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# Appendix B

#### Test Data for SZEM1610009167RG



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#### 1 Effective (Isotropic) Radiated Power Output Data

#### Effective Isotropic Radiated Power of Transmitter (EIRP) for LTE BAND 7

Test Band(LTE)	Test Mode	c Radiated Po Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
				RB1#0	23.54	24.03	33.00	PASS
				RB1#13	23.58	24.07	33.00	PASS
				RB1#24	23.58	24.07	33.00	PASS
			LCH	RB12#0	22.72	23.21	33.00	PASS
				RB12#6	22.74	23.23	33.00	PASS
				RB12#13	22.79	23.28	33.00	PASS
		5M		RB25#0	22.71	23.20	33.00	PASS
				RB1#0	23.95	24.44	33.00	PASS
				RB1#13	23.94	24.43	33.00	PASS
			МСН	RB1#24	23.91	24.40	33.00	PASS
BAND7	LTE/TM1			RB12#0	23.10	23.59	33.00	PASS
				RB12#6	23.07	23.56	33.00	PASS
				RB12#13	23.11	23.60	33.00	PASS
				RB25#0	23.03	23.52	33.00	PASS
				RB1#0	23.68	24.17	33.00	PASS
				RB1#13	23.71	24.20	33.00	PASS
				RB1#24	23.65	24.14	33.00	PASS
			НСН	RB12#0	22.83	23.32	33.00	PASS
				RB12#6	22.85	23.34	33.00	PASS
				RB12#13	22.87	23.36	33.00	PASS
				RB25#0	22.81	23.30	33.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
				RB1#0	22.43	22.92	33.00	PASS
				RB1#13	22.51	23.00	33.00	PASS
				RB1#24	22.50	22.99	33.00	PASS
			LCH	RB12#0	21.70	22.19	33.00	PASS
	LTE/TM2			RB12#6	21.72	22.21	33.00	PASS
				RB12#13	21.75	22.24	33.00	PASS
				RB25#0	21.66	22.15	33.00	PASS
		5M		RB1#0	22.83	23.32	33.00	PASS
				RB1#13	22.82	23.31	33.00	PASS
			МСН	RB1#24	22.81	23.30	33.00	PASS
BAND7				RB12#0	22.10	22.59	33.00	PASS
				RB12#6	22.07	22.56	33.00	PASS
				RB12#13	22.07	22.56	33.00	PASS
				RB25#0	22.00	22.49	33.00	PASS
				RB1#0	22.83	23.32	33.00	PASS
				RB1#13	22.55	23.04	33.00	PASS
				RB1#24	22.58	23.07	33.00	PASS
			НСН	RB12#0	22.53	23.02	33.00	PASS
				RB12#6	21.81	22.30	33.00	PASS
				RB12#13	21.79	22.28	33.00	PASS
				RB25#0	21.81	22.30	33.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
				RB1#0	23.60	24.09	33.00	PASS
				RB1#25	23.73	24.22	33.00	PASS
				RB1#49	23.84	24.33	33.00	PASS
			LCH	RB25#0	22.84	23.33	33.00	PASS
				RB25#13	22.89	23.38	33.00	PASS
				RB25#25	22.95	23.44	33.00	PASS
				RB50#0	22.94	23.43	33.00	PASS
	LTE/TM1	10M		RB1#0	24.01	24.50	33.00	PASS
				RB1#25	23.99	24.48	33.00	PASS
			МСН	RB1#49	24.01	24.50	33.00	PASS
BAND7				RB25#0	23.18	23.67	33.00	PASS
				RB25#13	23.15	23.64	33.00	PASS
				RB25#25	23.19	23.68	33.00	PASS
				RB50#0	23.30	23.79	33.00	PASS
				RB1#0	23.72	24.21	33.00	PASS
				RB1#25	23.72	24.21	33.00	PASS
				RB1#49	23.77	24.26	33.00	PASS
			НСН	RB25#0	22.88	23.37	33.00	PASS
				RB25#13	22.88	23.37	33.00	PASS
				RB25#25	22.91	23.40	33.00	PASS
				RB50#0	22.94	23.43	33.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
				RB1#0	22.61	23.10	33.00	PASS
				RB1#25	22.77	23.26	33.00	PASS
				RB1#49	22.91	23.40	33.00	PASS
			LCH	RB25#0	21.75	22.24	33.00	PASS
				RB25#13	21.83	22.32	33.00	PASS
				RB25#25	21.89	22.38	33.00	PASS
				RB50#0	21.85	22.34	33.00	PASS
				RB1#0	23.02	23.51	33.00	PASS
		10M		RB1#25	23.02	23.51	33.00	PASS
	LTE/TM2		МСН	RB1#49	23.07	23.56	33.00	PASS
BAND7				RB25#0	22.10	22.59	33.00	PASS
				RB25#13	22.09	22.58	33.00	PASS
				RB25#25	22.11	22.60	33.00	PASS
				RB50#0	22.13	22.62	33.00	PASS
				RB1#0	22.75	23.24	33.00	PASS
				RB1#25	22.76	23.25	33.00	PASS
				RB1#49	22.78	23.27	33.00	PASS
			НСН	RB25#0	21.83	22.32	33.00	PASS
				RB25#13	21.80	22.29	33.00	PASS
				RB25#25	21.82	22.31	33.00	PASS
				RB50#0	21.81	22.30	33.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
				RB1#0	23.65	24.14	33.00	PASS
				RB1#38	23.87	24.36	33.00	PASS
				RB1#74	24.08	24.57	33.00	PASS
			LCH	RB36#0	22.94	23.43	33.00	PASS
				RB36#18	23.02	23.51	33.00	PASS
				RB36#39	23.15	23.64	33.00	PASS
				RB75#0	23.08	23.57	33.00	PASS
		15M		RB1#0	24.03	24.52	33.00	PASS
				RB1#38	23.97	24.46	33.00	PASS
			МСН	RB1#74	24.09	24.58	33.00	PASS
BAND7	LTE/TM1			RB36#0	23.17	23.66	33.00	PASS
				RB36#18	23.17	23.66	33.00	PASS
				RB36#39	23.20	23.69	33.00	PASS
				RB75#0	23.19	23.68	33.00	PASS
				RB1#0	23.75	24.24	33.00	PASS
				RB1#38	23.78	24.27	33.00	PASS
				RB1#74	23.87	24.36	33.00	PASS
			HCH	RB36#0	22.93	23.42	33.00	PASS
				RB36#18	22.97	23.46	33.00	PASS
				RB36#39	22.99	23.48	33.00	PASS
				RB75#0	22.98	23.47	33.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
				RB1#0	22.56	23.05	33.00	PASS
				RB1#38	22.77	23.26	33.00	PASS
				RB1#74	22.99	23.48	33.00	PASS
			LCH	RB36#0	21.91	22.40	33.00	PASS
				RB36#18	21.99	22.48	33.00	PASS
				RB36#39	22.14	22.63	33.00	PASS
				RB75#0	22.02	22.51	33.00	PASS
		15M		RB1#0	22.90	23.39	33.00	PASS
				RB1#38	22.85	23.34	33.00	PASS
			МСН	RB1#74	22.96	23.45	33.00	PASS
BAND7	LTE/TM2			RB36#0	22.13	22.62	33.00	PASS
				RB36#18	22.13	22.62	33.00	PASS
				RB36#39	22.18	22.67	33.00	PASS
				RB75#0	22.14	22.63	33.00	PASS
				RB1#0	22.68	23.17	33.00	PASS
				RB1#38	22.67	23.16	33.00	PASS
				RB1#74	22.74	23.23	33.00	PASS
			HCH	RB36#0	21.89	22.38	33.00	PASS
				RB36#18	21.92	22.41	33.00	PASS
				RB36#39	21.97	22.46	33.00	PASS
				RB75#0	21.93	22.42	33.00	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
				RB1#0	23.53	24.02	33.00	PASS
				RB1#50	23.72	24.21	33.00	PASS
				RB1#99	23.69	24.18	33.00	PASS
			LCH	RB50#0	22.77	23.26	33.00	PASS
				RB50#25	22.81	23.30	33.00	PASS
				RB50#50	22.83	23.32	33.00	PASS
				RB100#0	22.79	23.28	33.00	PASS
				RB1#0	23.77	24.26	33.00	PASS
				RB1#50	23.64	24.13	33.00	PASS
				RB1#99	23.69	24.18	33.00	PASS
BAND7	LTE/TM1	20M	МСН	RB50#0	22.84	23.33	33.00	PASS
				RB50#25	22.77	23.26	33.00	PASS
				RB50#50	22.78	23.27	33.00	PASS
				RB100#0	22.80	23.29	33.00	PASS
				RB1#0	23.42	23.91	33.00	PASS
				RB1#50	23.39	23.88	33.00	PASS
				RB1#99	23.52	24.01	33.00	PASS
			НСН	RB50#0	22.53	23.02	33.00	PASS
				RB50#25	22.60	23.09	33.00	PASS
				RB50#50	22.65	23.14	33.00	PASS
				RB100#0	22.55	23.04	33.00	PASS

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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	EIRP (dBm)	limit (dBm)	Verdict
Dand(ETE)	mode	Banatinatin		RB1#0	22.73	23.22	33.00	PASS
				RB1#50	22.95	23.44	33.00	PASS
				RB1#99	23.11	23.60	33.00	PASS
			LCH	RB50#0	21.72	22.21	33.00	PASS
				RB50#25	21.79	22.28	33.00	PASS
				RB50#50	21.92	22.41	33.00	PASS
				RB100#0	21.77	22.26	33.00	PASS
				RB1#0	22.99	23.48	33.00	PASS
				RB1#50	22.88	23.37	33.00	PASS
				RB1#99	22.93	23.42	33.00	PASS
BAND7	LTE/TM2	20M	МСН	RB50#0	21.79	22.28	33.00	PASS
				RB50#25	21.73	22.22	33.00	PASS
				RB50#50	21.76	22.25	33.00	PASS
				RB100#0	21.75	22.24	33.00	PASS
				RB1#0	22.67	23.16	33.00	PASS
				RB1#50	22.65	23.14	33.00	PASS
				RB1#99	22.72	23.21	33.00	PASS
			НСН	RB50#0	21.50	21.99	33.00	PASS
				RB50#25	21.48	21.97	33.00	PASS
				RB50#50	21.51	22.00	33.00	PASS
				RB100#0	21.48	21.97	33.00	PASS

Note:

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

EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBi]

b: SGP=Signal Generator Level

c: RBW > emission bandwidth, VBW >  $3 \times RBW$ .

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
		LCH	5.07	13	PASS
	TM1/20M	MCH	4.99	13	PASS
Dond 7		HCH	4.90	13	PASS
Band 7	TM2/20M	LCH	5.74	13	PASS
		MCH	5.57	13	PASS
		HCH	5.54	13	PASS



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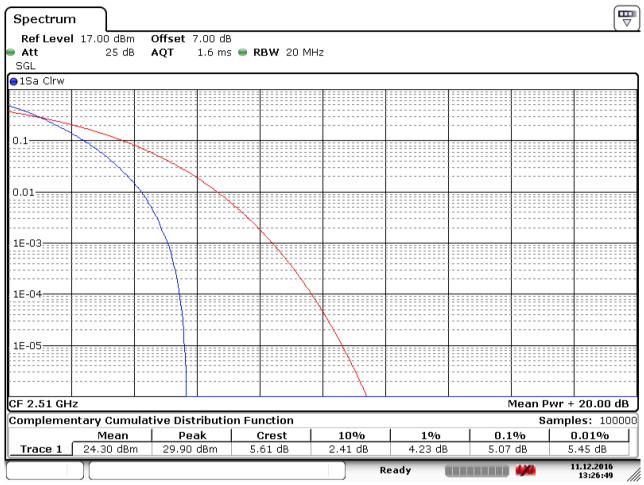
Part II - Test Plots

#### 2.1 For LTE

2.1.1 Test Band = LTE band7



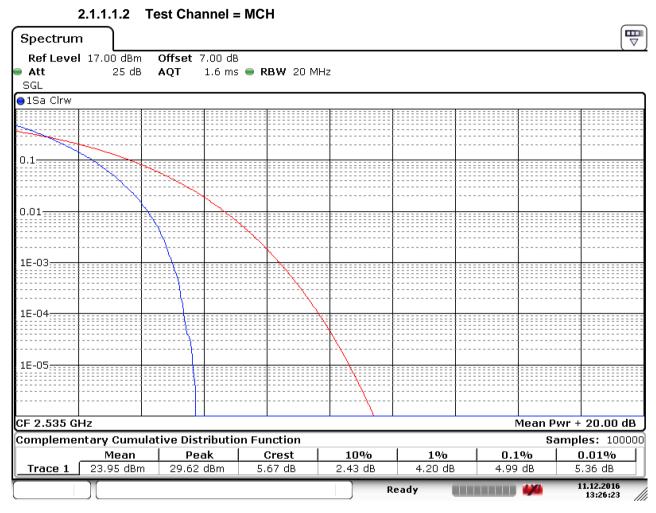
2.1.1.1.1 Test Channel = LCH



Date: 11.DEC.2016 13:26:50



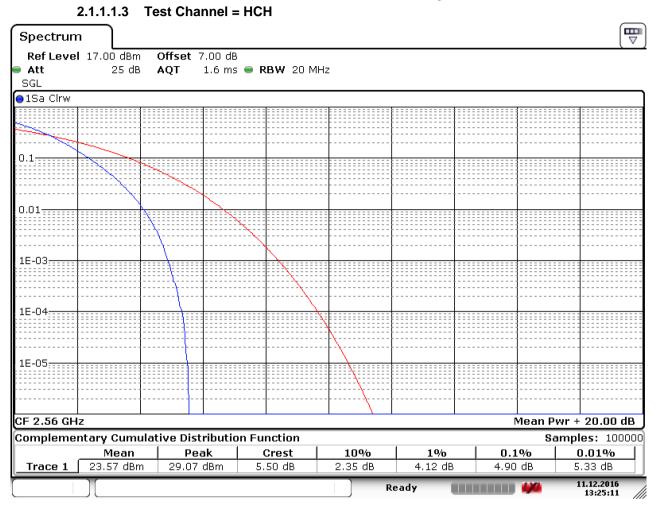
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Date: 11.DEC.2016 13:26:24



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Date: 11.DEC.2016 13:25:12



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

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

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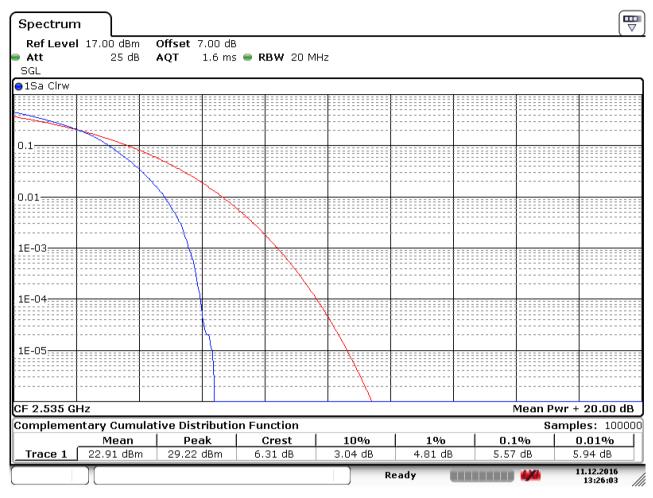
#### 2.1.1.2.1 Test Channel = LCH Ŧ Spectrum Ref Level 17.00 dBm Offset 7.00 dB Att 1.6 ms 👄 RBW 20 MHz 25 dB AQT SGL ∋1Sa Clrw $0.1_{2}$ 0.01 1E-03: 1E-04 1E-05: CF 2.51 GHz Mean Pwr + 20.00 dB Complementary Cumulative Distribution Function Samples: 100000 Mean Peak Crest 10%1% 0.1%0.01%23.28 dBm 29.87 dBm Trace 1 6.59 dB 2.99 dB 4.87 dB 5.74 dB 6.26 dB 11.12.2016 Ready 13:27:08

Date: 11.DEC.2016 13:27:09



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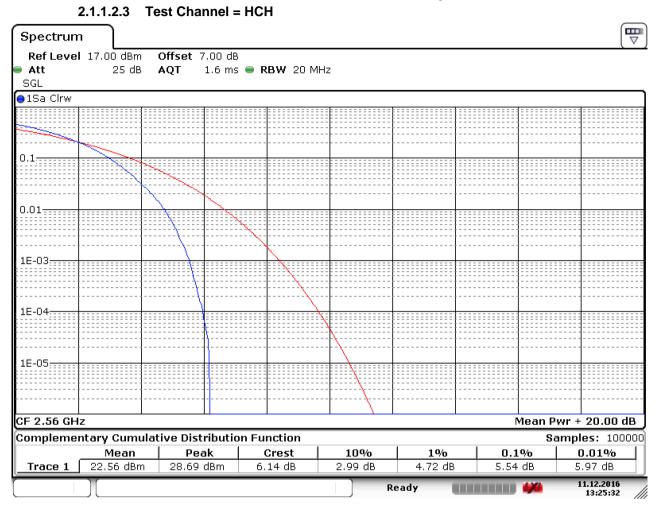




Date: 11.DEC.2016 13:26:03



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Date: 11.DEC.2016 13:25:33



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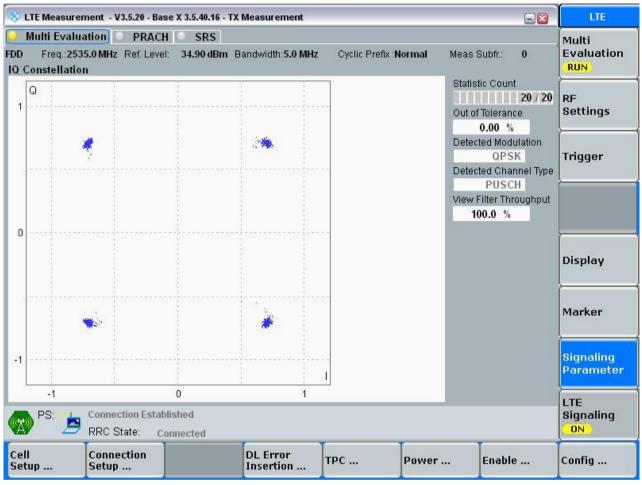
#### **3 Modulation Characteristics**

#### 3.1 For LTE

#### 3.1.1 Test Band = LTE band7

#### 3.1.1.1 Test Mode = LTE /TM1 5MHz

#### 3.1.1.1.1 Test Channel = MCH





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ON

Config ...

Enable ...

3.1.1.2 Test Mode = LTE /TM1 10MHz 3.1.1.2.1 Test Channel = MCH 🚸 LTE Measurement - V3.5.20 - Base X 3.5.40.16 - TX Measurement - 2 Multi Evaluation PRACH SRS Multi Freq.: 2535.0 MHz Ref. Level: 36.60 dBm Bandwidth: 10.0 MHz Evaluation FDD Cyclic Prefix :Normal Meas Subfr.: 0 RIIN **IQ** Constellation Statistic Count Q 20 / 20 RF 1 Settings Out of Tolerance 15.00 % **Detected Modulation** OPSK Trigger Detected Channel Type PUSCH View Filter Throughput 100.0 % 0 Display Marker Signaling -1 Parameter -1 0 1 LTE **Connection Established** PS: Signaling

**DL Error** 

Insertion ...

трс ...

Power ...

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RRC State:

Connection

Setup ...

Cell

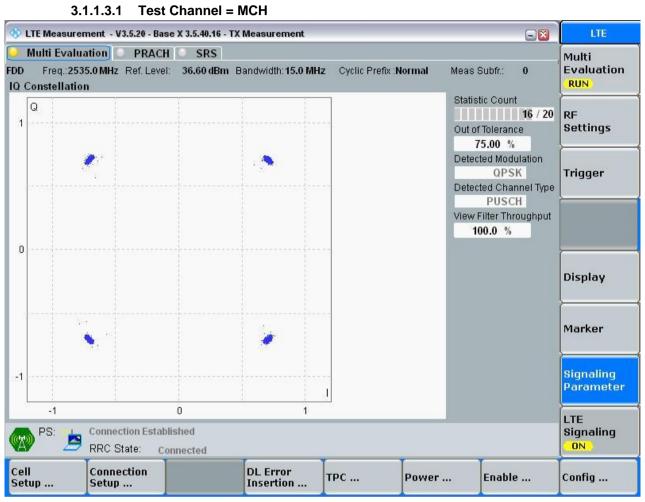
Setup ...

Connected



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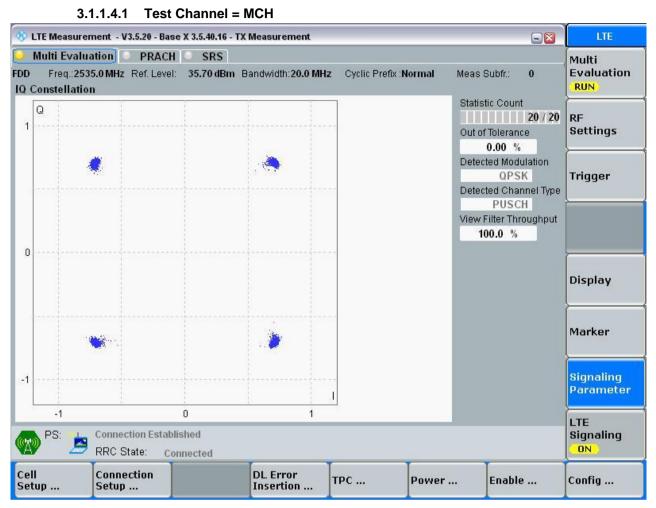
3.1.1.3 Test Mode = LTE /TM1 15MHz





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3.1.1.4 Test Mode = LTE /TM1 20MHz





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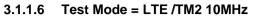
3.1.1.5.1 Test Channel = MCH 🚸 LTE Measurement - V3.5.20 - Base X 3.5.40.16 - TX Measurement - 2 Multi Evaluation PRACH SRS Multi Freq.: 2535.0 MHz Ref. Level: 34.90 dBm Bandwidth: 5.0 MHz 0 Evaluation FDD Cyclic Prefix :Normal Meas Subfr.: RUN **IQ** Constellation Statistic Count Q 20 / 20 RF 1 Settings Out of Tolerance 0.00 % **Detected Modulation** 16-QAM Trigger Detected Channel Type PUSCH is a -5 View Filter Throughput 100.0 % 0 Display ٠ Marker a. 1 Signaling -1 Parameter -1 0 1 LTE **Connection Established** Signaling PS: ON RRC State: Connected Statistic Measurement Assign Channel Stop Repetition ... Config ... Views Condition ... Bandwidth ... Subframes ... Count ...

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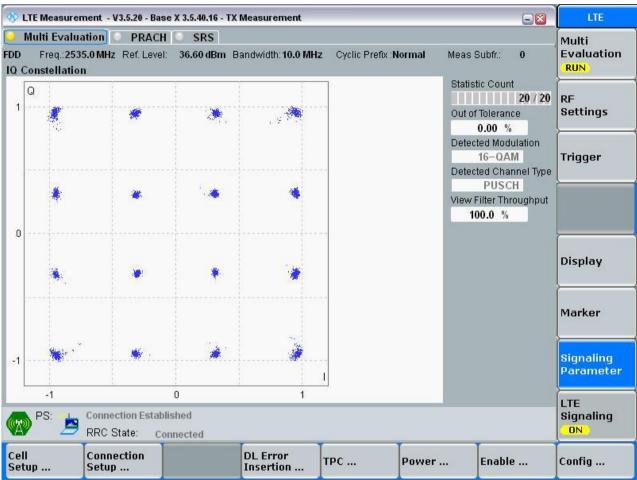
3.1.1.5 Test Mode = LTE /TM2 5MHz



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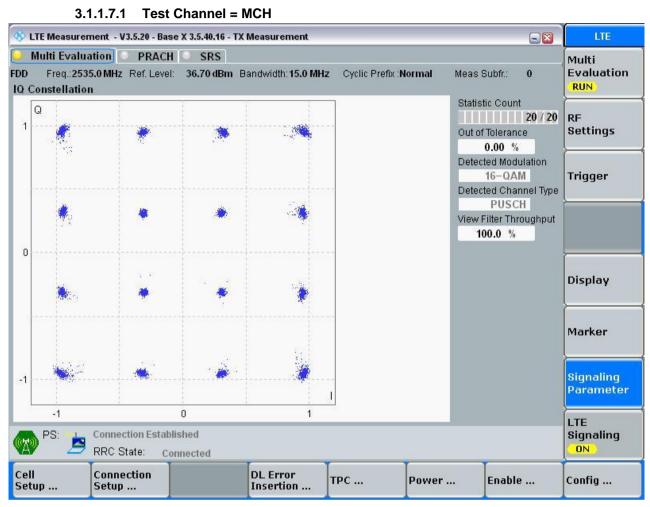






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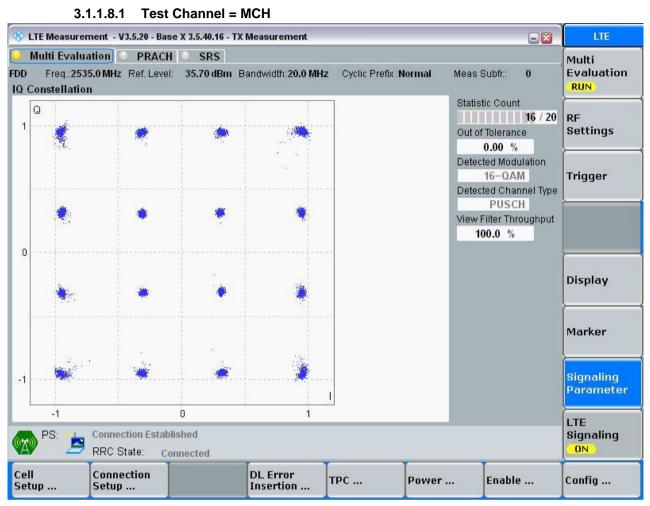
3.1.1.7 Test Mode = LTE /TM2 15MHz





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3.1.1.8 Test Mode = LTE /TM2 20MHz





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#### 4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
		LCH	4.50	4.98	PASS
	TM1/ 5MHz	MCH	4.50	4.99	PASS
		HCH	4.48	4.95	PASS
		LCH	4.50	4.99	PASS
	TM2/ 5MHz	MCH	4.49	4.95	PASS
		HCH	4.50	5.00	PASS
		LCH	8.93	9.71	PASS
	TM1/10MHz	MCH	8.97	9.77	PASS
		HCH	8.95	9.77	PASS
		LCH	8.95	9.79	PASS
	TM2/ 10MHz	MCH	8.95	9.65	PASS
Band 7		HCH	8.95	9.75	PASS
Dallu 7	TM1/ 15MHz	LCH	13.49	14.87	PASS
		MCH	13.52	14.99	PASS
		HCH	13.43	14.84	PASS
		LCH	13.55	14.96	PASS
	TM2/ 15MHz	MCH	13.52	14.87	PASS
		HCH	13.49	14.81	PASS
		LCH	17.94	19.42	PASS
	TM1/ 20MHz	MCH	17.94	19.42	PASS
		HCH	17.94	19.62	PASS
		LCH	18.02	19.62	PASS
	TM2/ 20MHz	MCH	18.02	19.58	PASS
		HCH	17.94	19.42	PASS



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#### Part II –Test Plots

#### 4.1 For LTE

#### 4.1.1 Test Band = LTE band7

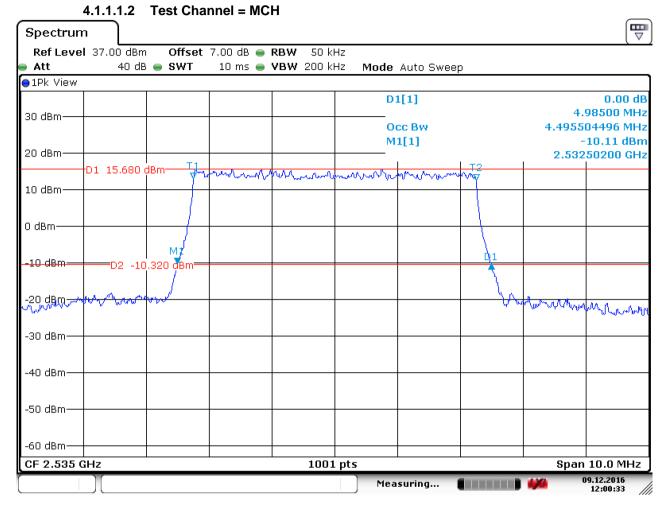
#### 4.1.1.1 Test Mode = LTE/TM1 5MHz

	4.1.1.1.1	Test Cha	nnel = LCH	1					_
Spectru	ım								
Ref Lev	el 37.00 dBm		7.00 dB 👄 I	<b>RBW</b> 50 kH	Ηz				
Att		B 👄 SWT	10 ms 😑 🕻	<b>VBW</b> 200 kł	Hz Mode	Auto Swe	ер		
<mark>⊜</mark> 1Pk Viev	v	1							
					D	1[1]			-0.91 dB
30 dBm—						cc Bw			97500 MHz 04496 MHz
						1[1]		7.7500	-9.02 dBm
20 dBm—		T 1						2.500	02200 GHz
	D1 16.460	dBm T1	manhan	whenton	Unroma.	manun	Ant -		
10 dBm—									
0 dBm									
0.00111							$  \rangle$		
-10 dBm-	<u></u>	M1 540 dBm===					<u> </u>		
-10 ubiii—							1		
		INN					White de	. AL	
᠂ᡸᠰᡥᡃᢂᡯᠴ	Www.man						- collins	ᢦᠬᢦᢦᠻᡗᡃᠰᡳ	Winath
									1.0045
-30 dBm—									
-40 dBm—									
-50 dBm—									
-60 dBm—									
CF 2.502	 25 GHz			1001	nts			Snan	10.0 MHz
(				1301		curina	<b>6</b>		9.12.2016
L					Mea	suring		<b>.</b>	12:01:44

Date: 9.DEC.2016 12:01:44



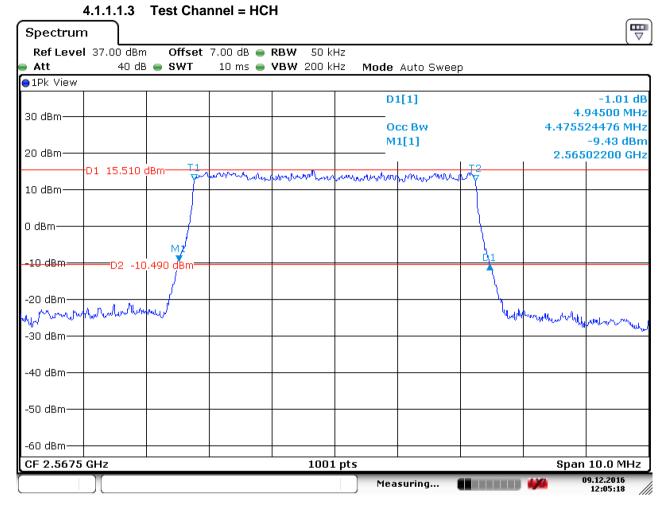
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Date: 9.DEC.2016 12:00:33



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Date: 9.DEC.2016 12:05:18



4.1.1.2 Test Mode = LTE/TM2 5MHz

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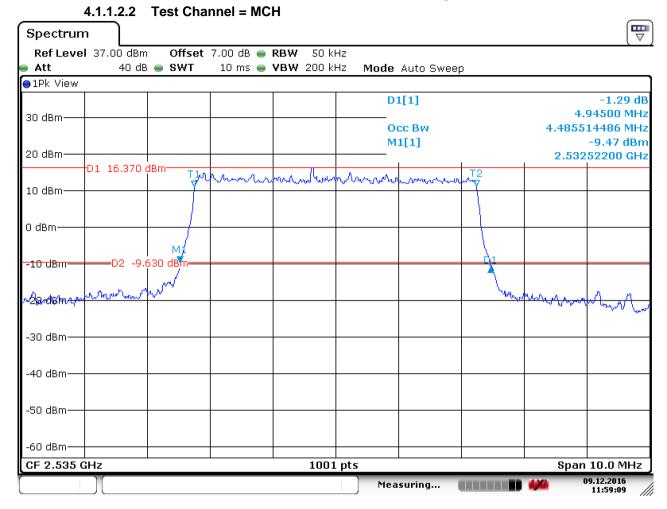
Report No.: SZEM161000916705 Page: 30 of 134

#### 4.1.1.2.1 Test Channel = LCH ₽ Spectrum Ref Level 37.00 dBm Offset 7.00 dB 🖷 RBW 50 kHz 40 dB 👄 SWT 10 ms 🔵 **VBW** 200 kHz Att Mode Auto Sweep ■1Pk View -0.25 dB D1[1] 4.98500 MHz 30 dBm-4.495504496 MHz Occ Bw M1[1] -10.81 dBm 20 dBm-2.50001200 GHz D1 15.080 dBm Munuhan mount 2 A Mar 10 dBm-0 dBm· M -10 dBm -D2 -10.920 dBm mma ക്കുപ്പുക്ക്ഷിപ്പ moun -30 dBm<sup>.</sup> -40 dBm--50 dBm--60 dBm-CF 2.5025 GHz 1001 pts Span 10.0 MHz 09.12.2016 Measuring... 12:02:46

Date: 9.DEC.2016 12:02:46



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Spectrum									
	37.00 dBm		7.00 dB 👄						
Att	40 dE	8 🔵 SWT	10 ms 😑	<b>VBW</b> 200 kH	lz Mode	Auto Swe	ер		
●1Pk View									
					D	1[1]			-0.45 dB
30 dBm						D			99500 MHz
						cc Bw 1[1]			04496 MHz 11.51 dBm
20 dBm					milij			2.56498300 GHz	
	01 14 000	 					То		
10 dBm	D1 14.090		human	unimanitation	mound	much	NM S		
10 0.0111									
0.40									
0 dBm									
		MI							
-10 dBm	D2 -11	L.910 dBm-					41		
20 dBm	ъĎ	n 19					<u> </u>		
-20 dBm	Ala Maria	rv.					WW	munullylylyly	herollower rol
-30 dBm——									
-40 dBm									
-50 dBm									
-30 ubiii									
50 ID									
-60 dBm	~								
CF 2.5675	GHZ			1001	pts			_	10.0 MHz
<u> </u>	」				Mea	suring		4/4	19.12.2016 12:04:10

#### 4.1.1.2.3 Test Channel = HCH

Date: 9.DEC.2016 12:04:11



4.1.1.3 Test Mode = LTE/TM1 10MHz

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

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#### 4.1.1.3.1 Test Channel = LCH ₽ Spectrum Ref Level 37.00 dBm Offset 7.00 dB 👄 RBW 100 kHz 40 dB 👄 SWT 10 ms 🔵 **VBW** 300 kHz Att Mode Auto Sweep ●1Pk View D1[1] -1.13 dB 9.7100 MHz 30 dBm-Occ Bw 8.931068931 MHz -8.87 dBm M1[1] 20 dBm-2.5001650 GHz τ. D1 16.840 dBm marine الدروسيريد montenan A. one of 10 dBm-0 dBm-M =D2 -9.160 dBm -10 dBm--20 dBmwhen when her were and -- com and a ward 12-16--30 dBm<sup>.</sup> -40 dBm--50 dBm--60 dBm-1001 pts Span 20.0 MHz CF 2.505 GHz 09.12.2016 Measuring... 12:10:42

Date: 9.DEC.2016 12:10:42



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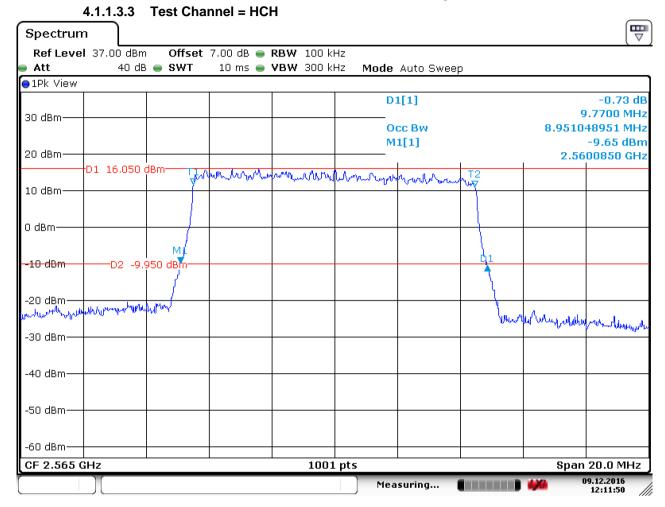
Spectrum	Γ									
	l 37.00 dBn			<b>RBW</b> 100 k						
Att	40 dE	B 🖷 SWT	10 ms 😑	<b>VBW</b> 300 k	Hz Mode	Auto Sw	еер			
⊖1Pk View					_				0.40.10	
					D1[1]			-0.19 dB 9.7700 MHz		
30 dBm					Occ Bw			8.971028971 MHz		
					M1[1]			-9.21 dBm		
20 dBm		-						2.53	00850 GHz	
	D1 16.580	dBm <u></u> ∕I	mannon	manun	moundan	howway	Mart T2			
10 dBm		Y Y								
0 dBm										
		м								
-10 dBm	D2 -9.	.420 dBm					<u>[]</u> 1			
10 0.0111										
ന പറംപം	America Ale	mound								
12918Autrent	P 97500	1					Weberge	watura	WWWWWWW IN	
									. o . ro . Ma . Mari	
-30 dBm										
-40 dBm										
-50 dBm										
-60 dBm										
CF 2.535 C	L GHz	1		<u> </u>	l Lpts	1		Span	20.0 MHz	
	Υ					asuring			9.12.2016	
									12:06:47	

#### 4.1.1.3.2 Test Channel = MCH

Date: 9.DEC.2016 12:06:48



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Date: 9.DEC.2016 12:11:50



4.1.1.4 Test Mode = LTE/TM2 10MHz

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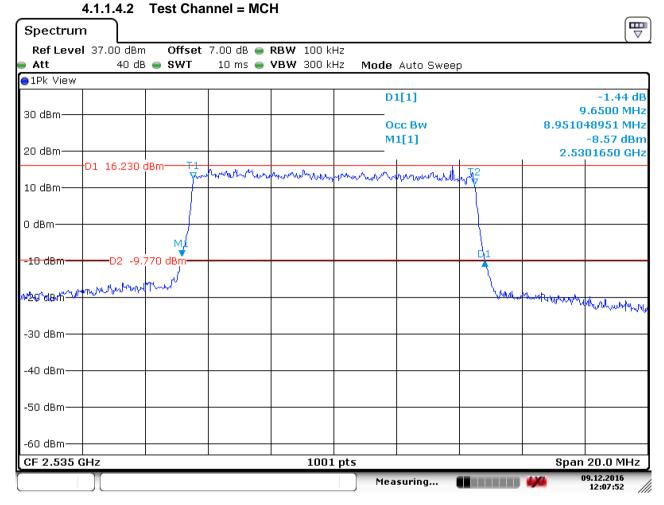
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#### 4.1.1.4.1 Test Channel = LCH ₽ Spectrum Ref Level 37.00 dBm Offset 7.00 dB 👄 RBW 100 kHz 40 dB 👄 SWT 10 ms 🔵 **VBW** 300 kHz Att Mode Auto Sweep ●1Pk View -0.76 dB D1[1] 9.7900 MHz 30 dBm-Occ Bw 8.951048951 MHz M1[1] -10.25 dBm 20 dBm-2.5001050 GHz D1 15.630 dBm 10 dBm-0 dBm· M3 -10 dBm D2 -10.370 dBm <mark>/20\_d&m</mark>~\_ W. marke -30 dBm--40 dBm--50 dBm--60 dBm-CF 2.505 GHz 1001 pts Span 20.0 MHz 09.12.2016 Measuring... 12:09:30

Date: 9.DEC.2016 12:09:30



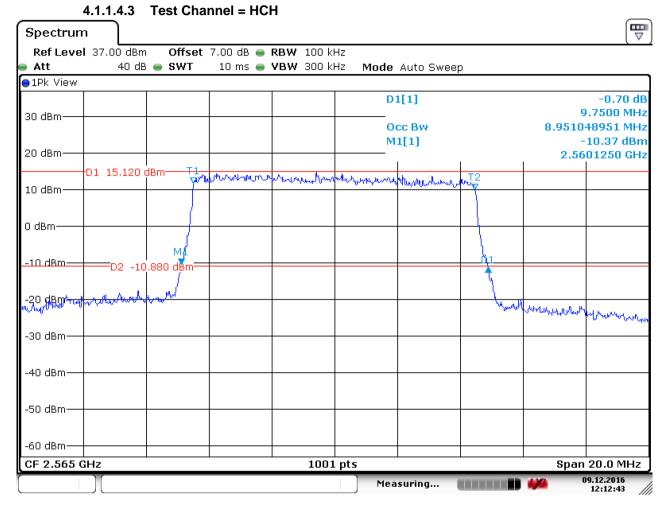
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Date: 9.DEC.2016 12:12:43



4.1.1.5 Test Mode = LTE/TM1 15MHz

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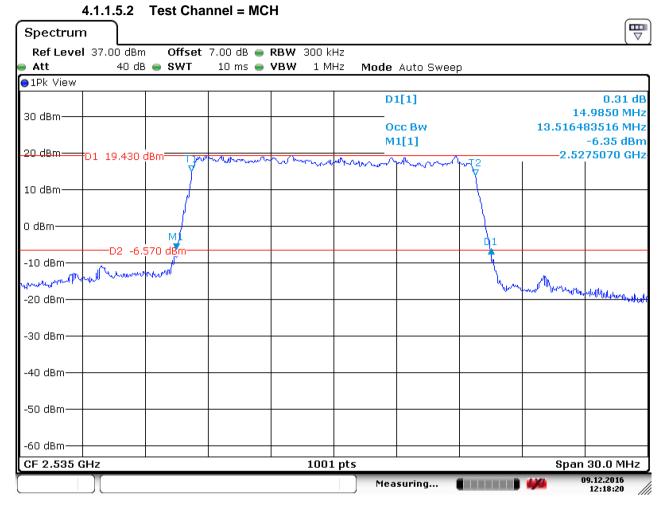
Report No.: SZEM161000916705 Page: 39 of 134

#### 4.1.1.5.1 Test Channel = LCH ₽ Spectrum Ref Level 37.00 dBm Offset 7.00 dB 👄 RBW 300 kHz 40 dB 👄 SWT 10 ms 🔵 VBW Att 1 MHz Mode Auto Sweep ■1Pk View -0.48 dB D1[1] 14.8650 MHz 30 dBm-Occ Bw 13.486513487 MHz M1[1] -4.99 dBm 20 dBm D1 19.990 dBm 2.5001270 GHz 10 dBm-0 dBm-ΜÅ **rh**1 D2 -6.010 dBm -10 dBm u. ±20 à8m∙ -30 dBm--40 dBm--50 dBm--60 dBm-CF 2.5075 GHz 1001 pts Span 30.0 MHz 09.12.2016 Measuring... 12:21:35

Date: 9.DEC.2016 12:21:35



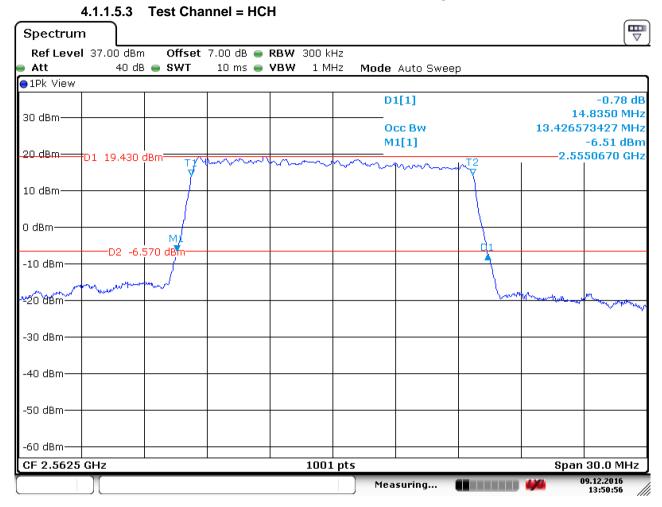
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Date: 9.DEC.2016 13:50:56



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#### 4.1.1.6.1 Test Channel = LCH ₽ Spectrum Ref Level 37.00 dBm Offset 7.00 dB 👄 RBW 300 kHz 40 dB 👄 SWT 10 ms 👄 VBW Att 1 MHz Mode Auto Sweep ■1Pk View -0.25 dB D1[1] 14.9550 MHz 30 dBm-Occ Bw 13.546453546 MHz M1[1] -7.04 dBm 2.5000670 GHz 20 dBm— D1 18.790 dBm----Τ1, mon 10 dBm-0 dBm-M ·D2 -7.210 dBm -10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm-CF 2.5075 GHz 1001 pts Span 30.0 MHz 09.12.2016 Measuring... 13:45:20

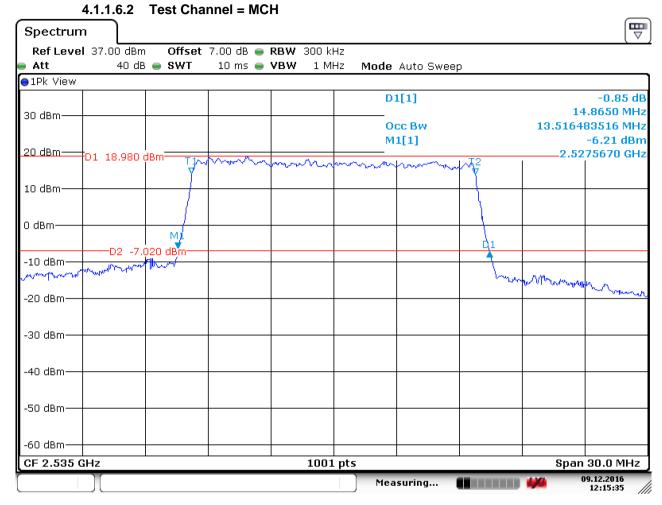
Date: 9.DEC.2016 13:45:20

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



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Spectrun	n								
	l 37.00 dBm			<b>RBW</b> 300 ki					
Att	40 dB	s 😑 SWT	10 ms 😑	<b>VBW</b> 1 M	Hz Mode	Auto Swee	эр		
⊖1Pk View	1								
					D	1[1]			-0.33 dB
30 dBm						cc Bw			19497 MHz
						сс вм 1[1]		13.4803	13487 MHz -6.91 dBm
20 dBm		 				1[1]		2.55	50670 GHz
	D1 18.420(	asm <u> </u>		h	$\sim\sim\sim\sim$	m	$\Psi_{\gamma}^{12}$		
10 dBm							+		
0 dBm									
		мį							
	D2 -7.5	580 dBm					<u> </u>		
-10 dBm—	an N	when							
www	Man and a	1					many	monu	the second
-20 dBm——									- MCDAN COM
-30 dBm—									
-40 dBm									
10 0.011									
-50 dBm									
-60 dBm									
CF 2.5625	GHz			1001	pts			-	30.0 MHz
	)[				Mea	suring		4/4	9.12.2016 13:48:10

#### 4.1.1.6.3 Test Channel = HCH

Date: 9.DEC.2016 13:48:11



4.1.1.7

Test Mode = LTE/TM1 20MHz

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

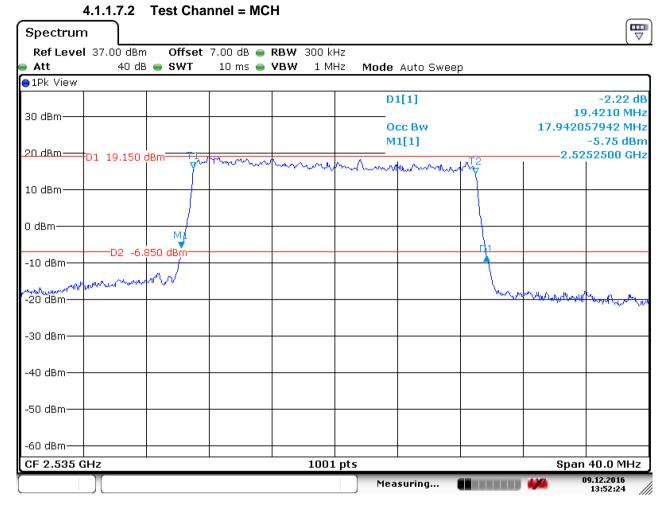
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#### 4.1.1.7.1 Test Channel = LCH ₽ Spectrum Ref Level 37.00 dBm Offset 7.00 dB 👄 RBW 300 kHz 40 dB 👄 SWT 10 ms 🔵 VBW Att 1 MHz Mode Auto Sweep ■1Pk View -1.38 dB D1[1] 19.4210 MHz 30 dBm-Occ Bw 17.942057942 MHz M1[1] -5.18 dBm 20 dBm D1 20.010 dBm 2.5004100 GHz 10 dBm-0 dBm-M -D2 -5.990 dBr -10 dBm -20 գթրո -30 dBm--40 dBm--50 dBm--60 dBm-1001 pts Span 40.0 MHz CF 2.51 GHz 09.12.2016 Measuring... 13:56:37

Date: 9.DEC.2016 13:56:38



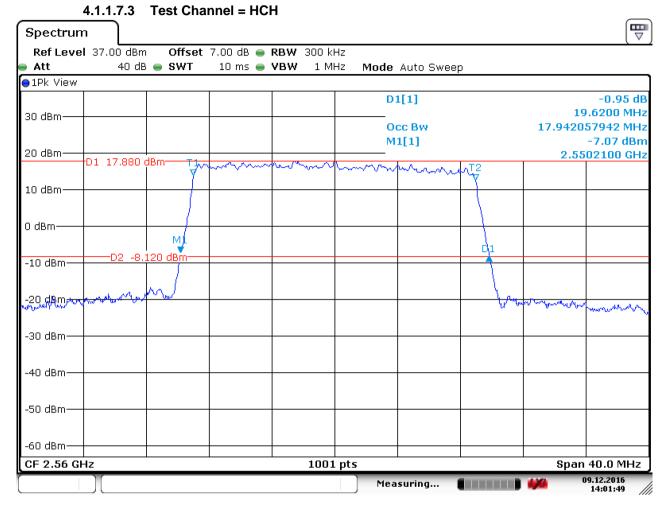
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Date: 9.DEC.2016 14:01:49



4.1.1.8 Test Mode = LTE/TM2 20MHz

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#### 4.1.1.8.1 Test Channel = LCH ₽ Spectrum Ref Level 37.00 dBm Offset 7.00 dB 👄 RBW 300 kHz 40 dB 👄 SWT Att 10 ms 🔵 VBW 1 MHz Mode Auto Sweep ■1Pk View D1[1] -0.61 dB 19.6200 MHz 30 dBm-Occ Bw 18.021978022 MHz M1[1] -6.70 dBm 20 dBm— 2.5002100 GHz D1 18.640 dBm-Т1 www 10 dBm-0 dBm-M) D2 -7.360 dBm -10 dBm or total day 20'dBm -30 dBm<sup>.</sup> -40 dBm--50 dBm--60 dBm-1001 pts Span 40.0 MHz CF 2.51 GHz 09.12.2016 Measuring... 13:55:02

Date: 9.DEC.2016 13:55:03



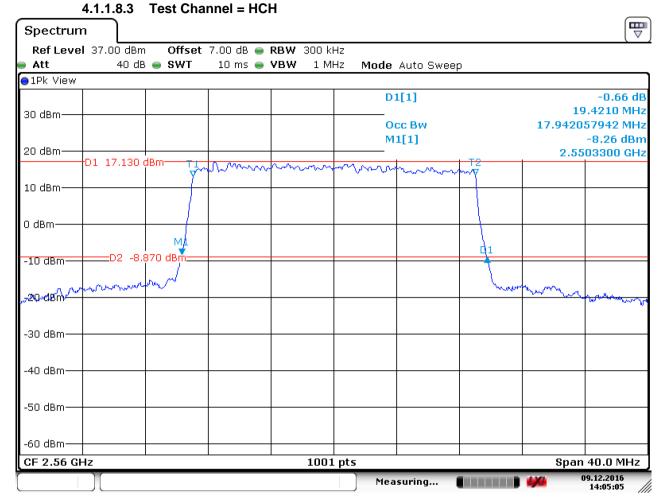
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Date: 9.DEC.2016 14:05:06



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#### 5 Band Edges Compliance

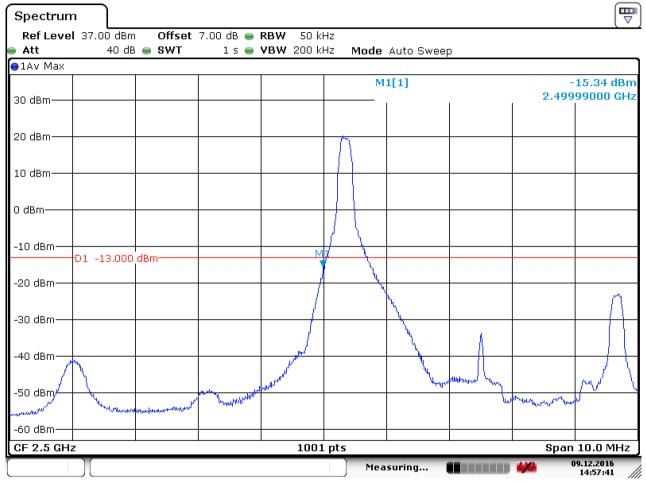
#### 5.1 For LTE

#### 5.1.1 Test Band = LTE band7

#### 5.1.1.1 Test Mode = LTE/TM1 5MHz

5.1.1.1.1 Test Channel = LCH

#### 5.1.1.1.1.1 Test RB=1RB



Date: 9.DEC.2016 14:57:41



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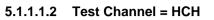
Spectrum										
Ref Level			7.00 dB 👄							
Att	40 dB	SWT	1 s 👄	<b>VBW</b> 200 ki	Ηz	Mode	Auto Swee	эр		
⊖1Av Max										
						M	1[1]			24.78 dBm
30 dBm							I	1	2.499	99000 GHz
20 dBm										
10 dBm										
						ponomen	and the market of	munum	- margineterment	human
0 dBm										
-10 dBm	21 12 000	dD								
L	01 -13.000	ивш								
-20 dBm				M	ų/					
				and a second second	r					X
-30 dBm	Junk we have here	of the second second	a summer water and							
enerode vero and										
-40 dBm										
-50 dBm——										
-60 dBm										
CF 2.5 GHz			·	1001	pt	s	·	·	Span	10.0 MHz
	Π					Mea	suring		<b>474</b>	09.12.2016 14:57:18

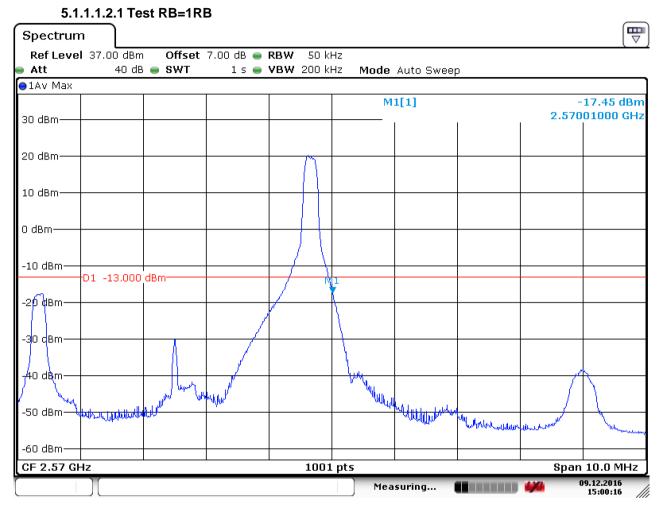
5.1.1.1.1.2 Test RB=25RB

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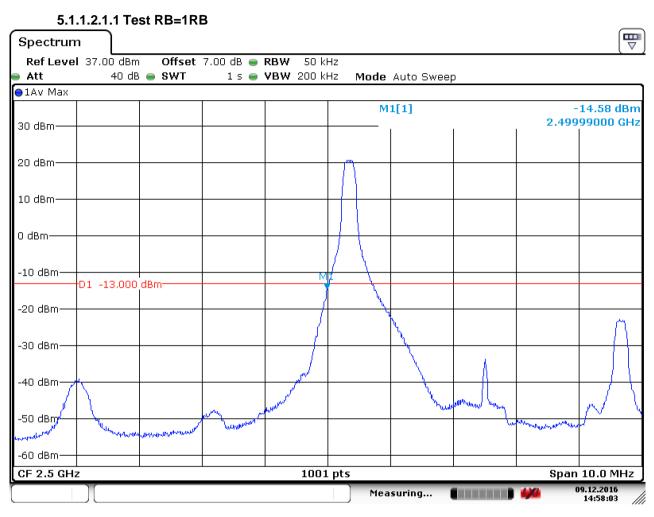
5.1	.1.1.2.2 Te	est RB=25	RB						_
Spectrum	n								(₩
Ref Leve	l 37.00 dBn	n Offset	7.00 dB 😑	<b>RBW</b> 50 k	Hz				
Att	40 dE	B 🔵 SWT	1 s 👄	<b>VBW</b> 200 k	Hz Mode	Auto Swee	р		
⊖1Av Max									
					M	1[1]			29.28 dBm
30 dBm						1	1	2.570	01000 GHz 
20 dBm									
10 dBm									
murren	- water and the second	Munumenter	man	monory					
0 dBm									
-1 <mark>0 dBm</mark>									
	D1 -13.000	) dBm							
-20 dBm									
/				1 \	1				
-30 dBm				19	-				
					haurranner	Acres and the			
-40 dBm							and the second with	manner	~
10 40111									monum
-50 dBm—									
SO GDIII									
-60 dBm—									
CF 2.57 GF	 			1001	Inte				10.0 MHz
	12			1001					10.0 MHZ
L I					Mea	suring			15:01:38

Date: 9.DEC.2016 15:01:39



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#### 5.1.1.2 Test Mode = LTE/TM2 5MHz 5.1.1.2.1 Test Channel = LCH



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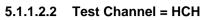
Spectrum	ι									
	37.00 dBm		7.00 dB 😑							
🗕 Att	40 dB	SWT 😑	1 s 👄	<b>VBW</b> 200 kł	Ηz	Mode	Auto Swee	p		
●1Av Max										
						M	1[1]			25.52 dBm
30 dBm							I	1	2.499	99000 GHz
20 dBm										ļ
10 dBm										
						Sector and the	an and a set of the	10 No		mana
						[				
0 dBm										
-10 dBm——										
	D1 -13.000	abm								
-20 dBm—				M	$\frac{1}{2}$					<u> </u>
					1					\ \
-30 dBm	0		1	my and mark						
(~~	Contraction and a second	whenever	1							
-40 dBm										
-40 0011										
-50 dBm—										
-60 dBm										
CF 2.5 GHz	z		•	1001	pt	ts			Span	10.0 MHz
						Mea	suring		<b>444</b> (	)9.12.2016 14:56:49

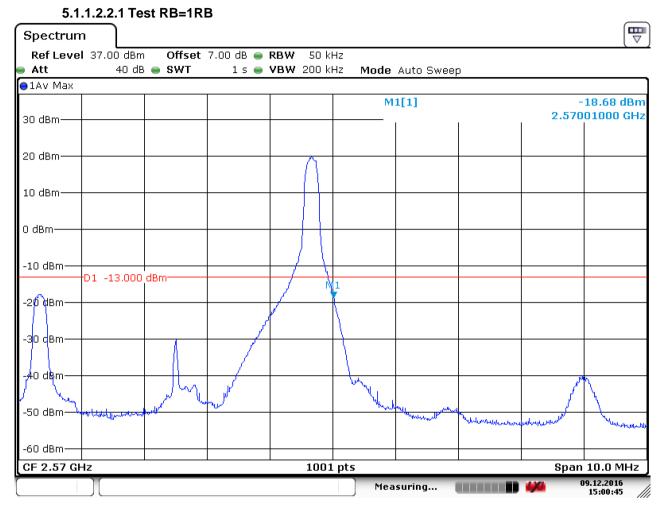
5.1.1.2.1.2 Test RB=25RB

Date: 9.DEC.2016 14:56:50



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Date: 9.DEC.2016 15:00:44



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Spectrum	Γ									
	37.00 dBm		7.00 dB 😑		50 k⊢					
Att	40 dB	SWT 😑 SWT	1 s 😑	<b>VBW</b> 20	)O k⊢	lz Mode	Auto Swe	ер		
⊖1Av Max			1							
30 dBm						M	1[1]	1		28.45 dBm 01000 GHz
20 dBm										
10 dBm	and the second states of the	Anna	an and the second	-	~					
0 dBm					$\left\{ \right\}$					
-10 dBm—	D1 -13.000	dBm								
-20 dBm—					$\left\{ \right\}$					
/ -30 dBm					_N	1				
-40 dBm							manne	the manalust march	manner	-un
										and the second
-50 dBm—										
-60 dBm	17				001	ntc				10.0 MU-
[ CF 2.37 GF	12			1	001					10.0 MHz
Į – – – –	Л					Mea	suring			15:01:12

5.1.1.2.2.2 Test RB=25RB

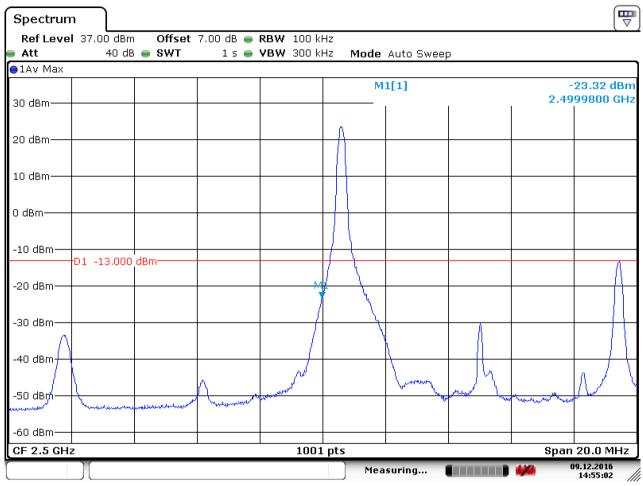
Date: 9.DEC.2016 15:01:12



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#### 5.1.1.3 Test Mode = LTE/TM1 10MHz 5.1.1.3.1 Test Channel = LCH

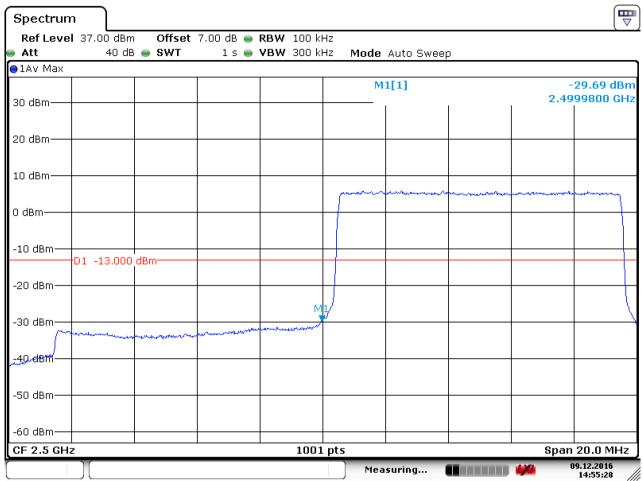
#### 5.1.1.3.1.1 Test RB=1RB



Date: 9.DEC.2016 14:55:02



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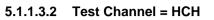


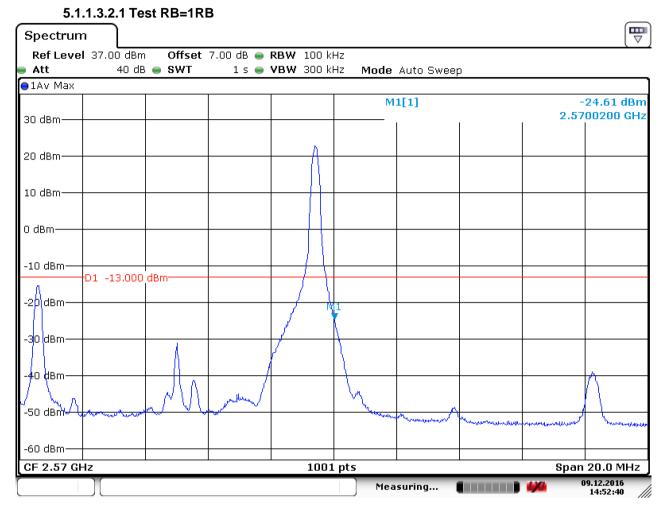
5.1.1.3.1.2 Test RB=50RB

Date: 9.DEC.2016 14:55:28



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Date: 9.DEC.2016 14:52:40



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		51 ND=301	10						Ē
Spectrum									
Ref Level	37.00 dBm 40 dB	Offset		<b>RBW</b> 100 k <b>VBW</b> 300 k		Auto Swee	n		
●1Av Max		_					Γ		
30 dBm					M	1[1]	1		33.17 dBm 00200 GHz
20 dBm									
10 dBm									
		//w//w//fin-way-w							
-10 dBm	D1 -13.000	dBm							
-20 dBm									
-30 dBm					1				
-40 dBm						a and an	a statements Marriage		provenance
-50 dBm									
-60 dBm									
CF 2.57 GH	lz			1001	. pts			-	20.0 MHz
	Л				Mea	suring		4/4	)9.12.2016 14:52:13

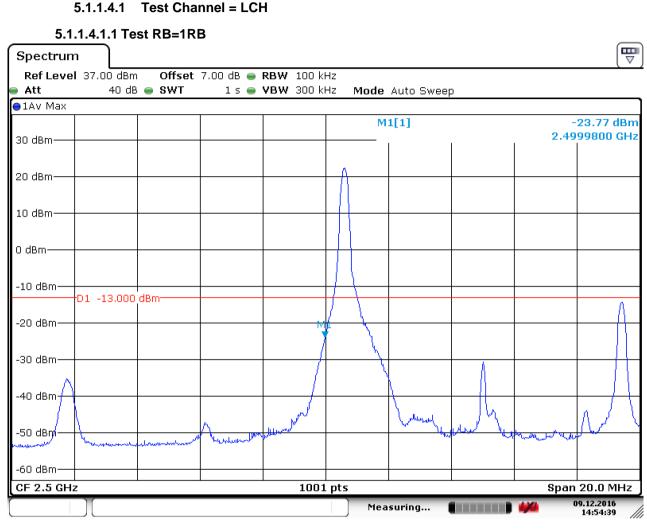
5.1.1.3.2.2 Test RB=50RB

Date: 9.DEC.2016 14:52:14



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



Date: 9.DEC.2016 14:54:40



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Spectrun	n									
	I 37.00 dBm		7.00 dB 👄							
Att	40 dE	B 🔵 SWT	1 s 👄	<b>VBW</b> 300 k	κΗz	Mode	Auto Swee	p		
⊖1Av Max										
						M	1[1]			28.15 dBm
30 dBm									2.49	99800 GHz
20 dBm										
20 0011										
10 dBm										
						مستنهم	harmon		-	
0 dBm										
						1				
-10 dBm—										
	D1 -13.000	dBm			+					
-20 dBm										
-20 uBiii					]					
				N						
-30 dBm—		- Annon		and grade provide a second						
and the second										
-40 dBm										
-50 dBm										
co do-										
-60 dBm									_	
CF 2.5 GH:	z			100	1 pt	5				20.0 MHz
[	Д					Mea	suring		<b>4/4</b>	9.12.2016 14:55:59

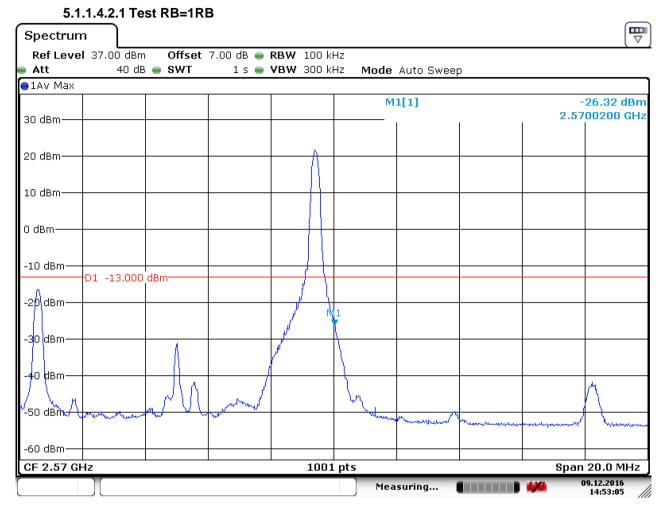
5.1.1.4.1.2 Test RB=50RB

Date: 9.DEC.2016 14:55:58



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Date: 9.DEC.2016 14:53:05



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Spectrum	ι								
	37.00 dBm		: 7.00 dB 👄						`
Att	40 dE	B 👄 SWT	1 s 👄	<b>VBW</b> 300	kHz Mode	Auto Swee	р		
●1Av Max									
					IV	11[1]			31.04 dBm
30 dBm			_			1	1	2.57	'00200 GHz I
20 dBm—									
10 dBm									
				many					
0 dBm									
-10 dBm—									
	D1 -13.000	dBm							
-20 dBm			_						
-30 dBm				l l	M1				
-40 dBm—									m
-40 uBIII									marken
-50 dBm—									
-60 dBm—			-						
CF 2.57 GF	łz	1	1	100	1 pts	1	1	Span	20.0 MHz
					Me	asuring		<b>4/4</b>	09.12.2016 14:51:43

#### 5.1.1.4.2.2 Test RB=50RB

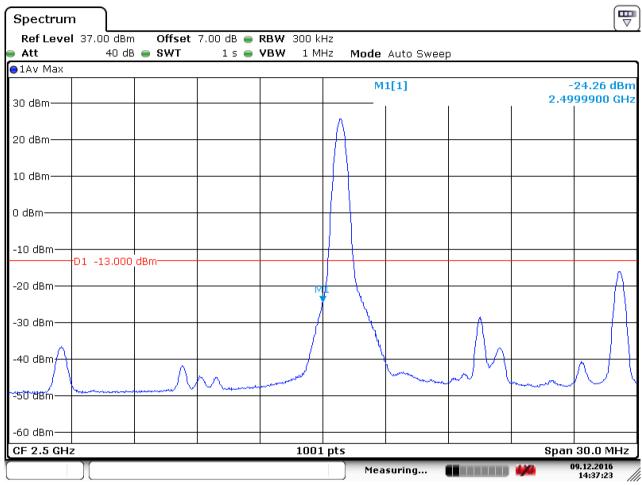
Date: 9.DEC.2016 14:51:43



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#### 5.1.1.5 Test Mode = LTE/TM1 15MHz 5.1.1.5.1 Test Channel = LCH

#### 5.1.1.5.1.1 Test RB=1RB



Date: 9.DEC.2016 14:37:24



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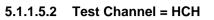
Spectrum	r								
Ref Level	l 37.00 dBm	offset	7.00 dB 😑	<b>RBW</b> 300 kH	łz				
Att	40 dE	s 🔵 SWT	1 s 👄	VBW 1 MF	lz Mode	Auto Swe	ер		
○1Av Max									
30 dBm					M	1[1]	1		26.32 dBm 99900 GHz
20 dBm									
10 dBm									
0 dBm									
-10 dBm									
-20 dBm	D1 -13.000	dBm							
-30 dBm				M	¥				L
	and the second second		T						
⊷≃40 dBm									
-50 dBm									
-60 dBm									
CF 2.5 GHz	z			1001	pts				30.0 MHz
[	Л				Mea	suring		<b>4/4</b>	09.12.2016 14:38:48

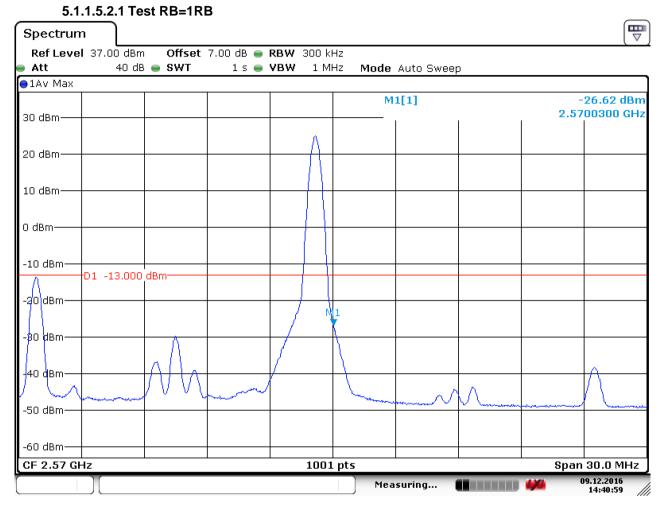
5.1.1.5.1.2 Test RB=75RB

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Date: 9.DEC.2016 14:41:00



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		SI KD=7 31							
Spectrum	1								
Ref Level Att	37.00 dBm 40 dB	) Offset S  SWT	7.00 dB 👄 1 s 👄	<b>RBW</b> 300 ki <b>VBW</b> 1 Mi		Auto Swe	- n		
● 1Av Max	70 UL	) <b>-</b> 3141	15 🚽		ind infoue	Auto Swe	eh		
_					М	1[1]			28.63 dBm
30 dBm								2.57	'00300 GHz
20 dBm									
10 dBm									
0 dBm									
-10 dBm									
	D1 -13.000	dBm							
-20 dBm					1				
-30 dBm									5
-40 dBm									
-50 dBm									
60 db									
-60 dBm CF 2.57 GH	1-1			1001	ntc				20.0 MU-
	12			1001					30.0 MHz
Į – – – –	Л				Mea	asuring			14:39:33

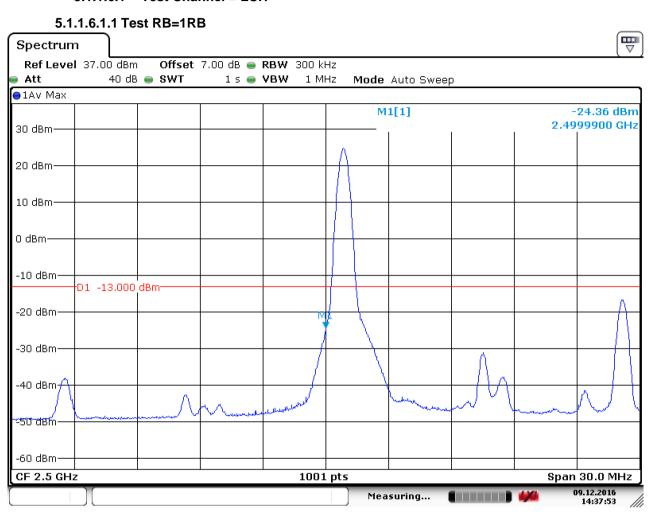
5.1.1.5.2.2 Test RB=75RB

Date: 9.DEC.2016 14:39:34



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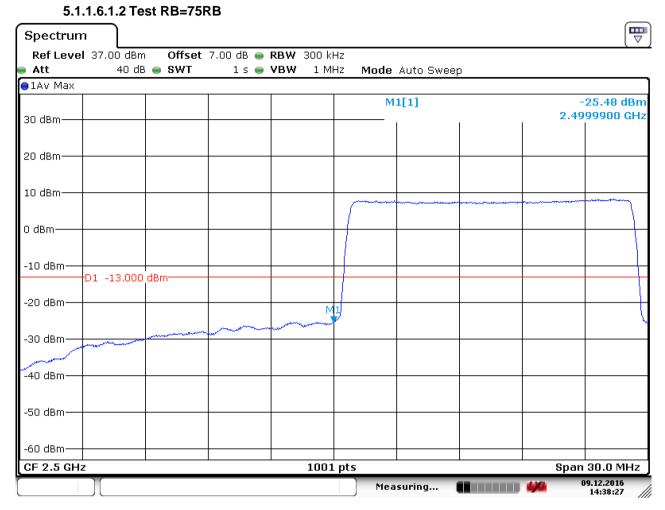
#### 5.1.1.6 Test Mode = LTE/TM2 15MHz 5.1.1.6.1 Test Channel = LCH



Date: 9.DEC.2016 14:37:53



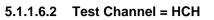
Report No.: SZEM161000916705 Page: 72 of 134

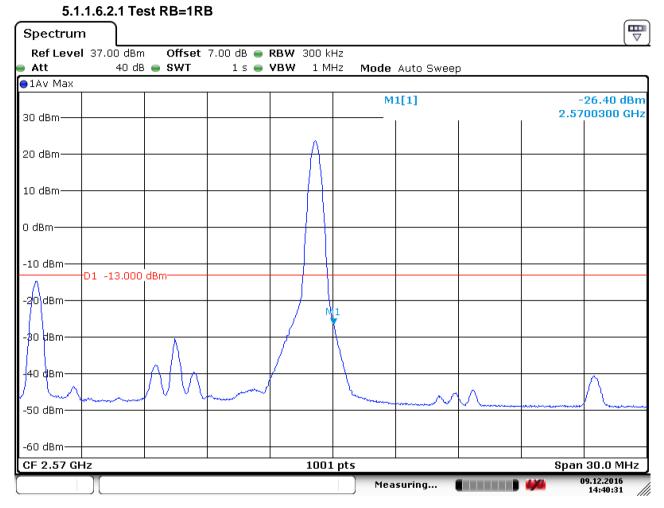


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Date: 9.DEC.2016 14:40:31



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Ref Level         37.00 dBm         Offset         7.00 dB         RBW         300 kHz           • Att         40 dB         • SWT         1 s         • VBW         1 MHz         Mode Auto Sweep           • 1Av Max	Spectrum	ι								
• 1Av Max           • 11[1]         • -27.57 dE         2.5700300 G             20 dBm           • 10 dBm           • 10 dBm             10 dBm           • 10 dBm           • 10 dBm             • 20 dBm           • 10 dBm           • 10 dBm             • 10 dBm           • 11           • 120 dBm             • 20 dBm           • 11           • 120 dBm             • 20 dBm           • 11           • 120             • 20 dBm           • 11           • 12             • -20 dBm           • 11             • -20 dBm           • 11             • -20 dBm           • 11             • -20 dBm           • 1             • -20 dBm           • 1             • -20 dBm           • 1             • -20 dBm             • -20 dBm             • -20 dBm	Ref Level	37.00 dBm	offset	7.00 dB 😑	<b>RBW</b> 300 k	Hz				
30 dBm       M1[1]       -27.57 dE         20 dBm       2.5700300 G         10 dBm       1         0 dBm       1         -10 dBm       1         -20 dBm       1         -30 dBm       1         -50 dBm       1         -60 dBm       1	🗕 Att	40 dB	s 🔵 SWT	1 s 👄	<b>VBW</b> 1 M	Hz Mode	Auto Swee	р		
30 dBm       2.5700300 G         20 dBm       2.5700300 G         10 dBm       2.5700300 G         0 dBm       2.5700300 G         10 dBm       2.5700300 G         10 dBm       2.5700300 G         20 dBm       2.5700300 G         10 dBm       2.5700300 G         20 dBm       2.5700300 G         20 dBm       2.5700300 G         -10 dBm       2.5700300 G         -10 dBm       1         -10 dBm       1 <td>⊖1Av Max</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	⊖1Av Max									
10 dBm 0 dBm -10 dB	30 dBm					M	1[1] 			27.57 dBm 00300 GHz
D dBm	20 dBm									
-10 dBm D1 -13.000 dBm	10 dBm									
D1 -13.000 dBm       1         -20 dBm       1         -30 dBm       1         -40 dBm       1         -50 dBm       1         -60 dBm       1	0 dBm									
-30 dBm -40 dBm -50 dBm -60 dBm		D1 -13.000	dBm							
-40 dBm -50 dBm -60 dBm	-20 dBm					1				
-50 dBm	-30 dBm				Ň					~
-60 dBm	-40 dBm									
	-50 dBm									
Lor 2.37 anz 1001 pts Span 30.0 MH		17			1001	ntc				20.0 MU-
() () Measuring ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●					1001		euring		· · ·	9.12.2016

5.1.1.6.2.2 Test RB=75RB

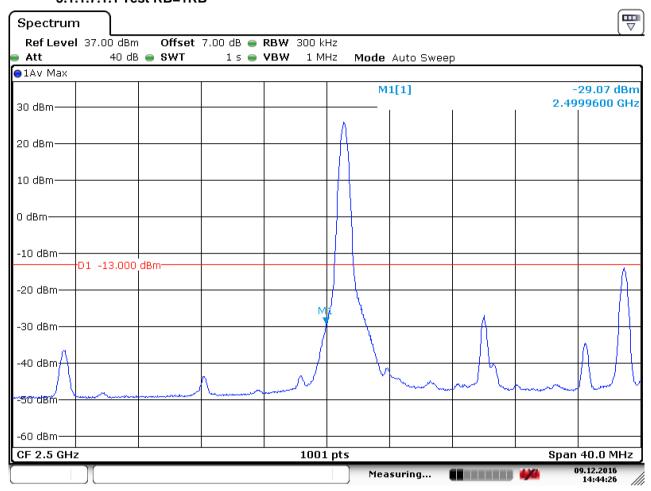
Date: 9.DEC.2016 14:40:00



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#### 5.1.1.7 Test Mode = LTE/TM1 20MHz 5.1.1.7.1 Test Channel = LCH

#### 5.1.1.7.1.1 Test RB=1RB



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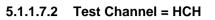
Spectrun	n									
Ref Leve	l 37.00 dBm		: 7.00 dB 👄	<b>RBW</b> 300 ki	Ηz					
🗕 Att	40 dE	SWT 😑 SWT	1 s 👄	<b>VBW</b> 1 MI	Ηz	Mode	Auto Swee	ep		
⊖1Av Max										
						M	1[1]			29.29 dBm
30 dBm							I	1	2.49	99600 GHz
20 dBm										
10 dBm										
					1					
0 dBm										
-10 dBm—										
10 0.011	D1 -13.000	dBm			+					
-20 dBm										
-20 ubiii					Τ					
an in				M						
-30 dBm—		يستعمر	and the second s	and a second						
· · · · ·										
-40 dBm										
and the second sec										
-50 dBm										
-60 dBm—										
CF 2.5 GH:	z	·		1001	pts		·		Span	40.0 MHz
						Mea	suring		<b>##</b>	)9.12.2016 14:45:01

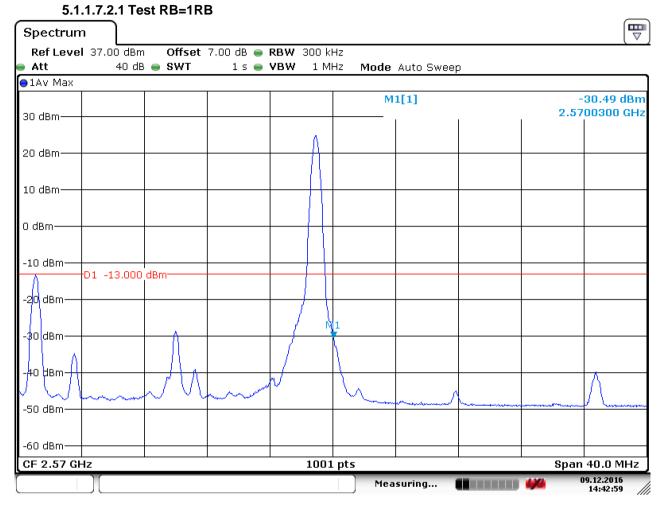
5.1.1.7.1.2 Test RB=100RB

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Date: 9.DEC.2016 14:42:59



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5.1	5.1.1.7.2.2 Test RB=100RB										
Spectrun	n									(₩	
Ref Leve	l 37.00 dBm	n Offset	7.00 dB 👄	RBW	300 ki	Ηz					
👄 Att	40 dB	B 🔵 SWT	1 s 👄	VBW	1 M	Hz Mode	Auto Swee	p			
●1Av Max											
						M	1[1]		-	30.65 dBm	
30 dBm							1	1	2.57	00300 GHz	
20 dBm											
10 dBm											
10 dbiii				hanne							
0 dBm											
-10 dBm—	D1 -13.000	dBm									
	10,000										
-20 dBm—											
					- Iv	1					
∕-30 dBm—					G						
							mon		him		
-40 dBm—											
										- marine	
-50 dBm											
-60 dBm											
-00 ubiii CF 2.57 Gł					1001	nte				40.0 MHz	
	חב רוב				1001				-	40.0 MHZ	
						Mea	suring		4	14:42:23	

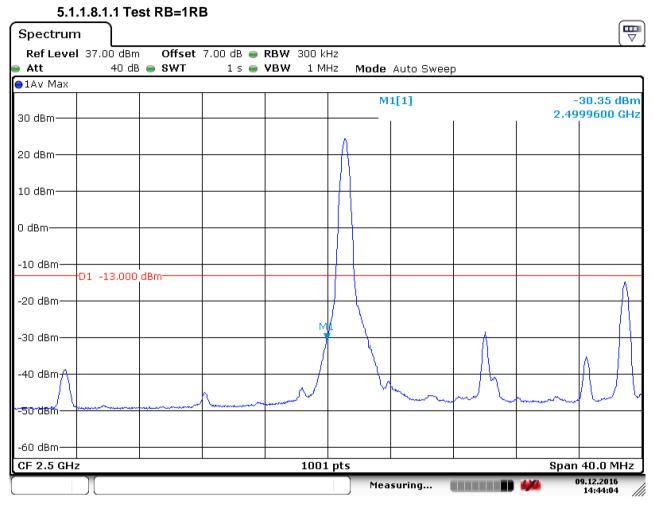
Date: 9.DEC.2016 14:42:23



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

#### 5.1.1.8.1 Test Channel = LCH



Date: 9.DEC.2016 14:44:04



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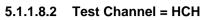
Spectrun	n								
	l 37.00 dBm			<b>RBW</b> 300 ki					`
Att	40 dB	SWT 🔵	1 s 👄	VBW 1 MI	Hz N	1ode Auto	Sweep		
⊖1Av Max									
						M1[1]			-27.57 dBm
30 dBm								2.4	999600 GHz
20 dBm									
20 0011									
10 dBm									
									1
0 dBm					$\square$				+
-10 dBm—									
	D1 -13.000	dBm							+
-20 dBm									
-20 uBiii				м	-				
					ţ,				
-30 dBm—			water and the second	and the second descent					
	North and a strand								
-40 dBm									
- A Contraction of the second s									
-50 dBm									
00 4011									
-60 dBm—									
CF 2.5 GH:	z			1001	pts			Spa	n 40.0 MHz
[						Measuring			09.12.2016 14:45:22

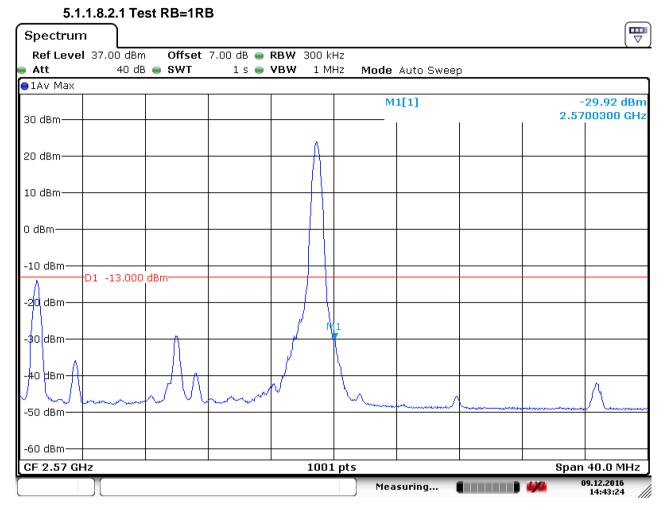
5.1.1.8.1.2 Test RB=100RB

Date: 9.DEC.2016 14:45:23



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Date: 9.DEC.2016 14:43:25



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Spectrum	ı )										
	37.00 dBm		set 7.00								<u>`</u>
🗕 Att	40 dB	6 😑 SW	Т	1 s 😑	VBW	1 MH	z Mode	e Auto Swe	ер		
😑 1Av Max											
							N	41[1]			29.44 dBm
30 dBm								1		2.57	00300 GHz
20 dBm											
10 dBm											
0 HBm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				·						
-10 dBm											
	D1 -13.000	dBm									
-20 dBm						M	L				
-30 dBm							- Carrow			han	
-40 dBm											and have a second
-50 dBm											
-60 dBm											
CF 2.57 GH	lz					1001	pts			Span	40.0 MHz
							Me	asuring		<b>4/4</b>	)9.12.2016 14:41:43

5.1.1.8.2.2 Test RB=100RB

Date: 9.DEC.2016 14:41:43



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#### 6 Spurious Emission at Antenna Terminal

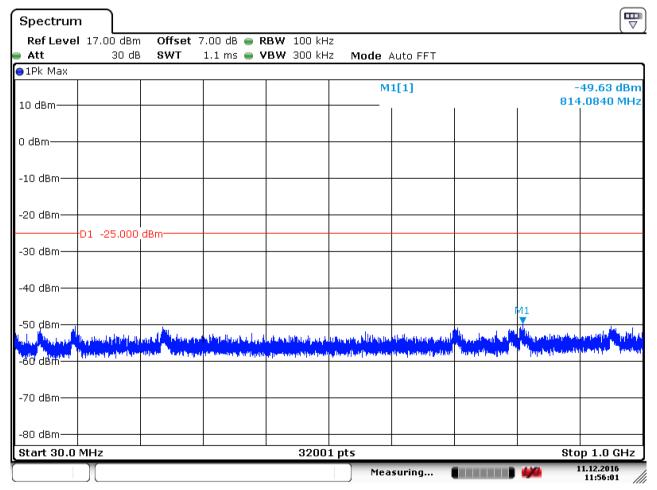
NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k \* (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 band7
- 6.1.1.1 Test Mode = LTE / TM1 5MHz RB1#0

6.1.1.1.1 Test Channel = LCH



Date: 11.DEC.2016 11:56:01