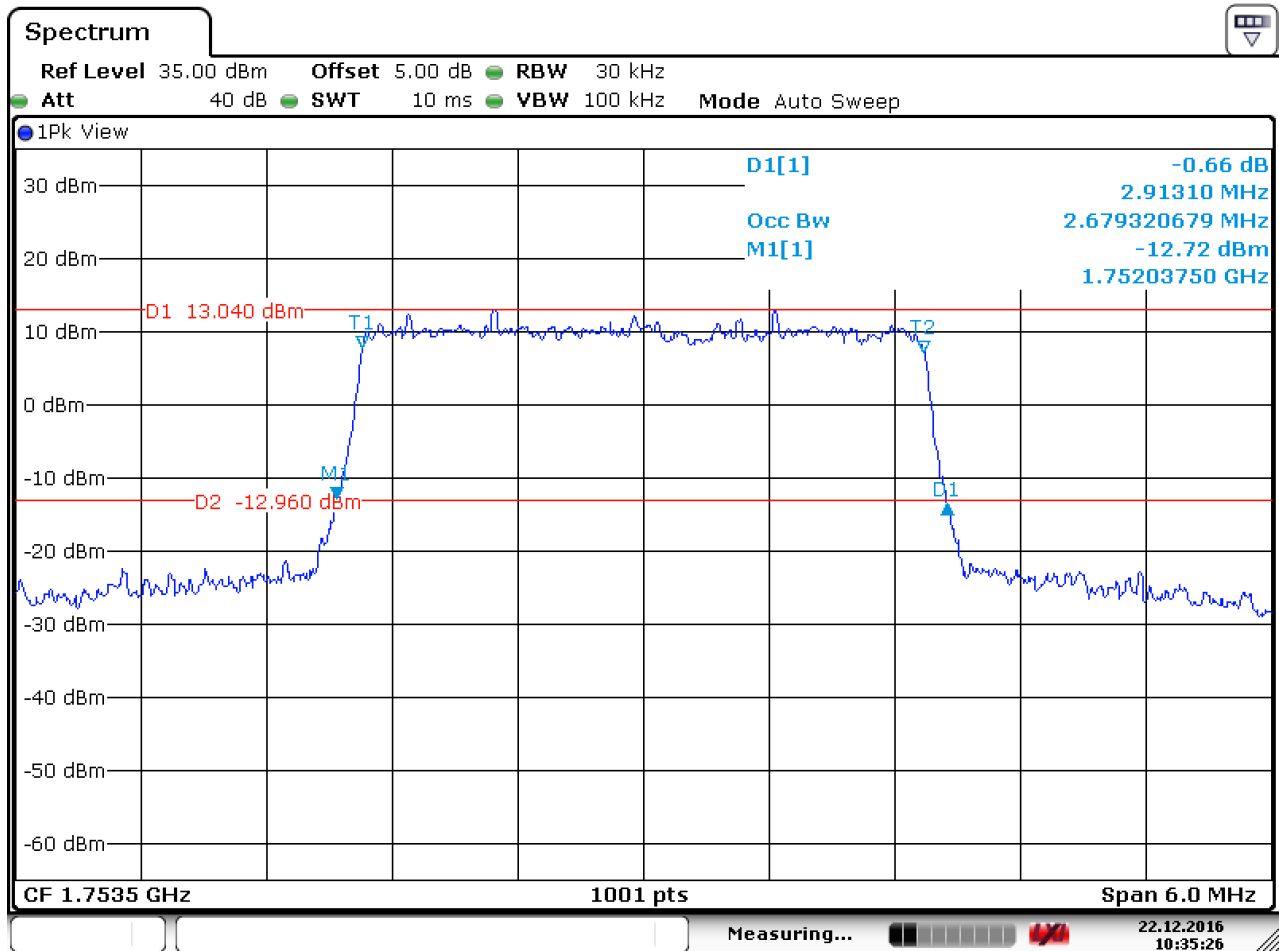


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4.1.1.4.3 Test Channel = HCH



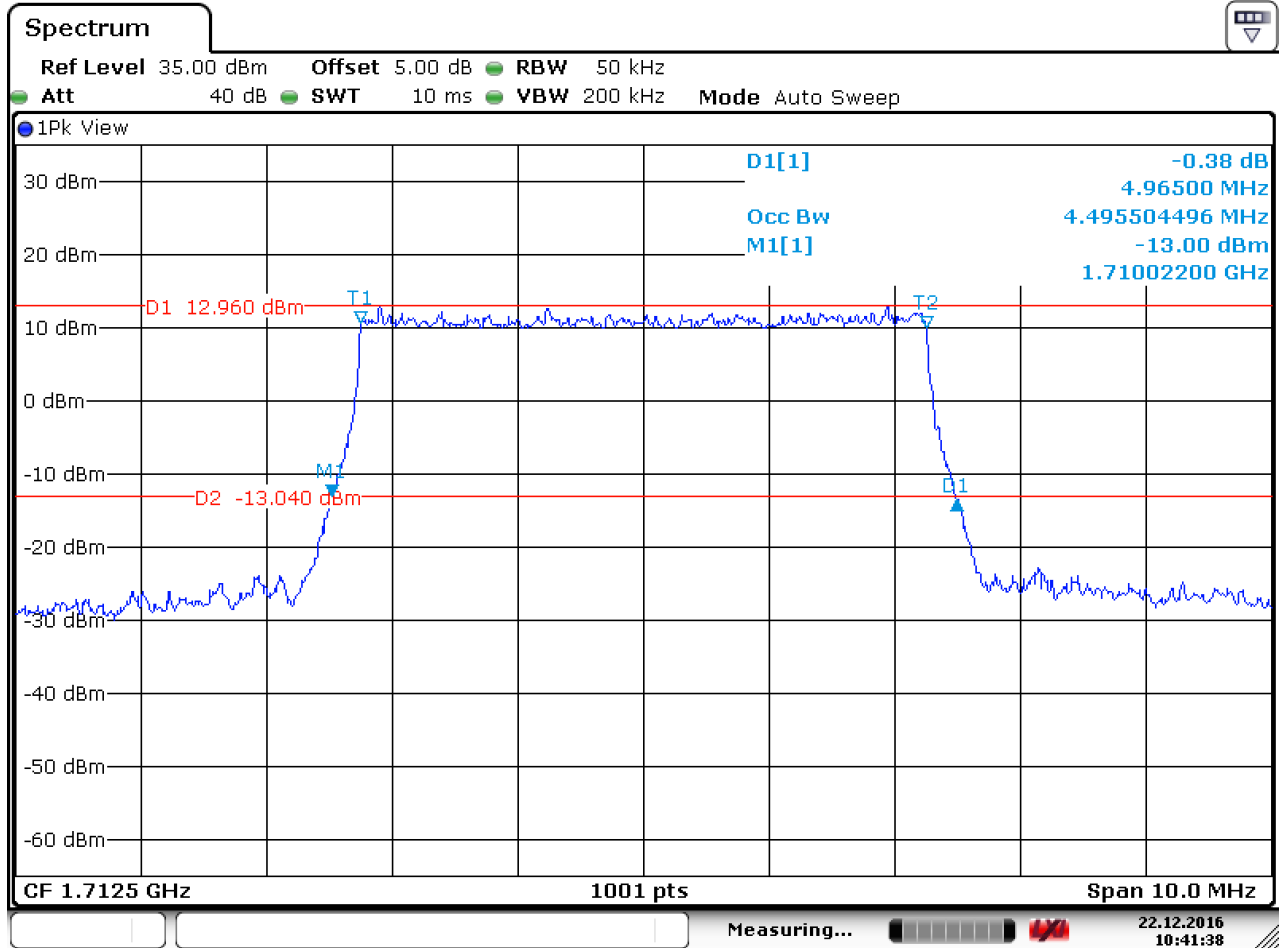
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4.1.1.5 Test Mode = LTE/TM1 5MHz

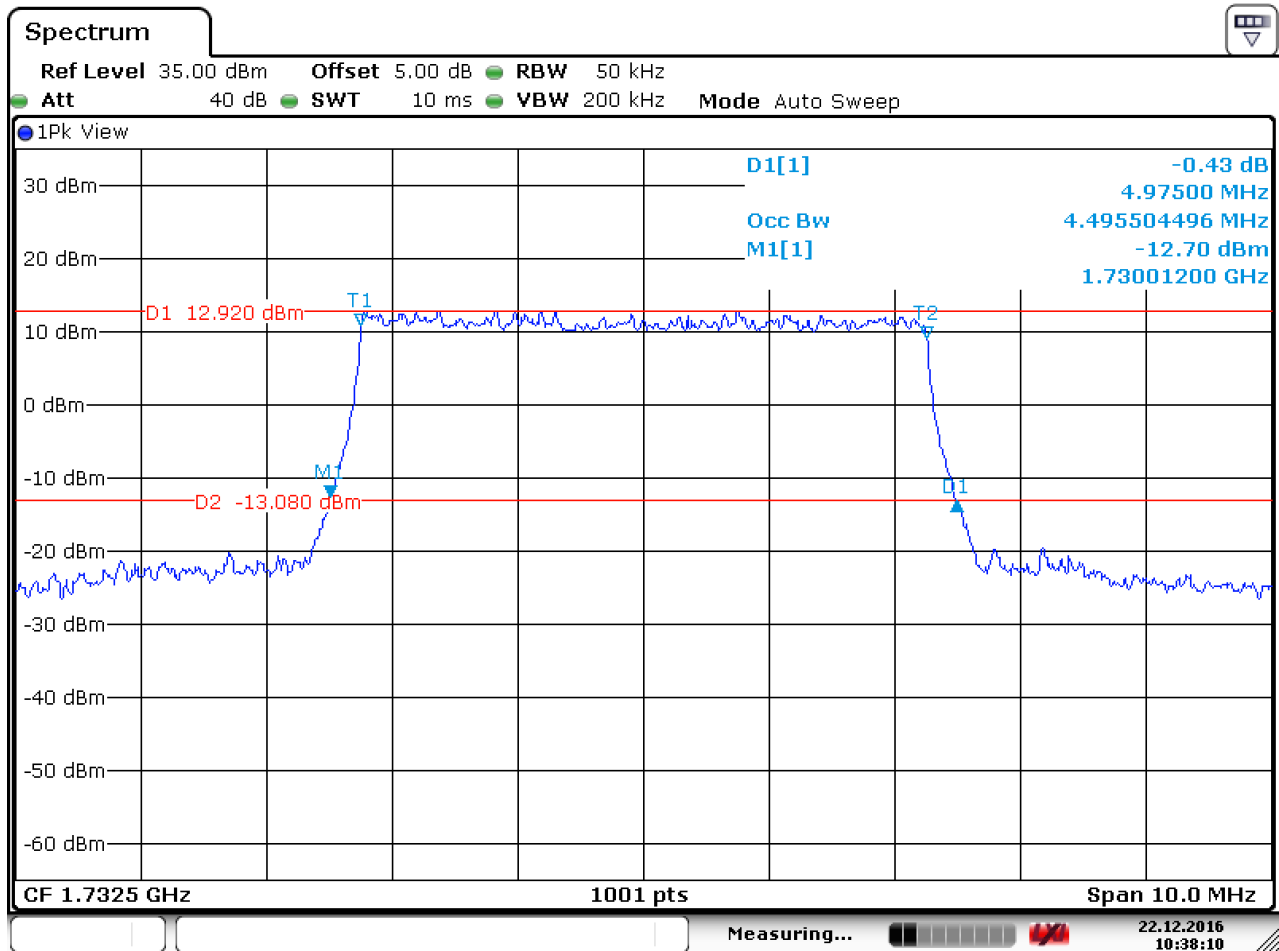
4.1.1.5.1 Test Channel = LCH



Date: 22.DEC.2016 10:41:38



4.1.1.5.2 Test Channel = MCH

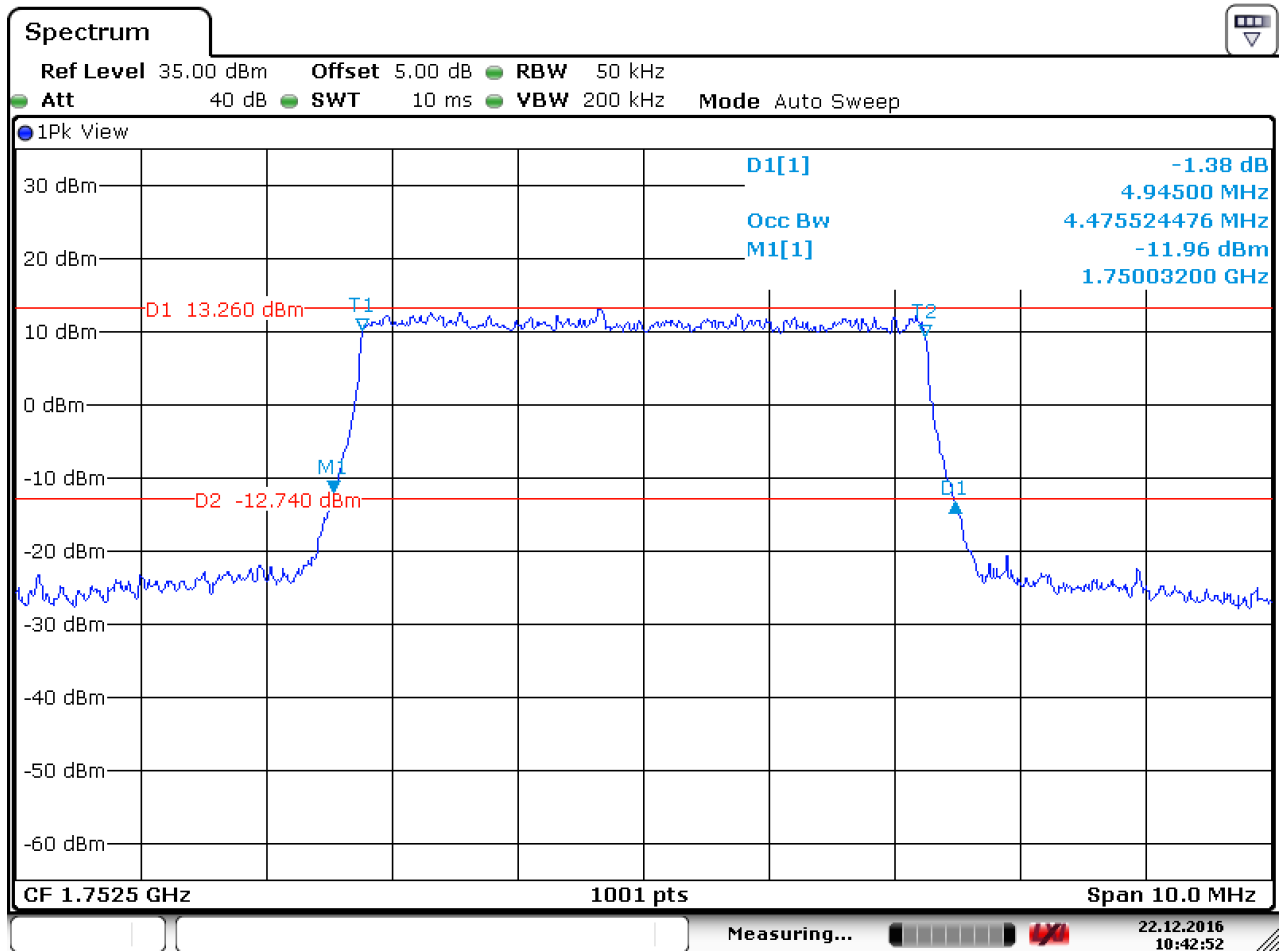


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4.1.1.5.3 Test Channel = HCH

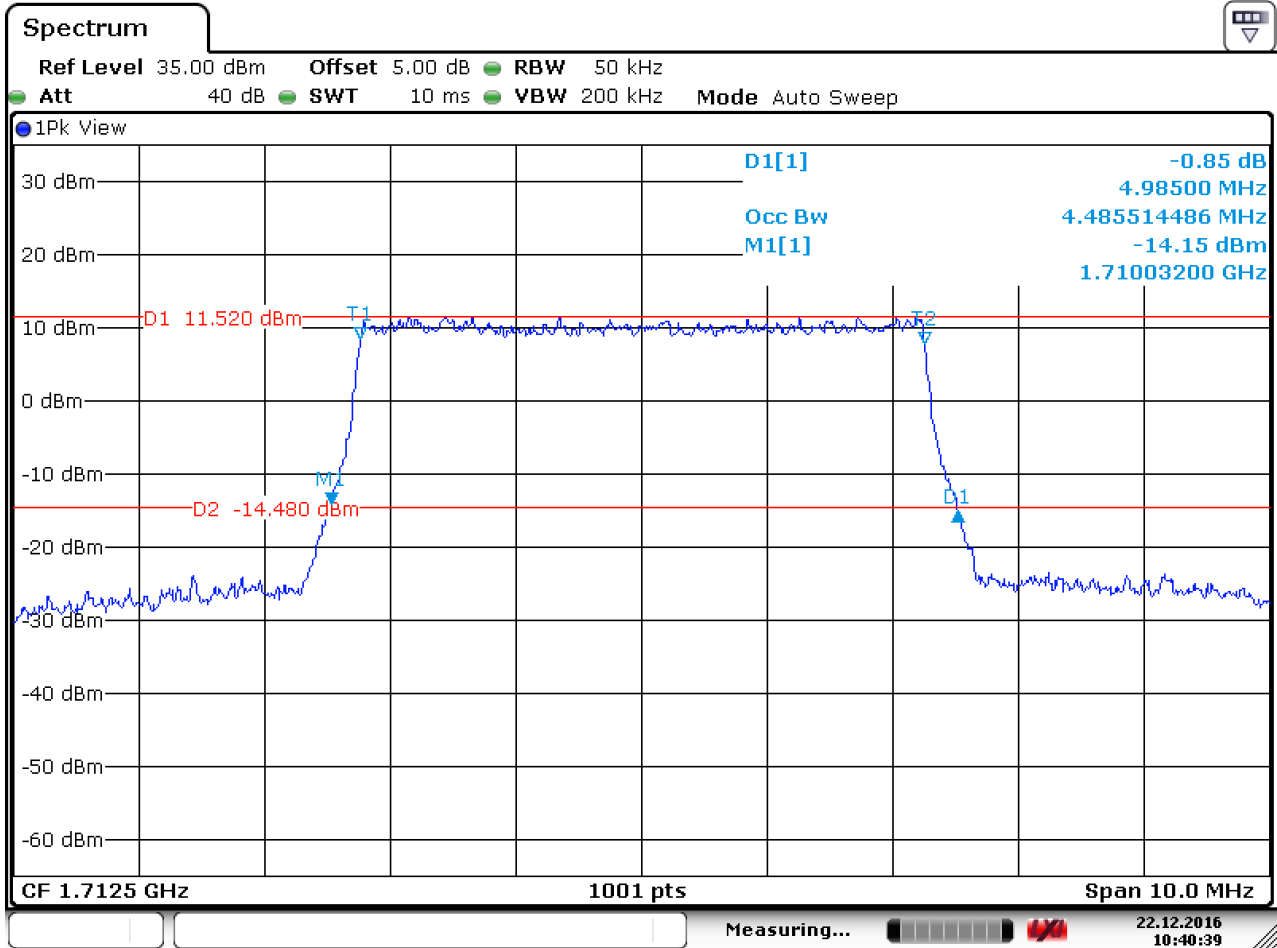


Date: 22.DEC.2016 10:42:52



4.1.1.6 Test Mode = LTE/TM2 5MHz

4.1.1.6.1 Test Channel = LCH

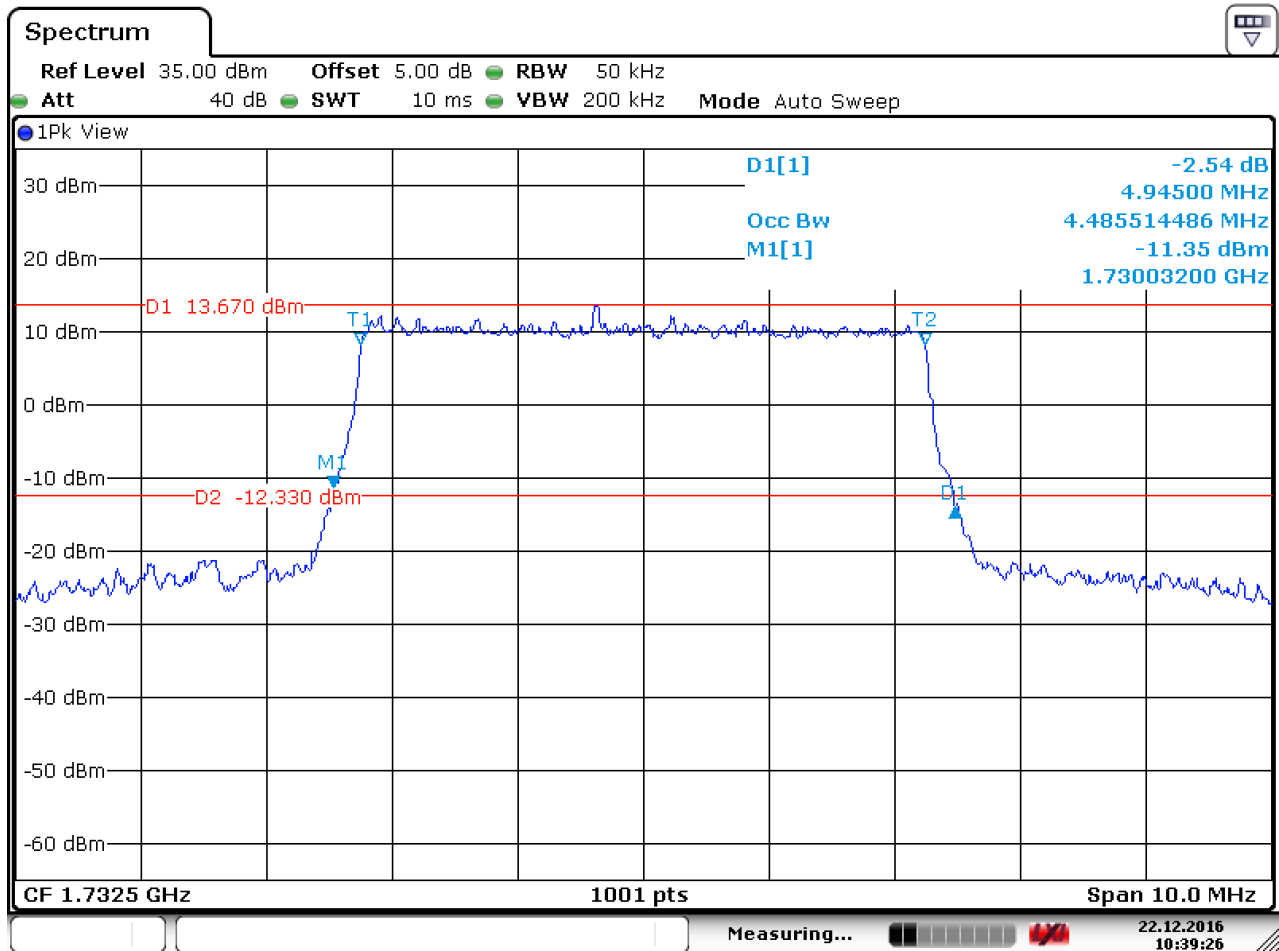


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4.1.1.6.2 Test Channel = MCH

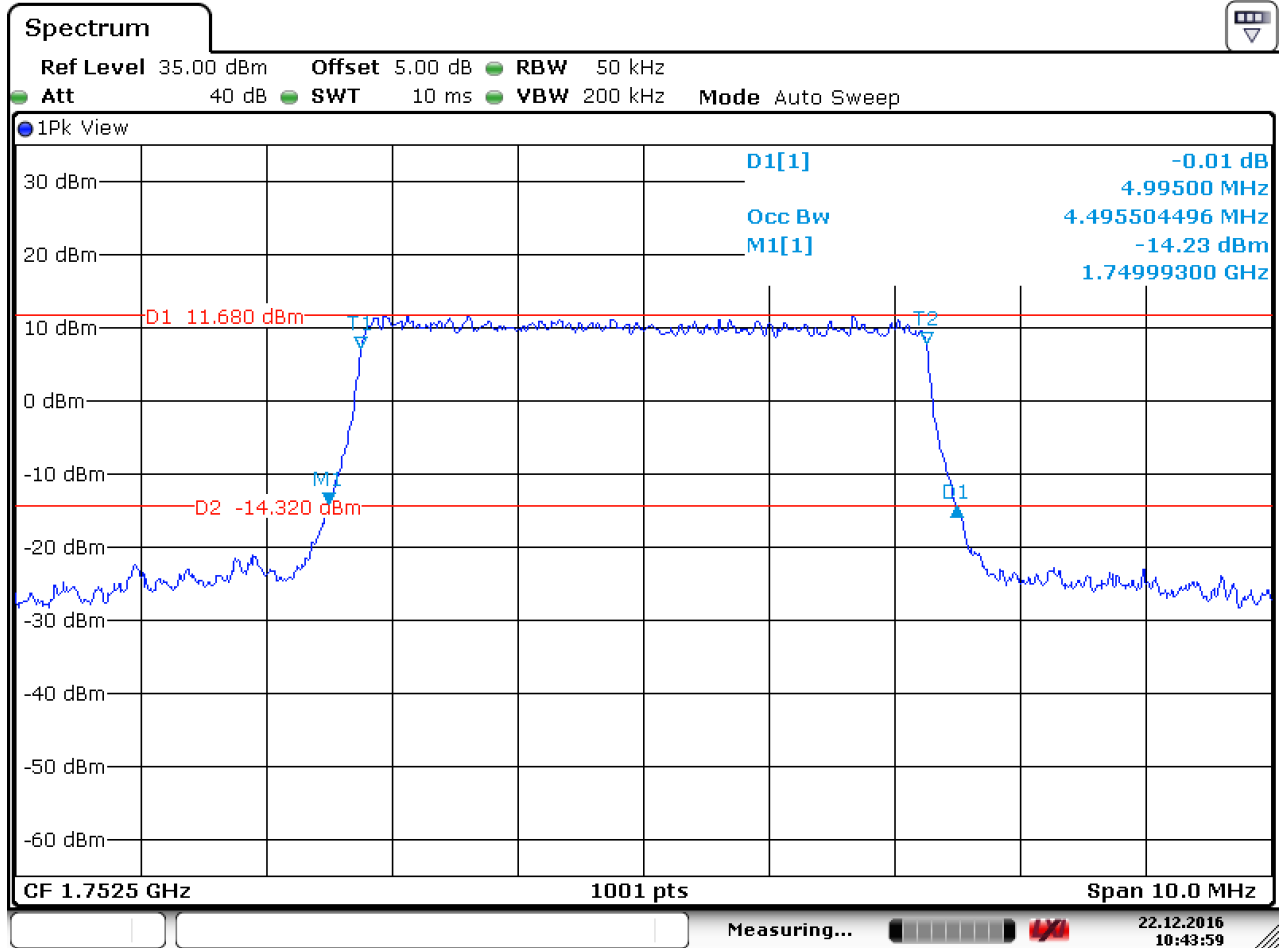


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4.1.1.6.3 Test Channel = HCH



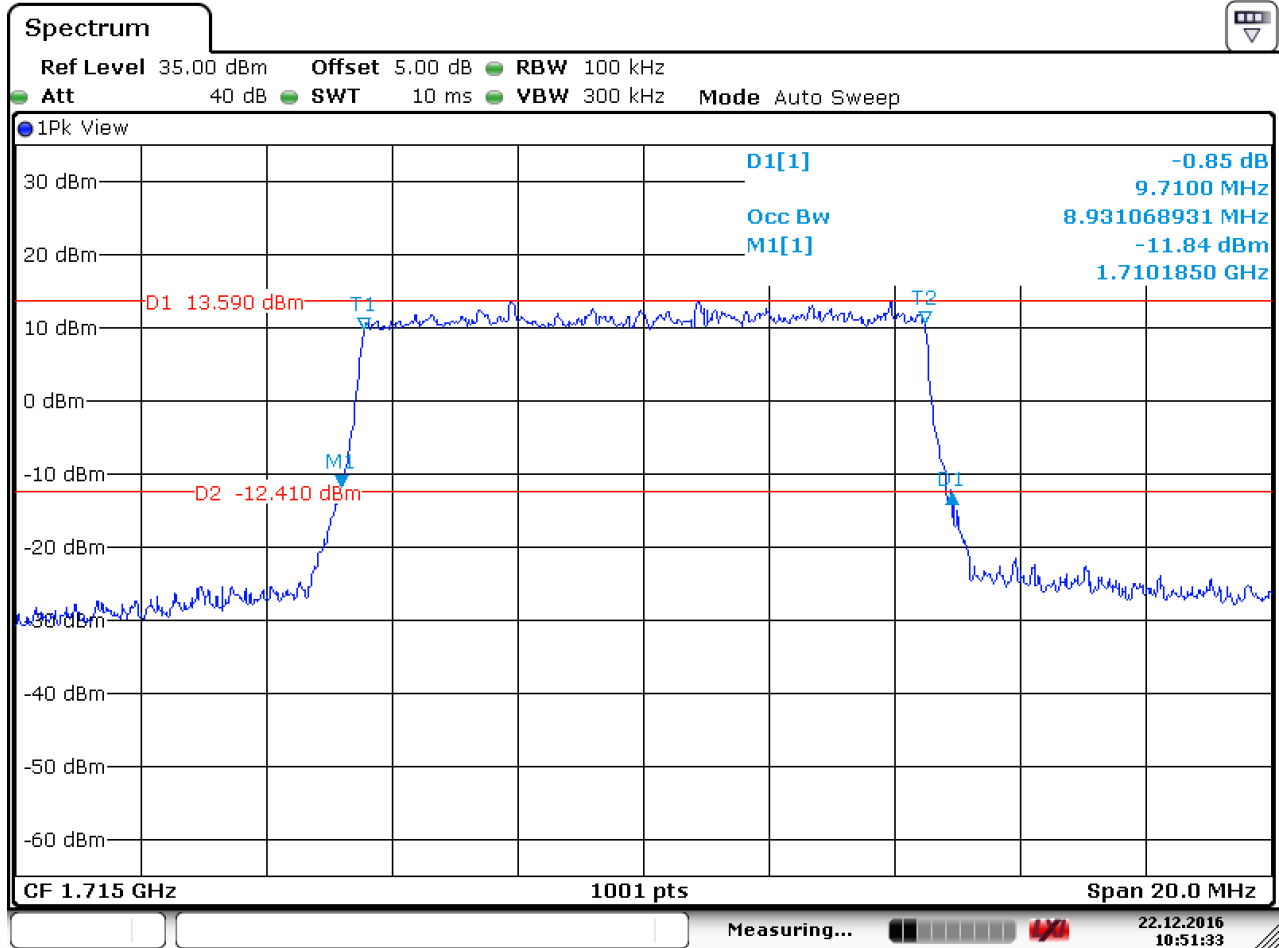
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4.1.1.7 Test Mode = LTE/TM1 10MHz

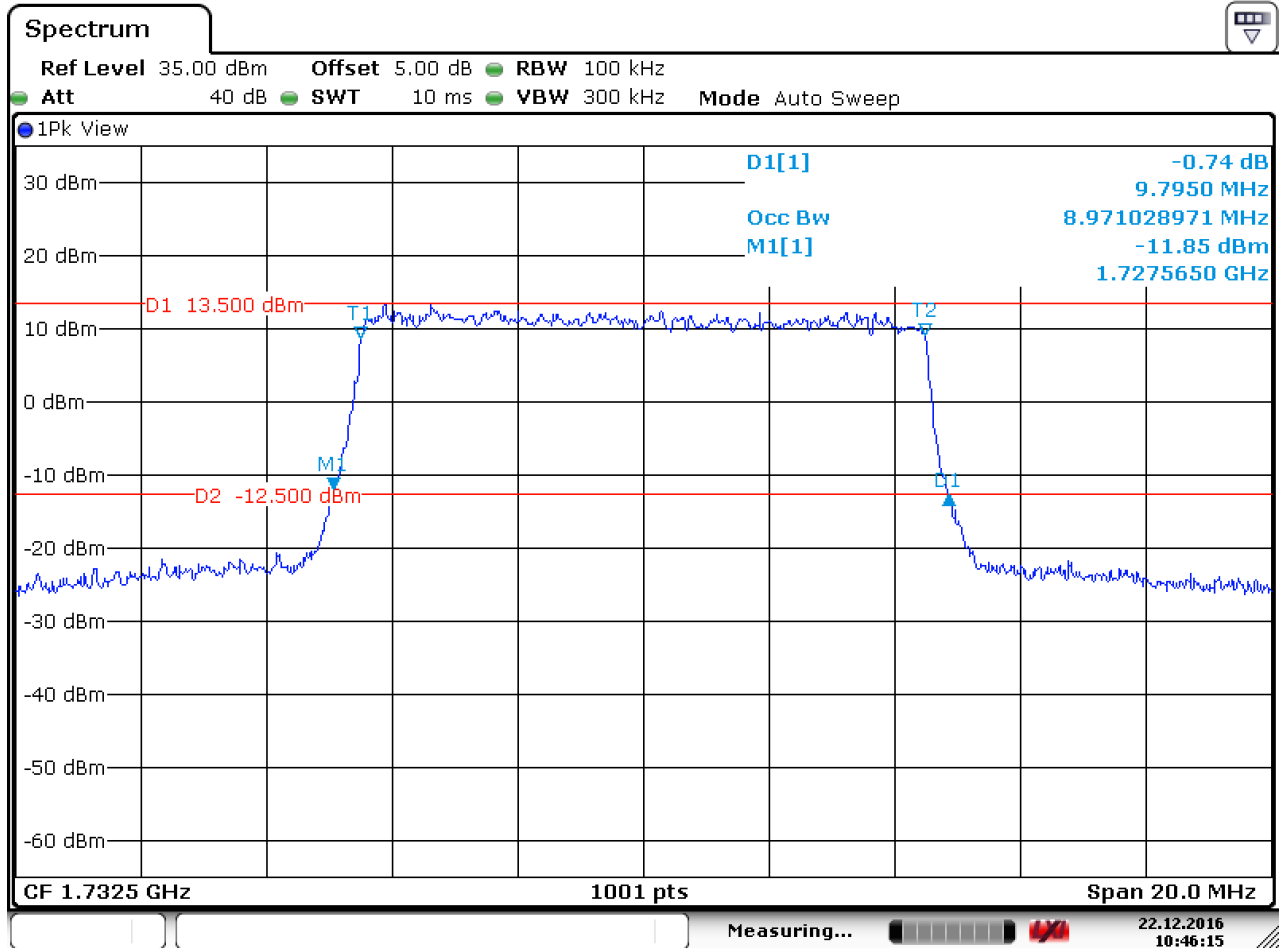
4.1.1.7.1 Test Channel = LCH



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4.1.1.7.2 Test Channel = MCH

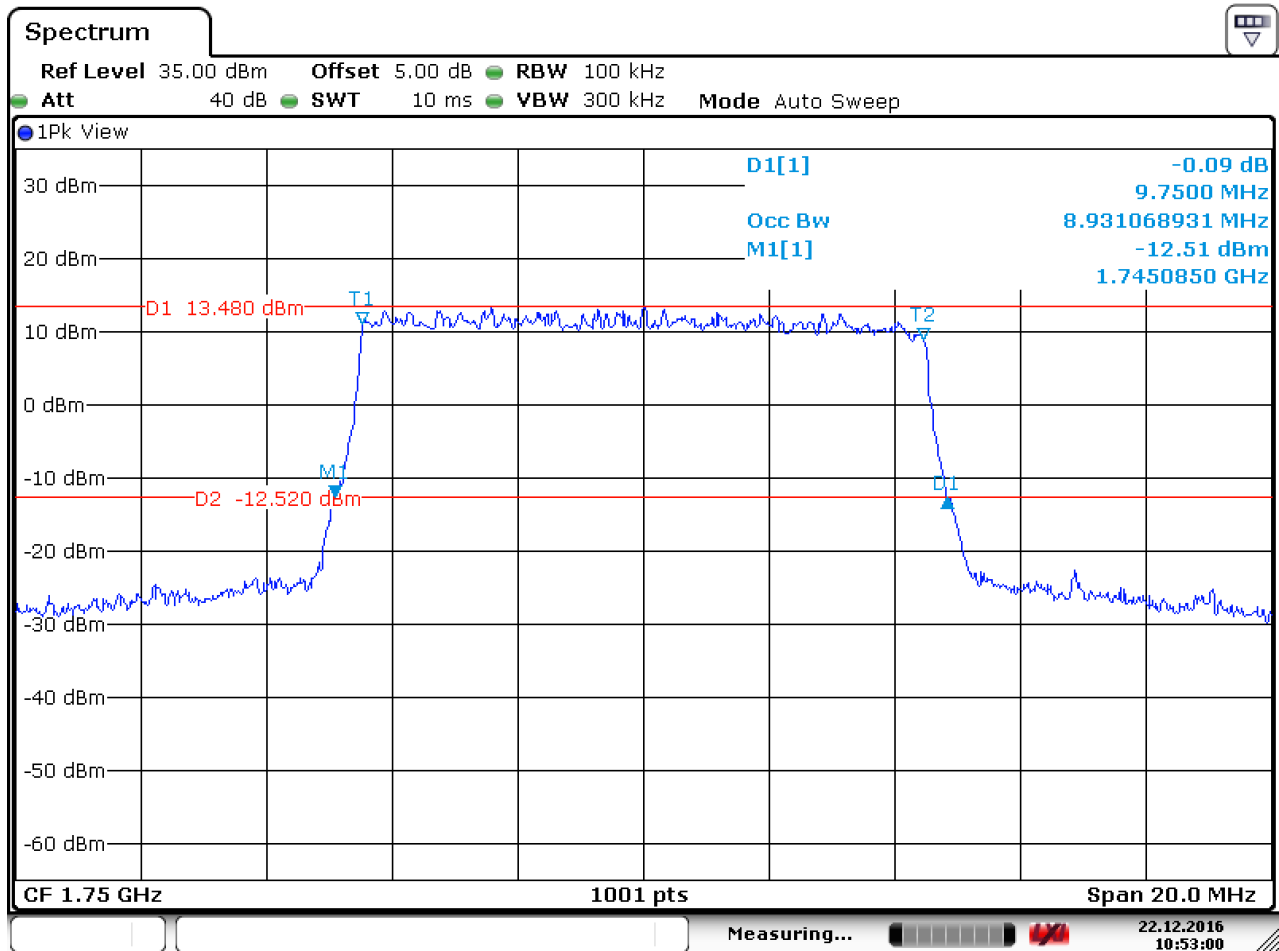


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4.1.1.7.3 Test Channel = HCH



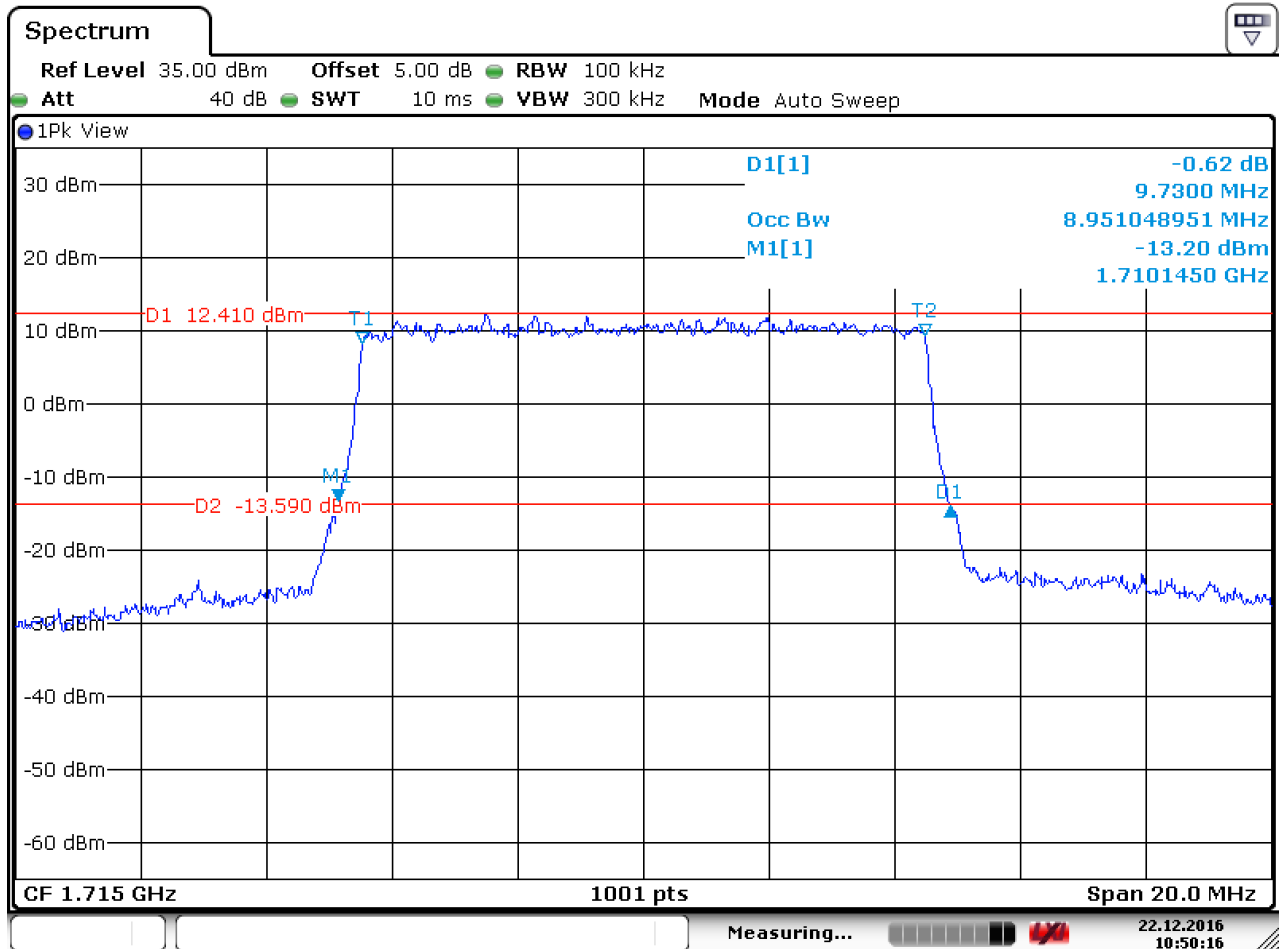
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4.1.1.8 Test Mode = LTE/TM2 10MHz

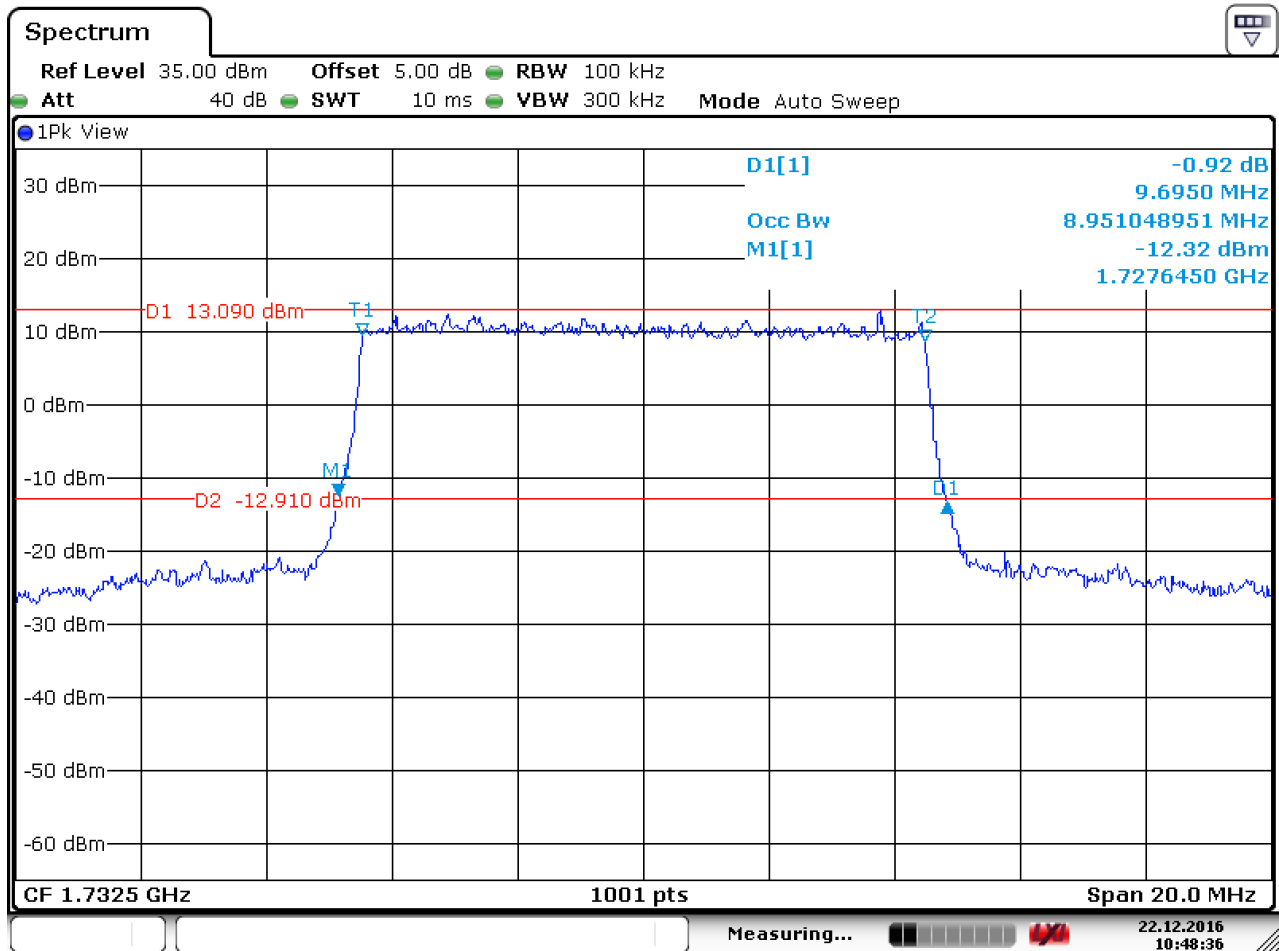
4.1.1.8.1 Test Channel = LCH



Date: 22.DEC.2016 10:50:16



4.1.1.8.2 Test Channel = MCH

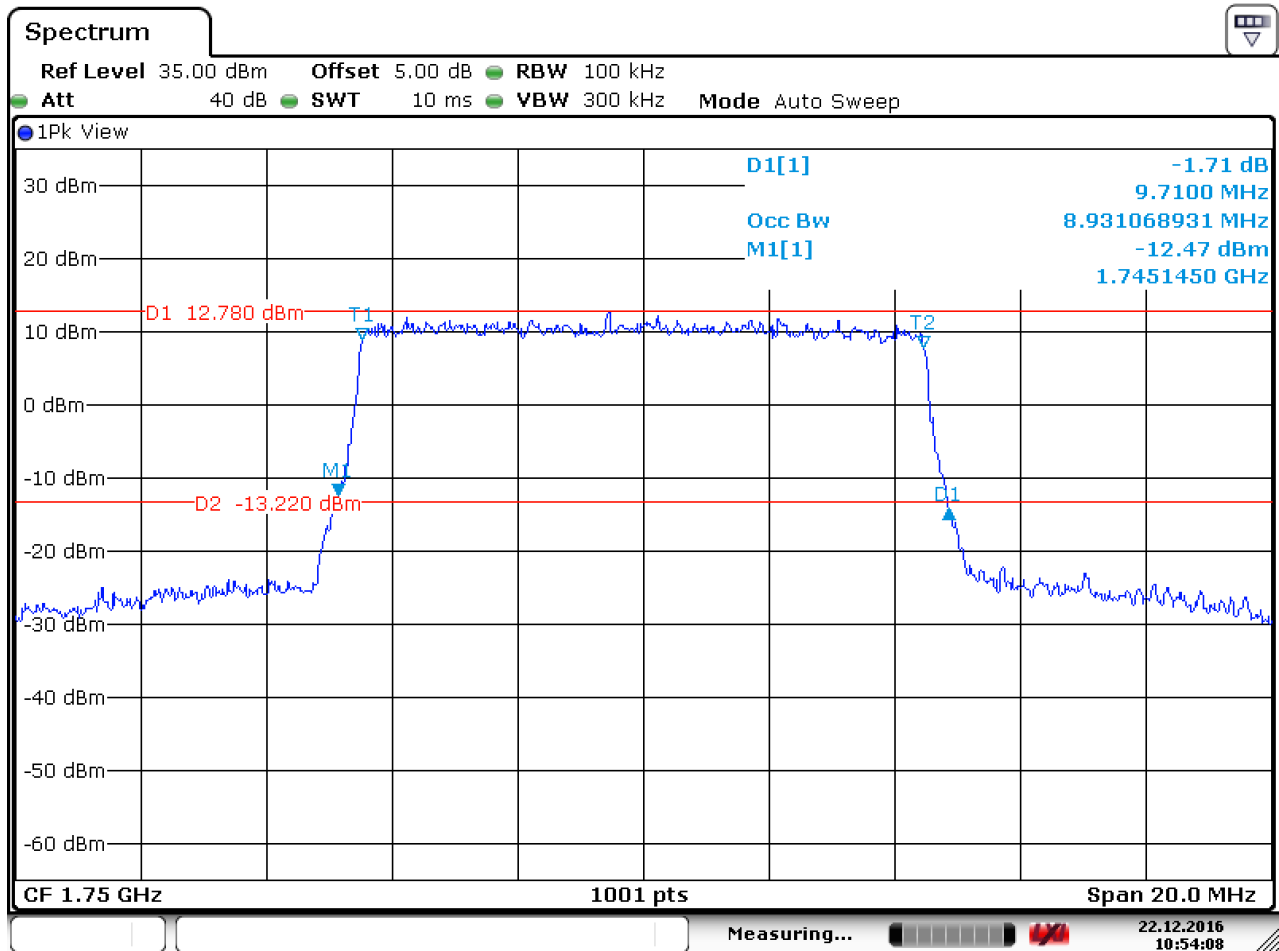


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4.1.1.8.3 Test Channel = HCH

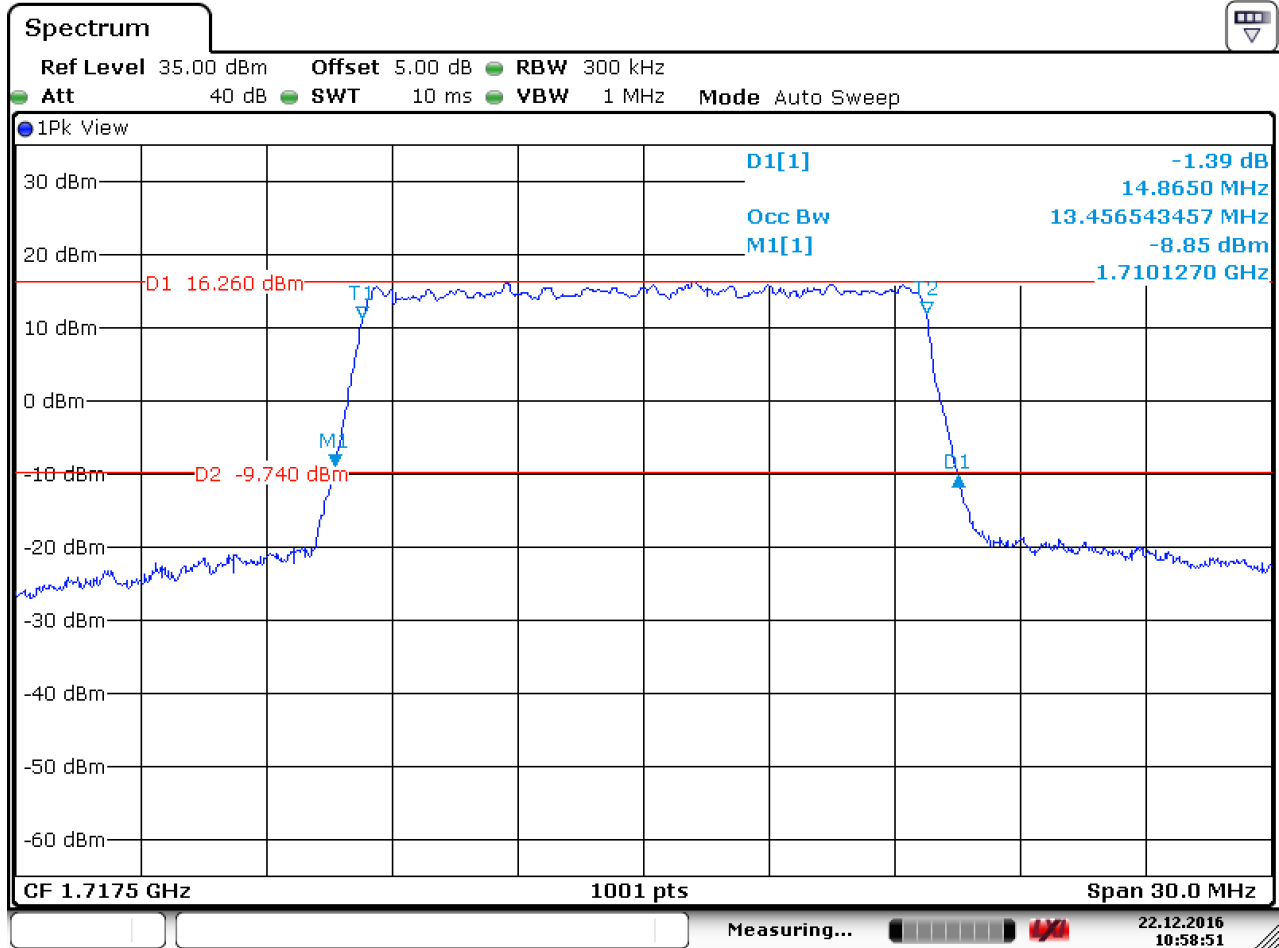


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4.1.1.9 Test Mode = LTE/TM1 15MHz

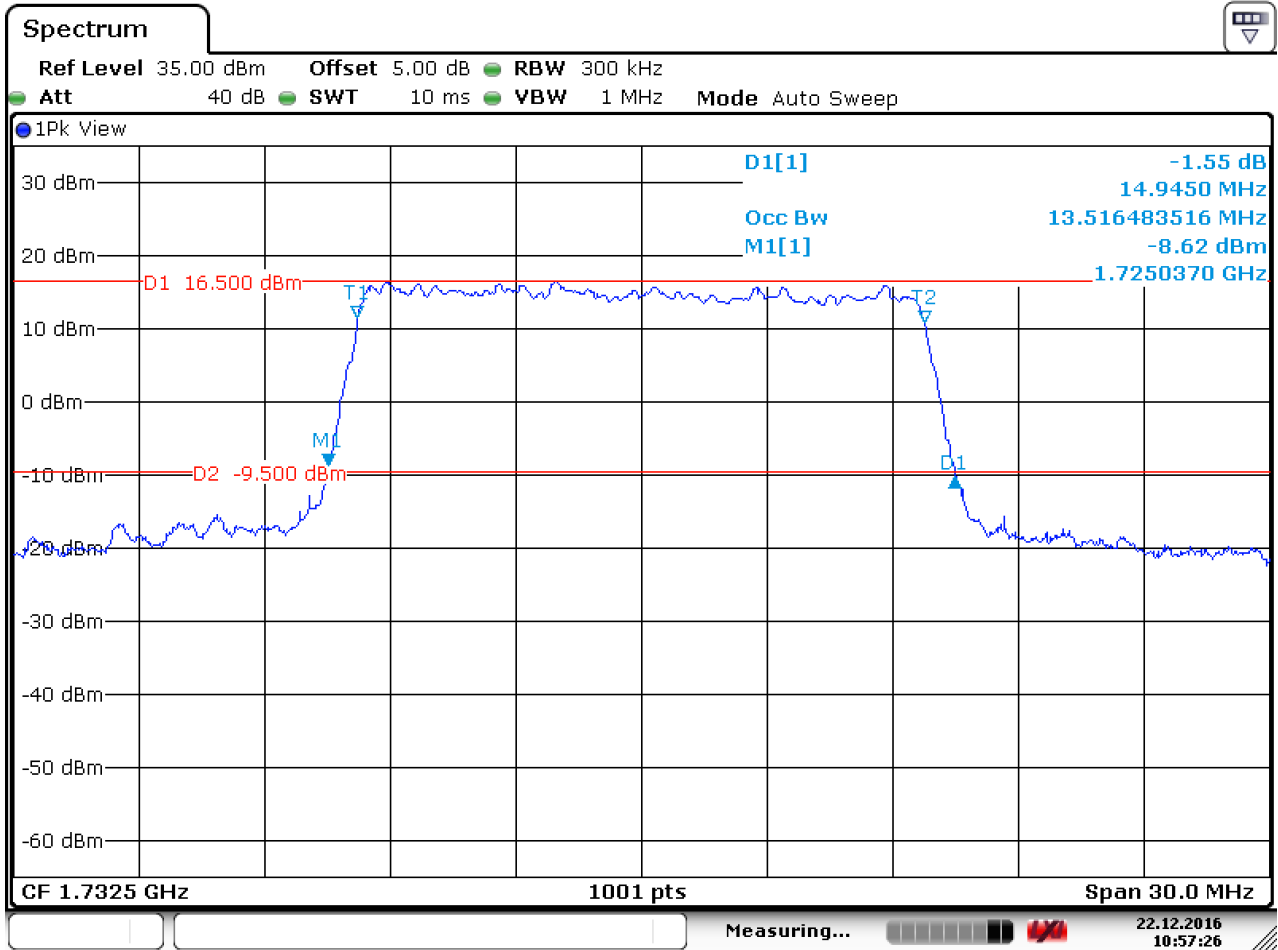
4.1.1.9.1 Test Channel = LCH



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4.1.1.9.2 Test Channel = MCH

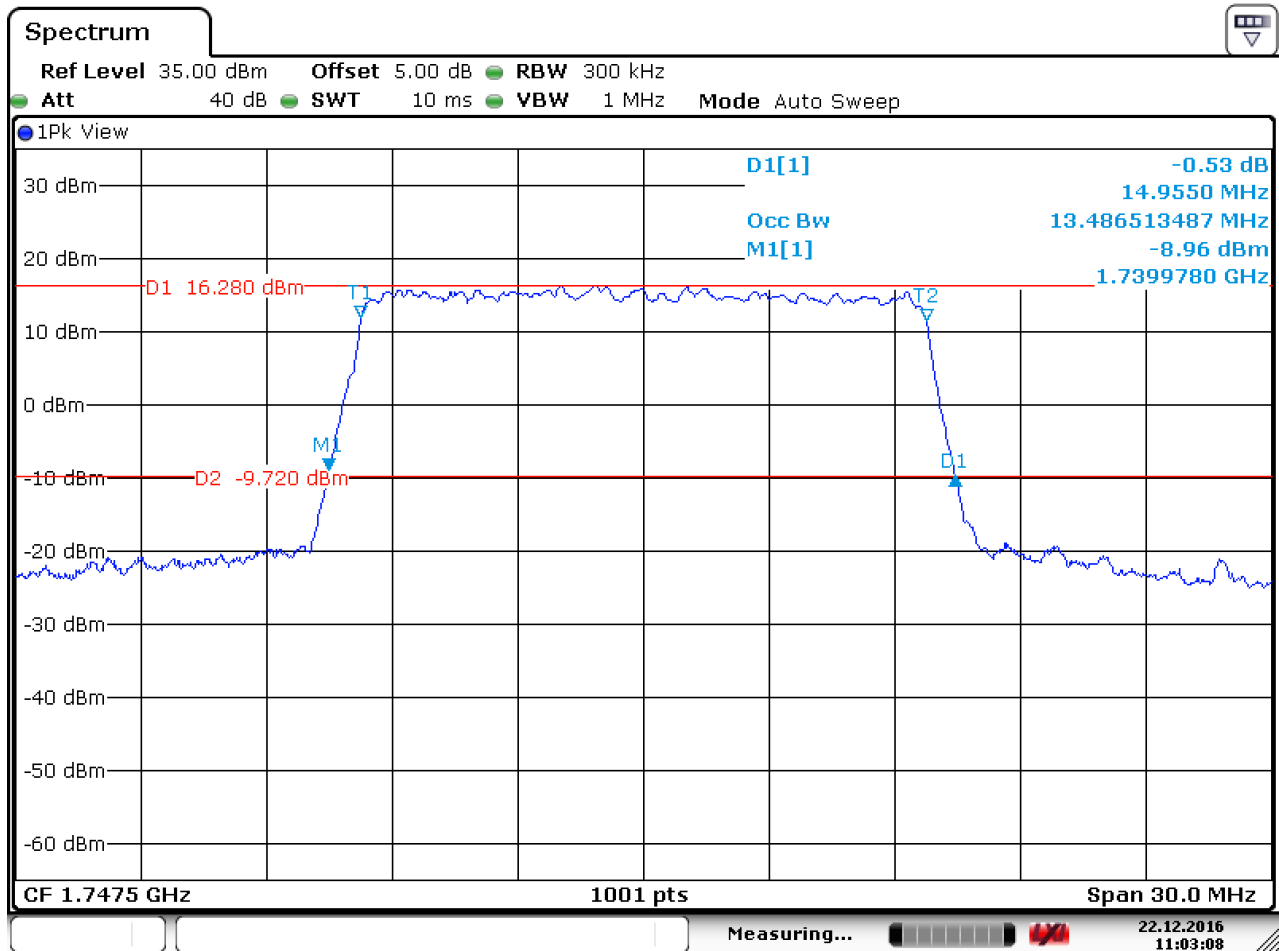


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4.1.1.9.3 Test Channel = HCH



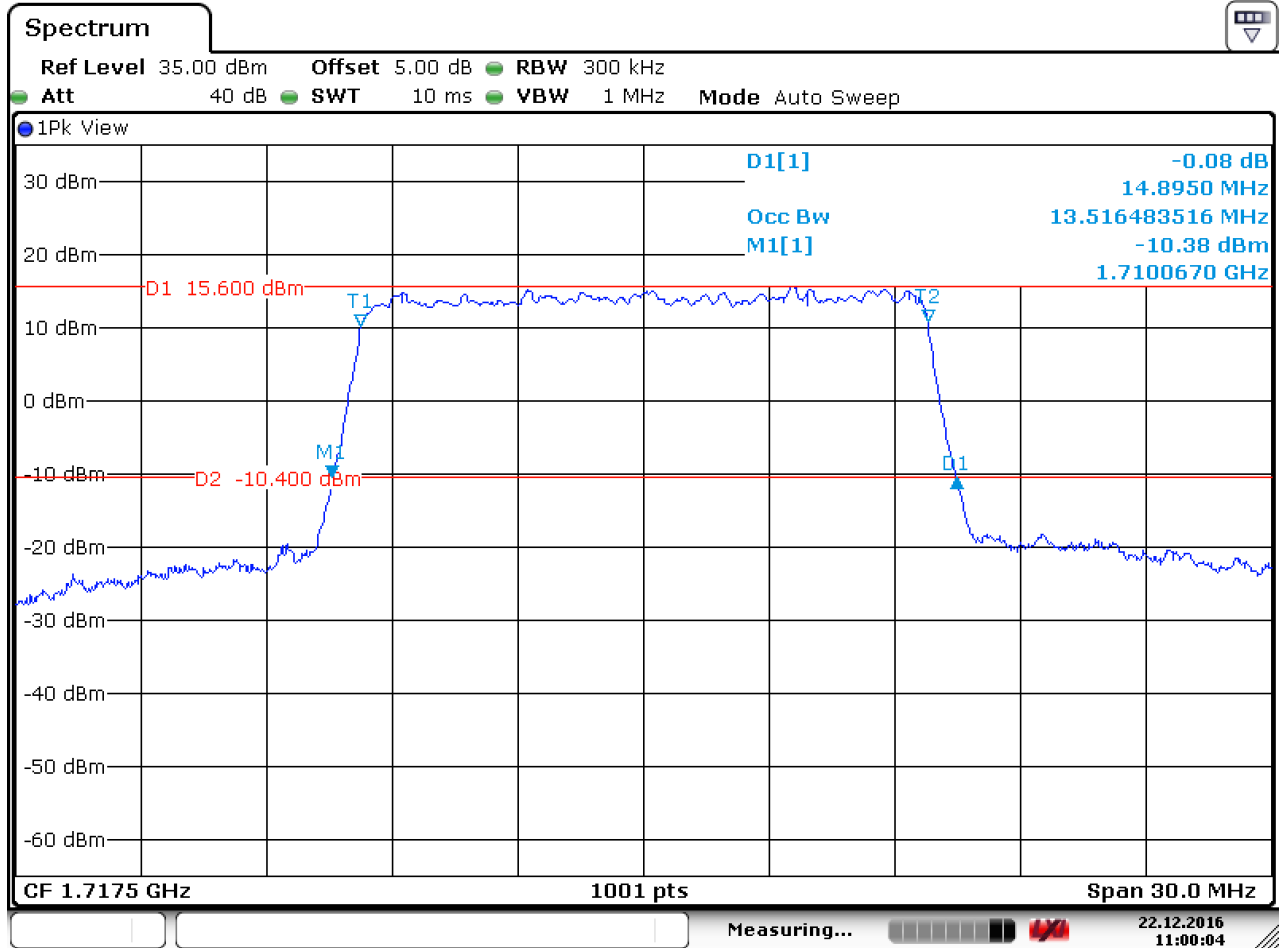
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4.1.1.10 Test Mode = LTE/TM2 15MHz

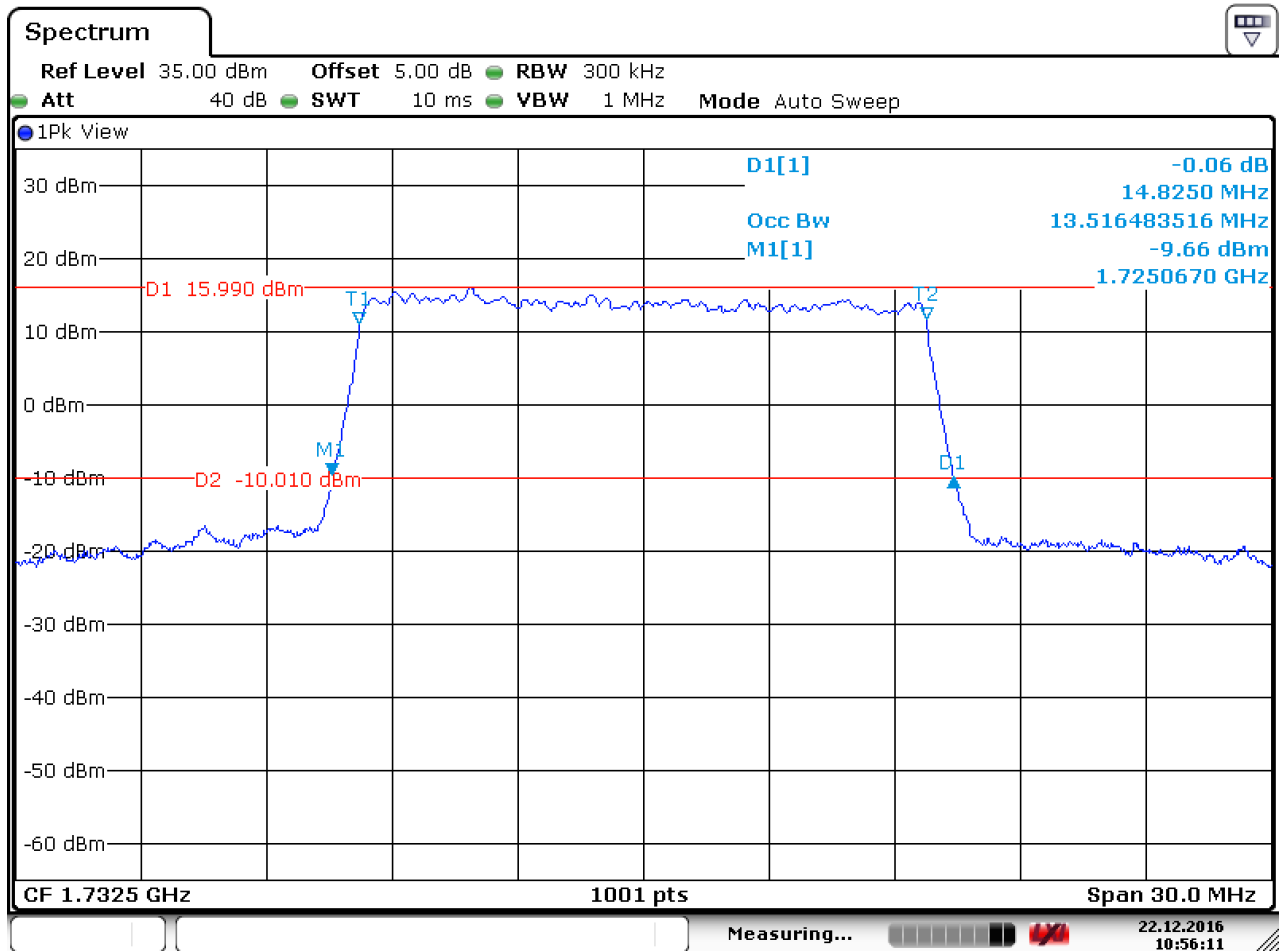
4.1.1.10.1 Test Channel = LCH



Date: 22.DEC.2016 11:00:05



4.1.1.10.2 Test Channel = MCH

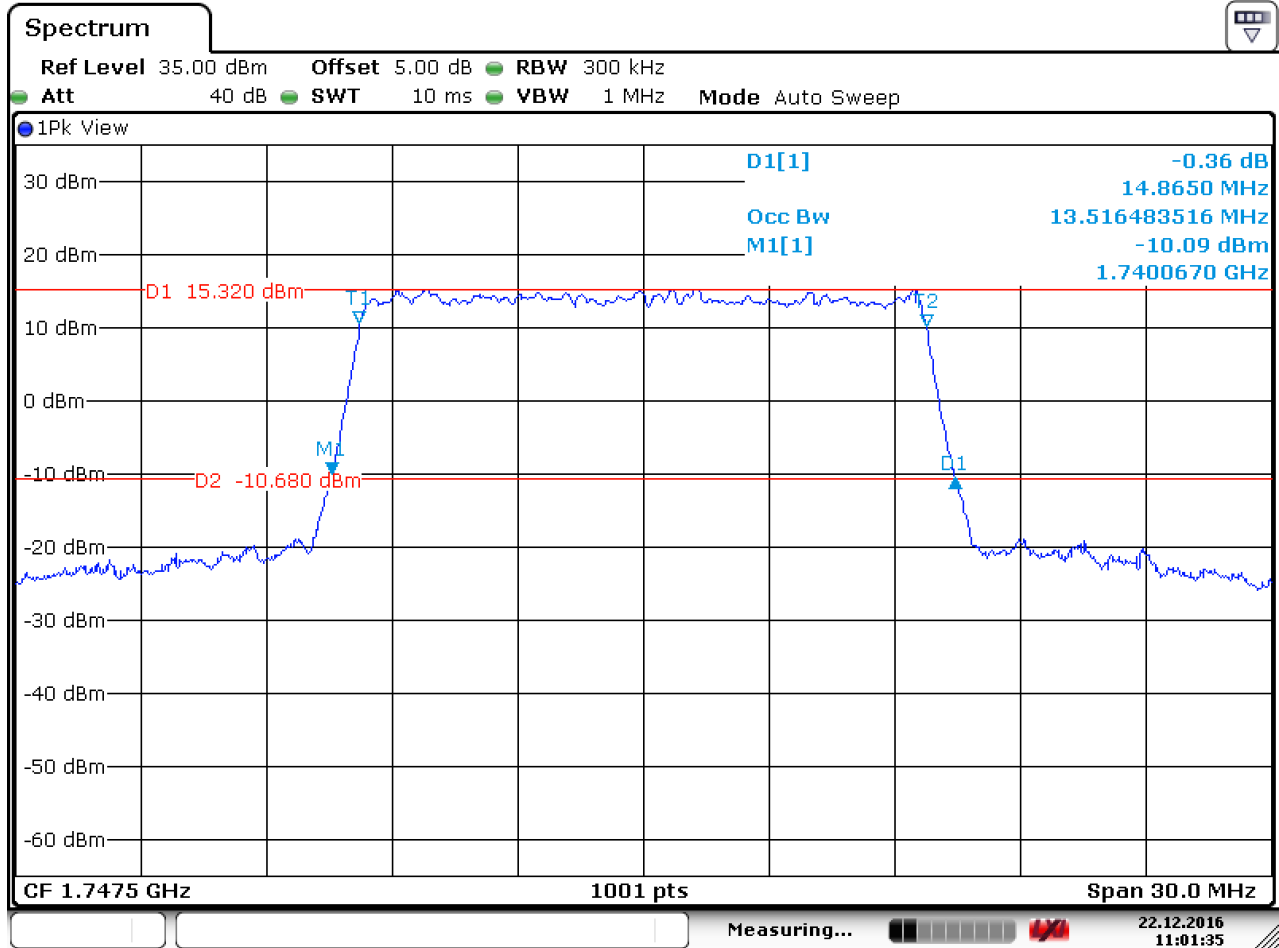


Date: 22.DEC.2016 10:56:11

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4.1.1.10.3 Test Channel = HCH



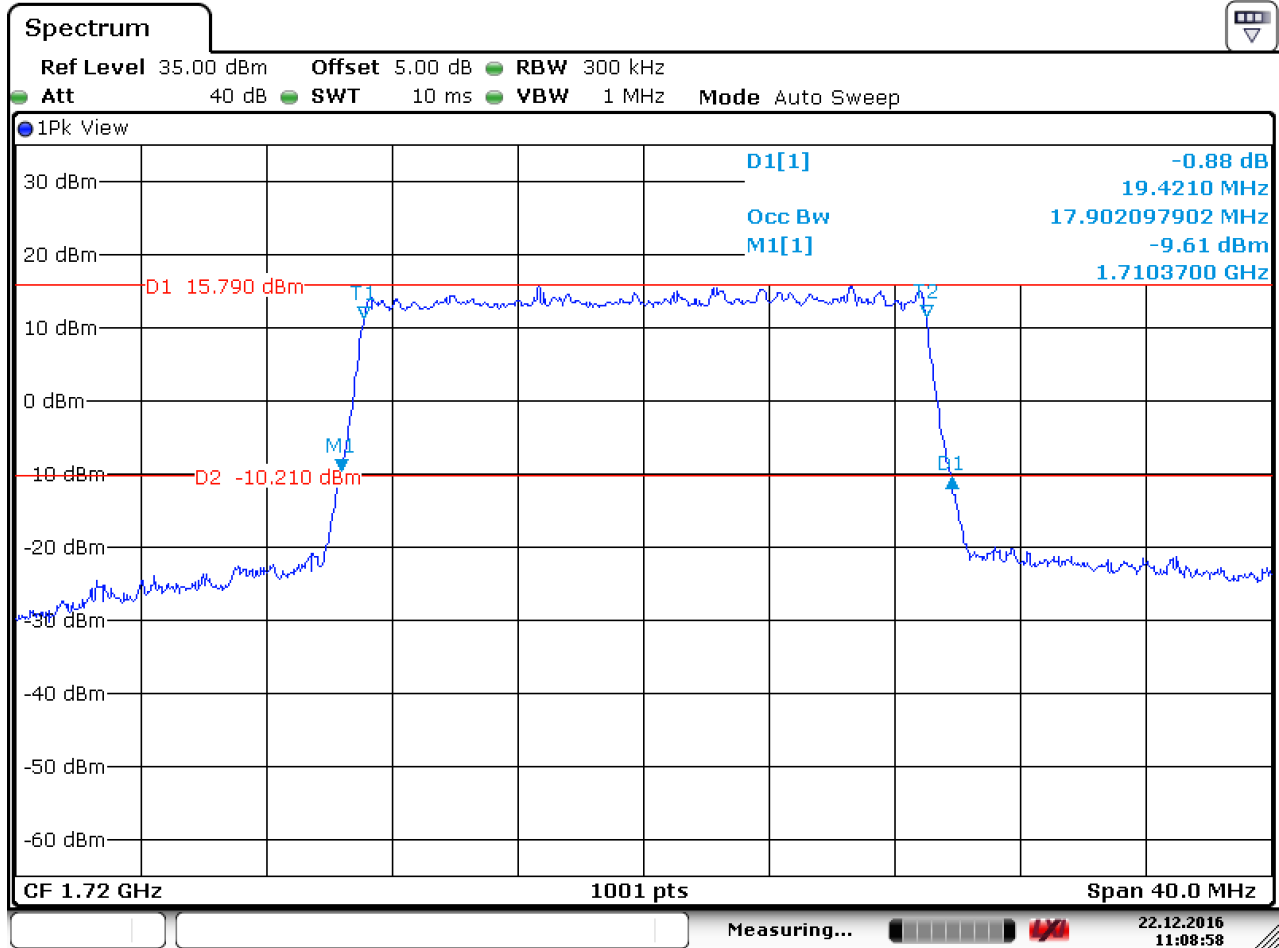
Date: 22.DEC.2016 11:01:35

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4.1.1.11 Test Mode = LTE/TM1 20MHz

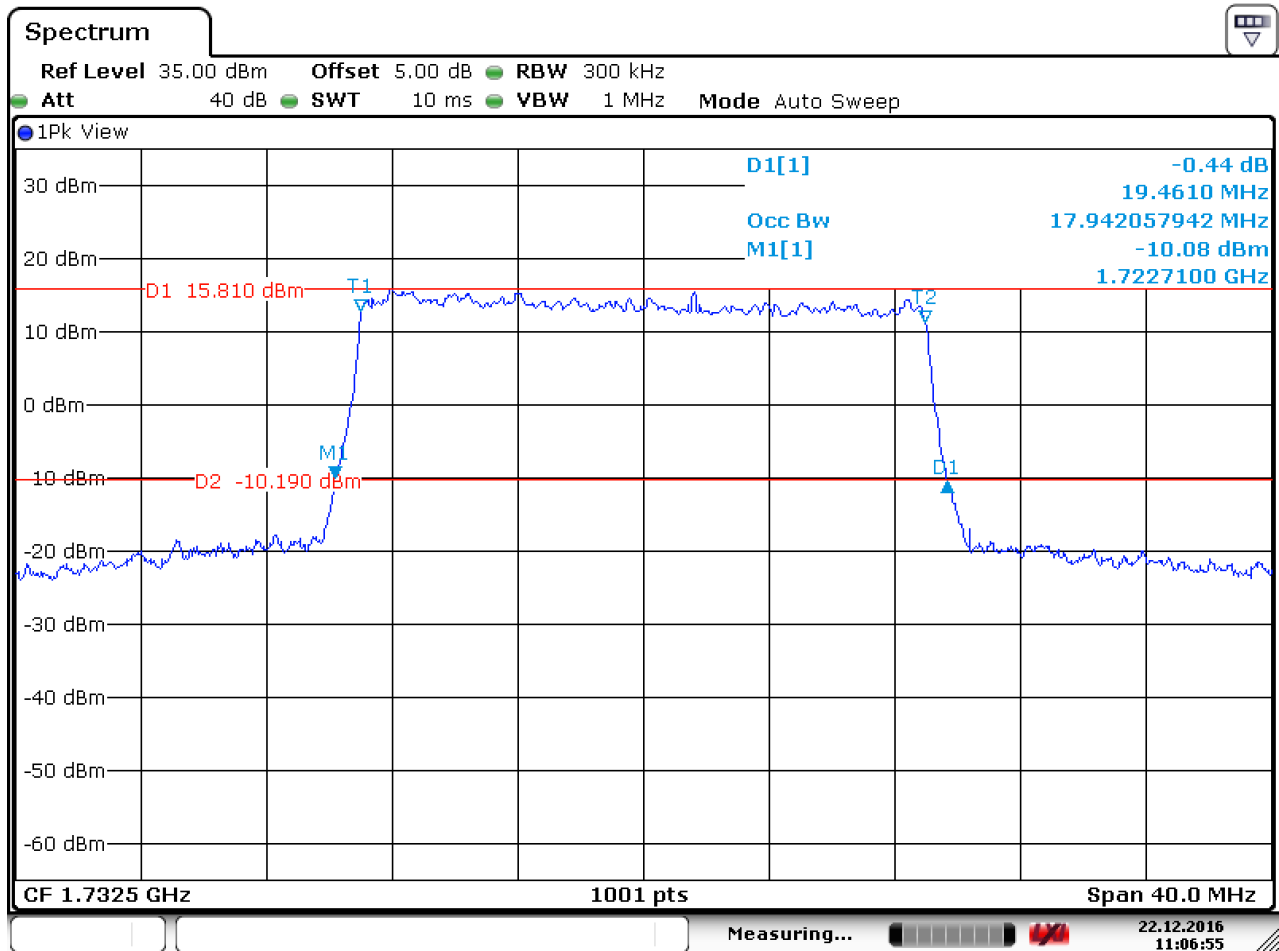
4.1.1.11.1 Test Channel = LCH



Date: 22.DEC.2016 11:08:59



4.1.1.11.2 Test Channel = MCH

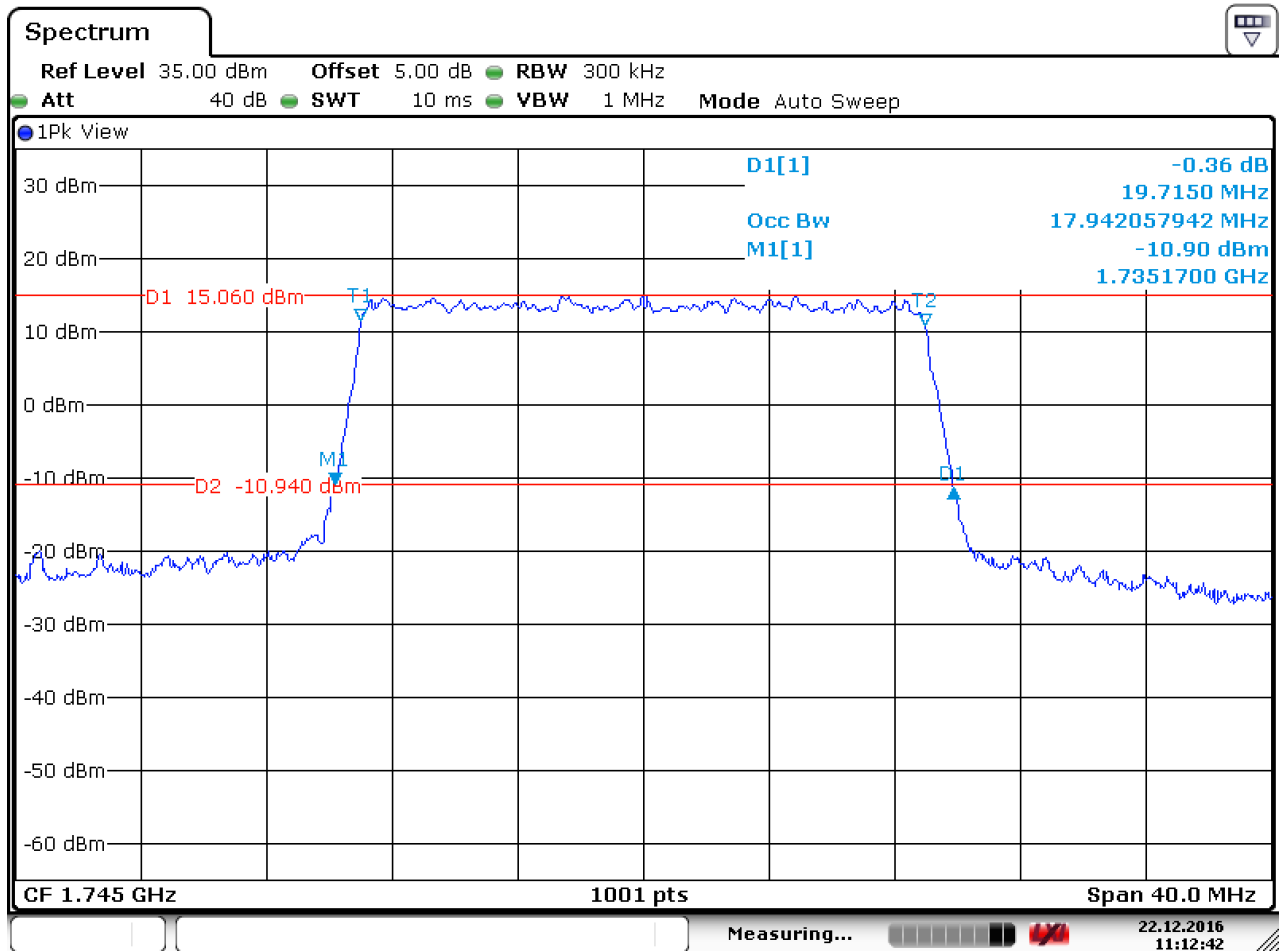


Date: 22.DEC.2016 11:06:56

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4.1.1.11.3 Test Channel = HCH



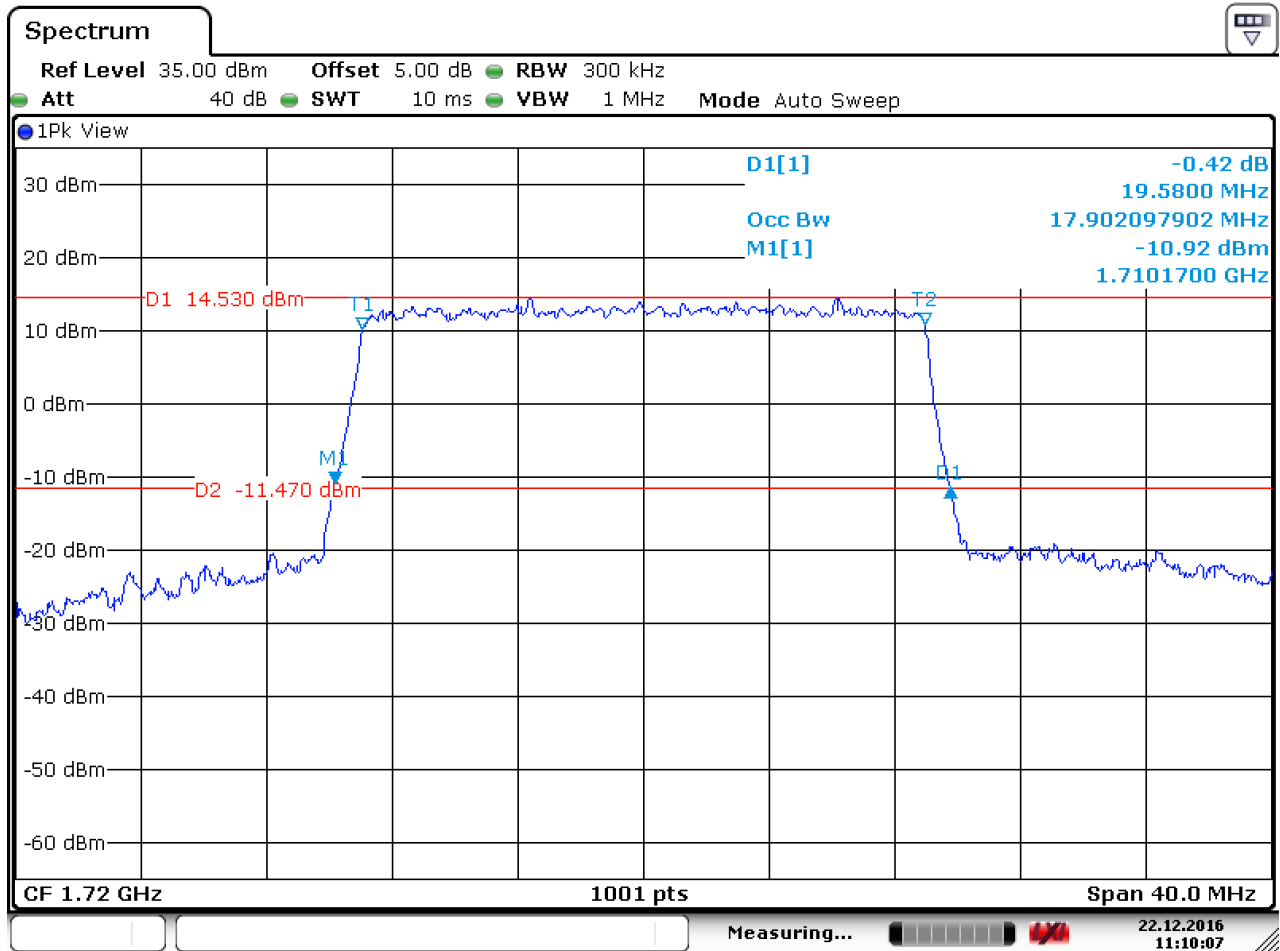
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4.1.1.12 Test Mode = LTE/TM2 20MHz

4.1.1.12.1 Test Channel = LCH

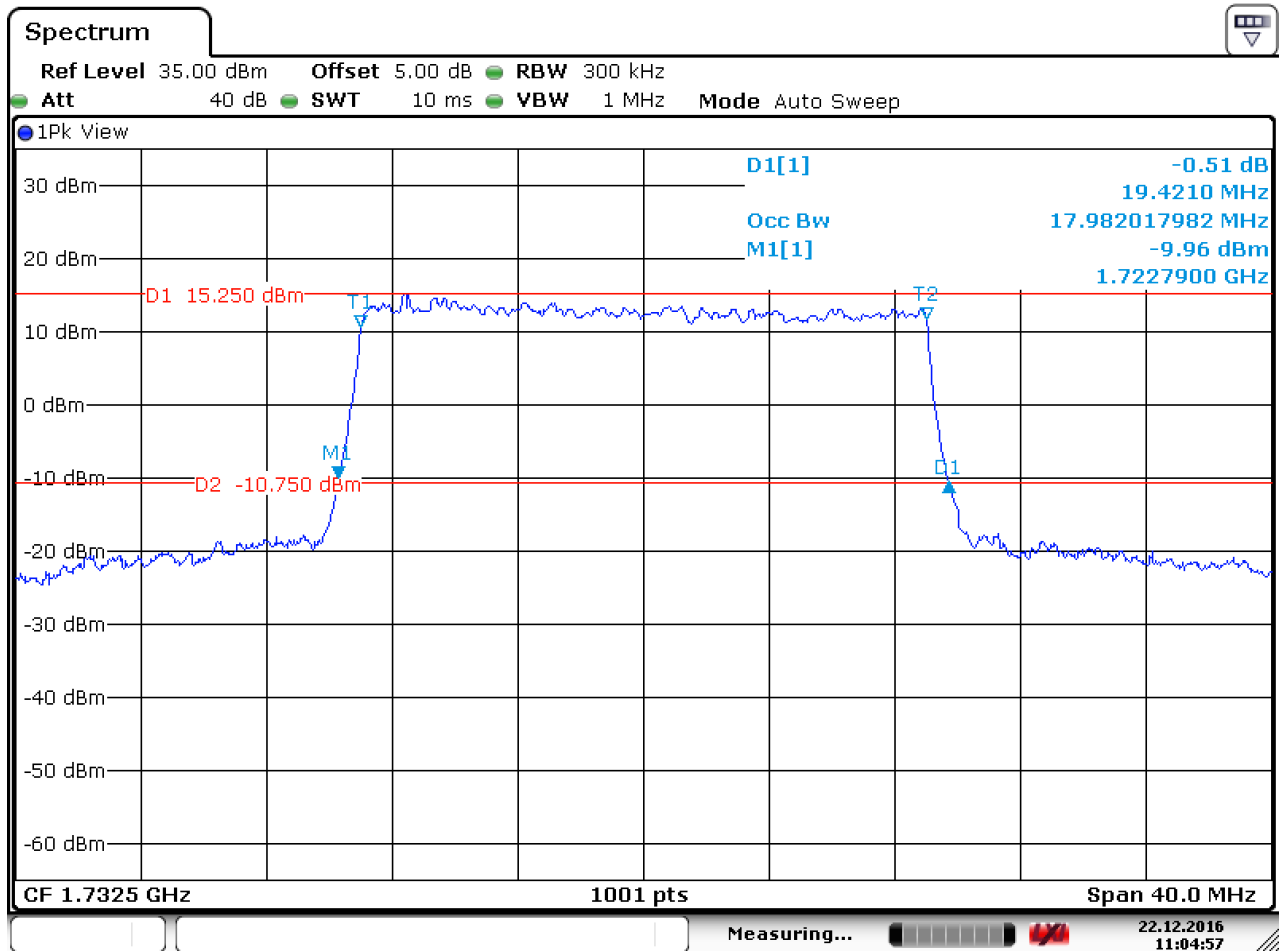


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4.1.1.12.2 Test Channel = MCH

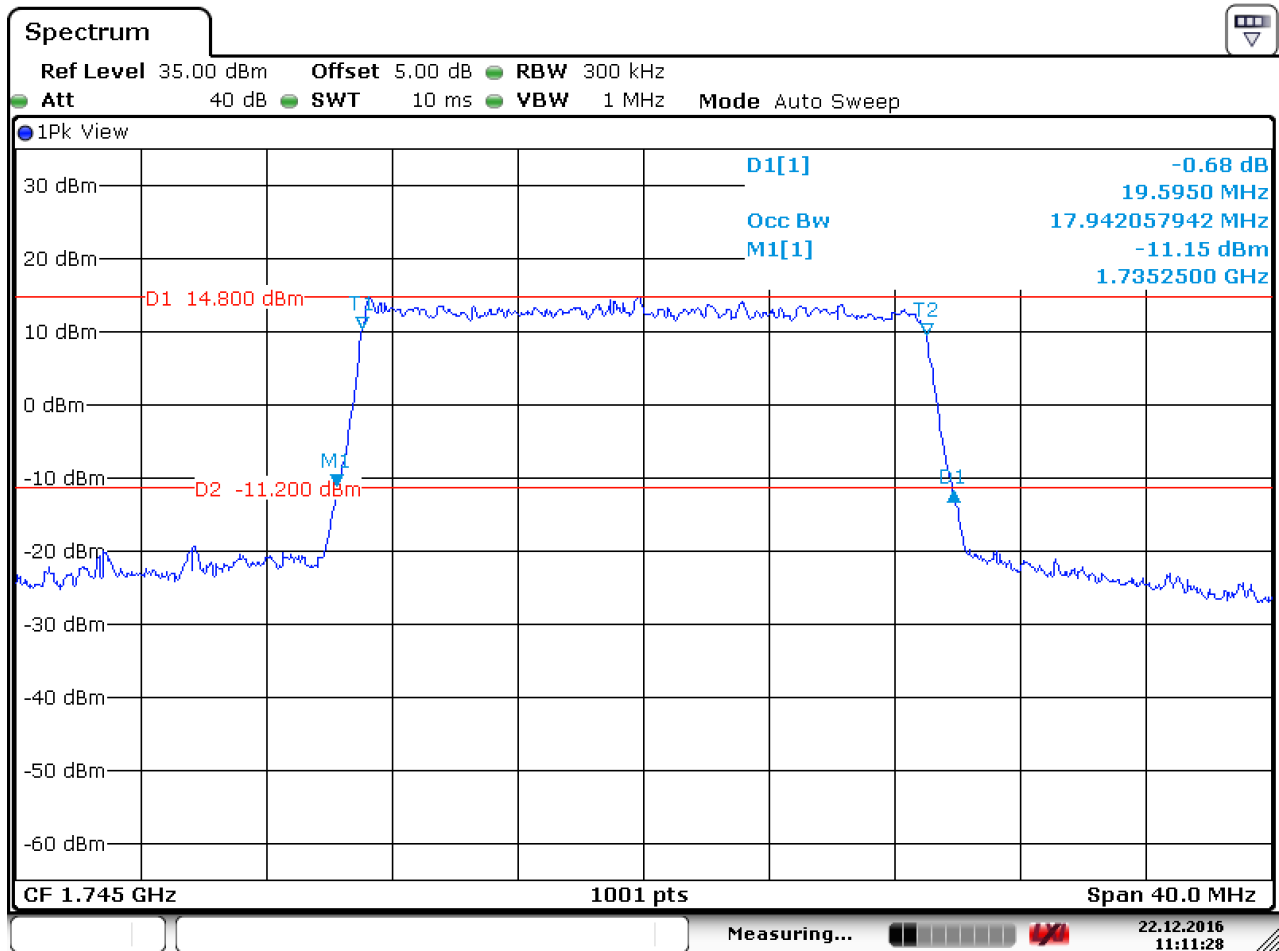


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4.1.1.12.3 Test Channel = HCH



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5 Band Edges Compliance

Part I –

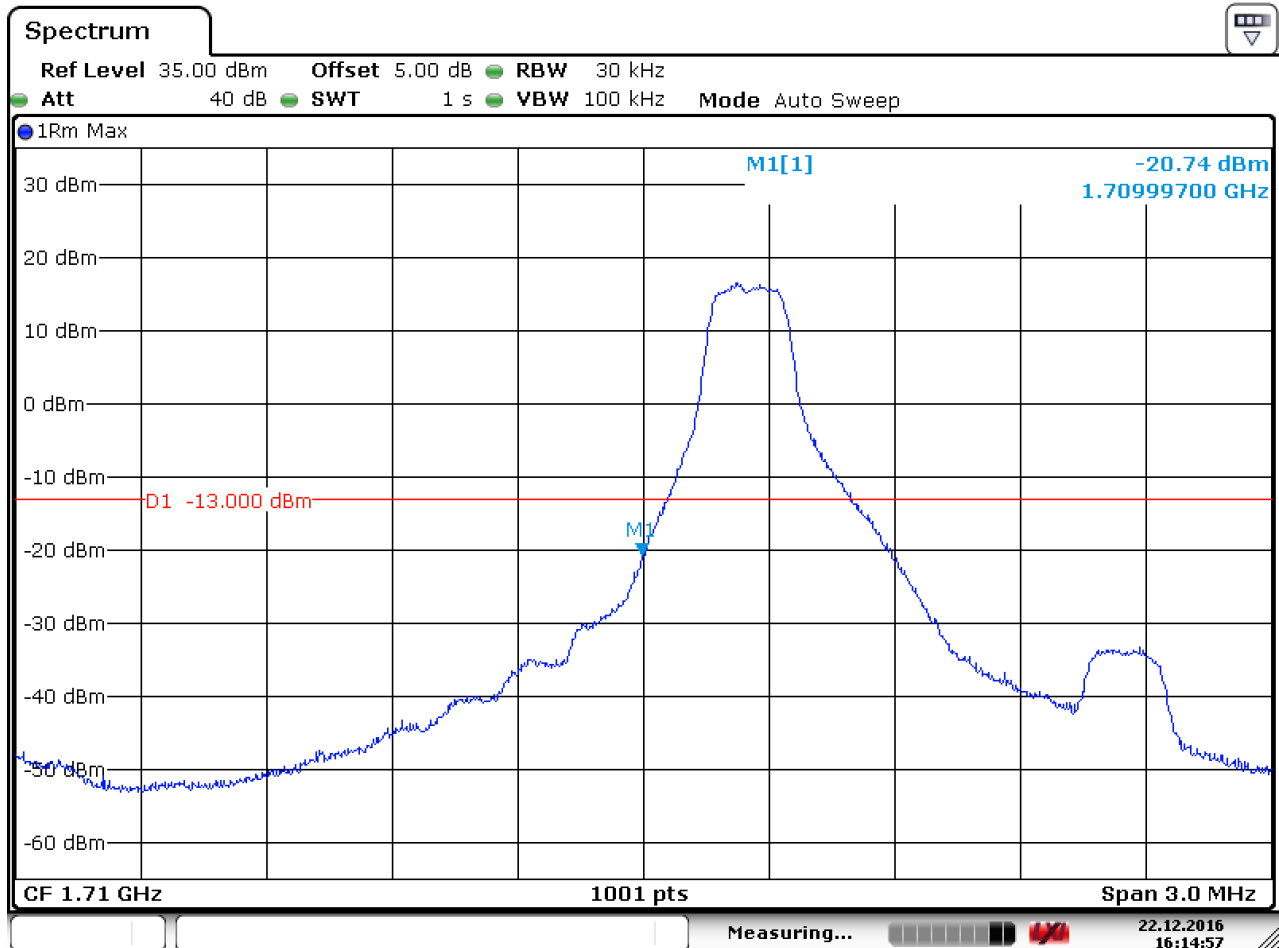
5.1 For LTE

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

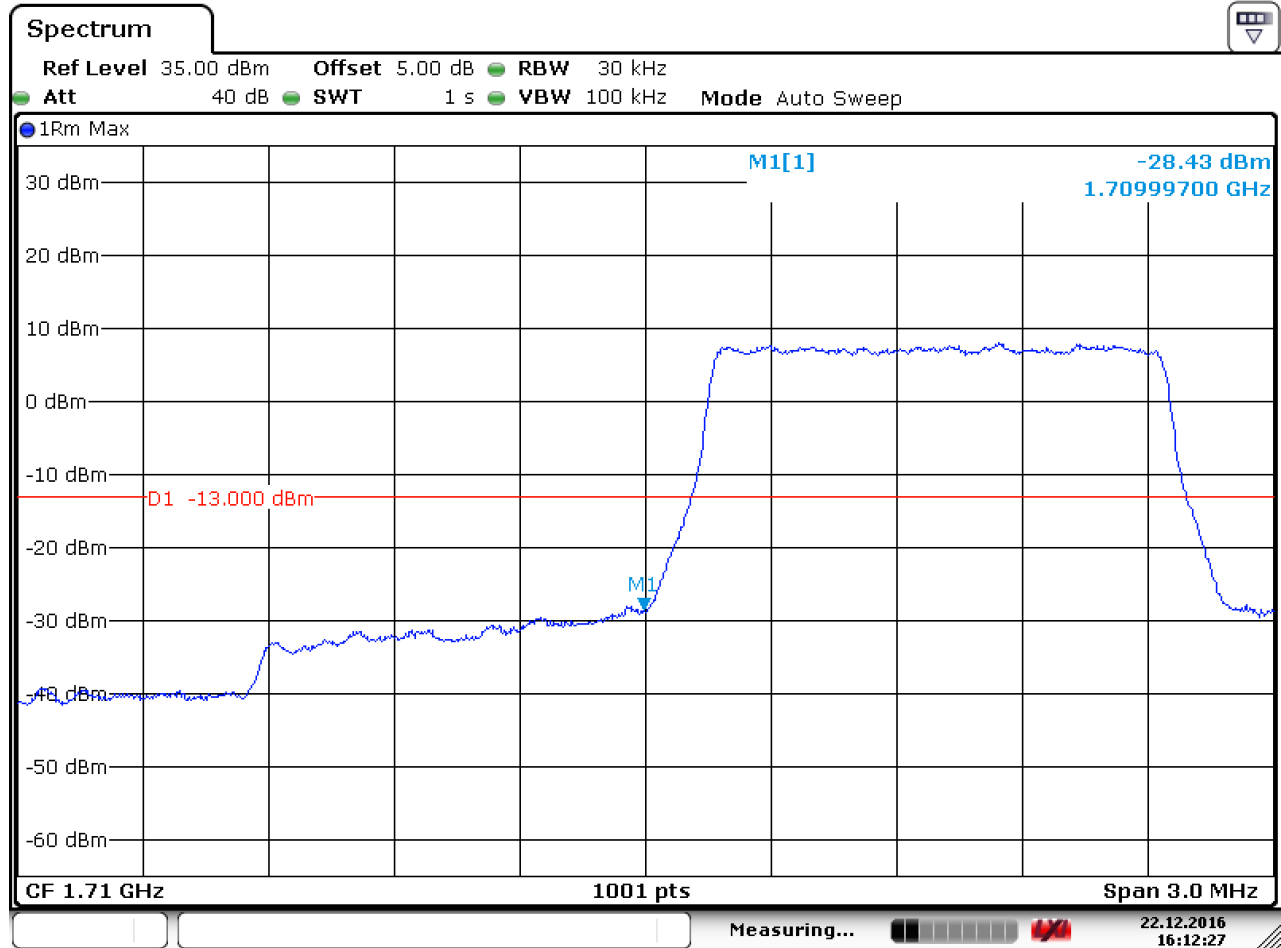
5.1.1.1.1.1 Test RB=1RB



Date: 22.DEC.2016 16:14:57



5.1.1.1.1.2 Test RB=6RB



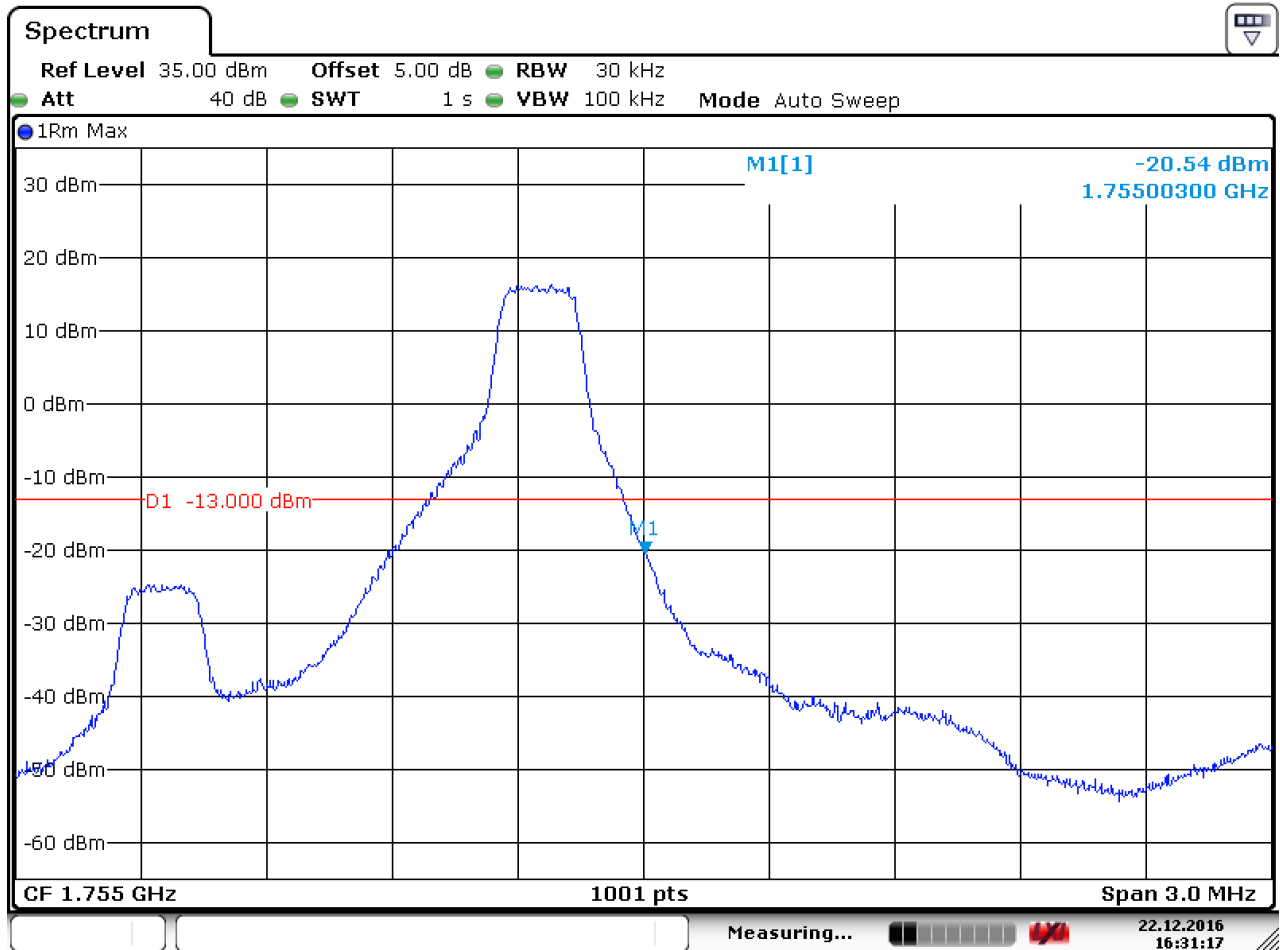
Date: 22.DEC.2016 16:12:28

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5.1.1.1.2 Test Channel = HCH

5.1.1.1.2.1 Test RB=1RB

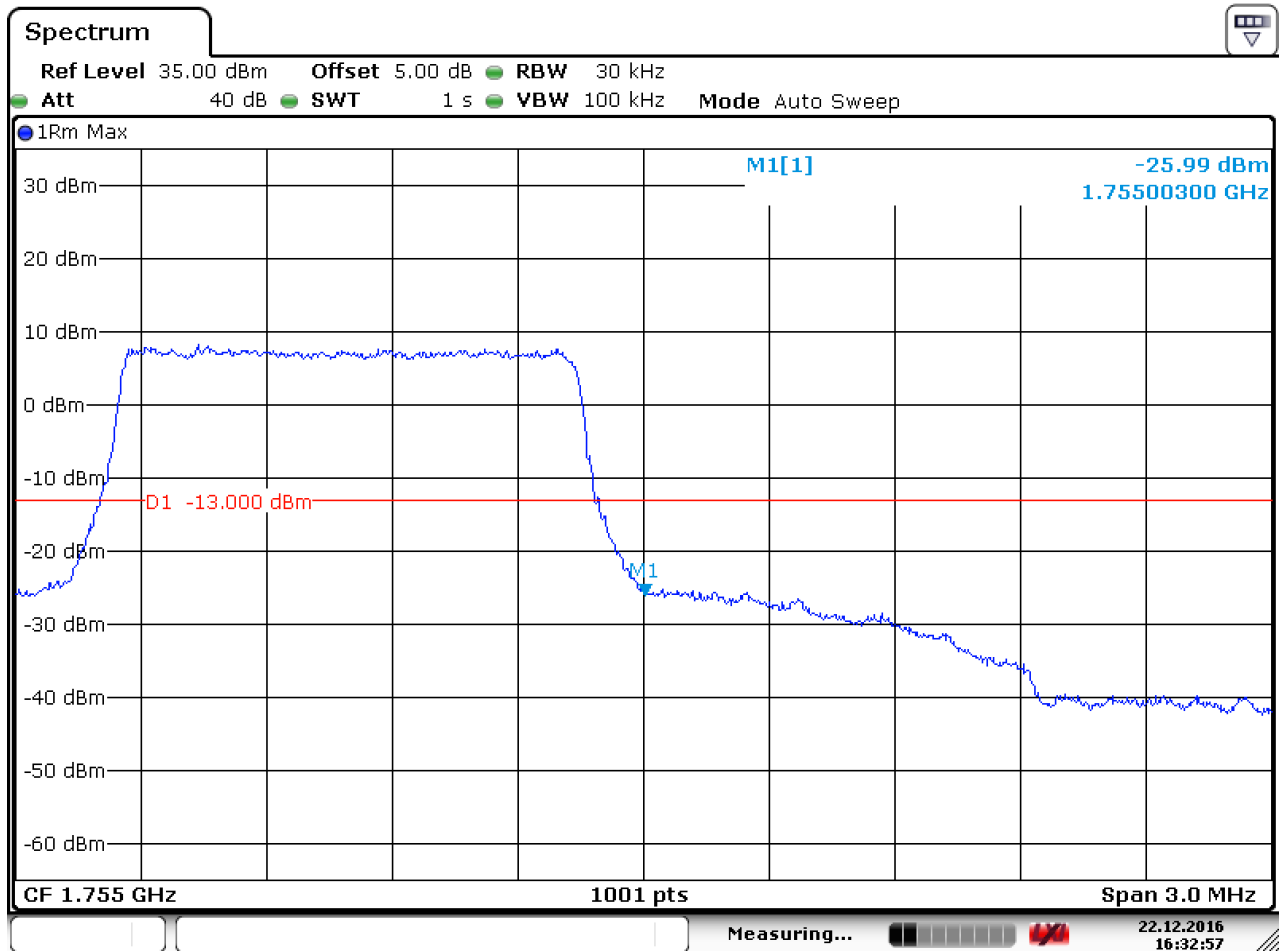


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5.1.1.1.2.2 Test RB=6RB



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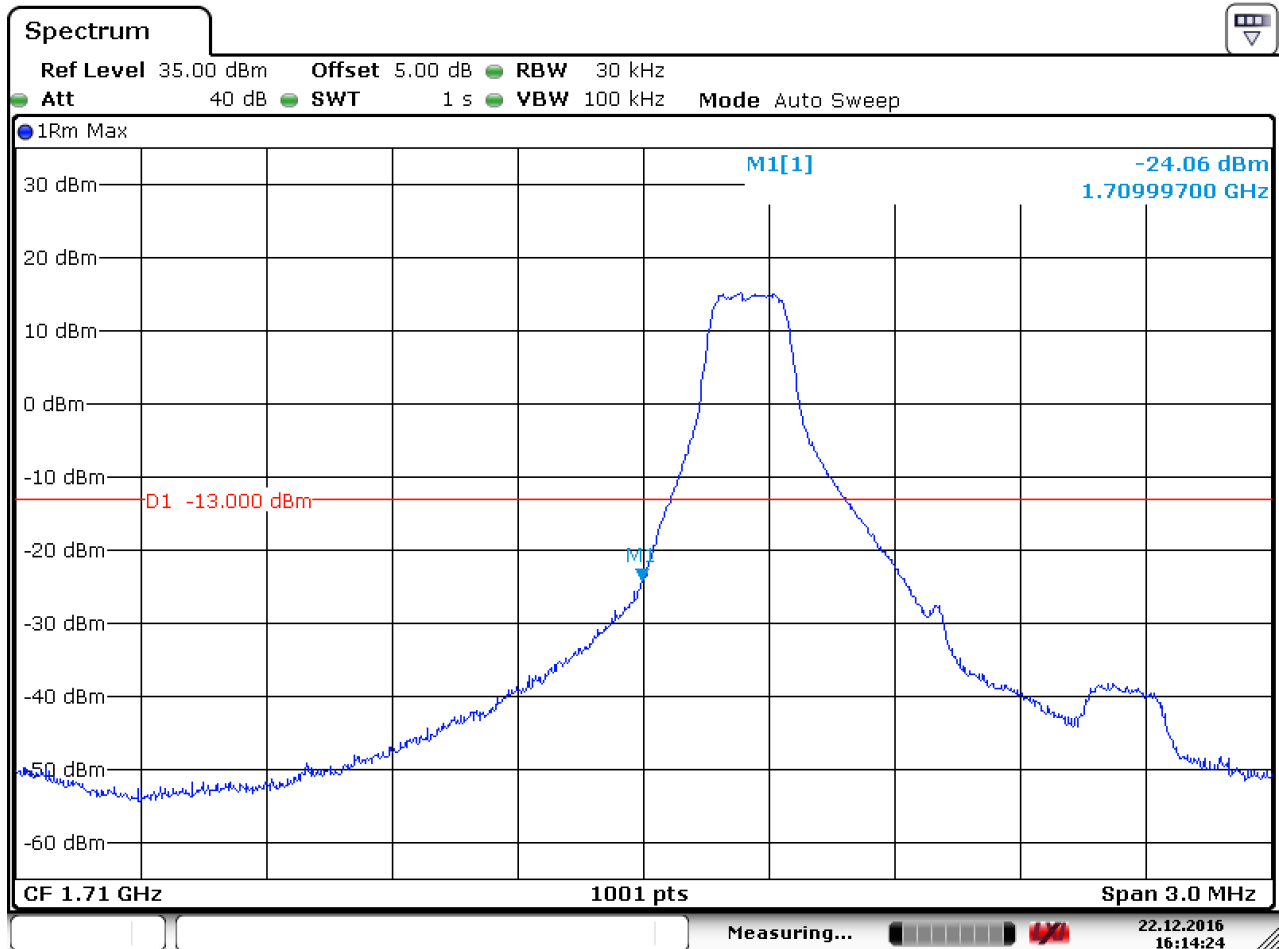
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5.1.1.2 Test Mode = LTE/TM2 1.4MHz

5.1.1.2.1 Test Channel = LCH

5.1.1.2.1.1 Test RB=1RB

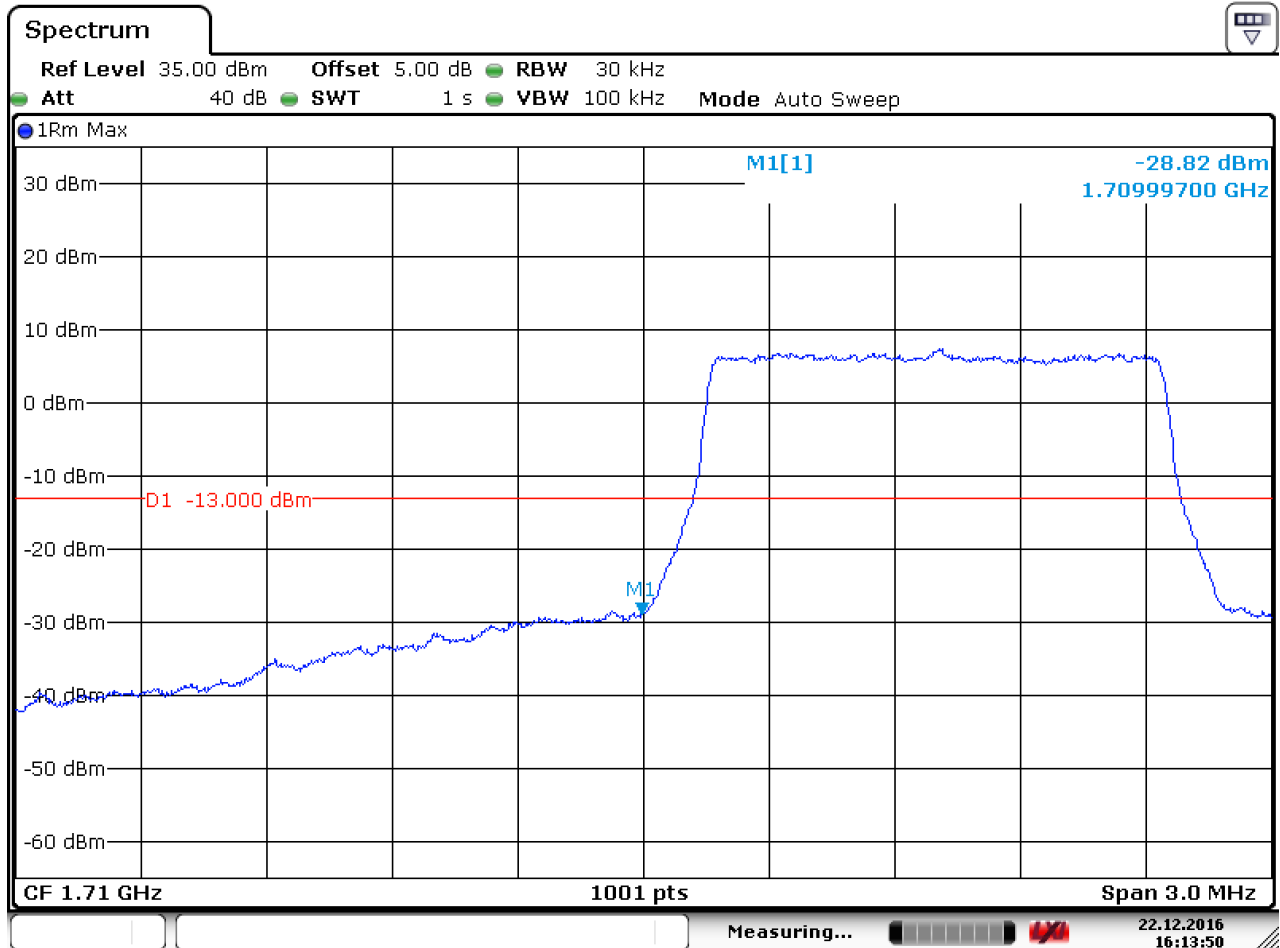


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5.1.1.2.1.2 Test RB=6RB

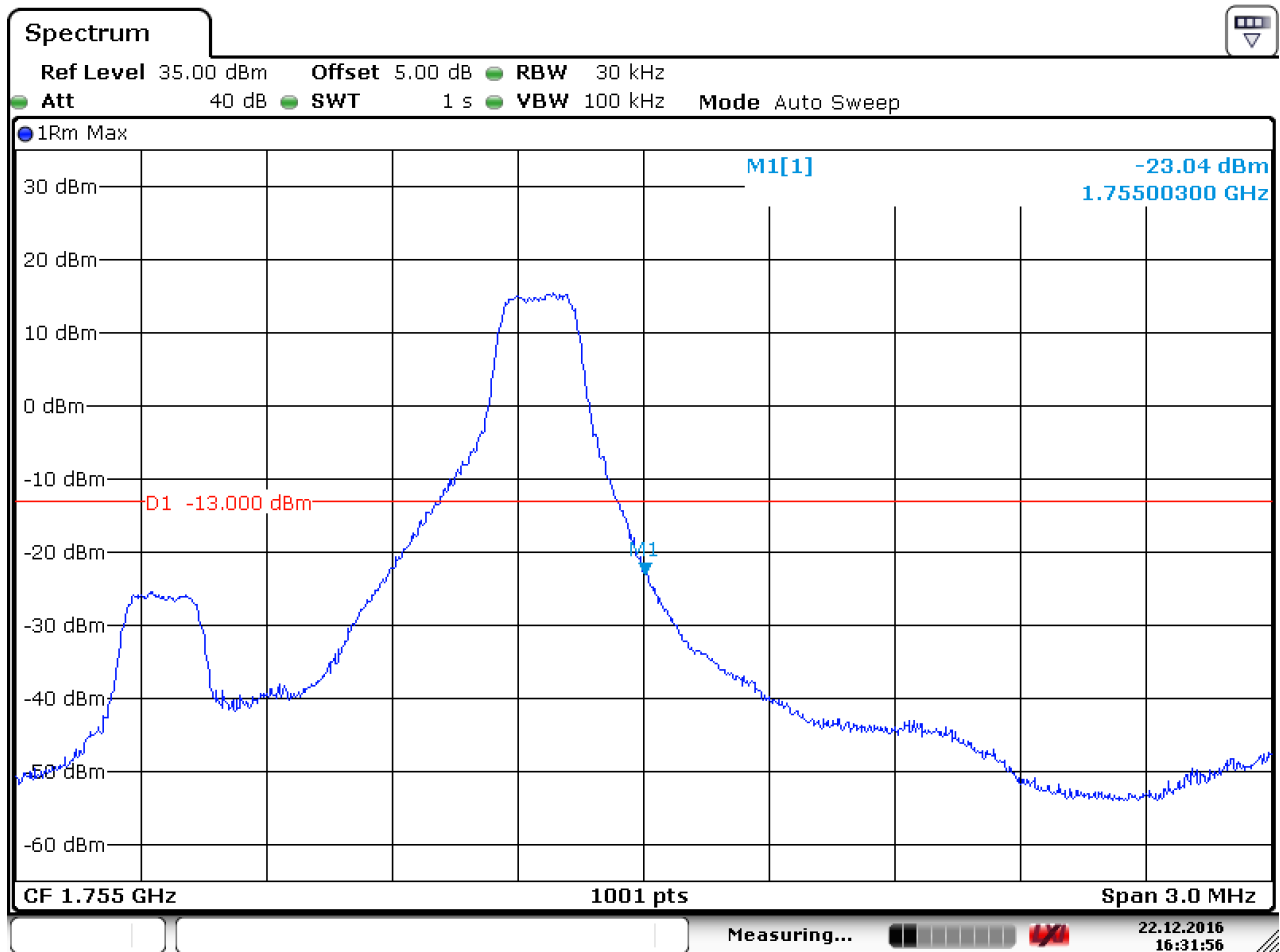


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5.1.1.2.2 Test Channel = HCH

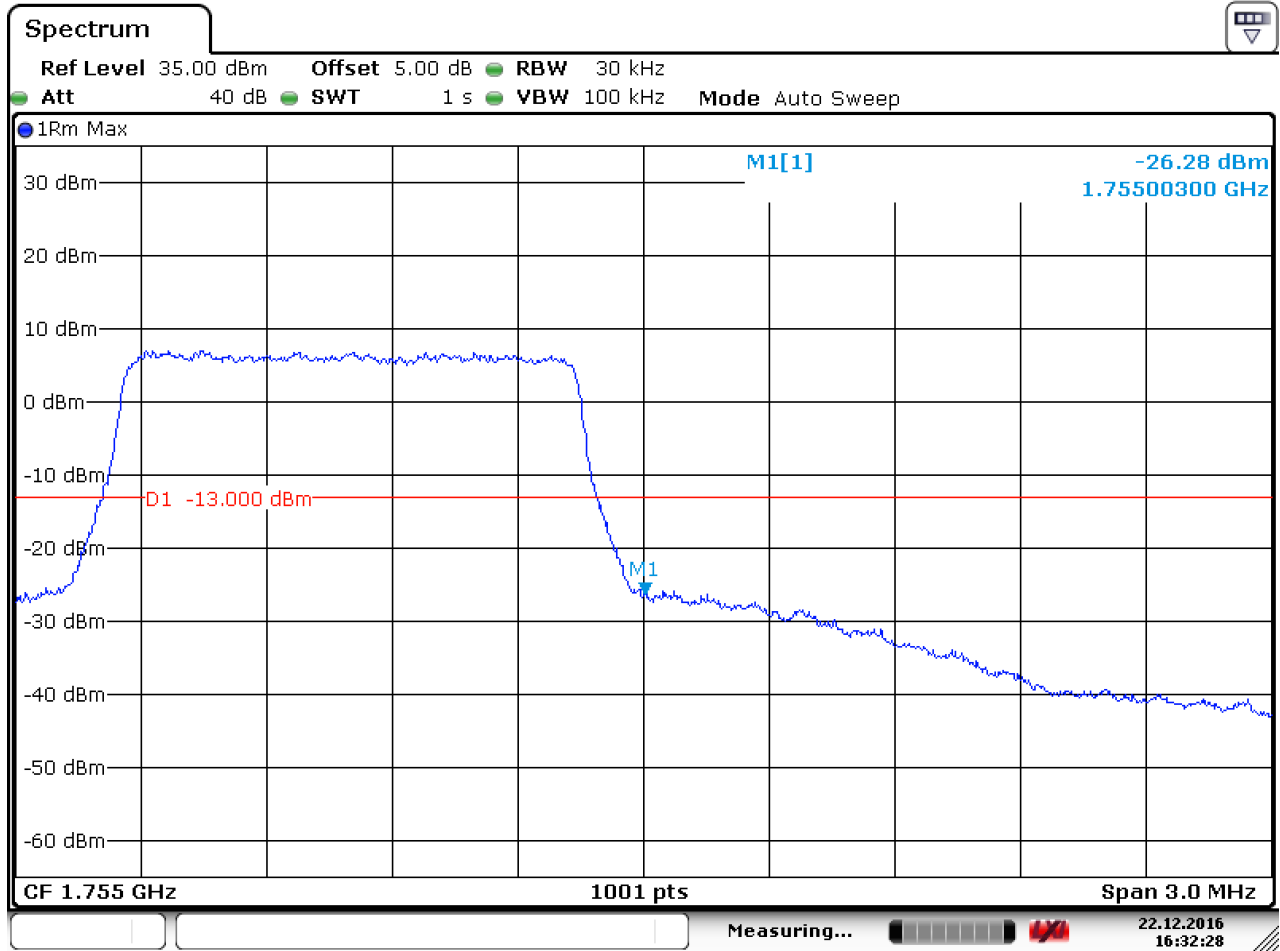
5.1.1.2.2.1 Test RB=1RB



Date: 22.DEC.2016 16:31:57



5.1.1.2.2.2 Test RB=6RB



Date: 22.DEC.2016 16:32:28

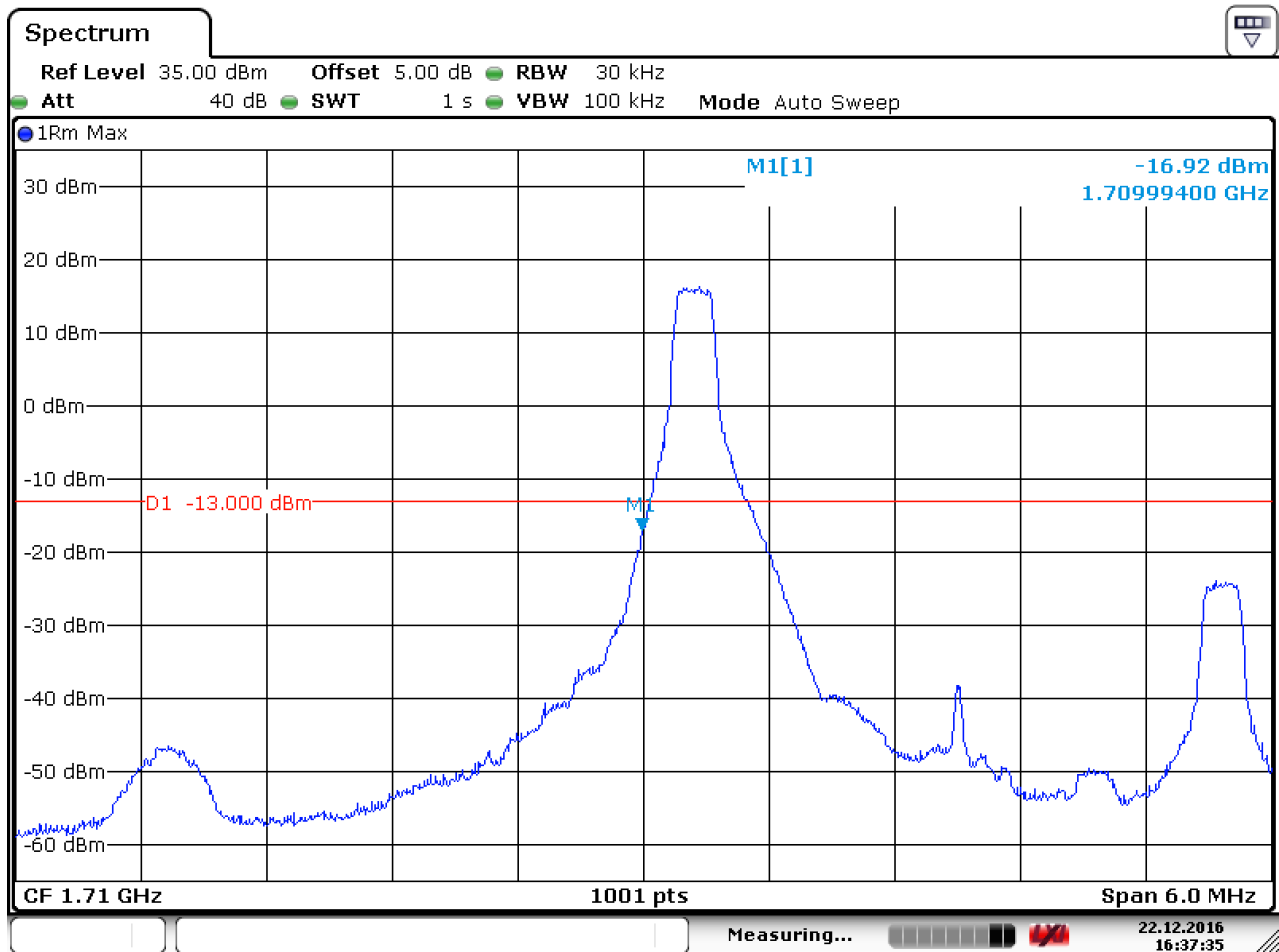
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5.1.1.3 Test Mode = LTE/TM1 3MHz

5.1.1.3.1 Test Channel = LCH

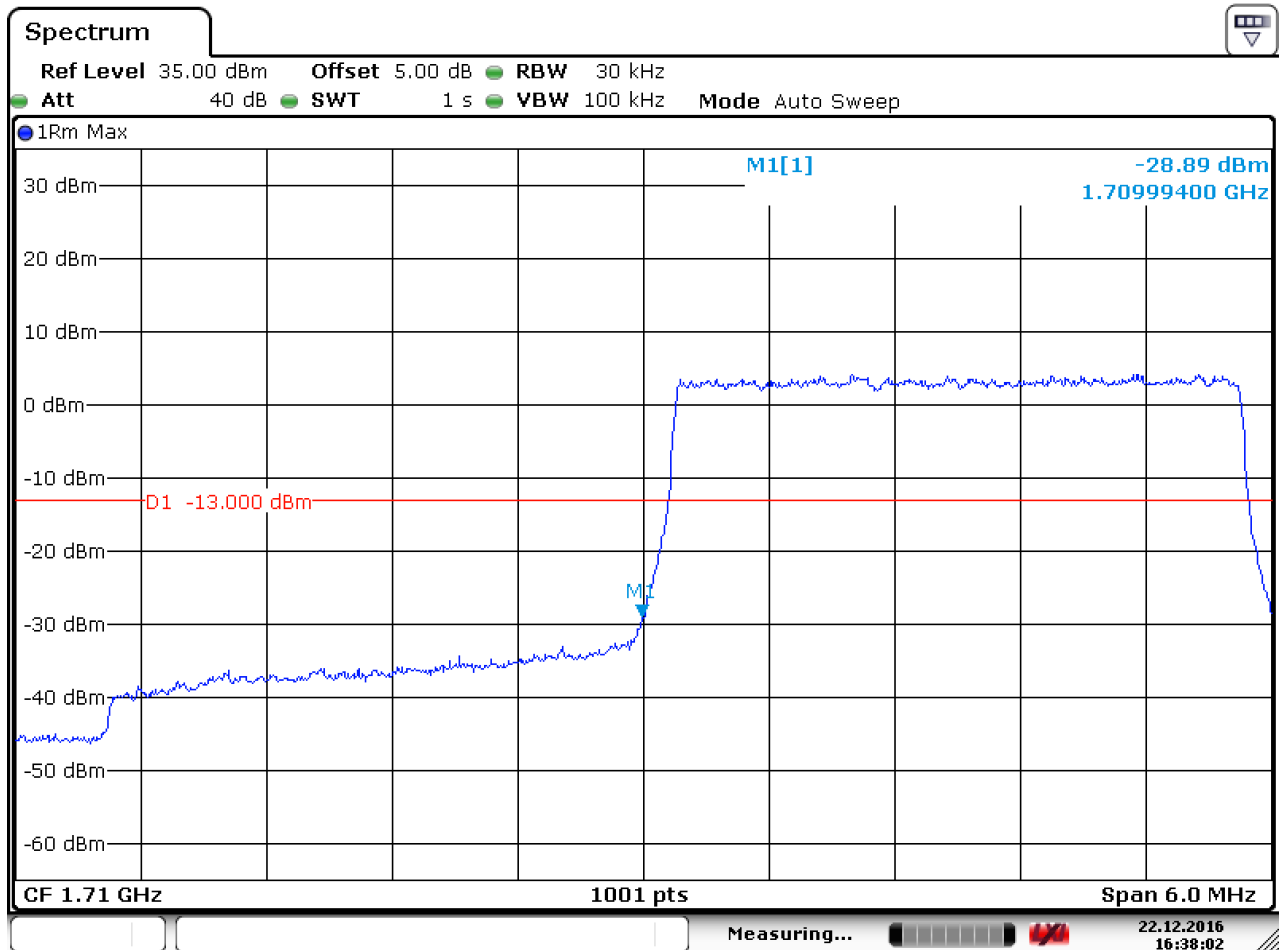
5.1.1.3.1.1 Test RB=1RB



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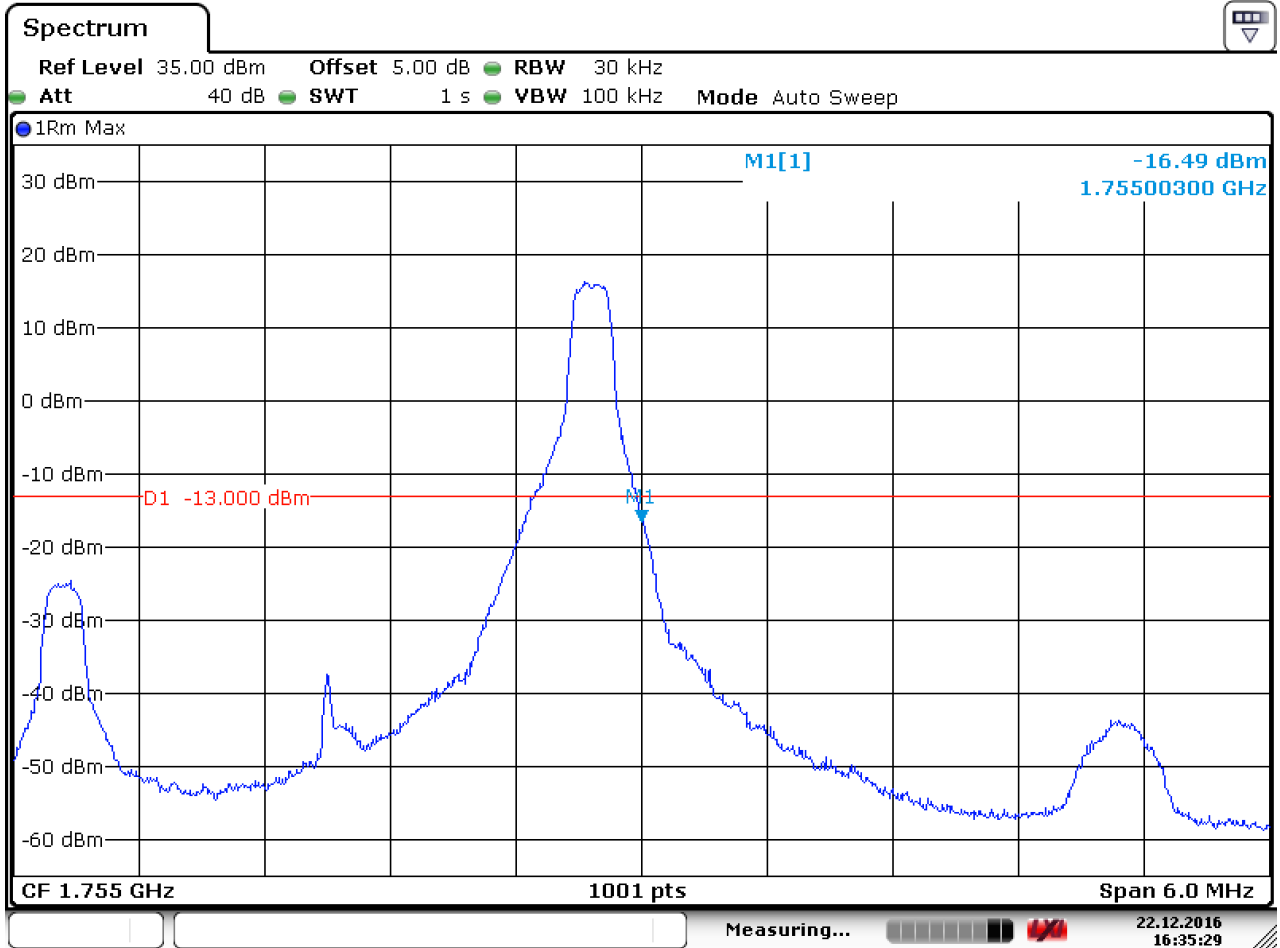
5.1.1.3.1.2 Test RB=15RB



Date: 22.DEC.2016 16:38:03

5.1.1.3.2 Test Channel = HCH

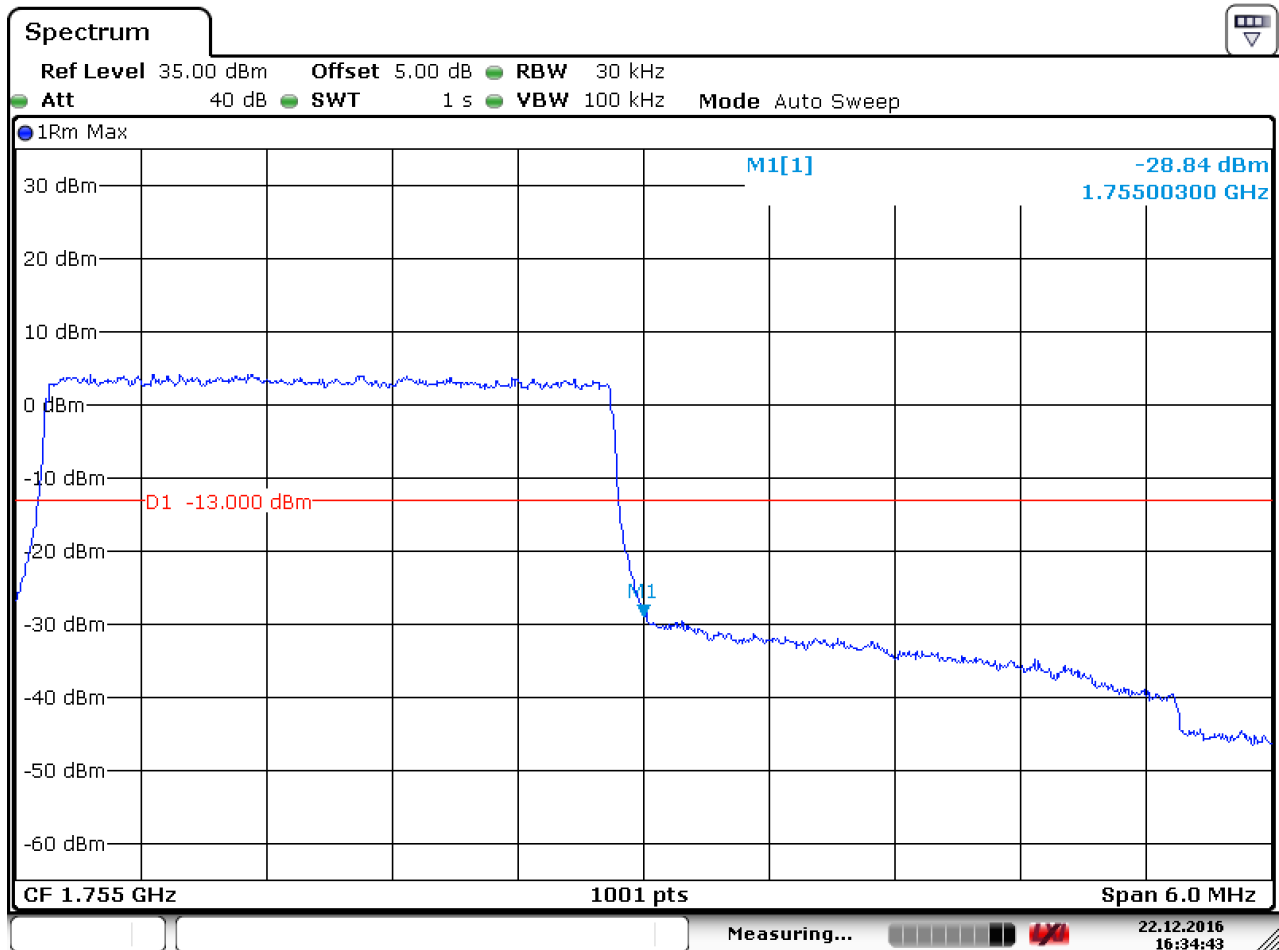
5.1.1.3.2.1 Test RB=1RB



Date: 22.DEC.2016 16:35:29



5.1.1.3.2.2 Test RB=15RB



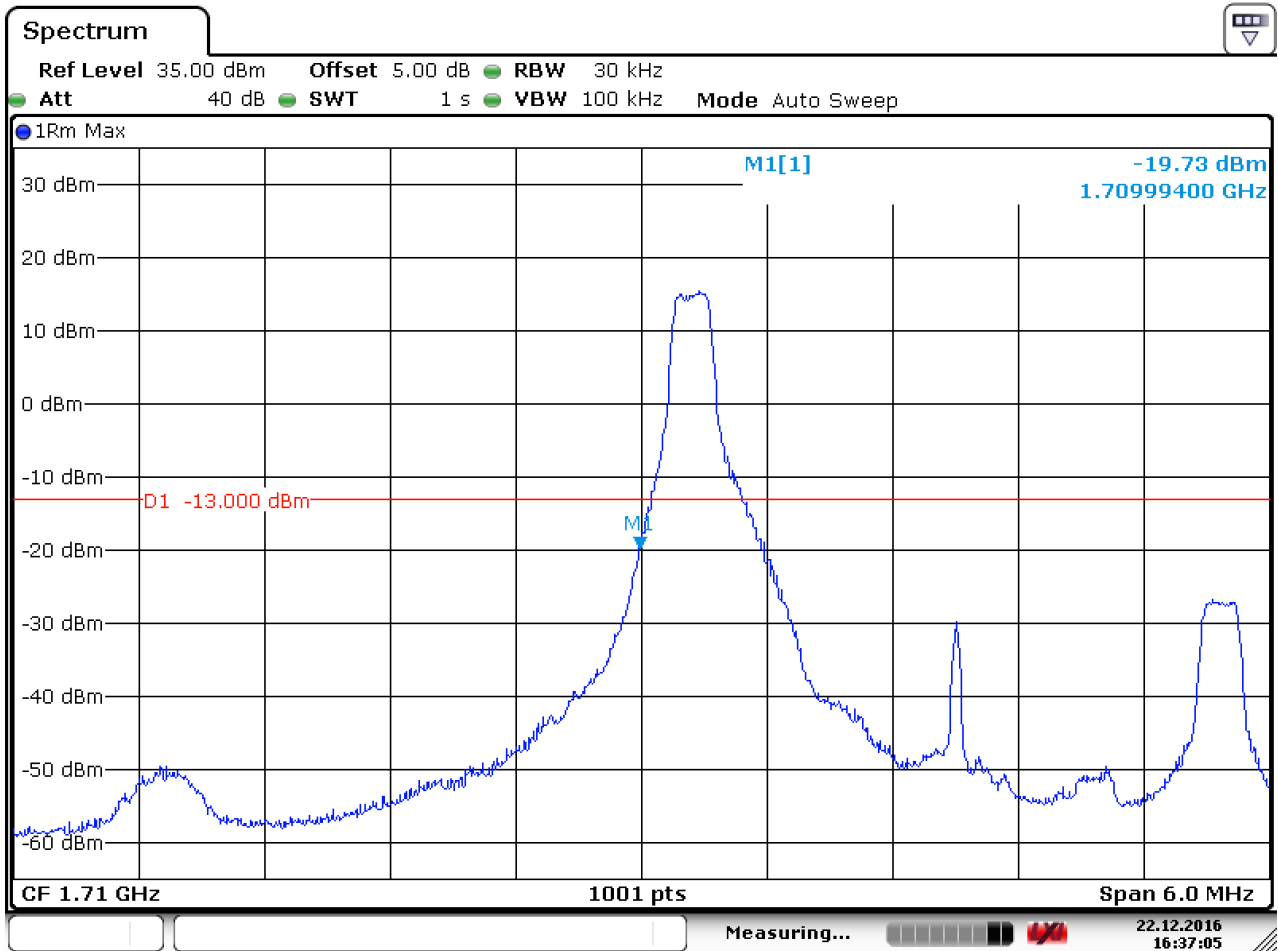
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5.1.1.4 Test Mode = LTE/TM2 3MHz

5.1.1.4.1 Test Channel = LCH

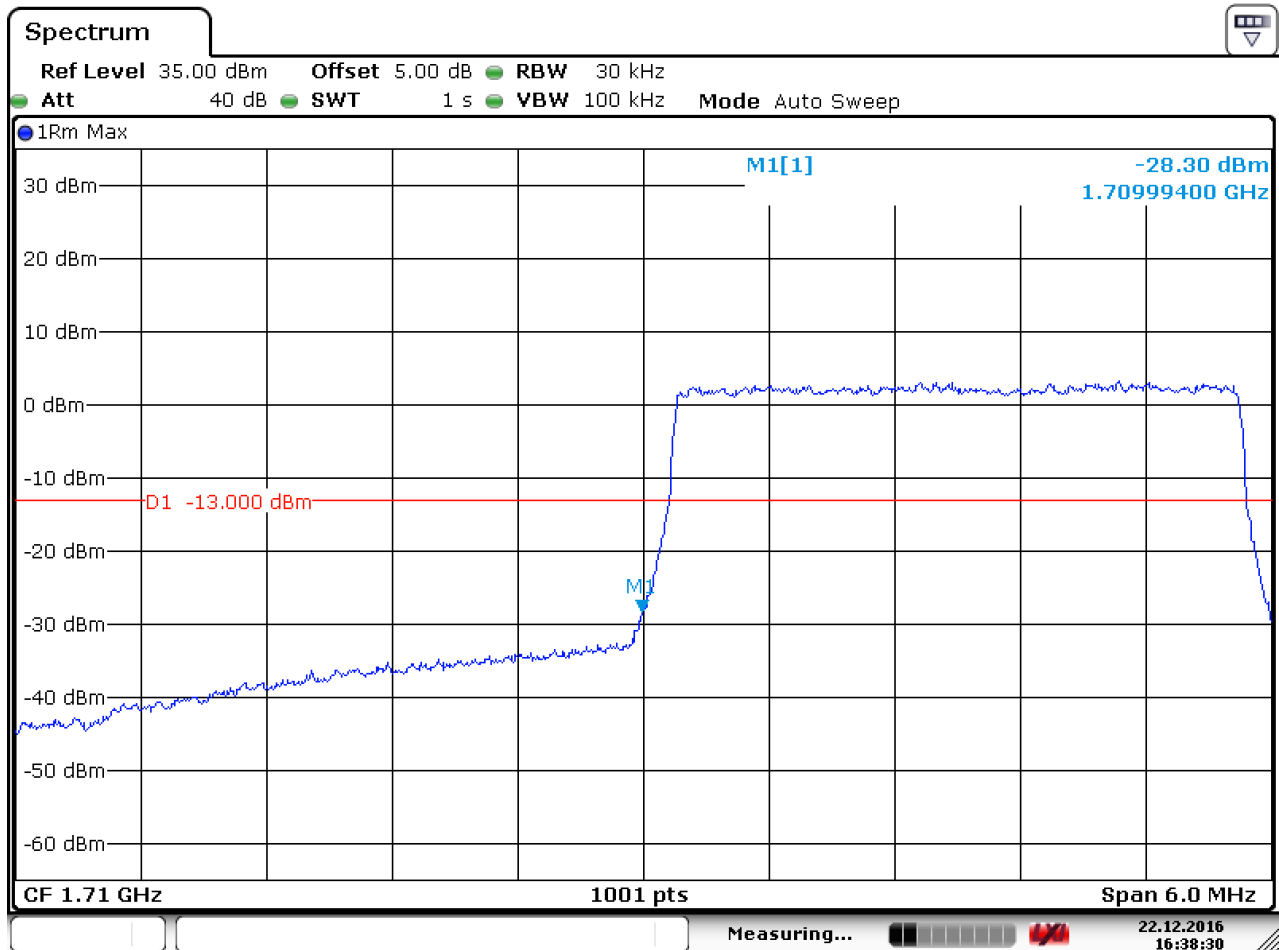
5.1.1.4.1.1 Test RB=1RB



Date: 22.DEC.2016 16:37:05



5.1.1.4.1.2 Test RB=15RB

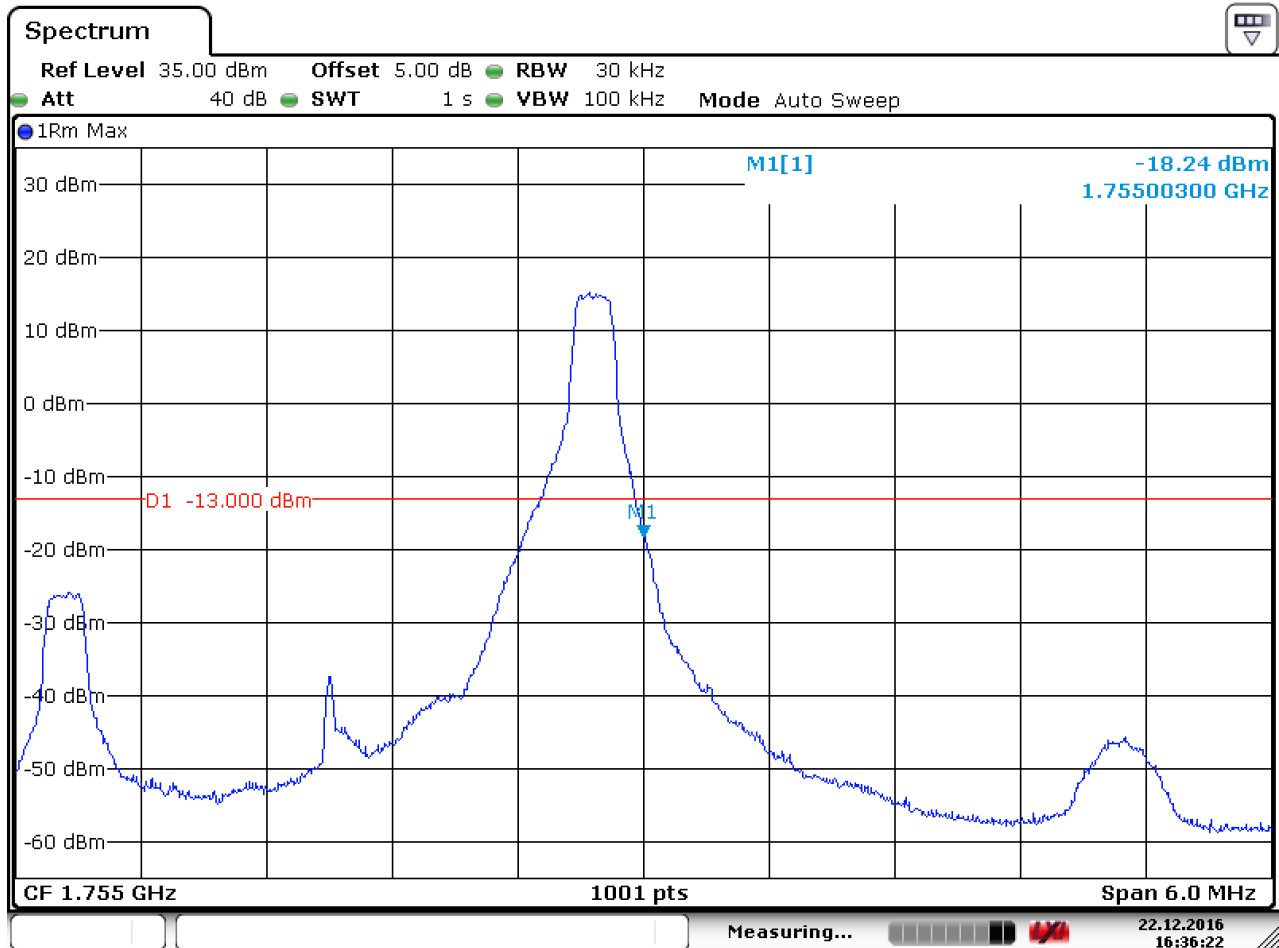


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5.1.1.4.2 Test Channel = HCH

5.1.1.4.2.1 Test RB=1RB



Date: 22.DEC.2016 16:36:22